PALOMA
EXCAVATION PLAN
GRAND AVE & LINDA VISTA DRIVE

REV #0

DESIGN CALCULATIONS
June 6, 2025

PREPARED BY:
SCOTT F CANNON, PE

MZB ENGINEERING, INC

TEL:949.254.4792 engineering@mzbinc.com www.mzbinc.com

1192 Athlone Lane Corona, CA 92882

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PLANS FOR CONSTRUCTION ON
PALOMA
IN SAN DIEGO COUNTY
-

EXCAVATION PLAN
REVISION 0

June 3, 2025

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LOCATION MAP

Underground Service Alert
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REGISTERED PROFESSIONAL ENGINEER
SCOTT F. CANNON
84327
Exp. 09-30-25
CIVIL
STATE OF CALIFORNIA

REV.	DATE	DESCRIPTION
0	6-3-25	RELEASED FOR CONSTRUCTION

DESIGN BY: SCANNON
DRAWN BY: SCANNON
SCALE: AS SHOWN

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MZB ENGINEERING

PALOMA EXCAVATION PLAN

COVER

PROJECT: CITY OF SAN MARCOS PUBLIC IMPROVEMENT
CONTRACTOR: KANA PIPELINE
CONTRACT NO: -

SHEET NUMBER:
1
OF 3 SHEETS

Paloma File

GENERAL NOTES:
1. ALL EXCAVATIONS SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH OSHA CFR 29, PART 1926, SUBPART P, AND CAL/OSHA SAFETY ORDERS TITLE 8, SECTION 1504, AND 1539–1547.

2. THE DESIGN OF THIS TEMPORARY EXCAVATION IS IN ACCORDANCE WITH OCTA CONTRACT C–5–3843 AND TP SECTION 13 GEOTECHNICAL AND 22.4.5 EXCAVATIONS AND TRENCHES.

3. THE DESIGN OF THIS EXCAVATION IS IN ACCORDANCE WITH THE 2018 CALTRANS STANDARD SPECIFICATIONS AND THE 2011 CT TRENCHING AND SHORING MANUAL

LOCATION AND PROTECTION OF EXISTING UTILITIES:
1. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES, OTHER OBSTACLES, DIMENSIONS, OFFSETS, ELEVATIONS AND CONDITIONS IN THE FIELD PRIOR TO STARTING ANY WORK. ALL EXISTING UTILITIES SHOWN ON THE CONTRACT PLANS WITHIN THE WORK ZONE SHALL BE POSITIVELY IDENTIFIED PRIOR TO STARTING WORK. THE CONTRACTOR IS RESPONSIBLE TO POTHOLE ALL UTILITIES (AS NEEDED) BEFORE SHORING WALL CONSTRUCTION IS TO BEGIN. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES BEFORE PROCEEDING FURTHER WITH THE WORK.

SURVEYING AND GROUND ELEVATION INFORMATION:
1. EXISTING GROUND ELEVATIONS AND CONSEQUENTIAL ELEVATION HEIGHTS HAVE BEEN DETERMINED BASED ON TOPOGRAPHICAL INFORMATION PROVIDED BY THE PLANS AND OR ACTUAL FIELD DATA.

COMPETENT PERSONS:
1. A COMPETENT PERSON IS CAPABLE OF IDENTIFYING EXISTING AND PREDICTABLE HAZARDS IN THE SURROUNDINGS, OR WORKING CONDITIONS WHICH ARE UNSANITARY, HAZARDOUS, OR DANGEROUS TO EMPLOYEES AND WHO HAS AUTHORIZATION TO TAKE PROMPT CORRECTIVE MEASURES TO ELIMINATE THEM.

2. BEFORE COMMENCING ANY EXCAVATION, THE CONTRACTOR SHALL OBTAIN UNDERGROUND SERVICE ALERT (USA) INQUIRY I.D. NUMBER. A MINIMUM OF 3 DAYS SHALL BE ALLOWED AFTER THE I.D. NUMBER IS OBTAINED AND BEFORE THE EXCAVATION WORK IS STARTED TO NOTIFY UTILITY OWNERS. IF THE UTILITY OWNER IS THE CITY, A CONFIRMATION NUMBER INDICATING THE CITY HAS BEEN NOTIFIED SHALL BE OBTAINED BY USA AND/OR THE CONTRACTOR FROM THE APPROPRIATE CITY DEPARTMENT. THE I.D. NUMBER TOGETHER WITH THE DATE ACQUIRED SHALL BE REPORTED TO THE INSPECTOR WHEN CALLING FOR INSPECTION. USA I.D. NUMBERS WILL NOT BE GIVEN MORE THAN TEN (10) WORK DAYS BEFORE STARTING EXCAVATION WORK.

3. THE CONTRACTORS COMPETENT PERSON SHALL BE ON–SITE OBSERVING THE EXCAVATION PROCESS AND SHALL BE THE RESPONSIBLE PARTY IN THE DETERMINATION OF THE SOIL TYPE EXPOSED IN THE EXCAVATION WALLS. IF THE SOIL TYPE ENCOUNTERED IS DIFFERENT THAN THAT SPECIFIED ON THE PLANS, THE DESIGN ENGINEER MUST BE NOTIFIED.

4. THE COMPETENT PERSON SHALL INSPECT THE TRENCH OR EXCAVATION AT THE BEGINNING OF EACH SHIFT PRIOR TO WORKERS ENTERING THE TRENCH OR EXCAVATION AND/OR IF WEATHER HAS CHANGED OR EFFECTED THE WORK AREA.

ENVIRONMENTAL/SWPPP COMPLIANCE:
1. DESIGN OF EXCAVATIONS IS BASED ON ASSUMPTIONS THAT SOIL PROPERTIES AND GROUND CONDITIONS REMAIN CONSTANT THROUGH THE LIFE OF THE EXCAVATION. WATER CAN EFFECT THE STRENGTH OF SOILS AND GREAT CARE SHOULD BE TAKEN TO PREVENT CHANGES FROM EXISTING SOIL CONDITIONS. SLOPES MUST BE PROTECTED FROM EXCESSIVE SOIL SATURATION AND EROSION DURING CONSTRUCTION. WATER PONDING IN THE BASE OF EXCAVATIONS IS UNACCEPTABLE AND SHOULD BE DIVERTED OR REMOVED. PROPER SWPPP AND BMP MEASURES SHALL BE USED TO PREVENT ENVIRONMENTAL INDUCED SLOPE INSTABILITY.

CAL/OSHA REQUIREMENTS:
1. A CAL/OSHA EXCAVATION PERMIT MUST BE OBTAINED PRIOR TO ANY EXCAVATION.

2. A COPY OF THIS SHORING PLAN MUST BE AT THE JOB SITE DURING CONSTRUCTION.

3. INGRESS AND EGRESS TO THE EXCAVATION SHALL CONFORM TO ALL OSHA REQUIREMENTS INCLUDING: HANDRAILS, LADDER ACCESS AND FALL PROTECTION AS REQUIRED.

4. CONTINGENCY PLANS FOR EMERGENCY SITUATIONS SHALL BE ADDRESSED IN JHA.

CONSTRUCTION REQUIREMENTS:
1. CONTACT THE DESIGN ENGINEER IF EXCAVATION SHOWS SIGNS OF SLOUGHING, SWELLING OR PUMPING.

2. CAUTION SHALL BE TAKEN WHEN EXCAVATIONS ARE ADJACENT TO TRAFFIC AND THE TRAVELING PUBLIC.

3. THESE EXCAVATIONS SHOULD NOT BE ALLOWED TO BECOME SATURATED OR TO DRY OUT.

CONTROLLING FIELD DIMENSIONS
1. THE FIELD SUPERINTENDENT WILL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING, FABRICATING, OR INSTALLING SHORING. UPON APPROVAL BY THE DESIGN ENGINEER DIMENSIONS OF THE SHORING WILL BE ADJUSTED TO FIT THE ACTUAL DIMENSIONS.

2. IF AT ANY POINT THE EXCAVATION EXCEEDS THE DEPTH SHOWN ON THE PLANS BY MORE THAN 1FT, NOTIFY THE DESIGN ENGINEER IMMEDIATELY.

June 3, 2025

LAVENDER

SOIL LAYER DESCRIPTIONS:
1. THE FOLLOWING SOIL DESCRIPTIONS ARE ASSUMED TO BE PRESENT DURING EXCAVATION. IF SOILS DIFFER FROM THOSE DESCRIBED BELOW, STOP THE EXCAVATION AND CONSULT WITH THE DESIGN ENGINEER.
   SOIL TYPES & DESCRIPTIONS:
   350.0' TO 400.0' – (SM) SILTY SANDSTONE

DESIGN PARAMETERS:
EXCAVATION SLOPE DESIGN BASED ON BORING LOGS B–3 TO B–6, & TP 1 TO TP 4 OF THE INFORMATION PROVIDED IN THE NMG GEOTECHNICAL INC REPORT, SAN MARCOS, CA DATED APRIL 23, 2024.

SOIL PARAMETERS:

544.0' TO 540.0'	540.0' TO 536.0'	536.0' TO BELOW
γ = 115 PCF	γ = 115 PCF	γ = 125 PCF
Φ = 23°	Φ = 23°	Φ = 33°
Su = 225 PSF	Su = 225 PSF	Su = 100 PSF

DESIGN SURCHARGE PARAMETERS:
1. IF K–RAIL IS LESS THAN 2FT FROM TOP OF SLOPE IT MUST BE PINNED. SEE 2015 CALTRANS STANDARD PLAN T3B.
2. K–RAIL MAY NOT BE PLACED CLOSER THAN 3" FROM TOP OF SLOPE. (200PSF).
3. SLOPES WERE DESIGNED WITH A HS20–44 TRAFFIC SURCHARGE (300PSF) PLACED 2FT FROM TOP OF SLOPE OR AS SHOWN IN THE SURCHARGE TABLE(S) IN THESE PLANS.
4. FOR SURCHARGE OFFSETS REFER TO "ASSUMED SURCHARGES & MIN. OFFSETS" TABLES ON SECTION VIEWS..
5. IF HIGHER GROUND PRESSURE IS ANTICIPATED, CONSULT WITH THE DESIGN ENGINEER.

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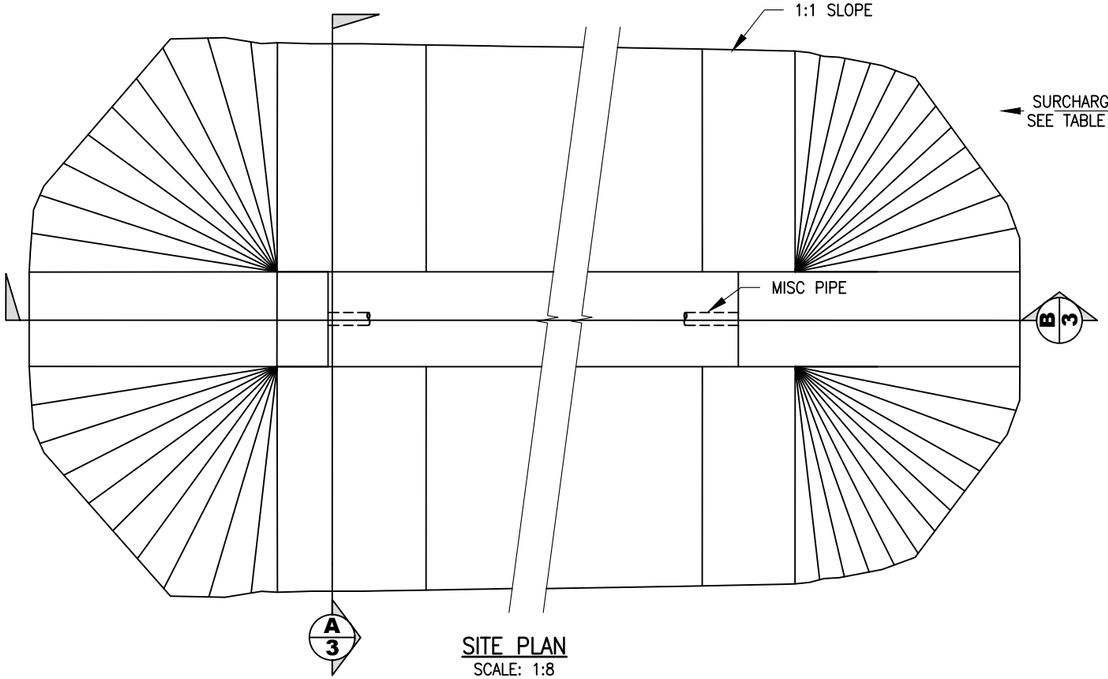
PALOMA EXCAVATION PLAN

NOTES

PROJECT: CITY OF SAN MARCOS PUBLIC IMPROVEMENT
CONTRACTOR: KANA PIPELINE
CONTRACT NO: -

SHEET NUMBER:
2
OF 3 SHEETS

Paloma File



SITE PLAN
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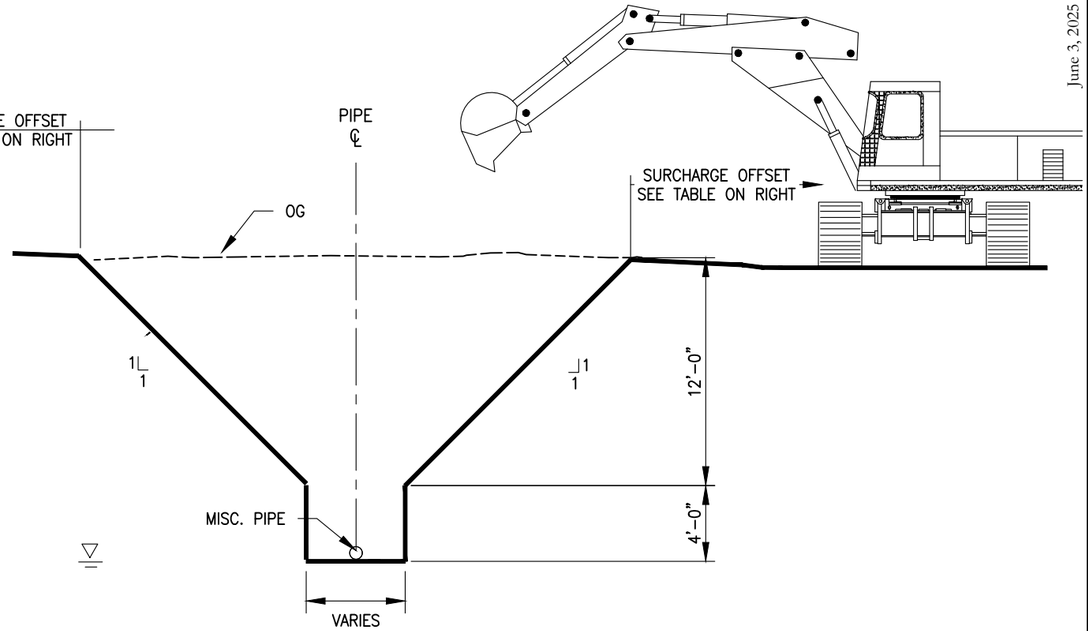
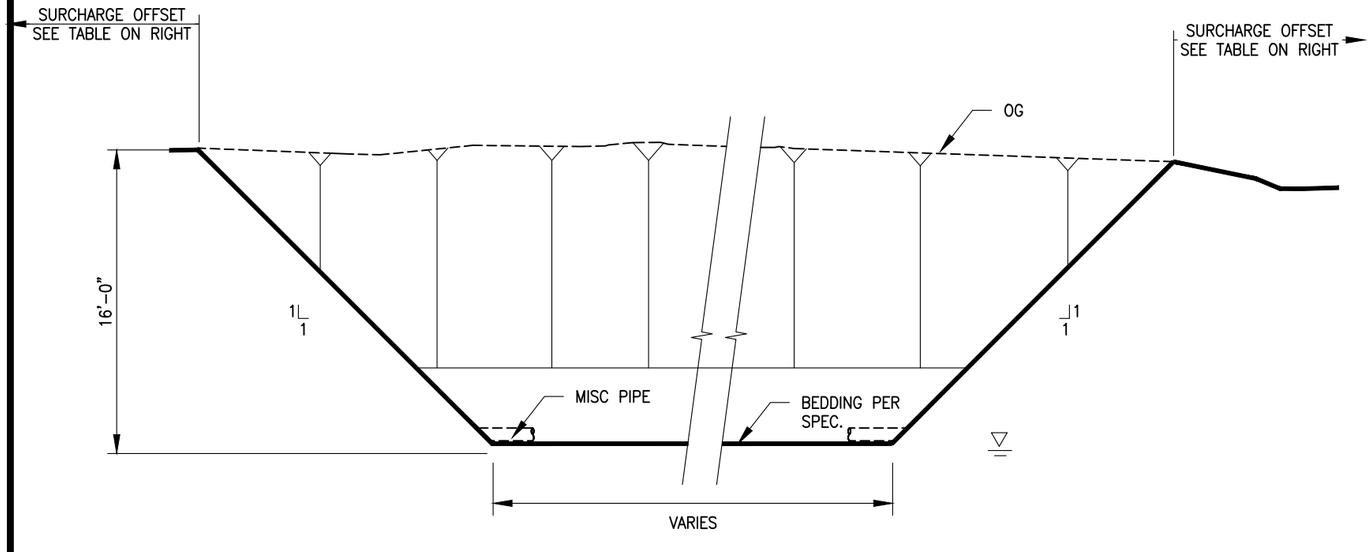


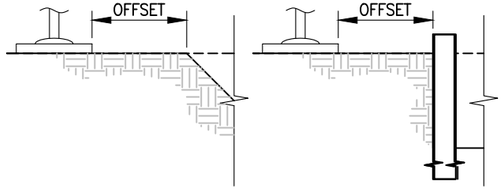
SECTION VIEW A
SCALE: 1:8



SECTION VIEW B
SCALE: 1:8

ASSUMED MINIMUM OFFSETS	
SURCHARGE	OFFSET
HS 20-44 TRAFFIC	5 FT
CAT 330 EXCAVATOR	4 FT
3 CY LOADER	12 FT
K-RAIL	2 FT
CONCRETE TRUCK	12 FT
SPOIL PILE*	3 FT

*SPOIL PILE HT = 8 FT W/ 1:1 SLOPE



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PALOMA EXCAVATION PLAN

PLAN VIEW / SECTION VIEW

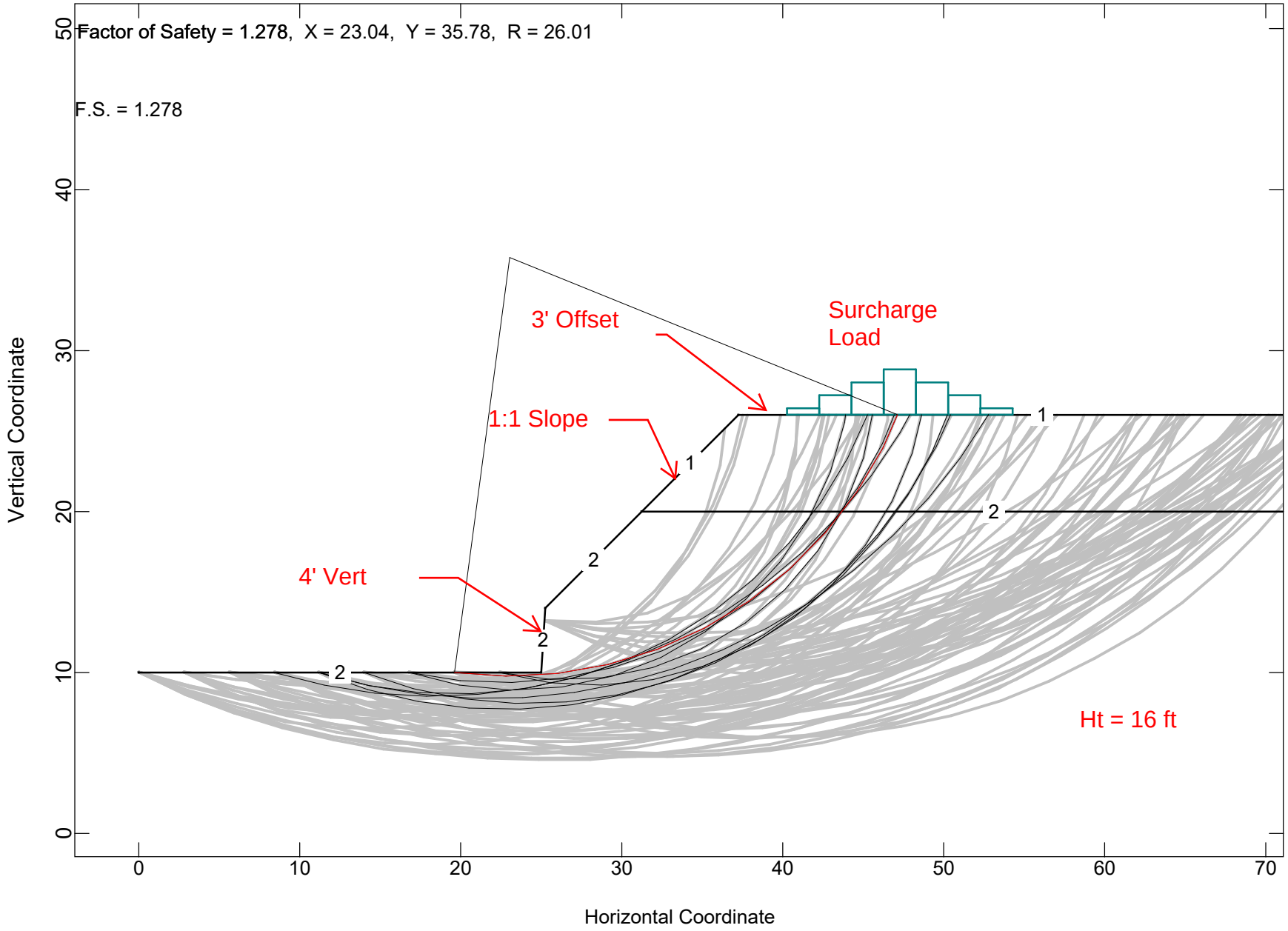
PROJECT: CITY OF SAN MARCOS PUBLIC IMPROVEMENT
CONTRACTOR: KANA PIPELINE
CONTRACT NO: -

SHEET NUMBER: 3
OF 3 SHEETS

Paloma File

Slope Stability Analysis

Spoils Pile Surcharge Load



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     ============================================================================

                     STABLPro for Windows, Version 2015.4.5

                            Upgraded from:
                            FHWA-PCSTABLE

                      Serial Number :  357267753

                         --Slope Stability Analysis--
                       Simplified Janbu, Simplified Bishop
                         or Spencer Method of Slices

     ============================================================================


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     Path to file locations      :
D:\Dropbox\Korpi_Cannon_Engineering\Projects\KC-0119 - MZB Engineering\Design\Excav
- Shoring\7.0 Paloma\Design\
     Name of input data file     : 8. Spoil - Vert - 4ft.sl4d
     Name of output file         : 8. Spoil - Vert - 4ft.sl4o
     Name of plot output file    : 8. Spoil - Vert - 4ft.sl4p

     ----------------------------------------------------------------------------
                          Time and Date of Analysis
     ----------------------------------------------------------------------------

               Date:  June 03, 2025     Time:  12:48:04




1
          PROBLEM DESCRIPTION   New Slope




          BOUNDARY COORDINATES

              5 Top   Boundaries
              6 Total Boundaries
```

Boundary No.	X-Left ft.	Y-Left ft.	X-Right ft.	Y-Right ft.	Soil Type Below Bnd
1	0.00	10.00	25.00	10.00	2
2	25.00	10.00	25.25	14.00	2
3	25.25	14.00	31.25	20.00	2
4	31.25	20.00	37.25	26.00	1
5	37.25	26.00	75.00	26.00	1
6	31.25	20.00	75.00	20.00	2

1

ISOTROPIC SOIL PARAMETERS

2 Type(s) of Soil

Soil Type No.	Total Unit Wt. pcf	Saturated Unit Wt. pcf	Cohesion Intercept psf	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant psf	Piez. Surface No.
1	115.0	115.0	225.0	23.0	0.00	0.0	0
2	125.0	125.0	100.0	33.0	0.00	0.0	0

1

BOUNDARY LOAD(S)

7 Load(s) Specified

Load No.	X-Left ft.	X-Right ft.	Intensity psf	Deflection (deg)
1	40.25	42.25	230.0	0.0
2	42.25	44.25	690.0	0.0
3	44.25	46.25	1150.0	0.0
4	46.25	48.25	1610.0	0.0
5	48.25	50.25	1150.0	0.0
6	50.25	52.25	690.0	0.0
7	52.25	54.25	230.0	0.0

NOTE - Intensity Is Specified As A Uniformly Distributed
Force Acting On A Horizontally Projected Surface.

1

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.

100 Trial Surfaces Have Been Generated.

10 Surfaces Initiate From Each Of 10 Points Equally Spaced Along The Ground Surface Between X = 0.00 ft.
and X = 25.20 ft.

Each Surface Terminates Between X = 36.00 ft.
and X = 75.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = 0.00 ft.

3.20 ft. Line Segments Define Each Trial Failure Surface.

Restrictions Have Been Imposed Upon The Angle Of Initiation. The Angle Has Been Restricted Between The Angles Of -25.0 And 0.0 deg.

1

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Bishop Method * *

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	19.60	10.00
2	22.79	9.77
3	25.99	9.94
4	29.14	10.50
5	32.20	11.44
6	35.12	12.75

7	37.86	14.40
8	40.37	16.38
9	42.62	18.66
10	44.57	21.19
11	46.20	23.95
12	47.10	26.00

Circle Center At X = 23.0 ; Y = 35.8 and Radius, 26.0

*** 1.278 ***

Individual data on the 20 slices

Slice No.	Width Ft	Weight Lbs	Water Force Top Lbs	Water Force Bot Lbs	Tie Force Norm Lbs	Tie Force Tan Lbs	Earthquake Force Hor Lbs	Earthquake Force Ver Lbs	Surcharge Load Lbs
1	3.2	0.45E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	2.2	0.47E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	0.2	0.66E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	0.7	0.41E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	3.2	0.24E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6	2.1	0.21E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7	0.9	0.11E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8	2.9	0.37E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9	2.1	0.30E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	0.6	0.85E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11	2.4	0.30E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	0.1	0.14E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.27E+02
13	1.9	0.19E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.43E+03
14	0.4	0.32E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.25E+03
15	1.0	0.80E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.71E+03
16	0.6	0.39E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.41E+03
17	0.3	0.19E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.37E+03
18	1.6	0.64E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.19E+04
19	0.0	0.11E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.55E+02
20	0.8	0.94E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.14E+04

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.

1	16.80	10.00
2	19.96	9.50
3	23.16	9.38
4	26.35	9.65
5	29.48	10.31
6	32.51	11.35
7	35.39	12.74
8	38.08	14.48
9	40.53	16.53
10	42.72	18.86
11	44.62	21.44
12	46.18	24.23
13	46.91	26.00

Circle Center At X = 22.5 ; Y = 35.7 and Radius, 26.3

*** 1.315 ***

1

Failure Surface Specified By 16 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	8.40	10.00
2	11.50	9.21
3	14.66	8.72
4	17.86	8.53
5	21.06	8.64
6	24.23	9.06
7	27.35	9.77
8	30.39	10.77
9	33.32	12.05
10	36.12	13.61
11	38.75	15.42
12	41.21	17.48
13	43.46	19.75
14	45.48	22.23
15	47.26	24.89
16	47.86	26.00

Circle Center At X = 18.3 ; Y = 42.4 and Radius, 33.9

*** 1.377 ***

Failure Surface Specified By 15 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	14.00	10.00
2	17.04	9.00
3	20.18	8.36
4	23.36	8.08
5	26.56	8.17
6	29.73	8.62
7	32.82	9.43
8	35.81	10.60
9	38.63	12.09
10	41.27	13.90
11	43.69	16.01
12	45.84	18.37
13	47.71	20.97
14	49.27	23.76
15	50.21	26.00

Circle Center At X = 24.2 ; Y = 35.9 and Radius, 27.9

*** 1.422 ***

1

Failure Surface Specified By 16 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	11.20	10.00
2	14.22	8.93
3	17.33	8.20
4	20.51	7.79
5	23.71	7.72
6	26.89	8.00
7	30.03	8.61
8	33.09	9.55
9	36.04	10.81
10	38.83	12.37
11	41.44	14.22

12	43.84	16.34
13	46.00	18.70
14	47.90	21.28
15	49.51	24.04
16	50.39	26.00

Circle Center At X = 22.7 ; Y = 37.8 and Radius, 30.1

*** 1.443 ***

Failure Surface Specified By 14 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	11.20	10.00
2	14.30	9.19
3	17.47	8.75
4	20.67	8.68
5	23.85	8.98
6	26.98	9.65
7	30.01	10.68
8	32.90	12.05
9	35.62	13.75
10	38.11	15.75
11	40.36	18.02
12	42.33	20.55
13	44.00	23.28
14	45.24	26.00

Circle Center At X = 19.7 ; Y = 36.2 and Radius, 27.5

*** 1.445 ***

1

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	22.40	10.00
2	25.54	9.36

3	28.73	9.21
4	31.92	9.55
5	35.01	10.37
6	37.94	11.65
7	40.64	13.37
8	43.05	15.47
9	45.12	17.92
10	46.78	20.65
11	48.01	23.60
12	48.60	26.00

Circle Center At X = 28.1 ; Y = 30.2 and Radius, 20.9

*** 1.457 ***

Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	22.40	10.00
2	25.57	9.57
3	28.77	9.67
4	31.91	10.31
5	34.90	11.45
6	37.65	13.07
7	40.10	15.13
8	42.18	17.57
9	43.82	20.32
10	44.98	23.30
11	45.54	26.00

Circle Center At X = 26.6 ; Y = 28.8 and Radius, 19.2

*** 1.470 ***

1

Failure Surface Specified By 17 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.

1	11.20	10.00
2	14.30	9.19
3	17.45	8.66
4	20.64	8.41
5	23.84	8.44
6	27.03	8.76
7	30.17	9.36
8	33.24	10.24
9	36.23	11.39
10	39.10	12.80
11	41.84	14.47
12	44.41	16.36
13	46.81	18.48
14	49.01	20.81
15	50.99	23.32
16	52.75	26.00
17	52.75	26.00

Circle Center At X = 21.8 ; Y = 44.3 and Radius, 35.9

*** 1.479 ***

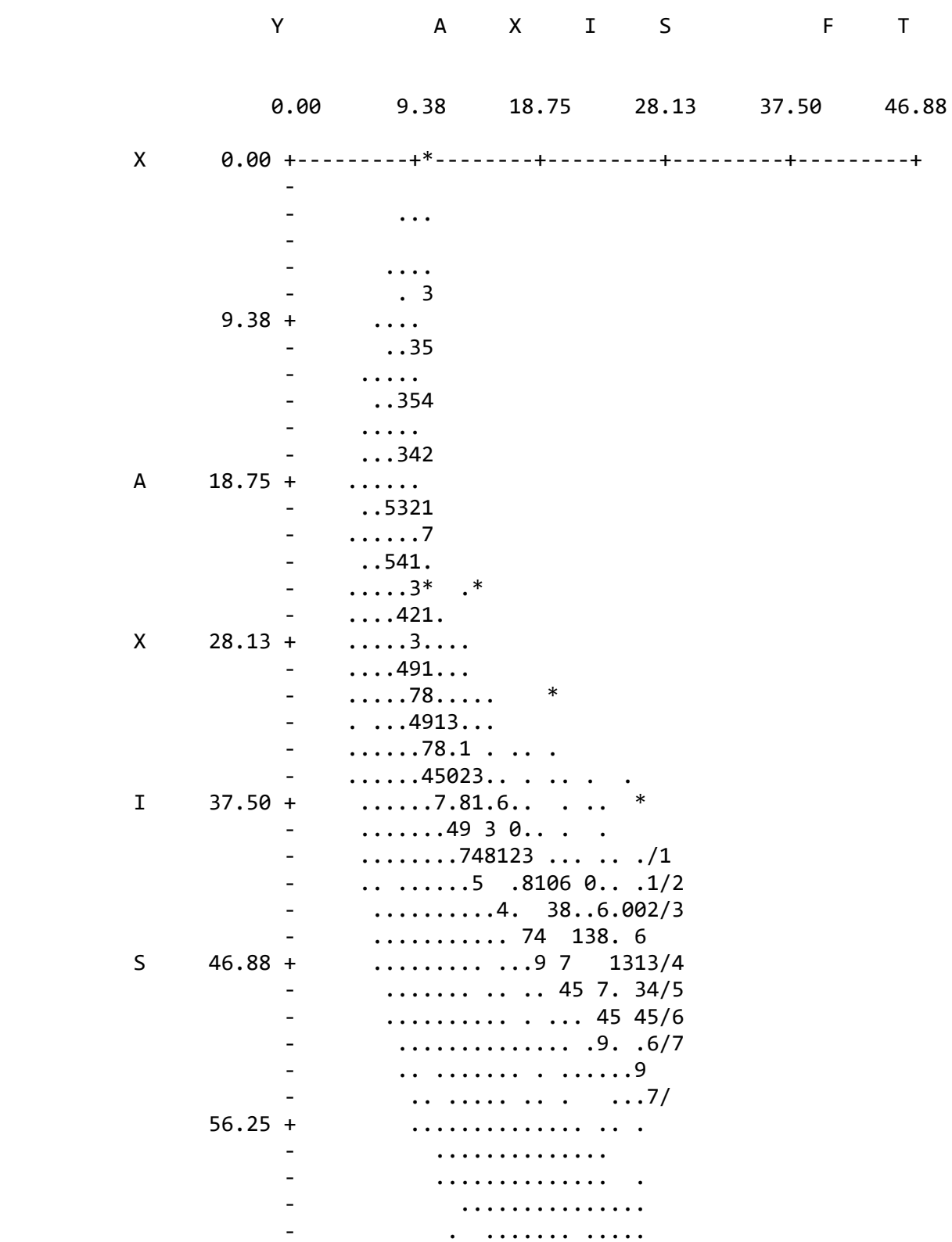
Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	16.80	10.00
2	19.90	9.21
3	23.09	8.91
4	26.28	9.10
5	29.41	9.78
6	32.40	10.93
7	35.17	12.52
8	37.67	14.53
9	39.83	16.89
10	41.60	19.55
11	42.94	22.45
12	43.83	25.53
13	43.89	26.00

Circle Center At X = 23.5 ; Y = 29.7 and Radius, 20.8

*** 1.486 ***

1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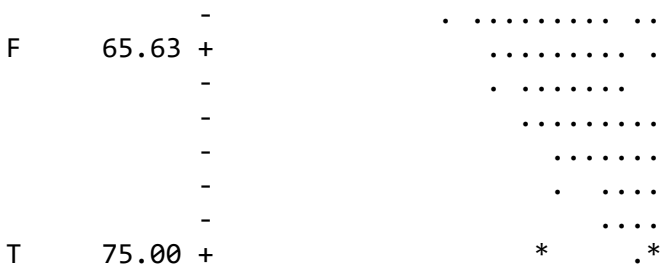
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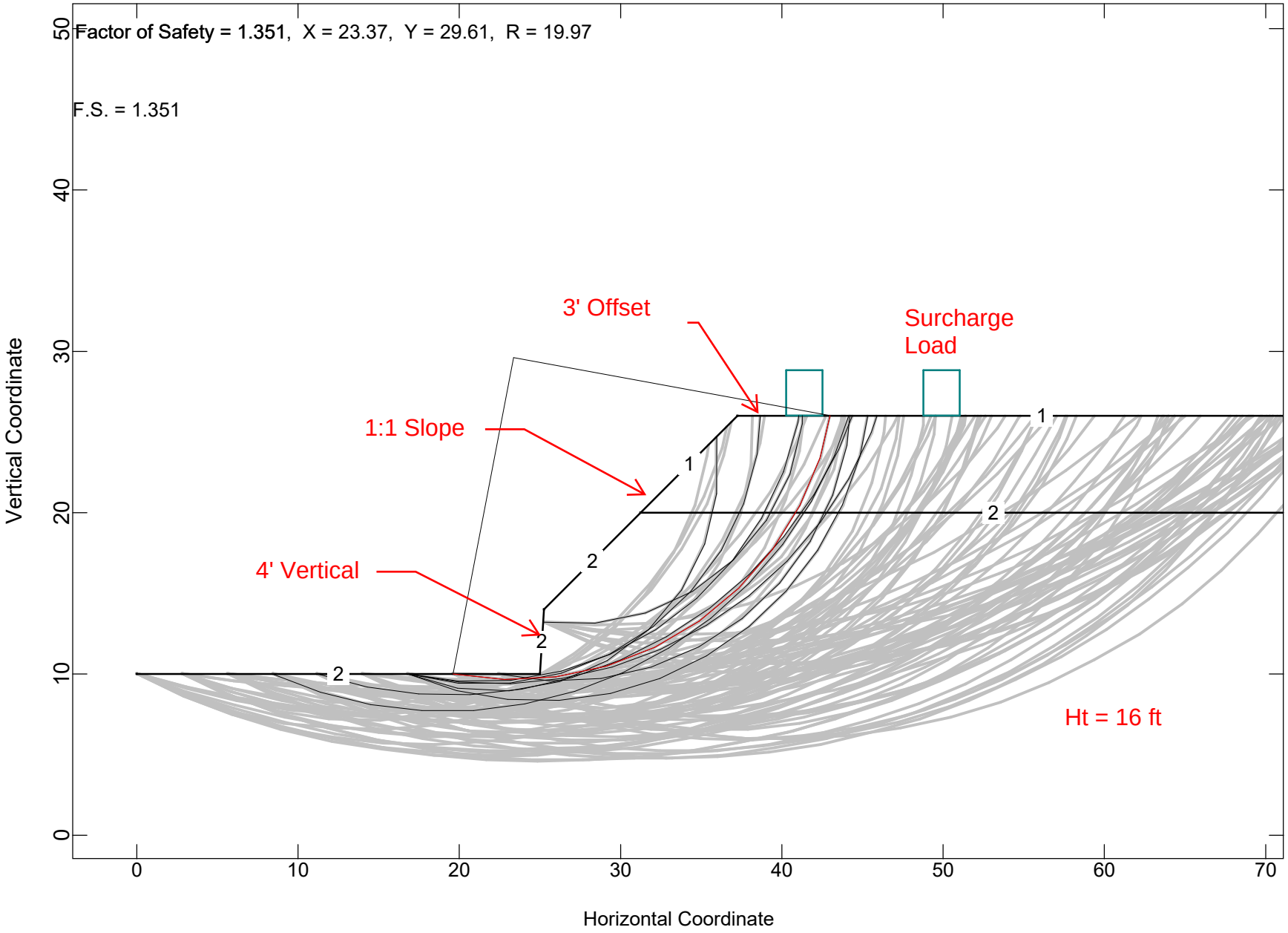
Excavator Surcharge
900 PSF



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                     STABLPro for Windows, Version 2015.4.5

                            Upgraded from:
                            FHWA-PCSTABLE

                      Serial Number :  357267753

                         --Slope Stability Analysis--
                       Simplified Janbu, Simplified Bishop
                         or Spencer Method of Slices

     ============================================================================


     This program is licensed to :

     Korpi Cannon Engineering PLLC
     Las Vegas, NV, USA

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                           Time and Date of Analysis
     ----------------------------------------------------------------------------

               Date:  June 03, 2025     Time:  13:00:45




1
          PROBLEM DESCRIPTION   New Slope




          BOUNDARY COORDINATES

              5 Top   Boundaries
              6 Total Boundaries
```

Boundary No.	X-Left ft.	Y-Left ft.	X-Right ft.	Y-Right ft.	Soil Type Below Bnd
1	0.00	10.00	25.00	10.00	2
2	25.00	10.00	25.25	14.00	2
3	25.25	14.00	31.25	20.00	2
4	31.25	20.00	37.25	26.00	1
5	37.25	26.00	75.00	26.00	1
6	31.25	20.00	75.00	20.00	2

1

ISOTROPIC SOIL PARAMETERS

2 Type(s) of Soil

Soil Type No.	Total Unit Wt. pcf	Saturated Unit Wt. pcf	Cohesion Intercept psf	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant psf	Piez. Surface No.
1	115.0	115.0	225.0	23.0	0.00	0.0	0
2	125.0	125.0	100.0	33.0	0.00	0.0	0

1

BOUNDARY LOAD(S)

2 Load(s) Specified

Load No.	X-Left ft.	X-Right ft.	Intensity psf	Deflection (deg)
1	40.25	42.50	900.0	0.0
2	48.75	51.00	900.0	0.0

NOTE - Intensity Is Specified As A Uniformly Distributed
Force Acting On A Horizontally Projected Surface.

1

A Critical Failure Surface Searching Method, Using A Random
Technique For Generating Circular Surfaces, Has Been Specified.

100 Trial Surfaces Have Been Generated.

10 Surfaces Initiate From Each Of 10 Points Equally Spaced
Along The Ground Surface Between X = 0.00 ft.
and X = 25.20 ft.

Each Surface Terminates Between X = 35.00 ft.
and X = 75.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation
At Which A Surface Extends Is Y = 0.00 ft.

3.20 ft. Line Segments Define Each Trial Failure Surface.

Restrictions Have Been Imposed Upon The Angle Of Initiation.
The Angle Has Been Restricted Between The Angles Of -25.0
And 0.0 deg.

1

Following Are Displayed The Ten Most Critical Of The Trial
Failure Surfaces Examined. They Are Ordered - Most Critical
First.

* * Safety Factors Are Calculated By The Modified Bishop Method * *

Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	19.60	10.00
2	22.78	9.65
3	25.98	9.81
4	29.11	10.48
5	32.09	11.65
6	34.85	13.27
7	37.31	15.31
8	39.41	17.72
9	41.11	20.44
10	42.34	23.39
11	42.97	26.00

Circle Center At X = 23.4 ; Y = 29.6 and Radius, 20.0

*** 1.351 ***

Individual data on the 17 slices

Slice No.	Width Ft	Weight Lbs	Water Force Top Lbs	Water Force Bot Lbs	Tie Force Norm Lbs	Tie Force Tan Lbs	Earthquake Force Hor Lbs	Earthquake Force Ver Lbs	Surcharge Load Lbs
1	3.2	0.70E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	2.2	0.81E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	0.2	0.70E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	0.7	0.42E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	3.1	0.24E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6	2.1	0.22E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7	0.8	0.93E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8	2.8	0.33E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9	2.4	0.31E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	0.1	0.74E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11	2.1	0.24E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	0.8	0.75E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13	0.6	0.44E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.52E+03
14	0.3	0.18E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.25E+03
15	1.2	0.58E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.11E+04
16	0.2	0.41E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.14E+03
17	0.5	0.53E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	16.80	10.00
2	19.97	9.55
3	23.17	9.61
4	26.32	10.17
5	29.34	11.22
6	32.16	12.73
7	34.70	14.68
8	36.91	17.00

9	38.72	19.64
10	40.08	22.53
11	40.98	25.60
12	41.03	26.00

Circle Center At X = 21.2 ; Y = 29.7 and Radius, 20.2

*** 1.425 ***

1

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	16.80	10.00
2	19.96	9.50
3	23.16	9.40
4	26.34	9.71
5	29.46	10.42
6	32.47	11.53
7	35.30	13.01
8	37.93	14.84
9	40.30	16.98
10	42.38	19.42
11	44.14	22.09
12	45.53	24.97
13	45.88	26.00

Circle Center At X = 22.3 ; Y = 34.5 and Radius, 25.1

*** 1.493 ***

Failure Surface Specified By 14 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	11.20	10.00
2	14.30	9.19
3	17.47	8.77
4	20.67	8.72

5	23.85	9.06
6	26.97	9.78
7	29.98	10.86
8	32.84	12.30
9	35.50	14.07
10	37.93	16.15
11	40.10	18.51
12	41.97	21.11
13	43.51	23.91
14	44.35	26.00

Circle Center At X = 19.4 ; Y = 35.3 and Radius, 26.6

*** 1.504 ***

1

Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	16.80	10.00
2	19.95	9.42
3	23.15	9.43
4	26.29	10.03
5	29.27	11.21
6	31.97	12.91
7	34.32	15.09
8	36.22	17.66
9	37.62	20.54
10	38.45	23.63
11	38.64	26.00

Circle Center At X = 21.5 ; Y = 26.6 and Radius, 17.2

*** 1.514 ***

Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.

1	22.40	10.00
2	25.57	9.57
3	28.77	9.71
4	31.89	10.42
5	34.84	11.67
6	37.51	13.42
7	39.83	15.62
8	41.73	18.20
9	43.13	21.08
10	44.01	24.15
11	44.19	26.00

Circle Center At X = 26.4 ; Y = 27.5 and Radius, 17.9

*** 1.523 ***

1

Failure Surface Specified By 9 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	25.20	13.21
2	28.40	13.14
3	31.53	13.79
4	34.44	15.11
5	36.99	17.06
6	39.03	19.52
7	40.47	22.38
8	41.24	25.48
9	41.25	26.00

Circle Center At X = 27.1 ; Y = 27.3 and Radius, 14.3

*** 1.575 ***

Failure Surface Specified By 10 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	16.80	10.00

2	19.88	9.11
3	23.07	8.95
4	26.22	9.53
5	29.15	10.81
6	31.71	12.73
7	33.76	15.19
8	35.20	18.05
9	35.94	21.16
10	35.95	24.70

Circle Center At X = 22.2 ; Y = 22.8 and Radius, 13.9

*** 1.602 ***

1

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	16.80	10.00
2	19.83	8.97
3	22.98	8.42
4	26.18	8.36
5	29.35	8.80
6	32.41	9.72
7	35.30	11.11
8	37.93	12.93
9	40.25	15.13
10	42.20	17.67
11	43.74	20.47
12	44.82	23.48
13	45.30	26.00

Circle Center At X = 24.9 ; Y = 28.9 and Radius, 20.6

*** 1.606 ***

Failure Surface Specified By 15 Coordinate Points

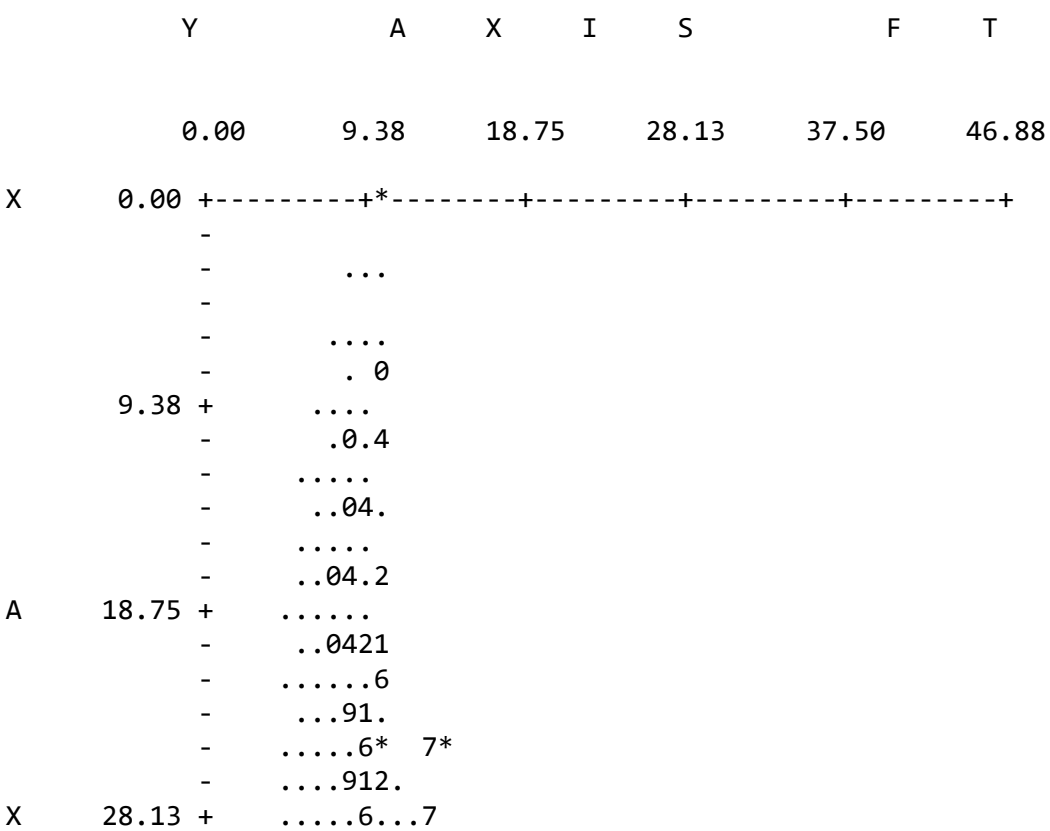
Point No.	X-Surf ft.	Y-Surf ft.

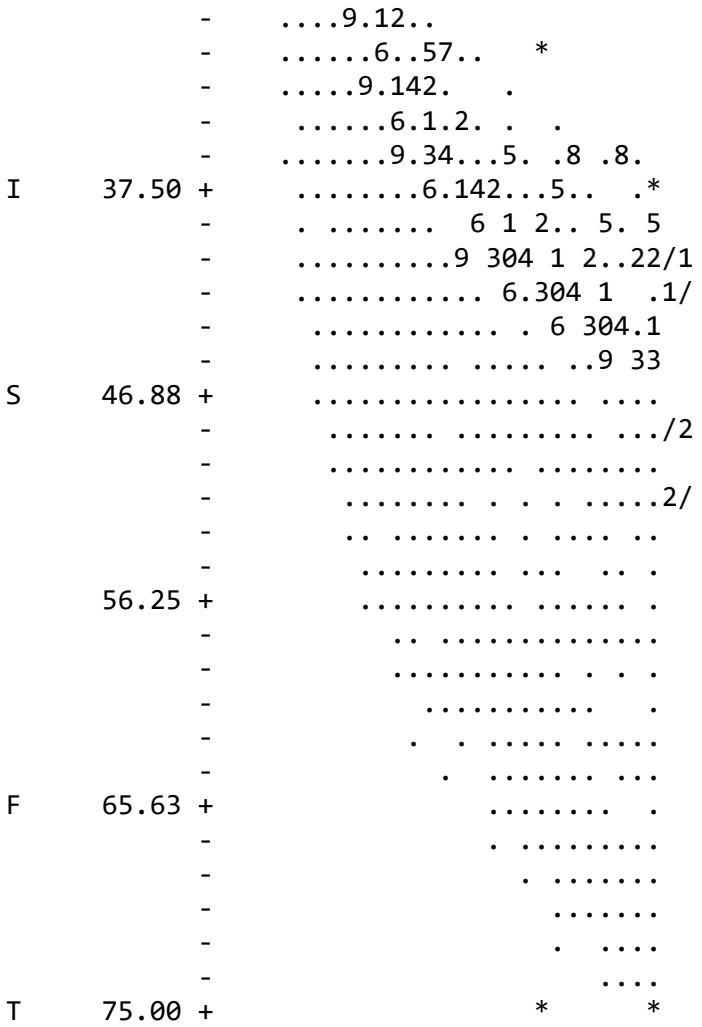
1	8.40	10.00
2	11.39	8.86
3	14.50	8.10
4	17.68	7.72
5	20.88	7.74
6	24.05	8.14
7	27.15	8.93
8	30.14	10.08
9	32.96	11.60
10	35.57	13.45
11	37.94	15.60
12	40.03	18.02
13	41.80	20.68
14	43.24	23.54
15	44.13	26.00

Circle Center At X = 19.2 ; Y = 33.9 and Radius, 26.2

*** 1.636 ***

1

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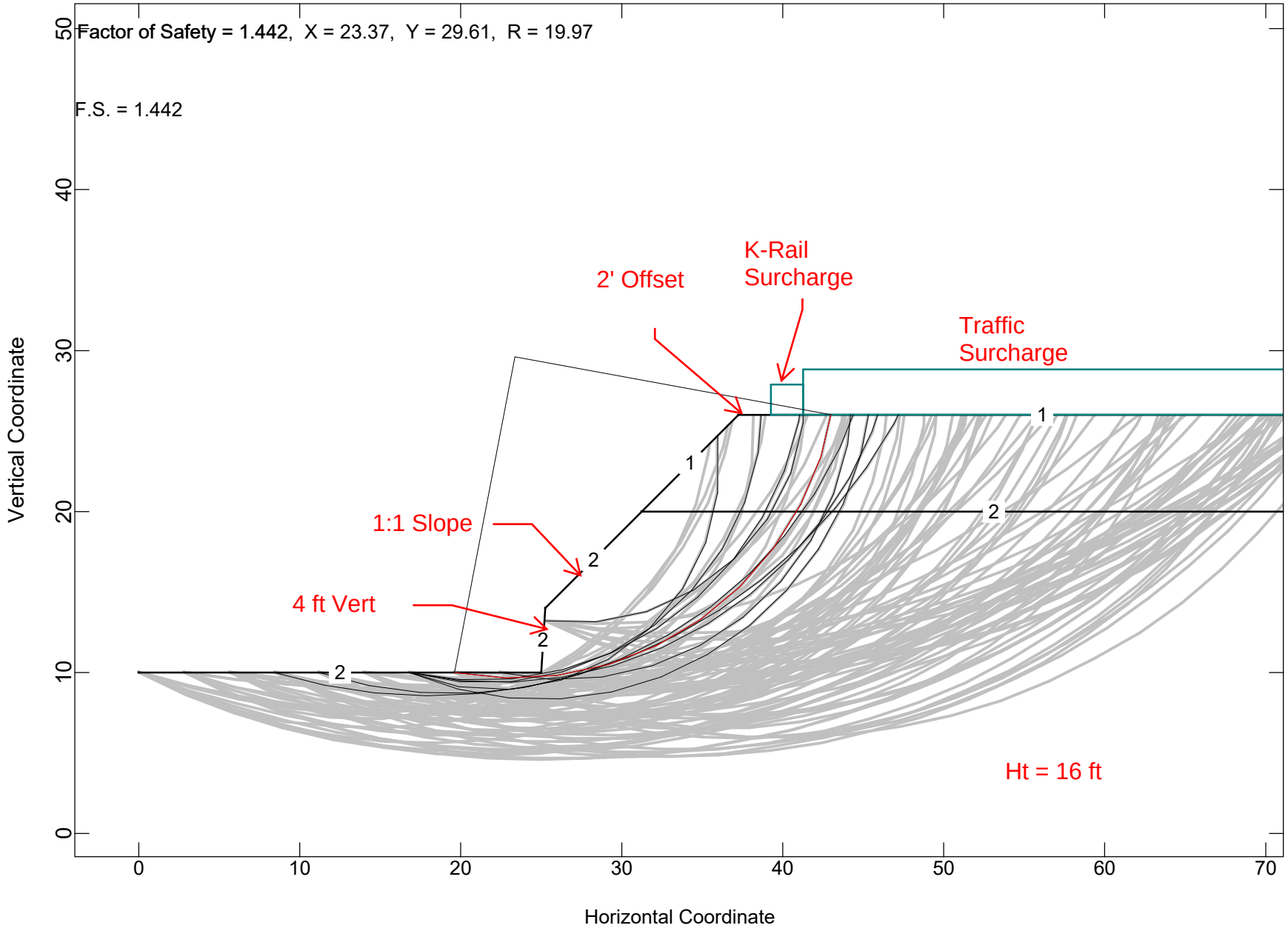

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                     STABLPro for Windows, Version 2015.4.5

                             Upgraded from:
                             FHWA-PCSTABLE

                      Serial Number :  357267753

                         --Slope Stability Analysis--
                       Simplified Janbu, Simplified Bishop
                         or Spencer Method of Slices

     ============================================================================


     This program is licensed to :

     Korpi Cannon Engineering PLLC
     Las Vegas, NV, USA

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- Shoring\7.0 Paloma\Design\
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               Date:  June 03, 2025     Time:  13:47:26




1
          PROBLEM DESCRIPTION   New Slope




          BOUNDARY COORDINATES

              5 Top   Boundaries
              6 Total Boundaries
```

Boundary No.	X-Left ft.	Y-Left ft.	X-Right ft.	Y-Right ft.	Soil Type Below Bnd
1	0.00	10.00	25.00	10.00	2
2	25.00	10.00	25.25	14.00	2
3	25.25	14.00	31.25	20.00	2
4	31.25	20.00	37.25	26.00	1
5	37.25	26.00	75.00	26.00	1
6	31.25	20.00	75.00	20.00	2

1

ISOTROPIC SOIL PARAMETERS

2 Type(s) of Soil

Soil Type No.	Total Unit Wt. pcf	Saturated Unit Wt. pcf	Cohesion Intercept psf	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant psf	Piez. Surface No.
1	115.0	115.0	225.0	23.0	0.00	0.0	0
2	125.0	125.0	100.0	33.0	0.00	0.0	0

1

BOUNDARY LOAD(S)

2 Load(s) Specified

Load No.	X-Left ft.	X-Right ft.	Intensity psf	Deflection (deg)
1	39.25	41.25	200.0	0.0
2	41.25	75.00	300.0	0.0

NOTE - Intensity Is Specified As A Uniformly Distributed
Force Acting On A Horizontally Projected Surface.

1

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.

100 Trial Surfaces Have Been Generated.

10 Surfaces Initiate From Each Of 10 Points Equally Spaced
Along The Ground Surface Between X = 0.00 ft.
and X = 25.20 ft.

Each Surface Terminates Between X = 35.00 ft.
and X = 75.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation
At Which A Surface Extends Is Y = 0.00 ft.

3.20 ft. Line Segments Define Each Trial Failure Surface.

Restrictions Have Been Imposed Upon The Angle Of Initiation.
The Angle Has Been Restricted Between The Angles Of -25.0
And 0.0 deg.

1

Following Are Displayed The Ten Most Critical Of The Trial
Failure Surfaces Examined. They Are Ordered - Most Critical
First.

* * Safety Factors Are Calculated By The Modified Bishop Method * *

Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	19.60	10.00
2	22.78	9.65
3	25.98	9.81
4	29.11	10.48
5	32.09	11.65
6	34.85	13.27
7	37.31	15.31
8	39.41	17.72
9	41.11	20.44
10	42.34	23.39
11	42.97	26.00

Circle Center At X = 23.4 ; Y = 29.6 and Radius, 20.0

*** 1.442 ***

Individual data on the 17 slices

Slice No.	Width Ft	Weight Lbs	Water Force Top Lbs	Water Force Bot Lbs	Tie Force Norm Lbs	Tie Force Tan Lbs	Earthquake Force Hor Lbs	Earthquake Force Ver Lbs	Surcharge Load Lbs
1	3.2	0.70E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	2.2	0.81E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	0.2	0.70E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	0.7	0.42E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	3.1	0.24E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6	2.1	0.22E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7	0.8	0.93E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8	2.8	0.33E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9	2.4	0.31E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	0.1	0.74E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11	1.9	0.22E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	0.2	0.16E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.33E+02
13	1.4	0.12E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.28E+03
14	0.3	0.18E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.55E+02
15	0.1	0.90E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.29E+02
16	1.1	0.49E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.33E+03
17	0.6	0.94E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.19E+03

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	16.80	10.00
2	19.97	9.55
3	23.17	9.61
4	26.32	10.17
5	29.34	11.22
6	32.16	12.73
7	34.70	14.68
8	36.91	17.00

9	38.72	19.64
10	40.08	22.53
11	40.98	25.60
12	41.03	26.00

Circle Center At X = 21.2 ; Y = 29.7 and Radius, 20.2

*** 1.457 ***

1

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	16.80	10.00
2	19.96	9.50
3	23.16	9.40
4	26.34	9.71
5	29.46	10.42
6	32.47	11.53
7	35.30	13.01
8	37.93	14.84
9	40.30	16.98
10	42.38	19.42
11	44.14	22.09
12	45.53	24.97
13	45.88	26.00

Circle Center At X = 22.3 ; Y = 34.5 and Radius, 25.1

*** 1.482 ***

Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	16.80	10.00
2	19.95	9.42
3	23.15	9.43
4	26.29	10.03

5	29.27	11.21
6	31.97	12.91
7	34.32	15.09
8	36.22	17.66
9	37.62	20.54
10	38.45	23.63
11	38.64	26.00

Circle Center At X = 21.5 ; Y = 26.6 and Radius, 17.2

*** 1.514 ***

1

Failure Surface Specified By 14 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	11.20	10.00
2	14.30	9.19
3	17.47	8.77
4	20.67	8.72
5	23.85	9.06
6	26.97	9.78
7	29.98	10.86
8	32.84	12.30
9	35.50	14.07
10	37.93	16.15
11	40.10	18.51
12	41.97	21.11
13	43.51	23.91
14	44.35	26.00

Circle Center At X = 19.4 ; Y = 35.3 and Radius, 26.6

*** 1.553 ***

Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.

1	22.40	10.00
2	25.57	9.57
3	28.77	9.71
4	31.89	10.42
5	34.84	11.67
6	37.51	13.42
7	39.83	15.62
8	41.73	18.20
9	43.13	21.08
10	44.01	24.15
11	44.19	26.00

Circle Center At X = 26.4 ; Y = 27.5 and Radius, 17.9

*** 1.567 ***

1

Failure Surface Specified By 10 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	16.80	10.00
2	19.88	9.11
3	23.07	8.95
4	26.22	9.53
5	29.15	10.81
6	31.71	12.73
7	33.76	15.19
8	35.20	18.05
9	35.94	21.16
10	35.95	24.70

Circle Center At X = 22.2 ; Y = 22.8 and Radius, 13.9

*** 1.602 ***

Failure Surface Specified By 16 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.

1	8.40	10.00
2	11.50	9.21
3	14.67	8.73
4	17.86	8.55
5	21.06	8.69
6	24.23	9.13
7	27.34	9.88
8	30.36	10.93
9	33.27	12.26
10	36.04	13.87
11	38.63	15.74
12	41.04	17.85
13	43.23	20.19
14	45.18	22.72
15	46.88	25.44
16	47.16	26.00

Circle Center At X = 18.1 ; Y = 41.6 and Radius, 33.0

*** 1.620 ***

1

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	16.80	10.00
2	19.83	8.97
3	22.98	8.42
4	26.18	8.36
5	29.35	8.80
6	32.41	9.72
7	35.30	11.11
8	37.93	12.93
9	40.25	15.13
10	42.20	17.67
11	43.74	20.47
12	44.82	23.48
13	45.30	26.00

Circle Center At X = 24.9 ; Y = 28.9 and Radius, 20.6

*** 1.621 ***

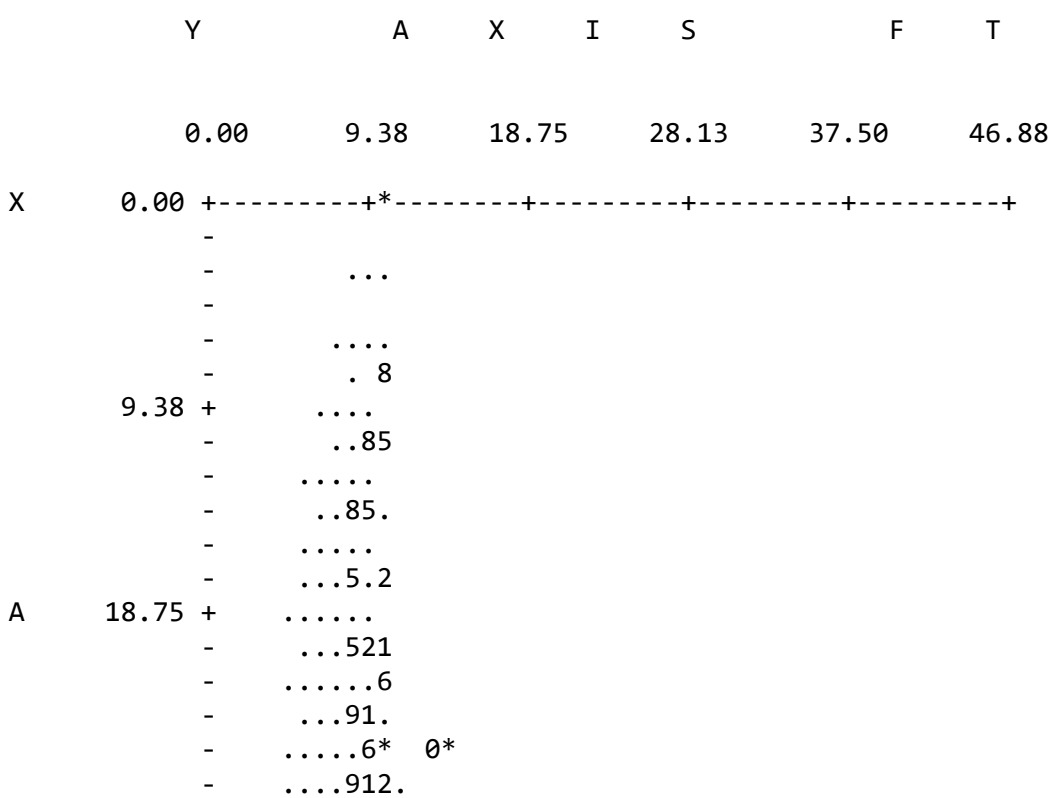
Failure Surface Specified By 9 Coordinate Points

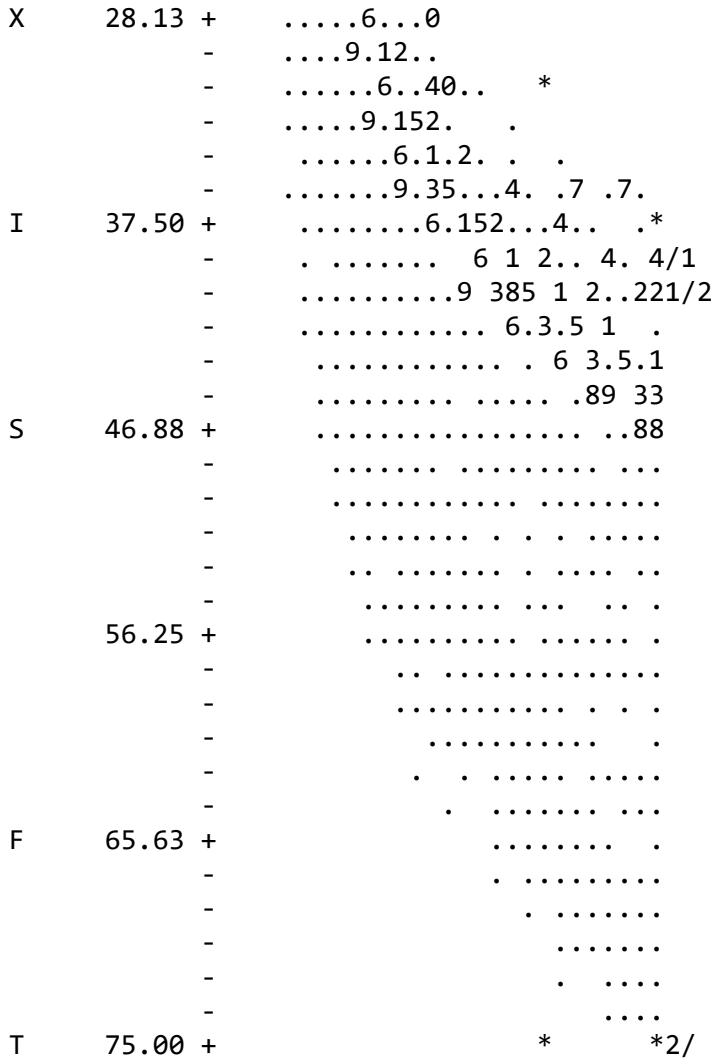
Point No.	X-Surf ft.	Y-Surf ft.
1	25.20	13.21
2	28.40	13.14
3	31.53	13.79
4	34.44	15.11
5	36.99	17.06
6	39.03	19.52
7	40.47	22.38
8	41.24	25.48
9	41.25	26.00

Circle Center At X =   27.1 ; Y =   27.3 and Radius,   14.3

***   1.651   ***

1

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I 37.50
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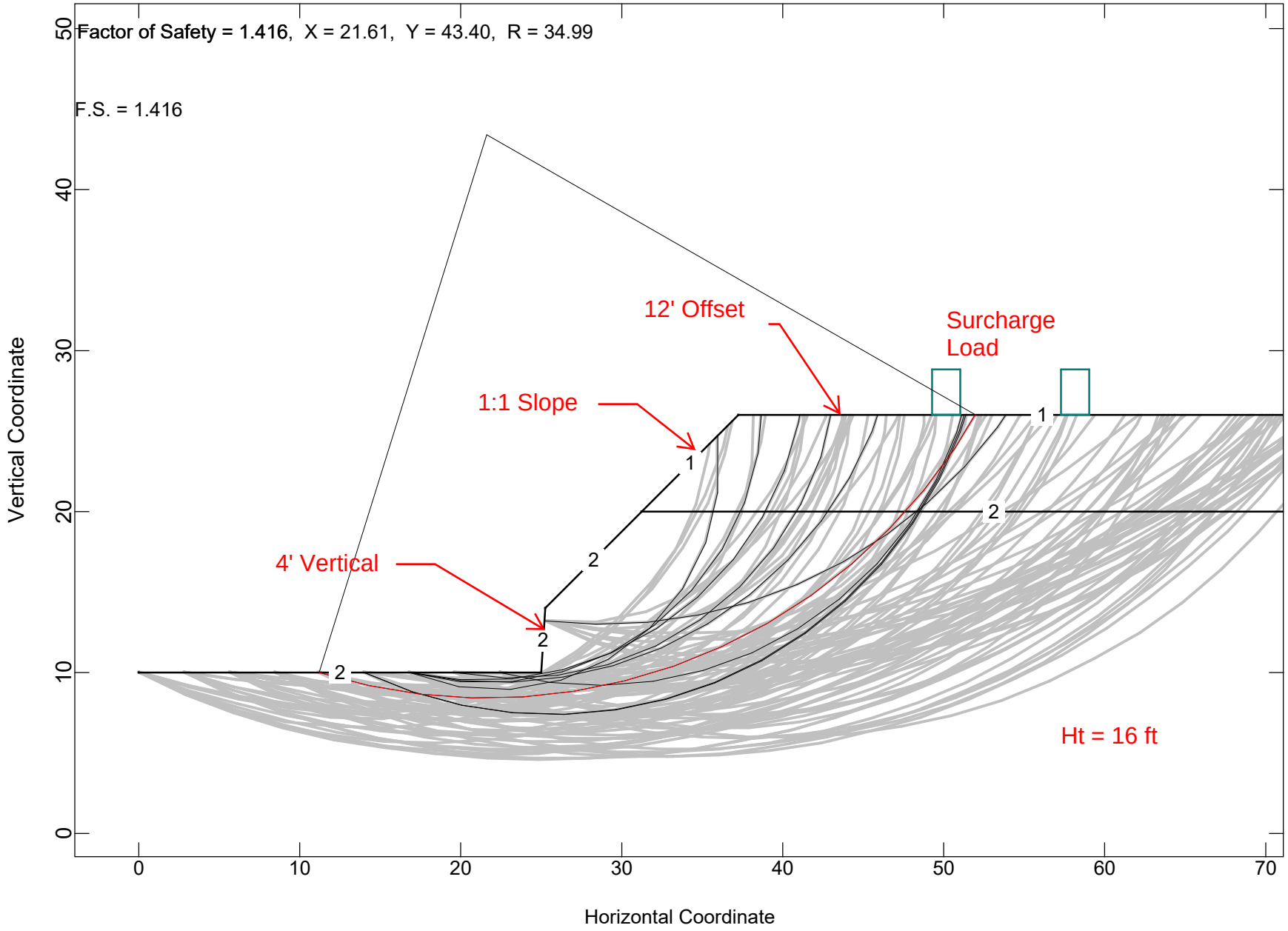
56.25
F 65.63
T 75.00

3 CY Loader Surcharge



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                     STABLPro for Windows, Version 2015.4.5

                            Upgraded from:
                            FHWA-PCSTABLE

                      Serial Number :  357267753

                         --Slope Stability Analysis--
                       Simplified Janbu, Simplified Bishop
                         or Spencer Method of Slices

     ============================================================================


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                           Time and Date of Analysis
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               Date:  June 03, 2025     Time:  14:02:21




1
          PROBLEM DESCRIPTION   New Slope




          BOUNDARY COORDINATES

              5 Top   Boundaries
              6 Total Boundaries
```

Boundary No.	X-Left ft.	Y-Left ft.	X-Right ft.	Y-Right ft.	Soil Type Below Bnd
1	0.00	10.00	25.00	10.00	2
2	25.00	10.00	25.25	14.00	2
3	25.25	14.00	31.25	20.00	2
4	31.25	20.00	37.25	26.00	1
5	37.25	26.00	75.00	26.00	1
6	31.25	20.00	75.00	20.00	2

1

ISOTROPIC SOIL PARAMETERS

2 Type(s) of Soil

Soil Type No.	Total Unit Wt. pcf	Saturated Unit Wt. pcf	Cohesion Intercept psf	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant psf	Piez. Surface No.
1	115.0	115.0	225.0	23.0	0.00	0.0	0
2	125.0	125.0	100.0	33.0	0.00	0.0	0

1

BOUNDARY LOAD(S)

2 Load(s) Specified

Load No.	X-Left ft.	X-Right ft.	Intensity psf	Deflection (deg)
1	49.25	51.00	4700.0	0.0
2	57.25	59.00	4700.0	0.0

NOTE - Intensity Is Specified As A Uniformly Distributed
Force Acting On A Horizontally Projected Surface.

1

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.

100 Trial Surfaces Have Been Generated.

10 Surfaces Initiate From Each Of 10 Points Equally Spaced
Along The Ground Surface Between X = 0.00 ft.
and X = 25.20 ft.

Each Surface Terminates Between X = 35.00 ft.
and X = 75.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation
At Which A Surface Extends Is Y = 0.00 ft.

3.20 ft. Line Segments Define Each Trial Failure Surface.

Restrictions Have Been Imposed Upon The Angle Of Initiation.
The Angle Has Been Restricted Between The Angles Of -25.0
And 0.0 deg.

1

Following Are Displayed The Ten Most Critical Of The Trial
Failure Surfaces Examined. They Are Ordered - Most Critical
First.

* * Safety Factors Are Calculated By The Modified Bishop Method * *

Failure Surface Specified By 16 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	11.20	10.00
2	14.30	9.19
3	17.45	8.66
4	20.64	8.43
5	23.84	8.49
6	27.02	8.84
7	30.16	9.48
8	33.22	10.40
9	36.19	11.60
10	39.04	13.06
11	41.73	14.78

12	44.27	16.74
13	46.61	18.92
14	48.74	21.31
15	50.64	23.88
16	51.93	26.00

Circle Center At X = 21.6 ; Y = 43.4 and Radius, 35.0

*** 1.416 ***

Individual data on the 22 slices

Slice No.	Width Ft	Weight Lbs	Water Force Top Lbs	Water Force Bot Lbs	Tie Force Norm Lbs	Tie Force Tan Lbs	Earthquake Force Hor Lbs	Earthquake Force Ver Lbs	Surcharge Load Lbs
1	3.1	0.16E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	3.2	0.42E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	3.2	0.58E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	3.2	0.62E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	1.2	0.21E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6	0.2	0.11E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7	1.8	0.14E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8	3.1	0.32E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9	1.1	0.13E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	2.0	0.27E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11	3.0	0.45E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	1.1	0.17E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13	1.8	0.29E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14	2.7	0.39E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15	2.5	0.31E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
16	2.3	0.23E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
17	1.0	0.73E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
18	1.2	0.72E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
19	0.5	0.26E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
20	1.4	0.49E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.66E+04
21	0.4	0.75E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.17E+04
22	0.9	0.82E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Failure Surface Specified By 13 Coordinate Points

Point	X-Surf	Y-Surf

No.	ft.	ft.
1	22.40	10.00
2	25.54	9.38
3	28.74	9.20
4	31.93	9.45
5	35.05	10.12
6	38.06	11.21
7	40.90	12.70
8	43.50	14.56
9	45.83	16.75
10	47.85	19.23
11	49.51	21.97
12	50.79	24.90
13	51.10	26.00

Circle Center At X = 28.5 ; Y = 32.9 and Radius, 23.7

*** 1.447 ***

1

Failure Surface Specified By 16 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	14.00	10.00
2	16.97	8.81
3	20.06	7.97
4	23.22	7.50
5	26.42	7.41
6	29.61	7.70
7	32.74	8.37
8	35.77	9.39
9	38.66	10.77
10	41.37	12.48
11	43.85	14.49
12	46.08	16.79
13	48.02	19.33
14	49.66	22.08
15	50.95	25.01
16	51.25	26.00

Circle Center At X = 25.6 ; Y = 34.5 and Radius, 27.1

*** 1.492 ***

Failure Surface Specified By 16 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	14.00	10.00
2	16.97	8.80
3	20.06	7.96
4	23.22	7.49
5	26.42	7.39
6	29.61	7.67
7	32.74	8.33
8	35.77	9.35
9	38.66	10.72
10	41.38	12.42
11	43.87	14.42
12	46.11	16.71
13	48.06	19.25
14	49.70	21.99
15	51.01	24.91
16	51.35	26.00

Circle Center At X = 25.6 ; Y = 34.5 and Radius, 27.1

*** 1.497 ***

1

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	16.80	10.00
2	19.97	9.55
3	23.17	9.61
4	26.32	10.17
5	29.34	11.22
6	32.16	12.73
7	34.70	14.68
8	36.91	17.00
9	38.72	19.64

10	40.08	22.53
11	40.98	25.60
12	41.03	26.00

Circle Center At X = 21.2 ; Y = 29.7 and Radius, 20.2

*** 1.498 ***

Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	16.80	10.00
2	19.95	9.42
3	23.15	9.43
4	26.29	10.03
5	29.27	11.21
6	31.97	12.91
7	34.32	15.09
8	36.22	17.66
9	37.62	20.54
10	38.45	23.63
11	38.64	26.00

Circle Center At X = 21.5 ; Y = 26.6 and Radius, 17.2

*** 1.514 ***

1

Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	19.60	10.00
2	22.78	9.65
3	25.98	9.81
4	29.11	10.48
5	32.09	11.65
6	34.85	13.27
7	37.31	15.31

8	39.41	17.72
9	41.11	20.44
10	42.34	23.39
11	42.97	26.00

Circle Center At X = 23.4 ; Y = 29.6 and Radius, 20.0

*** 1.521 ***

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	25.20	13.21
2	28.39	13.00
3	31.59	13.12
4	34.76	13.57
5	37.86	14.36
6	40.87	15.46
7	43.74	16.87
8	46.45	18.57
9	48.97	20.55
10	51.26	22.77
11	53.32	25.23
12	53.84	26.00

Circle Center At X = 28.8 ; Y = 43.6 and Radius, 30.6

*** 1.599 ***

1

Failure Surface Specified By 10 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	16.80	10.00
2	19.88	9.11
3	23.07	8.95
4	26.22	9.53
5	29.15	10.81

6	31.71	12.73
7	33.76	15.19
8	35.20	18.05
9	35.94	21.16
10	35.95	24.70

Circle Center At X = 22.2 ; Y = 22.8 and Radius, 13.9

*** 1.602 ***

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	16.80	10.00
2	19.96	9.50
3	23.16	9.40
4	26.34	9.71
5	29.46	10.42
6	32.47	11.53
7	35.30	13.01
8	37.93	14.84
9	40.30	16.98
10	42.38	19.42
11	44.14	22.09
12	45.53	24.97
13	45.88	26.00

Circle Center At X = 22.3 ; Y = 34.5 and Radius, 25.1

*** 1.610 ***

1

```
          Y           A     X     I     S           F     T

          0.00      9.38     18.75     28.13     37.50     46.88

X      0.00 +---------+*--------+---------+---------+---------+
            -
            -        ...
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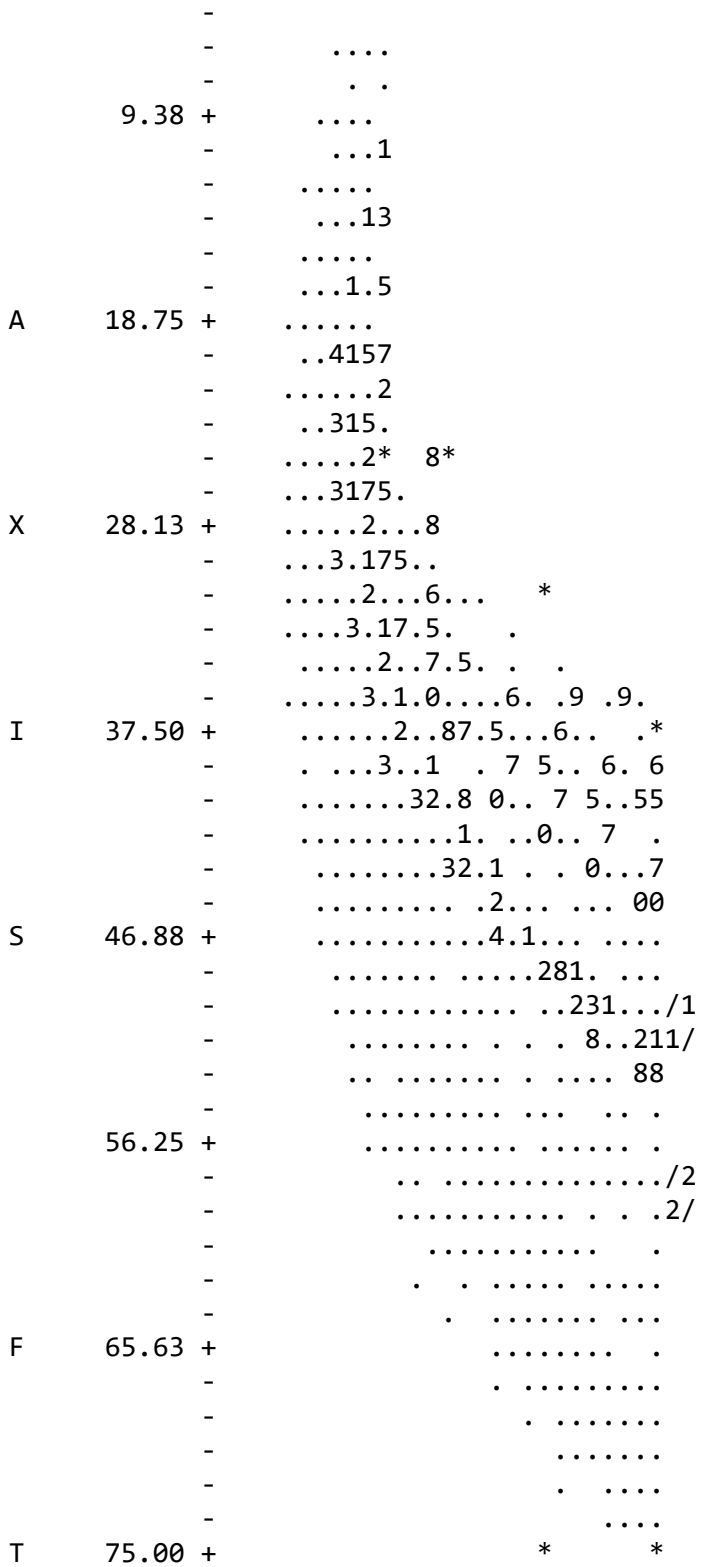
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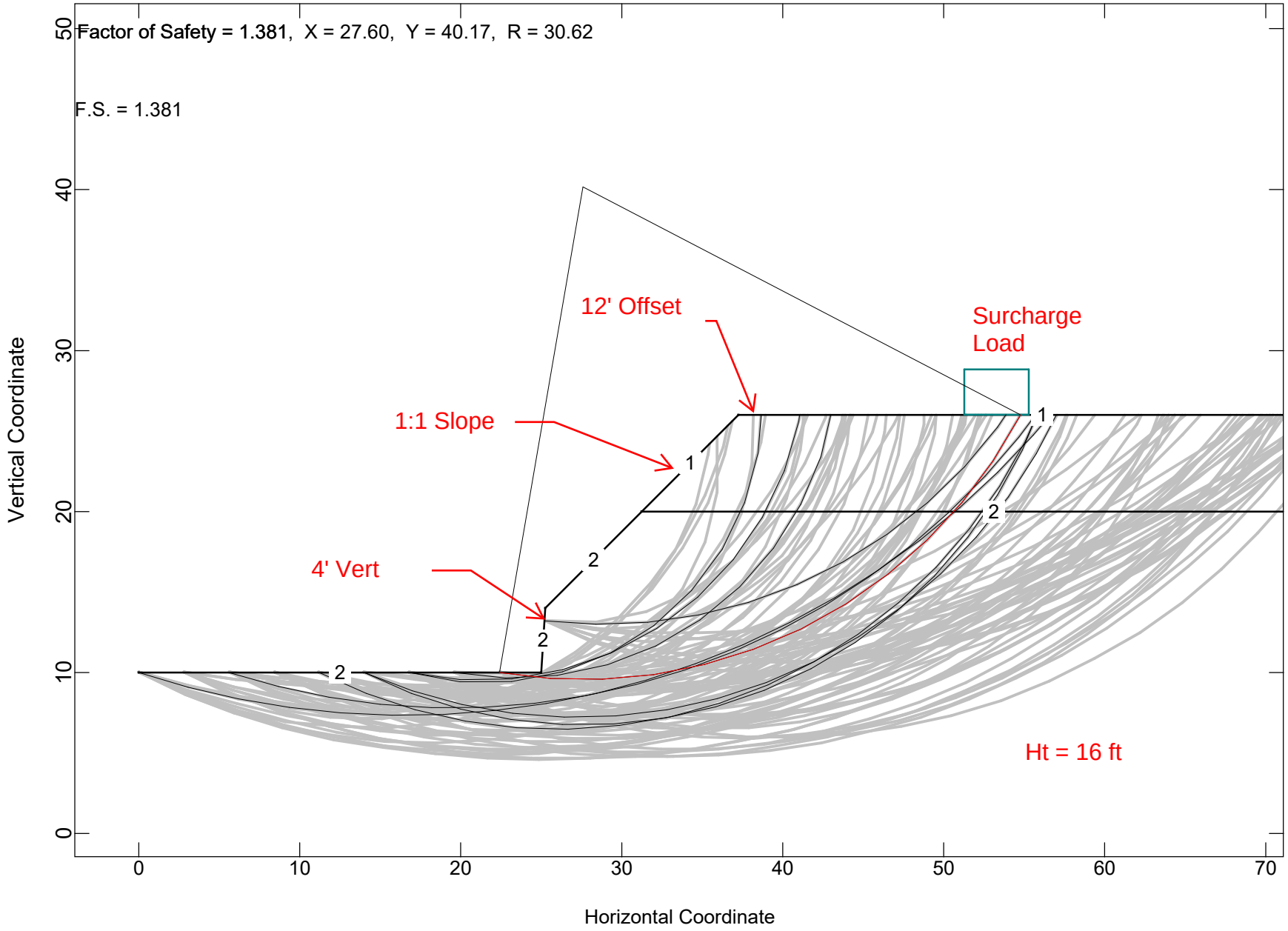
Concrete Truck Surcharge Load



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                     STABLPro for Windows, Version 2015.4.5

                            Upgraded from:
                            FHWA-PCSTABLE

                      Serial Number :  357267753

                         --Slope Stability Analysis--
                       Simplified Janbu, Simplified Bishop
                         or Spencer Method of Slices

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               Date:  June 03, 2025     Time:  14:09:13




1
          PROBLEM DESCRIPTION   New Slope




          BOUNDARY COORDINATES

              5 Top   Boundaries
              6 Total Boundaries
```

Boundary No.	X-Left ft.	Y-Left ft.	X-Right ft.	Y-Right ft.	Soil Type Below Bnd
1	0.00	10.00	25.00	10.00	2
2	25.00	10.00	25.25	14.00	2
3	25.25	14.00	31.25	20.00	2
4	31.25	20.00	37.25	26.00	1
5	37.25	26.00	75.00	26.00	1
6	31.25	20.00	75.00	20.00	2

1

ISOTROPIC SOIL PARAMETERS

2 Type(s) of Soil

Soil Type No.	Total Unit Wt. pcf	Saturated Unit Wt. pcf	Cohesion Intercept psf	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant psf	Piez. Surface No.
1	115.0	115.0	225.0	23.0	0.00	0.0	0
2	125.0	125.0	100.0	33.0	0.00	0.0	0

1

BOUNDARY LOAD(S)

1 Load(s) Specified

Load No.	X-Left ft.	X-Right ft.	Intensity psf	Deflection (deg)
1	51.25	55.25	3361.0	0.0

NOTE - Intensity Is Specified As A Uniformly Distributed
Force Acting On A Horizontally Projected Surface.

1

A Critical Failure Surface Searching Method, Using A Random
Technique For Generating Circular Surfaces, Has Been Specified.

100 Trial Surfaces Have Been Generated.

10 Surfaces Initiate From Each Of 10 Points Equally Spaced
Along The Ground Surface Between X = 0.00 ft.
and X = 25.20 ft.

Each Surface Terminates Between X = 35.00 ft.
and X = 75.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation
At Which A Surface Extends Is Y = 0.00 ft.

3.20 ft. Line Segments Define Each Trial Failure Surface.

Restrictions Have Been Imposed Upon The Angle Of Initiation.
The Angle Has Been Restricted Between The Angles Of -25.0
And 0.0 deg.

1

Following Are Displayed The Ten Most Critical Of The Trial
Failure Surfaces Examined. They Are Ordered - Most Critical
First.

* * Safety Factors Are Calculated By The Modified Bishop Method * *

Failure Surface Specified By 14 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	22.40	10.00
2	25.58	9.62
3	28.78	9.58
4	31.96	9.87
5	35.10	10.49
6	38.16	11.44
7	41.10	12.70
8	43.90	14.26
9	46.51	16.10
10	48.92	18.20
11	51.10	20.55
12	53.02	23.11

13	54.66	25.86
14	54.73	26.00

Circle Center At X = 27.6 ; Y = 40.2 and Radius, 30.6

*** 1.381 ***

Individual data on the 19 slices

Slice No.	Width Ft	Weight Lbs	Water Force Top Lbs	Water Force Bot Lbs	Tie Force Norm Lbs	Tie Force Tan Lbs	Earthquake Force Hor Lbs	Earthquake Force Ver Lbs	Surcharge Load Lbs
1	2.6	0.50E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	0.2	0.73E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	0.3	0.19E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	3.2	0.25E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	2.5	0.28E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6	0.7	0.94E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7	3.1	0.47E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8	2.1	0.37E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9	0.9	0.16E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	2.9	0.49E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11	2.8	0.42E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	2.6	0.34E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13	2.4	0.25E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14	1.7	0.13E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15	0.5	0.34E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
16	0.2	0.93E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
17	1.8	0.83E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.59E+04
18	1.6	0.29E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.55E+04
19	0.1	0.55E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.22E+03

Failure Surface Specified By 19 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	5.60	10.00
2	8.68	9.12
3	11.81	8.46
4	14.98	8.03

5	18.17	7.82
6	21.37	7.84
7	24.56	8.08
8	27.73	8.56
9	30.85	9.25
10	33.92	10.16
11	36.91	11.29
12	39.82	12.63
13	42.62	14.17
14	45.31	15.91
15	47.87	17.83
16	50.29	19.93
17	52.55	22.19
18	54.64	24.61
19	55.68	26.00

Circle Center At X = 19.5 ; Y = 52.9 and Radius, 45.1

*** 1.454 ***

1

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	16.80	10.00
2	19.97	9.55
3	23.17	9.61
4	26.32	10.17
5	29.34	11.22
6	32.16	12.73
7	34.70	14.68
8	36.91	17.00
9	38.72	19.64
10	40.08	22.53
11	40.98	25.60
12	41.03	26.00

Circle Center At X = 21.2 ; Y = 29.7 and Radius, 20.2

*** 1.498 ***

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	25.20	13.21
2	28.39	13.00
3	31.59	13.12
4	34.76	13.57
5	37.86	14.36
6	40.87	15.46
7	43.74	16.87
8	46.45	18.57
9	48.97	20.55
10	51.26	22.77
11	53.32	25.23
12	53.84	26.00

Circle Center At X = 28.8 ; Y = 43.6 and Radius, 30.6

*** 1.512 ***

1

Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	16.80	10.00
2	19.95	9.42
3	23.15	9.43
4	26.29	10.03
5	29.27	11.21
6	31.97	12.91
7	34.32	15.09
8	36.22	17.66
9	37.62	20.54
10	38.45	23.63
11	38.64	26.00

Circle Center At X = 21.5 ; Y = 26.6 and Radius, 17.2

*** 1.514 ***

Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	19.60	10.00
2	22.78	9.65
3	25.98	9.81
4	29.11	10.48
5	32.09	11.65
6	34.85	13.27
7	37.31	15.31
8	39.41	17.72
9	41.11	20.44
10	42.34	23.39
11	42.97	26.00

Circle Center At X = 23.4 ; Y = 29.6 and Radius, 20.0

*** 1.521 ***

1

Failure Surface Specified By 18 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	11.20	10.00
2	14.12	8.70
3	17.16	7.68
4	20.28	6.97
5	23.45	6.57
6	26.65	6.49
7	29.84	6.71
8	33.00	7.25
9	36.08	8.09
10	39.07	9.24
11	41.94	10.67
12	44.64	12.37
13	47.17	14.33
14	49.50	16.53
15	51.59	18.95
16	53.45	21.56

17	55.03	24.34
18	55.77	26.00

Circle Center At X = 25.9 ; Y = 39.1 and Radius, 32.6

*** 1.553 ***

Failure Surface Specified By 17 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	14.00	10.00
2	16.93	8.71
3	19.98	7.73
4	23.11	7.09
5	26.29	6.77
6	29.49	6.80
7	32.67	7.17
8	35.80	7.86
9	38.83	8.89
10	41.73	10.23
11	44.48	11.87
12	47.04	13.79
13	49.38	15.97
14	51.48	18.39
15	53.31	21.02
16	54.85	23.82
17	55.76	26.00

Circle Center At X = 27.6 ; Y = 37.0 and Radius, 30.2

*** 1.561 ***

1

Failure Surface Specified By 21 Coordinate Points

Point No.	X-Surf ft.	Y-Surf ft.
1	0.00	10.00
2	3.07	9.09

3	6.18	8.36
4	9.34	7.83
5	12.52	7.49
6	15.72	7.34
7	18.92	7.39
8	22.11	7.64
9	25.28	8.07
10	28.42	8.70
11	31.51	9.53
12	34.55	10.53
13	37.52	11.72
14	40.41	13.09
15	43.21	14.64
16	45.91	16.35
17	48.51	18.22
18	50.98	20.25
19	53.33	22.43
20	55.54	24.74
21	56.60	26.00

Circle Center At X = 16.5 ; Y = 59.8 and Radius, 52.5

*** 1.583 ***

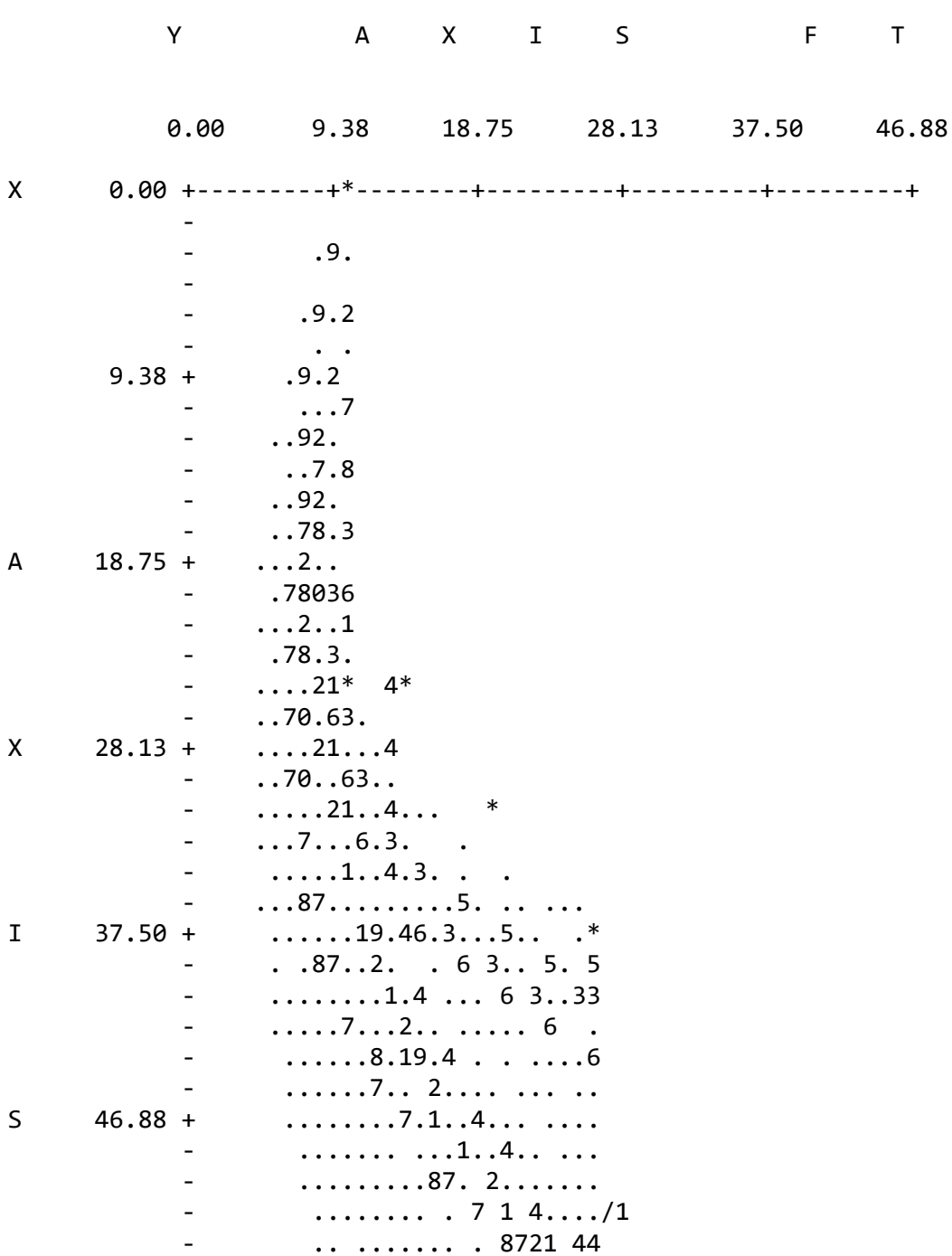
Failure Surface Specified By 17 Coordinate Points

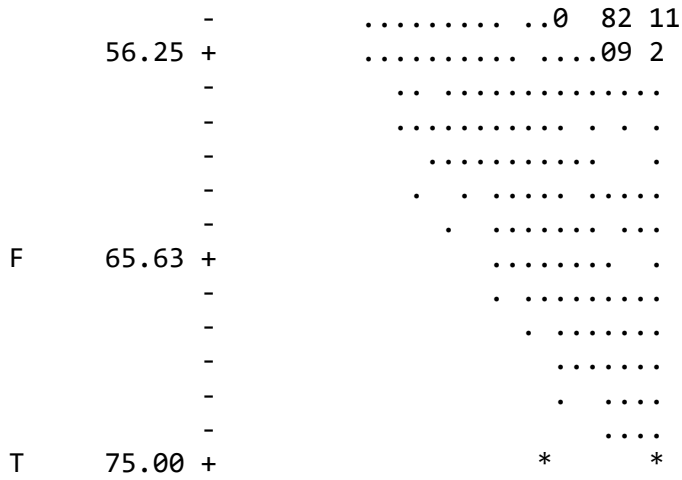
Point No.	X-Surf ft.	Y-Surf ft.
1	14.00	10.00
2	16.99	8.86
3	20.08	8.01
4	23.23	7.47
5	26.42	7.23
6	29.62	7.31
7	32.80	7.69
8	35.92	8.38
9	38.96	9.37
10	41.90	10.65
11	44.69	12.21
12	47.32	14.04
13	49.76	16.11
14	51.99	18.40
15	53.98	20.90
16	55.73	23.59
17	56.98	26.00

Circle Center At X = 27.2 ; Y = 40.2 and Radius, 33.0

*** 1.597 ***

1

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Reference Documents

GeoTek, Inc.
LOG OF EXPLORATORY BORING

CLIENT:	AOA San Marcos, LLC	**DRILLER:**	Baja Exploration	**LOGGED BY:**	MSB
PROJECT NAME:	Grand and Linda Vista	**DRILL METHOD:**	HSA	**OPERATOR:**	Manny
PROJECT NO.:	3637-SD	**HAMMER:**	140 lbs/ 30 in	**RIG TYPE:**	
LOCATION:	See Boring Locaiton Map	**ELEVATION:**		**DATE:**	4/20/2020

BORING NO.: B-3

Depth (ft)	SAMPLES: Sample Type	SAMPLES: Blows/ 6 in	SAMPLES: Sample Number	USCS Symbol	MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Laboratory Testing: Dry Density (pcf)	Laboratory Testing: Others
					Asphalt - 2", Base - 8" Silty SAND base, dark brown **Artificial Fill** Sandy CLAY, dark brown cuttings			
				CL				
5		12 17 21	S-1	CL	**Older Alluvium** Sandy CLAY, cuttings turn reddish light brown, moist, soft Sandy CLAY, red brown, damp, stiff			
10		24 35 50	R-1		**Santiago Formation (Tsa)** recovered as Sandy CLAY, light brown/white with red-orange mottling throughout, moist, stiff, poorly graded recovered as Sandy CLAY cuttings, orange-brown	13.2	120.5	
15		24 30 37	S-2		recovered as SAND, coarse grained, light brown/white, with red mottling			
20		4 13 50			recovered as sandy CLAY cuttings, orange brown recovered as CLAY, gray-olive, very moist, very stiff			
25					**HOLE TERMINATED AT 20 FEET** No groundwater encountered Backfilled with soil cuttings and asphalt patch			
30								

LEGEND

Sample type: ---Ring ---SPT ---Small Bulk ---Large Bulk ---No Recovery ---Water Table

Lab testing: AL = Atterberg Limits; EI = Expansion Index; SA = Sieve Analysis; RV = R-Value Test; SR = Sulfate/Resisitivity Test; SH = Shear Test; CO = Consolidation test; MD = Maximum Density

GeoTek, Inc.
LOG OF EXPLORATORY BORING

CLIENT:	AOA San Marcos, LLC	**DRILLER:**	Baja Exploration	**LOGGED BY:**	MSB
PROJECT NAME:	Grand and Linda Vista	**DRILL METHOD:**	HSA	**OPERATOR:**	Manny
PROJECT NO.:	3637-SD	**HAMMER:**	140 lbs/ 30 in	**RIG TYPE:**	
LOCATION:	See Boring Locaiton Map	**ELEVATION:**		**DATE:**	4/20/2020

BORING NO.: B-4

Depth (ft)	SAMPLES: Sample Type	SAMPLES: Blows/ 6 in	SAMPLES: Sample Number	USCS Symbol	MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Laboratory Testing: Dry Density (pcf)	Laboratory Testing: Others
					Fill			EI, AL, SA, SR
			BB-1	CL	Sandy CLAY cuttings, dark brown, stiff to medium stiff, damp, some organics			
5		18 30 50	R-1	CL	**Older Alluvium** Sandy CLAY, red brown, stiff, damp, gray mottling orange-brown in color.	12.5	120.1	
10		11 22 32	S-1		**Santiago Formation (Tsa)** recovered as Silty SAND, light brown/white, orange mottling, coarse grained			
15		32 50	R-2		recovered as Silty SAND, orange red-brown, dense, moist			
20		21 40 50	S-2 BB-2	▽	recovered as SAND, white/gray, coarse grained, saturated, dense, groundwater			
25		34 50	R-3		Cuttings turn to mud slurry			
30			S-3					

LEGEND

Sample type: ---Ring ---SPT ---Small Bulk ---Large Bulk ---No Recovery ---Water Table

Lab testing: AL = Atterberg Limits; EI = Expansion Index; SA = Sieve Analysis; RV = R-Value Test; SR = Sulfate/Resisitivity Test; SH = Shear Test; CO = Consolidation test; MD = Maximum Density

GeoTek, Inc.

LOG OF EXPLORATORY BORING

CLIENT:	AOA San Marcos, LLC	**DRILLER:**	Baja Exploration	**LOGGED BY:**	MSB
PROJECT NAME:	Grand and Linda Vista	**DRILL METHOD:**	HSA	**OPERATOR:**	Manny
PROJECT NO.:	3637-SD	**HAMMER:**	140 lbs/ 30 in	**RIG TYPE:**	
LOCATION:	See Boring Locaiton Map	**ELEVATION:**		**DATE:**	4/20/2020

Depth (ft)	SAMPLES: Sample Type	SAMPLES: Blows/ 6 in	SAMPLES: Sample Number	USCS Symbol	BORING NO.: B-4 Cont. / MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Laboratory Testing: Dry Density (pcf)	Laboratory Testing: Others
30		13 50	S-3		recovered as SAND, white-gray, saturated, coarse, dense, orange mottling			
35		50	R-4					
40		24 36 50	S-4		recovered as SAND, coarse grained, black, moist, very dense			
45								
50		50	S-5					
					HOLE TERMINATED AT 50 FEET Groundwater at 20 feet Backfilled with soil cuttings and bentonite			
55								
60								

LEGEND

Sample type: ---Ring ---SPT ---Small Bulk ---Large Bulk ---No Recovery ---Water Table

Lab testing: AL = Atterberg Limits; EI = Expansion Index; SA = Sieve Analysis; RV = R-Value Test; SR = Sulfate/Resisitivity Test; SH = Shear Test; CO = Consolidation test; MD = Maximum Density

GeoTek, Inc.
LOG OF EXPLORATORY BORING

CLIENT:	AOA San Marcos, LLC	**DRILLER:**	Baja Exploration	**LOGGED BY:**	MSB
PROJECT NAME:	Grand and Linda Vista	**DRILL METHOD:**	HSA	**OPERATOR:**	Manny
PROJECT NO.:	3637-SD	**HAMMER:**	140 lbs/ 30 in	**RIG TYPE:**	
LOCATION:	See Boring Locaiton Map	**ELEVATION:**		**DATE:**	4/20/2020

BORING NO.: B-5

Depth (ft)	SAMPLES: Sample Type	SAMPLES: Blows/ 6 in	SAMPLES: Sample Number	USCS Symbol	MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Laboratory Testing: Dry Density (pcf)	Laboratory Testing: Others
				SC	**Artificial Fill** Clayey SAND cuttings, reddish brown, moist, loose			
5		16 50	R-1 BB-1		**Santiago Formation (Tsa)** Cuttings turn bright red recovered as Sandy CLAY, white/gray, damp, stiff, high plasticity	15.8	108.3	EI, MD, AL, SA, RV
10		12 18 24	S-1		recovered as clayey SAND, olive gray with orange mottling, dense, dry, mottled			
15		7 8 7	S-2		recovered as Sandy CLAY, olive gray, very stiff			SR
20					**HOLE TERMINATED AT 15 FEET** No groundwater encountered Backfilled with soil cuttings			
25								
30								

LEGEND

Sample type: ---Ring ---SPT ---Small Bulk ---Large Bulk ---No Recovery ---Water Table

Lab testing: AL = Atterberg Limits; EI = Expansion Index; SA = Sieve Analysis; RV = R-Value Test; SR = Sulfate/Resisitivity Test; SH = Shear Test; CO = Consolidation test; MD = Maximum Density

GeoTek, Inc.

LOG OF EXPLORATORY BORING

CLIENT:	AOA San Marcos, LLC	**DRILLER:**	Baja Exploration	**LOGGED BY:**	MSB
PROJECT NAME:	Grand and Linda Vista	**DRILL METHOD:**	HSA	**OPERATOR:**	Manny
PROJECT NO.:	3637-SD	**HAMMER:**	140 lbs/ 30 in	**RIG TYPE:**	
LOCATION:	See Boring Locaiton Map	**ELEVATION:**		**DATE:**	4/20/2020

BORING NO.: B-6

Depth (ft)	SAMPLES: Sample Type	SAMPLES: Blows/ 6 in	SAMPLES: Sample Number	USCS Symbol	MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Laboratory Testing: Dry Density (pcf)	Laboratory Testing: Others
				SC	**Artificial Fill** Clay SAND cuttings, dark brown, moist, loose, organics			
5		12 24 34	S-1	SC	**Older Alluvium** Top 12" of sampler: clayey SAND, light brown, medium dense, moist **Santiago Formation (Tsa)** Bottom 6" - SAND, bright red, coarse, damp			
					recovered as sandy CLAY, bright red/orange			
10		11 12 37	R-1		recovered as CLAY, mottled gray/olive with yellow orange, fine, highly plastic			
					HOLE TERMINATED AT 10 FEET No groundwater encountered Backfilled with soil cuttings			
15								
20								
25								
30								

LEGEND

Sample type: ---Ring ---SPT ---Small Bulk ---Large Bulk ---No Recovery ---Water Table

Lab testing: AL = Atterberg Limits; EI = Expansion Index; SA = Sieve Analysis; RV = R-Value Test; SR = Sulfate/Resisitivity Test; SH = Shear Test; CO = Consolidation test; MD = Maximum Density

Date: 5/22/97 Logged by: SM

DEPTH (ft)	SAMPLE	T-1 DESCRIPTION	MOISTURE (%)	DRY DENSITY (pcf)	RELATIVE COMPACTION (%)
- -		FILL:			
	❑	Clayey sand, red-brown, dry, small pieces of A.C. and trash. ST-1	13.2	119.2	91.9
	❑	ALLUVIUM:	19.2	108.2	84.4
- 5 -		Silty clayey sand, fine grained, brown, moist			
- -	■❑	porous. ST-2	17.6	105.8	82.5
- -		Sandy clay, brown with grey streaks, moist.			
- -	❑		15.7	111.3	-----
- -		Sand, fine to coarse grained, brown water seeping at 5',			
- 10 -	■❑	very moist, caving. ST-3	26.0	101.0	-----
- -		BEDROCK:			
- -		Clayey weathered, blocky, olive to grey in color,			
- -		moist. ST-4			
- 15 -		End trench at 10½ '.			

Date: 5/22/97 Logged by: SM

DEPTH (ft)	SAMPLE	T-2 DESCRIPTION	MOISTURE (%)	DRY DENSITY (pcf)	RELATIVE COMPACTION (%)
- -		FILL:			
- -	❑	Clayey silty sand, brown, pieces of asphalt.	10.6	106.7	82.3
- -					
	❑	ALLUVIUM:	15.8	113.2	87.2
- 5 -		Silty sand, fine grained, porous, brown, grades clayey			
	❑	with depth. ST-2	16.1	101.3	78.1
- -					
- -	■❑	Clayey sand, fine grained, mottled, grey with rust	11.2	118.3	-----
- -		streaks, moist.			
- 10 -					
- -		BEDROCK:			
- -		Sandstone, tan color, fine to coarse grained, poorly			
- -		sorted, massive, friable, moist, locally cemented. ST-5			
- -					
- 15 -		End trench at 8½ ' hard digging..			

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TEST TRENCH LOGS

Star Builders Supply - San Marcos

PROJECT NO. 97-184-P PLATE 2

▼ Sand Cone Test ■ Bulk Sample ❑ Chunk Sample ○ Driven Rings

Date: 5/22/97 Logged by: SM

DEPTH (ft)	SAMPLE	T-3 DESCRIPTION	MOISTURE (%)	DRY DENSITY (pcf)	RELATIVE COMPACTION (%)
- -		FILL:			
- -	❑	Clayey sand, small rocks and asphalt.	12.5	113.2	87.3
- -					
	❑	ALLUVIUM:	16.0	103.8	80.0
- 5 -		Clayey sand, fine grained, brown to tan in color with rust			
	❑	colored stains, porous, most. ST-2	18.1	101.7	79.3
- -					
- -	❑	Sandy clay, brown with rust colored stains, moist.	17.9	104.2	81.3
- -					
- 10 -	■❑	Clayey sand, fine to medium grained, water seeps at 6'.	22.4	105.3	-----
- -		Brown/grey with rust colored stains. ST-3			
- -					
- -		BEDROCK:			
- -		Clayey sandstone, weathered, fine grained, massive			
- 15 -		friable, white with orange/yellow staining. ST-6			
		End trench at 9½ '.			

Date: 5/22/97 Logged by: SM

DEPTH (ft)	SAMPLE	T-4 DESCRIPTION	MOISTURE (%)	DRY DENSITY (pcf)	RELATIVE COMPACTION (%)
- -		FILL:			
	❑	Clayey sand, pieces of asphalt, dry, loose.	4.9	123.0	94.8
- -					
- -	❑	ALLUVIUM:	11.9	118.7	91.5
- 5 -		Silty sand, fine grained, grades clayey with depth,			
- -	❑	brown, porous ST-2	14.9	114.0	87.9
- -					
- -	❑	Silty clayey sand, fine grained, brown/grey in	15.7	117.5	-----
- -		color. ST-2			
- 10 -					
- -		BEDROCK:			
- -		Clayey sandstone, fine to medium grained blocky,			
- -		mottled appearance, moist tan/grey weathered, hard			
- -		digging. ST-6			
- 15 -		End trench at 8½ '.			

VINJE & MIDDLETON ENGINEERING, INC
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TEST TRENCH LOGS

Star Builders Supply - San Marcos

PROJECT NO. 97-184-P PLATE 3

▼ Sand Cone Test ■ Bulk Sample ❑ Chunk Sample ○ Driven Rings