



December 7, 2023
ES-8332.02

Earth Solutions NW LLC

Geotechnical Engineering, Construction
Observation/Testing and Environmental Services

LNL Builds, LLC
317 – 4th Street
Kirkland, Washington 98033

Attention: Vann Lanz

**Subject: Geotechnical Addendum and Response to Correction Notice
2430 – 74th Avenue Southeast
Mercer Island, Washington**

Dear Vann:

In accordance with your request, Earth Solutions NW, LLC (ESNW) has prepared this response to review comments letter for the subject property. This addendum addresses the current lot within the short plat that has been submitted for building permit review and was included in the referenced geotechnical report. The opinion and recommendations provided in this addendum address geotechnical and geotechnically related civil review comments for the subject lot and is based on the referenced plans and geotechnical report.

Geotechnical Review Comment

Assuming that Earth Solutions NW is the geotechnical engineer of record, please revise geotechnical report dated May 2, 2023 to reflect currently proposed development. Please update slope stability analyses to reflect current lot being developed.

ESNW Response

Updated slope stability analysis attached for the current lot.

The results provide an adequate minimum factor of safety for static and seismic conditions.

Geotechnical Comment

In revising the slope stability analyses, please justify stratigraphy used near the toe of the slope to the east. Existing subsurface information (City of Mercer Island website, map portal) suggests a thicker layer of disturbed soils than that shown near the toe of the slope on the current slope stability cross section.

Please revise section and slope stability analyses accordingly.

Please provide mitigation recommendations should unstable slope conditions exist under static and seismic loading conditions.

ESNW Response

Updated slope stability analysis attached for the current lot. Stratigraphy was updated using a nearby boring log for the adjacent development and adequately describes the slope complex. Because there is a permanent shoring wall along the eastern property line for the adjacent development, our analysis does not evaluate deep-seated failure, as this system was presumably designed to resist this loading. Furthermore, the new residence will be supported on helical anchors which transfer loads deeper through softer soils into bearing strata; therefore, no additional loading of the slope will occur. In our opinion, the current stability modeling adequately captures the slope and affected area.

The results provide an adequate minimum factor of safety for static and seismic conditions.

Civil Review Comment

Does the geotechnical recommendation for retaining wall drainage apply for this wall or the walkway wall by the southern property line?

ESNW Response

ESNW recommends retaining wall drainage for walls that require a building permit if site grades allow for simple gravity flow conveyance. For shorter walls or where gravity flow conveyance is not practical, weep holes or other passive discharge system may be employed pending approval by city of Mercer Island.

Geotechnical Review Comment

Geotechnical engineer to review the proposed location of the detention tank near the top edge of the slope and provide recommendations for alternative locations should the current location pose a long term stability hazard to the existing slope.

ESNW Response

Subsequent to discussion with the project civil engineering consultant (D.R. Strong), the current location of the tank is the most practical. Slope grades are less severe in this area and the five-foot-diameter CMP pipe will essentially unload the soil in this area; therefore, no additional loading or related instability will occur. The project sequence is still being developed; however, in no case should excavations required for installation of the tank undermine or otherwise compromise foundations for the new residence. We recommend grades be restored with structural fill and that the temporary grades on the house-side of the excavations be benched such that structural fill may be placed on a level surface.

Geotechnical Review Comment

Geotechnical engineer to review proposed location of the side sewer and provide design and construction recommendations to reduce potential long term stability issues of the existing slope and to maintain integrity of the utility over time.

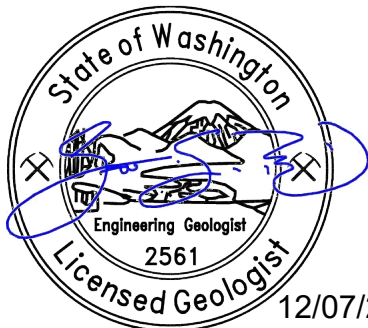
ESNW Response

This utility line is small-diameter and will be installed in a trench. Given the limited size of the utility, in our opinion, there is no elevated risk of long-term instability of this line that would warrant additional mitigation.

We trust this response letter meets your current needs. Should you have questions, or if additional information is required, please contact us.

Sincerely,

EARTH SOLUTIONS NW, LLC



Scott S. Riegel

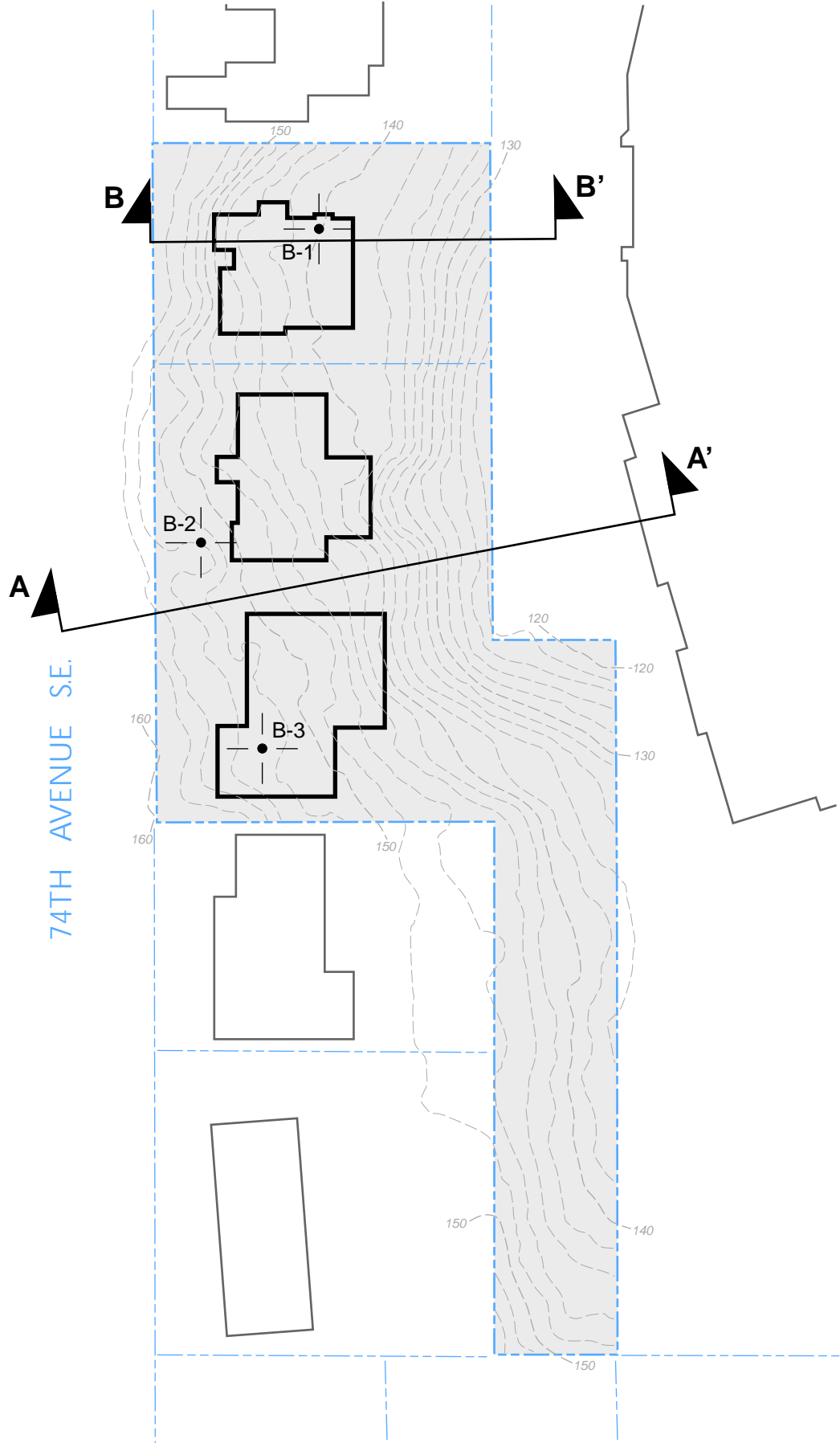
Scott S. Riegel, L.G., L.E.G.
Associate Principal Geologist

Attachments: Plate 1 – Boring Location Plan
Updated SlopeW Output

cc: Medici Architects
Attention: James West-Herr

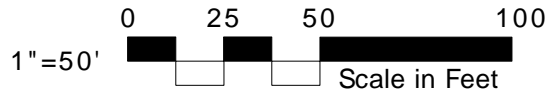
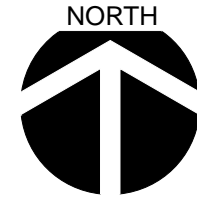
References:

- Geotechnical Engineering Study, prepared by ESNW, ES-8332.01, dated May 2, 2023
- Medici Architects, Intake Plans, dated September 19, 2023
- City of Mercer Island, Intake Comments, dated October 10, 2023



LEGEND

- B-1 | —•— | Approximate Location of ESNW Boring, Proj. No. ES-8332.01, Feb. 2023
- (dashed blue) | Subject Site
- (black outline) | Proposed Building
- (white outline) | Existing Building
- ↔ (arrow) | Cross Section



NOTE: The graphics shown on this plate are not intended for design purposes or precise scale measurements, but only to illustrate the approximate test locations relative to the approximate locations of existing and / or proposed site features. The information illustrated is largely based on data provided by the client at the time of our study. ESNW cannot be responsible for subsequent design changes or interpretation of the data by others.

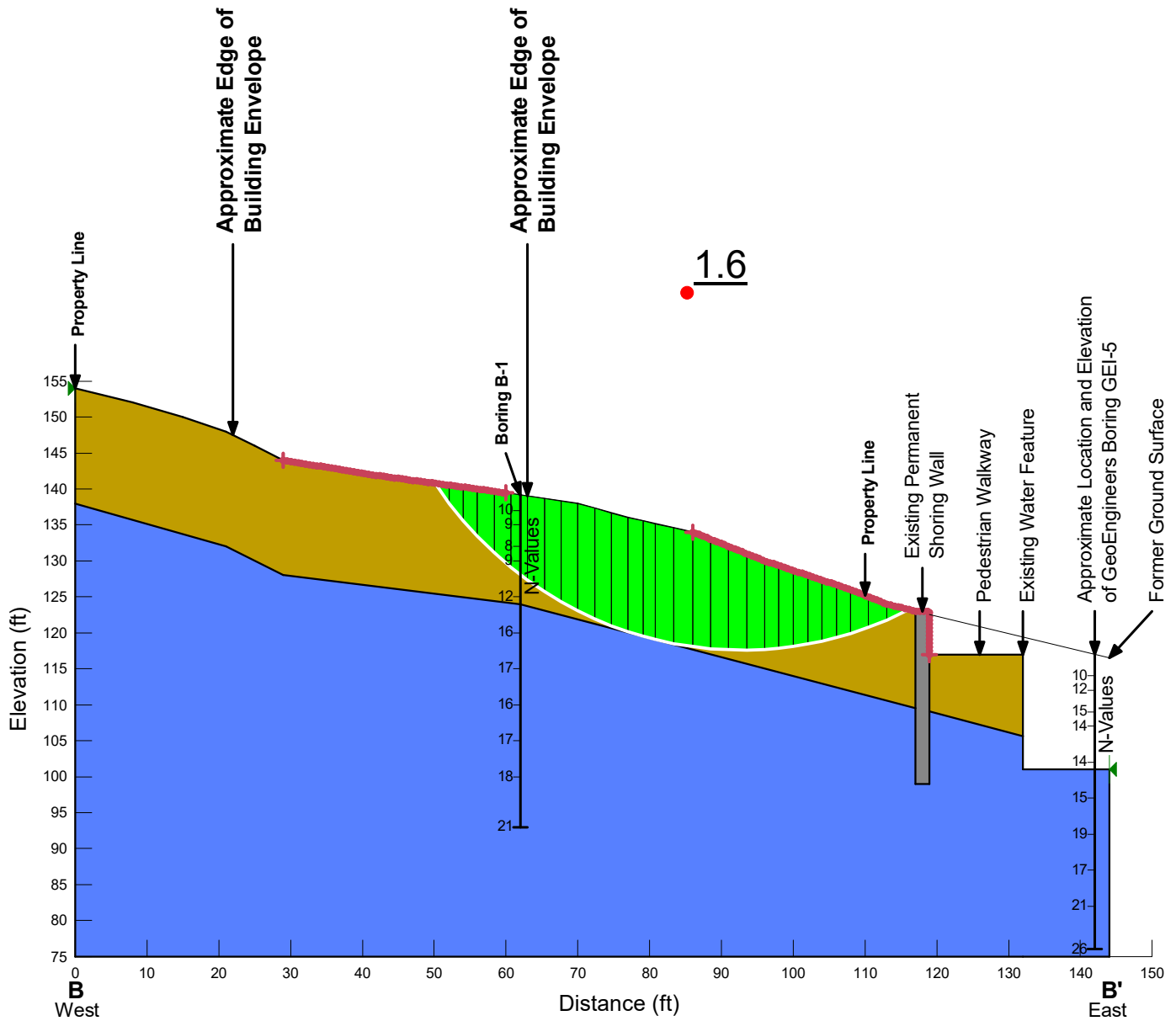
NOTE: This plate may contain areas of color. ESNW cannot be responsible for any subsequent misinterpretation of the information resulting from black & white reproductions of this plate.

Boring Location Plan
 74th Avenue S.E. Property
 Mercer Island, Washington

Earth Solutions NW, LLC
 Geotechnical Engineering, Construction
 Observation/Testing and Environmental Services

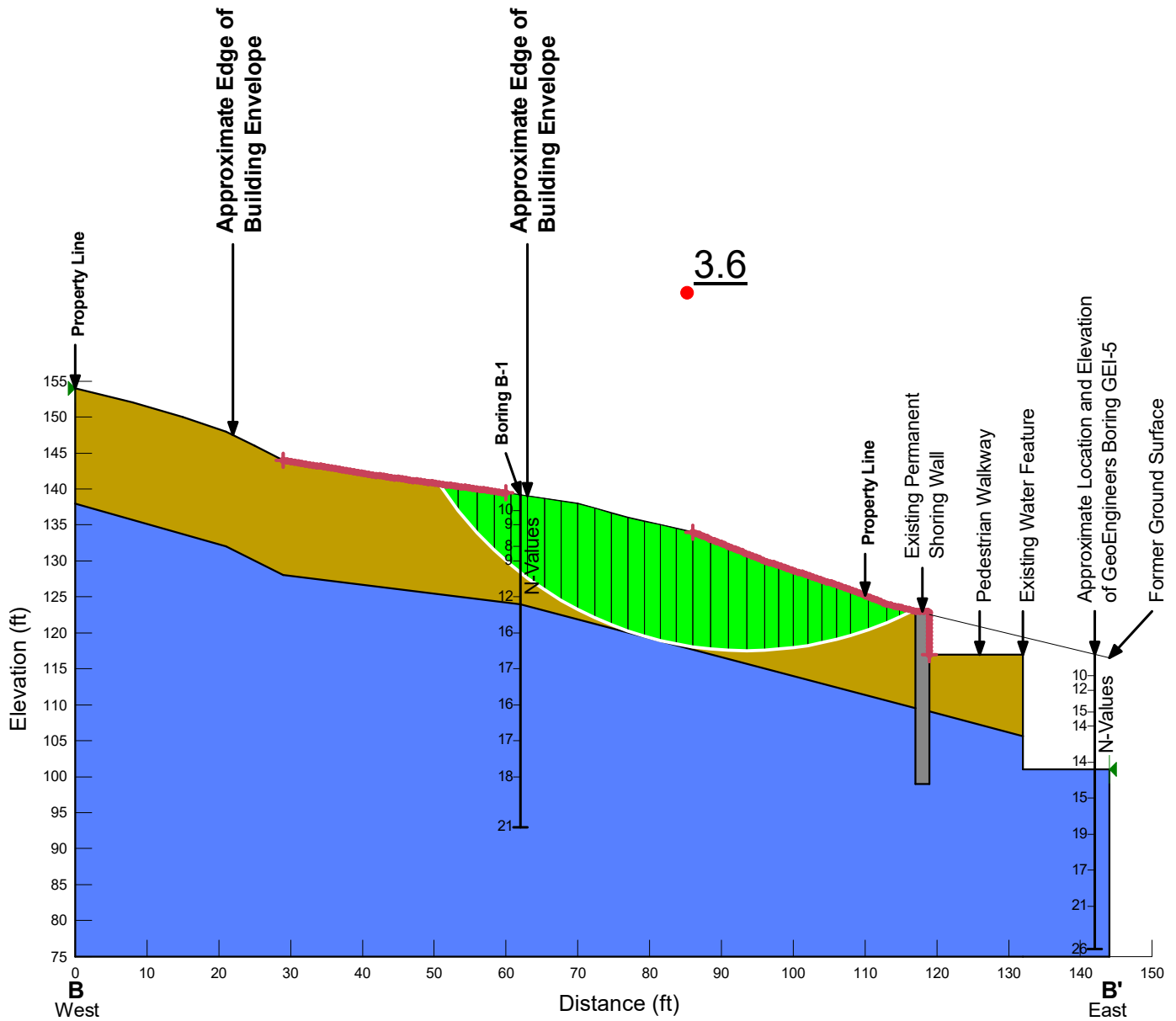


Drawn CAM
Checked BCS
Date 12/07/2023
Proj. No. 8332.02
Plate 1



Color	Name	Unit Weight (pcf)	Effective Cohesion (psf)	Effective Friction Angle (°)
	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)	110	750	5
	Permanent Shoring			
	Undisturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)	115	1,500	7

ES-8332.02
 74th Avenue S.E. Property
 Parcel B
 Cross Section B-B'
 Existing Geometry
 Seismic Condition
 Horizontal Acceleration = 0.329



Color	Name	Unit Weight (pcf)	Effective Cohesion (psf)	Effective Friction Angle (°)
	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)	110	750	5
	Permanent Shoring			
	Undisturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)	115	1,500	7

ES-8332.02
 74th Avenue S.E. Property
 Parcel B
 Cross Section B-B'
 Existing Geometry
 Static Condition

Seismic

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File Information

File Version: 11.02

Title: 74th Avenue S.E. Property (Parcel B)

Created By: Brian Snow

Last Edited By: Brian Snow

Revision Number: 22

Date: 12/01/2023

Time: 09:52:28 AM

Tool Version: 11.2.0.22838

File Name: 8332.02 Parcel B Slope Model.gsz

Directory: G:\# Brian's ESNW Inbox\# WorkFlow\00 - Project Files\00 - Geotechnical\8332.01 - (SLOPE) 74th Avenue S.E. Property\8332.02 November 2023 SlopeW update\

Last Solved Date: 12/01/2023

Last Solved Time: 09:52:40 AM

Project Settings

Unit System: U.S. Customary Units

Analysis Settings

Seismic

Kind: SLOPE/W

Analysis Type: Morgenstern-Price

Settings

Side Function

Interslice force function option: Half-Sine

PWP Conditions from: (none)

Unit Weight of Water: 62.430189 pcf

Slip Surface

Direction of movement: Left to Right

Use Passive Mode: No

Slip Surface Option: Entry and Exit

Critical slip surfaces saved: 1

Optimize Critical Slip Surface Location: No

Tension Crack Option: (none)

Distribution

F of S Calculation Option: Constant

Advanced

Geometry Settings

Minimum Slip Surface Depth: 5 ft

Number of Slices: 30

Factor of Safety Convergence Settings

Maximum Number of Iterations: 100

Tolerable difference in F of S: 0.001

Under-Relaxation Criteria

Initial Rate: 1

Minimum Rate: 0.1

Rate Reduction Factor: 0.65

Reduction Frequency (iterations): 50

Solution Settings

Search Method: Root Finder

Tolerable difference between starting and converged F of S: 3

Maximum iterations to calculate converged lambda: 20

Max Absolute Lambda: 2

Materials

Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)

Slope Stability Material Model: Mohr-Coulomb

Unit Weight: 110 pcf

Effective Cohesion: 750 psf

Effective Friction Angle: 5 °

Phi-B: 0 °

Undisturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)

Slope Stability Material Model: Mohr-Coulomb

Unit Weight: 115 pcf

Effective Cohesion: 1,500 psf

Effective Friction Angle: 7 °

Phi-B: 0 °

Permanent Shoring

Slope Stability Material Model: Bedrock (Impenetrable)

Slip Surface Entry and Exit

Left Type: Range

Left-Zone Left Coordinate: (29, 144) ft

Left-Zone Right Coordinate: (60, 139.42857) ft

Left-Zone Increment: 60

Right Type: Range

Right-Zone Left Coordinate: (86, 134) ft

Right-Zone Right Coordinate: (119, 117) ft

Right-Zone Increment: 78

Radius Increments: 4

Slip Surface Limits

Left Coordinate: (0, 154) ft

Right Coordinate: (144, 101) ft

Seismic Coefficients

Horz Seismic Coef.: 0.329

Geometry

Name: 2D Geometry

Settings

View: 2D

Element Thickness: 1 ft

Points

	X	Y
Point 1	0 ft	154 ft
Point 2	8 ft	152 ft
Point 3	15 ft	150 ft
Point 4	21 ft	148 ft
Point 5	25 ft	146 ft
Point 6	29 ft	144 ft
Point 7	41 ft	142 ft
Point 8	56 ft	140 ft
Point 9	70 ft	138 ft
Point 10	77 ft	136 ft
Point 11	86 ft	134 ft
Point 12	91 ft	132 ft
Point 13	96 ft	130 ft
Point 14	102 ft	128 ft
Point 15	108 ft	126 ft
Point 16	113 ft	124 ft
Point 17	117 ft	123 ft
Point 18	119 ft	123 ft
Point 19	119 ft	117 ft
Point 20	132 ft	117 ft
Point 21	132 ft	75 ft
Point 22	0 ft	75 ft
Point 23	132 ft	101 ft
Point 24	144 ft	101 ft
Point 25	144 ft	75 ft
Point 26	119 ft	99 ft
Point 27	117 ft	99 ft
Point 28	62 ft	124 ft
Point 29	142 ft	103 ft

Point 30	29 ft	128 ft
Point 31	21 ft	132 ft
Point 32	0 ft	138 ft
Point 33	132 ft	105.625 ft
Point 34	117 ft	109.5625 ft
Point 35	119 ft	109.0375 ft

Regions

	Material	Points	Area
Region 1	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)	20,19,35,33	125.69 ft ²
Region 2	Undisturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)	22,21,25,24,23,33,35,26,27,34,28,30,31,32	6,461.3 ft ²
Region 3	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)	16,15,14,13,12,11,10,9,8,7,6,5,4,3,2,1,32,31,30,28,34,17	1,813 ft ²
Region 4	Permanent Shoring	27,26,35,19,18,17,34	48 ft ²

Slip Results

Slip Surfaces Analysed: 14954 of 24095 converged

Current Slip Surface

Slip Surface: 16,503

Factor of Safety: 1.6

Volume: 712.66798 ft³

Weight: 78,393.478 lbf

Resisting Moment: 3,183,068.4 lbf·ft

Activating Moment: 1,936,418.4 lbf·ft

Resisting Force: 55,574.312 lbf

Activating Force: 33,814.011 lbf

Slip Rank: 1 of 24,095 slip surfaces

Exit: (116.10733, 123.22317) ft

Entry: (50.168241, 140.77757) ft

Radius: 50.944965 ft

Center: (92.87082, 168.56028) ft

Slip Slices

	X	Y	PWP	Base Normal Stress	Frictional Strength	Cohesive Strength	Suction Strength	Base Material
Slice 1	51.140201 ft	139.38723 ft	0 psf	-429.44132 psf	-37.571247 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 2	53.08412 ft	136.78006 ft	0 psf	-75.003394 psf	-6.5619467 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice	55.02804	134.48384	0	183.8627	16.085902			Disturbed Pre-Olympia

3	ft	ft	psf	psf	psf	750 psf	0 psf	Fine-Grained Glacial Deposits (Qpogf)
Slice 4	57.166667 ft	132.25704 ft	0 psf	396.5019 psf	34.689422 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 5	59.5 ft	130.09741 ft	0 psf	575.5217 psf	50.351624 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 6	61.833333 ft	128.18828 ft	0 psf	717.53534 psf	62.776208 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 7	64.166667 ft	126.49526 ft	0 psf	835.57606 psf	73.103432 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 8	66.5 ft	124.99298 ft	0 psf	938.42919 psf	82.101916 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 9	68.833333 ft	123.6622 ft	0 psf	1,032.2677 psf	90.311725 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 10	71.166667 ft	122.48799 ft	0 psf	1,109.0474 psf	97.029078 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 11	73.5 ft	121.45859 ft	0 psf	1,172.0647 psf	102.54238 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 12	75.833333 ft	120.56465 ft	0 psf	1,235.839 psf	108.1219 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 13	78.065238 ft	119.82688 ft	0 psf	1,303.7627 psf	114.06445 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 14	79.937724 ft	119.29135 ft	0 psf	1,367.2161 psf	119.61591 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 15	82.058729 ft	118.79402 ft	0 psf	1,439.3335 psf	125.92536 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 16	84.686243 ft	118.29468 ft	0 psf	1,530.0428 psf	133.8614 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 17	87.25 ft	117.94196 ft	0 psf	1,596.8735 psf	139.70833 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 18	89.75 ft	117.72642 ft	0 psf	1,632.9116 psf	142.86126 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 19	92.25 ft	117.63444 ft	0 psf	1,652.7632 psf	144.59805 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 20	94.75 ft	117.66536 ft	0 psf	1,649.2494 psf	144.29063 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
								Disturbed Pre-Olympia

Slice 21	97 ft	117.79284 ft	0 psf	1,627.6043 psf	142.39692 psf	750 psf	0 psf	Fine-Grained Glacial Deposits (Qpogf)
Slice 22	99 ft	117.99539 ft	0 psf	1,590.7612 psf	139.17357 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 23	101 ft	118.27828 ft	0 psf	1,528.2313 psf	133.70292 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 24	103 ft	118.64287 ft	0 psf	1,438.0335 psf	125.81163 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 25	105 ft	119.09098 ft	0 psf	1,319.4192 psf	115.43422 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 26	107 ft	119.62489 ft	0 psf	1,173.0812 psf	102.63131 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 27	109.25 ft	120.3382 ft	0 psf	967.7593 psf	84.667968 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 28	111.75 ft	121.26171 ft	0 psf	700.82231 psf	61.314007 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 29	114.55367 ft	122.49191 ft	0 psf	399.50738 psf	34.952367 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)

Static

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File Information

File Version: 11.02

Title: 74th Avenue S.E. Property (Parcel B)

Created By: Brian Snow

Last Edited By: Brian Snow

Revision Number: 22

Date: 12/01/2023

Time: 09:52:28 AM

Tool Version: 11.2.0.22838

File Name: 8332.02 Parcel B Slope Model.gsz

Directory: G:\# Brian's ESNW Inbox\# WorkFlow\00 - Project Files\00 - Geotechnical\8332.01 - (SLOPE) 74th Avenue S.E. Property\8332.02 November 2023 SlopeW update\

Last Solved Date: 12/01/2023

Last Solved Time: 09:52:34 AM

Project Settings

Unit System: U.S. Customary Units

Analysis Settings

Static

Kind: SLOPE/W

Analysis Type: Morgenstern-Price

Settings

Side Function

Interslice force function option: Half-Sine

PWP Conditions from: (none)

Unit Weight of Water: 62.430189 pcf

Slip Surface

Direction of movement: Left to Right

Use Passive Mode: No

Slip Surface Option: Entry and Exit

Critical slip surfaces saved: 1

Optimize Critical Slip Surface Location: No

Tension Crack Option: (none)

Distribution

F of S Calculation Option: Constant

Advanced

Geometry Settings

Minimum Slip Surface Depth: 5 ft

Number of Slices: 30

Factor of Safety Convergence Settings

Maximum Number of Iterations: 100

Tolerable difference in F of S: 0.001

Under-Relaxation Criteria

Initial Rate: 1

Minimum Rate: 0.1

Rate Reduction Factor: 0.65

Reduction Frequency (iterations): 50

Solution Settings

Search Method: Root Finder

Tolerable difference between starting and converged F of S: 3

Maximum iterations to calculate converged lambda: 20

Max Absolute Lambda: 2

Materials

Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)

Slope Stability Material Model: Mohr-Coulomb

Unit Weight: 110 pcf

Effective Cohesion: 750 psf

Effective Friction Angle: 5 °

Phi-B: 0 °

Undisturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)

Slope Stability Material Model: Mohr-Coulomb

Unit Weight: 115 pcf

Effective Cohesion: 1,500 psf

Effective Friction Angle: 7 °

Phi-B: 0 °

Permanent Shoring

Slope Stability Material Model: Bedrock (Impenetrable)

Slip Surface Entry and Exit

Left Type: Range

Left-Zone Left Coordinate: (29, 144) ft

Left-Zone Right Coordinate: (60, 139.42857) ft

Left-Zone Increment: 60

Right Type: Range

Right-Zone Left Coordinate: (86, 134) ft

Right-Zone Right Coordinate: (119, 117) ft

Right-Zone Increment: 78

Radius Increments: 4

Slip Surface Limits

Left Coordinate: (0, 154) ft

Right Coordinate: (144, 101) ft

Seismic Coefficients

Horz Seismic Coef.: 0

Geometry

Name: 2D Geometry

Settings

View: 2D

Element Thickness: 1 ft

Points

	X	Y
Point 1	0 ft	154 ft
Point 2	8 ft	152 ft
Point 3	15 ft	150 ft
Point 4	21 ft	148 ft
Point 5	25 ft	146 ft
Point 6	29 ft	144 ft
Point 7	41 ft	142 ft
Point 8	56 ft	140 ft
Point 9	70 ft	138 ft
Point 10	77 ft	136 ft
Point 11	86 ft	134 ft
Point 12	91 ft	132 ft
Point 13	96 ft	130 ft
Point 14	102 ft	128 ft
Point 15	108 ft	126 ft
Point 16	113 ft	124 ft
Point 17	117 ft	123 ft
Point 18	119 ft	123 ft
Point 19	119 ft	117 ft
Point 20	132 ft	117 ft
Point 21	132 ft	75 ft
Point 22	0 ft	75 ft
Point 23	132 ft	101 ft
Point 24	144 ft	101 ft
Point 25	144 ft	75 ft
Point 26	119 ft	99 ft
Point 27	117 ft	99 ft
Point 28	62 ft	124 ft
Point 29	142 ft	103 ft

Point 30	29 ft	128 ft
Point 31	21 ft	132 ft
Point 32	0 ft	138 ft
Point 33	132 ft	105.625 ft
Point 34	117 ft	109.5625 ft
Point 35	119 ft	109.0375 ft

Regions

	Material	Points	Area
Region 1	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)	20,19,35,33	125.69 ft ²
Region 2	Undisturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)	22,21,25,24,23,33,35,26,27,34,28,30,31,32	6,461.3 ft ²
Region 3	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)	16,15,14,13,12,11,10,9,8,7,6,5,4,3,2,1,32,31,30,28,34,17	1,813 ft ²
Region 4	Permanent Shoring	27,26,35,19,18,17,34	48 ft ²

Slip Results

Slip Surfaces Analysed: 14867 of 24095 converged

Current Slip Surface

Slip Surface: 16,903

Factor of Safety: 3.6

Volume: 709.58198 ft³

Weight: 78,054.017 lbf

Resisting Moment: 3,211,317.6 lbf·ft

Activating Moment: 889,520.14 lbf·ft

Resisting Force: 55,923.623 lbf

Activating Force: 15,491.588 lbf

Slip Rank: 1 of 24,095 slip surfaces

Exit: (116.61638, 123.09591) ft

Entry: (50.685974, 140.70854) ft

Radius: 50.983494 ft

Center: (93.428167, 168.50101) ft

Slip Slices

	X	Y	PWP	Base Normal Stress	Frictional Strength	Cohesive Strength	Suction Strength	Base Material
Slice 1	52.01448 ft	138.85283 ft	0 psf	-95.170347 psf	-8.3263265 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 2	54.671493 ft	135.43975 ft	0 psf	272.46912 psf	23.837959 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice	57.166667	132.70069	0	545.69229	47.741889			Disturbed Pre-Olympia

3	ft	ft	psf	psf	psf	750 psf	0 psf	Fine-Grained Glacial Deposits (Qpogf)
Slice 4	59.5 ft	130.47797 ft	0 psf	755.27257 psf	66.077788 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 5	61.833333 ft	128.51511 ft	0 psf	934.32355 psf	81.742719 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 6	64.166667 ft	126.77511 ft	0 psf	1,089.9468 psf	95.357987 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 7	66.5 ft	125.2309 ft	0 psf	1,227.03 psf	107.35121 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 8	68.833333 ft	123.86205 ft	0 psf	1,348.9831 psf	118.02073 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 9	71.166667 ft	122.65278 ft	0 psf	1,441.1549 psf	126.08472 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 10	73.5 ft	121.59069 ft	0 psf	1,504.8477 psf	131.65711 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 11	75.833333 ft	120.66595 ft	0 psf	1,557.7935 psf	136.28927 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 12	78.125 ft	119.88271 ft	0 psf	1,607.124 psf	140.60513 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 13	80.375 ft	119.23056 ft	0 psf	1,653.2311 psf	144.63898 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 14	82.625 ft	118.68853 ft	0 psf	1,689.3239 psf	147.79669 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 15	84.875 ft	118.25305 ft	0 psf	1,714.821 psf	150.02739 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 16	87.25 ft	117.9089 ft	0 psf	1,705.0679 psf	149.17411 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 17	89.75 ft	117.66581 ft	0 psf	1,656.8957 psf	144.95959 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 18	92.25 ft	117.54647 ft	0 psf	1,591.351 psf	139.22517 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 19	94.75 ft	117.55 ft	0 psf	1,507.2946 psf	131.87119 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 20	97 ft	117.65267 ft	0 psf	1,423.1766 psf	124.51182 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
								Disturbed Pre-Olympia

Slice 21	99 ft	117.83288 ft	0 psf	1,342.582 psf	117.46071 psf	750 psf	0 psf	Fine-Grained Glacial Deposits (Qpogf)
Slice 22	101 ft	118.09306 ft	0 psf	1,249.1267 psf	109.28443 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 23	103 ft	118.43445 ft	0 psf	1,142.7843 psf	99.980667 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 24	105 ft	118.85874 ft	0 psf	1,023.7167 psf	89.563606 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 25	107 ft	119.36807 ft	0 psf	892.27894 psf	78.064292 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 26	109.25 ft	120.05251 ft	0 psf	720.18673 psf	63.008175 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 27	111.75 ft	120.94228 ft	0 psf	505.26841 psf	44.205258 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 28	113.90409 ft	121.82041 ft	0 psf	324.0176 psf	28.347866 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)
Slice 29	115.71228 ft	122.65644 ft	0 psf	180.63227 psf	15.803276 psf	750 psf	0 psf	Disturbed Pre-Olympia Fine-Grained Glacial Deposits (Qpogf)