August 14, 2025 File No.: 57882

McElhanney Ltd.
200 – 858 Beatty Street
Vancouver, BC
V6B 1C1

Attention: Allen Pan, P.Eng.

GEOTECHNICAL DESIGN REPORT (ISSUED FOR TENDER) FOR HOWES STREET MULTI-USE PATH, NEW WESTMINSTER, B.C.

Dear Allen,

At the request of the McElhanney Ltd. (McElhanney), Thurber Engineering Ltd. (Thurber) has completed a geotechnical desktop study and hand auger investigation for the above-mentioned project. This report provides the results of our desktop study, geotechnical investigation, and geotechnical recommendations. It is a condition of this proposal that the performance of Thurber's professional services is subject to the attached Statement of Limitations and Conditions.

1. BACKGROUND

McElhanney is undertaking the detailed design of a multi-use path (MUP) in New Westminster, B.C., at the request of the Ministry of Transportation and Transit (MoTT). The proposed MUP will widen the existing sidewalk to a width of 4 m along the west side of Howes Street between Boyd Street and Ewen Avenue, a distance of about 475 m. Based on McElhanney's plan drawings dated March 6, 2025, the MUP will require partial filling of the existing ditch west of Howes Street, between Ewen Avenue and Queensborough Connector. A roughly 35 m long lock block wall, up to 1.5 blocks high, will be constructed along the west side of the MUP just south of the Queensborough Connector off-ramp to avoid encroachment on the neighbouring property. The MUP will also require a culvert to be installed near the toe of the existing embankment where it passes below the Queensborough Connector.

Thurber's scope of services during preliminary design comprised a desktop study, hand auger investigation, and visual pavement condition assessment of Howes Street. Geotechnical recommendations for preliminary design were provided in our report dated January 2, 2025, for 50% detailed design in our report dated March 20, 2025, and for 100% detailed design in our report dated May 15, 2025. Thurber's scope of services for detailed design comprised advancing the geotechnical design to completion. No further geotechnical investigation was completed as the level of information was considered sufficient.

2. DESKTOP STUDY

The following information was reviewed by Thurber as part of the desktop study:

1. Geological Survey of Canada, 1980, Surficial Geology of New Westminster – Map 1484A
2. Google Earth aerial imagery
3. Google Street View imagery
4. Historical aerial photographs of the project area from the University of British Columbia's Geographic Information Centre from 1938 to 2009.
5. Test hole logs from nearby Thurber projects.

3. HAND AUGER INVESTIGATION

Thurber advanced four hand auger holes to a maximum depth of 1.2 m within the ditch along the west site of Howes Street on October 17, 2024. The test hole locations are shown on the attached test hole location plan (Drawing 57882-1). Upon completion of drilling, the test holes were backfilled with drill cuttings and sealed in general accordance with BC Groundwater Protection Regulations. The soil and groundwater conditions encountered during drilling were logged in the field by an experienced geotechnical engineer and disturbed samples were collected at regular intervals for routine visual classification and moisture content testing in our laboratory.

As part of the geotechnical investigation planning, Thurber submitted a BC 1 Call request to obtain existing utility information in the project area from BC Hydro, The City of New Westminster and Fortis. We submitted a separate request to Metro Vancouver, as they are not a BC 1 Call member.

Quadra Utility Locating Ltd. was retained by Thurber to complete a field utility locate prior to initiation of ground disturbance activities. The utility locate was completed on October 17, 2024, using electromagnetic (EM) and ground penetrating radar (GPR) equipment.

4. SUBSURFACE CONDITIONS

Based on our review of nearby test hole logs and the results of the hand auger investigation, we expect the soil conditions along the MUP to comprise a general sequence of the following:

- **Fill**
  - the thickness will vary with the prior history of site filling, from negligible at ditch inverts to 1 m to 3 m below roadways
  - expected to be predominantly sand with trace silt
- **Peat**
  - the thickness will depend on the prior history of site filling, likely in the order of 1 m to 3 m thick
  - expected to be predominantly peat with variable, minor inorganic content
  - highly compressible
- **Silt**
  - expected to be present to a depth of about 15 m
  - soft, organic silt with trace to some clay
  - moderate to high compressibility
- **Fraser River Sand**
  - expected to be present below a depth of 15 m
  - sand with trace silt

Groundwater was observed at a depth of 0.15 m to 0.3 m in the completed hand auger holes, which was consistent with the water level observed in the ditch. Generally, we expect the groundwater level to be around 0.5 m to 1 m below the road surface. The groundwater level is expected to fluctuate seasonally in response to precipitation, infiltration, and drainage conditions.

5. PAVEMENT CONDITION ASSESSMENT

Following the hand auguring, Dylan Nash (EIT) of Thurber, visually reviewed the pavement along Howes Street between Ewen Avenue and Highway 91A Queensborough Connector on-ramp. The condition of the asphalt is generally fair-to-bad. Some general comments about the asphalt condition are as follows:

- The northbound lanes are in worse condition than the southbound lanes. In both cases the lanes are in better condition in the northern half than the southern half.
- Severe alligator cracking in the northbound lane(s). The cracking appears to correspond the wheel paths of the bus.

- Significant longitudinal and transverse cracking, which merges with the alligator cracking, in the northbound lanes near Ewan Avenue. Longitudinal and transverse cracking in the southbound direction is moderate with only one localised area of alligator cracking.
- Significant wheel path distress to the north of the bus stop in the southbound direction. The distress is more severe in the shoulder than the travelled lane as it appears the bus follows the curb line to the bus stop which involves driving on the shoulder.

The pavement distress features suggest that there is an inadequate pavement structure for the subgrade conditions and/or traffic loading. Assessing the relative contribution of the two factors would require auger drilling through the roadway at a minimum. Non-destructive, falling weight deflectometer (FWD) testing and ground penetrating radar (GPR) profiling would also be beneficial as it would provide a measure of the deflection characteristics of the existing roadway and interpreted thickness of asphalt and granular pavement structure away from the test hole locations.

Historic air photos show that Howes Street was originally a limited use residential road with ditches on both sides and a single point of access via Ewen Avenue. Howes Street was widened to the west and appears to have reached its modern geometry in the southern half when the Queensborough Connector was built in the mid-1980s. The road north of 317 Howes Street appears to have been reconstructed, and widened to the east and west, when the overpass was built around 2006.

The construction joints visible in the asphalt surface in 2024 are visible in Google Street View as far back as the oldest image in 2009. This indicates that the observed asphalt distress features have developed over a period of at least 15 years. For comparison, the typical design life of a pavement is 20 years.

The pavement distress features are suggestive of different eras of road construction, built to different standards, being subjected to similar traffic loading. The oldest section performing worse than the newest section (i.e., the southern half of northbound Howes Street compared to the northern half of Howes Street).

Thurber has limited information about the thickness of existing asphalt. Prior experience would suggest that the sidewalk asphalt is likely around 50 mm thick, and the road asphalt between 75 mm and 125 mm thick. Excerpts from as-built drawings shared by McElhanney suggests that the asphalt near the intersection with Boyd Street is likely 100 mm thick.

6. GEOTECHNICAL RECOMMENDATIONS

We consider the proposed MUP feasible based on the results of the investigation and desktop study. The main design consideration will be settlement as a result of new fill placement. Fill placement beyond the limits of the existing embankments has the potential to cause significant primary- and secondary-consolidation of the peat and near surface silt.

We do not expect that the proposed MUP alignment will adversely affect the performance of the overpass as it maintains existing grades except for infilling a section of ditch along the toe of the abutment embankment. This area was preloaded when the overpass was constructed so the proposed fill placement to infill the ditch (i.e., up to about 1.5 m) is not expected to induce measurable settlement.

Ministry of Transportation and Transit (MoTT) Standard Specifications shall be referenced as MoTT SS, followed by the number of the relevant section or subsection.

6.1 Site Preparation and Excavation

The MUP footprint should be stripped of all vegetation and topsoil prior to fill placement in accordance with MoTT SS.200. At the bottom of the ditch, mud and slimes should be removed, but there should be no attempt to sub-excavate and replace peat. We anticipate the stripping depth to be up to 100 mm over existing embankment fill and up to 300 mm in the ditch. It should be noted that it was difficult to estimate the stripping depth from our investigation due to disturbance from the auger. As such, the actual stripping depth may vary and will need to be confirmed during construction. The suitability of the stripped material for re-use as topsoil on the embankment slopes should be assessed during construction. We expect the material stripped from the bottom of the ditch will not be suitable for re-use and will need to be disposed elsewhere. It may be suitable for use as top dressing for planting, but its suitability for this would need to be confirmed by others.

The subgrade should be prepared such that the surface is dry, smooth, and free of organics and other soft, wet or deleterious materials. Although, it should be noted that the subgrade in the ditch bottom may include organic soil which would be acceptable in that circumstance. If the subgrade comprises granular soil (i.e., sand), it should be compacted using a vibratory compactor to at least 95% standard Proctor maximum dry density (SPMDD). The prepared subgrade should be inspected by Thurber prior to fill placement to confirm the subgrade conditions.

6.2 Embankment Fills

Embankment fill should comprise free draining, granular material with less than 5% passing the #200 sieve, such as River Sand or Pit Run Sand or Gravel. Permanent slopes constructed with embankment fill should be no steeper than 2H:1V. If required, steeper slopes must be reinforced or constructed with a higher friction angle material, such as Well Graded Base or Bridge End Fill. Gradation analysis results of all proposed fill materials should be submitted to Thurber for review and approval. Fill placement and compaction must be completed in accordance with MoTT SS.201.

We expect it will be challenging to achieve compaction in the first lift of fill placed in the ditch because of the potential for soft soils to damp the compaction effort of the equipment. We consider it acceptable for the first lift of fill in the ditch to be 600 mm thick and compacted to the maximum achievable field density. All subsequent lifts should be placed and compacted in accordance with MoTT SS. 201.

6.3 Preload-Surcharge

Preload-surcharge is recommended to reduce the post-construction settlement potential of the peat and underlying silt where the MUP requires widening embankments into existing ditches. We would not expect preload to be required where the MUP is close to existing grade (i.e., ±0.3 m) or below the overpass where there was a preload-surcharge. It should be noted that the surcharge is not over the full footprint of the MUP, only where it is widened into the existing ditch (i.e., from Sta.100+11 to 101+25).

The surcharge should be constructed with embankment fill, placed and compacted as if it were permanent embankment fill in accordance with MoTT SS.201. This is to reduce the potential for rework as a result of temporary fill becoming permanent fill due to settlement.

The surcharge should be at least 0.5 m higher than final grade and sloped no steeper than 2H:1V. It should remain in place three to six months. The actual duration will be determined by Thurber based on review of settlement monitoring data.

Lock-blocks can be used to retain the surcharge adjacent to the existing MUP and can be considered part of the surcharge given its weight and dimensions. Lock blocks with cut-outs at the bottom or gaps between blocks should be situated at low points to maintain drainage from the road to the ditch. The cut-outs or gaps should be filled with geotextile wrapped or sand-bagged drain rock to reduce the potential for preload fill to migrate onto the existing sidewalk. The lock-

blocks should be placed on a 150 mm thick levelling pad of 25 mm WGB which extends 0.15 m past the edge of the blocks.

Survey monitoring points should be placed at regular intervals along the surcharge and regularly monitored to observe the rate of settlement. For preliminary planning, settlement monitoring points can be assumed to be at 15 m spacing. Survey should be weekly during fill placement and for one month after completion of the surcharge. Survey can be reduced to once every two weeks thereafter, or as directed by Thurber.

6.4 Permanent Lock-Block Wall

The permanent lock block wall between about St. 101+03 to 101+25 should be placed on a 150 mm thick levelling pad. The levelling pad should comprise 25 mm WGB and extend to 0.15 m past the edge of the blocks. A 1.5 m wide zone of 75 mm WGB should be placed beneath the pavement structure next to the wall to reduce the potential for frost or dynamic loading on the wall. A wall drain is not considered necessary given the low height of the wall (i.e., < 1.2 m) and the use of high-quality, free draining granular fill behind the wall (i.e., MoTT WGB).

The face of the wall should have at least 0.3 m of burial/embedment. Embedment can be provided by placing 75 mm WGB sloped at 1.5H:1V in front of the wall. The slope may be steepened to 1H:1V and the embedment reduced in the vicinity of the property line pinch point (i.e., block almost on PL). The fill can be bucket or hand packed.

6.5 Pavement

6.5.1 MUP

Asphalt, base, and subbase (if used) materials will need to conform to the relevant sections of MoTT SS. We would consider the following pavement suitable for the MUP:

- 50 mm of asphalt
- 200 mm of 25 mm WGB

Consideration should be given to using MoTT Fine Mix or MMCD Upper Course #2 as it will provide a tighter surface finish than asphalt mixes with a larger maximum aggregate size.

The WGB layer should extend a minimum 200 mm beyond the edge of asphalt. This is to provide confinement and support to the edge of asphalt and reduce the potential for extensional cracking. This extension may not be required where the MUP is constructed close to the existing curb line

as there may be pre-existing pavement gravels in place. This would need to be assessed during construction.

6.5.2 Roadway

New or reconstructed asphalt pavements should match the existing pavement structure to the extent practicable. We consider a MoTT Type A pavement structure to be generally suitable for the roads considered (i.e., 150 mm asphalt, 300 mm base, 300 mm subbase). However, the asphalt thickness should be adjusted to match existing to reduce the potential for abrupt stiffness contrasts between the new and existing asphalt pavement.

The roughly 300 mm wide asphalt strip to facilitate the new curb between Sta. 100+00 to 101+50 and Sta. 104+30 to 104+70 will likely be handwork due to the narrow width to be built. This would be expected to reduce its durability compared to a wider asphalt strip where mechanical placement methods can be used. However, it is generally understood this widening is away from the bus pad and should not be within typical wheel paths.

6.5.3 Bus Stop

The bus stop should use the typical TransLink bus pad concrete pavement structure (i.e., TranLink Bus Infrastructure Design Guidelines, Section 3.4.5, Figure D1). This is because a bus stop has much higher dynamic loading due to breaking and accelerating which can lead to rapid deterioration of asphalt pavements. The underlying granular structure should be the greater of TransLink Figure D1 or MoTT Type A.

6.6 Culvert Installation

Culvert installation should satisfy the requirements of MoTT SS.303. We do not expect installation of the culvert will affect the stability of the abutment embankment. However, care should be taken to avoid cuts into the toe of the embankment to the extent practicable during construction.

6.7 Excavation Adjacent to Bridge Piers

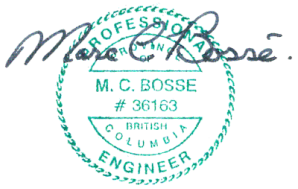
There is no geotechnical concern with excavation adjacent to the bridge piers for removal of the existing pavement and construction of the new MUP, given that the piers are pile supported. If there is a concern with equipment damaging the piers, a hand excavation zone within 600 mm of the piers could be considered. Otherwise, excavators should dig with caution close to the piers.

7. CLOSURE

We trust that this information is sufficient for your needs. Should you require clarification of any item or additional information, please contact us at your convenience.

Yours truly,
Thurber Engineering Ltd.

Marc Bossé, P.Eng.
Review Engineer



2025-08-14

Renee McAnerney, EIT
Geotechnical Engineer-in-Training

Attachments:

- Statement of Limitations and Conditions
- Test Hole Location Plan (Drawing 57882-1)
- Test Hole Logs (HA24-01 through HA24-04)

Thurber Engineering Ltd.
Permit to Practice # 1001319.

THURBER

STATEMENT OF LIMITATIONS AND CONDITIONS

1. STANDARD OF CARE

This Report has been prepared in accordance with generally accepted engineering or environmental consulting practices in the applicable jurisdiction. No other warranty, expressed or implied, is intended or made.

2. COMPLETE REPORT

All documents, records, data and files, whether electronic or otherwise, generated as part of this assignment are a part of the Report, which is of a summary nature and is not intended to stand alone without reference to the instructions given to Thurber by the Client, communications between Thurber and the Client, and any other reports, proposals or documents prepared by Thurber for the Client relative to the specific site described herein, all of which together constitute the Report.

IN ORDER TO PROPERLY UNDERSTAND THE SUGGESTIONS, RECOMMENDATIONS AND OPINIONS EXPRESSED HEREIN, REFERENCE MUST BE MADE TO THE WHOLE OF THE REPORT. THURBER IS NOT RESPONSIBLE FOR USE BY ANY PARTY OF PORTIONS OF THE REPORT WITHOUT REFERENCE TO THE WHOLE REPORT.

3. BASIS OF REPORT

The Report has been prepared for the specific site, development, design objectives and purposes that were described to Thurber by the Client. The applicability and reliability of any of the findings, recommendations, suggestions, or opinions expressed in the Report, subject to the limitations provided herein, are only valid to the extent that the Report expressly addresses proposed development, design objectives and purposes, and then only to the extent that there has been no material alteration to or variation from any of the said descriptions provided to Thurber, unless Thurber is specifically requested by the Client to review and revise the Report in light of such alteration or variation.

4. USE OF THE REPORT

The information and opinions expressed in the Report, or any document forming part of the Report, are for the sole benefit of the Client. NO OTHER PARTY MAY USE OR RELY UPON THE REPORT OR ANY PORTION THEREOF WITHOUT THURBER'S WRITTEN CONSENT AND SUCH USE SHALL BE ON SUCH TERMS AND CONDITIONS AS THURBER MAY EXPRESSLY APPROVE. Ownership in and copyright for the contents of the Report belong to Thurber. Any use which a third party makes of the Report, is the sole responsibility of such third party. Thurber accepts no responsibility whatsoever for damages suffered by any third party resulting from use of the Report without Thurber's express written permission.

5. INTERPRETATION OF THE REPORT

a) Nature and Exactness of Soil and Contaminant Description: Classification and identification of soils, rocks, geological units, contaminant materials and quantities have been based on investigations performed in accordance with the standards set out in Paragraph 1. Classification and identification of these factors are judgmental in nature. Comprehensive sampling and testing programs implemented with the appropriate equipment by experienced personnel may fail to locate some conditions. All investigations utilizing the standards of Paragraph 1 will involve an inherent risk that some conditions will not be detected and all documents or records summarizing such investigations will be based on assumptions of what exists between the actual points sampled. Actual conditions may vary significantly between the points investigated and the Client and all other persons making use of such documents or records with our express written consent should be aware of this risk and the Report is delivered subject to the express condition that such risk is accepted by the Client and such other persons. Some conditions are subject to change over time and those making use of the Report should be aware of this possibility and understand that the Report only presents the conditions at the sampled points at the time of sampling. If special concerns exist, or the Client has special considerations or requirements, the Client should disclose them so that additional or special investigations may be undertaken which would not otherwise be within the scope of investigations made for the purposes of the Report.

b) Reliance on Provided Information: The evaluation and conclusions contained in the Report have been prepared on the basis of conditions in evidence at the time of site inspections and on the basis of information provided to Thurber. Thurber has relied in good faith upon representations, information and instructions provided by the Client and others concerning the site. Accordingly, Thurber does not accept responsibility for any deficiency, misstatement or inaccuracy contained in the Report as a result of misstatements, omissions, misrepresentations, or fraudulent acts of the Client or other persons providing information relied on by Thurber. Thurber is entitled to rely on such representations, information and instructions and is not required to carry out investigations to determine the truth or accuracy of such representations, information and instructions.

c) Design Services: The Report may form part of design and construction documents for information purposes even though it may have been issued prior to final design being completed. Thurber should be retained to review final design, project plans and related documents prior to construction to confirm that they are consistent with the intent of the Report. Any differences that may exist between the Report's recommendations and the final design detailed in the contract documents should be reported to Thurber immediately so that Thurber can address potential conflicts.

d) Construction Services: During construction Thurber should be retained to provide field reviews. Field reviews consist of performing sufficient and timely observations of encountered conditions in order to confirm and document that the site conditions do not materially differ from those interpreted conditions considered in the preparation of the report. Adequate field reviews are necessary for Thurber to provide letters of assurance, in accordance with the requirements of many regulatory authorities.

6. RELEASE OF POLLUTANTS OR HAZARDOUS SUBSTANCES

Geotechnical engineering and environmental consulting projects often have the potential to encounter pollutants or hazardous substances and the potential to cause the escape, release or dispersal of those substances. Thurber shall have no liability to the Client under any circumstances, for the escape, release or dispersal of pollutants or hazardous substances, unless such pollutants or hazardous substances have been specifically and accurately identified to Thurber by the Client prior to the commencement of Thurber's professional services.

7. INDEPENDENT JUDGEMENTS OF CLIENT

The information, interpretations and conclusions in the Report are based on Thurber's interpretation of conditions revealed through limited investigation conducted within a defined scope of services. Thurber does not accept responsibility for independent conclusions, interpretations, interpolations and/or decisions of the Client, or others who may come into possession of the Report, or any part thereof, which may be based on information contained in the Report. This restriction of liability includes but is not limited to decisions made to develop, purchase or sell land.

NOTES:
1. ORTHO IMAGE FROM WORLD IMAGERY.
2. PROPERTY PARCELS FROM NEW WESTMINSTER OPEN DATA.
3. HAND AUGER HOLE LOCATIONS ARE APPROXIMATE ONLY.

LEGEND:

⊕ HAND AUGER LOCATION

0 12.5 25 37.5m

THURBER

MCELHANNEY LTD.

HAND AUGER LOCATION PLAN

GEOTECHNICAL DESKTOP STUDY
HOWES STREET MULTI-USE PATH PRELIMINARY DESIGN

NEW WESTMINSTER, BC

DESIGNED	DRAWN	APPROVED	DATE	SCALE	PROJECT No.	DWG. NO.	REV.
REM	DRB	MCB	NOV. 4, 2024	1:750	57882 - 1		-

Sheet 1 of 1

LOG OF TEST HOLE

TEST HOLE NO. **HA24-01**

LOCATION: See DWG.57882-1
N 503859, E 5448176 (Est.)

TOP OF HOLE ELEV:

METHOD: Hand Auger

DRILLING CO.: Thurber Engineering Ltd.

INSPECTOR: DPN

THURBER

CLIENT: McElhanney Ltd.

PROJECT: Howes St. MUP

DATE: October 17, 2024

FILE NO.: 57882

REVIEWED BY: REM

DCPT PENETRATION (blows/300 mm) | SPT PENETRATION (blows/300 mm) | WATER CONTENT (%): ○ Disturbed ● Undisturbed | WATER LEVEL: Plastic Limit — Liquid Limit | SAMPLES: Disturbed, Undisturbed, No Recovery | GRAIN SIZE (%): ▲ Passing #200 sieve, △ Passing #4 sieve | SOIL HEADSPACE READING (ppm): GASTECH reading, PID reading

DEPTH (m) | 10 20 30 40 50 60 70 80 90 100 | COMMENTS | SOILS DESCRIPTION | DEPTH (m)

DEPTH (m)		SOILS DESCRIPTION
0		Brown, moist, medium to fine SAND with trace to some silt (FILL).
	SP-SM	Brown, wet, medium to fine SAND with trace to some silt (FILL).
		Brown, wet, medium to fine SAND with traces silt, gravel and organic fibres (FILL).
		Soft, brown, wet, medium to fine SAND and PEAT with some silt, a trace of grave.
1	OL/SM & PT	Soft, brown, wet, PEAT and SILT with trace to some sand, some organic fibres and wood fragments.
		End of hole at required depth. Hole open to 1 m depth. Water observed at 0.3 m depth upon completion of drilling.
2		
3		

LOG OF TEST HOLE (COORD EST.) 57882.GPJ THURBER_MOM.GDT 24-11-13- THURBER - BC OPERATIONS_2024.GLB

Sheet 1 of 1

LOG OF TEST HOLE

TEST HOLE NO. **HA24-02**

LOCATION: See DWG.57882-1
N 503845, E 5448198 (Est.)

TOP OF HOLE ELEV:

METHOD: Hand Auger

DRILLING CO.: Thurber Engineering Ltd.

INSPECTOR: DPN

THURBER

CLIENT: McElhanney Ltd.

PROJECT: Howes St. MUP

DATE: October 17, 2024

FILE NO.: 57882

REVIEWED BY: REM

DCPT PENETRATION (blows/300 mm) | SPT PENETRATION (blows/300 mm) | WATER CONTENT (%): ○ Disturbed ● Undisturbed | WATER LEVEL: Plastic Limit — Liquid Limit | SAMPLES: Disturbed, Undisturbed, No Recovery | GRAIN SIZE (%): ▲ Passing #200 sieve, △ Passing #4 sieve | SOIL HEADSPACE READING (ppm): GASTECH reading, PID reading

DEPTH (m)	COMMENTS		SOILS DESCRIPTION
0			Brown, moist, SAND with some gravel and fibrous organics., trace to some silt (FILL).
		GP-GM/SP-SM	
			Brown, wet, SAND with trace to some silt, a trace of gravel (FILL).
			Soft, dark brown, moist to wet, PEAT and ORGANIC SILT with some sand to sandy, a trace of gravel.
		SM/OL	
			Soft, dark brown, wet, PEAT and ORGANIC SILT with trace to some sand, a trace of gravel.
	231	PT	
1			Dark brown, wet, SAND and PEAT with some silt to silty, some fibrous organics, a trace of gravel.
			End of hole at required depth. Hole open to 1 m depth. Water observed at 0.3 m depth upon completion of drilling.
2			
3			

Sheet 1 of 1

LOG OF TEST HOLE

TEST HOLE NO. **HA24-03**

LOCATION: See DWG.57882-1
N 503831, E 5448219 (Est.)

TOP OF HOLE ELEV:

METHOD: Hand Auger

DRILLING CO.: Thurber Engineering Ltd.

INSPECTOR: DPN

THURBER

CLIENT: McElhanney Ltd.

PROJECT: Howes St. MUP

DATE: October 17, 2024

FILE NO.: 57882

REVIEWED BY: REM

DCPT PENETRATION (blows/300 mm) | SPT PENETRATION (blows/300 mm) | WATER CONTENT (%): ○ Disturbed ● Undisturbed | WATER LEVEL: Plastic Limit — Liquid Limit | SAMPLES: Disturbed, Undisturbed, No Recovery | GRAIN SIZE (%): ▲ Passing #200 sieve, △ Passing #4 sieve | SOIL HEADSPACE READING (ppm): GASTECH reading, PID reading

DEPTH (m)	COMMENTS		SOILS DESCRIPTION
0		SP-SM	Brown, moist, SAND with traces gravel, silt and fibrous organics (FILL).
	124	OH/PT	Soft, dark brown, moist to wet, PEAT and SAND with some silt, a trace of gravel (FILL).
	320	PT	Soft, dark brown, moist to wet, PEAT with some sand and silt.
1			
2			
3			End of hole at required depth. Hole open to 1 m depth. Water observed at 0.3 m depth upon completion of drilling.

LOG OF TEST HOLE (COORD EST.) 57882.GPJ THURBER_MOM.GDT 24-11-13- THURBER - BC OPERATIONS_2024.GLB