October 20, 2023

Our File Ref.: 220536

Unpoised Architecture Inc.
5-16 Sweetland Ave.
Ottawa, ON
K1N 7T6

Attention: Sam Cox

Subject: Slope Stability Analysis – Proposed Automotive Dealership and Body Shop
5254 Bank Street
Ottawa, Ontario

Pursuant to your request, LRL Associates Ltd. (LRL) completed a slope stability analysis at the above referenced location. The purpose of this analysis was to evaluate the proposed construction pertaining to the site development, and to ensure the construction will not negatively affect the site stability in short term (drained), long term (undrained), and seismic condition.

This report only considered overall slope stability. It shall be noted, once the retaining wall design is complete, LRL shall perform a "Global Stability Analysis" on the retaining wall sections.

Furthermore, this report shall be read in conjunction with the "Geotechnical Investigation – Proposed Automotive Dealership and Body Shop", generated by LRL (File # 220536), dated July 6, 2023.

1 SITE AND PROJECT DESCRIPTION

The site under investigation is currently used for residential purposes. The site consists of a single-storey residential dwelling, a detached double car garage, and multiple storage buildings at the rear portion of the property. The site is rectangular in shape, having a total surface area of about 1,740 m2. The general topography of the eastern portion of the site is considered to be relatively flat. An approximate 3.5 m high slope is present in the north-south direction at the middle of the site. Access to the site comes by way of Bank Street, and is civically located at 5254 Bank Street, Ottawa, Ontario.

It is understood that the new development will consist of a proposed four (4) bay Automotive Dealership and Body Shop, which each bay having a surface area of +/- 90 m^2. A section of the site is proposed to be raised in order to provide a flat area to construct the bays. The grade raise is proposing to be retained by a retaining wall.

2 PROCEDURE

Two (2) site visits were carried out by a member of our geotechnical team; October 8, 2019, and June 9, 2023. During these site visits, boreholes were drilled across the site to determine the surficial soil of the slope and surrounding site.

A total of eight (8) boreholes were drilled across the site, and labelled BH1 through BH8. All boreholes were advanced until practical auger refusal; at depths ranging between 0.7 and 3.7 m below ground surface (bgs).

3 SLOPE DESCRIPTION

The slope under review herein is located at the approximate mid-point of the site, running in the north-south direction, and sloping downwards towards the west. Currently the slope has a profile of about 3.5 Horizontal to 1 Vertical (3.5H:1.0V), and a height of about 3.5 m.

Based on observations made during the site visit, no signs of current or former slope failure appeared within the slope or its surroundings.

4 SUBSURFACE CONDITIONS

A review of local surficial geology maps provided by the Department of Energy, Mines and Resources Canada suggest that the surficial geology for this area consists of bedrock. The bedrock is of the Oxford Formation, consisting of dolomite and limestone.

The boreholes indicate the site is comprised of a thin layer of silt and fill material, overlying bedrock.

No groundwater was encountered during our subsurface investigation. However, it should be noted that groundwater level can vary and is subject to seasonal fluctuation in response to major changes to weather events.

5 SLOPE STABILITY ANALYSES

The slope modelling program, Slide 5.0 (Rocscience), was used to implement the Bishop simplified method of slices. The slope profile chosen to be ran in the modelling was obtained from a cross-section from the project's "Grading and Drainage Plan", generated by LRL. The approximate location of the cross-section (labelled A-A) that was taken and ran in the modelling is shown on the above-mentioned drawing, attached to this report. The slope was analyzed under the undrained (short-term), drained (long-term), and seismic condition. However, it shall be noted that the drained and undrained parameters for the soil encountered on this site are the same. Therefore, the drained and undrained conditions are considered to be equivalent.

The seismic analysis was performed by incorporating the seismic coefficient (k_h) into the modelling. The peak ground acceleration (PGA) for this area is equal to 0.32 for the 2% in 50 year probability of exceedance as per the NBC 2015. The value for k_h was taken as 50% of the PGA, which equates to 0.16.

The field measurements from the borehole drilling in conjunction with known published data of the materials within the region were used for selection of appropriate soil modelling parameters in the slope stability analyses.

The results of the analyses are potentially dependent on the assumption of groundwater conditions. During the development of this report, no information on the groundwater level was available throughout the year. However, as a conservative approach the analysis was completed assuming full saturation throughout the slope.

The following soil parameters were used as part of the analyses.

Soil Type	Effective cohesion (c') - KPa	Angle of internal friction (ϕ') - degrees	Bulk unit weight (γ_B) – KN/m^3
Drained/Undrained Parameters (Long/Short Term)			
Silt	0	35	17.5
In-situ Fill	1	33	18.5
Imported Fill	1	35	19.0
Retaining Wall	-	-	24.0
Bedrock	-	-	24.0

The factor of safety (FoS) against slope failure was run with the loading for the proposed garage bays for the drained/undrained and seismic conditions.

A typical value of 75 kPa for the structures was assumed and included within the modelling.

The FoS against slope failure for the proposed slope profile was determined to be 4.51. A FoS of 1.50 or greater is considered to be safe with regards to slope stability.

The FoS in the seismic condition was determined to be 1.98. The minimum FoS with regards to seismic condition is 1.10.

These results indicate that the proposed construction will not negatively affect the slope, and it will remain stable in the long and short term, and in the event of any seismic activity.

The model results are attached for your reference.

6 SETBACK REQUIREMENTS

The Limit of Hazard Land consists of three components as follows:

Limit of Hazard land = Stable Slope Allowance + Toe Erosion Allowance + Erosion Access Allowance.

The Stable Slope Allowance is the area where a factor of safety is less than 1.5 against overall rotational failure. As indicated in the enclosed figures, the slope stability analysis indicated the factor of safety equal to or greater than 1.5 against failure. Therefore, stable slope allowance can be omitted.

Based on our field observation no sign or indication of toe erosion was observed, therefore no Toe Erosion Allowance is required at this site.

An Erosion Access Allowance is intended to provide a corridor of sufficient width that allows equipment to access the site to undertake a repair for any future unforeseen slope failure. A typical setback value of 6.0 m can be taken for this site. Based on the proposed site development, the setback distance will be greater than 6.0 m.

7 CONCLUSIONS/RECOMMENDATIONS

The following recommendations should be adhered to during the construction and post construction to ensure the long-term stability of the slope.

- Once the site-specific retaining wall design is made available, LRL shall check the wall for Global Stability.
- Any site drainage should be diverted away from the slope/retaining wall. Drainage outlets, if any, shall be protected with riprap over approved geotextile to eliminate erosion in the slope.

- If the site grading changes from what is illustrated in the Grading and Drainage Plan, dated September 25, 2023; LRL shall be consulted to ensure the contents of this reports are still valid.

8 GENERAL COMMENTS AND LIMITATIONS OF REPORT

The conclusion and recommendations are provided in this report are based on subsoil properties at the boreholes' locations. The material reflected in this report are best judgement in light of information obtained from localized auger holes and information available with LRL at the time of report preparation.

This report is prepared for and is intended solely for its client and authorized engineers. Unless otherwise agreed in writing, no portion of this report, or any part thereof may be used for decisions made based on it by separate entity, are the responsibility of such entity. LRL accepts no responsibility for damage, if any, suffered by any separate entity as a result of decisions made or suffered from illegal use of this report. The findings are relevant for the date of the site investigation and any changes on the ground profile or subsurface condition at later date, LRL should be retained to review and for further recommendations.

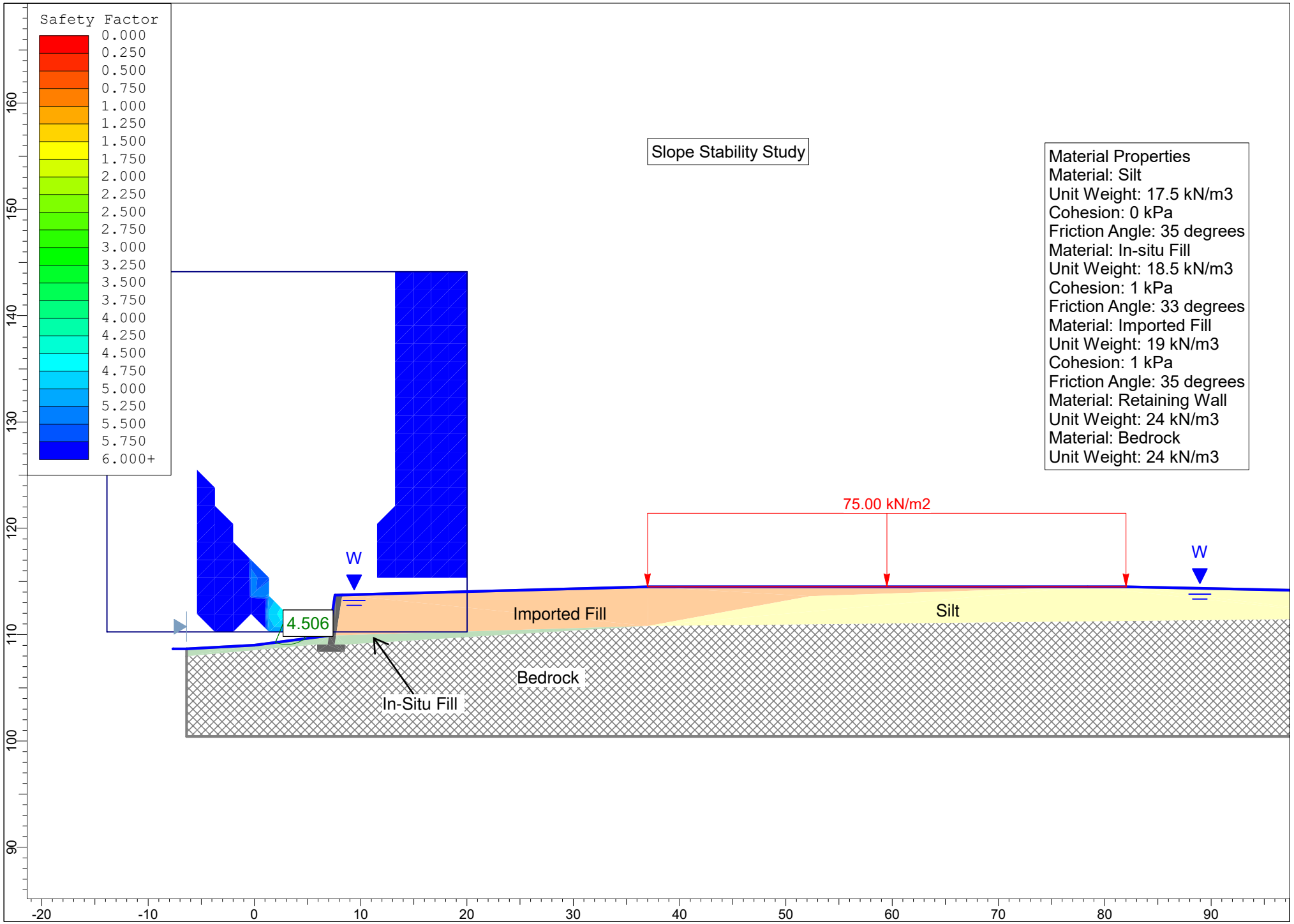
We trust this report provides sufficient information for your present purposes. If you have any questions concerning this report or if we may be of further services to you, please do not hesitate to contact our office.

Yours truly,

LRL Associates Ltd.

Brad Johnson, P. Eng.
Geotechnical Engineer

Encl. Slope Stability Analysis Results
Cross-section Location


Safety Factor
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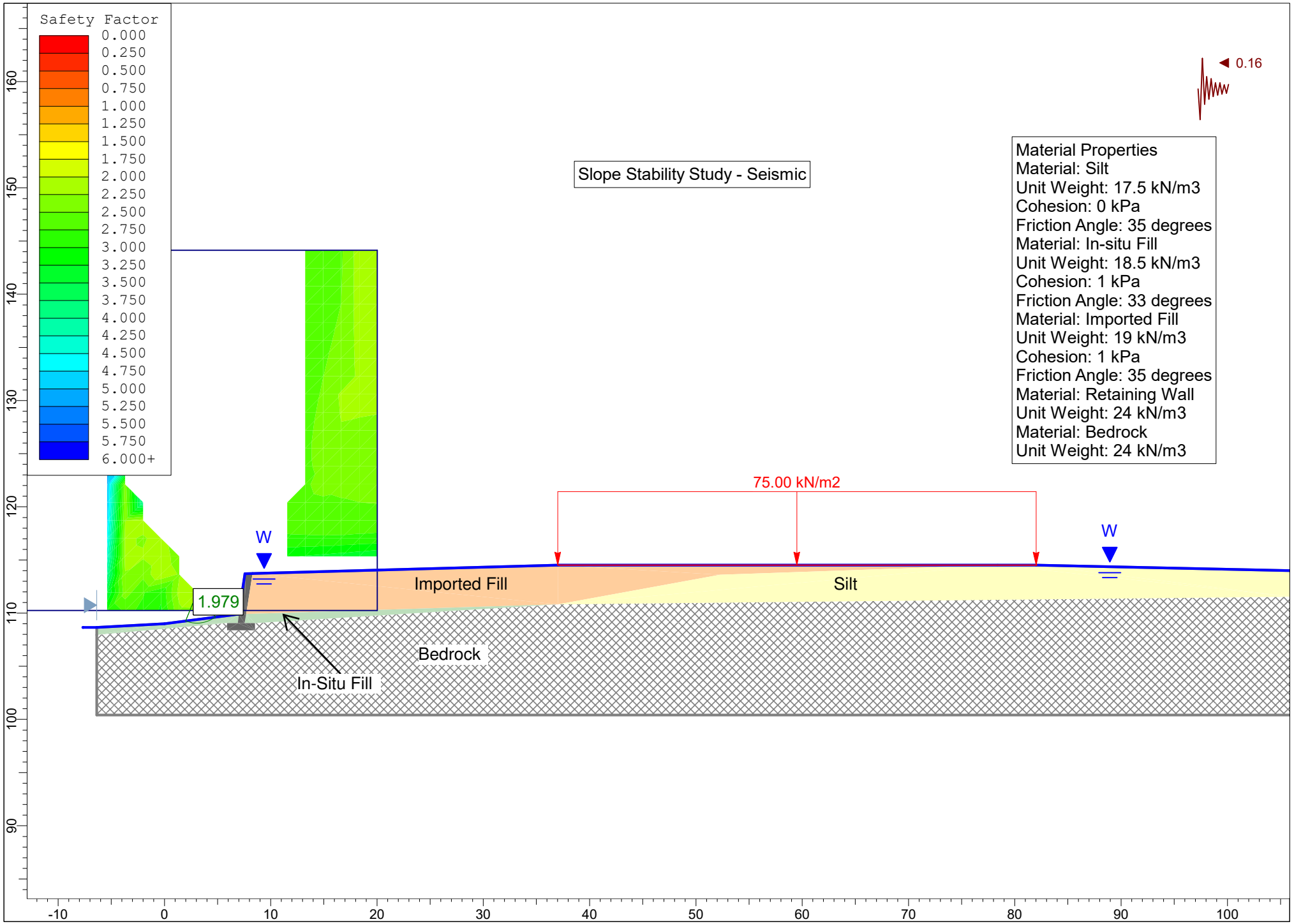
0.250
0.500
0.750
1.000
1.250
1.500
1.750
2.000
2.250
2.500
2.750
3.000
3.250
3.500
3.750
4.000
4.250
4.500
4.750
5.000
5.250
5.500
5.750
6.000+
Slope Stability Study
Material Properties
Material: Silt
Unit Weight: 17.5 kN/m3
Cohesion: 0 kPa
Friction Angle: 35 degrees
Material: In-situ Fill
Unit Weight: 18.5 kN/m3
Cohesion: 1 kPa
Friction Angle: 33 degrees
Material: Imported Fill
Unit Weight: 19 kN/m3
Cohesion: 1 kPa
Friction Angle: 35 degrees
Material: Retaining Wall
Unit Weight: 24 kN/m3
Material: Bedrock
Unit Weight: 24 kN/m3
75.00 kN/m2
W
W
4.506
Imported Fill
Silt
Bedrock
In-Situ Fill
160
150
140
130
120
110
100
90
-20
-10
0
10
20
30
40
50
60
70
80
90


Safety Factor
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0.250
0.500
0.750
1.000
1.250
1.500
1.750
2.000
2.250
2.500
2.750
3.000
3.250
3.500
3.750
4.000
4.250
4.500
4.750
5.000
5.250
5.500
5.750
6.000+
Slope Stability Study - Seismic
0.16
Material Properties
Material: Silt
Unit Weight: 17.5 kN/m3
Cohesion: 0 kPa
Friction Angle: 35 degrees
Material: In-situ Fill
Unit Weight: 18.5 kN/m3
Cohesion: 1 kPa
Friction Angle: 33 degrees
Material: Imported Fill
Unit Weight: 19 kN/m3
Cohesion: 1 kPa
Friction Angle: 35 degrees
Material: Retaining Wall
Unit Weight: 24 kN/m3
Material: Bedrock
Unit Weight: 24 kN/m3
75.00 kN/m2
W
W
1.979
Imported Fill
Silt
Bedrock
In-Situ Fill
160
150
140
130
120
110
100
90
-10
0
10
20
30
40
50
60
70
80
90
100

GENERAL NOTES

1. ALL WORKS MATERIALS SHALL CONFIRM TO THE LAST REVISION OF THE STANDARDS AND SPECIFICATIONS FOR THE CITY OF OTTAWA,
   ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS), WHERE APPLICABLE. LOCAL UTILITY STANDARDS AND MINISTRY OF TRANSPORTATION STANDARDS WILL APPLY WHERE REQUIRED.
2. THE CONTRACTORS SHALL CONFIRM THE LOCATION OF ALL EXISTING UTILITIES WITHIN THE SITE AND ADJACENT WORK AREAS. THE
   CONTRACTORS SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES TO THE SATISFACTION OF THE AUTHORITY HAVING
   JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF ANY SERVICES OR UTILITIES DISTURBED DURING CONSTRUCTION , TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION.
3. ALL DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION, ANY
   DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER. LOST TIME DUE TO FAILURE OF THE CONTRACTORS TO CONFIRM UTILITY LOCATIONS AND NOTIFY ENGINEER OF POSSIBLE CONFLICTS PRIOR TO CONSTRUCTION WILL BE AT CONTRACTORS EXPENSE.
4. ANY AREA BEYOND THE LIMIT OF THE SITE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO ORIGINAL CONDITION OR
   BETTER TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION AT THE CONTRACTOR'S EXPENSE. RELOCATING OF EXISTING SERVICES AND/OR UTILITIES SHALL BE AS SHOWN ON THE DRAWINGS OR DETECTED BY THE ENGINEER AT THE EXPENSE OF DEVELOPERS.
5. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE 'OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS'. THE GENERAL CONTRACTORS SHALL BE DEEMED TO BE THE 'CONTRACTOR' AS DEFINED IN THE ACT.
6. ALL THE CONSTRUCTION SIGNAGE MUST CONFIRM TO THE MINISTRY OF TRANSPORTATION OF ONTARIO MANUAL OF UNIFORM TRAFFIC
   CONTROL DEVICES PER LATEST AMENDMENT.
7. THE CONTRACTOR IS ADVISED THAT WORKS BY OTHERS MAY BE ONGOING DURING THE PERIOD OF THE CONTRACT. THE CONTRACTOR
   SHALL COORDINATE CONSTRUCTION ACTIVITIES TO PREVENT CONFLICTS.
8. ALL DIMENSIONS ARE IN METRES UNLESS SPECIFIED OTHERWISE.
9. THERE WILL BE NO SUBSTITUTION OF MATERIALS UNLESS PRIOR WRITTEN APPROVAL IS RECEIVED FROM THE ENGINEER.
10. ALL CONSTRUCTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE RECOMMENDATIONS MADE IN THE GEOTECHNICAL REPORT.
11. FOR DETAILS RELATING TO STORMWATER MANAGEMENT REFER TO THE SITE SERVICING AND STORMWATER MANAGEMENT REPORT.
12. ALL SEWERS CONSTRUCTED WITH GRADES LESS THAN 1.0% SHALL BE INSTALLED USING LASER ALIGNMENT AND CHECKED WITH LEVEL
    INSTRUMENT PRIOR TO BACKFILLING.
13. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED AND TO BEAR THE COST OF THE SAME.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL BEDDING, OR ADDITIONAL STRENGTH PIPE IF THE MAXIMUM TRENCH WIDTH AS SPECIFIED BY OPSD IS EXCEEDED.
15. ALL PIPE/CULVERT SECTION SIZES REFER TO INSIDE DIMENSIONS.
16. SHOULD DEEPLY BURIED ARCHAEOLOGICAL REMAINS BE FOUND ON THE PROPERTY DURING CONSTRUCTION ACTIVITIES, THE HERITAGE OPERATIONS UNIT OF THE ONTARIO MINISTRY OF CULTURE MUST BE NOTIFIED IMMEDIATELY.
17. ALL NECESSARY CLEARING AND GRUBBING SHALL BE COMPLETED BY THE CONTRACTOR. REVIEW WITH CONTRACT ADMINISTRATOR AND THE CITY OF OTTAWA PRIOR TO ANY TREE CUTTING/REMOVAL.
18. DRAWINGS SHALL BE READ ON CONJUNCTION WITH ARCHITECTURAL SITE PLAN.
19. THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER ON SET OF AS CONSTRUCTED SITE SERVICING AND GRADING DRAWINGS.
20. BENCHMARKS: IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT THE SITE BENCHMARK(S) HAS NOT BEEN ALTERED OR
    DISTURBED AND THAT ITS RELATIVE ELEVATION AND DESCRIPTION AGREES WITH THE INFORMATION DEPICTED ON THIS PLAN.

SITE GRADING NOTES

1. ALL GRANULAR AND PAVEMENT FOR ROADS/PARKING AREAS SHALL BE CONSTRUCTED IN ACCORDANCE WITH GEOTECHNICAL ENGINEER'S RECOMMENDATIONS (AS APPLICABLE).
2. ALL TOPSOIL AND ORGANIC MATERIAL SHALL BE STRIPPED WITHIN THE ROAD AND PARKING AREAS ALLOWANCE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
3. PAVEMENT REINSTATEMENT FOR SERVICE AND UTILITY CUTS SHALL BE IN ACCORDANCE WITH THE CITY OF OTTAWA STD. R10 AND OPSD 509.010 AND OPSS 310.
4. GRANULAR 'A' SHALL BE PLACED TO A MINIMUM THICKNESS OF 300MM AROUND ALL STRUCTURES WITHIN THE PAVEMENT AREA.
5. SUB-EXCAVATE SOFT AREAS AND FILL WITH GRANULAR 'B' COMPACTED IN MAXIMUM 300MM LIFTS.
6. ALL WORK ON THE MUNICIPAL RIGHT OF WAY AND EASEMENTS TO BE INSPECTED BY THE MUNICIPALITY PRIOR BACKFILLING.
7. CONTRACTOR TO OBTAIN A ROAD OCCUPANCY PERMIT 48 HOURS PRIOR TO COMMENCING ANY WORK WITHIN THE MUNICIPAL ROAD ALLOWANCE, IF REQUIRED BY THE MUNICIPALITY.
8. ALL PAVEMENT MARKING FEATURES AND SITE SIGNAGE SHALL BE PLACED PER ARCHITECTURAL SITE PLAN. LINE PAINTING AND DIRECTIONAL SYMBOLS SHALL BE APPLIED WITH A MINIMUM OF TWO COATS OF ORGANIC SOLVENT PAINT.
9. REFER TO ARCHITECTURAL SITE PLAN FOR DIMENSIONS AND SITE DETAILS.
10. STEP JOINTS ARE TO BE USED WHERE PROPOSED ASPHALT MEETS EXISTING ASPHALT. ALL JOINTS MUST BE SEALED.
11. WHERE APPLICABLE THE CONTRACTOR IS TO SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. SHOP DRAWINGS MUST BE SITE SPECIFIC, SIGNED AND SEALED BY A LICENSED ENGINEER.

ROADWORK SPECIFICATIONS

12. ROADWORK TO BE COMPLETED IN ACCORDANCE WITH GEOTECHNICAL REPORT.
13. ALL TOPSOIL AND ORGANIC MATERIAL SHALL BE STRIPPED WITHIN THE ROAD ALLOWANCE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND STOCK PILLED ON SITE AS DIRECTED BY THE MUNICIPAL AUHTORITY.
14. THE SUBGRADE SHALL BE CROWNED AND SLOPED AT LEAST 2% AND PROOF ROLLED WITH HEAVY ROLLERS.
15. SUB-EXCAVATE SOFT AREAS AND FILL WITH GRANULAR 'A', TYPE II COMPACTED IN MAXIMUM 300MM LIFTS.
    ALL GRANULAR FOR ROADS SHALL BE COMPACTED TO MINIMUM OF 100% STANDARD PROCTOR DENSITY MAXIMUM DRY DENSITY (SPMDD).

PAVEMENT STRUCTURE

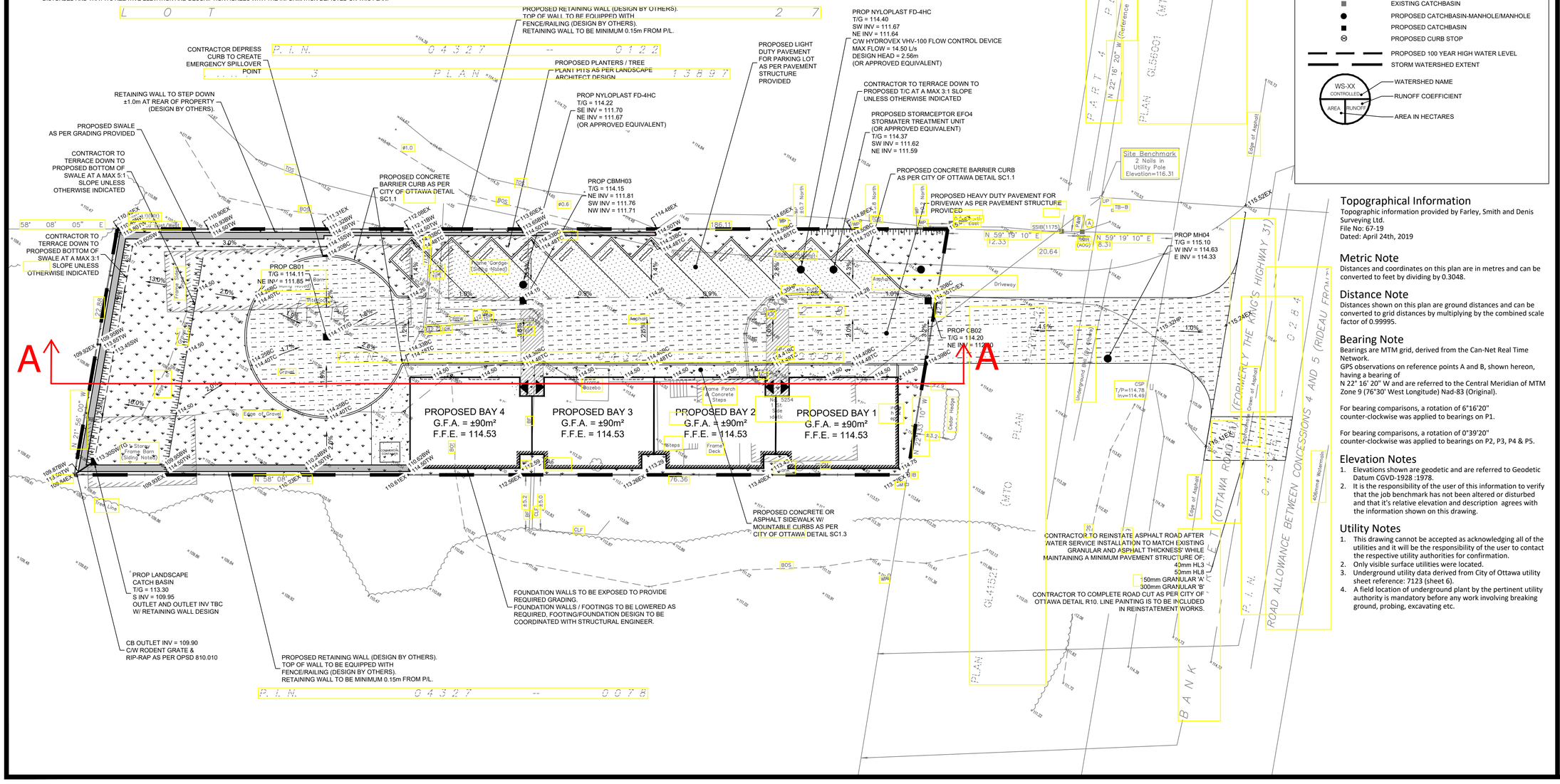
COURSE	MATERIAL	THICKNESS (mm) AUTOMOBILE PARKING	THICKNESS (mm) TRUCK ROUTE (HEAVY TRAFFIC)
SURFACE	HL.3 A/C (PG 58-28)	50	40
BINDER	HL.8 A/C (PG 58-28)	--	50
BASECOURSE	OPSS GRANULAR "A"	150	150
SUBBASE	OPSS GRANULAR "B" TYPE II	350	450

NOTE:
IN PREPARATION FOR PAVEMENT CONSTRUCTION AT THIS SITE, ANY SURFICIAL OR NEAR SURFACE/SUBGRADE LEVEL TOPSOIL AND ANY SOFT, WET OR DELETERIOUS MATERIALS SHOULD BE REMOVED FROM THE PROPOSED PAVED AREAS. THE EXPOSED SUBGRADE SHOULD BE INSPECTED AND APPROVED BY GEOTECHNICAL PERSONNEL AND ANY SOFT AREAS EVIDENT SHOULD BE SUBEXCAVATED AND REPLACED WITH SUITABLE EARTH BORROW APPROVED BY THE GEOTECHNICAL ENGINEER. THE SUBGRADE SHOULD BE SHAPED AND CROWNED TO PROMOTE DRAINAGE OF THE SITE DRAINAGE STRUCTURES. FOLLOWING APPROVAL OF THE PREPARATION OF THE SUBGRADE, THE PAVEMENT GRANULARS MAY BE PLACED.

REFER TO GEOTECHNICAL INVESTIGATION REPORT PREPARED BY LRL ASSOCIATES DATED JULY 2021.

LEGEND:

- EXISTING PROPERTY LINE TO REMAIN
- PROPOSED CURB
- PROPOSED DEPRESSED CURB
- PROPOSED TERRACING (3:1 MIN.)
- PROPOSED SILT FENCE AS PER OPSD 219.110
- PROPOSED DOOR ENTRANCE/EXIT
- PROPOSED GRASS AREA (100mm TOP SOIL & SOD)
- PROPOSED CONCRETE FEATURES/SLAB
- PROPOSED HEAVY DUTY ASPHALT
- PROPOSED LIGHT DUTY ASPHALT
- PROPOSED RIP RAP
- ×50.00 PROPOSED ELEVATION
- ×50.00HP PROPOSED HIGH POINT ELEVATION
- ×50.00BC PROPOSED BOTTOM OF CURB / ASPHALT ELEVATION
- ×50.00TC PROPOSED TOP OF CURB ELEVATION
- ×50.00BW PROPOSED EXPOSED BOTTOM OF RETAINING WALL
- ×50.00TW PROPOSED TOP OF RETAINING WALL
- ×50.00EX MATCH INTO EXISTING ELEVATION
- ×70.19 EXISTING ELEVATION
- PROPOSED OVERLAND MAJOR FLOW ROUTE
- STM STM PROPOSED STORM SEWER
- SAN SAN PROPOSED SANITARY SEWER
- WTR WTR PROPOSED WATERMAIN
- STM STM EXISTING STORM SEWER
- SAN SAN EXISTING SANITARY SEWER
- WTR WTR EXISTING WATERMAIN
- EXISTING CATCHBASIN-MANHOLE/MANHOLE
- EXISTING CATCHBASIN
- PROPOSED CATCHBASIN-MANHOLE/MANHOLE
- PROPOSED CATCHBASIN
- PROPOSED CURB STOP
- PROPOSED 100 YEAR HIGH WATER LEVEL
- STORM WATERSHED EXTENT
- WS-XX CONTROLLER / AREA RUNOFF — WATERSHED NAME, RUNOFF COEFFICIENT, AREA IN HECTARES



Topographical Information

Topographic information provided by Farley, Smith and Denis Surveying Ltd.
File No: 67-19
Dated: April 24th, 2019

Metric Note

Distances and coordinates on this plan are in metres and can be converted to feet by dividing by 0.3048.

Distance Note

Distances shown on this plan are ground distances and can be converted to grid distances by multiplying by the combined scale factor of 0.99995.

Bearing Note

Bearings are MTM grid, derived from the Can-Net Real Time Network.
GPS observations on reference points A and B, shown hereon, having a bearing of
N 22° 16' 20" W and are referred to the Central Meridian of MTM Zone 9 (76°30' West Longitude) Nad-83 (Original).

For bearing comparisons, a rotation of 6°16'20" counter-clockwise was applied to bearings on P1.

For bearing comparisons, a rotation of 0°39'20" counter-clockwise was applied to bearings on P2, P3, P4 & P5.

Elevation Notes

1. Elevations shown are geodetic and are referred to Geodetic Datum CGVD-1928 :1978.
2. It is the responsibility of the user of this information to verify that the job benchmark has not been altered or disturbed and that it's relative elevation and description agrees with the information shown on this drawing.

Utility Notes

1. This drawing cannot be accepted as acknowledging all of the utilities and it will be the responsibility of the user to contact the respective utility authorities for confirmation.
2. Only visible surface utilities were located.
3. Underground utility data derived from City of Ottawa utility sheet reference: 7123 (sheet 6).
4. A field location of underground plant by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc.

USE AND INTERPRETATION OF DRAWINGS

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION ARE PART OF THE CONTRACT DOCUMENTS AND DESCRIBE USE AND INTENT OF THE DRAWING. THE CONTRACT DOCUMENTS INCLUDE NOT ONLY THE DRAWINGS, BUT ALSO THE OWNER-CONTRACTOR AGREEMENTS, CONDITIONS OF THE CONTRACT, THE SPECIFICATIONS, ADDENDA, AND MODIFICATIONS ISSUED AFTER EXECUTION OF THE CONTRACT. THESE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ANY ONE SHALL BE BINDING AS IF REQUIRED BY ALL. WORK NOT COMPLETELY DELINEATED HEREON SHALL BE CONSTRUCTED OF THE SAME MATERIALS AND DETAILED SIMILARLY AS WORK SHOWN MORE COMPLETELY ELSEWHERE IN THE CONTRACT DOCUMENTS.

BY USE OF THE DRAWINGS FOR CONSTRUCTION OF THE PROJECT, THE OWNER CONFIRMS THAT HE HAS REVIEWED AND APPROVED THE DRAWINGS. THE CONTRACTOR CONFIRMS THAT HE HAS VISITED THE SITE, FAMILIARIZED HIMSELF WITH THE LOCAL CONDITIONS, VERIFIED FIELD DIMENSIONS AND CORRELATED HIS OBSERVATIONS WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

AS INSTRUMENTS OF SERVICE, ALL DRAWINGS, SPECIFICATIONS, CADD FILES OR OTHER ELECTRONIC MEDIA AND COPIED THERE OF FURNISHED BY THE ENGINEER ARE HIS PROPERTY. THEY ARE TO BE USED ONLY FOR THIS PROJECT AND ARE NOT TO BE USED ON ANY OTHER PROJECT, INCLUDING REPEATS OF THE PROJECT. CHANGES TO THE DRAWINGS MAY ONLY BE MADE BY THE ENGINEER.

UNLESS THE REVISION TITLE IS "ISSUED FOR CONSTRUCTION", THESE DRAWINGS SHALL BE CONSIDERED PRELIMINARY AND SHALL NOT BE USED AS A CONSTRUCTION DOCUMENT.

THESE DRAWINGS ILLUSTRATES THE WORK TO BE DONE. THE ENGINEER IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK, OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THESE DRAWINGS EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL DETERMINE ALL CONDITIONS AT THE SITE AND SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS ACKNOWLEDGEMENT OF THE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

UNAUTHORIZED CHANGES:

IN THE EVENT THE CLIENT, THE CLIENT'S CONTRACTORS OR SUBCONTRACTORS, OR ANYONE FOR WHOM THE CLIENT IS LEGALLY LIABLE MAKES OR PERMITS TO BE MADE ANY CHANGES TO ANY REPORTS, PLANS, SPECIFICATIONS OR OTHER CONSTRUCTION DOCUMENTS PREPARED BY LRL ASSOCIATES LTD. (LRL) WITHOUT OBTAINING LRL'S PRIOR WRITTEN CONSENT, THE CLIENT SHALL ASSUME FULL RESPONSIBILITY FOR THE RESULTS OF SUCH CHANGES, THEREFORE THE CLIENT AGREES TO WAIVE ANY CLAIM AGAINST LRL AND TO RELEASE LRL FROM ANY LIABILITY ARISING DIRECTLY OR INDIRECTLY FROM SUCH UNAUTHORIZED CHANGES.

IN ADDITION, THE CLIENT AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS LRL FROM ANY DAMAGES, LIABILITIES OR COST, INCLUDING REASONABLE ATTORNEY'S FEES AND COST OF DEFENSE, ARISING FROM SUCH CHANGES.

IN ADDITION, THE CLIENT AGREES TO INCLUDE IN ANY CONTRACTS FOR CONSTRUCTION APPROPRIATE LANGUAGE THAT PROHIBITS THE CONTRACTOR OR ANY SUBCONTRACTORS OF ANY TIER FROM MAKING ANY CHANGES OR MODIFICATIONS TO LRL'S CONSTRUCTION DOCUMENTS WITHOUT THE PRIOR WRITTEN APPROVAL OF LRL AND THAT FURTHER REQUIRES THE CONTRACTOR TO INDEMNIFY BOTH LRL AND THE CLIENT FROM ANY LIABILITY OR COST ARISING FROM SUCH CHANGES MADE WITHOUT SUCH PROPER AUTHORIZATION.

GENERAL NOTES:

EXISTING SERVICES AND UTILITIES SHOWN ON THESE DRAWINGS ARE TAKEN FROM THE BEST AVAILABE RECORDS, BUT MAY NOT BE COMPLETE OR TO DATE. CONTRACTOR SHALL VERIFY IN FIELD FOR LOCATION AND ELEVATION OF PIPES AND CHECK WITH THE UTILITY COMPANIES BEFORE DIGGING OR PERFORMING WORK.

CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS BEFORE START OF CONSTRUCTION.

THE ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/OR FOLLOW THE ENGINEER'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED.

CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE WORK COMMENCES. DO NOT SCALE DRAWINGS.

5m 2 0 5m
SCALE: 1:200

NOT FOR CONSTRUCTION TENDER OR PERMIT

No.	REVISIONS	BY	DATE
02	RE-ISSUED FOR SITE PLAN CONTROL	K.H.	25 SEPT 2023
01	ISSUED FOR SITE PLAN CONTROL	K.H.	15 DEC 2022

NOT AUTHENTIC UNLESS SIGNED AND DATED

LRL
ENGINEERING | INGÉNIERIE
5430 Canotek Road | Ottawa, ON, K1J 9G2
www.lrl.ca | (613) 842-3434

CLIENT
UNPOISED ARCHITECTURE INC

DESIGNED BY:	DRAWN BY:	APPROVED BY:
K.H.	K.H.	M.B.

PROJECT
PROPOSED MULTI-UNIT COMMERCIAL DEVELOPMENT
5254 BANK STREET, OTTAWA

DRAWING TITLE
GRADING AND DRAINAGE PLAN

PROJECT NO.
220536
DATE
JUNE2022

C301