



WEST HANTS REGIONAL MUNICIPALITY REPORT

Information ☐	Recommendation X	Decision Request ☐	Councillor Activity ☐
--------------------------------------	------------------	---	--

To: Committee of the Whole

Submitted by:

Todd Richard, Director of Public Works

Date: October 13, 2026

Subject: **Halewood Dr Sinkhole and Infrastructure Emergency Remediation**

LEGISLATIVE AUTHORITY

Nova Scotia Municipal Government Act Part XII

Section 308(1) All streets in a municipality are vested absolutely in the municipality

RECOMMENDATION or DECISION REQUEST

Committee of the Whole recommends...

Council to direct staff to proceed with the emergency repair of the sinkhole as outlined in the Harbourside Geotechnical report number 263070, as well as the sanitary mains, access chamber, water main and cross culverts within the area of concern not to exceed the amount of \$250,000 before applicable taxes, and plus 10% contingency.

BACKGROUND

Property X	Public Opinion ☐	Environment X	Social ☐	Economic ☐	Councillor Activity ☐
------------	--	---------------	---------------------------------	-----------------------------------	---

Halwood Drive has historically been an area monitored for sinkholes due to karst topography. The municipal street, was repaired in approximately 2015 due to road settlement caused by sinkholes. At that time the manhole was reset, mains re-piped and the asphalt surfaced repaired. The previous repair excavation did not reach bedrock.

Staff have been continuously monitoring the surface of the area and have video inspected the sewer main due to the visible change on the surface present day.

Staff are concerned that with continued movement and settlement of the street that the sewer and water mains will be extremally susceptible to failure due to deflection and joint separation. The sewer video shows a significant bending in the sewer pipes on both sides of the manhole, and the manhole is holding water due to the inverts being lower than designed.

Staff installed water main valves on each side of the area to allow for short-term shutdown during work or if needed for an emergency shutdown.

DISCUSSION

Staff commissioned Harbourside Geotechnical Consultants (Harbourside) to review the area during the last couple years.

In the spring of 2026 Harbourside conducted a bore hole investigation in area of concern. At 7.3m a competent bedrock was encountered. Various other types of soil lay between bedrock and the surface. Harbourside recommends excavation to the bedrock placing appropriate materials and two types of geotextile fabric to improve the subgrade soil composition required to support and house the existing infrastructure within and under the street.

The report does not address the underground infrastructure that will need to be restored at the same time due to the subsurface improvements. This includes a water main, a gravity sewer, a sewer force-main, a manhole and two cross culverts. The entire project will have to be completed without interruption to the water and sewer service. The street surface will be reinstated after the underground work is complete.

NEXT STEPS

Staff will request quotes for the repair and award the work as soon as possible to allow the project to be complete before the end of the construction season. Staff will follow-up with Council regarding the funding elements.

FINANCIAL IMPLICATIONS

This project was not included in the approved 2026/27 Capital Budget. However, due to the risk of failure of both the road surface and underlying municipal infrastructure, resulting in potential water and sewer service interruptions, staff are recommending that the work proceed as an emergency project to mitigate the safety risks, prevent further asset deterioration, and avoid potentially higher future repair costs.

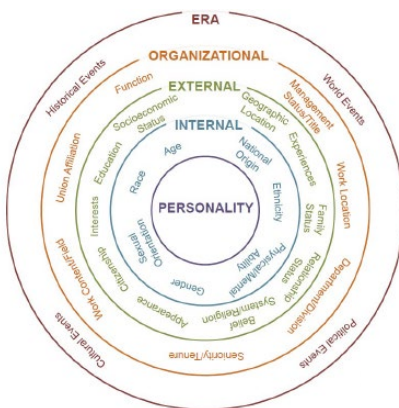
At this time, the total project cost and funding requirements have not been finalized. Approval of the recommended spending authority of \$285,615, will allow staff to proceed with emergency

procurement and undertake the necessary work in a timely manner. Once detailed cost estimates have been received, staff will provide Council with a financial update outlining the project cost, funding sources breakdown.

Pending confirmation of project costs, funding options may include the use of reserve funds, debt financing, depreciation, or a combination thereof. A funding recommendation will be presented to Council as part of the subsequent update. The project has been defined as an improvement resulting in the project being defined as a Capital improvement vs an Operating repair.

DIVERSITY, EQUITY, INCLUSION AND ACCESSIBILITY CONSIDERATIONS

Accessibility will be improved with the repair of the surface.



ENVIRONMENTAL CONSIDERATIONS

If the mains break due to the deflection sanitary sewer would be released into the environment.

ALTERNATIVES

Council may not approve the motion.

Council may choose a different course of action.

ATTACHMENTS

Harbourside Borehole Investigation report number 263070

Photos of the surface conditions

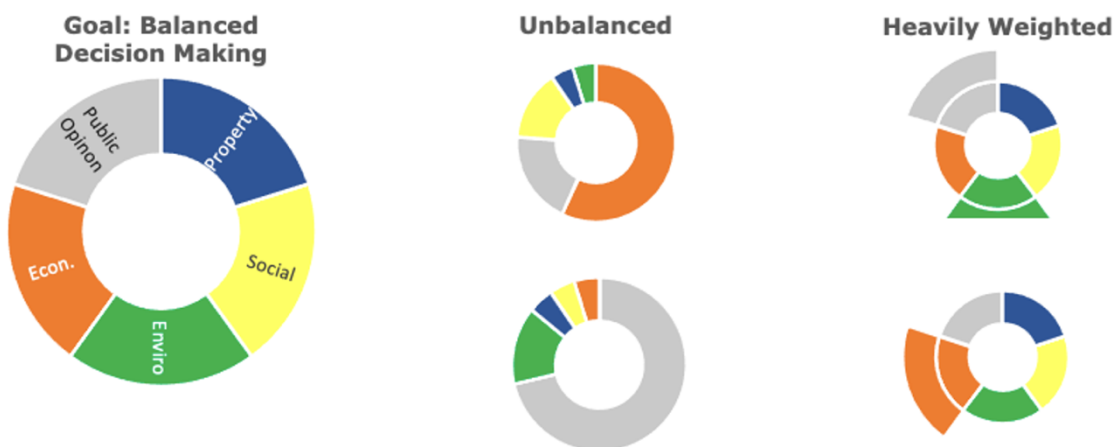
CHIEF ADMINISTRATIVE OFFICER REVIEW

It is unfortunate to have to address this unscheduled work in the middle of a budget cycle, however staff have provided the background, evidence and rationale for prioritizing this project within the remaining window of the construction season. The procurement policy provides the

authority to the CAO to expediate the vendor selection if required, while staying within the allocated financial amount set by Council throughout the execution of the work. The request of staff is to provide the financial capacity to confirm the cost and execute the work as described and recommended by Harbourside Geotechnical Consultants.

I support the recommendation.

Council has been provided with a reference taken from the Meeting and Committee Procedural Policy , Appendix C “Decision Making by Council and Committee of the Whole” as a reminder of the principles highlighted for good decision making.



Report Prepared by: Troy Burgess, Manager, Public Works Operations

Report Reviewed by: T. Richard
Todd Richard, Director of Public Works

Report Approved by: M. Phillips
Mark Phillips, Chief Administrative Officer

219 Waverley Road, Suite 200
Dartmouth, NS, Canada, B2X 2C3
T: +1 902 405 4696

2026-Jul-2

File No: 263070

Attention: Troy Burgess

Manager of Operations
West Hants Regional Municipality
PO Box 3000, 100 King Street
Windsor, NS B0N 2T0

Re: Borehole Investigation – Halewood Drive, Falmouth, Nova Scotia

Harbourside Geotechnical Consultants (Harbourside), at your request, advanced one borehole to assess subsidence near civic address 126 Halewood Drive.

The field work was carried out on May 29, 2026. One borehole was advanced in the roadway opposite the above-noted address using a track-mounted CME-45 diamond drill equipped for geotechnical testing and sampling. The attached borehole location plan provides additional details regarding the test location. Harbourside personnel observed and logged the subsurface conditions at the borehole location, which was advanced to a depth of 12.7 m below ground surface.

Samples recovered from the borehole were stored in watertight containers and taken to our geotechnical laboratory for final classification and testing. Laboratory testing on selected soil and rock samples included water content determinations, particle-size analyses, unconfined compressive strength testing of rock core, and point load index testing in general accordance with applicable ASTM standards.

The subsurface conditions encountered at the borehole location generally consisted of asphalt, fill, and bedrock with infilled cavities. These conditions are described in additional detail on the attached Borehole Record.

The fill was approximately 4.4 m thick and consisted of silty gravel with sand, occasional clay seams, and cobbles. Below a depth of 3.6 m, gypsum fragments were occasionally recovered within the samples. While on site, discussions with West Hants Regional Municipality representatives indicated that a previous excavation to a depth of approximately 4.5 m had been completed during a maintenance event, which generally aligns with the borehole findings.

White and grey gypsum bedrock was encountered at a depth of 4.5 m. An approximately 1.6 m void, infilled with a loose matrix of sand and gravel with seams of softened clay, was encountered below the bedrock surface. Intact weathered bedrock was encountered below the void at a depth of 6.3 m, and competent bedrock was encountered at a depth of 7.3 m.

We have attached Sketch G-01 which outlines a proposed conceptual repair intended to limit future subsidence in this area. The approach generally consists of excavating to expose bedrock, placing non-woven geotextile as a filter and high-strength geotextile as reinforcement, and backfilling with compacted 200-mm minus surge and Type 2 fill.

Actual excavation limits and repair requirements may vary depending on conditions exposed during construction and should be confirmed in the field by experienced geotechnical personnel. The repair concept should be reviewed and adjusted, as required, based on conditions encountered during construction.

Excavation side slopes, temporary support, and worker safety requirements should be assessed and implemented by the contractor in accordance with applicable Nova Scotia occupational health and safety requirements.

The following is noted regarding the attached sketch:

- Sketch G-01 presents one typical cross-section through an excavation anticipated to be roughly circular. The section shown is along the roadway; however, the repair should follow similar details through other sections. In some areas roadway and ditching details will vary.
- The exact location of utilities is not known to us in detail, and utilities have therefore been excluded from the repair detail. We understand that utilities will be temporarily removed to complete the work or supported by a method to be designed by others.
- Reinstatement of utilities should be completed in accordance with municipal standards, including applicable backfilling requirements.
- We recommend that experienced geotechnical personnel inspect the work throughout construction to confirm excavation depths, fill placement and compaction, and general conformance with the attached sketch.

This letter should be read in conjunction with the attached borehole location plan, Borehole Record, and Sketch G-01.

We trust this provides the information required at this time. Should you have any questions or require any additional information, please contact the undersigned at your convenience.

Sincerely,



Vince C. Goreham, Ph.D., P.Eng.
Senior Geotechnical Engineer
O 902 405 4696
E vgoreham@harboursideengineering.ca



Max Trzop, M.A.Sc.
Junior Geological Engineer
O 902 405 4696
E mtrzop@harboursideengineering.ca

Attachments: Symbols and Terms used on Borehole and Test Pit Records
Borehole Record – BH01
Grain Size Distribution Results
Point Load Test Results
Borehole Location Plan
Sketch No. G-01 (Conceptual Repair Detail)

SYMBOLS AND TERMS USED ON BOREHOLE AND TEST PIT RECORDS

STRATA PLOT

Strata plots symbolize the soil or bedrock description. They are combinations of the following basic symbols:

USCS SOIL CLASSIFICATION SYMBOLS

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN 75 μm SIEVE SIZE	GRAVELS MORE THAN 50% OF COARSE FRACTION RETAINED ON 4.75 mm SIEVE	CLEAN GRAVELS		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES. LITTLE OR NO FINES
		GRAVELS WITH FINES		GM	SILTY GRAVELS, GRAVEL – SAND – SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL – SAND – CLAY MIXTURES
	SANDS MORE THAN 50% OF COARSE FRACTION PASSING THE 4.75 mm SIEVE	CLEAN SANDS		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES		SM	SILTY SANDS, SAND – SILT MIXTURES
				SC	CLAYEY SANDS, SAND – CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN 75 μm SIEVE SIZE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS	
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY	
			OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS	
			CH	INORGANIC CLAYS OF HIGH PLASTICITY	
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS	
			PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS	
HIGHLY ORGANIC SOILS			PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS	

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

OTHER COMMONLY USED SYMBOLS

GLACIAL TILL		UNSTRATIFIED GLACIAL DEPOSIT RANGING FROM CLAY TO BOULDERS
BEDROCK		IGNEOUS BEDROCK
		METAMORPHIC BEDROCK
		SEDIMENTARY BEDROCK
		FILL: SUBSURFACE MATERIALS IDENTIFIED AS PLACED BY HUMANS
MATERIALS PLACED BY HUMANS		ASPHALT
		CONCRETE

SAMPLE TYPE

SS	Split Spoon (obtained by performing SPT)
ST	Shelby Tube (Thin-Walled Tube)
VA	Field Vane (recovery pertains to split spoon sampler over same interval)
GB	Grab Sample
PS	Piston Sample
WS	Wash Sample
HQ, NQ, AQ, BQ, etc.	Rock Core Samples Obtained Using Standard Size Diamond Bits

SPT N-VALUE (N-INDEX)

The standard penetration test (SPT) provides a qualitative evaluation of compactness and a qualitative comparison of subsoil stratification. The SPT is performed in the bottom of a borehole where a split-barrel sampler having an outside diameter of 50.8 mm is impacted using a hammer weighing 623 N falling 0.76 m for each hammer blow. The SPT N-value is the blow count representation of the penetration resistance of the soil. In accordance with ASTM D1586, the N-value, reported in blows per 300 mm, equals the sum of the number of blows (N) required to drive the sampler over the depth interval of 150 to 450 mm. However, when a 600 mm sampler is used the number of blows (N) required to drive the sampler over the interval of 300 to 600 mm may be reported if this value is lower. For samples where insufficient penetration was achieved and N-Values cannot be presented, the number of blows are reported over sampler penetration in mm (e.g. 50/120). Although some methods make use of N-values corrected for various factors (for equipment used, overburden stress, length of drill rod, etc.) no corrections have been applied to the N-values presented on the logs.

DYNAMIC CONE PENETRATION TEST (DCPT)

Dynamic cone penetration tests (DCPT) are performed using a standard 60-degree apex cone connected to 'A' size drill rods with the same standard fall height and weight as the SPT test. The DCPT value is the number of blows of the hammer required to drive the cone 300 mm. The DCPT provides a qualitative evaluation of compactness and allows for a qualitative comparison of subsurface stratification.

RECOVERY

For soil samples, recovery is recorded as the total length of the soil sample recovered. For rock core, recovery is expressed as a percentage of the total length drilled on a per run basis.

OTHER TESTS

S	Sieve Analysis	CD	Consolidated-Drained Triaxial	C	Consolidation
H	Hydrometer Analysis	CU	Consolidated-Undrained Triaxial	Q _u	Unconfined Compression
γ	Unit Weight	UU	Unconsolidated Undrained Triaxial	I _p	Point Load Index, I _p (50)
G _s	Specific Gravity of Soil Particles	DS	Direct Shear	k	Laboratory Permeability

SOIL DESCRIPTION

Terminology describing common soil genesis:

Rootmat	Vegetation, roots, and moss with organic matter and topsoil typically forming a mattress at the ground surface.
Topsoil	Mixture of soil and humus capable of supporting vegetative growth.
Peat	A soil composed of vegetable tissue in various stages of decomposition usually with an organic odor, a dark-brown to black color, a spongy consistency, and a texture ranging from fibrous to amorphous.
Till	Non-stratified glacial deposit which may range from clay to boulders
Fill	Artificial (man-made) deposits transported and placed on the natural surface of soil or rock.

Terminology describing soil structure:

Homogeneous	The lack of visible bedding and the same appearance and colour throughout
Desiccated	Having visible signs of weathering by oxidation of clay minerals, shrinking cracks, etc.
Fissured	Having cracks and hence a blocky structure
Stratified	Composed of regular alternating successions of different soil types
Varved	Comprised of regular alternating successions of silt and clay which were transported into freshwater lakes by melt water
Layer	> 75 mm
Seam	2 mm to 75 mm
Parting	< 2 mm
Pocket	Small erratic deposit, usually less than 300 mm
Lens	Lenticular deposit

Terminology describing soil types:

Soils are described in accordance with the Unified Soil Classification System (USCS) as described in ASTM D2487 and ASTM D2488. This system classifies soil into categories representing the results of laboratory tests to determine the particle-size characteristics, the liquid limit, and the plasticity index. Using this system, soils are assigned a group name (e.g. silty sand) and symbol (e.g. SM). The various groupings of this classification system have been devised to correlate in a general way with the engineering behavior of soils. Laboratory tests are performed on the portion of the sample passing the 75 mm sieve.

When laboratory test results indicate that the soil is close to another classification group, the borderline condition can be indicated with two symbols separated by a slash (e.g. CL/CH).

Terminology describing cobbles, boulders, and non-matrix materials:

Materials outside of the USCS (e.g. particles larger than 75 mm, organic matter, construction debris) are described based on the proportion of these materials by weight using the following terminology:

Trace, or occasional	< 10%
Some	10% to 20%
Frequent	> 20%

Terminology describing the compactness condition of cohesionless soils:

A qualitative term describing the compactness condition of a cohesionless soil is interpreted from the SPT N-value (also known as the N-index). The relationship between the SPT N-value and the compactness condition is shown in the following table.

Compactness Condition	SPT N-Value (blows per 0.3 m)
Very Loose	0 to 4
Loose	4 to 10
Compact	10 to 30
Dense	30 to 50
Very Dense	Over 50

Terminology describing the compactness condition of cohesive soils:

Cohesive soils can be classified in relation to undrained strength. Undrained strength can be determined by a number of tests including: unconfined compression tests, field and laboratory vane tests, laboratory fall-cone tests, shear-box tests, and triaxial tests. The consistency and undrained shear strength may also be approximately related the SPT N-Value. The relationship between the consistency and the undrained shear strength, as well as a rough correlation with SPT N-Value as shown in the following table.

Consistency	Undrained Shear Strength (kPa)	SPT N-Value (blows per 0.3 m)
Very Soft	< 12	< 2
Soft	12 to 25	2 to 4
Firm	25 to 50	4 to 8
Stiff	50 to 100	8 to 15
Very Stiff	100 to 200	15 to 30
Hard	> 200	> 30

ROCK DESCRIPTION

Rock is a natural aggregate of minerals that cannot be readily broken by hand and that will not disintegrate on a first wetting and drying cycle. A rockmass comprises blocks of intact rock that are separated by discontinuities such as cleavage, bedding planes, joints, shears and faults.

Terminology Describing Geological Classification of Rock:

Rock is classified with respect to its geological origin or lithology as follows:

Igneous Rocks	Rocks such as granite, diorite, and basalt, which are formed by the solidification of molten material.
Sedimentary Rocks	Rocks such as sandstone, limestone and shale, which are formed by the lithification of sedimentary soils.
Metamorphic Rocks	Rocks such as quartzite, schist, and gneiss, which have been altered by the application of intense heat and/or pressure.

Terminology Describing the Strength of Intact Rock:

Strength is the maximum stress level that can be carried by a specimen. Rocks may be classified based on their intact strength as shown in the following table.

Term	Unconfined Compressive Strength (MPa)
Extremely Weak	0.25 to 1
Very Weak	1 to 5
Weak	5 to 25
Medium Strong	25 to 50
Strong	50 to 100
Very Strong	100 to 250
Extremely Strong	> 250

Terminology Describing Discontinuity Spacing

The structural integrity of a rockmass will be affected by the presence of discontinuities. The spacing of discontinuities can vary from extremely wide to extremely close as indicated in the table below.

Term	Spacing Width (m)
Extremely Close	< 0.02
Very Close	0.02 to 0.06
Close	0.06 to 0.20
Moderately Close	0.20 to 0.6
Wide	0.6 to 2.0
Very Wide	2.0 to 6.0
Extremely Wide	> 6.0

Rock Quality Designation (RQD)

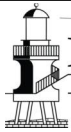
RQD is an indirect measure of the number of fractures within a rockmass. The method provides a quick and objective technique to estimate rockmass quality during diamond drill core logging. All pieces of intact and sound rock greater than 100 mm long are summed and divided by the total length of the core run in accordance with ASTM D6032.

RQD Classification	RQD (%)
Very Poor Quality	0 to 25
Poor Quality	25 to 50
Fair Quality	50 to 75
Good Quality	75 to 90
Excellent Quality	90 to 100

Terminology to Describe Rock Weathering

The state of weathering significantly alters the geotechnical behaviour of rocks and rockmasses. Weathering of the rockmass may be classified as shown in the following table.

Term	Description
Fresh	No visible sign of rock material weathering; perhaps slight discolouration on major discontinuity surfaces.
Slightly Weathered	Discolouration indicates weathering of rock material and discontinuity surfaces. All the rock material may be discoloured by weathering and may be somewhat weaker than its fresh condition.
Moderately Weathered	Less than half of the rock material is decomposed and/or disintegrated to a soil. Fresh or discoloured rock is present either as a discontinuous framework or as corestones
Highly Weathered	More than a half of the rock material is decomposed and/or disintegrated to a soil. Fresh or discoloured rock is present either as a discontinuous framework or as corestones.
Completely Weathered	All rock material is decomposed and/or disintegrated to soil. The original mass structure is still largely intact.


HARBOURSIDE
 Geotechnical Consultants

BOREHOLE RECORD

BH01

N: 4983578 E: 406891

 CLIENT **WEST HANTS PUBLIC WORKS**

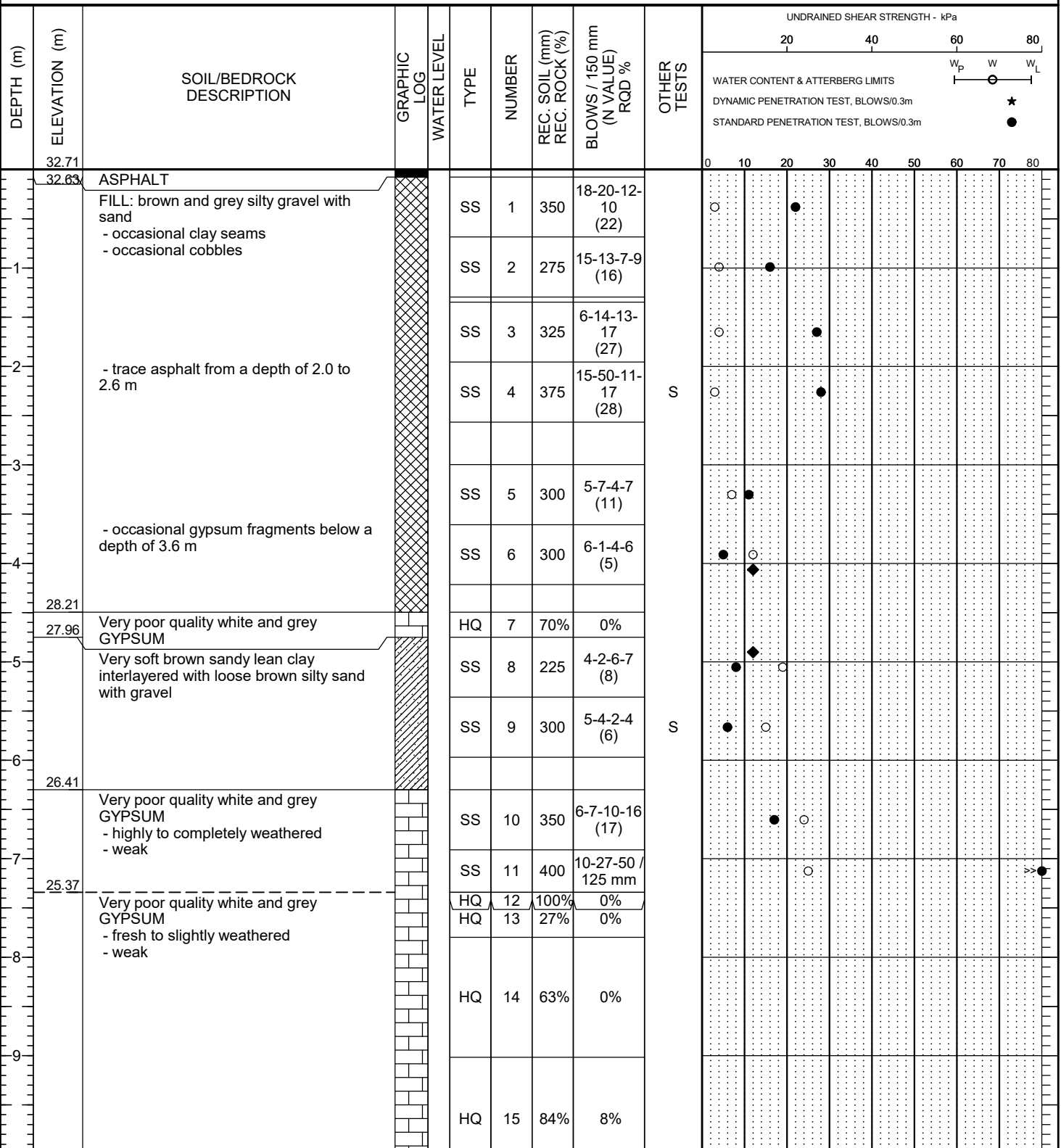
 PROJECT No. **263070**

 LOCATION **HALEWOOD DRIVE GEOTECHNICAL INVESTIGATION, FALMOUTH, NOVA SCOTIA**

 DATUM **CGVD2013**

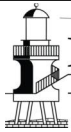
 DATES: BORING **2026-05-29**

 WATER LEVEL **NOT MEASURED**

 BH SIZE **HQ/HW**


- | | |
|------------------|--------------------------|
| ■ Miniature Vane | □ Torvane |
| ◆ Penetrometer | ◇ UU Triaxial |
| ▲ Field Vane | △ Unconfined Compression |

(Continued Next Page)


HARBOURSIDE
 Geotechnical Consultants

BOREHOLE RECORD

BH01

N: 4983578 E: 406891

 CLIENT WEST HANTS PUBLIC WORKS

 PROJECT No. 263070

 LOCATION HALEWOOD DRIVE GEOTECHNICAL INVESTIGATION, FALMOUTH, NOVA SCOTIA

 DATUM CGVD2013

 DATES: BORING 2026-05-29

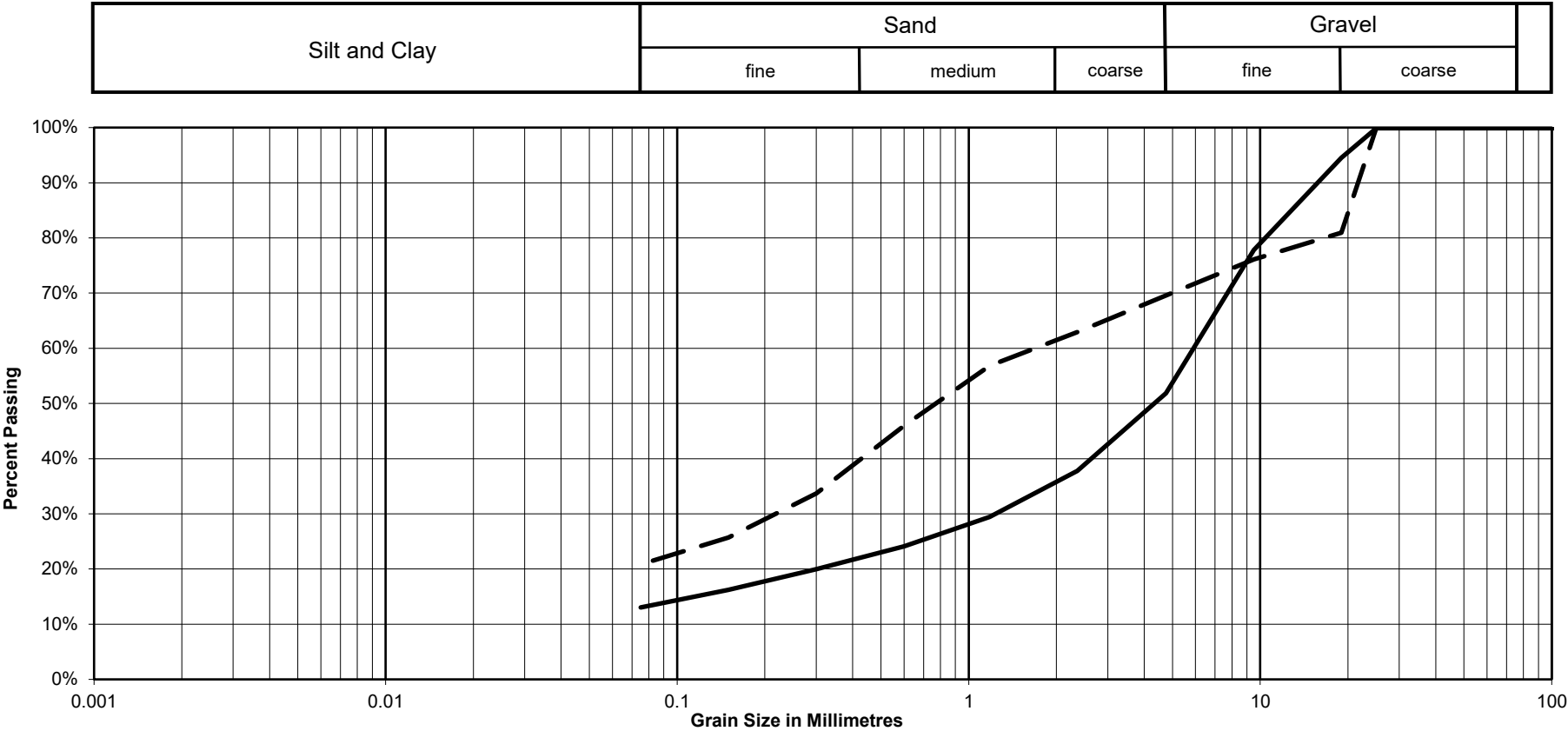
 WATER LEVEL NOT MEASURED

 BH SIZE HQ/HW

DEPTH (m)	ELEVATION (m)	SOIL/BEDROCK DESCRIPTION	GRAPHIC LOG	WATER LEVEL	TYPE	NUMBER	REC. SOIL (mm) REC. ROCK (%)	BLOWS / 150 mm (N VALUE) RQD %	OTHER TESTS	UNDRAINED SHEAR STRENGTH - kPa 20 40 60 80 W _p W W _L WATER CONTENT & ATTERBERG LIMITS DYNAMIC PENETRATION TEST, BLOWS/0.3m STANDARD PENETRATION TEST, BLOWS/0.3m										
										0 10 20 30 40 50 60 70 80										
11	20.87	Very poor quality white and grey GYPSUM - fresh to slightly weathered - weak (<i>continued</i>)			HQ	16	68%	0%	Q _u =14.6MPa											
12					HQ	17	67%	0%												
12	20.06	Very poor quality black and grey LIMEY-SHALE - occasional anhydrite inclusions - fresh to slightly weathered - medium strong			HQ	18	67%	0%	I _p											
13		End of borehole																		
14																				
15																				
16																				
17																				
18																				
19																				

- | | |
|------------------|--------------------------|
| ■ Miniature Vane | □ Torvane |
| ◆ Penetrometer | ◇ UU Triaxial |
| ▲ Field Vane | △ Unconfined Compression |

GRAIN SIZE DISTRIBUTION



CURVE	BOREHOLE / TESTPIT	SAMPLE	DEPTH (m)	SOIL FRACTION			SOIL DESCRIPTION
				GRAVEL	SAND	SILT/CLAY	
—	BH01	SS4	1.96 to 2.57	48%	39%	13%	Silty Gravel with Sand
- - -	BH01	SS9	5.36 to 5.97	30%	49%	21%	Silty Sand with Gravel



t: 1.902.405.4696 | f: 1.902.405.4693
219 Waverley Road, Suite 200
Dartmouth, NS B2X 2C3
<http://harboursideengineering.ca>

CLIENT West Hants Public Works
PROJECT Halewood Drive
LOCATION Halewood Drive, Falmouth, Nova Scotia

[illegible]



GEOTECHNICAL INVESTIGATION
HALEWOOD DRIVE
BOREHOLE LOCATION PLAN



LEGEND

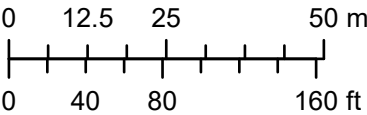
 BOREHOLE (BH)

COORDINATES ARE IN REFERENCE TO:
NAD83 UTM ZONE 20N

ELEVATIONS ARE IN REFERENCE TO:
CGVD2013

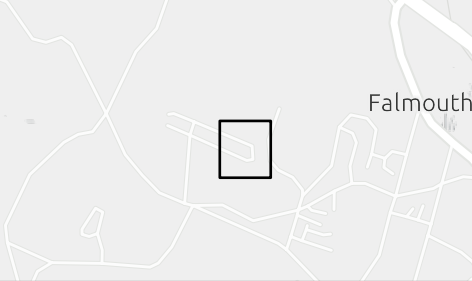
PROJECT No.: 263070

DD-MM-YYYY: 04-06-2026

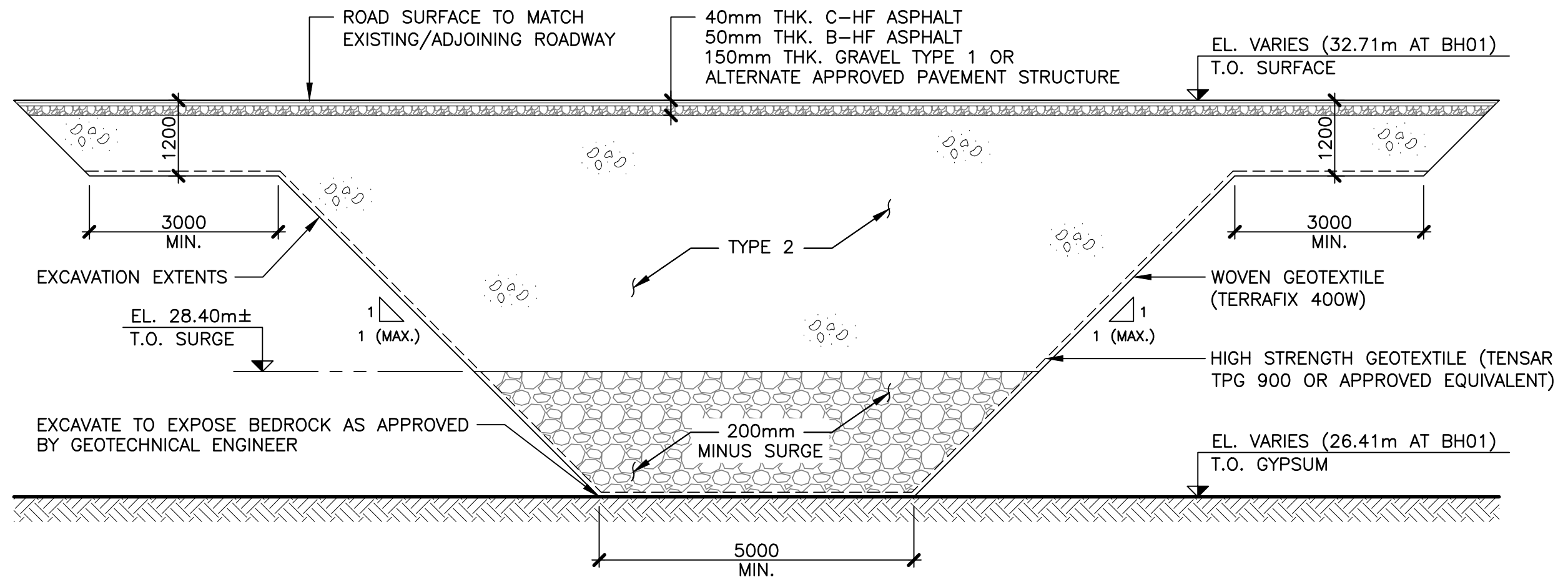


DATA SOURCES: IMAGERY OBTAINED FROM ESRI

KEY PLAN



BOREHOLE (BH)	EASTING	NORTHING	ELEVATION (m)
BH01	406891	4983578	32.71



1
G-01 **DETAIL**
1 : 75

NOTES:

1. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH APPLICABLE NOVA SCOTIA OCCUPATIONAL HEALTH AND SAFETY REQUIREMENTS.
2. ALL DIMENSIONS IN mm UNLESS NOTED OTHERWISE.
3. ELEVATIONS ARE REFERENCED TO CGVD2013. ELEVATIONS ARE SHOWN IN m.
4. DETAIL REPRESENTS A SINGLE SECTION THROUGH AN APPROXIMATELY CIRCULAR EXCAVATION.
5. UTILITIES ARE NOT SHOWN FOR CLARITY. WATER, STORMWATER, AND WASTEWATER SERVICES SHALL BE REMOVED, RELOCATED, SUPPORTED, OR PROTECTED BY OTHERS THROUGHOUT CONSTRUCTION, AND REINSTALLED IN ACCORDANCE WITH THE MUNICIPAL SERVICES SPECIFICATION MANUAL.
6. WORK SHALL BE SUPERVISED BY EXPERIENCED GEOTECHNICAL PERSONNEL. LIMITS OF EXCAVATION SHALL BE ADJUSTED IN THE FIELD, AS DIRECTED BY THE GEOTECHNICAL REPRESENTATIVE, TO REMOVE VISIBLY SOFTENED, LOOSE, OR UNSUITABLE MATERIAL WITHIN THE CONE OF DEPRESSION/SETTLEMENT.
7. GRADE THE ROADWAY AND SHOULDER TO MATCH EXISTING GRADES AND MEET THE REQUIREMENTS OF THE MUNICIPAL SERVICES SPECIFICATION MANUAL.
8. SUBGRADE SHALL BE REVIEWED BY GEOTECHNICAL PERSONNEL PRIOR TO PLACEMENT OF BACKFILL. BACKFILL SHALL NOT PROCEED UNTIL THE SUBGRADE HAS BEEN ACCEPTED.
9. BACKFILL SHALL BE PLACED IN LIFTS (USING EXCAVATOR MOUNTED EQUIPMENT WHERE REQUIRED) AND COMPACTED TO THE ACCEPTANCE OF THE GEOTECHNICAL ENGINEER.
 - a. SURGE TO BE INSPECTED VISUALLY.
 - b. TYPE II TO BE COMPACTED TO 98 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY.
 - c. PAVEMENT GRAVELS TO BE COMPACTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MUNICIPAL SERVICES SPECIFICATION MANUAL.
10. SURFACE DRAINAGE SHALL BE MAINTAINED AWAY FROM THE REPAIR AREA DURING CONSTRUCTION AND FOLLOWING COMPLETION OF THE WORK.
11. CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS, INCLUDING ROADWAY, SHOULDER, DITCHES, AND ADJACENT SURFACES TO MATCH EXISTING CONDITIONS UNLESS OTHERWISE NOTED.
12. EXCAVATED MATERIAL SHALL NOT BE PILED WITHIN 6m OF EXCAVATION.
13. HIGH STRENGTH GEOGRID AND WOVEN GEOTEXTILE TO BE PLACED IN CONTINUOUS PIECES WITH A MINIMUM CROSS-DIRECTION OVERLAP OF 450mm.

Scale AS NOTED	Date JULY 3, 2026	Drawn K. GOREHAM	Designed VCG	Checked GSM	Approved VCG	Contract 263070
 HARBOURSIDE Geotechnical Consultants			HALEWOOD DR. GEOTECHNICAL INVESTIGATION WEST HANTS REGIONAL MUNICIPALITY		SKETCH No. G-01	

