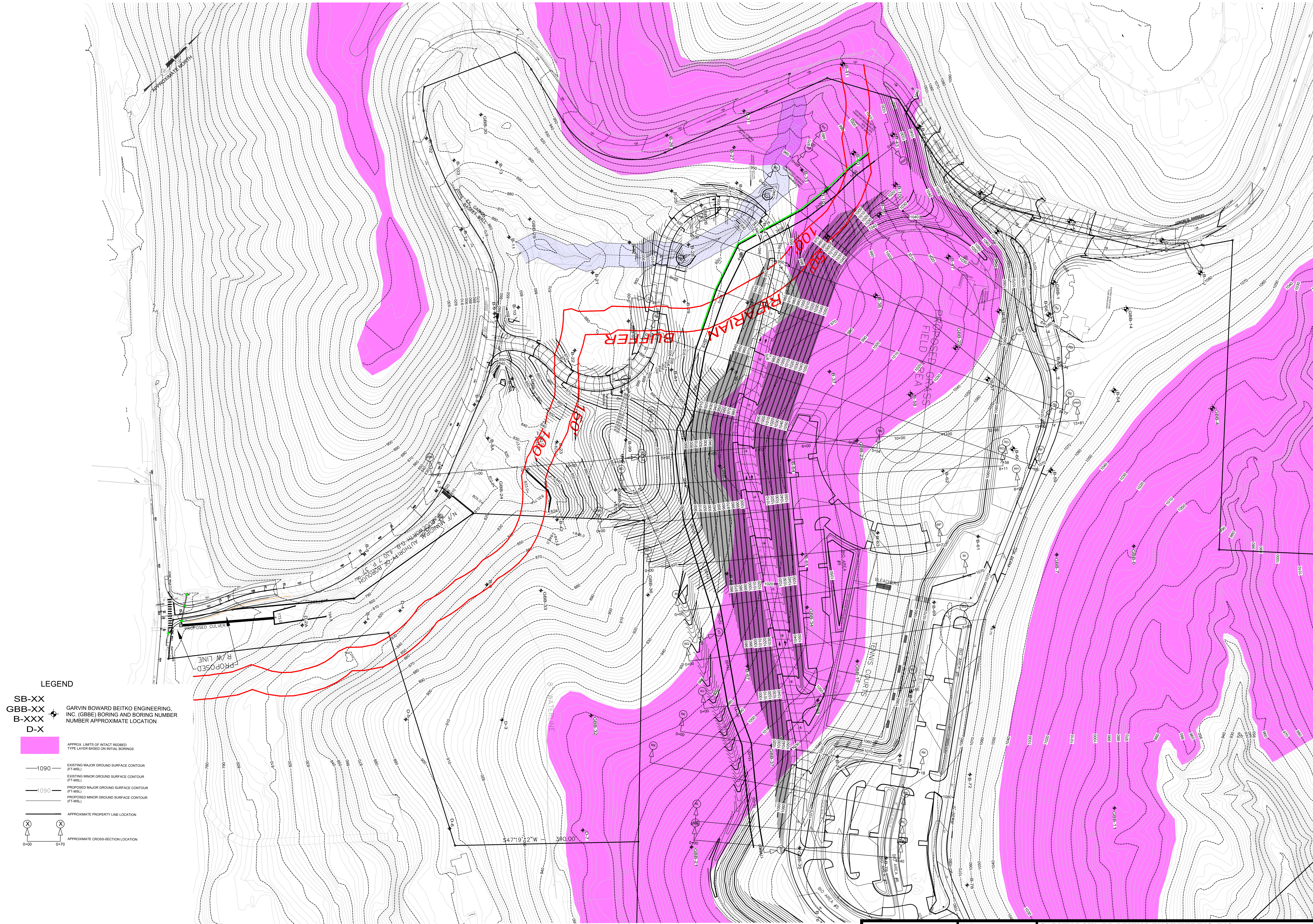




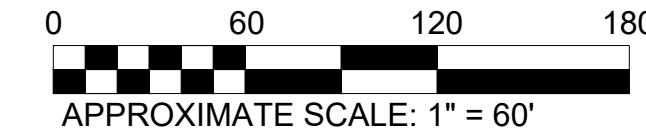
REFERENCE:
PROPOSED CONTOURS, GRADING, SITE ELEMENTS, UTILITIES WERE PROVIDED TO US AS A CAD FILE BY PHILLIPS AND ASSOCIATES, INC. IN AN EMAIL DATED DECEMBER 30, 2024. THE CAD FILENAME IS 11-00-24 BULK GRADING.

THE BASE FILE FOR EXISTING CONTOURS, SITE ELEMENTS, AND UTILITIES WERE PROVIDED TO US BY PHILLIPS AND ASSOCIATES, INC. AS A CAD FILE ON OCTOBER 26, 2023.

CAD FILE NAME FOR EXISTING BASE CONTOURS AND SITE ELEMENTS: THRASHER-TOPO-QVHS_83PAS_V2 - GCPS.

CAD FILE NAME FOR EXISTING UTILITIES: BASE-UTILITIES-06-14-23-MILES.

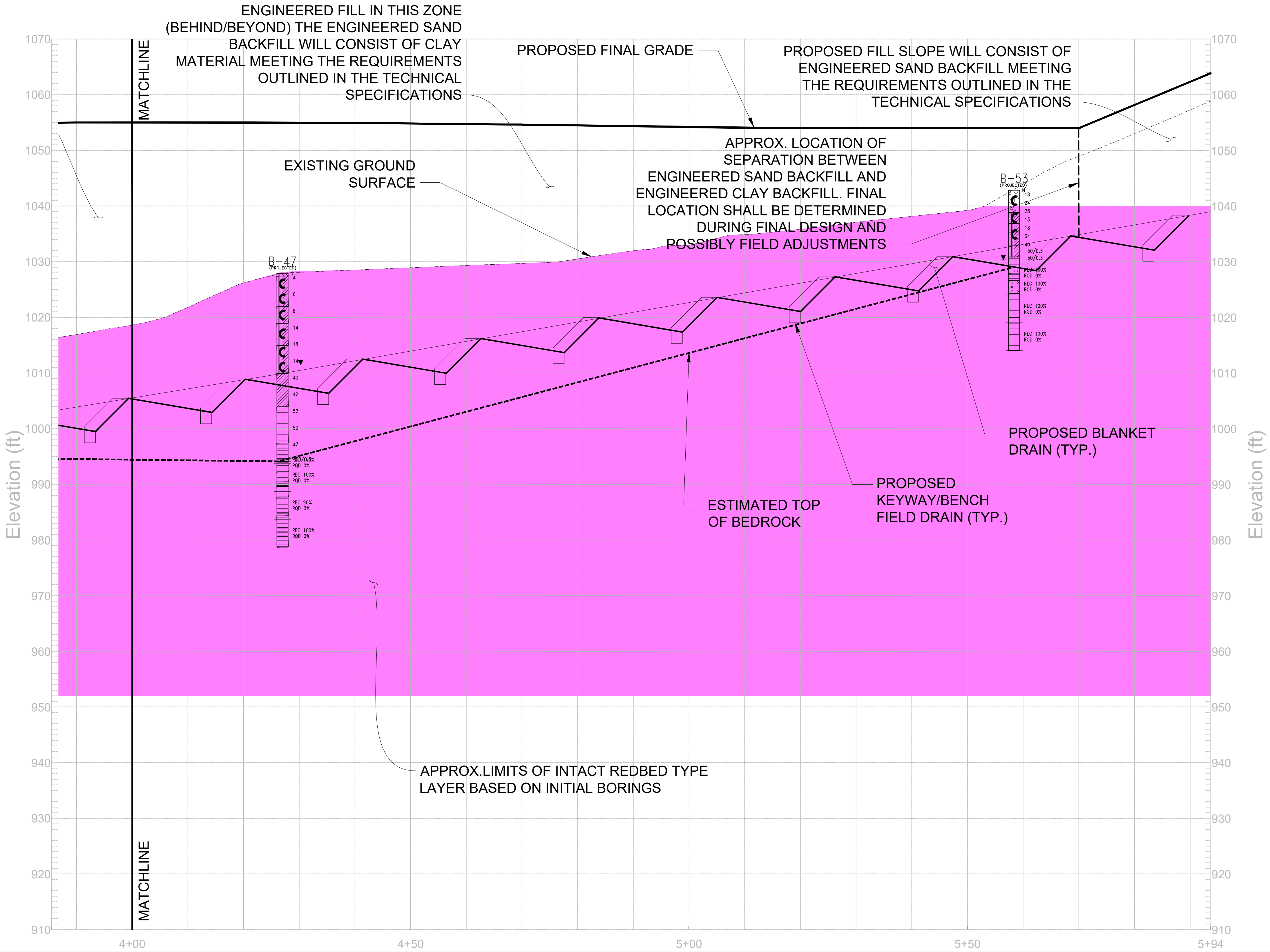
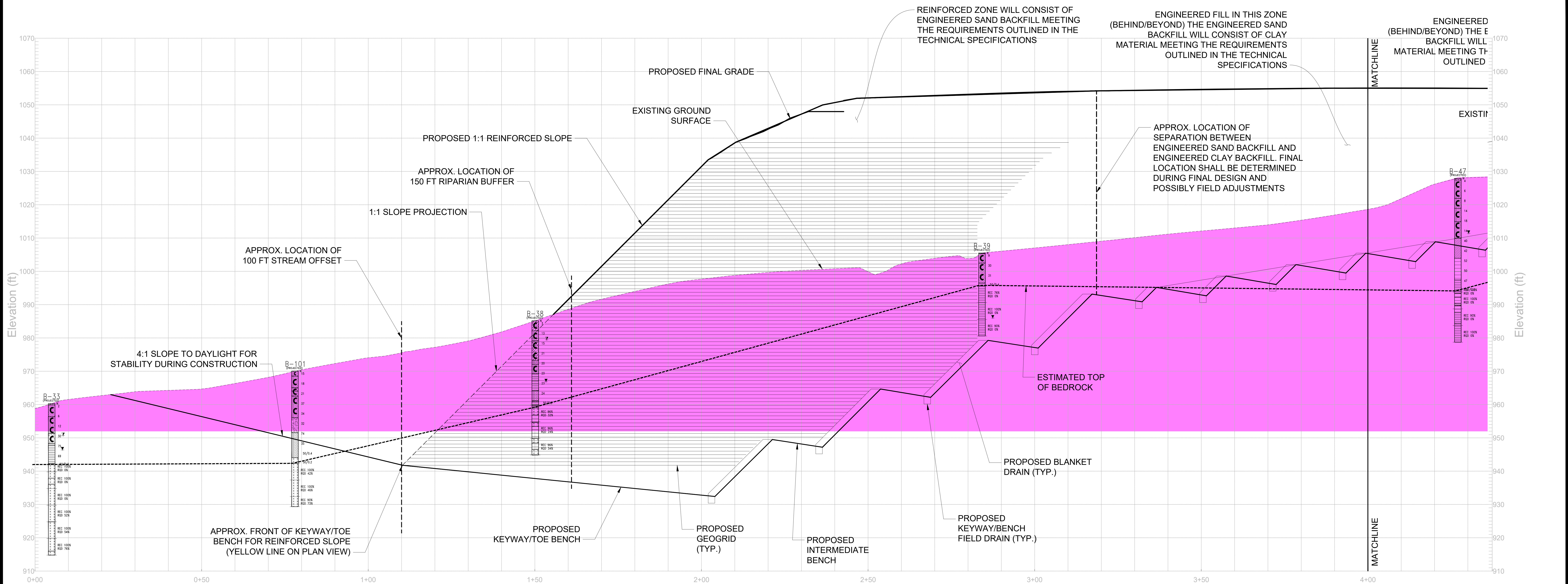
REINFORCED SOIL SLOPE CROSS-SECTION PLAN



GARVIN
BOWARD BEITKO

SCALE:	AS NOTED
DATE:	06/08/2026
REVISED:	
DRAWN BY:	MAW
APPROVED BY:	DAB

GARVIN BOWARD BEITKO ENGINEERING, INC. <i>BUILT ON REPUTATION</i>		180 BILMAR DRIVE, SUITE IV PITTSBURGH, PA 15205 PHONE: 412-922-4440
MAY 2026 DEP SUBMITTAL		CLIENT: PHILLIPS & ASSOCIATES, INC.
NEW QUAKER VALLEY HIGH SCHOOL CAMPUS		GBBE PROJECT NUMBER: 16123A
DWG NAME: RSS CROSS-SECTION PLAN		

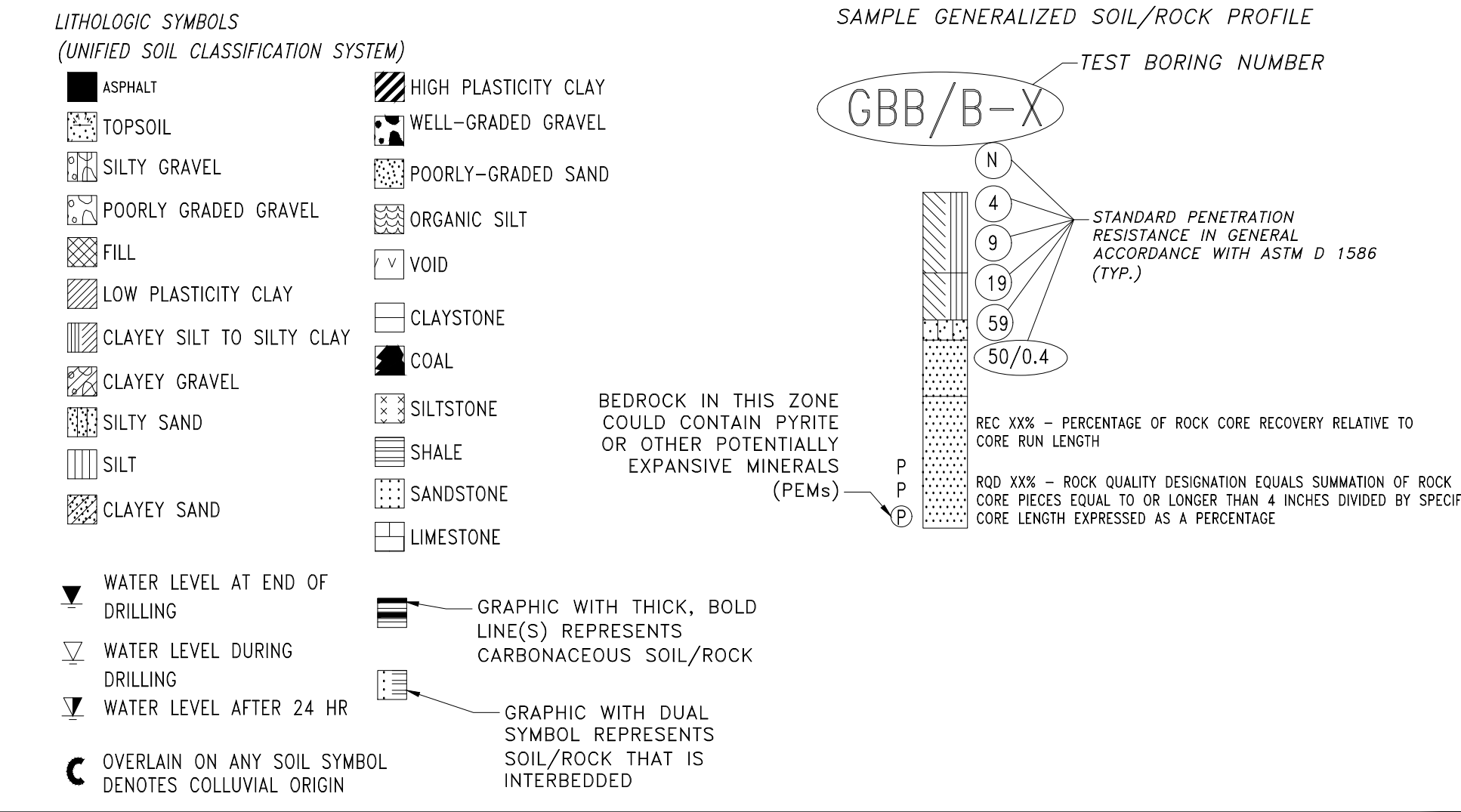


RSS CROSS-SECTION RB-RB

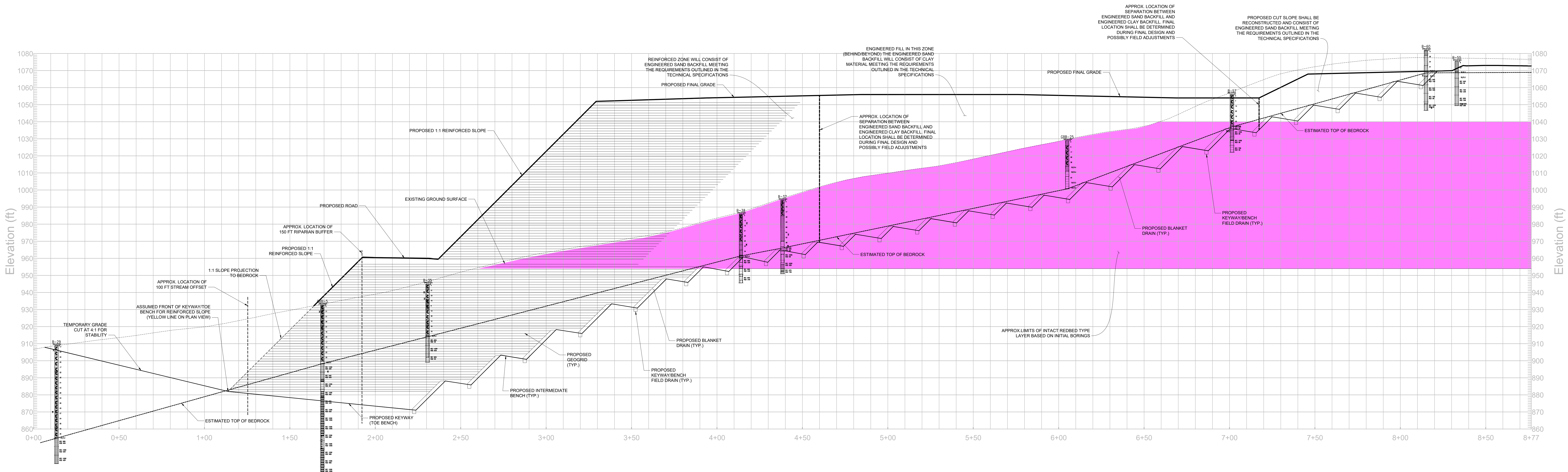


NOTE:
SUBSURFACE CONDITIONS DEPICTED ON THIS DRAWING ARE REPRESENTATIVE ONLY AT TEST BORING LOCATIONS. CONDITIONS BETWEEN TEST BORINGS ARE ESTIMATED BASED ON INTERPOLATION BETWEEN THE TEST BORINGS. EXTRAPOLATION BEYOND THE TEST BORINGS AND PROJECTIONS ALONG CONTOUR LINES. ACTUAL SUBSURFACE CONDITIONS WILL VARY FROM THOSE HEREON SHOWN.

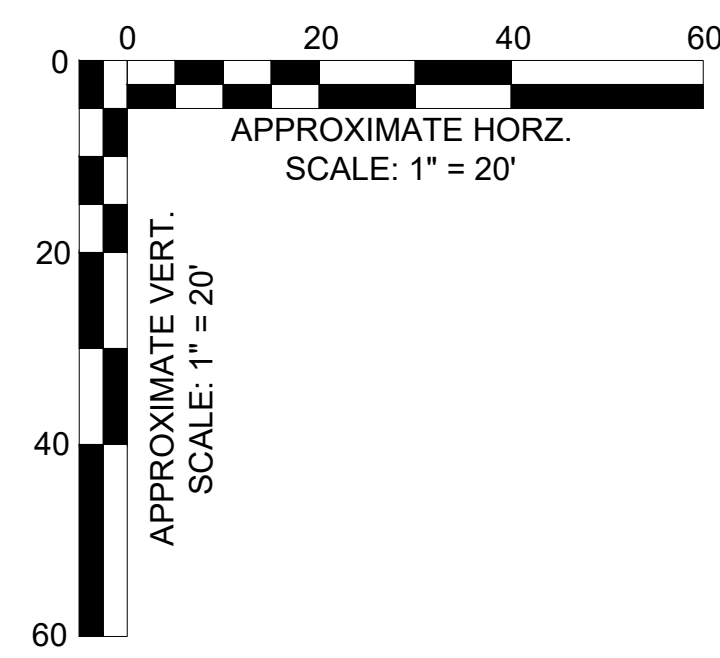
GENERALIZED SUBSURFACE PROFILE LEGEND



GARVIN BOWARD BEITKO	SCALE: AS NOTED	GARVIN BOWARD BEITKO ENGINEERING, INC. BUILT ON REPUTATION MAY 2026 DEP SUBMITTAL NEW QUAKER VALLEY HIGH SCHOOL CAMPUS DWG NAME: RSS CROSS-SECTION RB-RB	180 BILMAR DRIVE, SUITE IV PITTSBURGH, PA 15205 PHONE: 412-922-4440
	DATE: 06/01/2026		CLIENT: PHILLIPS & ASSOCIATES, INC.
	REVISED:		GBBE PROJECT NUMBER: 16123A
	DRAWN BY: MAW		
	APPROVED BY: DAB		

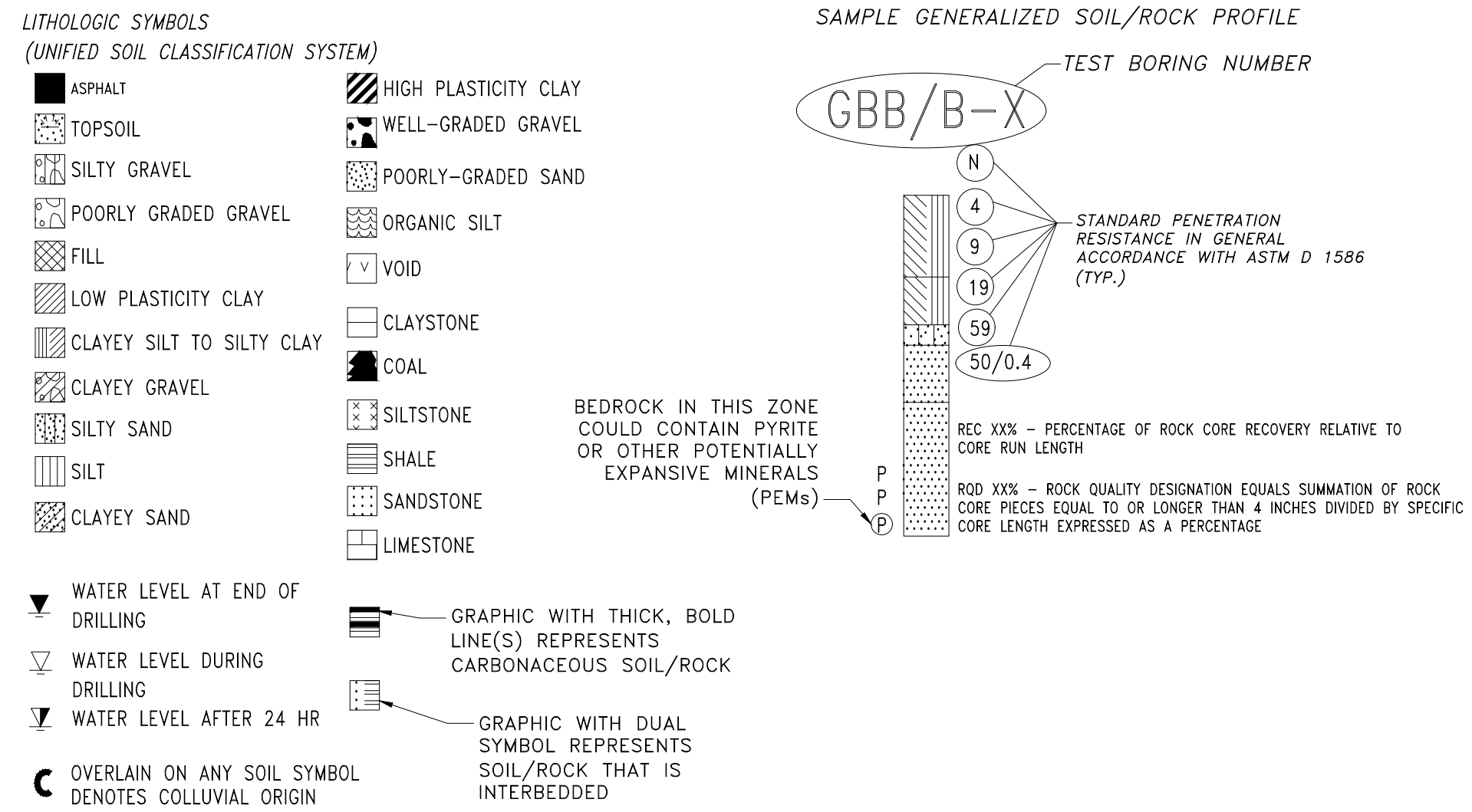


RSS CROSS-SECTION RE-RE



NOTE:
SUBSURFACE CONDITIONS DEPICTED ON THIS DRAWING ARE REPRESENTATIVE ONLY AT TEST BORING LOCATIONS. CONDITIONS BETWEEN TEST BORINGS ARE ESTIMATED BASED ON INTERPOLATION BETWEEN THE TEST BORINGS, EXTRAPOLATION BEYOND THE TEST BORINGS AND PROJECTIONS ALONG CONTOUR LINES. ACTUAL SUBSURFACE CONDITIONS WILL VARY FROM THOSE HEREON SHOWN.

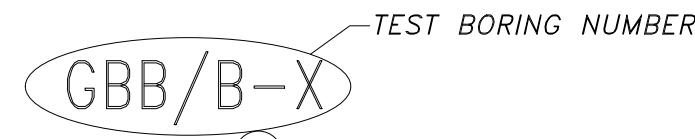
GENERALIZED SUBSURFACE PROFILE LEGEND



GARVIN BOWARD BEITKO	SCALE: AS NOTED	GARVIN BOWARD BEITKO ENGINEERING, INC. BUILT ON REPUTATION MAY 2026 DEP SUBMITTAL NEW QUAKER VALLEY HIGH SCHOOL CAMPUS DWG NAME: RSS CROSS-SECTION RE-RE	180 BILMAR DRIVE, SUITE IV PITTSBURGH, PA 15205 PHONE: 412-922-4440
	DATE: 06/01/2026		CLIENT: PHILLIPS & ASSOCIATES, INC.
	REVISED:		GBBE PROJECT NUMBER: 16123A
	DRAWN BY: MAW		
	APPROVED BY: DAB		

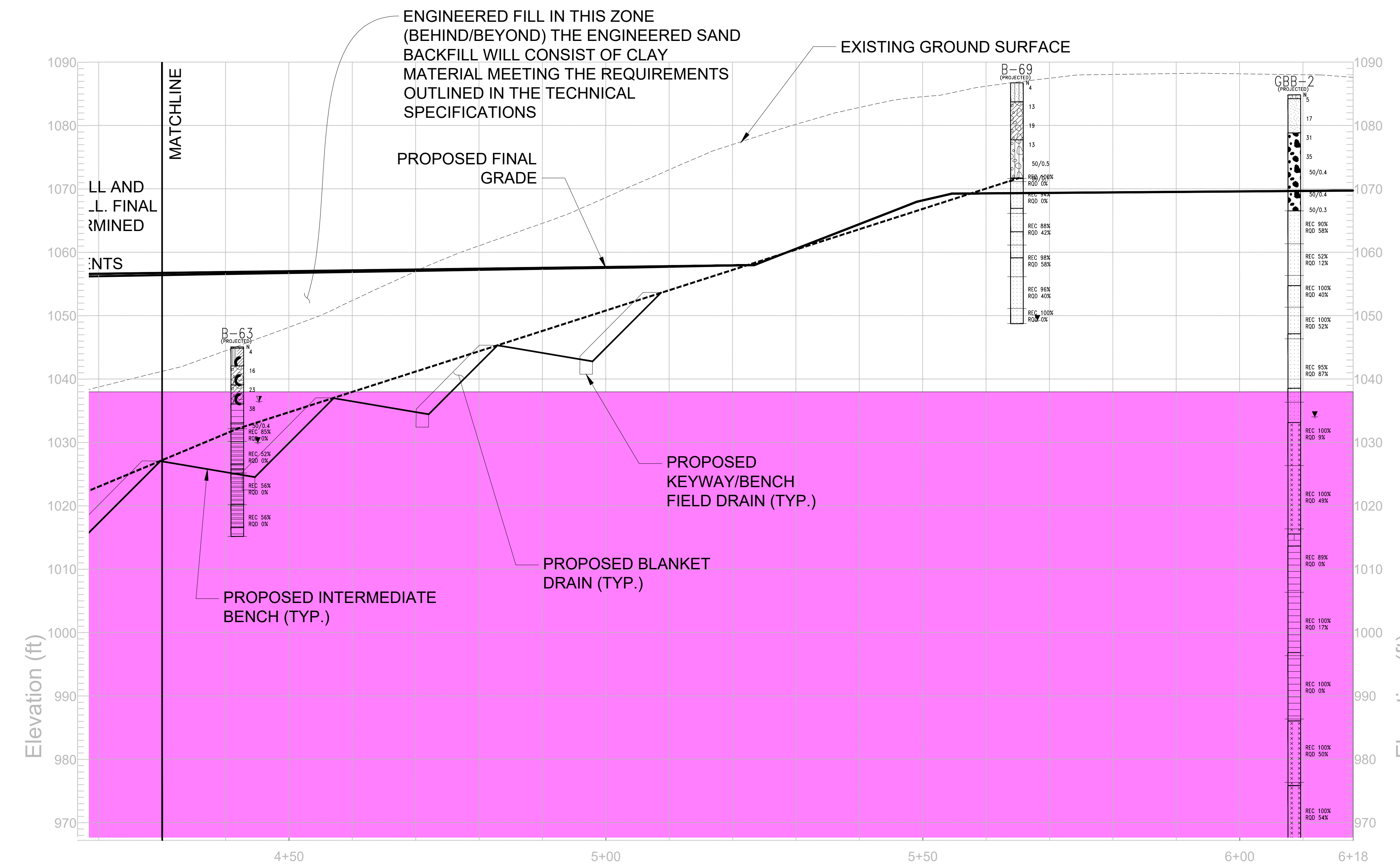
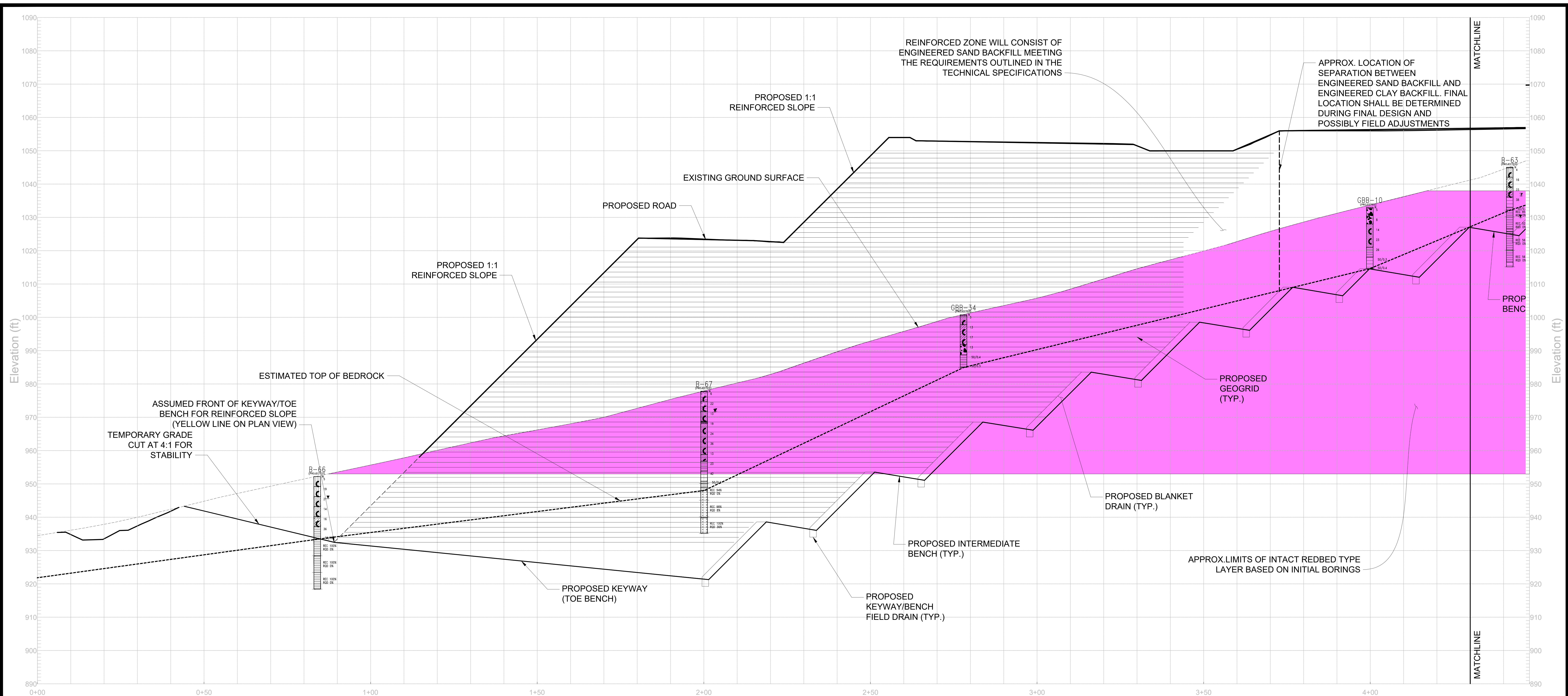


GENERALIZED SUBSURFACE PROFILE LEGEND



BOWARD BEITKO

SCALE:	AS NOTED	GARVIN BOWARD BEITKO ENGINEERING, INC. 180 BILMAR DRIVE, SUITE IV PITTSBURGH, PA 15205 PHONE: 412-922-4440
DATE:	06/01/2026	
REVISED:	MAY 2026 DEP SUBMITTAL	
DRAWN BY:	MAW	
APPROVED BY:	DAB	
NEW QUAKER VALLEY HIGH SCHOOL CAMPUS DWG NAME: RSS CROSS-SECTION PR4-PR4		CLIENT: PHILLIPS & ASSOCIATES, INC. GBSE PROJECT NUMBER: 16123A



RSS CROSS-SECTION RI-RI



NOTE:
SUBSURFACE CONDITIONS DEPICTED ON THIS DRAWING ARE REPRESENTATIVE ONLY AT BORING LOCATIONS. CONDITIONS BETWEEN BORINGS ARE ESTIMATED BASED ON INTERPOLATION BETWEEN THE BORINGS, EXTRAPOLATION BEYOND THE BORINGS AND PROJECTIONS ALONG CONTOUR LINES. ACTUAL SUBSURFACE CONDITIONS WILL VARY FROM THOSE HEREON SHOWN.

GENERALIZED SUBSURFACE PROFILE LEGEND

LITHOLOGIC SYMBOLS
(UNIFIED SOIL CLASSIFICATION SYSTEM)

- APRINT
- TOPSOIL
- SILTY GRAVEL
- POORLY GRADED GRAVEL
- FILL
- LOW PLASTICITY CLAY
- CLAYEY GRAVEL
- CLAYEY SILT TO SILTY CLAY
- SILTY SAND
- SILT
- CLAYEY SAND
- WATER LEVEL AT END OF DRILLING
- WATER LEVEL DURING DRILLING
- WATER LEVEL AFTER 24 HR
- OVERLAIN ON ANY SOIL SYMBOL DENOTES COLLUVIAL ORIGIN

HIGH PLASTICITY CLAY

- WELL-GRADED GRAVEL
- POORLY-GRADED SAND
- ORGANIC SILT
- VOID
- CLAYSTONE
- COAL
- SILTSTONE
- SHALE
- SANDSTONE
- LIMESTONE
- GRAPHIC WITH THICK, BOLD LINE(S) REPRESENTS CARBONACEOUS SOIL/ROCK
- GRAPHIC WITH DUAL SYMBOL REPRESENTS SOIL/ROCK THAT IS INTERSECTED

SAMPLE GENERALIZED SOIL/ROCK PROFILE

TEST BORING NUMBER

GBB/B-X

STANDARD PENETRATION RESISTANCE IN GENERAL ACCORDANCE WITH ASTM D 1586 (TYP.)

REC. X% - PERCENTAGE OF ROCK CORE RECOVERY RELATIVE TO CORE RUN LENGTH

REC. X% - ROCK QUALITY DESIGNATION EQUALS DIVISION OF ROCK CORE PIECES (EQUAL TO OR LONGER THAN 4 INCHES DIVIDED BY SPECIFIC CORE LENGTH EXPRESSED AS A PERCENTAGE)

BECKROCK IN THIS ZONE COULD CONTAIN PYRITE OR OTHER POTENTIALLY EXPANDING MINERALS (PEMAs)

GARVIN

BOWARD BEITKO

SCALE: AS NOTED

DATE: 05/07/2026

REVISED:

DRAWN BY: MAW

APPROVED BY: DAB

GARVIN BOWARD BEITKO ENGINEERING, INC.

BUILT ON REPUTATION

MAY 2026 DEP SUBMITTAL

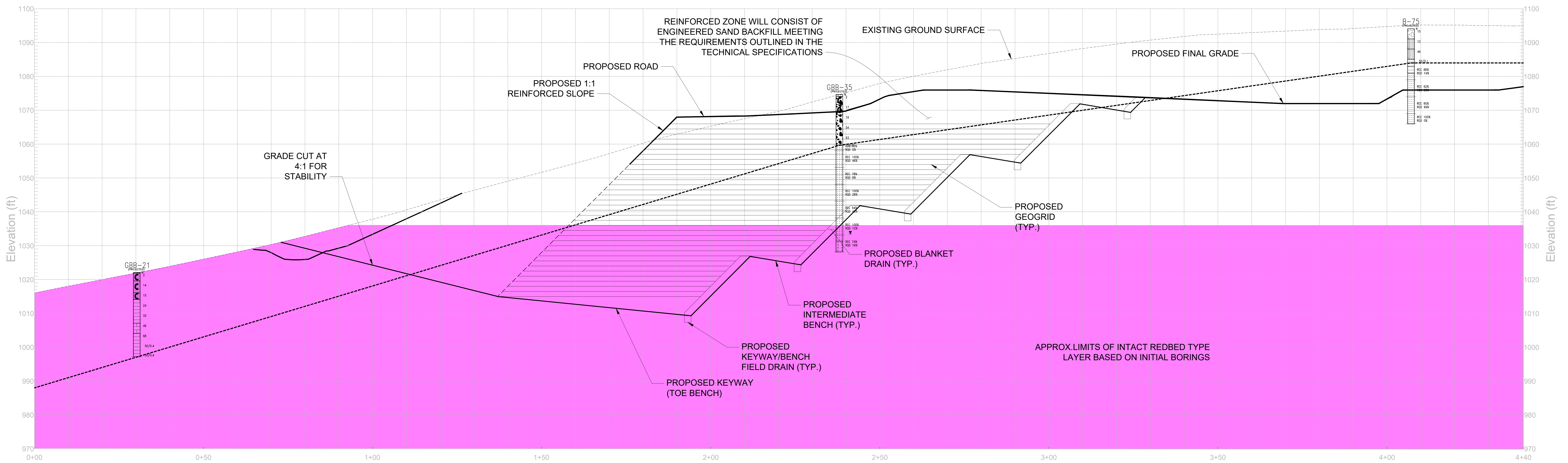
NEW QUAKER VALLEY HIGH SCHOOL CAMPUS

DWG NAME: RSS CROSS-SECTION RI-RI

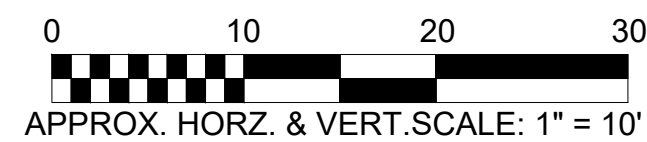
180 BILMAR DRIVE, SUITE IV
PITTSBURGH, PA 15205
PHONE: 412-922-4440

CLIENT:
PHILLIPS & ASSOCIATES, INC.

GBBE PROJECT NUMBER:
16123A



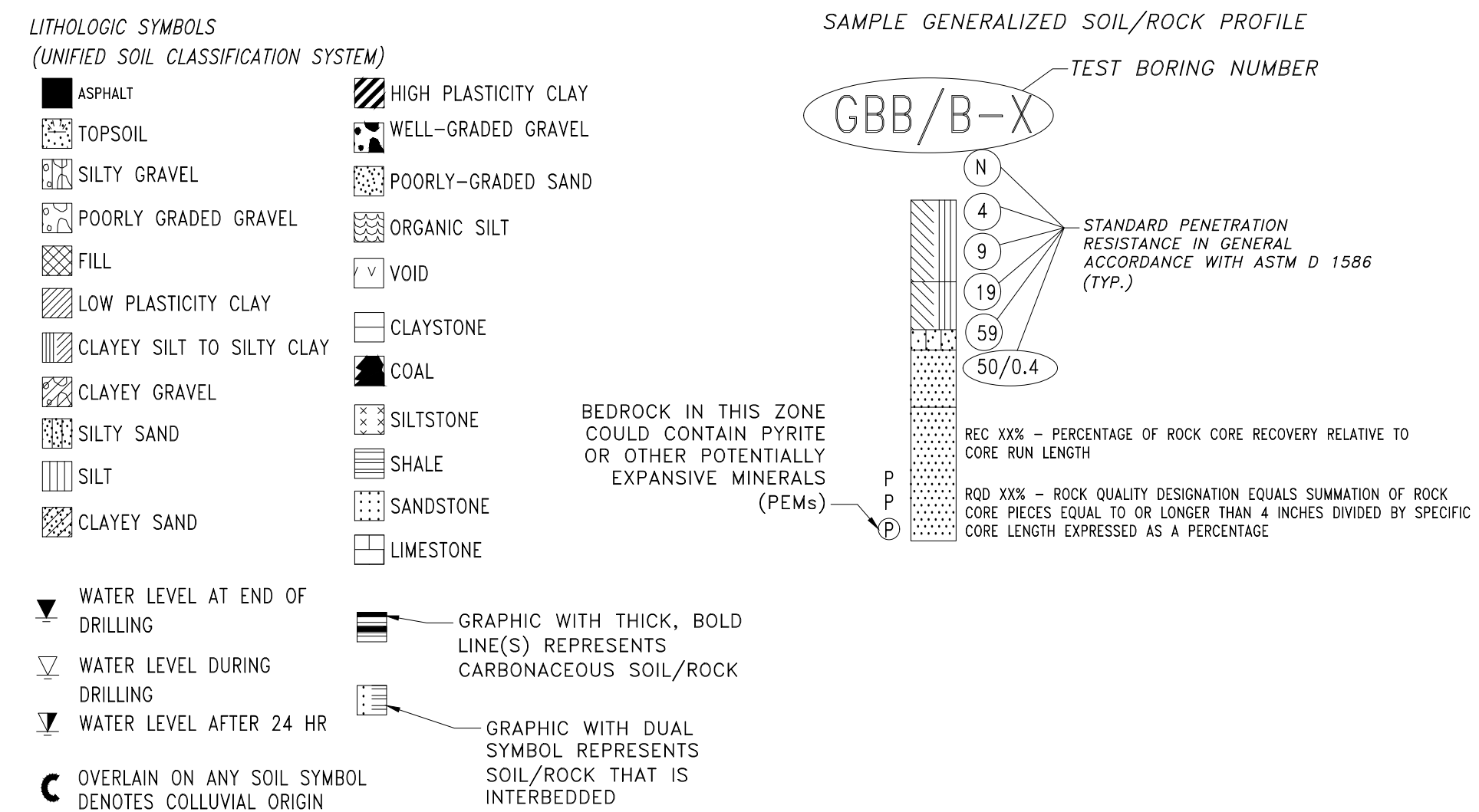
RSS CROSS-SECTION RL-RL



NOTES:

- SUBSURFACE CONDITIONS DEPICTED ON THIS DRAWING ARE REPRESENTATIVE ONLY AT BORING LOCATIONS. CONDITIONS BETWEEN BORINGS ARE ESTIMATED BASED ON INTERPOLATION BETWEEN THE BORINGS. EXTRAPOLATION BEYOND THE BORINGS AND PROJECTIONS ALONG CONTOUR LINES. ACTUAL SUBSURFACE CONDITIONS WILL VARY FROM THOSE HEREON SHOWN.
- ENGINEERED CLAY BACKFILL SHALL NOT BE PLACED WITHIN THIS SECTION OF THE REINFORCED SLOPE.

GENERALIZED SUBSURFACE PROFILE LEGEND



GARVIN

BOWARD BEITKO

SCALE: AS NOTED
DATE: 05/07/2026
REVISED:
DRAWN BY: MAW
APPROVED BY: DAB

GARVIN BOWARD BEITKO ENGINEERING, INC.

BUILT ON REPUTATION

MAY 2026 DEP SUBMITTAL

NEW QUAKER VALLEY HIGH SCHOOL CAMPUS

DWG NAME:

RSS CROSS-SECTION RL-RL

180 BILMAR DRIVE, SUITE IV
PITTSBURGH, PA 15205
PHONE: 412-922-4440

CLIENT:
PHILLIPS & ASSOCIATES, INC.

GBBE PROJECT NUMBER:
16123A



MiraSlope® Pro

Cross-Section RB-RB

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PROJECT IDENTIFICATION

Title: Cross-Section RB-RB
Project Number: 16123A -
Client: QVSD
Designer: MAW

Description:

Company's information:

Name: GBBE
Street: 180 Bilmar Drive Suite 4
Pittsburgh, PA 15205
Telephone #: 412-922-4440
E-Mail:

Original file path and name: C:\Users\A \Desktop\16123A\Miraslope\Cross-Section RB-RB.MIRp
Original date and time of creating this file: Wed Mar 06 10:10:52 2024

PROGRAM MODE: Analysis of a General Slope using GEOSYNTHETIC as reinforcing material.

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No warranty or guarantee, expressed or implied, is made regarding the performance of any product, since the manner of use and handling are beyond our control. Any and all design related to a product will be the responsibility of the project engineer and/or registered engineer of record.

INPUT DATA (EXCLUDING REINFORCEMENT LAYOUT)

SOIL DATA

===== Soil Layer #: =====	Unit weight, γ [lb/ft ³]	Internal angle of friction, ϕ [deg.]	Cohesion, c [lb/ft ²]
1.....Eng. Fill (Sand).....	135.0	33.0	0.0
2.....Colluvium.....	125.0	14.0	0.0
3.....Residual Redbed.....	125.0	20.0	0.0
4.....Eng Fill (Redbed).....	135.0	20.0	0.0
5.....Residual Redbed (Soil).....	140.0	20.0	0.0
6.....In-Place Redbeds.....	140.0	20.0	200.0
7.....Bedrock (Lower).....	145.0	45.0	500.0

REINFORCEMENT

Reinforcement		Ultimate Strength, Tult [lb/ft]	Reduction Factor for Installation Damage, RFid	Reduction Factor for Durability, RFd	Reduction Factor for Creep, RFc	Coverage Ratio, Rc
Type #	Geosynthetic Designated Name					
1	20XT	16000	1.10	1.10	1.44	1.00

Interaction Parameters		== Direct Sliding ==		==== Pullout =====	
Type #	Geosynthetic Designated Name	Cds-phi	Cds-c	Ci	Alpha
1	20XT	0.80	0.00	0.80	0.80

Relative Orientation of Reinforcement Force, ROR = 0.00. Assigned Factor of Safety to resist pullout, Fs-po = 1.50
Design method for Global Stability: Comprehensive Bishop.

WATER

Water is not present

SEISMICITY

Not Applicable

DRAWING OF SPECIFIED GEOMETRY - GENERAL - Quick Input

- Problem geometry is defined along sections selected by user at x,y coordinates.
- X1,Y1 represents the coordinates of soil surface. X2,Y2 represent the coordinates of the end of soil layer 1 and start of soil layer 2, and so on.

GEOMETRY

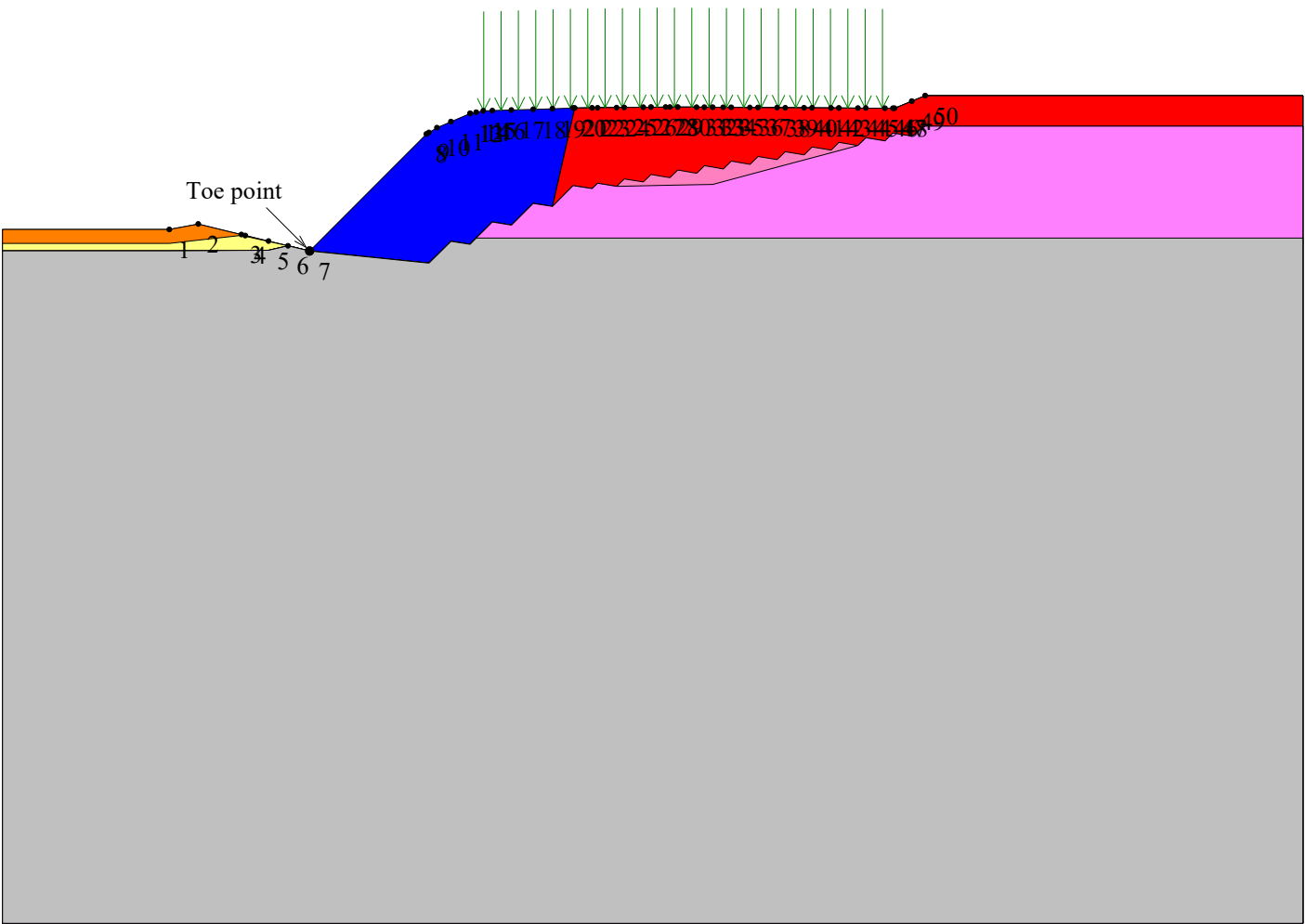
Soil profile contains 7 layers (see details in next page)

UNIFORM SURCHARGE

Load Q1 = 250.00 [lb/ft²] inclined from verical at 0.00 degrees, starts at X1s = 247.00 and ends at X1e = 570.00 [ft].
Surcharge load, Q2.....None
Surcharge load, Q3.....None

STRIP LOAD

.....None.....



SCALE:

1123([ft])

TABULATED DETAILS OF GENERAL SPECIFIED GEOMETRY

Soil profile contains 7 layers. Coordinates in [ft.]

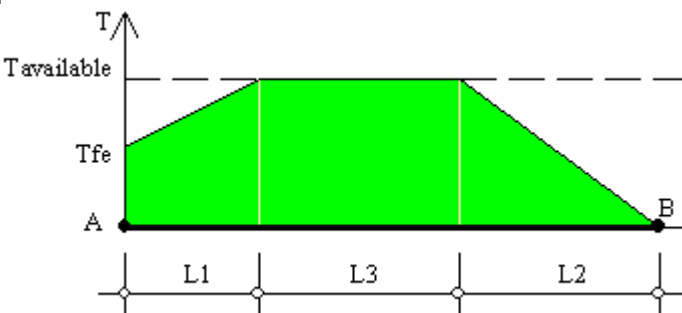
	#	Xi	Yi		#	Xi	Yi
 Top of Layer 1	1	0.00	958.80		51	236.30	947.20
	2	22.70	963.00		52	253.80	964.70
	3	59.70	954.00		53	268.80	962.20
	4	93.30	945.90		54	286.00	979.30
	5	110.30	941.80		55	301.00	977.00
	6	202.10	1033.80		56	318.60	1054.20
	7	210.30	1038.80		57	390.00	1055.00
	8	236.40	1050.00		58	570.00	1054.00
	9	246.70	1052.00		59	594.00	1064.00
	10	318.60	1054.20	 Top of Layer 5	60	0.00	942.00
 Top of Layer 2	11	390.00	1055.00		61	78.00	942.40
	12	570.00	1054.00		62	93.30	945.90
	13	594.00	1064.00		63	110.30	941.80
	14	0.00	958.80		64	204.00	932.40
	15	22.70	963.00		65	221.30	949.50
	16	59.70	954.00		66	236.30	947.20
	17	93.30	945.90		67	253.80	964.70
	18	110.30	941.80		68	268.80	962.20
	19	204.00	932.40		69	286.00	979.30
	20	221.30	949.50		70	301.00	977.00
 Top of Layer 3	21	236.30	947.20		71	317.20	993.20
	22	253.80	964.70	 Top of Layer 6	72	332.20	990.90
	23	268.80	962.20		73	336.60	995.20
	24	286.00	979.30		74	351.50	992.70
	25	301.00	977.00		75	357.50	998.60
	26	318.60	1054.20		76	372.50	996.10
	27	390.00	1055.00		77	378.50	1002.00
	28	570.00	1054.00		78	393.40	999.50
	29	594.00	1064.00		79	399.50	1005.50
	30	0.00	947.90		80	414.30	1002.90
	31	56.70	954.10		81	420.50	1008.90
 Top of Layer 4	32	93.30	945.90		82	435.30	1006.40
	33	110.30	941.80		83	441.60	1012.50
	34	204.00	932.40		84	456.30	1010.00
	35	221.30	949.50		85	462.60	1016.20
	36	236.30	947.20		86	477.60	1013.70
	37	253.80	964.70		87	484.00	1019.90
	38	268.80	962.20		88	498.80	1017.40
	39	286.00	979.30		89	505.00	1023.60
	40	301.00	977.00		90	520.00	1021.10
	41	318.60	1054.20		91	526.20	1027.30
	42	390.00	1055.00		92	541.20	1024.80
	43	570.00	1054.00		93	547.40	1030.90
	44	594.00	1064.00		94	562.40	1028.40
	45	0.00	942.00		95	568.60	1034.60
	46	78.00	942.40		96	583.50	1032.10
	47	93.30	945.90		97	594.00	1040.00
	48	110.30	941.80		98	0.00	942.00
	49	204.00	932.40		99	78.00	942.40
	50	221.30	949.50		100	93.30	945.90
					101	110.30	941.80
					102	204.00	932.40
					103	221.30	949.50
					104	236.30	947.20
					105	253.80	964.70
					106	268.80	962.20
					107	286.00	979.30
					108	301.00	977.00
					109	317.20	993.20
					110	332.20	990.90
					111	336.60	995.20
					112	351.50	992.70
					113	427.00	994.20
					114	541.20	1024.80
					115	547.40	1030.90
					116	562.40	1028.40

TABULATED DETAILS OF SPECIFIED GEOMETRY

Soil profile contains 7 layers. Coordinates in [ft.]

#	X	Y1	Y2	Y3	Y4	Y5	Y6	Y7
1	0.00	958.80	958.80	947.90	942.00	942.00	942.00	942.00
2	22.70	963.00	963.00	950.38	942.12	942.12	942.12	942.12
3	56.70	954.73	954.73	954.10	942.29	942.29	942.29	942.29
4	59.70	954.00	954.00	953.43	942.31	942.31	942.31	942.31
5	78.00	949.59	949.59	949.33	942.40	942.40	942.40	942.40
6	93.30	945.90	945.90	945.90	945.90	945.90	945.90	945.90
7	110.30	941.80	941.80	941.80	941.80	941.80	941.80	941.80
8	202.10	1033.80	932.59	932.59	932.59	932.59	932.59	932.59
9	204.00	1034.96	932.40	932.40	932.40	932.40	932.40	932.40
10	210.30	1038.80	938.63	938.63	938.63	938.63	938.63	938.63
11	221.30	1043.52	949.50	949.50	949.50	949.50	949.50	949.50
12	236.30	1049.96	947.20	947.20	947.20	947.20	947.20	947.20
13	236.40	1050.00	947.30	947.30	947.30	947.30	947.30	947.30
14	241.20	1050.93	952.10	952.10	952.10	952.10	952.10	952.00
15	246.70	1052.00	957.60	957.60	957.60	957.60	957.60	952.00
16	253.80	1052.22	964.70	964.70	964.70	964.70	964.70	952.00
17	268.80	1052.68	962.20	962.20	962.20	962.20	962.20	952.00
18	286.00	1053.20	979.30	979.30	979.30	979.30	979.30	952.00
19	301.00	1053.66	977.00	977.00	977.00	977.00	977.00	952.00
20	317.20	1054.16	1048.06	1048.06	1048.06	993.20	993.20	952.00
21	318.60	1054.20	1054.20	1054.20	1054.20	992.99	992.99	952.00
22	332.20	1054.35	1054.35	1054.35	1054.35	990.90	990.90	952.00
23	336.60	1054.40	1054.40	1054.40	1054.40	995.20	995.20	952.00
24	351.50	1054.57	1054.57	1054.57	1054.57	992.70	992.70	952.00
25	357.50	1054.64	1054.64	1054.64	1054.64	998.60	992.82	952.00
26	372.50	1054.80	1054.80	1054.80	1054.80	996.10	993.12	952.00
27	378.50	1054.87	1054.87	1054.87	1054.87	1002.00	993.24	952.00
28	390.00	1055.00	1055.00	1055.00	1055.00	1000.07	993.46	952.00
29	393.40	1054.98	1054.98	1054.98	1054.98	999.50	993.53	952.00
30	399.50	1054.95	1054.95	1054.95	1054.95	1005.50	993.65	952.00
31	414.30	1054.87	1054.87	1054.87	1054.87	1002.90	993.95	952.00
32	420.50	1054.83	1054.83	1054.83	1054.83	1008.90	994.07	952.00
33	427.00	1054.79	1054.79	1054.79	1054.79	1007.80	994.20	952.00
34	435.30	1054.75	1054.75	1054.75	1054.75	1006.40	996.42	952.00
35	441.60	1054.71	1054.71	1054.71	1054.71	1012.50	998.11	952.00
36	456.30	1054.63	1054.63	1054.63	1054.63	1010.00	1002.05	952.00
37	462.60	1054.60	1054.60	1054.60	1054.60	1016.20	1003.74	952.00
38	477.60	1054.51	1054.51	1054.51	1054.51	1013.70	1007.76	952.00
39	484.00	1054.48	1054.48	1054.48	1054.48	1019.90	1009.47	952.00
40	498.80	1054.40	1054.40	1054.40	1054.40	1017.40	1013.44	952.00
41	505.00	1054.36	1054.36	1054.36	1054.36	1023.60	1015.10	952.00
42	520.00	1054.28	1054.28	1054.28	1054.28	1021.10	1019.12	952.00
43	526.20	1054.24	1054.24	1054.24	1054.24	1027.30	1020.78	952.00
44	541.20	1054.16	1054.16	1054.16	1054.16	1024.80	1024.80	952.00
45	547.40	1054.13	1054.13	1054.13	1054.13	1030.90	1030.90	952.00
46	562.40	1054.04	1054.04	1054.04	1054.04	1028.40	1028.40	952.00
47	568.60	1054.01	1054.01	1054.01	1054.01	1034.60	1034.60	952.00
48	570.00	1054.00	1054.00	1054.00	1054.00	1034.37	1034.37	952.00
49	583.50	1059.63	1059.63	1059.63	1059.63	1032.10	1032.10	952.00
50	594.00	1064.00	1064.00	1064.00	1064.00	1040.00	1040.00	952.00

DISTRIBUTION OF AVAILABLE STRENGTH ALONG EACH REINFORCEMENT LAYER



A = Front-end of reinforcement (at face of slope)
 B = Rear-end of reinforcement
 AB = $L1 + L2 + L3$ = Embedded length of reinforcement

Tavailable = Long-term strength of reinforcement
 Tfe = Available front-end strength (e.g., connection to facing)

L1 = Front-end 'pullout' length
 L2 = Rear-end pullout length
 Tavailable prevails along L3

Factor of safety on resistance to pullout on either end of reinforcement, $Fs\text{-}po = 1.50$

Reinforcement Layer #	Designated Name	Height Relative to Toe [ft]	L [ft]	L1 [ft]	L2 [ft]	L3 [ft]	Tfe [lb/ft]	Tavailable [lb/ft]
1	20XT	0.00	100.00	0.00	1.28	98.72	9182.74	9182.74
2	20XT	1.50	100.00	0.00	1.31	98.69	9182.74	9182.74
3	20XT	3.00	100.00	0.00	1.31	98.69	9182.74	9182.74
4	20XT	4.50	100.00	0.00	1.31	98.69	9182.74	9182.74
5	20XT	6.00	100.00	0.00	1.35	98.65	9182.74	9182.74
6	20XT	7.50	100.00	0.00	1.35	98.65	9182.74	9182.74
7	20XT	9.00	100.00	0.00	1.35	98.65	9182.74	9182.74
8	20XT	10.50	117.50	0.00	1.28	116.22	9182.74	9182.74
9	20XT	12.00	117.50	0.00	1.28	116.22	9182.74	9182.74
10	20XT	13.50	117.50	0.00	1.31	116.19	9182.74	9182.74
11	20XT	15.00	117.50	0.00	1.31	116.19	9182.74	9182.74
12	20XT	16.50	117.50	0.00	1.35	116.15	9182.74	9182.74
13	20XT	18.00	117.50	0.00	1.35	116.15	9182.74	9182.74
14	20XT	19.50	117.50	0.00	1.38	116.12	9182.74	9182.74
15	20XT	21.00	117.50	0.00	1.38	116.12	9182.74	9182.74
16	20XT	22.50	117.50	0.00	1.41	116.09	9182.74	9182.74
17	20XT	24.00	135.00	0.00	1.44	133.56	9182.74	9182.74
18	20XT	25.50	135.00	0.00	1.44	133.56	9182.74	9182.74
19	20XT	27.00	135.00	0.00	1.48	133.52	9182.74	9182.74
20	20XT	28.50	135.00	0.00	1.51	133.49	9182.74	9182.74
21	20XT	30.00	135.00	0.00	1.54	133.46	9182.74	9182.74
22	20XT	31.50	135.00	0.00	1.57	133.43	9182.74	9182.74
23	20XT	33.00	135.00	0.00	1.57	133.43	9182.74	9182.74
24	20XT	34.50	135.00	0.00	1.61	133.39	9182.74	9182.74
25	20XT	36.00	135.00	0.00	1.64	133.36	9182.74	9182.74
26	20XT	37.50	135.00	0.00	1.67	133.33	9182.74	9182.74
27	20XT	39.00	134.00	0.00	1.71	132.29	9182.74	9182.74
28	20XT	40.50	133.00	0.00	1.74	131.26	9182.74	9182.74
29	20XT	42.00	132.00	0.00	1.77	130.23	9182.74	9182.74
30	20XT	43.50	131.00	0.00	1.84	129.16	9182.74	9182.74
31	20XT	45.00	130.00	0.00	1.87	128.13	9182.74	9182.74
32	20XT	46.50	129.00	0.00	1.90	127.10	9182.74	9182.74
33	20XT	48.00	128.00	0.00	1.97	126.03	9182.74	9182.74
34	20XT	49.50	127.00	0.00	2.00	125.00	9182.74	9182.74
35	20XT	51.00	126.00	0.00	2.03	123.97	9182.74	9182.74

DISTRIBUTION OF AVAILABLE STRENGTH ALONG EACH REINFORCEMENT LAYER (continues)

Factor of safety on resistance to pullout on either end of reinforcement, $F_{s-po} = 1.50$

Reinforcement Layer #	Designated Name	Height Relative to Toe [ft]	L [ft]	L1 [ft]	L2 [ft]	L3 [ft]	Tfe [lb/ft]	Tavailable [lb/ft]
36	20XT	52.50	125.00	0.00	2.10	122.90	9182.74	9182.74
37	20XT	54.00	124.00	0.00	2.17	121.83	9182.74	9182.74
38	20XT	55.50	123.00	0.00	2.20	120.80	9182.74	9182.74
39	20XT	57.00	122.00	0.00	2.26	119.74	9182.74	9182.74
40	20XT	58.50	121.00	0.00	2.33	118.67	9182.74	9182.74
41	20XT	60.00	120.00	0.00	2.40	117.60	9182.74	9182.74
42	20XT	61.50	119.00	0.00	2.46	116.54	9182.74	9182.74
43	20XT	63.00	118.00	0.00	2.56	115.44	9182.74	9182.74
44	20XT	64.50	117.00	0.00	2.62	114.38	9182.74	9182.74
45	20XT	66.00	116.00	0.00	2.72	113.28	9182.74	9182.74
46	20XT	67.50	115.00	0.00	2.79	112.21	9182.74	9182.74
47	20XT	69.00	114.00	0.00	2.89	111.11	9182.74	9182.74
48	20XT	70.50	113.00	0.00	3.02	109.98	9182.74	9182.74
49	20XT	72.00	112.00	0.00	3.12	108.88	9182.74	9182.74
50	20XT	73.50	111.00	0.00	3.25	107.75	9182.74	9182.74
51	20XT	75.00	110.00	0.00	3.38	106.62	9182.74	9182.74
52	20XT	76.50	109.00	0.00	3.51	105.49	9182.74	9182.74
53	20XT	78.00	108.00	0.00	3.67	104.33	9182.74	9182.74
54	20XT	79.50	107.00	0.00	3.84	103.16	9182.74	9182.74
55	20XT	81.00	106.00	0.00	4.00	102.00	9182.74	9182.74
56	20XT	82.50	105.00	0.00	4.23	100.77	9182.74	9182.74
57	20XT	84.00	104.00	0.00	4.46	99.54	9182.74	9182.74
58	20XT	85.50	103.00	0.00	4.69	98.31	9182.74	9182.74
59	20XT	87.00	102.00	0.00	4.99	97.01	9182.74	9182.74
60	20XT	88.50	101.00	0.00	5.31	95.69	9182.74	9182.74
61	20XT	90.00	100.00	0.00	5.68	94.32	9182.74	9182.74
62	20XT	91.50	100.00	0.00	6.07	93.93	9182.74	9182.74
63	20XT	93.00	100.00	0.00	6.53	93.47	9182.74	9182.74
64	20XT	94.50	100.00	0.00	7.05	92.95	9182.74	9182.74
65	20XT	96.00	100.00	0.00	7.71	92.29	9182.74	9182.74
66	20XT	97.50	100.00	0.00	8.46	91.54	9182.74	9182.74

RESULTS OF ROTATIONAL STABILITY ANALYSIS

Results in the tables below represent critical circles identified between specified points on entry and exit. (Theta-exit set to 50.00 deg.)
 The most critical circle is obtained from a search considering all the combinations of input entry and exit points.

Critical circles for each entry point (considering all specified exit points)									
Entry Point #	Entry Point (X, Y) [ft]		Exit Point (X, Y) [ft]		Critical Circle (Xc, Yc, R) [ft]			Fs	STATUS
1	240.00	1050.70	44.96	957.88	119.62	1052.32	120.39	8.29	
2	272.50	1052.79	62.96	953.47	144.17	1052.85	128.34	4.03	
3	305.00	1053.78	115.90	949.18	173.18	1068.87	132.69	2.98	
4	337.50	1054.41	116.44	948.87	177.35	1105.57	168.13	1.99	
5	370.00	1054.78	115.62	948.99	172.52	1170.90	229.09	1.76	
6	402.50	1054.93	116.42	948.74	169.31	1244.70	300.65	1.75	OK
7	435.00	1054.75	116.65	948.66	159.40	1351.08	404.68	1.87	
8	467.50	1054.57	115.81	948.78	172.32	1398.37	453.13	2.10	
9	500.00	1054.39	116.52	948.66	158.72	1543.87	596.71	2.08	
10	532.50	1054.21	115.60	948.69	154.90	1669.81	722.18	2.22	
11	565.00	1054.03	115.80	948.66	147.64	1823.13	875.04	2.36	

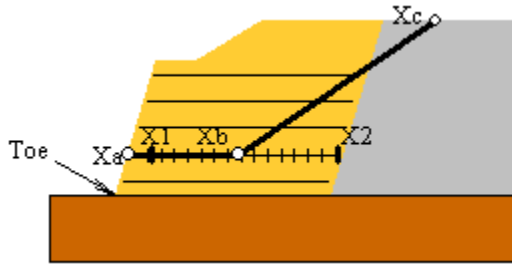
Note: In the 'Status' column, OK means the critical circle was identified within the specified search domain. 'On extreme X-entry' means that the critical result is on the edge of the search domain; a lower Fs may result if the search domain is expanded.

Results in the tables below represent critical circles identified between specified points on entry and exit. (Theta-exit set to 50.00 deg.)
 The most critical circle is obtained from a search considering all the combinations of input entry and exit points.

Critical circles for each exit point (considering all specified entry points)									
Exit Point #	Exit Point (X, Y) [ft]		Entry Point (X, Y) [ft]		Critical Circle (Xc, Yc, R) [ft]			Fs	STATUS
1	44.45	957.90	370.00	1054.78	149.13	1201.58	265.21	1.87	
2	53.33	955.73	370.00	1054.78	151.88	1196.42	260.08	1.84	
3	61.93	953.71	370.00	1054.78	156.86	1184.42	249.48	2.00	
4	71.93	951.23	337.50	1054.41	167.78	1097.89	175.21	2.69	
5	79.66	949.50	337.50	1054.41	157.33	1127.91	194.59	2.21	
6	88.74	947.07	370.00	1054.78	158.72	1185.42	248.41	1.85	
7	99.19	944.48	337.50	1054.41	160.96	1123.85	189.70	2.16	
8	107.08	942.59	370.00	1054.78	165.11	1170.77	235.45	2.08	
9	116.42	948.74	402.50	1054.93	169.31	1244.70	300.65	1.75	OK
10	125.16	957.88	370.00	1054.78	189.54	1152.98	205.45	1.91	
11	133.91	967.07	370.00	1054.78	209.27	1125.82	175.74	2.08	

Note: In the 'Status' column, OK means the critical circle was identified within the specified search domain. 'On extreme X-exit' means that the critical result is on the edge of the search domain; a lower Fs may result if the search domain is expanded.

RESULTS OF TRANSLATIONAL ANALYSIS



Results in the table below represent critical two-part wedges identified between specified starting (X1) and ending (X2) search points. Wedges along all reinforcement layers and at elevation zero are reported. The critical two-part wedge, one for each predetermined elevation, is defined by Xa, Xb and Xc where Xa is the front end of the passive wedge (slope face), Xb is where the passive wedge ends and the active one starts, and Xc is the X-ordinate at which the active wedge starts.

Critical two-part wedge along each interface:

Interface	Height Relative to Toe [ft]	(Xa, Ya) [ft]	(Xb, Yb) [ft]	(Xc, Yc) [ft]	Fs	STATUS
At toe elevation	0.00	110.30 941.80	245.10 941.80	425.94 1054.80	2.36	Minimum on Edge
Reinf. Layer #1	0.00	110.30 941.80	210.49 941.80	406.40 1054.91	1.87	Minimum on Edge
Reinf. Layer #2	1.50	111.80 943.30	211.99 943.30	405.31 1054.91	1.90	Minimum on Edge
Reinf. Layer #3	3.00	113.29 944.80	213.49 944.80	404.23 1054.92	1.93	Minimum on Edge
Reinf. Layer #4	4.50	114.79 946.30	214.99 946.30	403.14 1054.93	1.96	Minimum on Edge
Reinf. Layer #5	6.00	116.29 947.80	216.49 947.80	402.05 1054.93	1.99	Minimum on Edge
Reinf. Layer #6	7.50	117.78 949.30	217.99 949.30	400.96 1054.94	2.04	Minimum on Edge
Reinf. Layer #7	9.00	119.28 950.80	219.49 950.80	399.87 1054.95	2.07	Minimum on Edge
Reinf. Layer #8	10.50	120.78 952.30	238.49 952.30	416.12 1054.85	1.96	Minimum on Edge
Reinf. Layer #9	12.00	122.27 953.80	239.99 953.80	415.03 1054.86	2.01	Minimum on Edge
Reinf. Layer #10	13.50	123.77 955.30	241.49 955.30	413.95 1054.87	2.05	Minimum on Edge
Reinf. Layer #11	15.00	125.27 956.80	242.99 956.80	412.86 1054.87	2.13	Minimum on Edge
Reinf. Layer #12	16.50	126.76 958.30	244.49 958.30	411.77 1054.88	2.19	Minimum on Edge
Reinf. Layer #13	18.00	128.26 959.80	245.99 959.80	410.68 1054.89	2.23	Minimum on Edge
Reinf. Layer #14	19.50	129.76 961.30	247.49 961.30	409.59 1054.89	2.26	Minimum on Edge
Reinf. Layer #15	21.00	131.25 962.80	248.99 962.80	408.51 1054.90	2.30	Minimum on Edge
Reinf. Layer #16	22.50	132.75 964.30	250.49 964.30	407.42 1054.90	2.37	Minimum on Edge
Reinf. Layer #17	24.00	134.25 965.80	269.49 965.80	417.69 1054.85	2.28	Minimum on Edge
Reinf. Layer #18	25.50	135.74 967.30	270.99 967.30	422.58 1054.82	2.33	Minimum on Edge
Reinf. Layer #19	27.00	137.24 968.80	272.49 968.80	421.49 1054.83	2.38	Minimum on Edge
Reinf. Layer #20	28.50	138.74 970.30	273.99 970.30	420.40 1054.83	2.45	Minimum on Edge
Reinf. Layer #21	30.00	140.23 971.80	275.49 971.80	419.31 1054.84	2.46	Minimum on Edge
Reinf. Layer #22	31.50	141.73 973.30	276.99 973.30	418.23 1054.84	2.51	Minimum on Edge
Reinf. Layer #23	33.00	143.23 974.80	278.49 974.80	417.14 1054.85	2.55	Minimum on Edge
Reinf. Layer #24	34.50	144.72 976.30	279.99 976.30	416.05 1054.86	2.59	Minimum on Edge
Reinf. Layer #25	36.00	146.22 977.80	281.39 977.80	409.69 1054.89	2.63	Minimum on Edge
Reinf. Layer #26	37.50	147.72 979.30	282.89 979.30	408.70 1054.90	2.69	Minimum on Edge
Reinf. Layer #27	39.00	149.22 980.80	283.39 980.80	406.72 1054.91	2.72	Minimum on Edge
Reinf. Layer #28	40.50	150.71 982.30	283.89 982.30	404.75 1054.92	2.75	Minimum on Edge
Reinf. Layer #29	42.00	152.21 983.80	284.39 983.80	402.77 1054.93	2.78	Minimum on Edge
Reinf. Layer #30	43.50	153.71 985.30	284.89 985.30	400.79 1054.94	2.81	Minimum on Edge
Reinf. Layer #31	45.00	155.20 986.80	285.39 986.80	403.39 1054.93	2.84	Minimum on Edge
Reinf. Layer #32	46.50	156.70 988.30	285.89 988.30	401.31 1054.94	2.88	Minimum on Edge
Reinf. Layer #33	48.00	158.20 989.80	286.39 989.80	399.23 1054.95	2.91	Minimum on Edge
Reinf. Layer #34	49.50	159.69 991.30	286.89 991.30	397.15 1054.96	2.98	Minimum on Edge
Reinf. Layer #35	51.00	161.19 992.80	287.39 992.80	395.07 1054.97	3.02	Minimum on Edge
Reinf. Layer #36	52.50	162.69 994.30	287.89 994.30	393.00 1054.98	3.05	Minimum on Edge
Reinf. Layer #37	54.00	164.18 995.80	288.39 995.80	390.92 1054.99	3.10	Minimum on Edge
Reinf. Layer #38	55.50	165.68 997.30	288.89 997.30	388.81 1054.99	3.14	Minimum on Edge

Note: In the 'Status' column, OK means the critical two part-wedge was identified within the specified search domain. 'Minimum on Edge' means the critical result corresponds to a minimum on the edge of the search domain; i.e., either on X1 or X2 or the internally preset limits on Xc.

RESULTS OF TRANSLATIONAL ANALYSIS (continues)

Critical two-part wedge along each interface:

Interface	Height Relative to Toe [ft]	(Xa, Ya) [ft]	(Xb, Yb) [ft]	(Xc, Yc) [ft]	Fs	STATUS		
Reinf. Layer #39	57.00	167.18	998.80	289.39	998.80	386.67 1054.96	3.18	Minimum on Edge
Reinf. Layer #40	58.50	168.67	1000.30	289.89	1000.30	384.53 1054.94	3.23	Minimum on Edge
Reinf. Layer #41	60.00	170.17	1001.80	290.39	1001.80	382.39 1054.91	3.28	Minimum on Edge
Reinf. Layer #42	61.50	171.67	1003.30	290.89	1003.30	380.25 1054.89	3.36	Minimum on Edge
Reinf. Layer #43	63.00	173.16	1004.80	291.39	1004.80	378.11 1054.87	3.42	Minimum on Edge
Reinf. Layer #44	64.50	174.66	1006.30	291.89	1006.30	375.97 1054.84	3.48	Minimum on Edge
Reinf. Layer #45	66.00	176.16	1007.80	292.39	1007.80	373.83 1054.82	3.54	Minimum on Edge
Reinf. Layer #46	67.50	177.65	1009.30	292.89	1009.30	371.69 1054.79	3.61	Minimum on Edge
Reinf. Layer #47	69.00	179.15	1010.80	293.39	1010.80	369.55 1054.77	3.68	Minimum on Edge
Reinf. Layer #48	70.50	110.30	941.80	110.30	941.80	110.30	94 1000033.30	No convergence
Reinf. Layer #49	72.00	110.30	941.80	110.30	941.80	110.30	94 1000033.30	No convergence
Reinf. Layer #50	73.50	110.30	941.80	110.30	941.80	110.30	94 1000033.30	No convergence
Reinf. Layer #51	75.00	110.30	941.80	110.30	941.80	110.30	94 1000033.30	No convergence
Reinf. Layer #52	76.50	110.30	941.80	110.30	941.80	110.30	94 1000033.30	No convergence
Reinf. Layer #53	78.00	110.30	941.80	110.30	941.80	110.30	94 1000033.30	No convergence
Reinf. Layer #54	79.50	110.30	941.80	110.30	941.80	110.30	94 1000033.30	No convergence
Reinf. Layer #55	81.00	110.30	941.80	110.30	941.80	110.30	94 1000033.30	No convergence
Reinf. Layer #56	82.50	110.30	941.80	110.30	941.80	110.30	94 1000033.30	No convergence
Reinf. Layer #57	84.00	110.30	941.80	110.30	941.80	110.30	94 1000033.30	No convergence
Reinf. Layer #58	85.50	110.30	941.80	110.30	941.80	110.30	94 1000033.30	No convergence
Reinf. Layer #59	87.00	110.30	941.80	110.30	941.80	110.30	94 1000033.30	No convergence
Reinf. Layer #60	88.50	110.30	941.80	110.30	941.80	110.30	94 1000033.30	No convergence
Reinf. Layer #61	90.00	110.30	941.80	110.30	941.80	110.30	94 1000033.30	No convergence
Reinf. Layer #62	91.50	110.30	941.80	110.30	941.80	110.30	94 1000033.30	No convergence
Reinf. Layer #63	93.00	110.30	941.80	110.30	941.80	110.30	94 1000033.30	No convergence
Reinf. Layer #64	94.50	110.30	941.80	110.30	941.80	110.30	94 1000033.30	No convergence
Reinf. Layer #65	96.00	110.30	941.80	110.30	941.80	110.30	94 1000033.30	No convergence
Reinf. Layer #66	97.50	110.30	941.80	110.30	941.80	110.30	94 1000033.30	No convergence

Note: In the 'Status' column, OK means the critical two part-wedge was identified within the specified search domain. 'Minimum on Edge' means the critical result corresponds to a minimum on the edge of the search domain; i.e., either on X1 or X2 or the internally preset limits on Xc.

CRITICAL RESULTS OF ROTATIONAL AND TRANSLATIONAL STABILITY ANALYSES

Rotational (Circular Arc; Bishop) Stability Analysis

Minimum Factor of Safety = 1.75

Critical Circle: $X_c = 169.31$ [ft], $Y_c = 1244.70$ [ft], $R = 300.65$ [ft]. (Number of slices used = 68)

Translational (2-Part Wedge; Spencer), Direct Sliding, Stability Analysis

Minimum Factor of Safety = 1.87

Critical Two-Part Wedge: ($X_a = 110.30$, $Y_a = 941.80$) [ft]

($X_b = 210.49$, $Y_b = 941.80$) [ft]

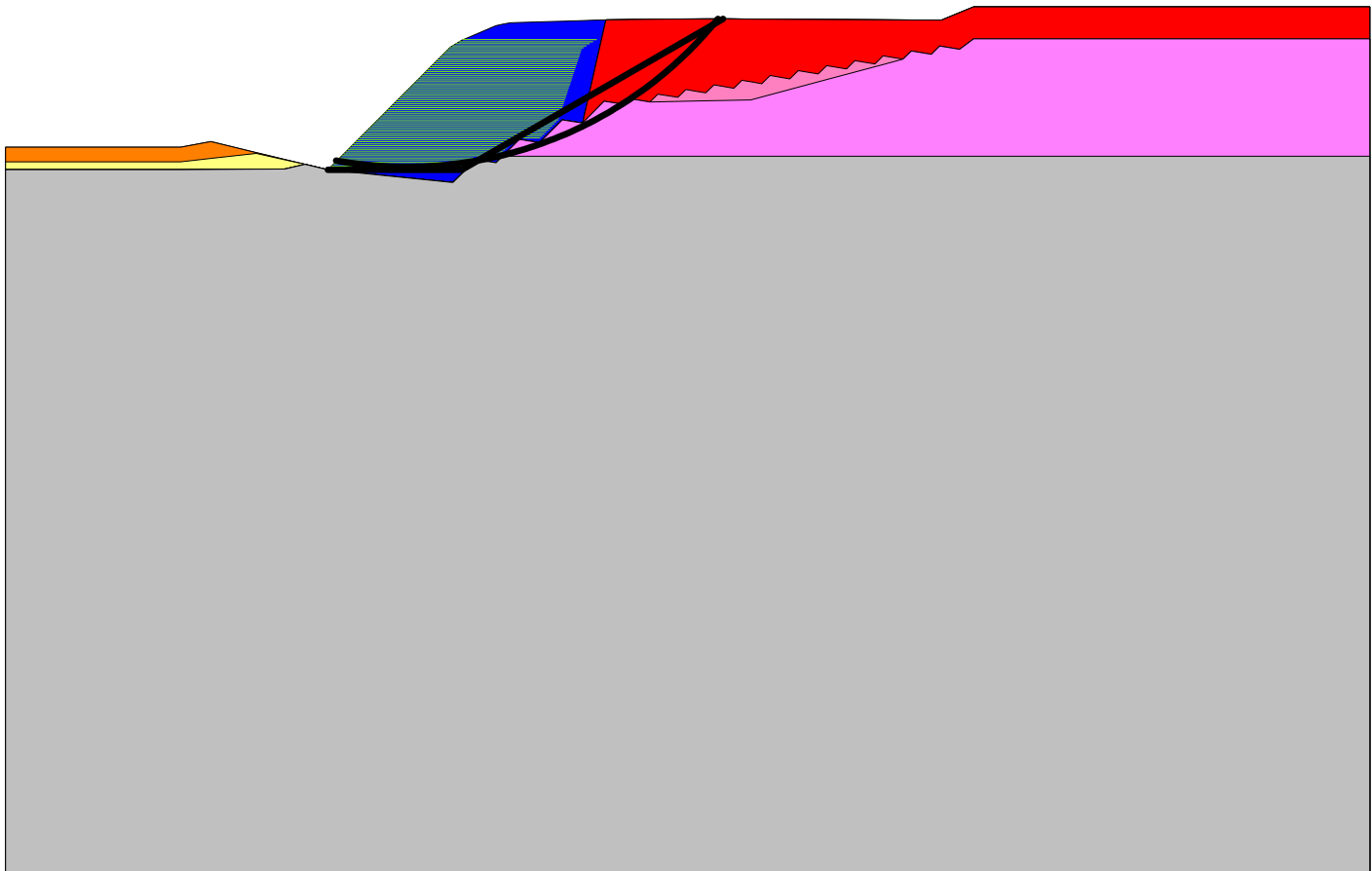
($X_c = 406.40$, $Y_c = 1054.91$) [ft]

(Number of slices used = 30)

Interslice resultant force inclination = 23.11 [degrees]

Three-Part Wedge Stability Analysis

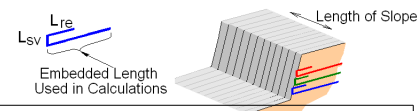
NOT CONDUCTED
REINFORCEMENT LAYOUT: DRAWING



SCALE:

0 123 246 [ft]



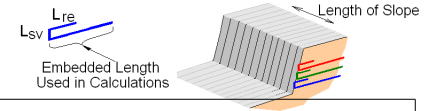


REINFORCEMENT LAYOUT: TABULATED DATA & QUANTITIES

Layer #	Reinf. Type #	Geosynthetic Designated Name	Height Relative to Toe [ft]	Embedded Length [ft]	Covergae Ratio, Rc	(X, Y) front [ft]	(X, Y) rear [ft]	Lsv * [ft]	Lre [ft]		
1	1	20XT	0.00	100.00	1.00	110.30	941.80	210.30	941.80	0.00	0.00
2	1	20XT	1.50	100.00	1.00	111.80	943.30	211.80	943.30	0.00	0.00
3	1	20XT	3.00	100.00	1.00	113.29	944.80	213.29	944.80	0.00	0.00
4	1	20XT	4.50	100.00	1.00	114.79	946.30	214.79	946.30	0.00	0.00
5	1	20XT	6.00	100.00	1.00	116.29	947.80	216.29	947.80	0.00	0.00
6	1	20XT	7.50	100.00	1.00	117.78	949.30	217.78	949.30	0.00	0.00
7	1	20XT	9.00	100.00	1.00	119.28	950.80	219.28	950.80	0.00	0.00
8	1	20XT	10.50	117.50	1.00	120.78	952.30	238.28	952.30	0.00	0.00
9	1	20XT	12.00	117.50	1.00	122.27	953.80	239.77	953.80	0.00	0.00
10	1	20XT	13.50	117.50	1.00	123.77	955.30	241.27	955.30	0.00	0.00
11	1	20XT	15.00	117.50	1.00	125.27	956.80	242.77	956.80	0.00	0.00
12	1	20XT	16.50	117.50	1.00	126.76	958.30	244.26	958.30	0.00	0.00
13	1	20XT	18.00	117.50	1.00	128.26	959.80	245.76	959.80	0.00	0.00
14	1	20XT	19.50	117.50	1.00	129.76	961.30	247.26	961.30	0.00	0.00
15	1	20XT	21.00	117.50	1.00	131.25	962.80	248.75	962.80	0.00	0.00
16	1	20XT	22.50	117.50	1.00	132.75	964.30	250.25	964.30	0.00	0.00
17	1	20XT	24.00	135.00	1.00	134.25	965.80	269.25	965.80	0.00	0.00
18	1	20XT	25.50	135.00	1.00	135.74	967.30	270.74	967.30	0.00	0.00
19	1	20XT	27.00	135.00	1.00	137.24	968.80	272.24	968.80	0.00	0.00
20	1	20XT	28.50	135.00	1.00	138.74	970.30	273.74	970.30	0.00	0.00
21	1	20XT	30.00	135.00	1.00	140.23	971.80	275.23	971.80	0.00	0.00
22	1	20XT	31.50	135.00	1.00	141.73	973.30	276.73	973.30	0.00	0.00
23	1	20XT	33.00	135.00	1.00	143.23	974.80	278.23	974.80	0.00	0.00
24	1	20XT	34.50	135.00	1.00	144.72	976.30	279.72	976.30	0.00	0.00
25	1	20XT	36.00	135.00	1.00	146.22	977.80	281.22	977.80	0.00	0.00
26	1	20XT	37.50	135.00	1.00	147.72	979.30	282.72	979.30	0.00	0.00
27	1	20XT	39.00	134.00	1.00	149.22	980.80	283.22	980.80	0.00	0.00
28	1	20XT	40.50	133.00	1.00	150.71	982.30	283.71	982.30	0.00	0.00
29	1	20XT	42.00	132.00	1.00	152.21	983.80	284.21	983.80	0.00	0.00
30	1	20XT	43.50	131.00	1.00	153.71	985.30	284.71	985.30	0.00	0.00
31	1	20XT	45.00	130.00	1.00	155.20	986.80	285.20	986.80	0.00	0.00
32	1	20XT	46.50	129.00	1.00	156.70	988.30	285.70	988.30	0.00	0.00
33	1	20XT	48.00	128.00	1.00	158.20	989.80	286.20	989.80	0.00	0.00
34	1	20XT	49.50	127.00	1.00	159.69	991.30	286.69	991.30	0.00	0.00
35	1	20XT	51.00	126.00	1.00	161.19	992.80	287.19	992.80	0.00	0.00
36	1	20XT	52.50	125.00	1.00	162.69	994.30	287.69	994.30	0.00	0.00
37	1	20XT	54.00	124.00	1.00	164.18	995.80	288.18	995.80	0.00	0.00
38	1	20XT	55.50	123.00	1.00	165.68	997.30	288.68	997.30	0.00	0.00
39	1	20XT	57.00	122.00	1.00	167.18	998.80	289.18	998.80	0.00	0.00
40	1	20XT	58.50	121.00	1.00	168.67	1000.30	289.67	1000.30	0.00	0.00
41	1	20XT	60.00	120.00	1.00	170.17	1001.80	290.17	1001.80	0.00	0.00
42	1	20XT	61.50	119.00	1.00	171.67	1003.30	290.67	1003.30	0.00	0.00
43	1	20XT	63.00	118.00	1.00	173.16	1004.80	291.16	1004.80	0.00	0.00
44	1	20XT	64.50	117.00	1.00	174.66	1006.30	291.66	1006.30	0.00	0.00
45	1	20XT	66.00	116.00	1.00	176.16	1007.80	292.16	1007.80	0.00	0.00
46	1	20XT	67.50	115.00	1.00	177.65	1009.30	292.65	1009.30	0.00	0.00
47	1	20XT	69.00	114.00	1.00	179.15	1010.80	293.15	1010.80	0.00	0.00
48	1	20XT	70.50	113.00	1.00	180.65	1012.30	293.65	1012.30	0.00	0.00
49	1	20XT	72.00	112.00	1.00	182.14	1013.80	294.14	1013.80	0.00	0.00
50	1	20XT	73.50	111.00	1.00	183.64	1015.30	294.64	1015.30	0.00	0.00

* Vertical distance between layers.

REINFORCEMENT LAYOUT: TABULATED DATA & QUANTITIES



Layer #	Reinf. Type #	Geosynthetic Designated Name	Height Relative to Toe [ft]	Embedded Length [ft]	Covergae Ratio, Rc	(X, Y) front [ft]	(X, Y) rear [ft]	Lsv * [ft]	Lre [ft]
51	1	20XT	75.00	110.00	1.00	185.14	1016.80	0.00	0.00
52	1	20XT	76.50	109.00	1.00	186.63	1018.30	0.00	0.00
53	1	20XT	78.00	108.00	1.00	188.13	1019.80	0.00	0.00
54	1	20XT	79.50	107.00	1.00	189.63	1021.30	0.00	0.00
55	1	20XT	81.00	106.00	1.00	191.12	1022.80	0.00	0.00
56	1	20XT	82.50	105.00	1.00	192.62	1024.30	0.00	0.00
57	1	20XT	84.00	104.00	1.00	194.12	1025.80	0.00	0.00
58	1	20XT	85.50	103.00	1.00	195.61	1027.30	0.00	0.00
59	1	20XT	87.00	102.00	1.00	197.11	1028.80	0.00	0.00
60	1	20XT	88.50	101.00	1.00	198.61	1030.30	0.00	0.00
61	1	20XT	90.00	100.00	1.00	200.10	1031.80	0.00	0.00
62	1	20XT	91.50	100.00	1.00	201.60	1033.30	0.00	0.00
63	1	20XT	93.00	100.00	1.00	203.74	1034.80	0.00	0.00
64	1	20XT	94.50	100.00	1.00	206.20	1036.30	0.00	0.00
65	1	20XT	96.00	100.00	1.00	208.66	1037.80	0.00	0.00
66	1	20XT	97.50	100.00	1.00	211.47	1039.30	0.00	0.00

* Vertical distance between layers.

QUANTITIES

Reinf. Type #	Designated Name	Coverage Ratio	Area of reinforcement [ft ²] / length of slope [ft]
1	20XT	1.00	7702.50



MiraSlope® Pro

Cross-Section RE-RE

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PROJECT IDENTIFICATION

Title: Cross-Section RE-RE
Project Number: 16123A -
Client: QVSD
Designer: MAW

Description:

Company's information:

Name: GBBE
Street: 180 Bilmar Drive Suite 4
Pittsburgh, PA 15205
Telephone #: 412-922-4440
E-Mail:

Original file path and name: C:\Users\A \Desktop\16123A\Miraslope\Cross-Section RE-RE.MIRp
Original date and time of creating this file: Wed Mar 06 10:10:52 2024

PROGRAM MODE: Analysis of a General Slope using GEOSYNTHETIC as reinforcing material.

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INPUT DATA (EXCLUDING REINFORCEMENT LAYOUT)

SOIL DATA

===== Soil Layer #: =====	Unit weight, γ [lb/ft ³]	Internal angle of friction, ϕ [deg.]	Cohesion, c [lb/ft ²]
1.....Eng. Fill (Sand).....	135.0	33.0	0.0
2.....Colluvium.....	125.0	14.0	0.0
3.....Eng. Fill (Redbed).....	135.0	20.0	0.0
4.....Bedrock (Upper).....	145.0	45.0	500.0
5.....In-Place Redbeds.....	140.0	20.0	200.0
6.....Bedrock (Lower).....	145.0	45.0	500.0

REINFORCEMENT

Reinforcement	Ultimate Strength, Tult [lb/ft]	Reduction Factor for Installation Damage, RFid	Reduction Factor for Durability, RFd	Reduction Factor for Creep, RFC	Coverage Ratio, Rc
Type # Geosynthetic Designated Name					
1 20XT	16000	1.10	1.10	1.44	1.00

Interaction Parameters	== Direct Sliding ==		==== Pullout =====	
Type # Geosynthetic Designated Name	Cds-phi	Cds-c	Ci	Alpha
1 20XT	0.80	0.00	0.80	0.80

Relative Orientation of Reinforcement Force, ROR = 0.00. Assigned Factor of Safety to resist pullout, Fs-po = 1.50
 Design method for Global Stability: Comprehensive Bishop.

WATER

Water is not present

SEISMICITY

Not Applicable

DRAWING OF SPECIFIED GEOMETRY - GENERAL - Quick Input

- Problem geometry is defined along sections selected by user at x,y coordinates.
- X1,Y1 represents the coordinates of soil surface. X2,Y2 represent the coordinates of the end of soil layer 1 and start of soil layer 2, and so on.

GEOMETRY

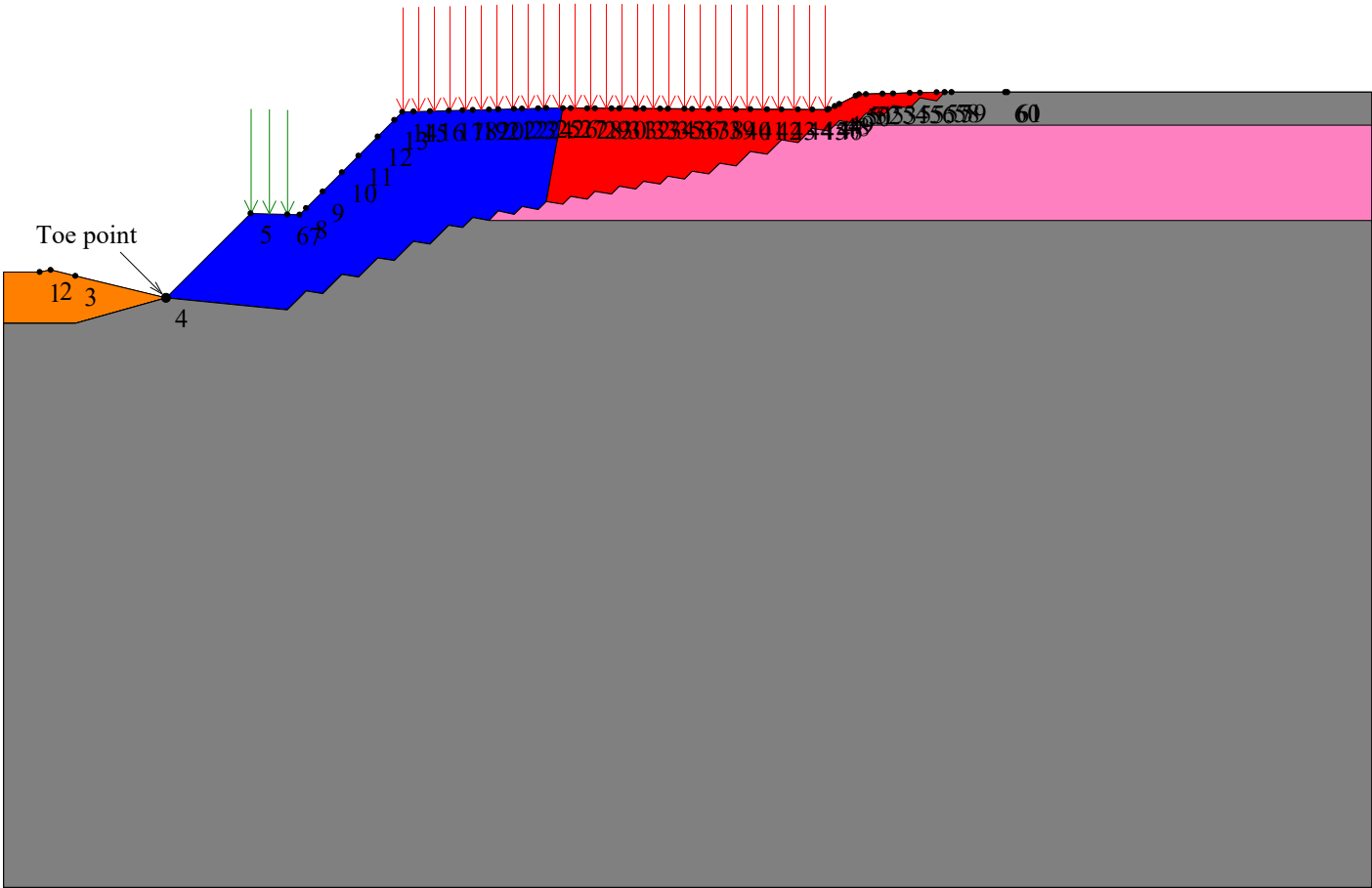
Soil profile contains 6 layers (see details in next page)

UNIFORM SURCHARGE

Load Q1 = 250.00 [lb/ft²] inclined from verical at 0.00 degrees, starts at X1s = 192.00 and ends at X1e = 236.00 [ft].
 Load Q2 = 250.00 [lb/ft²] inclined from verical at 0.00 degrees, starts at X2s = 330.00 and ends at X2e = 715.00 [ft].
 Surcharge load, Q3.....None

STRIP LOAD

.....None.....



SCALE:

1"=23'(ft)

TABULATED DETAILS OF GENERAL SPECIFIED GEOMETRY

Soil profile contains 6 layers. Coordinates in [ft.]

	#	Xi	Yi		#	Xi	Yi
 Top of Layer 1	1	0.00	906.60		51	354.40	932.00
	2	10.00	908.50		52	371.50	949.00
	3	114.80	883.10		53	384.00	947.00
	4	191.60	959.80		54	393.20	956.00
	5	235.90	958.60		55	408.00	953.40
	6	329.30	1052.00		56	416.50	962.00
	7	460.00	1055.50		57	430.70	958.80
	8	715.30	1054.00		58	438.00	966.00
	9	743.90	1068.00		59	452.70	963.30
	10	821.80	1070.00		60	460.00	970.60
	11	828.00	1070.00		61	460.00	1055.50
 Top of Layer 2	12	878.60	1070.00		62	715.30	1054.00
	13	0.00	906.60		63	743.90	1068.00
	14	10.00	908.50		64	821.80	1070.00
	15	114.80	883.10		65	828.00	1070.00
	16	224.80	872.10		66	876.60	1070.00
	17	242.00	889.30	 Top of Layer 4	67	0.00	860.00
	18	257.00	886.90		68	32.40	860.00
	19	274.50	904.40		69	114.80	883.10
	20	289.50	901.90		70	224.80	872.10
	21	307.00	919.40		71	242.00	889.30
	22	322.00	917.00		72	257.00	886.90
	23	339.40	934.40		73	274.50	904.40
	24	354.40	932.00		74	289.50	901.90
	25	371.50	949.00		75	307.00	919.40
	26	384.00	947.00		76	322.00	917.00
	27	393.20	956.00		77	339.40	934.40
	28	408.00	953.40		78	354.40	932.00
	29	416.50	962.00		79	371.50	949.00
	30	430.70	958.80		80	384.00	947.00
	31	438.00	966.00		81	393.20	956.00
	32	452.70	963.30		82	408.00	953.40
	33	460.00	970.60		83	416.50	962.00
	34	460.00	1055.50		84	430.70	958.80
 Top of Layer 3	35	715.30	1054.00		85	438.00	966.00
	36	743.90	1068.00		86	452.70	963.30
	37	821.80	1070.00		87	460.00	970.60
	38	828.00	1070.00		88	475.10	968.10
	39	876.60	1070.00		89	482.20	975.20
	40	0.00	860.00		90	497.20	972.70
	41	32.40	860.00		91	504.20	979.80
	42	114.80	883.10		92	519.20	977.30
	43	224.80	872.10		93	526.30	984.50
	44	242.00	889.30		94	541.30	981.90
	45	257.00	886.90		95	548.40	988.90
	46	274.50	904.40		96	563.40	986.40
	47	289.50	901.90		97	570.50	993.50
	48	307.00	919.40		98	585.50	991.00
	49	322.00	917.00		99	592.50	998.10
	50	339.40	934.40		100	607.50	995.60
					101	617.50	1005.40
					102	632.40	1003.00
					103	645.40	1016.00
					104	660.50	1013.50
					105	673.60	1026.60
					106	688.50	1024.10
					107	701.60	1037.10
					108	716.60	1034.70
					109	722.00	1040.00

TABULATED DETAILS OF SPECIFIED GEOMETRY

Soil profile contains 6 layers. Coordinates in [ft.]

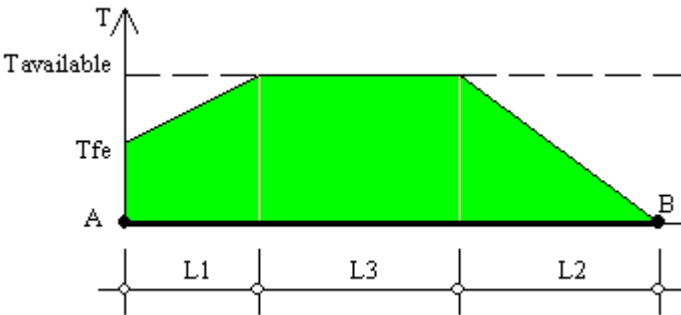
#	X	Y1	Y2	Y3	Y4	Y5	Y6
1	0.00	906.60	906.60	860.00	860.00	860.00	860.00
2	10.00	908.50	908.50	860.00	860.00	860.00	860.00
3	32.40	903.07	903.07	860.00	860.00	860.00	860.00
4	114.80	883.10	883.10	883.10	883.10	883.10	883.10
5	191.60	959.80	875.42	875.42	875.42	875.42	875.42
6	224.80	958.90	872.10	872.10	872.10	872.10	872.10
7	235.90	958.60	883.20	883.20	883.20	883.20	883.20
8	242.00	964.70	889.30	889.30	889.30	889.30	889.30
9	257.00	979.70	886.90	886.90	886.90	886.90	886.90
10	274.50	997.20	904.40	904.40	904.40	904.40	904.40
11	289.50	1012.20	901.90	901.90	901.90	901.90	901.90
12	307.00	1029.70	919.40	919.40	919.40	919.40	919.40
13	322.00	1044.70	917.00	917.00	917.00	917.00	917.00
14	329.30	1052.00	924.30	924.30	924.30	924.30	924.30
15	339.40	1052.27	934.40	934.40	934.40	934.40	934.40
16	354.40	1052.67	932.00	932.00	932.00	932.00	932.00
17	371.50	1053.13	949.00	949.00	949.00	949.00	949.00
18	384.00	1053.46	947.00	947.00	947.00	947.00	947.00
19	393.20	1053.71	956.00	956.00	956.00	956.00	956.00
20	408.00	1054.11	953.40	953.40	953.40	953.40	953.40
21	416.50	1054.34	962.00	962.00	962.00	962.00	953.40
22	430.70	1054.72	958.80	958.80	958.80	958.80	953.40
23	438.00	1054.91	966.00	966.00	966.00	966.00	953.40
24	452.70	1055.30	963.30	963.30	963.30	963.30	953.40
25	460.00	1055.50	970.60	970.60	970.60	970.60	953.40
26	475.10	1055.41	1055.41	1055.41	968.10	968.10	953.40
27	482.20	1055.37	1055.37	1055.37	975.20	975.20	953.40
28	497.20	1055.28	1055.28	1055.28	972.70	972.70	953.40
29	504.20	1055.24	1055.24	1055.24	979.80	979.80	953.40
30	519.20	1055.15	1055.15	1055.15	977.30	977.30	953.40
31	526.30	1055.11	1055.11	1055.11	984.50	984.50	953.40
32	541.30	1055.02	1055.02	1055.02	981.90	981.90	953.40
33	548.40	1054.98	1054.98	1054.98	988.90	988.90	953.40
34	563.40	1054.89	1054.89	1054.89	986.40	986.40	953.40
35	570.50	1054.85	1054.85	1054.85	993.50	993.50	953.40
36	585.50	1054.76	1054.76	1054.76	991.00	991.00	953.40
37	592.50	1054.72	1054.72	1054.72	998.10	998.10	953.40
38	607.50	1054.63	1054.63	1054.63	995.60	995.60	953.40
39	617.50	1054.57	1054.57	1054.57	1005.40	1005.40	953.40
40	632.40	1054.49	1054.49	1054.49	1003.00	1003.00	953.40
41	645.40	1054.41	1054.41	1054.41	1016.00	1016.00	953.40
42	660.50	1054.32	1054.32	1054.32	1013.50	1013.50	953.40
43	673.60	1054.25	1054.25	1054.25	1026.60	1026.60	953.40
44	688.50	1054.16	1054.16	1054.16	1024.10	1024.10	953.40
45	701.60	1054.08	1054.08	1054.08	1037.10	1037.10	953.40
46	715.30	1054.00	1054.00	1054.00	1034.91	1034.91	953.40
47	716.60	1054.64	1054.64	1054.64	1034.70	1034.70	953.40
48	722.00	1057.28	1057.28	1057.28	1040.00	1040.00	953.40
49	726.00	1059.24	1059.24	1059.24	1044.00	1040.00	953.40
50	741.00	1066.58	1066.58	1066.58	1041.50	1040.00	953.40

TABULATED DETAILS OF SPECIFIED GEOMETRY (Continues)

Soil profile contains 6 layers. Coordinates in [ft.]

#	X	Y1	Y2	Y3	Y4	Y5	Y6
51	743.90	1068.00	1068.00	1068.00	1044.43	1040.00	953.40
52	750.30	1068.16	1068.16	1068.16	1050.90	1040.00	953.40
53	765.30	1068.55	1068.55	1068.55	1048.40	1040.00	953.40
54	774.90	1068.80	1068.80	1068.80	1057.90	1040.00	953.40
55	790.00	1069.18	1069.18	1069.18	1055.50	1040.00	953.40
56	799.30	1069.42	1069.42	1069.42	1064.80	1040.00	953.40
57	814.40	1069.81	1069.81	1069.81	1062.00	1040.00	953.40
58	821.80	1070.00	1070.00	1070.00	1070.00	1040.00	953.40
59	828.00	1070.00	1070.00	1070.00	1070.00	1040.00	953.40
60	876.60	1070.00	1070.00	1070.00	1070.00	1040.00	953.40
61	878.60	1070.00	1070.00	1070.00	1070.00	1040.00	953.40

DISTRIBUTION OF AVAILABLE STRENGTH ALONG EACH REINFORCEMENT LAYER



A = Front-end of reinforcement (at face of slope)
B = Rear-end of reinforcement
AB = $L1 + L2 + L3$ = Embedded length of reinforcement

Tavailable = Long-term strength of reinforcement
Tfe = Available front-end strength (e.g., connection to facing)

L1 = Front-end 'pullout' length
L2 = Rear-end pullout length
Tavailable prevails along L3

Factor of safety on resistance to pullout on either end of reinforcement, $Fs-po = 1.50$

Reinforcement Layer #	Designated Name	Height Relative to Toe [ft]	L [ft]	L1 [ft]	L2 [ft]	L3 [ft]	Tfe [lb/ft]	Tavailable [lb/ft]
1	20XT	1.50	120.00	0.00	1.67	118.33	9182.74	9182.74
2	20XT	3.00	120.00	0.00	1.67	118.33	9182.74	9182.74
3	20XT	4.50	120.00	0.00	1.67	118.33	9182.74	9182.74
4	20XT	6.00	120.00	0.00	1.67	118.33	9182.74	9182.74
5	20XT	7.50	135.00	0.00	1.41	133.59	9182.74	9182.74
6	20XT	9.00	135.00	0.00	1.41	133.59	9182.74	9182.74
7	20XT	10.50	135.00	0.00	1.41	133.59	9182.74	9182.74
8	20XT	12.00	135.00	0.00	1.41	133.59	9182.74	9182.74
9	20XT	13.50	135.00	0.00	1.41	133.59	9182.74	9182.74
10	20XT	15.00	135.00	0.00	1.41	133.59	9182.74	9182.74
11	20XT	16.50	135.00	0.00	1.41	133.59	9182.74	9182.74
12	20XT	18.00	135.00	0.00	1.41	133.59	9182.74	9182.74
13	20XT	19.50	135.00	0.00	1.41	133.59	9182.74	9182.74
14	20XT	21.00	135.00	0.00	1.41	133.59	9182.74	9182.74
15	20XT	22.50	153.00	0.00	1.18	151.82	9182.74	9182.74
16	20XT	24.00	153.00	0.00	1.18	151.82	9182.74	9182.74
17	20XT	25.50	153.00	0.00	1.18	151.82	9182.74	9182.74
18	20XT	27.00	153.00	0.00	1.18	151.82	9182.74	9182.74
19	20XT	28.50	153.00	0.00	1.18	151.82	9182.74	9182.74
20	20XT	30.00	153.00	0.00	1.18	151.82	9182.74	9182.74
21	20XT	31.50	153.00	0.00	1.18	151.82	9182.74	9182.74
22	20XT	33.00	153.00	0.00	1.18	151.82	9182.74	9182.74
23	20XT	34.50	153.00	0.00	1.18	151.82	9182.74	9182.74
24	20XT	36.00	153.00	0.00	1.18	151.82	9182.74	9182.74
25	20XT	37.50	170.30	0.00	1.02	169.28	9182.74	9182.74
26	20XT	39.00	170.30	0.00	1.02	169.28	9182.74	9182.74
27	20XT	40.50	170.30	0.00	1.02	169.28	9182.74	9182.74
28	20XT	42.00	170.30	0.00	1.02	169.28	9182.74	9182.74
29	20XT	43.50	170.30	0.00	1.02	169.28	9182.74	9182.74
30	20XT	45.00	170.30	0.00	1.02	169.28	9182.74	9182.74
31	20XT	46.50	170.30	0.00	1.02	169.28	9182.74	9182.74
32	20XT	48.00	170.30	0.00	1.02	169.28	9182.74	9182.74
33	20XT	49.50	170.30	0.00	1.05	169.25	9182.74	9182.74
34	20XT	51.00	170.30	0.00	1.05	169.25	9182.74	9182.74
35	20XT	52.50	187.30	0.00	1.05	186.25	9182.74	9182.74

DISTRIBUTION OF AVAILABLE STRENGTH ALONG EACH REINFORCEMENT LAYER (continues)

Factor of safety on resistance to pullout on either end of reinforcement, $F_{s-po} = 1.50$

Reinforcement Layer #	Designated Name	Height Relative to Toe [ft]	L [ft]	L1 [ft]	L2 [ft]	L3 [ft]	Tfe [lb/ft]	Tavailable [lb/ft]
36	20XT	54.00	187.30	0.00	1.08	186.22	9182.74	9182.74
37	20XT	55.50	187.30	0.00	1.08	186.22	9182.74	9182.74
38	20XT	57.00	187.30	0.00	1.12	186.18	9182.74	9182.74
39	20XT	58.50	187.30	0.00	1.12	186.18	9182.74	9182.74
40	20XT	60.00	187.30	0.00	1.15	186.15	9182.74	9182.74
41	20XT	61.50	187.30	0.00	1.15	186.15	9182.74	9182.74
42	20XT	63.00	187.30	0.00	1.18	186.12	9182.74	9182.74
43	20XT	64.50	187.30	0.00	1.18	186.12	9182.74	9182.74
44	20XT	66.00	187.30	0.00	1.18	186.12	9182.74	9182.74
45	20XT	67.50	202.30	0.00	1.21	201.09	9182.74	9182.74
46	20XT	69.00	202.30	0.00	1.21	201.09	9182.74	9182.74
47	20XT	70.50	202.30	0.00	1.25	201.05	9182.74	9182.74
48	20XT	72.00	202.30	0.00	1.25	201.05	9182.74	9182.74
49	20XT	73.50	202.30	0.00	1.28	201.02	9182.74	9182.74
50	20XT	78.00	120.00	0.00	1.35	118.65	9182.74	9182.74
51	20XT	79.50	120.00	0.00	1.38	118.62	9182.74	9182.74
52	20XT	81.00	120.00	0.00	1.41	118.59	9182.74	9182.74
53	20XT	82.50	120.00	0.00	1.41	118.59	9182.74	9182.74
54	20XT	84.00	120.00	0.00	1.44	118.56	9182.74	9182.74
55	20XT	85.50	120.00	0.00	1.48	118.52	9182.74	9182.74
56	20XT	87.00	120.00	0.00	1.51	118.49	9182.74	9182.74
57	20XT	88.50	120.00	0.00	1.51	118.49	9182.74	9182.74
58	20XT	90.00	120.00	0.00	1.54	118.46	9182.74	9182.74
59	20XT	91.50	120.00	0.00	1.57	118.43	9182.74	9182.74
60	20XT	93.00	120.00	0.00	1.61	118.39	9182.74	9182.74
61	20XT	94.50	120.00	0.00	1.64	118.36	9182.74	9182.74
62	20XT	96.00	120.00	0.00	1.67	118.33	9182.74	9182.74
63	20XT	97.50	120.00	0.00	1.71	118.29	9182.74	9182.74
64	20XT	99.00	120.00	0.00	1.74	118.26	9182.74	9182.74
65	20XT	100.50	120.00	0.00	1.77	118.23	9182.74	9182.74
66	20XT	102.00	120.00	0.00	1.80	118.20	9182.74	9182.74
67	20XT	103.50	120.00	0.00	1.84	118.16	9182.74	9182.74
68	20XT	105.00	120.00	0.00	1.90	118.10	9182.74	9182.74
69	20XT	106.50	120.00	0.00	1.94	118.06	9182.74	9182.74
70	20XT	108.00	120.00	0.00	1.97	118.03	9182.74	9182.74
71	20XT	109.50	120.00	0.00	2.03	117.97	9182.74	9182.74
72	20XT	112.50	120.00	0.00	2.13	117.87	9182.74	9182.74
73	20XT	114.00	120.00	0.00	2.20	117.80	9182.74	9182.74
74	20XT	116.00	120.00	0.00	2.26	117.74	9182.74	9182.74
75	20XT	118.50	120.00	0.00	2.36	117.64	9182.74	9182.74
76	20XT	120.00	120.00	0.00	2.43	117.57	9182.74	9182.74
77	20XT	122.00	120.00	0.00	2.53	117.47	9182.74	9182.74
78	20XT	124.50	120.00	0.00	2.66	117.34	9182.74	9182.74
79	20XT	126.00	120.00	0.00	2.76	117.24	9182.74	9182.74
80	20XT	128.00	120.00	0.00	2.89	117.11	9182.74	9182.74

DISTRIBUTION OF AVAILABLE STRENGTH ALONG EACH REINFORCEMENT LAYER (continues)

Factor of safety on resistance to pullout on either end of reinforcement, $F_{s-po} = 1.50$

Reinforcement Layer #	Designated Name	Height Relative to Toe [ft]	L [ft]	L1 [ft]	L2 [ft]	L3 [ft]	Tfe [lb/ft]	Tavailable [lb/ft]
81	20XT	130.50	120.00	0.00	3.05	116.95	9182.74	9182.74
82	20XT	132.00	120.00	0.00	3.15	116.85	9182.74	9182.74
83	20XT	134.00	120.00	0.00	3.31	116.69	9182.74	9182.74
84	20XT	136.50	120.00	0.00	3.54	116.46	9182.74	9182.74
85	20XT	138.00	120.00	0.00	3.71	116.29	9182.74	9182.74
86	20XT	140.00	120.00	0.00	3.94	116.06	9182.74	9182.74
87	20XT	142.50	120.00	0.00	4.27	115.73	9182.74	9182.74
88	20XT	144.00	120.00	0.00	4.49	115.51	9182.74	9182.74
89	20XT	146.00	120.00	0.00	4.86	115.14	9182.74	9182.74
90	20XT	148.50	120.00	0.00	5.35	114.65	9182.74	9182.74
91	20XT	150.00	120.00	0.00	5.71	114.29	9182.74	9182.74
92	20XT	152.00	120.00	0.00	6.30	113.70	9182.74	9182.74
93	20XT	155.00	120.00	0.00	7.38	112.62	9182.74	9182.74
94	20XT	158.00	120.00	0.00	8.99	111.01	9182.74	9182.74
95	20XT	161.00	120.00	0.00	11.45	108.55	9182.74	9182.74
96	20XT	164.00	120.00	0.00	15.81	104.19	9182.74	9182.74
97	20XT	167.00	120.00	0.00	26.05	93.95	9182.74	9182.74

RESULTS OF ROTATIONAL STABILITY ANALYSIS

Results in the tables below represent critical circles identified between specified points on entry and exit. (Theta-exit set to 50.00 deg.)
 The most critical circle is obtained from a search considering all the combinations of input entry and exit points.

Critical circles for each entry point (considering all specified exit points)									
Entry Point #	Entry Point (X, Y) [ft]		Exit Point (X, Y) [ft]		Critical Circle (Xc, Yc, R) [ft]			Fs	STATUS
1	316.80	1039.50	60.94	896.18	147.96	1040.87	168.85	5.57	OK
2	355.12	1052.69	82.01	891.34	169.94	1054.32	185.19	3.31	
3	393.44	1053.72	126.26	895.61	204.21	1068.70	189.83	2.73	
4	431.76	1054.74	115.63	884.38	173.60	1155.30	277.05	2.18	
5	470.08	1055.44	114.61	884.47	160.24	1244.62	363.03	2.03	
6	508.40	1055.22	115.92	884.30	124.99	1399.56	515.34	2.20	
7	546.72	1054.99	115.83	884.29	91.92	1573.84	689.97	2.26	
8	585.04	1054.77	125.82	895.31	139.26	1597.58	702.40	2.45	
9	623.36	1054.54	115.61	884.26	-12.73	2109.10	1231.54	2.51	
10	661.68	1054.32	159.92	928.24	192.54	1859.96	932.29	2.77	
11	700.00	1054.09	114.47	884.11	-115.51	2769.83	1899.69	2.87	

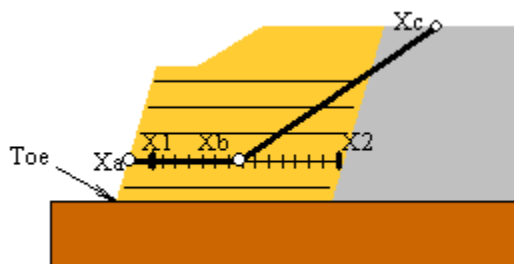
Note: In the 'Status' column, OK means the critical circle was identified within the specified search domain. 'On extreme X-entry' means that the critical result is on the edge of the search domain; a lower Fs may result if the search domain is expanded.

Results in the tables below represent critical circles identified between specified points on entry and exit. (Theta-exit set to 50.00 deg.)
 The most critical circle is obtained from a search considering all the combinations of input entry and exit points.

Critical circles for each exit point (considering all specified entry points)									
Exit Point #	Exit Point (X, Y) [ft]		Entry Point (X, Y) [ft]		Critical Circle (Xc, Yc, R) [ft]			Fs	STATUS
1	48.40	899.52	431.76	1054.74	166.16	1159.70	285.59	2.33	OK
2	60.91	896.17	431.76	1054.74	161.82	1173.13	294.76	2.33	
3	71.65	893.59	431.76	1054.74	162.78	1172.87	293.78	2.34	
4	81.75	891.24	470.08	1055.44	185.25	1187.76	314.07	2.50	
5	92.46	888.59	470.08	1055.44	182.29	1196.03	320.30	2.40	
6	104.08	885.72	431.76	1054.74	175.65	1149.13	272.95	2.35	
7	114.61	884.47	470.08	1055.44	160.24	1244.62	363.03	2.03	
8	126.45	895.38	470.08	1055.44	184.28	1220.13	329.86	2.13	
9	137.78	906.30	508.40	1055.22	188.33	1316.15	412.96	2.29	
10	148.56	917.30	470.08	1055.44	186.35	1272.60	357.30	2.31	
11	159.02	928.29	508.40	1055.22	184.81	1401.64	474.05	2.38	

Note: In the 'Status' column, OK means the critical circle was identified within the specified search domain. 'On extreme X-exit' means that the critical result is on the edge of the search domain; a lower Fs may result if the search domain is expanded.

RESULTS OF TRANSLATIONAL ANALYSIS



Results in the table below represent critical two-part wedges identified between specified starting (X1) and ending (X2) search points. Wedges along all reinforcement layers and at elevation zero are reported. The critical two-part wedge, one for each predetermined elevation, is defined by Xa, Xb and Xc where Xa is the front end of the passive wedge (slope face), Xb is where the passive wedge ends and the active one starts, and Xc is the X-ordinate at which the active wedge starts.

Critical two-part wedge along each interface:

Interface	Height Relative to Toe [ft]	(Xa, Ya) [ft]	(Xb, Yb) [ft]	(Xc, Yc) [ft]	Fs	STATUS			
At toe elevation	0.00	114.80	883.10	316.90	883.10	571.52	1054.84	2.69	Minimum on Edge
Reinf. Layer #1	1.50	116.30	884.60	236.49	884.60	509.52	1055.21	1.78	Minimum on Edge
Reinf. Layer #2	3.00	117.80	886.10	237.99	886.10	508.63	1055.21	1.79	Minimum on Edge
Reinf. Layer #3	4.50	119.31	887.60	239.49	887.60	507.74	1055.22	1.81	Minimum on Edge
Reinf. Layer #4	6.00	120.81	889.10	240.99	889.10	506.85	1055.22	1.82	Minimum on Edge
Reinf. Layer #5	7.50	122.31	890.60	257.49	890.60	492.72	1055.31	1.78	Minimum on Edge
Reinf. Layer #6	9.00	123.81	892.10	258.99	892.10	492.08	1055.31	1.79	Minimum on Edge
Reinf. Layer #7	10.50	125.31	893.60	260.49	893.60	500.17	1055.26	1.78	Minimum on Edge
Reinf. Layer #8	12.00	126.82	895.10	261.99	895.10	499.45	1055.27	1.78	Minimum on Edge
Reinf. Layer #9	13.50	128.32	896.60	263.49	896.60	498.73	1055.27	1.80	Minimum on Edge
Reinf. Layer #10	15.00	129.82	898.10	264.99	898.10	498.01	1055.28	1.81	Minimum on Edge
Reinf. Layer #11	16.50	131.32	899.60	266.49	899.60	497.30	1055.28	1.82	Minimum on Edge
Reinf. Layer #12	18.00	132.82	901.10	268.09	901.10	505.43	1055.23	1.83	Minimum on Edge
Reinf. Layer #13	19.50	134.33	902.60	269.59	902.60	504.63	1055.24	1.84	Minimum on Edge
Reinf. Layer #14	21.00	135.83	904.10	271.09	904.10	503.83	1055.24	1.85	Minimum on Edge
Reinf. Layer #15	22.50	137.33	905.60	290.59	905.60	475.59	1055.41	1.83	Minimum on Edge
Reinf. Layer #16	24.00	138.83	907.10	292.09	907.10	475.24	1055.41	1.84	Minimum on Edge
Reinf. Layer #17	25.50	140.33	908.60	293.59	908.60	474.89	1055.41	1.85	Minimum on Edge
Reinf. Layer #18	27.00	141.84	910.10	295.09	910.10	474.54	1055.41	1.87	Minimum on Edge
Reinf. Layer #19	28.50	143.34	911.60	296.59	911.60	480.62	1055.38	1.88	Minimum on Edge
Reinf. Layer #20	30.00	144.84	913.10	298.09	913.10	480.20	1055.38	1.90	Minimum on Edge
Reinf. Layer #21	31.50	146.34	914.60	299.59	914.60	479.79	1055.38	1.91	Minimum on Edge
Reinf. Layer #22	33.00	147.84	916.10	301.09	916.10	479.37	1055.39	1.93	Minimum on Edge
Reinf. Layer #23	34.50	149.34	917.60	302.59	917.60	478.95	1055.39	1.94	Minimum on Edge
Reinf. Layer #24	36.00	150.85	919.10	304.09	919.10	478.53	1055.39	1.96	Minimum on Edge
Reinf. Layer #25	37.50	152.35	920.60	322.89	920.60	477.95	1055.39	2.04	Minimum on Edge
Reinf. Layer #26	39.00	153.85	922.10	324.39	922.10	477.73	1055.40	2.05	Minimum on Edge
Reinf. Layer #27	40.50	155.35	923.60	325.89	923.60	477.51	1055.40	2.07	Minimum on Edge
Reinf. Layer #28	42.00	156.85	925.10	327.39	925.10	477.28	1055.40	2.10	Minimum on Edge
Reinf. Layer #29	43.50	158.36	926.60	328.89	926.60	487.87	1055.34	2.12	Minimum on Edge
Reinf. Layer #30	45.00	159.86	928.10	330.39	928.10	487.52	1055.34	2.14	Minimum on Edge
Reinf. Layer #31	46.50	161.36	929.60	331.89	929.60	487.17	1055.34	2.16	Minimum on Edge
Reinf. Layer #32	48.00	162.86	931.10	333.39	931.10	486.82	1055.34	2.18	Minimum on Edge
Reinf. Layer #33	49.50	164.36	932.60	334.89	932.60	486.47	1055.34	2.20	Minimum on Edge
Reinf. Layer #34	51.00	165.87	934.10	336.39	934.10	486.12	1055.35	2.22	Minimum on Edge
Reinf. Layer #35	52.50	167.37	935.60	354.89	935.60	519.44	1055.15	2.35	Minimum on Edge
Reinf. Layer #36	54.00	168.87	937.10	356.39	937.10	518.88	1055.15	2.37	Minimum on Edge
Reinf. Layer #37	55.50	170.37	938.60	357.89	938.60	518.32	1055.16	2.39	Minimum on Edge
Reinf. Layer #38	57.00	171.87	940.10	359.39	940.10	517.76	1055.16	2.41	Minimum on Edge

Note: In the 'Status' column, OK means the critical two part-wedge was identified within the specified search domain. 'Minimum on Edge' means the critical result corresponds to a minimum on the edge of the search domain; i.e., either on X1 or X2 or the internally preset limits on Xc.

RESULTS OF TRANSLATIONAL ANALYSIS (continues)

Critical two-part wedge along each interface:									
Interface	Height Relative to Toe [ft]	(Xa, Ya) [ft]		(Xb, Yb) [ft]		(Xc, Yc) [ft]		Fs	STATUS
Reinf. Layer #39	58.50	173.38	941.60	360.89	941.60	523.03	1055.13	2.43	Minimum on Edge
Reinf. Layer #40	60.00	174.88	943.10	362.39	943.10	522.39	1055.13	2.46	Minimum on Edge
Reinf. Layer #41	61.50	176.38	944.60	363.89	944.60	527.72	1055.10	2.49	Minimum on Edge
Reinf. Layer #42	63.00	177.88	946.10	365.39	946.10	527.00	1055.11	2.51	Minimum on Edge
Reinf. Layer #43	64.50	179.38	947.60	366.89	947.60	526.28	1055.11	2.54	Minimum on Edge
Reinf. Layer #44	66.00	180.89	949.10	368.39	949.10	525.56	1055.11	2.56	Minimum on Edge
Reinf. Layer #45	67.50	182.39	950.60	384.89	950.60	558.51	1054.92	2.68	Minimum on Edge
Reinf. Layer #46	69.00	183.89	952.10	386.39	952.10	557.52	1054.93	2.71	Minimum on Edge
Reinf. Layer #47	70.50	185.39	953.60	387.89	953.60	556.54	1054.93	2.73	Minimum on Edge
Reinf. Layer #48	72.00	186.89	955.10	389.39	955.10	555.55	1054.94	2.76	Minimum on Edge
Reinf. Layer #49	73.50	188.40	956.60	390.89	956.60	554.56	1054.94	2.78	Minimum on Edge
Reinf. Layer #50	78.00	238.40	961.10	358.59	961.10	483.68	1055.36	2.38	Minimum on Edge
Reinf. Layer #51	79.50	239.90	962.60	360.09	962.60	483.19	1055.36	2.41	Minimum on Edge
Reinf. Layer #52	81.00	241.40	964.10	361.59	964.10	482.70	1055.37	2.45	Minimum on Edge
Reinf. Layer #53	82.50	242.90	965.60	363.09	965.60	482.22	1055.37	2.48	Minimum on Edge
Reinf. Layer #54	84.00	244.40	967.10	364.59	967.10	477.60	1055.40	2.52	Minimum on Edge
Reinf. Layer #55	85.50	245.90	968.60	366.09	968.60	477.19	1055.40	2.55	Minimum on Edge
Reinf. Layer #56	87.00	247.40	970.10	367.59	970.10	476.77	1055.40	2.59	Minimum on Edge
Reinf. Layer #57	88.50	248.90	971.60	369.09	971.60	476.35	1055.40	2.63	Minimum on Edge
Reinf. Layer #58	90.00	250.40	973.10	370.59	973.10	483.81	1055.36	2.66	Minimum on Edge
Reinf. Layer #59	91.50	251.90	974.60	372.09	974.60	483.25	1055.36	2.70	Minimum on Edge
Reinf. Layer #60	93.00	253.40	976.10	373.59	976.10	482.69	1055.37	2.74	Minimum on Edge
Reinf. Layer #61	94.50	254.90	977.60	375.09	977.60	482.13	1055.37	2.79	Minimum on Edge
Reinf. Layer #62	96.00	256.40	979.10	376.59	979.10	481.57	1055.37	2.83	Minimum on Edge
Reinf. Layer #63	97.50	257.90	980.60	378.09	980.60	477.35	1055.40	2.88	Minimum on Edge
Reinf. Layer #64	99.00	259.40	982.10	379.59	982.10	476.86	1055.40	2.92	Minimum on Edge
Reinf. Layer #65	100.50	260.90	983.60	381.09	983.60	476.38	1055.40	2.97	Minimum on Edge
Reinf. Layer #66	102.00	262.40	985.10	382.59	985.10	475.89	1055.41	3.02	Minimum on Edge
Reinf. Layer #67	103.50	263.90	986.60	384.09	986.60	475.40	1055.41	3.07	Minimum on Edge
Reinf. Layer #68	105.00	265.40	988.10	385.59	988.10	481.67	1055.37	3.13	Minimum on Edge
Reinf. Layer #69	106.50	266.90	989.60	387.09	989.60	481.03	1055.38	3.18	Minimum on Edge
Reinf. Layer #70	108.00	268.40	991.10	388.59	991.10	473.94	1055.42	3.24	Minimum on Edge
Reinf. Layer #71	109.50	269.90	992.60	390.09	992.60	476.53	1055.40	3.30	Minimum on Edge
Reinf. Layer #72	112.50	272.90	995.60	393.09	995.60	475.41	1055.41	3.43	Minimum on Edge
Reinf. Layer #73	114.00	274.40	997.10	394.59	997.10	457.13	1055.42	3.55	Minimum on Edge
Reinf. Layer #74	116.00	276.40	999.10	396.59	999.10	468.71	1055.45	3.59	Minimum on Edge
Reinf. Layer #75	118.50	278.90	1001.60	399.09	1001.60	473.17	1055.42	3.72	Minimum on Edge
Reinf. Layer #76	120.00	280.40	1003.10	400.59	1003.10	472.61	1055.43	3.80	Minimum on Edge
Reinf. Layer #77	122.00	114.80	883.10	114.80	883.10	114.80	88:1000033.30		No convergence
Reinf. Layer #78	124.50	114.80	883.10	114.80	883.10	114.80	88:1000033.30		No convergence
Reinf. Layer #79	126.00	114.80	883.10	114.80	883.10	114.80	88:1000033.30		No convergence
Reinf. Layer #80	128.00	114.80	883.10	114.80	883.10	114.80	88:1000033.30		No convergence
Reinf. Layer #81	130.50	114.80	883.10	114.80	883.10	114.80	88:1000033.30		No convergence
Reinf. Layer #82	132.00	114.80	883.10	114.80	883.10	114.80	88:1000033.30		No convergence
Reinf. Layer #83	134.00	114.80	883.10	114.80	883.10	114.80	88:1000033.30		No convergence
Reinf. Layer #84	136.50	114.80	883.10	114.80	883.10	114.80	88:1000033.30		No convergence
Reinf. Layer #85	138.00	114.80	883.10	114.80	883.10	114.80	88:1000033.30		No convergence
Reinf. Layer #86	140.00	114.80	883.10	114.80	883.10	114.80	88:1000033.30		No convergence
Reinf. Layer #87	142.50	114.80	883.10	114.80	883.10	114.80	88:1000033.30		No convergence
Reinf. Layer #88	144.00	114.80	883.10	114.80	883.10	114.80	88:1000033.30		No convergence
Reinf. Layer #89	146.00	114.80	883.10	114.80	883.10	114.80	88:1000033.30		No convergence
Reinf. Layer #90	148.50	114.80	883.10	114.80	883.10	114.80	88:1000033.30		No convergence

Note: In the 'Status' column, OK means the critical two part-wedge was identified within the specified search domain. 'Minimum on Edge' means the critical result corresponds to a minimum on the edge of the search domain; i.e., either on X1 or X2 or the internally preset limits on Xc.

RESULTS OF TRANSLATIONAL ANALYSIS (continues)

Critical two-part wedge along each interface:								
Interface	Height Relative to Toe [ft]	(Xa, Ya) [ft]		(Xb, Yb) [ft]		(Xc, Yc) [ft]		STATUS
Reinf. Layer #91	150.00	114.80	883.10	114.80	883.10	114.80	88.1000033.30	No convergence
Reinf. Layer #92	152.00	114.80	883.10	114.80	883.10	114.80	88.1000033.30	No convergence
Reinf. Layer #93	155.00	114.80	883.10	114.80	883.10	114.80	88.1000033.30	No convergence
Reinf. Layer #94	158.00	114.80	883.10	114.80	883.10	114.80	88.1000033.30	No convergence
Reinf. Layer #95	161.00	114.80	883.10	114.80	883.10	114.80	88.1000033.30	No convergence
Reinf. Layer #96	164.00	114.80	883.10	114.80	883.10	114.80	88.1000033.30	No convergence
Reinf. Layer #97	167.00	114.80	883.10	114.80	883.10	114.80	88.1000033.30	No convergence
Reinf. Layer #98	0.00	114.80	883.10	114.80	883.10	114.80	88.1000033.30	OK
Reinf. Layer #99	0.00	114.80	883.10	114.80	883.10	114.80	88.1000033.30	OK
Reinf. Layer #100	0.00	114.80	883.10	114.80	883.10	114.80	88.1000033.30	OK

Note: In the 'Status' column, OK means the critical two part-wedge was identified within the specified search domain. 'Minimum on Edge' means the critical result corresponds to a minimum on the edge of the search domain; i.e., either on X1 or X2 or the internally preset limits on Xc.

CRITICAL RESULTS OF ROTATIONAL AND TRANSLATIONAL STABILITY ANALYSES

Rotational (Circular Arc; Bishop) Stability Analysis

Minimum Factor of Safety = 2.03

Critical Circle: $X_c = 160.24$ [ft], $Y_c = 1244.62$ [ft], $R = 363.03$ [ft]. (Number of slices used = 65)

Translational (2-Part Wedge; Spencer), Direct Sliding, Stability Analysis

Minimum Factor of Safety = 1.78

Critical Two-Part Wedge: ($X_a = 122.31$, $Y_a = 890.60$) [ft]

($X_b = 257.49$, $Y_b = 890.60$) [ft]

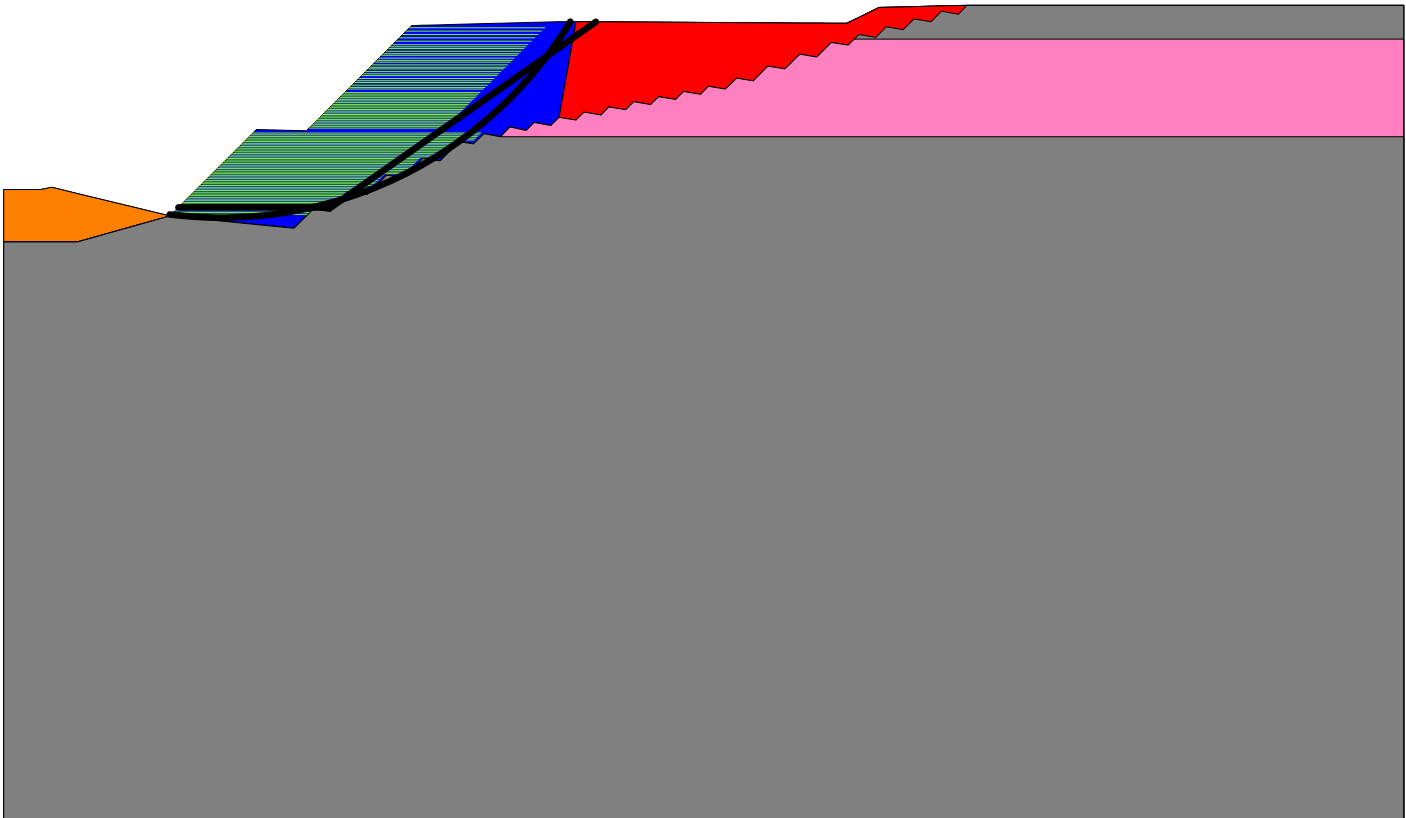
($X_c = 492.72$, $Y_c = 1055.31$) [ft]

(Number of slices used = 30)

Interslice resultant force inclination = 25.73 [degrees]

Three-Part Wedge Stability Analysis

NOT CONDUCTED
REINFORCEMENT LAYOUT: DRAWING

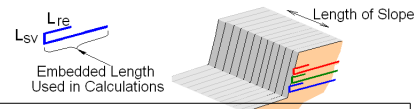


SCALE:

1"=23[ft]

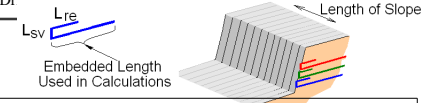


REINFORCEMENT LAYOUT: TABULATED DATA & QUANTITIES



Layer #	Reinf. Type #	Geosynthetic Designated Name	Height Relative to Toe [ft]	Embedded Length [ft]	Covergae Ratio, Rc	(X, Y) front [ft]	(X, Y) rear [ft]	Lsv * [ft]	Lre [ft]		
1	1	20XT	1.50	120.00	1.00	116.30	884.60	236.30	884.60	0.00	0.00
2	1	20XT	3.00	120.00	1.00	117.80	886.10	237.80	886.10	0.00	0.00
3	1	20XT	4.50	120.00	1.00	119.31	887.60	239.31	887.60	0.00	0.00
4	1	20XT	6.00	120.00	1.00	120.81	889.10	240.81	889.10	0.00	0.00
5	1	20XT	7.50	135.00	1.00	122.31	890.60	257.31	890.60	0.00	0.00
6	1	20XT	9.00	135.00	1.00	123.81	892.10	258.81	892.10	0.00	0.00
7	1	20XT	10.50	135.00	1.00	125.31	893.60	260.31	893.60	0.00	0.00
8	1	20XT	12.00	135.00	1.00	126.82	895.10	261.82	895.10	0.00	0.00
9	1	20XT	13.50	135.00	1.00	128.32	896.60	263.32	896.60	0.00	0.00
10	1	20XT	15.00	135.00	1.00	129.82	898.10	264.82	898.10	0.00	0.00
11	1	20XT	16.50	135.00	1.00	131.32	899.60	266.32	899.60	0.00	0.00
12	1	20XT	18.00	135.00	1.00	132.82	901.10	267.82	901.10	0.00	0.00
13	1	20XT	19.50	135.00	1.00	134.33	902.60	269.33	902.60	0.00	0.00
14	1	20XT	21.00	135.00	1.00	135.83	904.10	270.83	904.10	0.00	0.00
15	1	20XT	22.50	153.00	1.00	137.33	905.60	290.33	905.60	0.00	0.00
16	1	20XT	24.00	153.00	1.00	138.83	907.10	291.83	907.10	0.00	0.00
17	1	20XT	25.50	153.00	1.00	140.33	908.60	293.33	908.60	0.00	0.00
18	1	20XT	27.00	153.00	1.00	141.84	910.10	294.84	910.10	0.00	0.00
19	1	20XT	28.50	153.00	1.00	143.34	911.60	296.34	911.60	0.00	0.00
20	1	20XT	30.00	153.00	1.00	144.84	913.10	297.84	913.10	0.00	0.00
21	1	20XT	31.50	153.00	1.00	146.34	914.60	299.34	914.60	0.00	0.00
22	1	20XT	33.00	153.00	1.00	147.84	916.10	300.84	916.10	0.00	0.00
23	1	20XT	34.50	153.00	1.00	149.34	917.60	302.34	917.60	0.00	0.00
24	1	20XT	36.00	153.00	1.00	150.85	919.10	303.85	919.10	0.00	0.00
25	1	20XT	37.50	170.30	1.00	152.35	920.60	322.65	920.60	0.00	0.00
26	1	20XT	39.00	170.30	1.00	153.85	922.10	324.15	922.10	0.00	0.00
27	1	20XT	40.50	170.30	1.00	155.35	923.60	325.65	923.60	0.00	0.00
28	1	20XT	42.00	170.30	1.00	156.85	925.10	327.15	925.10	0.00	0.00
29	1	20XT	43.50	170.30	1.00	158.36	926.60	328.66	926.60	0.00	0.00
30	1	20XT	45.00	170.30	1.00	159.86	928.10	330.16	928.10	0.00	0.00
31	1	20XT	46.50	170.30	1.00	161.36	929.60	331.66	929.60	0.00	0.00
32	1	20XT	48.00	170.30	1.00	162.86	931.10	333.16	931.10	0.00	0.00
33	1	20XT	49.50	170.30	1.00	164.36	932.60	334.66	932.60	0.00	0.00
34	1	20XT	51.00	170.30	1.00	165.87	934.10	336.17	934.10	0.00	0.00
35	1	20XT	52.50	187.30	1.00	167.37	935.60	354.67	935.60	0.00	0.00
36	1	20XT	54.00	187.30	1.00	168.87	937.10	356.17	937.10	0.00	0.00
37	1	20XT	55.50	187.30	1.00	170.37	938.60	357.67	938.60	0.00	0.00
38	1	20XT	57.00	187.30	1.00	171.87	940.10	359.17	940.10	0.00	0.00
39	1	20XT	58.50	187.30	1.00	173.38	941.60	360.68	941.60	0.00	0.00
40	1	20XT	60.00	187.30	1.00	174.88	943.10	362.18	943.10	0.00	0.00
41	1	20XT	61.50	187.30	1.00	176.38	944.60	363.68	944.60	0.00	0.00
42	1	20XT	63.00	187.30	1.00	177.88	946.10	365.18	946.10	0.00	0.00
43	1	20XT	64.50	187.30	1.00	179.38	947.60	366.68	947.60	0.00	0.00
44	1	20XT	66.00	187.30	1.00	180.89	949.10	368.19	949.10	0.00	0.00
45	1	20XT	67.50	202.30	1.00	182.39	950.60	384.69	950.60	0.00	0.00
46	1	20XT	69.00	202.30	1.00	183.89	952.10	386.19	952.10	0.00	0.00
47	1	20XT	70.50	202.30	1.00	185.39	953.60	387.69	953.60	0.00	0.00
48	1	20XT	72.00	202.30	1.00	186.89	955.10	389.19	955.10	0.00	0.00
49	1	20XT	73.50	202.30	1.00	188.40	956.60	390.70	956.60	0.00	0.00
50	1	20XT	78.00	120.00	1.00	238.40	961.10	358.40	961.10	0.00	0.00

* Vertical distance between layers.



REINFORCEMENT LAYOUT: TABULATED DATA & QUANTITIES

Layer #	Reinf. Type #	Geosynthetic Designated Name	Height Relative to Toe [ft]	Embedded Length [ft]	Covergae Ratio, Rc	(X, Y) front [ft]	(X, Y) rear [ft]	Lsv * [ft]	Lre [ft]
51	1	20XT	79.50	120.00	1.00	239.90	962.60	0.00	0.00
52	1	20XT	81.00	120.00	1.00	241.40	964.10	0.00	0.00
53	1	20XT	82.50	120.00	1.00	242.90	965.60	0.00	0.00
54	1	20XT	84.00	120.00	1.00	244.40	967.10	0.00	0.00
55	1	20XT	85.50	120.00	1.00	245.90	968.60	0.00	0.00
56	1	20XT	87.00	120.00	1.00	247.40	970.10	0.00	0.00
57	1	20XT	88.50	120.00	1.00	248.90	971.60	0.00	0.00
58	1	20XT	90.00	120.00	1.00	250.40	973.10	0.00	0.00
59	1	20XT	91.50	120.00	1.00	251.90	974.60	0.00	0.00
60	1	20XT	93.00	120.00	1.00	253.40	976.10	0.00	0.00
61	1	20XT	94.50	120.00	1.00	254.90	977.60	0.00	0.00
62	1	20XT	96.00	120.00	1.00	256.40	979.10	0.00	0.00
63	1	20XT	97.50	120.00	1.00	257.90	980.60	0.00	0.00
64	1	20XT	99.00	120.00	1.00	259.40	982.10	0.00	0.00
65	1	20XT	100.50	120.00	1.00	260.90	983.60	0.00	0.00
66	1	20XT	102.00	120.00	1.00	262.40	985.10	0.00	0.00
67	1	20XT	103.50	120.00	1.00	263.90	986.60	0.00	0.00
68	1	20XT	105.00	120.00	1.00	265.40	988.10	0.00	0.00
69	1	20XT	106.50	120.00	1.00	266.90	989.60	0.00	0.00
70	1	20XT	108.00	120.00	1.00	268.40	991.10	0.00	0.00
71	1	20XT	109.50	120.00	1.00	269.90	992.60	0.00	0.00
72	1	20XT	112.50	120.00	1.00	272.90	995.60	0.00	0.00
73	1	20XT	114.00	120.00	1.00	274.40	997.10	0.00	0.00
74	1	20XT	116.00	120.00	1.00	276.40	999.10	0.00	0.00
75	1	20XT	118.50	120.00	1.00	278.90	1001.60	0.00	0.00
76	1	20XT	120.00	120.00	1.00	280.40	1003.10	0.00	0.00
77	1	20XT	122.00	120.00	1.00	282.40	1005.10	0.00	0.00
78	1	20XT	124.50	120.00	1.00	284.90	1007.60	0.00	0.00
79	1	20XT	126.00	120.00	1.00	286.40	1009.10	0.00	0.00
80	1	20XT	128.00	120.00	1.00	288.40	1011.10	0.00	0.00
81	1	20XT	130.50	120.00	1.00	290.90	1013.60	0.00	0.00
82	1	20XT	132.00	120.00	1.00	292.40	1015.10	0.00	0.00
83	1	20XT	134.00	120.00	1.00	294.40	1017.10	0.00	0.00
84	1	20XT	136.50	120.00	1.00	296.90	1019.60	0.00	0.00
85	1	20XT	138.00	120.00	1.00	298.40	1021.10	0.00	0.00
86	1	20XT	140.00	120.00	1.00	300.40	1023.10	0.00	0.00
87	1	20XT	142.50	120.00	1.00	302.90	1025.60	0.00	0.00
88	1	20XT	144.00	120.00	1.00	304.40	1027.10	0.00	0.00
89	1	20XT	146.00	120.00	1.00	306.40	1029.10	0.00	0.00
90	1	20XT	148.50	120.00	1.00	308.90	1031.60	0.00	0.00
91	1	20XT	150.00	120.00	1.00	310.40	1033.10	0.00	0.00
92	1	20XT	152.00	120.00	1.00	312.40	1035.10	0.00	0.00
93	1	20XT	155.00	120.00	1.00	315.40	1038.10	0.00	0.00
94	1	20XT	158.00	120.00	1.00	318.40	1041.10	0.00	0.00
95	1	20XT	161.00	120.00	1.00	321.40	1044.10	0.00	0.00
96	1	20XT	164.00	120.00	1.00	324.40	1047.10	0.00	0.00
97	1	20XT	167.00	120.00	1.00	327.40	1050.10	0.00	0.00

QUANTITIES

* Vertical distance between layers.

Reinf. Type #	Designated Name	Coverage Ratio	Area of reinforcemnt [ft²] / length of slope [ft]
1	20XT	1.00	13707.50



MiraSlope® Pro

Cross-Section PR4-PR4

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PROJECT IDENTIFICATION

Title: Cross-Section PR4-PR4
Project Number: 16123A -
Client: QVSD
Designer: MAW

Description:

Company's information:

Name: GBBE
Street: 180 Bilmar Drive Suite 4
Pittsburgh, PA 15205
Telephone #: 412-922-4440
E-Mail:

Original file path and name: C:\Users\A esktop\16123A\Miraslope\Cross-Section PR4-PR4.MIRp
Original date and time of creating this file: Wed Mar 06 10:10:52 2024

PROGRAM MODE: Analysis of a General Slope using GEOSYNTHETIC as reinforcing material.

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INPUT DATA (EXCLUDING REINFORCEMENT LAYOUT)

SOIL DATA

===== Soil Layer #: =====	Unit weight, γ [lb/ft ³]	Internal angle of friction, ϕ [deg.]	Cohesion, c [lb/ft ²]
1.....Eng. Fill (Sand).....	135.0	33.0	0.0
2.....Eng. Fill (Redbed).....	135.0	20.0	0.0
3.....Bedrock (Upper).....	145.0	45.0	500.0
4.....In-Place Redbeds.....	140.0	20.0	200.0
5.....Bedrock (Lower).....	145.0	45.0	500.0

REINFORCEMENT

Reinforcement	Ultimate Strength, Tult [lb/ft]	Reduction Factor for Installation Damage, RFid	Reduction Factor for Durability, RFd	Reduction Factor for Creep, RFc	Coverage Ratio, Rc
Type # Geosynthetic Designated Name					
1 20XT	16000	1.10	1.10	1.44	1.00

Interaction Parameters	== Direct Sliding ==		==== Pullout =====	
Type # Geosynthetic Designated Name	Cds-phi	Cds-c	Ci	Alpha
1 20XT	0.80	0.00	0.80	0.80

Relative Orientation of Reinforcement Force, ROR = 0.00. Assigned Factor of Safety to resist pullout, Fs-po = 1.50
Design method for Global Stability: Comprehensive Bishop.

WATER

Water is not present

SEISMICITY

Not Applicable

DRAWING OF SPECIFIED GEOMETRY - GENERAL - Quick Input

- Problem geometry is defined along sections selected by user at x,y coordinates.
- X1,Y1 represents the coordinates of soil surface. X2,Y2 represent the coordinates of the end of soil layer 1 and start of soil layer 2, and so on.

GEOMETRY

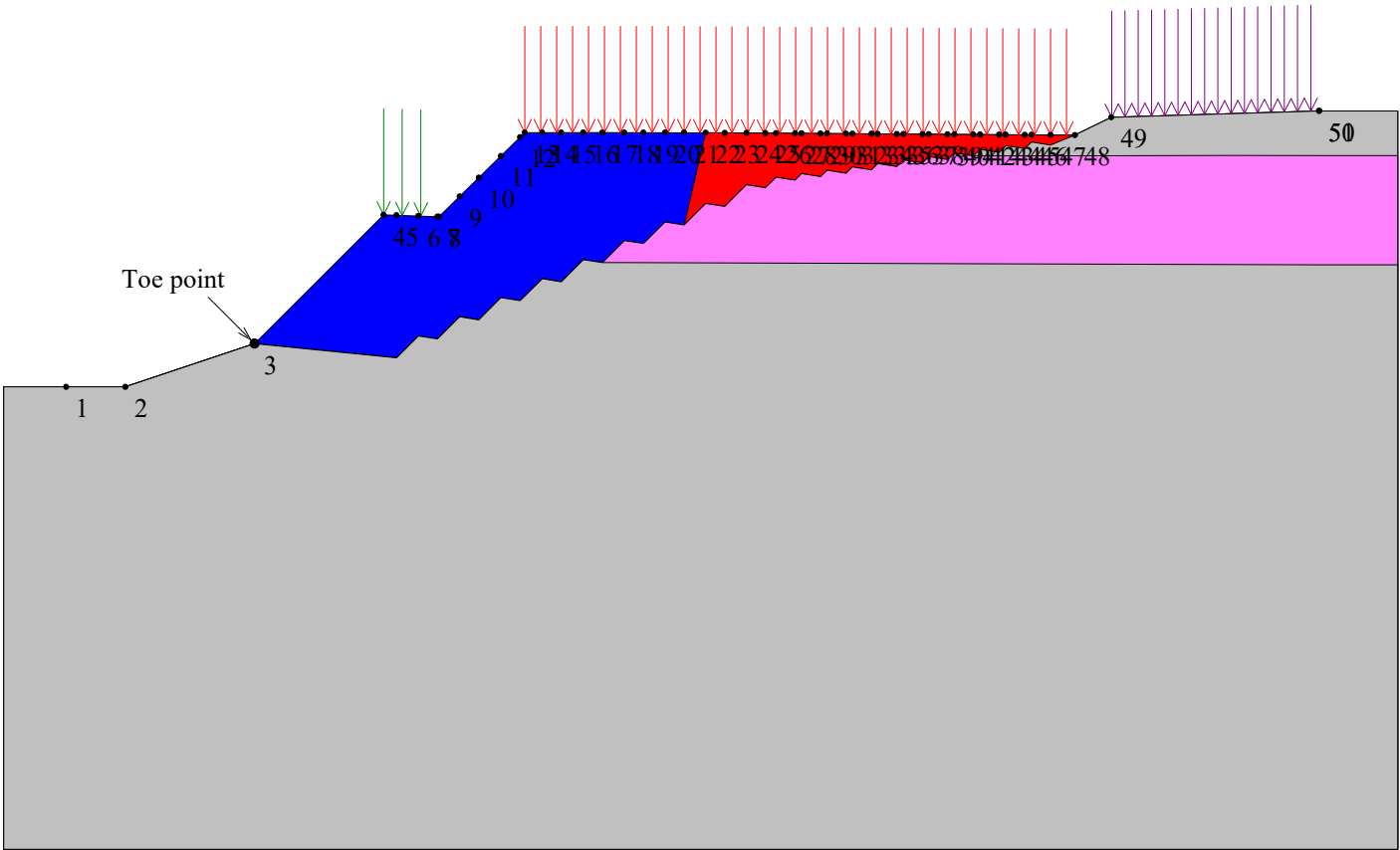
Soil profile contains 5 layers (see details in next page)

UNIFORM SURCHARGE

Load Q1 = 250.00 [lb/ft²] inclined from verical at 0.00 degrees, starts at X1s = 645.40 and ends at X1e = 688.90 [ft].
Load Q2 = 250.00 [lb/ft²] inclined from verical at 0.00 degrees, starts at X2s = 756.40 and ends at X2e = 1189.00 [ft].
Load Q3 = 250.00 [lb/ft²] inclined from verical at 0.00 degrees, starts at X3s = 1218.00 and ends at X3e = 1381.00 [ft].

STRIP LOAD

.....None.....



SCALE:

(1/23)[ft]

TABULATED DETAILS OF GENERAL SPECIFIED GEOMETRY

Soil profile contains 5 layers. Coordinates in [ft.]

	#	Xi	Yi		#	Xi	Yi
 Top of Layer 1	1	395.70	856.00		51	898.70	1000.30
	2	442.30	856.00		52	913.70	998.00
	3	543.90	890.00		53	930.70	1015.00
	4	645.40	991.30		54	945.70	1012.60
	5	688.90	989.80		55	954.00	1020.90
	6	756.40	1056.00		56	969.00	1018.60
	7	881.70	1056.00		57	974.10	1023.70
	8	1189.10	1054.00		58	989.00	1021.30
	9	1217.70	1068.00		59	994.10	1026.40
	10	1381.10	1073.00		60	1009.10	1024.00
 Top of Layer 2	11	395.70	856.00		61	1014.10	1029.00
	12	442.30	856.00		62	1029.10	1026.70
	13	543.90	890.00		63	1034.00	1031.70
	14	655.50	878.80		64	1049.00	1029.30
	15	672.70	895.90		65	1054.30	1034.50
	16	687.70	893.60		66	1069.20	1032.20
	17	705.20	911.10		67	1074.10	1037.10
	18	720.20	908.60		68	1088.90	1034.80
	19	737.70	926.10		69	1094.20	1039.90
	20	752.70	923.70		70	1109.20	1037.60
	21	770.10	941.10		71	1114.50	1042.80
	22	785.10	938.60		72	1129.50	1040.50
	23	802.40	956.00		73	1134.70	1045.70
	24	817.40	953.70		74	1149.70	1043.40
	25	834.70	971.00		75	1154.90	1048.60
	26	849.70	968.70		76	1169.90	1046.20
	27	866.70	985.60		77	1189.10	1054.00
	28	881.70	983.30		78	1217.70	1068.00
	29	881.70	1056.00		79	1381.30	1073.00
	30	1189.10	1054.00	 Top of Layer 4	80	395.70	856.00
 Top of Layer 3	31	1217.70	1068.00		81	442.30	856.00
	32	1381.30	1073.00		82	543.90	890.00
	33	395.70	856.00		83	655.50	878.80
	34	442.30	856.00		84	672.70	895.90
	35	543.90	890.00		85	687.70	893.60
	36	655.50	878.80		86	705.20	911.10
	37	672.70	895.90		87	720.20	908.60
	38	687.70	893.60		88	737.70	926.10
	39	705.20	911.10		89	752.70	923.70
	40	720.20	908.60		90	770.10	941.10
	41	737.70	926.10		91	785.10	938.60
	42	752.70	923.70		92	802.40	956.00
	43	770.10	941.10		93	817.40	953.70
	44	785.10	938.60		94	834.70	971.00
	45	802.40	956.00		95	849.70	968.70
	46	817.40	953.70		96	866.70	985.60
	47	834.70	971.00		97	881.70	983.30
	48	849.70	968.70		98	898.70	1000.30
	49	866.70	985.60		99	913.70	998.00
	50	881.70	983.30		100	930.70	1015.00
					101	945.70	1012.60
					102	954.00	1020.90
					103	969.00	1018.60
					104	974.10	1023.70
					105	989.00	1021.30
					106	994.10	1026.40
					107	1009.10	1024.00
					108	1014.10	1029.00
					109	1029.10	1026.70
					110	1034.00	1031.70
					111	1049.00	1029.30
					112	1054.30	1034.50
					113	1069.20	1032.20
					114	1074.10	1037.10
					115	1088.90	1034.80
					116	1094.20	1039.90

TABULATED DETAILS OF SPECIFIED GEOMETRY

Soil profile contains 5 layers. Coordinates in [ft.]

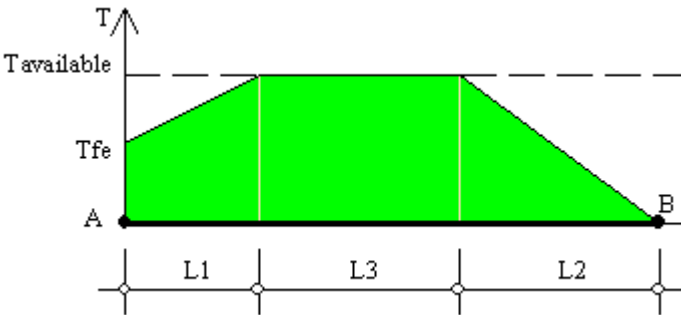
#	X	Y1	Y2	Y3	Y4	Y5
1	395.70	856.00	856.00	856.00	856.00	856.00
2	442.30	856.00	856.00	856.00	856.00	856.00
3	543.90	890.00	890.00	890.00	890.00	890.00
4	645.40	991.30	879.81	879.81	879.81	879.81
5	655.50	990.95	878.80	878.80	878.80	878.80
6	672.70	990.36	895.90	895.90	895.90	895.90
7	687.70	989.84	893.60	893.60	893.60	893.60
8	688.90	989.80	894.80	894.80	894.80	894.80
9	705.20	1005.79	911.10	911.10	911.10	911.10
10	720.20	1020.50	908.60	908.60	908.60	908.60
11	737.70	1037.66	926.10	926.10	926.10	926.10
12	752.70	1052.37	923.70	923.70	923.70	923.70
13	756.40	1056.00	927.40	927.40	927.40	927.40
14	770.10	1056.00	941.10	941.10	941.10	941.10
15	785.10	1056.00	938.60	938.60	938.60	938.60
16	802.40	1056.00	956.00	956.00	956.00	956.00
17	817.40	1056.00	953.70	953.70	953.70	953.70
18	834.70	1056.00	971.00	971.00	971.00	953.65
19	849.70	1056.00	968.70	968.70	968.70	953.60
20	866.70	1056.00	985.60	985.60	985.60	953.55
21	881.70	1056.00	983.30	983.30	983.30	953.51
22	898.70	1055.89	1055.89	1000.30	1000.30	953.45
23	913.70	1055.79	1055.79	998.00	998.00	953.41
24	930.70	1055.68	1055.68	1015.00	1015.00	953.36
25	945.70	1055.58	1055.58	1012.60	1012.60	953.31
26	954.00	1055.53	1055.53	1020.90	1020.90	953.29
27	969.00	1055.43	1055.43	1018.60	1018.60	953.24
28	974.10	1055.40	1055.40	1023.70	1023.70	953.23
29	989.00	1055.30	1055.30	1021.30	1021.30	953.18
30	994.10	1055.27	1055.27	1026.40	1026.40	953.17
31	1009.10	1055.17	1055.17	1024.00	1024.00	953.12
32	1014.10	1055.14	1055.14	1029.00	1029.00	953.11
33	1029.10	1055.04	1055.04	1026.70	1026.70	953.06
34	1034.00	1055.01	1055.01	1031.70	1031.70	953.05
35	1049.00	1054.91	1054.91	1029.30	1029.30	953.00
36	1054.30	1054.88	1054.88	1034.50	1034.50	952.99
37	1069.20	1054.78	1054.78	1032.20	1032.20	952.94
38	1074.10	1054.75	1054.75	1037.10	1037.10	952.93
39	1088.90	1054.65	1054.65	1034.80	1034.80	952.88
40	1094.20	1054.62	1054.62	1039.90	1039.90	952.87
41	1109.20	1054.52	1054.52	1037.60	1037.60	952.82
42	1114.50	1054.49	1054.49	1042.80	1037.61	952.80
43	1129.50	1054.39	1054.39	1040.50	1037.63	952.76
44	1134.70	1054.35	1054.35	1045.70	1037.64	952.74
45	1149.70	1054.26	1054.26	1043.40	1037.66	952.70
46	1154.90	1054.22	1054.22	1048.60	1037.67	952.68
47	1169.90	1054.12	1054.12	1046.20	1037.69	952.64
48	1189.10	1054.00	1054.00	1054.00	1037.72	952.58
49	1217.70	1068.00	1068.00	1068.00	1037.76	952.49
50	1381.10	1073.00	1072.99	1072.99	1038.00	952.00

TABULATED DETAILS OF SPECIFIED GEOMETRY (Continues)

Soil profile contains 5 layers. Coordinates in [ft.]

#	X	Y1	Y2	Y3	Y4	Y5
51	1381.30	1073.00	1073.00	1073.00	1038.00	952.00

DISTRIBUTION OF AVAILABLE STRENGTH ALONG EACH REINFORCEMENT LAYER



A = Front-end of reinforcement (at face of slope)
B = Rear-end of reinforcement
AB = $L1 + L2 + L3$ = Embedded length of reinforcement

Tavailable = Long-term strength of reinforcement
Tfe = Available front-end strength (e.g., connection to facing)

L1 = Front-end 'pullout' length
L2 = Rear-end pullout length
Tavailable prevails along L3

Factor of safety on resistance to pullout on either end of reinforcement, $Fs-po = 1.50$

Reinforcement Layer #	Designated Name	Height Relative to Toe [ft]	L [ft]	L1 [ft]	L2 [ft]	L3 [ft]	Tfe [lb/ft]	Tavailable [lb/ft]
1	20XT	1.50	120.00	0.00	1.25	118.75	9182.74	9182.74
2	20XT	3.00	120.00	0.00	1.28	118.72	9182.74	9182.74
3	20XT	4.50	120.00	0.00	1.28	118.72	9182.74	9182.74
4	20XT	6.00	120.00	0.00	1.31	118.69	9182.74	9182.74
5	20XT	7.50	135.00	0.00	1.35	133.65	9182.74	9182.74
6	20XT	9.00	135.00	0.00	1.38	133.62	9182.74	9182.74
7	20XT	10.50	135.00	0.00	1.38	133.62	9182.74	9182.74
8	20XT	12.00	135.00	0.00	1.38	133.62	9182.74	9182.74
9	20XT	13.50	135.00	0.00	1.41	133.59	9182.74	9182.74
10	20XT	15.00	135.00	0.00	1.41	133.59	9182.74	9182.74
11	20XT	16.50	135.00	0.00	1.41	133.59	9182.74	9182.74
12	20XT	18.00	135.00	0.00	1.41	133.59	9182.74	9182.74
13	20XT	19.50	135.00	0.00	1.41	133.59	9182.74	9182.74
14	20XT	21.00	135.00	0.00	1.41	133.59	9182.74	9182.74
15	20XT	22.50	153.00	0.00	1.18	151.82	9182.74	9182.74
16	20XT	24.00	153.00	0.00	1.18	151.82	9182.74	9182.74
17	20XT	25.50	153.00	0.00	1.18	151.82	9182.74	9182.74
18	20XT	27.00	153.00	0.00	1.18	151.82	9182.74	9182.74
19	20XT	28.50	153.00	0.00	1.18	151.82	9182.74	9182.74
20	20XT	30.00	153.00	0.00	1.18	151.82	9182.74	9182.74
21	20XT	31.50	153.00	0.00	1.18	151.82	9182.74	9182.74
22	20XT	33.00	153.00	0.00	1.18	151.82	9182.74	9182.74
23	20XT	34.50	153.00	0.00	1.18	151.82	9182.74	9182.74
24	20XT	36.00	153.00	0.00	1.18	151.82	9182.74	9182.74
25	20XT	37.50	154.50	0.00	1.15	153.35	9182.74	9182.74
26	20XT	39.00	172.00	0.00	0.98	171.02	9182.74	9182.74
27	20XT	40.50	172.00	0.00	0.98	171.02	9182.74	9182.74
28	20XT	42.00	172.00	0.00	1.02	170.98	9182.74	9182.74
29	20XT	43.50	172.00	0.00	1.02	170.98	9182.74	9182.74
30	20XT	45.00	172.00	0.00	1.02	170.98	9182.74	9182.74
31	20XT	46.50	172.00	0.00	1.05	170.95	9182.74	9182.74
32	20XT	48.00	172.00	0.00	1.05	170.95	9182.74	9182.74
33	20XT	49.50	172.00	0.00	1.08	170.92	9182.74	9182.74
34	20XT	51.00	172.00	0.00	1.08	170.92	9182.74	9182.74
35	20XT	52.50	189.00	0.00	1.08	187.92	9182.74	9182.74

DISTRIBUTION OF AVAILABLE STRENGTH ALONG EACH REINFORCEMENT LAYER (continues)

Factor of safety on resistance to pullout on either end of reinforcement, $F_{s-po} = 1.50$

Reinforcement Layer #	Designated Name	Height Relative to Toe [ft]	L [ft]	L1 [ft]	L2 [ft]	L3 [ft]	Tfe [lb/ft]	Tavailable [lb/ft]
36	20XT	54.00	189.00	0.00	1.12	187.88	9182.74	9182.74
37	20XT	55.50	189.00	0.00	1.12	187.88	9182.74	9182.74
38	20XT	57.00	189.00	0.00	1.15	187.85	9182.74	9182.74
39	20XT	58.50	189.00	0.00	1.15	187.85	9182.74	9182.74
40	20XT	60.00	189.00	0.00	1.18	187.82	9182.74	9182.74
41	20XT	61.50	189.00	0.00	1.18	187.82	9182.74	9182.74
42	20XT	63.00	189.00	0.00	1.21	187.79	9182.74	9182.74
43	20XT	64.50	189.00	0.00	1.21	187.79	9182.74	9182.74
44	20XT	66.00	206.00	0.00	1.25	204.75	9182.74	9182.74
45	20XT	67.50	206.00	0.00	1.25	204.75	9182.74	9182.74
46	20XT	69.00	206.00	0.00	1.28	204.72	9182.74	9182.74
47	20XT	70.50	206.00	0.00	1.31	204.69	9182.74	9182.74
48	20XT	72.00	206.00	0.00	1.31	204.69	9182.74	9182.74
49	20XT	73.50	206.00	0.00	1.35	204.65	9182.74	9182.74
50	20XT	75.00	206.00	0.00	1.38	204.62	9182.74	9182.74
51	20XT	78.00	206.00	0.00	1.41	204.59	9182.74	9182.74
52	20XT	79.50	206.00	0.00	1.44	204.56	9182.74	9182.74
53	20XT	81.00	206.00	0.00	1.48	204.52	9182.74	9182.74
54	20XT	82.50	206.00	0.00	1.48	204.52	9182.74	9182.74
55	20XT	84.00	224.00	0.00	1.51	222.49	9182.74	9182.74
56	20XT	85.50	224.00	0.00	1.54	222.46	9182.74	9182.74
57	20XT	87.00	224.00	0.00	1.57	222.43	9182.74	9182.74
58	20XT	88.50	224.00	0.00	1.61	222.39	9182.74	9182.74
59	20XT	90.00	224.00	0.00	1.64	222.36	9182.74	9182.74
60	20XT	91.50	224.00	0.00	1.67	222.33	9182.74	9182.74
61	20XT	93.00	224.00	0.00	1.71	222.29	9182.74	9182.74
62	20XT	94.50	224.00	0.00	1.74	222.26	9182.74	9182.74
63	20XT	96.00	224.00	0.00	1.77	222.23	9182.74	9182.74
64	20XT	97.50	240.00	0.00	1.80	238.20	9182.74	9182.74
65	20XT	99.00	240.00	0.00	1.87	238.13	9182.74	9182.74
66	20XT	103.50	120.00	0.00	1.97	118.03	9182.74	9182.74
67	20XT	105.00	120.00	0.00	2.03	117.97	9182.74	9182.74
68	20XT	106.50	120.00	0.00	2.07	117.93	9182.74	9182.74
69	20XT	108.00	120.00	0.00	2.13	117.87	9182.74	9182.74
70	20XT	109.50	120.00	0.00	2.20	117.80	9182.74	9182.74
71	20XT	112.50	120.00	0.00	2.30	117.70	9182.74	9182.74
72	20XT	114.00	120.00	0.00	2.36	117.64	9182.74	9182.74
73	20XT	116.00	120.00	0.00	2.46	117.54	9182.74	9182.74
74	20XT	118.50	120.00	0.00	2.59	117.41	9182.74	9182.74
75	20XT	120.00	120.00	0.00	2.69	117.31	9182.74	9182.74
76	20XT	122.00	120.00	0.00	2.82	117.18	9182.74	9182.74
77	20XT	124.50	120.00	0.00	2.99	117.01	9182.74	9182.74
78	20XT	126.00	120.00	0.00	3.08	116.92	9182.74	9182.74
79	20XT	128.00	120.00	0.00	3.25	116.75	9182.74	9182.74
80	20XT	130.50	120.00	0.00	3.48	116.52	9182.74	9182.74

DISTRIBUTION OF AVAILABLE STRENGTH ALONG EACH REINFORCEMENT LAYER (continues)

Factor of safety on resistance to pullout on either end of reinforcement, $F_{s-po} = 1.50$

Reinforcement Layer #	Designated Name	Height Relative to Toe [ft]	L [ft]	L1 [ft]	L2 [ft]	L3 [ft]	Tfe [lb/ft]	Tavailable [lb/ft]
81	20XT	132.00	120.00	0.00	3.64	116.36	9182.74	9182.74
82	20XT	134.00	120.00	0.00	3.84	116.16	9182.74	9182.74
83	20XT	136.50	120.00	0.00	4.17	115.83	9182.74	9182.74
84	20XT	138.00	120.00	0.00	4.40	115.60	9182.74	9182.74
85	20XT	140.00	120.00	0.00	4.72	115.28	9182.74	9182.74
86	20XT	142.50	120.00	0.00	5.25	114.75	9182.74	9182.74
87	20XT	144.00	120.00	0.00	5.61	114.39	9182.74	9182.74
88	20XT	146.00	120.00	0.00	6.17	113.83	9182.74	9182.74
89	20XT	148.50	120.00	0.00	7.02	112.98	9182.74	9182.74
90	20XT	150.00	120.00	0.00	7.68	112.32	9182.74	9182.74
91	20XT	152.00	120.00	0.00	8.79	111.21	9182.74	9182.74
92	20XT	155.00	120.00	0.00	11.19	108.81	9182.74	9182.74
93	20XT	158.00	120.00	0.00	15.35	104.65	9182.74	9182.74
94	20XT	161.00	120.00	0.00	24.57	95.43	9182.74	9182.74
95	20XT	164.00	120.00	0.00	61.38	58.62	9182.74	9182.74

RESULTS OF ROTATIONAL STABILITY ANALYSIS

Results in the tables below represent critical circles identified between specified points on entry and exit. (Theta-exit set to 50.00 deg.)
 The most critical circle is obtained from a search considering all the combinations of input entry and exit points.

Critical circles for each entry point (considering all specified exit points)									
Entry Point #	Entry Point (X, Y) [ft]		Exit Point (X, Y) [ft]		Critical Circle (Xc, Yc, R) [ft]			Fs	STATUS
1	740.00	1039.92	438.85	856.49	524.43	1054.91	216.09	3.33	
2	791.00	1056.00	438.85	856.49	539.25	1089.82	254.01	2.87	
3	842.00	1056.00	438.85	856.33	531.68	1175.73	332.62	2.75	
4	893.00	1055.93	478.81	868.72	520.26	1328.81	461.96	2.30	
5	944.00	1055.59	460.00	861.92	460.00	1563.54	701.62	2.26	
6	995.00	1055.26	439.74	855.98	339.07	2009.67	1158.08	2.11	OK
7	1046.00	1054.93	438.38	855.74	127.07	2831.77	2000.40	2.26	
8	1097.00	1054.60	479.78	868.58	5.68	3558.63	2731.51	2.48	
9	1148.00	1054.27	459.77	861.87	-1298.18	8477.43	7815.83	2.63	
10	1188.96	1054.00	438.78	855.91	295.91	2916.56	2065.59	3.35	
11	1250.00	1068.99	479.04	868.40	-2752.89	14871.82	14371.54	2.93	

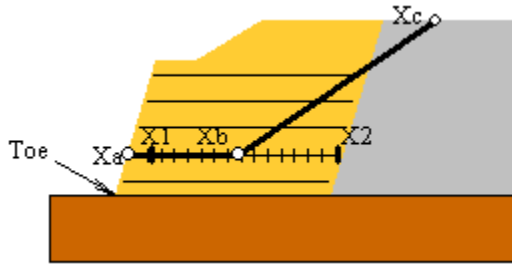
Note: In the 'Status' column, OK means the critical circle was identified within the specified search domain. 'On extreme X-entry' means that the critical result is on the edge of the search domain; a lower Fs may result if the search domain is expanded.

Results in the tables below represent critical circles identified between specified points on entry and exit. (Theta-exit set to 50.00 deg.)
 The most critical circle is obtained from a search considering all the combinations of input entry and exit points.

Critical circles for each exit point (considering all specified entry points)									
Exit Point #	Exit Point (X, Y) [ft]		Entry Point (X, Y) [ft]		Critical Circle (Xc, Yc, R) [ft]			Fs	STATUS
1	398.47	856.05	944.00	1055.59	426.82	1624.04	768.51	2.29	
2	419.17	856.01	944.00	1055.59	433.15	1609.12	753.24	2.27	
3	439.74	855.98	995.00	1055.26	339.07	2009.67	1158.08	2.11	OK
4	458.37	861.87	995.00	1055.26	427.65	1788.33	926.97	2.25	
5	480.00	868.62	944.00	1055.59	480.00	1537.83	669.22	2.28	
6	499.30	875.26	995.00	1055.26	433.27	1829.66	956.68	2.13	
7	519.65	882.01	944.00	1055.59	530.12	1461.89	579.98	2.31	
8	540.00	888.69	995.00	1055.26	540.00	1593.43	704.73	2.35	
9	558.81	906.09	995.00	1055.26	571.77	1580.50	674.54	2.32	
10	579.56	926.12	944.00	1055.59	656.67	1286.73	368.76	2.47	
11	599.75	946.07	944.00	1055.59	698.40	1231.78	302.26	2.70	

Note: In the 'Status' column, OK means the critical circle was identified within the specified search domain. 'On extreme X-exit' means that the critical result is on the edge of the search domain; a lower Fs may result if the search domain is expanded.

RESULTS OF TRANSLATIONAL ANALYSIS



Results in the table below represent critical two-part wedges identified between specified starting (X1) and ending (X2) search points. Wedges along all reinforcement layers and at elevation zero are reported. The critical two-part wedge, one for each predetermined elevation, is defined by Xa, Xb and Xc where Xa is the front end of the passive wedge (slope face), Xb is where the passive wedge ends and the active one starts, and Xc is the X-ordinate at which the active wedge starts.

Critical two-part wedge along each interface:

Interface	Height Relative to Toe [ft]	(Xa, Ya) [ft]	(Xb, Yb) [ft]	(Xc, Yc) [ft]	Fs	STATUS			
At toe elevation	0.00	543.90	890.00	783.70	890.00	1011.02	1055.16	3.35	Minimum on Edge
Reinf. Layer #1	1.50	545.40	891.50	665.59	891.50	900.35	1055.88	1.94	Minimum on Edge
Reinf. Layer #2	3.00	546.91	893.00	667.09	893.00	908.49	1055.83	1.96	Minimum on Edge
Reinf. Layer #3	4.50	548.41	894.50	668.59	894.50	907.77	1055.83	1.97	Minimum on Edge
Reinf. Layer #4	6.00	549.91	896.00	670.09	896.00	907.06	1055.84	1.99	Minimum on Edge
Reinf. Layer #5	7.50	551.41	897.50	686.59	897.50	896.80	1055.90	1.96	Minimum on Edge
Reinf. Layer #6	9.00	552.92	899.00	688.09	899.00	896.31	1055.90	1.97	Minimum on Edge
Reinf. Layer #7	10.50	554.42	900.50	689.59	900.50	895.82	1055.91	1.99	Minimum on Edge
Reinf. Layer #8	12.00	555.92	902.00	691.19	902.00	895.44	1055.91	2.00	Minimum on Edge
Reinf. Layer #9	13.50	557.43	903.50	692.69	903.50	894.95	1055.91	2.03	Minimum on Edge
Reinf. Layer #10	15.00	558.93	905.00	694.19	905.00	894.46	1055.92	2.04	Minimum on Edge
Reinf. Layer #11	16.50	560.43	906.50	695.69	906.50	901.28	1055.87	2.05	Minimum on Edge
Reinf. Layer #12	18.00	561.94	908.00	697.19	908.00	900.72	1055.88	2.06	Minimum on Edge
Reinf. Layer #13	19.50	563.44	909.50	698.69	909.50	900.16	1055.88	2.07	Minimum on Edge
Reinf. Layer #14	21.00	564.94	911.00	700.19	911.00	899.61	1055.88	2.08	Minimum on Edge
Reinf. Layer #15	22.50	566.44	912.50	719.69	912.50	884.75	1055.98	2.08	Minimum on Edge
Reinf. Layer #16	24.00	567.95	914.00	721.19	914.00	890.35	1055.94	2.09	Minimum on Edge
Reinf. Layer #17	25.50	569.45	915.50	722.69	915.50	890.07	1055.95	2.10	Minimum on Edge
Reinf. Layer #18	27.00	570.95	917.00	724.19	917.00	889.78	1055.95	2.12	Minimum on Edge
Reinf. Layer #19	28.50	572.46	918.50	725.69	918.50	889.50	1055.95	2.13	Minimum on Edge
Reinf. Layer #20	30.00	573.96	920.00	727.19	920.00	889.21	1055.95	2.17	Minimum on Edge
Reinf. Layer #21	31.50	575.46	921.50	728.69	921.50	888.92	1055.95	2.18	Minimum on Edge
Reinf. Layer #22	33.00	576.97	923.00	730.19	923.00	888.64	1055.95	2.20	Minimum on Edge
Reinf. Layer #23	34.50	578.47	924.50	731.69	924.50	888.35	1055.96	2.22	Minimum on Edge
Reinf. Layer #24	36.00	579.97	926.00	733.19	926.00	888.07	1055.96	2.24	Minimum on Edge
Reinf. Layer #25	37.50	581.47	927.50	736.19	927.50	889.27	1055.95	2.26	Minimum on Edge
Reinf. Layer #26	39.00	582.98	929.00	755.19	929.00	911.78	1055.80	2.38	Minimum on Edge
Reinf. Layer #27	40.50	584.48	930.50	756.69	930.50	911.43	1055.81	2.41	Minimum on Edge
Reinf. Layer #28	42.00	585.98	932.00	758.19	932.00	911.08	1055.81	2.45	Minimum on Edge
Reinf. Layer #29	43.50	587.49	933.50	759.69	933.50	916.20	1055.78	2.48	Minimum on Edge
Reinf. Layer #30	45.00	588.99	935.00	761.19	935.00	915.78	1055.78	2.50	Minimum on Edge
Reinf. Layer #31	46.50	590.49	936.50	762.69	936.50	915.36	1055.78	2.53	Minimum on Edge
Reinf. Layer #32	48.00	591.99	938.00	764.19	938.00	914.95	1055.78	2.56	Minimum on Edge
Reinf. Layer #33	49.50	593.50	939.50	765.69	939.50	914.53	1055.79	2.59	Minimum on Edge
Reinf. Layer #34	51.00	595.00	941.00	767.19	941.00	919.47	1055.75	2.62	Minimum on Edge
Reinf. Layer #35	52.50	596.50	942.50	785.69	942.50	947.18	1055.57	2.77	Minimum on Edge
Reinf. Layer #36	54.00	598.01	944.00	787.19	944.00	946.54	1055.58	2.79	Minimum on Edge
Reinf. Layer #37	55.50	599.51	945.50	788.69	945.50	945.90	1055.58	2.83	Minimum on Edge
Reinf. Layer #38	57.00	601.01	947.00	790.19	947.00	945.27	1055.59	2.86	Minimum on Edge

Note: In the 'Status' column, OK means the critical two part-wedge was identified within the specified search domain. 'Minimum on Edge' means the critical result corresponds to a minimum on the edge of the search domain; i.e., either on X1 or X2 or the internally preset limits on Xc.

RESULTS OF TRANSLATIONAL ANALYSIS (continues)

Critical two-part wedge along each interface:									
Interface	Height Relative to Toe [ft]	(Xa, Ya) [ft]		(Xb, Yb) [ft]		(Xc, Yc) [ft]		Fs	STATUS
Reinf. Layer #39	58.50	602.52	948.50	791.69	948.50	976.81	1055.38	2.89	Minimum on Edge
Reinf. Layer #40	60.00	604.02	950.00	793.19	950.00	975.73	1055.39	2.94	Minimum on Edge
Reinf. Layer #41	61.50	605.52	951.50	794.69	951.50	954.87	1055.52	2.98	Minimum on Edge
Reinf. Layer #42	63.00	607.02	953.00	796.29	953.00	954.17	1055.53	3.01	Minimum on Edge
Reinf. Layer #43	64.50	608.53	954.50	797.79	954.50	953.37	1055.53	3.05	Minimum on Edge
Reinf. Layer #44	66.00	610.03	956.00	816.29	956.00	988.29	1055.31	2.94	Minimum on Edge
Reinf. Layer #45	67.50	611.53	957.50	817.79	957.50	987.21	1055.31	3.03	Minimum on Edge
Reinf. Layer #46	69.00	613.04	959.00	819.29	959.00	986.12	1055.32	3.10	Minimum on Edge
Reinf. Layer #47	70.50	614.54	960.50	820.79	960.50	985.04	1055.33	3.16	Minimum on Edge
Reinf. Layer #48	72.00	616.04	962.00	822.29	962.00	983.95	1055.33	3.22	Minimum on Edge
Reinf. Layer #49	73.50	617.55	963.50	823.79	963.50	982.86	1055.34	3.28	Minimum on Edge
Reinf. Layer #50	75.00	619.05	965.00	825.29	965.00	981.78	1055.35	3.35	Minimum on Edge
Reinf. Layer #51	78.00	622.05	968.00	828.29	968.00	979.61	1055.36	3.43	Minimum on Edge
Reinf. Layer #52	79.50	623.56	969.50	829.79	969.50	978.52	1055.37	3.48	Minimum on Edge
Reinf. Layer #53	81.00	625.06	971.00	831.29	971.00	977.44	1055.38	3.53	Minimum on Edge
Reinf. Layer #54	82.50	626.56	972.50	832.79	972.50	970.79	1055.42	3.58	Minimum on Edge
Reinf. Layer #55	84.00	628.07	974.00	852.29	974.00	993.06	1055.28	3.55	Minimum on Edge
Reinf. Layer #56	85.50	629.57	975.50	853.79	975.50	991.98	1055.28	3.64	Minimum on Edge
Reinf. Layer #57	87.00	631.07	977.00	855.29	977.00	990.89	1055.29	3.70	Minimum on Edge
Reinf. Layer #58	88.50	632.57	978.50	856.79	978.50	989.81	1055.30	3.75	Minimum on Edge
Reinf. Layer #59	90.00	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #60	91.50	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #61	93.00	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #62	94.50	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #63	96.00	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #64	97.50	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #65	99.00	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #66	103.50	692.67	993.50	812.89	993.50	895.71	1055.91	3.31	Minimum on Edge
Reinf. Layer #67	105.00	694.20	995.00	814.39	995.00	895.22	1055.91	3.38	Minimum on Edge
Reinf. Layer #68	106.50	695.73	996.50	815.99	996.50	894.84	1055.91	3.44	Minimum on Edge
Reinf. Layer #69	108.00	697.26	998.00	817.49	998.00	879.69	1056.00	3.56	Minimum on Edge
Reinf. Layer #70	109.50	698.79	999.50	818.99	999.50	888.71	1055.95	3.60	Minimum on Edge
Reinf. Layer #71	112.50	701.85	1002.50	822.09	1002.50	892.99	1055.93	3.75	Minimum on Edge
Reinf. Layer #72	114.00	703.38	1004.00	823.59	1004.00	897.70	1055.90	3.84	Minimum on Edge
Reinf. Layer #73	116.00	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #74	118.50	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #75	120.00	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #76	122.00	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #77	124.50	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #78	126.00	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #79	128.00	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #80	130.50	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #81	132.00	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #82	134.00	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #83	136.50	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #84	138.00	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #85	140.00	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #86	142.50	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #87	144.00	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #88	146.00	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #89	148.50	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence
Reinf. Layer #90	150.00	543.90	890.00	543.90	890.00	543.90	891000033.30		No convergence

Note: In the 'Status' column, OK means the critical two part-wedge was identified within the specified search domain. 'Minimum on Edge' means the critical result corresponds to a minimum on the edge of the search domain; i.e., either on X1 or X2 or the internally preset limits on Xc.

RESULTS OF TRANSLATIONAL ANALYSIS (continues)

Critical two-part wedge along each interface:								
Interface	Height Relative to Toe [ft]	(Xa, Ya) [ft]		(Xb, Yb) [ft]		(Xc, Yc) [ft]		STATUS
Reinf. Layer #91	152.00	543.90	890.00	543.90	890.00	543.90	890.00	No convergence
Reinf. Layer #92	155.00	543.90	890.00	543.90	890.00	543.90	890.00	No convergence
Reinf. Layer #93	158.00	543.90	890.00	543.90	890.00	543.90	890.00	No convergence
Reinf. Layer #94	161.00	543.90	890.00	543.90	890.00	543.90	890.00	No convergence
Reinf. Layer #95	164.00	543.90	890.00	543.90	890.00	543.90	890.00	No convergence
Reinf. Layer #96	0.00	543.90	890.00	543.90	890.00	543.90	890.00	OK
Reinf. Layer #97	0.00	543.90	890.00	543.90	890.00	543.90	890.00	OK
Reinf. Layer #98	0.00	543.90	890.00	543.90	890.00	543.90	890.00	OK
Reinf. Layer #99	0.00	543.90	890.00	543.90	890.00	543.90	890.00	OK
Reinf. Layer #100	0.00	543.90	890.00	543.90	890.00	543.90	890.00	OK

Note: In the 'Status' column, OK means the critical two part-wedge was identified within the specified search domain. 'Minimum on Edge' means the critical result corresponds to a minimum on the edge of the search domain; i.e., either on X1 or X2 or the internally preset limits on Xc.

CRITICAL RESULTS OF ROTATIONAL AND TRANSLATIONAL STABILITY ANALYSES

Rotational (Circular Arc; Bishop) Stability Analysis

Minimum Factor of Safety = 2.11

Critical Circle: $X_c = 339.07$ [ft], $Y_c = 2009.67$ [ft], $R = 1158.08$ [ft]. (Number of slices used = 79)

Translational (2-Part Wedge; Spencer), Direct Sliding, Stability Analysis

Minimum Factor of Safety = 1.94

Critical Two-Part Wedge: ($X_a = 545.40$, $Y_a = 891.50$) [ft]

($X_b = 665.59$, $Y_b = 891.50$) [ft]

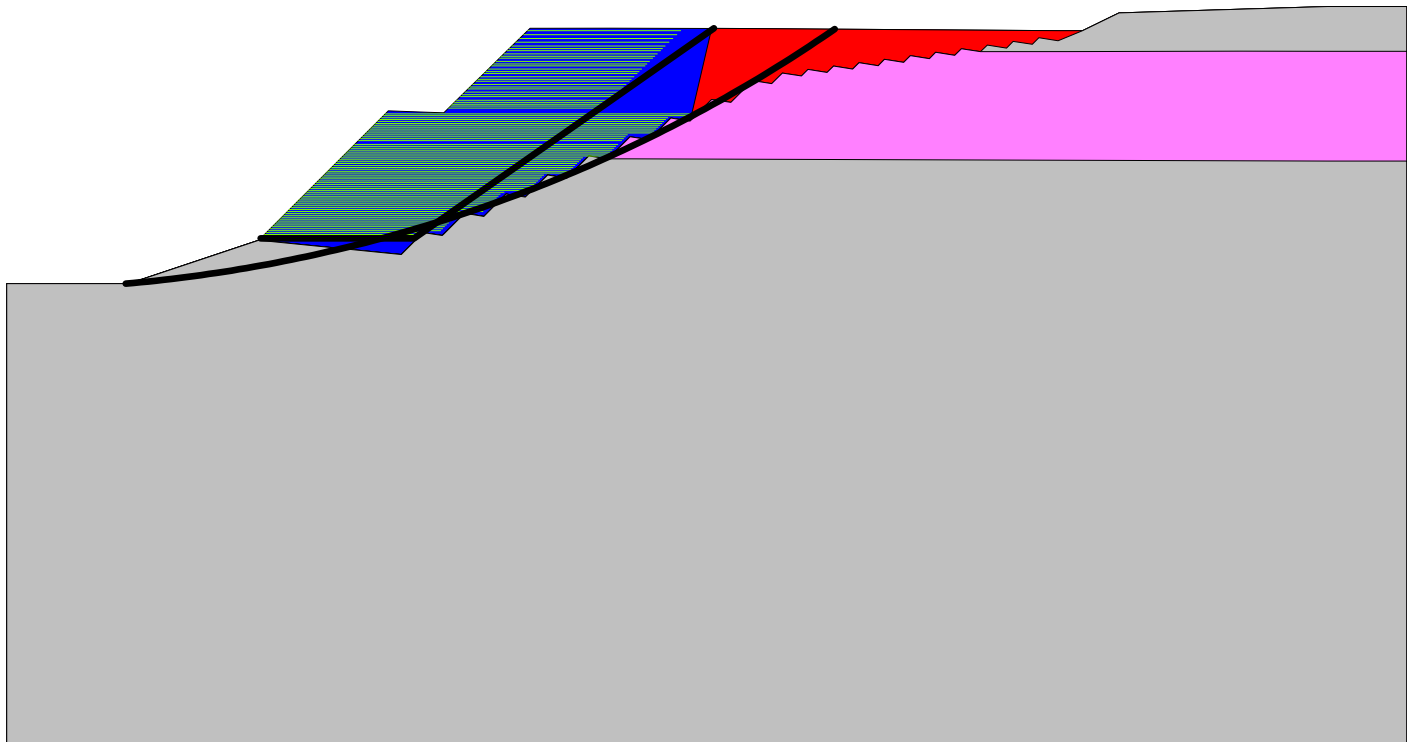
($X_c = 900.35$, $Y_c = 1055.88$) [ft]

(Number of slices used = 30)

Interslice resultant force inclination = 26.78 [degrees]

Three-Part Wedge Stability Analysis

NOT CONDUCTED
REINFORCEMENT LAYOUT: DRAWING

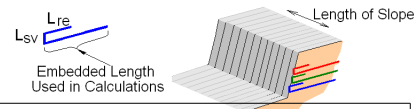


SCALE:

1:123[ft]

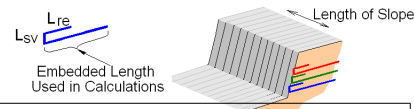


REINFORCEMENT LAYOUT: TABULATED DATA & QUANTITIES



Layer #	Reinf. Type #	Geosynthetic Designated Name	Height Relative to Toe [ft]	Embedded Length [ft]	Covergae Ratio, Rc	(X, Y) front [ft]	(X, Y) rear [ft]	Lsv * [ft]	Lre [ft]		
1	1	20XT	1.50	120.00	1.00	545.40	891.50	665.40	891.50	0.00	0.00
2	1	20XT	3.00	120.00	1.00	546.91	893.00	666.91	893.00	0.00	0.00
3	1	20XT	4.50	120.00	1.00	548.41	894.50	668.41	894.50	0.00	0.00
4	1	20XT	6.00	120.00	1.00	549.91	896.00	669.91	896.00	0.00	0.00
5	1	20XT	7.50	135.00	1.00	551.41	897.50	686.41	897.50	0.00	0.00
6	1	20XT	9.00	135.00	1.00	552.92	899.00	687.92	899.00	0.00	0.00
7	1	20XT	10.50	135.00	1.00	554.42	900.50	689.42	900.50	0.00	0.00
8	1	20XT	12.00	135.00	1.00	555.92	902.00	690.92	902.00	0.00	0.00
9	1	20XT	13.50	135.00	1.00	557.43	903.50	692.43	903.50	0.00	0.00
10	1	20XT	15.00	135.00	1.00	558.93	905.00	693.93	905.00	0.00	0.00
11	1	20XT	16.50	135.00	1.00	560.43	906.50	695.43	906.50	0.00	0.00
12	1	20XT	18.00	135.00	1.00	561.94	908.00	696.94	908.00	0.00	0.00
13	1	20XT	19.50	135.00	1.00	563.44	909.50	698.44	909.50	0.00	0.00
14	1	20XT	21.00	135.00	1.00	564.94	911.00	699.94	911.00	0.00	0.00
15	1	20XT	22.50	153.00	1.00	566.44	912.50	719.44	912.50	0.00	0.00
16	1	20XT	24.00	153.00	1.00	567.95	914.00	720.95	914.00	0.00	0.00
17	1	20XT	25.50	153.00	1.00	569.45	915.50	722.45	915.50	0.00	0.00
18	1	20XT	27.00	153.00	1.00	570.95	917.00	723.95	917.00	0.00	0.00
19	1	20XT	28.50	153.00	1.00	572.46	918.50	725.46	918.50	0.00	0.00
20	1	20XT	30.00	153.00	1.00	573.96	920.00	726.96	920.00	0.00	0.00
21	1	20XT	31.50	153.00	1.00	575.46	921.50	728.46	921.50	0.00	0.00
22	1	20XT	33.00	153.00	1.00	576.97	923.00	729.97	923.00	0.00	0.00
23	1	20XT	34.50	153.00	1.00	578.47	924.50	731.47	924.50	0.00	0.00
24	1	20XT	36.00	153.00	1.00	579.97	926.00	732.97	926.00	0.00	0.00
25	1	20XT	37.50	154.50	1.00	581.47	927.50	735.97	927.50	0.00	0.00
26	1	20XT	39.00	172.00	1.00	582.98	929.00	754.98	929.00	0.00	0.00
27	1	20XT	40.50	172.00	1.00	584.48	930.50	756.48	930.50	0.00	0.00
28	1	20XT	42.00	172.00	1.00	585.98	932.00	757.98	932.00	0.00	0.00
29	1	20XT	43.50	172.00	1.00	587.49	933.50	759.49	933.50	0.00	0.00
30	1	20XT	45.00	172.00	1.00	588.99	935.00	760.99	935.00	0.00	0.00
31	1	20XT	46.50	172.00	1.00	590.49	936.50	762.49	936.50	0.00	0.00
32	1	20XT	48.00	172.00	1.00	591.99	938.00	763.99	938.00	0.00	0.00
33	1	20XT	49.50	172.00	1.00	593.50	939.50	765.50	939.50	0.00	0.00
34	1	20XT	51.00	172.00	1.00	595.00	941.00	767.00	941.00	0.00	0.00
35	1	20XT	52.50	189.00	1.00	596.50	942.50	785.50	942.50	0.00	0.00
36	1	20XT	54.00	189.00	1.00	598.01	944.00	787.01	944.00	0.00	0.00
37	1	20XT	55.50	189.00	1.00	599.51	945.50	788.51	945.50	0.00	0.00
38	1	20XT	57.00	189.00	1.00	601.01	947.00	790.01	947.00	0.00	0.00
39	1	20XT	58.50	189.00	1.00	602.52	948.50	791.52	948.50	0.00	0.00
40	1	20XT	60.00	189.00	1.00	604.02	950.00	793.02	950.00	0.00	0.00
41	1	20XT	61.50	189.00	1.00	605.52	951.50	794.52	951.50	0.00	0.00
42	1	20XT	63.00	189.00	1.00	607.02	953.00	796.02	953.00	0.00	0.00
43	1	20XT	64.50	189.00	1.00	608.53	954.50	797.53	954.50	0.00	0.00
44	1	20XT	66.00	206.00	1.00	610.03	956.00	816.03	956.00	0.00	0.00
45	1	20XT	67.50	206.00	1.00	611.53	957.50	817.53	957.50	0.00	0.00
46	1	20XT	69.00	206.00	1.00	613.04	959.00	819.04	959.00	0.00	0.00
47	1	20XT	70.50	206.00	1.00	614.54	960.50	820.54	960.50	0.00	0.00
48	1	20XT	72.00	206.00	1.00	616.04	962.00	822.04	962.00	0.00	0.00
49	1	20XT	73.50	206.00	1.00	617.55	963.50	823.55	963.50	0.00	0.00
50	1	20XT	75.00	206.00	1.00	619.05	965.00	825.05	965.00	0.00	0.00

* Vertical distance between layers.



REINFORCEMENT LAYOUT: TABULATED DATA & QUANTITIES

Layer #	Reinf. Type #	Geosynthetic Designated Name	Height Relative to Toe [ft]	Embedded Length [ft]	Covergae Ratio, Rc	(X, Y) front [ft]	(X, Y) rear [ft]	Lsv * [ft]	Lre [ft]
51	1	20XT	78.00	206.00	1.00	622.05	968.00	0.00	0.00
52	1	20XT	79.50	206.00	1.00	623.56	969.50	0.00	0.00
53	1	20XT	81.00	206.00	1.00	625.06	971.00	0.00	0.00
54	1	20XT	82.50	206.00	1.00	626.56	972.50	0.00	0.00
55	1	20XT	84.00	224.00	1.00	628.07	974.00	0.00	0.00
56	1	20XT	85.50	224.00	1.00	629.57	975.50	0.00	0.00
57	1	20XT	87.00	224.00	1.00	631.07	977.00	0.00	0.00
58	1	20XT	88.50	224.00	1.00	632.57	978.50	0.00	0.00
59	1	20XT	90.00	224.00	1.00	634.08	980.00	0.00	0.00
60	1	20XT	91.50	224.00	1.00	635.58	981.50	0.00	0.00
61	1	20XT	93.00	224.00	1.00	637.08	983.00	0.00	0.00
62	1	20XT	94.50	224.00	1.00	638.59	984.50	0.00	0.00
63	1	20XT	96.00	224.00	1.00	640.09	986.00	0.00	0.00
64	1	20XT	97.50	240.00	1.00	641.59	987.50	0.00	0.00
65	1	20XT	99.00	240.00	1.00	643.10	989.00	0.00	0.00
66	1	20XT	103.50	120.00	1.00	692.67	993.50	0.00	0.00
67	1	20XT	105.00	120.00	1.00	694.20	995.00	0.00	0.00
68	1	20XT	106.50	120.00	1.00	695.73	996.50	0.00	0.00
69	1	20XT	108.00	120.00	1.00	697.26	998.00	0.00	0.00
70	1	20XT	109.50	120.00	1.00	698.79	999.50	0.00	0.00
71	1	20XT	112.50	120.00	1.00	701.85	1002.50	0.00	0.00
72	1	20XT	114.00	120.00	1.00	703.38	1004.00	0.00	0.00
73	1	20XT	116.00	120.00	1.00	705.42	1006.00	0.00	0.00
74	1	20XT	118.50	120.00	1.00	707.97	1008.50	0.00	0.00
75	1	20XT	120.00	120.00	1.00	709.50	1010.00	0.00	0.00
76	1	20XT	122.00	120.00	1.00	711.54	1012.00	0.00	0.00
77	1	20XT	124.50	120.00	1.00	714.09	1014.50	0.00	0.00
78	1	20XT	126.00	120.00	1.00	715.61	1016.00	0.00	0.00
79	1	20XT	128.00	120.00	1.00	717.65	1018.00	0.00	0.00
80	1	20XT	130.50	120.00	1.00	720.20	1020.50	0.00	0.00
81	1	20XT	132.00	120.00	1.00	721.73	1022.00	0.00	0.00
82	1	20XT	134.00	120.00	1.00	723.77	1024.00	0.00	0.00
83	1	20XT	136.50	120.00	1.00	726.32	1026.50	0.00	0.00
84	1	20XT	138.00	120.00	1.00	727.85	1028.00	0.00	0.00
85	1	20XT	140.00	120.00	1.00	729.89	1030.00	0.00	0.00
86	1	20XT	142.50	120.00	1.00	732.44	1032.50	0.00	0.00
87	1	20XT	144.00	120.00	1.00	733.97	1034.00	0.00	0.00
88	1	20XT	146.00	120.00	1.00	736.01	1036.00	0.00	0.00
89	1	20XT	148.50	120.00	1.00	738.56	1038.50	0.00	0.00
90	1	20XT	150.00	120.00	1.00	740.09	1040.00	0.00	0.00
91	1	20XT	152.00	120.00	1.00	742.13	1042.00	0.00	0.00
92	1	20XT	155.00	120.00	1.00	745.18	1045.00	0.00	0.00
93	1	20XT	158.00	120.00	1.00	748.24	1048.00	0.00	0.00
94	1	20XT	161.00	120.00	1.00	751.30	1051.00	0.00	0.00
95	1	20XT	164.00	120.00	1.00	754.36	1054.00	0.00	0.00

* Vertical distance between layers.

QUANTITIES

Reinf. Type #	Designated Name	Coverage Ratio	Area of reinforcemnt [ft²] / length of slope [ft]
1	20XT	1.00	15125.50



MiraSlope® Pro

Cross-Section RI-RI

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PROJECT IDENTIFICATION

Title: Cross-Section RI-RI
Project Number: 16123A -
Client: PAI
Designer: MAW

Description:

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Original file path and name: C:\Users\A \Desktop\16123A\Miraslope\Cross-Section RI-RI.MIRp
Original date and time of creating this file: 5/4/26

PROGRAM MODE: Analysis of a General Slope using GEOSYNTHETIC as reinforcing material.

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INPUT DATA (EXCLUDING REINFORCEMENT LAYOUT)

SOIL DATA

===== Soil Layer #: =====	Unit weight, γ [lb/ft ³]	Internal angle of friction, ϕ [deg.]	Cohesion, c [lb/ft ²]
1.....Eng Fill (Sand).....	135.0	33.0	0.0
2.....Ex. Soil/Colluvium.....	125.0	14.0	0.0
3.....Eng Fill (Clay).....	135.0	20.0	0.0
4.....Bedrock.....	145.0	45.0	500.0
5.....In-Place Redbeds.....	140.0	20.0	200.0
6.....Bedrock.....	145.0	45.0	500.0

REINFORCEMENT

Reinforcement		Ultimate Strength, Tult [lb/ft]	Reduction Factor for Installation Damage, RFid	Reduction Factor for Durability, RFd	Reduction Factor for Creep, RFC	Coverage Ratio, Rc
Type #	Geosynthetic Designated Name					
1	20XT	16000	1.10	1.10	1.44	1.00

Interaction Parameters		== Direct Sliding ==		==== Pullout =====	
Type #	Geosynthetic Designated Name	Cds-phi	Cds-c	Ci	Alpha
1	20XT	0.80	0.00	0.80	0.80

Relative Orientation of Reinforcement Force, ROR = 0.00. Assigned Factor of Safety to resist pullout, Fs-po = 1.50
Design method for Global Stability: Comprehensive Bishop.

WATER

Water is not present

SEISMICITY

Not Applicable

DRAWING OF SPECIFIED GEOMETRY - GENERAL - Quick Input

- Problem geometry is defined along sections selected by user at x,y coordinates.
- X1,Y1 represents the coordinates of soil surface. X2,Y2 represent the coordinates of the end of soil layer 1 and start of soil layer 2, and so on.

GEOMETRY

Soil profile contains 6 layers (see details in next page)

UNIFORM SURCHARGE

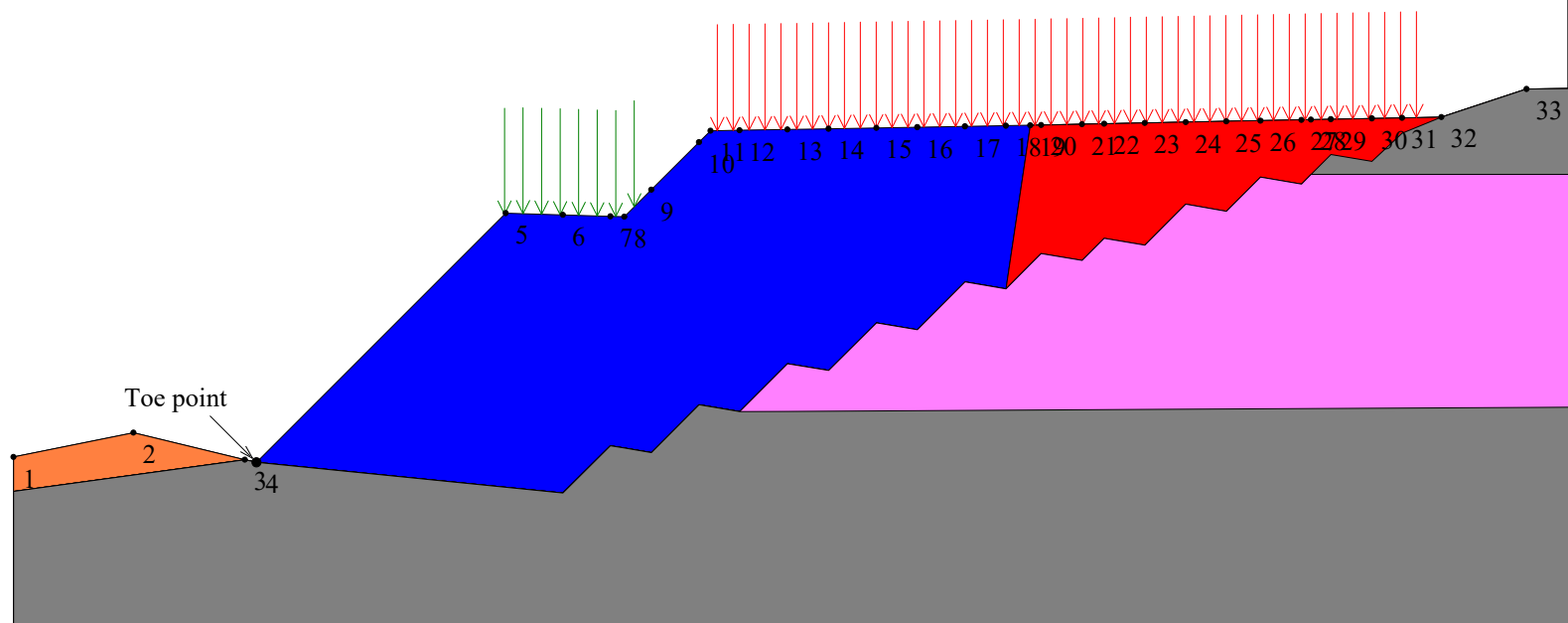
Load Q1 = 250.00 [lb/ft²] inclined from vertical at 0.00 degrees, starts at X1s = 180.00 and ends at X1e = 230.00 [ft].

Load Q2 = 250.00 [lb/ft²] inclined from vertical at 0.00 degrees, starts at X2s = 258.00 and ends at X2e = 520.00 [ft].

Surcharge load, Q3.....None

STRIP LOAD

.....None.....



SCALE:

05112230[ft]



TABULATED DETAILS OF GENERAL SPECIFIED GEOMETRY

Soil profile contains 6 layers. Coordinates in [ft.]

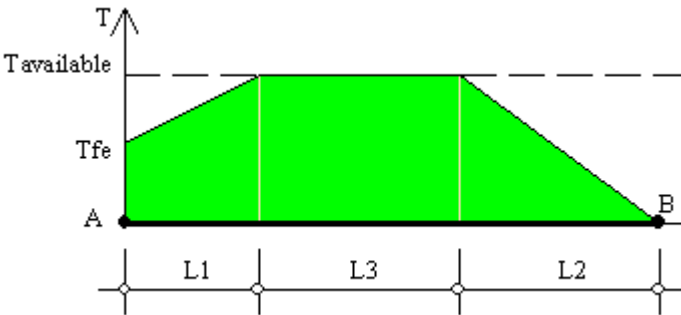
	#	Xi	Yi		#	Xi	Yi
 Top of Layer 1	1	0.00	934.50		51	89.10	932.50
	2	44.00	943.40		52	201.40	921.30
	3	84.80	933.50		53	218.80	938.60
	4	89.10	932.50		54	233.80	936.10
	5	180.40	1023.80		55	251.30	953.60
	6	223.90	1022.50		56	266.20	951.10
	7	255.50	1054.00		57	283.70	968.60
	8	372.70	1056.00		58	298.80	966.20
	9	523.40	1059.00		59	316.30	983.60
	10	554.60	1069.30		60	331.30	981.10
 Top of Layer 2	11	617.90	1070.00		61	348.80	998.60
	12	0.00	934.50		62	363.80	996.10
	13	44.00	943.40		63	376.70	1009.00
	14	84.80	933.50		64	391.70	1006.50
	15	89.10	932.50		65	399.80	1014.60
	16	201.40	921.30		66	414.70	1012.10
	17	218.80	938.60		67	429.70	1027.10
	18	233.80	936.10		68	444.60	1024.50
	19	251.30	953.60		69	457.10	1037.00
	20	266.20	951.10		70	472.10	1034.50
	21	283.70	968.60		71	475.60	1038.00
	22	298.80	966.20		72	482.90	1045.30
	23	316.30	983.60		73	497.90	1042.80
	24	331.30	981.10		74	509.00	1053.10
	25	348.80	998.60		75	523.40	1059.00
	26	363.80	996.10		76	554.60	1069.30
	27	372.70	1056.00		77	617.90	1070.00
	28	523.40	1059.00	 Top of Layer 5	78	0.00	921.90
 Top of Layer 3	29	554.60	1069.30		79	84.80	933.50
	30	617.90	1070.00		80	89.10	932.50
	31	0.00	921.90		81	201.40	921.30
	32	84.80	933.50		82	218.80	938.60
	33	89.10	932.50		83	233.80	936.10
	34	201.40	921.30		84	251.30	953.60
	35	218.80	938.60		85	266.20	951.10
	36	233.80	936.10		86	283.70	968.60
	37	251.30	953.60		87	298.80	966.20
	38	266.20	951.10		88	316.30	983.60
	39	283.70	968.60		89	331.30	981.10
	40	298.80	966.20		90	348.80	998.60
	41	316.30	983.60		91	363.80	996.10
	42	331.30	981.10		92	376.70	1009.00
	43	348.80	998.60		93	391.70	1006.50
	44	363.80	996.10		94	399.80	1014.60
	45	372.70	1056.00		95	414.70	1012.10
 Top of Layer 4	46	523.40	1059.00		96	429.70	1027.10
	47	554.60	1069.30		97	444.60	1024.50
	48	617.90	1070.00		98	457.10	1037.00
	49	0.00	921.90	 Top of Layer 6	99	472.10	1034.50
	50	84.80	933.50		100	475.60	1038.00
					101	617.90	1038.00
					102	0.00	921.90
					103	84.80	933.50
					104	89.10	932.50
					105	201.40	921.30
					106	218.80	938.60
					107	233.80	936.10
					108	251.30	953.60
					109	266.20	951.10
					110	617.90	951.10

TABULATED DETAILS OF SPECIFIED GEOMETRY

Soil profile contains 6 layers. Coordinates in [ft.]

#	X	Y1	Y2	Y3	Y4	Y5	Y6
1	0.00	934.50	934.50	921.90	921.90	921.90	921.90
2	44.00	943.40	943.40	927.92	927.92	927.92	927.92
3	84.80	933.50	933.50	933.50	933.50	933.50	933.50
4	89.10	932.50	932.50	932.50	932.50	932.50	932.50
5	180.40	1023.80	923.39	923.39	923.39	923.39	923.39
6	201.40	1023.17	921.30	921.30	921.30	921.30	921.30
7	218.80	1022.65	938.60	938.60	938.60	938.60	938.60
8	223.90	1022.50	937.75	937.75	937.75	937.75	937.75
9	233.80	1032.37	936.10	936.10	936.10	936.10	936.10
10	251.30	1049.81	953.60	953.60	953.60	953.60	953.60
11	255.50	1054.00	952.90	952.90	952.90	952.90	952.90
12	266.20	1054.18	951.10	951.10	951.10	951.10	951.10
13	283.70	1054.48	968.60	968.60	968.60	968.60	951.19
14	298.80	1054.74	966.20	966.20	966.20	966.20	951.28
15	316.30	1055.04	983.60	983.60	983.60	983.60	951.37
16	331.30	1055.29	981.10	981.10	981.10	981.10	951.45
17	348.80	1055.59	998.60	998.60	998.60	998.60	951.55
18	363.80	1055.85	996.10	996.10	996.10	996.10	951.63
19	372.70	1056.00	1056.00	1056.00	1005.00	1005.00	951.68
20	376.70	1056.08	1056.08	1056.08	1009.00	1009.00	951.70
21	391.70	1056.38	1056.38	1056.38	1006.50	1006.50	951.78
22	399.80	1056.54	1056.54	1056.54	1014.60	1014.60	951.82
23	414.70	1056.84	1056.84	1056.84	1012.10	1012.10	951.90
24	429.70	1057.13	1057.13	1057.13	1027.10	1027.10	951.98
25	444.60	1057.43	1057.43	1057.43	1024.50	1024.50	952.06
26	457.10	1057.68	1057.68	1057.68	1037.00	1037.00	952.13
27	472.10	1057.98	1057.98	1057.98	1034.50	1034.50	952.21
28	475.60	1058.05	1058.05	1058.05	1038.00	1038.00	952.23
29	482.90	1058.19	1058.19	1058.19	1045.30	1038.00	952.27
30	497.90	1058.49	1058.49	1058.49	1042.80	1038.00	952.35
31	509.00	1058.71	1058.71	1058.71	1053.10	1038.00	952.41
32	523.40	1059.00	1059.00	1059.00	1059.00	1038.00	952.49
33	554.60	1069.30	1069.30	1069.30	1069.30	1038.00	952.66
34	617.90	1070.00	1070.00	1070.00	1070.00	1038.00	953.00

DISTRIBUTION OF AVAILABLE STRENGTH ALONG EACH REINFORCEMENT LAYER



A = Front-end of reinforcement (at face of slope)
 B = Rear-end of reinforcement
 AB = $L1 + L2 + L3$ = Embedded length of reinforcement

Tavailable = Long-term strength of reinforcement
 Tfe = Available front-end strength (e.g., connection to facing)

L1 = Front-end 'pullout' length
 L2 = Rear-end pullout length
 Tavailable prevails along L3

Factor of safety on resistance to pullout on either end of reinforcement, $Fs-po = 1.50$

Reinforcement Layer #	Designated Name	Height Relative to Toe [ft]	L [ft]	L1 [ft]	L2 [ft]	L3 [ft]	Tfe [lb/ft]	Tavailable [lb/ft]
1	20XT	0.00	120.00	0.00	1.38	118.62	9182.74	9182.74
2	20XT	1.50	120.00	0.00	1.41	118.59	9182.74	9182.74
3	20XT	3.00	120.00	0.00	1.41	118.59	9182.74	9182.74
4	20XT	4.50	120.00	0.00	1.44	118.56	9182.74	9182.74
5	20XT	6.00	120.00	0.00	1.48	118.52	9182.74	9182.74
6	20XT	7.50	120.00	0.00	1.51	118.49	9182.74	9182.74
7	20XT	9.00	120.00	0.00	1.54	118.46	9182.74	9182.74
8	20XT	10.50	138.40	0.00	1.35	137.05	9182.74	9182.74
9	20XT	12.00	138.40	0.00	1.35	137.05	9182.74	9182.74
10	20XT	13.50	138.40	0.00	1.35	137.05	9182.74	9182.74
11	20XT	15.00	138.40	0.00	1.35	137.05	9182.74	9182.74
12	20XT	16.50	138.40	0.00	1.35	137.05	9182.74	9182.74
13	20XT	18.00	138.40	0.00	1.35	137.05	9182.74	9182.74
14	20XT	19.50	138.40	0.00	1.35	137.05	9182.74	9182.74
15	20XT	21.00	138.40	0.00	1.35	137.05	9182.74	9182.74
16	20XT	22.50	155.40	0.00	1.25	154.15	9182.74	9182.74
17	20XT	24.00	155.40	0.00	1.28	154.12	9182.74	9182.74
18	20XT	25.50	155.40	0.00	1.28	154.12	9182.74	9182.74
19	20XT	27.00	155.40	0.00	1.31	154.09	9182.74	9182.74
20	20XT	28.50	155.40	0.00	1.35	154.05	9182.74	9182.74
21	20XT	30.00	155.40	0.00	1.35	154.05	9182.74	9182.74
22	20XT	31.50	155.40	0.00	1.38	154.02	9182.74	9182.74
23	20XT	33.00	155.40	0.00	1.41	153.99	9182.74	9182.74
24	20XT	34.50	155.40	0.00	1.41	153.99	9182.74	9182.74
25	20XT	36.00	155.40	0.00	1.44	153.96	9182.74	9182.74
26	20XT	37.50	173.30	0.00	1.48	171.82	9182.74	9182.74
27	20XT	39.00	173.30	0.00	1.48	171.82	9182.74	9182.74
28	20XT	40.50	173.30	0.00	1.51	171.79	9182.74	9182.74
29	20XT	42.00	173.30	0.00	1.54	171.76	9182.74	9182.74
30	20XT	43.50	173.30	0.00	1.57	171.73	9182.74	9182.74
31	20XT	45.00	173.30	0.00	1.61	171.69	9182.74	9182.74
32	20XT	46.50	173.30	0.00	1.64	171.66	9182.74	9182.74
33	20XT	48.00	173.30	0.00	1.67	171.63	9182.74	9182.74
34	20XT	49.50	173.30	0.00	1.71	171.59	9182.74	9182.74
35	20XT	51.00	173.30	0.00	1.74	171.56	9182.74	9182.74

DISTRIBUTION OF AVAILABLE STRENGTH ALONG EACH REINFORCEMENT LAYER (continues)

Factor of safety on resistance to pullout on either end of reinforcement, $F_{s-po} = 1.50$

Reinforcement Layer #	Designated Name	Height Relative to Toe [ft]	L [ft]	L1 [ft]	L2 [ft]	L3 [ft]	Tfe [lb/ft]	Tavailable [lb/ft]
36	20XT	52.50	190.80	0.00	1.77	189.03	9182.74	9182.74
37	20XT	54.00	190.80	0.00	1.80	189.00	9182.74	9182.74
38	20XT	55.50	190.80	0.00	1.84	188.96	9182.74	9182.74
39	20XT	57.00	190.80	0.00	1.87	188.93	9182.74	9182.74
40	20XT	58.50	190.80	0.00	1.94	188.86	9182.74	9182.74
41	20XT	60.00	190.80	0.00	1.97	188.83	9182.74	9182.74
42	20XT	61.50	190.80	0.00	2.00	188.80	9182.74	9182.74
43	20XT	63.00	190.80	0.00	2.07	188.73	9182.74	9182.74
44	20XT	64.50	190.80	0.00	2.10	188.70	9182.74	9182.74
45	20XT	66.00	190.80	0.00	2.17	188.63	9182.74	9182.74
46	20XT	67.50	190.00	0.00	2.23	187.77	9182.74	9182.74
47	20XT	69.00	188.00	0.00	2.30	185.70	9182.74	9182.74
48	20XT	70.50	187.00	0.00	2.36	184.64	9182.74	9182.74
49	20XT	72.00	185.00	0.00	2.43	182.57	9182.74	9182.74
50	20XT	73.50	184.00	0.00	2.49	181.51	9182.74	9182.74
51	20XT	75.00	182.00	0.00	2.56	179.44	9182.74	9182.74
52	20XT	76.50	181.00	0.00	2.66	178.34	9182.74	9182.74
53	20XT	78.00	179.00	0.00	2.76	176.24	9182.74	9182.74
54	20XT	79.50	178.00	0.00	2.82	175.18	9182.74	9182.74
55	20XT	81.00	176.00	0.00	2.95	173.05	9182.74	9182.74
56	20XT	82.50	175.00	0.00	3.05	171.95	9182.74	9182.74
57	20XT	84.00	173.00	0.00	3.15	169.85	9182.74	9182.74
58	20XT	85.50	172.00	0.00	3.28	168.72	9182.74	9182.74
59	20XT	87.00	170.00	0.00	3.41	166.59	9182.74	9182.74
60	20XT	88.50	169.00	0.00	3.58	165.42	9182.74	9182.74
61	20XT	93.00	120.00	0.00	4.10	115.90	9182.74	9182.74
62	20XT	94.50	120.00	0.00	4.33	115.67	9182.74	9182.74
63	20XT	96.00	120.00	0.00	4.56	115.44	9182.74	9182.74
64	20XT	97.50	120.00	0.00	4.82	115.18	9182.74	9182.74
65	20XT	99.00	120.00	0.00	5.12	114.88	9182.74	9182.74
66	20XT	100.50	120.00	0.00	5.45	114.55	9182.74	9182.74
67	20XT	102.00	120.00	0.00	5.81	114.19	9182.74	9182.74
68	20XT	103.50	120.00	0.00	6.27	113.73	9182.74	9182.74
69	20XT	105.00	120.00	0.00	6.76	113.24	9182.74	9182.74
70	20XT	106.50	120.00	0.00	7.35	112.65	9182.74	9182.74
71	20XT	108.00	120.00	0.00	8.07	111.93	9182.74	9182.74
72	20XT	109.50	120.00	0.00	8.92	111.08	9182.74	9182.74
73	20XT	111.00	120.00	0.00	10.01	109.99	9182.74	9182.74
74	20XT	112.50	120.00	0.00	11.38	108.62	9182.74	9182.74
75	20XT	114.00	120.00	0.00	13.22	106.78	9182.74	9182.74
76	20XT	115.50	120.00	0.00	15.72	104.28	9182.74	9182.74
77	20XT	117.00	120.00	0.00	19.49	100.51	9182.74	9182.74
78	20XT	118.50	120.00	0.00	25.95	94.05	9182.74	9182.74
79	20XT	120.00	120.00	0.00	39.44	80.56	9182.74	9182.74

RESULTS OF ROTATIONAL STABILITY ANALYSIS

Results in the tables below represent critical circles identified between specified points on entry and exit. (Theta-exit set to 50.00 deg.)
 The most critical circle is obtained from a search considering all the combinations of input entry and exit points.

Critical circles for each entry point (considering all specified exit points)									
Entry Point #	Entry Point (X, Y) [ft]		Exit Point (X, Y) [ft]		Critical Circle (Xc, Yc, R) [ft]			Fs	STATUS
1	89.10	932.50	89.10	932.50	89.10	932.50	0.00	N/A	#10 - Overhanging Cliff
2	210.30	1022.91	9.56	937.12	91.31	1023.58	118.99	6.04	
3	253.60	1052.11	-1.49	935.76	99.23	1052.76	154.37	5.55	
4	296.90	1054.71	60.50	939.61	147.03	1062.21	150.06	4.11	
5	340.20	1055.45	49.48	942.83	163.27	1080.64	178.72	3.93	
6	383.50	1056.22	91.20	934.90	155.66	1192.40	265.44	2.51	
7	426.80	1057.08	90.94	934.91	144.30	1310.97	379.83	2.00	OK
8	470.10	1057.94	90.16	934.86	102.11	1545.97	611.22	2.20	
9	513.40	1058.80	9.03	936.67	90.63	1702.22	769.88	2.30	
10	556.70	1069.32	90.95	934.83	75.24	1862.94	928.24	2.39	
11	600.00	1069.80	101.01	945.02	134.01	1873.15	928.72	2.59	

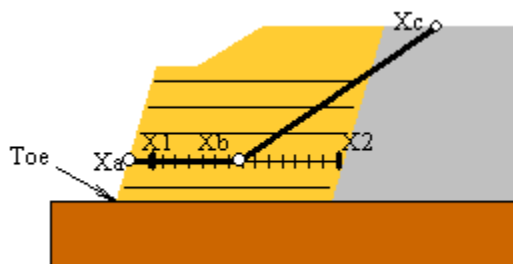
Note: In the 'Status' column, OK means the critical circle was identified within the specified search domain. 'On extreme X-entry' means that the critical result is on the edge of the search domain; a lower Fs may result if the search domain is expanded.

Results in the tables below represent critical circles identified between specified points on entry and exit. (Theta-exit set to 50.00 deg.)
 The most critical circle is obtained from a search considering all the combinations of input entry and exit points.

Critical circles for each exit point (considering all specified entry points).									
Exit Point #	Exit Point (X, Y) [ft]		Entry Point (X, Y) [ft]		Critical Circle (Xc, Yc, R) [ft]			Fs	STATUS
1	-1.31	934.80	426.80	1057.08	102.94	1380.39	457.62	2.21	#10 - Overhanging Cliff
2	9.03	936.67	513.40	1058.80	90.63	1702.22	769.88	2.30	
3	18.80	938.83	513.40	1058.80	115.84	1618.27	686.34	2.34	
4	29.22	940.91	556.70	1069.32	153.98	1576.01	647.24	3.00	
5	89.10	932.50	89.10	932.50	89.10	932.50	0.00	N/A	
6	50.46	941.86	426.80	1057.08	153.48	1277.59	351.19	2.40	
7	60.81	939.33	383.50	1056.22	147.20	1204.71	279.08	2.67	OK
8	69.72	937.42	383.50	1056.22	165.31	1158.72	241.07	2.98	
9	79.96	934.87	210.30	1022.91	115.32	1023.03	94.98	8.80	
10	90.94	934.91	426.80	1057.08	144.30	1310.97	379.83	2.00	
11	101.03	945.11	426.80	1057.08	167.20	1282.49	343.81	2.16	

Note: In the 'Status' column, OK means the critical circle was identified within the specified search domain. 'On extreme X-exit' means that the critical result is on the edge of the search domain; a lower Fs may result if the search domain is expanded.

RESULTS OF TRANSLATIONAL ANALYSIS



Results in the table below represent critical two-part wedges identified between specified starting (X1) and ending (X2) search points. Wedges along all reinforcement layers and at elevation zero are reported. The critical two-part wedge, one for each predetermined elevation, is defined by Xa, Xb and Xc where Xa is the front end of the passive wedge (slope face), Xb is where the passive wedge ends and the active one starts, and Xc is the X-ordinate at which the active wedge starts.

Critical two-part wedge along each interface:

Interface	Height Relative to Toe [ft]	(Xa, Ya) [ft]	(Xb, Yb) [ft]	(Xc, Yc) [ft]	Fs	STATUS
At toe elevation	0.00	89.10 932.50	279.70 932.50	480.78 1058.15	3.08	Minimum on Edge
Reinf. Layer #1	0.00	89.10 932.50	209.29 932.50	425.00 1057.04	2.29	Minimum on Edge
Reinf. Layer #2	1.50	90.60 934.00	210.79 934.00	423.86 1057.02	2.32	Minimum on Edge
Reinf. Layer #3	3.00	92.10 935.50	212.29 935.50	422.73 1057.00	2.35	Minimum on Edge
Reinf. Layer #4	4.50	93.60 937.00	213.79 937.00	421.59 1056.97	2.37	Minimum on Edge
Reinf. Layer #5	6.00	95.10 938.50	215.29 938.50	420.45 1056.95	2.40	Minimum on Edge
Reinf. Layer #6	7.50	96.60 940.00	216.79 940.00	419.32 1056.93	2.43	Minimum on Edge
Reinf. Layer #7	9.00	98.10 941.50	218.29 941.50	418.18 1056.91	2.48	Minimum on Edge
Reinf. Layer #8	10.50	99.60 943.00	238.19 943.00	436.10 1057.26	2.47	Minimum on Edge
Reinf. Layer #9	12.00	101.10 944.50	239.69 944.50	434.96 1057.24	2.49	Minimum on Edge
Reinf. Layer #10	13.50	102.60 946.00	241.19 946.00	433.82 1057.22	2.49	Minimum on Edge
Reinf. Layer #11	15.00	104.10 947.50	242.69 947.50	432.69 1057.19	2.52	Minimum on Edge
Reinf. Layer #12	16.50	105.60 949.00	244.19 949.00	431.55 1057.17	2.56	Minimum on Edge
Reinf. Layer #13	18.00	107.10 950.50	245.69 950.50	430.41 1057.15	2.59	Minimum on Edge
Reinf. Layer #14	19.50	108.60 952.00	247.19 952.00	429.27 1057.13	2.66	Minimum on Edge
Reinf. Layer #15	21.00	110.10 953.50	248.69 953.50	428.14 1057.10	2.69	Minimum on Edge
Reinf. Layer #16	22.50	111.60 955.00	267.19 955.00	444.61 1057.43	2.57	Minimum on Edge
Reinf. Layer #17	24.00	113.10 956.50	268.69 956.50	443.47 1057.41	2.64	Minimum on Edge
Reinf. Layer #18	25.50	114.60 958.00	270.19 958.00	442.33 1057.39	2.70	Minimum on Edge
Reinf. Layer #19	27.00	116.10 959.50	271.69 959.50	441.19 1057.36	2.78	Minimum on Edge
Reinf. Layer #20	28.50	117.60 961.00	273.19 961.00	440.06 1057.34	2.86	Minimum on Edge
Reinf. Layer #21	30.00	119.10 962.50	274.69 962.50	438.92 1057.32	2.93	Minimum on Edge
Reinf. Layer #22	31.50	120.60 964.00	276.19 964.00	437.78 1057.30	2.98	Minimum on Edge
Reinf. Layer #23	33.00	122.10 965.50	277.69 965.50	436.65 1057.27	3.03	Minimum on Edge
Reinf. Layer #24	34.50	123.60 967.00	279.19 967.00	435.51 1057.25	3.08	Minimum on Edge
Reinf. Layer #25	36.00	125.10 968.50	280.69 968.50	434.37 1057.23	3.13	Minimum on Edge
Reinf. Layer #26	37.50	126.60 970.00	300.09 970.00	451.77 1057.57	2.94	Minimum on Edge
Reinf. Layer #27	39.00	128.10 971.50	301.59 971.50	450.64 1057.55	3.02	Minimum on Edge
Reinf. Layer #28	40.50	129.60 973.00	303.09 973.00	449.50 1057.53	3.13	Minimum on Edge
Reinf. Layer #29	42.00	131.10 974.50	304.59 974.50	448.36 1057.51	3.20	Minimum on Edge
Reinf. Layer #30	43.50	132.60 976.00	306.09 976.00	447.22 1057.48	3.28	Minimum on Edge
Reinf. Layer #31	45.00	134.10 977.50	307.59 977.50	446.09 1057.46	3.36	Minimum on Edge
Reinf. Layer #32	46.50	135.60 979.00	309.09 979.00	444.95 1057.44	3.44	Minimum on Edge
Reinf. Layer #33	48.00	137.10 980.50	310.59 980.50	443.81 1057.42	3.51	Minimum on Edge
Reinf. Layer #34	49.50	138.60 982.00	312.09 982.00	442.67 1057.39	3.57	Minimum on Edge
Reinf. Layer #35	51.00	140.10 983.50	313.59 983.50	441.54 1057.37	3.66	Minimum on Edge
Reinf. Layer #36	52.50	141.60 985.00	332.59 985.00	458.52 1057.71	3.46	Minimum on Edge
Reinf. Layer #37	54.00	143.10 986.50	334.09 986.50	457.39 1057.69	3.53	Minimum on Edge
Reinf. Layer #38	55.50	144.60 988.00	335.59 988.00	456.25 1057.66	3.59	Minimum on Edge

Note: In the 'Status' column, OK means the critical two part-wedge was identified within the specified search domain. 'Minimum on Edge' means the critical result corresponds to a minimum on the edge of the search domain; i.e., either on X1 or X2 or the internally preset limits on Xc.

RESULTS OF TRANSLATIONAL ANALYSIS (continues)

Critical two-part wedge along each interface:									
Interface	Height Relative to Toe [ft]	(Xa, Ya) [ft]		(Xb, Yb) [ft]		(Xc, Yc) [ft]		Fs	STATUS
Reinf. Layer #39	57.00	146.10	989.50	337.09	989.50	455.11	1057.64	3.71	Minimum on Edge
Reinf. Layer #40	58.50	147.60	991.00	338.59	991.00	453.98	1057.62	3.79	Minimum on Edge
Reinf. Layer #41	60.00	149.10	992.50	340.09	992.50	452.84	1057.60	3.86	Minimum on Edge
Reinf. Layer #42	61.50	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #43	63.00	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #44	64.50	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #45	66.00	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #46	67.50	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #47	69.00	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #48	70.50	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #49	72.00	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #50	73.50	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #51	75.00	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #52	76.50	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #53	78.00	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #54	79.50	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #55	81.00	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #56	82.50	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #57	84.00	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #58	85.50	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #59	87.00	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #60	88.50	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #61	93.00	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #62	94.50	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #63	96.00	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #64	97.50	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #65	99.00	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #66	100.50	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #67	102.00	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #68	103.50	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #69	105.00	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #70	106.50	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #71	108.00	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #72	109.50	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #73	111.00	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #74	112.50	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #75	114.00	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #76	115.50	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #77	117.00	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #78	118.50	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence
Reinf. Layer #79	120.00	89.10	932.50	89.10	932.50	89.10	93:1000033.30		No convergence

Note: In the 'Status' column, OK means the critical two part-wedge was identified within the specified search domain. 'Minimum on Edge' means the critical result corresponds to a minimum on the edge of the search domain; i.e., either on X1 or X2 or the internally preset limits on Xc.

Rotational (Circular Arc; Bishop) Stability Analysis

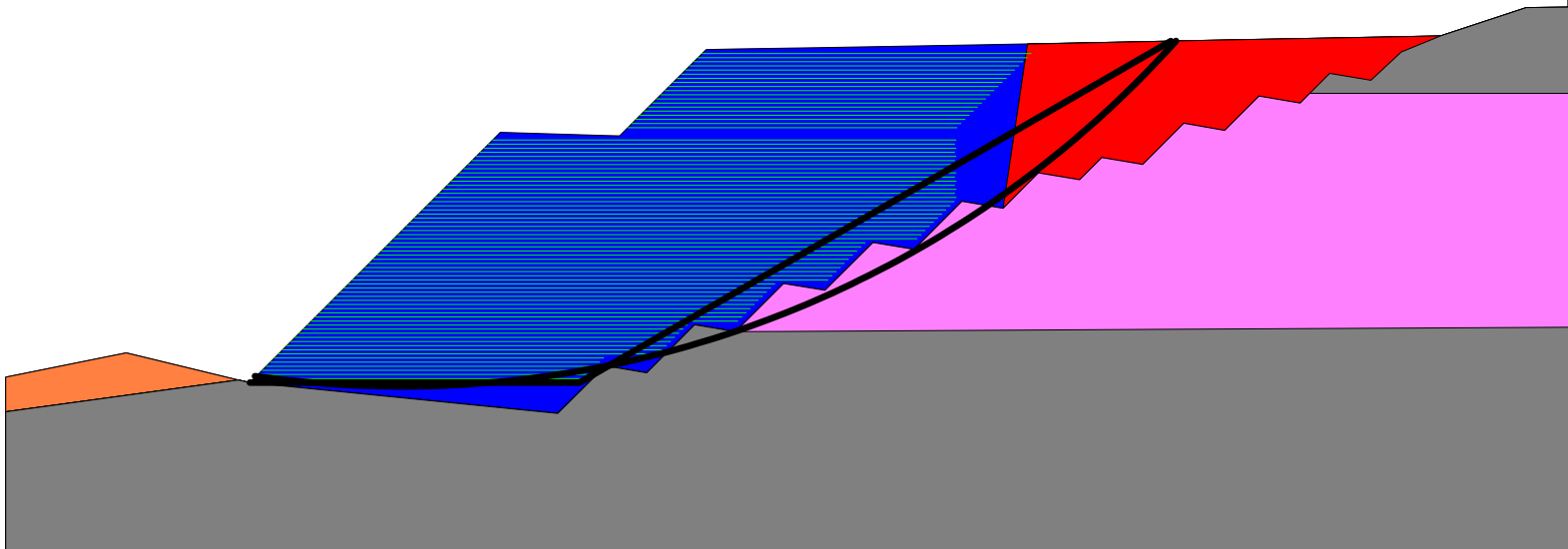
Critical Circle: $X_c = 144.30[\text{ft}]$, $Y_c = 1310.97[\text{ft}]$, $R = 379.83[\text{ft}]$. (Number of slices used = 67)

Critical Two-Part Wedge: (Xa = 89.10, Ya = 932.50) [ft]
 (Xb = 209.29, Yb = 932.50) [ft]
 (Xc = 425.00, Yc = 1057.04) [ft]
 (Number of slices used = 30)
 Interslice resultant force inclination = 10.00 degrees

(Number of slices used = 30)

Interslice resultant force inclination = 21.19 [degrees]

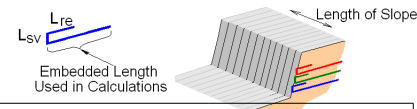
NOT CONDUCTED
REINFORCEMENT LAYOUT: DRAWING



05112230[ft]



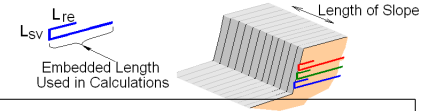
REINFORCEMENT LAYOUT: TABULATED DATA & QUANTITIES



Layer #	Reinf. Type #	Geosynthetic Designated Name	Height Relative to Toe [ft]	Embedded Length [ft]	Covergae Ratio, Rc	(X, Y) front [ft]	(X, Y) rear [ft]	Lsv * [ft]	Lre [ft]		
1	1	20XT	0.00	120.00	1.00	89.10	932.50	209.10	932.50	0.00	0.00
2	1	20XT	1.50	120.00	1.00	90.60	934.00	210.60	934.00	0.00	0.00
3	1	20XT	3.00	120.00	1.00	92.10	935.50	212.10	935.50	0.00	0.00
4	1	20XT	4.50	120.00	1.00	93.60	937.00	213.60	937.00	0.00	0.00
5	1	20XT	6.00	120.00	1.00	95.10	938.50	215.10	938.50	0.00	0.00
6	1	20XT	7.50	120.00	1.00	96.60	940.00	216.60	940.00	0.00	0.00
7	1	20XT	9.00	120.00	1.00	98.10	941.50	218.10	941.50	0.00	0.00
8	1	20XT	10.50	138.40	1.00	99.60	943.00	238.00	943.00	0.00	0.00
9	1	20XT	12.00	138.40	1.00	101.10	944.50	239.50	944.50	0.00	0.00
10	1	20XT	13.50	138.40	1.00	102.60	946.00	241.00	946.00	0.00	0.00
11	1	20XT	15.00	138.40	1.00	104.10	947.50	242.50	947.50	0.00	0.00
12	1	20XT	16.50	138.40	1.00	105.60	949.00	244.00	949.00	0.00	0.00
13	1	20XT	18.00	138.40	1.00	107.10	950.50	245.50	950.50	0.00	0.00
14	1	20XT	19.50	138.40	1.00	108.60	952.00	247.00	952.00	0.00	0.00
15	1	20XT	21.00	138.40	1.00	110.10	953.50	248.50	953.50	0.00	0.00
16	1	20XT	22.50	155.40	1.00	111.60	955.00	267.00	955.00	0.00	0.00
17	1	20XT	24.00	155.40	1.00	113.10	956.50	268.50	956.50	0.00	0.00
18	1	20XT	25.50	155.40	1.00	114.60	958.00	270.00	958.00	0.00	0.00
19	1	20XT	27.00	155.40	1.00	116.10	959.50	271.50	959.50	0.00	0.00
20	1	20XT	28.50	155.40	1.00	117.60	961.00	273.00	961.00	0.00	0.00
21	1	20XT	30.00	155.40	1.00	119.10	962.50	274.50	962.50	0.00	0.00
22	1	20XT	31.50	155.40	1.00	120.60	964.00	276.00	964.00	0.00	0.00
23	1	20XT	33.00	155.40	1.00	122.10	965.50	277.50	965.50	0.00	0.00
24	1	20XT	34.50	155.40	1.00	123.60	967.00	279.00	967.00	0.00	0.00
25	1	20XT	36.00	155.40	1.00	125.10	968.50	280.50	968.50	0.00	0.00
26	1	20XT	37.50	173.30	1.00	126.60	970.00	299.90	970.00	0.00	0.00
27	1	20XT	39.00	173.30	1.00	128.10	971.50	301.40	971.50	0.00	0.00
28	1	20XT	40.50	173.30	1.00	129.60	973.00	302.90	973.00	0.00	0.00
29	1	20XT	42.00	173.30	1.00	131.10	974.50	304.40	974.50	0.00	0.00
30	1	20XT	43.50	173.30	1.00	132.60	976.00	305.90	976.00	0.00	0.00
31	1	20XT	45.00	173.30	1.00	134.10	977.50	307.40	977.50	0.00	0.00
32	1	20XT	46.50	173.30	1.00	135.60	979.00	308.90	979.00	0.00	0.00
33	1	20XT	48.00	173.30	1.00	137.10	980.50	310.40	980.50	0.00	0.00
34	1	20XT	49.50	173.30	1.00	138.60	982.00	311.90	982.00	0.00	0.00
35	1	20XT	51.00	173.30	1.00	140.10	983.50	313.40	983.50	0.00	0.00
36	1	20XT	52.50	190.80	1.00	141.60	985.00	332.40	985.00	0.00	0.00
37	1	20XT	54.00	190.80	1.00	143.10	986.50	333.90	986.50	0.00	0.00
38	1	20XT	55.50	190.80	1.00	144.60	988.00	335.40	988.00	0.00	0.00
39	1	20XT	57.00	190.80	1.00	146.10	989.50	336.90	989.50	0.00	0.00
40	1	20XT	58.50	190.80	1.00	147.60	991.00	338.40	991.00	0.00	0.00
41	1	20XT	60.00	190.80	1.00	149.10	992.50	339.90	992.50	0.00	0.00
42	1	20XT	61.50	190.80	1.00	150.60	994.00	341.40	994.00	0.00	0.00
43	1	20XT	63.00	190.80	1.00	152.10	995.50	342.90	995.50	0.00	0.00
44	1	20XT	64.50	190.80	1.00	153.60	997.00	344.40	997.00	0.00	0.00
45	1	20XT	66.00	190.80	1.00	155.10	998.50	345.90	998.50	0.00	0.00
46	1	20XT	67.50	190.00	1.00	156.60	1000.00	346.60	1000.00	0.00	0.00
47	1	20XT	69.00	188.00	1.00	158.10	1001.50	346.10	1001.50	0.00	0.00
48	1	20XT	70.50	187.00	1.00	159.60	1003.00	346.60	1003.00	0.00	0.00
49	1	20XT	72.00	185.00	1.00	161.10	1004.50	346.10	1004.50	0.00	0.00
50	1	20XT	73.50	184.00	1.00	162.60	1006.00	346.60	1006.00	0.00	0.00

* Vertical distance between layers.

REINFORCEMENT LAYOUT: TABULATED DATA & QUANTITIES



Layer #	Reinf. Type #	Geosynthetic Designated Name	Height Relative to Toe [ft]	Embedded Length [ft]	Covergae Ratio, Rc	(X, Y) front [ft]	(X, Y) rear [ft]	Lsv * [ft]	Lre [ft]
51	1	20XT	75.00	182.00	1.00	164.10	1007.50	0.00	0.00
52	1	20XT	76.50	181.00	1.00	165.60	1009.00	0.00	0.00
53	1	20XT	78.00	179.00	1.00	167.10	1010.50	0.00	0.00
54	1	20XT	79.50	178.00	1.00	168.60	1012.00	0.00	0.00
55	1	20XT	81.00	176.00	1.00	170.10	1013.50	0.00	0.00
56	1	20XT	82.50	175.00	1.00	171.60	1015.00	0.00	0.00
57	1	20XT	84.00	173.00	1.00	173.10	1016.50	0.00	0.00
58	1	20XT	85.50	172.00	1.00	174.60	1018.00	0.00	0.00
59	1	20XT	87.00	170.00	1.00	176.10	1019.50	0.00	0.00
60	1	20XT	88.50	169.00	1.00	177.60	1021.00	0.00	0.00
61	1	20XT	93.00	120.00	1.00	226.91	1025.50	0.00	0.00
62	1	20XT	94.50	120.00	1.00	228.41	1027.00	0.00	0.00
63	1	20XT	96.00	120.00	1.00	229.92	1028.50	0.00	0.00
64	1	20XT	97.50	120.00	1.00	231.42	1030.00	0.00	0.00
65	1	20XT	99.00	120.00	1.00	232.93	1031.50	0.00	0.00
66	1	20XT	100.50	120.00	1.00	234.43	1033.00	0.00	0.00
67	1	20XT	102.00	120.00	1.00	235.94	1034.50	0.00	0.00
68	1	20XT	103.50	120.00	1.00	237.44	1036.00	0.00	0.00
69	1	20XT	105.00	120.00	1.00	238.95	1037.50	0.00	0.00
70	1	20XT	106.50	120.00	1.00	240.45	1039.00	0.00	0.00
71	1	20XT	108.00	120.00	1.00	241.96	1040.50	0.00	0.00
72	1	20XT	109.50	120.00	1.00	243.46	1042.00	0.00	0.00
73	1	20XT	111.00	120.00	1.00	244.97	1043.50	0.00	0.00
74	1	20XT	112.50	120.00	1.00	246.47	1045.00	0.00	0.00
75	1	20XT	114.00	120.00	1.00	247.98	1046.50	0.00	0.00
76	1	20XT	115.50	120.00	1.00	249.48	1048.00	0.00	0.00
77	1	20XT	117.00	120.00	1.00	250.99	1049.50	0.00	0.00
78	1	20XT	118.50	120.00	1.00	252.49	1051.00	0.00	0.00
79	1	20XT	120.00	120.00	1.00	254.00	1052.50	0.00	0.00

* Vertical distance between layers.

QUANTITIES

Reinf. Type #	Designated Name	Coverage Ratio	Area of reinforcement [ft²] / length of slope [ft]
1	20XT	1.00	12111.20



MiraSlope® Pro

Cross-Section RK-RK

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PROJECT IDENTIFICATION

Title: Cross-Section RK-RK
Project Number: 16123A -
Client: PAI
Designer: MAW

Description:

Company's information:

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Original file path and name: C:\Users\A \Desktop\16123A\Miraslope\Cross-Section RK-RK.MIRp
Original date and time of creating this file: 5/4/26

PROGRAM MODE: Analysis of a General Slope using GEOSYNTHETIC as reinforcing material.

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INPUT DATA (EXCLUDING REINFORCEMENT LAYOUT)

SOIL DATA

===== Soil Layer #: =====	Unit weight, γ [lb/ft ³]	Internal angle of friction, ϕ [deg.]	Cohesion, c [lb/ft ²]
1.....Eng Fill (Sand).....	135.0	33.0	0.0
2.....Ex. Soil/Colluvium.....	125.0	14.0	0.0
3.....Eng Fill (Clay).....	135.0	20.0	0.0
4.....Bedrock.....	145.0	45.0	500.0
5.....In-Place Redbeds.....	140.0	20.0	200.0
6.....Bedrock.....	145.0	45.0	500.0

REINFORCEMENT

Reinforcement		Ultimate Strength, Tult [lb/ft]	Reduction Factor for Installation Damage, RFid	Reduction Factor for Durability, RFd	Reduction Factor for Creep, RFC	Coverage Ratio, Rc
Type #	Geosynthetic Designated Name					
1	20XT	16000	1.10	1.10	1.44	1.00

Interaction Parameters		== Direct Sliding ==		==== Pullout =====	
Type #	Geosynthetic Designated Name	Cds-phi	Cds-c	Ci	Alpha
1	20XT	0.80	0.00	0.80	0.80

Relative Orientation of Reinforcement Force, ROR = 0.00. Assigned Factor of Safety to resist pullout, Fs-po = 1.50
Design method for Global Stability: Comprehensive Bishop.

WATER

Water is not present

SEISMICITY

Not Applicable

DRAWING OF SPECIFIED GEOMETRY - GENERAL - Quick Input

- Problem geometry is defined along sections selected by user at x,y coordinates.
- X1,Y1 represents the coordinates of soil surface. X2,Y2 represent the coordinates of the end of soil layer 1 and start of soil layer 2, and so on.

GEOMETRY

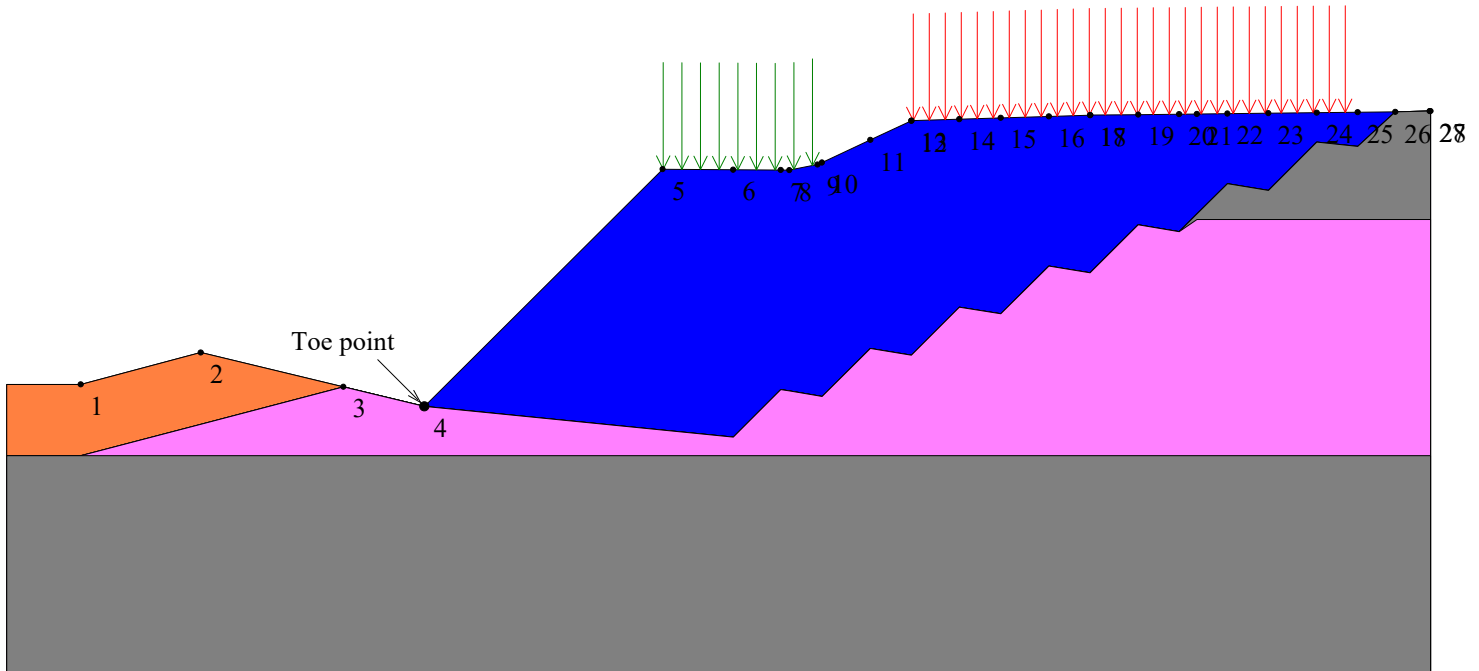
Soil profile contains 6 layers (see details in next page)

UNIFORM SURCHARGE

Load Q1 = 250.00 [lb/ft²] inclined from verical at 0.00 degrees, starts at X1s = 239.00 and ends at X1e = 295.00 [ft].
Load Q2 = 250.00 [lb/ft²] inclined from verical at 0.00 degrees, starts at X2s = 330.00 and ends at X2e = 490.00 [ft].
Surcharge load, Q3.....None

STRIP LOAD

.....None.....



SCALE:

05112230[ft]



TABULATED DETAILS OF GENERAL SPECIFIED GEOMETRY

Soil profile contains 6 layers. Coordinates in [ft.]

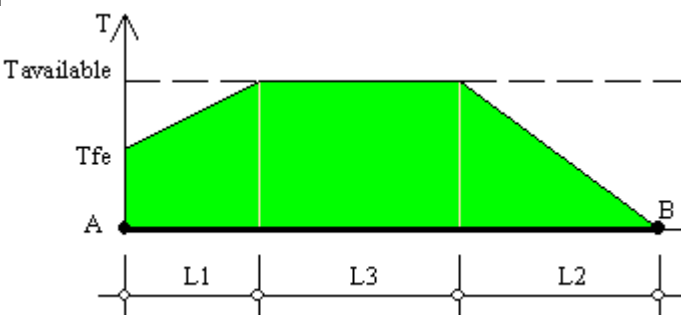
	#	Xi	Yi		#	Xi	Yi
 Top of Layer 1	1	27.00	978.00		51	505.50	1077.20
	2	70.70	989.60		52	518.30	1077.50
	3	122.60	977.10	 Top of Layer 4	53	27.00	952.00
	4	152.10	970.00		54	122.60	977.10
	5	238.80	1056.30		55	152.10	970.00
	6	284.90	1056.00		56	264.50	958.80
	7	295.20	1058.00		57	281.80	976.10
	8	329.40	1074.00		58	296.80	973.60
	9	394.50	1076.00		59	314.40	991.10
	10	505.50	1077.20		60	329.30	988.60
 Top of Layer 2	11	518.30	1077.50		61	346.80	1006.10
	12	27.00	978.00		62	361.90	1003.70
	13	70.70	989.60		63	379.40	1021.10
	14	122.60	977.10		64	394.40	1018.60
	15	152.10	970.00		65	411.90	1036.10
	16	264.50	958.80		66	426.80	1033.60
	17	281.80	976.10		67	444.40	1051.10
	18	296.80	973.60		68	459.30	1048.60
	19	314.40	991.10		69	476.90	1066.20
	20	329.30	988.60		70	491.80	1064.60
	21	346.80	1006.10		71	505.50	1077.20
	22	361.90	1003.70		72	518.30	1077.50
	23	379.40	1021.10	 Top of Layer 5	73	27.00	952.00
	24	394.40	1018.60		74	122.60	977.10
	25	411.90	1036.10		75	152.10	970.00
	26	426.80	1033.60		76	264.50	958.80
	27	444.40	1051.10		77	281.80	976.10
	28	459.30	1048.60		78	296.80	973.60
	29	476.90	1066.20		79	314.40	991.10
	30	491.80	1064.60		80	329.30	988.60
	31	505.50	1077.20		81	346.80	1006.10
	32	518.30	1077.50		82	361.90	1003.70
 Top of Layer 3	33	27.00	952.00		83	379.40	1021.10
	34	122.60	977.10		84	394.40	1018.60
	35	152.10	970.00		85	411.90	1036.10
	36	264.50	958.80		86	426.80	1033.60
	37	281.80	976.10		87	433.30	1038.00
	38	296.80	973.60		88	518.30	1038.00
	39	314.40	991.10	 Top of Layer 6	89	27.00	952.00
	40	329.30	988.60		90	518.00	952.00
	41	346.80	1006.10				
	42	361.90	1003.70				
	43	379.40	1021.10				
	44	394.40	1018.60				
	45	411.90	1036.10				
	46	426.80	1033.60				
	47	444.40	1051.10				
	48	459.30	1048.60				
	49	476.90	1066.20				
	50	491.80	1064.60				

TABULATED DETAILS OF SPECIFIED GEOMETRY

Soil profile contains 6 layers. Coordinates in [ft.]

#	X	Y1	Y2	Y3	Y4	Y5	Y6
1	27.00	978.00	978.00	952.00	952.00	952.00	952.00
2	70.70	989.60	989.60	963.47	963.47	963.47	952.00
3	122.60	977.10	977.10	977.10	977.10	977.10	952.00
4	152.10	970.00	970.00	970.00	970.00	970.00	952.00
5	238.80	1056.30	961.36	961.36	961.36	961.36	952.00
6	264.50	1056.13	958.80	958.80	958.80	958.80	952.00
7	281.80	1056.02	976.10	976.10	976.10	976.10	952.00
8	284.90	1056.00	975.58	975.58	975.58	975.58	952.00
9	295.20	1058.00	973.87	973.87	973.87	973.87	952.00
10	296.80	1058.75	973.60	973.60	973.60	973.60	952.00
11	314.40	1066.98	991.10	991.10	991.10	991.10	952.00
12	329.30	1073.95	988.60	988.60	988.60	988.60	952.00
13	329.40	1074.00	988.70	988.70	988.70	988.70	952.00
14	346.80	1074.53	1006.10	1006.10	1006.10	1006.10	952.00
15	361.90	1075.00	1003.70	1003.70	1003.70	1003.70	952.00
16	379.40	1075.54	1021.10	1021.10	1021.10	1021.10	952.00
17	394.40	1076.00	1018.60	1018.60	1018.60	1018.60	952.00
18	394.50	1076.00	1018.70	1018.70	1018.70	1018.70	952.00
19	411.90	1076.19	1036.10	1036.10	1036.10	1036.10	952.00
20	426.80	1076.35	1033.60	1033.60	1033.60	1033.60	952.00
21	433.30	1076.42	1040.06	1040.06	1040.06	1038.00	952.00
22	444.40	1076.54	1051.10	1051.10	1051.10	1038.00	952.00
23	459.30	1076.70	1048.60	1048.60	1048.60	1038.00	952.00
24	476.90	1076.89	1066.20	1066.20	1066.20	1038.00	952.00
25	491.80	1077.05	1064.60	1064.60	1064.60	1038.00	952.00
26	505.50	1077.20	1077.20	1077.20	1077.20	1038.00	952.00
27	518.00	1077.49	1077.49	1077.49	1077.49	1038.00	952.00
28	518.30	1077.50	1077.50	1077.50	1077.50	1038.00	952.00

DISTRIBUTION OF AVAILABLE STRENGTH ALONG EACH REINFORCEMENT LAYER



A = Front-end of reinforcement (at face of slope)

B = Rear-end of reinforcement

AB = $L1 + L2 + L3$ = Embedded length of reinforcement

Tavailable = Long-term strength of reinforcement

Tfe = Available front-end strength (e.g., connection to facing)

L1 = Front-end 'pullout' length

L2 = Rear-end pullout length

Tavailable prevails along L3

Factor of safety on resistance to pullout on either end of reinforcement, $Fs-po = 1.50$

Reinforcement Layer #	Designated Name	Height Relative to Toe [ft]	L [ft]	L1 [ft]	L2 [ft]	L3 [ft]	Tfe [lb/ft]	Tavailable [lb/ft]
1	20XT	0.00	120.00	0.00	1.44	118.56	9182.74	9182.74
2	20XT	1.50	120.00	0.00	1.48	118.52	9182.74	9182.74
3	20XT	3.00	120.00	0.00	1.51	118.49	9182.74	9182.74
4	20XT	4.50	120.00	0.00	1.51	118.49	9182.74	9182.74
5	20XT	6.00	120.00	0.00	1.54	118.46	9182.74	9182.74
6	20XT	7.50	120.00	0.00	1.57	118.43	9182.74	9182.74
7	20XT	9.00	120.00	0.00	1.61	118.39	9182.74	9182.74
8	20XT	10.50	138.40	0.00	1.54	136.86	9182.74	9182.74
9	20XT	12.00	138.40	0.00	1.57	136.83	9182.74	9182.74
10	20XT	13.50	138.40	0.00	1.57	136.83	9182.74	9182.74
11	20XT	15.00	138.40	0.00	1.61	136.79	9182.74	9182.74
12	20XT	16.50	138.40	0.00	1.61	136.79	9182.74	9182.74
13	20XT	18.00	138.40	0.00	1.64	136.76	9182.74	9182.74
14	20XT	19.50	138.40	0.00	1.64	136.76	9182.74	9182.74
15	20XT	21.00	138.40	0.00	1.67	136.73	9182.74	9182.74
16	20XT	22.50	155.40	0.00	1.51	153.89	9182.74	9182.74
17	20XT	24.00	155.40	0.00	1.54	153.86	9182.74	9182.74
18	20XT	25.50	155.40	0.00	1.57	153.83	9182.74	9182.74
19	20XT	27.00	155.40	0.00	1.61	153.79	9182.74	9182.74
20	20XT	28.50	155.40	0.00	1.64	153.76	9182.74	9182.74
21	20XT	30.00	155.40	0.00	1.67	153.73	9182.74	9182.74
22	20XT	31.50	155.40	0.00	1.71	153.69	9182.74	9182.74
23	20XT	33.00	155.40	0.00	1.74	153.66	9182.74	9182.74
24	20XT	34.50	155.40	0.00	1.77	153.63	9182.74	9182.74
25	20XT	36.00	155.40	0.00	1.80	153.60	9182.74	9182.74
26	20XT	37.50	173.30	0.00	1.84	171.46	9182.74	9182.74
27	20XT	39.00	173.30	0.00	1.87	171.43	9182.74	9182.74
28	20XT	40.50	173.30	0.00	1.90	171.40	9182.74	9182.74
29	20XT	42.00	173.30	0.00	1.97	171.33	9182.74	9182.74
30	20XT	43.50	173.30	0.00	2.00	171.30	9182.74	9182.74
31	20XT	45.00	173.30	0.00	2.07	171.23	9182.74	9182.74
32	20XT	46.50	173.30	0.00	2.10	171.20	9182.74	9182.74
33	20XT	48.00	173.30	0.00	2.17	171.13	9182.74	9182.74
34	20XT	49.50	173.30	0.00	2.20	171.10	9182.74	9182.74
35	20XT	51.00	173.30	0.00	2.26	171.04	9182.74	9182.74

DISTRIBUTION OF AVAILABLE STRENGTH ALONG EACH REINFORCEMENT LAYER (continues)

Factor of safety on resistance to pullout on either end of reinforcement, $F_{s-po} = 1.50$

Reinforcement Layer #	Designated Name	Height Relative to Toe [ft]	L [ft]	L1 [ft]	L2 [ft]	L3 [ft]	Tfe [lb/ft]	Tavailable [lb/ft]
36	20XT	52.50	190.80	0.00	2.30	188.50	9182.74	9182.74
37	20XT	54.00	190.80	0.00	2.36	188.44	9182.74	9182.74
38	20XT	55.50	190.80	0.00	2.46	188.34	9182.74	9182.74
39	20XT	57.00	190.80	0.00	2.53	188.27	9182.74	9182.74
40	20XT	58.50	190.80	0.00	2.59	188.21	9182.74	9182.74
41	20XT	60.00	190.80	0.00	2.69	188.11	9182.74	9182.74
42	20XT	61.50	190.80	0.00	2.76	188.04	9182.74	9182.74
43	20XT	63.00	190.80	0.00	2.85	187.95	9182.74	9182.74
44	20XT	64.50	190.80	0.00	2.95	187.85	9182.74	9182.74
45	20XT	66.00	190.80	0.00	3.08	187.72	9182.74	9182.74
46	20XT	67.50	208.30	0.00	3.18	205.12	9182.74	9182.74
47	20XT	69.00	208.30	0.00	3.31	204.99	9182.74	9182.74
48	20XT	70.50	208.30	0.00	3.44	204.86	9182.74	9182.74
49	20XT	72.00	208.30	0.00	3.58	204.72	9182.74	9182.74
50	20XT	73.50	208.30	0.00	3.74	204.56	9182.74	9182.74
51	20XT	75.00	208.30	0.00	3.94	204.36	9182.74	9182.74
52	20XT	76.50	208.30	0.00	4.10	204.20	9182.74	9182.74
53	20XT	78.00	208.30	0.00	4.33	203.97	9182.74	9182.74
54	20XT	79.50	208.30	0.00	4.56	203.74	9182.74	9182.74
55	20XT	81.00	226.00	0.00	4.79	221.21	9182.74	9182.74
56	20XT	82.50	226.00	0.00	5.09	220.91	9182.74	9182.74

RESULTS OF ROTATIONAL STABILITY ANALYSIS

Results in the tables below represent critical circles identified between specified points on entry and exit. (Theta-exit set to 50.00 deg.)
The most critical circle is obtained from a search considering all the combinations of input entry and exit points.

Critical circles for each entry point (considering all specified exit points)									
Entry Point #	Entry Point (X, Y) [ft]		Exit Point (X, Y) [ft]		Critical Circle (Xc, Yc, R) [ft]			Fs	STATUS
1	152.10	970.00	152.10	970.00	152.10	970.00	0.00	N/A	#10 - Overhanging Cliff
2	257.00	1056.18	82.17	986.94	155.40	1057.39	101.61	8.48	
3	284.00	1056.01	97.23	984.34	174.75	1061.53	109.39	3.78	
4	311.00	1065.39	130.11	976.07	198.06	1066.29	112.94	3.77	
5	338.00	1074.26	131.16	975.27	205.83	1084.84	132.60	3.04	
6	365.00	1075.09	163.77	983.14	243.01	1075.89	121.99	2.67	
7	392.00	1075.92	130.13	975.78	219.77	1133.84	181.71	1.93	
8	419.00	1076.26	130.85	975.32	225.42	1167.11	213.84	1.75	
9	446.00	1076.56	97.70	983.39	220.53	1221.83	268.22	1.61	
10	473.00	1076.85	97.53	983.39	225.94	1268.48	312.67	1.60	OK
11	500.00	1077.14	47.87	984.55	204.78	1368.56	414.83	1.69	

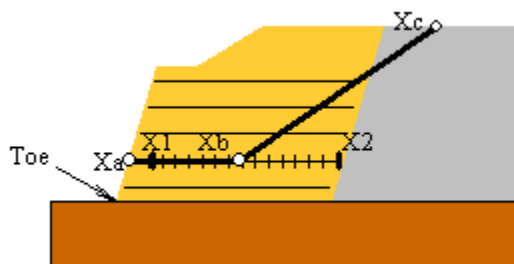
Note: In the 'Status' column, OK means the critical circle was identified within the specified search domain. 'On extreme X-entry' means that the critical result is on the edge of the search domain; a lower Fs may result if the search domain is expanded.

Results in the tables below represent critical circles identified between specified points on entry and exit. (Theta-exit set to 50.00 deg.)
The most critical circle is obtained from a search considering all the combinations of input entry and exit points.

Critical circles for each exit point (considering all specified entry points)									
Exit Point #	Exit Point (X, Y) [ft]		Entry Point (X, Y) [ft]		Critical Circle (Xc, Yc, R) [ft]			Fs	STATUS
1	-0.01	978.00	446.00	1076.56	163.14	1298.18	359.34	3.16	OK
2	15.85	978.21	473.00	1076.85	163.18	1404.09	450.64	1.74	
3	32.17	979.86	473.00	1076.85	179.38	1361.10	408.68	1.64	
4	47.87	984.55	500.00	1077.14	204.78	1368.56	414.83	1.69	
5	65.82	988.34	338.00	1074.26	184.14	1087.58	154.43	4.77	
6	82.26	986.82	473.00	1076.85	215.63	1300.92	341.24	1.70	
7	97.53	983.39	473.00	1076.85	225.94	1268.48	312.67	1.60	
8	113.59	980.36	392.00	1075.92	227.07	1103.10	167.16	3.75	
9	131.61	974.94	446.00	1076.56	228.10	1213.57	257.39	1.64	
10	147.90	971.06	284.00	1056.01	188.50	1057.51	95.51	5.41	
11	163.66	982.96	473.00	1076.85	273.25	1178.45	224.11	2.14	

Note: In the 'Status' column, OK means the critical circle was identified within the specified search domain. 'On extreme X-exit' means that the critical result is on the edge of the search domain; a lower Fs may result if the search domain is expanded.

RESULTS OF TRANSLATIONAL ANALYSIS



Results in the table below represent critical two-part wedges identified between specified starting (X1) and ending (X2) search points. Wedges along all reinforcement layers and at elevation zero are reported. The critical two-part wedge, one for each predetermined elevation, is defined by Xa, Xb and Xc where Xa is the front end of the passive wedge (slope face), Xb is where the passive wedge ends and the active one starts, and Xc is the X-ordinate at which the active wedge starts.

Critical two-part wedge along each interface:

Interface	Height Relative to Toe (Xa, Ya)		(Xb, Yb)		(Xc, Yc)		Fs	STATUS	
	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]			
At toe elevation	0.00	152.10	970.00	377.90	970.00	501.17	1077.15	2.54	Minimum on Edge
Reinf. Layer #1	0.00	152.10	970.00	272.29	970.00	413.23	1076.20	2.65	Minimum on Edge
Reinf. Layer #2	1.50	153.61	971.50	273.79	971.50	412.73	1076.20	2.69	Minimum on Edge
Reinf. Layer #3	3.00	155.11	973.00	275.29	973.00	412.23	1076.19	2.73	Minimum on Edge
Reinf. Layer #4	4.50	156.62	974.50	276.79	974.50	411.73	1076.19	2.77	Minimum on Edge
Reinf. Layer #5	6.00	158.13	976.00	278.39	976.00	411.34	1076.18	2.81	Minimum on Edge
Reinf. Layer #6	7.50	159.63	977.50	279.89	977.50	410.84	1076.18	2.86	Minimum on Edge
Reinf. Layer #7	9.00	161.14	979.00	281.39	979.00	415.21	1076.22	2.93	Minimum on Edge
Reinf. Layer #8	10.50	162.65	980.50	301.29	980.50	468.08	1076.80	2.96	Minimum on Edge
Reinf. Layer #9	12.00	164.16	982.00	302.79	982.00	423.51	1076.31	3.02	Minimum on Edge
Reinf. Layer #10	13.50	165.66	983.50	304.29	983.50	423.08	1076.31	3.06	Minimum on Edge
Reinf. Layer #11	15.00	167.17	985.00	305.79	985.00	422.65	1076.30	3.10	Minimum on Edge
Reinf. Layer #12	16.50	168.68	986.50	307.29	986.50	422.23	1076.30	3.15	Minimum on Edge
Reinf. Layer #13	18.00	170.18	988.00	308.79	988.00	421.80	1076.30	3.20	Minimum on Edge
Reinf. Layer #14	19.50	171.69	989.50	310.29	989.50	425.52	1076.34	3.28	Minimum on Edge
Reinf. Layer #15	21.00	173.20	991.00	311.79	991.00	425.03	1076.33	3.33	Minimum on Edge
Reinf. Layer #16	22.50	174.70	992.50	330.29	992.50	476.45	1076.89	3.28	Minimum on Edge
Reinf. Layer #17	24.00	176.21	994.00	331.79	994.00	475.33	1076.87	3.37	Minimum on Edge
Reinf. Layer #18	25.50	177.72	995.50	333.29	995.50	474.21	1076.86	3.48	Minimum on Edge
Reinf. Layer #19	27.00	179.23	997.00	334.89	997.00	436.59	1076.45	3.59	Minimum on Edge
Reinf. Layer #20	28.50	180.73	998.50	336.39	998.50	436.16	1076.45	3.65	Minimum on Edge
Reinf. Layer #21	30.00	182.24	1000.00	337.89	1000.00	416.84	1076.24	3.76	Minimum on Edge
Reinf. Layer #22	31.50	183.75	1001.50	339.39	1001.50	438.89	1076.48	3.79	Minimum on Edge
Reinf. Layer #23	33.00	185.25	1003.00	340.89	1003.00	438.39	1076.47	3.87	Minimum on Edge
Reinf. Layer #24	34.50	186.76	1004.50	342.39	1004.50	437.90	1076.47	3.95	Minimum on Edge
Reinf. Layer #25	36.00	188.27	1006.00	343.89	1006.00	437.40	1076.46	4.03	Minimum on Edge
Reinf. Layer #26	37.50	189.77	1007.50	363.29	1007.50	451.76	1076.62	4.14	Minimum on Edge
Reinf. Layer #27	39.00	152.10	970.00	152.10	970.00	152.10	971000033.30		No convergence
Reinf. Layer #28	40.50	152.10	970.00	152.10	970.00	152.10	971000033.30		No convergence
Reinf. Layer #29	42.00	152.10	970.00	152.10	970.00	152.10	971000033.30		No convergence
Reinf. Layer #30	43.50	152.10	970.00	152.10	970.00	152.10	971000033.30		No convergence
Reinf. Layer #31	45.00	152.10	970.00	152.10	970.00	152.10	971000033.30		No convergence
Reinf. Layer #32	46.50	152.10	970.00	152.10	970.00	152.10	971000033.30		No convergence
Reinf. Layer #33	48.00	152.10	970.00	152.10	970.00	152.10	971000033.30		No convergence
Reinf. Layer #34	49.50	152.10	970.00	152.10	970.00	152.10	971000033.30		No convergence
Reinf. Layer #35	51.00	152.10	970.00	152.10	970.00	152.10	971000033.30		No convergence
Reinf. Layer #36	52.50	152.10	970.00	152.10	970.00	152.10	971000033.30		No convergence
Reinf. Layer #37	54.00	152.10	970.00	152.10	970.00	152.10	971000033.30		No convergence
Reinf. Layer #38	55.50	152.10	970.00	152.10	970.00	152.10	971000033.30		No convergence

Note: In the 'Status' column, OK means the critical two part-wedge was identified within the specified search domain. 'Minimum on Edge' means the critical result corresponds to a minimum on the edge of the search domain; i.e., either on X1 or X2 or the internally preset limits on Xc.

RESULTS OF TRANSLATIONAL ANALYSIS (continues)

Critical two-part wedge along each interface:								
Interface	Height Relative to Toe [ft]	(Xa, Ya) [ft]		(Xb, Yb) [ft]		(Xc, Yc) [ft]		STATUS
Reinf. Layer #39	57.00	152.10	970.00	152.10	970.00	152.10	97(1000033.30	No convergence
Reinf. Layer #40	58.50	152.10	970.00	152.10	970.00	152.10	97(1000033.30	No convergence
Reinf. Layer #41	60.00	152.10	970.00	152.10	970.00	152.10	97(1000033.30	No convergence
Reinf. Layer #42	61.50	152.10	970.00	152.10	970.00	152.10	97(1000033.30	No convergence
Reinf. Layer #43	63.00	152.10	970.00	152.10	970.00	152.10	97(1000033.30	No convergence
Reinf. Layer #44	64.50	152.10	970.00	152.10	970.00	152.10	97(1000033.30	No convergence
Reinf. Layer #45	66.00	152.10	970.00	152.10	970.00	152.10	97(1000033.30	No convergence
Reinf. Layer #46	67.50	152.10	970.00	152.10	970.00	152.10	97(1000033.30	No convergence
Reinf. Layer #47	69.00	152.10	970.00	152.10	970.00	152.10	97(1000033.30	No convergence
Reinf. Layer #48	70.50	152.10	970.00	152.10	970.00	152.10	97(1000033.30	No convergence
Reinf. Layer #49	72.00	152.10	970.00	152.10	970.00	152.10	97(1000033.30	No convergence
Reinf. Layer #50	73.50	152.10	970.00	152.10	970.00	152.10	97(1000033.30	No convergence
Reinf. Layer #51	75.00	152.10	970.00	152.10	970.00	152.10	97(1000033.30	No convergence
Reinf. Layer #52	76.50	152.10	970.00	152.10	970.00	152.10	97(1000033.30	No convergence
Reinf. Layer #53	78.00	152.10	970.00	152.10	970.00	152.10	97(1000033.30	No convergence
Reinf. Layer #54	79.50	152.10	970.00	152.10	970.00	152.10	97(1000033.30	No convergence
Reinf. Layer #55	81.00	152.10	970.00	152.10	970.00	152.10	97(1000033.30	No convergence
Reinf. Layer #56	82.50	152.10	970.00	152.10	970.00	152.10	97(1000033.30	No convergence

Note: In the 'Status' column, OK means the critical two part-wedge was identified within the specified search domain. 'Minimum on Edge' means the critical result corresponds to a minimum on the edge of the search domain; i.e., either on X1 or X2 or the internally preset limits on Xc.

CRITICAL RESULTS OF ROTATIONAL AND TRANSLATIONAL STABILITY ANALYSES

Rotational (Circular Arc; Bishop) Stability Analysis

Minimum Factor of Safety = 1.60

Critical Circle: $X_c = 225.94$ [ft], $Y_c = 1268.48$ [ft], $R = 312.67$ [ft]. (Number of slices used = 65)

Translational (2-Part Wedge; Spencer), Direct Sliding, Stability Analysis

Minimum Factor of Safety = 2.54

Critical Two-Part Wedge: ($X_a = 152.10$, $Y_a = 970.00$) [ft]

($X_b = 377.90$, $Y_b = 970.00$) [ft]

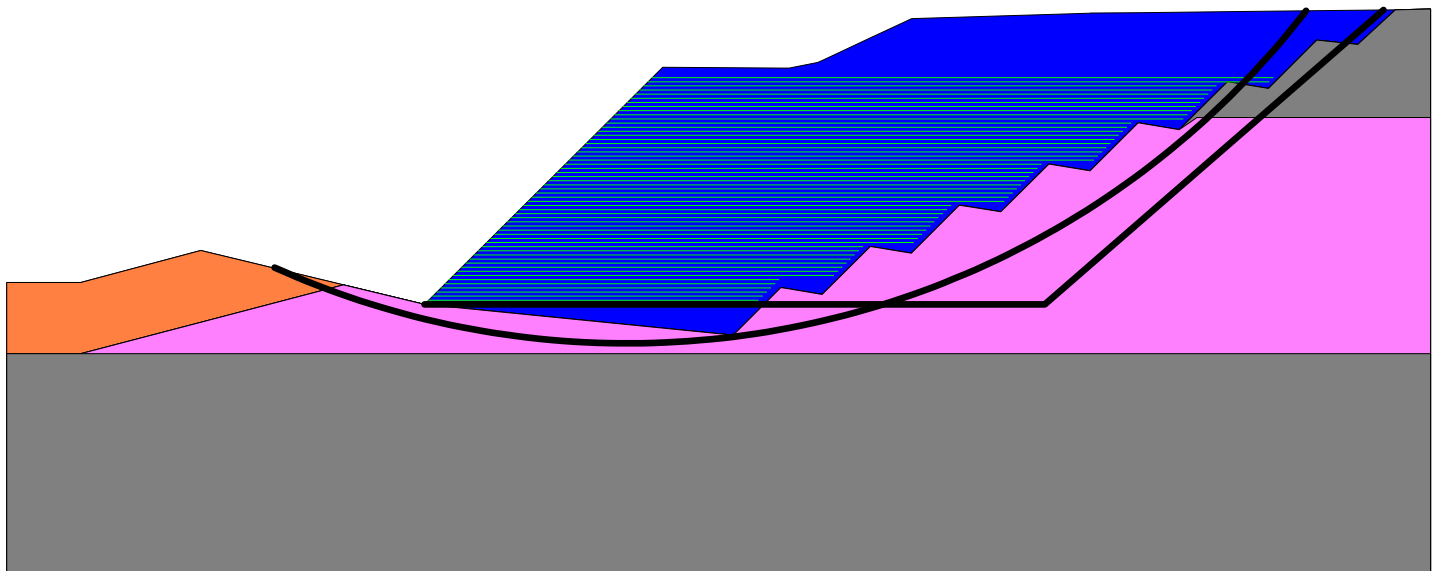
($X_c = 501.17$, $Y_c = 1077.15$) [ft]

(Number of slices used = 30)

Interslice resultant force inclination = 13.24 [degrees]

Three-Part Wedge Stability Analysis

NOT CONDUCTED
REINFORCEMENT LAYOUT: DRAWING

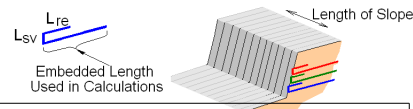


SCALE:

05112230[ft]



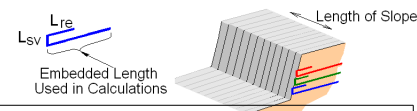
REINFORCEMENT LAYOUT: TABULATED DATA & QUANTITIES



Layer #	Reinf. Type #	Geosynthetic Designated Name	Height Relative to Toe [ft]	Embedded Length [ft]	Covergae Ratio, Rc	(X, Y) front [ft]	(X, Y) rear [ft]	Lsv * [ft]	Lre [ft]
1	1	20XT	0.00	120.00	1.00	152.10	970.00	0.00	0.00
2	1	20XT	1.50	120.00	1.00	153.61	971.50	0.00	0.00
3	1	20XT	3.00	120.00	1.00	155.11	973.00	0.00	0.00
4	1	20XT	4.50	120.00	1.00	156.62	974.50	0.00	0.00
5	1	20XT	6.00	120.00	1.00	158.13	976.00	0.00	0.00
6	1	20XT	7.50	120.00	1.00	159.63	977.50	0.00	0.00
7	1	20XT	9.00	120.00	1.00	161.14	979.00	0.00	0.00
8	1	20XT	10.50	138.40	1.00	162.65	980.50	0.00	0.00
9	1	20XT	12.00	138.40	1.00	164.16	982.00	0.00	0.00
10	1	20XT	13.50	138.40	1.00	165.66	983.50	0.00	0.00
11	1	20XT	15.00	138.40	1.00	167.17	985.00	0.00	0.00
12	1	20XT	16.50	138.40	1.00	168.68	986.50	0.00	0.00
13	1	20XT	18.00	138.40	1.00	170.18	988.00	0.00	0.00
14	1	20XT	19.50	138.40	1.00	171.69	989.50	0.00	0.00
15	1	20XT	21.00	138.40	1.00	173.20	991.00	0.00	0.00
16	1	20XT	22.50	155.40	1.00	174.70	992.50	0.00	0.00
17	1	20XT	24.00	155.40	1.00	176.21	994.00	0.00	0.00
18	1	20XT	25.50	155.40	1.00	177.72	995.50	0.00	0.00
19	1	20XT	27.00	155.40	1.00	179.23	997.00	0.00	0.00
20	1	20XT	28.50	155.40	1.00	180.73	998.50	0.00	0.00
21	1	20XT	30.00	155.40	1.00	182.24	1000.00	0.00	0.00
22	1	20XT	31.50	155.40	1.00	183.75	1001.50	0.00	0.00
23	1	20XT	33.00	155.40	1.00	185.25	1003.00	0.00	0.00
24	1	20XT	34.50	155.40	1.00	186.76	1004.50	0.00	0.00
25	1	20XT	36.00	155.40	1.00	188.27	1006.00	0.00	0.00
26	1	20XT	37.50	173.30	1.00	189.77	1007.50	0.00	0.00
27	1	20XT	39.00	173.30	1.00	191.28	1009.00	0.00	0.00
28	1	20XT	40.50	173.30	1.00	192.79	1010.50	0.00	0.00
29	1	20XT	42.00	173.30	1.00	194.29	1012.00	0.00	0.00
30	1	20XT	43.50	173.30	1.00	195.80	1013.50	0.00	0.00
31	1	20XT	45.00	173.30	1.00	197.31	1015.00	0.00	0.00
32	1	20XT	46.50	173.30	1.00	198.82	1016.50	0.00	0.00
33	1	20XT	48.00	173.30	1.00	200.32	1018.00	0.00	0.00
34	1	20XT	49.50	173.30	1.00	201.83	1019.50	0.00	0.00
35	1	20XT	51.00	173.30	1.00	203.34	1021.00	0.00	0.00
36	1	20XT	52.50	190.80	1.00	204.84	1022.50	0.00	0.00
37	1	20XT	54.00	190.80	1.00	206.35	1024.00	0.00	0.00
38	1	20XT	55.50	190.80	1.00	207.86	1025.50	0.00	0.00
39	1	20XT	57.00	190.80	1.00	209.36	1027.00	0.00	0.00
40	1	20XT	58.50	190.80	1.00	210.87	1028.50	0.00	0.00
41	1	20XT	60.00	190.80	1.00	212.38	1030.00	0.00	0.00
42	1	20XT	61.50	190.80	1.00	213.89	1031.50	0.00	0.00
43	1	20XT	63.00	190.80	1.00	215.39	1033.00	0.00	0.00
44	1	20XT	64.50	190.80	1.00	216.90	1034.50	0.00	0.00
45	1	20XT	66.00	190.80	1.00	218.41	1036.00	0.00	0.00
46	1	20XT	67.50	208.30	1.00	219.91	1037.50	0.00	0.00
47	1	20XT	69.00	208.30	1.00	221.42	1039.00	0.00	0.00
48	1	20XT	70.50	208.30	1.00	222.93	1040.50	0.00	0.00
49	1	20XT	72.00	208.30	1.00	224.43	1042.00	0.00	0.00
50	1	20XT	73.50	208.30	1.00	225.94	1043.50	0.00	0.00

* Vertical distance between layers.

REINFORCEMENT LAYOUT: TABULATED DATA & QUANTITIES



Layer #	Reinf. Type #	Geosynthetic Designated Name	Height Relative to Toe [ft]	Embedded Length [ft]	Covergae Ratio, Rc	(X, Y) front [ft]	(X, Y) rear [ft]	Lsv * [ft]	Lre [ft]
51	1	20XT	75.00	208.30	1.00	227.45 1045.00	435.75 1045.00	0.00	0.00
52	1	20XT	76.50	208.30	1.00	228.95 1046.50	437.25 1046.50	0.00	0.00
53	1	20XT	78.00	208.30	1.00	230.46 1048.00	438.76 1048.00	0.00	0.00
54	1	20XT	79.50	208.30	1.00	231.97 1049.50	440.27 1049.50	0.00	0.00
55	1	20XT	81.00	226.00	1.00	233.48 1051.00	459.48 1051.00	0.00	0.00
56	1	20XT	82.50	226.00	1.00	234.98 1052.50	460.98 1052.50	0.00	0.00

* Vertical distance between layers.

QUANTITIES

Reinf. Type #	Designated Name	Coverage Ratio	Area of reinforcement [ft²] / length of slope [ft]
1	20XT	1.00	9468.90



MiraSlope® Pro

Cross-Section RL-RL

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PROJECT IDENTIFICATION

Title: Cross-Section RL-RL
Project Number: 16123A -
Client: PAI
Designer: MAW

Description:

Company's information:

Name: GBBE
Street: 180 Bilmar Drive Suite 4
Pittsburgh, PA 15205
Telephone #: 412-922-4440
E-Mail:

Original file path and name: C:\Users\A \Desktop\16123A\Miraslope\Cross-Section RL-RL.MIRp
Original date and time of creating this file: 11/14/25

PROGRAM MODE: Analysis of a General Slope using GEOSYNTHETIC as reinforcing material.

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No warranty or guarantee, expressed or implied, is made regarding the performance of any product, since the manner of use and handling are beyond our control. Any and all design related to a product will be the responsibility of the project engineer and/or registered engineer of record.

INPUT DATA (EXCLUDING REINFORCEMENT LAYOUT)

SOIL DATA

===== Soil Layer #: =====	Unit weight, γ [lb/ft ³]	Internal angle of friction, ϕ [deg.]	Cohesion, c [lb/ft ²]
1.....Eng Fill (Sand).....	135.0	33.0	0.0
2.....Ex. Soil/Colluvium.....	125.0	14.0	0.0
3.....Residual Redbed.....	130.0	20.0	0.0
4.....Eng Fill (Clay).....	135.0	20.0	0.0
5.....Bedrock.....	145.0	45.0	500.0
6.....In-Place Redbeds.....	140.0	20.0	200.0

REINFORCEMENT

Reinforcement		Ultimate Strength, Tult [lb/ft]	Reduction Factor for Installation Damage, RFid	Reduction Factor for Durability, RFd	Reduction Factor for Creep, RFC	Coverage Ratio, Rc
Type #	Geosynthetic Designated Name					
1	20XT	16000	1.10	1.10	1.44	1.00

Interaction Parameters		== Direct Sliding ==		==== Pullout =====	
Type #	Geosynthetic Designated Name	Cds-phi	Cds-c	Ci	Alpha
1	20XT	0.80	0.00	0.80	0.80

Relative Orientation of Reinforcement Force, ROR = 0.00. Assigned Factor of Safety to resist pullout, Fs-po = 1.50
Design method for Global Stability: Comprehensive Bishop.

WATER

Water is not present

SEISMICITY

Not Applicable

DRAWING OF SPECIFIED GEOMETRY - GENERAL - Quick Input

- Problem geometry is defined along sections selected by user at x,y coordinates.
- X1,Y1 represents the coordinates of soil surface. X2,Y2 represent the coordinates of the end of soil layer 1 and start of soil layer 2, and so on.

GEOMETRY

Soil profile contains 6 layers (see details in next page)

UNIFORM SURCHARGE

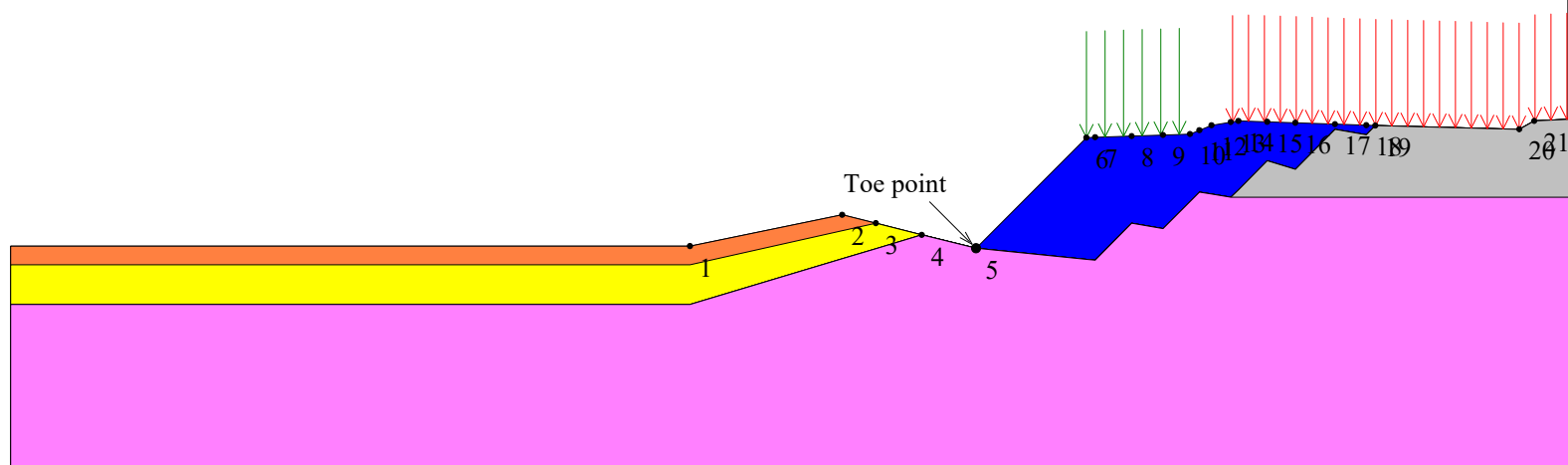
Load Q1 = 250.00 [lb/ft²] inclined from vertical at 0.00 degrees, starts at X1s = 190.00 and ends at X1e = 240.00 [ft].

Load Q2 = 250.00 [lb/ft²] inclined from vertical at 0.00 degrees, starts at X2s = 260.00 and ends at X2e = 440.00 [ft].

Surcharge load, Q3.....None

STRIP LOAD

.....None.....



SCALE:

0511223([ft])



TABULATED DETAILS OF GENERAL SPECIFIED GEOMETRY

Soil profile contains 6 layers. Coordinates in [ft.]

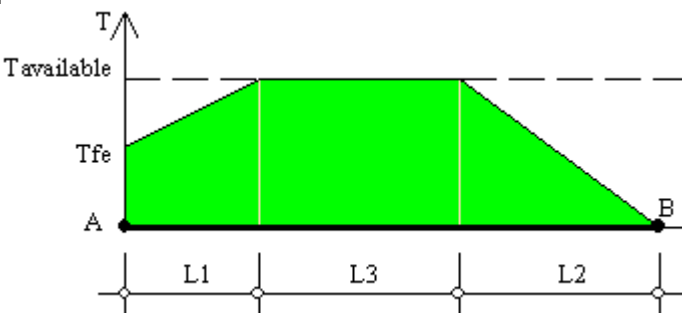
 Top of Layer 1	#	Xi	Yi	 Top of Layer 4	#	Xi	Yi
	1	0.00	1016.00		51	0.00	988.10
	2	72.90	1031.00		52	111.10	1021.40
	3	89.10	1027.00		53	137.10	1015.00
	4	111.10	1021.40		54	194.20	1009.30
	5	137.10	1015.00		55	211.70	1027.00
	6	190.00	1068.00		56	226.70	1024.40
	7	239.70	1069.70		57	244.20	1041.90
	8	250.00	1073.90		58	259.20	1039.40
	9	262.90	1076.00		59	262.90	1043.00
 Top of Layer 2	10	328.50	1073.80	 Top of Layer 5	60	276.70	1056.90
	11	397.50	1072.00		61	290.20	1052.80
	12	404.70	1076.00		62	309.20	1072.00
	13	440.40	1077.70		63	324.20	1069.40
	14	0.00	1016.00		64	328.50	1073.80
	15	72.90	1031.00		65	397.50	1072.00
	16	89.10	1027.00		66	404.70	1076.00
	17	111.10	1021.40		67	440.40	1077.70
	18	137.10	1015.00		68	0.00	988.10
	19	194.20	1009.30		69	111.10	1021.40
 Top of Layer 3	20	211.70	1027.00	 Top of Layer 6	70	137.10	1015.00
	21	226.70	1024.40		71	194.20	1009.30
	22	244.20	1041.90		72	211.70	1027.00
	23	259.20	1039.40		73	226.70	1024.40
	24	262.90	1043.00		74	244.20	1041.90
	25	276.70	1056.90		75	259.20	1039.40
	26	290.20	1052.80		76	262.90	1043.00
	27	309.20	1072.00		77	276.70	1056.90
	28	324.20	1069.40		78	290.20	1052.80
	29	328.50	1073.80		79	309.20	1072.00
	30	397.50	1072.00		80	324.20	1069.40
	31	404.70	1076.00		81	328.50	1073.80
	32	440.40	1077.70		82	397.50	1072.00
	33	0.00	1007.10		83	404.70	1076.00
	34	89.10	1027.00		84	440.40	1077.70
	35	111.10	1021.40		85	0.00	988.10
	36	137.10	1015.00		86	111.10	1021.40
	37	194.20	1009.30		87	137.10	1015.00
	38	211.70	1027.00		88	194.20	1009.30
	39	226.70	1024.40		89	211.70	1027.00
	40	244.20	1041.90		90	226.70	1024.40
	41	259.20	1039.40		91	244.20	1041.90
	42	262.90	1043.00		92	259.20	1039.40
	43	276.70	1056.90		93	440.00	1039.40
	44	290.20	1052.80				
	45	309.20	1072.00				
	46	324.20	1069.40				
	47	328.50	1073.80				
	48	397.50	1072.00				
	49	404.70	1076.00				
	50	440.40	1077.70				

TABULATED DETAILS OF SPECIFIED GEOMETRY

Soil profile contains 6 layers. Coordinates in [ft.]

#	X	Y1	Y2	Y3	Y4	Y5	Y6
1	0.00	1016.00	1016.00	1007.10	988.10	988.10	988.10
2	72.90	1031.00	1031.00	1023.38	1009.95	1009.95	1009.95
3	89.10	1027.00	1027.00	1027.00	1014.81	1014.81	1014.81
4	111.10	1021.40	1021.40	1021.40	1021.40	1021.40	1021.40
5	137.10	1015.00	1015.00	1015.00	1015.00	1015.00	1015.00
6	190.00	1068.00	1009.72	1009.72	1009.72	1009.72	1009.72
7	194.20	1068.14	1009.30	1009.30	1009.30	1009.30	1009.30
8	211.70	1068.74	1027.00	1027.00	1027.00	1027.00	1027.00
9	226.70	1069.26	1024.40	1024.40	1024.40	1024.40	1024.40
10	239.70	1069.70	1037.40	1037.40	1037.40	1037.40	1037.40
11	244.20	1071.53	1041.90	1041.90	1041.90	1041.90	1041.90
12	250.00	1073.90	1040.93	1040.93	1040.93	1040.93	1040.93
13	259.20	1075.40	1039.40	1039.40	1039.40	1039.40	1039.40
14	262.90	1076.00	1043.00	1043.00	1043.00	1043.00	1039.40
15	276.70	1075.54	1056.90	1056.90	1056.90	1056.90	1039.40
16	290.20	1075.08	1052.80	1052.80	1052.80	1052.80	1039.40
17	309.20	1074.45	1072.00	1072.00	1072.00	1072.00	1039.40
18	324.20	1073.94	1069.40	1069.40	1069.40	1069.40	1039.40
19	328.50	1073.80	1073.80	1073.80	1073.80	1073.80	1039.40
20	397.50	1072.00	1072.00	1072.00	1072.00	1072.00	1039.40
21	404.70	1076.00	1076.00	1076.00	1076.00	1076.00	1039.40
22	440.00	1077.68	1077.68	1077.68	1077.68	1077.68	1039.40
23	440.40	1077.70	1077.70	1077.70	1077.70	1077.70	1039.40

DISTRIBUTION OF AVAILABLE STRENGTH ALONG EACH REINFORCEMENT LAYER



A = Front-end of reinforcement (at face of slope)
B = Rear-end of reinforcement
AB = $L1 + L2 + L3$ = Embedded length of reinforcement

Tavailable = Long-term strength of reinforcement
Tfe = Available front-end strength (e.g., connection to facing)

L1 = Front-end 'pullout' length
L2 = Rear-end pullout length
Tavailable prevails along L3

Factor of safety on resistance to pullout on either end of reinforcement, $Fs-po = 1.50$

Reinforcement Layer #	Designated Name	Height Relative to Toe [ft]	L [ft]	L1 [ft]	L2 [ft]	L3 [ft]	Tfe [lb/ft]	Tavailable [lb/ft]
1	20XT	0.00	60.00	0.00	2.33	57.67	9182.74	9182.74
2	20XT	1.50	60.00	0.00	2.40	57.60	9182.74	9182.74
3	20XT	3.00	60.00	0.00	2.46	57.54	9182.74	9182.74
4	20XT	4.50	60.00	0.00	2.53	57.47	9182.74	9182.74
5	20XT	6.00	60.00	0.00	2.59	57.41	9182.74	9182.74
6	20XT	7.50	60.00	0.00	2.69	57.31	9182.74	9182.74
7	20XT	9.00	60.00	0.00	2.79	57.21	9182.74	9182.74
8	20XT	10.50	60.00	0.00	2.85	57.15	9182.74	9182.74
9	20XT	12.00	60.00	0.00	2.95	57.05	9182.74	9182.74
10	20XT	13.50	77.50	0.00	3.02	74.48	9182.74	9182.74
11	20XT	15.00	77.50	0.00	3.15	74.35	9182.74	9182.74
12	20XT	16.50	77.50	0.00	3.25	74.25	9182.74	9182.74
13	20XT	18.00	77.50	0.00	3.38	74.12	9182.74	9182.74
14	20XT	19.50	77.50	0.00	3.54	73.96	9182.74	9182.74
15	20XT	21.00	77.50	0.00	3.67	73.83	9182.74	9182.74
16	20XT	22.50	77.50	0.00	3.84	73.66	9182.74	9182.74
17	20XT	24.00	77.50	0.00	4.04	73.46	9182.74	9182.74
18	20XT	25.50	77.50	0.00	4.23	73.27	9182.74	9182.74
19	20XT	27.00	77.50	0.00	4.43	73.07	9182.74	9182.74
20	20XT	28.50	95.00	0.00	3.87	91.13	9182.74	9182.74
21	20XT	30.00	95.00	0.00	4.04	90.96	9182.74	9182.74
22	20XT	31.50	95.00	0.00	4.20	90.80	9182.74	9182.74
23	20XT	33.00	95.00	0.00	4.43	90.57	9182.74	9182.74
24	20XT	34.50	95.00	0.00	4.66	90.34	9182.74	9182.74
25	20XT	36.00	95.00	0.00	4.95	90.05	9182.74	9182.74
26	20XT	37.50	95.00	0.00	5.28	89.72	9182.74	9182.74
27	20XT	39.00	95.00	0.00	5.64	89.36	9182.74	9182.74
28	20XT	40.50	95.00	0.00	6.07	88.93	9182.74	9182.74
29	20XT	42.00	95.00	0.00	6.56	88.44	9182.74	9182.74
30	20XT	43.50	112.50	0.00	7.41	105.09	9182.74	9182.74
31	20XT	45.00	112.50	0.00	8.17	104.33	9182.74	9182.74
32	20XT	46.50	112.50	0.00	9.09	103.41	9182.74	9182.74
33	20XT	48.00	112.50	0.00	10.24	102.26	9182.74	9182.74
34	20XT	49.50	112.50	0.00	11.71	100.79	9182.74	9182.74
35	20XT	51.00	112.50	0.00	13.71	98.79	9182.74	9182.74

DISTRIBUTION OF AVAILABLE STRENGTH ALONG EACH REINFORCEMENT LAYER (continues)

Factor of safety on resistance to pullout on either end of reinforcement, Fs-po = 1.50

Reinforcement Layer #	Designated Name	Height Relative to Toe [ft]	L [ft]	L1 [ft]	L2 [ft]	L3 [ft]	Tfe [lb/ft]	Tavailable [lb/ft]
36	20XT	52.00	112.50	0.00	15.42	97.08	9182.74	9182.74

RESULTS OF ROTATIONAL STABILITY ANALYSIS

Results in the tables below represent critical circles identified between specified points on entry and exit. (Theta-exit set to 50.00 deg.)
 The most critical circle is obtained from a search considering all the combinations of input entry and exit points.

Critical circles for each entry point (considering all specified exit points)									
Entry Point #	Entry Point (X, Y) [ft]		Exit Point (X, Y) [ft]		Critical Circle (Xc, Yc, R) [ft]			Fs	STATUS
1	137.10	1015.00	137.10	1015.00	137.10	1015.00	0.00	N/A	#10 - Overhanging Cliff
2	137.10	1015.00	137.10	1015.00	137.10	1015.00	0.00	N/A	#10 - Overhanging Cliff
3	228.00	1069.30	104.67	1024.00	157.88	1069.68	70.13	2.54	
4	254.50	1074.63	115.72	1021.03	173.81	1077.10	80.73	1.96	
5	281.00	1075.39	104.28	1023.85	173.35	1115.78	114.98	1.76	
6	307.50	1074.50	93.19	1026.38	171.94	1176.94	169.91	1.70	OK
7	334.00	1073.66	93.84	1026.06	185.09	1195.36	192.32	2.00	
8	360.50	1072.97	94.20	1025.85	196.32	1224.80	223.62	2.25	
9	387.00	1072.27	72.87	1031.00	202.03	1264.00	266.40	2.52	
10	413.50	1076.42	72.87	1031.00	211.46	1291.63	295.19	2.74	
11	440.00	1077.68	38.40	1025.13	204.03	1320.15	338.34	2.92	

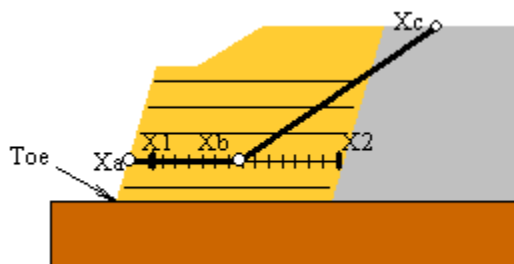
Note: In the 'Status' column, OK means the critical circle was identified within the specified search domain. 'On extreme X-entry' means that the critical result is on the edge of the search domain; a lower Fs may result if the search domain is expanded.

Results in the tables below represent critical circles identified between specified points on entry and exit. (Theta-exit set to 50.00 deg.)
 The most critical circle is obtained from a search considering all the combinations of input entry and exit points.

Critical circles for each exit point (considering all specified entry points)									
Exit Point #	Exit Point (X, Y) [ft]		Entry Point (X, Y) [ft]		Critical Circle (Xc, Yc, R) [ft]			Fs	STATUS
1	39.84	1024.32	307.50	1074.50	144.47	1205.18	208.94	1.95	
2	50.71	1026.63	307.50	1074.50	151.22	1200.14	200.52	1.89	
3	61.58	1028.94	307.50	1074.50	157.97	1195.11	192.11	1.82	
4	72.87	1031.00	307.50	1074.50	165.61	1185.32	180.04	1.74	
5	82.22	1029.21	307.50	1074.50	168.79	1181.54	175.21	1.71	
6	93.19	1026.38	307.50	1074.50	171.94	1176.94	169.91	1.70	OK
7	105.75	1022.77	307.50	1074.50	172.77	1180.63	171.51	1.76	
8	116.68	1020.03	307.50	1074.50	177.16	1169.62	161.35	1.70	
9	126.84	1017.63	307.50	1074.50	180.52	1162.49	154.49	1.72	
10	138.32	1016.65	307.50	1074.50	185.90	1153.81	145.17	1.80	
11	148.40	1027.97	307.50	1074.50	196.89	1157.44	138.25	2.64	

Note: In the 'Status' column, OK means the critical circle was identified within the specified search domain. 'On extreme X-exit' means that the critical result is on the edge of the search domain; a lower Fs may result if the search domain is expanded.

RESULTS OF TRANSLATIONAL ANALYSIS



Results in the table below represent critical two-part wedges identified between specified starting (X1) and ending (X2) search points. Wedges along all reinforcement layers and at elevation zero are reported. The critical two-part wedge, one for each predetermined elevation, is defined by Xa, Xb and Xc where Xa is the front end of the passive wedge (slope face), Xb is where the passive wedge ends and the active one starts, and Xc is the X-ordinate at which the active wedge starts.

Critical two-part wedge along each interface:

Interface	Height Relative to Toe [ft]	(Xa, Ya) [ft]	(Xb, Yb) [ft]	(Xc, Yc) [ft]	Fs	STATUS
At toe elevation	0.00	137.10 1015.00	249.40 1015.00	310.90 1074.39	2.47	Minimum on Edge
Reinf. Layer #1	0.00	137.10 1015.00	197.29 1015.00	300.75 1074.10	0.005.00	No convergence
Reinf. Layer #2	1.50	138.60 1016.50	198.79 1016.50	282.81 1071.00	0.005.00	No convergence
Reinf. Layer #3	3.00	140.09 1018.00	200.29 1018.00	298.67 1074.80	2.93	Minimum on Edge
Reinf. Layer #4	4.50	141.59 1019.50	201.79 1019.50	297.63 1074.84	3.19	Minimum on Edge
Reinf. Layer #5	6.00	143.09 1021.00	203.29 1021.00	264.32 1075.95	3.29	Minimum on Edge
Reinf. Layer #6	7.50	144.59 1022.50	204.79 1022.50	259.64 1075.47	3.45	Minimum on Edge
Reinf. Layer #7	9.00	146.08 1024.00	206.29 1024.00	277.20 1075.52	3.65	Minimum on Edge
Reinf. Layer #8	10.50	147.58 1025.50	207.79 1025.50	279.13 1075.46	3.81	Minimum on Edge
Reinf. Layer #9	12.00	149.08 1027.00	209.29 1027.00	281.03 1075.39	4.00	Minimum on Edge
Reinf. Layer #10	13.50	150.57 1028.50	228.29 1028.50	307.95 1074.49	3.31	Minimum on Edge
Reinf. Layer #11	15.00	152.07 1030.00	229.79 1030.00	306.91 1074.52	3.50	Minimum on Edge
Reinf. Layer #12	16.50	153.57 1031.50	231.29 1031.50	305.87 1074.56	3.70	Minimum on Edge
Reinf. Layer #13	18.00	155.07 1033.00	232.79 1033.00	304.83 1074.59	3.93	Minimum on Edge
Reinf. Layer #14	19.50	156.56 1034.50	234.29 1034.50	292.16 1075.02	4.44	Minimum on Edge
Reinf. Layer #15	21.00	158.06 1036.00	235.79 1036.00	271.55 1075.71	4.90	Minimum on Edge
Reinf. Layer #16	22.50	159.56 1037.50	237.29 1037.50	276.68 1075.54	4.95	Minimum on Edge
Reinf. Layer #17	24.00	137.10 1015.00	137.10 1015.00	137.10 101.1000	0.033.30	No convergence
Reinf. Layer #18	25.50	137.10 1015.00	137.10 1015.00	137.10 101.1000	0.033.30	No convergence
Reinf. Layer #19	27.00	137.10 1015.00	137.10 1015.00	137.10 101.1000	0.033.30	No convergence
Reinf. Layer #20	28.50	137.10 1015.00	137.10 1015.00	137.10 101.1000	0.033.30	No convergence
Reinf. Layer #21	30.00	137.10 1015.00	137.10 1015.00	137.10 101.1000	0.033.30	No convergence
Reinf. Layer #22	31.50	137.10 1015.00	137.10 1015.00	137.10 101.1000	0.033.30	No convergence
Reinf. Layer #23	33.00	137.10 1015.00	137.10 1015.00	137.10 101.1000	0.033.30	No convergence
Reinf. Layer #24	34.50	137.10 1015.00	137.10 1015.00	137.10 101.1000	0.033.30	No convergence
Reinf. Layer #25	36.00	137.10 1015.00	137.10 1015.00	137.10 101.1000	0.033.30	No convergence
Reinf. Layer #26	37.50	137.10 1015.00	137.10 1015.00	137.10 101.1000	0.033.30	No convergence
Reinf. Layer #27	39.00	137.10 1015.00	137.10 1015.00	137.10 101.1000	0.033.30	No convergence
Reinf. Layer #28	40.50	137.10 1015.00	137.10 1015.00	137.10 101.1000	0.033.30	No convergence
Reinf. Layer #29	42.00	137.10 1015.00	137.10 1015.00	137.10 101.1000	0.033.30	No convergence
Reinf. Layer #30	43.50	137.10 1015.00	137.10 1015.00	137.10 101.1000	0.033.30	No convergence
Reinf. Layer #31	45.00	137.10 1015.00	137.10 1015.00	137.10 101.1000	0.033.30	No convergence
Reinf. Layer #32	46.50	137.10 1015.00	137.10 1015.00	137.10 101.1000	0.033.30	No convergence
Reinf. Layer #33	48.00	137.10 1015.00	137.10 1015.00	137.10 101.1000	0.033.30	No convergence
Reinf. Layer #34	49.50	137.10 1015.00	137.10 1015.00	137.10 101.1000	0.033.30	No convergence
Reinf. Layer #35	51.00	137.10 1015.00	137.10 1015.00	137.10 101.1000	0.033.30	No convergence
Reinf. Layer #36	52.00	137.10 1015.00	137.10 1015.00	137.10 101.1000	0.033.30	No convergence

Note: In the 'Status' column, OK means the critical two part-wedge was identified within the specified search domain. 'Minimum on Edge' means the critical result corresponds to a minimum on the edge of the search domain; i.e., either on X1 or X2 or the internally preset limits on Xc.

CRITICAL RESULTS OF ROTATIONAL AND TRANSLATIONAL STABILITY ANALYSES

Rotational (Circular Arc; Bishop) Stability Analysis

Minimum Factor of Safety = 1.70

Critical Circle: $X_c = 171.94$ [ft], $Y_c = 1176.94$ [ft], $R = 169.91$ [ft]. (Number of slices used = 59)

Translational (2-Part Wedge; Spencer), Direct Sliding, Stability Analysis

Minimum Factor of Safety = 2.47

Critical Two-Part Wedge: ($X_a = 137.10$, $Y_a = 1015.00$) [ft]

($X_b = 249.40$, $Y_b = 1015.00$) [ft]

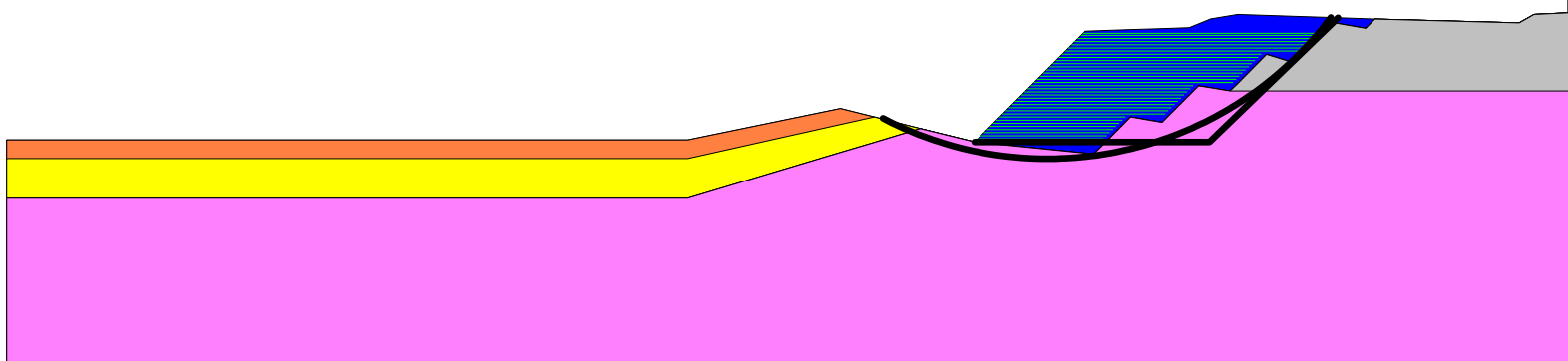
($X_c = 310.90$, $Y_c = 1074.39$) [ft]

(Number of slices used = 30)

Interslice resultant force inclination = 15.12 [degrees]

Three-Part Wedge Stability Analysis

NOT CONDUCTED
REINFORCEMENT LAYOUT: DRAWING

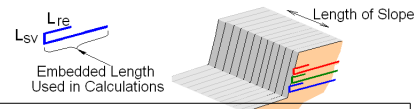


SCALE:

(511223[ft]



REINFORCEMENT LAYOUT: TABULATED DATA & QUANTITIES



Layer #	Reinf. Type #	Geosynthetic Designated Name	Height Relative to Toe [ft]	Embedded Length [ft]	Covergae Ratio, Rc	(X, Y) front [ft]	(X, Y) rear [ft]	Lsv * [ft]	Lre [ft]
1	1	20XT	0.00	60.00	1.00	137.10	1015.00	0.00	0.00
2	1	20XT	1.50	60.00	1.00	138.60	1016.50	0.00	0.00
3	1	20XT	3.00	60.00	1.00	140.09	1018.00	0.00	0.00
4	1	20XT	4.50	60.00	1.00	141.59	1019.50	0.00	0.00
5	1	20XT	6.00	60.00	1.00	143.09	1021.00	0.00	0.00
6	1	20XT	7.50	60.00	1.00	144.59	1022.50	0.00	0.00
7	1	20XT	9.00	60.00	1.00	146.08	1024.00	0.00	0.00
8	1	20XT	10.50	60.00	1.00	147.58	1025.50	0.00	0.00
9	1	20XT	12.00	60.00	1.00	149.08	1027.00	0.00	0.00
10	1	20XT	13.50	77.50	1.00	150.57	1028.50	0.00	0.00
11	1	20XT	15.00	77.50	1.00	152.07	1030.00	0.00	0.00
12	1	20XT	16.50	77.50	1.00	153.57	1031.50	0.00	0.00
13	1	20XT	18.00	77.50	1.00	155.07	1033.00	0.00	0.00
14	1	20XT	19.50	77.50	1.00	156.56	1034.50	0.00	0.00
15	1	20XT	21.00	77.50	1.00	158.06	1036.00	0.00	0.00
16	1	20XT	22.50	77.50	1.00	159.56	1037.50	0.00	0.00
17	1	20XT	24.00	77.50	1.00	161.05	1039.00	0.00	0.00
18	1	20XT	25.50	77.50	1.00	162.55	1040.50	0.00	0.00
19	1	20XT	27.00	77.50	1.00	164.05	1042.00	0.00	0.00
20	1	20XT	28.50	95.00	1.00	165.55	1043.50	0.00	0.00
21	1	20XT	30.00	95.00	1.00	167.04	1045.00	0.00	0.00
22	1	20XT	31.50	95.00	1.00	168.54	1046.50	0.00	0.00
23	1	20XT	33.00	95.00	1.00	170.04	1048.00	0.00	0.00
24	1	20XT	34.50	95.00	1.00	171.53	1049.50	0.00	0.00
25	1	20XT	36.00	95.00	1.00	173.03	1051.00	0.00	0.00
26	1	20XT	37.50	95.00	1.00	174.53	1052.50	0.00	0.00
27	1	20XT	39.00	95.00	1.00	176.03	1054.00	0.00	0.00
28	1	20XT	40.50	95.00	1.00	177.52	1055.50	0.00	0.00
29	1	20XT	42.00	95.00	1.00	179.02	1057.00	0.00	0.00
30	1	20XT	43.50	112.50	1.00	180.52	1058.50	0.00	0.00
31	1	20XT	45.00	112.50	1.00	182.02	1060.00	0.00	0.00
32	1	20XT	46.50	112.50	1.00	183.51	1061.50	0.00	0.00
33	1	20XT	48.00	112.50	1.00	185.01	1063.00	0.00	0.00
34	1	20XT	49.50	112.50	1.00	186.51	1064.50	0.00	0.00
35	1	20XT	51.00	112.50	1.00	188.00	1066.00	0.00	0.00
36	1	20XT	52.00	112.50	1.00	189.00	1067.00	0.00	0.00

* Vertical distance between layers.

QUANTITIES

Reinf. Type #	Designated Name	Coverage Ratio	Area of reinforcement [ft²] / length of slope [ft]
1	20XT	1.00	3052.50