



March 24, 2025

Mr. Jordan Lupovici  
Halo Car Wash  
1010 Ontario Street  
Stratford, ON  
N5A 6Z3

**RE: Halo Car Wash 585 West Hunt Club Rd., Nepean, Ontario  
Geotechnical Subsurface Investigation  
Report No. 25C038R3**

Dear Mr. Lupovici:

As requested by you, this report is submitted on the geotechnical subsurface investigation at the property just North of West Hunt Club Rd. in Ottawa, Ontario.

**A) DESCRIPTION OF FIELD WORK**

Prior to starting the field drilling, locates were requested through Ontario One Call. When we initially visited the site, the whole site was covered with more than 300 mm of snow throughout.

The drilling was done on March 18, 2025. At the time of drilling, a lot of the snow had melted but there were still drifts of snow over close to half of the site. The drill was from Eastern Ontario Diamond Drilling or Hawkesbury, Ontario. Supervision was by the undersigned geotechnical engineer.

A total of 4 boreholes were put down at the site. The boreholes were advanced by split spoon sampling. Standard Penetration tests were carried out along with the split spoon sampling. The recovered samples were placed in glass jars while on the site. The jars were returned to our lab for later detailed lab examination and one gradation test. While on site we paid close attention for potential fuel contamination odours. None were noted.

A sketch showing the borehole locations is attached to this report.

**B) STRATIGRAPHY**

The stratigraphy at the 4 boreholes is fairly similar.

The surface is covered with 50 mm of asphalt. Below the asphalt is gravel fill that extends between 0.48 to 0.53 m.

Below the gravel is a brown, moist, compact silty sand. With depth the brown becomes grey brown, generally around 1.5 m and grey, generally around 2.3 m. The moisture becomes very moist generally between 1.8 m to 2.3 m. The silty sand was noted to be wet between 2.3 m to 3.0 m at Boreholes 2, 3 and 4. The ground water was noted at 2.3 m at Boreholes 2 and 3 and at 3.0 m at Boreholes 1 and 4.

We hit bedrock at 3.28 m at Borehole 2 and 2.44 m at Borehole 3.

For the specific information at each borehole, the borehole logs should be referred to.

## **C) GEOTECHNICAL DISCUSSION**

### **1. General**

It is our understanding that a one storey car wash building is to be built near the centre of the lot in an East West direction.

### **2. Foundations**

The foundations for the building can be footings designed with a bearing capacity of 150 KPa S.L.S. and 225 KPa U.L.S at 1.5 m below the surface. The seismic factor is Site Class C. The building design frost depth in this area is 1.5 m below the final exterior surface.

### **3. Slab on Grade**

The soil conditions are acceptable for a normal slab on grade.

The upper asphalt should be removed. The upper gravel should also be lowered.

The gravel below the new slab should be 150 mm of Granular "A" compacted to 95% Standard Proctor Density. If the loading will exceed 25 KPa S.L.S. the compaction should be to 100% Standard Proctor Density.

#### **4. New Sewers and Watermain**

The bedrock depths at Boreholes 2 and 3 should be noted in case the sewers or watermains are coming in from the West end. The frost design depth in asphalted areas is 2.3 m.

For any new sewers and watermains, the sewers and watermains must be just below 2.3 m.

All bedrock removal must be done by hoe ramming.

The bedding for the services should be 150 mm of Granular "A" compacted to 95% Standard Proctor Density. The cover material should be 150 mm of Granular "A" compacted to 95% Standard Proctor Density.

The backfill for the trench can be the site silty sand. This should be compacted in maximum 300 mm lifts to 95% Standard Proctor Density.

When it is time to restore the gravel subbase and base in the trench areas, the subgrade should be recompacted to 95% Standard Proctor Density prior to applying the subbase course.

#### **5. Dewatering Plan**

It has come to our attention that the deepest proposed excavation area may reach the local water table. It is expected that the water table will fluctuate in depth depending on the season and as such, it should be

anticipated that dewatering is likely. It is recommended that surface water from the adjoining asphalt covered roads and properties be diverted to catch basins to prevent entering the excavation. Any infiltrated groundwater will need to be removed from the excavation.

If construction site dewatering involves more than 50,000 L/day and less than or equal to 400,000 L/day of ground water the project must be registered with the Ministry of Environment, Conservation and Parks (MOECP) in the Environmental Activity Sector Registry (EASR). If the volume of water to be removed is more than 400,000 L/day, then a permit to take water is required. We anticipate that the groundwater infiltration will not exceed 50,000 L/day and an EAS registration nor a permit to take water will be necessary. However, an EASR approval will be obtained in accordance with provincial requirements if dewatering is required above the noted 50,000 L/day volume.

The creation of sumps within the excavated area will be required to collect and contain any infiltrated groundwater and possible surface water. It will be necessary to have the volume of groundwater collected in the sumps be measured and recorded in addition to having the water analyzed to confirm it satisfies The City of Ottawa's By-Law 2025-94 Schedule A parameters prior to leaving the construction site. If the accumulated groundwater does not meet the By-Law conditions, then the accumulated groundwater will need to be removed from the construction site via a tanker truck or be treated using a mobile water treatment contractor. If a mobile water treatment contractor is used, the treated water will require testing to confirm it satisfies the By-Law Schedule A (Tables 1 to 4) parameters prior to release into the

sanitary/combined sewer system and the Table 5 storm sewer discharges (By-Law 2025-239).

## **6. New Parking Lot**

For light vehicle parking areas, the subbase should consist of 300 mm of Granular "B" Type 2 and the base should consist of 150 mm of Granular "A" each compacted to 100% Standard Proctor Density.

The asphalt should consist of 50 mm of HL3 compacted to 96% Marshall Density.

For heavy duty access roads, the subbase should consist of 400 mm of Granular "B" Type 2 and the base should consist of 150 mm of Granular "A" each compacted to 100% Standard Proctor Density.

The asphalt should consist of 50 mm of HL4 base and 40 mm of HL3 surface, each compacted to 96% Marshall Density.

## **D) CONSTRUCTION CONTROL**

In order to ensure that the recommendations for footings, backfill and compaction are adhered to, it is recommended that our firm be retained to inspect, test and report accordingly.

**St. Lawrence Testing  
& Inspection Co. Ltd.**

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Continued

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Respectfully submitted,

**ST. LAWRENCE TESTING & INSPECTION CO. LTD.**



G.G. McIntee, P. Eng.

GGM:mm







OFFICE BOREHOLE RECORD

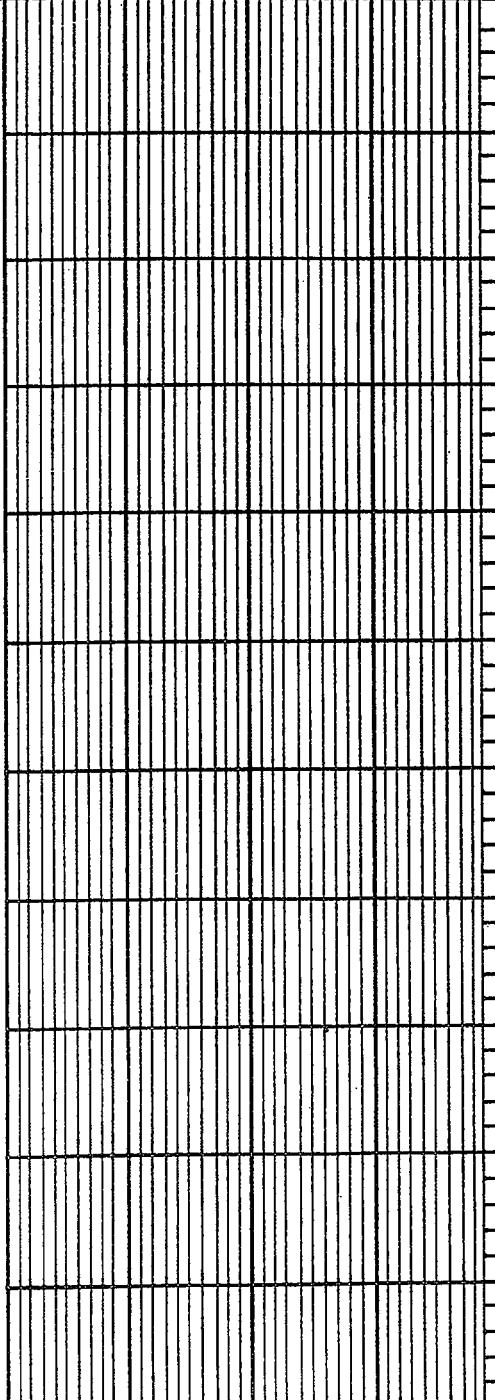
CLIENT Halo Car Wash  
LOCATION 585 West Hunt Club Rd., Nepean  
DATE OF BORING March 18, 2025 DATE OF WL READING March 18, 2025

REPORT NO. 25C038  
BOREHOLE NO. 1NE  
CASING HS Auger  
DATUM

DEPTH	ELEVATION	DEPTH	SOIL PROFILE		SAMPLES					LABORATORY TESTS PERFORMED	LAB	TEST	RESULTS	
			SOIL DESCRIPTION	STRAT. PLOT	WATER CONDITIONS	CONDITION	TYPE	NUMBER	RECOVERY					
0			50 mm Asphalt Gravel Fill											
0.48			Silty Sand Brown, moist, compact, becoming grey brown below 1.5m and grey below 2.3 m and very moist below 3.0 m				SS	1	55	16				
1							SS	2	75	23				
2							SS	3	70	21				
3							SS	4	55	20				
3.66			Termination of borehole											
4														
5														

DYNAMIC PENETRATION TEST BLOWS PER FOOT. .K...

0 20 40 60 80



APPENDIX



## **St. Lawrence Testing & Inspection Co. Ltd.**

## OFFICE BOREHOLE RECORD

CLIENT Halo Car Wash BOREHOLE NO. 2NW  
LOCATION 585 West Hunt Club Rd., Nepean CASING HS Auger  
DATE OF BORING March 18, 2025 DATE OF WL READING March 18, 2025 DATUM



## **St. Lawrence Testing & Inspection Co. Ltd.**

## OFFICE BOREHOLE RECORD

CLIENT	Halo Car Wash	BOREHOLE NO.	3SW
LOCATION	585 West Hunt Club Rd., Nepean	CASING	HS Auger
DATE OF BORING	March 18, 2025	DATE OF WL READING	March 18, 2025
			DATUM

REPORT NO 25C038

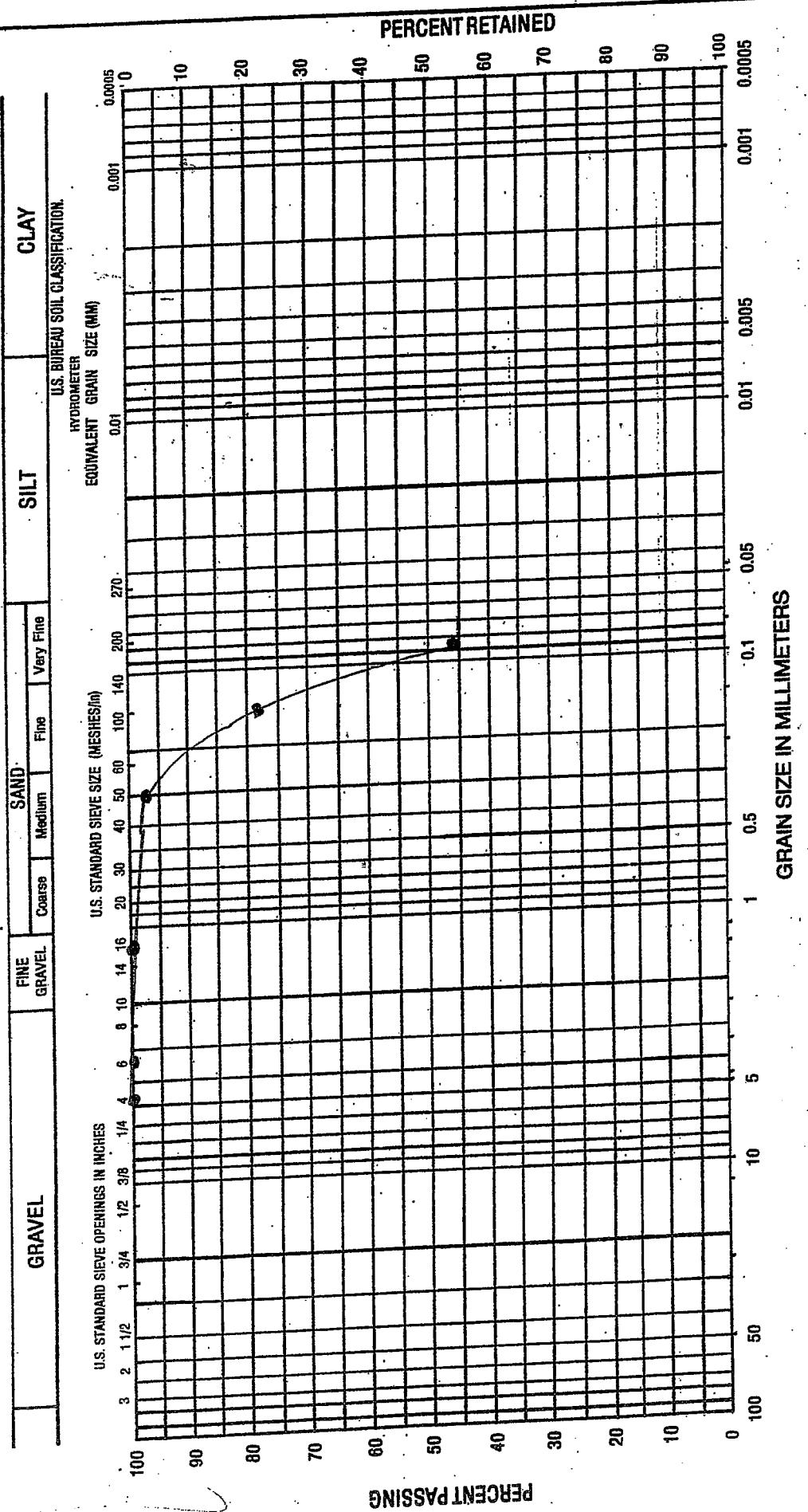
BOREHOLE NO. 3SW

**CASING HS Auger**

DATUM \_\_\_\_\_

REPORT NO. 250030  
BOREHOLE NO. 4SE  
CASING HS Auger  
DATUM

CLIENT Halo Car Wash BOREHOLE NO. 4SE  
LOCATION 585 West Hunt Club Rd., Nepean CASING HS Auger  
DATE OF BORING March 18, 2025 DATE OF WL READING March 18, 2025 DATUM



UNIFIED CLASSIFICATION (ASTM D 2487)					
GRAVEL		SAND		CLAY	
Coarse	Fine	Courte	Medium	Fine	

<u>BOREHOLE No.</u>	<u>SAMPLE No.</u>	<u>DEPTH</u>	<u>DESCRIPTION</u>
4	1	0.76 - 1.37 m	Silty sand