



**St. Lawrence Testing
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March 24, 2024

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. 25C038R2**

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.

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 recompact to 95% Standard Proctor Density prior to applying the subbase course.

5. 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.

Respectfully submitted,

ST. LAWRENCE TESTING & INSPECTION CO. LTD.



G.G. McIntee, P. Eng.

GGM:mm





**St. Lawrence Testing
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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 _____

SOIL PROFILE

SAMPLES

LABORATORY
TESTS
PERFORMED

LAB

TEST

RESULTS

WATER CONTENT & ATTERBERG LIMITS.

WP

W

WL

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

0 20 40 60 80

0
0.48
1
2
3
4
5

50 mm Asphalt
Gravel Fill

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

SS 2

75

23

SS 3

70

21

SS 4

55

20

Termination of
borehole

APPENDIX

REPORT NO. 25C038

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 _____

SOIL PROFILE						SAMPLES					LABORATORY TESTS PERFORMED	LAB	TEST	RESULTS		
DEPTH	ELEVATION	DEPTH	SOIL DESCRIPTION	STRAT. PLOT	WATER CONDITIONS	CONDITION	TYPE	NUMBER	RECOVERY	N - VALUE		WATER CONTENT & ATTERBERG LIMITS.				
												WP	W	WL		
												DYNAMIC PENETRATION TEST BLOWS PER FOOT. . . K . . .				
0			50 mm Asphalt Gravel Fill									0	20	40	60	80
0.51			Silty Sand Brown, moist, compact, becoming grey brown below 1.7 m and very moist below 1.8 m and grey and wet below 2.3 m													
1																
2																
2.3																
3																
3.28			Auger refusal on bedrock													
4																
5																
												APPENDIX				

REPORT NO. 25C038

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 _____

SOIL PROFILE						SAMPLES				LABORATORY TESTS PERFORMED	LAB	TEST	RESULTS
DEPTH ELEVATION DEPTH	SOIL DESCRIPTION	STRAT. PLOT	WATER CONDITIONS	CONDITION	TYPE	NUMBER	RECOVERY	N - VALUE	WATER CONTENT & ATTERBERG LIMITS.				
									WP		W	WL	
										DYNAMIC PENETRATION TEST BLOWS PER FOOT. .K... 0 20 40 60 80			
0	50 mm Asphalt Gravel Fill												
0.51	Silty Sand Brown, moist, compact, becoming grey below 1.5 m and very moist below 1.8 m and wet below 2.3 m			X	SS	1	70	15					
1				X	SS	2	75	19					
2			2.3	X	SS	3	65	50+					
2.44	Sampler and auger refusal on bedrock												
3													
4													
5													

APPENDIX



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OFFICE BOREHOLE RECORD

25C038

REPORT NO. _____

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 _____

SOIL PROFILE

SAMPLES

LABORATORY
TESTS
PERFORMED

LAB TEST RESULTS

WATER CONTENT & ATTERBERG LIMITS.

WP W WL

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

0 20 40 60 80

50 mm Asphalt
Gravel Fill

0.53 Silty Sand
Brown, moist,
compact, becoming
brown grey below
1.5 m and very moist
below 2.3 m and
grey and wet below
3.0 m

SS 1 75 23

SS 2 50 21

SS 3 75 27

SS 4 70 17

3.0
▽
=

3.66 Termination of
borehole

APPENDIX

