SEDIMENTATION BASIN STABILITY ANALYSES AND DESIGN CROSS-SECTIONS

URS

URS | Quality - It's Good Business

QMS Form 3-6 (MM)
Rev. 2013 QMS
Date: 28 Feb 2013

IE QMS - Americas

Independent Technical Review

Project Name	Lake Maurepas Diversion	**Client**	CPRA
Project Location	St. John the Baptist, LA	**PM**	Naveen Chillara
Project Number	10001863	**PIC**	Mike Patorno

Identifying Information

(This section is to be completed by the Project Manager or the PM's Designee.)

Assigned Reviewer: Dwayne Smith Comments Required by: September 18, 2013

Work Product Originator: Mahendra Shewalla and Andrew Hoppes

Work Product to be Reviewed: Slope Stability Conveyance Channel and Sedimentation Basin

Review Scope: Review for technical accuracy and applicability

Specific Instructions: Enter specific instructions for the work product.

Submitted by: _____ 9/30/13

Project Manager Signature **Date**

Comments

(This Section is to be completed by the Reviewer.)

Select:

A. ☒ Reviewer has no comments.

or

B. ☐ Comments have been provided on:

- ☐ Marked directly on work product
- ☐ Comment and Disposition Form 3-5
- ☐ Other; Specify: Click to enter text.

_____ 9/18/13

Reviewer Signature **Date**

Verification

(This section is to be completed by the Reviewer after verification of comment incorporation, if box B is checked off above.)

Select:

C. ☐ Verification of comment incorporation has been performed by Reviewer. There are no outstanding issues.

or

D. ☐ Verification of comment incorporation has been performed by Reviewer. Unresolved issues have been submitted to the Project Manager or Designee for resolution.

and

E. ☐ Reviewer asserts that the work product ITR is complete.

_____ _____

Reviewer Signature **Date**

APPROVAL and DISTRIBUTION

☒ ITR is complete.

_____ 9/30/13

Project Manager or Designee Signature Click here to enter a date. **Date**

Distribution:

Project Central File – Quality File Folder

Other – Specify: Enter names here.

URS | **Quality** - *It's Good Business*

QMS Form 3-4 (MM)
Rev. 2013 QMS
Date: 28 Feb 2013

IE QMS - Americas | **Detail Check**

Project Name	Lake Maurepas Diversion	**Client**	CPRA
Project Location	St. John the Baptist, LA	**PM**	Naveen Chillara
Project Number	10001863	**PIC**	Mike Patorno

Identifying Information

(This section is to be completed by the Project Manager or the PM's Designee.)

Assigned Checker: Andrew Hoppes — Comments Required by: September 13, 2013

Work Product Originator: Chris LaFroscia

Work Product to be Checked: Check for technical accuracy of Sedimentation Basin Slope Stability

☒ This Detail Check is a check for correctness, completeness and technical accuracy.

☐ This Detail Check is only a technical edit for format, spelling, grammar, pagination and readability.

Specific Instructions: Enter specific instructions for the work product.

Submitted by: _____ 9/30/13

Project Manager Signature — **Date**

Comments

(This Section is to be completed by the Checker.)

Select:

A. ☒ Checker has no comments.

or

B. ☐ Comments have been provided on:

- ☐ Marked directly on work product
- ☐ Comment and Disposition Form 3-5
- ☐ Other; Specify: Provided on separate list by email

Andrew Hoppes — 9-30-2013

Checker Signature — **Date**

Verification

(This section is to be completed by the Checker after verification of comment incorporation, if box B is checked off above.)

Select:

C. ☐ Verification of comment incorporation has been performed by Checker. There are no outstanding issues.

or

D. ☐ Verification of comment incorporation has been performed by Checker. Unresolved issues have been submitted to the Project Manager or Designee for final resolution.

and

E. ☐ Checker asserts that the work product review is complete.

_____ — _____

Checker Signature — **Date**

APPROVAL and DISTRIBUTION

☒ Detail Check is complete.

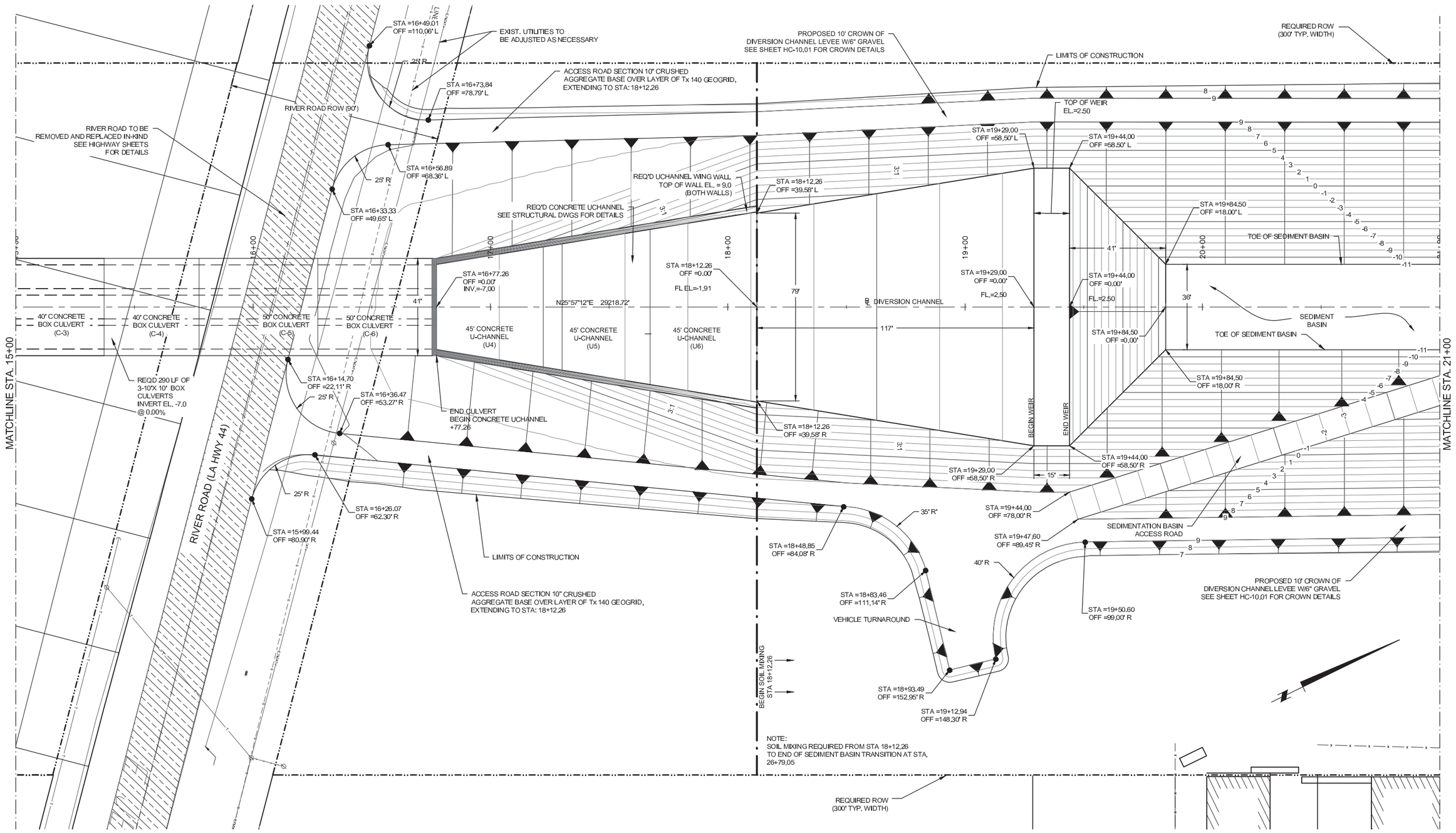
_____ — 9/30/13 (Click here to enter a date.)

Project Manager or Designee Signature — **Date**

Distribution:

Project Central File – Quality File Folder

Other – Specify: Enter names here.



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

AT FULL SCALE THIS BAR IS 1" LONG

REV.	DATE	DESCRIPTION	BY

URS

3500 N. Causeway Blvd., Suite 900
Metairie, Louisiana 70002
(504) 837-6326

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: JAD | DESIGNED BY: DDW

MISSISSIPPI RIVER REINTRODUCTION
INTO MAUREPAS SWAMP
ST. JOHN THE BAPTIST PARISH, LOUISIANA

PROJECT NUMBER: 10001801

95% SUBMITTAL

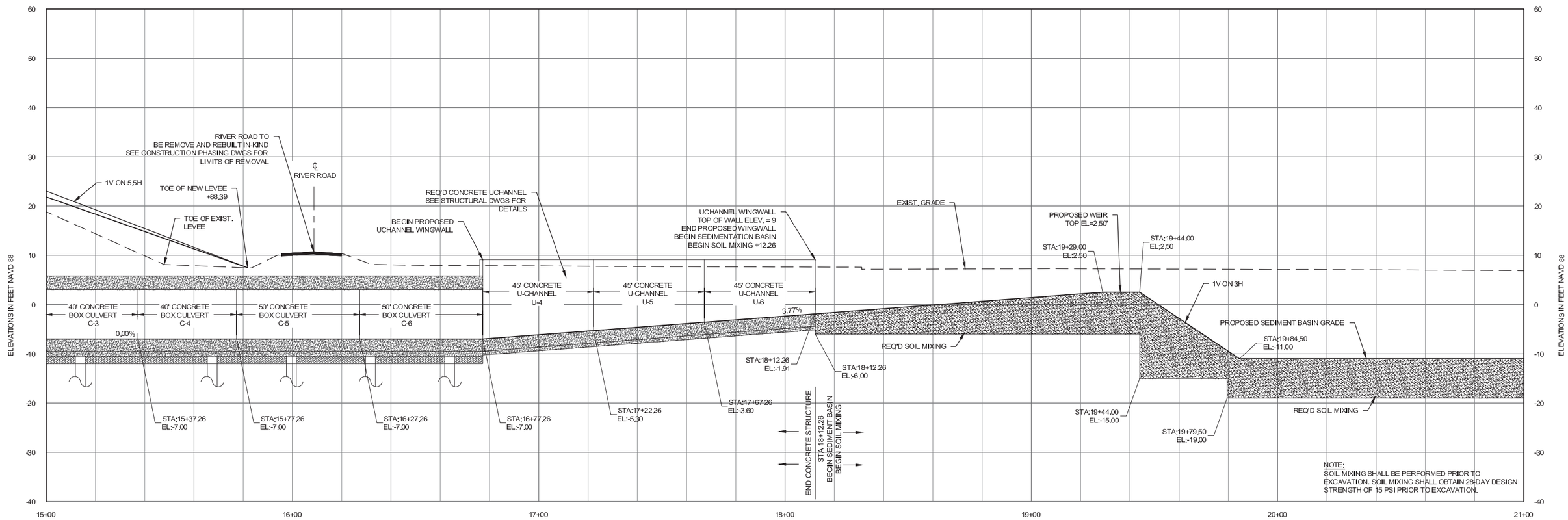
APPROVED BY: NC

SEDIMENT BASIN PLAN
STA. 15+00 TO STA. 21+00

DATE: JULY 2013

SHEET HC-7.03

K:\URS_METAIRIE\10001801-MAUREPAS PUMPING STA-HD WKS\00200\Civil\CIVIL-STRUCT-IN PROGRESS\DWG\Production Drawings\Section HC HeadworkHC-7.01 to HC 7.06 Channel-P&P_20 Scale.dwg, Jul 19, 2013 - 10:12:45AM, neil_adams



PROFILE
(SHOWN ALONG BASELINE)
SCALE: 1" = 2'

20' 10' 0 20' 40'
SCALE: 1:20
HORIZONTAL SCALE

2' 1' 0 2' 4'
SCALE: 1:2
VERTICAL SCALE

REV.	DATE	DESCRIPTION	BY

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LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
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MISSISSIPPI RIVER REINTRODUCTION INTO MAUREPAS SWAMP
ST. JOHN THE BAPTIST PARISH, LOUISIANA

PROJECT NUMBER: 10001801

95% SUBMITTAL

SEDIMENT BASIN PROFILE
STA. 15+00 TO STA. 21+00

DATE: JULY 2013

SHEET HC-7.04

DRAWN BY: JAD | DESIGNED BY: DDW | APPROVED BY: NC

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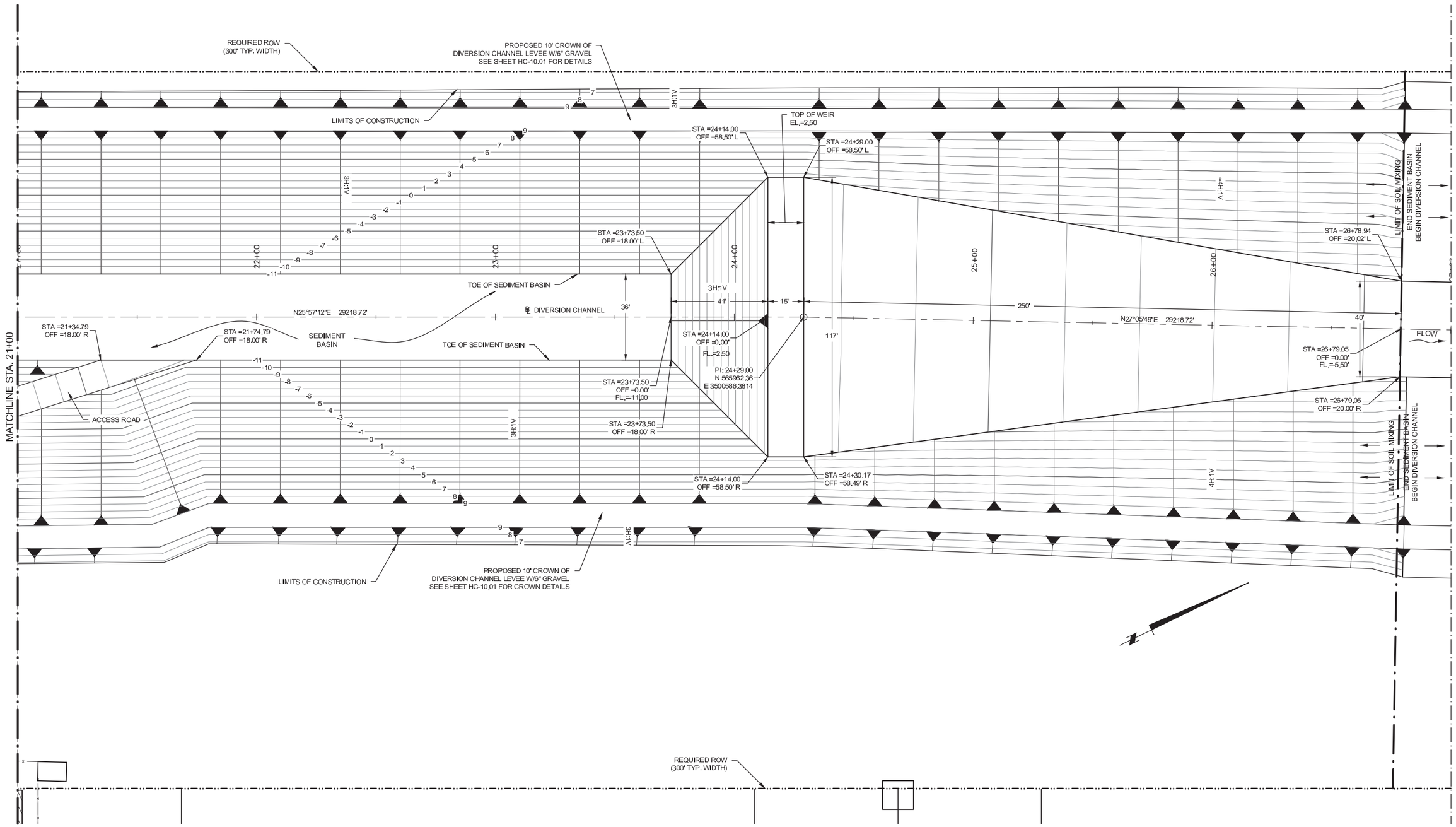

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

AT FULL SCALE THIS BAR IS 1" LONG

REV.	DATE	DESCRIPTION	BY

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MISSISSIPPI RIVER REINTRODUCTION
INTO MAUREPAS SWAMP
ST. JOHN THE BAPTIST PARISH, LOUISIANA

PROJECT NUMBER: 10001801

95% SUBMITTAL

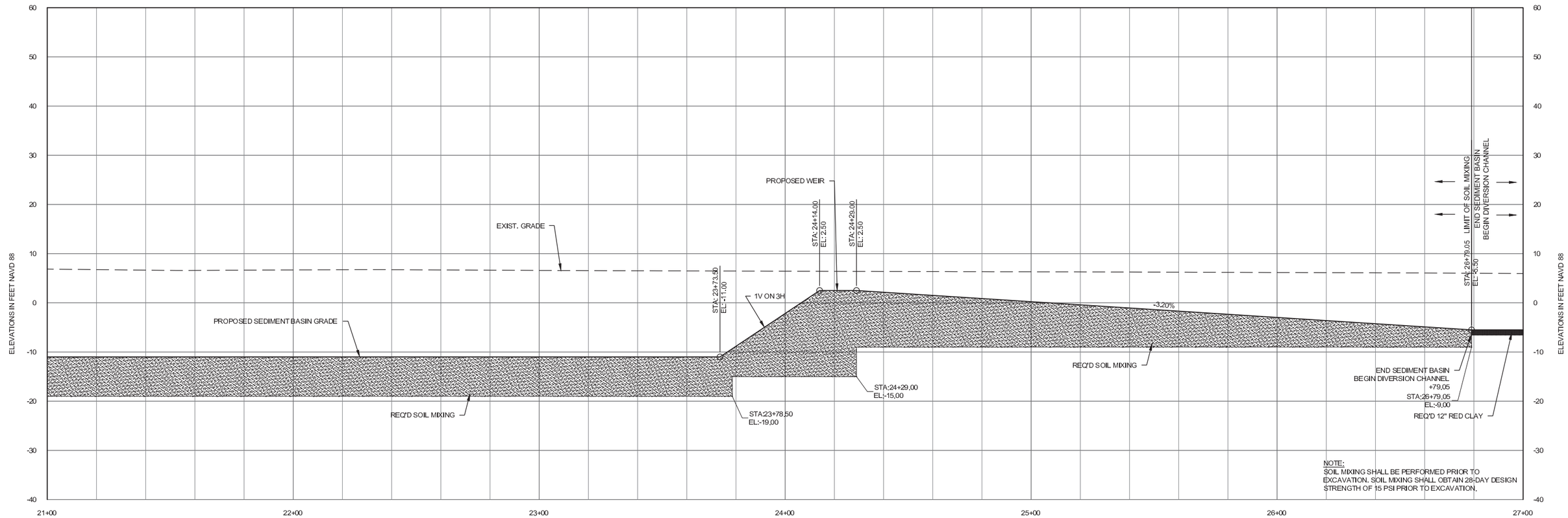
SEDIMENT BASIN PLAN
STA. 21+00 TO STA. 27+00

DATE: JULY 2013

SHEET HC-7.05

DRAWN BY: JAD | DESIGNED BY: DDW | APPROVED BY: NC

K:\URS METAIRIE\10001801-MAUREPAS PUMPING STA-HD WKS\00200\civil\CIVIL-STRUCT-IN PROGRESS\DWG\Production Drawings\Section HC Headwork\C-7.01 to HC 7.06 Channel-P&P_20 Scale.dwg, Jul 19, 2013 - 10:13:54AM, neil_adams



PROFILE
(SHOWN ALONG BASELINE)
SCALE: 1" = 2'

20' 10' 0 20' 40'
SCALE: 1:20
HORIZONTAL SCALE

2' 1' 0 2' 4'
SCALE: 1:2
VERTICAL SCALE

REV.	DATE	DESCRIPTION	BY

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DESIGNED BY: DDW

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PROJECT NUMBER: 10001801

95% SUBMITTAL

APPROVED BY: NC

PROFILE
STA. 21+00 TO STA. 27+00

DATE: JULY 2013

SHEET HC-7.06

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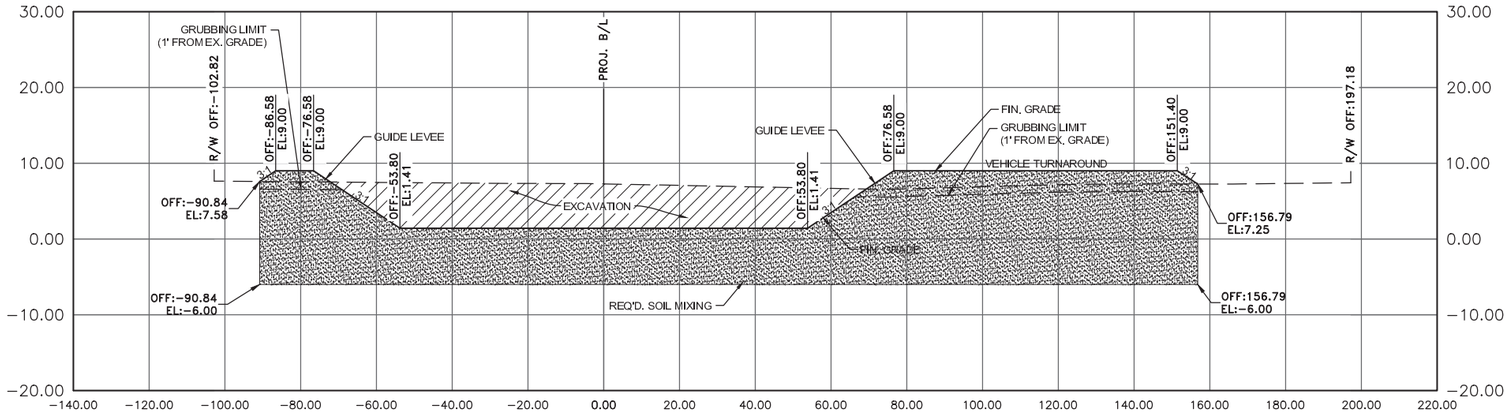
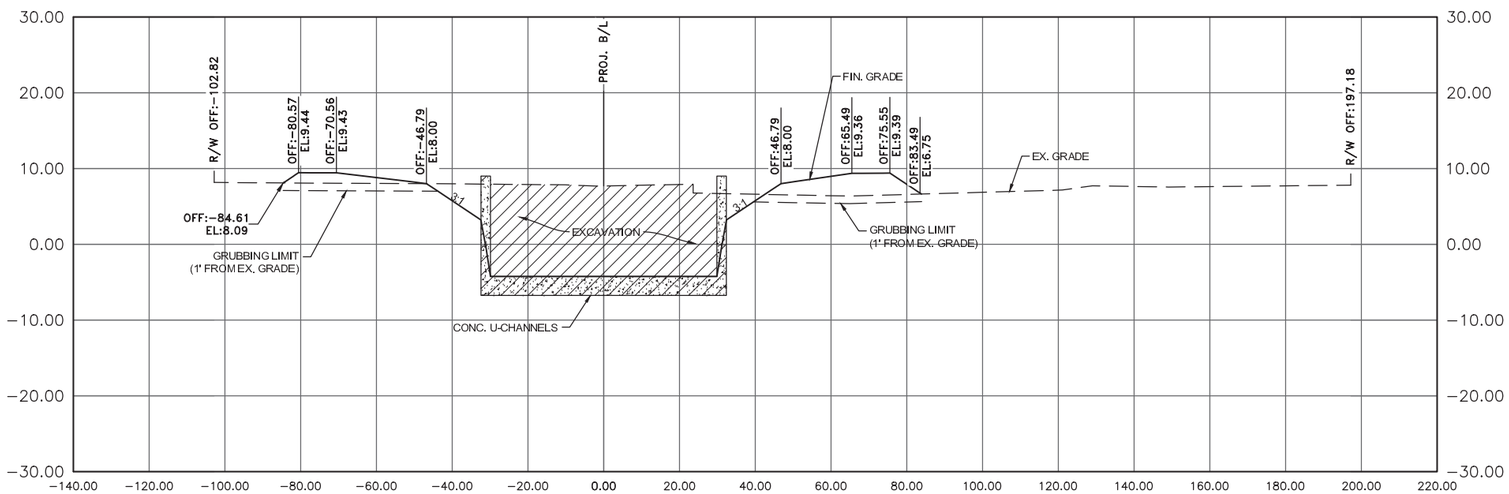


STATION 19+00



STATION 17+50

NOTE:
SOIL MIXING SHALL BE PERFORMED PRIOR TO EXCAVATION. SOIL MIXING SHALL OBTAIN 28-DAY DESIGN STRENGTH OF 15 PSI PRIOR TO EXCAVATION.

20' 10' 0 20' 40'
SCALE: 1:20
HORIZONTAL SCALE

2' 1' 0 2' 4'
SCALE: 1:2
VERTICAL SCALE

REV.	DATE	DESCRIPTION	BY

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PROJECT NUMBER: 10001801

95% SUBMITTAL

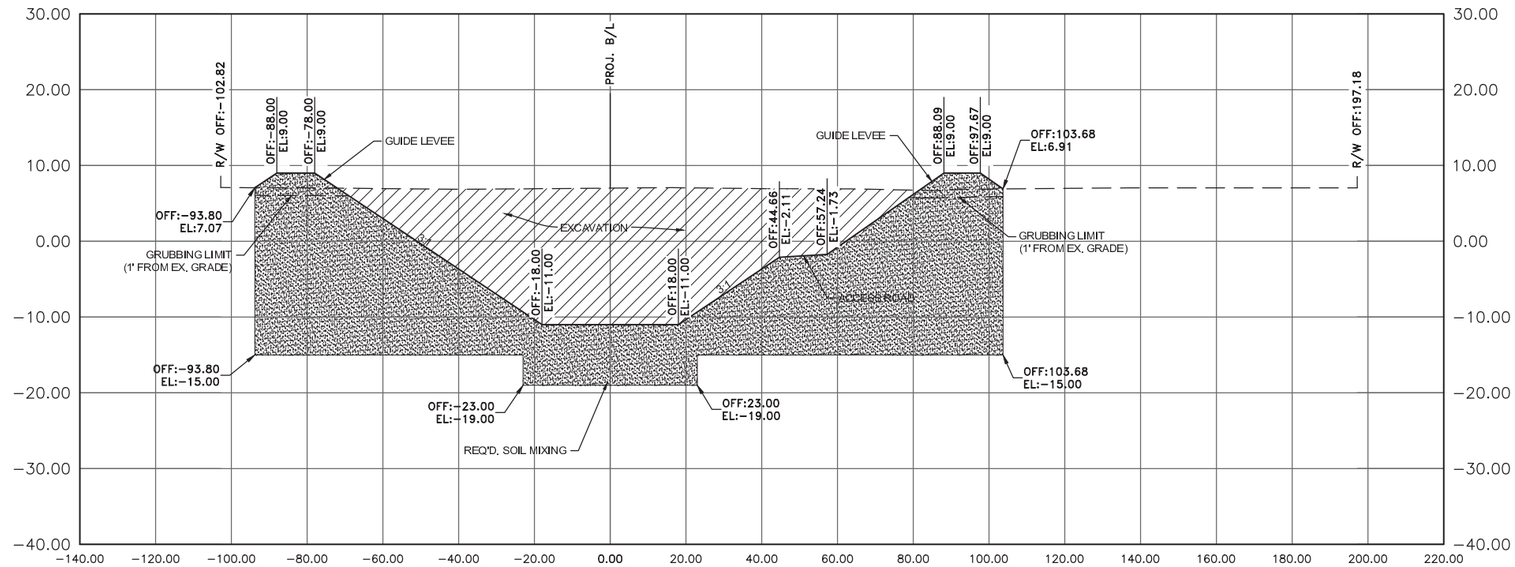
APPROVED BY: NC

INTAKE TO SEDIMENTATION BASIN CROSS SECTIONS
2 OF 4

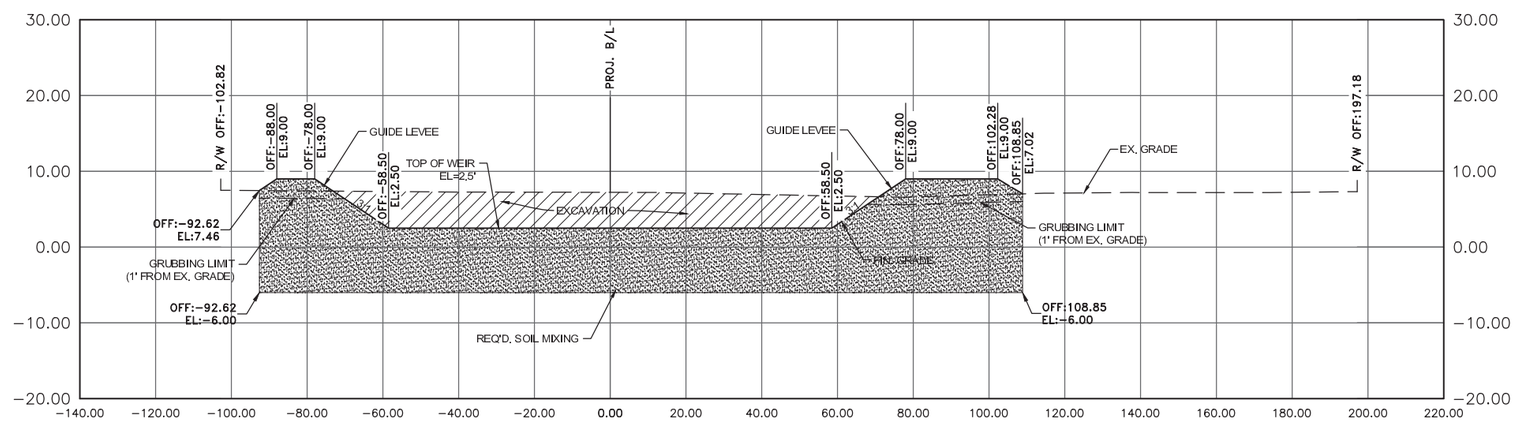
DATE: JULY 2013

SHEET HC-8.02

K:\URS METAIRIE\10001801-MAUREPAS PUMPING STA--HD WKS\00200\Civil\CIVIL-STRUCT-IN PROGRESS\DWG\Production Drawings\Section HC Headworks\HC-8.01 to 8.04 Intake Channel Sections.dwg, Jul 19, 2013 - 10:16:50AM, nell_adams



STATION 20+50



STATION 19+36

NOTE:
SOIL MIXING SHALL BE PERFORMED PRIOR TO EXCAVATION. SOIL MIXING SHALL OBTAIN 28-DAY DESIGN STRENGTH OF 15 PSI PRIOR TO EXCAVATION.

20' 10' 0 20' 40'
SCALE: 1:20
HORIZONTAL SCALE

2' 1' 0 2' 4'
SCALE: 1:2
VERTICAL SCALE

REV.	DATE	DESCRIPTION	BY

URS
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Metairie, Louisiana 70002
(504) 837-6326

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: JAD
DESIGNED BY: DDW

MISSISSIPPI RIVER REINTRODUCTION INTO MAUREPAS SWAMP
ST. JOHN THE BAPTIST PARISH, LOUISIANA

PROJECT NUMBER: 10001801

95% SUBMITTAL

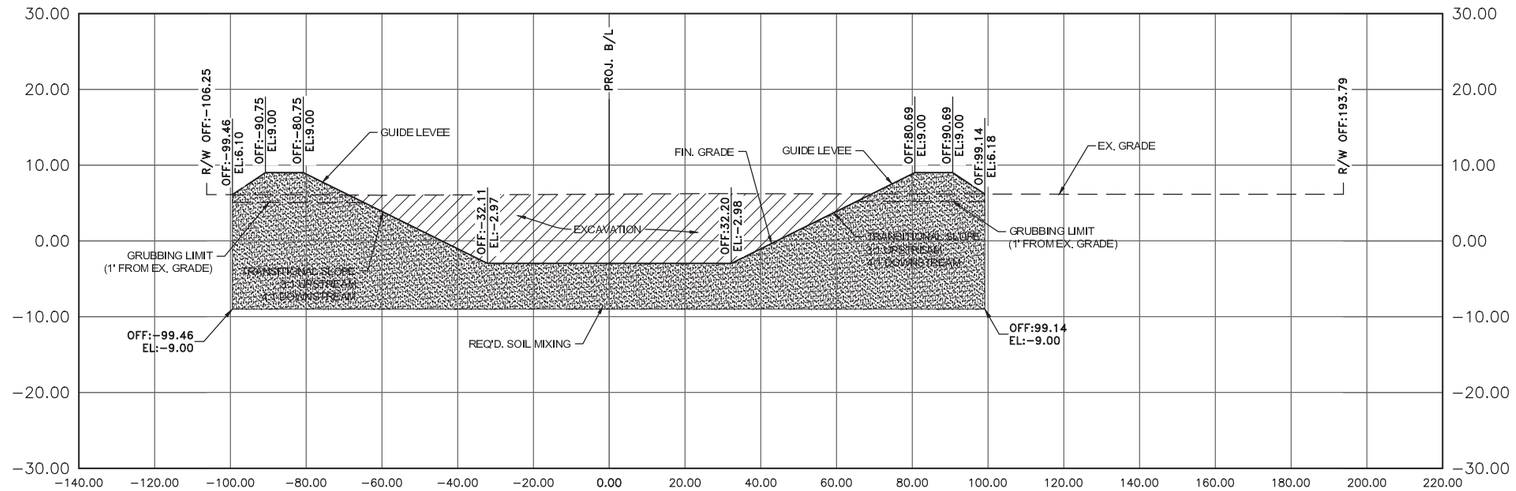
APPROVED BY: NC

INTAKE TO SEDIMENTATION BASIN CROSS SECTIONS
3 OF 4

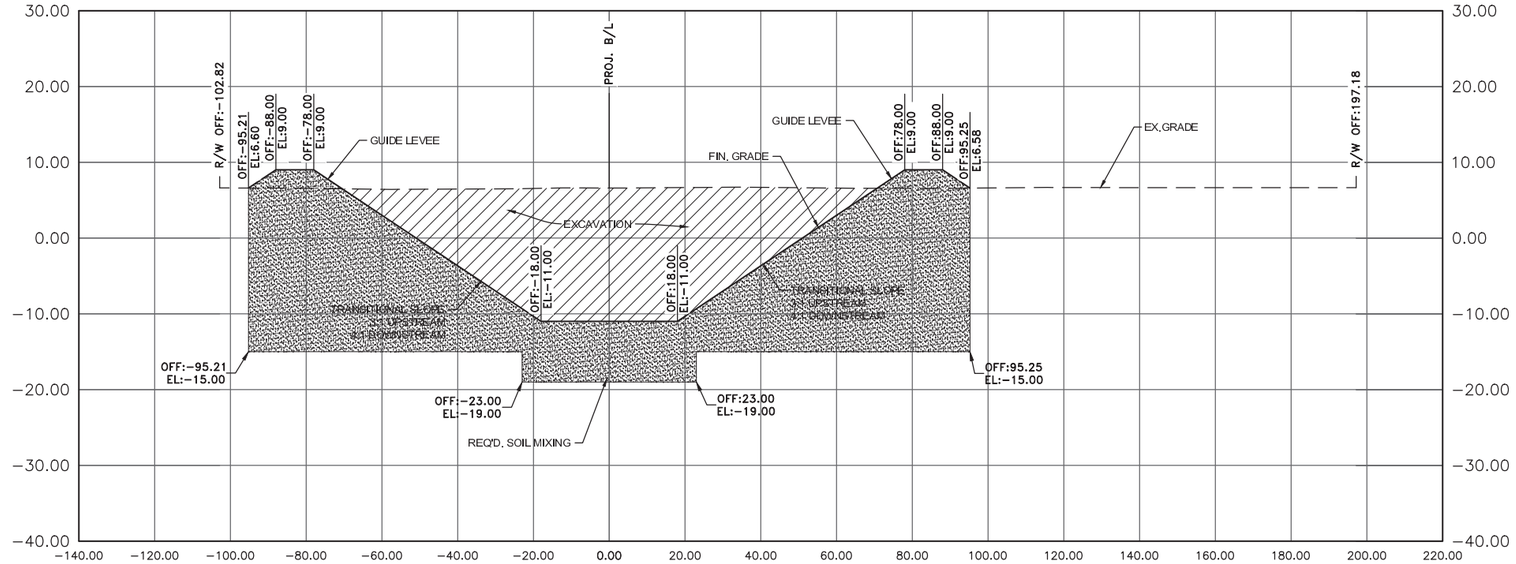
DATE: JULY 2013

SHEET HC-8.03

K:\URS METAIRIE\10001801-MAUREPAS PUMPING STA-HD WKS\00200\Civil\CIVIL-STRUCT-IN PROGRESS\DWG\Production Drawings\Section HC HeadworkHC-8.01 to 8.04 Intake Channel Sections.dwg, Jul 19, 2013 - 10:17:25AM, nell_adams



STATION 26+00



STATION 23+00

NOTE:
SOIL MIXING SHALL BE PERFORMED PRIOR TO EXCAVATION. SOIL MIXING SHALL OBTAIN 28-DAY DESIGN STRENGTH OF 15 PSI PRIOR TO EXCAVATION.

20' 10' 0 20' 40'
SCALE: 1:20
HORIZONTAL SCALE

2' 1' 0 2' 4'
SCALE: 1:2
VERTICAL SCALE

REV.	DATE	DESCRIPTION	BY

URS
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LOUISIANA DEPARTMENT OF NATURAL RESOURCES
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DRAWN BY: JAD
DESIGNED BY: DDW

MISSISSIPPI RIVER REINTRODUCTION INTO MAUREPAS SWAMP
ST. JOHN THE BAPTIST PARISH, LOUISIANA

PROJECT NUMBER: 10001801

95% SUBMITTAL

APPROVED BY: NC

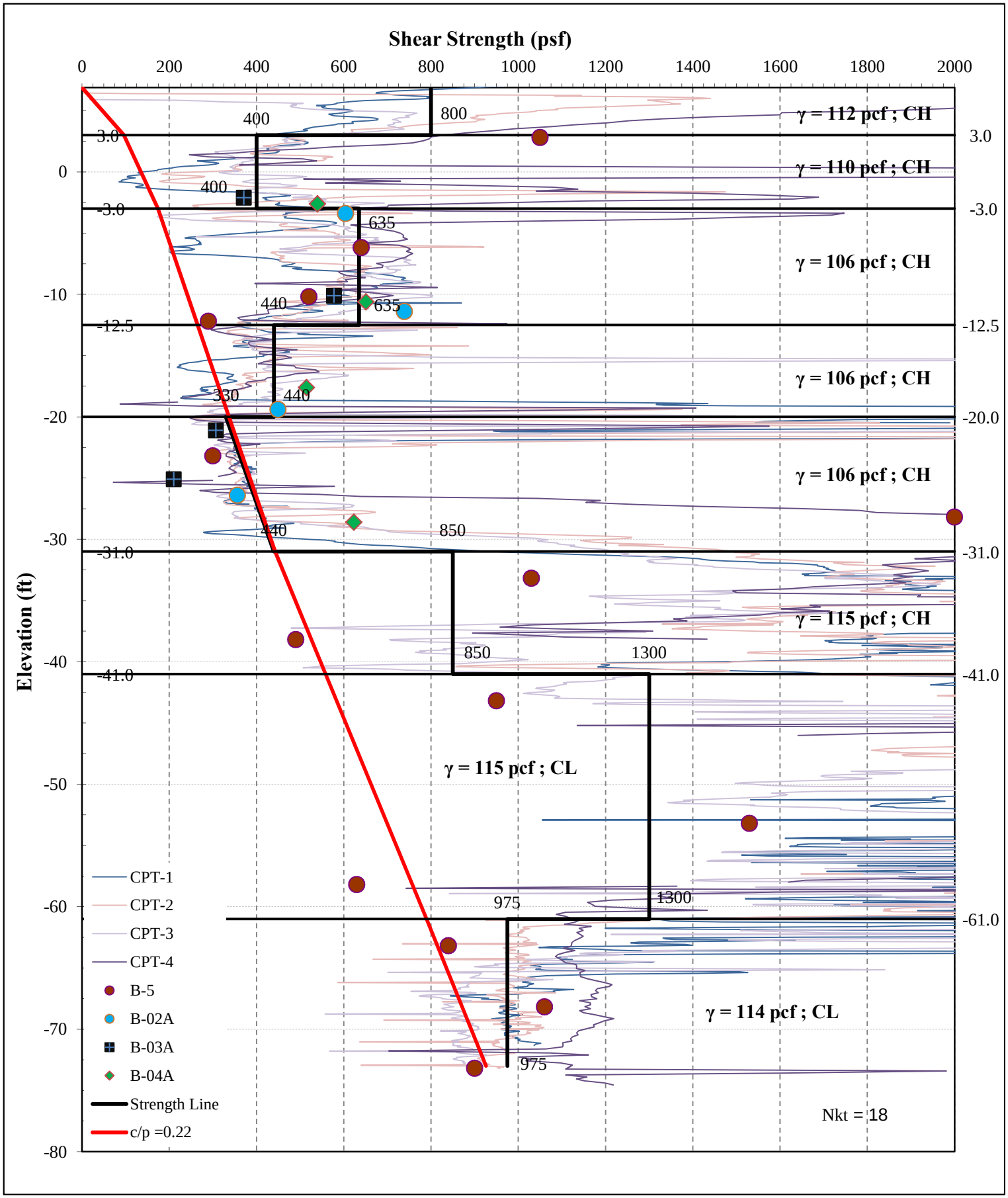
INTAKE TO SEDIMENTATION BASIN CROSS SECTIONS
4 OF 4

DATE: JULY 2013

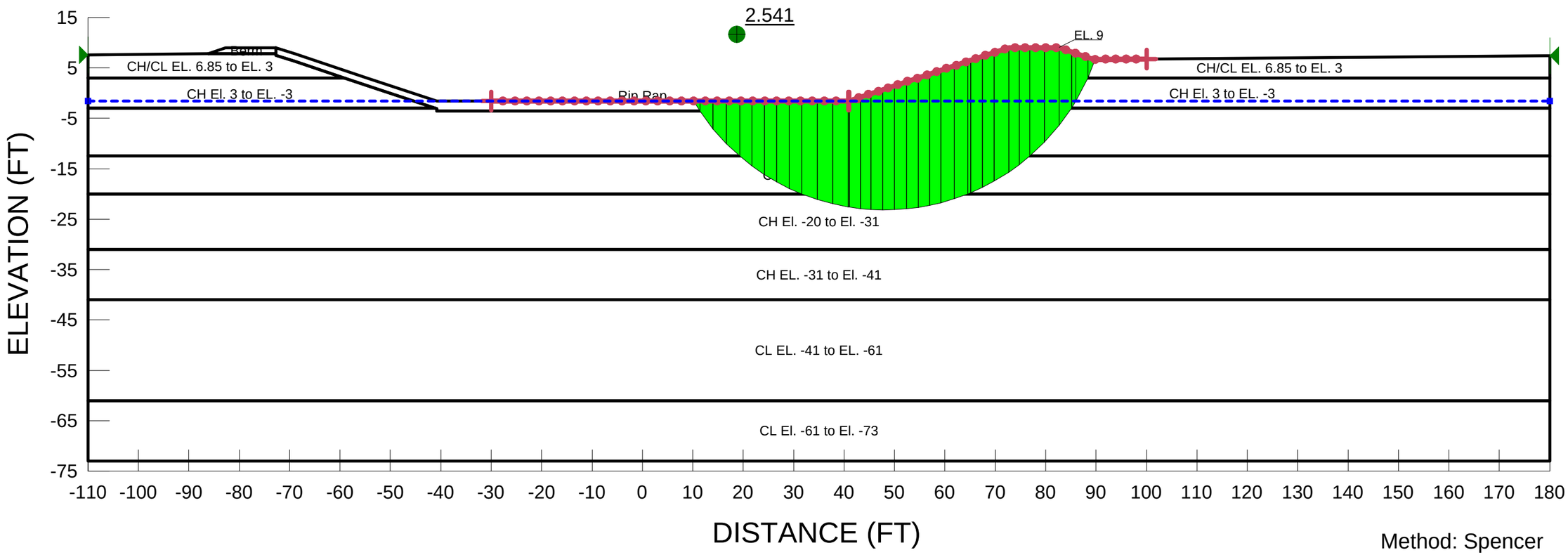
SHEET HC-8.04

K:\URS METAIRIE\10001801-MAUREPAS PUMPING STA-HD WKS\00200\Civil\CIVIL-STRUCT-IN PROGRESS\DWG\Production Drawings\Section HC Headwort\HC-8.01 to 8.04 Intake Channel Sections.dwg, Jul 19, 2013 - 10:17:59AM, neil_adams

Shear Strength Plot - Sedimentation Basin



URS CORP.



Method: Spencer

Name: Berm Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 600 psf
Name: CH/CL EL. 6.85 to EL. 3 Model: Undrained (Phi=0) Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Undrained (Phi=0) Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 1300 psf
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN WEIR INLET
STATION: 18+20
3:1 SLOPE
NO LOADS
GLOBAL ANALYSIS (CIRCULAR METHOD)

1. Circular (Original)

Report generated using GeoStudio 2007, version 7.19. Copyright © 1991-2012 GEO-SLOPE International Ltd.

File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 134
Last Edited By: Hoppes, Andrew
Date: 9/16/2013
Time: 9:35:33 AM
File Name: 1. Sedimentation Basin Sta 18+20 - Original with Rip Rap.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/16/2013
Last Solved Time: 9:36:12 AM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

1. Circular (Original)

Kind: SLOPE/W
Method: Spencer
Settings
- Apply Phreatic Correction: No
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Right to Left
- Use Passive Mode: No
- Slip Surface Option: Entry and Exit
- Critical slip surfaces saved: 20
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

FOS Distribution
- FOS Calculation Option: Constant

Advanced
- Number of Slices: 30
- Optimization Tolerance: 0.01
- Minimum Slip Surface Depth: 0.1 ft
- Optimization Maximum Iterations: 2000
- Optimization Convergence Tolerance: 1e-007
- Starting Optimization Points: 8
- Ending Optimization Points: 16
- Complete Passes per Insertion: 1
- Driving Side Maximum Convex Angle: 5 °
- Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 600 psf

CH/CL EL. 6.85 to EL. 3

Model: Undrained (Phi=0)
Unit Weight: 112 pcf
Cohesion: 800 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. 3 to EL. -3

Model: Undrained (Phi=0)
Unit Weight: 110 pcf
Cohesion: 400 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 635 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -12.5 to -20

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH EL. -31 to El. -41

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 850 psf
Pore Water Pressure
- Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 1300 psf

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 42 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Entry and Exit

Left Projection: Range
Left-Zone Left Coordinate: (-30, -1.6) ft
Left-Zone Right Coordinate: (40.8, -1.6) ft
Left-Zone Increment: 30
Right Projection: Range
Right-Zone Left Coordinate: (40.99994, -1.53383) ft
Right-Zone Right Coordinate: (100, 6.78122) ft
Right-Zone Increment: 30
Radius Increments: 30

Slip Surface Limits

Left Coordinate: (-110, 7.6) ft
Right Coordinate: (180, 7.4) ft

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-1.6
	180	-1.6

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points	Area (ft²)
Region 1	CH El. -3 to EL. -12.5	4,2,1,30,46,34,35,36,37,43	2706.01
Region 2	CH El. -12.5 to -20	2,14,13,1	2175
Region 3	CH EL. -31 to El. -41	5,7,8,6	2900
Region 4	CL EL. -41 to EL. -61	7,9,10,8	5800

Region 5	CL El. -61 to El. -73	9,11,12,10	3480
Region 6	CH El. -20 to El. -31	6,13,14,5	3190
Region 7	Berm	18,19,20,44	14.04
Region 8	CH/CL EL. 6.85 to EL. 3	16,17,18,44,31,32,45	207.25
Region 9	Berm	42,40,23,24,25	33.66
Region 10	CH/CL EL. 6.85 to EL. 3	39,42,25,26,3,41	456.27
Region 11	CH El. 3 to EL. -3	38,41,3,4,43	779.025
Region 12	CH El. 3 to EL. -3	45,33,46,30,16	359.025
Region 13	Rip Rap	20,44,31,32,45,33,46,34,35,36,37,43,38,41,39,42,40,23,28,29,22,21,15,27	259.215

Points

	X (ft)	Y (ft)
Point 1	-110	-12.5
Point 2	180	-12.5
Point 3	180	3
Point 4	180	-3
Point 5	180	-31
Point 6	-110	-31
Point 7	180	-41
Point 8	-110	-41
Point 9	180	-61
Point 10	-110	-61
Point 11	180	-73
Point 12	-110	-73
Point 13	-110	-20
Point 14	180	-20
Point 15	-54.7	3
Point 16	-110	3
Point 17	-110	7.6
Point 18	-86.1	7.8
Point 19	-82.7	9
Point 20	-72.7	9
Point 21	-40.8	-1.6
Point 22	40.8	-1.6
Point 23	72.7	9
Point 24	82.7	9
Point 25	89.5	6.7
Point 26	180	7.4
Point 27	-69	7.8
Point 28	65.1	6.5
Point 29	54.7	3
Point 30	-110	-3
Point 31	-72.7	7.5
Point 32	-69	6.3
Point 33	-54.7	1.5
Point 34	-40.8	-3.1
Point 35	-40.8	-3.6
Point 36	40.8	-3.6
Point 37	40.8	-3.1
Point 38	54.7	1.5
Point 39	65.1	5
Point 40	72.7	7.5
Point 41	59.2	3
Point 42	69.8	6.5
Point 43	41.1	-3
Point 44	-72.7	7.8
Point 45	-59.2	3
Point 46	-41.1	-3

Critical Slip Surfaces

	Slip Surface	FOS	Center (ft)	Radius (ft)	Entry (ft)	Exit (ft)
1	17135	2.541	(48.054, 20.94)	44.126	(89.8197, 6.70247)	(10.12, -1.6)
2	16174	2.544	(46.888, 21.35)	45.362	(89.8197, 6.70247)	(7.76, -1.6)
3	17166	2.544	(49.08, 21.31)	45.197	(91.8558, 6.71822)	(10.12, -1.6)
4	18096	2.547	(49.22, 20.53)	42.89	(89.8197, 6.70247)	(12.48, -1.6)
5	16205	2.547	(47.913, 21.72)	46.434	(91.8558, 6.71822)	(7.76, -1.6)
6	18127	2.550	(50.246, 20.9)	43.961	(91.8558, 6.71822)	(12.48, -1.6)
7	15213	2.554	(45.721, 21.76)	46.599	(89.8197, 6.70247)	(5.4, -1.6)
8	17197	2.555	(50.104, 21.681)	46.268	(93.8919, 6.73397)	(10.12, -1.6)
9	15244	2.557	(46.745, 22.131)	47.671	(91.8558, 6.71822)	(5.4, -1.6)
10	16236	2.558	(48.937, 22.091)	47.506	(93.8919, 6.73397)	(7.76, -1.6)
11	18158	2.560	(51.271, 21.271)	45.031	(93.8919, 6.73397)	(12.48, -1.6)
12	15275	2.563	(47.769, 22.501)	48.744	(93.8919, 6.73397)	(5.4, -1.6)
13	19088	2.563	(51.411, 20.491)	42.725	(91.8558, 6.71822)	(14.84, -1.6)
14	19057	2.565	(50.384, 20.121)	41.656	(89.8197, 6.70247)	(14.84, -1.6)
15	16267	2.566	(49.961, 22.461)	48.578	(95.9279, 6.74972)	(7.76, -1.6)
16	14283	2.567	(45.576, 22.541)	48.909	(91.8558, 6.71822)	(3.04, -1.6)
17	17228	2.568	(51.129, 22.051)	47.34	(95.9279, 6.74972)	(10.12, -1.6)
18	16204	2.569	(47.713, 23.734)	47.308	(91.8558, 6.71822)	(7.76, -1.6)
19	14252	2.570	(44.553, 22.17)	47.837	(89.8197, 6.70247)	(3.04, -1.6)
20	16173	2.571	(46.689, 23.317)	46.22	(89.8197, 6.70247)	(7.76, -1.6)

Slices of Slip Surface: 17135

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	17135	10.75105	-2.6	62.399257	235.13572	155.53261	0
2	17135	12.69592	-5.3659145	235.0027	802.71199	0	635
3	17135	15.323555	-8.5881295	436.04981	1086.2879	0	635
4	17135	17.95119	-11.272215	603.54363	1327.5958	0	635
5	17135	20.497825	-13.486785	741.74881	1466.3677	0	440
6	17135	22.963455	-15.32648	856.54869	1642.3215	0	440
7	17135	25.429085	-16.916195	955.74197	1794.0572	0	440
8	17135	27.894715	-18.28657	1041.2379	1924.225	0	440
9	17135	30.360345	-19.46007	1114.4861	2034.7479	0	440
10	17135	33.127635	-20.55202	1182.6179	2120.9305	0	335.52
11	17135	36.19658	-21.53244	1243.7914	2214.2569	0	345.32
12	17135	39.265525	-22.27292	1290.0029	2281.932	0	352.73
13	17135	40.95	-22.60947	1311.004	2302.3666	0	356.09
14	17135	42.15778	-22.776615	1321.4429	2359.5689	0	357.77
15	17135	44.273335	-23.010285	1335.9901	2453.7892	0	360.1
16	17135	46.50222	-23.142515	1344.2575	2540.8835	0	361.43
17	17135	48.844445	-23.162765	1345.5147	2619.741	0	361.63
18	17135	51.18667	-23.058405	1339.0116	2685.348	0	360.58
19	17135	53.52889	-22.828545	1324.6498	2737.5869	0	358.29
20	17135	55.825	-22.48073	1302.9439	2776.5978	0	354.81
21	17135	58.075	-22.016965	1274.018	2802.6231	0	350.17
22	17135	60.52884	-21.362675	1233.2054	2815.9814	0	343.63
23	17135	63.18652	-20.48541	1178.4639	2813.3069	0	334.85
24	17135	64.80768	-19.880025	1140.6747	2786.7301	0	440
25	17135	66.275	-19.227045	1099.9116	2763.7106	0	440
26	17135	68.625	-18.074515	1028.0271	2714.63	0	440
27	17135	71.25	-16.55805	933.37544	2634.5246	0	440

28	17135	73.73588	-14.91924	831.11352	2467.2444	0	440
29	17135	75.80764	-13.338685	732.50152	2282.8493	0	440
30	17135	78.30764	-11.118322	593.95145	1952.4099	0	635
31	17135	81.23588	-8.0615065	403.20478	1578.479	0	635
32	17135	83.91045	-4.6931845	193.01558	1112.4454	0	635
33	17135	85.55471	-2.3	43.679913	887.70833	0	400
34	17135	87.17839	0.7	-143.52091	448.35923	0	400
35	17135	88.93413	4.398443	-374.28916	-487.14266	0	800
36	17135	89.659875	6.2496795	-489.81638	-821.79945	0	800

Slices of Slip Surface: **16174**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	16174	8.381987	-2.6	62.399509	238.60584	158.65689	0
2	16174	10.285102	-5.3558875	234.3605	808.39189	0	635
3	16174	12.847355	-8.5693575	434.89643	1091.9175	0	635
4	16174	15.40961	-11.26347	602.99461	1334.7711	0	635
5	16174	18.13399	-13.684515	754.08589	1491.381	0	440
6	16174	21.02049	-15.87201	890.56371	1701.1861	0	440
7	16174	23.90699	-17.72382	1006.1155	1878.4187	0	440
8	16174	26.79349	-19.286325	1103.6214	2027.0946	0	440
9	16174	29.493065	-20.521915	1180.7361	2126.0675	0	335.22
10	16174	32.005715	-21.48036	1240.5207	2219.2005	0	344.8
11	16174	34.518365	-22.273125	1289.9968	2294.5868	0	352.73
12	16174	37.03102	-22.90915	1329.689	2353.1871	0	359.09
13	16174	39.543675	-23.395145	1360.027	2395.7761	0	363.95
14	16174	40.95	-23.62116	1374.107	2405.4556	0	366.21
15	16174	42.15778	-23.751905	1382.2669	2458.7736	0	367.52
16	16174	44.273335	-23.923925	1393.0102	2546.4352	0	369.24
17	16174	46.89259	-23.984845	1396.8145	2638.744	0	369.85
18	16174	50.015555	-23.876695	1390.0682	2729.5361	0	368.77
19	16174	53.13852	-23.55134	1369.7731	2797.2676	0	365.51
20	16174	55.825	-23.10782	1342.0845	2838.9394	0	361.08
21	16174	58.075	-22.59528	1310.1262	2859.7689	0	355.95
22	16174	60.675	-21.83802	1262.84	2867.2403	0	348.38

23	16174	63.625	-20.78119	1196.9108	2855.5362	0	337.81
24	16174	65.31951	-20.097615	1154.2577	2840.7406	0	330.98
25	16174	66.604265	-19.48568	1116.0622	2797.4257	0	440
26	16174	68.734755	-18.385685	1047.4387	2747.0073	0	440
27	16174	71.25	-16.8759	953.2165	2664.2663	0	440
28	16174	73.796255	-15.14347	845.12905	2486.6368	0	440
29	16174	75.988765	-13.417575	737.41551	2285.7643	0	440
30	16174	78.488765	-11.134443	594.95664	1946.3556	0	635
31	16174	81.296255	-8.1305045	407.50926	1579.7241	0	635
32	16174	83.9301	-4.7460615	196.31487	1112.0608	0	635
33	16174	85.58798	-2.3	43.680054	882.77994	0	400
34	16174	87.19412	0.7	-143.5193	444.93906	0	400
35	16174	88.93624	4.3983875	-374.29933	-488.84083	0	800
36	16174	89.659875	6.249624	-489.81504	-820.35638	0	800

Slices of Slip Surface: **17166**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	17166	10.743705	-2.6	62.398022	230.14468	151.03977	0
2	17166	12.653905	-5.357238	234.45351	797.05468	0	635
3	17166	15.22689	-8.571903	435.05558	1079.6529	0	635
4	17166	17.79987	-11.264665	603.08886	1321.9849	0	635
5	17166	20.543585	-13.688145	754.30364	1480.2328	0	440
6	17166	23.458035	-15.88021	891.09521	1690.7272	0	440
7	17166	26.372485	-17.73166	1006.6038	1868.4368	0	440
8	17166	29.286935	-19.289595	1103.8362	2017.3153	0	440
9	17166	32.00114	-20.51328	1180.1969	2116.5327	0	335.13
10	17166	34.5151	-21.45465	1238.9316	2208.6366	0	344.55
11	17166	37.02906	-22.230625	1287.3467	2283.1043	0	352.31
12	17166	39.54302	-22.84996	1326.0169	2340.8646	0	358.5
13	17166	40.95	-23.14884	1344.6383	2358.8553	0	361.49
14	17166	42.15778	-23.340245	1356.5798	2419.0674	0	363.4
15	17166	44.273335	-23.61738	1373.878	2518.7216	0	366.17
16	17166	46.89259	-23.806235	1385.6772	2625.7344	0	368.06
17	17166	50.015555	-23.849565	1388.3829	2734.0271	0	368.5

18	17166	53.13852	-23.676315	1377.5777	2819.3525	0	366.76
19	17166	55.825	-23.36557	1358.1618	2876.4202	0	363.66
20	17166	58.075	-22.96716	1333.2962	2910.5422	0	359.67
21	17166	60.675	-22.346845	1294.6064	2933.8733	0	353.47
22	17166	63.625	-21.453385	1238.8418	2941.0377	0	344.53
23	17166	66.257515	-20.475845	1177.8614	2927.8337	0	334.76
24	17166	68.607515	-19.42839	1112.4781	2875.1338	0	440
25	17166	71.25	-18.03983	1025.8348	2811.9579	0	440
26	17166	74.293205	-16.15055	907.95601	2617.0711	0	440
27	17166	77.479615	-13.78911	760.60692	2343.1065	0	440
28	17166	80.88641	-10.697821	567.71358	1907.2478	0	635
29	17166	83.820325	-7.5469005	371.08952	1477.1148	0	635
30	17166	86.06098	-4.5990795	187.1438	1021.6481	0	635
31	17166	87.61025	-2.3	43.68017	814.46586	0	400
32	17166	88.769595	-0.25577	-83.880636	511.68332	0	400
33	17166	89.95054	2.04423	-227.4006	186.43575	0	400
34	17166	91.12844	4.859111	-403.03887	-596.21802	0	800

Slices of Slip Surface: **18096**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	18096	13.12075	-2.6	62.399514	230.89757	151.71633	0
2	18096	15.111245	-5.377016	235.69322	795.65226	0	635
3	18096	17.81074	-8.608916	437.35014	1079.5562	0	635
4	18096	20.510235	-11.2819	604.13772	1319.3512	0	635
5	18096	23.19292	-13.51888	743.73439	1462.4948	0	440
6	18096	25.858795	-15.4043	861.37301	1642.235	0	440
7	18096	28.52467	-17.00574	961.33379	1794.3912	0	440
8	18096	31.190545	-18.3586	1045.7271	1921.9421	0	440
9	18096	33.85642	-19.48828	1116.2364	2027.1553	0	440
10	18096	36.59202	-20.432405	1175.1284	2100.1542	0	334.32
11	18096	39.39734	-21.195005	1222.726	2171.1983	0	341.95
12	18096	40.95	-21.554675	1245.1875	2194.5652	0	345.55
13	18096	42.15778	-21.760785	1258.0379	2255.9174	0	347.61
14	18096	44.273335	-22.06027	1276.707	2357.1962	0	350.6

15	18096	46.50222	-22.2575	1289.0391	2451.2323	0	352.57
16	18096	48.844445	-22.34213	1294.3195	2536.9379	0	353.42
17	18096	51.18667	-22.2986	1291.5988	2609.0005	0	352.99
18	18096	53.52889	-22.12652	1280.8488	2667.4262	0	351.27
19	18096	55.825	-21.83281	1262.5237	2712.2083	0	348.33
20	18096	58.075	-21.419925	1236.747	2743.5868	0	344.2
21	18096	60.21256	-20.91388	1205.1666	2761.9078	0	339.14
22	18096	62.23768	-20.322655	1168.2713	2768.0282	0	333.23
23	18096	64.17512	-19.655805	1126.6657	2746.9727	0	440
24	18096	66.275	-18.80211	1073.4297	2723.1032	0	440
25	18096	68.625	-17.69614	1004.381	2678.9692	0	440
26	18096	71.25	-16.230715	912.95811	2604.2939	0	440
27	18096	73.669905	-14.68842	816.70472	2447.7427	0	440
28	18096	75.609715	-13.25754	727.44189	2280.4419	0	440
29	18096	78.109715	-11.102589	592.97312	1959.6465	0	635
30	18096	81.169905	-7.991151	398.8032	1578.304	0	635
31	18096	83.88954	-4.6385625	189.60716	1114.0754	0	635
32	18096	85.51934	-2.3	43.680289	893.83698	0	400
33	18096	87.1617	0.7	-143.52092	452.99075	0	400
34	18096	88.9319	4.3984965	-374.30108	-482.74903	0	800
35	18096	89.659875	6.249733	-489.82614	-820.37573	0	800

Slices of Slip Surface: **16205**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	16205	8.375123	-2.6	62.399785	235.31942	155.69754	0
2	16205	10.246423	-5.347994	233.88555	805.11542	0	635
3	16205	12.75878	-8.554599	433.97977	1087.9105	0	635
4	16205	15.271135	-11.256605	602.57835	1331.7205	0	635
5	16205	17.902555	-13.66629	752.93922	1486.6071	0	440
6	16205	20.653045	-15.83091	888.01956	1694.8928	0	440
7	16205	23.403535	-17.68461	1003.6705	1873.2918	0	440
8	16205	26.154025	-19.26999	1102.6097	2025.417	0	440
9	16205	28.856345	-20.597595	1185.4666	2133.5101	0	335.98
10	16205	31.51049	-21.696535	1254.04	2241.7992	0	346.97

11	16205	34.164635	-22.60944	1310.9721	2330.2052	0	356.09
12	16205	36.81878	-23.34767	1357.0403	2399.9634	0	363.48
13	16205	39.472925	-23.91974	1392.7384	2452.0005	0	369.2
14	16205	40.95	-24.18789	1409.4821	2466.33	0	371.88
15	16205	42.15778	-24.34279	1419.1356	2522.5586	0	373.43
16	16205	44.273335	-24.55812	1432.5991	2615.4441	0	375.58
17	16205	46.89259	-24.67563	1439.9187	2714.5856	0	376.76
18	16205	50.015555	-24.63913	1437.6359	2814.0468	0	376.39
19	16205	53.13852	-24.39133	1422.1648	2891.1009	0	373.91
20	16205	55.825	-24.019755	1398.9998	2941.4251	0	370.2
21	16205	58.075	-23.57273	1371.1117	2970.0699	0	365.73
22	16205	60.675	-22.898415	1329.0078	2987.3507	0	358.98
23	16205	63.625	-21.94577	1269.5651	2987.8463	0	349.46
24	16205	66.697955	-20.70751	1192.3076	2961.5282	0	337.08
25	16205	69.047955	-19.615475	1124.1928	2902.9167	0	440
26	16205	71.25	-18.387235	1047.5369	2842.4203	0	440
27	16205	74.349465	-16.39959	923.49593	2636.3536	0	440
28	16205	77.6484	-13.87783	766.13806	2344.1051	0	440
29	16205	80.998935	-10.767605	572.05227	1905.0012	0	635
30	16205	83.829685	-7.6539005	377.76706	1480.2741	0	635
31	16205	86.089055	-4.636296	189.46589	1016.9087	0	635
32	16205	87.64196	-2.3	43.679974	807.46215	0	400
33	16205	88.78259	-0.2664485	-83.214575	508.06391	0	400
34	16205	89.952575	2.0335515	-226.73552	185.26596	0	400
35	16205	91.130475	4.859111	-403.0382	-593.40772	0	800

Slices of Slip Surface: **18127**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	18127	13.112875	-2.6	62.398627	227.57817	148.72833	0
2	18127	15.06541	-5.3674135	235.09197	792.18582	0	635
3	18127	17.70473	-8.5909535	436.2268	1075.2628	0	635
4	18127	20.34405	-11.27354	603.6348	1316.3124	0	635
5	18127	22.910465	-13.490955	741.99213	1456.9217	0	440
6	18127	25.40397	-15.336605	857.17858	1633.6473	0	440
7	18127	27.897475	-16.92786	956.44382	1785.9258	0	440
8	18127	30.390985	-18.29596	1041.8355	1916.3104	0	440
9	18127	32.88449	-19.46375	1114.6953	2026.8025	0	440
10	18127	35.2427	-20.40372	1173.3501	2099.6836	0	334.04
11	18127	37.46562	-21.14528	1219.6235	2171.2707	0	341.45
12	18127	39.68854	-21.758185	1257.8701	2229.1878	0	347.58
13	18127	40.95	-22.065705	1277.0537	2248.4785	0	350.66
14	18127	42.15778	-22.296215	1291.4437	2312.8066	0	352.96
15	18127	44.273335	-22.63937	1312.8429	2419.3511	0	356.39
16	18127	46.50222	-22.884595	1328.1617	2519.2193	0	358.85
17	18127	48.844445	-23.022085	1336.725	2611.4037	0	360.22
18	18127	51.18667	-23.03437	1337.5255	2690.2895	0	360.34
19	18127	53.52889	-22.921555	1330.4746	2755.9343	0	359.22
20	18127	55.825	-22.68983	1316.0198	2808.2465	0	356.9
21	18127	58.075	-22.342155	1294.291	2847.5277	0	353.42
22	18127	60.675	-21.77803	1259.1206	2876.5458	0	347.78
23	18127	63.625	-20.946	1207.1903	2889.9209	0	339.46
24	18127	65.73019	-20.237205	1162.9824	2886.9616	0	332.37
25	18127	68.08019	-19.23581	1100.4818	2840.1415	0	440
26	18127	71.25	-17.68225	1003.5186	2776.1137	0	440
27	18127	74.231975	-15.894195	891.94805	2592.1531	0	440
28	18127	77.29593	-13.697755	754.90094	2336.6704	0	440
29	18127	80.763955	-10.625868	563.20936	1904.7654	0	635
30	18127	83.810385	-7.4365065	364.20666	1469.695	0	635
31	18127	86.03116	-4.560638	184.74474	1023.6534	0	635
32	18127	87.576585	-2.3	43.680229	818.70096	0	400
33	18127	88.75581	-0.2446665	-84.571662	513.80688	0	400
34	18127	89.948395	2.0553335	-228.09505	187.95858	0	400
35	18127	91.126295	4.859111	-403.05601	-590.20077	0	800

Slices of Slip Surface: **15213**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	15213	6.0134955	-2.6	62.398194	241.95975	161.67795	0
2	15213	7.8782195	-5.346769	233.79601	813.69016	0	635
3	15213	10.380679	-8.552294	433.82509	1097.4279	0	635
4	15213	12.883135	-11.255525	602.49771	1341.843	0	635
5	15213	15.49801	-13.663435	752.76705	1495.6597	0	440
6	15213	18.22531	-15.824465	887.60969	1703.5158	0	440
7	15213	20.95261	-17.67845	1003.2824	1881.6784	0	440
8	15213	23.67991	-19.26742	1102.4438	2033.728	0	440
9	15213	26.356595	-20.600225	1185.6152	2141.3387	0	336
10	15213	28.98267	-21.706075	1254.6321	2249.8518	0	347.06
11	15213	31.608745	-22.629135	1312.2068	2338.7394	0	356.29
12	15213	34.234815	-23.380665	1359.1291	2409.2259	0	363.81
13	15213	36.86089	-23.969155	1395.8242	2462.2912	0	369.69
14	15213	39.486965	-24.400865	1422.7648	2498.65	0	374.01
15	15213	40.95	-24.59362	1434.7876	2504.57	0	375.94
16	15213	42.15778	-24.690195	1440.8253	2554.2354	0	376.9
17	15213	44.273335	-24.80421	1447.9511	2635.6707	0	378.04
18	15213	46.89259	-24.797785	1447.5575	2720.7844	0	377.98
19	15213	50.015555	-24.61387	1436.0747	2803.4704	0	376.14
20	15213	53.13852	-24.217335	1411.3221	2863.5818	0	372.17
21	15213	55.825	-23.71545	1379.9905	2898.9909	0	367.15
22	15213	58.075	-23.156055	1345.1133	2914.8622	0	361.56
23	15213	60.675	-22.346525	1294.5975	2916.7449	0	353.47
24	15213	63.625	-21.23216	1225.032	2898.9326	0	342.32
25	15213	65.74894	-20.308945	1167.4048	2872.9803	0	333.09
26	15213	68.09894	-19.06763	1089.9709	2795.1011	0	440
27	15213	71.25	-17.184755	972.47532	2692.5982	0	440
28	15213	73.85177	-15.36143	858.71375	2504.9018	0	440
29	15213	76.15531	-13.494305	742.22068	2288.1112	0	440
30	15213	78.65531	-11.150805	595.97849	1940.4493	0	635
31	15213	81.35177	-8.1980865	411.71906	1580.9812	0	635
32	15213	83.9486	-4.7972815	199.51074	1111.9852	0	635
33	15213	85.61932	-2.3	43.6803	878.05899	0	400
34	15213	87.208965	0.7	-143.51996	442.16352	0	400
35	15213	88.938245	4.3983305	-374.29921	-487.47486	0	800
36	15213	89.659875	6.249567	-489.81223	-815.13224	0	800

Slices of Slip Surface: **17197**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	17197	10.736765	-2.6	62.400843	229.25277	150.23415	0
2	17197	12.61472	-5.3492365	233.94557	796.71335	0	635
3	17197	15.137095	-8.5569365	434.12349	1079.0721	0	635
4	17197	17.65947	-11.2577	602.64393	1322.642	0	635
5	17197	20.307815	-13.669245	753.11349	1478.9423	0	440
6	17197	23.082125	-15.83758	888.41819	1687.7459	0	440
7	17197	25.856435	-17.690985	1004.0654	1866.3984	0	440
8	17197	28.630745	-19.27265	1102.7711	2018.5388	0	440
9	17197	31.365665	-20.597365	1185.4449	2127.3363	0	335.97
10	17197	34.06119	-21.693245	1253.8244	2235.6939	0	346.93
11	17197	36.756715	-22.59804	1310.2886	2323.703	0	355.98
12	17197	39.45224	-23.32333	1355.522	2392.5606	0	363.23
13	17197	40.95	-23.672615	1377.3226	2415.8447	0	366.73
14	17197	42.15778	-23.887355	1390.7438	2478.7146	0	368.87
15	17197	44.273335	-24.20624	1410.6467	2583.1298	0	372.06
16	17197	46.89259	-24.44938	1425.8001	2696.2907	0	374.49
17	17197	50.015555	-24.5611	1432.7712	2812.3558	0	375.61
18	17197	53.13852	-24.461425	1426.5553	2906.0228	0	374.61
19	17197	55.825	-24.218535	1411.3913	2970.7931	0	372.19
20	17197	58.075	-23.881515	1390.3519	3011.8599	0	368.82
21	17197	60.675	-23.338375	1356.4651	3043.8624	0	363.38
22	17197	63.625	-22.541065	1306.7285	3061.7838	0	355.41
23	17197	66.275	-21.65161	1251.206	3059.0041	0	346.52
24	17197	68.625	-20.69964	1191.8038	3038.6805	0	337
25	17197	69.995475	-20.093075	1153.9619	3021.4508	0	330.93
26	17197	71.445475	-19.34745	1107.4582	2969.0742	0	440
27	17197	74.131365	-17.82434	1012.4072	2809.8315	0	440
28	17197	76.994095	-15.93044	894.23178	2590.9676	0	440
29	17197	79.856825	-13.70355	755.2738	2333.4375	0	440
30	17197	81.994095	-11.828205	638.23816	2042.6289	0	635
31	17197	84.33505	-9.3529155	483.78755	1678.7555	0	635
32	17197	87.60515	-5.2747105	229.29824	1046.5759	0	635

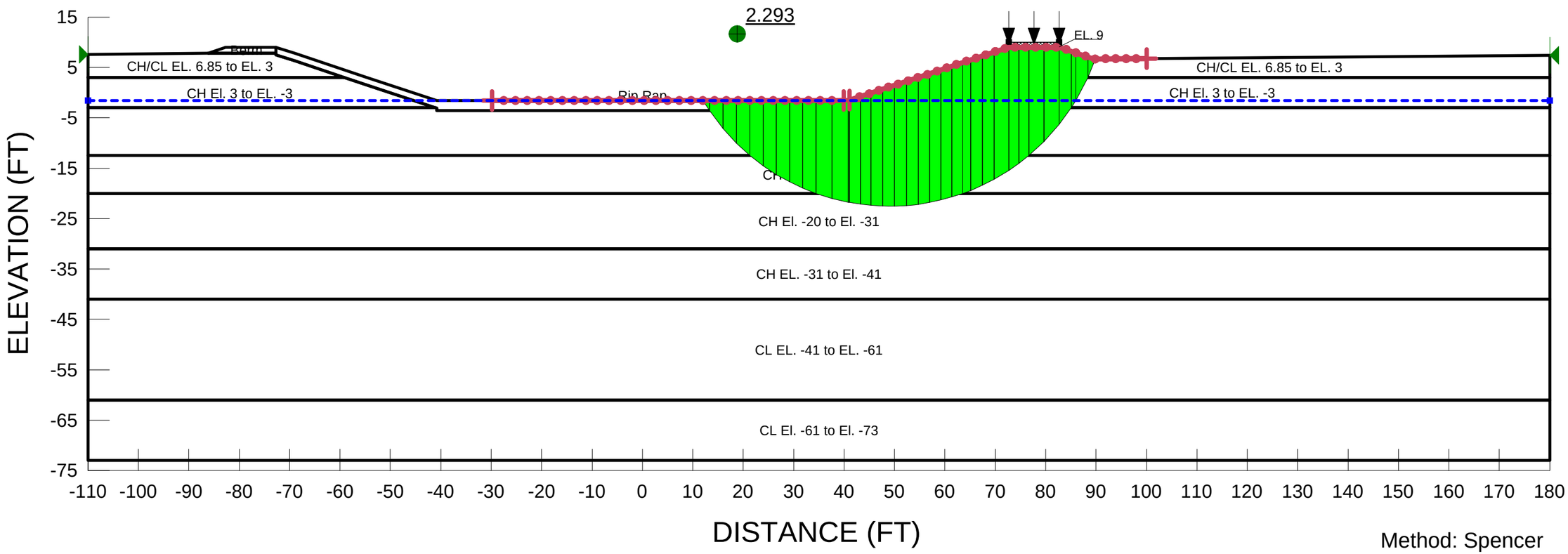
33	17197	89.3701	-2.791572	74.354301	808.20247	0	400
34	17197	89.794425	-2.091572	30.674493	715.96796	0	400
35	17197	91.261325	0.7	-143.51913	363.24274	0	400
36	17197	93.162825	4.866985	-403.53764	-597.82245	0	800

Slices of Slip Surface: **15244**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	15244	6.007066	-2.6	62.401616	239.12641	159.12372	0
2	15244	7.8424745	-5.339545	233.34874	811.02917	0	635
3	15244	10.299159	-8.538783	432.96964	1094.1132	0	635
4	15244	12.755845	-11.249238	602.11755	1339.3985	0	635
5	15244	15.291035	-13.648855	751.85442	1491.6976	0	440
6	15244	17.904725	-15.791575	885.56456	1698.3751	0	440
7	15244	20.518415	-17.64708	1001.3531	1877.4292	0	440
8	15244	23.132105	-19.25436	1101.6213	2032.267	0	440
9	15244	25.80237	-20.66717	1189.7978	2147.7299	0	336.67
10	15244	28.52921	-21.898415	1266.6223	2269.91	0	348.98
11	15244	31.25605	-22.931135	1331.0536	2370.7876	0	359.31
12	15244	33.982895	-23.778785	1383.9467	2451.8777	0	367.79
13	15244	36.70974	-24.45151	1425.9334	2514.2674	0	374.52
14	15244	39.43658	-24.956845	1457.4789	2558.8052	0	379.57
15	15244	40.95	-25.18683	1471.8037	2568.8738	0	381.87
16	15244	43.215555	-25.36241	1482.7785	2662.1709	0	383.62
17	15244	46.89259	-25.51478	1492.2936	2799.8916	0	385.15
18	15244	50.015555	-25.402495	1485.2666	2891.1172	0	384.02
19	15244	53.13852	-25.083595	1465.381	2960.4625	0	380.84
20	15244	55.825	-24.653795	1438.5777	3004.425	0	376.54
21	15244	58.075	-24.160095	1407.7351	3027.9967	0	371.6
22	15244	60.675	-23.433795	1362.4288	3039.596	0	364.34
23	15244	63.625	-22.424025	1299.4267	3033.8659	0	354.24
24	15244	67.07539	-20.9326	1206.3553	2993.4	0	339.33
25	15244	69.42539	-19.79736	1135.513	2929.2959	0	440
26	15244	71.25	-18.72501	1068.5898	2873.2102	0	440
27	15244	74.401385	-16.64169	938.59793	2656.6214	0	440
28	15244	77.804155	-13.96404	771.52639	2346.7679	0	440
29	15244	81.10277	-10.835326	576.28805	1904.7198	0	635
30	15244	83.838505	-7.7576745	384.24848	1485.2465	0	635
31	15244	86.11552	-4.6723485	191.71535	1014.2585	0	635
32	15244	87.67188	-2.3	43.679725	802.28942	0	400
33	15244	88.794865	-0.2767265	-82.57179	505.92812	0	400
34	15244	89.95451	2.0232735	-226.09301	185.2316	0	400
35	15244	91.13241	4.859111	-403.05481	-589.90721	0	800

Slices of Slip Surface: **16236**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	16236	8.368622	-2.6	62.401257	232.96042	153.57216	0
2	16236	10.210227	-5.340678	233.4186	802.83791	0	635
3	16236	12.67619	-8.540918	433.1261	1085.2359	0	635
4	16236	15.14215	-11.25024	602.18574	1330.0832	0	635
5	16236	17.69207	-13.651235	752.00543	1483.5442	0	440
6	16236	20.325945	-15.796955	885.89634	1690.5322	0	440
7	16236	22.959815	-17.652225	1001.6529	1869.8283	0	440
8	16236	25.59369	-19.256505	1101.752	2024.6727	0	440
9	16236	28.299565	-20.670325	1189.9945	2141.1796	0	336.7
10	16236	31.07744	-21.904475	1266.9987	2264.0534	0	349.04
11	16236	33.855315	-22.933545	1331.2179	2364.9863	0	359.34
12	16236	36.63319	-23.77141	1383.5045	2445.4974	0	367.71
13	16236	39.411065	-24.428445	1424.5026	2506.7748	0	374.28
14	16236	40.95	-24.73844	1443.8508	2525.6956	0	377.38
15	16236	43.215555	-25.020935	1461.4763	2631.0375	0	380.21
16	16236	46.89259	-25.345145	1481.7033	2787.903	0	383.45
17	16236	50.015555	-25.376955	1483.6885	2895.3805	0	383.77
18	16236	53.13852	-25.202745	1472.8265	2981.0568	0	382.03
19	16236	55.825	-24.899105	1453.8844	3039.2965	0	378.99
20	16236	58.075	-24.5136	1429.7957	3075.0879	0	375.14
21	16236	60.675	-23.916685	1392.5763	3101.2964	0	369.17
22	16236	63.625	-23.06053	1339.1271	3112.8855	0	360.61
23	16236	66.275	-22.119895	1280.458	3104.6016	0	351.2
24	16236	68.625	-21.12377	1218.2872	3079.4657	0	341.24
25	16236	70.38153	-20.294225	1166.5178	3052.0495	0	332.94
26	16236	71.83153	-19.522185	1118.3518	2995.8572	0	440
27	16236	74.166425	-18.124385	1031.1241	2837.122	0	440
28	16236	77.099275	-16.123705	906.28048	2606.3318	0	440
29	16236	80.032125	-13.771505	759.48989	2334.6805	0	440
30	16236	82.099275	-11.91416	643.61123	2044.647	0	635
31	16236	84.34397	-9.4848585	492.02061	1686.6675	0	635
32	16236	87.631915	-5.3206985	232.17373	1044.5884	0	635
33	16236	89.387945	-2.818024	76.005026	806.58539	0	400
34	16236	89.806845	-2.118024	32.324527	715.27692	0	400
35	16236	91.27571	0.7	-143.52065	360.30054	0	400
36	16236	93.16479	4.866985	-403.53171	-597.43656	0	800



Method: Spencer

Name: Berm Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 600 psf
Name: CH/CL EL. 6.85 to EL. 3 Model: Undrained (Phi=0) Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Undrained (Phi=0) Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 1300 psf
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

Surcharge (Unit Weight): 300 pcf

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN WEIR INLET
STATION: 18+20
3:1 SLOPE
DUMP TRUCK ON BERM CREST
GLOBAL ANALYSIS (CIRCULAR METHOD)

2. Circular (Dist. Loads)

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File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 132
Last Edited By: Hoppes, Andrew
Date: 9/16/2013
Time: 9:31:14 AM
File Name: 1. Sedimentation Basin Sta 18+20 - Original with Rip Rap.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/16/2013
Last Solved Time: 9:31:56 AM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

2. Circular (Dist. Loads)

Kind: SLOPE/W
Method: Spencer
Settings
- Apply Phreatic Correction: No
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Right to Left
- Use Passive Mode: No
- Slip Surface Option: Entry and Exit
- Critical slip surfaces saved: 20
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

FOS Distribution
- FOS Calculation Option: Constant

Advanced
- Number of Slices: 30
- Optimization Tolerance: 0.01
- Minimum Slip Surface Depth: 0.1 ft
- Optimization Maximum Iterations: 2000
- Optimization Convergence Tolerance: 1e-007
- Starting Optimization Points: 8
- Ending Optimization Points: 16
- Complete Passes per Insertion: 1
- Driving Side Maximum Convex Angle: 5 °
- Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 600 psf

CH/CL EL. 6.85 to EL. 3

Model: Undrained (Phi=0)
Unit Weight: 112 pcf
Cohesion: 800 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. 3 to EL. -3

Model: Undrained (Phi=0)
Unit Weight: 110 pcf
Cohesion: 400 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 635 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -12.5 to -20

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH EL. -31 to El. -41

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 850 psf
Pore Water Pressure
- Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 1300 psf

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 42 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Entry and Exit

Left Projection: Range
Left-Zone Left Coordinate: (-29.85474, -1.6) ft
Left-Zone Right Coordinate: (39.91646, -1.6) ft
Left-Zone Increment: 30
Right Projection: Range
Right-Zone Left Coordinate: (41.12564, -1.49223) ft
Right-Zone Right Coordinate: (100, 6.78122) ft
Right-Zone Increment: 30
Radius Increments: 30

Slip Surface Limits

Left Coordinate: (-110, 7.6) ft
Right Coordinate: (180, 7.4) ft

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-1.6
	180	-1.6

Surcharge Loads

Surcharge Load 1

Surcharge (Unit Weight): 300 pcf
Direction: Vertical

Coordinates

	X (ft)	Y (ft)
	72.7	10
	82.7	10

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points	Area (ft^2)
Region	CH El. -3	4,2,1,30,46,34,35,36,37,43	2706.01

1	to EL. -12.5		
Region 2	CH El. -12.5 to -20	2,14,13,1	2175
Region 3	CH EL. -31 to El. -41	5,7,8,6	2900
Region 4	CL EL. -41 to EL. -61	7,9,10,8	5800
Region 5	CL El. -61 to El. -73	9,11,12,10	3480
Region 6	CH El. -20 to El. -31	6,13,14,5	3190
Region 7	Berm	18,19,20,44	14.04
Region 8	CH/CL EL. 6.85 to EL. 3	16,17,18,44,31,32,45	207.25
Region 9	Berm	42,40,23,24,25	33.66
Region 10	CH/CL EL. 6.85 to EL. 3	39,42,25,26,3,41	456.27
Region 11	CH El. 3 to EL. -3	38,41,3,4,43	779.025
Region 12	CH El. 3 to EL. -3	45,33,46,30,16	359.025
Region 13	Rip Rap	20,44,31,32,45,33,46,34,35,36,37,43,38,41,39,42,40,23,28,29,22,21,15,27	259.215

Points

	X (ft)	Y (ft)
Point 1	-110	-12.5
Point 2	180	-12.5
Point 3	180	3
Point 4	180	-3
Point 5	180	-31
Point 6	-110	-31
Point 7	180	-41
Point 8	-110	-41
Point 9	180	-61
Point 10	-110	-61
Point 11	180	-73
Point 12	-110	-73
Point 13	-110	-20
Point 14	180	-20
Point 15	-54.7	3
Point 16	-110	3
Point 17	-110	7.6
Point 18	-86.1	7.8
Point 19	-82.7	9
Point 20	-72.7	9
Point 21	-40.8	-1.6
Point 22	40.8	-1.6
Point 23	72.7	9
Point 24	82.7	9
Point 25	89.5	6.7
Point 26	180	7.4
Point 27	-69	7.8
Point 28	65.1	6.5
Point 29	54.7	3
Point 30	-110	-3
Point 31	-72.7	7.5
Point 32	-69	6.3
Point 33	-54.7	1.5
Point 34	-40.8	-3.1
Point 35	-40.8	-3.6
Point 36	40.8	-3.6
Point 37	40.8	-3.1
Point 38	54.7	1.5
Point 39	65.1	5
Point 40	72.7	7.5
Point 41	59.2	3
Point 42	69.8	6.5
Point 43	41.1	-3
Point 44	-72.7	7.8
Point 45	-59.2	3
Point 46	-41.1	-3

Critical Slip Surfaces

	Slip Surface	FOS	Center (ft)	Radius (ft)	Entry (ft)	Exit (ft)
1	18096	2.293	(48.998, 20.616)	43.149	(89.8418, 6.70264)	(12.008, -1.6)
2	19057	2.303	(50.146, 20.213)	41.932	(89.8418, 6.70264)	(14.3337, -1.6)
3	17104	2.309	(46.708, 21.248)	43.508	(87.8992, 7.24144)	(9.68227, -1.6)
4	18127	2.312	(50.022, 20.986)	44.217	(91.8735, 6.71836)	(12.008, -1.6)
5	16143	2.312	(45.561, 21.652)	44.724	(87.8992, 7.24144)	(7.35657, -1.6)
6	18065	2.316	(47.854, 20.844)	42.293	(87.8992, 7.24144)	(12.008, -1.6)
7	17134	2.319	(47.65, 22.943)	45.21	(89.8418, 6.70264)	(9.68227, -1.6)
8	16173	2.320	(46.501, 23.401)	46.447	(89.8418, 6.70264)	(7.35657, -1.6)
9	19088	2.320	(51.17, 20.582)	42.999	(91.8735, 6.71836)	(14.3337, -1.6)
10	15182	2.322	(44.413, 22.055)	45.94	(87.8992, 7.24144)	(5.03086, -1.6)
11	15212	2.326	(45.351, 23.858)	47.684	(89.8418, 6.70264)	(5.03086, -1.6)
12	20018	2.327	(51.293, 19.809)	40.716	(89.8418, 6.70264)	(16.6594, -1.6)
13	18095	2.329	(48.798, 22.486)	43.974	(89.8418, 6.70264)	(12.008, -1.6)
14	17165	2.334	(48.673, 23.359)	46.295	(91.8735, 6.71836)	(9.68227, -1.6)
15	16204	2.334	(47.523, 23.817)	47.532	(91.8735, 6.71836)	(7.35657, -1.6)
16	18158	2.338	(51.045, 21.355)	45.286	(93.9051, 6.73407)	(12.008, -1.6)
17	14251	2.338	(44.2, 24.316)	48.923	(89.8418, 6.70264)	(2.70515, -1.6)
18	20049	2.339	(52.318, 20.178)	41.783	(91.8735, 6.71836)	(16.6594, -1.6)
19	19026	2.340	(48.999, 20.441)	41.079	(87.8992, 7.24144)	(14.3337, -1.6)
20	18126	2.341	(49.822, 22.902)	45.058	(91.8735, 6.71836)	(12.008, -1.6)

Slices of Slip Surface: 18096

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	18096	12.64665	-2.6	62.399472	254.59558	173.05415	0
2	18096	14.62726	-5.374594	235.54302	828.45699	0	635
3	18096	17.311145	-8.604379	437.08151	1105.1817	0	635
4	18096	19.995035	-11.279785	604.02031	1340.3346	0	635
5	18096	22.646605	-13.51121	743.26615	1472.7222	0	440
6	18096	25.26585	-15.385705	860.21711	1649.6048	0	440
7	18096	27.885095	-16.984345	959.98471	1800.0587	0	440
8	18096	30.504345	-18.341385	1044.6695	1926.9942	0	440
9	18096	33.123595	-19.481535	1115.8194	2032.3866	0	440
10	18096	36.024915	-20.50218	1179.4829	2110.1396	0	335.02
11	18096	39.208305	-21.375435	1233.9863	2191.1088	0	343.75
12	18096	40.95	-21.774985	1258.9141	2217.7874	0	347.75
13	18096	42.15778	-21.973345	1271.3134	2278.1432	0	349.73
14	18096	44.273335	-22.25979	1289.1616	2377.6523	0	352.6
15	18096	46.50222	-22.44422	1300.6824	2470.0009	0	354.44
16	18096	48.844445	-22.516255	1305.1625	2554.0968	0	355.16
17	18096	51.18667	-22.460915	1301.7409	2624.6736	0	354.61

18	18096	53.52889	-22.277705	1290.3067	2681.6641	0	352.78
19	18096	55.825	-21.973665	1271.3255	2725.1655	0	349.74
20	18096	58.075	-21.551155	1244.949	2755.3725	0	345.51
21	18096	60.290635	-21.01313	1211.3634	2772.8444	0	340.13
22	18096	62.4719	-20.35864	1170.5564	2777.4911	0	333.59
23	18096	64.331265	-19.707685	1129.938	2753.046	0	440
24	18096	66.275	-18.901665	1079.6269	2728.7774	0	440
25	18096	68.625	-17.78745	1010.1098	2683.0545	0	440
26	18096	71.25	-16.313235	918.10725	2606.5267	0	440
27	18096	73.68969	-14.74853	820.46936	2745.6127	0	440
28	18096	75.669075	-13.278765	728.74896	2572.4382	0	440
29	18096	78.169075	-11.11139	593.52243	2239.1252	0	635
30	18096	81.18969	-8.0252695	400.94537	1855.1755	0	635
31	18096	83.905005	-4.663879	191.18538	1082.5093	0	635
32	18096	85.54889	-2.3	43.679837	869.3363	0	400
33	18096	87.187255	0.7	-143.52035	421.01205	0	400
34	18096	88.94337	4.3684685	-372.42549	-569.87462	0	800
35	18096	89.67091	6.2197905	-487.95511	-923.10951	0	800

Slices of Slip Surface: **19057**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	19057	14.98245	-2.6	62.398701	251.10485	169.91178	0
2	19057	17.01144	-5.3865045	236.27148	823.18508	0	635
3	19057	19.7719	-8.6266795	438.45372	1100.6491	0	635
4	19057	22.53236	-11.290175	604.66252	1334.3111	0	635
5	19057	25.10832	-13.390915	735.74556	1456.8044	0	440
6	19057	27.49978	-15.049745	839.25813	1612.7211	0	440
7	19057	29.89124	-16.47775	928.37492	1746.487	0	440
8	19057	32.282695	-17.701205	1004.7303	1860.2698	0	440
9	19057	34.67415	-18.73951	1069.4875	1955.701	0	440
10	19057	37.06561	-19.607225	1123.641	2033.9873	0	440
11	19057	39.53067	-20.332325	1168.8784	2085.1108	0	333.32
12	19057	40.95	-20.698365	1191.7322	2109.2723	0	336.98
13	19057	42.15778	-20.937415	1206.6564	2173.8283	0	339.37

14	19057	44.273335	-21.29241	1228.8065	2280.4178	0	342.92
15	19057	46.50222	-21.54426	1244.5122	2379.7149	0	345.44
16	19057	48.844445	-21.682825	1253.1621	2470.5635	0	346.83
17	19057	51.18667	-21.69011	1253.6359	2547.4776	0	346.9
18	19057	53.52889	-21.566185	1245.8886	2610.4212	0	345.66
19	19057	55.825	-21.317505	1230.371	2659.3822	0	343.18
20	19057	58.075	-20.946935	1207.2685	2694.7622	0	339.47
21	19057	60.6151	-20.365105	1170.9345	2718.1419	0	333.65
22	19057	63.5651	-19.481095	1115.7894	2707.3717	0	440
23	19057	66.275	-18.472285	1052.8346	2685.659	0	440
24	19057	68.625	-17.40518	986.23729	2644.5306	0	440
25	19057	71.25	-15.98253	897.48081	2573.0186	0	440
26	19057	74.53947	-13.81854	762.42854	2640.2548	0	440
27	19057	77.43245	-11.596265	623.76331	2305.1433	0	635
28	19057	79.53947	-9.6557655	502.67388	2064.278	0	635
29	19057	81.64649	-7.417929	363.03525	1784.0053	0	635
30	19057	83.88334	-4.6084285	187.72504	1082.5909	0	635
31	19057	85.512265	-2.3	43.679831	873.59663	0	400
32	19057	87.170005	0.7	-143.52069	425.29066	0	400
33	19057	88.94108	4.368554	-372.4243	-558.72101	0	800
34	19057	89.67091	6.219876	-487.96395	-912.03762	0	800

Slices of Slip Surface: **17104**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	17104	10.337982	-2.6	62.401452	257.23247	175.42663	0
2	17104	12.369545	-5.374608	235.53895	831.08865	0	635
3	17104	15.12126	-8.604973	437.10808	1111.1547	0	635
4	17104	17.872975	-11.280365	604.04278	1347.7834	0	635
5	17104	20.6108	-13.522235	743.95962	1482.3993	0	440
6	17104	23.334735	-15.412795	861.92513	1660.5462	0	440
7	17104	26.05867	-17.0161	961.95504	1810.737	0	440
8	17104	28.782605	-18.36735	1046.2876	1935.9765	0	440
9	17104	31.50654	-19.49181	1116.4347	2038.502	0	440
10	17104	34.190425	-20.39733	1172.9378	2104.4853	0	333.97

11	17104	36.834255	-21.10285	1216.9903	2168.5766	0	341.03
12	17104	39.478085	-21.633905	1250.1012	2213.9438	0	346.34
13	17104	40.95	-21.8768	1265.2724	2224.3287	0	348.77
14	17104	42.15778	-22.008095	1273.4419	2277.0019	0	350.08
15	17104	44.273335	-22.17866	1284.1236	2363.2802	0	351.79
16	17104	46.50222	-22.243495	1288.1642	2441.8422	0	352.43
17	17104	48.844445	-22.191425	1284.9171	2511.5413	0	351.91
18	17104	51.18667	-22.01257	1273.7277	2567.7123	0	350.13
19	17104	53.52889	-21.705345	1254.5687	2610.2096	0	347.05
20	17104	55.825	-21.27818	1227.9195	2639.2708	0	342.78
21	17104	58.075	-20.73237	1193.8525	2655.0552	0	337.32
22	17104	59.873535	-20.213875	1161.4966	2659.3573	0	332.14
23	17104	61.6853	-19.58247	1122.1159	2635.3579	0	440
24	17104	63.961765	-18.67299	1065.3668	2610.0095	0	440
25	17104	66.275	-17.58904	997.7134	2565.6139	0	440
26	17104	68.625	-16.311385	917.98721	2499.8861	0	440
27	17104	71.25	-14.63397	813.33093	2398.3813	0	440
28	17104	73.43337	-13.071105	715.80456	2534.4979	0	440
29	17104	75.58895	-11.235507	601.24332	2244.5734	0	635
30	17104	78.43337	-8.451791	427.55126	1899.7019	0	635
31	17104	81.27779	-5.063993	216.16139	1474.207	0	635
32	17104	82.76597	-3.0977085	93.456596	924.81146	0	635
33	17104	83.28262	-2.3	43.679924	952.75445	0	400
34	17104	84.968515	0.7	-143.52089	510.74424	0	400
35	17104	86.954195	4.8408865	-401.91582	-520.62937	0	800
36	17104	87.80194	6.961606	0	-681.51021	0	600

Slices of Slip Surface: **18127**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	18127	12.638905	-2.6	62.398564	245.91952	165.24301	0
2	18127	14.582365	-5.365218	234.93979	819.448	0	635
3	18127	17.20743	-8.586843	435.96882	1095.7239	0	635
4	18127	19.83249	-11.271625	603.50057	1332.4407	0	635
5	18127	22.373405	-13.48525	741.63992	1463.4981	0	440

6	18127	24.83017	-15.32277	856.30468	1637.8646	0	440
7	18127	27.28693	-16.91194	955.45425	1788.776	0	440
8	18127	29.74369	-18.283155	1041.0202	1918.6396	0	440
9	18127	32.200455	-19.458735	1114.3943	2029.3241	0	440
10	18127	34.657365	-20.45547	1176.5765	2105.6034	0	334.55
11	18127	37.11442	-21.286055	1228.3971	2185.8368	0	342.86
12	18127	39.571475	-21.96011	1270.4696	2249.4118	0	349.6
13	18127	40.95	-22.290495	1291.0731	2270.7149	0	352.9
14	18127	42.15778	-22.513165	1304.976	2334.1185	0	355.13
15	18127	44.273335	-22.84312	1325.5552	2439.2221	0	358.43
16	18127	46.50222	-23.07539	1340.0537	2537.7051	0	360.75
17	18127	48.844445	-23.200125	1347.8568	2628.5364	0	362
18	18127	51.18667	-23.20044	1347.8666	2706.2751	0	362
19	18127	53.52889	-23.07634	1340.1253	2770.8606	0	360.76
20	18127	55.825	-22.834125	1325.0078	2822.245	0	358.34
21	18127	58.075	-22.47667	1302.7132	2860.7251	0	354.77
22	18127	60.675	-21.90181	1266.8222	2888.9482	0	349.02
23	18127	63.625	-21.058165	1214.1953	2901.5291	0	340.58
24	18127	65.8571	-20.29046	1166.291	2897.0754	0	332.9
25	18127	68.2071	-19.28059	1103.2588	2847.0577	0	440
26	18127	71.25	-17.76688	1008.8275	2782.9098	0	440
27	18127	74.2495	-15.956355	895.83708	2896.6298	0	440
28	18127	77.348505	-13.720065	756.29296	2635.4012	0	440
29	18127	80.799005	-10.650607	564.76256	2192.3503	0	635
30	18127	83.81689	-7.474968	366.60331	1451.245	0	635
31	18127	86.050675	-4.574361	185.60064	994.17163	0	635
32	18127	87.60131	-2.3	43.680054	797.82583	0	400
33	18127	88.767525	-0.264457	-83.336725	490.24499	0	400
34	18127	89.957645	2.035543	-226.85588	157.11063	0	400
35	18127	91.144375	4.859179	-403.04954	-685.39452	0	800

Slices of Slip Surface: **16143**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	16143	8.0022665	-2.6	62.401919	267.18237	184.38515	0

2	16143	9.987303	-5.363636	234.85568	842.99236	0	635
3	16143	12.66598	-8.584391	435.81951	1123.5407	0	635
4	16143	15.344655	-11.270755	603.46075	1362.0704	0	635
5	16143	17.942725	-13.48927	741.89907	1491.8871	0	440
6	16143	20.460195	-15.33282	856.92631	1666.1616	0	440
7	16143	22.97766	-16.923995	956.21053	1815.8882	0	440
8	16143	25.495125	-18.2932	1041.6545	1943.7047	0	440
9	16143	28.012595	-19.462755	1114.6492	2051.5245	0	440
10	16143	30.712415	-20.50755	1179.8275	2129.0696	0	335.08
11	16143	33.59458	-21.415505	1236.4977	2213.3136	0	344.16
12	16143	36.476745	-22.115015	1280.1358	2275.1439	0	351.15
13	16143	39.358915	-22.616015	1311.404	2315.7279	0	356.16
14	16143	40.95	-22.833455	1324.9688	2322.5581	0	358.33
15	16143	42.15778	-22.929745	1330.9547	2371.2949	0	359.3
16	16143	44.273335	-23.04096	1337.9115	2450.7745	0	360.41
17	16143	46.89259	-23.024885	1336.9181	2532.6868	0	360.25
18	16143	50.015555	-22.82193	1324.2566	2610.6938	0	358.22
19	16143	53.13852	-22.396895	1297.7312	2664.9832	0	353.97
20	16143	55.825	-21.8629	1264.4112	2694.5844	0	348.63
21	16143	58.075	-21.269525	1227.3834	2704.7577	0	342.7
22	16143	60.52511	-20.47076	1177.5314	2700.3791	0	334.71
23	16143	63.47511	-19.288995	1103.8047	2651.5839	0	440
24	16143	66.275	-17.9636	1021.0912	2596.0558	0	440
25	16143	68.625	-16.641495	938.59937	2525.0215	0	440
26	16143	71.25	-14.91511	830.86986	2417.7249	0	440
27	16143	73.56878	-13.19822	723.7252	2534.8102	0	440
28	16143	75.814635	-11.233092	601.11159	2227.982	0	635
29	16143	78.56878	-8.4564685	427.83646	1884.8783	0	635
30	16143	81.322925	-5.106276	218.78268	1465.6134	0	635
31	16143	82.78848	-3.132899	95.651569	917.74522	0	635
32	16143	83.32097	-2.3	43.680273	941.98161	0	400
33	16143	84.98722	0.7	-143.51998	503.82307	0	400
34	16143	86.957025	4.840886	-401.91022	-516.20966	0	800
35	16143	87.801905	6.9616055	0	-671.5112	0	600

Slices of Slip Surface: **18065**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	18065	12.674405	-2.6	62.398245	254.29459	172.78424	0
2	18065	14.75702	-5.3868455	236.2937	826.49068	0	635
3	18065	17.589395	-8.6279355	438.54766	1107.158	0	635
4	18065	20.42177	-11.29109	604.72561	1342.1042	0	635
5	18065	23.09153	-13.40629	736.71492	1466.9005	0	440
6	18065	25.598665	-15.08897	841.69707	1624.6971	0	440
7	18065	28.1058	-16.527765	931.50146	1758.6877	0	440
8	18065	30.612935	-17.75016	1007.7857	1871.2483	0	440
9	18065	33.12007	-18.776315	1071.788	1964.1284	0	440
10	18065	35.627205	-19.62124	1124.5179	2038.58	0	440
11	18065	37.86058	-20.238335	1163.0081	2078.9854	0	332.38
12	18065	39.820195	-20.66629	1189.7456	2116.0607	0	336.66
13	18065	40.95	-20.88073	1203.1092	2124.7124	0	338.81
14	18065	42.15778	-21.04937	1213.6186	2181.2442	0	340.49
15	18065	44.273335	-21.28309	1228.2031	2273.9915	0	342.83
16	18065	46.50222	-21.41045	1236.1847	2358.9455	0	344.1
17	18065	48.844445	-21.42046	1236.7758	2434.881	0	344.2
18	18065	51.18667	-21.3004	1229.3071	2496.9196	0	343
19	18065	53.52889	-21.049145	1213.6071	2544.9999	0	340.49
20	18065	55.73171	-20.69484	1191.5044	2578.3234	0	336.95
21	18065	57.79513	-20.24959	1163.7147	2598.2798	0	332.5
22	18065	59.01342	-19.94896	1144.9689	2593.9187	0	440
23	18065	60.675	-19.42834	1112.476	2590.6953	0	440
24	18065	63.625	-18.36548	1046.1712	2569.7788	0	440
25	18065	66.275	-17.20331	973.63215	2527.0544	0	440
26	18065	68.625	-15.9715	896.77772	2465.6662	0	440
27	18065	71.25	-14.344515	795.26591	2369.0281	0	440
28	18065	73.28483	-12.940225	707.65221	2522.6162	0	440
29	18065	75.341385	-11.239102	601.47121	2251.2407	0	635
30	18065	78.28483	-8.4493455	427.40359	1904.7262	0	635
31	18065	81.228275	-5.021548	213.50792	1473.6188	0	635
32	18065	82.742005	-3.061304	91.186535	926.59999	0	635

33	18065	83.241825	-2.3	43.679767	956.28138	0	400
34	18065	84.94866	0.7	-143.5203	514.18267	0	400
35	18065	86.951205	4.840887	-401.90827	-510.5987	0	800
36	18065	87.801975	6.9616065	0	-673.92598	0	600

Slices of Slip Surface: **17134**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	17134	10.367402	-2.6	62.399562	241.4147	161.18595	0
2	17134	12.47446	-5.3667635	235.0418	812.55984	0	635
3	17134	15.318325	-8.5913935	436.26652	1096.2273	0	635
4	17134	18.16219	-11.27463	603.70427	1336.1991	0	635
5	17134	20.97723	-13.51908	743.74716	1475.0961	0	440
6	17134	23.76345	-15.40588	861.47832	1653.9238	0	440
7	17134	26.54967	-17.009345	961.5287	1804.9966	0	440
8	17134	29.33589	-18.36276	1046.0011	1931.2632	0	440
9	17134	32.122105	-19.490215	1116.3481	2034.746	0	440
10	17134	34.729345	-20.362245	1170.7801	2098.746	0	333.62
11	17134	37.15761	-21.014295	1211.4672	2158.682	0	340.14
12	17134	39.58587	-21.52428	1243.2599	2203.4008	0	345.24
13	17134	40.95	-21.766935	1258.4156	2214.5728	0	347.67
14	17134	42.15778	-21.918905	1267.8819	2269.7821	0	349.19
15	17134	44.273335	-22.12765	1280.943	2360.6589	0	351.28
16	17134	46.50222	-22.236645	1287.7202	2444.5385	0	352.37
17	17134	48.844445	-22.23543	1287.6429	2520.2717	0	352.35
18	17134	51.18667	-22.11254	1279.9717	2583.0554	0	351.13
19	17134	53.52889	-21.866965	1264.6605	2632.7375	0	348.67
20	17134	55.825	-21.50641	1242.1445	2669.5376	0	345.06
21	17134	58.075	-21.032805	1212.6145	2693.6129	0	340.33
22	17134	60.492315	-20.383055	1172.0545	2705.3034	0	333.83
23	17134	63.442315	-19.381475	1109.5502	2680.238	0	440
24	17134	66.275	-18.23145	1037.7863	2646.9425	0	440
25	17134	68.625	-17.08423	966.22782	2596.9234	0	440
26	17134	71.25	-15.580215	872.35244	2516.4669	0	440
27	17134	74.20786	-13.59596	748.54861	2604.6445	0	440
28	17134	76.879765	-11.512505	618.54583	2289.7725	0	635
29	17134	79.20786	-9.388835	486.03794	2029.1746	0	635
30	17134	81.535955	-6.932355	332.75129	1725.6822	0	635
31	17134	83.68753	-4.306025	168.85501	1063.7301	0	635
32	17134	85.146315	-2.3	43.68026	897.08099	0	400
33	17134	86.92032	0.7	-143.52008	455.92225	0	400
34	17134	88.861535	4.420535	-375.68531	-470.87476	0	800
35	17134	89.67091	6.271857	-491.20513	-793.70679	0	800

Slices of Slip Surface: **16173**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	16173	8.0324655	-2.6	62.398715	243.91133	163.43469	0
2	16173	10.095537	-5.3561195	234.37119	816.85846	0	635
3	16173	12.869885	-8.5713845	435.00839	1100.3855	0	635
4	16173	15.644235	-11.265265	603.11711	1342.0641	0	635
5	16173	18.32402	-13.48735	741.78043	1477.1977	0	440
6	16173	20.90924	-15.32882	856.67196	1652.4458	0	440
7	16173	23.494455	-16.92047	956.01074	1803.3679	0	440
8	16173	26.07967	-18.29113	1041.5216	1932.4529	0	440
9	16173	28.66489	-19.46213	1114.6027	2041.5335	0	440
10	16173	31.31281	-20.46921	1177.4217	2117.5741	0	334.69
11	16173	34.023435	-21.316585	1230.3117	2197.4547	0	343.17
12	16173	36.73406	-21.98639	1272.0942	2258.2909	0	349.86
13	16173	39.444685	-22.486435	1303.3075	2300.9797	0	354.86
14	16173	40.95	-22.712895	1317.4568	2309.9262	0	357.13
15	16173	42.15778	-22.830315	1324.7876	2361.5103	0	358.3
16	16173	44.273335	-22.980475	1334.1404	2446.2782	0	359.8
17	16173	46.89259	-23.018085	1336.5037	2535.3546	0	360.18
18	16173	50.015555	-22.88632	1328.2758	2622.7069	0	358.86
19	16173	53.13852	-22.542135	1306.7794	2687.4641	0	355.42
20	16173	55.825	-22.08591	1278.3069	2726.9387	0	350.86
21	16173	58.075	-21.565715	1245.8777	2746.3025	0	345.66
22	16173	61.12184	-20.63807	1187.9774	2749.8813	0	336.38
23	16173	64.07184	-19.579665	1121.934	2717.7776	0	440

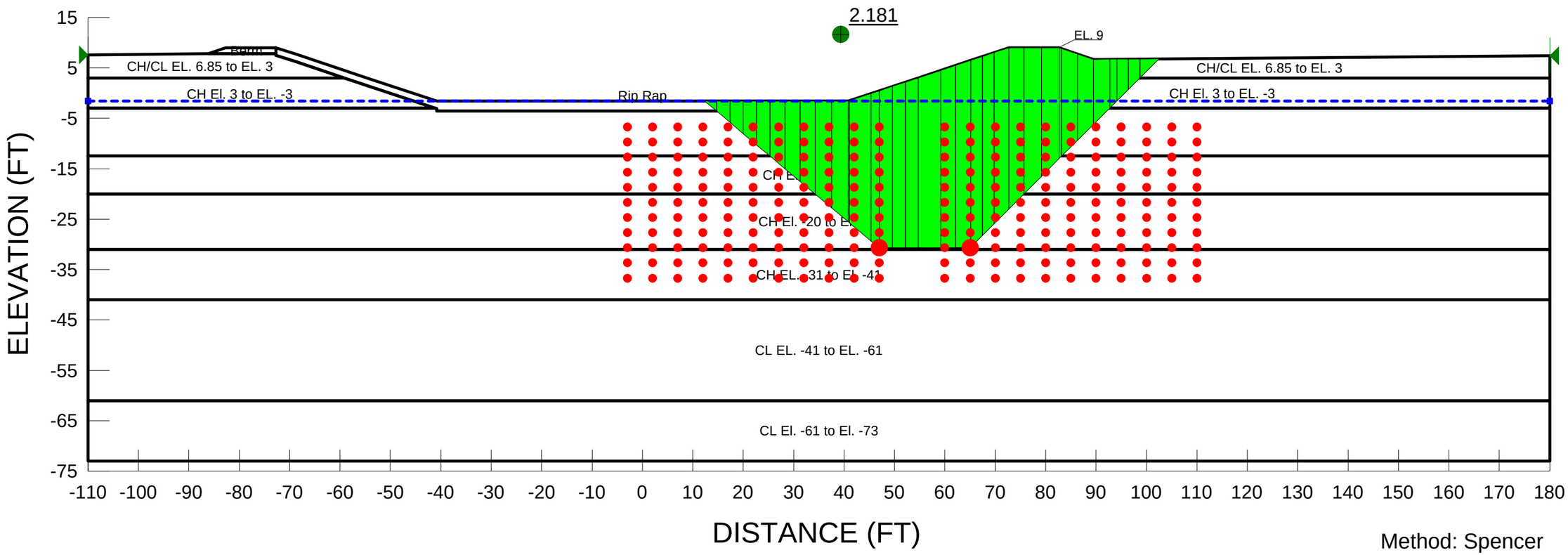
24	16173	66.275	-18.60621	1061.1925	2683.4545	0	440
25	16173	68.625	-17.41619	986.93391	2629.1551	0	440
26	16173	71.25	-15.86535	890.17101	2543.9959	0	440
27	16173	74.334885	-13.725705	756.63274	2615.0946	0	440
28	16173	77.652325	-10.975248	585.00754	2217.8627	0	635
29	16173	81.01744	-7.575615	372.88193	1800.4598	0	635
30	16173	83.707185	-4.3503675	171.62414	1063.5983	0	635
31	16173	85.17949	-2.3	43.680148	893.46163	0	400
32	16173	86.935845	0.7	-143.52085	453.22275	0	400
33	16173	88.86354	4.420567	-375.68361	-474.48686	0	800
34	16173	89.67091	6.271889	-491.20435	-795.67833	0	800

Slices of Slip Surface: **19088**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	19088	14.97414	-2.6	62.399501	240.28439	160.16828	0
2	19088	16.962335	-5.376082	235.63083	811.39801	0	635
3	19088	19.65782	-8.607182	437.25038	1088.0839	0	635
4	19088	22.353305	-11.2811	604.09669	1323.4546	0	635
5	19088	25.026435	-13.5162	743.56888	1459.1458	0	440
6	19088	27.6772	-15.39781	860.98246	1637.3102	0	440
7	19088	30.327965	-16.998285	960.85739	1788.7288	0	440
8	19088	32.978735	-18.352615	1045.3775	1916.2748	0	440
9	19088	35.6295	-19.48594	1116.0794	2021.9706	0	440
10	19088	38.87744	-20.57424	1183.9859	2108.1144	0	335.74
11	19088	40.95	-21.185185	1222.1115	2157.0293	0	341.85
12	19088	42.15778	-21.4487	1238.5592	2224.7663	0	344.49
13	19088	44.273335	-21.84745	1263.4592	2337.1663	0	348.47
14	19088	46.50222	-22.14733	1282.1726	2442.8763	0	351.47
15	19088	48.844445	-22.338725	1294.0932	2540.8649	0	353.39
16	19088	51.18667	-22.40173	1298.0409	2625.2849	0	354.02
17	19088	53.52889	-22.33692	1293.9959	2696.1872	0	353.37
18	19088	55.825	-22.15001	1282.3254	2753.4894	0	351.5
19	19088	58.075	-21.844365	1263.2457	2797.5034	0	348.44
20	19088	60.675	-21.32674	1230.9416	2831.8435	0	343.27
21	19088	63.625	-20.545525	1182.1993	2851.0797	0	335.46
22	19088	65.24269	-20.04942	1151.2567	2854.4835	0	330.49
23	19088	66.489035	-19.579025	1121.8924	2828.0543	0	440
24	19088	68.696345	-18.665195	1064.8622	2801.6027	0	440
25	19088	71.25	-17.40589	986.27711	2748.967	0	440
26	19088	74.1848	-15.69752	879.68034	2874.2594	0	440
27	19088	77.154405	-13.6278	750.52761	2631.9953	0	440
28	19088	79.654405	-11.601485	624.09987	2318.7438	0	635
29	19088	81.6848	-9.679264	504.14951	2081.4505	0	635
30	19088	83.806605	-7.363173	359.61138	1446.8503	0	635
31	19088	86.019815	-4.535394	183.16941	999.11789	0	635
32	19088	87.566495	-2.3	43.679997	804.62676	0	400
33	19088	88.753285	-0.2530325	-84.049819	494.31903	0	400
34	19088	89.95544	2.0469675	-227.57084	159.71378	0	400
35	19088	91.14217	4.859179	-403.06192	-680.91311	0	800

Slices of Slip Surface: **15182**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	15182	5.6671955	-2.6	62.397995	271.97038	188.69983	0
2	15182	7.6096055	-5.353724	234.24104	848.90653	0	635
3	15182	10.221755	-8.565794	434.66723	1129.767	0	635
4	15182	12.833905	-11.26207	602.90843	1370.11	0	635
5	15182	15.612875	-13.68682	754.22113	1517.7204	0	440
6	15182	18.55867	-15.87754	890.92089	1725.5439	0	440
7	15182	21.50447	-17.729545	1006.4885	1900.3049	0	440
8	15182	24.45027	-19.288825	1103.7818	2046.0331	0	440
9	15182	27.41085	-20.593075	1185.1699	2147.2424	0	335.93
10	15182	30.386215	-21.663455	1251.9706	2248.561	0	346.63
11	15182	33.361585	-22.50968	1304.7519	2325.699	0	355.1
12	15182	36.33695	-23.144405	1344.3569	2380.1599	0	361.44
13	15182	39.312315	-23.5765	1371.3235	2412.9429	0	365.76
14	15182	40.95	-23.754125	1382.4226	2415.2759	0	367.54
15	15182	42.15778	-23.81746	1386.3775	2460.4482	0	368.17
16	15182	44.273335	-23.872675	1389.7942	2533.9803	0	368.73
17	15182	46.89259	-23.791435	1384.7358	2608.9295	0	367.91
18	15182	50.015555	-23.515	1367.4977	2679.0916	0	365.15
19	15182	53.13852	-23.020755	1336.6502	2726.0207	0	360.21
20	15182	55.825	-22.429885	1299.7776	2749.5427	0	354.3
21	15182	58.075	-21.790735	1259.8989	2754.8726	0	347.91
22	15182	61.051275	-20.720095	1193.0919	2739.135	0	337.2
23	15182	64.001275	-19.481855	1115.8482	2683.1806	0	440
24	15182	66.275	-18.3276	1043.7923	2629.6321	0	440
25	15182	68.625	-16.96235	958.60138	2554.0768	0	440
26	15182	71.25	-15.18836	847.90264	2441.7626	0	440
27	15182	73.69287	-13.321755	731.43973	2541.6502	0	440
28	15182	76.02145	-11.231635	601.01283	2218.6524	0	635
29	15182	78.69287	-8.4629145	428.24532	1877.534	0	635
30	15182	81.36429	-5.148216	221.40819	1464.0113	0	635
31	15182	82.80966	-3.166937	97.775922	915.70112	0	635
32	15182	83.35709	-2.3	43.680033	936.81396	0	400
33	15182	85.00488	0.7	-143.51988	500.65923	0	400
34	15182	86.959715	4.840886	-401.91776	-514.96736	0	800
35	15182	87.801875	6.9616055	0	-667.15157	0	600



Method: Spencer

Name: Berm Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 600 psf
Name: CH/CL EL. 6.85 to EL. 3 Model: Undrained (Phi=0) Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Undrained (Phi=0) Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 1300 psf
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN WEIR INLET
STATION: 18+20
3:1 SLOPE
NO LOADS
GLOBAL ANALYSIS (BLOCK METHOD)

3. Wedge R to L (Original)

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File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 134
Last Edited By: Hoppes, Andrew
Date: 9/16/2013
Time: 9:35:33 AM
File Name: 1. Sedimentation Basin Sta 18+20 - Original with Rip Rap.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/16/2013
Last Solved Time: 9:36:40 AM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

3. Wedge R to L (Original)

Kind: SLOPE/W
Method: Spencer
Settings
- Apply Phreatic Correction: No
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Right to Left
- Use Passive Mode: No
- Slip Surface Option: Block
- Critical slip surfaces saved: 20
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

FOS Distribution
- FOS Calculation Option: Constant

Restrict Block Crossing: Yes
Advanced
- Number of Slices: 30
- Optimization Tolerance: 0.01
- Minimum Slip Surface Depth: 0.1 ft
- Optimization Maximum Iterations: 2000
- Optimization Convergence Tolerance: 1e-007
- Starting Optimization Points: 8
- Ending Optimization Points: 16
- Complete Passes per Insertion: 1
- Driving Side Maximum Convex Angle: 5 °
- Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 600 psf

CH/CL EL. 6.85 to EL. 3

Model: Undrained (Phi=0)
Unit Weight: 112 pcf
Cohesion: 800 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. 3 to EL. -3

Model: Undrained (Phi=0)
Unit Weight: 110 pcf
Cohesion: 400 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 635 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -12.5 to -20

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH EL. -31 to El. -41

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 850 psf
Pore Water Pressure
- Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 1300 psf

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 42 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Limits

Left Coordinate: (-110, 7.6) ft
Right Coordinate: (180, 7.4) ft

Slip Surface Block

Left Grid
- Upper Left: (-3, -6.7) ft
- Lower Left: (-3, -36.7) ft
- Lower Right: (47, -36.7) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 135 °
- Ending Angle: 145 °
- Angle Increments: 2

Right Grid
- Upper Left: (60, -6.7) ft
- Lower Left: (60, -36.7) ft
- Lower Right: (110, -36.7) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 45 °
- Ending Angle: 65 °
- Angle Increments: 2

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-1.6
	180	-1.6

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points	Area (ft²)
Region 1	CH El. -3 to EL. -12.5	4,2,1,30,46,34,35,36,37,43	2706.01
Region 2	CH El. -12.5 to -	2,14,13,1	2175

	20		
Region 3	CH EL. -31 to El. -41	5,7,8,6	2900
Region 4	CL EL. -41 to EL. -61	7,9,10,8	5800
Region 5	CL El. -61 to El. -73	9,11,12,10	3480
Region 6	CH El. -20 to El. -31	6,13,14,5	3190
Region 7	Berm	18,19,20,44	14.04
Region 8	CH/CL EL. 6.85 to EL. 3	16,17,18,44,31,32,45	207.25
Region 9	Berm	42,40,23,24,25	33.66
Region 10	CH/CL EL. 6.85 to EL. 3	39,42,25,26,3,41	456.27
Region 11	CH El. 3 to EL. -3	38,41,3,4,43	779.025
Region 12	CH El. 3 to EL. -3	45,33,46,30,16	359.025
Region 13	Rip Rap	20,44,31,32,45,33,46,34,35,36,37,43,38,41,39,42,40,23,28,29,22,21,15,27	259.215

Points

	X (ft)	Y (ft)
Point 1	-110	-12.5
Point 2	180	-12.5
Point 3	180	3
Point 4	180	-3
Point 5	180	-31
Point 6	-110	-31
Point 7	180	-41
Point 8	-110	-41
Point 9	180	-61
Point 10	-110	-61
Point 11	180	-73
Point 12	-110	-73
Point 13	-110	-20
Point 14	180	-20
Point 15	-54.7	3
Point 16	-110	3
Point 17	-110	7.6
Point 18	-86.1	7.8
Point 19	-82.7	9
Point 20	-72.7	9
Point 21	-40.8	-1.6
Point 22	40.8	-1.6
Point 23	72.7	9
Point 24	82.7	9
Point 25	89.5	6.7
Point 26	180	7.4
Point 27	-69	7.8
Point 28	65.1	6.5
Point 29	54.7	3
Point 30	-110	-3
Point 31	-72.7	7.5
Point 32	-69	6.3
Point 33	-54.7	1.5
Point 34	-40.8	-3.1
Point 35	-40.8	-3.6
Point 36	40.8	-3.6
Point 37	40.8	-3.1
Point 38	54.7	1.5
Point 39	65.1	5
Point 40	72.7	7.5
Point 41	59.2	3
Point 42	69.8	6.5
Point 43	41.1	-3
Point 44	-72.7	7.8
Point 45	-59.2	3
Point 46	-41.1	-3

Critical Slip Surfaces

	Slip Surface	FOS	Center (ft)	Radius (ft)	Entry (ft)	Exit (ft)
1	9739	2.181	(56.823, 8.901)	43.708	(102.501, 6.80056)	(12.32, -1.6)
2	9706	2.186	(59.575, 8.901)	41.852	(102.501, 6.80056)	(17.9, -1.6)
3	8650	2.193	(57.056, 8.871)	40.526	(99.4772, 6.77717)	(15.8952, -1.6)
4	8617	2.197	(59.519, 8.871)	38.896	(99.4772, 6.77717)	(20.9, -1.6)
5	9736	2.211	(54.275, 8.852)	42.111	(97.4616, 6.76158)	(12.32, -1.6)
6	9772	2.216	(53.425, 8.901)	45.954	(102.501, 6.80056)	(5.44089, -1.6)
7	9703	2.219	(57.022, 8.852)	40.217	(97.4616, 6.76158)	(17.9, -1.6)
8	8683	2.222	(54.015, 8.871)	42.57	(99.4772, 6.77717)	(9.72534, -1.6)
9	9607	2.232	(57.11, 8.901)	43.512	(102.501, 6.80056)	(12.9, -1.6)
10	9769	2.233	(50.881, 8.852)	44.557	(97.4616, 6.76158)	(5.44089, -1.6)
11	7561	2.235	(57.282, 8.842)	37.333	(96.4538, 6.75379)	(19.4705, -1.6)
12	8518	2.238	(57.059, 8.871)	40.525	(99.4772, 6.77717)	(15.9, -1.6)
13	7528	2.242	(59.456, 8.842)	35.92	(96.4538, 6.75379)	(23.9, -1.6)
14	9640	2.244	(54.354, 8.901)	45.329	(102.501, 6.80056)	(7.31997, -1.6)
15	8551	2.247	(54.592, 8.871)	42.172	(99.4772, 6.77717)	(10.8952, -1.6)
16	8647	2.249	(54.503, 8.823)	38.861	(94.4382, 6.7382)	(15.8952, -1.6)
17	8680	2.262	(51.466, 8.823)	40.904	(94.4382, 6.7382)	(9.72534, -1.6)
18	7594	2.263	(54.597, 8.842)	39.12	(96.4538, 6.75379)	(14.0098, -1.6)
19	8614	2.270	(56.96, 8.823)	37.221	(94.4382, 6.7382)	(20.9, -1.6)
20	9604	2.271	(54.561, 8.852)	41.909	(97.4616, 6.76158)	(12.9, -1.6)

Slices of Slip Surface: 9739

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	9739	13.511725	-2.6	62.3986	173.73583	100.24849	0
2	9739	16.029305	-4.7125	194.22005	632.96515	0	635
3	9739	18.680955	-6.9375	333.06505	868.96206	0	635
4	9739	21.332605	-9.1625	471.90715	1104.9879	0	635
5	9739	23.984255	-11.3875	610.74926	1341.0137	0	635
6	9739	26.799775	-13.75	758.15505	1516.4386	0	440
7	9739	29.77916	-16.25	914.17244	1781.6271	0	440
8	9739	32.758545	-18.75	1070.1641	2046.8155	0	440
9	9739	35.88618	-21.374395	1233.9232	2288.1142	0	343.74
10	9739	39.16206	-24.123185	1405.4476	2590.2871	0	371.23
11	9739	40.95	-25.623445	1499.0723	2746.0139	0	386.23
12	9739	43.215555	-27.524475	1617.6856	3037.302	0	405.24
13	9739	46.165555	-29.99982	1772.1635	3416.8128	0	430
14	9739	48.283335	-30.7	1815.8569	3400.2853	0	437
15	9739	50.85	-30.7	1815.8569	3493.7138	0	437
16	9739	53.416665	-30.7	1815.8569	3587.1424	0	437
17	9739	56.95	-30.7	1815.8444	3717.3333	0	437
18	9739	60.65	-30.7	1815.8276	3855.5172	0	437
19	9739	63.6	-30.65	1812.7267	3954.8038	0	436.5
20	9739	66.275	-29.425	1736.2931	3733.5237	0	424.25

21	9739	68.625	-27.075	1589.6362	3582.4736	0	400.75
22	9739	71.25	-24.45	1425.8444	3414.3507	0	374.5
23	9739	74.2	-21.5	1241.7501	3139.5539	0	345
24	9739	77.45	-18.25	1038.9622	2751.8578	0	440
25	9739	80.95	-14.75	820.56719	2381.1318	0	440
26	9739	82.95	-12.75	695.76477	2159.5041	0	440
27	9739	84.775	-10.925	581.87028	1805.9057	0	635
28	9739	87.925	-7.775	385.31705	1349.7882	0	635
29	9739	91.1	-4.6	187.19991	953.64406	0	635
30	9739	93.4	-2.3	43.680006	816.80934	0	400
31	9739	95.25	-0.45	-71.759045	615.0907	0	400
32	9739	97.55	1.85	-215.28021	364.28299	0	400
33	9739	100.6003	4.9002785	-405.61517	-155.22999	0	800

Slices of Slip Surface: **9706**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	9706	18.9	-2.6	62.398641	186.94843	112.14514	0
2	9706	21.383335	-5.0833335	217.35908	720.4624	0	635
3	9706	24.35	-8.05	402.47885	1035.8003	0	635
4	9706	27.316665	-11.016666	587.60577	1351.1143	0	635
5	9706	30.05	-13.75	758.15987	1551.9579	0	440
6	9706	32.55	-16.25	914.14762	1817.6604	0	440
7	9706	35.05	-18.75	1070.1637	2083.3911	0	440
8	9706	37.425	-21.125	1218.3605	2290.3971	0	341.25
9	9706	39.675	-23.375	1358.7448	2539.9272	0	363.75
10	9706	40.95	-24.65	1438.3258	2671.9206	0	376.5
11	9706	42.15778	-25.85778	1513.6803	2849.8449	0	388.58
12	9706	44.273335	-27.973335	1645.7058	3161.659	0	409.73
13	9706	46.165555	-29.865555	1763.775	3440.5645	0	428.66
14	9706	48.283335	-30.7	1815.8569	3400.6359	0	437
15	9706	50.85	-30.7	1815.8569	3494.1034	0	437
16	9706	53.416665	-30.7	1815.8569	3587.532	0	437
17	9706	55.825	-30.7	1815.8222	3676	0	437
18	9706	58.075	-30.7	1815.8222	3759.4667	0	437

19	9706	60.65	-30.7	1815.8276	3855.8621	0	437
20	9706	63.6	-30.65	1812.7267	3954.8038	0	436.5
21	9706	66.275	-29.425	1736.2931	3727.5057	0	424.25
22	9706	68.625	-27.075	1589.6362	3576.4557	0	400.75
23	9706	71.25	-24.45	1425.8444	3408.7426	0	374.5
24	9706	74.2	-21.5	1241.7501	3134.3684	0	345
25	9706	77.45	-18.25	1038.9622	2747.6152	0	440
26	9706	80.95	-14.75	820.56719	2377.4953	0	440
27	9706	82.95	-12.75	695.76477	2156.2514	0	440
28	9706	84.775	-10.925	581.87028	1803.7732	0	635
29	9706	87.925	-7.775	385.31705	1348.5087	0	635
30	9706	91.1	-4.6	187.19991	953.09164	0	635
31	9706	93.4	-2.3	43.680006	816.05173	0	400
32	9706	95.25	-0.45	-71.759045	614.72178	0	400
33	9706	97.55	1.85	-215.28021	364.40596	0	400
34	9706	100.6003	4.9002785	-405.61517	-153.36387	0	800

Slices of Slip Surface: **8650**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	8650	17.086985	-2.6	62.3986	173.83546	100.3382	0
2	8650	19.604565	-4.7125	194.22005	632.79181	0	635
3	8650	22.256215	-6.9375	333.06505	869.10651	0	635
4	8650	24.907865	-9.1625	471.90715	1105.4212	0	635
5	8650	27.55952	-11.3875	610.74926	1341.7359	0	635
6	8650	30.37504	-13.75	758.15505	1517.6985	0	440
7	8650	33.35442	-16.25	914.17244	1783.2212	0	440
8	8650	36.333805	-18.75	1070.1641	2048.7439	0	440
9	8650	39.31175	-21.24879	1226.0819	2276.6673	0	342.49
10	8650	40.95	-22.623445	1311.8511	2418.6831	0	356.23
11	8650	42.15778	-23.63689	1375.114	2574.0659	0	366.37
12	8650	44.273335	-25.412055	1485.8806	2846.583	0	384.12
13	8650	46.165555	-26.99982	1584.9315	3090.3616	0	400
14	8650	48.283335	-27.7	1628.6491	3082.558	0	407
15	8650	50.85	-27.7	1628.6491	3175.9866	0	407

16	8650	53.416665	-27.7	1628.6491	3269.4152	0	407
17	8650	55.825	-27.7	1628.6222	3357.8667	0	407
18	8650	58.075	-27.7	1628.6222	3441.3333	0	407
19	8650	60.65	-27.7	1628.6552	3537.5862	0	407
20	8650	63.6	-27.65	1625.5306	3637.3134	0	406.5
21	8650	66.275	-26.425	1549.0753	3425.7066	0	394.25
22	8650	68.625	-24.075	1402.4485	3274.6565	0	370.75
23	8650	71.25	-21.45	1238.6317	3106.8811	0	344.5
24	8650	73.95	-18.75	1070.1637	2802.151	0	440
25	8650	76.45	-16.25	914.14762	2537.693	0	440
26	8650	78.95	-13.75	758.15987	2273.2351	0	440
27	8650	81.45	-11.25	602.17212	1920.304	0	635
28	8650	84.4	-8.3	418.08729	1542.2831	0	635
29	8650	87.8	-4.9	205.9199	1050.6775	0	635
30	8650	89.6	-3.1	93.599729	794.39915	0	635
31	8650	90.4	-2.3	43.680006	814.33447	0	400
32	8650	92.25	-0.45	-71.759045	612.9079	0	400
33	8650	94.55	1.85	-215.28021	362.49985	0	400
34	8650	97.588585	4.8885855	-404.88778	-153.61886	0	800

Slices of Slip Surface: **8617**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	8617	21.9	-2.6	62.398641	187.06864	112.25337	0
2	8617	24.383335	-5.0833335	217.35908	720.41473	0	635
3	8617	27.35	-8.05	402.47885	1036.1578	0	635
4	8617	30.316665	-11.016666	587.60577	1351.9247	0	635
5	8617	33.05	-13.75	758.15987	1553.3156	0	440
6	8617	35.55	-16.25	914.14762	1819.414	0	440
7	8617	38.05	-18.75	1070.1637	2085.4841	0	440
8	8617	40.05	-20.75	1194.9635	2251.2869	0	337.5
9	8617	40.95	-21.65	1251.1311	2341.9375	0	346.5
10	8617	42.15778	-22.85778	1326.4716	2519.9818	0	358.58
11	8617	44.273335	-24.973335	1458.497	2832.1635	0	379.73
12	8617	46.165555	-26.865555	1576.5847	3111.435	0	398.66

13	8617	48.283335	-27.7	1628.6491	3082.8697	0	407
14	8617	50.85	-27.7	1628.6491	3176.2983	0	407
15	8617	53.416665	-27.7	1628.6491	3269.7268	0	407
16	8617	55.825	-27.7	1628.6222	3358.1778	0	407
17	8617	58.075	-27.7	1628.6222	3441.6444	0	407
18	8617	60.65	-27.7	1628.6552	3537.931	0	407
19	8617	63.6	-27.65	1625.5306	3637.3134	0	406.5
20	8617	66.275	-26.425	1549.0753	3420.5913	0	394.25
21	8617	68.625	-24.075	1402.4485	3269.8422	0	370.75
22	8617	71.25	-21.45	1238.6317	3102.0046	0	344.5
23	8617	73.95	-18.75	1070.1637	2798.0215	0	440
24	8617	76.45	-16.25	914.14762	2534.0161	0	440
25	8617	78.95	-13.75	758.15987	2270.0107	0	440
26	8617	81.45	-11.25	602.17212	1917.9564	0	635
27	8617	83.833335	-8.8666665	453.43219	1622.342	0	635
28	8617	86.1	-6.6	311.99004	1295.1907	0	635
29	8617	88.366665	-4.3333335	170.56038	968.00831	0	635
30	8617	89.6	-3.1	93.599729	793.93953	0	635
31	8617	90.4	-2.3	43.680006	813.52635	0	400
32	8617	92.25	-0.45	-71.759045	612.44674	0	400
33	8617	94.55	1.85	-215.28021	362.43836	0	400
34	8617	97.588585	4.8885855	-404.88778	-152.22231	0	800

Slices of Slip Surface: **9736**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	9736	13.511725	-2.6	62.3986	175.67705	101.99637	0
2	9736	16.029305	-4.7125	194.22005	637.29855	0	635
3	9736	18.680955	-6.9375	333.06505	875.14437	0	635
4	9736	21.332605	-9.1625	471.90715	1113.0191	0	635
5	9736	23.984255	-11.3875	610.74926	1350.8938	0	635
6	9736	26.799775	-13.75	758.15505	1527.906	0	440
7	9736	29.77916	-16.25	914.17244	1795.177	0	440
8	9736	32.758545	-18.75	1070.1641	2062.4481	0	440
9	9736	35.88618	-21.374395	1233.9232	2305.7226	0	343.74

10	9736	39.16206	-24.123185	1405.4476	2610.1638	0	371.23
11	9736	40.95	-25.623445	1499.0723	2767.2078	0	386.23
12	9736	43.215555	-27.524475	1617.6856	3060.6575	0	405.24
13	9736	46.165555	-29.99982	1772.1635	3443.252	0	430
14	9736	48.283335	-30.7	1815.8569	3402.1164	0	437
15	9736	50.85	-30.7	1815.8569	3495.545	0	437
16	9736	53.416665	-30.7	1815.8569	3588.9736	0	437
17	9736	55.825	-30.7	1815.8222	3677.4222	0	437
18	9736	58.075	-30.7	1815.8222	3760.8889	0	437
19	9736	59.6	-30.7	1815.875	3817.75	0	437
20	9736	61.275	-29.425	1736.2936	3518.0638	0	424.25
21	9736	63.825	-26.875	1577.153	3356.6771	0	398.75
22	9736	66.275	-24.425	1424.2935	3201.2378	0	374.25
23	9736	68.625	-22.075	1277.6366	3051.0904	0	350.75
24	9736	70.25	-20.45	1176.233	2947.6144	0	334.5
25	9736	71.7	-19	1085.7625	2802.5118	0	440
26	9736	74.075	-16.625	937.57224	2560.6781	0	440
27	9736	76.825	-13.875	765.96384	2271.9985	0	440
28	9736	79.325	-11.375	609.96593	1923.1416	0	635
29	9736	81.575	-9.125	469.55026	1686.968	0	635
30	9736	83.95	-6.75	321.36588	1389.5496	0	635
31	9736	86.45	-4.25	165.36116	1030.8485	0	635
32	9736	88.4	-2.3	43.680006	852.46773	0	400
33	9736	89.3	-1.4	-12.480082	719.7817	0	400
34	9736	91.6	0.9	-155.99954	463.40748	0	400
35	9736	95.58079	4.8807905	-404.4041	-147.70816	0	800

Slices of Slip Surface: 9772

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	9772	6.869041	-2.6	62.399373	164.32389	91.773251	0
2	9772	9.8860045	-4.7125	194.21943	590.02328	0	635
3	9772	13.063635	-6.9375	333.06102	826.20788	0	635
4	9772	16.241265	-9.1625	471.90519	1062.4183	0	635
5	9772	19.418895	-11.3875	610.74936	1298.6286	0	635

6	9772	22.792895	-13.75	758.15333	1487.5361	0	440
7	9772	26.363265	-16.25	914.16612	1752.9184	0	440
8	9772	29.933635	-18.75	1070.156	2018.3237	0	440
9	9772	33.23235	-21.059785	1214.2799	2231.9618	0	340.6
10	9772	36.25941	-23.179355	1346.5539	2463.7119	0	361.79
11	9772	39.28647	-25.298925	1478.8008	2695.435	0	382.99
12	9772	40.95	-26.463745	1551.5012	2813.514	0	394.64
13	9772	43.215555	-28.050105	1650.4773	3069.3678	0	410.5
14	9772	46.165555	-30.115715	1779.3816	3402.7262	0	431.16
15	9772	48.925	-30.7	1815.8442	3423.8961	0	437
16	9772	52.775	-30.7	1815.8442	3564.1558	0	437
17	9772	56.95	-30.7	1815.8444	3717.5556	0	437
18	9772	60.65	-30.7	1815.8276	3855.5172	0	437
19	9772	63.6	-30.65	1812.7267	3954.8038	0	436.5
20	9772	67.45	-28.25	1662.9045	3656.6446	0	412.5
21	9772	71.25	-24.45	1425.8444	3412.8877	0	374.5
22	9772	74.2	-21.5	1241.7501	3138.3754	0	345
23	9772	77.45	-18.25	1038.9622	2751.8578	0	440
24	9772	80.95	-14.75	820.56719	2381.5359	0	440
25	9772	82.95	-12.75	695.76477	2160.2112	0	440
26	9772	84.775	-10.925	581.87028	1808.6668	0	635
27	9772	87.925	-7.775	385.31705	1353.1105	0	635
28	9772	91.1	-4.6	187.19991	957.46686	0	635
29	9772	93.4	-2.3	43.680006	818.93066	0	400
30	9772	96.4	0.7	-143.51963	492.23858	0	400
31	9772	100.6003	4.9002785	-405.61517	-148.69393	0	800

Slices of Slip Surface: 9703

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	9703	18.9	-2.6	62.398641	188.54296	113.58086	0
2	9703	21.383335	-5.0833335	217.35908	723.34644	0	635
3	9703	24.35	-8.05	402.47885	1040.901	0	635
4	9703	27.316665	-11.016666	587.60577	1358.4793	0	635
5	9703	30.05	-13.75	758.15987	1561.4332	0	440

6	9703	32.55	-16.25	914.14762	1829.0306	0	440
7	9703	35.05	-18.75	1070.1637	2096.6564	0	440
8	9703	37.425	-21.125	1218.3605	2305.482	0	341.25
9	9703	39.675	-23.375	1358.7448	2556.6777	0	363.75
10	9703	40.95	-24.65	1438.3258	2689.5983	0	376.5
11	9703	42.15778	-25.85778	1513.6803	2868.7296	0	388.58
12	9703	44.273335	-27.973335	1645.7058	3182.6828	0	409.73
13	9703	46.165555	-29.865555	1763.775	3463.4867	0	428.66
14	9703	48.283335	-30.7	1815.8569	3402.0385	0	437
15	9703	50.85	-30.7	1815.8569	3495.4671	0	437
16	9703	53.416665	-30.7	1815.8569	3588.9346	0	437
17	9703	55.825	-30.7	1815.8222	3677.3778	0	437
18	9703	58.075	-30.7	1815.8222	3760.8444	0	437
19	9703	59.6	-30.7	1815.875	3817.625	0	437
20	9703	61.275	-29.425	1736.2936	3520.0049	0	424.25
21	9703	63.825	-26.875	1577.153	3358.6182	0	398.75
22	9703	66.275	-24.425	1424.2935	3202.7423	0	374.25
23	9703	68.625	-22.075	1277.6366	3052.8958	0	350.75
24	9703	70.25	-20.45	1176.233	2949.1857	0	334.5
25	9703	71.7	-19	1085.7625	2804.1735	0	440
26	9703	74.075	-16.625	937.57224	2562.2209	0	440
27	9703	76.825	-13.875	765.96384	2273.4642	0	440
28	9703	79.325	-11.375	609.96593	1924.7444	0	635
29	9703	81.575	-9.125	469.55026	1688.5079	0	635
30	9703	83.95	-6.75	321.36588	1390.9639	0	635
31	9703	86.45	-4.25	165.36116	1032.1496	0	635
32	9703	88.4	-2.3	43.680006	853.37686	0	400
33	9703	89.3	-1.4	-12.480082	720.63023	0	400
34	9703	90.55	-0.15	-90.479378	577.63899	0	400
35	9703	92.65	1.95	-221.51975	350.69135	0	400
36	9703	95.58079	4.8807905	-404.4041	-146.59907	0	800

Slices of Slip Surface: 8683

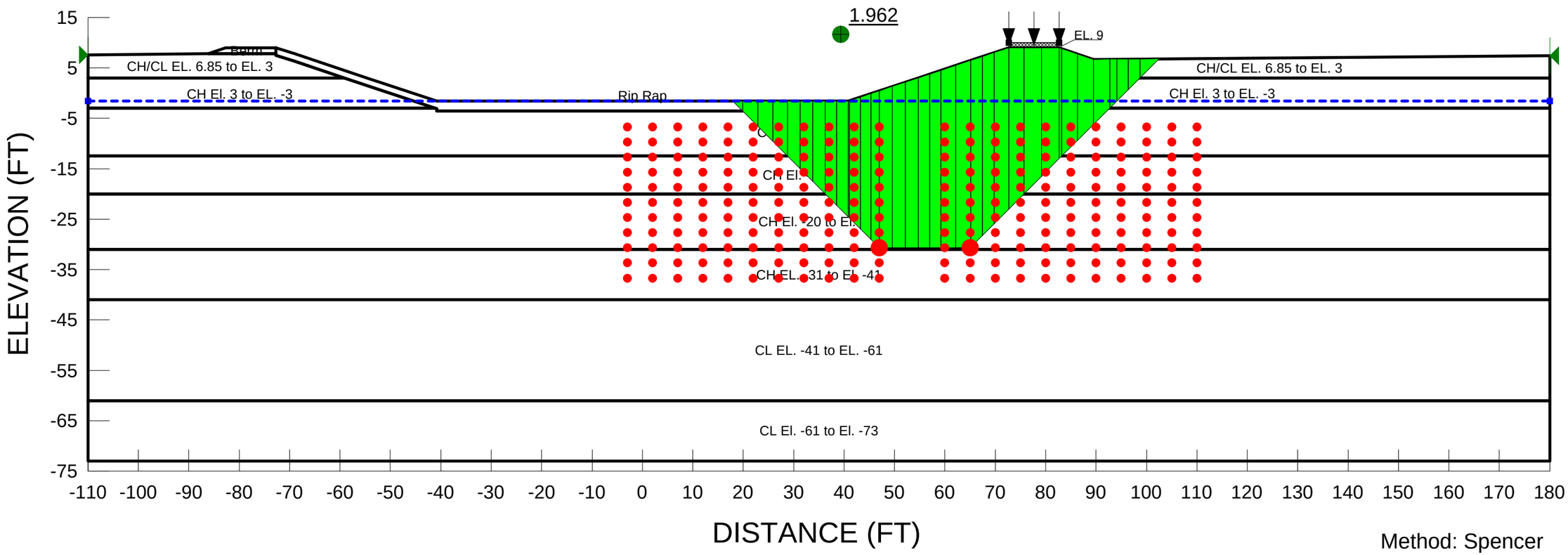
	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	8683	11.153484	-2.6	62.399373	164.43574	91.873959	0
2	8683	14.170445	-4.7125	194.21943	590.17795	0	635
3	8683	17.348075	-6.9375	333.06102	826.543	0	635
4	8683	20.525705	-9.1625	471.90519	1062.9081	0	635
5	8683	23.703335	-11.3875	610.74936	1299.2731	0	635
6	8683	26.63104	-13.4375	738.67462	1455.2015	0	440
7	8683	29.30882	-15.3125	855.65361	1654.3779	0	440
8	8683	31.986595	-17.1875	972.6632	1853.5542	0	440
9	8683	34.66437	-19.0625	1089.6728	2052.7611	0	440
10	8683	37.202445	-20.83968	1200.566	2209.3202	0	338.4
11	8683	39.600815	-22.519035	1305.3521	2393.0374	0	355.19
12	8683	40.95	-23.463745	1364.2976	2487.1093	0	364.64
13	8683	43.215555	-25.050105	1463.2835	2743.1483	0	380.5
14	8683	46.165555	-27.115715	1592.1765	3076.7124	0	401.16
15	8683	48.283335	-27.7	1628.6491	3082.6749	0	407
16	8683	50.85	-27.7	1628.6491	3176.1035	0	407
17	8683	53.416665	-27.7	1628.6491	3269.532	0	407
18	8683	55.825	-27.7	1628.6222	3358	0	407
19	8683	58.075	-27.7	1628.6222	3441.4667	0	407
20	8683	60.65	-27.7	1628.6552	3537.931	0	407
21	8683	63.6	-27.65	1625.5306	3637.3134	0	406.5
22	8683	66.275	-26.425	1549.0753	3425.7066	0	394.25
23	8683	68.625	-24.075	1402.4485	3274.6565	0	370.75
24	8683	71.25	-21.45	1238.6317	3106.6373	0	344.5
25	8683	73.95	-18.75	1070.1637	2802.7732	0	440
26	8683	76.45	-16.25	914.14762	2538.5133	0	440
27	8683	78.95	-13.75	758.15987	2274.2816	0	440
28	8683	81.45	-11.25	602.17212	1922.793	0	635
29	8683	84.4	-8.3	418.08729	1545.0492	0	635
30	8683	87.8	-4.9	205.9199	1053.8387	0	635
31	8683	89.6	-3.1	93.599729	797.72255	0	635
32	8683	90.4	-2.3	43.680006	816.20325	0	400
33	8683	92.25	-0.45	-71.759045	614.93699	0	400
34	8683	94.55	1.85	-215.28021	364.68266	0	400
35	8683	97.588585	4.8885855	-404.88778	-148.55682	0	800

Slices of Slip Surface: **9607**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	9607	13.9	-2.6	62.398641	185.54483	110.88132	0
2	9607	16.383335	-5.0833335	217.35908	715.4332	0	635
3	9607	19.35	-8.05	402.47885	1031.0571	0	635
4	9607	22.316665	-11.016666	587.60577	1346.681	0	635
5	9607	25.05	-13.75	758.15987	1549.4406	0	440
6	9607	27.55	-16.25	914.14762	1815.4259	0	440
7	9607	30.05	-18.75	1070.1637	2081.3829	0	440
8	9607	32.883335	-21.583335	1246.9567	2340.3746	0	345.83
9	9607	36.05	-24.75	1444.5521	2691.3972	0	377.5
10	9607	39.216665	-27.916665	1642.1699	3042.6432	0	409.17
11	9607	40.95	-29.65	1750.3249	3225.5852	0	426.5
12	9607	41.55	-30.25	1787.7234	3313.8958	0	432.5
13	9607	43.665555	-30.7	1815.8506	3232.8553	0	437
14	9607	46.89259	-30.7	1815.8396	3350.3439	0	437
15	9607	50.015555	-30.7	1815.8396	3464.018	0	437
16	9607	53.13852	-30.7	1815.8396	3577.6921	0	437
17	9607	55.825	-30.7	1815.8222	3676.1778	0	437
18	9607	58.075	-30.7	1815.8222	3759.6444	0	437
19	9607	60.65	-30.7	1815.8276	3855.8621	0	437
20	9607	63.6	-30.65	1812.7267	3955.1369	0	436.5
21	9607	66.275	-29.425	1736.2931	3728.1075	0	424.25
22	9607	68.625	-27.075	1589.6362	3577.0575	0	400.75
23	9607	71.25	-24.45	1425.8444	3409.2303	0	374.5
24	9607	74.2	-21.5	1241.7501	3134.8398	0	345
25	9607	77.45	-18.25	1038.9622	2749.2314	0	440
26	9607	80.95	-14.75	820.56719	2379.5156	0	440
27	9607	82.95	-12.75	695.76477	2158.5141	0	440
28	9607	84.775	-10.925	581.87028	1808.2852	0	635
29	9607	87.925	-7.775	385.31705	1353.4247	0	635
30	9607	91.1	-4.6	187.19991	958.39494	0	635
31	9607	93.4	-2.3	43.680006	819.23371	0	400
32	9607	95.25	-0.45	-71.759045	618.04211	0	400
33	9607	97.55	1.85	-215.28021	367.9415	0	400
34	9607	100.6003	4.9002785	-405.61517	-145.43986	0	800

Slices of Slip Surface: **9769**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	9769	6.869041	-2.6	62.399373	165.64599	92.963669	0
2	9769	9.8860045	-4.7125	194.21943	593.65807	0	635
3	9769	13.063635	-6.9375	333.06102	831.10584	0	635
4	9769	16.241265	-9.1625	471.90519	1068.5278	0	635
5	9769	19.418895	-11.3875	610.74936	1305.9498	0	635
6	9769	22.792895	-13.75	758.15333	1495.6809	0	440
7	9769	26.363265	-16.25	914.16612	1762.4627	0	440
8	9769	29.933635	-18.75	1070.156	2029.2446	0	440
9	9769	33.23235	-21.059785	1214.2799	2243.9227	0	340.6
10	9769	36.25941	-23.179355	1346.5539	2476.8635	0	361.79
11	9769	39.28647	-25.298925	1478.8008	2709.8856	0	382.99
12	9769	40.95	-26.463745	1551.5012	2828.5318	0	394.64
13	9769	43.215555	-28.050105	1650.4773	3085.6304	0	410.5
14	9769	46.165555	-30.115715	1779.3816	3420.8872	0	431.16
15	9769	48.283335	-30.7	1815.8569	3401.9606	0	437
16	9769	50.85	-30.7	1815.8569	3495.3892	0	437
17	9769	53.416665	-30.7	1815.8569	3588.8177	0	437
18	9769	56.95	-30.7	1815.8444	3719.1111	0	437
19	9769	59.6	-30.7	1815.875	3817.5	0	437
20	9769	61.275	-29.425	1736.2936	3521.946	0	424.25
21	9769	63.825	-26.875	1577.153	3360.5593	0	398.75
22	9769	66.275	-24.425	1424.2935	3204.5476	0	374.25
23	9769	68.625	-22.075	1277.6366	3054.4003	0	350.75
24	9769	70.25	-20.45	1176.233	2950.8356	0	334.5
25	9769	71.7	-19	1085.7625	2806.118	0	440
26	9769	74.075	-16.625	937.57224	2564.0979	0	440
27	9769	76.825	-13.875	765.96384	2275.2641	0	440
28	9769	80.45	-10.25	539.75818	1808.7792	0	635
29	9769	83.95	-6.75	321.36588	1393.0852	0	635
30	9769	86.45	-4.25	165.36116	1034.1861	0	635
31	9769	88.4	-2.3	43.680006	854.69006	0	400
32	9769	89.3	-1.4	-12.480082	721.9207	0	400
33	9769	91.6	0.9	-155.99954	465.39411	0	400
34	9769	95.58079	4.8807905	-404.4041	-144.40157	0	800



Method: Spencer

Name: Berm Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 600 psf
Name: CH/CL EL. 6.85 to EL. 3 Model: Undrained (Phi=0) Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Undrained (Phi=0) Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 1300 psf
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

Surcharge (Unit Weight): 300 pcf

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN WEIR INLET
STATION: 18+20
3:1 SLOPE
DUMP TRUCK ON BERM CREST
GLOBAL ANALYSIS (BLOCK METHOD)

4. Wedge R to L (Dist. Loads)

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File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 134
Last Edited By: Hoppes, Andrew
Date: 9/16/2013
Time: 9:35:33 AM
File Name: 1. Sedimentation Basin Sta 18+20 - Original with Rip Rap.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/16/2013
Last Solved Time: 9:36:56 AM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

4. Wedge R to L (Dist. Loads)

Kind: SLOPE/W
Method: Spencer
Settings
- Apply Phreatic Correction: No
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Right to Left
- Use Passive Mode: No
- Slip Surface Option: Block
- Critical slip surfaces saved: 20
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

FOS Distribution
- FOS Calculation Option: Constant

Restrict Block Crossing: Yes
Advanced
- Number of Slices: 30
- Optimization Tolerance: 0.01
- Minimum Slip Surface Depth: 0.1 ft
- Optimization Maximum Iterations: 2000
- Optimization Convergence Tolerance: 1e-007
- Starting Optimization Points: 8
- Ending Optimization Points: 16
- Complete Passes per Insertion: 1
- Driving Side Maximum Convex Angle: 5 °
- Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 600 psf

CH/CL EL. 6.85 to EL. 3

Model: Undrained (Phi=0)
Unit Weight: 112 pcf
Cohesion: 800 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. 3 to EL. -3

Model: Undrained (Phi=0)
Unit Weight: 110 pcf
Cohesion: 400 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 635 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -12.5 to -20

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH EL. -31 to El. -41

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 850 psf
Pore Water Pressure
- Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 1300 psf

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 42 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Limits

Left Coordinate: (-110, 7.6) ft
Right Coordinate: (180, 7.4) ft

Slip Surface Block

Left Grid
- Upper Left: (-3, -6.7) ft
- Lower Left: (-3, -36.7) ft
- Lower Right: (47, -36.7) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 135 °
- Ending Angle: 145 °
- Angle Increments: 2

Right Grid
- Upper Left: (60, -6.7) ft
- Lower Left: (60, -36.7) ft
- Lower Right: (110, -36.7) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 45 °
- Ending Angle: 65 °
- Angle Increments: 2

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-1.6
	180	-1.6

Surcharge Loads

Surcharge Load 1

Surcharge (Unit Weight): 300 pcf
Direction: Vertical

Coordinates

	X (ft)	Y (ft)
	72.7	10
	82.7	10

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points	Area (ft²)
Region 1	CH El. -3 to EL. -12.5	4,2,1,30,46,34,35,36,37,43	2706.01
Region 2	CH El. -12.5 to -20	2,14,13,1	2175
Region 3	CH EL. -31 to El. -41	5,7,8,6	2900
Region 4	CL EL. -41 to EL. -61	7,9,10,8	5800
Region 5	CL El. -61 to El. -73	9,11,12,10	3480
Region 6	CH El. -20 to El. -31	6,13,14,5	3190
Region 7	Berm	18,19,20,44	14.04
Region 8	CH/CL EL. 6.85 to EL. 3	16,17,18,44,31,32,45	207.25
Region 9	Berm	42,40,23,24,25	33.66
Region 10	CH/CL EL. 6.85 to EL. 3	39,42,25,26,3,41	456.27
Region 11	CH El. 3 to EL. -3	38,41,3,4,43	779.025
Region 12	CH El. 3 to EL. -3	45,33,46,30,16	359.025
Region 13	Rip Rap	20,44,31,32,45,33,46,34,35,36,37,43,38,41,39,42,40,23,28,29,22,21,15,27	259.215

Points

	X (ft)	Y (ft)
Point 1	-110	-12.5
Point 2	180	-12.5
Point 3	180	3
Point 4	180	-3
Point 5	180	-31
Point 6	-110	-31
Point 7	180	-41
Point 8	-110	-41
Point 9	180	-61
Point 10	-110	-61
Point 11	180	-73
Point 12	-110	-73
Point 13	-110	-20
Point 14	180	-20
Point 15	-54.7	3
Point 16	-110	3
Point 17	-110	7.6
Point 18	-86.1	7.8
Point 19	-82.7	9
Point 20	-72.7	9
Point 21	-40.8	-1.6
Point 22	40.8	-1.6
Point 23	72.7	9
Point 24	82.7	9
Point 25	89.5	6.7
Point 26	180	7.4
Point 27	-69	7.8
Point 28	65.1	6.5
Point 29	54.7	3
Point 30	-110	-3
Point 31	-72.7	7.5
Point 32	-69	6.3
Point 33	-54.7	1.5
Point 34	-40.8	-3.1
Point 35	-40.8	-3.6
Point 36	40.8	-3.6
Point 37	40.8	-3.1
Point 38	54.7	1.5
Point 39	65.1	5
Point 40	72.7	7.5
Point 41	59.2	3
Point 42	69.8	6.5
Point 43	41.1	-3
Point 44	-72.7	7.8
Point 45	-59.2	3
Point 46	-41.1	-3

Critical Slip Surfaces

	Slip Surface	FOS	Center (ft)	Radius (ft)	Entry (ft)	Exit (ft)
1	9706	1.962	(59.575, 8.901)	41.852	(102.501, 6.80056)	(17.9, -1.6)
2	8687	1.966	(51.301, 8.82)	40.8	(94.1121, 6.73567)	(9.72534, -1.6)
3	9739	1.967	(56.823, 8.901)	43.708	(102.501, 6.80056)	(12.32, -1.6)
4	8617	1.967	(59.519, 8.871)	38.896	(99.4772, 6.77717)	(20.9, -1.6)
5	8650	1.973	(57.056, 8.871)	40.526	(99.4772, 6.77717)	(15.8952, -1.6)
6	9776	1.976	(50.256, 8.84)	43.94	(96.2242, 6.75201)	(5.44089, -1.6)
7	7598	1.998	(52.339, 8.799)	37.671	(92.0001, 6.71934)	(14.0098, -1.6)
8	8683	2.002	(54.015, 8.871)	42.57	(99.4772, 6.77717)	(9.72534, -1.6)
9	8620	2.002	(62.073, 8.92)	40.579	(104.516, 6.81615)	(20.9, -1.6)
10	9772	2.004	(53.425, 8.901)	45.954	(102.501, 6.80056)	(5.44089, -1.6)
11	9709	2.006	(62.124, 8.949)	43.563	(107.54, 6.83953)	(17.9, -1.6)
12	7528	2.006	(59.456, 8.842)	35.92	(96.4538, 6.75379)	(23.9, -1.6)
13	7561	2.006	(57.282, 8.842)	37.333	(96.4538, 6.75379)	(19.4705, -1.6)
14	8653	2.015	(59.606, 8.92)	42.209	(104.516, 6.81615)	(15.8952, -1.6)
15	9607	2.018	(57.11, 8.901)	43.512	(102.501, 6.80056)	(12.9, -1.6)
16	8518	2.019	(57.059, 8.871)	40.525	(99.4772, 6.77717)	(15.9, -1.6)
17	9742	2.021	(59.369, 8.949)	45.498	(107.54, 6.83953)	(12.32, -1.6)
18	7531	2.023	(62.016, 8.891)	37.698	(101.493, 6.79276)	(23.9, -1.6)
19	9736	2.024	(54.275, 8.852)	42.111	(97.4616, 6.76158)	(12.32, -1.6)
20	8588	2.029	(48.836, 8.82)	42.686	(94.1121, 6.73567)	(4.72534, -1.6)

Slices of Slip Surface: 9706

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	9706	18.9	-2.6	62.398641	195.02006	119.41286	0
2	9706	21.383335	-5.0833335	217.35908	747.37218	0	635
3	9706	24.35	-8.05	402.47885	1060.8032	0	635
4	9706	27.316665	-11.016666	587.60577	1374.2343	0	635
5	9706	30.05	-13.75	758.15987	1564.2616	0	440
6	9706	32.55	-16.25	914.14762	1828.3801	0	440
7	9706	35.05	-18.75	1070.1637	2092.4986	0	440
8	9706	37.425	-21.125	1218.3605	2293.4141	0	341.25
9	9706	39.675	-23.375	1358.7448	2542.5356	0	363.75

10	9706	40.95	-24.65	1438.3258	2674.5134	0	376.5
11	9706	42.15778	-25.85778	1513.6803	2851.7835	0	388.58
12	9706	44.273335	-27.973335	1645.7058	3162.762	0	409.73
13	9706	46.165555	-29.865555	1763.775	3440.9459	0	428.66
14	9706	48.283335	-30.7	1815.8569	3399.3892	0	437
15	9706	50.85	-30.7	1815.8569	3492.8177	0	437
16	9706	53.416665	-30.7	1815.8569	3586.2463	0	437
17	9706	55.825	-30.7	1815.8222	3674.7111	0	437
18	9706	58.075	-30.7	1815.8222	3758.1778	0	437
19	9706	60.65	-30.7	1815.8276	3854.4828	0	437
20	9706	63.6	-30.65	1812.7267	3953.4712	0	436.5
21	9706	66.275	-29.425	1736.2931	3726.603	0	424.25
22	9706	68.625	-27.075	1589.6362	3576.1548	0	400.75
23	9706	71.25	-24.45	1425.8444	3408.4988	0	374.5
24	9706	74.2	-21.5	1241.7501	3435.3602	0	345
25	9706	77.45	-18.25	1038.9622	3040.7615	0	440
26	9706	80.95	-14.75	820.56719	2668.4192	0	440
27	9706	82.95	-12.75	695.76477	2144.9377	0	440
28	9706	84.775	-10.925	581.87028	1779.5295	0	635
29	9706	87.925	-7.775	385.31705	1321.4815	0	635
30	9706	91.1	-4.6	187.19991	923.70251	0	635
31	9706	93.4	-2.3	43.680006	798.87913	0	400
32	9706	95.25	-0.45	-71.759045	596.27551	0	400
33	9706	97.55	1.85	-215.28021	344.45325	0	400
34	9706	100.6003	4.9002785	-405.61517	-198.61208	0	800

Slices of Slip Surface: **8687**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	8687	11.153484	-2.6	62.399373	168.58843	95.61306	0
2	8687	13.852685	-4.49	180.33503	588.4637	0	635
3	8687	16.39479	-6.27	291.40908	776.77724	0	635
4	8687	18.93689	-8.05	402.47025	965.09078	0	635
5	8687	21.478995	-9.83	513.5443	1153.3721	0	635
6	8687	24.0211	-11.61	624.61835	1341.6856	0	635
7	8687	26.63104	-13.4375	738.67462	1465.9695	0	440
8	8687	29.30882	-15.3125	855.65361	1664.3504	0	440
9	8687	31.986595	-17.1875	972.6632	1862.7008	0	440
10	8687	34.66437	-19.0625	1089.6728	2061.0512	0	440
11	8687	37.202445	-20.83968	1200.566	2213.1113	0	338.4
12	8687	39.600815	-22.519035	1305.3521	2396.6919	0	355.19
13	8687	40.95	-23.463745	1364.2976	2490.7682	0	364.64
14	8687	42.15778	-24.30944	1417.0515	2626.9101	0	373.09
15	8687	44.273335	-25.790765	1509.5159	2865.699	0	387.91
16	8687	46.165555	-27.115715	1592.1765	3079.3138	0	401.16
17	8687	48.283335	-27.7	1628.6491	3081.5061	0	407
18	8687	50.85	-27.7	1628.6491	3174.9736	0	407
19	8687	53.416665	-27.7	1628.6491	3268.4022	0	407
20	8687	55.825	-27.7	1628.6222	3356.8444	0	407
21	8687	58.075	-27.7	1628.6222	3440.3111	0	407
22	8687	60.675	-27.7	1628.6441	3537.6271	0	407
23	8687	63.625	-27.7	1628.6441	3648.4746	0	407
24	8687	66.275	-27.7	1628.6383	3747.6596	0	407
25	8687	68.625	-27.7	1628.6383	3834.766	0	407
26	8687	69.9	-27.7	1628.65	3882.1	0	407
27	8687	71.35	-25.772	1508.3362	3464.4019	0	387.72
28	8687	74.0458	-21.922	1268.0873	3404.6802	0	349.22
29	8687	76.70449	-18.125	1031.1704	2934.0932	0	440
30	8687	79.330265	-14.375	797.15503	2534.7839	0	440
31	8687	81.671575	-11.03126	588.51071	2036.391	0	635
32	8687	83.84878	-7.92189	394.48992	1359.3201	0	635
33	8687	86.146345	-4.64063	189.73562	920.29341	0	635
34	8687	87.785275	-2.3	43.680123	776.08824	0	400
35	8687	88.88771	-0.72555695	-54.566847	559.11112	0	400
36	8687	90.498185	1.5744431	-198.08554	282.02589	0	400
37	8687	92.804245	4.867837	-403.60353	-375.82098	0	800

Slices of Slip Surface: **9739**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	9739	13.511725	-2.6	62.3986	179.10311	105.08121	0
2	9739	16.029305	-4.7125	194.22005	655.72994	0	635
3	9739	18.680955	-6.9375	333.06505	890.86017	0	635
4	9739	21.332605	-9.1625	471.90715	1126.0193	0	635
5	9739	23.984255	-11.3875	610.74926	1361.1495	0	635
6	9739	26.799775	-13.75	758.15505	1528.2402	0	440
7	9739	29.77916	-16.25	914.17244	1792.4516	0	440
8	9739	32.758545	-18.75	1070.1641	2056.6373	0	440
9	9739	35.88618	-21.374395	1233.9232	2293.2354	0	343.74
10	9739	39.16206	-24.123185	1405.4476	2595.4316	0	371.23
11	9739	40.95	-25.623445	1499.0723	2751.1209	0	386.23
12	9739	43.215555	-27.524475	1617.6856	3042.0093	0	405.24
13	9739	46.165555	-29.99982	1772.1635	3421.1734	0	430
14	9739	48.283335	-30.7	1815.8569	3399.3112	0	437
15	9739	50.85	-30.7	1815.8569	3492.7398	0	437
16	9739	53.416665	-30.7	1815.8569	3586.1684	0	437
17	9739	56.95	-30.7	1815.8444	3716.4444	0	437
18	9739	60.65	-30.7	1815.8276	3854.4828	0	437
19	9739	63.6	-30.65	1812.7267	3953.4712	0	436.5
20	9739	66.275	-29.425	1736.2931	3728.1075	0	424.25
21	9739	68.625	-27.075	1589.6362	3577.3584	0	400.75
22	9739	71.25	-24.45	1425.8444	3409.9618	0	374.5
23	9739	74.2	-21.5	1241.7501	3436.5387	0	345
24	9739	77.45	-18.25	1038.9622	3042.1757	0	440
25	9739	80.95	-14.75	820.56719	2669.6314	0	440
26	9739	82.95	-12.75	695.76477	2146.069	0	440
27	9739	84.775	-10.925	581.87028	1780.7417	0	635
28	9739	87.925	-7.775	385.31705	1322.5814	0	635
29	9739	91.1	-4.6	187.19991	924.67478	0	635
30	9739	93.4	-2.3	43.680006	799.53573	0	400
31	9739	95.25	-0.45	-71.759045	596.92113	0	400
32	9739	97.55	1.85	-215.28021	345.00664	0	400
33	9739	100.6003	4.9002785	-405.61517	-197.73763	0	800

Slices of Slip Surface: **8617**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	8617	21.9	-2.6	62.398641	195.57514	119.91266	0
2	8617	24.383335	-5.0833335	217.35908	748.44476	0	635
3	8617	27.35	-8.05	402.47885	1062.4479	0	635
4	8617	30.316665	-11.016666	587.60577	1376.451	0	635
5	8617	33.05	-13.75	758.15987	1566.9486	0	440
6	8617	35.55	-16.25	914.14762	1831.5479	0	440
7	8617	38.05	-18.75	1070.1637	2096.1756	0	440
8	8617	40.05	-20.75	1194.9635	2255.9067	0	337.5
9	8617	40.95	-21.65	1251.1311	2346.5101	0	346.5
10	8617	42.15778	-22.85778	1326.4716	2524.1598	0	358.58
11	8617	44.273335	-24.973335	1458.497	2835.7065	0	379.73
12	8617	46.165555	-26.865555	1576.5847	3114.3585	0	398.66
13	8617	48.283335	-27.7	1628.6491	3081.8178	0	407
14	8617	50.85	-27.7	1628.6491	3175.2463	0	407
15	8617	53.416665	-27.7	1628.6491	3268.6749	0	407
16	8617	55.825	-27.7	1628.6222	3357.1556	0	407
17	8617	58.075	-27.7	1628.6222	3440.6222	0	407
18	8617	60.65	-27.7	1628.6552	3536.8966	0	407
19	8617	63.6	-27.65	1625.5306	3636.314	0	406.5
20	8617	66.275	-26.425	1549.0753	3417.2814	0	394.25
21	8617	68.625	-24.075	1402.4485	3267.1341	0	370.75
22	8617	71.25	-21.45	1238.6317	3099.8101	0	344.5
23	8617	73.95	-18.75	1070.1637	3089.4909	0	440
24	8617	76.45	-16.25	914.14762	2823.9299	0	440
25	8617	78.95	-13.75	758.15987	2558.482	0	440
26	8617	81.45	-11.25	602.17212	2193.6149	0	635
27	8617	83.833335	-8.8666665	453.43219	1595.9503	0	635
28	8617	86.1	-6.6	311.99004	1266.9585	0	635
29	8617	88.366665	-4.3333335	170.56038	937.96667	0	635
30	8617	89.6	-3.1	93.599729	762.96825	0	635
31	8617	90.4	-2.3	43.680006	795.74766	0	400
32	8617	92.25	-0.45	-71.759045	593.53932	0	400
33	8617	94.55	1.85	-215.28021	342.14747	0	400
34	8617	97.588585	4.8885855	-404.88778	-197.63271	0	800

Slices of Slip Surface: **8650**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	8650	17.086985	-2.6	62.3986	179.64626	105.57027	0
2	8650	19.604565	-4.7125	194.22005	656.9144	0	635
3	8650	22.256215	-6.9375	333.06505	892.50686	0	635
4	8650	24.907865	-9.1625	471.90715	1128.1282	0	635
5	8650	27.55952	-11.3875	610.74926	1363.7207	0	635
6	8650	30.37504	-13.75	758.15505	1531.1713	0	440
7	8650	33.35442	-16.25	914.17244	1795.9227	0	440
8	8650	36.333805	-18.75	1070.1641	2060.6483	0	440
9	8650	39.31175	-21.24879	1226.0819	2283.8735	0	342.49
10	8650	40.95	-22.623445	1311.8511	2426.0371	0	356.23
11	8650	42.15778	-23.63689	1375.114	2581.3803	0	366.37
12	8650	44.273335	-25.412055	1485.8806	2853.825	0	384.12
13	8650	46.165555	-26.99982	1584.9315	3097.4763	0	400
14	8650	48.283335	-27.7	1628.6491	3081.8567	0	407
15	8650	50.85	-27.7	1628.6491	3175.2853	0	407
16	8650	53.416665	-27.7	1628.6491	3268.7139	0	407
17	8650	55.825	-27.7	1628.6222	3357.2	0	407
18	8650	58.075	-27.7	1628.6222	3440.6667	0	407
19	8650	60.65	-27.7	1628.6552	3536.8966	0	407
20	8650	63.6	-27.65	1625.5306	3636.314	0	406.5
21	8650	66.275	-26.425	1549.0753	3417.2814	0	394.25
22	8650	68.625	-24.075	1402.4485	3266.8332	0	370.75
23	8650	71.25	-21.45	1238.6317	3099.8101	0	344.5
24	8650	73.95	-18.75	1070.1637	3089.4909	0	440
25	8650	76.45	-16.25	914.14762	2823.9581	0	440
26	8650	78.95	-13.75	758.15987	2558.5668	0	440
27	8650	81.45	-11.25	602.17212	2194.0957	0	635
28	8650	84.4	-8.3	418.08729	1514.3524	0	635
29	8650	87.8	-4.9	205.9199	1020.9998	0	635
30	8650	89.6	-3.1	93.599729	763.81678	0	635
31	8650	90.4	-2.3	43.680006	796.20223	0	400
32	8650	92.25	-0.45	-71.759045	594.03122	0	400
33	8650	94.55	1.85	-215.28021	342.7316	0	400
34	8650	97.588585	4.8885855	-404.88778	-196.28483	0	800

Slices of Slip Surface: **9776**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	9776	6.869041	-2.6	62.399373	168.22995	95.290279	0
2	9776	9.8860045	-4.7125	194.21943	610.51736	0	635
3	9776	13.063635	-6.9375	333.06102	845.85126	0	635
4	9776	16.241265	-9.1625	471.90519	1081.1594	0	635
5	9776	19.418895	-11.3875	610.74936	1316.4675	0	635
6	9776	22.346595	-13.4375	738.67462	1464.6541	0	440
7	9776	25.02437	-15.3125	855.65361	1662.9739	0	440
8	9776	27.70215	-17.1875	972.6632	1861.263	0	440
9	9776	30.37993	-19.0625	1089.6728	2059.5828	0	440
10	9776	33.23235	-21.059785	1214.2799	2235.8315	0	340.6
11	9776	36.25941	-23.179355	1346.5539	2467.4463	0	361.79
12	9776	39.28647	-25.298925	1478.8008	2699.0882	0	382.99
13	9776	40.95	-26.463745	1551.5012	2817.0637	0	394.64
14	9776	43.215555	-28.050105	1650.4773	3072.6591	0	410.5
15	9776	46.165555	-30.115715	1779.3816	3405.4749	0	431.16
16	9776	48.283335	-30.7	1815.8569	3399.3892	0	437
17	9776	50.85	-30.7	1815.8569	3492.8177	0	437
18	9776	53.416665	-30.7	1815.8569	3586.2852	0	437
19	9776	56.95	-30.7	1815.8444	3716.4444	0	437
20	9776	60.675	-30.7	1815.8305	3855.5932	0	437
21	9776	63.625	-30.7	1815.8305	3966.4407	0	437
22	9776	66.275	-30.7	1815.8298	4065.5319	0	437
23	9776	68.625	-30.7	1815.8298	4152.6383	0	437
24	9776	69.9	-30.7	1815.85	4199.95	0	437
25	9776	71.35	-28.772	1695.5346	3765.4234	0	417.72
26	9776	73.898055	-25.133	1468.4652	3726.3994	0	381.33
27	9776	76.294165	-21.711	1254.9159	3386.9612	0	347.11
28	9776	78.794165	-18.14063	1032.1289	2938.9329	0	440
29	9776	81.398055	-14.42189	800.08934	2542.8752	0	440
30	9776	84.38488	-10.15626	533.90611	1579.4205	0	635
31	9776	87.78488	-5.300557	230.91962	929.0627	0	635
32	9776	89.93802	-2.225557	39.034837	703.12336	0	400
33	9776	91.986515	0.7	-143.52078	381.5824	0	400
34	9776	94.910585	4.876005	-404.09496	-372.1979	0	800

Slices of Slip Surface: **7598**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	7598	15.43793	-2.6	62.399373	169.8503	96.749251	0
2	7598	18.13713	-4.49	180.33503	591.00935	0	635
3	7598	20.67923	-6.27	291.40908	780.45071	0	635
4	7598	23.221335	-8.05	402.47025	969.85984	0	635
5	7598	25.76344	-9.83	513.5443	1159.3012	0	635
6	7598	28.30554	-11.61	624.61835	1348.7103	0	635
7	7598	30.91548	-13.4375	738.67462	1474.0454	0	440
8	7598	33.59326	-15.3125	855.65361	1673.5888	0	440
9	7598	36.27104	-17.1875	972.6632	1873.1322	0	440
10	7598	38.948815	-19.0625	1089.6728	2072.6756	0	440
11	7598	40.54385	-20.179355	1159.3586	2153.1906	0	331.79
12	7598	40.95	-20.463745	1177.0941	2175.1216	0	334.64
13	7598	42.15778	-21.30944	1229.877	2312.0743	0	343.09
14	7598	44.273335	-22.790765	1322.3027	2552.2958	0	357.91
15	7598	46.165555	-24.115715	1404.9713	2767.1416	0	371.16
16	7598	48.283335	-24.7	1441.4414	2765.1815	0	377
17	7598	50.85	-24.7	1441.4414	2858.61	0	377
18	7598	53.416665	-24.7	1441.4414	2952.0386	0	377
19	7598	55.825	-24.7	1441.4222	3040.4889	0	377
20	7598	58.075	-24.7	1441.4222	3124	0	377
21	7598	60.675	-24.7	1441.4237	3221.2203	0	377
22	7598	63.625	-24.7	1441.4237	3332.2712	0	377
23	7598	66.275	-24.7	1441.4468	3431.3191	0	377
24	7598	68.625	-24.7	1441.4468	3518.4255	0	377
25	7598	69.9	-24.7	1441.45	3565.75	0	377
26	7598	71.35	-22.772	1321.1378	3134.7017	0	357.72
27	7598	72.99549	-20.422	1174.4735	3222.2561	0	334.22
28	7598	74.603865	-18.125	1031.1704	2905.9144	0	440
29	7598	77.22964	-14.375	797.15503	2511.6292	0	440
30	7598	79.5819	-11.01563	587.52892	2020.4947	0	635
31	7598	81.660635	-8.04689	402.2723	1708.257	0	635
32	7598	83.94725	-4.78126	198.51075	1019.0769	0	635
33	7598	85.684645	-2.3	43.680123	854.25877	0	400
34	7598	87.837395	0.774443	-148.16501	435.49433	0	400
35	7598	90.75003	4.9341115	-407.73475	-367.72297	0	800

Slices of Slip Surface: **8683**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	8683	11.153484	-2.6	62.399373	168.06648	95.14309	0
2	8683	14.170445	-4.7125	194.21943	609.04797	0	635
3	8683	17.348075	-6.9375	333.06102	844.717	0	635
4	8683	20.525705	-9.1625	471.90519	1080.3603	0	635
5	8683	23.703335	-11.3875	610.74936	1316.0035	0	635
6	8683	26.63104	-13.4375	738.67462	1465.1129	0	440
7	8683	29.30882	-15.3125	855.65361	1663.6774	0	440
8	8683	31.986595	-17.1875	972.6632	1862.2725	0	440
9	8683	34.66437	-19.0625	1089.6728	2060.837	0	440
10	8683	37.202445	-20.83968	1200.566	2213.6236	0	338.4
11	8683	39.600815	-22.519035	1305.3521	2397.3409	0	355.19
12	8683	40.95	-23.463745	1364.2976	2491.4508	0	364.64
13	8683	43.215555	-25.050105	1463.2835	2747.2139	0	380.5
14	8683	46.165555	-27.115715	1592.1765	3080.4428	0	401.16
15	8683	48.283335	-27.7	1628.6491	3081.8567	0	407
16	8683	50.85	-27.7	1628.6491	3175.2853	0	407
17	8683	53.416665	-27.7	1628.6491	3268.7139	0	407
18	8683	55.825	-27.7	1628.6222	3357.2	0	407
19	8683	58.075	-27.7	1628.6222	3440.6667	0	407
20	8683	60.65	-27.7	1628.6552	3536.8966	0	407
21	8683	63.6	-27.65	1625.5306	3636.314	0	406.5
22	8683	66.275	-26.425	1549.0753	3420.2904	0	394.25

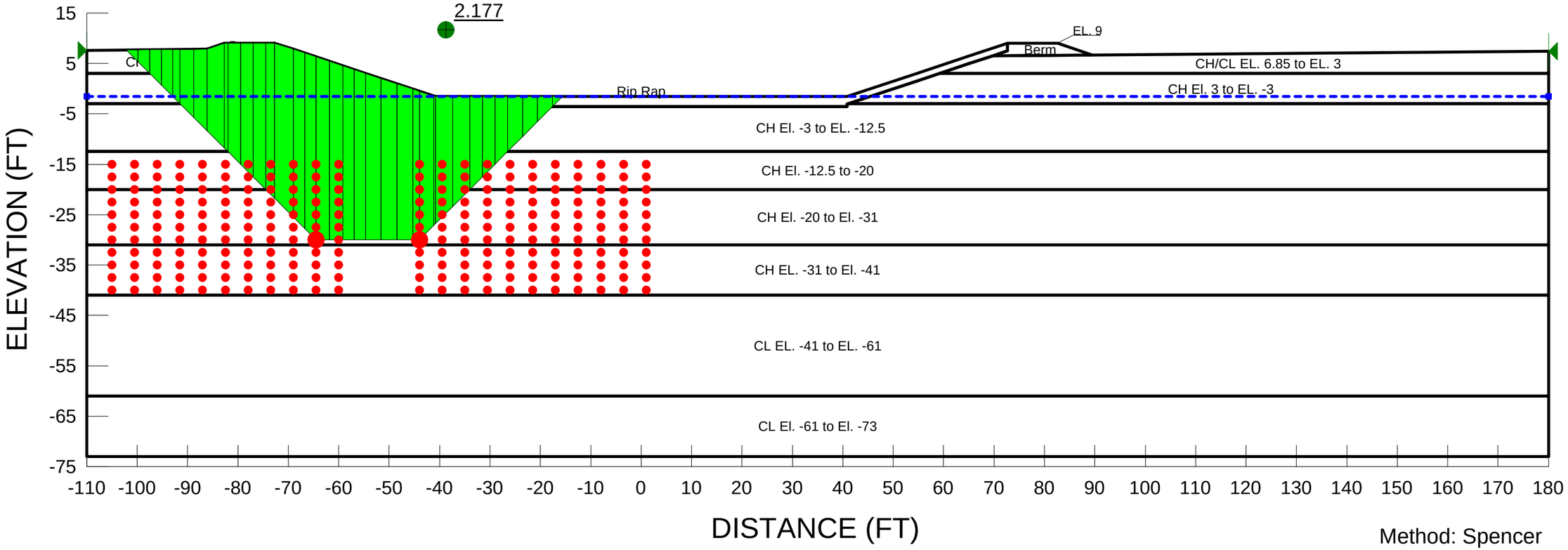
23	8683	68.625	-24.075	1402.4485	3269.8422	0	370.75
24	8683	71.25	-21.45	1238.6317	3102.2484	0	344.5
25	8683	73.95	-18.75	1070.1637	3092.6021	0	440
26	8683	76.45	-16.25	914.14762	2827.2674	0	440
27	8683	78.95	-13.75	758.15987	2561.8761	0	440
28	8683	81.45	-11.25	602.17212	2198.8475	0	635
29	8683	84.4	-8.3	418.08729	1519.0942	0	635
30	8683	87.8	-4.9	205.9199	1025.7208	0	635
31	8683	89.6	-3.1	93.599729	768.51904	0	635
32	8683	90.4	-2.3	43.680006	799.13167	0	400
33	8683	92.25	-0.45	-71.759045	597.01337	0	400
34	8683	94.55	1.85	-215.28021	345.68301	0	400
35	8683	97.588585	4.8885855	-404.88778	-190.35042	0	800

Slices of Slip Surface: **8620**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	8620	21.9	-2.6	62.398641	189.86171	114.76827	0
2	8620	24.383335	-5.0833335	217.35908	733.90537	0	635
3	8620	27.35	-8.05	402.47885	1045.2866	0	635
4	8620	30.316665	-11.016666	587.60577	1356.644	0	635
5	8620	33.05	-13.75	758.15987	1548.083	0	440
6	8620	35.55	-16.25	914.14762	1810.4762	0	440
7	8620	38.05	-18.75	1070.1637	2072.8693	0	440
8	8620	40.05	-20.75	1194.9635	2232.5722	0	337.5
9	8620	40.95	-21.65	1251.1311	2322.3035	0	346.5
10	8620	42.15778	-22.85778	1326.4716	2498.2895	0	358.58
11	8620	44.273335	-24.973335	1458.497	2806.9617	0	379.73
12	8620	46.165555	-26.865555	1576.5847	3083.0472	0	398.66
13	8620	48.283335	-27.7	1628.6491	3080.0645	0	407
14	8620	50.85	-27.7	1628.6491	3173.5321	0	407
15	8620	53.416665	-27.7	1628.6491	3266.9606	0	407
16	8620	55.825	-27.7	1628.6222	3355.4222	0	407
17	8620	58.075	-27.7	1628.6222	3438.8889	0	407
18	8620	60.675	-27.7	1628.6441	3536.2712	0	407
19	8620	63.625	-27.7	1628.6441	3647.1186	0	407
20	8620	66.275	-27.7	1628.6383	3746.2128	0	407
21	8620	68.625	-27.7	1628.6383	3833.3191	0	407
22	8620	69.9	-27.7	1628.65	3880.65	0	407
23	8620	71.35	-26.35	1544.3996	3631.6477	0	393.5
24	8620	73.95	-23.75	1382.1674	3690.2488	0	367.5
25	8620	76.45	-21.25	1226.1514	3435.1247	0	342.5
26	8620	78.95	-18.75	1070.1637	3117.7751	0	440
27	8620	81.45	-16.25	914.14762	2849.9231	0	440
28	8620	83.95	-13.75	758.15987	2230.1864	0	440
29	8620	86.275	-11.425	613.07806	1790.526	0	635
30	8620	88.425	-9.275	478.92509	1475.7813	0	635
31	8620	90.8	-6.9	330.70843	1180.3789	0	635
32	8620	93.4	-4.3	168.47908	904.30805	0	635
33	8620	95.4	-2.3	43.680006	808.82914	0	400
34	8620	97.25	-0.45	-71.759045	604.88377	0	400
35	8620	99.55	1.85	-215.28021	351.3706	0	400
36	8620	102.60805	4.9080735	-406.10749	-193.35364	0	800

Slices of Slip Surface: **9772**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	9772	6.869041	-2.6	62.399373	167.85139	94.949421	0
2	9772	9.8860045	-4.7125	194.21943	608.35194	0	635
3	9772	13.063635	-6.9375	333.06102	843.8663	0	635
4	9772	16.241265	-9.1625	471.90519	1079.3807	0	635
5	9772	19.418895	-11.3875	610.74936	1314.9208	0	635
6	9772	22.792895	-13.75	758.15333	1497.1263	0	440
7	9772	26.363265	-16.25	914.16612	1761.7744	0	440
8	9772	29.933635	-18.75	1070.156	2026.3997	0	440
9	9772	33.23235	-21.059785	1214.2799	2236.3186	0	340.6
10	9772	36.25941	-23.179355	1346.5539	2468.0417	0	361.79
11	9772	39.28647	-25.298925	1478.8008	2699.7918	0	382.99
12	9772	40.95	-26.463745	1551.5012	2817.8829	0	394.64
13	9772	43.215555	-28.050105	1650.4773	3073.4335	0	410.5
14	9772	46.165555	-30.115715	1779.3816	3406.5547	0	431.16
15	9772	48.925	-30.7	1815.8442	3423.1169	0	437
16	9772	52.775	-30.7	1815.8442	3563.1169	0	437
17	9772	56.95	-30.7	1815.8444	3716.6667	0	437
18	9772	60.65	-30.7	1815.8276	3854.8276	0	437
19	9772	63.6	-30.65	1812.7267	3953.8043	0	436.5
20	9772	67.45	-28.25	1662.9045	3651.078	0	412.5
21	9772	71.25	-24.45	1425.8444	3408.255	0	374.5
22	9772	74.2	-21.5	1241.7501	3434.6531	0	345
23	9772	77.45	-18.25	1038.9622	3041.7716	0	440
24	9772	80.95	-14.75	820.56719	2670.0355	0	440
25	9772	82.95	-12.75	695.76477	2147.059	0	440
26	9772	84.775	-10.925	581.87028	1784.4007	0	635
27	9772	87.925	-7.775	385.31705	1326.9587	0	635
28	9772	91.1	-4.6	187.19991	929.71292	0	635
29	9772	93.4	-2.3	43.680006	802.36416	0	400
30	9772	96.4	0.7	-143.51963	474.29959	0	400
31	9772	100.6003	4.9002785	-405.61517	-189.23498	0	800



Method: Spencer

Name: Berm Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 600 psf
Name: CH/CL EL. 6.85 to EL. 3 Model: Undrained (Phi=0) Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Undrained (Phi=0) Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 1300 psf
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN WEIR INLET
STATION: 18+20
3:1 SLOPE
NO LOADS
GLOBAL ANALYSIS (BLOCK METHOD)

5. Wedge L to R (Original)

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File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 134
Last Edited By: Hoppes, Andrew
Date: 9/16/2013
Time: 9:35:33 AM
File Name: 1. Sedimentation Basin Sta 18+20 - Original with Rip Rap.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/16/2013
Last Solved Time: 9:37:08 AM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

5. Wedge L to R (Original)

Kind: SLOPE/W
Method: Spencer
Settings
- Apply Phreatic Correction: No
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Left to Right
- Use Passive Mode: No
- Slip Surface Option: Block
- Critical slip surfaces saved: 20
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

FOS Distribution
- FOS Calculation Option: Constant

Restrict Block Crossing: Yes
Advanced
- Number of Slices: 30
- Optimization Tolerance: 0.01
- Minimum Slip Surface Depth: 0.1 ft
- Optimization Maximum Iterations: 2000
- Optimization Convergence Tolerance: 1e-007
- Starting Optimization Points: 8
- Ending Optimization Points: 16
- Complete Passes per Insertion: 1
- Driving Side Maximum Convex Angle: 5 °
- Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 600 psf

CH/CL EL. 6.85 to EL. 3

Model: Undrained (Phi=0)
Unit Weight: 112 pcf
Cohesion: 800 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. 3 to EL. -3

Model: Undrained (Phi=0)
Unit Weight: 110 pcf
Cohesion: 400 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 635 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -12.5 to -20

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH EL. -31 to El. -41

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 850 psf
Pore Water Pressure
- Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 1300 psf

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 42 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Limits

Left Coordinate: (-110, 7.6) ft
Right Coordinate: (180, 7.4) ft

Slip Surface Block

Left Grid
- Upper Left: (-105, -15) ft
- Lower Left: (-105, -40) ft
- Lower Right: (-60, -40) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 135 °
- Ending Angle: 115 °
- Angle Increments: 2

Right Grid
- Upper Left: (-44, -15) ft
- Lower Left: (-44, -40) ft
- Lower Right: (1, -40) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 45 °
- Ending Angle: 15 °
- Angle Increments: 2

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-1.6
	180	-1.6

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points	Area (ft²)
Region 1	CH El. -3 to EL. -12.5	4,2,1,30,46,34,35,36,37,43	2706.01
Region 2	CH El. -12.5 to -	2,14,13,1	2175

	20		
Region 3	CH EL. -31 to El. -41	5,7,8,6	2900
Region 4	CL EL. -41 to EL. -61	7,9,10,8	5800
Region 5	CL El. -61 to El. -73	9,11,12,10	3480
Region 6	CH El. -20 to El. -31	6,13,14,5	3190
Region 7	Berm	18,19,20,44	14.04
Region 8	CH/CL EL. 6.85 to EL. 3	16,17,18,44,31,32,45	207.25
Region 9	Berm	42,40,23,24,25	33.66
Region 10	CH/CL EL. 6.85 to EL. 3	39,42,25,26,3,41	456.27
Region 11	CH El. 3 to EL. -3	38,41,3,4,43	779.025
Region 12	CH El. 3 to EL. -3	45,33,46,30,16	359.025
Region 13	Rip Rap	20,44,31,32,45,33,46,34,35,36,37,43,38,41,39,42,40,23,28,29,22,21,15,27	259.215

Points

	X (ft)	Y (ft)
Point 1	-110	-12.5
Point 2	180	-12.5
Point 3	180	3
Point 4	180	-3
Point 5	180	-31
Point 6	-110	-31
Point 7	180	-41
Point 8	-110	-41
Point 9	180	-61
Point 10	-110	-61
Point 11	180	-73
Point 12	-110	-73
Point 13	-110	-20
Point 14	180	-20
Point 15	-54.7	3
Point 16	-110	3
Point 17	-110	7.6
Point 18	-86.1	7.8
Point 19	-82.7	9
Point 20	-72.7	9
Point 21	-40.8	-1.6
Point 22	40.8	-1.6
Point 23	72.7	9
Point 24	82.7	9
Point 25	89.5	6.7
Point 26	180	7.4
Point 27	-69	7.8
Point 28	65.1	6.5
Point 29	54.7	3
Point 30	-110	-3
Point 31	-72.7	7.5
Point 32	-69	6.3
Point 33	-54.7	1.5
Point 34	-40.8	-3.1
Point 35	-40.8	-3.6
Point 36	40.8	-3.6
Point 37	40.8	-3.1
Point 38	54.7	1.5
Point 39	65.1	5
Point 40	72.7	7.5
Point 41	59.2	3
Point 42	69.8	6.5
Point 43	41.1	-3
Point 44	-72.7	7.8
Point 45	-59.2	3
Point 46	-41.1	-3

Critical Slip Surfaces

	Slip Surface	FOS	Center (ft)	Radius (ft)	Entry (ft)	Exit (ft)
1	7426	2.177	(-58.139, 9.982)	42.724	(-102.166, 7.66556)	(-15.6, -1.6)
2	6337	2.196	(-58.1, 10.008)	40.276	(-99.6863, 7.68631)	(-18.1, -1.6)
3	7327	2.222	(-60.412, 9.935)	44.167	(-106.628, 7.62822)	(-15.6, -1.6)
4	6238	2.231	(-60.379, 9.961)	41.714	(-104.149, 7.64896)	(-18.1, -1.6)
5	7525	2.235	(-55.861, 10.029)	41.286	(-97.7029, 7.70291)	(-15.6, -1.6)
6	5248	2.235	(-58.055, 10.034)	37.831	(-97.207, 7.70705)	(-20.6, -1.6)
7	6436	2.259	(-55.816, 10.055)	38.841	(-95.2237, 7.72365)	(-18.1, -1.6)
8	5149	2.262	(-60.34, 9.987)	39.265	(-101.67, 7.66971)	(-20.6, -1.6)
9	7429	2.263	(-55.926, 9.982)	44.199	(-102.166, 7.66556)	(-11.1, -1.6)
10	7427	2.278	(-47.888, 9.982)	49.573	(-102.166, 7.66556)	(5.19024, -1.6)
11	6340	2.279	(-55.892, 10.008)	41.746	(-99.6863, 7.68631)	(-13.6, -1.6)
12	6338	2.295	(-48.77, 10.008)	46.535	(-99.6863, 7.68631)	(0.860116, -1.6)
13	7330	2.305	(-58.196, 9.935)	45.688	(-106.628, 7.62822)	(-11.1, -1.6)
14	4159	2.308	(-58.003, 10.06)	35.392	(-94.7278, 7.7278)	(-23.1, -1.6)
15	6241	2.308	(-58.166, 9.961)	43.186	(-104.149, 7.64896)	(-13.6, -1.6)
16	5251	2.313	(-55.853, 10.034)	39.297	(-97.207, 7.70705)	(-16.1, -1.6)
17	7526	2.315	(-45.626, 10.029)	48.096	(-97.7029, 7.70291)	(5.19024, -1.6)
18	7328	2.318	(-50.148, 9.935)	51.009	(-106.628, 7.62822)	(5.19024, -1.6)
19	7528	2.319	(-53.652, 10.029)	42.796	(-97.7029, 7.70291)	(-11.1, -1.6)
20	5347	2.323	(-55.764, 10.08)	36.403	(-92.7444, 7.7444)	(-20.6, -1.6)

Slices of Slip Surface: 7426

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	7426	-100.99919	6.49917	-505.38807	-230.79985	0	800
2	7426	-98.66639	4.16639	-359.83097	30.53001	0	800
3	7426	-96.35	1.85	-215.28021	468.47364	0	400
4	7426	-94.05	-0.45	-71.759045	721.5564	0	400
5	7426	-92.2	-2.3	43.680006	925.1482	0	400
6	7426	-90.15	-4.35	171.59909	1039.185	0	635
7	7426	-87.45	-7.05	340.09214	1325.5894	0	635
8	7426	-84.4	-10.1	530.39249	1715.9818	0	635
9	7426	-82.35	-12.15	658.31641	2000.001	0	635
10	7426	-80.75	-13.75	758.15987	2256.2928	0	440
11	7426	-78.25	-16.25	914.14762	2519.1668	0	440
12	7426	-75.75	-18.75	1070.1637	2782.0126	0	440
13	7426	-73.6	-20.9	1204.3209	3053.7197	0	339
14	7426	-70.85	-23.65	1375.9152	3294.3533	0	366.5
15	7426	-67.875	-26.625	1561.5744	3485.2502	0	396.25
16	7426	-65.625	-28.875	1701.9586	3627.6144	0	418.75
17	7426	-63.175	-30	1772.1509	3876.9811	0	430
18	7426	-60.525	-30	1772.1509	3777.3585	0	430
19	7426	-58.075	-30	1772.1778	3685.9111	0	430

20	7426	-55.825	-30	1772.1778	3602.7111	0	430
21	7426	-53.13852	-30	1772.1632	3504.3643	0	430
22	7426	-50.015555	-30	1772.1632	3390.6902	0	430
23	7426	-46.89259	-30	1772.1632	3277.0161	0	430
24	7426	-44.665555	-30	1772.1287	3195.8266	0	430
25	7426	-42.55	-28.55	1681.6707	3181.7369	0	415.5
26	7426	-40.95	-26.95	1581.8449	2944.8638	0	399.5
27	7426	-39.1	-25.1	1466.3939	2747.7338	0	381
28	7426	-35.7	-21.7	1254.2411	2368.5998	0	347
29	7426	-32.75	-18.75	1070.1637	2096.6847	0	440
30	7426	-30.25	-16.25	914.14762	1829.5115	0	440
31	7426	-27.75	-13.75	758.15987	1562.3382	0	440
32	7426	-25.016665	-11.016666	587.60577	1361.2442	0	635
33	7426	-22.05	-8.05	402.47885	1044.1902	0	635
34	7426	-19.083335	-5.0833335	217.35908	727.16005	0	635
35	7426	-16.6	-2.6	62.398641	189.54705	114.48494	0

Slices of Slip Surface: **6337**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	6337	-98.51473	6.5147305	-506.34951	-226.67281	0	800
2	6337	-96.171575	4.171577	-360.13917	35.576342	0	800
3	6337	-93.85	1.85	-215.28021	472.03992	0	400
4	6337	-91.55	-0.45	-71.759045	724.87673	0	400
5	6337	-89.7	-2.3	43.680006	928.27967	0	400
6	6337	-87.55	-4.45	177.83981	1053.7843	0	635
7	6337	-84.4	-7.6	374.39225	1454.4147	0	635
8	6337	-81.1	-10.9	580.31375	1869.4579	0	635
9	6337	-78.366665	-13.633335	750.88495	2243.7952	0	440
10	6337	-76.1	-15.9	892.32709	2481.8822	0	440
11	6337	-73.833335	-18.166665	1033.7692	2720.0004	0	440
12	6337	-72.35	-19.65	1126.3201	2893.885	0	440
13	6337	-70.5	-21.5	1241.7501	3064.1292	0	345
14	6337	-67.875	-24.125	1405.5709	3232.2632	0	371.25
15	6337	-65.625	-26.375	1545.9552	3374.6273	0	393.75
16	6337	-63.175	-27.5	1616.1509	3611.9245	0	405
17	6337	-60.525	-27.5	1616.1509	3512.3774	0	405
18	6337	-58.075	-27.5	1616.1778	3420.9778	0	405
19	6337	-55.825	-27.5	1616.1778	3337.7778	0	405
20	6337	-53.13852	-27.5	1616.1575	3239.2315	0	405
21	6337	-50.015555	-27.5	1616.1575	3125.6534	0	405
22	6337	-46.89259	-27.5	1616.1575	3011.9473	0	405
23	6337	-44.665555	-27.5	1616.1687	2930.86	0	405
24	6337	-42.55	-26.05	1525.6683	2904.2585	0	390.5
25	6337	-40.95	-24.45	1425.8336	2667.2066	0	374.5
26	6337	-39.725	-23.225	1349.39	2539.7961	0	362.25
27	6337	-37.575	-21.075	1215.2371	2299.8403	0	340.75
28	6337	-35.25	-18.75	1070.1637	2097.1655	0	440
29	6337	-32.75	-16.25	914.14762	1829.7377	0	440
30	6337	-30.25	-13.75	758.15987	1562.31	0	440
31	6337	-27.516665	-11.016666	587.60577	1360.3385	0	635
32	6337	-24.55	-8.05	402.47885	1042.9985	0	635
33	6337	-21.583335	-5.0833335	217.35908	725.65844	0	635
34	6337	-19.1	-2.6	62.398641	189.17582	114.15069	0

Slices of Slip Surface: **7327**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	7327	-105.47115	6.471162	-503.62964	-224.69606	0	800
2	7327	-	4.157054	-359.25092	34.592835	0	800
		103.15705					
3	7327	-100.85	1.85	-215.28021	467.98174	0	400
4	7327	-98.55	-0.45	-71.759045	721.12598	0	400
5	7327	-96.7	-2.3	43.680006	924.74414	0	400
6	7327	-94.416665	-4.5833335	186.16037	1065.6843	0	635
7	7327	-91.25	-7.75	383.75801	1401.6345	0	635
8	7327	-88.083335	-10.916667	581.35342	1737.607	0	635
9	7327	-86.3	-12.7	692.64648	2013.1331	0	440
10	7327	-84.4	-14.6	811.19708	2281.6673	0	440
11	7327	-80.85	-18.15	1032.7199	2723.5079	0	440
12	7327	-77.425	-21.575	1246.4384	3125.4118	0	345.75
13	7327	-74.275	-24.725	1442.9916	3442.5997	0	377.25
14	7327	-70.85	-28.15	1656.713	3751.6794	0	411.5
15	7327	-67.366665	-30	1772.1733	4034.3873	0	430
16	7327	-64.1	-30	1772.1733	3911.6323	0	430
17	7327	-60.833335	-30	1772.1733	3788.8772	0	430
18	7327	-56.95	-30	1772.1556	3644.2222	0	430
19	7327	-53.13852	-30	1772.1632	3504.0441	0	430
20	7327	-50.015555	-30	1772.1632	3390.37	0	430
21	7327	-46.89259	-30	1772.1632	3276.6959	0	430
22	7327	-44.665555	-30	1772.1287	3195.7515	0	430
23	7327	-42.55	-28.55	1681.6707	3177.1042	0	415.5
24	7327	-40.95	-26.95	1581.8449	2940.3855	0	399.5
25	7327	-39.1	-25.1	1466.3939	2743.5744	0	381
26	7327	-35.7	-21.7	1254.2411	2364.8563	0	347
27	7327	-32.125	-18.125	1031.1691	2025.3423	0	440
28	7327	-28.375	-14.375	797.16388	1624.6485	0	440
29	7327	-25.016665	-11.016666	587.60577	1354.9756	0	635
30	7327	-22.05	-8.05	402.47885	1037.9931	0	635
31	7327	-	-5.0833335	217.35908	721.01061	0	635
		19.083335					
32	7327	-16.6	-2.6	62.398641	187.6414	112.76909	0

Slices of Slip Surface: **6238**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	6238	-102.98675	6.486722	-504.60665	-222.91762	0	800
2	6238	-100.66225	4.1622405	-359.56418	37.605181	0	800
3	6238	-98.35	1.85	-215.28021	471.05612	0	400
4	6238	-96.05	-0.45	-71.759045	724.26185	0	400
5	6238	-94.2	-2.3	43.680006	927.92612	0	400
6	6238	-92.266665	-4.2333335	164.31922	1032.1658	0	635
7	6238	-89.8	-6.7	318.22676	1293.9196	0	635
8	6238	-87.333335	-9.1666665	472.16584	1555.702	0	635
9	6238	-85.05	-11.45	614.64425	1839.3197	0	635
10	6238	-83.35	-13.15	720.70484	2172.7211	0	440
11	6238	-81.15	-15.35	857.99425	2430.3945	0	440
12	6238	-78.05	-18.45	1051.445	2756.3479	0	440
13	6238	-74.6	-21.9	1266.7259	3159.4645	0	349
14	6238	-70.85	-25.65	1500.7291	3501.3253	0	386.5
15	6238	-67.366665	-27.5	1616.1733	3768.9792	0	405
16	6238	-64.1	-27.5	1616.1733	3646.5302	0	405
17	6238	-60.833335	-27.5	1616.1733	3523.7752	0	405
18	6238	-58.075	-27.5	1616.1778	3420.7111	0	405
19	6238	-55.825	-27.5	1616.1778	3337.5111	0	405
20	6238	-53.13852	-27.5	1616.1575	3238.9113	0	405
21	6238	-50.015555	-27.5	1616.1575	3125.3652	0	405
22	6238	-46.89259	-27.5	1616.1575	3011.6591	0	405
23	6238	-	-27.5	1616.1687	2930.5595	0	405

		44.665555					
24	6238	-42.55	-26.05	1525.6683	2897.1874	0	390.5
25	6238	-40.95	-24.45	1425.8336	2660.3712	0	374.5
26	6238	-38.65	-22.15	1282.3135	2413.5365	0	351.5
27	6238	-35.25	-18.75	1070.1637	2090.6884	0	440
28	6238	-32.75	-16.25	914.14762	1823.6566	0	440
29	6238	-30.25	-13.75	758.15987	1556.5965	0	440
30	6238	-27.516665	-11.016666	587.60577	1353.4025	0	635
31	6238	-24.55	-8.05	402.47885	1036.5153	0	635
32	6238	-21.583335	-5.0833335	217.35908	719.60434	0	635
33	6238	-19.1	-2.6	62.398641	187.19946	112.37116	0

Slices of Slip Surface: **7525**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	7525	-96.527175	6.5271785	-507.14849	-216.46355	0	800
2	7525	-94.175725	4.175726	-360.4017	45.145688	0	800
3	7525	-91.85	1.85	-215.28021	475.26802	0	400
4	7525	-89.55	-0.45	-71.759045	726.62912	0	400
5	7525	-87.7	-2.3	43.680006	928.78475	0	400
6	7525	-86.55	-3.45	115.43913	950.66594	0	635
7	7525	-84.4	-5.6	249.6087	1243.5721	0	635
8	7525	-81.4	-8.6	436.80165	1624.8227	0	635
9	7525	-78.8	-11.2	599.02827	1896.3245	0	635
10	7525	-76.3	-13.7	755.04263	2241.9996	0	440
11	7525	-73.9	-16.1	904.80193	2492.61	0	440
12	7525	-71.35	-18.65	1063.9075	2740.9551	0	440
13	7525	-69.5	-20.5	1179.383	2913.5619	0	335
14	7525	-67.5	-22.5	1304.1641	3040.3232	0	355
15	7525	-64.5	-25.5	1491.3588	3229.5921	0	385
16	7525	-61.5	-28.5	1678.5535	3418.861	0	415
17	7525	-59.6	-30	1772.125	3743.875	0	430
18	7525	-58.075	-30	1772.1778	3687.2	0	430
19	7525	-55.825	-30	1772.1778	3604	0	430
20	7525	-53.13852	-30	1772.1632	3505.6451	0	430
21	7525	-50.015555	-30	1772.1632	3391.971	0	430
22	7525	-46.89259	-30	1772.1632	3278.2969	0	430
23	7525	-44.665555	-30	1772.1287	3197.1038	0	430
24	7525	-42.55	-28.55	1681.6707	3200.5118	0	415.5
25	7525	-40.95	-26.95	1581.8449	2962.0701	0	399.5
26	7525	-39.1	-25.1	1466.3939	2763.7477	0	381
27	7525	-35.7	-21.7	1254.2411	2382.118	0	347
28	7525	-32.75	-18.75	1070.1637	2107.6024	0	440
29	7525	-30.25	-16.25	914.14762	1838.5342	0	440
30	7525	-27.75	-13.75	758.15987	1569.4659	0	440
31	7525	-25.016665	-11.016666	587.60577	1365.2008	0	635
32	7525	-22.05	-8.05	402.47885	1045.9063	0	635
33	7525	-19.083335	-5.0833335	217.35908	726.61185	0	635
34	7525	-16.6	-2.6	62.398641	190.09506	114.97837	0

Slices of Slip Surface: **5248**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	5248	-96.03029	6.5302905	-507.33237	-218.35482	0	800
2	5248	-93.676765	4.1767635	-360.47458	44.408858	0	800
3	5248	-91.35	1.85	-215.28021	476.77446	0	400
4	5248	-89.05	-0.45	-71.759045	729.02713	0	400
5	5248	-87.2	-2.3	43.680006	931.91622	0	400
6	5248	-86.3	-3.2	99.839946	927.08774	0	635
7	5248	-84.4	-5.1	218.39201	1194.5737	0	635
8	5248	-81.275	-8.225	413.39692	1590.2706	0	635
9	5248	-78.425	-11.075	591.24046	1888.9178	0	635
10	5248	-75.925	-13.575	747.23102	2236.1349	0	440
11	5248	-73.775	-15.725	881.38398	2461.4224	0	440
12	5248	-71.1	-18.4	1048.3301	2714.8483	0	440
13	5248	-69.25	-20.25	1163.7563	2889.2382	0	332.5
14	5248	-67.875	-21.625	1249.5675	2976.5734	0	346.25
15	5248	-65.625	-23.875	1389.9517	3118.9375	0	368.75
16	5248	-63.175	-25	1460.1509	3347.2453	0	380
17	5248	-60.525	-25	1460.1509	3247.6604	0	380
18	5248	-58.075	-25	1460.1778	3156.2667	0	380
19	5248	-55.825	-25	1460.1778	3073.0667	0	380
20	5248	-53.52889	-25	1460.1519	2988.8286	0	380
21	5248	-51.18667	-25	1460.1519	2903.5676	0	380
22	5248	-48.844445	-25	1460.1519	2818.3067	0	380
23	5248	-46.50222	-25	1460.1519	2733.0458	0	380
24	5248	-44.665555	-25	1460.1337	2666.1939	0	380
25	5248	-42.55	-23.55	1369.6903	2629.2183	0	365.5
26	5248	-40.95	-21.95	1269.8458	2391.6707	0	349.5
27	5248	-39.9	-20.9	1204.3209	2283.6017	0	339
28	5248	-37.75	-18.75	1070.1637	2099.2868	0	440
29	5248	-35.25	-16.25	914.14762	1831.1802	0	440
30	5248	-32.75	-13.75	758.15987	1563.1019	0	440
31	5248	-30.016665	-11.016666	587.60577	1359.2659	0	635
32	5248	-27.05	-8.05	402.47885	1041.1155	0	635
33	5248	-24.083335	-5.0833335	217.35908	722.96508	0	635
34	5248	-21.6	-2.6	62.398641	188.6066	113.63816	0

Slices of Slip Surface: **6436**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	6436	-94.04274	6.5427385	-508.0946	-212.0938	0	800
2	6436	-91.680915	4.180913	-360.73489	50.638808	0	800
3	6436	-89.4	1.9	-218.39956	473.92222	0	400
4	6436	-87.2	-0.3	-81.121214	714.33852	0	400
5	6436	-86	-1.5	-6.2398641	849.3767	0	400
6	6436	-85.2	-2.3	43.680006	968.02918	0	400
7	6436	-83.6	-3.9	143.51913	1100.9262	0	635
8	6436	-81.416665	-6.0833335	279.76632	1364.8629	0	635
9	6436	-78.85	-8.65	439.91223	1632.838	0	635
10	6436	-76.283335	-11.216666	600.08568	1900.8131	0	635
11	6436	-73.85	-13.65	751.93125	2238.608	0	440
12	6436	-70.85	-16.65	939.11428	2516.1536	0	440
13	6436	-68.25	-19.25	1101.3426	2693.6059	0	440
14	6436	-66.25	-21.25	1226.1514	2870.2878	0	342.5
15	6436	-63.75	-23.75	1382.1674	3028.114	0	367.5
16	6436	-61.25	-26.25	1538.1552	3185.9402	0	392.5
17	6436	-59.6	-27.5	1616.125	3478.75	0	405
18	6436	-58.075	-27.5	1616.1778	3422.0444	0	405
19	6436	-55.825	-27.5	1616.1778	3338.8444	0	405
20	6436	-53.52889	-27.5	1616.1576	3254.6018	0	405
21	6436	-51.18667	-27.5	1616.1576	3169.3409	0	405
22	6436	-48.844445	-27.5	1616.1576	3084.08	0	405
23	6436	-46.50222	-27.5	1616.1576	2998.8191	0	405
24	6436	-44.665555	-27.5	1616.1687	2931.9869	0	405
25	6436	-42.55	-26.05	1525.6683	2918.4006	0	390.5
26	6436	-40.95	-24.45	1425.8336	2679.9345	0	374.5
27	6436	-39.725	-23.225	1349.39	2551.965	0	362.25
28	6436	-37.575	-21.075	1215.2371	2310.7264	0	340.75
29	6436	-35.25	-18.75	1070.1637	2105.7639	0	440
30	6436	-32.75	-16.25	914.14762	1836.6674	0	440
31	6436	-30.25	-13.75	758.15987	1567.5426	0	440
32	6436	-27.516665	-11.016666	587.60577	1362.3406	0	635
33	6436	-24.55	-8.05	402.47885	1042.9985	0	635
34	6436	-	-5.0833335	217.35908	723.68013	0	635

		21.583335					
35	6436	-19.1	-2.6	62.398641	189.20411	114.17615	0

Slices of Slip Surface: **5149**

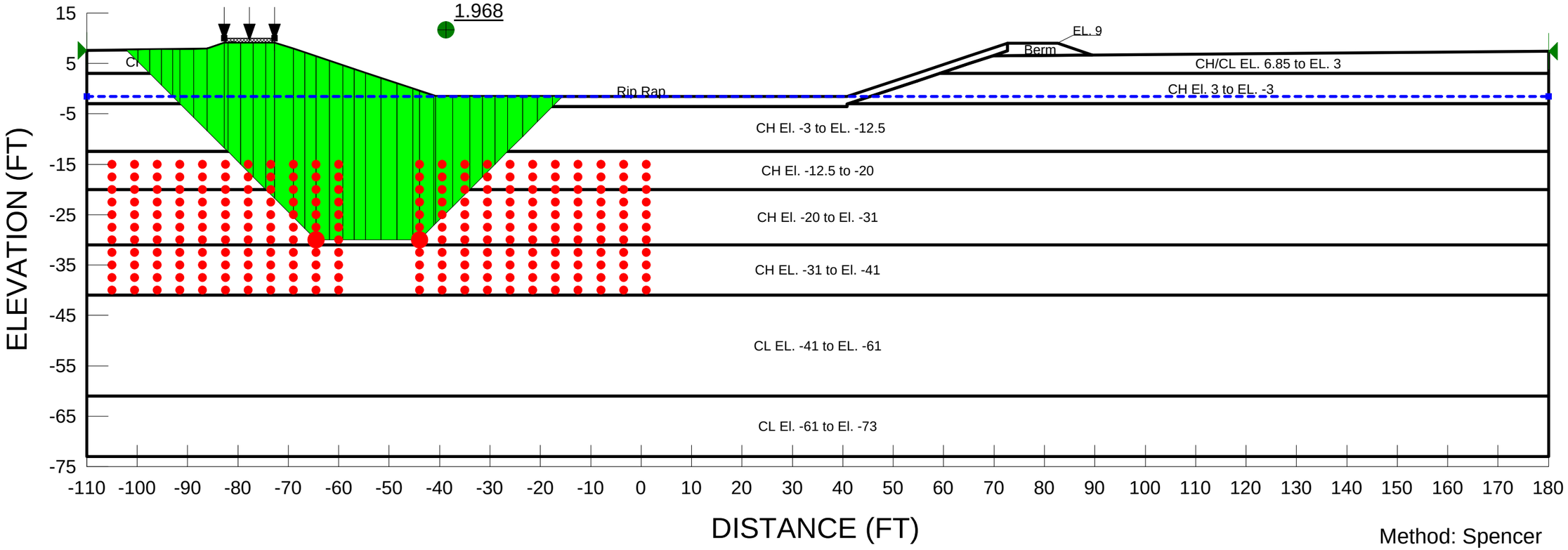
	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	5149	-100.50228	6.5022825	-505.57498	-216.59409	0	800
2	5149	-98.167425	4.1674275	-359.87466	44.72464	0	800
3	5149	-95.85	1.85	-215.28021	475.45248	0	400
4	5149	-93.55	-0.45	-71.759045	728.28928	0	400
5	5149	-91.7	-2.3	43.680006	931.71419	0	400
6	5149	-89.775	-4.225	163.80058	1036.4743	0	635
7	5149	-87.325	-6.675	316.66841	1296.1124	0	635
8	5149	-84.4	-9.6	499.1966	1672.8691	0	635
9	5149	-82.1	-11.9	642.70124	1982.8456	0	635
10	5149	-80.25	-13.75	758.15987	2261.8365	0	440
11	5149	-77.75	-16.25	914.14762	2524.456	0	440
12	5149	-75.25	-18.75	1070.1637	2787.0754	0	440
13	5149	-73.35	-20.65	1188.7007	3031.5837	0	336.5
14	5149	-70.85	-23.15	1344.726	3247.3402	0	361.5
15	5149	-67.775	-25	1460.1633	3519.5918	0	380
16	5149	-65.325	-25	1460.1633	3427.551	0	380
17	5149	-62.875	-25	1460.1633	3335.5102	0	380
18	5149	-60.425	-25	1460.1633	3243.4694	0	380
19	5149	-58.075	-25	1460.1778	3155.8222	0	380
20	5149	-55.825	-25	1460.1778	3072.6222	0	380
21	5149	-53.13852	-25	1460.1518	2974.1627	0	380
22	5149	-50.015555	-25	1460.1518	2860.4886	0	380
23	5149	-46.89259	-25	1460.1518	2746.8145	0	380
24	5149	-44.665555	-25	1460.1337	2665.7431	0	380
25	5149	-42.55	-23.55	1369.6903	2620.1966	0	365.5
26	5149	-40.95	-21.95	1269.8458	2383.4211	0	349.5
27	5149	-39.9	-20.9	1204.3209	2275.6664	0	339
28	5149	-37.75	-18.75	1070.1637	2091.141	0	440
29	5149	-35.25	-16.25	914.14762	1823.7132	0	440
30	5149	-32.75	-13.75	758.15987	1556.2854	0	440
31	5149	-30.016665	-11.016666	587.60577	1351.6863	0	635
32	5149	-27.05	-8.05	402.47885	1034.3225	0	635
33	5149	-24.083335	-5.0833335	217.35908	716.98248	0	635
34	5149	-21.6	-2.6	62.398641	186.56306	111.79815	0

Slices of Slip Surface: **7429**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	7429	-100.99919	6.49917	-505.38807	-214.66792	0	800
2	7429	-98.66639	4.16639	-359.83097	45.510085	0	800
3	7429	-96.35	1.85	-215.28021	473.97678	0	400
4	7429	-94.05	-0.45	-71.759045	725.95276	0	400
5	7429	-92.2	-2.3	43.680006	928.63323	0	400
6	7429	-90.15	-4.35	171.59909	1046.5965	0	635
7	7429	-87.45	-7.05	340.09214	1331.7438	0	635
8	7429	-84.4	-10.1	530.39249	1720.4116	0	635
9	7429	-82.35	-12.15	658.31641	2003.1325	0	635
10	7429	-80.125	-14.375	797.16388	2320.0644	0	440
11	7429	-76.375	-18.125	1031.1691	2712.6501	0	440
12	7429	-73.6	-20.9	1204.3209	3046.6486	0	339
13	7429	-70.85	-23.65	1375.9152	3286.9	0	366.5
14	7429	-66.75	-27.75	1631.6882	3548.5761	0	407.5
15	7429	-63.175	-30	1772.1509	3877.7358	0	430
16	7429	-60.525	-30	1772.1509	3778.1132	0	430
17	7429	-56.95	-30	1772.1556	3645.1111	0	430
18	7429	-53.13852	-30	1772.1632	3505.0047	0	430
19	7429	-50.015555	-30	1772.1632	3391.3306	0	430
20	7429	-46.89259	-30	1772.1632	3277.6565	0	430
21	7429	-43.215555	-30	1772.1587	3143.8551	0	430
22	7429	-40.95	-30	1772.1667	3061.5667	0	430
23	7429	-40.15	-30	1772.1538	3070.7692	0	430
24	7429	-37.833335	-28.333335	1668.164	3116.0076	0	413.33
25	7429	-34.5	-25	1460.1685	2743.0795	0	380
26	7429	-31.166665	-21.666665	1252.1518	2370.1513	0	346.67
27	7429	-27.625	-18.125	1031.1691	2032.1306	0	440
28	7429	-23.875	-14.375	797.16388	1629.6077	0	440
29	7429	-20.516665	-11.016666	587.60577	1357.4783	0	635
30	7429	-17.55	-8.05	402.47885	1038.9942	0	635
31	7429	-14.583335	-5.0833335	217.35908	720.51007	0	635
32	7429	-12.1	-2.6	62.398641	187.9702	113.06514	0

Slices of Slip Surface: **7427**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	7427	-99.8328	5.33278	-432.60952	-84.762306	0	800
2	7427	-95.2	0.7	-143.51963	603.51567	0	400
3	7427	-92.2	-2.3	43.680006	934.03754	0	400
4	7427	-90.15	-4.35	171.59909	1052.8033	0	635
5	7427	-87.45	-7.05	340.09214	1339.5744	0	635
6	7427	-84.4	-10.1	530.39249	1730.4359	0	635
7	7427	-82.35	-12.15	658.31641	2014.7492	0	635
8	7427	-80.125	-14.375	797.16388	2333.4523	0	440
9	7427	-76.375	-18.125	1031.1691	2728.3007	0	440
10	7427	-73.6	-20.9	1204.3209	3064.1299	0	339
11	7427	-70.85	-23.65	1375.9152	3305.6288	0	366.5
12	7427	-66.75	-27.75	1631.6882	3568.8465	0	407.5
13	7427	-61.85	-30	1772.1509	3826.7925	0	430
14	7427	-56.95	-30	1772.1556	3644	0	430
15	7427	-53.13852	-30	1772.1632	3504.0441	0	430
16	7427	-50.015555	-30	1772.1632	3390.37	0	430
17	7427	-46.89259	-30	1772.1632	3276.6959	0	430
18	7427	-44.665555	-30	1772.1287	3195.5261	0	430
19	7427	-42.55	-29.16284	1719.9262	3149.0471	0	421.63
20	7427	-40.95	-28.23908	1662.2778	2990.0967	0	412.39
21	7427	-39.034935	-27.13342	1593.282	2878.8786	0	401.33
22	7427	-35.50481	-25.0953	1466.106	2656.8602	0	380.95
23	7427	-31.974685	-23.05718	1338.93	2434.6211	0	360.57
24	7427	-28.444555	-21.01906	1211.754	2212.4801	0	340.19
25	7427	-25.055695	-19.0625	1089.6533	2029.9467	0	440
26	7427	-21.8081	-17.1875	972.66667	1830.4	0	440
27	7427	-18.560505	-15.3125	855.65333	1630.88	0	440
28	7427	-15.31291	-13.4375	738.66667	1431.3333	0	440
29	7427	-11.762204	-11.3875	610.74157	1263.3708	0	635
30	7427	-7.9083915	-9.1625	471.91011	1026.5843	0	635
31	7427	-4.0545785	-6.9375	333.05618	789.79775	0	635
32	7427	-0.2007655	-4.7125	194.22022	553.01124	0	635
33	7427	3.458192	-2.6	62.4	157.6175	85.734222	0



Method: Spencer

Name: Berm Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 600 psf
Name: CH/CL EL. 6.85 to EL. 3 Model: Undrained (Phi=0) Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Undrained (Phi=0) Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 1300 psf
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

Surcharge (Unit Weight): 300 pcf

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN WEIR INLET
STATION: 18+20
3:1 SLOPE
DUMP TRUCK ON BERM CREST
GLOBAL ANALYSIS (BLOCK METHOD)

6. Wedge L to R (Dist. Loads)

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File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 134
Last Edited By: Hoppes, Andrew
Date: 9/16/2013
Time: 9:35:33 AM
File Name: 1. Sedimentation Basin Sta 18+20 - Original with Rip Rap.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/16/2013
Last Solved Time: 9:37:24 AM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

6. Wedge L to R (Dist. Loads)

Kind: SLOPE/W
Method: Spencer
Settings
- Apply Phreatic Correction: No
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Left to Right
- Use Passive Mode: No
- Slip Surface Option: Block
- Critical slip surfaces saved: 20
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

FOS Distribution
- FOS Calculation Option: Constant

Restrict Block Crossing: Yes
Advanced
- Number of Slices: 30
- Optimization Tolerance: 0.01
- Minimum Slip Surface Depth: 0.1 ft
- Optimization Maximum Iterations: 2000
- Optimization Convergence Tolerance: 1e-007
- Starting Optimization Points: 8
- Ending Optimization Points: 16
- Complete Passes per Insertion: 1
- Driving Side Maximum Convex Angle: 5 °
- Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 600 psf

CH/CL EL. 6.85 to EL. 3

Model: Undrained (Phi=0)
Unit Weight: 112 pcf
Cohesion: 800 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. 3 to EL. -3

Model: Undrained (Phi=0)
Unit Weight: 110 pcf
Cohesion: 400 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 635 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -12.5 to -20

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH EL. -31 to El. -41

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 850 psf
Pore Water Pressure
- Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 1300 psf

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 42 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Limits

Left Coordinate: (-110, 7.6) ft
Right Coordinate: (180, 7.4) ft

Slip Surface Block

Left Grid
- Upper Left: (-105, -15) ft
- Lower Left: (-105, -40) ft
- Lower Right: (-60, -40) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 135 °
- Ending Angle: 115 °
- Angle Increments: 2

Right Grid
- Upper Left: (-44, -15) ft
- Lower Left: (-44, -40) ft
- Lower Right: (1, -40) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 45 °
- Ending Angle: 15 °
- Angle Increments: 2

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-1.6
	180	-1.6

Surcharge Loads

Surcharge Load 1

Surcharge (Unit Weight): 300 pcf
Direction: Vertical

Coordinates

	X (ft)	Y (ft)
	-82.7	10
	-72.7	10

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points	Area (ft²)
Region 1	CH El. -3 to EL. -12.5	4,2,1,30,46,34,35,36,37,43	2706.01
Region 2	CH El. -12.5 to -20	2,14,13,1	2175
Region 3	CH EL. -31 to El. -41	5,7,8,6	2900
Region 4	CL EL. -41 to EL. -61	7,9,10,8	5800
Region 5	CL El. -61 to El. -73	9,11,12,10	3480
Region 6	CH El. -20 to El. -31	6,13,14,5	3190
Region 7	Berm	18,19,20,44	14.04
Region 8	CH/CL EL. 6.85 to EL. 3	16,17,18,44,31,32,45	207.25
Region 9	Berm	42,40,23,24,25	33.66
Region 10	CH/CL EL. 6.85 to EL. 3	39,42,25,26,3,41	456.27
Region 11	CH El. 3 to EL. -3	38,41,3,4,43	779.025
Region 12	CH El. 3 to EL. -3	45,33,46,30,16	359.025
Region 13	Rip Rap	20,44,31,32,45,33,46,34,35,36,37,43,38,41,39,42,40,23,28,29,22,21,15,27	259.215

Points

	X (ft)	Y (ft)
Point 1	-110	-12.5
Point 2	180	-12.5
Point 3	180	3
Point 4	180	-3
Point 5	180	-31
Point 6	-110	-31
Point 7	180	-41
Point 8	-110	-41
Point 9	180	-61
Point 10	-110	-61
Point 11	180	-73
Point 12	-110	-73
Point 13	-110	-20
Point 14	180	-20
Point 15	-54.7	3
Point 16	-110	3
Point 17	-110	7.6
Point 18	-86.1	7.8
Point 19	-82.7	9
Point 20	-72.7	9
Point 21	-40.8	-1.6
Point 22	40.8	-1.6
Point 23	72.7	9
Point 24	82.7	9
Point 25	89.5	6.7
Point 26	180	7.4
Point 27	-69	7.8
Point 28	65.1	6.5
Point 29	54.7	3
Point 30	-110	-3
Point 31	-72.7	7.5
Point 32	-69	6.3
Point 33	-54.7	1.5
Point 34	-40.8	-3.1
Point 35	-40.8	-3.6
Point 36	40.8	-3.6
Point 37	40.8	-3.1
Point 38	54.7	1.5
Point 39	65.1	5
Point 40	72.7	7.5
Point 41	59.2	3
Point 42	69.8	6.5
Point 43	41.1	-3
Point 44	-72.7	7.8
Point 45	-59.2	3
Point 46	-41.1	-3

Critical Slip Surfaces

	Slip Surface	FOS	Center (ft)	Radius (ft)	Entry (ft)	Exit (ft)
1	7426	1.968	(-58.139, 9.982)	42.724	(-102.166, 7.66556)	(-15.6, -1.6)
2	6337	1.977	(-58.1, 10.008)	40.276	(-99.6863, 7.68631)	(-18.1, -1.6)
3	7327	1.979	(-60.412, 9.935)	44.167	(-106.628, 7.62822)	(-15.6, -1.6)
4	6238	1.979	(-60.379, 9.961)	41.714	(-104.149, 7.64896)	(-18.1, -1.6)
5	5149	1.999	(-60.34, 9.987)	39.265	(-101.67, 7.66971)	(-20.6, -1.6)
6	5248	2.009	(-58.055, 10.034)	37.831	(-97.207, 7.70705)	(-20.6, -1.6)
7	4060	2.043	(-60.294, 10.013)	36.974	(-99.1905, 7.69046)	(-23.1, -1.6)
8	7429	2.051	(-55.926, 9.982)	44.199	(-102.166, 7.66556)	(-11.1, -1.6)
9	7361	2.054	(-44.464, 10.053)	47.354	(-95.4133, 7.72206)	(5.19024, -1.6)
10	6241	2.056	(-58.166, 9.961)	43.186	(-104.149, 7.64896)	(-13.6, -1.6)
11	7525	2.056	(-55.861, 10.029)	41.286	(-97.7029, 7.70291)	(-15.6, -1.6)
12	6272	2.059	(-45.715, 10.071)	44.534	(-93.673, 7.73663)	(0.860116, -1.6)
13	7330	2.060	(-58.196, 9.935)	45.688	(-106.628, 7.62822)	(-11.1, -1.6)
14	6340	2.063	(-55.892, 10.008)	41.746	(-99.6863, 7.68631)	(-13.6, -1.6)
15	5152	2.073	(-58.132, 9.987)	40.735	(-101.67, 7.66971)	(-16.1, -1.6)
16	7427	2.073	(-47.888, 9.982)	49.573	(-102.166, 7.66556)	(5.19024, -1.6)
17	4159	2.075	(-58.003, 10.06)	35.392	(-94.7278, 7.7278)	(-23.1, -1.6)
18	5183	2.076	(-46.96, 10.089)	41.729	(-91.9326, 7.75119)	(-3.47001, -1.6)
19	6338	2.082	(-48.77, 10.008)	46.535	(-99.6863, 7.68631)	(0.860116, -1.6)
20	6139	2.082	(-62.653, 9.915)	43.149	(-108.612, 7.61162)	(-18.1, -1.6)

Slices of Slip Surface: 7426

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	7426	-100.99919	6.49917	-505.38807	-272.75133	0	800
2	7426	-98.66639	4.16639	-359.83097	-10.103518	0	800
3	7426	-96.35	1.85	-215.28021	450.45779	0	400
4	7426	-94.05	-0.45	-71.759045	704.80104	0	400
5	7426	-92.2	-2.3	43.680006	909.44033	0	400
6	7426	-90.15	-4.35	171.59909	1012.053	0	635
7	7426	-87.45	-7.05	340.09214	1299.8978	0	635
8	7426	-84.4	-10.1	530.39249	1692.2521	0	635

9	7426	-82.35	-12.15	658.31641	2276.7828	0	635
10	7426	-80.75	-13.75	758.15987	2544.3398	0	440
11	7426	-78.25	-16.25	914.14762	2808.5149	0	440
12	7426	-75.75	-18.75	1070.1637	3072.8031	0	440
13	7426	-73.6	-20.9	1204.3209	3350.901	0	339
14	7426	-70.85	-23.65	1375.9152	3292.4422	0	366.5
15	7426	-67.875	-26.625	1561.5744	3482.7361	0	396.25
16	7426	-65.625	-28.875	1701.9586	3624.7859	0	418.75
17	7426	-63.175	-30	1772.1509	3875.8491	0	430
18	7426	-60.525	-30	1772.1509	3776.2264	0	430
19	7426	-58.075	-30	1772.1778	3684.9778	0	430
20	7426	-55.825	-30	1772.1778	3601.7778	0	430
21	7426	-53.13852	-30	1772.1632	3503.4037	0	430
22	7426	-50.015555	-30	1772.1632	3389.7296	0	430
23	7426	-46.89259	-30	1772.1632	3276.0555	0	430
24	7426	-44.665555	-30	1772.1287	3194.85	0	430
25	7426	-42.55	-28.55	1681.6707	3185.1506	0	415.5
26	7426	-40.95	-26.95	1581.8449	2948.6351	0	399.5
27	7426	-39.1	-25.1	1466.3939	2751.6853	0	381
28	7426	-35.7	-21.7	1254.2411	2372.7593	0	347
29	7426	-32.75	-18.75	1070.1637	2106.6973	0	440
30	7426	-30.25	-16.25	914.14762	1840.8817	0	440
31	7426	-27.75	-13.75	758.15987	1575.0662	0	440
32	7426	-25.016665	-11.016666	587.60577	1384.1497	0	635
33	7426	-22.05	-8.05	402.47885	1068.7165	0	635
34	7426	-19.083335	-5.0833335	217.35908	753.25944	0	635
35	7426	-16.6	-2.6	62.398641	197.72828	121.85135	0

Slices of Slip Surface: **6337**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	6337	-98.51473	6.5147305	-506.34951	-270.4997	0	800
2	6337	-96.171575	4.171577	-360.13917	-6.6106993	0	800
3	6337	-93.85	1.85	-215.28021	453.77812	0	400
4	6337	-91.55	-0.45	-71.759045	708.2136	0	400
5	6337	-89.7	-2.3	43.680006	912.87485	0	400
6	6337	-87.55	-4.45	177.83981	1026.7191	0	635
7	6337	-84.4	-7.6	374.39225	1429.8531	0	635
8	6337	-81.1	-10.9	580.31375	2146.6438	0	635
9	6337	-78.366665	-13.633335	750.88495	2533.6674	0	440
10	6337	-76.1	-15.9	892.32709	2773.2518	0	440
11	6337	-73.833335	-18.166665	1033.7692	3012.8362	0	440
12	6337	-72.35	-19.65	1126.3201	2888.6322	0	440
13	6337	-70.5	-21.5	1241.7501	3064.8363	0	345
14	6337	-67.875	-24.125	1405.5709	3232.5774	0	371.25
15	6337	-65.625	-26.375	1545.9552	3374.9416	0	393.75
16	6337	-63.175	-27.5	1616.1509	3610.8302	0	405
17	6337	-60.525	-27.5	1616.1509	3511.283	0	405
18	6337	-58.075	-27.5	1616.1778	3419.9111	0	405
19	6337	-55.825	-27.5	1616.1778	3336.6667	0	405
20	6337	-53.13852	-27.5	1616.1575	3238.2708	0	405
21	6337	-50.015555	-27.5	1616.1575	3124.5327	0	405
22	6337	-46.89259	-27.5	1616.1575	3010.8586	0	405
23	6337	-44.665555	-27.5	1616.1687	2929.8083	0	405
24	6337	-42.55	-26.05	1525.6683	2904.7461	0	390.5
25	6337	-40.95	-24.45	1425.8336	2668.3851	0	374.5
26	6337	-39.725	-23.225	1349.39	2541.1446	0	362.25
27	6337	-37.575	-21.075	1215.2371	2301.682	0	340.75
28	6337	-35.25	-18.75	1070.1637	2105.0285	0	440
29	6337	-32.75	-16.25	914.14762	1839.2695	0	440
30	6337	-30.25	-13.75	758.15987	1573.5388	0	440
31	6337	-27.516665	-11.016666	587.60577	1382.1952	0	635
32	6337	-24.55	-8.05	402.47885	1066.8573	0	635
33	6337	-21.583335	-5.0833335	217.35908	751.49565	0	635
34	6337	-19.1	-2.6	62.398641	197.07067	121.25924	0

Slices of Slip Surface: **7327**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	7327	-105.47115	6.471162	-503.62964	-274.15456	0	800
2	7327	-103.15705	4.157054	-359.25092	-12.583713	0	800
3	7327	-100.85	1.85	-215.28021	448.36721	0	400
4	7327	-98.55	-0.45	-71.759045	703.72501	0	400
5	7327	-96.7	-2.3	43.680006	909.13728	0	400
6	7327	-94.416665	-4.5833335	186.16037	1037.3703	0	635
7	7327	-91.25	-7.75	383.75801	1376.2903	0	635
8	7327	-88.083335	-10.916667	581.35342	1715.2103	0	635
9	7327	-86.3	-12.7	692.64648	2004.8246	0	440
10	7327	-84.4	-14.6	811.19708	2275.6361	0	440
11	7327	-80.85	-18.15	1032.7199	3021.4483	0	440
12	7327	-77.425	-21.575	1246.4384	3432.4981	0	345.75
13	7327	-74.275	-24.725	1442.9916	3750.8084	0	377.25
14	7327	-70.85	-28.15	1656.713	3760.2793	0	411.5
15	7327	-67.366665	-30	1772.1733	4032.5506	0	430
16	7327	-64.1	-30	1772.1733	3909.7955	0	430
17	7327	-60.833335	-30	1772.1733	3787.0404	0	430
18	7327	-56.95	-30	1772.1556	3642.4444	0	430
19	7327	-53.13852	-30	1772.1632	3502.443	0	430
20	7327	-50.015555	-30	1772.1632	3388.7689	0	430
21	7327	-46.89259	-30	1772.1632	3275.0948	0	430
22	7327	-44.665555	-30	1772.1287	3194.0236	0	430
23	7327	-42.55	-28.55	1681.6707	3170.5208	0	415.5
24	7327	-40.95	-26.95	1581.8449	2934.9643	0	399.5
25	7327	-39.1	-25.1	1466.3939	2738.999	0	381
26	7327	-35.7	-21.7	1254.2411	2361.7367	0	347
27	7327	-32.125	-18.125	1031.1691	2030.0564	0	440
28	7327	-28.375	-14.375	797.16388	1632.9264	0	440
29	7327	-25.016665	-11.016666	587.60577	1375.6167	0	635
30	7327	-22.05	-8.05	402.47885	1061.423	0	635
31	7327	-19.083335	-5.0833335	217.35908	747.20534	0	635
32	7327	-16.6	-2.6	62.398641	195.21451	119.58795	0

Slices of Slip Surface: **6238**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	6238	-102.98675	6.486722	-504.60665	-273.6977	0	800
2	6238	-100.66225	4.1622405	-359.56418	-10.874839	0	800
3	6238	-98.35	1.85	-215.28021	450.82672	0	400
4	6238	-96.05	-0.45	-71.759045	706.27674	0	400
5	6238	-94.2	-2.3	43.680006	911.76368	0	400
6	6238	-92.266665	-4.2333335	164.31922	1002.5247	0	635
7	6238	-89.8	-6.7	318.22676	1266.6004	0	635
8	6238	-87.333335	-9.1666665	472.16584	1530.7048	0	635
9	6238	-85.05	-11.45	614.64425	1816.827	0	635
10	6238	-83.35	-13.15	720.70484	2165.0517	0	440
11	6238	-81.15	-15.35	857.99425	2725.3264	0	440
12	6238	-78.05	-18.45	1051.445	3054.2451	0	440
13	6238	-74.6	-21.9	1266.7259	3466.4977	0	349
14	6238	-70.85	-25.65	1500.7291	3508.7786	0	386.5

15	6238	-67.366665	-27.5	1616.1733	3767.4486	0	405
16	6238	-64.1	-27.5	1616.1733	3644.6935	0	405
17	6238	-60.833335	-27.5	1616.1733	3521.9384	0	405
18	6238	-58.075	-27.5	1616.1778	3419.0667	0	405
19	6238	-55.825	-27.5	1616.1778	3335.8667	0	405
20	6238	-53.13852	-27.5	1616.1575	3237.3102	0	405
21	6238	-50.015555	-27.5	1616.1575	3123.7322	0	405
22	6238	-46.89259	-27.5	1616.1575	3010.0581	0	405
23	6238	-44.665555	-27.5	1616.1687	2928.9819	0	405
24	6238	-42.55	-26.05	1525.6683	2892.3108	0	390.5
25	6238	-40.95	-24.45	1425.8336	2656.8357	0	374.5
26	6238	-38.65	-22.15	1282.3135	2410.9054	0	351.5
27	6238	-35.25	-18.75	1070.1637	2095.525	0	440
28	6238	-32.75	-16.25	914.14762	1830.8408	0	440
29	6238	-30.25	-13.75	758.15987	1566.1283	0	440
30	6238	-27.516665	-11.016666	587.60577	1375.0209	0	635
31	6238	-24.55	-8.05	402.47885	1060.9224	0	635
32	6238	-21.583335	-5.0833335	217.35908	746.82398	0	635
33	6238	-19.1	-2.6	62.398641	195.04834	119.43833	0

Slices of Slip Surface: **5149**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	5149	-100.50228	6.5022825	-505.57498	-268.37207	0	800
2	5149	-98.167425	4.1674275	-359.87466	-4.6917262	0	800
3	5149	-95.85	1.85	-215.28021	454.82341	0	400
4	5149	-93.55	-0.45	-71.759045	709.96599	0	400
5	5149	-91.7	-2.3	43.680006	915.1982	0	400
6	5149	-89.775	-4.225	163.80058	1006.2852	0	635
7	5149	-87.325	-6.675	316.66841	1268.261	0	635
8	5149	-84.4	-9.6	499.1966	1648.4323	0	635
9	5149	-82.1	-11.9	642.70124	2261.21	0	635
10	5149	-80.25	-13.75	758.15987	2554.8616	0	440
11	5149	-77.75	-16.25	914.14762	2819.8569	0	440
12	5149	-75.25	-18.75	1070.1637	3084.9654	0	440
13	5149	-73.35	-20.65	1188.7007	3337.9785	0	336.5
14	5149	-70.85	-23.15	1344.726	3254.2202	0	361.5
15	5149	-67.775	-25	1460.1633	3518.0816	0	380
16	5149	-65.325	-25	1460.1633	3426.0408	0	380
17	5149	-62.875	-25	1460.1633	3334	0	380
18	5149	-60.425	-25	1460.1633	3241.9592	0	380
19	5149	-58.075	-25	1460.1778	3154.3111	0	380
20	5149	-55.825	-25	1460.1778	3071.1111	0	380
21	5149	-53.13852	-25	1460.1518	2972.6577	0	380
22	5149	-50.015555	-25	1460.1518	2858.9836	0	380
23	5149	-46.89259	-25	1460.1518	2745.2775	0	380
24	5149	-44.665555	-25	1460.1337	2664.2406	0	380
25	5149	-42.55	-23.55	1369.6903	2616.5391	0	365.5
26	5149	-40.95	-21.95	1269.8458	2380.8284	0	349.5
27	5149	-39.9	-20.9	1204.3209	2273.5058	0	339
28	5149	-37.75	-18.75	1070.1637	2096.1473	0	440
29	5149	-35.25	-16.25	914.14762	1831.1237	0	440
30	5149	-32.75	-13.75	758.15987	1566.1283	0	440
31	5149	-30.016665	-11.016666	587.60577	1373.9483	0	635
32	5149	-27.05	-8.05	402.47885	1059.4685	0	635
33	5149	-24.083335	-5.0833335	217.35908	744.98868	0	635
34	5149	-21.6	-2.6	62.398641	194.53569	118.97673	0

Slices of Slip Surface: **5248**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	5248	-96.03029	6.5302905	-507.33237	-261.2254	0	800
2	5248	-93.676765	4.1767635	-360.47458	2.9513969	0	800
3	5248	-91.35	1.85	-215.28021	458.48192	0	400
4	5248	-89.05	-0.45	-71.759045	712.08731	0	400
5	5248	-87.2	-2.3	43.680006	916.05683	0	400
6	5248	-86.3	-3.2	99.839946	898.98025	0	635
7	5248	-84.4	-5.1	218.39201	1167.9117	0	635
8	5248	-81.275	-8.225	413.39692	1863.8837	0	635
9	5248	-78.425	-11.075	591.24046	2164.1435	0	635
10	5248	-75.925	-13.575	747.23102	2523.3847	0	440
11	5248	-73.775	-15.725	881.38398	2749.8891	0	440
12	5248	-71.1	-18.4	1048.3301	2706.4514	0	440
13	5248	-69.25	-20.25	1163.7563	2887.3998	0	332.5
14	5248	-67.875	-21.625	1249.5675	2974.5306	0	346.25
15	5248	-65.625	-23.875	1389.9517	3116.4862	0	368.75
16	5248	-63.175	-25	1460.1509	3346.4151	0	380
17	5248	-60.525	-25	1460.1509	3246.8679	0	380
18	5248	-58.075	-25	1460.1778	3155.4667	0	380
19	5248	-55.825	-25	1460.1778	3072.2667	0	380
20	5248	-53.52889	-25	1460.1519	2988.0601	0	380
21	5248	-51.18667	-25	1460.1519	2902.7564	0	380
22	5248	-48.844445	-25	1460.1519	2817.4955	0	380
23	5248	-46.50222	-25	1460.1519	2732.2346	0	380
24	5248	-44.665555	-25	1460.1337	2665.3675	0	380
25	5248	-42.55	-23.55	1369.6903	2632.6319	0	365.5
26	5248	-40.95	-21.95	1269.8458	2395.6776	0	349.5
27	5248	-39.9	-20.9	1204.3209	2287.6479	0	339
28	5248	-37.75	-18.75	1070.1637	2109.2429	0	440
29	5248	-35.25	-16.25	914.14762	1842.6071	0	440
30	5248	-32.75	-13.75	758.15987	1575.9713	0	440
31	5248	-30.016665	-11.016666	587.60577	1382.7196	0	635
32	5248	-27.05	-8.05	402.47885	1066.3091	0	635
33	5248	-24.083335	-5.0833335	217.35908	749.8987	0	635
34	5248	-21.6	-2.6	62.398641	196.84086	121.05232	0

Slices of Slip Surface: **4060**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	4060	-98.017845	6.517842	-506.56475	-256.42409	0	800
2	4060	-95.672615	4.172614	-360.21243	7.3305808	0	800
3	4060	-93.35	1.85	-215.28021	460.38803	0	400
4	4060	-91.05	-0.45	-71.759045	714.48533	0	400
5	4060	-89.2	-2.3	43.680006	918.88526	0	400
6	4060	-87.3	-4.2	162.23974	1009.9251	0	635
7	4060	-84.4	-7.1	343.19636	1385.8669	0	635
8	4060	-80.85	-10.65	564.71078	2128.0093	0	635
9	4060	-77.425	-14.075	778.44595	2584.1945	0	440
10	4060	-74.275	-17.225	974.99918	2916.6469	0	440
11	4060	-72.1	-19.4	1110.7471	2856.6529	0	440
12	4060	-70.25	-21.25	1226.1514	3032.3566	0	342.5
13	4060	-67.775	-22.5	1304.1633	3253.7959	0	355
14	4060	-65.325	-22.5	1304.1633	3161.7551	0	355
15	4060	-62.875	-22.5	1304.1633	3069.7143	0	355
16	4060	-60.425	-22.5	1304.1633	2977.6735	0	355
17	4060	-58.075	-22.5	1304.1778	2890.0444	0	355
18	4060	-55.825	-22.5	1304.1778	2806.8444	0	355
19	4060	-53.52889	-22.5	1304.1462	2722.5856	0	355
20	4060	-51.18667	-22.5	1304.1462	2637.3247	0	355
21	4060	-48.844445	-22.5	1304.1462	2552.0638	0	355
22	4060	-46.50222	-22.5	1304.1462	2466.8029	0	355
23	4060	-44.665555	-22.5	1304.1737	2399.9501	0	355
24	4060	-42.75	-21.25	1226.1514	2375.313	0	342.5

25	4060	-41.3	-19.8	1135.6843	2216.0727	0	440
26	4060	-40.95	-19.45	1113.8345	2166.245	0	440
27	4060	-39.666665	-18.166665	1033.7692	2038.9006	0	440
28	4060	-37.4	-15.9	892.32709	1797.6317	0	440
29	4060	-35.133335	-13.633335	750.88495	1556.3627	0	440
30	4060	-32.8875	-11.3875	610.74961	1413.5463	0	635
31	4060	-30.6625	-9.1625	471.90244	1176.6893	0	635
32	4060	-28.4375	-6.9375	333.05526	939.86414	0	635
33	4060	-26.2125	-4.7125	194.22079	703.00719	0	635
34	4060	-24.1	-2.6	62.398641	194.10436	118.58836	0

Slices of Slip Surface: **7429**

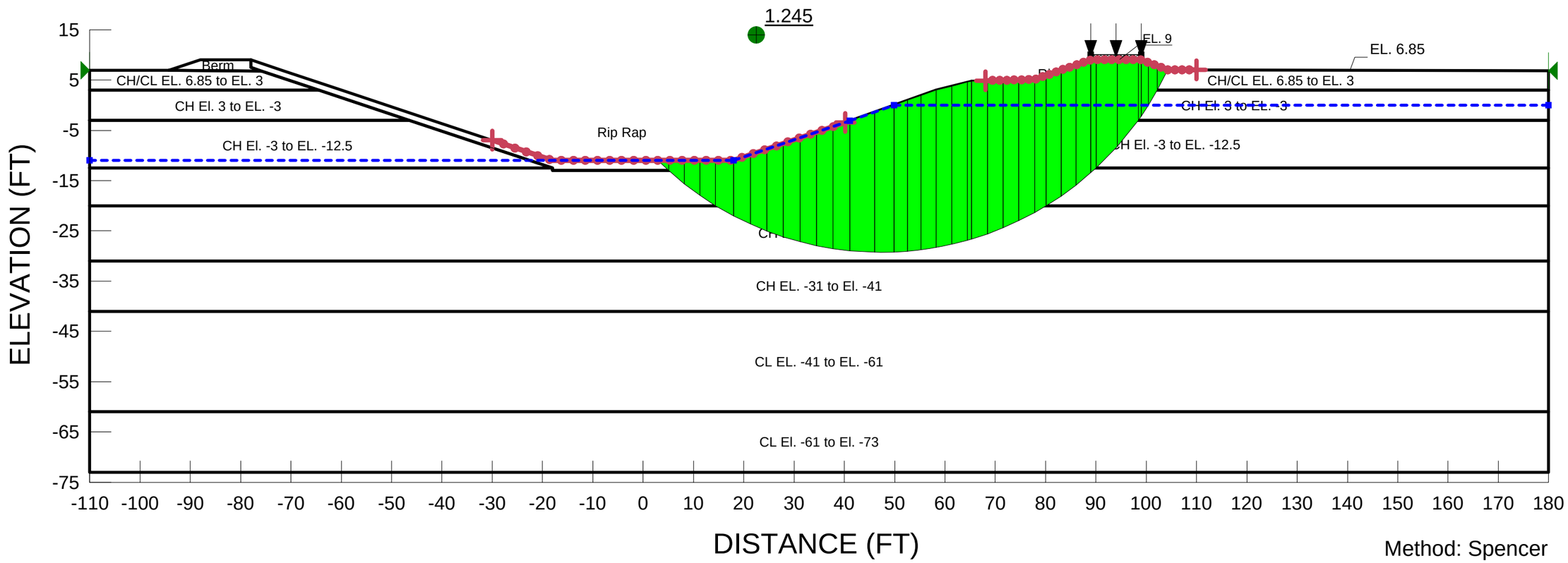
	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	7429	-100.99919	6.49917	-505.38807	-252.54854	0	800
2	7429	-98.66639	4.16639	-359.83097	8.59187	0	800
3	7429	-96.35	1.85	-215.28021	457.19068	0	400
4	7429	-94.05	-0.45	-71.759045	710.08897	0	400
5	7429	-92.2	-2.3	43.680006	913.53145	0	400
6	7429	-90.15	-4.35	171.59909	1021.0359	0	635
7	7429	-87.45	-7.05	340.09214	1307.2308	0	635
8	7429	-84.4	-10.1	530.39249	1697.3475	0	635
9	7429	-82.35	-12.15	658.31641	2278.5001	0	635
10	7429	-80.125	-14.375	797.16388	2605.7356	0	440
11	7429	-76.375	-18.125	1031.1691	2999.6412	0	440
12	7429	-73.6	-20.9	1204.3209	3339.5873	0	339
13	7429	-70.85	-23.65	1375.9152	3281.9311	0	366.5
14	7429	-66.75	-27.75	1631.6882	3542.7621	0	407.5
15	7429	-63.175	-30	1772.1509	3876.9811	0	430
16	7429	-60.525	-30	1772.1509	3777.7358	0	430
17	7429	-56.95	-30	1772.1556	3644.6667	0	430
18	7429	-53.13852	-30	1772.1632	3504.3643	0	430
19	7429	-50.015555	-30	1772.1632	3390.6902	0	430
20	7429	-46.89259	-30	1772.1632	3277.0161	0	430
21	7429	-43.215555	-30	1772.1587	3143.3824	0	430
22	7429	-40.95	-30	1772.1667	3061	0	430
23	7429	-40.15	-30	1772.1538	3070.2308	0	430
24	7429	-37.833335	-28.333335	1668.164	3122.7958	0	413.33
25	7429	-34.5	-25	1460.1685	2749.6556	0	380
26	7429	-31.166665	-21.666665	1252.1518	2376.7274	0	346.67
27	7429	-27.625	-18.125	1031.1691	2044.1985	0	440
28	7429	-23.875	-14.375	797.16388	1643.1276	0	440
29	7429	-20.516665	-11.016666	587.60577	1380.7174	0	635
30	7429	-17.55	-8.05	402.47885	1063.4251	0	635
31	7429	-14.583335	-5.0833335	217.35908	746.1566	0	635
32	7429	-12.1	-2.6	62.398641	195.82616	120.13868	0

Slices of Slip Surface: **7361**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	7361	-93.76006	5.3610325	-434.35971	-288.1044	0	800
2	7361	-90.49637	0.7	-143.52078	506.91266	0	400
3	7361	-88.395745	-2.3	43.680123	837.58317	0	400
4	7361	-87.0028	-4.2893345	167.81587	889.27037	0	635
5	7361	-84.4	-8.0065195	399.76591	1351.363	0	635
6	7361	-81.976815	-11.467185	615.70406	2084.3363	0	635
7	7361	-79.94074	-14.375	797.15503	2526.2647	0	440
8	7361	-77.314965	-18.125	1031.1704	2922.079	0	440
9	7361	-74.35104	-22.357925	1295.2943	3428.8734	0	353.58
10	7361	-70.85	-27.357925	1607.2542	3587.1781	0	403.58
11	7361	-67.366665	-30	1772.1733	4033.1629	0	430
12	7361	-64.1	-30	1772.1733	3910.7139	0	430
13	7361	-60.833335	-30	1772.1733	3787.9588	0	430
14	7361	-56.95	-30	1772.1556	3643.3333	0	430
15	7361	-53.13852	-30	1772.1632	3503.0834	0	430
16	7361	-50.015555	-30	1772.1632	3389.4094	0	430
17	7361	-46.89259	-30	1772.1632	3275.7353	0	430
18	7361	-44.665555	-30	1772.1287	3194.7749	0	430
19	7361	-42.55	-29.16284	1719.9262	3152.3321	0	421.63
20	7361	-40.95	-28.23908	1662.2778	2993.5608	0	412.39
21	7361	-39.034935	-27.13342	1593.282	2882.3131	0	401.33
22	7361	-35.50481	-25.0953	1466.106	2660.2948	0	380.95
23	7361	-31.974685	-23.05718	1338.93	2438.1047	0	360.57
24	7361	-28.444555	-21.01906	1211.754	2215.9637	0	340.19
25	7361	-25.055695	-19.0625	1089.6533	2036.48	0	440
26	7361	-21.8081	-17.1875	972.66667	1837.4133	0	440
27	7361	-18.560505	-15.3125	855.65333	1638.3467	0	440
28	7361	-15.31291	-13.4375	738.66667	1439.3067	0	440
29	7361	-12.147585	-11.61	624.63483	1300.4213	0	635
30	7361	-9.064535	-9.83	513.53933	1111.4607	0	635
31	7361	-5.981485	-8.05	402.47191	922.47191	0	635
32	7361	-2.8984345	-6.27	291.40449	733.51124	0	635
33	7361	0.184616	-4.49	180.33708	544.52247	0	635
34	7361	3.458192	-2.6	62.4	160.095	87.964973	0

Slices of Slip Surface: **6241**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	6241	-102.98675	6.486722	-504.60665	-255.88376	0	800
2	6241	-100.66225	4.1622405	-359.56418	5.8114332	0	800
3	6241	-98.35	1.85	-215.28021	457.19068	0	400
4	6241	-96.05	-0.45	-71.759045	711.56467	0	400
5	6241	-94.2	-2.3	43.680006	916.15784	0	400
6	6241	-91.65	-4.85	202.80588	1077.153	0	635
7	6241	-87.95	-8.55	433.6858	1471.5848	0	635
8	6241	-85.05	-11.45	614.64425	1822.2145	0	635
9	6241	-83.35	-13.15	720.70484	2164.8886	0	440
10	6241	-81.15	-15.35	857.99425	2722.8173	0	440
11	6241	-78.05	-18.45	1051.445	3050.3674	0	440
12	6241	-74.6	-21.9	1266.7259	3458.8683	0	349
13	6241	-70.85	-25.65	1500.7291	3501.7076	0	386.5
14	6241	-67.366665	-27.5	1616.1733	3768.367	0	405
15	6241	-64.1	-27.5	1616.1733	3645.6119	0	405
16	6241	-60.833335	-27.5	1616.1733	3522.8568	0	405
17	6241	-56.95	-27.5	1616.1556	3378.2222	0	405
18	6241	-53.13852	-27.5	1616.1575	3238.2708	0	405
19	6241	-50.015555	-27.5	1616.1575	3124.5967	0	405
20	6241	-46.89259	-27.5	1616.1575	3010.8906	0	405
21	6241	-43.215555	-27.5	1616.1713	2877.0221	0	405
22	6241	-40.95	-27.5	1616.1667	2794.7667	0	405
23	6241	-40.15	-27.5	1616.1538	2804	0	405
24	6241	-37.625	-25.625	1499.1606	2802.0284	0	386.25
25	6241	-33.875	-21.875	1265.1554	2384.9297	0	348.75
26	6241	-30.125	-18.125	1031.1691	2030.8106	0	440
27	6241	-26.375	-14.375	797.16388	1632.0401	0	440
28	6241	-23.016665	-11.016666	587.60577	1370.3969	0	635
29	6241	-20.05	-8.05	402.47885	1054.916	0	635
30	6241	-17.083335	-5.0833335	217.35908	739.45894	0	635
31	6241	-14.6	-2.6	62.398641	192.99773	117.59195	0



Name: Berm Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 600 psf Piezometric Line: 1
Name: CH/CL EL. 6.85 to EL. 3 Model: Undrained (Phi=0) Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Undrained (Phi=0) Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 1300 psf Piezometric Line: 1
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

Surcharge (Unit Weight): 550 pcf

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN
STATION: 19+84
3:1 SLOPE
DUMP TRUCK ON BERM CREST
GLOBAL ANALYSIS (CIRCULAR METHOD)

Circular

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File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 179
Last Edited By: Hoppes, Andrew
Date: 9/18/2013
Time: 3:27:04 PM
File Name: Station 19+84-NoDSM-Riprap - 550.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/18/2013
Last Solved Time: 3:28:01 PM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

Circular

Kind: SLOPE/W
Method: Spencer
Settings
Apply Phreatic Correction: No
PWP Conditions Source: Piezometric Line
Use Staged Rapid Drawdown: No
Slip Surface
Direction of movement: Right to Left
Use Passive Mode: No
Slip Surface Option: Entry and Exit
Critical slip surfaces saved: 1
Optimize Critical Slip Surface Location: No
Tension Crack
Tension Crack Option: (none)
FOS Distribution
FOS Calculation Option: Constant
Advanced
Number of Slices: 30
Optimization Tolerance: 0.01
Minimum Slip Surface Depth: 0.1 ft
Optimization Maximum Iterations: 2000
Optimization Convergence Tolerance: 1e-007
Starting Optimization Points: 8
Ending Optimization Points: 16
Complete Passes per Insertion: 1
Driving Side Maximum Convex Angle: 5 °
Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 600 psf
Pore Water Pressure
Piezometric Line: 1

CH/CL EL. 6.85 to EL. 3

Model: Undrained (Phi=0)
Unit Weight: 112 pcf
Cohesion: 800 psf
Pore Water Pressure
Piezometric Line: 1

CH El. 3 to EL. -3

Model: Undrained (Phi=0)
Unit Weight: 110 pcf
Cohesion: 400 psf
Pore Water Pressure
Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 635 psf
Pore Water Pressure
Piezometric Line: 1

CH El. -12.5 to -20

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 440 psf
Pore Water Pressure
Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
Piezometric Line: 1

CH EL. -31 to El. -41

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 850 psf
Pore Water Pressure
Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 1300 psf
Pore Water Pressure
Piezometric Line: 1

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 43 °
Phi-B: 0 °
Pore Water Pressure
Piezometric Line: 1

Slip Surface Entry and Exit

Left Projection: Range
Left-Zone Left Coordinate: (-30.02546, -6.99151) ft
Left-Zone Right Coordinate: (40.12651, -3.46778) ft
Left-Zone Increment: 30
Right Projection: Range
Right-Zone Left Coordinate: (68.03913, 4.86574) ft
Right-Zone Right Coordinate: (110.00028, 6.98889) ft
Right-Zone Increment: 30
Radius Increments: 30

Slip Surface Limits

Left Coordinate: (-110, 6.97) ft
Right Coordinate: (180, 6.85) ft

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-11
	18	-11
	41.06	-3.15
	49.86	0
	180	0

Surcharge Loads

Surcharge Load 1

Surcharge (Unit Weight): 550 pcf
Direction: Vertical

Coordinates

	X (ft)	Y (ft)
	89	10
	99	10

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points	Area (ft²)
Region 1	CH/CL EL. 6.85 to EL. 3	44,42,29,30,45,46,23,24,4	415.25
Region 2	CH El. 3 to EL. -3	4,5,43,44	748.8
Region 3	CH El. -12.5 to -20	2,15,14,1,32,41,40,39	2157
Region 4	CH EL. -31 to El. -41	6,8,9,7	2900
Region 5	CL EL. -41 to EL. -61	8,10,11,9	5800
Region 6	CL El. -61 to El. -73	10,12,13,11	3480
Region 7	Berm	46,21,22,23	21.55
Region 8	CH El. -20 to El. -31	7,14,15,6	3190
Region 9	Berm	17,18,19,31,33	28.9834
Region 10	CH/CL EL. 6.85 to EL. 3	16,17,33,34,27	154.5478
Region 11	CH El. 3 to EL. -3	28,27,34,35	327.15
Region 12	CH El. -3 to EL. -12.5	1,28,35,32	738.72
Region 13	CH El. -3 to EL. -12.5	39,43,5,2	1406
Region 14	Rip Rap	19,25,26,37,36,38,20,3,29,42,44,43,39,40,41,32,35,34,33,31	238.944
Region 15	Rip Rap	21,46,45,30	16.8

Points

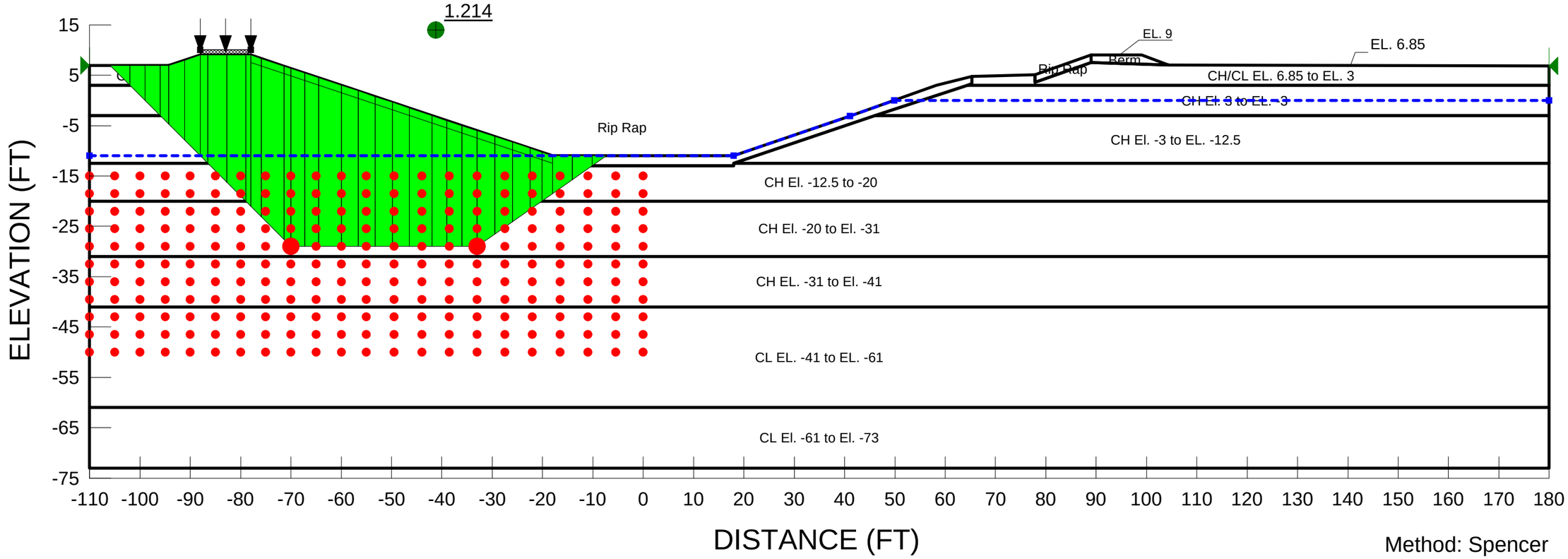
	X (ft)	Y (ft)
Point 1	-110	-12.5
Point 2	180	-12.5
Point 3	58.24	3
Point 4	180	3
Point 5	180	-3
Point 6	180	-31
Point 7	-110	-31
Point 8	180	-41
Point 9	-110	-41
Point 10	180	-61
Point 11	-110	-61
Point 12	180	-73
Point 13	-110	-73
Point 14	-110	-20
Point 15	180	-20
Point 16	-110	6.97
Point 17	-94.28	6.91
Point 18	-88	9
Point 19	-78	9
Point 20	41.06	-3.15
Point 21	89	9
Point 22	99	9
Point 23	104.4	7
Point 24	180	6.85
Point 25	-71.33	6.78
Point 26	-60	3
Point 27	-110	3
Point 28	-110	-3
Point 29	65.3	4.8
Point 30	77.8	5.1
Point 31	-78	7.5
Point 32	-18	-12.5
Point 33	-75.88	6.8
Point 34	-64.47	3
Point 35	-46.48	-3
Point 36	-18	-11
Point 37	-42	-3
Point 38	18	-11
Point 39	18	-12.5
Point 40	18	-13
Point 41	-18	-13
Point 42	65.3	3.3
Point 43	46	-3
Point 44	64.4	3
Point 45	77.8	3.6
Point 46	89	7.5

Critical Slip Surfaces

	Slip Surface	FOS	Center (ft)	Radius (ft)	Entry (ft)	Exit (ft)
1	14280	1.245	(47.269, 33.645)	62.909	(104.278, 7.04538)	(2.94709, -11)

Slices of Slip Surface: 14280

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	14280	4.0020545	-12	62.400291	462.85117	373.42649	0
2	14280	6.6155845	-14.320955	207.22714	768.166	0	440
3	14280	9.732715	-16.8016	362.02547	999.95831	0	440
4	14280	12.849845	-18.980645	497.98288	1201.5435	0	440
5	14280	16.204205	-21.02049	625.27309	1335.6588	0	340.2
6	14280	19.647145	-22.846355	774.20382	1560.7884	0	358.46
7	14280	22.94143	-24.342745	937.56622	1824.2709	0	373.43
8	14280	26.235715	-25.618345	1087.1359	2061.3587	0	386.18
9	14280	29.53	-26.687215	1223.8029	2274.1205	0	396.87
10	14280	32.824285	-27.560225	1348.2408	2464.1476	0	405.6
11	14280	36.11857	-28.245695	1461.0196	2632.6733	0	412.46
12	14280	39.412855	-28.749825	1562.4525	2780.6582	0	417.5
13	14280	43.53	-29.10437	1674.7226	2940.7367	0	421.04
14	14280	47.93	-29.231225	1780.9116	3091.0203	0	422.31
15	14280	51.195	-29.127415	1817.5341	3183.8527	0	421.27
16	14280	53.865	-28.90312	1803.5561	3244.5908	0	419.03
17	14280	56.72	-28.531275	1780.3373	3295.3671	0	415.31
18	14280	59.78	-27.987595	1746.4241	3312.628	0	409.88
19	14280	62.86	-27.28087	1702.3171	3292.5953	0	402.81
20	14280	64.85	-26.755785	1669.5958	3272.6212	0	397.56
21	14280	66.8625	-26.112465	1629.4271	3170.8559	0	391.12
22	14280	69.9875	-24.994765	1559.6732	3036.9914	0	379.95
23	14280	73.1125	-23.68503	1477.9527	2884.0819	0	366.85
24	14280	76.2375	-22.16969	1383.3903	2711.1405	0	351.7
25	14280	78.964365	-20.67936	1290.4075	2618.3504	0	336.79
26	14280	81.607275	-19.03625	1187.8496	2474.656	0	440
27	14280	84.564365	-16.983305	1059.753	2336.1233	0	440
28	14280	87.521455	-14.662075	914.92618	2166.3671	0	440
29	14280	89.51307	-12.96502	809.01615	2510.9539	0	440
30	14280	92.1203	-10.365807	646.83265	2055.9984	0	635
31	14280	96.30862	-5.6158075	350.42221	1452.0796	0	635
32	14280	98.70139	-2.5759795	160.74576	1296.5327	0	400
33	14280	99.71235	-1.0759795	67.140931	578.49382	0	400
34	14280	101.3168	1.5	-93.600361	203.03809	0	400
35	14280	103.2432	5.022688	-313.41028	-850.98375	0	800



Method: Spencer

Name: Berm Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 600 psf Piezometric Line: 1
Name: CH/CL EL. 6.85 to EL. 3 Model: Undrained (Phi=0) Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Undrained (Phi=0) Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 1300 psf Piezometric Line: 1
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

Surcharge (Unit Weight): 550 pcf

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN
STATION: 19+84
3:1 SLOPE
DUMP TRUCK ON BERM CREST
GLOBAL ANALYSIS (BLOCK METHOD)

Wedge L to R

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File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 179
Last Edited By: Hoppes, Andrew
Date: 9/18/2013
Time: 3:27:04 PM
File Name: Station 19+84-NoDSM-Riprap - 550.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/18/2013
Last Solved Time: 3:28:51 PM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

Wedge L to R

Kind: SLOPE/W
Method: Spencer
Settings
- Apply Phreatic Correction: No
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Left to Right
- Use Passive Mode: No
- Slip Surface Option: Block
- Critical slip surfaces saved: 1
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

FOS Distribution
- FOS Calculation Option: Constant

Restrict Block Crossing: Yes
Advanced
- Number of Slices: 30
- Optimization Tolerance: 0.01
- Minimum Slip Surface Depth: 0.1 ft
- Optimization Maximum Iterations: 2000
- Optimization Convergence Tolerance: 1e-007
- Starting Optimization Points: 8
- Ending Optimization Points: 16
- Complete Passes per Insertion: 1
- Driving Side Maximum Convex Angle: 5 °
- Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 600 psf
Pore Water Pressure
- Piezometric Line: 1

CH/CL EL. 6.85 to EL. 3

Model: Undrained (Phi=0)
Unit Weight: 112 pcf
Cohesion: 800 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. 3 to EL. -3

Model: Undrained (Phi=0)
Unit Weight: 110 pcf
Cohesion: 400 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 635 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -12.5 to -20

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH EL. -31 to El. -41

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 850 psf
Pore Water Pressure
- Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 1300 psf
Pore Water Pressure
- Piezometric Line: 1

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 43 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Limits

Left Coordinate: (-110, 6.97) ft
Right Coordinate: (180, 6.85) ft

Slip Surface Block

Left Grid
- Upper Left: (-110, -15) ft
- Lower Left: (-110, -50) ft
- Lower Right: (-60, -50) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 135 °
- Ending Angle: 115 °
- Angle Increments: 4

Right Grid
- Upper Left: (-55, -15) ft
- Lower Left: (-55, -50) ft
- Lower Right: (0, -50) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 45 °
- Ending Angle: 15 °
- Angle Increments: 6

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-11
	18	-11
	41.06	-3.15
	49.86	0
	180	0

Surcharge Loads

Surcharge Load 1

Surcharge (Unit Weight): 550 pcf

Direction: Vertical

Coordinates

	X (ft)	Y (ft)
	-88	10
	-78	10

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points	Area (ft²)
Region 1	CH/CL EL. 6.85 to EL. 3	44,42,29,30,45,46,23,24,4	415.25
Region 2	CH El. 3 to EL. -3	4,5,43,44	748.8
Region 3	CH El. -12.5 to -20	2,15,14,1,32,41,40,39	2157
Region 4	CH EL. -31 to El. -41	6,8,9,7	2900
Region 5	CL EL. -41 to EL. -61	8,10,11,9	5800
Region 6	CL El. -61 to El. -73	10,12,13,11	3480
Region 7	Berm	46,21,22,23	21.55
Region 8	CH El. -20 to El. -31	7,14,15,6	3190
Region 9	Berm	17,18,19,31,33	28.9834
Region 10	CH/CL EL. 6.85 to EL. 3	16,17,33,34,27	154.5478
Region 11	CH El. 3 to EL. -3	28,27,34,35	327.15
Region 12	CH El. -3 to EL. -12.5	1,28,35,32	738.72
Region 13	CH El. -3 to EL. -12.5	39,43,5,2	1406
Region 14	Rip Rap	19,25,26,37,36,38,20,3,29,42,44,43,39,40,41,32,35,34,33,31	238.944
Region 15	Rip Rap	21,46,45,30	16.8

Points

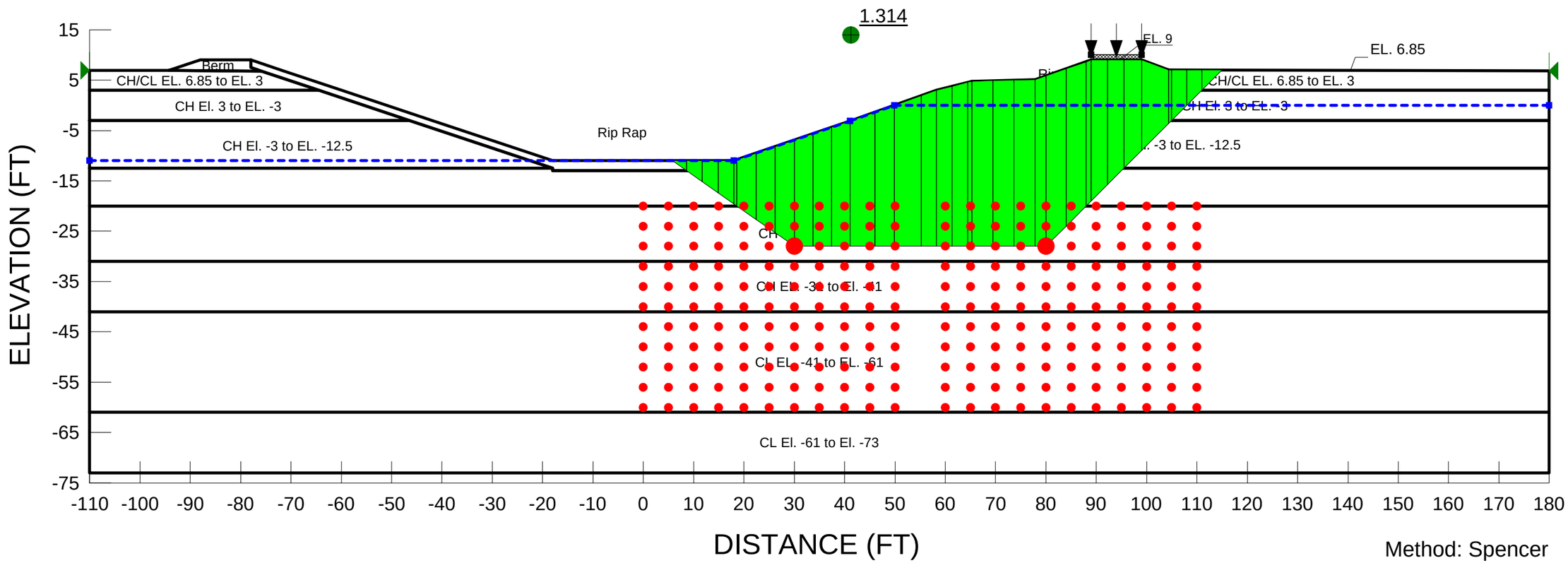
	X (ft)	Y (ft)
Point 1	-110	-12.5
Point 2	180	-12.5
Point 3	58.24	3
Point 4	180	3
Point 5	180	-3
Point 6	180	-31
Point 7	-110	-31
Point 8	180	-41
Point 9	-110	-41
Point 10	180	-61
Point 11	-110	-61
Point 12	180	-73
Point 13	-110	-73
Point 14	-110	-20
Point 15	180	-20
Point 16	-110	6.97
Point 17	-94.28	6.91
Point 18	-88	9
Point 19	-78	9
Point 20	41.06	-3.15
Point 21	89	9
Point 22	99	9
Point 23	104.4	7
Point 24	180	6.85
Point 25	-71.33	6.78
Point 26	-60	3
Point 27	-110	3
Point 28	-110	-3
Point 29	65.3	4.8
Point 30	77.8	5.1
Point 31	-78	7.5
Point 32	-18	-12.5
Point 33	-75.88	6.8
Point 34	-64.47	3
Point 35	-46.48	-3
Point 36	-18	-11
Point 37	-42	-3
Point 38	18	-11
Point 39	18	-12.5
Point 40	18	-13
Point 41	-18	-13
Point 42	65.3	3.3
Point 43	46	-3
Point 44	64.4	3
Point 45	77.8	3.6
Point 46	89	7.5

Critical Slip Surfaces

	Slip Surface	FOS	Center (ft)	Radius (ft)	Entry (ft)	Exit (ft)
1	20051	1.214	(-54.173, 11.443)	48.156	(-105.955, 6.95456)	(-7.29334, -11)

Slices of Slip Surface: 20051

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	20051	-103.9773	4.9772795	-996.97958	-386.06428	0	800
2	20051	-100.5	1.5	-780.00943	278.76504	0	400
3	20051	-97.5	-1.5	-592.79114	591.89547	0	400
4	20051	-95.14	-3.86	-445.51844	659.82938	0	635
5	20051	-92.71	-6.29	-293.89967	962.11552	0	635
6	20051	-89.57	-9.43	-97.968059	1393.7208	0	635
7	20051	-87.25	-11.75	46.800106	2209.1905	0	635
8	20051	-84.625	-14.375	210.60468	2619.6891	0	440
9	20051	-80.875	-18.125	444.59102	2998.3212	0	440
10	20051	-78.5	-20.5	592.80279	3316.4712	0	335
11	20051	-76.94	-22.06	690.12949	2928.3224	0	350.6
12	20051	-73.605	-25.395	898.24314	3120.7496	0	383.95
13	20051	-70.665	-28.335	1081.7139	3291.2897	0	413.35
14	20051	-68.6175	-29	1123.1826	3789.8734	0	420
15	20051	-65.8525	-29	1123.1826	3686.4376	0	420
16	20051	-62.235	-29	1123.1991	3552.7964	0	420
17	20051	-58.31	-29	1123.1953	3408.5799	0	420
18	20051	-54.93	-29	1123.1953	3284.9112	0	420
19	20051	-51.55	-29	1123.1953	3160.9467	0	420
20	20051	-48.17	-29	1123.1953	3036.9822	0	420
21	20051	-44.24	-29	1123.192	2895.7589	0	420
22	20051	-40.5	-29	1123.2	2763.7333	0	420
23	20051	-37.5	-29	1123.2	2657.7667	0	420
24	20051	-34.5	-29	1123.2	2551.8	0	420
25	20051	-31.249475	-27.77427	1046.7254	2633.367	0	407.74
26	20051	-27.74842	-25.322805	893.75376	2220.3109	0	383.23
27	20051	-24.247365	-22.87134	740.78216	1807.2315	0	358.71
28	20051	-21.321755	-20.822805	612.95914	1462.0606	0	338.23
29	20051	-19.073335	-19.248445	514.69168	1272.0379	0	440
30	20051	-16.03741	-17.122665	382.05129	1014.3027	0	440
31	20051	-12.112225	-14.37422	210.54872	712.45147	0	440
32	20051	-8.721483	-12	62.399373	254.73674	179.35749	0



Name: Berm Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 600 psf
Name: CH/CL EL. 6.85 to EL. 3 Model: Undrained (Phi=0) Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Undrained (Phi=0) Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 1300 psf
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

Surcharge (Unit Weight): 550 pcf

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN
STATION: 19+84
3:1 SLOPE
DUMP TRUCK ON BERM CREST
GLOBAL ANALYSIS (BLOCK METHOD)

Wedge R to L

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File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 179
Last Edited By: Hoppes, Andrew
Date: 9/18/2013
Time: 3:27:04 PM
File Name: Station 19+84-NoDSM-Riprap - 550.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/18/2013
Last Solved Time: 3:31:42 PM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

Wedge R to L

Kind: SLOPE/W
Method: Spencer
Settings
- Apply Phreatic Correction: No
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Right to Left
- Use Passive Mode: No
- Slip Surface Option: Block
- Critical slip surfaces saved: 20
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

FOS Distribution
- FOS Calculation Option: Constant

Restrict Block Crossing: Yes
Advanced
- Number of Slices: 30
- Optimization Tolerance: 0.01
- Minimum Slip Surface Depth: 0.1 ft
- Optimization Maximum Iterations: 2000
- Optimization Convergence Tolerance: 1e-007
- Starting Optimization Points: 8
- Ending Optimization Points: 16
- Complete Passes per Insertion: 1
- Driving Side Maximum Convex Angle: 5 °
- Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 600 psf

CH/CL EL. 6.85 to EL. 3

Model: Undrained (Phi=0)
Unit Weight: 112 pcf
Cohesion: 800 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. 3 to EL. -3

Model: Undrained (Phi=0)
Unit Weight: 110 pcf
Cohesion: 400 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 635 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -12.5 to -20

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH EL. -31 to El. -41

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 850 psf
Pore Water Pressure
- Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 1300 psf

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 43 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Limits

Left Coordinate: (-110, 6.97) ft
Right Coordinate: (180, 6.85) ft

Slip Surface Block

Left Grid
- Upper Left: (0, -20) ft
- Lower Left: (0, -60) ft
- Lower Right: (50, -60) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 135 °
- Ending Angle: 165 °
- Angle Increments: 6

Right Grid
- Upper Left: (60, -20) ft
- Lower Left: (60, -60) ft
- Lower Right: (110, -60) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 45 °
- Ending Angle: 65 °
- Angle Increments: 4

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-11
	18	-11
	41.06	-3.15
	49.86	0
	180	0

Surcharge Loads

Surcharge Load 1

Surcharge (Unit Weight): 550 pcf
Direction: Vertical

Coordinates

	X (ft)	Y (ft)

	89	10
	99	10

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points	Area (ft²)
Region 1	CH/CL EL. 6.85 to EL. 3	44,42,29,30,45,46,23,24,4	415.25
Region 2	CH El. 3 to EL. -3	4,5,43,44	748.8
Region 3	CH El. -12.5 to -20	2,15,14,1,32,41,40,39	2157
Region 4	CH EL. -31 to El. -41	6,8,9,7	2900
Region 5	CL EL. -41 to EL. -61	8,10,11,9	5800
Region 6	CL El. -61 to El. -73	10,12,13,11	3480
Region 7	Berm	46,21,22,23	21.55
Region 8	CH El. -20 to El. -31	7,14,15,6	3190
Region 9	Berm	17,18,19,31,33	28.9834
Region 10	CH/CL EL. 6.85 to EL. 3	16,17,33,34,27	154.5478
Region 11	CH El. 3 to EL. -3	28,27,34,35	327.15
Region 12	CH El. -3 to EL. -12.5	1,28,35,32	738.72
Region 13	CH El. -3 to EL. -12.5	39,43,5,2	1406
Region 14	Rip Rap	19,25,26,37,36,38,20,3,29,42,44,43,39,40,41,32,35,34,33,31	238.944
Region 15	Rip Rap	21,46,45,30	16.8

Points

	X (ft)	Y (ft)
Point 1	-110	-12.5
Point 2	180	-12.5
Point 3	58.24	3
Point 4	180	3
Point 5	180	-3
Point 6	180	-31
Point 7	-110	-31
Point 8	180	-41
Point 9	-110	-41
Point 10	180	-61
Point 11	-110	-61
Point 12	180	-73
Point 13	-110	-73
Point 14	-110	-20
Point 15	180	-20
Point 16	-110	6.97
Point 17	-94.28	6.91
Point 18	-88	9
Point 19	-78	9
Point 20	41.06	-3.15
Point 21	89	9
Point 22	99	9
Point 23	104.4	7
Point 24	180	6.85
Point 25	-71.33	6.78
Point 26	-60	3
Point 27	-110	3
Point 28	-110	-3
Point 29	65.3	4.8
Point 30	77.8	5.1
Point 31	-78	7.5
Point 32	-18	-12.5
Point 33	-75.88	6.8
Point 34	-64.47	3
Point 35	-46.48	-3
Point 36	-18	-11
Point 37	-42	-3
Point 38	18	-11
Point 39	18	-12.5
Point 40	18	-13
Point 41	-18	-13
Point 42	65.3	3.3
Point 43	46	-3
Point 44	64.4	3
Point 45	77.8	3.6
Point 46	89	7.5

Critical Slip Surfaces

	Slip Surface	FOS	Center (ft)	Radius (ft)	Entry (ft)	Exit (ft)
1	10911	1.314	(58.131, 11.474)	51.34	(114.979, 6.97901)	(5.72148, -11)
2	10966	1.317	(55.648, 11.474)	53.145	(114.979, 6.97901)	(0.555136, -11)
3	11351	1.319	(58.052, 11.474)	51.448	(114.979, 6.97901)	(5.55514, -11)
4	10917	1.320	(57.805, 11.475)	51.158	(114.352, 6.98025)	(5.72148, -11)
5	10526	1.322	(55.728, 11.474)	53.086	(114.979, 6.97901)	(0.721484, -11)
6	10912	1.322	(55.199, 11.488)	49.747	(109.36, 6.99016)	(5.72148, -11)
7	10967	1.323	(52.727, 11.488)	51.6	(109.36, 6.99016)	(0.555136, -11)
8	11296	1.324	(60.525, 11.474)	49.845	(114.979, 6.97901)	(10.7215, -11)
9	11357	1.324	(57.725, 11.475)	51.269	(114.352, 6.98025)	(5.55514, -11)
10	10972	1.324	(55.323, 11.475)	52.968	(114.352, 6.98025)	(0.555136, -11)
11	10471	1.324	(57.66, 11.474)	51.732	(114.979, 6.97901)	(4.74019, -11)
12	10856	1.325	(60.056, 11.474)	50.011	(114.979, 6.97901)	(9.74019, -11)
13	11352	1.326	(55.119, 11.488)	49.806	(109.36, 6.99016)	(5.55514, -11)
14	6682	1.327	(58.781, 11.484)	46.968	(111.001, 6.9869)	(11.4341, -11)
15	11302	1.327	(60.197, 11.475)	49.669	(114.352, 6.98025)	(10.7215, -11)
16	10862	1.327	(59.728, 11.475)	49.828	(114.352, 6.98025)	(9.74019, -11)
17	10527	1.328	(52.807, 11.488)	51.54	(109.36, 6.99016)	(0.721484, -11)
18	10532	1.328	(55.403, 11.475)	52.909	(114.352, 6.98025)	(0.721484, -11)
19	6737	1.328	(56.898, 11.484)	48.348	(111.001, 6.9869)	(7.48334, -11)
20	10916	1.329	(60.726, 11.461)	52.851	(119.969, 6.96911)	(5.72148, -11)

Slices of Slip Surface: 10911

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	10911	7.149632	-12	62.399373	247.81654	172.9043	0
2	10911	10.14815	-14.099585	193.41515	675.92803	0	440
3	10911	13.28889	-16.298755	330.63512	920.67678	0	440
4	10911	16.42963	-18.497925	467.87594	1165.4516	0	440
5	10911	18.28741	-19.798755	555.14965	1305.9042	0	440
6	10911	20.479015	-21.333335	697.45468	1500.4761	0	343.33
7	10911	24.28741	-24	944.76652	1958.0611	0	370

8	10911	28.095805	-26.666665	1192.0569	2415.6891	0	396.67
9	10911	31.843335	-28	1354.8552	2366.7177	0	410
10	10911	35.53	-28	1433.1644	2499.8732	0	410
11	10911	39.216665	-28	1511.4736	2633.0287	0	410
12	10911	43.53	-28	1605.8097	2794.7368	0	410
13	10911	47.93	-28	1704.0933	2967.3575	0	410
14	10911	52.53	-28	1747.191	3152.0599	0	410
15	10911	56.72	-28	1747.2039	3320.3947	0	410
16	10911	59.78	-28	1747.2078	3421.7532	0	410
17	10911	62.86	-28	1747.2078	3502.9221	0	410
18	10911	64.85	-28	1747.2222	3555.3333	0	410
19	10911	67.383335	-28	1747.1999	3538.3197	0	410
20	10911	71.55	-28	1747.1999	3549.5997	0	410
21	10911	75.716665	-28	1747.1999	3560.8797	0	410
22	10911	78.9	-28	1747.1818	3643.8182	0	410
23	10911	82	-26	1622.4035	3047.6304	0	390
24	10911	86	-22	1372.7948	2823.3007	0	350
25	10911	88.5	-19.5	1216.789	2606.6069	0	440
26	10911	90.625	-17.375	1084.2014	2901.096	0	440
27	10911	93.875	-14.125	881.40318	2578.6553	0	440
28	10911	97.25	-10.75	670.80196	2114.4515	0	635
29	10911	101.7	-6.3	393.12519	1050.5905	0	635
30	10911	104.7	-3.3	205.92129	645.32925	0	635
31	10911	106.5	-1.5	93.599718	616.8092	0	400
32	10911	109.5	1.5	-93.599718	307.19073	0	400
33	10911	112.9895	4.989505	-311.34656	-322.40007	0	800

Slices of Slip Surface: **10966**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	10966	2.2871871	-12	62.4	209.61	137.27555	0
2	10966	6.039964	-14.166665	197.59927	631.41424	0	440
3	10966	10.081415	-16.5	343.19998	888.25708	0	440
4	10966	14.122865	-18.833335	488.80711	1145.1213	0	440
5	10966	17.071795	-20.5359	595.02872	1279.58	0	335.36
6	10966	20	-22.2265	743.02817	1534.2074	0	352.26
7	10966	24	-24.5359	972.0919	1950.1377	0	375.36
8	10966	28	-26.8453	1201.1773	2365.9815	0	398.45
9	10966	31.843335	-28	1354.8552	2365.5784	0	410
10	10966	35.53	-28	1433.1644	2498.734	0	410
11	10966	39.216665	-28	1511.4736	2631.8895	0	410
12	10966	43.53	-28	1605.8097	2793.5223	0	410
13	10966	47.93	-28	1704.0933	2966.0622	0	410
14	10966	52.53	-28	1747.191	3150.9363	0	410
15	10966	56.72	-28	1747.2039	3319.4079	0	410
16	10966	59.78	-28	1747.2078	3420.7792	0	410
17	10966	62.86	-28	1747.2078	3501.6234	0	410
18	10966	64.85	-28	1747.2222	3554.1111	0	410
19	10966	67.383335	-28	1747.1999	3537.3597	0	410
20	10966	71.55	-28	1747.1999	3548.3997	0	410
21	10966	75.716665	-28	1747.1999	3559.6797	0	410
22	10966	78.9	-28	1747.1818	3642.7273	0	410
23	10966	82	-26	1622.4035	3058.0602	0	390
24	10966	86	-22	1372.7948	2833.0234	0	350
25	10966	88.5	-19.5	1216.789	2615.5165	0	440
26	10966	90.625	-17.375	1084.2014	2910.8867	0	440
27	10966	93.875	-14.125	881.40318	2587.5757	0	440
28	10966	97.25	-10.75	670.80196	2121.5226	0	635
29	10966	101.7	-6.3	393.12519	1053.7594	0	635
30	10966	104.7	-3.3	205.92129	647.06166	0	635
31	10966	106.5	-1.5	93.599718	618.64768	0	400
32	10966	109.5	1.5	-93.599718	307.92141	0	400
33	10966	112.9895	4.989505	-311.34656	-324.28379	0	800

Slices of Slip Surface: **11351**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11351	7.287187	-12	62.4	209.9925	137.63223	0
2	11351	11.264429	-14.29626	205.6877	646.06961	0	440
3	11351	15.75481	-16.888785	367.46065	931.60233	0	440
4	11351	19.571795	-19.092525	538.3606	1218.2399	0	440
5	11351	22.875645	-21	727.575	1501.675	0	340
6	11351	26.33975	-23	925.95	1862.075	0	360
7	11351	29.80385	-25	1124.325	2222.475	0	380
8	11351	33.26795	-27	1322.725	2582.75	0	400
9	11351	36.515	-28	1454.0924	2534.4224	0	410
10	11351	39.545	-28	1518.4488	2643.8614	0	410
11	11351	43.53	-28	1605.8097	2793.7247	0	410
12	11351	47.93	-28	1704.0933	2966.3212	0	410
13	11351	52.53	-28	1747.191	3151.1236	0	410
14	11351	56.72	-28	1747.2039	3319.4079	0	410
15	11351	59.78	-28	1747.2078	3420.7792	0	410
16	11351	62.86	-28	1747.2078	3501.9481	0	410
17	11351	64.85	-28	1747.2222	3554.3333	0	410
18	11351	67.383335	-28	1747.1999	3537.3597	0	410
19	11351	71.55	-28	1747.1999	3548.6397	0	410
20	11351	75.716665	-28	1747.1999	3559.9197	0	410
21	11351	78.9	-28	1747.1818	3642.8182	0	410
22	11351	82	-26	1622.4035	3056.2924	0	390
23	11351	86	-22	1372.7948	2831.2557	0	350
24	11351	88.5	-19.5	1216.789	2614.173	0	440
25	11351	90.625	-17.375	1084.2014	2909.3637	0	440
26	11351	93.875	-14.125	881.40318	2586.2703	0	440
27	11351	97.25	-10.75	670.80196	2120.9165	0	635
28	11351	101.7	-6.3	393.12519	1054.0344	0	635
29	11351	104.7	-3.3	205.92129	647.67448	0	635
30	11351	106.5	-1.5	93.599718	618.85981	0	400
31	11351	109.5	1.5	-93.599718	308.39281	0	400
32	11351	112.9895	4.989505	-311.34656	-322.57778	0	800

Slices of Slip Surface: **10917**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	10917	7.149632	-12	62.399373	240.27401	165.87078	0
2	10917	10.14815	-14.099585	193.41515	667.19073	0	440
3	10917	13.28889	-16.298755	330.63512	910.34851	0	440
4	10917	16.42963	-18.497925	467.87594	1153.4802	0	440
5	10917	18.28741	-19.798755	555.14965	1293.0073	0	440
6	10917	20.479015	-21.333335	697.45468	1487.248	0	343.33
7	10917	24.28741	-24	944.76652	1941.5636	0	370
8	10917	28.095805	-26.666665	1192.0569	2395.9007	0	396.67
9	10917	31.843335	-28	1354.8552	2363.8425	0	410
10	10917	35.53	-28	1433.1644	2496.998	0	410
11	10917	39.216665	-28	1511.4736	2630.1535	0	410
12	10917	43.53	-28	1605.8097	2791.7004	0	410
13	10917	47.93	-28	1704.0933	2964.5078	0	410
14	10917	52.53	-28	1747.191	3149.2509	0	410
15	10917	56.72	-28	1747.2039	3317.4342	0	410
16	10917	59.78	-28	1747.2078	3419.1558	0	410
17	10917	62.86	-28	1747.2078	3500	0	410
18	10917	64.85	-28	1747.2222	3552.4444	0	410
19	10917	67.383335	-28	1747.1999	3535.6797	0	410
20	10917	71.55	-28	1747.1999	3546.7197	0	410
21	10917	75.716665	-28	1747.1999	3557.9997	0	410
22	10917	79.6	-28	1747.1944	3668.3333	0	410
23	10917	83.2	-28	1747.1944	3808.6111	0	410
24	10917	87	-25.616495	1598.4682	3134.0718	0	386.16
25	10917	90.3564	-21.616495	1348.865	3328.8606	0	346.16
26	10917	93.28611	-18.125	1131.0085	2908.1092	0	440
27	10917	96.43273	-14.375	897.00746	2536.9351	0	440
28	10917	98.50302	-11.907725	743.054	2136.2964	0	635
29	10917	101.7	-8.097715	505.30246	1137.8888	0	635
30	10917	105.18875	-3.93999	245.85394	618.70961	0	635
31	10917	107.23615	-1.5	93.600414	559.56991	0	400
32	10917	109.75345	1.5	-93.600414	250.72123	0	400
33	10917	112.682	4.990127	-311.38294	-433.23012	0	800

Slices of Slip Surface: **10526**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)

1	10526	2.1496319	-12	62.399373	244.55576	169.86358	0
2	10526	5.2439525	-14.166665	197.60116	679.36843	0	440
3	10526	8.5762975	-16.5	343.21171	938.51024	0	440
4	10526	11.908645	-18.833335	488.80998	1197.6275	0	440
5	10526	15.78741	-21.549275	658.2747	1441.9069	0	345.49
6	10526	19.75	-24.32391	868.58203	1817.8856	0	373.24
7	10526	23.25	-26.774635	1095.8616	2237.3617	0	397.75
8	10526	27.0075	-28	1252.1295	2190.9589	0	410
9	10526	31.0225	-28	1337.4346	2335.99	0	410
10	10526	35.0375	-28	1422.7148	2480.9963	0	410
11	10526	39.0525	-28	1507.995	2625.9029	0	410
12	10526	43.53	-28	1605.8097	2793.5223	0	410
13	10526	47.93	-28	1704.0933	2966.0622	0	410
14	10526	52.53	-28	1747.191	3150.9363	0	410
15	10526	56.72	-28	1747.2039	3319.4079	0	410
16	10526	59.78	-28	1747.2078	3420.7792	0	410
17	10526	62.86	-28	1747.2078	3501.6234	0	410
18	10526	64.85	-28	1747.2222	3554.2222	0	410
19	10526	67.383335	-28	1747.1999	3537.3597	0	410
20	10526	71.55	-28	1747.1999	3548.6397	0	410
21	10526	75.716665	-28	1747.1999	3559.6797	0	410
22	10526	78.9	-28	1747.1818	3642.7273	0	410
23	10526	82	-26	1622.4035	3057.1763	0	390
24	10526	86	-22	1372.7948	2831.9628	0	350
25	10526	88.5	-19.5	1216.789	2614.9508	0	440
26	10526	90.625	-17.375	1084.2014	2910.234	0	440
27	10526	93.875	-14.125	881.40318	2586.923	0	440
28	10526	97.25	-10.75	670.80196	2121.9266	0	635
29	10526	101.7	-6.3	393.12519	1054.9772	0	635
30	10526	104.7	-3.3	205.92129	648.58194	0	635
31	10526	106.5	-1.5	93.599718	619.44906	0	400
32	10526	109.5	1.5	-93.599718	308.9585	0	400
33	10526	112.9895	4.989505	-311.34656	-321.52929	0	800

Slices of Slip Surface: **10912**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	10912	7.149632	-12	62.399373	253.80181	178.48566	0
2	10912	10.14815	-14.099585	193.41515	682.13543	0	440
3	10912	13.28889	-16.298755	330.63512	928.52731	0	440
4	10912	16.42963	-18.497925	467.87594	1174.9192	0	440
5	10912	18.28741	-19.798755	555.14965	1316.2929	0	440
6	10912	20.479015	-21.333335	697.45468	1511.7684	0	343.33
7	10912	24.28741	-24	944.76652	1972.4937	0	370
8	10912	28.095805	-26.666665	1192.0569	2433.1115	0	396.67
9	10912	31.843335	-28	1354.8552	2369.3759	0	410
10	10912	35.53	-28	1433.1644	2502.5314	0	410
11	10912	39.216665	-28	1511.4736	2635.6869	0	410
12	10912	43.53	-28	1605.8097	2797.3684	0	410
13	10912	47.93	-28	1704.0933	2969.9482	0	410
14	10912	51.195	-28	1747.191	3101.0861	0	410
15	10912	53.865	-28	1747.191	3208.3521	0	410
16	10912	56.72	-28	1747.2039	3323.0263	0	410
17	10912	59.78	-28	1747.2078	3424.6753	0	410
18	10912	62.86	-28	1747.2078	3505.5195	0	410
19	10912	64.85	-28	1747.2222	3558	0	410
20	10912	66.8625	-28	1747.2	3539.84	0	410
21	10912	69.9875	-28	1747.2	3548.16	0	410
22	10912	73.1125	-28	1747.2	3556.48	0	410
23	10912	76.2375	-28	1747.2	3564.8	0	410
24	10912	78.9	-28	1747.1818	3646.5	0	410
25	10912	81.6782	-26	1622.4056	2922.4596	0	390
26	10912	85.0346	-22	1372.8091	2684.9859	0	350
27	10912	87.8564	-18.63711	1162.9574	2389.7662	0	440
28	10912	91.00302	-14.88711	928.95094	2543.0423	0	440
29	10912	94.50453	-10.714171	668.57267	1987.6803	0	635
30	10912	97.50151	-7.1425115	445.68651	1641.1473	0	635
31	10912	99.98875	-4.178341	260.72753	811.16749	0	635
32	10912	102.23615	-1.5	93.600414	639.44281	0	400
33	10912	103.9474	0.539394	-33.657919	367.32642	0	400
34	10912	105.20605	2.039394	-127.25855	198.3999	0	400
35	10912	107.68615	4.995079	-311.68515	-412.18849	0	800

Slices of Slip Surface: **10967**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	10967	2.2871871	-12	62.4	214.05	141.41591	0
2	10967	6.039964	-14.166665	197.59927	638.39995	0	440
3	10967	10.081415	-16.5	343.19998	896.91422	0	440
4	10967	14.122865	-18.833335	488.80711	1155.4071	0	440
5	10967	17.071795	-20.5359	595.02872	1290.0764	0	335.36
6	10967	20	-22.2265	743.02817	1546.4183	0	352.26
7	10967	24	-24.5359	972.0919	1965.1849	0	375.36
8	10967	28	-26.8453	1201.1773	2383.9515	0	398.45
9	10967	31.843335	-28	1354.8552	2368.8877	0	410
10	10967	35.53	-28	1433.1644	2502.0432	0	410
11	10967	39.216665	-28	1511.4736	2635.1716	0	410
12	10967	43.53	-28	1605.8097	2796.7611	0	410
13	10967	47.93	-28	1704.0933	2969.4301	0	410
14	10967	52.53	-28	1747.191	3154.3071	0	410
15	10967	56.72	-28	1747.2039	3322.6974	0	410
16	10967	59.78	-28	1747.2078	3424.026	0	410
17	10967	62.86	-28	1747.2078	3504.8701	0	410
18	10967	64.85	-28	1747.2222	3557.4444	0	410
19	10967	67.383335	-28	1747.1999	3540.7197	0	410
20	10967	71.55	-28	1747.1999	3551.7597	0	410
21	10967	75.716665	-28	1747.1999	3563.0397	0	410
22	10967	78.9	-28	1747.1818	3646	0	410
23	10967	81.6782	-26	1622.4056	2928.588	0	390
24	10967	85.0346	-22	1372.8091	2690.5397	0	350
25	10967	87.8564	-18.63711	1162.9574	2394.5157	0	440
26	10967	91.00302	-14.88711	928.95094	2548.1768	0	440
27	10967	94.50453	-10.714171	668.57267	1991.2192	0	635
28	10967	97.50151	-7.1425115	445.68651	1643.8926	0	635
29	10967	99.98875	-4.178341	260.72753	812.01263	0	635
30	10967	102.23615	-1.5	93.600414	640.25992	0	400
31	10967	103.9474	0.539394	-33.657919	367.53235	0	400
32	10967	105.20605	2.039394	-127.25855	198.22446	0	400
33	10967	107.68615	4.995079	-311.68515	-414.3771	0	800

Slices of Slip Surface: **11296**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11296	12.14963	-12	62.399373	245.16948	170.43588	0
2	11296	15.78889	-14.548235	221.41196	722.67768	0	440
3	11296	19.393705	-17.072355	408.51688	1040.9084	0	440
4	11296	22.181115	-19.02412	589.51504	1363.4666	0	440
5	11296	25.479015	-21.333335	803.6667	1686.4009	0	343.33
6	11296	29.28741	-24	1050.957	2143.3406	0	370
7	11296	33.095805	-26.666665	1298.2689	2600.2373	0	396.67
8	11296	36.515	-28	1454.0924	2534.8845	0	410
9	11296	39.545	-28	1518.4488	2644.3234	0	410
10	11296	43.53	-28	1605.8097	2794.1296	0	410
11	11296	47.93	-28	1704.0933	2966.5803	0	410
12	11296	51.195	-28	1747.191	3097.8652	0	410
13	11296	53.865	-28	1747.191	3205.1311	0	410
14	11296	56.72	-28	1747.2039	3319.7368	0	410
15	11296	59.78	-28	1747.2078	3421.4286	0	410
16	11296	62.86	-28	1747.2078	3502.2727	0	410
17	11296	64.85	-28	1747.2222	3554.7778	0	410
18	11296	66.8625	-28	1747.2	3536.32	0	410
19	11296	69.9875	-28	1747.2	3544.96	0	410
20	11296	73.1125	-28	1747.2	3553.28	0	410
21	11296	76.2375	-28	1747.2	3561.6	0	410
22	11296	78.9	-28	1747.1818	3643.2727	0	410
23	11296	82	-26	1622.4035	3053.464	0	390
24	11296	86	-22	1372.7948	2828.604	0	350
25	11296	88.5	-19.5	1216.789	2612.0516	0	440
26	11296	90.625	-17.375	1084.2014	2906.9704	0	440
27	11296	93.875	-14.125	881.40318	2584.0946	0	440
28	11296	97.25	-10.75	670.80196	2120.1084	0	635

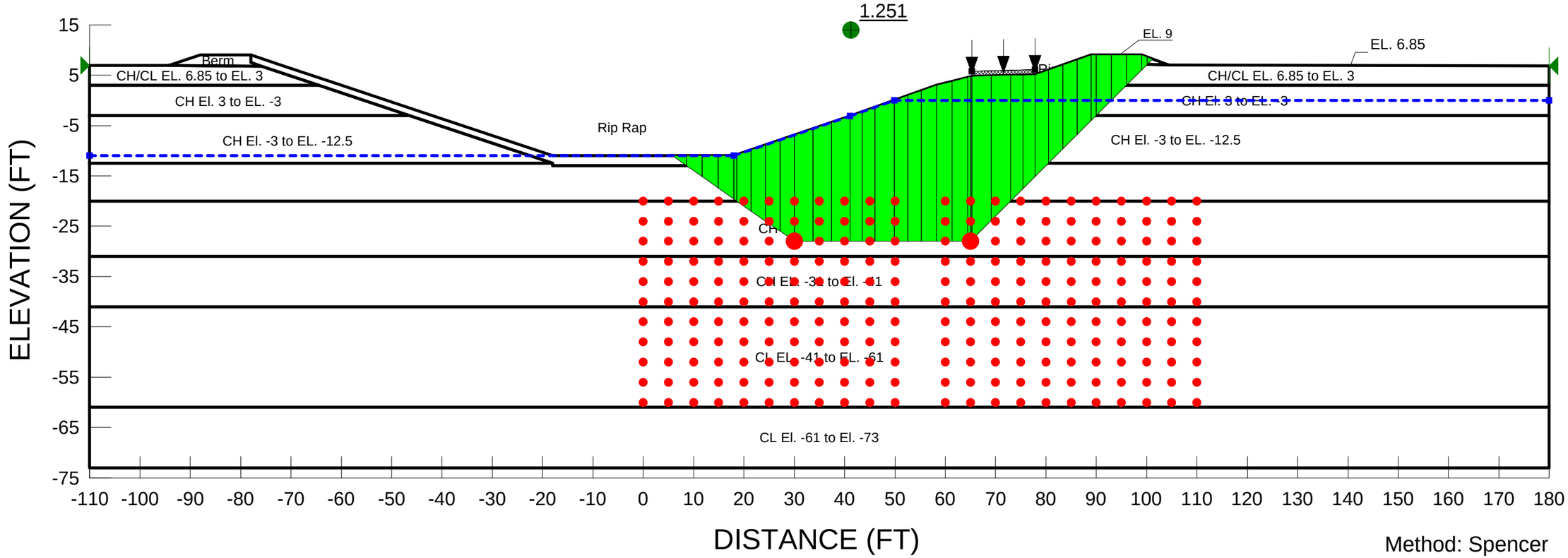
29	11296	100.35	-7.65	477.34941	1242.6746	0	635
30	11296	103.05	-4.95	308.87469	866.7295	0	635
31	11296	104.7	-3.3	205.92129	648.88835	0	635
32	11296	106.5	-1.5	93.599718	619.33121	0	400
33	11296	109.5	1.5	-93.599718	309.28848	0	400
34	11296	112.9895	4.989505	-311.34656	-319.50341	0	800

Slices of Slip Surface: **11357**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11357	7.287187	-12	62.4	206.315	134.20291	0
2	11357	11.264429	-14.29626	205.6877	640.07159	0	440
3	11357	15.75481	-16.888785	367.46065	924.42785	0	440
4	11357	19.571795	-19.092525	538.3606	1209.865	0	440
5	11357	22.875645	-21	727.575	1492.875	0	340
6	11357	26.33975	-23	925.95	1851.625	0	360
7	11357	29.80385	-25	1124.325	2210.375	0	380
8	11357	33.26795	-27	1322.725	2569.25	0	400
9	11357	36.515	-28	1454.0924	2532.2442	0	410
10	11357	39.545	-28	1518.4488	2641.6832	0	410
11	11357	43.53	-28	1605.8097	2791.498	0	410
12	11357	47.93	-28	1704.0933	2963.9896	0	410
13	11357	52.53	-28	1747.191	3148.8764	0	410
14	11357	56.72	-28	1747.2039	3317.1053	0	410
15	11357	59.78	-28	1747.2078	3418.8312	0	410
16	11357	62.86	-28	1747.2078	3499.6753	0	410
17	11357	64.85	-28	1747.2222	3552.1111	0	410
18	11357	67.383335	-28	1747.1999	3535.1997	0	410
19	11357	71.55	-28	1747.1999	3546.4797	0	410
20	11357	75.716665	-28	1747.1999	3557.5197	0	410
21	11357	79.6	-28	1747.1944	3668.0556	0	410
22	11357	83.2	-28	1747.1944	3808.3333	0	410
23	11357	87	-25.616495	1598.4682	3137.7679	0	386.16
24	11357	90.3564	-21.616495	1348.865	3332.6517	0	346.16
25	11357	93.28611	-18.125	1131.0085	2911.5819	0	440
26	11357	96.43273	-14.375	897.00746	2540.2035	0	440
27	11357	98.50302	-11.907725	743.054	2139.5299	0	635
28	11357	101.7	-8.097715	505.30246	1140.2218	0	635
29	11357	105.18875	-3.93999	245.85394	620.58399	0	635
30	11357	107.23615	-1.5	93.600414	560.89772	0	400
31	11357	109.75345	1.5	-93.600414	251.7605	0	400
32	11357	112.682	4.990127	-311.38294	-432.03686	0	800

Slices of Slip Surface: **10972**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	10972	2.2871871	-12	62.4	205.0575	133.03027	0
2	10972	6.039964	-14.166665	197.59927	623.67853	0	440
3	10972	10.081415	-16.5	343.19998	879.10708	0	440
4	10972	14.122865	-18.833335	488.80711	1134.5571	0	440
5	10972	17.071795	-20.5359	595.02872	1269.3169	0	335.36
6	10972	20	-22.2265	743.02817	1522.3645	0	352.26
7	10972	24	-24.5359	972.0919	1935.7833	0	375.36
8	10972	28	-26.8453	1201.1773	2349.3105	0	398.45
9	10972	31.843335	-28	1354.8552	2362.6218	0	410
10	10972	35.53	-28	1433.1644	2495.7502	0	410
11	10972	39.216665	-28	1511.4736	2628.9057	0	410
12	10972	43.53	-28	1605.8097	2790.4858	0	410
13	10972	47.93	-28	1704.0933	2963.2124	0	410
14	10972	52.53	-28	1747.191	3147.9401	0	410
15	10972	56.72	-28	1747.2039	3316.4474	0	410
16	10972	59.78	-28	1747.2078	3417.8571	0	410
17	10972	62.86	-28	1747.2078	3498.7013	0	410
18	10972	64.85	-28	1747.2222	3551.2222	0	410
19	10972	67.383335	-28	1747.1999	3534.2397	0	410
20	10972	71.55	-28	1747.1999	3545.5197	0	410
21	10972	75.716665	-28	1747.1999	3556.7997	0	410
22	10972	79.6	-28	1747.1944	3666.9444	0	410
23	10972	83.2	-28	1747.1944	3807.5	0	410
24	10972	87	-25.616495	1598.4682	3148.0525	0	386.16
25	10972	90.3564	-21.616495	1348.865	3343.7882	0	346.16
26	10972	93.28611	-18.125	1131.0085	2920.9787	0	440
27	10972	96.43273	-14.375	897.00746	2548.3747	0	440
28	10972	98.50302	-11.907725	743.054	2145.9322	0	635
29	10972	101.7	-8.097715	505.30246	1143.0906	0	635
30	10972	105.18875	-3.93999	245.85394	621.64343	0	635
31	10972	107.23615	-1.5	93.600414	562.14893	0	400
32	10972	109.75345	1.5	-93.600414	251.93158	0	400
33	10972	112.682	4.990127	-311.38294	-434.98151	0	800



Method: Spencer

Name: Berm Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 600 psf
Name: CH/CL EL. 6.85 to EL. 3 Model: Undrained (Phi=0) Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Undrained (Phi=0) Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 1300 psf
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

Surcharge (Unit Weight): 550 pcf

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN
STATION: 19+84
3:1 SLOPE
DUMP TRUCK ON RAMP
GLOBAL ANALYSIS (BLOCK METHOD)

Wedge R to L Truck on Ramp

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File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 179
Last Edited By: Hoppes, Andrew
Date: 9/18/2013
Time: 3:27:04 PM
File Name: Station 19+84-NoDSM-Riprap - 550.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/18/2013
Last Solved Time: 3:35:09 PM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

Wedge R to L Truck on Ramp

Kind: SLOPE/W
Method: Spencer
Settings
- Apply Phreatic Correction: No
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Right to Left
- Use Passive Mode: No
- Slip Surface Option: Block
- Critical slip surfaces saved: 20
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

FOS Distribution
- FOS Calculation Option: Constant

Restrict Block Crossing: Yes
Advanced
- Number of Slices: 30
- Optimization Tolerance: 0.01
- Minimum Slip Surface Depth: 0.1 ft
- Optimization Maximum Iterations: 2000
- Optimization Convergence Tolerance: 1e-007
- Starting Optimization Points: 8
- Ending Optimization Points: 16
- Complete Passes per Insertion: 1
- Driving Side Maximum Convex Angle: 5 °
- Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 600 psf

CH/CL EL. 6.85 to EL. 3

Model: Undrained (Phi=0)
Unit Weight: 112 pcf
Cohesion: 800 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. 3 to EL. -3

Model: Undrained (Phi=0)
Unit Weight: 110 pcf
Cohesion: 400 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 635 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -12.5 to -20

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH EL. -31 to El. -41

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 850 psf
Pore Water Pressure
- Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 1300 psf

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 43 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Limits

Left Coordinate: (-110, 6.97) ft
Right Coordinate: (180, 6.85) ft

Slip Surface Block

Left Grid
- Upper Left: (0, -20) ft
- Lower Left: (0, -60) ft
- Lower Right: (50, -60) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 135 °
- Ending Angle: 165 °
- Angle Increments: 6

Right Grid
- Upper Left: (60, -20) ft
- Lower Left: (60, -60) ft
- Lower Right: (110, -60) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 45 °
- Ending Angle: 65 °
- Angle Increments: 4

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-11
	18	-11
	41.06	-3.15
	49.86	0
	180	0

Surcharge Loads

Surcharge Load 1

Surcharge (Unit Weight): 550 pcf
Direction: Vertical

Coordinates

	X (ft)	Y (ft)

	65.3	5.8
	77.8	6.07

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points	Area (ft²)
Region 1	CH/CL EL. 6.85 to EL. 3	44,42,29,30,45,46,23,24,4	415.25
Region 2	CH El. 3 to EL. -3	4,5,43,44	748.8
Region 3	CH El. -12.5 to -20	2,15,14,1,32,41,40,39	2157
Region 4	CH EL. -31 to El. -41	6,8,9,7	2900
Region 5	CL EL. -41 to EL. -61	8,10,11,9	5800
Region 6	CL El. -61 to El. -73	10,12,13,11	3480
Region 7	Berm	46,21,22,23	21.55
Region 8	CH El. -20 to El. -31	7,14,15,6	3190
Region 9	Berm	17,18,19,31,33	28.9834
Region 10	CH/CL EL. 6.85 to EL. 3	16,17,33,34,27	154.5478
Region 11	CH El. 3 to EL. -3	28,27,34,35	327.15
Region 12	CH El. -3 to EL. -12.5	1,28,35,32	738.72
Region 13	CH El. -3 to EL. -12.5	39,43,5,2	1406
Region 14	Rip Rap	19,25,26,37,36,38,20,3,29,42,44,43,39,40,41,32,35,34,33,31	238.944
Region 15	Rip Rap	21,46,45,30	16.8

Points

	X (ft)	Y (ft)
Point 1	-110	-12.5
Point 2	180	-12.5
Point 3	58.24	3
Point 4	180	3
Point 5	180	-3
Point 6	180	-31
Point 7	-110	-31
Point 8	180	-41
Point 9	-110	-41
Point 10	180	-61
Point 11	-110	-61
Point 12	180	-73
Point 13	-110	-73
Point 14	-110	-20
Point 15	180	-20
Point 16	-110	6.97
Point 17	-94.28	6.91
Point 18	-88	9
Point 19	-78	9
Point 20	41.06	-3.15
Point 21	89	9
Point 22	99	9
Point 23	104.4	7
Point 24	180	6.85
Point 25	-71.33	6.78
Point 26	-60	3
Point 27	-110	3
Point 28	-110	-3
Point 29	65.3	4.8
Point 30	77.8	5.1
Point 31	-78	7.5
Point 32	-18	-12.5
Point 33	-75.88	6.8
Point 34	-64.47	3
Point 35	-46.48	-3
Point 36	-18	-11
Point 37	-42	-3
Point 38	18	-11
Point 39	18	-12.5
Point 40	18	-13
Point 41	-18	-13
Point 42	65.3	3.3
Point 43	46	-3
Point 44	64.4	3
Point 45	77.8	3.6
Point 46	89	7.5

Critical Slip Surfaces

	Slip Surface	FOS	Center (ft)	Radius (ft)	Entry (ft)	Exit (ft)
1	10896	1.251	(50.563, 12.986)	48.027	(101.189, 8.18919)	(5.72148, -11)
2	11281	1.251	(52.903, 12.986)	46.539	(101.189, 8.18919)	(10.7215, -11)
3	11336	1.251	(50.484, 12.986)	48.086	(101.189, 8.18919)	(5.55514, -11)
4	10841	1.256	(52.445, 12.986)	46.885	(101.189, 8.18919)	(9.74019, -11)
5	10951	1.256	(48.128, 12.986)	49.59	(101.189, 8.18919)	(0.555136, -11)
6	10511	1.262	(48.207, 12.986)	49.811	(101.189, 8.18919)	(0.721484, -11)
7	10897	1.264	(47.563, 14)	46.939	(96.0467, 9)	(5.72148, -11)
8	10456	1.264	(50.101, 12.986)	48.137	(101.189, 8.18919)	(4.74019, -11)
9	11721	1.265	(52.825, 12.986)	46.597	(101.189, 8.18919)	(10.5551, -11)
10	11776	1.268	(49.538, 12.986)	48.798	(101.189, 8.18919)	(3.54338, -11)
11	11391	1.269	(47.176, 12.986)	50.302	(101.189, 8.18919)	(-1.45662, -11)
12	11282	1.270	(49.868, 14)	45.477	(96.0467, 9)	(10.7215, -11)
13	11337	1.270	(47.486, 14)	46.997	(96.0467, 9)	(5.55514, -11)
14	10842	1.273	(49.417, 14)	45.816	(96.0467, 9)	(9.74019, -11)
15	11226	1.273	(54.77, 12.986)	45.145	(101.189, 8.18919)	(14.7402, -11)
16	10952	1.274	(45.159, 14)	48.752	(96.0467, 9)	(0.555136, -11)
17	10566	1.275	(45.758, 12.986)	51.374	(101.189, 8.18919)	(-4.44486, -11)
18	10457	1.277	(47.108, 14)	47.279	(96.0467, 9)	(4.74019, -11)
19	6661	1.277	(51.251, 14)	44.447	(98, 9)	(11.4341, -11)
20	11722	1.278	(49.792, 14)	45.534	(96.0467, 9)	(10.5551, -11)

Slices of Slip Surface: **10896**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	10896	7.149632	-12	62.399373	248.15782	173.22255	0
2	10896	10.14815	-14.099585	193.41515	675.79762	0	440
3	10896	13.28889	-16.298755	330.63512	917.75566	0	440
4	10896	16.42963	-18.497925	467.87594	1159.6876	0	440
5	10896	18.28741	-19.798755	555.14965	1298.5223	0	440
6	10896	20.002965	-21	666.5531	1432.593	0	340
7	10896	22.85926	-23	852.01902	1772.1789	0	360
8	10896	25.715555	-25	1037.4849	2111.7648	0	380
9	10896	28.57185	-27	1222.9795	2451.322	0	400
10	10896	31.843335	-28	1354.8552	2362.6218	0	410
11	10896	35.53	-28	1433.1644	2495.7774	0	410
12	10896	39.216665	-28	1511.4736	2628.9329	0	410
13	10896	42.295	-28	1578.2186	2743.0364	0	410
14	10896	44.765	-28	1633.4008	2838.0972	0	410

15	10896	47.93	-28	1704.0933	2963.2124	0	410
16	10896	51.195	-28	1747.191	3094.3446	0	410
17	10896	53.865	-28	1747.191	3201.6105	0	410
18	10896	56.72	-28	1747.2039	3316.4474	0	410
19	10896	59.78	-28	1747.2078	3417.8571	0	410
20	10896	62.86	-28	1747.2078	3498.7013	0	410
21	10896	64.7	-28	1747.1667	3547.1667	0	410
22	10896	65.15	-27.85	1737.8326	3057.2938	0	408.5
23	10896	67.225	-25.775	1608.3649	3359.4002	0	387.75
24	10896	71.075	-21.925	1368.1139	3004.1938	0	349.25
25	10896	74.2	-18.8	1173.1195	2628.1388	0	440
26	10896	76.6	-16.4	1023.3602	2389.4608	0	440
27	10896	79.15	-13.85	864.24154	1709.8888	0	440
28	10896	81.916665	-11.083334	691.60042	1393.2834	0	635
29	10896	84.75	-8.25	514.80707	1212.8463	0	635
30	10896	87.583335	-5.4166665	337.98876	1032.4093	0	635
31	10896	89.5	-3.5	218.39693	863.37711	0	635
32	10896	91.5	-1.5	93.599718	825.59425	0	400
33	10896	94.5	1.5	-93.599718	512.22811	0	400
34	10896	97.5	4.5	-280.79208	-92.062939	0	800
35	10896	99.5692	6.5691825	-409.91595	-335.17797	0	800
36	10896	100.6638	7.663777	0	-353.41736	0	600

Slices of Slip Surface: **11281**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11281	12.14963	-12	62.399373	239.98722	165.60335	0
2	11281	15.78889	-14.548235	221.41196	715.12007	0	440
3	11281	19.393705	-17.072355	408.51688	1027.3901	0	440
4	11281	22.181115	-19.02412	589.51504	1343.9238	0	440
5	11281	25.002965	-21	772.75076	1603.4041	0	340
6	11281	27.85926	-23	958.21668	1939.95	0	360
7	11281	30.715555	-25	1143.7113	2276.5246	0	380
8	11281	33.57185	-27	1329.1772	2613.0705	0	400
9	11281	36.515	-28	1454.0924	2527.6568	0	410
10	11281	39.545	-28	1518.4488	2637.0957	0	410
11	11281	42.295	-28	1578.2186	2739.3522	0	410
12	11281	44.765	-28	1633.4008	2834.413	0	410
13	11281	47.93	-28	1704.0933	2959.5855	0	410
14	11281	51.195	-28	1747.191	3090.6742	0	410
15	11281	53.865	-28	1747.191	3197.9026	0	410
16	11281	56.72	-28	1747.2039	3312.5	0	410
17	11281	59.78	-28	1747.2078	3414.2857	0	410
18	11281	62.86	-28	1747.2078	3495.1299	0	410
19	11281	64.7	-28	1747.1667	3543.5	0	410
20	11281	65.15	-27.85	1737.8326	3087.9351	0	408.5
21	11281	66.583335	-26.416665	1648.4036	3453.6195	0	394.17
22	11281	69.15	-23.85	1488.2301	3214.2134	0	368.5
23	11281	71.716665	-21.283335	1328.0842	2975.0828	0	342.83
24	11281	74.2	-18.8	1173.1195	2653.8598	0	440
25	11281	76.6	-16.4	1023.3602	2412.5302	0	440
26	11281	79.15	-13.85	864.24154	1725.3666	0	440
27	11281	81.916665	-11.083334	691.60042	1403.6154	0	635
28	11281	84.75	-8.25	514.80707	1221.1819	0	635
29	11281	87.583335	-5.4166665	337.98876	1038.7483	0	635
30	11281	89.5	-3.5	218.39693	867.83188	0	635
31	11281	91.5	-1.5	93.599718	831.53394	0	400
32	11281	94.5	1.5	-93.599718	514.67942	0	400
33	11281	97.5	4.5	-280.79208	-99.647837	0	800
34	11281	99.5692	6.5691825	-409.91595	-345.47681	0	800
35	11281	100.6638	7.663777	0	-362.27954	0	600

Slices of Slip Surface: **11336**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11336	7.287187	-12	62.4	207.565	135.36855	0
2	11336	10.516034	-13.864175	178.72553	595.30818	0	440
3	11336	13.50962	-15.592525	286.57415	783.26217	0	440
4	11336	16.503205	-17.320875	394.42277	971.24509	0	440
5	11336	19.571795	-19.092525	538.3606	1207.3305	0	440
6	11336	22.875645	-21	727.575	1486.25	0	340
7	11336	26.33975	-23	925.95	1842.35	0	360
8	11336	29.80385	-25	1124.325	2198.45	0	380
9	11336	33.26795	-27	1322.725	2554.5	0	400
10	11336	36.515	-28	1454.0924	2528.6469	0	410
11	11336	39.545	-28	1518.4488	2638.0858	0	410
12	11336	42.295	-28	1578.2186	2740.3239	0	410
13	11336	44.765	-28	1633.4008	2835.4251	0	410
14	11336	47.93	-28	1704.0933	2960.3627	0	410
15	11336	51.195	-28	1747.191	3091.6479	0	410
16	11336	53.865	-28	1747.191	3198.9139	0	410
17	11336	56.72	-28	1747.2039	3313.4868	0	410
18	11336	59.78	-28	1747.2078	3415.2597	0	410
19	11336	62.86	-28	1747.2078	3496.1039	0	410
20	11336	64.7	-28	1747.1667	3544.5	0	410
21	11336	65.15	-27.85	1737.8326	3078.7427	0	408.5
22	11336	67.225	-25.775	1608.3649	3383.4602	0	387.75
23	11336	71.075	-21.925	1368.1139	3025.6825	0	349.25
24	11336	74.2	-18.8	1173.1195	2646.1995	0	440
25	11336	76.6	-16.4	1023.3602	2405.6653	0	440
26	11336	79.15	-13.85	864.24154	1720.8097	0	440
27	11336	81.916665	-11.083334	691.60042	1400.6456	0	635
28	11336	84.75	-8.25	514.80707	1218.811	0	635
29	11336	87.583335	-5.4166665	337.98876	1037.0013	0	635
30	11336	89.5	-3.5	218.39693	866.6298	0	635
31	11336	91.5	-1.5	93.599718	829.83689	0	400
32	11336	94.5	1.5	-93.599718	514.04302	0	400
33	11336	97.5	4.5	-280.79208	-97.151751	0	800
34	11336	99.5692	6.5691825	-409.91595	-342.15981	0	800
35	11336	100.6638	7.663777	0	-359.4466	0	600

Slices of Slip Surface: **10841**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	10841	10.931945	-12	62.3986	307.24602	228.32391	0
2	10841	13.592775	-14.2327	201.72156	737.87279	0	440
3	10841	16.530925	-16.6981	355.57433	1009.3117	0	440
4	10841	19.232985	-18.9654	523.22126	1290.1133	0	440
5	10841	22.054975	-21.333335	730.94591	1586.0061	0	343.33
6	10841	25.232985	-24	964.83221	2018.2968	0	370
7	10841	28.410995	-26.666665	1198.7426	2450.708	0	396.67
8	10841	31.3825	-28	1345.0633	2343.5081	0	410
9	10841	34.1475	-28	1403.7975	2443.3635	0	410
10	10841	36.9125	-28	1462.5316	2543.2188	0	410
11	10841	39.6775	-28	1521.2658	2643.1103	0	410
12	10841	42.295	-28	1578.2186	2740.5668	0	410
13	10841	44.765	-28	1633.4008	2835.6275	0	410
14	10841	47.93	-28	1704.0933	2960.6218	0	410
15	10841	51.195	-28	1747.191	3091.8727	0	410
16	10841	53.865	-28	1747.191	3199.1386	0	410
17	10841	56.72	-28	1747.2039	3313.8158	0	410
18	10841	59.78	-28	1747.2078	3415.2597	0	410
19	10841	62.86	-28	1747.2078	3496.1039	0	410
20	10841	64.7	-28	1747.1667	3544.6667	0	410
21	10841	65.15	-27.85	1737.8326	3078.9784	0	408.5
22	10841	66.583335	-26.416665	1648.4036	3443.1507	0	394.17
23	10841	69.15	-23.85	1488.2301	3204.571	0	368.5
24	10841	71.716665	-21.283335	1328.0842	2966.2669	0	342.83
25	10841	74.2	-18.8	1173.1195	2646.5825	0	440
26	10841	76.6	-16.4	1023.3602	2406.1367	0	440
27	10841	79.15	-13.85	864.24154	1721.4906	0	440
28	10841	81.916665	-11.083334	691.60042	1401.9683	0	635
29	10841	84.75	-8.25	514.80707	1220.2085	0	635
30	10841	87.583335	-5.4166665	337.98876	1038.4239	0	635
31	10841	89.5	-3.5	218.39693	868.11473	0	635
32	10841	91.5	-1.5	93.599718	830.68542	0	400
33	10841	94.5	1.5	-93.599718	514.98583	0	400
34	10841	97.5	4.5	-280.79208	-94.884295	0	800
35	10841	99.5692	6.5691825	-409.91595	-339.81183	0	800
36	10841	100.6638	7.663777	0	-357.64994	0	600

Slices of Slip Surface: **10951**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	10951	2.2871871	-12	62.4	206.865	134.71579	0
2	10951	5.5347825	-13.875	179.4	595.42857	0	440
3	10951	8.5658735	-15.625	288.6	785.71429	0	440
4	10951	11.59696	-17.375	397.8	976.02857	0	440
5	10951	14.628045	-19.125	507	1166.3143	0	440
6	10951	17.071795	-20.5359	595.02872	1266.6578	0	335.36
7	10951	19.5	-21.937825	714.38428	1466.9314	0	349.38
8	10951	22.5	-23.669875	886.17483	1775.2075	0	366.7
9	10951	25.5	-25.401925	1057.9943	2083.5126	0	384.02
10	10951	28.5	-27.133975	1229.8137	2391.7887	0	401.34
11	10951	31.843335	-28	1354.8552	2359.9094	0	410
12	10951	35.53	-28	1433.1644	2493.0377	0	410
13	10951	39.216665	-28	1511.4736	2626.1933	0	410
14	10951	43.53	-28	1605.8097	2787.8543	0	410
15	10951	47.93	-28	1704.0933	2960.3627	0	410
16	10951	51.195	-28	1747.191	3091.6105	0	410
17	10951	53.865	-28	1747.191	3198.8764	0	410
18	10951	56.72	-28	1747.2039	3313.4868	0	410
19	10951	59.78	-28	1747.2078	3414.9351	0	410
20	10951	62.86	-28	1747.2078	3496.1039	0	410
21	10951	64.7	-28	1747.1667	3544.5	0	410
22	10951	65.15	-27.85	1737.8326	3080.864	0	408.5
23	10951	67.225	-25.775	1608.3649	3385.4805	0	387.75
24	10951	71.075	-21.925	1368.1139	3027.5191	0	349.25
25	10951	75.4	-17.6	1098.24	2527.9068	0	440
26	10951	79.15	-13.85	864.24154	1722.4596	0	440
27	10951	81.916665	-11.083334	691.60042	1402.717	0	635
28	10951	84.75	-8.25	514.80707	1220.8325	0	635
29	10951	87.583335	-5.4166665	337.98876	1038.9479	0	635
30	10951	89.5	-3.5	218.39693	868.53899	0	635
31	10951	91.5	-1.5	93.599718	831.13325	0	400
32	10951	94.5	1.5	-93.599718	515.22153	0	400
33	10951	97.5	4.5	-280.79208	-95.098784	0	800
34	10951	99.5692	6.5691825	-409.91595	-340.17831	0	800
35	10951	100.6638	7.663777	0	-357.99312	0	600

Slices of Slip Surface: **10511**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	10511	2.1496319	-12	62.399373	241.20607	166.73994	0
2	10511	5.2439525	-14.166665	197.60116	675.09119	0	440
3	10511	8.5762975	-16.5	343.21171	930.52114	0	440
4	10511	11.908645	-18.833335	488.80998	1185.9511	0	440
5	10511	15.78741	-21.549275	658.2747	1425.58	0	345.49
6	10511	19.75	-24.32391	868.58203	1796.5409	0	373.24
7	10511	23.25	-26.774635	1095.8616	2210.3297	0	397.75
8	10511	26.606	-28	1243.6177	2171.2017	0	410
9	10511	29.818	-28	1311.8306	2287.2042	0	410
10	10511	33.03	-28	1380.0747	2403.2379	0	410
11	10511	36.242	-28	1448.2877	2519.2403	0	410
12	10511	39.454	-28	1516.5318	2635.2428	0	410
13	10511	43.53	-28	1605.8097	2788.2591	0	410
14	10511	47.93	-28	1704.0933	2960.8808	0	410
15	10511	51.195	-28	1747.191	3092.0599	0	410
16	10511	53.865	-28	1747.191	3199.3258	0	410
17	10511	56.72	-28	1747.2039	3314.1447	0	410
18	10511	59.78	-28	1747.2078	3415.5844	0	410
19	10511	62.86	-28	1747.2078	3496.4286	0	410
20	10511	64.7	-28	1747.1667	3545	0	410
21	10511	65.15	-27.85	1737.8326	3078.0356	0	408.5
22	10511	67.225	-25.775	1608.3649	3382.1745	0	387.75
23	10511	71.075	-21.925	1368.1139	3024.7642	0	349.25
24	10511	75.4	-17.6	1098.24	2526.139	0	440
25	10511	79.15	-13.85	864.24154	1721.9358	0	440
26	10511	81.916665	-11.083334	691.60042	1403.5655	0	635
27	10511	84.75	-8.25	514.80707	1221.9555	0	635
28	10511	87.583335	-5.4166665	337.98876	1040.3455	0	635
29	10511	89.5	-3.5	218.39693	870.16534	0	635
30	10511	91.5	-1.5	93.599718	831.74608	0	400
31	10511	94.5	1.5	-93.599718	516.30576	0	400
32	10511	97.5	4.5	-280.79208	-91.280408	0	800
33	10511	99.5692	6.5691825	-409.91595	-335.9979	0	800
34	10511	100.6638	7.663777	0	-354.70261	0	600

Slices of Slip Surface: **10897**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	10897	7.149632	-12	62.399373	230.76985	157.00801	0
2	10897	10.14815	-14.099585	193.41515	655.115	0	440
3	10897	13.28889	-16.298755	330.63512	893.31729	0	440
4	10897	16.42963	-18.497925	467.87594	1131.5457	0	440
5	10897	18.28741	-19.798755	555.14965	1268.2539	0	440
6	10897	20.002965	-21	666.5531	1402.5663	0	340
7	10897	22.85926	-23	852.01902	1736.4738	0	360
8	10897	25.715555	-25	1037.4849	2070.3526	0	380
9	10897	28.57185	-27	1222.9795	2404.2601	0	400
10	10897	31.3825	-28	1345.0633	2338.8788	0	410
11	10897	34.1475	-28	1403.7975	2438.7342	0	410
12	10897	36.9125	-28	1462.5316	2538.5895	0	410
13	10897	39.6775	-28	1521.2658	2638.4448	0	410
14	10897	42.295	-28	1578.2186	2735.9109	0	410
15	10897	44.765	-28	1633.4008	2830.9717	0	410
16	10897	47.93	-28	1704.0933	2955.9585	0	410
17	10897	51.195	-28	1747.191	3087.2285	0	410
18	10897	53.865	-28	1747.191	3194.4944	0	410
19	10897	56.72	-28	1747.2039	3309.2105	0	410
20	10897	59.78	-28	1747.2078	3410.7143	0	410
21	10897	62.86	-28	1747.2078	3491.5584	0	410
22	10897	64.7	-28	1747.1667	3540	0	410
23	10897	65.15	-27.821235	1736.041	3037.386	0	408.21
24	10897	66.9032	-25.731855	1605.6666	3345.6482	0	387.32
25	10897	70.1096	-21.91062	1367.2272	2992.8206	0	349.11
26	10897	73.2346	-18.18639	1134.825	2535.5845	0	440
27	10897	76.2782	-14.559165	908.48939	2168.742	0	440
28	10897	77.90302	-12.622775	787.65115	1495.0647	0	440
29	10897	79.334615	-10.916667	681.19087	1201.6817	0	635
30	10897	81.991765	-7.75	483.5998	977.81939	0	635
31	10897	84.648915	-4.5833335	286.00872	753.95702	0	635
32	10897	87.23614	-1.5	93.600414	738.41575	0	400
33	10897	88.747395	0.3010431	-18.784487	604.13424	0	400
34	10897	90.006045	1.8010431	-112.38385	425.58847	0	400
35	10897	92.82331	5.1585305	-321.88677	-289.04155	0	800
36	10897	95.34061	8.1585305	0	-438.26337	0	600

Slices of Slip Surface: **10456**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	10456	5.9319425	-12	62.3986	311.88694	232.65164	0
2	10456	8.514075	-14.166665	197.59935	734.23797	0	440
3	10456	11.294832	-16.5	343.19351	992.47332	0	440
4	10456	14.07559	-18.833335	488.81246	1250.7362	0	440
5	10456	16.732985	-21.06315	627.94367	1424.5119	0	340.63
6	10456	19.75	-23.594725	823.08184	1774.1369	0	365.95
7	10456	23.25	-26.531575	1080.6916	2252.6082	0	395.32
8	10456	26.606	-28	1243.6177	2172.7273	0	410
9	10456	29.818	-28	1311.8306	2288.7298	0	410
10	10456	33.03	-28	1380.0747	2404.7634	0	410
11	10456	36.242	-28	1448.2877	2520.7659	0	410
12	10456	39.454	-28	1516.5318	2636.7684	0	410
13	10456	42.295	-28	1578.2186	2742.3077	0	410
14	10456	44.765	-28	1633.4008	2837.3684	0	410
15	10456	47.93	-28	1704.0933	2962.4352	0	410
16	10456	51.195	-28	1747.191	3093.5955	0	410
17	10456	53.865	-28	1747.191	3200.8614	0	410
18	10456	56.72	-28	1747.2039	3315.4605	0	410
19	10456	59.78	-28	1747.2078	3417.2078	0	410
20	10456	62.86	-28	1747.2078	3498.0519	0	410

21	10456	64.7	-28	1747.1667	3546.5	0	410
22	10456	65.15	-27.85	1737.8326	3065.3077	0	408.5
23	10456	67.225	-25.775	1608.3649	3367.8487	0	387.75
24	10456	71.075	-21.925	1368.1139	3011.724	0	349.25
25	10456	75.4	-17.6	1098.24	2516.1217	0	440
26	10456	79.15	-13.85	864.24154	1715.7551	0	440
27	10456	81.916665	-11.083334	691.60042	1399.8719	0	635
28	10456	84.75	-8.25	514.80707	1219.1354	0	635
29	10456	87.583335	-5.4166665	337.98876	1038.3989	0	635
30	10456	89.5	-3.5	218.39693	869.03397	0	635
31	10456	91.5	-1.5	93.599718	829.6719	0	400
32	10456	94.5	1.5	-93.599718	515.76365	0	400
33	10456	97.5	4.5	-280.79208	-86.955271	0	800
34	10456	99.5692	6.5691825	-409.91595	-330.48821	0	800
35	10456	100.6638	7.663777	0	-350.07974	0	600

Slices of Slip Surface: **11721**

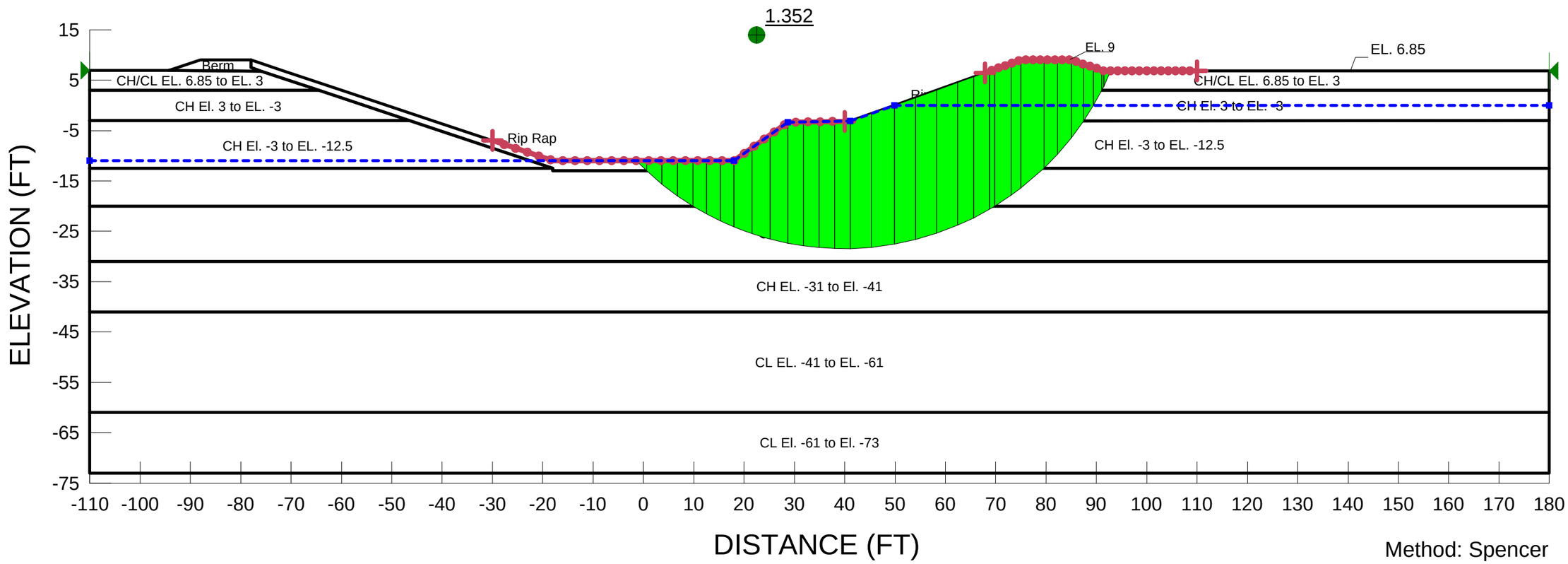
	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11721	12.28719	-12	62.4	208.9475	136.65775	0
2	11721	16.00962	-14.149145	196.50663	628.72722	0	440
3	11721	19.357265	-16.08191	345.92759	875.33112	0	440
4	11721	22.071795	-17.649145	501.39242	1147.4664	0	440
5	11721	24.786325	-19.21638	656.85725	1419.6016	0	440
6	11721	27.52923	-20.8	813.9375	1642.375	0	338
7	11721	30.300515	-22.4	972.65625	1928.375	0	354
8	11721	33.0718	-24	1131.3438	2214.375	0	370
9	11721	35.84308	-25.6	1290.0625	2500.4063	0	386
10	11721	38.61436	-27.2	1448.7813	2786.4063	0	402
11	11721	40.53	-28	1539.3396	2675.7547	0	410
12	11721	42.295	-28	1578.2186	2742.3887	0	410
13	11721	44.765	-28	1633.4008	2837.4494	0	410
14	11721	47.93	-28	1704.0933	2962.4352	0	410
15	11721	51.195	-28	1747.191	3093.7079	0	410
16	11721	53.865	-28	1747.191	3200.9363	0	410

17	11721	56.72	-28	1747.2039	3315.7895	0	410
18	11721	59.78	-28	1747.2078	3417.2078	0	410
19	11721	62.86	-28	1747.2078	3498.0519	0	410
20	11721	64.7	-28	1747.1667	3546.5	0	410
21	11721	65.15	-27.85	1737.8326	3064.1292	0	408.5
22	11721	66.583335	-26.416665	1648.4036	3426.0699	0	394.17
23	11721	69.15	-23.85	1488.2301	3188.5923	0	368.5
24	11721	71.716665	-21.283335	1328.0842	2951.3901	0	342.83
25	11721	74.2	-18.8	1173.1195	2634.6795	0	440
26	11721	76.6	-16.4	1023.3602	2395.6775	0	440
27	11721	79.15	-13.85	864.24154	1715.1528	0	440
28	11721	81.916665	-11.083334	691.60042	1399.3728	0	635
29	11721	84.75	-8.25	514.80707	1218.6862	0	635
30	11721	87.583335	-5.4166665	337.98876	1037.9996	0	635
31	11721	89.5	-3.5	218.39693	868.75112	0	635
32	11721	91.5	-1.5	93.599718	829.36548	0	400
33	11721	94.5	1.5	-93.599718	515.55152	0	400
34	11721	97.5	4.5	-280.79208	-86.974128	0	800
35	11721	99.5692	6.5691825	-409.91595	-330.4261	0	800
36	11721	100.6638	7.663777	0	-349.99899	0	600

Slices of Slip Surface: **11776**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11776	5.687889	-12	62.399589	183.76499	113.17507	0
2	11776	9.526998	-13.790205	174.10825	540.06209	0	440
3	11776	12.9162	-15.370615	272.73189	710.80365	0	440
4	11776	16.3054	-16.951025	371.35286	881.5452	0	440
5	11776	20.42197	-18.870615	542.57468	1163.3202	0	440
6	11776	24.55955	-20.8	750.86049	1482.4919	0	338
7	11776	27.990765	-22.4	923.57927	1788.2033	0	354
8	11776	31.421975	-24	1096.298	2093.9147	0	370
9	11776	34.853185	-25.6	1269.0432	2399.5998	0	386
10	11776	38.284395	-27.2	1441.762	2705.2848	0	402
11	11776	40.53	-28	1539.3396	2672.4528	0	410

12	11776	42.295	-28	1578.2186	2739.1498	0	410
13	11776	44.765	-28	1633.4008	2834.2105	0	410
14	11776	47.93	-28	1704.0933	2959.3264	0	410
15	11776	51.195	-28	1747.191	3090.4494	0	410
16	11776	53.865	-28	1747.191	3197.7154	0	410
17	11776	56.72	-28	1747.2039	3312.5	0	410
18	11776	59.78	-28	1747.2078	3413.961	0	410
19	11776	62.86	-28	1747.2078	3494.8052	0	410
20	11776	64.7	-28	1747.1667	3543.3333	0	410
21	11776	65.15	-27.85	1737.8326	3091.942	0	408.5
22	11776	67.225	-25.775	1608.3649	3397.4186	0	387.75
23	11776	71.075	-21.925	1368.1139	3038.1716	0	349.25
24	11776	75.4	-17.6	1098.24	2537.3349	0	440
25	11776	79.15	-13.85	864.24154	1729.4783	0	440
26	11776	81.916665	-11.083334	691.60042	1409.5551	0	635
27	11776	84.75	-8.25	514.80707	1227.1216	0	635
28	11776	87.583335	-5.4166665	337.98876	1044.688	0	635
29	11776	89.5	-3.5	218.39693	873.77158	0	635
30	11776	91.5	-1.5	93.599718	835.28161	0	400
31	11776	94.5	1.5	-93.599718	518.40351	0	400
32	11776	97.5	4.5	-280.79208	-92.161934	0	800
33	11776	99.5692	6.5691825	-409.91595	-337.99183	0	800
34	11776	100.6638	7.663777	0	-356.66077	0	600



Name: Berm Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 600 psf Piezometric Line: 1
Name: CH/CL EL. 6.85 to EL. 3 Model: Undrained (Phi=0) Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Undrained (Phi=0) Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 1300 psf Piezometric Line: 1
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN
STATION: 21+00
3:1 SLOPE
NO LOAD
GLOBAL ANALYSIS (CIRCULAR METHOD)

1. Circular (Original)

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File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 153
Last Edited By: Hoppes, Andrew
Date: 9/16/2013
Time: 11:13:03 AM
File Name: 3. Sedimentation Basin Sta 21+00 - Original with Rip Rap.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/16/2013
Last Solved Time: 11:14:00 AM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

1. Circular (Original)

Kind: SLOPE/W
Method: Spencer
Settings
- Apply Phreatic Correction: No
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Right to Left
- Use Passive Mode: No
- Slip Surface Option: Entry and Exit
- Critical slip surfaces saved: 20
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

FOS Distribution
- FOS Calculation Option: Constant

Advanced
- Number of Slices: 30
- Optimization Tolerance: 0.01
- Minimum Slip Surface Depth: 0.1 ft
- Optimization Maximum Iterations: 2000
- Optimization Convergence Tolerance: 1e-007
- Starting Optimization Points: 8
- Ending Optimization Points: 16
- Complete Passes per Insertion: 1
- Driving Side Maximum Convex Angle: 5 °
- Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 600 psf
Pore Water Pressure
- Piezometric Line: 1

CH/CL EL. 6.85 to EL. 3

Model: Undrained (Phi=0)
Unit Weight: 112 pcf
Cohesion: 800 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. 3 to EL. -3

Model: Undrained (Phi=0)
Unit Weight: 110 pcf
Cohesion: 400 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 635 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -12.5 to -20

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH EL. -31 to El. -41

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 850 psf
Pore Water Pressure
- Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 1300 psf
Pore Water Pressure
- Piezometric Line: 1

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 42 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Entry and Exit

Left Projection: Range
Left-Zone Left Coordinate: (-30, -7) ft
Left-Zone Right Coordinate: (40, -3.16717) ft
Left-Zone Increment: 30
Right Projection: Range
Right-Zone Left Coordinate: (67.86887, 6.44928) ft
Right-Zone Right Coordinate: (110, 6.85) ft
Right-Zone Increment: 30
Radius Increments: 30

Slip Surface Limits

Left Coordinate: (-110, 6.97) ft
Right Coordinate: (180, 6.85) ft

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-11
	18	-11
	28.71	-3.35
	41.06	-3.15
	49.86	0
	180	0

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points	Area (ft²)
Region 1	CH/CL EL. 6.85 to EL. 3	37,49,29,30,5,50	431.4832
Region	CH El. 3 to	5,6,51,38,50	765.7245

2	EL. -3		
Region 3	CH El. -3 to EL. -12.5	6,3,41,40,25,26,39,51	1461.2395
Region 4	CH El. -12.5 to -20	3,18,17,2,43,44,42,41	2157
Region 5	CH EL. -31 to El. -41	8,10,11,9	2900
Region 6	CL EL. -41 to EL. -61	10,12,13,11	5800
Region 7	CL El. -61 to El. -73	12,14,15,13	3480
Region 8	Berm	36,27,28,29,49	29.46775
Region 9	CH El. -20 to El. -31	9,17,18,8	3190
Region 10	Berm	20,21,22,48,54	28.9716
Region 11	CH/CL EL. 6.85 to EL. 3	19,20,54,47,53,33	154.443
Region 12	CH El. 3 to EL. -3	35,33,53,46,52	327.0375
Region 13	CH El. -3 to EL. -12.5	2,7,35,52,45,43	738.64
Region 14	Rip Rap	22,48,54,47,53,46,52,45,43,44,42,41,40,25,24,23,34,32,31	178.0571
Region 15	Rip Rap	27,36,49,37,50,38,51,39,26,16,4,1	51.0015

Points

	X (ft)	Y (ft)
Point 1	68.82	6.79
Point 2	-110	-12.5
Point 3	180	-12.5
Point 4	58.24	3
Point 5	180	3
Point 6	180	-3
Point 7	-110	-11
Point 8	180	-31
Point 9	-110	-31
Point 10	180	-41
Point 11	-110	-41
Point 12	180	-61
Point 13	-110	-61
Point 14	180	-73
Point 15	-110	-73
Point 16	49.86	0
Point 17	-110	-20
Point 18	180	-20
Point 19	-110	6.97
Point 20	-94.28	6.91
Point 21	-88	9
Point 22	-78	9
Point 23	-18	-11
Point 24	18	-11
Point 25	28.71	-3.35
Point 26	41.06	-3.15
Point 27	75	9
Point 28	85	9
Point 29	91.44	6.85
Point 30	180	6.85
Point 31	-71.33	6.78
Point 32	-60	3
Point 33	-110	3
Point 34	-42	-3
Point 35	-110	-3
Point 36	75	7.5
Point 37	68.82	5.29
Point 38	58.24	1.5
Point 39	41.06	-4.65
Point 40	28.71	-4.85
Point 41	18	-12.5
Point 42	18	-13
Point 43	-18	-12.5
Point 44	-18	-13
Point 45	-42	-4.5
Point 46	-60	1.5
Point 47	-71.33	5.28
Point 48	-78	7.5
Point 49	73.05	6.8
Point 50	62.44	3
Point 51	45.27	-3.15
Point 52	-46.48	-3
Point 53	-64.51	3
Point 54	-75.92	6.8

Critical Slip Surfaces

	Slip Surface	FOS	Center (ft)	Radius (ft)	Entry (ft)	Exit (ft)
1	12111	1.352	(39.826, 28.995)	57.445	(92.8308, 6.85)	(-1.40825, -11)
2	13042	1.353	(40.718, 25.743)	54.086	(91.4021, 6.86266)	(1.02849, -11)
3	12081	1.353	(39.553, 26.215)	55.343	(91.4021, 6.86266)	(-1.40825, -11)
4	12080	1.353	(39.076, 28.697)	56.699	(91.4021, 6.86266)	(-1.40825, -11)
5	13073	1.354	(41.47, 26.006)	54.817	(92.8308, 6.85)	(1.02849, -11)
6	13072	1.354	(40.992, 28.464)	56.164	(92.8308, 6.85)	(1.02849, -11)
7	13041	1.354	(40.239, 28.166)	55.421	(91.4021, 6.86266)	(1.02849, -11)
8	12112	1.354	(40.303, 26.479)	56.076	(92.8308, 6.85)	(-1.40825, -11)
9	12142	1.354	(40.571, 29.307)	58.198	(94.2616, 6.85)	(-1.40825, -11)
10	11181	1.355	(39.402, 29.84)	59.482	(94.2616, 6.85)	(-3.84499, -11)
11	11150	1.355	(38.658, 29.527)	58.728	(92.8308, 6.85)	(-3.84499, -11)
12	14003	1.356	(41.88, 25.271)	52.832	(91.4021, 6.86266)	(3.46523, -11)
13	11120	1.356	(38.385, 26.689)	56.602	(91.4021, 6.86266)	(-3.84499, -11)
14	12173	1.356	(41.316, 29.62)	58.952	(95.6923, 6.85)	(-1.40825, -11)
15	12143	1.356	(41.047, 26.757)	56.816	(94.2616, 6.85)	(-1.40825, -11)
16	13104	1.356	(42.216, 26.284)	55.556	(94.2616, 6.85)	(1.02849, -11)
17	13103	1.356	(41.738, 28.776)	56.916	(94.2616, 6.85)	(1.02849, -11)
18	14034	1.356	(42.633, 25.534)	53.562	(92.8308, 6.85)	(3.46523, -11)
19	11212	1.356	(40.144, 30.152)	60.238	(95.6923, 6.85)	(-3.84499, -11)
20	11119	1.356	(37.909, 29.229)	57.981	(91.4021, 6.86266)	(-3.84499, -11)

Slices of Slip Surface: 12111

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	12111	-0.38885405	-12	62.398678	317.56764	229.75516	0
2	12111	2.1649079	-14.333665	208.02134	725.63982	0	440
3	12111	5.233638	-16.825705	363.53214	955.61777	0	440
4	12111	8.302368	-18.99204	498.71284	1154.5484	0	440
5	12111	11.197277	-20.7825	610.44219	1270.8679	0	337.82
6	12111	13.918365	-22.25281	702.188	1414.6743	0	352.53
7	12111	16.639455	-23.54109	782.56464	1537.8289	0	365.41
8	12111	19.785	-24.80648	941.0863	1777.2545	0	378.06
9	12111	23.355	-26.005955	1175.0509	2156.7108	0	390.06
10	12111	26.925	-26.952125	1393.214	2507.0646	0	399.52
11	12111	30.25375	-27.624735	1516.2964	2651.2193	0	406.25
12	12111	33.34125	-28.06119	1546.6733	2681.9065	0	410.61
13	12111	36.42875	-28.328145	1566.4495	2694.4135	0	413.28
14	12111	39.51625	-28.427975	1575.7827	2689.0944	0	414.28
15	12111	43.165	-28.313675	1617.2339	2777.9497	0	413.14

16	12111	47.565	-27.87876	1688.3632	2871.1458	0	408.79
17	12111	51.958065	-27.11283	1691.8319	2931.6824	0	401.13
18	12111	56.148065	-26.038755	1624.8178	2953.0268	0	390.39
19	12111	60.34	-24.61477	1535.9631	2937.9697	0	376.15
20	12111	64.035	-23.069575	1439.5473	2895.695	0	360.7
21	12111	67.225	-21.461835	1339.2136	2831.9824	0	344.62
22	12111	69.317855	-20.297865	1266.5526	2779.2453	0	332.98
23	12111	71.432855	-18.93357	1181.4461	2651.8784	0	440
24	12111	74.025	-17.14447	1069.8137	2536.2499	0	440
25	12111	77.275425	-14.4609	902.36287	2221.5338	0	440
26	12111	80.91314	-11.104161	692.89725	1676.1402	0	635
27	12111	83.637715	-8.099355	505.40218	1290.495	0	635
28	12111	86.233275	-4.7967045	299.31445	816.01492	0	635
29	12111	88.44142	-1.5515105	96.814878	557.04028	0	400
30	12111	90.234465	1.5	-93.601443	103.83773	0	400
31	12111	91.24632	3.3889355	-211.46522	-725.29487	0	800
32	12111	92.1354	5.3139355	-331.58526	-1039.5325	0	800

Slices of Slip Surface: **13042**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	13042	2.0033775	-12	62.39924	354.60411	263.10245	0
2	13042	4.458242	-14.338865	208.34633	741.76404	0	440
3	13042	7.41819	-16.83521	364.10522	969.60778	0	440
4	13042	10.378137	-18.996345	498.9667	1166.0358	0	440
5	13042	13.393585	-20.899535	617.73697	1290.0661	0	339
6	13042	16.46453	-22.5699	721.96178	1451.8102	0	355.7
7	13042	19.33875	-23.917085	865.70196	1666.9119	0	369.17
8	13042	22.01625	-24.986985	1051.809	1969.6494	0	379.87
9	13042	24.69375	-25.89597	1227.8412	2253.7175	0	388.96
10	13042	27.37125	-26.65244	1394.3861	2520.2243	0	396.52
11	13042	30.25375	-27.29804	1495.9255	2629.031	0	402.98
12	13042	33.34125	-27.81524	1531.3237	2666.6774	0	408.15
13	13042	36.42875	-28.150745	1555.3727	2684.7889	0	411.51
14	13042	39.51625	-28.30795	1568.2926	2683.9035	0	413.08

15	13042	43.165	-28.246885	1613.0712	2776.2479	0	412.47
16	13042	46.4175	-28.029865	1672.1595	2853.7334	0	410.3
17	13042	48.7125	-27.73671	1705.1505	2895.4117	0	407.37
18	13042	51.958065	-27.11908	1692.2405	2932.6792	0	401.19
19	13042	56.148065	-26.04976	1625.5069	2951.9479	0	390.5
20	13042	60.34	-24.60817	1535.5451	2932.1265	0	376.08
21	13042	64.035	-23.027235	1436.8895	2883.3383	0	360.27
22	13042	67.225	-21.367235	1333.3122	2812.0776	0	343.67
23	13042	69.199205	-20.2349	1262.7085	2757.2218	0	332.35
24	13042	71.314205	-18.807915	1173.6128	2619.0567	0	440
25	13042	74.025	-16.85346	1051.6518	2485.4323	0	440
26	13042	76.982415	-14.295545	892.04897	2182.8739	0	440
27	13042	80.47362	-10.861314	677.75579	1616.6341	0	635
28	13042	83.491205	-7.267621	453.48976	1146.9254	0	635
29	13042	85.734695	-4.208373	262.60254	712.00766	0	635
30	13042	87.377325	-1.5520655	96.848106	559.08238	0	400
31	13042	89.037835	1.5	-93.600035	102.57391	0	400
32	13042	90.59625	4.931328	-307.71208	-1057.8185	0	800

Slices of Slip Surface: **12081**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	12081	-0.45301335	-12	62.400392	370.37466	277.30127	0
2	12081	1.9363766	-14.330545	207.8251	748.1182	0	440
3	12081	4.8046815	-16.819105	363.12385	976.01571	0	440
4	12081	7.6729865	-18.98856	498.47957	1174.0881	0	440
5	12081	10.589285	-20.910925	618.44192	1298.935	0	339.11
6	12081	13.55357	-22.61108	724.52246	1465.0349	0	356.11
7	12081	16.517855	-24.079145	816.12485	1604.8298	0	370.79
8	12081	19.785	-25.441075	980.67172	1852.4875	0	384.41
9	12081	23.355	-26.670885	1216.5422	2233.6842	0	396.71
10	12081	26.925	-27.636185	1435.8942	2584.4841	0	406.36
11	12081	30.25375	-28.31802	1559.5756	2728.0042	0	413.18
12	12081	33.34125	-28.75572	1590.0096	2757.2847	0	417.56
13	12081	36.42875	-29.0175	1609.4432	2767.721	0	420.18

14	12081	39.51625	-29.10586	1618.0724	2759.7076	0	421.06
15	12081	43.165	-28.969125	1658.139	2844.2712	0	419.69
16	12081	47.565	-28.49528	1726.8336	2931.2649	0	414.95
17	12081	51.958065	-27.67627	1726.9969	2983.8434	0	406.76
18	12081	56.148065	-26.535235	1655.8068	2996.1111	0	395.35
19	12081	60.34	-25.025225	1561.5668	2969.4855	0	380.25
20	12081	64.035	-23.38608	1459.2961	2915.3314	0	363.86
21	12081	67.225	-21.67727	1352.6718	2839.4301	0	346.77
22	12081	69.409665	-20.37785	1271.5921	2774.1427	0	333.78
23	12081	71.524665	-18.91953	1180.5871	2631.7387	0	440
24	12081	74.025	-17.06245	1064.7071	2502.9021	0	440
25	12081	77.050005	-14.39292	898.11743	2187.7725	0	440
26	12081	80.575005	-10.868373	678.19774	1608.6567	0	635
27	12081	83.525	-7.301669	455.62637	1143.6896	0	635
28	12081	85.745735	-4.2353495	264.2873	708.56216	0	635
29	12081	87.392335	-1.5520535	96.848468	555.34628	0	400
30	12081	89.04232	1.5	-93.599915	99.877286	0	400
31	12081	90.596765	4.931328	-307.71731	-1061.4551	0	800

Slices of Slip Surface: **12080**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	12080	-0.37669625	-12	62.399966	318.53216	230.62247	0
2	12080	2.2181122	-14.33882	208.34173	726.43396	0	440
3	12080	5.3446195	-16.835705	364.15253	956.78384	0	440
4	12080	8.4711265	-18.996885	498.99955	1154.8568	0	440
5	12080	11.361985	-20.74417	608.03774	1267.1286	0	337.44
6	12080	14.01719	-22.1427	695.32112	1403.3102	0	351.43
7	12080	16.672395	-23.36831	771.78336	1519.7653	0	363.68
8	12080	19.785	-24.585805	927.316	1754.02	0	375.86
9	12080	23.355	-25.747455	1158.9298	2129.1271	0	387.47
10	12080	26.925	-26.654695	1374.6641	2474.8003	0	396.55
11	12080	30.25375	-27.28978	1495.3962	2614.1919	0	402.9
12	12080	33.34125	-27.690025	1523.5108	2640.2773	0	406.9
13	12080	36.42875	-27.91919	1540.9244	2647.9906	0	409.19

14	12080	39.51625	-27.979355	1547.8076	2637.7181	0	409.79
15	12080	43.165	-27.815025	1586.114	2720.2033	0	408.15
16	12080	47.565	-27.314865	1653.1895	2805.4334	0	403.15
17	12080	51.958065	-26.47716	1652.1741	2857.0507	0	394.77
18	12080	56.148065	-25.326195	1580.3523	2869.3071	0	383.26
19	12080	60.34	-23.814715	1486.0442	2843.7805	0	368.15
20	12080	63.859205	-22.27428	1389.9248	2795.3432	0	352.74
21	12080	66.69761	-20.792115	1297.4264	2732.7047	0	337.92
22	12080	68.468405	-19.78685	1234.6805	2639.4898	0	440
23	12080	70.935	-18.134885	1131.6223	2534.393	0	440
24	12080	74.025	-15.932555	994.2017	2386.827	0	440
25	12080	76.51599	-13.83452	863.2737	2142.2289	0	440
26	12080	79.773985	-10.700484	667.70131	1624.8543	0	635
27	12080	83.257995	-6.728358	419.84073	1114.2307	0	635
28	12080	85.508275	-3.8301915	239.00112	716.74938	0	635
29	12080	86.99643	-1.5523175	96.86398	609.08031	0	400
30	12080	88.796805	1.5	-93.599109	157.72587	0	400
31	12080	90.509695	4.931328	-307.70366	-929.85588	0	800

Slices of Slip Surface: **13073**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	13073	1.991199	-12	62.398355	342.24541	251.97542	0
2	13073	4.4056045	-14.333795	208.02951	735.61824	0	440
3	13073	7.308992	-16.825395	363.5172	962.6474	0	440
4	13073	10.212378	-18.9916	498.68053	1159.7879	0	440
5	13073	13.248055	-20.95196	621.01181	1289.8312	0	339.52
6	13073	16.41602	-22.71838	731.23043	1461.759	0	357.18
7	13073	19.785	-24.30223	909.63063	1733.5766	0	373.02
8	13073	23.355	-25.697005	1155.7677	2133.3854	0	386.97
9	13073	26.925	-26.813905	1384.6013	2501.6264	0	398.14
10	13073	30.25375	-27.628245	1516.5085	2660.7932	0	406.28
11	13073	33.34125	-28.18263	1554.2397	2704.0004	0	411.83
12	13073	36.42875	-28.55681	1580.7018	2727.8491	0	415.57
13	13073	39.51625	-28.754495	1596.1668	2732.8365	0	417.54

14	13073	43.165	-28.744375	1644.105	2832.609	0	417.44
15	13073	47.565	-28.42217	1722.2834	2937.8435	0	414.22
16	13073	51.958065	-27.755835	1731.9742	3008.956	0	407.56
17	13073	56.148065	-26.764635	1670.1092	3039.1161	0	397.65
18	13073	60.34	-25.412055	1585.7036	3031.3509	0	384.12
19	13073	64.035	-23.920465	1492.6469	2994.5491	0	369.2
20	13073	67.225	-22.35004	1394.6419	2934.4865	0	353.5
21	13073	70.0475	-20.750255	1294.8132	2859.676	0	337.5
22	13073	72.1625	-19.400085	1210.5586	2733.3719	0	440
23	13073	74.025	-18.080185	1128.195	2646.0686	0	440
24	13073	76.37126	-16.226985	1012.5568	2429.7148	0	440
25	13073	79.11378	-13.796885	860.92184	2133.0452	0	440
26	13073	82.74252	-9.9055045	618.10673	1499.9429	0	635
27	13073	86.459865	-5.2067625	324.90364	822.48922	0	635
28	13073	88.8225	-1.551258	96.797765	509.88272	0	400
29	13073	90.475375	1.5	-93.599237	47.504706	0	400
30	13073	91.33274	3.2348715	-201.85562	-823.97915	0	800
31	13073	92.1354	5.1598715	-321.97991	-1160.1016	0	800

Slices of Slip Surface: **13072**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	13072	2.0680495	-12	62.400365	303.85602	217.40765	0
2	13072	4.6907745	-14.34257	208.57601	717.46179	0	440
3	13072	7.8571	-16.842975	364.59145	947.24437	0	440
4	13072	11.023426	-19.000405	499.21942	1144.3805	0	440
5	13072	13.95494	-20.74089	607.83349	1257.201	0	337.41
6	13072	16.651645	-22.130455	694.52566	1392.0254	0	351.3
7	13072	19.785	-23.507495	860.03552	1644.2107	0	365.07
8	13072	23.355	-24.82662	1101.468	2037.184	0	378.27
9	13072	26.925	-25.879425	1326.2871	2399.5414	0	388.79
10	13072	30.25375	-26.64229	1454.9982	2553.6858	0	396.42
11	13072	33.34125	-27.155455	1490.1308	2592.8167	0	401.55
12	13072	36.42875	-27.49368	1514.3582	2613.0918	0	404.94
13	13072	39.51625	-27.660145	1527.8607	2615.0315	0	406.6

14	13072	43.165	-27.61916	1573.9018	2711.7413	0	406.19
15	13072	47.565	-27.2669	1650.1952	2814.0448	0	402.67
16	13072	51.958065	-26.5782	1658.4856	2882.951	0	395.78
17	13072	56.148065	-25.573445	1595.7832	2911.8637	0	385.73
18	13072	60.34	-24.2154	1511.0422	2903.8991	0	372.15
19	13072	64.035	-22.7261	1418.1133	2867.3845	0	357.26
20	13072	67.225	-21.165	1320.6993	2808.8486	0	341.65
21	13072	69.09844	-20.16095	1258.0462	2765.463	0	331.61
22	13072	71.21344	-18.826305	1174.7511	2642.2667	0	440
23	13072	74.025	-16.9433	1057.2591	2523.032	0	440
24	13072	77.207975	-14.366995	896.5039	2220.2932	0	440
25	13072	80.81196	-11.094746	692.31936	1686.2837	0	635
26	13072	83.603985	-8.0607915	503.00369	1295.4559	0	635
27	13072	86.22292	-4.767568	297.48663	820.61186	0	635
28	13072	88.427565	-1.551522	96.814788	562.00016	0	400
29	13072	90.230705	1.5	-93.601286	106.36895	0	400
30	13072	91.24606	3.388693	-211.45667	-724.59965	0	800
31	13072	92.1354	5.313693	-331.57155	-1042.0354	0	800

Slices of Slip Surface: **13041**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	13041	2.081104	-12	62.401164	305.16649	218.58688	0
2	13041	4.749066	-14.34846	208.94342	718.48954	0	440
3	13041	7.979756	-16.8544	365.30648	948.65455	0	440
4	13041	11.210445	-19.00594	499.57677	1144.7481	0	440
5	13041	14.119345	-20.69155	604.74916	1252.3124	0	336.92
6	13041	16.70645	-21.99003	685.79219	1377.6732	0	349.9
7	13041	19.33875	-23.1423	817.36348	1574.3007	0	361.42
8	13041	22.01625	-24.15393	999.80213	1871.7853	0	371.54
9	13041	24.69375	-25.01158	1172.6568	2151.2689	0	380.12
10	13041	27.37125	-25.72262	1336.3955	2413.8525	0	387.23
11	13041	30.25375	-26.325195	1435.2107	2519.1213	0	393.25
12	13041	33.34125	-26.80182	1468.0641	2553.5098	0	398.02
13	13041	36.42875	-27.101985	1489.9364	2568.9618	0	401.02

14	13041	39.51625	-27.22857	1500.9572	2565.8705	0	402.29
15	13041	43.165	-27.13736	1543.827	2656.3805	0	401.37
16	13041	46.4175	-26.89725	1601.4975	2732.4401	0	398.97
17	13041	48.7125	-26.59093	1633.6292	2773.4837	0	395.91
18	13041	51.958065	-25.959105	1619.8521	2810.3895	0	389.59
19	13041	56.148065	-24.877435	1552.3605	2829.9038	0	378.77
20	13041	60.34	-23.43194	1462.159	2811.3494	0	364.32
21	13041	63.743205	-22.003315	1373.0137	2770.8687	0	350.03
22	13041	66.349615	-20.696385	1291.4532	2718.9041	0	336.96
23	13041	68.23641	-19.65836	1226.7167	2626.9675	0	440
24	13041	70.935	-17.90764	1117.4337	2518.0968	0	440
25	13041	74.025	-15.74844	982.7145	2375.0085	0	440
26	13041	76.4461	-13.74916	857.93866	2141.5629	0	440
27	13041	79.66915	-10.697138	667.50258	1635.3161	0	635
28	13041	83.22305	-6.7038435	418.3217	1119.974	0	635
29	13041	85.49764	-3.8090355	237.68168	721.56162	0	635
30	13041	86.982225	-1.5523295	96.865654	613.86029	0	400
31	13041	88.79298	1.5	-93.599523	160.17626	0	400
32	13041	90.50944	4.931328	-307.71176	-931.38385	0	800

Slices of Slip Surface: **12112**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	12112	-0.46437185	-12	62.398962	370.22681	277.16944	0
2	12112	1.8881036	-14.32607	207.54613	747.75843	0	440
3	12112	4.7052965	-16.81044	362.56391	975.33639	0	440
4	12112	7.5224895	-18.98437	498.22595	1174.1882	0	440
5	12112	10.442573	-20.95156	620.97143	1303.1946	0	339.52
6	12112	13.465545	-22.72748	731.788	1477.4578	0	357.27
7	12112	16.488515	-24.26123	827.49463	1624.2947	0	372.61
8	12112	19.785	-25.67288	995.13939	1877.3849	0	386.73
9	12112	23.355	-26.94143	1233.4224	2263.0189	0	399.41
10	12112	26.925	-27.94647	1455.255	2618.5559	0	409.46
11	12112	30.25375	-28.666535	1581.3117	2766.8732	0	416.67
12	12112	33.34125	-29.141065	1614.0306	2800.7876	0	421.41

13	12112	36.42875	-29.44123	1635.8848	2816.0199	0	424.41
14	12112	39.51625	-29.56984	1647.0281	2812.97	0	425.7
15	12112	43.165	-29.48384	1690.2609	2903.8053	0	424.84
16	12112	47.565	-29.076175	1763.0828	2998.8868	0	420.76
17	12112	51.958065	-28.330015	1767.8037	3060.4043	0	413.3
18	12112	56.148065	-27.26712	1701.4576	3081.9089	0	402.67
19	12112	60.34	-25.84622	1612.7942	3065.7632	0	388.46
20	12112	64.035	-24.29657	1516.1136	3021.9468	0	372.97
21	12112	67.225	-22.677525	1415.085	2955.9297	0	356.78
22	12112	70.247215	-20.901985	1304.2904	2868.7163	0	339.02
23	12112	72.362215	-19.52065	1218.1164	2738.1378	0	440
24	12112	74.025	-18.30717	1142.3765	2656.1637	0	440
25	12112	76.403885	-16.39082	1022.7972	2432.6303	0	440
26	12112	79.21166	-13.8543	864.50825	2123.9112	0	440
27	12112	82.807775	-9.9415545	620.35516	1489.078	0	635
28	12112	86.47061	-5.242801	327.14667	816.00864	0	635
29	12112	88.837125	-1.5512465	96.797342	502.99449	0	400
30	12112	90.479765	1.5	-93.599699	45.99864	0	400
31	12112	91.33325	3.234351	-201.82996	-815.45519	0	800
32	12112	92.1354	5.159351	-321.94981	-1144.3153	0	800

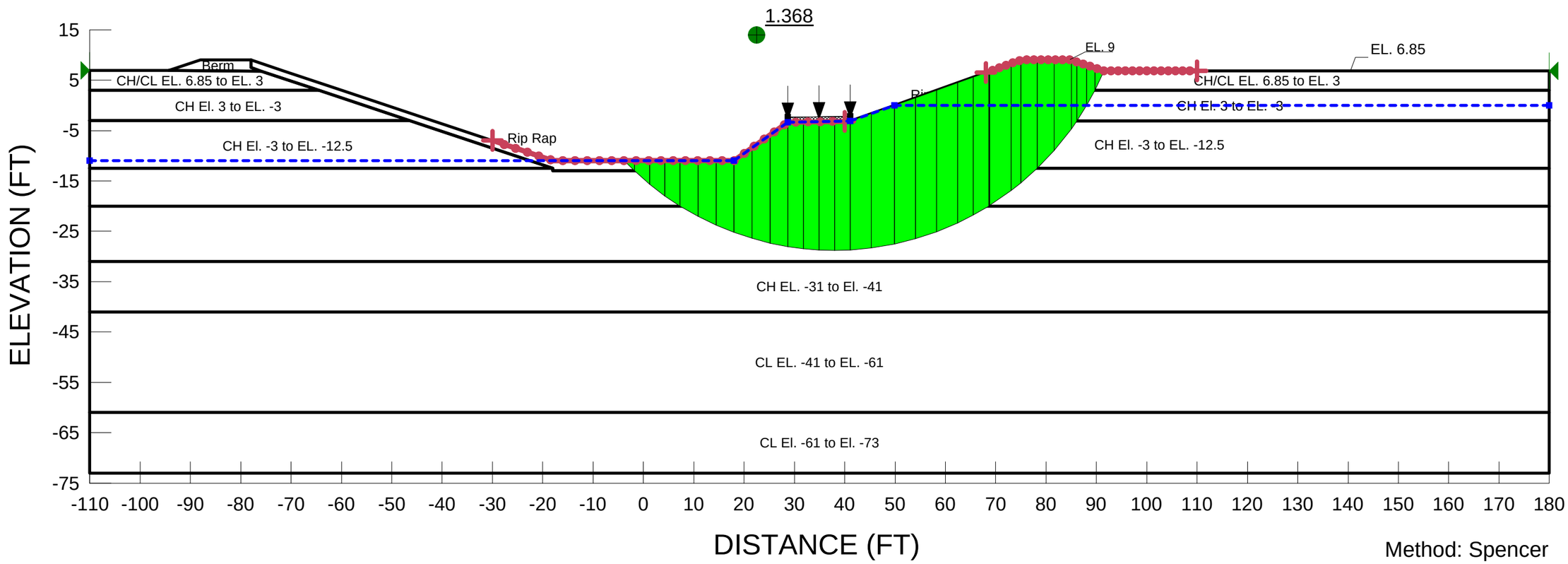
Slices of Slip Surface: **12142**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	12142	-0.40004875	-12	62.400288	325.89204	237.24903	0
2	12142	2.1161448	-14.32894	207.72595	730.49606	0	440
3	12142	5.1321275	-16.81654	362.96128	960.73656	0	440
4	12142	8.14811	-18.9876	498.42731	1160.7856	0	440
5	12142	11.046751	-20.819095	612.72186	1280.4332	0	338.19
6	12142	13.82805	-22.358025	708.72618	1431.5337	0	353.58
7	12142	16.60935	-23.706425	792.86708	1560.9653	0	367.06
8	12142	19.785	-25.01798	954.29423	1805.3812	0	380.18
9	12142	23.355	-26.25407	1190.5421	2188.975	0	392.54
10	12142	26.925	-27.23795	1411.0586	2543.5052	0	402.38
11	12142	30.25375	-27.946925	1536.4181	2691.5128	0	409.47

12	12142	33.34125	-28.41847	1568.9561	2725.7801	0	414.18
13	12142	36.42875	-28.722025	1591.0281	2742.0424	0	417.22
14	12142	39.51625	-28.860235	1602.7484	2740.6341	0	418.6
15	12142	43.165	-28.79427	1647.2193	2834.2318	0	417.94
16	12142	47.565	-28.422275	1722.288	2933.8871	0	414.22
17	12142	51.958065	-27.725365	1730.0534	3001.4422	0	407.25
18	12142	56.148065	-26.724935	1667.6454	3030.2612	0	397.25
19	12142	60.34	-25.38433	1583.9869	3023.3236	0	383.84
20	12142	64.035	-23.922195	1492.7565	2989.2421	0	369.22
21	12142	67.225	-22.396895	1397.5533	2934.0344	0	353.97
22	12142	70.153295	-20.787335	1297.1379	2861.6147	0	337.87
23	12142	72.268295	-19.492255	1216.2996	2744.7873	0	440
24	12142	74.025	-18.299375	1141.8998	2669.23	0	440
25	12142	76.51433	-16.42404	1024.8562	2451.6698	0	440
26	12142	79.54299	-13.86692	865.28733	2142.4342	0	440
27	12142	83.02866	-10.391697	648.44458	1579.1643	0	635
28	12142	86.95509	-5.6924045	355.20643	902.87348	0	635
29	12142	89.880625	-1.550707	96.76483	502.25984	0	400
30	12142	91.145535	0.517274	-32.278171	195.09708	0	400
31	12142	91.96186	2.017274	-125.879	-6.4056159	0	400
32	12142	93.372645	4.925	-307.31036	-971.35732	0	800

Slices of Slip Surface: 11181

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11181	-2.85485	-12	62.401493	339.99096	249.94268	0
2	11181	-0.3982755	-14.321605	207.26903	737.8042	0	440
3	11181	2.534595	-16.802315	362.07761	968.32222	0	440
4	11181	5.4674655	-18.98071	497.98853	1169.9805	0	440
5	11181	8.7782505	-21.108575	630.77534	1317.8039	0	341.09
6	11181	12.46695	-23.15455	758.4467	1518.8026	0	361.55
7	11181	16.15565	-24.87553	865.83619	1682.8177	0	378.76
8	11181	19.785	-26.28302	1033.2136	1934.2148	0	392.83
9	11181	23.355	-27.40727	1262.4892	2305.1864	0	404.07
10	11181	26.925	-28.290725	1476.7335	2648.4251	0	412.91
11	11181	30.25375	-28.9142	1596.7618	2786.9884	0	419.14
12	11181	33.34125	-29.31272	1624.7581	2813.3218	0	423.13
13	11181	36.42875	-29.548155	1642.5748	2822.1505	0	425.48
14	11181	39.51625	-29.622455	1650.3288	2813.8245	0	426.22
15	11181	43.165	-29.485945	1690.3787	2899.8714	0	424.86
16	11181	47.565	-29.034185	1760.4768	2990.7756	0	420.34
17	11181	51.958065	-28.262545	1763.5927	3050.3159	0	412.63
18	11181	56.148065	-27.1949	1696.9637	3071.8997	0	401.95
19	11181	60.34	-25.790255	1609.3048	3058.3922	0	387.9
20	11181	64.035	-24.273765	1514.6769	3018.569	0	372.74
21	11181	67.225	-22.703075	1416.674	2958.4569	0	357.03
22	11181	70.34461	-20.92923	1305.9845	2875.4285	0	339.29
23	11181	72.45961	-19.605275	1223.3415	2754.7009	0	440
24	11181	74.025	-18.512385	1155.1523	2684.3063	0	440
25	11181	76.54517	-16.577765	1034.4447	2460.3022	0	440
26	11181	79.63551	-13.920655	868.65091	2139.9456	0	440
27	11181	83.09034	-10.428108	650.72184	1574.129	0	635
28	11181	86.96482	-5.728804	357.47112	900.12434	0	635
29	11181	89.89369	-1.550696	96.763912	498.42848	0	400
30	11181	91.14887	0.5137125	-32.055711	193.38766	0	400
31	11181	91.96215	2.0137125	-125.65682	-6.9665477	0	400
32	11181	93.372935	4.925	-307.32783	-968.20529	0	800



Name: Berm Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 600 psf Piezometric Line: 1
Name: CH/CL EL. 6.85 to EL. 3 Model: Undrained (Phi=0) Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Undrained (Phi=0) Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 1300 psf Piezometric Line: 1
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

Surcharge (Unit Weight): 550 pcf

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN
STATION: 21+00
3:1 SLOPE
DUMP TRUCK ON RAMP
GLOBAL ANALYSIS (CIRCULAR METHOD)

2. Circular (Dist. Load)

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File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 158
Last Edited By: Hoppes, Andrew
Date: 9/18/2013
Time: 3:28:18 PM
File Name: 3. Sedimentation Basin Sta 21+00 - Original with Rip Rap.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/18/2013
Last Solved Time: 3:29:15 PM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

2. Circular (Dist. Load)

Kind: SLOPE/W
Method: Spencer
Settings
- Apply Phreatic Correction: No
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Right to Left
- Use Passive Mode: No
- Slip Surface Option: Entry and Exit
- Critical slip surfaces saved: 20
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

FOS Distribution
- FOS Calculation Option: Constant

Advanced
- Number of Slices: 30
- Optimization Tolerance: 0.01
- Minimum Slip Surface Depth: 0.1 ft
- Optimization Maximum Iterations: 2000
- Optimization Convergence Tolerance: 1e-007
- Starting Optimization Points: 8
- Ending Optimization Points: 16
- Complete Passes per Insertion: 1
- Driving Side Maximum Convex Angle: 5 °
- Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 600 psf
Pore Water Pressure
- Piezometric Line: 1

CH/CL EL. 6.85 to EL. 3

Model: Undrained (Phi=0)
Unit Weight: 112 pcf
Cohesion: 800 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. 3 to EL. -3

Model: Undrained (Phi=0)
Unit Weight: 110 pcf
Cohesion: 400 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 635 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -12.5 to -20

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH EL. -31 to El. -41

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 850 psf
Pore Water Pressure
- Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 1300 psf
Pore Water Pressure
- Piezometric Line: 1

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 42 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Entry and Exit

Left Projection: Range
Left-Zone Left Coordinate: (-30, -7) ft
Left-Zone Right Coordinate: (40, -3.16717) ft
Left-Zone Increment: 30
Right Projection: Range
Right-Zone Left Coordinate: (68.00168, 6.49686) ft
Right-Zone Right Coordinate: (110, 6.85) ft
Right-Zone Increment: 30
Radius Increments: 30

Slip Surface Limits

Left Coordinate: (-110, 6.97) ft
Right Coordinate: (180, 6.85) ft

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-11
	18	-11
	28.71	-3.35
	41.06	-3.15
	49.86	0
	180	0

Surcharge Loads

Surcharge Load 1

Surcharge (Unit Weight): 550 pcf
Direction: Vertical

Coordinates

	X (ft)	Y (ft)
	28.71	-2.35
	41.06	-2.15

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points	Area (ft²)
Region 1	CH/CL EL. 6.85 to EL. 3	37,49,29,30,5,50	431.4832
Region 2	CH El. 3 to EL. -3	5,6,51,38,50	765.7245
Region 3	CH El. -3 to EL. -12.5	6,3,41,40,25,26,39,51	1461.2395
Region 4	CH El. -12.5 to -20	3,18,17,2,43,44,42,41	2157
Region 5	CH EL. -31 to El. -41	8,10,11,9	2900
Region 6	CL EL. -41 to EL. -61	10,12,13,11	5800
Region 7	CL El. -61 to El. -73	12,14,15,13	3480
Region 8	Berm	36,27,28,29,49	29.46775
Region 9	CH El. -20 to El. -31	9,17,18,8	3190
Region 10	Berm	20,21,22,48,54	28.9716
Region 11	CH/CL EL. 6.85 to EL. 3	19,20,54,47,53,33	154.443
Region 12	CH El. 3 to EL. -3	35,33,53,46,52	327.0375
Region 13	CH El. -3 to EL. -12.5	2,7,35,52,45,43	738.64
Region 14	Rip Rap	22,48,54,47,53,46,52,45,43,44,42,41,40,25,24,23,34,32,31	178.0571
Region 15	Rip Rap	27,36,49,37,50,38,51,39,26,16,4,1	51.0015

Points

	X (ft)	Y (ft)
Point 1	68.82	6.79
Point 2	-110	-12.5
Point 3	180	-12.5
Point 4	58.24	3
Point 5	180	3
Point 6	180	-3
Point 7	-110	-11
Point 8	180	-31
Point 9	-110	-31
Point 10	180	-41
Point 11	-110	-41
Point 12	180	-61
Point 13	-110	-61
Point 14	180	-73
Point 15	-110	-73
Point 16	49.86	0
Point 17	-110	-20
Point 18	180	-20
Point 19	-110	6.97
Point 20	-94.28	6.91
Point 21	-88	9
Point 22	-78	9
Point 23	-18	-11
Point 24	18	-11
Point 25	28.71	-3.35
Point 26	41.06	-3.15
Point 27	75	9
Point 28	85	9
Point 29	91.44	6.85
Point 30	180	6.85
Point 31	-71.33	6.78
Point 32	-60	3
Point 33	-110	3
Point 34	-42	-3
Point 35	-110	-3
Point 36	75	7.5
Point 37	68.82	5.29
Point 38	58.24	1.5
Point 39	41.06	-4.65
Point 40	28.71	-4.85
Point 41	18	-12.5
Point 42	18	-13
Point 43	-18	-12.5
Point 44	-18	-13
Point 45	-42	-4.5
Point 46	-60	1.5
Point 47	-71.33	5.28
Point 48	-78	7.5
Point 49	73.05	6.8
Point 50	62.44	3
Point 51	45.27	-3.15
Point 52	-46.48	-3
Point 53	-64.51	3
Point 54	-75.92	6.8

Critical Slip Surfaces

	Slip Surface	FOS	Center (ft)	Radius (ft)	Entry (ft)	Exit (ft)
1	11119	1.368	(37.945, 29.228)	58.006	(91.4612, 6.85)	(-3.84499, -11)
2	10158	1.369	(36.776, 29.76)	59.29	(91.4612, 6.85)	(-6.28173, -11)
3	10188	1.369	(37.007, 32.901)	61.654	(92.8872, 6.85)	(-6.28173, -11)
4	10189	1.369	(37.516, 30.072)	60.043	(92.8872, 6.85)	(-6.28173, -11)
5	9197	1.369	(35.604, 30.293)	60.577	(91.4612, 6.85)	(-8.71847, -11)
6	10157	1.370	(36.266, 32.553)	60.886	(91.4612, 6.85)	(-6.28173, -11)
7	9227	1.370	(35.835, 33.497)	62.968	(92.8872, 6.85)	(-8.71847, -11)
8	9196	1.370	(35.095, 33.148)	62.199	(91.4612, 6.85)	(-8.71847, -11)
9	10159	1.370	(37.251, 27.16)	57.89	(91.4612, 6.85)	(-6.28173, -11)
10	11120	1.371	(38.421, 26.687)	56.628	(91.4612, 6.85)	(-3.84499, -11)
11	11150	1.371	(38.687, 29.539)	58.758	(92.8872, 6.85)	(-3.84499, -11)
12	9228	1.371	(36.343, 30.605)	61.331	(92.8872, 6.85)	(-8.71847, -11)
13	9258	1.371	(36.574, 33.845)	63.738	(94.3133, 6.85)	(-8.71847, -11)
14	10219	1.372	(37.748, 33.25)	62.423	(94.3133, 6.85)	(-6.28173, -11)
15	10220	1.372	(38.256, 30.384)	60.797	(94.3133, 6.85)	(-6.28173, -11)
16	11118	1.372	(37.434, 31.958)	59.576	(91.4612, 6.85)	(-3.84499, -11)
17	12080	1.372	(39.112, 28.696)	56.725	(91.4612, 6.85)	(-1.40825, -11)
18	11149	1.372	(38.177, 32.306)	60.343	(92.8872, 6.85)	(-3.84499, -11)
19	8266	1.372	(34.661, 34.093)	64.284	(92.8872, 6.85)	(-11.1552, -11)
20	8236	1.373	(34.43, 30.826)	61.866	(91.4612, 6.85)	(-11.1552, -11)

Slices of Slip Surface: 11119

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11119	-2.8339845	-12	62.400823	331.18462	242.01402	0
2	11119	-0.3084325	-14.33011	207.79883	733.83954	0	440
3	11119	2.720663	-16.81881	363.10661	965.08534	0	440
4	11119	5.7497585	-18.9887	498.50383	1165.4727	0	440

5	11119	9.053588	-21.02863	625.7869	1305.7193	0	340.29
6	11119	12.632155	-22.925695	744.15562	1490.7246	0	359.26
7	11119	16.21072	-24.51771	843.50103	1640.9152	0	375.18
8	11119	19.785	-25.830055	1004.9521	1882.0042	0	388.3
9	11119	23.355	-26.882965	1229.7775	2244.8733	0	398.83
10	11119	26.925	-27.6927	1439.433	2579.5226	0	406.93
11	11119	30.25375	-28.24489	1555.0111	3262.5731	0	412.45
12	11119	33.34125	-28.57445	1578.676	3279.6529	0	415.74
13	11119	36.42875	-28.7378	1592.0056	3278.8775	0	417.38
14	11119	39.51625	-28.73635	1595.0417	3260.341	0	417.36
15	11119	43.165	-28.504195	1629.127	2785.7868	0	415.04
16	11119	47.565	-27.927615	1691.4177	2862.3562	0	409.28
17	11119	51.958065	-27.018655	1685.9731	2906.0766	0	400.19
18	11119	56.148065	-25.80402	1610.1695	2910.9538	0	388.04
19	11119	60.34	-24.232385	1512.094	2878.8091	0	372.32
20	11119	63.986575	-22.575235	1408.7009	2821.8501	0	355.75
21	11119	67.079725	-20.89889	1304.0955	2746.9692	0	338.99
22	11119	68.72315	-19.939375	1244.2286	2654.2639	0	440
23	11119	70.935	-18.414225	1149.0511	2555.2393	0	440
24	11119	74.025	-16.174915	1009.3061	2404.0027	0	440
25	11119	76.618955	-13.950065	870.47603	2145.2479	0	440
26	11119	79.928435	-10.723515	669.14801	1618.625	0	635
27	11119	83.30948	-6.8195915	425.54726	1120.4955	0	635
28	11119	85.552355	-3.8983455	243.25477	722.12787	0	635
29	11119	87.07718	-1.5522685	96.86193	604.86502	0	400
30	11119	88.866445	1.5	-93.599556	158.20559	0	400
31	11119	90.56162	4.8997225	-305.73873	-906.657	0	800
32	11119	91.450585	6.8247225	-425.85366	-1245.7406	0	800

Slices of Slip Surface: **10158**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	10158	-5.288969	-12	62.401422	366.2615	273.59685	0
2	10158	-2.823822	-14.32265	207.33389	751.35546	0	440
3	10158	0.1209545	-16.80434	362.19596	983.91144	0	440
4	10158	3.065731	-18.98169	498.06755	1186.4191	0	440
5	10158	6.220854	-21.012665	624.78742	1323.8131	0	340.13
6	10158	9.5863245	-22.894255	742.19595	1508.9452	0	358.94
7	10158	12.951795	-24.501995	842.53736	1662.2483	0	375.02
8	10158	16.317265	-25.85977	927.23764	1787.017	0	388.6
9	10158	19.785	-27.012935	1078.7753	2010.4668	0	400.13
10	10158	23.355	-27.96217	1297.1093	2361.0816	0	409.62
11	10158	26.925	-28.678095	1500.9256	2684.2038	0	416.78
12	10158	30.25375	-29.149905	1611.4655	3357.3003	0	421.5
13	10158	33.34125	-29.410425	1630.8419	3364.7008	0	424.1
14	10158	36.42875	-29.509075	1640.1338	3355.0841	0	425.09
15	10158	39.51625	-29.446665	1639.3464	3328.5827	0	424.47
16	10158	43.165	-29.146905	1669.2367	2845.5448	0	421.47
17	10158	47.565	-28.493545	1726.7344	2911.4879	0	414.94
18	10158	51.958065	-27.51232	1716.7704	2945.1346	0	405.12
19	10158	56.148065	-26.23239	1636.9037	2940.6849	0	392.32
20	10158	60.34	-24.598295	1534.9371	2899.5246	0	375.98
21	10158	64.035	-22.86172	1426.5713	2833.6024	0	358.62
22	10158	67.225	-21.080215	1315.4161	2749.3252	0	340.8
23	10158	70.935	-18.632015	1162.6456	2555.3946	0	440
24	10158	74.025	-16.351475	1020.3255	2399.4425	0	440
25	10158	76.68115	-14.031935	875.59957	2130.1933	0	440
26	10158	80.021725	-10.727536	669.39082	1597.1394	0	635
27	10158	83.340575	-6.8441045	427.07588	1106.5613	0	635
28	10158	85.56215	-3.9188265	244.53666	712.78135	0	635
29	10158	87.09033	-1.5522575	96.860021	594.53861	0	400
30	10158	88.870085	1.5	-93.6008	156.4545	0	400
31	10158	90.561905	4.8997695	-305.74998	-881.03201	0	800
32	10158	91.450585	6.8247695	-425.86848	-1207.7969	0	800

Slices of Slip Surface: **10188**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	10188	-5.2183615	-12	62.399466	307.64715	220.822	0
2	10188	-2.572226	-14.32645	207.57141	722.72652	0	440
3	10188	0.593312	-16.81224	362.67591	956.65295	0	440
4	10188	3.7588505	-18.98579	498.31461	1159.5423	0	440
5	10188	6.9239175	-20.885	616.83077	1288.9022	0	338.85
6	10188	10.088513	-22.538285	720.00075	1451.5709	0	355.38
7	10188	13.253105	-23.967495	809.16826	1588.3911	0	369.67
8	10188	16.4177	-25.189245	885.42228	1701.5965	0	381.89
9	10188	19.785	-26.26961	1032.3971	1919.6949	0	392.7
10	10188	23.355	-27.194655	1249.2348	2269.5953	0	401.95
11	10188	26.925	-27.89617	1452.1293	2593.3781	0	408.96
12	10188	30.25375	-28.362355	1562.3255	3267.6551	0	413.62
13	10188	33.34125	-28.624515	1581.8099	3278.0726	0	416.25
14	10188	36.42875	-28.73099	1591.5736	3272.0826	0	417.31
15	10188	39.51625	-28.68258	1591.6838	3249.4504	0	416.83
16	10188	43.165	-28.40826	1623.1398	2771.566	0	414.08
17	10188	47.565	-27.79765	1683.31	2845.5117	0	407.98
18	10188	51.958065	-26.873695	1676.9112	2888.7548	0	398.74
19	10188	56.148065	-25.665235	1601.5131	2895.2779	0	386.65
20	10188	60.34	-24.122265	1505.2232	2867.3437	0	371.22
21	10188	63.998185	-22.50391	1404.2434	2815.9295	0	355.04
22	10188	67.188185	-20.8282	1299.6908	2745.724	0	338.72
23	10188	70.935	-18.51598	1155.3903	2573.4535	0	440
24	10188	74.025	-16.388135	1022.6321	2437.2752	0	440
25	10188	76.8601	-14.07794	878.47232	2170.763	0	440
26	10188	80.29015	-10.950408	683.3048	1669.5929	0	635
27	10188	83.43005	-7.601385	474.32363	1250.7161	0	635
28	10188	86.02812	-4.452716	277.84991	817.15534	0	635
29	10188	88.102555	-1.551739	96.829194	599.58548	0	400
30	10188	90.037085	1.5	-93.601033	158.29342	0	400
31	10188	91.18265	3.47378	-216.76171	-608.00666	0	800
32	10188	92.163615	5.39878	-336.88482	-897.98951	0	800

Slices of Slip Surface: **10189**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	10189	-5.2990955	-12	62.400744	364.09052	271.6427	0
2	10189	-2.866954	-14.31866	207.08561	750.06022	0	440
3	10189	0.0320635	-16.796605	361.70413	982.34177	0	440
4	10189	2.931081	-18.977945	497.82773	1185.5511	0	440
5	10189	6.083016	-21.04684	626.91047	1326.7245	0	340.47
6	10189	9.487866	-22.99289	748.34488	1518.9978	0	359.93
7	10189	12.89272	-24.658045	852.26284	1678.706	0	376.58
8	10189	16.297575	-26.06745	940.20677	1809.2861	0	390.67
9	10189	19.785	-27.26294	1094.3785	2037.6127	0	402.63
10	10189	23.355	-28.24841	1314.9815	2392.5754	0	412.48
11	10189	26.925	-29.001885	1521.1228	2720.3753	0	420.02
12	10189	30.25375	-29.51009	1633.9624	3398.0066	0	425.1
13	10189	33.34125	-29.805905	1655.5428	3410.3426	0	428.06
14	10189	36.42875	-29.94153	1667.127	3405.4327	0	429.42
15	10189	39.51625	-29.91805	1668.7735	3383.7075	0	429.18
16	10189	43.165	-29.667555	1701.7213	2906.5141	0	426.68
17	10189	47.565	-29.07864	1763.2345	2980.3929	0	420.79
18	10189	51.958065	-28.168515	1757.7225	3022.524	0	411.69
19	10189	56.148065	-26.96492	1682.6096	3027.1932	0	399.65
20	10189	60.34	-25.417815	1586.0758	2996.2146	0	384.18
21	10189	64.035	-23.768455	1483.148	2940.4238	0	367.68
22	10189	67.225	-22.07415	1377.4377	2865.406	0	350.74
23	10189	69.73614	-20.582725	1284.3467	2790.7026	0	335.83
24	10189	71.85114	-19.163975	1195.8345	2656.8626	0	440
25	10189	74.025	-17.58097	1097.0455	2550.2065	0	440
26	10189	77.42903	-14.666995	915.22411	2210.0303	0	440
27	10189	81.143545	-11.139154	695.08677	1649.4155	0	635
28	10189	83.714515	-8.227723	513.41872	1281.9084	0	635
29	10189	86.28127	-4.890026	305.14432	811.31553	0	635
30	10189	88.524395	-1.551457	96.810173	544.63939	0	400
31	10189	90.298235	1.5	-93.5995	105.20197	0	400
32	10189	91.27511	3.3314935	-207.87938	-680.4123	0	800
33	10189	92.163615	5.2564935	-328.00805	-976.79602	0	800

Slices of Slip Surface: **9197**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal	Frictional Strength	Cohesive Strength

					Stress (psf)	(psf)	(psf)
1	9197	-7.7427795	-12	62.399481	381.28245	287.12351	0
2	9197	-5.3330755	-14.315985	206.91716	757.47514	0	440
3	9197	-2.4650405	-16.791415	361.39492	990.31806	0	440
4	9197	0.4029945	-18.97543	497.66572	1194.3467	0	440
5	9197	3.453311	-21.012855	624.79324	1331.5816	0	340.13
6	9197	6.6859085	-22.90433	742.82183	1519.2366	0	359.04
7	9197	9.9185035	-24.54008	844.89248	1677.0387	0	375.4
8	9197	13.1511	-25.94254	932.41828	1808.0095	0	389.43
9	9197	16.3837	-27.128885	1006.4306	1914.5297	0	401.29
10	9197	19.785	-28.15303	1149.9129	2123.9145	0	411.53
11	9197	23.355	-29.00488	1362.1933	2463.3981	0	420.05
12	9197	26.925	-29.632125	1560.4416	2776.6319	0	426.32
13	9197	30.25375	-30.02758	1666.236	3440.7432	0	430.28
14	9197	33.34125	-30.22223	1681.513	3441.4812	0	432.22
15	9197	36.42875	-30.258925	1686.9045	3425.4317	0	432.59
16	9197	39.51625	-30.13796	1682.5023	3392.7361	0	431.38
17	9197	43.165	-29.77305	1708.3005	2903.2177	0	427.73
18	9197	47.565	-29.04547	1761.1782	2961.5661	0	420.45
19	9197	51.958065	-27.99419	1746.8353	2987.9534	0	409.94
20	9197	56.148065	-26.6508	1663.0125	2977.1808	0	396.51
21	9197	60.34	-24.955865	1557.2377	2929.9799	0	379.56
22	9197	64.035	-23.16741	1445.6464	2859.0763	0	361.67
23	9197	67.225	-21.342405	1331.7789	2770.6518	0	343.42
24	9197	69.095535	-20.18282	1259.415	2709.655	0	331.83
25	9197	71.210535	-18.6621	1164.5117	2560.9366	0	440
26	9197	74.025	-16.52405	1031.0848	2412.0486	0	440
27	9197	76.740045	-14.11195	880.58349	2132.6335	0	440
28	9197	80.11007	-10.7317	669.66467	1589.5024	0	635
29	9197	83.370025	-6.8682705	428.57347	1103.0309	0	635
30	9197	85.57158	-3.9388175	245.78428	709.70619	0	635
31	9197	87.103015	-1.552247	96.860572	591.40975	0	400
32	9197	88.873635	1.5	-93.598918	154.74802	0	400
33	9197	90.5622	4.8998135	-305.73843	-881.52152	0	800
34	9197	91.450585	6.8248135	-425.86166	-1206.1535	0	800

Slices of Slip Surface: **10157**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	10157	-5.207475	-12	62.398733	309.24779	222.26389	0
2	10157	-2.5244547	-14.331045	207.85755	723.89275	0	440
3	10157	0.6930798	-16.82117	363.24445	958.15338	0	440
4	10157	3.910614	-18.990125	498.58658	1160.1924	0	440
5	10157	7.0794585	-20.85259	614.8153	1285.9345	0	338.53
6	10157	10.199613	-22.444585	714.13263	1441.8482	0	354.45
7	10157	13.31977	-23.81902	799.91332	1572.6058	0	368.19
8	10157	16.439925	-24.99155	873.08179	1680.3484	0	379.92
9	10157	19.785	-26.031205	1017.5062	1893.8261	0	390.31
10	10157	23.355	-26.92086	1232.1414	2239.4907	0	399.21
11	10157	26.925	-27.58561	1432.7364	2558.7306	0	405.86
12	10157	30.25375	-28.016095	1540.736	3228.5065	0	410.16
13	10157	33.34125	-28.243595	1558.0365	3234.4463	0	412.44
14	10157	36.42875	-28.31373	1565.5329	3223.5351	0	413.14
15	10157	39.51625	-28.22704	1563.2398	3196.0483	0	412.27
16	10157	43.165	-27.90427	1591.6889	2712.7977	0	409.04
17	10157	47.565	-27.2303	1647.9062	2778.907	0	402.3
18	10157	51.958065	-26.236525	1637.1489	2813.6986	0	392.37
19	10157	56.148065	-24.953245	1557.08	2811.4634	0	379.53
20	10157	60.34	-23.32523	1455.4978	2773.543	0	363.25
21	10157	64.726215	-21.21024	1323.5157	2693.4984	0	342.1
22	10157	67.916215	-19.44993	1213.6827	2568.1474	0	440
23	10157	70.935	-17.432945	1087.8148	2441.4109	0	440
24	10157	74.025	-15.194995	948.17003	2291.6657	0	440
25	10157	76.11094	-13.46198	840.01448	2093.8609	0	440
26	10157	79.16641	-10.565288	659.26699	1621.2448	0	635
27	10157	83.05547	-6.288112	392.377	1086.2591	0	635
28	10157	85.30918	-3.5253635	219.98725	726.26651	0	635
29	10157	86.668895	-1.5525395	96.878398	649.85691	0	400
30	10157	88.60931	1.5	-93.601257	209.93343	0	400
31	10157	90.469595	4.902296	-305.89825	-780.46784	0	800
32	10157	91.450585	6.827296	-426.03245	-1098.834	0	800

Slices of Slip Surface: **9227**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	9227	-7.6727545	-12	62.39903	317.03006	229.27081	0
2	9227	-5.0854625	-14.319275	207.1237	728.47653	0	440
3	9227	-2.0023012	-16.798295	361.82395	962.66941	0	440
4	9227	1.0808603	-18.97902	497.8859	1167.133	0	440
5	9227	4.160197	-20.8955	617.47699	1297.4154	0	338.96
6	9227	7.235709	-22.57533	722.29698	1464.0004	0	355.75
7	9227	10.311223	-24.041805	813.81376	1605.8414	0	370.42
8	9227	13.386735	-25.310955	892.9914	1725.1074	0	383.11
9	9227	16.462245	-26.395365	960.67818	1823.5035	0	393.95
10	9227	19.785	-27.363515	1100.6325	2029.2742	0	403.64
11	9227	23.355	-28.19536	1311.6647	2368.5466	0	411.95
12	9227	26.925	-28.81172	1509.2406	2682.7924	0	418.12
13	9227	30.25375	-29.2044	1614.8618	3348.7025	0	422.04
14	9227	33.34125	-29.403025	1630.395	3352.1838	0	424.03
15	9227	36.42875	-29.449675	1636.4294	3339.7708	0	424.5
16	9227	39.51625	-29.34469	1632.99	3311.2465	0	423.45
17	9227	43.165	-29.00741	1660.5215	2827.1826	0	420.07
18	9227	47.565	-28.325115	1716.2223	2893.6903	0	413.25
19	9227	51.958065	-27.333585	1705.6145	2929.7289	0	403.34
20	9227	56.148065	-26.064055	1626.4012	2930.2142	0	390.64
21	9227	60.34	-24.462745	1526.4837	2896.2992	0	374.63
22	9227	64.035	-22.775575	1421.187	2839.2912	0	357.76
23	9227	67.225	-21.058545	1314.0594	2764.682	0	340.59
24	9227	68.93395	-20.07041	1252.4081	2717.8808	0	330.7
25	9227	71.04895	-18.648695	1163.678	2584.9157	0	440
26	9227	74.025	-16.553435	1032.9289	2449.0884	0	440
27	9227	76.91925	-14.15474	883.25087	2172.7596	0	440
28	9227	80.378875	-10.956491	683.67669	1662.5196	0	635
29	9227	83.459625	-7.6292045	476.0648	1247.782	0	635
30	9227	86.036975	-4.474443	279.2053	814.57906	0	635
31	9227	88.114245	-1.551729	96.827091	596.73195	0	400
32	9227	90.03998	1.5	-93.599351	156.93758	0	400
33	9227	91.18271	3.4743265	-216.79345	-608.72103	0	800
34	9227	92.163615	5.3993265	-336.92475	-896.90331	0	800

Slices of Slip Surface: **9196**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	9196	-7.6625625	-12	62.398554	318.5424	230.63295	0
2	9196	-5.0414435	-14.323375	207.37785	729.54988	0	440
3	9196	-1.911012	-16.806265	362.31047	964.03077	0	440
4	9196	1.21942	-18.98289	498.13597	1167.8084	0	440
5	9196	4.3061725	-20.867285	615.72202	1294.9376	0	338.67
6	9196	7.349245	-22.493295	717.17316	1455.5495	0	354.93
7	9196	10.392315	-23.91075	805.63422	1591.9079	0	369.11
8	9196	13.43539	-25.134935	882.018	1706.126	0	381.35
9	9196	16.478465	-26.177855	947.1099	1799.8443	0	391.78
10	9196	19.785	-27.10886	1084.7486	2001.2847	0	401.09
11	9196	23.355	-27.905645	1293.5835	2336.3559	0	409.06
12	9196	26.925	-28.485515	1488.9075	2646.0674	0	414.86
13	9196	30.25375	-28.842705	1592.301	3307.4989	0	418.43
14	9196	33.34125	-29.006835	1605.6766	3306.5381	0	420.07
15	9196	36.42875	-29.017285	1609.4437	3289.2841	0	420.17
16	9196	39.51625	-28.874135	1603.6395	3256.1914	0	418.74
17	9196	43.165	-28.488505	1628.1478	2766.6501	0	414.89
18	9196	47.565	-27.742925	1679.8858	2825.4575	0	407.43
19	9196	51.958065	-26.681605	1664.9429	2853.2375	0	396.82
20	9196	56.148065	-25.337245	1581.0444	2844.8184	0	383.37
21	9196	60.34	-23.65086	1475.8206	2801.2545	0	366.51
22	9196	64.922975	-21.35875	1332.7812	2709.478	0	343.59
23	9196	68.112975	-19.557075	1220.3541	2579.2664	0	440
24	9196	70.935	-17.621105	1099.5584	2455.6733	0	440
25	9196	74.025	-15.345345	957.56597	2302.2773	0	440
26	9196	76.171985	-13.531315	844.35065	2095.4872	0	440
27	9196	79.257975	-10.56637	659.34607	1613.7788	0	635
28	9196	83.08599	-6.3045185	393.40087	1082.4911	0	635
29	9196	85.31823	-3.5406775	220.93682	723.32293	0	635

30	9196	86.68082	-1.552529	96.878582	647.05081	0	400
31	9196	88.61223	1.5	-93.601242	208.52336	0	400
32	9196	90.46964	4.902339	-305.89582	-780.46163	0	800
33	9196	91.450585	6.827339	-426.03186	-1096.9156	0	800

Slices of Slip Surface: **10159**

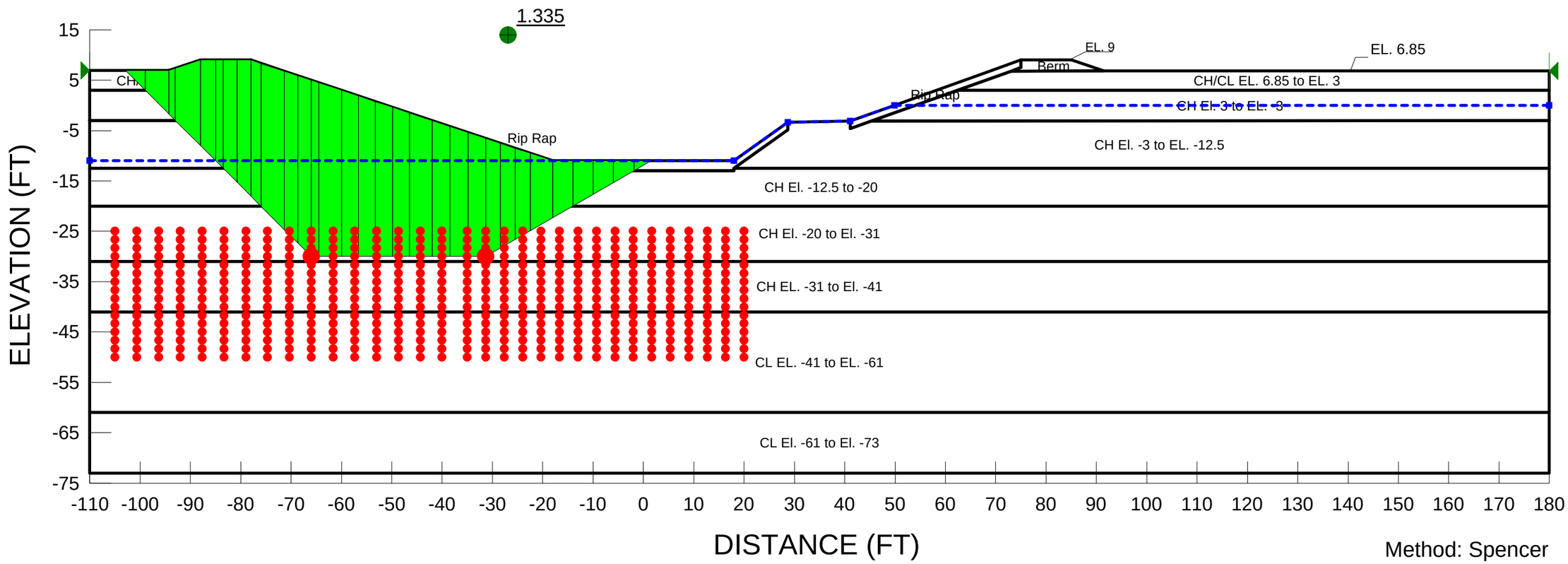
	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	10159	-5.3627685	-12	62.398803	414.28623	316.84086	0
2	10159	-2.4135997	-14.913935	244.23488	820.02995	0	440
3	10159	1.6468188	-18.413935	462.63905	1144.0991	0	440
4	10159	5.4673995	-21.177225	635.0542	1346.9029	0	341.77
5	10159	9.0481405	-23.354035	770.88064	1561.8782	0	363.54
6	10159	12.628885	-25.1956	885.80941	1738.3861	0	381.96
7	10159	16.20963	-26.736535	981.96096	1880.9342	0	397.37
8	10159	19.785	-28.00068	1140.3896	2114.8641	0	410.01
9	10159	23.355	-29.007475	1362.3448	2470.9392	0	420.07
10	10159	26.925	-29.77282	1569.2177	2799.1525	0	427.73
11	10159	30.25375	-30.284595	1682.2712	3476.1708	0	432.85
12	10159	33.34125	-30.57716	1703.6616	3488.0452	0	435.77
13	10159	36.42875	-30.70362	1714.6769	3482.4011	0	437.04
14	10159	39.51625	-30.66507	1715.3802	3459.0463	0	436.65
15	10159	43.165	-30.38826	1746.6909	2978.611	0	433.88
16	10159	47.565	-29.756035	1805.5166	3047.7459	0	427.56
17	10159	51.958065	-28.788615	1796.4191	3083.6518	0	417.89
18	10159	56.148065	-27.514045	1716.8869	3080.8273	0	405.14
19	10159	60.34	-25.87678	1614.7166	3040.1188	0	388.77
20	10159	64.035	-24.129625	1505.6778	2973.7872	0	371.3
21	10159	67.225	-22.330675	1393.4464	2887.8191	0	353.31
22	10159	69.822235	-20.68233	1290.5634	2799.2791	0	336.82
23	10159	71.937235	-19.166835	1196.02	2650.185	0	440
24	10159	74.025	-17.531395	1093.9738	2533.5714	0	440
25	10159	77.210595	-14.61456	911.95078	2191.0028	0	440
26	10159	80.815895	-10.903723	680.39037	1591.3752	0	635
27	10159	83.6053	-7.4388705	464.19161	1145.2433	0	635

28	10159	85.80003	-4.3371405	270.63708	710.13151	0	635
29	10159	87.48709	-1.551993	96.845176	546.06873	0	400
30	10159	89.116235	1.5	-93.601017	99.140176	0	400
31	10159	90.649175	4.8967945	-305.56412	-1027.4682	0	800
32	10159	91.450585	6.8217945	-425.68199	-1379.8317	0	800

Slices of Slip Surface: **11120**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11120	-2.9089555	-12	62.399182	388.21534	293.36618	0
2	11120	-0.58190565	-14.322965	207.35248	755.62152	0	440
3	11120	2.2001273	-16.80443	362.18504	984.58097	0	440
4	11120	4.9821605	-18.981465	498.04312	1184.8571	0	440
5	11120	7.82653	-20.93374	619.87071	1312.0153	0	339.34
6	11120	10.733237	-22.682575	729.00251	1484.4105	0	356.83
7	11120	13.63994	-24.20537	824.00273	1630.9625	0	372.05
8	11120	16.546645	-25.522005	906.16275	1754.195	0	385.22
9	11120	19.785	-26.75343	1062.5636	1987.4864	0	397.53
10	11120	23.355	-27.868875	1291.2986	2355.9011	0	408.69
11	11120	26.925	-28.73212	1504.2766	2695.224	0	417.32
12	11120	30.25375	-29.32751	1622.5502	3382.2092	0	423.28
13	11120	33.34125	-29.69171	1648.4146	3401.9256	0	426.92
14	11120	36.42875	-29.885185	1663.5836	3403.557	0	428.85
15	11120	39.51625	-29.909695	1668.2545	3387.2201	0	429.1
16	11120	43.165	-29.702745	1703.9104	2914.4092	0	427.03
17	11120	47.565	-29.149835	1767.6964	2992.3859	0	421.5
18	11120	51.958065	-28.2571	1763.233	3036.6019	0	412.57
19	11120	56.148065	-27.050095	1687.9261	3041.3268	0	400.5
20	11120	60.34	-25.47761	1589.8081	3007.6561	0	384.78
21	11120	64.035	-23.78579	1484.2353	2947.5048	0	367.86
22	11120	67.225	-22.03338	1374.8722	2866.5883	0	350.33
23	11120	69.644725	-20.5452	1282.013	2789.0826	0	335.45
24	11120	71.759725	-19.059685	1189.3383	2643.9345	0	440
25	11120	74.025	-17.330735	1081.4399	2522.363	0	440
26	11120	77.15039	-14.52105	906.11202	2191.7474	0	440

27	11120	80.725585	-10.896194	679.9317	1603.1173	0	635
28	11120	83.575195	-7.4052615	462.0872	1151.7396	0	635
29	11120	85.78989	-4.3110715	269.01105	715.74989	0	635
30	11120	87.47325	-1.552004	96.844445	551.98486	0	400
31	11120	89.11202	1.5	-93.599557	102.00277	0	400
32	11120	90.64866	4.896746	-305.5657	-1031.1139	0	800
33	11120	91.450585	6.821746	-425.68515	-1388.4359	0	800



Name: Berm Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 600 psf Piezometric Line: 1
Name: CH/CL EL. 6.85 to EL. 3 Model: Undrained (Phi=0) Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Undrained (Phi=0) Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 1300 psf Piezometric Line: 1
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN
STATION: 21+00
3:1 SLOPE
NO LOAD
GLOBAL ANALYSIS (BLOCK METHOD)

3. Wedge L to R (Original)

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File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 153
Last Edited By: Hoppes, Andrew
Date: 9/16/2013
Time: 11:13:03 AM
File Name: 3. Sedimentation Basin Sta 21+00 - Original with Rip Rap.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/16/2013
Last Solved Time: 11:15:40 AM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

3. Wedge L to R (Original)

Kind: SLOPE/W
Method: Spencer
Settings
- Apply Phreatic Correction: No
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Left to Right
- Use Passive Mode: No
- Slip Surface Option: Block
- Critical slip surfaces saved: 20
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

FOS Distribution
- FOS Calculation Option: Constant

Restrict Block Crossing: Yes
Advanced
- Number of Slices: 30
- Optimization Tolerance: 0.01
- Minimum Slip Surface Depth: 0.1 ft
- Optimization Maximum Iterations: 2000
- Optimization Convergence Tolerance: 1e-007
- Starting Optimization Points: 8
- Ending Optimization Points: 16
- Complete Passes per Insertion: 1
- Driving Side Maximum Convex Angle: 5 °
- Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 600 psf
Pore Water Pressure
- Piezometric Line: 1

CH/CL EL. 6.85 to EL. 3

Model: Undrained (Phi=0)
Unit Weight: 112 pcf
Cohesion: 800 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. 3 to EL. -3

Model: Undrained (Phi=0)
Unit Weight: 110 pcf
Cohesion: 400 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 635 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -12.5 to -20

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH EL. -31 to El. -41

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 850 psf
Pore Water Pressure
- Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 1300 psf
Pore Water Pressure
- Piezometric Line: 1

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 42 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Limits

Left Coordinate: (-110, 6.97) ft
Right Coordinate: (180, 6.85) ft

Slip Surface Block

Left Grid
- Upper Left: (-105, -25) ft
- Lower Left: (-105, -50) ft
- Lower Right: (-40, -50) ft
- X Increments: 15
- Y Increments: 15
- Starting Angle: 135 °
- Ending Angle: 115 °
- Angle Increments: 2

Right Grid
- Upper Left: (-35, -25) ft
- Lower Left: (-35, -50) ft
- Lower Right: (20, -50) ft
- X Increments: 15
- Y Increments: 15
- Starting Angle: 45 °
- Ending Angle: 15 °
- Angle Increments: 2

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-11
	18	-11
	28.71	-3.35
	41.06	-3.15
	49.86	0
	180	0

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points	Area (ft²)
Region 1	CH/CL EL. 6.85 to EL. 3	37,49,29,30,5,50	431.4832
Region 2	CH El. 3 to EL. -3	5,6,51,38,50	765.7245
Region 3	CH El. -3 to EL. -12.5	6,3,41,40,25,26,39,51	1461.2395
Region 4	CH El. -12.5 to -20	3,18,17,2,43,44,42,41	2157
Region 5	CH EL. -31 to El. -41	8,10,11,9	2900
Region 6	CL EL. -41 to EL. -61	10,12,13,11	5800
Region 7	CL El. -61 to El. -73	12,14,15,13	3480
Region 8	Berm	36,27,28,29,49	29.46775
Region 9	CH El. -20 to El. -31	9,17,18,8	3190
Region 10	Berm	20,21,22,48,54	28.9716
Region 11	CH/CL EL. 6.85 to EL. 3	19,20,54,47,53,33	154.443
Region 12	CH El. 3 to EL. -3	35,33,53,46,52	327.0375
Region 13	CH El. -3 to EL. -12.5	2,7,35,52,45,43	738.64
Region 14	Rip Rap	22,48,54,47,53,46,52,45,43,44,42,41,40,25,24,23,34,32,31	178.0571
Region 15	Rip Rap	27,36,49,37,50,38,51,39,26,16,4,1	51.0015

Points

	X (ft)	Y (ft)
Point 1	68.82	6.79
Point 2	-110	-12.5
Point 3	180	-12.5
Point 4	58.24	3
Point 5	180	3
Point 6	180	-3
Point 7	-110	-11
Point 8	180	-31
Point 9	-110	-31
Point 10	180	-41
Point 11	-110	-41
Point 12	180	-61
Point 13	-110	-61
Point 14	180	-73
Point 15	-110	-73
Point 16	49.86	0
Point 17	-110	-20
Point 18	180	-20
Point 19	-110	6.97
Point 20	-94.28	6.91
Point 21	-88	9
Point 22	-78	9
Point 23	-18	-11
Point 24	18	-11
Point 25	28.71	-3.35
Point 26	41.06	-3.15
Point 27	75	9
Point 28	85	9
Point 29	91.44	6.85
Point 30	180	6.85
Point 31	-71.33	6.78
Point 32	-60	3
Point 33	-110	3
Point 34	-42	-3
Point 35	-110	-3
Point 36	75	7.5
Point 37	68.82	5.29
Point 38	58.24	1.5
Point 39	41.06	-4.65
Point 40	28.71	-4.85
Point 41	18	-12.5
Point 42	18	-13
Point 43	-18	-12.5
Point 44	-18	-13
Point 45	-42	-4.5
Point 46	-60	1.5
Point 47	-71.33	5.28
Point 48	-78	7.5
Point 49	73.05	6.8
Point 50	62.44	3
Point 51	45.27	-3.15
Point 52	-46.48	-3
Point 53	-64.51	3
Point 54	-75.92	6.8

Critical Slip Surfaces

	Slip Surface	FOS	Center (ft)	Radius (ft)	Entry (ft)	Exit (ft)
1	8213	1.335	(-48.373, 11.429)	50.407	(-102.943, 6.94306)	(1.57563, -11)
2	8210	1.335	(-50.123, 11.429)	49.15	(-102.943, 6.94306)	(-2.09104, -11)
3	5909	1.337	(-48.877, 11.421)	48.312	(-101.27, 6.93668)	(-1.31112, -11)
4	5906	1.339	(-50.618, 11.421)	47.18	(-101.27, 6.93668)	(-4.97779, -11)
5	8216	1.342	(-46.618, 11.429)	51.52	(-102.943, 6.94306)	(5.2423, -11)
6	5912	1.343	(-47.129, 11.421)	49.625	(-101.27, 6.93668)	(2.35555, -11)
7	8357	1.343	(-46.103, 11.408)	49.127	(-98.5931, 6.92646)	(1.57563, -11)
8	3605	1.345	(-49.37, 11.413)	46.376	(-99.597, 6.93029)	(-4.19787, -11)
9	8354	1.346	(-47.845, 11.408)	47.883	(-98.5931, 6.92646)	(-2.09104, -11)
10	3602	1.347	(-51.102, 11.413)	45.293	(-99.597, 6.93029)	(-7.86454, -11)
11	8066	1.348	(-52.393, 11.45)	50.542	(-107.293, 6.95967)	(-2.09104, -11)
12	8069	1.348	(-50.637, 11.45)	51.849	(-107.293, 6.95967)	(1.57563, -11)
13	6053	1.349	(-46.597, 11.4)	47.341	(-96.9201, 6.92008)	(-1.31112, -11)
14	3608	1.349	(-47.63, 11.413)	47.603	(-99.597, 6.93029)	(-0.531204, -11)
15	8360	1.350	(-44.354, 11.408)	50.399	(-98.5931, 6.92646)	(5.2423, -11)
16	5765	1.350	(-51.148, 11.442)	49.821	(-105.62, 6.95328)	(-1.31112, -11)
17	5762	1.351	(-52.897, 11.442)	48.592	(-105.62, 6.95328)	(-4.97779, -11)
18	6050	1.354	(-48.329, 11.4)	46.061	(-96.9201, 6.92008)	(-4.97779, -11)
19	6056	1.355	(-44.856, 11.4)	48.374	(-96.9201, 6.92008)	(2.35555, -11)
20	8072	1.356	(-48.876, 11.45)	52.953	(-107.293, 6.95967)	(5.2423, -11)

Slices of Slip Surface: 8213

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	8213	-100.97155	4.9715325	-996.62215	-328.96153	0	800
2	8213	-96.64	0.64	-726.34248	394.09218	0	400
3	8213	-93.64	-2.36	-539.13588	729.59071	0	400
4	8213	-90.5	-5.5	-343.20134	1004.0492	0	635
5	8213	-86.5	-9.5	-93.599718	1497.3221	0	635
6	8213	-84.25	-11.75	46.800106	1723.738	0	635
7	8213	-82.125	-13.875	179.39943	2068.6089	0	440
8	8213	-79.375	-16.625	351.00783	2345.3062	0	440

9	8213	-76.96	-19.04	501.7059	2578.7982	0	440
10	8213	-73.625	-22.375	709.80275	2853.538	0	353.75
11	8213	-69.9975	-26.0025	936.16696	3065.633	0	390.03
12	8213	-67.3325	-28.6675	1102.4498	3221.3823	0	416.68
13	8213	-65.255	-30	1185.5705	3770.4698	0	430
14	8213	-62.255	-30	1185.6098	3659.867	0	430
15	8213	-58.31	-30	1185.5917	3515.0888	0	430
16	8213	-54.93	-30	1185.5917	3391.1243	0	430
17	8213	-51.55	-30	1185.5917	3267.1598	0	430
18	8213	-48.17	-30	1185.5917	3143.1953	0	430
19	8213	-44.24	-30	1185.6027	3002.0089	0	430
20	8213	-40.22222	-30	1185.6092	2860.3121	0	430
21	8213	-36.666665	-30	1185.6092	2734.5653	0	430
22	8213	-33.11111	-30	1185.6092	2608.9309	0	430
23	8213	-29.86111	-29.15001	1132.5748	2668.6259	0	421.5
24	8213	-26.916665	-27.450035	1026.4851	2367.004	0	404.5
25	8213	-23.97222	-25.75006	920.39535	2065.3821	0	387.5
26	8213	-20.25	-23.601035	786.31264	1684.0731	0	366.01
27	8213	-16.006415	-21.151	633.42842	1337.035	0	341.51
28	8213	-11.992102	-18.833335	488.80711	1131.5999	0	440
29	8213	-7.950647	-16.5	343.19998	876.36422	0	440
30	8213	-3.9091955	-14.166665	197.59927	621.1071	0	440
31	8213	-0.156419	-12	62.4	199.71	123.63448	0

Slices of Slip Surface: **8210**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	8210	-100.97155	4.9715325	-996.62215	-327.40136	0	800
2	8210	-96.64	0.64	-726.34248	393.98732	0	400
3	8210	-93.64	-2.36	-539.13588	728.98304	0	400
4	8210	-90.5	-5.5	-343.20134	1003.3138	0	635
5	8210	-86.5	-9.5	-93.599718	1495.8136	0	635
6	8210	-84.25	-11.75	46.800106	1721.8524	0	635
7	8210	-82.125	-13.875	179.39943	2065.9605	0	440
8	8210	-79.375	-16.625	351.00783	2342.2207	0	440
9	8210	-76.96	-19.04	501.7059	2575.3647	0	440
10	8210	-73.625	-22.375	709.80275	2849.5326	0	353.75
11	8210	-69.9975	-26.0025	936.16696	3061.3877	0	390.03
12	8210	-67.3325	-28.6675	1102.4498	3216.8716	0	416.68
13	8210	-65.255	-30	1185.5705	3771.0067	0	430
14	8210	-62.255	-30	1185.6098	3660.3104	0	430
15	8210	-58.31	-30	1185.5917	3515.6805	0	430
16	8210	-54.93	-30	1185.5917	3391.4201	0	430
17	8210	-51.55	-30	1185.5917	3267.4556	0	430
18	8210	-48.17	-30	1185.5917	3143.4911	0	430
19	8210	-44.24	-30	1185.6027	3002.6786	0	430
20	8210	-40.25	-30	1185.6	2861.7143	0	430
21	8210	-36.75	-30	1185.6	2738.0286	0	430
22	8210	-33.4375	-29.09789	1129.2972	2796.223	0	420.98
23	8210	-30.3125	-27.29367	1016.7277	2475.8351	0	402.94
24	8210	-27.1875	-25.48945	904.13057	2155.3641	0	384.89
25	8210	-24.0625	-23.68523	791.56112	1834.9209	0	366.85
26	8210	-20.25	-21.484085	654.21489	1443.9724	0	344.84
27	8210	-17.839745	-20.092525	567.37428	1217.6471	0	330.93
28	8210	-16.163945	-19.125	507	1165.1429	0	440
29	8210	-13.132855	-17.375	397.8	973.51429	0	440
30	8210	-10.101768	-15.625	288.6	781.88571	0	440
31	8210	-7.0706805	-13.875	179.4	590.28571	0	440
32	8210	-3.8230855	-12	62.4	200.2925	124.15896	0

Slices of Slip Surface: **5909**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	5909	-99.301665	4.9683395	-996.42466	-325.56147	0	800
2	5909	-95.806665	1.4733333	-778.33474	307.12831	0	400
3	5909	-92.806665	-1.5266667	-591.13806	672.07939	0	400
4	5909	-89.666665	-4.6666665	-395.202	949.60909	0	635
5	5909	-85.666665	-8.6666665	-145.59986	1411.1478	0	635
6	5909	-82.58333	-11.75	46.800106	1720.3911	0	635
7	5909	-79.916665	-14.416665	213.20192	2117.8155	0	440
8	5909	-76.96	-17.37333	397.6796	2405.2171	0	440
9	5909	-75.126665	-19.206665	512.10266	2523.4794	0	440
10	5909	-72.831665	-21.501665	655.30195	2735.8203	0	345.02
11	5909	-69.9975	-24.33583	832.15725	2901.1279	0	373.36
12	5909	-67.3325	-27.00083	998.44012	3056.3465	0	400.01
13	5909	-65.255	-28.33333	1081.6107	3594.094	0	413.33
14	5909	-62.255	-28.33333	1081.5965	3483.3703	0	413.33
15	5909	-58.31	-28.33333	1081.5976	3338.7574	0	413.33
16	5909	-54.93	-28.33333	1081.5976	3214.7929	0	413.33
17	5909	-51.55	-28.33333	1081.5976	3090.8284	0	413.33
18	5909	-48.17	-28.33333	1081.5976	2966.8639	0	413.33
19	5909	-44.24	-28.33333	1081.6071	2825.6696	0	413.33
20	5909	-40.22222	-28.33333	1081.603	2683.8278	0	413.33
21	5909	-36.666665	-28.33333	1081.603	2558.1934	0	413.33
22	5909	-33.11111	-28.33333	1081.603	2432.5591	0	413.33
23	5909	-29.86111	-27.483345	1028.5733	2483.8292	0	404.83
24	5909	-26.916665	-25.78337	922.48361	2181.5602	0	387.83
25	5909	-23.97222	-24.083395	816.39388	1879.3206	0	370.83
26	5909	-20.25	-21.93437	682.3126	1497.2041	0	349.34
27	5909	-17.44979	-20.317665	581.42271	1244.8659	0	333.18
28	5909	-15.384035	-19.125	507	1166.5714	0	440
29	5909	-12.352945	-17.375	397.8	974.77143	0	440
30	5909	-9.321855	-15.625	288.6	782.94286	0	440
31	5909	-6.2907655	-13.875	179.4	591.14286	0	440
32	5909	-3.04317	-12	62.4	200.7875	124.60466	0

Slices of Slip Surface: **5906**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	5906	-99.301665	4.9683395	-996.42466	-324.80707	0	800
2	5906	-95.806665	1.4733333	-778.33474	307.49884	0	400
3	5906	-92.806665	-1.5266667	-591.13806	672.41535	0	400
4	5906	-89.666665	-4.6666665	-395.202	950.18185	0	635
5	5906	-85.666665	-8.6666665	-145.59986	1411.7084	0	635
6	5906	-82.58333	-11.75	46.800106	1720.9568	0	635
7	5906	-79.916665	-14.416665	213.20192	2118.1845	0	440
8	5906	-76.96	-17.37333	397.6796	2405.557	0	440
9	5906	-75.126665	-19.206665	512.10266	2523.8359	0	440
10	5906	-72.831665	-21.501665	655.30195	2736.0557	0	345.02
11	5906	-69.9975	-24.33583	832.15725	2901.3932	0	373.36
12	5906	-67.3325	-27.00083	998.44012	3056.8771	0	400.01
13	5906	-65.255	-28.33333	1081.6107	3594.094	0	413.33

14	5906	-62.255	-28.33333	1081.5965	3483.3703	0	413.33
15	5906	-58.31	-28.33333	1081.5976	3338.7574	0	413.33
16	5906	-54.93	-28.33333	1081.5976	3214.7929	0	413.33
17	5906	-51.55	-28.33333	1081.5976	3090.8284	0	413.33
18	5906	-48.17	-28.33333	1081.5976	2966.8639	0	413.33
19	5906	-44.24	-28.33333	1081.6071	2825.6696	0	413.33
20	5906	-40.25	-28.33333	1081.6	2684.8286	0	413.33
21	5906	-36.75	-28.33333	1081.6	2561.1714	0	413.33
22	5906	-33.4375	-27.43122	1025.3187	2608.3855	0	404.31
23	5906	-30.3125	-25.627	912.72154	2287.582	0	386.27
24	5906	-27.1875	-23.82278	800.15209	1966.8061	0	368.23
25	5906	-24.0625	-22.01856	687.55492	1646.0026	0	350.19
26	5906	-21.53312	-20.558225	596.44142	1386.3523	0	335.58
27	5906	-19.28312	-19.25919	515.38146	1212.962	0	440
28	5906	-16.40698	-17.59865	411.75139	999.07065	0	440
29	5906	-13.220945	-15.75919	296.96223	797.46252	0	440
30	5906	-10.034909	-13.91973	182.19211	595.8272	0	440
31	5906	-6.709837	-12	62.4	200.6825	124.51012	0

Slices of Slip Surface: **8216**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	8216	-100.97155	4.9715325	-996.62215	-320.42545	0	800
2	8216	-96.64	0.64	-726.34248	394.52663	0	400
3	8216	-93.64	-2.36	-539.13588	727.71246	0	400
4	8216	-90.5	-5.5	-343.20134	1002.1541	0	635
5	8216	-86.5	-9.5	-93.599718	1492.0659	0	635
6	8216	-84.25	-11.75	46.800106	1716.9027	0	635
7	8216	-82.125	-13.875	179.39943	2057.8866	0	440
8	8216	-79.375	-16.625	351.00783	2332.7069	0	440
9	8216	-76.96	-19.04	501.7059	2564.6221	0	440
10	8216	-73.625	-22.375	709.80275	2836.7461	0	353.75
11	8216	-68.665	-27.335	1019.3084	3125.0672	0	403.35
12	8216	-65.255	-30	1185.5705	3772.4832	0	430
13	8216	-62.255	-30	1185.6098	3661.8625	0	430
14	8216	-58.31	-30	1185.5917	3517.1598	0	430
15	8216	-54.93	-30	1185.5917	3393.1953	0	430
16	8216	-51.55	-30	1185.5917	3269.2308	0	430
17	8216	-48.17	-30	1185.5917	3145.2663	0	430
18	8216	-44.24	-30	1185.6027	3004.0179	0	430
19	8216	-40.208335	-30	1185.6001	2861.8607	0	430
20	8216	-36.625	-30	1185.6001	2735.1351	0	430
21	8216	-33.041665	-30	1185.6001	2608.5212	0	430
22	8216	-29.458335	-30	1185.6001	2481.9072	0	430
23	8216	-25.083335	-28.50851	1092.5329	2432.6373	0	415.09
24	8216	-20.25	-25.717985	918.41039	1935.2783	0	387.18
25	8216	-16.08654	-23.31421	768.39573	1591.9856	0	363.14
26	8216	-12.25962	-21.104735	630.53483	1338.3505	0	341.05
27	8216	-8.3254335	-18.833335	488.80711	1137.5785	0	440
28	8216	-4.283981	-16.5	343.19998	881.22851	0	440
29	8216	-0.242529	-14.166665	197.59927	624.87853	0	440
30	8216	3.510248	-12	62.4	201.725	125.44879	0

Slices of Slip Surface: **5912**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	5912	-99.301665	4.9683395	-996.42466	-318.80775	0	800
2	5912	-95.806665	1.4733333	-778.33474	307.96202	0	400
3	5912	-92.806665	-1.5266667	-591.13806	670.92754	0	400
4	5912	-89.666665	-4.6666665	-395.202	948.42115	0	635
5	5912	-85.666665	-8.6666665	-145.59986	1407.4658	0	635
6	5912	-82.58333	-11.75	46.800106	1715.0642	0	635
7	5912	-79.916665	-14.416665	213.20192	2109.1458	0	440
8	5912	-76.96	-17.37333	397.6796	2394.9504	0	440
9	5912	-75.126665	-19.206665	512.10266	2512.5608	0	440
10	5912	-72.831665	-21.501665	655.30195	2723.3419	0	345.02
11	5912	-69.9975	-24.33583	832.15725	2887.8614	0	373.36
12	5912	-67.3325	-27.00083	998.44012	3042.5493	0	400.01
13	5912	-65.255	-28.33333	1081.6107	3595.6376	0	413.33
14	5912	-62.255	-28.33333	1081.5965	3484.9224	0	413.33
15	5912	-58.31	-28.33333	1081.5976	3340.2367	0	413.33
16	5912	-54.93	-28.33333	1081.5976	3216.2722	0	413.33
17	5912	-51.55	-28.33333	1081.5976	3092.3077	0	413.33
18	5912	-48.17	-28.33333	1081.5976	2968.3432	0	413.33
19	5912	-44.24	-28.33333	1081.6071	2827.2321	0	413.33
20	5912	-40.208335	-28.33333	1081.5908	2684.8747	0	413.33
21	5912	-36.625	-28.33333	1081.5908	2558.2607	0	413.33
22	5912	-33.041665	-28.33333	1081.5908	2431.6467	0	413.33
23	5912	-29.458335	-28.33333	1081.5908	2305.0328	0	413.33
24	5912	-25.083335	-26.841845	988.52606	2244.2349	0	398.42
25	5912	-20.25	-24.05132	814.41036	1746.3115	0	370.51
26	5912	-15.616455	-21.37614	647.46308	1371.39	0	343.76
27	5912	-11.717365	-19.125	507	1171.4	0	440
28	5912	-8.686276	-17.375	397.8	978.91429	0	440
29	5912	-5.6551875	-15.625	288.6	786.42857	0	440
30	5912	-2.6240985	-13.875	179.4	593.97143	0	440
31	5912	0.6234965	-12	62.4	202.37	126.02955	0

Slices of Slip Surface: **8357**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	8357	-96.6299	4.963231	-996.10002	-316.48579	0	800
2	8357	-94.473335	2.8066665	-861.53044	170.09333	0	400
3	8357	-92.876665	1.2099999	-761.91177	385.33961	0	400
4	8357	-90.07	-1.5966667	-586.76427	776.0707	0	400
5	8357	-88.333335	-3.3333335	-478.40018	863.20771	0	635
6	8357	-86.166665	-5.5	-343.19104	1090.8214	0	635
7	8357	-82.5	-9.1666665	-114.40087	1455.7657	0	635
8	8357	-79.91667	-11.75	46.800106	1712.8957	0	635
9	8357	-78.583335	-13.083335	130.00056	1972.8277	0	440
10	8357	-76.96	-14.70667	231.29532	2125.298	0	440
11	8357	-73.793335	-17.873335	428.90236	2328.6311	0	440
12	8357	-71.498335	-20.168335	572.10535	2547.2645	0	331.68
13	8357	-69.625	-22.04167	689.00405	2655.9015	0	350.42
14	8357	-66.215	-25.45167	901.77892	2853.3108	0	384.52
15	8357	-63.088335	-28.578335	1096.8941	3035.2535	0	415.78
16	8357	-60.833335	-30	1185.5998	3611.2193	0	430
17	8357	-58.31	-30	1185.5917	3518.6391	0	430
18	8357	-54.93	-30	1185.5917	3394.6746	0	430
19	8357	-51.55	-30	1185.5917	3270.7101	0	430
20	8357	-48.17	-30	1185.5917	3146.7456	0	430
21	8357	-44.24	-30	1185.6027	3005.5804	0	430
22	8357	-40.22222	-30	1185.6092	2863.6871	0	430
23	8357	-36.666665	-30	1185.6092	2738.1653	0	430
24	8357	-33.11111	-30	1185.6092	2612.5309	0	430
25	8357	-29.86111	-29.15001	1132.5748	2689.5674	0	421.5
26	8357	-26.916665	-27.450035	1026.4851	2385.769	0	404.5
27	8357	-23.97222	-25.75006	920.39535	2081.9412	0	387.5
28	8357	-20.25	-23.601035	786.31264	1697.8911	0	366.01
29	8357	-16.006415	-21.151	633.42842	1348.2862	0	341.51
30	8357	-12.497285	-19.125	507	1174.1429	0	440
31	8357	-9.4661935	-17.375	397.8	981.37143	0	440
32	8357	-6.435103	-15.625	288.6	788.62857	0	440
33	8357	-3.4040145	-13.875	179.4	595.85714	0	440
34	8357	-0.156419	-12	62.4	203.5175	127.06277	0

Slices of Slip Surface: **3605**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	3605	-97.631815	4.965147	-996.22635	-320.29721	0	800
2	3605	-94.973335	2.3066665	-830.32346	221.75444	0	400
3	3605	-91.973335	-0.6933335	-643.14014	616.08718	0	400
4	3605	-88.833335	-3.8333335	-447.21668	897.31835	0	635
5	3605	-86.416665	-6.25	-296.40427	1169.0931	0	635
6	3605	-83.25	-9.4166665	-98.799936	1485.7951	0	635
7	3605	-80.91667	-11.75	46.800106	1719.1183	0	635
8	3605	-79.083335	-13.583335	161.20078	2030.985	0	440
9	3605	-76.96	-15.70667	293.6975	2234.1516	0	440
10	3605	-74.293335	-18.373335	460.10483	2406.0468	0	440
11	3605	-71.998335	-20.668335	603.28027	2622.8197	0	336.68
12	3605	-69.9975	-22.66917	728.14755	2739.2761	0	356.69
13	3605	-67.3325	-25.33417	894.45695	2894.2293	0	383.34
14	3605	-65.255	-26.66667	977.58389	3417.5168	0	396.67
15	3605	-62.255	-26.66667	977.60532	3306.8736	0	396.67
16	3605	-58.31	-26.66667	977.60355	3162.1302	0	396.67
17	3605	-54.93	-26.66667	977.60355	3038.1657	0	396.67
18	3605	-51.55	-26.66667	977.60355	2914.142	0	396.67
19	3605	-48.17	-26.66667	977.60355	2790.1479	0	396.67
20	3605	-44.24	-26.66667	977.58929	2649.1071	0	396.67
21	3605	-40.22222	-26.66667	977.59675	2507.2591	0	396.67
22	3605	-36.666665	-26.66667	977.59675	2381.6247	0	396.67
23	3605	-33.11111	-26.66667	977.59675	2255.9903	0	396.67
24	3605	-29.86111	-25.81668	924.57188	2297.0618	0	388.17
25	3605	-26.916665	-24.116705	818.48214	1994.2634	0	371.17
26	3605	-23.97222	-22.41673	712.39241	1691.4356	0	354.17
27	3605	-21.143165	-20.78337	610.47162	1400.4881	0	337.83
28	3605	-18.893165	-19.48433	529.40988	1225.739	0	440
29	3605	-16.276995	-17.973885	435.1728	1042.1931	0	440
30	3605	-12.830985	-15.98433	311.0244	823.70199	0	440
31	3605	-9.384976	-13.994775	186.87349	605.236	0	440
32	3605	-5.9299215	-12	62.4	201.38	125.13815	0

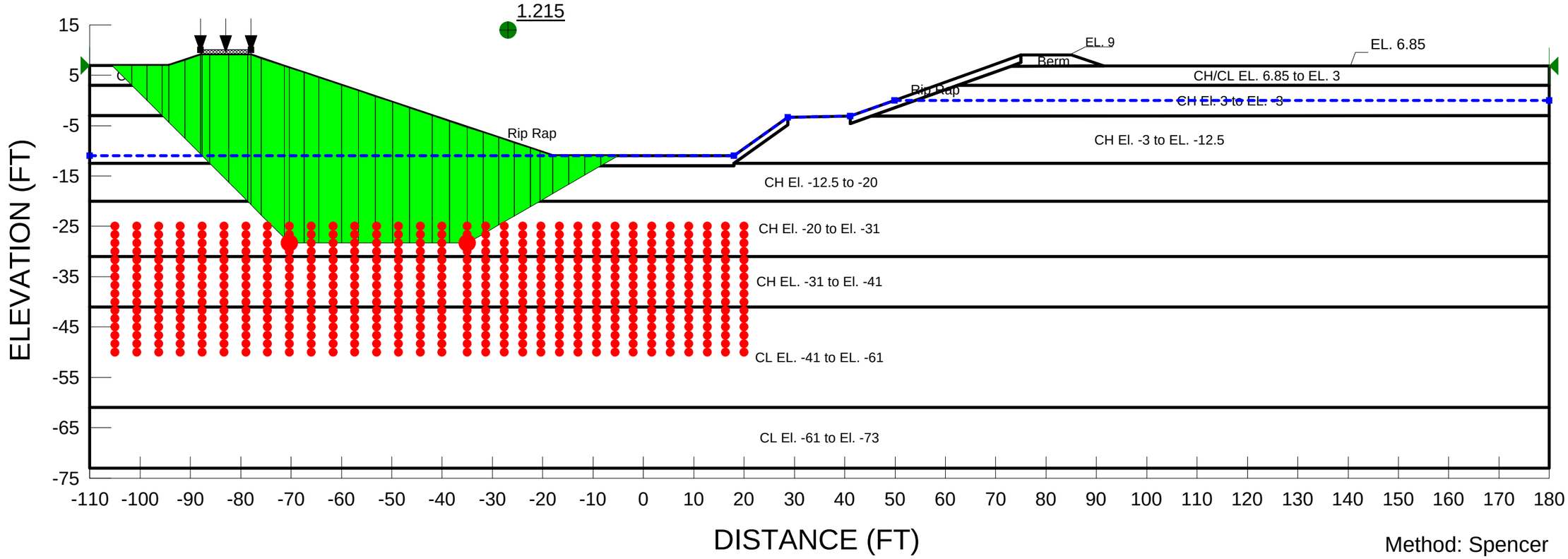
Slices of Slip Surface: **8354**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	8354	-96.6299	4.963231	-996.10002	-314.82898	0	800
2	8354	-94.473335	2.8066665	-861.53044	170.67304	0	400
3	8354	-92.876665	1.2099999	-761.91177	385.76791	0	400
4	8354	-90.07	-1.5966667	-586.76427	776.19667	0	400
5	8354	-88.333335	-3.3333335	-478.40018	863.6744	0	635
6	8354	-86.166665	-5.5	-343.19104	1091.13	0	635
7	8354	-82.5	-9.1666665	-114.40087	1455.7849	0	635
8	8354	-79.91667	-11.75	46.800106	1712.7072	0	635
9	8354	-78.583335	-13.083335	130.00056	1972.161	0	440
10	8354	-76.96	-14.70667	231.29532	2124.4481	0	440
11	8354	-73.793335	-17.873335	428.90236	2327.6336	0	440
12	8354	-71.498335	-20.168335	572.10535	2546.0043	0	331.68
13	8354	-69.625	-22.04167	689.00405	2654.45	0	350.42
14	8354	-66.215	-25.45167	901.77892	2851.8593	0	384.52
15	8354	-63.088335	-28.578335	1096.8941	3033.7613	0	415.78
16	8354	-60.833335	-30	1185.5998	3611.4593	0	430
17	8354	-58.31	-30	1185.5917	3518.9349	0	430
18	8354	-54.93	-30	1185.5917	3394.9704	0	430
19	8354	-51.55	-30	1185.5917	3271.0059	0	430
20	8354	-48.17	-30	1185.5917	3147.0414	0	430
21	8354	-44.24	-30	1185.6027	3006.0268	0	430
22	8354	-40.25	-30	1185.6	2865.1429	0	430
23	8354	-36.75	-30	1185.6	2741.3714	0	430
24	8354	-33.4375	-29.09789	1129.2972	2816.1762	0	420.98
25	8354	-30.3125	-27.29367	1016.7277	2493.599	0	402.94
26	8354	-27.1875	-25.48945	904.13057	2170.9942	0	384.89
27	8354	-24.0625	-23.68523	791.56112	1848.417	0	366.85
28	8354	-20.25	-21.484085	654.21489	1454.8458	0	344.84
29	8354	-17.839745	-20.092525	567.37428	1226.9962	0	330.93
30	8354	-16.163945	-19.125	507	1174.6571	0	440
31	8354	-13.132855	-17.375	397.8	981.8	0	440
32	8354	-10.101768	-15.625	288.6	788.94286	0	440
33	8354	-7.0706805	-13.875	179.4	596.11429	0	440
34	8354	-3.8230855	-12	62.4	203.67	127.20008	0

Slices of Slip Surface: **3602**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	3602	-97.631815	4.965147	-996.22635	-318.55207	0	800
2	3602	-94.973335	2.3066665	-830.32346	222.23378	0	400
3	3602	-93.126665	0.45999985	-715.118	454.98034	0	400
4	3602	-90.82	-1.8466667	-571.16249	777.31683	0	400
5	3602	-88.833335	-3.8333335	-447.21668	897.53049	0	635
6	3602	-86.416665	-6.25	-296.40427	1169.0261	0	635
7	3602	-83.25	-9.4166665	-98.799936	1485.3931	0	635
8	3602	-80.91667	-11.75	46.800106	1718.5055	0	635
9	3602	-79.083335	-13.583335	161.20078	2029.6796	0	440
10	3602	-76.96	-15.70667	293.6975	2232.6558	0	440
11	3602	-74.293335	-18.373335	460.10483	2404.308	0	440
12	3602	-71.998335	-20.668335	603.28027	2620.7566	0	336.68
13	3602	-69.9975	-22.66917	728.14755	2737.1534	0	356.69
14	3602	-67.3325	-25.33417	894.45695	2892.1066	0	383.34
15	3602	-65.255	-26.66667	977.58389	3417.8523	0	396.67
16	3602	-62.255	-26.66667	977.60532	3307.0953	0	396.67
17	3602	-58.31	-26.66667	977.60355	3162.426	0	396.67
18	3602	-54.93	-26.66667	977.60355	3038.4615	0	396.67
19	3602	-51.55	-26.66667	977.60355	2914.4379	0	396.67
20	3602	-48.17	-26.66667	977.60355	2790.4438	0	396.67
21	3602	-44.24	-26.66667	977.58929	2649.3304	0	396.67
22	3602	-40.25	-26.66667	977.6	2508.5429	0	396.67
23	3602	-36.75	-26.66667	977.6	2384.8571	0	396.67
24	3602	-33.556625	-25.833335	925.59009	2435.8202	0	388.33
25	3602	-30.669875	-24.166665	821.61008	2138.7302	0	371.67
26	3602	-27.783125	-22.5	717.60007	1841.6702	0	355
27	3602	-24.89637	-20.833335	613.59006	1544.6102	0	338.33
28	3602	-22.976495	-19.724895	544.43609	1402.4607	0	440

29	3602	-20.25	-18.15075	446.21481	1129.6629	0	440
30	3602	-16.33216	-15.888785	305.05915	813.74205	0	440
31	3602	-12.99648	-13.96293	184.88662	602.12186	0	440
32	3602	-9.5965885	-12	62.4	201.595	125.33174	0



Method: Spencer

Name: Berm Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 600 psf Piezometric Line: 1
Name: CH/CL EL. 6.85 to EL. 3 Model: Undrained (Phi=0) Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Undrained (Phi=0) Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 1300 psf Piezometric Line: 1
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

Surcharge (Unit Weight): 550 pcf

URS

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN
STATION: 21+00
3:1 SLOPE
DUMP TRUCK ON BERM CREST
GLOBAL ANALYSIS (BLOCK METHOD)

4. Wedge L to R (Dist. Loads)

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File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 153
Last Edited By: Hoppes, Andrew
Date: 9/16/2013
Time: 11:13:03 AM
File Name: 3. Sedimentation Basin Sta 21+00 - Original with Rip Rap.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/16/2013
Last Solved Time: 11:16:26 AM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

4. Wedge L to R (Dist. Loads)

Kind: SLOPE/W
Method: Spencer
Settings
- Apply Phreatic Correction: No
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Left to Right
- Use Passive Mode: No
- Slip Surface Option: Block
- Critical slip surfaces saved: 20
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

FOS Distribution
- FOS Calculation Option: Constant

Restrict Block Crossing: Yes
Advanced
- Number of Slices: 30
- Optimization Tolerance: 0.01
- Minimum Slip Surface Depth: 0.1 ft
- Optimization Maximum Iterations: 2000
- Optimization Convergence Tolerance: 1e-007
- Starting Optimization Points: 8
- Ending Optimization Points: 16
- Complete Passes per Insertion: 1
- Driving Side Maximum Convex Angle: 5 °
- Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 600 psf
Pore Water Pressure
- Piezometric Line: 1

CH/CL EL. 6.85 to EL. 3

Model: Undrained (Phi=0)
Unit Weight: 112 pcf
Cohesion: 800 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. 3 to EL. -3

Model: Undrained (Phi=0)
Unit Weight: 110 pcf
Cohesion: 400 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 635 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -12.5 to -20

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH EL. -31 to El. -41

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 850 psf
Pore Water Pressure
- Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 1300 psf
Pore Water Pressure
- Piezometric Line: 1

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 42 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Limits

Left Coordinate: (-110, 6.97) ft
Right Coordinate: (180, 6.85) ft

Slip Surface Block

Left Grid
- Upper Left: (-105, -25) ft
- Lower Left: (-105, -50) ft
- Lower Right: (-40, -50) ft
- X Increments: 15
- Y Increments: 15
- Starting Angle: 135 °
- Ending Angle: 115 °
- Angle Increments: 2

Right Grid
- Upper Left: (-35, -25) ft
- Lower Left: (-35, -50) ft
- Lower Right: (20, -50) ft
- X Increments: 15
- Y Increments: 15
- Starting Angle: 45 °
- Ending Angle: 15 °
- Angle Increments: 2

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-11
	18	-11
	28.71	-3.35
	41.06	-3.15
	49.86	0
	180	0

Surcharge Loads

Surcharge Load 1

Surcharge (Unit Weight): 550 pcf
Direction: Vertical

Coordinates

	X (ft)	Y (ft)
	-88	10
	-78	10

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points	Area (ft^2)
Region 1	CH/CL EL. 6.85 to EL. 3	37,49,29,30,5,50	431.4832
Region 2	CH El. 3 to EL. -3	5,6,51,38,50	765.7245
Region 3	CH El. -3 to EL. -12.5	6,3,41,40,25,26,39,51	1461.2395
Region 4	CH El. -12.5 to -20	3,18,17,2,43,44,42,41	2157
Region 5	CH EL. -31 to El. -41	8,10,11,9	2900
Region 6	CL EL. -41 to EL. -61	10,12,13,11	5800
Region 7	CL El. -61 to El. -73	12,14,15,13	3480
Region 8	Berm	36,27,28,29,49	29.46775
Region 9	CH El. -20 to El. -31	9,17,18,8	3190
Region 10	Berm	20,21,22,48,54	28.9716
Region 11	CH/CL EL. 6.85 to EL. 3	19,20,54,47,53,33	154.443
Region 12	CH El. 3 to EL. -3	35,33,53,46,52	327.0375
Region 13	CH El. -3 to EL. -12.5	2,7,35,52,45,43	738.64
Region 14	Rip Rap	22,48,54,47,53,46,52,45,43,44,42,41,40,25,24,23,34,32,31	178.0571
Region 15	Rip Rap	27,36,49,37,50,38,51,39,26,16,4,1	51.0015

Points

	X (ft)	Y (ft)
Point 1	68.82	6.79
Point 2	-110	-12.5
Point 3	180	-12.5
Point 4	58.24	3
Point 5	180	3
Point 6	180	-3
Point 7	-110	-11
Point 8	180	-31
Point 9	-110	-31
Point 10	180	-41
Point 11	-110	-41
Point 12	180	-61
Point 13	-110	-61
Point 14	180	-73
Point 15	-110	-73
Point 16	49.86	0
Point 17	-110	-20
Point 18	180	-20
Point 19	-110	6.97
Point 20	-94.28	6.91
Point 21	-88	9
Point 22	-78	9
Point 23	-18	-11
Point 24	18	-11
Point 25	28.71	-3.35
Point 26	41.06	-3.15
Point 27	75	9
Point 28	85	9
Point 29	91.44	6.85
Point 30	180	6.85
Point 31	-71.33	6.78
Point 32	-60	3
Point 33	-110	3
Point 34	-42	-3
Point 35	-110	-3
Point 36	75	7.5
Point 37	68.82	5.29
Point 38	58.24	1.5
Point 39	41.06	-4.65
Point 40	28.71	-4.85
Point 41	18	-12.5
Point 42	18	-13
Point 43	-18	-12.5
Point 44	-18	-13
Point 45	-42	-4.5
Point 46	-60	1.5
Point 47	-71.33	5.28
Point 48	-78	7.5
Point 49	73.05	6.8
Point 50	62.44	3
Point 51	45.27	-3.15
Point 52	-46.48	-3
Point 53	-64.51	3
Point 54	-75.92	6.8

Critical Slip Surfaces

	Slip Surface	FOS	Center (ft)	Radius (ft)	Entry (ft)	Exit (ft)
1	5762	1.215	(-52.897, 11.442)	48.592	(-105.62, 6.95328)	(-4.97779, -11)
2	8066	1.216	(-52.393, 11.45)	50.542	(-107.293, 6.95967)	(-2.09104, -11)
3	3458	1.216	(-53.392, 11.434)	46.726	(-103.947, 6.9469)	(-7.86454, -11)
4	5765	1.217	(-51.148, 11.442)	49.821	(-105.62, 6.95328)	(-1.31112, -11)
5	3461	1.218	(-51.651, 11.434)	47.8	(-103.947, 6.9469)	(-4.19787, -11)
6	8210	1.219	(-50.123, 11.429)	49.15	(-102.943, 6.94306)	(-2.09104, -11)
7	8069	1.219	(-50.637, 11.45)	51.849	(-107.293, 6.95967)	(1.57563, -11)
8	5906	1.219	(-50.618, 11.421)	47.18	(-101.27, 6.93668)	(-4.97779, -11)
9	5909	1.220	(-48.877, 11.421)	48.312	(-101.27, 6.93668)	(-1.31112, -11)
10	8213	1.221	(-48.373, 11.429)	50.407	(-102.943, 6.94306)	(1.57563, -11)
11	1157	1.222	(-52.143, 11.426)	45.787	(-102.274, 6.94051)	(-7.08462, -11)
12	1154	1.223	(-53.875, 11.426)	44.716	(-102.274, 6.94051)	(-10.7513, -11)
13	3605	1.223	(-49.37, 11.413)	46.376	(-99.597, 6.93029)	(-4.19787, -11)
14	3602	1.223	(-51.102, 11.413)	45.293	(-99.597, 6.93029)	(-7.86454, -11)
15	3464	1.226	(-49.903, 11.434)	49.049	(-103.947, 6.9469)	(-0.531204, -11)
16	5768	1.227	(-49.393, 11.442)	51.325	(-105.62, 6.95328)	(2.35555, -11)
17	5912	1.227	(-47.129, 11.421)	49.625	(-101.27, 6.93668)	(2.35555, -11)
18	8216	1.229	(-46.618, 11.429)	51.52	(-102.943, 6.94306)	(5.2423, -11)
19	3608	1.229	(-47.63, 11.413)	47.603	(-99.597, 6.93029)	(-0.531204, -11)

20	5666	1.229	(-49.613, 11.412)	46.601	(-99.3579, 6.92938)	(-4.97779, -11)

Slices of Slip Surface: **5762**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	5762	-103.6433	4.976641	-996.94408	-389.49808	0	800
2	5762	-100.16669	1.5	-780.00943	278.74147	0	400
3	5762	-97.16667	-1.5	-592.79114	593.07398	0	400
4	5762	-94.973335	-3.6933335	-455.93595	643.84106	0	635
5	5762	-92.71	-5.956667	-314.70753	930.47587	0	635
6	5762	-89.57	-9.0966685	-118.7669	1363.7026	0	635
7	5762	-87.833335	-10.833335	-10.399986	2123.2296	0	635
8	5762	-86.91667	-11.75	46.800106	2216.073	0	635
9	5762	-84.29167	-14.375	210.60468	2628.5515	0	440
10	5762	-80.54167	-18.125	444.59102	3008.6921	0	440
11	5762	-78.333335	-20.333335	582.39792	3312.654	0	333.33
12	5762	-76.96	-21.70667	668.07997	2906.3111	0	347.07
13	5762	-73.625	-25.04167	876.19623	3099.4078	0	380.42
14	5762	-70.831665	-27.835	1050.5144	3261.9369	0	408.35
15	5762	-68.8775	-28.33333	1081.6141	3727.418	0	413.33
16	5762	-65.965835	-28.33333	1081.6141	3618.5457	0	413.33
17	5762	-62.255	-28.33333	1081.5965	3481.3747	0	413.33
18	5762	-58.31	-28.33333	1081.5976	3336.6864	0	413.33
19	5762	-54.93	-28.33333	1081.5976	3212.7219	0	413.33
20	5762	-51.55	-28.33333	1081.5976	3088.7574	0	413.33
21	5762	-48.17	-28.33333	1081.5976	2964.7929	0	413.33
22	5762	-44.24	-28.33333	1081.6071	2823.6607	0	413.33
23	5762	-40.25	-28.33333	1081.6	2682.7714	0	413.33
24	5762	-36.75	-28.33333	1081.6	2559.0857	0	413.33
25	5762	-33.4375	-27.43122	1025.3187	2607.1107	0	404.31
26	5762	-30.3125	-25.627	912.72154	2287.7482	0	386.27
27	5762	-27.1875	-23.82278	800.15209	1968.3858	0	368.23
28	5762	-24.0625	-22.01856	687.55492	1649.0233	0	350.19
29	5762	-21.53312	-20.558225	596.44142	1390.5173	0	335.58
30	5762	-19.28312	-19.25919	515.38146	1222.4786	0	440
31	5762	-16.40698	-17.59865	411.75139	1010.025	0	440
32	5762	-13.220945	-15.75919	296.96223	809.74873	0	440
33	5762	-10.034909	-13.91973	182.19211	609.47251	0	440
34	5762	-6.709837	-12	62.4	207.6325	130.76793	0

Slices of Slip Surface: **8066**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	8066	-105.31315	4.979834	-997.13991	-390.04853	0	800
2	8066	-101.8333	1.5	-780.00943	279.63714	0	400
3	8066	-98.833315	-1.5	-592.79114	594.41749	0	400
4	8066	-95.806665	-4.5266665	-403.93093	729.42394	0	635
5	8066	-91.806665	-8.5266665	-154.33892	1225.4914	0	635
6	8066	-88.666665	-11.666665	41.600154	1659.3499	0	635
7	8066	-86.041665	-14.291665	205.39798	2623.5768	0	440
8	8066	-82.20833	-18.125	444.59102	3012.6519	0	440
9	8066	-79.166665	-21.166665	634.39593	3395.3244	0	341.67
10	8066	-76.96	-23.37333	772.10627	3066.9059	0	363.73
11	8066	-73.625	-26.70833	980.19793	3260.24	0	397.08
12	8066	-70.831665	-29.501665	1154.5229	3422.9869	0	425.02
13	8066	-68.8775	-30	1185.6095	3903.9492	0	430
14	8066	-65.965835	-30	1185.6095	3795.4203	0	430
15	8066	-62.255	-30	1185.6098	3658.0931	0	430
16	8066	-58.31	-30	1185.5917	3513.3136	0	430
17	8066	-54.93	-30	1185.5917	3389.3491	0	430
18	8066	-51.55	-30	1185.5917	3265.3846	0	430
19	8066	-48.17	-30	1185.5917	3141.4201	0	430
20	8066	-44.24	-30	1185.6027	3000.4464	0	430
21	8066	-40.25	-30	1185.6	2859.4286	0	430
22	8066	-36.75	-30	1185.6	2735.8571	0	430
23	8066	-33.4375	-29.09789	1129.2972	2794.2831	0	420.98
24	8066	-30.3125	-27.29367	1016.7277	2475.1146	0	402.94
25	8066	-27.1875	-25.48945	904.13057	2156.057	0	384.89
26	8066	-24.0625	-23.68523	791.56112	1836.9993	0	366.85
27	8066	-20.25	-21.484085	654.21489	1447.7637	0	344.84
28	8066	-17.839745	-20.092525	567.37428	1222.3757	0	330.93
29	8066	-15.658765	-18.833335	488.80711	1142.6571	0	440
30	8066	-11.617314	-16.5	343.19998	888.83565	0	440
31	8066	-7.575862	-14.166665	197.59927	635.01424	0	440
32	8066	-3.8230855	-12	62.4	206.845	130.05886	0

Slices of Slip Surface: **3458**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	3458	-101.97345	4.9734485	-996.74744	-386.58092	0	800
2	3458	-98.57	1.57	-784.36928	271.19769	0	400
3	3458	-95.71	-1.29	-605.91136	570.13572	0	400
4	3458	-94.14	-2.86	-507.92995	739.38115	0	400
5	3458	-92.5	-4.5	-405.59642	790.38033	0	635
6	3458	-89.5	-7.5	-218.39934	1203.2835	0	635
7	3458	-87	-10	-62.398641	2035.4777	0	635
8	3458	-85.25	-11.75	46.800106	2212.4432	0	635
9	3458	-82.875	-14.125	195.00047	2598.0191	0	440
10	3458	-79.625	-17.375	397.8074	2926.7694	0	440
11	3458	-77.5	-19.5	530.40063	2627.3959	0	440
12	3458	-76.46	-20.54	595.29866	2772.6436	0	335.4
13	3458	-73.625	-23.375	772.19453	2936.727	0	363.75
14	3458	-70.831665	-26.168335	946.50585	3098.9713	0	391.68
15	3458	-68.8775	-26.66667	977.58432	3550.8868	0	396.67
16	3458	-65.965835	-26.66667	977.58432	3442.0145	0	396.67
17	3458	-62.255	-26.66667	977.60532	3304.878	0	396.67
18	3458	-58.31	-26.66667	977.60355	3160.0592	0	396.67
19	3458	-54.93	-26.66667	977.60355	3036.0947	0	396.67
20	3458	-51.55	-26.66667	977.60355	2912.1893	0	396.67
21	3458	-48.17	-26.66667	977.60355	2788.2249	0	396.67
22	3458	-44.24	-26.66667	977.58929	2647.0982	0	396.67
23	3458	-40.25	-26.66667	977.6	2506.3143	0	396.67
24	3458	-36.75	-26.66667	977.6	2382.6286	0	396.67
25	3458	-33.556625	-25.833335	925.59009	2433.4202	0	388.33
26	3458	-30.669875	-24.166665	821.61008	2137.9202	0	371.67
27	3458	-27.783125	-22.5	717.60007	1842.4202	0	355
28	3458	-24.89637	-20.833335	613.59006	1546.9202	0	338.33
29	3458	-22.976495	-19.724895	544.43609	1410.0941	0	440
30	3458	-20.25	-18.15075	446.21481	1139.3624	0	440
31	3458	-16.33216	-15.888785	305.05915	825.84056	0	440
32	3458	-12.99648	-13.96293	184.88662	615.83005	0	440
33	3458	-9.5965885	-12	62.4	208.66	131.6931	0

Slices of Slip Surface: **5765**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal	Frictional Strength	Cohesive Strength

					Stress (psf)	(psf)	(psf)
1	5765	-103.6433	4.976641	-996.94408	-380.78731	0	800
2	5765	-100.16669	1.5	-780.00943	279.40144	0	400
3	5765	-97.16667	-1.5	-592.79114	591.28265	0	400
4	5765	-94.973335	-3.6933335	-455.93595	643.38212	0	635
5	5765	-92.71	-5.956667	-314.70753	927.72851	0	635
6	5765	-89.57	-9.0966685	-118.7669	1357.5999	0	635
7	5765	-87.833335	-10.833335	-10.399986	2111.1169	0	635
8	5765	-86.91667	-11.75	46.800106	2203.3451	0	635
9	5765	-84.29167	-14.375	210.60468	2611.2039	0	440
10	5765	-80.54167	-18.125	444.59102	2988.3275	0	440
11	5765	-78.333335	-20.333335	582.39792	3289.2134	0	333.33
12	5765	-76.96	-21.70667	668.07997	2886.1517	0	347.07
13	5765	-73.625	-25.04167	876.19623	3077.9943	0	380.42
14	5765	-70.831665	-27.835	1050.5144	3239.4466	0	408.35
15	5765	-68.8775	-28.33333	1081.6141	3729.8221	0	413.33
16	5765	-65.965835	-28.33333	1081.6141	3621.2932	0	413.33
17	5765	-62.255	-28.33333	1081.5965	3484.0355	0	413.33
18	5765	-58.31	-28.33333	1081.5976	3339.3491	0	413.33
19	5765	-54.93	-28.33333	1081.5976	3215.0888	0	413.33
20	5765	-51.55	-28.33333	1081.5976	3091.1243	0	413.33
21	5765	-48.17	-28.33333	1081.5976	2967.1598	0	413.33
22	5765	-44.24	-28.33333	1081.6071	2826.3393	0	413.33
23	5765	-40.22222	-28.33333	1081.603	2684.3622	0	413.33
24	5765	-36.666665	-28.33333	1081.603	2558.7559	0	413.33
25	5765	-33.11111	-28.33333	1081.603	2433.1216	0	413.33
26	5765	-29.86111	-27.483345	1028.5733	2497.6235	0	404.83
27	5765	-26.916665	-25.78337	922.48361	2195.1486	0	387.83
28	5765	-23.97222	-24.083395	816.39388	1892.6444	0	370.83
29	5765	-20.25	-21.93437	682.3126	1510.2714	0	349.34
30	5765	-17.44979	-20.317665	581.42271	1257.6151	0	333.18
31	5765	-14.87885	-18.833335	488.80711	1152.4285	0	440
32	5765	-10.837397	-16.5	343.19998	897.12851	0	440
33	5765	-6.795947	-14.166665	197.59927	641.84995	0	440
34	5765	-3.04317	-12	62.4	210.8625	133.67624	0

Slices of Slip Surface: **3461**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	3461	-101.97345	4.9734485	-996.74744	-377.53359	0	800
2	3461	-98.57	1.57	-784.36928	271.76634	0	400
3	3461	-95.71	-1.29	-605.91136	568.10835	0	400
4	3461	-94.14	-2.86	-507.92995	735.92138	0	400
5	3461	-92.5	-4.5	-405.59642	788.1883	0	635
6	3461	-89.5	-7.5	-218.39934	1197.556	0	635
7	3461	-87	-10	-62.398641	2022.6083	0	635
8	3461	-85.25	-11.75	46.800106	2198.0654	0	635
9	3461	-82.875	-14.125	195.00047	2578.8729	0	440
10	3461	-79.625	-17.375	397.8074	2904.7947	0	440
11	3461	-77.5	-19.5	530.40063	2608.0211	0	440
12	3461	-76.46	-20.54	595.29866	2751.3649	0	335.4
13	3461	-73.625	-23.375	772.19453	2914.2352	0	363.75
14	3461	-70.831665	-26.168335	946.50585	3075.2749	0	391.68
15	3461	-68.8775	-26.66667	977.58432	3553.6344	0	396.67
16	3461	-65.965835	-26.66667	977.58432	3444.7621	0	396.67
17	3461	-62.255	-26.66667	977.60532	3307.7605	0	396.67
18	3461	-58.31	-26.66667	977.60355	3163.0178	0	396.67
19	3461	-54.93	-26.66667	977.60355	3039.0533	0	396.67
20	3461	-51.55	-26.66667	977.60355	2914.9704	0	396.67
21	3461	-48.17	-26.66667	977.60355	2790.9763	0	396.67
22	3461	-44.24	-26.66667	977.58929	2650	0	396.67
23	3461	-40.22222	-26.66667	977.59675	2508.0747	0	396.67
24	3461	-36.666665	-26.66667	977.59675	2382.4403	0	396.67
25	3461	-33.11111	-26.66667	977.59675	2256.8341	0	396.67
26	3461	-29.86111	-25.81668	924.57188	2312.1209	0	388.17
27	3461	-26.916665	-24.116705	818.48214	2008.9695	0	371.17
28	3461	-23.97222	-22.41673	712.39241	1705.8182	0	354.17
29	3461	-21.143165	-20.78337	610.47162	1414.5619	0	337.83
30	3461	-18.893165	-19.48433	529.40988	1244.9859	0	440
31	3461	-16.276995	-17.973885	435.1728	1061.7452	0	440
32	3461	-12.830985	-15.98433	311.0244	843.63107	0	440
33	3461	-9.384976	-13.994775	186.87349	625.49179	0	440
34	3461	-5.9299215	-12	62.4	212.395	135.0561	0

Slices of Slip Surface: **8210**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	8210	-100.97155	4.9715325	-996.62215	-371.80328	0	800
2	8210	-96.64	0.64	-726.34248	368.17492	0	400
3	8210	-93.64	-2.36	-539.13588	700.97498	0	400
4	8210	-90.5	-5.5	-343.20134	959.88329	0	635
5	8210	-86.5	-9.5	-93.599718	1967.0059	0	635
6	8210	-84.25	-11.75	46.800106	2191.56	0	635
7	8210	-82.125	-13.875	179.39943	2544.7618	0	440
8	8210	-79.375	-16.625	351.00783	2819.1707	0	440
9	8210	-76.96	-19.04	501.7059	2533.0742	0	440
10	8210	-73.625	-22.375	709.80275	2810.557	0	353.75
11	8210	-69.9975	-26.0025	936.16696	3018.9348	0	390.03
12	8210	-67.3325	-28.6675	1102.4498	3171.7654	0	416.68
13	8210	-65.255	-30	1185.5705	3775.1007	0	430
14	8210	-62.255	-30	1185.6098	3664.5233	0	430
15	8210	-58.31	-30	1185.5917	3519.8225	0	430
16	8210	-54.93	-30	1185.5917	3395.5621	0	430
17	8210	-51.55	-30	1185.5917	3271.5976	0	430
18	8210	-48.17	-30	1185.5917	3147.6331	0	430
19	8210	-44.24	-30	1185.6027	3006.6964	0	430
20	8210	-40.25	-30	1185.6	2865.7143	0	430
21	8210	-36.75	-30	1185.6	2742.1714	0	430
22	8210	-33.4375	-29.09789	1129.2972	2830.0326	0	420.98
23	8210	-30.3125	-27.29367	1016.7277	2507.2892	0	402.94
24	8210	-27.1875	-25.48945	904.13057	2184.5734	0	384.89
25	8210	-24.0625	-23.68523	791.56112	1861.8577	0	366.85
26	8210	-20.25	-21.484085	654.21489	1468.1249	0	344.84
27	8210	-17.839745	-20.092525	567.37428	1240.1281	0	330.93
28	8210	-16.163945	-19.125	507	1193.1429	0	440
29	8210	-13.132855	-17.375	397.8	1000.7429	0	440
30	8210	-10.101768	-15.625	288.6	808.34286	0	440
31	8210	-7.0706805	-13.875	179.4	615.91429	0	440
32	8210	-3.8230855	-12	62.4	214.7875	137.21032	0

Slices of Slip Surface: **8069**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	8069	-105.31315	4.979834	-997.13991	-381.4411	0	800
2	8069	-101.8333	1.5	-780.00943	280.50924	0	400
3	8069	-98.833315	-1.5	-592.79114	592.9797	0	400
4	8069	-95.806665	-4.5266665	-403.93093	728.70603	0	635

5	8069	-91.806665	-8.5266665	-154.33892	1221.1887	0	635
6	8069	-88.666665	-11.666665	41.600154	1651.8722	0	635
7	8069	-86.041665	-14.291665	205.39798	2607.6895	0	440
8	8069	-82.20833	-18.125	444.59102	2993.9843	0	440
9	8069	-79.166665	-21.166665	634.39593	3373.202	0	341.67
10	8069	-76.96	-23.37333	772.10627	3047.2565	0	363.73
11	8069	-73.625	-26.70833	980.19793	3239.4427	0	397.08
12	8069	-70.831665	-29.501665	1154.5229	3401.2061	0	425.02
13	8069	-68.8775	-30	1185.6095	3906.6967	0	430
14	8069	-65.965835	-30	1185.6095	3797.8244	0	430
15	8069	-62.255	-30	1185.6098	3660.7539	0	430
16	8069	-58.31	-30	1185.5917	3515.9763	0	430
17	8069	-54.93	-30	1185.5917	3392.0118	0	430
18	8069	-51.55	-30	1185.5917	3268.0473	0	430
19	8069	-48.17	-30	1185.5917	3143.787	0	430
20	8069	-44.24	-30	1185.6027	3002.9018	0	430
21	8069	-40.22222	-30	1185.6092	2861.1559	0	430
22	8069	-36.666665	-30	1185.6092	2735.409	0	430
23	8069	-33.11111	-30	1185.6092	2609.7747	0	430
24	8069	-29.125	-28.72502	1106.0354	2609.057	0	417.25
25	8069	-24.708335	-26.175055	946.91551	2155.9132	0	391.75
26	8069	-20.25	-23.601035	786.31264	1698.5261	0	366.01
27	8069	-16.006415	-21.151	633.42842	1350.7405	0	341.51
28	8069	-11.992102	-18.833335	488.80711	1149.8785	0	440
29	8069	-7.950647	-16.5	343.19998	894.87851	0	440
30	8069	-3.9091955	-14.166665	197.59927	639.89995	0	440
31	8069	-0.156419	-12	62.4	209.6975	132.62726	0

Slices of Slip Surface: **5906**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	5906	-99.301665	4.9683395	-996.42466	-367.2513	0	800
2	5906	-95.806665	1.4733333	-778.33474	281.8392	0	400
3	5906	-92.806665	-1.5266667	-591.13806	643.35518	0	400
4	5906	-89.666665	-4.6666665	-395.202	905.14622	0	635
5	5906	-85.666665	-8.6666665	-145.59986	1877.8232	0	635
6	5906	-82.58333	-11.75	46.800106	2184.1118	0	635
7	5906	-79.916665	-14.416665	213.20192	2588.7487	0	440
8	5906	-76.96	-17.37333	397.6796	2357.9293	0	440
9	5906	-75.126665	-19.206665	512.10266	2475.0812	0	440
10	5906	-72.831665	-21.501665	655.30195	2690.8511	0	345.02
11	5906	-69.9975	-24.33583	832.15725	2852.8377	0	373.36
12	5906	-67.3325	-27.00083	998.44012	3005.4029	0	400.01
13	5906	-65.255	-28.33333	1081.6107	3599.2617	0	413.33
14	5906	-62.255	-28.33333	1081.5965	3488.6918	0	413.33
15	5906	-58.31	-28.33333	1081.5976	3343.787	0	413.33
16	5906	-54.93	-28.33333	1081.5976	3219.8225	0	413.33
17	5906	-51.55	-28.33333	1081.5976	3095.858	0	413.33
18	5906	-48.17	-28.33333	1081.5976	2971.8935	0	413.33
19	5906	-44.24	-28.33333	1081.6071	2830.8036	0	413.33
20	5906	-40.25	-28.33333	1081.6	2689.9714	0	413.33
21	5906	-36.75	-28.33333	1081.6	2566.3143	0	413.33
22	5906	-33.4375	-27.43122	1025.3187	2647.0726	0	404.31
23	5906	-30.3125	-25.627	912.72154	2323.3315	0	386.27
24	5906	-27.1875	-23.82278	800.15209	1999.5904	0	368.23
25	5906	-24.0625	-22.01856	687.55492	1675.8493	0	350.19
26	5906	-21.53312	-20.558225	596.44142	1413.8053	0	335.58
27	5906	-19.28312	-19.25919	515.38146	1245.3252	0	440
28	5906	-16.40698	-17.59865	411.75139	1030.1124	0	440
29	5906	-13.220945	-15.75919	296.96223	827.28106	0	440
30	5906	-10.034909	-13.91973	182.19211	624.44974	0	440
31	5906	-6.709837	-12	62.4	217.14	139.32852	0

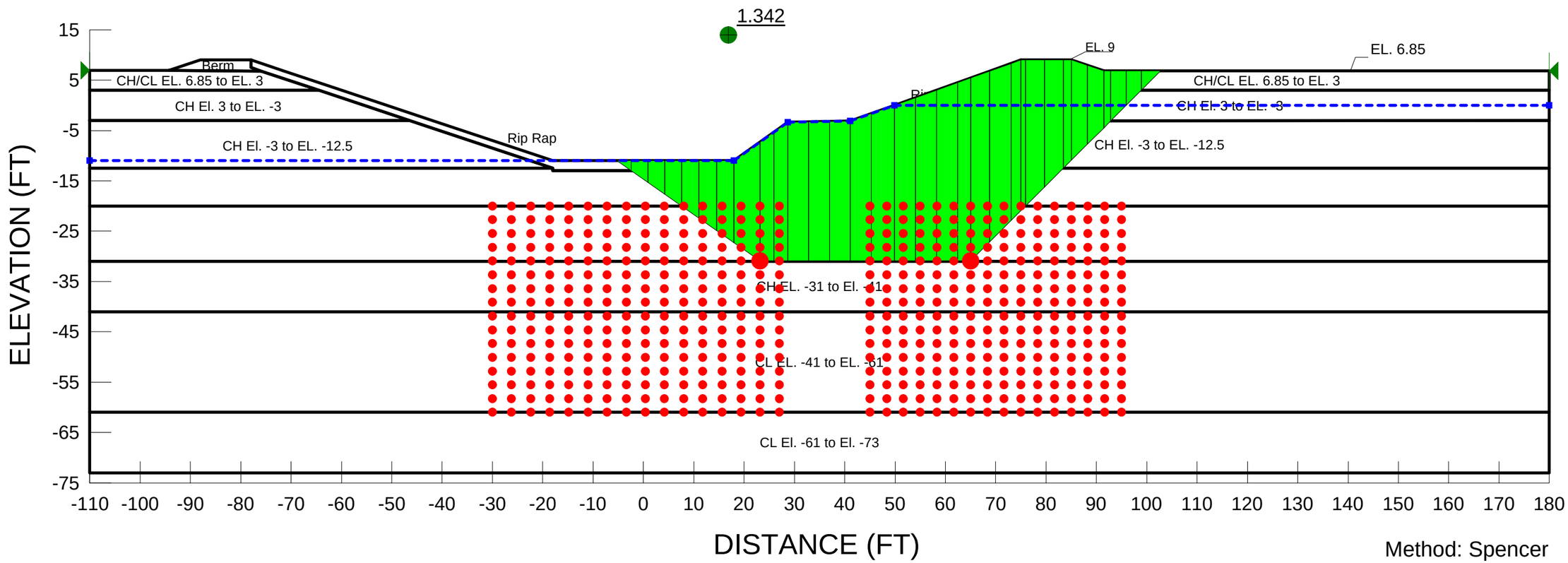
Slices of Slip Surface: **5909**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	5909	-99.301665	4.9683395	-996.42466	-362.20397	0	800
2	5909	-95.806665	1.4733333	-778.33474	281.86236	0	400
3	5909	-92.806665	-1.5266667	-591.13806	641.41144	0	400
4	5909	-89.666665	-4.6666665	-395.202	902.66427	0	635
5	5909	-85.666665	-8.6666665	-145.59986	1869.944	0	635
6	5909	-82.58333	-11.75	46.800106	2174.6837	0	635
7	5909	-79.916665	-14.416665	213.20192	2576.3897	0	440
8	5909	-76.96	-17.37333	397.6796	2346.8468	0	440
9	5909	-75.126665	-19.206665	512.10266	2463.3604	0	440
10	5909	-72.831665	-21.501665	655.30195	2677.6665	0	345.02
11	5909	-69.9975	-24.33583	832.15725	2839.0405	0	373.36
12	5909	-67.3325	-27.00083	998.44012	2990.5444	0	400.01
13	5909	-65.255	-28.33333	1081.6107	3601.0067	0	413.33
14	5909	-62.255	-28.33333	1081.5965	3490.4656	0	413.33
15	5909	-58.31	-28.33333	1081.5976	3345.5621	0	413.33
16	5909	-54.93	-28.33333	1081.5976	3221.5976	0	413.33
17	5909	-51.55	-28.33333	1081.5976	3097.6331	0	413.33
18	5909	-48.17	-28.33333	1081.5976	2973.6686	0	413.33
19	5909	-44.24	-28.33333	1081.6071	2832.5893	0	413.33
20	5909	-40.22222	-28.33333	1081.603	2690.7747	0	413.33
21	5909	-36.666665	-28.33333	1081.603	2565.1403	0	413.33
22	5909	-33.11111	-28.33333	1081.603	2439.5059	0	413.33
23	5909	-29.86111	-27.483345	1028.5733	2532.124	0	404.83
24	5909	-26.916665	-25.78337	922.48361	2225.9432	0	387.83
25	5909	-23.97222	-24.083395	816.39388	1919.7624	0	370.83
26	5909	-20.25	-21.93437	682.3126	1532.7111	0	349.34
27	5909	-17.44979	-20.317665	581.42271	1276.9752	0	333.18
28	5909	-15.384035	-19.125	507	1204.4286	0	440
29	5909	-12.352945	-17.375	397.8	1010.7714	0	440
30	5909	-9.321855	-15.625	288.6	817.14286	0	440
31	5909	-6.2907655	-13.875	179.4	623.48571	0	440
32	5909	-3.04317	-12	62.4	219.6575	141.59529	0

Slices of Slip Surface: **8213**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	8213	-100.97155	4.9715325	-996.62215	-366.10061	0	800
2	8213	-96.64	0.64	-726.34248	368.04009	0	400
3	8213	-93.64	-2.36	-539.13588	699.04148	0	400
4	8213	-90.5	-5.5	-343.20134	957.62055	0	635
5	8213	-86.5	-9.5	-93.599718	1959.2985	0	635
6	8213	-84.25	-11.75	46.800106	2182.6504	0	635
7	8213	-82.125	-13.875	179.39943	2533.0367	0	440
8	8213	-79.375	-16.625	351.00783	2806.0571	0	440
9	8213	-76.96	-19.04	501.7059	2521.4138	0	440

10	8213	-73.625	-22.375	709.80275	2797.0003	0	353.75
11	8213	-69.9975	-26.0025	936.16696	3004.3416	0	390.03
12	8213	-67.3325	-28.6675	1102.4498	3156.6415	0	416.68
13	8213	-65.255	-30	1185.5705	3776.9128	0	430
14	8213	-62.255	-30	1185.6098	3666.2971	0	430
15	8213	-58.31	-30	1185.5917	3521.5976	0	430
16	8213	-54.93	-30	1185.5917	3397.6331	0	430
17	8213	-51.55	-30	1185.5917	3273.6686	0	430
18	8213	-48.17	-30	1185.5917	3149.7041	0	430
19	8213	-44.24	-30	1185.6027	3008.4821	0	430
20	8213	-40.22222	-30	1185.6092	2866.7809	0	430
21	8213	-36.666665	-30	1185.6092	2741.034	0	430
22	8213	-33.11111	-30	1185.6092	2615.4278	0	430
23	8213	-29.86111	-29.15001	1132.5748	2715.8325	0	421.5
24	8213	-26.916665	-27.450035	1026.4851	2410.6517	0	404.5
25	8213	-23.97222	-25.75006	920.39535	2105.4415	0	387.5
26	8213	-20.25	-23.601035	786.31264	1719.6379	0	366.01
27	8213	-16.006415	-21.151	633.42842	1368.1819	0	341.51
28	8213	-11.992102	-18.833335	488.80711	1166.6571	0	440
29	8213	-7.950647	-16.5	343.19998	909.21422	0	440
30	8213	-3.9091955	-14.166665	197.59927	651.79281	0	440
31	8213	-0.156419	-12	62.4	217.085	139.279	0



Method: Spencer

Name: Berm Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 600 psf
Name: CH/CL EL. 6.85 to EL. 3 Model: Undrained (Phi=0) Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Undrained (Phi=0) Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 1300 psf
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN
STATION: 21+00
3:1 SLOPE
NO LOAD
GLOBAL ANALYSIS (BLOCK METHOD)

5. Wedge R to L (Original)

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File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 153
Last Edited By: Hoppes, Andrew
Date: 9/16/2013
Time: 11:13:03 AM
File Name: 3. Sedimentation Basin Sta 21+00 - Original with Rip Rap.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/16/2013
Last Solved Time: 11:17:14 AM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

5. Wedge R to L (Original)

Kind: SLOPE/W
Method: Spencer
Settings
- Apply Phreatic Correction: No
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Right to Left
- Use Passive Mode: No
- Slip Surface Option: Block
- Critical slip surfaces saved: 20
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

FOS Distribution
- FOS Calculation Option: Constant

Restrict Block Crossing: Yes
Advanced
- Number of Slices: 30
- Optimization Tolerance: 0.01
- Minimum Slip Surface Depth: 0.1 ft
- Optimization Maximum Iterations: 2000
- Optimization Convergence Tolerance: 1e-007
- Starting Optimization Points: 8
- Ending Optimization Points: 16
- Complete Passes per Insertion: 1
- Driving Side Maximum Convex Angle: 5 °
- Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 600 psf

CH/CL EL. 6.85 to EL. 3

Model: Undrained (Phi=0)
Unit Weight: 112 pcf
Cohesion: 800 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. 3 to EL. -3

Model: Undrained (Phi=0)
Unit Weight: 110 pcf
Cohesion: 400 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 635 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -12.5 to -20

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH EL. -31 to El. -41

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 850 psf
Pore Water Pressure
- Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 1300 psf

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 42 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Limits

Left Coordinate: (-110, 6.97) ft
Right Coordinate: (180, 6.85) ft

Slip Surface Block

Left Grid
- Upper Left: (-30, -20) ft
- Lower Left: (-30, -61) ft
- Lower Right: (27, -61) ft
- X Increments: 15
- Y Increments: 15
- Starting Angle: 135 °
- Ending Angle: 155 °
- Angle Increments: 2

Right Grid
- Upper Left: (45, -20) ft
- Lower Left: (45, -61) ft
- Lower Right: (95, -61) ft
- X Increments: 15
- Y Increments: 15
- Starting Angle: 45 °
- Ending Angle: 65 °
- Angle Increments: 2

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-11
	18	-11
	28.71	-3.35
	41.06	-3.15
	49.86	0
	180	0

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points	Area (ft^2)

Region 1	CH/CL EL. 6.85 to EL. 3	37,49,29,30,5,50	431.4832
Region 2	CH El. 3 to EL. -3	5,6,51,38,50	765.7245
Region 3	CH El. -3 to EL. -12.5	6,3,41,40,25,26,39,51	1461.2395
Region 4	CH El. -12.5 to -20	3,18,17,2,43,44,42,41	2157
Region 5	CH EL. -31 to El. -41	8,10,11,9	2900
Region 6	CL EL. -41 to EL. -61	10,12,13,11	5800
Region 7	CL El. -61 to El. -73	12,14,15,13	3480
Region 8	Berm	36,27,28,29,49	29.46775
Region 9	CH El. -20 to El. -31	9,17,18,8	3190
Region 10	Berm	20,21,22,48,54	28.9716
Region 11	CH/CL EL. 6.85 to EL. 3	19,20,54,47,53,33	154.443
Region 12	CH El. 3 to EL. -3	35,33,53,46,52	327.0375
Region 13	CH El. -3 to EL. -12.5	2,7,35,52,45,43	738.64
Region 14	Rip Rap	22,48,54,47,53,46,52,45,43,44,42,41,40,25,24,23,34,32,31	178.0571
Region 15	Rip Rap	27,36,49,37,50,38,51,39,26,16,4,1	51.0015

Points

	X (ft)	Y (ft)
Point 1	68.82	6.79
Point 2	-110	-12.5
Point 3	180	-12.5
Point 4	58.24	3
Point 5	180	3
Point 6	180	-3
Point 7	-110	-11
Point 8	180	-31
Point 9	-110	-31
Point 10	180	-41
Point 11	-110	-41
Point 12	180	-61
Point 13	-110	-61
Point 14	180	-73
Point 15	-110	-73
Point 16	49.86	0
Point 17	-110	-20
Point 18	180	-20
Point 19	-110	6.97
Point 20	-94.28	6.91
Point 21	-88	9
Point 22	-78	9
Point 23	-18	-11
Point 24	18	-11
Point 25	28.71	-3.35
Point 26	41.06	-3.15
Point 27	75	9
Point 28	85	9
Point 29	91.44	6.85
Point 30	180	6.85
Point 31	-71.33	6.78
Point 32	-60	3
Point 33	-110	3
Point 34	-42	-3
Point 35	-110	-3
Point 36	75	7.5
Point 37	68.82	5.29
Point 38	58.24	1.5
Point 39	41.06	-4.65
Point 40	28.71	-4.85
Point 41	18	-12.5
Point 42	18	-13
Point 43	-18	-12.5
Point 44	-18	-13
Point 45	-42	-4.5
Point 46	-60	1.5
Point 47	-71.33	5.28
Point 48	-78	7.5
Point 49	73.05	6.8
Point 50	62.44	3
Point 51	45.27	-3.15
Point 52	-46.48	-3
Point 53	-64.51	3
Point 54	-75.92	6.8

Critical Slip Surfaces

	Slip Surface	FOS	Center (ft)	Radius (ft)	Entry (ft)	Exit (ft)
1	11299	1.342	(46.546, 11.313)	52.221	(102.783, 6.85)	(-5.26775, -11)
2	11296	1.342	(44.809, 11.313)	50.964	(99.45, 6.85)	(-5.26775, -11)
3	8995	1.344	(46.987, 11.312)	48.88	(100.05, 6.85)	(-1.36415, -11)
4	8992	1.345	(45.24, 11.312)	47.941	(96.7167, 6.85)	(-1.36415, -11)
5	11443	1.353	(48.366, 11.313)	50.609	(102.783, 6.85)	(-1.46775, -11)
6	11293	1.355	(43.067, 11.313)	49.754	(96.1167, 6.85)	(-5.26775, -11)
7	11440	1.355	(46.623, 11.313)	49.642	(99.45, 6.85)	(-1.46775, -11)
8	6691	1.356	(47.407, 11.313)	45.865	(97.3167, 6.85)	(2.53946, -11)
9	11152	1.357	(42.989, 11.313)	52.025	(99.45, 6.85)	(-9.06775, -11)
10	11155	1.357	(44.721, 11.313)	53.244	(102.783, 6.85)	(-9.06775, -11)
11	9139	1.357	(48.795, 11.312)	47.586	(100.05, 6.85)	(2.43585, -11)
12	8998	1.357	(48.728, 11.312)	50.105	(103.383, 6.85)	(-1.36415, -11)
13	11302	1.358	(48.279, 11.313)	53.141	(106.117, 6.85)	(-5.26775, -11)
14	8851	1.358	(45.172, 11.312)	49.97	(100.05, 6.85)	(-5.16415, -11)
15	8848	1.359	(43.431, 11.312)	49.287	(96.7167, 6.85)	(-5.16415, -11)
16	11251	1.361	(50.624, 11.312)	49.209	(102.783, 6.85)	(3.26667, -11)
17	6688	1.361	(45.648, 11.313)	45.319	(93.9833, 6.85)	(2.53946, -11)
18	9136	1.362	(47.042, 11.312)	46.94	(96.7167, 6.85)	(2.43585, -11)
19	8989	1.362	(43.487, 11.312)	47.031	(93.3833, 6.85)	(-1.36415, -11)
20	8947	1.363	(50.484, 11.312)	46.6	(100.05, 6.85)	(6, -11)

Slices of Slip Surface: 11299

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11299	-3.839602	-12	62.399373	226.33897	147.61188	0
2	11299	-0.74528145	-14.166665	197.60116	665.50427	0	440
3	11299	2.5870635	-16.5	343.21171	922.35997	0	440
4	11299	5.919409	-18.833335	488.80998	1179.1911	0	440
5	11299	9.321316	-21.215375	637.44046	1384.3223	0	342.15
6	11299	12.79279	-23.646125	789.11986	1666.0665	0	366.46
7	11299	16.264265	-26.076875	940.79926	1947.8344	0	390.77

8	11299	20.6	-29.11279	1246.1193	2489.1195	0	421.13
9	11299	24.5775	-30.93333	1537.0236	2671.9419	0	439.33
10	11299	27.3325	-30.93333	1659.8185	2880.5445	0	439.33
11	11299	30.768335	-30.93333	1723.2873	2944.8581	0	439.33
12	11299	34.885	-30.93333	1727.4412	2951.9026	0	439.33
13	11299	39.001665	-30.93333	1731.595	2958.9471	0	439.33
14	11299	43.165	-30.93333	1780.6888	3085.9857	0	439.33
15	11299	47.565	-30.93333	1878.976	3256.2092	0	439.33
16	11299	51.958065	-30.93333	1930.2314	3429.1129	0	439.33
17	11299	56.148065	-30.93333	1930.2459	3594.0401	0	439.33
18	11299	60.34	-30.93333	1930.2381	3759.2857	0	439.33
19	11299	63.72	-30.93333	1930.2344	3893.3984	0	439.33
20	11299	66.91	-29.02333	1811.0633	3328.7698	0	420.23
21	11299	70.935	-24.99833	1559.8977	3103.7476	0	379.98
22	11299	74.025	-21.90833	1367.0733	2931.919	0	349.08
23	11299	75.466665	-20.466665	1277.1103	2805.9758	0	334.67
24	11299	77.80833	-18.125	1130.9937	2499.5753	0	440
25	11299	81.55833	-14.375	897.00735	2122.0745	0	440
26	11299	84.216665	-11.716665	731.13345	1723.7309	0	635
27	11299	86.61	-9.3233315	581.78194	1424.0734	0	635
28	11299	89.83	-6.103333	380.84944	982.43916	0	635
29	11299	92.138145	-3.795188	236.82136	691.36198	0	635
30	11299	94.38481	-1.5485215	96.628218	616.72923	0	400
31	11299	97.43333	1.5	-93.599718	298.23405	0	400
32	11299	100.85832	4.925	-307.32515	-331.25658	0	800

Slices of Slip Surface: **11296**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11296	-3.839602	-12	62.399373	230.22495	151.11083	0
2	11296	-0.74528145	-14.166665	197.60116	670.86312	0	440
3	11296	2.5870635	-16.5	343.21171	928.92332	0	440
4	11296	5.919409	-18.833335	488.80998	1187.0081	0	440
5	11296	9.321316	-21.215375	637.44046	1392.6047	0	342.15
6	11296	12.79279	-23.646125	789.11986	1675.8355	0	366.46
7	11296	16.264265	-26.076875	940.79926	1959.0428	0	390.77
8	11296	20.6	-29.11279	1246.1193	2502.982	0	421.13
9	11296	24.5775	-30.93333	1537.0236	2674.1198	0	439.33
10	11296	27.3325	-30.93333	1659.8185	2882.7223	0	439.33
11	11296	30.25375	-30.93333	1722.753	2946.17	0	439.33
12	11296	33.34125	-30.93333	1725.8947	2951.4494	0	439.33
13	11296	36.42875	-30.93333	1729.004	2956.7611	0	439.33
14	11296	39.51625	-30.93333	1732.1134	2962.0729	0	439.33
15	11296	43.165	-30.93333	1780.6888	3088.1235	0	439.33
16	11296	47.565	-30.93333	1878.976	3258.3878	0	439.33
17	11296	51.958065	-30.93333	1930.2314	3431.496	0	439.33
18	11296	56.148065	-30.93333	1930.2459	3596.4302	0	439.33
19	11296	59.953335	-30.93333	1930.243	3746.2059	0	439.33
20	11296	62.053335	-30.546665	1906.0803	3269.1207	0	435.47
21	11296	64.035	-28.565	1782.4634	3158.706	0	415.65
22	11296	67.225	-25.375	1583.4095	2981.3752	0	383.75
23	11296	70.71	-21.89	1365.9321	2787.647	0	348.9
24	11296	72.825	-19.775	1233.9642	2595.7104	0	440
25	11296	74.025	-18.575	1159.0751	2521.9783	0	440
26	11296	77.55	-15.05	939.12102	2178.7208	0	440
27	11296	82.55	-10.05	627.11717	1549.5741	0	635
28	11296	87.24962	-5.350379	333.85778	997.70717	0	635
29	11296	90.46962	-2.130379	132.93518	710.47414	0	400
30	11296	92.02	-0.58	36.192279	514.32257	0	400
31	11296	94.1	1.5	-93.599718	298.3519	0	400
32	11296	97.525	4.925	-307.32515	-325.32423	0	800

Slices of Slip Surface: **8995**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	8995	0.064002	-12	62.399373	227.54348	148.69642	0
2	8995	3.158323	-14.166665	197.60116	667.20042	0	440
3	8995	6.4906685	-16.5	343.21171	924.49859	0	440
4	8995	9.8230155	-18.833335	488.80998	1181.8213	0	440
5	8995	13.11689	-21.13973	632.71901	1378.4442	0	341.4
6	8995	16.372295	-23.41919	774.96441	1643.157	0	364.19
7	8995	19.3	-25.46919	960.83382	1968.5483	0	384.69
8	8995	21.9	-27.28973	1190.3224	2384.7721	0	402.9
9	8995	24.5775	-28.2	1366.461	2381.8875	0	412
10	8995	27.3325	-28.2	1489.2559	2590.49	0	412
11	8995	30.25375	-28.2	1552.1943	2653.9271	0	412
12	8995	33.34125	-28.2	1555.336	2659.2065	0	412
13	8995	36.42875	-28.2	1558.4453	2664.5182	0	412
14	8995	39.51625	-28.2	1561.5547	2669.83	0	412
15	8995	43.165	-28.2	1610.1425	2795.962	0	412
16	8995	47.565	-28.2	1708.4096	2966.2309	0	412
17	8995	51.958065	-28.2	1759.6694	3139.0837	0	412
18	8995	56.148065	-28.2	1759.6862	3304.1172	0	412
19	8995	60.34	-28.2	1759.6905	3469.2857	0	412
20	8995	63.72	-28.2	1759.6875	3603.3203	0	412
21	8995	66.91	-26.29	1640.4877	3065.7335	0	392.9
22	8995	71.01	-22.19	1384.654	2837.4679	0	351.9
23	8995	74.1	-19.1	1191.8287	2586.2435	0	440
24	8995	76.425	-16.775	1046.7661	2359.3298	0	440
25	8995	79.275	-13.925	868.92251	2073.0632	0	440
26	8995	82.85	-10.35	645.83519	1584.1659	0	635
27	8995	86.27498	-6.9250225	432.11907	1193.7556	0	635
28	8995	88.824935	-4.375067	273.00341	844.88248	0	635
29	8995	90.769955	-	151.63268	732.65118	0	400
			2.4300445				
30	8995	92.32	-0.88	54.913267	546.6819	0	400
31	8995	94.7	1.5	-93.599718	298.65831	0	400
32	8995	98.125	4.925	-307.32515	-328.22612	0	800

Slices of Slip Surface: **8992**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	8992	0.064002	-12	62.399373	231.97723	152.68859	0
2	8992	3.158323	-14.166665	197.60116	673.24755	0	440
3	8992	6.4906685	-16.5	343.21171	931.99605	0	440
4	8992	9.8230155	-18.833335	488.80998	1190.7691	0	440
5	8992	13.11689	-21.13973	632.71901	1387.9558	0	341.4
6	8992	16.372295	-23.41919	774.96441	1654.3042	0	364.19
7	8992	19.3	-25.46919	960.83382	1981.6233	0	384.69
8	8992	21.9	-27.28973	1190.3224	2400.273	0	402.9
9	8992	24.5775	-28.2	1366.461	2384.2468	0	412
10	8992	27.3325	-28.2	1489.2559	2592.8494	0	412
11	8992	30.25375	-28.2	1552.1943	2656.2915	0	412
12	8992	33.34125	-28.2	1555.336	2661.5709	0	412
13	8992	36.42875	-28.2	1558.4453	2666.8826	0	412
14	8992	39.51625	-28.2	1561.5547	2672.1943	0	412
15	8992	43.165	-28.2	1610.1425	2798.3373	0	412
16	8992	47.565	-28.2	1708.4096	2968.6275	0	412
17	8992	51.958065	-28.2	1759.6694	3141.4668	0	412
18	8992	56.148065	-28.2	1759.6862	3306.5073	0	412
19	8992	59.953335	-28.2	1759.6691	3456.4199	0	412
20	8992	62.053335	-27.813335	1735.5517	3005.0528	0	408.13
21	8992	64.035	-25.83167	1611.8932	2894.9264	0	388.32
22	8992	67.225	-22.64167	1412.8393	2718.0388	0	356.42
23	8992	69.343335	-20.523335	1280.6291	2600.6445	0	335.23
24	8992	71.458335	-18.408335	1148.6895	2400.9793	0	440
25	8992	74.025	-15.84167	988.53544	2242.6167	0	440
26	8992	76.183335	-13.683335	853.8464	2036.856	0	440
27	8992	79.275	-10.591666	660.92558	1600.9391	0	635

28	8992	83.091665	-6.775	422.76338	1220.3242	0	635
29	8992	85.88143	-3.9852355	248.67793	910.2855	0	635
30	8992	88.314765	-1.551902	96.839188	727.72348	0	400
31	8992	90.653335	0.7866665	-49.087001	401.26668	0	400
32	8992	92.153335	2.2866665	-142.68856	217.64354	0	400
33	8992	94.79167	4.925	-307.32515	-320.751	0	800

Slices of Slip Surface: **11443**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11443	-0.039602	-12	62.399373	226.97277	148.18255	0
2	11443	3.0547185	-14.166665	197.60116	666.4138	0	440
3	11443	6.3870635	-16.5	343.21171	923.95779	0	440
4	11443	9.719408	-18.833335	488.80998	1181.5018	0	440
5	11443	13.039185	-21.157865	633.85527	1380.6805	0	341.58
6	11443	16.346395	-23.4736	778.35574	1649.7674	0	364.74
7	11443	19.5	-25.68178	983.0097	2009.5437	0	386.82
8	11443	22.5	-27.7824	1247.7869	2490.1401	0	407.82
9	11443	25.5	-29.88302	1512.5915	2970.7912	0	428.83
10	11443	27.855	-30.93333	1683.0994	2921.1696	0	439.33
11	11443	30.25375	-30.93333	1722.753	2945.0688	0	439.33
12	11443	33.34125	-30.93333	1725.8947	2950.3806	0	439.33
13	11443	36.42875	-30.93333	1729.004	2955.6599	0	439.33
14	11443	39.51625	-30.93333	1732.1134	2960.9717	0	439.33
15	11443	43.165	-30.93333	1780.6888	3087.1734	0	439.33
16	11443	47.565	-30.93333	1878.976	3257.2985	0	439.33
17	11443	51.958065	-30.93333	1930.2314	3430.3045	0	439.33
18	11443	56.148065	-30.93333	1930.2459	3595.2351	0	439.33
19	11443	60.34	-30.93333	1930.2381	3760.2381	0	439.33
20	11443	63.72	-30.93333	1930.2344	3894.4922	0	439.33
21	11443	66.91	-29.02333	1811.0633	3320.6252	0	420.23
22	11443	70.935	-24.99833	1559.8977	3096.058	0	379.98
23	11443	74.025	-21.90833	1367.0733	2924.4853	0	349.08
24	11443	75.466665	-20.466665	1277.1103	2798.8542	0	334.67
25	11443	77.80833	-18.125	1130.9937	2494.4841	0	440
26	11443	81.55833	-14.375	897.00735	2118.1147	0	440
27	11443	84.216665	-11.716665	731.13345	1722.8283	0	635
28	11443	86.61	-9.3233315	581.78194	1424.2052	0	635
29	11443	89.83	-6.103333	380.84944	984.13007	0	635
30	11443	92.138145	-3.795188	236.82136	694.04599	0	635
31	11443	94.38481	-1.5485215	96.628218	617.80231	0	400
32	11443	97.43333	1.5	-93.599718	300.42608	0	400
33	11443	100.85832	4.925	-307.32515	-323.63452	0	800

Slices of Slip Surface: **11293**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11293	-3.839602	-12	62.399373	234.24285	154.72856	0
2	11293	-0.74528145	-14.166665	197.60116	676.32028	0	440
3	11293	2.5870635	-16.5	343.21171	936.19954	0	440
4	11293	5.919409	-18.833335	488.80998	1196.0788	0	440
5	11293	9.321316	-21.215375	637.44046	1402.9636	0	342.15
6	11293	12.79279	-23.646125	789.11986	1688.2002	0	366.46
7	11293	16.264265	-26.076875	940.79926	1973.4368	0	390.77
8	11293	19.3	-28.20252	1131.375	2311.0484	0	412.03
9	11293	21.9	-30.02306	1360.8636	2731.5254	0	430.23
10	11293	24.5775	-30.93333	1537.0236	2677.0236	0	439.33
11	11293	27.3325	-30.93333	1659.8185	2885.6261	0	439.33
12	11293	30.25375	-30.93333	1722.753	2949.0526	0	439.33
13	11293	33.34125	-30.93333	1725.8947	2954.3644	0	439.33
14	11293	36.42875	-30.93333	1729.004	2959.6437	0	439.33
15	11293	39.51625	-30.93333	1732.1134	2964.9555	0	439.33
16	11293	43.165	-30.93333	1780.6888	3090.9739	0	439.33
17	11293	47.565	-30.93333	1878.976	3261.4379	0	439.33
18	11293	51.958065	-30.93333	1930.2314	3434.3558	0	439.33
19	11293	56.148065	-30.93333	1930.2459	3599.2984	0	439.33
20	11293	60.34	-28.88	1802.1573	3038.2677	0	418.8
21	11293	64.035	-25.23167	1574.4542	2826.654	0	382.32
22	11293	67.225	-22.04167	1375.4004	2650.6531	0	350.42
23	11293	69.043335	-20.223335	1261.9322	2550.1752	0	332.23
24	11293	71.158335	-18.108335	1129.9629	2350.4605	0	440
25	11293	74.025	-15.24167	951.07691	2174.5531	0	440
26	11293	75.883335	-13.383335	835.11978	1999.6446	0	440
27	11293	78.825	-10.441667	651.5631	1582.608	0	635
28	11293	82.941665	-6.325	394.68581	1174.3354	0	635
29	11293	85.581095	-3.68557	229.97828	891.70657	0	635
30	11293	87.71443	-1.5522365	96.859321	748.68098	0	400
31	11293	90.353335	1.0866665	-67.80743	382.32575	0	400
32	11293	91.853335	2.5866665	-161.40856	188.9173	0	400
33	11293	94.19167	4.925	-307.32515	-312.32081	0	800

Slices of Slip Surface: **11440**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11440	-0.039602	-12	62.399373	233.87576	154.39804	0
2	11440	3.0547185	-14.166665	197.60116	676.0253	0	440
3	11440	6.3870635	-16.5	343.21171	935.90456	0	440
4	11440	9.719408	-18.833335	488.80998	1195.7838	0	440
5	11440	13.039185	-21.157865	633.85527	1395.9875	0	341.58
6	11440	16.346395	-23.4736	778.35574	1667.7247	0	364.74
7	11440	19.5	-25.68178	983.0097	2030.9235	0	386.82
8	11440	22.5	-27.7824	1247.7869	2516.08	0	407.82
9	11440	25.5	-29.88302	1512.5915	3001.3729	0	428.83
10	11440	27.855	-30.93333	1683.0994	2925.0292	0	439.33
11	11440	30.25375	-30.93333	1722.753	2948.9231	0	439.33
12	11440	33.34125	-30.93333	1725.8947	2954.2348	0	439.33
13	11440	36.42875	-30.93333	1729.004	2959.5142	0	439.33
14	11440	39.51625	-30.93333	1732.1134	2964.8259	0	439.33
15	11440	43.165	-30.93333	1780.6888	3090.9739	0	439.33
16	11440	47.565	-30.93333	1878.976	3261.22	0	439.33
17	11440	51.958065	-30.93333	1930.2314	3434.1175	0	439.33
18	11440	56.148065	-30.93333	1930.2459	3599.0593	0	439.33
19	11440	59.953335	-30.93333	1930.243	3748.8323	0	439.33
20	11440	62.053335	-30.546665	1906.0803	3245.3473	0	435.47
21	11440	64.035	-28.565	1782.4634	3135.653	0	415.65
22	11440	67.225	-25.375	1583.4095	2959.4305	0	383.75
23	11440	70.71	-21.89	1365.9321	2767.0698	0	348.9
24	11440	72.825	-19.775	1233.9642	2577.9542	0	440
25	11440	74.025	-18.575	1159.0751	2504.8627	0	440
26	11440	76.275	-16.325	1018.6773	2291.1366	0	440
27	11440	78.825	-13.775	859.56445	2038.242	0	440
28	11440	82.55	-10.05	627.11717	1543.5132	0	635
29	11440	87.24962	-5.350379	333.85778	996.59133	0	635
30	11440	90.46962	-2.130379	132.93518	709.05319	0	400
31	11440	92.02	-0.58	36.192279	514.64564	0	400
32	11440	94.1	1.5	-93.599718	300.61464	0	400
33	11440	97.525	4.925	-307.32515	-312.57794	0	800

Slices of Slip Surface: **6691**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	6691	3.967607	-12	62.399373	228.43539	149.4995	0
2	6691	7.0619275	-14.166665	197.60116	668.42951	0	440
3	6691	10.394275	-16.5	343.21171	926.56346	0	440
4	6691	13.72662	-18.833335	488.80998	1184.722	0	440
5	6691	16.696395	-20.912795	618.57192	1355.7181	0	339.13
6	6691	19.3	-22.73586	790.26116	1655.6953	0	357.36
7	6691	21.9	-24.5564	1019.7498	2073.2108	0	375.56
8	6691	24.5775	-25.46667	1195.8984	2092.1234	0	384.67
9	6691	27.3325	-25.46667	1318.6933	2300.6897	0	384.67
10	6691	30.25375	-25.46667	1381.6356	2364.1457	0	384.67
11	6691	33.34125	-25.46667	1384.7449	2369.4575	0	384.67

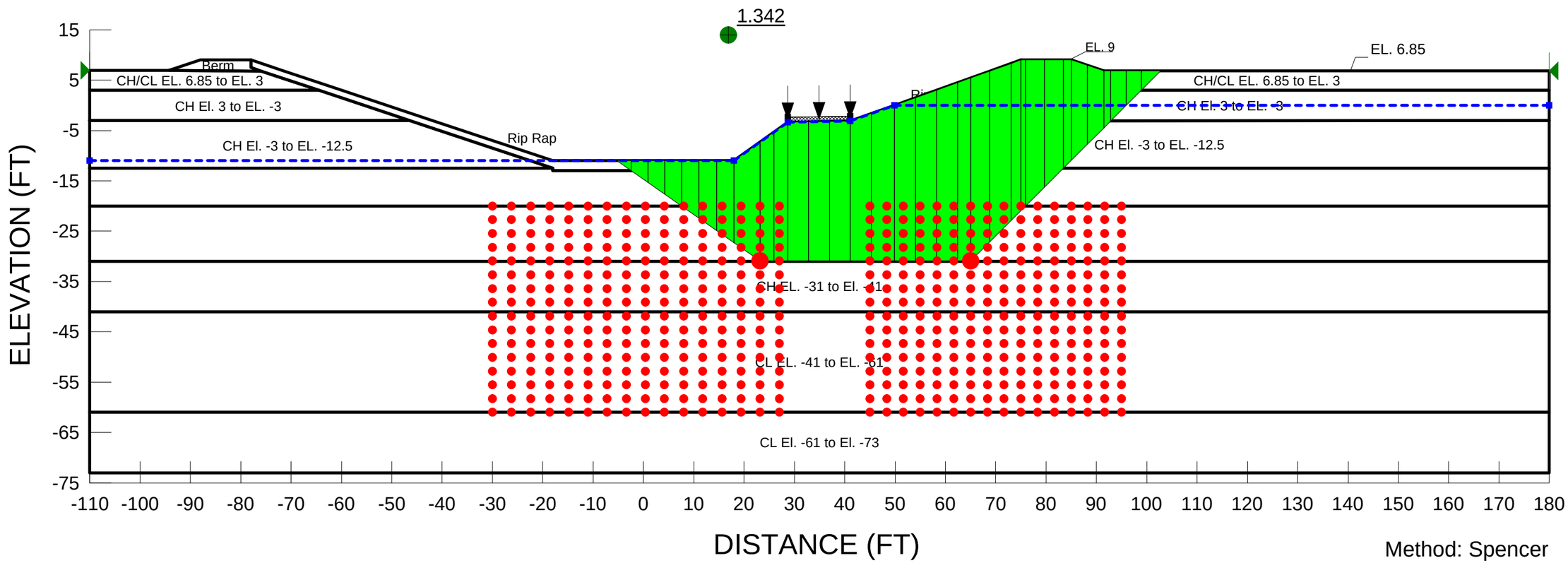
12	6691	36.42875	-25.46667	1387.8866	2374.7368	0	384.67
13	6691	39.51625	-25.46667	1390.996	2380.0486	0	384.67
14	6691	43.165	-25.46667	1439.5724	2506.1758	0	384.67
15	6691	47.565	-25.46667	1537.8649	2676.4706	0	384.67
16	6691	51.958065	-25.46667	1589.1313	2849.2928	0	384.67
17	6691	56.148065	-25.46667	1589.1264	3014.1943	0	384.67
18	6691	60.34	-25.46667	1589.119	3179.5238	0	384.67
19	6691	63.72	-25.46667	1589.1016	3313.5547	0	384.67
20	6691	66.91	-23.55667	1469.9306	2801.0313	0	365.57
21	6691	69.643335	-20.823335	1299.3733	2648.9884	0	338.23
22	6691	71.758335	-18.708335	1167.4105	2450.8777	0	440
23	6691	74.025	-16.44167	1025.9577	2310.7891	0	440
24	6691	76.483335	-13.983335	872.55393	2074.3892	0	440
25	6691	79.725	-10.741667	670.27687	1622.6592	0	635
26	6691	83.241665	-7.225	450.84589	1270.902	0	635
27	6691	86.181765	-4.2849015	267.37766	933.99088	0	635
28	6691	88.9151	-1.551568	96.816746	709.3089	0	400
29	6691	90.953335	0.48666665	-30.368303	423.90816	0	400
30	6691	92.453335	1.9866667	-123.96817	250.58799	0	400
31	6691	95.39167	4.925	-307.32515	-319.46535	0	800

Slices of Slip Surface: **11152**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11152	-7.639602	-12	62.399373	228.50135	149.5589	0
2	11152	-4.5452815	-14.166665	197.60116	668.50326	0	440
3	11152	-1.2129363	-16.5	343.21171	926.68637	0	440
4	11152	2.1194092	-18.833335	488.80998	1184.8695	0	440
5	11152	5.562384	-21.24413	639.23562	1394.5115	0	342.44
6	11152	9.115988	-23.73239	794.50918	1684.4046	0	367.32
7	11152	12.669595	-26.22065	949.75969	1974.2978	0	392.21
8	11152	16.2232	-28.70891	1105.0333	2264.191	0	417.09
9	11152	18.7	-30.443185	1244.4678	2506.4303	0	434.43
10	11152	20.951665	-30.93333	1375.3922	2399.5491	0	439.33
11	11152	24.055	-30.93333	1513.7273	2634.5223	0	439.33
12	11152	27.158335	-30.93333	1652.0303	2869.4633	0	439.33
13	11152	30.768335	-30.93333	1723.2873	2947.0443	0	439.33
14	11152	34.885	-30.93333	1727.4412	2954.0888	0	439.33
15	11152	39.001665	-30.93333	1731.595	2961.1334	0	439.33
16	11152	43.165	-30.93333	1780.6888	3088.1235	0	439.33
17	11152	47.565	-30.93333	1878.976	3258.3878	0	439.33
18	11152	51.958065	-30.93333	1930.2314	3431.2577	0	439.33
19	11152	56.148065	-30.93333	1930.2459	3596.1912	0	439.33
20	11152	59.953335	-30.93333	1930.243	3746.2059	0	439.33
21	11152	62.053335	-30.546665	1906.0803	3270.5837	0	435.47
22	11152	64.035	-28.565	1782.4634	3160.036	0	415.65
23	11152	67.225	-25.375	1583.4095	2982.7051	0	383.75
24	11152	70.71	-21.89	1365.9321	2788.5824	0	348.9
25	11152	72.825	-19.775	1233.9642	2597.5961	0	440
26	11152	74.025	-18.575	1159.0751	2523.864	0	440
27	11152	77.55	-15.05	939.12102	2180.8006	0	440
28	11152	82.55	-10.05	627.11717	1553.4704	0	635
29	11152	87.24962	-5.350379	333.85778	1001.9348	0	635
30	11152	90.46962	-2.130379	132.93518	713.09743	0	400
31	11152	92.02	-0.58	36.192279	517.05346	0	400
32	11152	94.1	1.5	-93.599718	301.2039	0	400
33	11152	97.525	4.925	-307.32515	-319.07965	0	800

Slices of Slip Surface: **11155**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11155	-7.639602	-12	62.399373	224.21387	145.69843	0
2	11155	-4.5452815	-14.166665	197.60116	662.43154	0	440
3	11155	-1.2129363	-16.5	343.21171	919.23807	0	440
4	11155	2.1194092	-18.833335	488.80998	1176.0446	0	440
5	11155	5.562384	-21.24413	639.23562	1385.1296	0	342.44
6	11155	9.115988	-23.73239	794.50918	1673.34	0	367.32
7	11155	12.669595	-26.22065	949.75969	1961.5274	0	392.21
8	11155	16.2232	-28.70891	1105.0333	2249.7378	0	417.09
9	11155	18.7	-30.443185	1244.4678	2490.5739	0	434.43
10	11155	21.7275	-30.93333	1409.9893	2455.8539	0	439.33
11	11155	26.3825	-30.93333	1617.4651	2808.3781	0	439.33
12	11155	30.768335	-30.93333	1723.2873	2944.6151	0	439.33
13	11155	34.885	-30.93333	1727.4412	2951.6597	0	439.33
14	11155	39.001665	-30.93333	1731.595	2958.7042	0	439.33
15	11155	43.165	-30.93333	1780.6888	3085.7482	0	439.33
16	11155	47.565	-30.93333	1878.976	3255.9913	0	439.33
17	11155	51.958065	-30.93333	1930.2314	3428.8746	0	439.33
18	11155	56.148065	-30.93333	1930.2459	3593.8011	0	439.33
19	11155	60.34	-30.93333	1930.2381	3759.0476	0	439.33
20	11155	63.72	-30.93333	1930.2344	3893.125	0	439.33
21	11155	66.91	-29.02333	1811.0633	3332.6571	0	420.23
22	11155	70.935	-24.99833	1559.8977	3107.2581	0	379.98
23	11155	74.025	-21.90833	1367.0733	2935.1463	0	349.08
24	11155	75.466665	-20.466665	1277.1103	2809.082	0	334.67
25	11155	77.80833	-18.125	1130.9937	2503.5351	0	440
26	11155	81.55833	-14.375	897.00735	2125.8458	0	440
27	11155	84.216665	-11.716665	731.13345	1728.8763	0	635
28	11155	86.61	-9.3233315	581.78194	1429.1461	0	635
29	11155	89.83	-6.103333	380.84944	987.42404	0	635
30	11155	92.138145	-3.795188	236.82136	696.27423	0	635
31	11155	94.38481	-1.5485215	96.628218	619.85717	0	400
32	11155	97.43333	1.5	-93.599718	301.29818	0	400
33	11155	100.85832	4.925	-307.32515	-325.30587	0	800



Method: Spencer

Name: Berm Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 600 psf
Name: CH/CL EL. 6.85 to EL. 3 Model: Undrained (Phi=0) Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Undrained (Phi=0) Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Undrained (Phi=0) Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Undrained (Phi=0) Unit Weight: 115 pcf Cohesion: 1300 psf
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

Surcharge (Unit Weight): 550 pcf

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN
STATION: 21+00
3:1 SLOPE
DUMP TRUCK ON RAMP
GLOBAL ANALYSIS (BLOCK METHOD)

6. Wedge R to L (Dist. Loads)

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File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 153
Last Edited By: Hoppes, Andrew
Date: 9/16/2013
Time: 11:13:03 AM
File Name: 3. Sedimentation Basin Sta 21+00 - Original with Rip Rap.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/16/2013
Last Solved Time: 11:17:52 AM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

6. Wedge R to L (Dist. Loads)

Kind: SLOPE/W
Method: Spencer
Settings
- Apply Phreatic Correction: No
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Right to Left
- Use Passive Mode: No
- Slip Surface Option: Block
- Critical slip surfaces saved: 20
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

FOS Distribution
- FOS Calculation Option: Constant

Restrict Block Crossing: Yes
Advanced
- Number of Slices: 30
- Optimization Tolerance: 0.01
- Minimum Slip Surface Depth: 0.1 ft
- Optimization Maximum Iterations: 2000
- Optimization Convergence Tolerance: 1e-007
- Starting Optimization Points: 8
- Ending Optimization Points: 16
- Complete Passes per Insertion: 1
- Driving Side Maximum Convex Angle: 5 °
- Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 600 psf

CH/CL EL. 6.85 to EL. 3

Model: Undrained (Phi=0)
Unit Weight: 112 pcf
Cohesion: 800 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. 3 to EL. -3

Model: Undrained (Phi=0)
Unit Weight: 110 pcf
Cohesion: 400 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 635 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -12.5 to -20

Model: Undrained (Phi=0)
Unit Weight: 106 pcf
Cohesion: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH EL. -31 to El. -41

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 850 psf
Pore Water Pressure
- Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Undrained (Phi=0)
Unit Weight: 115 pcf
Cohesion: 1300 psf

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 42 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Limits

Left Coordinate: (-110, 6.97) ft
Right Coordinate: (180, 6.85) ft

Slip Surface Block

Left Grid
- Upper Left: (-30, -20) ft
- Lower Left: (-30, -61) ft
- Lower Right: (27, -61) ft
- X Increments: 15
- Y Increments: 15
- Starting Angle: 135 °
- Ending Angle: 155 °
- Angle Increments: 2

Right Grid
- Upper Left: (45, -20) ft
- Lower Left: (45, -61) ft
- Lower Right: (95, -61) ft
- X Increments: 15
- Y Increments: 15
- Starting Angle: 45 °
- Ending Angle: 65 °
- Angle Increments: 2

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-11
	18	-11
	28.71	-3.35
	41.06	-3.15
	49.86	0
	180	0

Surcharge Loads

Surcharge Load 1

Surcharge (Unit Weight): 550 pcf
Direction: Vertical

Coordinates

	X (ft)	Y (ft)
	28.71	-2.35
	41.06	-2.15

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points	Area (ft²)
Region 1	CH/CL EL. 6.85 to EL. 3	37,49,29,30,5,50	431.4832
Region 2	CH El. 3 to EL. -3	5,6,51,38,50	765.7245
Region 3	CH El. -3 to EL. -12.5	6,3,41,40,25,26,39,51	1461.2395
Region 4	CH El. -12.5 to -20	3,18,17,2,43,44,42,41	2157
Region 5	CH EL. -31 to El. -41	8,10,11,9	2900
Region 6	CL EL. -41 to EL. -61	10,12,13,11	5800
Region 7	CL El. -61 to El. -73	12,14,15,13	3480
Region 8	Berm	36,27,28,29,49	29.46775
Region 9	CH El. -20 to El. -31	9,17,18,8	3190
Region 10	Berm	20,21,22,48,54	28.9716
Region 11	CH/CL EL. 6.85 to EL. 3	19,20,54,47,53,33	154.443
Region 12	CH El. 3 to EL. -3	35,33,53,46,52	327.0375
Region 13	CH El. -3 to EL. -12.5	2,7,35,52,45,43	738.64
Region 14	Rip Rap	22,48,54,47,53,46,52,45,43,44,42,41,40,25,24,23,34,32,31	178.0571
Region 15	Rip Rap	27,36,49,37,50,38,51,39,26,16,4,1	51.0015

Points

	X (ft)	Y (ft)
Point 1	68.82	6.79
Point 2	-110	-12.5
Point 3	180	-12.5
Point 4	58.24	3
Point 5	180	3
Point 6	180	-3
Point 7	-110	-11
Point 8	180	-31
Point 9	-110	-31
Point 10	180	-41
Point 11	-110	-41
Point 12	180	-61
Point 13	-110	-61
Point 14	180	-73
Point 15	-110	-73
Point 16	49.86	0
Point 17	-110	-20
Point 18	180	-20
Point 19	-110	6.97
Point 20	-94.28	6.91
Point 21	-88	9
Point 22	-78	9
Point 23	-18	-11
Point 24	18	-11
Point 25	28.71	-3.35
Point 26	41.06	-3.15
Point 27	75	9
Point 28	85	9
Point 29	91.44	6.85
Point 30	180	6.85
Point 31	-71.33	6.78
Point 32	-60	3
Point 33	-110	3
Point 34	-42	-3
Point 35	-110	-3
Point 36	75	7.5
Point 37	68.82	5.29
Point 38	58.24	1.5
Point 39	41.06	-4.65
Point 40	28.71	-4.85
Point 41	18	-12.5
Point 42	18	-13
Point 43	-18	-12.5
Point 44	-18	-13
Point 45	-42	-4.5
Point 46	-60	1.5
Point 47	-71.33	5.28
Point 48	-78	7.5
Point 49	73.05	6.8
Point 50	62.44	3
Point 51	45.27	-3.15
Point 52	-46.48	-3
Point 53	-64.51	3
Point 54	-75.92	6.8

Critical Slip Surfaces

	Slip Surface	FOS	Center (ft)	Radius (ft)	Entry (ft)	Exit (ft)
1	11299	1.342	(46.546, 11.313)	52.221	(102.783, 6.85)	(-5.26775, -11)
2	11296	1.342	(44.809, 11.313)	50.964	(99.45, 6.85)	(-5.26775, -11)
3	8995	1.344	(46.987, 11.312)	48.88	(100.05, 6.85)	(-1.36415, -11)
4	8992	1.345	(45.24, 11.312)	47.941	(96.7167, 6.85)	(-1.36415, -11)
5	11443	1.353	(48.366, 11.313)	50.609	(102.783, 6.85)	(-1.46775, -11)
6	11293	1.355	(43.067, 11.313)	49.754	(96.1167, 6.85)	(-5.26775, -11)
7	11440	1.355	(46.623, 11.313)	49.642	(99.45, 6.85)	(-1.46775, -11)
8	6691	1.356	(47.407, 11.313)	45.865	(97.3167, 6.85)	(2.53946, -11)
9	11152	1.357	(42.989, 11.313)	52.025	(99.45, 6.85)	(-9.06775, -11)
10	11155	1.357	(44.721, 11.313)	53.244	(102.783, 6.85)	(-9.06775, -11)
11	9139	1.357	(48.795, 11.312)	47.586	(100.05, 6.85)	(2.43585, -11)
12	8998	1.357	(48.728, 11.312)	50.105	(103.383, 6.85)	(-1.36415, -11)
13	11302	1.358	(48.279, 11.313)	53.141	(106.117, 6.85)	(-5.26775, -11)
14	8851	1.358	(45.172, 11.312)	49.97	(100.05, 6.85)	(-5.16415, -11)
15	8848	1.359	(43.431, 11.312)	49.287	(96.7167, 6.85)	(-5.16415, -11)
16	11251	1.361	(50.624, 11.312)	49.209	(102.783, 6.85)	(3.26667, -11)
17	6688	1.361	(45.648, 11.313)	45.319	(93.9833, 6.85)	(2.53946, -11)
18	9136	1.362	(47.042, 11.312)	46.94	(96.7167, 6.85)	(2.43585, -11)
19	8989	1.362	(43.487, 11.312)	47.031	(93.3833, 6.85)	(-1.36415, -11)
20	8947	1.363	(50.484, 11.312)	46.6	(100.05, 6.85)	(6, -11)

Slices of Slip Surface: 11299

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11299	-3.839602	-12	62.399373	226.33897	147.61188	0

2	11299	-0.74528145	-14.166665	197.60116	665.50427	0	440
3	11299	2.5870635	-16.5	343.21171	922.35997	0	440
4	11299	5.919409	-18.833335	488.80998	1179.1911	0	440
5	11299	9.321316	-21.215375	637.44046	1384.3223	0	342.15
6	11299	12.79279	-23.646125	789.11986	1666.0665	0	366.46
7	11299	16.264265	-26.076875	940.79926	1947.8344	0	390.77
8	11299	20.6	-29.11279	1246.1193	2489.1195	0	421.13
9	11299	24.5775	-30.93333	1537.0236	2671.9419	0	439.33
10	11299	27.3325	-30.93333	1659.8185	2880.5445	0	439.33
11	11299	30.768335	-30.93333	1723.2873	3494.8175	0	439.33
12	11299	34.885	-30.93333	1727.4412	3501.8621	0	439.33
13	11299	39.001665	-30.93333	1731.595	3508.9066	0	439.33
14	11299	43.165	-30.93333	1780.6888	3085.9857	0	439.33
15	11299	47.565	-30.93333	1878.976	3256.2092	0	439.33
16	11299	51.958065	-30.93333	1930.2314	3429.1129	0	439.33
17	11299	56.148065	-30.93333	1930.2459	3594.0401	0	439.33
18	11299	60.34	-30.93333	1930.2381	3759.2857	0	439.33
19	11299	63.72	-30.93333	1930.2344	3893.3984	0	439.33
20	11299	66.91	-29.02333	1811.0633	3328.7698	0	420.23
21	11299	70.935	-24.99833	1559.8977	3103.7476	0	379.98
22	11299	74.025	-21.90833	1367.0733	2931.919	0	349.08
23	11299	75.466665	-20.466665	1277.1103	2805.9758	0	334.67
24	11299	77.80833	-18.125	1130.9937	2499.5753	0	440
25	11299	81.55833	-14.375	897.00735	2122.0745	0	440
26	11299	84.216665	-11.716665	731.13345	1723.7309	0	635
27	11299	86.61	-9.3233315	581.78194	1424.0734	0	635
28	11299	89.83	-6.103333	380.84944	982.43916	0	635
29	11299	92.138145	-3.795188	236.82136	691.36198	0	635
30	11299	94.38481	-1.5485215	96.628218	616.72923	0	400
31	11299	97.43333	1.5	-93.599718	298.23405	0	400
32	11299	100.85832	4.925	-307.32515	-331.25658	0	800

Slices of Slip Surface: **11296**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11296	-3.839602	-12	62.399373	230.22495	151.11083	0
2	11296	-0.74528145	-14.166665	197.60116	670.86312	0	440
3	11296	2.5870635	-16.5	343.21171	928.92332	0	440
4	11296	5.919409	-18.833335	488.80998	1187.0081	0	440
5	11296	9.321316	-21.215375	637.44046	1392.6047	0	342.15
6	11296	12.79279	-23.646125	789.11986	1675.8355	0	366.46
7	11296	16.264265	-26.076875	940.79926	1959.0428	0	390.77
8	11296	20.6	-29.11279	1246.1193	2502.982	0	421.13
9	11296	24.5775	-30.93333	1537.0236	2674.1198	0	439.33
10	11296	27.3325	-30.93333	1659.8185	2882.7223	0	439.33
11	11296	30.25375	-30.93333	1722.753	3496.0324	0	439.33
12	11296	33.34125	-30.93333	1725.8947	3501.5385	0	439.33
13	11296	36.42875	-30.93333	1729.004	3506.7206	0	439.33
14	11296	39.51625	-30.93333	1732.1134	3511.9028	0	439.33
15	11296	43.165	-30.93333	1780.6888	3088.1235	0	439.33
16	11296	47.565	-30.93333	1878.976	3258.3878	0	439.33
17	11296	51.958065	-30.93333	1930.2314	3431.496	0	439.33
18	11296	56.148065	-30.93333	1930.2459	3596.4302	0	439.33
19	11296	59.953335	-30.93333	1930.243	3746.2059	0	439.33
20	11296	62.053335	-30.546665	1906.0803	3269.1207	0	435.47
21	11296	64.035	-28.565	1782.4634	3158.706	0	415.65
22	11296	67.225	-25.375	1583.4095	2981.3752	0	383.75
23	11296	70.71	-21.89	1365.9321	2787.647	0	348.9
24	11296	72.825	-19.775	1233.9642	2595.7104	0	440
25	11296	74.025	-18.575	1159.0751	2521.9783	0	440
26	11296	77.55	-15.05	939.12102	2178.7208	0	440
27	11296	82.55	-10.05	627.11717	1549.5741	0	635
28	11296	87.24962	-5.350379	333.85778	997.70717	0	635
29	11296	90.46962	-2.130379	132.93518	710.47414	0	400
30	11296	92.02	-0.58	36.192279	514.32257	0	400
31	11296	94.1	1.5	-93.599718	298.3519	0	400
32	11296	97.525	4.925	-307.32515	-325.32423	0	800

Slices of Slip Surface: **8995**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	8995	0.064002	-12	62.399373	227.54348	148.69642	0
2	8995	3.158323	-14.166665	197.60116	667.20042	0	440
3	8995	6.4906685	-16.5	343.21171	924.49859	0	440
4	8995	9.8230155	-18.833335	488.80998	1181.8213	0	440
5	8995	13.11689	-21.13973	632.71901	1378.4442	0	341.4
6	8995	16.372295	-23.41919	774.96441	1643.157	0	364.19
7	8995	19.3	-25.46919	960.83382	1968.5483	0	384.69
8	8995	21.9	-27.28973	1190.3224	2384.7721	0	402.9
9	8995	24.5775	-28.2	1366.461	2381.8875	0	412
10	8995	27.3325	-28.2	1489.2559	2590.49	0	412
11	8995	30.25375	-28.2	1552.1943	3203.919	0	412
12	8995	33.34125	-28.2	1555.336	3209.2308	0	412
13	8995	36.42875	-28.2	1558.4453	3214.5101	0	412
14	8995	39.51625	-28.2	1561.5547	3219.8219	0	412
15	8995	43.165	-28.2	1610.1425	2795.962	0	412
16	8995	47.565	-28.2	1708.4096	2966.2309	0	412
17	8995	51.958065	-28.2	1759.6694	3139.0837	0	412
18	8995	56.148065	-28.2	1759.6862	3304.1172	0	412
19	8995	60.34	-28.2	1759.6905	3469.2857	0	412
20	8995	63.72	-28.2	1759.6875	3603.3203	0	412
21	8995	66.91	-26.29	1640.4877	3065.7335	0	392.9
22	8995	71.01	-22.19	1384.654	2837.4679	0	351.9
23	8995	74.1	-19.1	1191.8287	2586.2435	0	440
24	8995	76.425	-16.775	1046.7661	2359.3298	0	440
25	8995	79.275	-13.925	868.92251	2073.0632	0	440
26	8995	82.85	-10.35	645.83519	1584.1659	0	635
27	8995	86.27498	-6.9250225	432.11907	1193.7556	0	635
28	8995	88.824935	-4.375067	273.00341	844.88248	0	635
29	8995	90.769955	-2.4300445	151.63268	732.65118	0	400
30	8995	92.32	-0.88	54.913267	546.6819	0	400
31	8995	94.7	1.5	-93.599718	298.65831	0	400
32	8995	98.125	4.925	-307.32515	-328.22612	0	800

Slices of Slip Surface: **8992**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	8992	0.064002	-12	62.399373	231.97723	152.68859	0
2	8992	3.158323	-14.166665	197.60116	673.24755	0	440
3	8992	6.4906685	-16.5	343.21171	931.99605	0	440
4	8992	9.8230155	-18.833335	488.80998	1190.7691	0	440
5	8992	13.11689	-21.13973	632.71901	1387.9558	0	341.4
6	8992	16.372295	-23.41919	774.96441	1654.3042	0	364.19
7	8992	19.3	-25.46919	960.83382	1981.6233	0	384.69
8	8992	21.9	-27.28973	1190.3224	2400.273	0	402.9
9	8992	24.5775	-28.2	1366.461	2384.2468	0	412
10	8992	27.3325	-28.2	1489.2559	2592.8494	0	412
11	8992	30.25375	-28.2	1552.1943	3206.2834	0	412
12	8992	33.34125	-28.2	1555.336	3211.5951	0	412
13	8992	36.42875	-28.2	1558.4453	3216.8745	0	412
14	8992	39.51625	-28.2	1561.5547	3222.1862	0	412
15	8992	43.165	-28.2	1610.1425	2798.3373	0	412
16	8992	47.565	-28.2	1708.4096	2968.6275	0	412
17	8992	51.958065	-28.2	1759.6694	3141.4668	0	412
18	8992	56.148065	-28.2	1759.6862	3306.5073	0	412
19	8992	59.953335	-28.2	1759.6691	3456.4199	0	412

20	8992	62.053335	-27.813335	1735.5517	3005.0528	0	408.13
21	8992	64.035	-25.83167	1611.8932	2894.9264	0	388.32
22	8992	67.225	-22.64167	1412.8393	2718.0388	0	356.42
23	8992	69.343335	-20.523335	1280.6291	2600.6445	0	335.23
24	8992	71.458335	-18.408335	1148.6895	2400.9793	0	440
25	8992	74.025	-15.84167	988.53544	2242.6167	0	440
26	8992	76.183335	-13.683335	853.8464	2036.856	0	440
27	8992	79.275	-10.591666	660.92558	1600.9391	0	635
28	8992	83.091665	-6.775	422.76338	1220.3242	0	635
29	8992	85.88143	-3.9852355	248.67793	910.2855	0	635
30	8992	88.314765	-1.551902	96.839188	727.72348	0	400
31	8992	90.653335	0.7866665	-49.087001	401.26668	0	400
32	8992	92.153335	2.2866665	-142.68856	217.64354	0	400
33	8992	94.79167	4.925	-307.32515	-320.751	0	800

Slices of Slip Surface: **11443**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11443	-0.039602	-12	62.399373	226.97277	148.18255	0
2	11443	3.0547185	-14.166665	197.60116	666.4138	0	440
3	11443	6.3870635	-16.5	343.21171	923.95779	0	440
4	11443	9.719408	-18.833335	488.80998	1181.5018	0	440
5	11443	13.039185	-21.157865	633.85527	1380.6805	0	341.58
6	11443	16.346395	-23.4736	778.35574	1649.7674	0	364.74
7	11443	19.5	-25.68178	983.0097	2009.5437	0	386.82
8	11443	22.5	-27.7824	1247.7869	2490.1401	0	407.82
9	11443	25.5	-29.88302	1512.5915	2970.7912	0	428.83
10	11443	27.855	-30.93333	1683.0994	2921.1696	0	439.33
11	11443	30.25375	-30.93333	1722.753	3495.0607	0	439.33
12	11443	33.34125	-30.93333	1725.8947	3500.2429	0	439.33
13	11443	36.42875	-30.93333	1729.004	3505.749	0	439.33
14	11443	39.51625	-30.93333	1732.1134	3510.9312	0	439.33
15	11443	43.165	-30.93333	1780.6888	3087.1734	0	439.33
16	11443	47.565	-30.93333	1878.976	3257.2985	0	439.33
17	11443	51.958065	-30.93333	1930.2314	3430.3045	0	439.33
18	11443	56.148065	-30.93333	1930.2459	3595.2351	0	439.33
19	11443	60.34	-30.93333	1930.2381	3760.2381	0	439.33
20	11443	63.72	-30.93333	1930.2344	3894.4922	0	439.33
21	11443	66.91	-29.02333	1811.0633	3320.6252	0	420.23
22	11443	70.935	-24.99833	1559.8977	3096.058	0	379.98
23	11443	74.025	-21.90833	1367.0733	2924.4853	0	349.08
24	11443	75.466665	-20.466665	1277.1103	2798.8542	0	334.67
25	11443	77.80833	-18.125	1130.9937	2494.4841	0	440
26	11443	81.55833	-14.375	897.00735	2118.1147	0	440
27	11443	84.216665	-11.716665	731.13345	1722.8283	0	635
28	11443	86.61	-9.3233315	581.78194	1424.2052	0	635
29	11443	89.83	-6.103333	380.84944	984.13007	0	635
30	11443	92.138145	-3.795188	236.82136	694.04599	0	635
31	11443	94.38481	-1.5485215	96.628218	617.80231	0	400
32	11443	97.43333	1.5	-93.599718	300.42608	0	400
33	11443	100.85832	4.925	-307.32515	-323.63452	0	800

Slices of Slip Surface: **11293**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11293	-3.839602	-12	62.399373	234.24285	154.72856	0
2	11293	-0.74528145	-14.166665	197.60116	676.32028	0	440
3	11293	2.5870635	-16.5	343.21171	936.19954	0	440
4	11293	5.919409	-18.833335	488.80998	1196.0788	0	440
5	11293	9.321316	-21.215375	637.44046	1402.9636	0	342.15
6	11293	12.79279	-23.646125	789.11986	1688.2002	0	366.46
7	11293	16.264265	-26.076875	940.79926	1973.4368	0	390.77
8	11293	19.3	-28.20252	1131.375	2311.0484	0	412.03
9	11293	21.9	-30.02306	1360.8636	2731.5254	0	430.23
10	11293	24.5775	-30.93333	1537.0236	2677.0236	0	439.33
11	11293	27.3325	-30.93333	1659.8185	2885.6261	0	439.33
12	11293	30.25375	-30.93333	1722.753	3498.9474	0	439.33
13	11293	33.34125	-30.93333	1725.8947	3504.4534	0	439.33
14	11293	36.42875	-30.93333	1729.004	3509.6356	0	439.33
15	11293	39.51625	-30.93333	1732.1134	3514.8178	0	439.33
16	11293	43.165	-30.93333	1780.6888	3090.9739	0	439.33
17	11293	47.565	-30.93333	1878.976	3261.4379	0	439.33
18	11293	51.958065	-30.93333	1930.2314	3434.3558	0	439.33
19	11293	56.148065	-30.93333	1930.2459	3599.2984	0	439.33
20	11293	60.34	-28.88	1802.1573	3038.2677	0	418.8
21	11293	64.035	-25.23167	1574.4542	2826.654	0	382.32
22	11293	67.225	-22.04167	1375.4004	2650.6531	0	350.42
23	11293	69.043335	-20.223335	1261.9322	2550.1752	0	332.23
24	11293	71.158335	-18.108335	1129.9629	2350.4605	0	440
25	11293	74.025	-15.24167	951.07691	2174.5531	0	440
26	11293	75.883335	-13.383335	835.11978	1999.6446	0	440
27	11293	78.825	-10.441667	651.5631	1582.608	0	635
28	11293	82.941665	-6.325	394.68581	1174.3354	0	635
29	11293	85.581095	-3.68557	229.97828	891.70657	0	635
30	11293	87.71443	-1.5522365	96.859321	748.68098	0	400
31	11293	90.353335	1.0866665	-67.80743	382.32575	0	400
32	11293	91.853335	2.5866665	-161.40856	188.9173	0	400
33	11293	94.19167	4.925	-307.32515	-312.32081	0	800

Slices of Slip Surface: **11440**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11440	-0.039602	-12	62.399373	233.87576	154.39804	0
2	11440	3.0547185	-14.166665	197.60116	676.0253	0	440
3	11440	6.3870635	-16.5	343.21171	935.90456	0	440
4	11440	9.719408	-18.833335	488.80998	1195.7838	0	440
5	11440	13.039185	-21.157865	633.85527	1395.9875	0	341.58
6	11440	16.346395	-23.4736	778.35574	1667.7247	0	364.74
7	11440	19.5	-25.68178	983.0097	2030.9235	0	386.82
8	11440	22.5	-27.7824	1247.7869	2516.08	0	407.82
9	11440	25.5	-29.88302	1512.5915	3001.3729	0	428.83
10	11440	27.855	-30.93333	1683.0994	2925.0292	0	439.33
11	11440	30.25375	-30.93333	1722.753	3498.9474	0	439.33
12	11440	33.34125	-30.93333	1725.8947	3504.1296	0	439.33
13	11440	36.42875	-30.93333	1729.004	3509.6356	0	439.33
14	11440	39.51625	-30.93333	1732.1134	3514.8178	0	439.33
15	11440	43.165	-30.93333	1780.6888	3090.9739	0	439.33
16	11440	47.565	-30.93333	1878.976	3261.22	0	439.33
17	11440	51.958065	-30.93333	1930.2314	3434.1175	0	439.33
18	11440	56.148065	-30.93333	1930.2459	3599.0593	0	439.33
19	11440	59.953335	-30.93333	1930.243	3748.8323	0	439.33
20	11440	62.053335	-30.546665	1906.0803	3245.3473	0	435.47
21	11440	64.035	-28.565	1782.4634	3135.653	0	415.65
22	11440	67.225	-25.375	1583.4095	2959.4305	0	383.75
23	11440	70.71	-21.89	1365.9321	2767.0698	0	348.9
24	11440	72.825	-19.775	1233.9642	2577.9542	0	440
25	11440	74.025	-18.575	1159.0751	2504.8627	0	440
26	11440	76.275	-16.325	1018.6773	2291.1366	0	440
27	11440	78.825	-13.775	859.56445	2038.242	0	440
28	11440	82.55	-10.05	627.11717	1543.5132	0	635
29	11440	87.24962	-5.350379	333.85778	996.59133	0	635
30	11440	90.46962	-2.130379	132.93518	709.05319	0	400
31	11440	92.02	-0.58	36.192279	514.64564	0	400
32	11440	94.1	1.5	-93.599718	300.61464	0	400
33	11440	97.525	4.925	-307.32515	-312.57794	0	800

Slices of Slip Surface: **6691**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	6691	3.967607	-12	62.399373	228.43539	149.4995	0
2	6691	7.0619275	-14.166665	197.60116	668.42951	0	440
3	6691	10.394275	-16.5	343.21171	926.56346	0	440

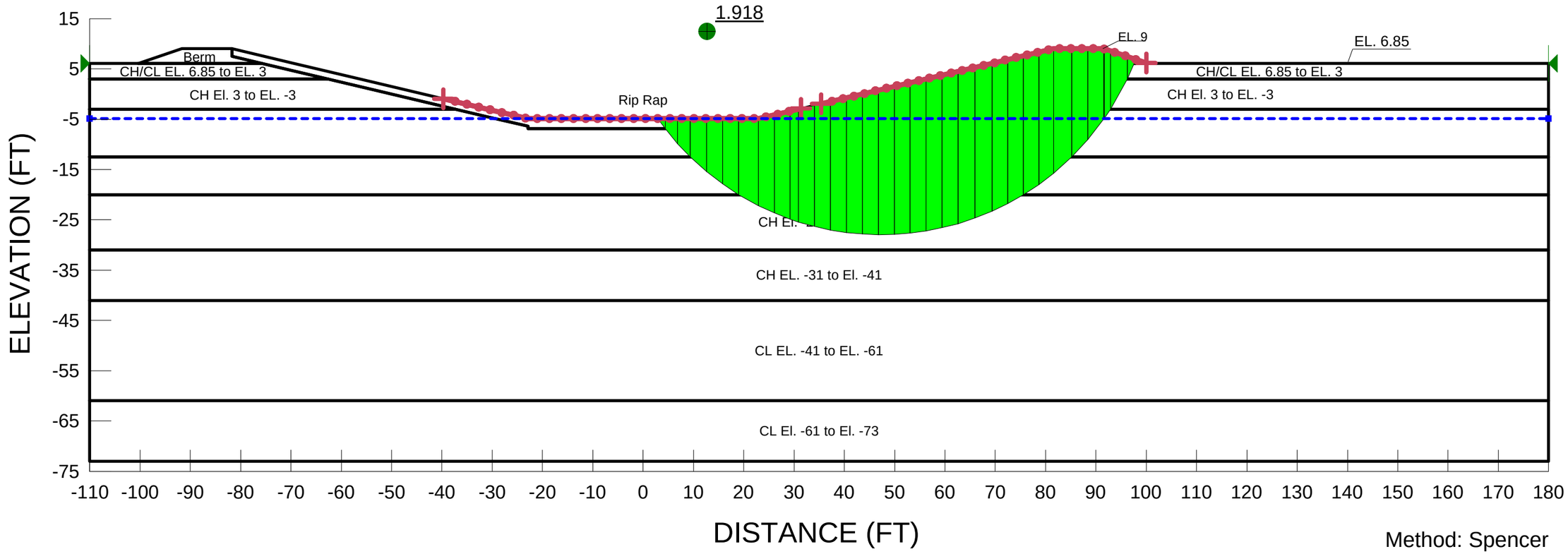
4	6691	13.72662	-18.833335	488.80998	1184.722	0	440
5	6691	16.696395	-20.912795	618.57192	1355.7181	0	339.13
6	6691	19.3	-22.73586	790.26116	1655.6953	0	357.36
7	6691	21.9	-24.5564	1019.7498	2073.2108	0	375.56
8	6691	24.5775	-25.46667	1195.8984	2092.1234	0	384.67
9	6691	27.3325	-25.46667	1318.6933	2300.6897	0	384.67
10	6691	30.25375	-25.46667	1381.6356	2914.1377	0	384.67
11	6691	33.34125	-25.46667	1384.7449	2919.4494	0	384.67
12	6691	36.42875	-25.46667	1387.8866	2924.7611	0	384.67
13	6691	39.51625	-25.46667	1390.996	2930.0405	0	384.67
14	6691	43.165	-25.46667	1439.5724	2506.1758	0	384.67
15	6691	47.565	-25.46667	1537.8649	2676.4706	0	384.67
16	6691	51.958065	-25.46667	1589.1313	2849.2928	0	384.67
17	6691	56.148065	-25.46667	1589.1264	3014.1943	0	384.67
18	6691	60.34	-25.46667	1589.119	3179.5238	0	384.67
19	6691	63.72	-25.46667	1589.1016	3313.5547	0	384.67
20	6691	66.91	-23.55667	1469.9306	2801.0313	0	365.57
21	6691	69.643335	-20.823335	1299.3733	2648.9884	0	338.23
22	6691	71.758335	-18.708335	1167.4105	2450.8777	0	440
23	6691	74.025	-16.44167	1025.9577	2310.7891	0	440
24	6691	76.483335	-13.983335	872.55393	2074.3892	0	440
25	6691	79.725	-10.741667	670.27687	1622.6592	0	635
26	6691	83.241665	-7.225	450.84589	1270.902	0	635
27	6691	86.181765	-4.2849015	267.37766	933.99088	0	635
28	6691	88.9151	-1.551568	96.816746	709.3089	0	400
29	6691	90.953335	0.48666665	-30.368303	423.90816	0	400
30	6691	92.453335	1.9866667	-123.96817	250.58799	0	400
31	6691	95.39167	4.925	-307.32515	-319.46535	0	800

Slices of Slip Surface: **11152**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11152	-7.639602	-12	62.399373	228.50135	149.5589	0
2	11152	-4.5452815	-14.166665	197.60116	668.50326	0	440
3	11152	-1.2129363	-16.5	343.21171	926.68637	0	440
4	11152	2.1194092	-18.833335	488.80998	1184.8695	0	440
5	11152	5.562384	-21.24413	639.23562	1394.5115	0	342.44
6	11152	9.115988	-23.73239	794.50918	1684.4046	0	367.32
7	11152	12.669595	-26.22065	949.75969	1974.2978	0	392.21
8	11152	16.2232	-28.70891	1105.0333	2264.191	0	417.09
9	11152	18.7	-30.443185	1244.4678	2506.4303	0	434.43
10	11152	20.951665	-30.93333	1375.3922	2399.5491	0	439.33
11	11152	24.055	-30.93333	1513.7273	2634.5223	0	439.33
12	11152	27.158335	-30.93333	1652.0303	2869.4633	0	439.33
13	11152	30.768335	-30.93333	1723.2873	3497.0038	0	439.33
14	11152	34.885	-30.93333	1727.4412	3504.0483	0	439.33
15	11152	39.001665	-30.93333	1731.595	3511.0928	0	439.33
16	11152	43.165	-30.93333	1780.6888	3088.1235	0	439.33
17	11152	47.565	-30.93333	1878.976	3258.3878	0	439.33
18	11152	51.958065	-30.93333	1930.2314	3431.2577	0	439.33
19	11152	56.148065	-30.93333	1930.2459	3596.1912	0	439.33
20	11152	59.953335	-30.93333	1930.243	3746.2059	0	439.33
21	11152	62.053335	-30.546665	1906.0803	3270.5837	0	435.47
22	11152	64.035	-28.565	1782.4634	3160.036	0	415.65
23	11152	67.225	-25.375	1583.4095	2982.7051	0	383.75
24	11152	70.71	-21.89	1365.9321	2788.5824	0	348.9
25	11152	72.825	-19.775	1233.9642	2597.5961	0	440
26	11152	74.025	-18.575	1159.0751	2523.864	0	440
27	11152	77.55	-15.05	939.12102	2180.8006	0	440
28	11152	82.55	-10.05	627.11717	1553.4704	0	635
29	11152	87.24962	-5.350379	333.85778	1001.9348	0	635
30	11152	90.46962	-2.130379	132.93518	713.09743	0	400
31	11152	92.02	-0.58	36.192279	517.05346	0	400
32	11152	94.1	1.5	-93.599718	301.2039	0	400
33	11152	97.525	4.925	-307.32515	-319.07965	0	800

Slices of Slip Surface: **11155**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	11155	-7.639602	-12	62.399373	224.21387	145.69843	0
2	11155	-4.5452815	-14.166665	197.60116	662.43154	0	440
3	11155	-1.2129363	-16.5	343.21171	919.23807	0	440
4	11155	2.1194092	-18.833335	488.80998	1176.0446	0	440
5	11155	5.562384	-21.24413	639.23562	1385.1296	0	342.44
6	11155	9.115988	-23.73239	794.50918	1673.34	0	367.32
7	11155	12.669595	-26.22065	949.75969	1961.5274	0	392.21
8	11155	16.2232	-28.70891	1105.0333	2249.7378	0	417.09
9	11155	18.7	-30.443185	1244.4678	2490.5739	0	434.43
10	11155	21.7275	-30.93333	1409.9893	2455.8539	0	439.33
11	11155	26.3825	-30.93333	1617.4651	2808.3781	0	439.33
12	11155	30.768335	-30.93333	1723.2873	3494.5746	0	439.33
13	11155	34.885	-30.93333	1727.4412	3501.6191	0	439.33
14	11155	39.001665	-30.93333	1731.595	3508.6637	0	439.33
15	11155	43.165	-30.93333	1780.6888	3085.7482	0	439.33
16	11155	47.565	-30.93333	1878.976	3255.9913	0	439.33
17	11155	51.958065	-30.93333	1930.2314	3428.8746	0	439.33
18	11155	56.148065	-30.93333	1930.2459	3593.8011	0	439.33
19	11155	60.34	-30.93333	1930.2381	3759.0476	0	439.33
20	11155	63.72	-30.93333	1930.2344	3893.125	0	439.33
21	11155	66.91	-29.02333	1811.0633	3332.6571	0	420.23
22	11155	70.935	-24.99833	1559.8977	3107.2581	0	379.98
23	11155	74.025	-21.90833	1367.0733	2935.1463	0	349.08
24	11155	75.466665	-20.466665	1277.1103	2809.082	0	334.67
25	11155	77.80833	-18.125	1130.9937	2503.5351	0	440
26	11155	81.55833	-14.375	897.00735	2125.8458	0	440
27	11155	84.216665	-11.716665	731.13345	1728.8763	0	635
28	11155	86.61	-9.3233315	581.78194	1429.1461	0	635
29	11155	89.83	-6.103333	380.84944	987.42404	0	635
30	11155	92.138145	-3.795188	236.82136	696.27423	0	635
31	11155	94.38481	-1.5485215	96.628218	619.85717	0	400
32	11155	97.43333	1.5	-93.599718	301.29818	0	400
33	11155	100.85832	4.925	-307.32515	-325.30587	0	800



Method: Spencer

Name: Berm Model: Mohr-Coulomb Unit Weight: 115 pcf Cohesion: 600 psf
Name: CH/CL EL. 6.85 to EL. 3 Model: Mohr-Coulomb Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Mohr-Coulomb Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Mohr-Coulomb Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Mohr-Coulomb Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Mohr-Coulomb Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Mohr-Coulomb Unit Weight: 115 pcf Cohesion: 1300 psf
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN WEIR SPILLWAY
STATION: 26+60
4:1 SLOPE
NO LOAD
GLOBAL ANALYSIS (CIRCULAR METHOD)

Circular (Original)

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File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 145
Last Edited By: Hoppes, Andrew
Date: 9/16/2013
Time: 10:59:40 AM
File Name: 5. Sedimentation Basin Sta 26+60 - Original with Rip Rap.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/16/2013
Last Solved Time: 11:00:32 AM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

Circular (Original)

Kind: SLOPE/W
Method: Spencer
Settings
- Apply Phreatic Correction: No
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Right to Left
- Use Passive Mode: No
- Slip Surface Option: Entry and Exit
- Critical slip surfaces saved: 50
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

FOS Distribution
- FOS Calculation Option: Constant

Advanced
- Number of Slices: 30
- Optimization Tolerance: 0.01
- Minimum Slip Surface Depth: 0.1 ft
- Optimization Maximum Iterations: 2000
- Optimization Convergence Tolerance: 1e-007
- Starting Optimization Points: 8
- Ending Optimization Points: 16
- Complete Passes per Insertion: 1
- Driving Side Maximum Convex Angle: 5 °
- Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Mohr-Coulomb
Unit Weight: 115 pcf
Cohesion: 600 psf
Phi: 0 °
Phi-B: 0 °

CH/CL EL. 6.85 to EL. 3

Model: Mohr-Coulomb
Unit Weight: 112 pcf
Cohesion: 800 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. 3 to EL. -3

Model: Mohr-Coulomb
Unit Weight: 110 pcf
Cohesion: 400 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Mohr-Coulomb
Unit Weight: 106 pcf
Cohesion: 635 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. -12.5 to -20

Model: Mohr-Coulomb
Unit Weight: 106 pcf
Cohesion: 440 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH EL. -31 to El. -41

Model: Mohr-Coulomb
Unit Weight: 115 pcf
Cohesion: 850 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Mohr-Coulomb
Unit Weight: 115 pcf
Cohesion: 1300 psf
Phi: 0 °
Phi-B: 0 °

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 42 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Entry and Exit

Left Projection: Range
Left-Zone Left Coordinate: (-39.69337, -0.92283) ft
Left-Zone Right Coordinate: (31.388, -2.88454) ft
Left-Zone Increment: 30
Right Projection: Range
Right-Zone Left Coordinate: (35.4249, -1.92944) ft
Right-Zone Right Coordinate: (100.03, 6.19) ft
Right-Zone Increment: 30
Radius Increments: 30

Slip Surface Limits

Left Coordinate: (-110, 6.1) ft
Right Coordinate: (180, 6.1) ft

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-4.9
	180	-4.9

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points
Region	CH El. -	2,13,12,1

1	12.5 to -20	
Region 2	CH EL. -31 to El. -41	4,6,7,5
Region 3	CL EL. -41 to EL. -61	6,8,9,7
Region 4	CL El. -61 to El. -73	8,10,11,9
Region 5	CH El. -20 to El. -31	5,12,13,4
Region 6	Berm	16,17,18,34,47
Region 7	Berm	46,28,29,30,52
Region 8	CH/CL EL. 6.85 to EL. 3	45,52,30,31,3,51
Region 9	CH/CL EL. 6.85 to EL. 3	14,15,16,47,35,48
Region 10	CH El. 3 to EL. -3	32,14,48,36,49
Region 11	CH El. 3 to EL. -3	44,51,3,33,50
Region 12	CH El. -3 to EL. -12.5	1,32,49,37,38,39,40,41,42,43,50,33,2
Region 13	Rip Rap	28,27,26,25,24,23,22,21,20,19,18,34,47,35,48,36,49,37,38,39,40,41,42,43,50,44,51,45,52,46

Points

	X (ft)	Y (ft)
Point 1	-110	-12.5
Point 2	180	-12.5
Point 3	180	3
Point 4	180	-31
Point 5	-110	-31
Point 6	180	-41
Point 7	-110	-41
Point 8	180	-61
Point 9	-110	-61
Point 10	180	-73
Point 11	-110	-73
Point 12	-110	-20
Point 13	180	-20
Point 14	-110	3
Point 15	-110	6.1
Point 16	-100.3	6.1
Point 17	-91.7	9
Point 18	-81.7	9
Point 19	-69.4	6.1
Point 20	-56.3	3
Point 21	-30.9	-3
Point 22	-22.9	-4.9
Point 23	0	-4.9
Point 24	22.9	-4.9
Point 25	30.9	-3
Point 26	56.26	3
Point 27	69.35	6.1
Point 28	81.6	9
Point 29	91.6	9
Point 30	100.3	6.1
Point 31	180	6.1
Point 32	-110	-3
Point 33	180	-3
Point 34	-81.7	7.5
Point 35	-69.4	4.6
Point 36	-56.3	1.5
Point 37	-30.9	-4.5
Point 38	-22.9	-6.4
Point 39	-22.9	-6.9
Point 40	0	-6.9
Point 41	22.9	-6.9
Point 42	22.9	-6.4
Point 43	30.9	-4.5
Point 44	56.26	1.5
Point 45	69.35	4.6
Point 46	81.6	7.5
Point 47	-75.78	6.1
Point 48	-62.66	3
Point 49	-37.26	-3
Point 50	37.25	-3
Point 51	62.59	3
Point 52	75.69	6.1

Critical Slip Surfaces

	Slip Surface	FOS	Center (ft)	Radius (ft)	Entry (ft)	Exit (ft)
1	18219	1.918	(47.287, 26.258)	54.222	(97.9322, 6.88925)	(2.91124, -4.9)
2	17258	1.919	(46.111, 26.727)	55.488	(97.9322, 6.88925)	(0.51851, -4.9)
3	17288	1.920	(47.12, 28.952)	57.599	(100.03, 6.19)	(0.51851, -4.9)
4	19180	1.920	(48.462, 25.788)	52.957	(97.9322, 6.88925)	(5.30397, -4.9)
5	18249	1.921	(48.299, 28.424)	56.307	(100.03, 6.19)	(2.91124, -4.9)
6	18220	1.921	(47.573, 23.957)	53.173	(97.9322, 6.88925)	(2.91124, -4.9)
7	17257	1.921	(45.807, 29.24)	56.715	(97.9322, 6.88925)	(0.51851, -4.9)
8	18250	1.921	(48.584, 25.927)	55.103	(100.03, 6.19)	(2.91124, -4.9)
9	16327	1.922	(45.94, 29.481)	58.891	(100.03, 6.19)	(-1.87422, -4.9)
10	18218	1.922	(46.983, 28.712)	55.426	(97.9322, 6.88925)	(2.91124, -4.9)
11	16296	1.922	(44.63, 29.767)	58.004	(97.9322, 6.88925)	(-1.87422, -4.9)
12	17289	1.923	(47.404, 26.397)	56.372	(100.03, 6.19)	(0.51851, -4.9)
13	16297	1.923	(44.934, 27.197)	56.756	(97.9322, 6.88925)	(-1.87422, -4.9)
14	19181	1.924	(48.748, 23.543)	51.927	(97.9322, 6.88925)	(5.30397, -4.9)
15	17259	1.924	(46.396, 24.372)	54.421	(97.9322, 6.88925)	(0.51851, -4.9)
16	17287	1.925	(46.814, 31.69)	59.01	(100.03, 6.19)	(0.51851, -4.9)
17	19210	1.925	(49.477, 27.896)	55.017	(100.03, 6.19)	(5.30397, -4.9)
18	16326	1.926	(45.635, 32.28)	60.328	(100.03, 6.19)	(-1.87422, -4.9)
19	19211	1.926	(49.762, 25.458)	53.834	(100.03, 6.19)	(5.30397, -4.9)
20	19179	1.927	(48.157, 28.185)	54.139	(97.9322, 6.88925)	(5.30397, -4.9)
21	18248	1.928	(47.993, 31.1)	57.692	(100.03, 6.19)	(2.91124, -4.9)
22	20141	1.928	(49.636, 25.319)	51.693	(97.9322, 6.88925)	(7.6967, -4.9)
23	20142	1.928	(49.923, 23.129)	50.682	(97.9322, 6.88925)	(7.6967, -4.9)
24	16328	1.928	(46.224, 26.867)	57.642	(100.03, 6.19)	(-1.87422, -4.9)
25	15366	1.929	(44.759, 30.009)	60.185	(100.03, 6.19)	(-4.26695, -4.9)
26	18189	1.929	(46.284, 24.33)	52.302	(95.8345, 7.58851)	(2.91124, -4.9)
27	15365	1.930	(44.455, 32.871)	61.648	(100.03, 6.19)	(-4.26695, -4.9)
28	19150	1.930	(47.456, 23.916)	51.06	(95.8345, 7.58851)	(5.30397, -4.9)
29	15335	1.930	(43.453,	59.295	(97.9322,	(-4.26695, -4.9)

			30.295)		6.88925)	
30	18188	1.931	(45.98, 26.59)	53.353	(95.8345, 7.58851)	(2.91124, -4.9)
31	17228	1.931	(45.111, 24.744)	53.546	(95.8345, 7.58851)	(0.51851, -4.9)
32	17227	1.932	(44.807, 27.059)	54.616	(95.8345, 7.58851)	(0.51851, -4.9)
33	16298	1.932	(45.219, 24.787)	55.669	(97.9322, 6.88925)	(-1.87422, -4.9)
34	15336	1.933	(43.756, 27.666)	58.024	(97.9322, 6.88925)	(-4.26695, -4.9)
35	18251	1.933	(48.851, 23.587)	54.055	(100.03, 6.19)	(2.91124, -4.9)
36	17256	1.933	(45.481, 31.933)	58.123	(97.9322, 6.88925)	(0.51851, -4.9)
37	16295	1.934	(44.305, 32.522)	59.439	(97.9322, 6.88925)	(-1.87422, -4.9)
38	20172	1.934	(50.94, 24.988)	52.567	(100.03, 6.19)	(7.6967, -4.9)
39	19212	1.934	(50.03, 23.172)	52.805	(100.03, 6.19)	(5.30397, -4.9)
40	19149	1.935	(47.151, 26.121)	52.091	(95.8345, 7.58851)	(5.30397, -4.9)
41	20171	1.935	(50.654, 27.369)	53.727	(100.03, 6.19)	(7.6967, -4.9)
42	19209	1.935	(49.171, 30.51)	56.375	(100.03, 6.19)	(5.30397, -4.9)
43	16266	1.935	(43.634, 27.528)	55.879	(95.8345, 7.58851)	(-1.87422, -4.9)
44	14405	1.936	(43.578, 30.538)	61.479	(100.03, 6.19)	(-6.65968, -4.9)
45	20111	1.936	(48.626, 23.502)	49.818	(95.8345, 7.58851)	(7.6967, -4.9)
46	14404	1.937	(43.274, 33.462)	62.968	(100.03, 6.19)	(-6.65968, -4.9)
47	18217	1.937	(46.656, 31.343)	56.809	(97.9322, 6.88925)	(2.91124, -4.9)
48	20140	1.937	(49.331,	52.853	(97.9322,	(7.6967, -4.9)

			27.658)		6.88925)	
49	15334	1.938	(43.128, 33.112)	60.755	(97.9322, 6.88925)	(-4.26695, -4.9)
50	14374	1.938	(42.274, 30.823)	60.586	(97.9322, 6.88925)	(-6.65968, -4.9)

Slices of Slip Surface: **18219**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	18219	3.648139	-5.9	62.398188	300.31795	214.22391	0
2	18219	5.630762	-8.3974015	218.23779	863.06322	0	635
3	18219	8.12221	-11.197402	392.95167	1111.4443	0	635
4	18219	10.973007	-13.949665	564.70322	1260.8785	0	440
5	18219	14.18315	-16.63802	732.44156	1516.524	0	440
6	18219	17.393295	-18.938355	875.98391	1734.4559	0	440
7	18219	20.949185	-21.08529	1009.951	1905.4729	0	340.85
8	18219	24.478945	-22.90314	1123.3999	2109.4628	0	359.03
9	18219	27.63684	-24.250005	1207.4448	2318.5926	0	372.5
10	18219	30.057895	-25.146565	1263.3585	2463.7772	0	381.47
11	18219	32.4875	-25.879455	1309.1281	2591.078	0	388.79
12	18219	35.6625	-26.678705	1358.9877	2739.9093	0	396.79
13	18219	38.834165	-27.27746	1396.3456	2868.262	0	402.77
14	18219	42.0025	-27.68281	1421.6411	2977.0655	0	406.83
15	18219	45.170835	-27.89993	1435.18	3065.5504	0	409
16	18219	48.339165	-27.93109	1437.1412	3134.0232	0	409.31
17	18219	51.5075	-27.776615	1427.5097	3182.5227	0	407.77
18	18219	54.675835	-27.434895	1406.1704	3211.1913	0	404.35
19	18219	57.8425	-26.90269	1372.9769	3219.6143	0	399.03
20	18219	61.0075	-26.17438	1327.5298	3207.3335	0	391.74
21	18219	64.28	-25.202225	1266.8598	3172.3468	0	382.02
22	18219	67.66	-23.95854	1189.2582	3111.9365	0	369.59
23	18219	70.906585	-22.519165	1099.4371	3028.0848	0	355.19
24	18219	74.019755	-20.88271	997.31789	2921.5689	0	338.83
25	18219	77.11067	-18.988675	879.1396	2749.709	0	440
26	18219	80.1225	-16.85199	745.79995	2577.8731	0	440
27	18219	83.403385	-14.113315	574.90455	2265.5645	0	440
28	18219	86.805075	-10.795379	367.86394	1772.3673	0	635
29	18219	90.00169	-7.0404745	133.56541	1308.3814	0	635
30	18219	91.63173	-4.945096	2.8140406	1044.4068	0	635
31	18219	92.300985	-3.95	-59.278631	894.42381	0	635
32	18219	94.60334	0	-305.75763	501.19711	0	400
33	18219	96.94574	4.55	-589.66935	-604.30024	0	800
34	18219	97.777775	6.4946265	0	-692.68228	0	600

Slices of Slip Surface: **17258**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	17258	1.2457314	-5.9	62.399563	306.97544	220.21711	0
2	17258	3.196166	-8.3946355	218.06553	869.69398	0	635
3	17258	5.6425925	-11.194636	392.77932	1118.8327	0	635
4	17258	8.419099	-13.93967	564.08089	1265.9889	0	440
5	17258	11.525686	-16.61871	731.24974	1521.4785	0	440
6	17258	14.63227	-18.92904	875.41252	1741.1786	0	440
7	17258	17.86417	-20.99361	1004.2361	1903.4551	0	339.94
8	17258	21.22139	-22.830285	1118.8611	2085.201	0	358.3
9	17258	24.478945	-24.34217	1213.2033	2257.1407	0	373.42
10	17258	27.63684	-25.568775	1289.7302	2453.0403	0	385.69
11	17258	30.057895	-26.38111	1340.4021	2589.0153	0	393.81
12	17258	32.4875	-27.03792	1381.4122	2708.0209	0	400.38
13	17258	35.6625	-27.74469	1425.5078	2846.8398	0	407.45
14	17258	38.834165	-28.258855	1457.5907	2966.1207	0	412.59
15	17258	42.0025	-28.58618	1478.0322	3066.5439	0	415.86
16	17258	45.170835	-28.73071	1487.035	3147.2907	0	417.31
17	17258	48.339165	-28.693885	1484.7237	3208.5599	0	416.94
18	17258	51.5075	-28.47534	1471.1149	3250.2617	0	414.75
19	17258	54.675835	-28.07289	1445.992	3272.738	0	410.73
20	17258	57.8425	-27.48284	1409.1814	3274.9039	0	404.83
21	17258	61.0075	-26.699145	1360.279	3256.8174	0	396.99
22	17258	64.28	-25.67192	1296.1572	3216.2835	0	386.72
23	17258	67.66	-24.373265	1215.1335	3150.2855	0	373.73
24	17258	70.935	-22.86725	1121.1505	3060.4271	0	358.67
25	17258	74.105	-21.14709	1013.8161	2946.2184	0	341.47
26	17258	75.863385	-20.11014	949.10549	2874.7495	0	331.1
27	17258	77.42758	-19.04851	882.86669	2757.345	0	440
28	17258	80.209195	-17.012795	755.83227	2591.8259	0	440
29	17258	83.478265	-14.214285	581.21222	2271.1713	0	440
30	17258	86.917395	-10.802873	368.3377	1765.7701	0	635
31	17258	90.03913	-7.0774465	135.87202	1306.5782	0	635
32	17258	91.65191	-4.9745735	4.6533946	1041.6816	0	635
33	17258	92.33431	-3.95	-59.279932	887.8834	0	635
34	17258	94.6178	0	-305.7579	498.2105	0	400
35	17258	96.946985	4.55	-589.6846	-605.47339	0	800
36	17258	97.777705	6.4946265	0	-691.85063	0	600

Slices of Slip Surface: **17288**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	17288	1.2788024	-5.9	62.398379	283.10324	198.72355	0
2	17288	3.3112685	-8.392359	217.92336	849.38352	0	635
3	17288	5.855616	-11.192359	392.65459	1101.5541	0	635
4	17288	8.73425	-13.93773	563.94866	1254.9226	0	440
5	17288	11.947165	-16.615435	731.04815	1511.6443	0	440
6	17288	15.16008	-18.927705	875.32411	1732.5531	0	440
7	17288	18.299905	-20.886675	997.56023	1886.3285	0	338.87
8	17288	21.366635	-22.54023	1100.7365	2050.7243	0	355.4
9	17288	24.478945	-23.98244	1190.7309	2216.9019	0	369.82
10	17288	27.63684	-25.225565	1268.3138	2415.5563	0	382.26
11	17288	30.057895	-26.05456	1320.0315	2554.0911	0	390.55
12	17288	32.4875	-26.732895	1362.3823	2676.1473	0	397.33
13	17288	35.6625	-27.472375	1408.5168	2819.4411	0	404.72

14	17288	38.834165	-28.02508	1443.0032	2943.8203	0	410.25
15	17288	42.0025	-28.39679	1466.211	3049.9981	0	413.97
16	17288	45.170835	-28.59179	1478.3528	3137.0755	0	415.92
17	17288	48.339165	-28.611875	1479.626	3205.3831	0	416.12
18	17288	51.5075	-28.45723	1469.9579	3254.9989	0	414.57
19	17288	54.675835	-28.12643	1449.3225	3285.6943	0	411.26
20	17288	57.8425	-27.61674	1417.5384	3297.6765	0	406.17
21	17288	61.0075	-26.92344	1374.2692	3290.1021	0	399.23
22	17288	64.28	-26.00238	1316.7905	3261.5467	0	390.02
23	17288	67.66	-24.8292	1243.5723	3209.6735	0	378.29
24	17288	70.935	-23.4636	1158.3738	3135.6768	0	364.64
25	17288	74.105	-21.90239	1060.9552	3039.3019	0	349.02
26	17288	76.581285	-20.530665	975.3664	2948.8023	0	335.31
27	17288	79.536285	-18.592945	854.43189	2769.7021	0	440
28	17288	82.97783	-16.088975	698.18076	2501.6346	0	440
29	17288	85.73349	-13.74603	552.00335	2227.9037	0	440
30	17288	89.35566	-10.070881	322.65809	1694.7789	0	635
31	17288	92.6603	-6.270881	85.541546	1189.0996	0	635
32	17288	94.381955	-3.95	-59.281042	837.98617	0	635
33	17288	96.79191	0	-305.75337	440.67421	0	400
34	17288	99.285255	4.595	-592.48323	-639.97505	0	800

Slices of Slip Surface: **19180**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	19180	6.05114	-5.9	62.400665	289.78518	204.73794	0
2	19180	8.0682055	-8.4003865	218.42354	852.26109	0	635
3	19180	10.607996	-11.200387	393.13961	1099.6462	0	635
4	19180	13.541065	-13.961155	565.41809	1252.073	0	440
5	19180	16.867415	-16.66023	733.82818	1507.9543	0	440
6	19180	20.193765	-18.949075	876.67265	1724.017	0	440
7	19180	22.37847	-20.295195	960.65839	1817.1912	0	332.95
8	19180	24.478945	-21.393005	1029.1692	1950.9839	0	343.93
9	19180	27.63684	-22.871385	1121.4117	2174.8168	0	358.71
10	19180	30.057895	-23.85932	1183.0472	2330.1854	0	368.59
11	19180	32.4875	-24.674045	1233.914	2466.6269	0	376.74
12	19180	35.6625	-25.572235	1289.9616	2626.468	0	385.72
13	19180	38.834165	-26.260915	1332.9253	2764.9169	0	392.61
14	19180	42.0025	-26.74875	1363.3566	2882.9379	0	397.49
15	19180	45.170835	-27.04224	1381.6764	2979.9869	0	400.42
16	19180	48.339165	-27.14463	1388.0762	3056.4567	0	401.45
17	19180	51.5075	-27.05704	1382.5987	3112.5644	0	400.57
18	19180	54.675835	-26.778515	1365.2254	3148.2054	0	397.79
19	19180	57.8425	-26.30633	1335.7397	3163.3486	0	393.06
20	19180	61.0075	-25.63533	1293.8718	3157.634	0	386.35
21	19180	64.28	-24.72002	1236.7771	3128.8583	0	377.2
22	19180	67.66	-23.53297	1162.6923	3074.9821	0	365.33
23	19180	70.7795	-22.210525	1080.174	3001.2515	0	352.11
24	19180	73.6385	-20.77294	990.47005	2910.3365	0	337.73
25	19180	75.379	-19.816445	930.78058	2814.1069	0	440
26	19180	77.1675	-18.679125	859.83144	2726.9411	0	440
27	19180	80.1225	-16.622395	731.48501	2562.5297	0	440
28	19180	83.323525	-14.009715	568.4479	2264.4953	0	440
29	19180	86.68529	-10.788025	367.4144	1783.5171	0	635
30	19180	89.961765	-7.002762	131.21151	1314.2344	0	635
31	19180	91.610485	-4.914737	0.91958745	1050.8426	0	635
32	19180	92.265935	-3.95	-59.281567	904.59474	0	635
33	19180	94.58817	0	-305.75724	506.75865	0	400
34	19180	96.94445	4.55	-589.67512	-604.74423	0	800
35	19180	97.77785	6.4946265	0	-696.16018	0	600

Slices of Slip Surface: **18249**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	18249	3.6805325	-5.9	62.40142	278.12344	194.23698	0
2	18249	5.7433765	-8.395064	218.09159	843.35256	0	635
3	18249	8.330479	-11.195064	392.80493	1094.8196	0	635
4	18249	11.280895	-13.947505	564.56332	1250.3253	0	440
5	18249	14.59463	-16.634345	732.22728	1507.2268	0	440
6	18249	17.908365	-18.93684	875.88697	1726.4518	0	440
7	18249	21.232615	-20.91468	999.32169	1882.7526	0	339.15
8	18249	24.478945	-22.566935	1102.4111	2071.3819	0	355.67
9	18249	27.63684	-23.92767	1187.3258	2282.9859	0	369.28
10	18249	30.057895	-24.839215	1244.2185	2430.5794	0	378.39
11	18249	32.4875	-25.592275	1291.2087	2560.7744	0	385.92
12	18249	35.6625	-26.422685	1343.023	2713.9144	0	394.23
13	18249	38.834165	-27.05865	1382.6892	2847.2676	0	400.59
14	18249	42.0025	-27.507205	1410.7014	2961.6324	0	405.07
15	18249	45.170835	-27.773695	1427.3127	3056.3437	0	407.74
16	18249	48.339165	-27.860715	1432.7404	3131.7405	0	408.61
17	18249	51.5075	-27.769105	1427.0386	3187.9678	0	407.69
18	18249	54.675835	-27.497985	1410.1238	3224.9678	0	404.98
19	18249	57.8425	-27.045045	1381.8435	3242.7144	0	400.45
20	18249	61.0075	-26.405955	1341.9582	3240.7802	0	394.06
21	18249	64.28	-25.538645	1287.8452	3218.0529	0	385.39
22	18249	67.66	-24.41893	1217.9792	3171.6241	0	374.19
23	18249	70.935	-23.10342	1135.8868	3102.7566	0	361.03
24	18249	74.105	-21.589275	1041.3989	3010.828	0	345.89
25	18249	76.360885	-20.385715	966.32029	2933.0754	0	333.86
26	18249	79.315885	-18.489855	848.00373	2758.9338	0	440
27	18249	82.943245	-15.930525	688.29341	2489.3909	0	440
28	18249	85.629735	-13.69067	548.52597	2227.1124	0	440
29	18249	89.28649	-10.03433	320.38352	1696.9309	0	635
30	18249	92.642885	-6.23433	83.261024	1190.7676	0	635
31	18249	94.35357	-3.95	-59.281943	843.84625	0	635
32	18249	96.78023	0	-305.75807	443.31039	0	400
33	18249	99.284545	4.595	-592.4957	-638.64465	0	800

Slices of Slip Surface: **18220**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	18220	3.590086	-5.9	62.40025	330.94803	241.8015	0
2	18220	6.5671775	-9.7	299.52344	995.86713	0	635
3	18220	10.330147	-13.939435	564.05014	1266.392	0	440
4	18220	13.259595	-16.61755	731.18175	1519.5767	0	440
5	18220	16.189045	-18.928115	875.35406	1738.1739	0	440
6	18220	18.96533	-20.8376	994.50681	1883.3716	0	338.38
7	18220	21.588445	-22.41019	1092.6448	2039.9917	0	354.1
8	18220	24.478945	-23.906995	1186.0266	2212.1386	0	369.07
9	18220	27.63684	-25.307755	1273.4486	2426.8087	0	383.08
10	18220	30.057895	-26.240525	1331.662	2575.8695	0	392.41
11	18220	32.4875	-27.00427	1379.2964	2706.6476	0	400.04
12	18220	35.6625	-27.83922	1431.402	2859.673	0	408.39
13	18220	38.834165	-28.46831	1470.6514	2991.8625	0	414.68
14	18220	42.0025	-28.899315	1497.5464	3104.1051	0	418.99
15	18220	45.170835	-29.137925	1512.4352	3195.5742	0	421.38
16	18220	48.339165	-29.18674	1515.4972	3266.9931	0	421.87
17	18220	51.5075	-29.04629	1506.7427	3318.1704	0	420.46
18	18220	54.675835	-28.71506	1486.0751	3348.7519	0	417.15
19	18220	57.8425	-28.189775	1453.2861	3359.174	0	411.9
20	18220	61.0075	-27.46467	1408.0301	3347.969	0	404.65

21	18220	64.28	-26.49154	1347.2998	3314.1143	0	394.92
22	18220	67.66	-25.24186	1269.3441	3254.026	0	382.42
23	18220	70.935	-23.776115	1177.8786	3169.1738	0	367.76
24	18220	74.105	-22.087045	1072.4785	3058.7969	0	350.87
25	18220	76.59086	-20.58686	978.83971	2954.8886	0	335.87
26	18220	79.54586	-18.45133	845.60889	2748.6613	0	440
27	18220	83.94003	-14.70133	611.59938	2332.1331	0	440
28	18220	87.610045	-10.975689	379.12202	1778.2822	0	635
29	18220	90.270015	-7.655041	171.91382	1362.0852	0	635
30	18220	91.917125	-5.379352	29.911745	1059.5773	0	635
31	18220	92.820185	-3.95	-59.278976	841.18538	0	635
32	18220	94.923975	0	-305.75896	459.88765	0	400
33	18220	97.04982	4.55	-589.67746	-724.75432	0	800
34	18220	97.795025	6.4946265	0	-802.82124	0	600

Slices of Slip Surface: **17257**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	17257	1.3081849	-5.9	62.399913	272.41788	189.10103	0
2	17257	3.425778	-8.395385	218.11243	837.24772	0	635
3	17257	6.081614	-11.195385	392.84362	1090.2176	0	635
4	17257	9.118626	-13.95177	564.82474	1248.9824	0	440
5	17257	12.53682	-16.64284	732.75941	1506.6579	0	440
6	17257	15.955015	-18.94107	876.17446	1725.4161	0	440
7	17257	18.97308	-20.7033	986.13781	1861.0335	0	337.03
8	17257	21.591025	-22.024925	1068.5829	1991.5174	0	350.25
9	17257	24.478945	-23.284405	1147.1944	2138.9455	0	362.84
10	17257	27.63684	-24.459825	1220.5379	2330.2105	0	374.6
11	17257	30.057895	-25.23754	1269.0661	2463.0685	0	382.38
12	17257	32.4875	-25.864715	1308.1846	2579.5095	0	388.65
13	17257	35.6625	-26.53717	1350.165	2715.3901	0	395.37
14	17257	38.834165	-27.02224	1380.4222	2832.2288	0	400.22
15	17257	42.0025	-27.32513	1399.3422	2930.727	0	403.25
16	17257	45.170835	-27.44946	1407.0865	3009.9418	0	404.49
17	17257	48.339165	-27.396415	1403.7846	3070.095	0	403.96
18	17257	51.5075	-27.16549	1389.3669	3111.2222	0	401.65
19	17257	54.675835	-26.75448	1363.7265	3133.2727	0	397.54
20	17257	57.8425	-26.159775	1326.6219	3135.7022	0	391.6
21	17257	61.0075	-25.375545	1277.6627	3118.1361	0	383.76
22	17257	64.28	-24.352575	1213.8474	3078.7425	0	373.53
23	17257	67.66	-23.063945	1133.4225	3014.6161	0	360.64
24	17257	71.650035	-21.178925	1015.7962	2901.0589	0	341.79
25	17257	74.820035	-19.48195	909.89942	2757.0555	0	440
26	17257	77.1675	-17.98269	816.34655	2642.4561	0	440
27	17257	80.1225	-15.877725	685.01988	2474.066	0	440
28	17257	82.902325	-13.626985	544.55007	2220.5577	0	440
29	17257	85.927405	-10.772593	366.44811	1791.2918	0	635
30	17257	89.372915	-6.9725925	129.32949	1327.969	0	635
31	17257	91.347835	-4.560242	-21.201287	1030.5567	0	635
32	17257	92.033655	-3.610242	-80.479968	897.10119	0	635
33	17257	94.27707	0	-305.75672	543.22658	0	400
34	17257	96.836765	4.55	-589.67199	-511.82146	0	800
35	17257	97.75947	6.4946265	0	-612.14387	0	600

Slices of Slip Surface: **18250**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	18250	3.6190755	-5.9	62.399733	314.03512	226.57352	0
2	18250	6.7092	-9.7	299.52535	988.43503	0	635
3	18250	10.599159	-13.93658	563.8878	1266.0225	0	440
4	18250	13.6145	-16.61251	730.85808	1520.691	0	440
5	18250	16.629835	-18.92593	875.22074	1740.5827	0	440
6	18250	20.51875	-21.411715	1030.3394	1943.9992	0	344.12
7	18250	24.478945	-23.592015	1166.3796	2185.2142	0	365.92
8	18250	27.63684	-25.009905	1254.8613	2402.1513	0	380.1
9	18250	30.057895	-25.95987	1314.1244	2553.2631	0	389.6
10	18250	32.4875	-26.745645	1363.1588	2686.4674	0	397.46
11	18250	35.6625	-27.613875	1417.3577	2843.0432	0	406.14
12	18250	38.834165	-28.281895	1459.0425	2979.281	0	412.82
13	18250	42.0025	-28.75745	1488.69	3096.0816	0	417.57
14	18250	45.170835	-29.046445	1506.7258	3192.6961	0	420.46
15	18250	48.339165	-29.15182	1513.3042	3269.5097	0	421.52
16	18250	51.5075	-29.074635	1508.5065	3327.0224	0	420.75
17	18250	54.675835	-28.81412	1492.2391	3364.9174	0	418.14
18	18250	57.8425	-28.36796	1464.3897	3383.0745	0	413.68
19	18250	61.0075	-27.731695	1424.7119	3381.0166	0	407.32
20	18250	64.28	-26.862795	1370.4659	3357.3948	0	398.63
21	18250	67.66	-25.736285	1300.1752	3309.6932	0	387.36
22	18250	70.935	-24.40846	1217.3372	3238.8902	0	374.08
23	18250	74.105	-22.87578	1121.688	3144.5618	0	358.76
24	18250	77.35986	-21.023455	1006.1048	3019.8461	0	340.23
25	18250	80.31486	-19.094235	885.73165	2840.816	0	440
26	18250	83.218935	-16.878555	747.46573	2585.1097	0	440
27	18250	86.4568	-14.03432	569.98725	2250.8522	0	440
28	18250	89.837865	-10.504631	349.72791	1725.7814	0	635
29	18250	92.92799	-6.704631	112.60863	1204.2576	0	635
30	18250	94.86921	-3.95	-59.28034	784.31702	0	635
31	18250	97.08612	0	-305.75592	398.89962	0	400
32	18250	99.3599	4.595	-592.49835	-738.41925	0	800

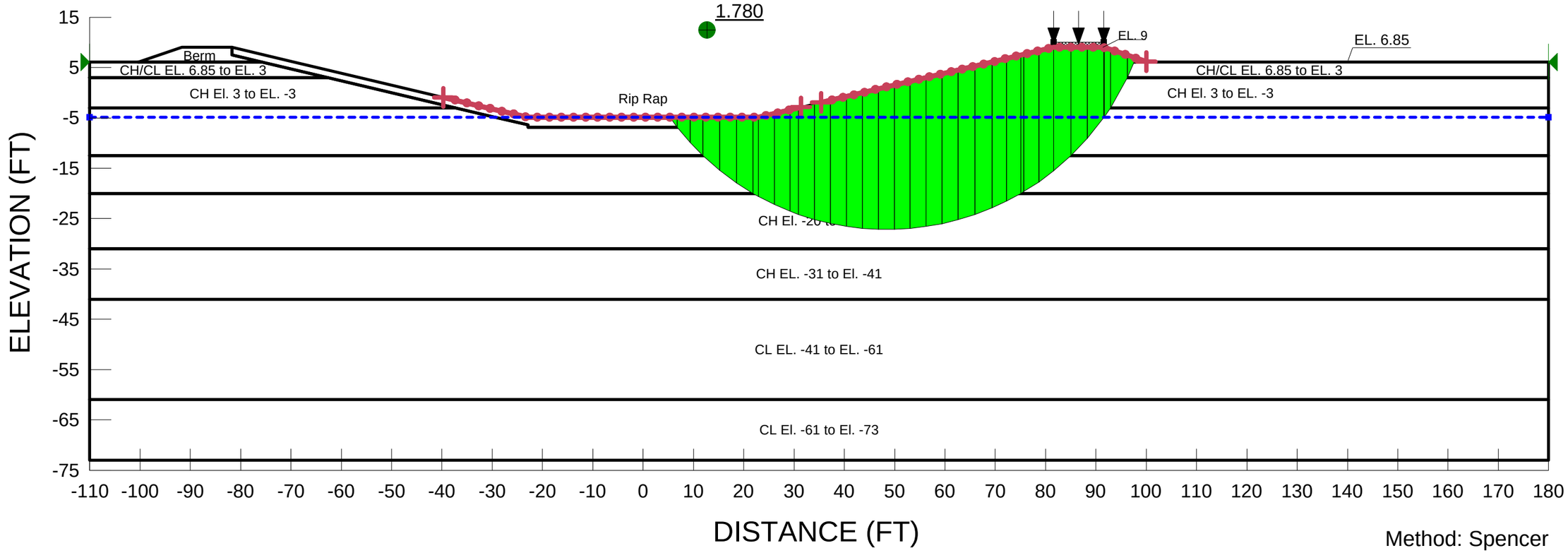
Slices of Slip Surface: **16327**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	16327	-1.1224362	-5.9	62.398512	287.43761	202.62611	0
2	16327	-0.18532565	-7.1334665	139.36828	742.48337	0	635
3	16327	2.319026	-9.9334665	314.08981	992.76028	0	635
4	16327	6.1990985	-13.929105	563.4061	1258.9934	0	440
5	16327	9.3211925	-16.59875	730.0112	1515.6158	0	440
6	16327	12.443285	-18.919645	874.82815	1738.0941	0	440
7	16327	15.48694	-20.89624	998.15319	1893.0133	0	338.96
8	16327	18.452165	-22.575355	1102.9376	2060.9401	0	355.75
9	16327	21.41739	-24.037575	1194.1998	2204.752	0	370.38
10	16327	24.478945	-25.33509	1275.1494	2355.2991	0	383.35
11	16327	27.63684	-26.469775	1345.9469	2542.0699	0	394.7
12	16327	30.057895	-27.222155	1392.8887	2672.2286	0	402.22
13	16327	32.4875	-27.830645	1430.8755	2786.75	0	408.31
14	16327	35.6625	-28.484735	1471.6933	2920.8405	0	414.85
15	16327	38.834165	-28.958815	1501.284	3036.8134	0	419.59
16	16327	42.0025	-29.25762	1519.9139	3135.2161	0	422.58
17	16327	45.170835	-29.3845	1527.8337	3214.9805	0	423.85
18	16327	48.339165	-29.34057	1525.0863	3276.602	0	423.41
19	16327	51.5075	-29.12545	1511.6576	3319.9281	0	421.25
20	16327	54.675835	-28.737235	1487.4496	3344.7718	0	417.37
21	16327	57.8425	-28.17281	1452.2176	3350.8192	0	411.73
22	16327	61.0075	-27.427095	1405.6846	3338.0543	0	404.27
23	16327	64.28	-26.45396	1344.9613	3304.1388	0	394.54
24	16327	67.66	-25.22888	1268.5096	3247.2371	0	382.29

25	16327	70.935	-23.814575	1180.2698	3168.2355	0	368.15
26	16327	74.105	-22.20754	1079.9773	3066.9714	0	352.08
27	16327	76.78261	-20.67193	984.18437	2964.1693	0	336.72
28	16327	79.73761	-18.693385	860.71563	2780.1886	0	440
29	16327	83.010375	-16.243315	707.81131	2513.979	0	440
30	16327	85.83112	-13.79993	555.3515	2229.1743	0	440
31	16327	89.420745	-10.106387	324.87863	1693.2057	0	635
32	16327	92.676885	-6.306387	87.759015	1188.1481	0	635
33	16327	94.40901	-3.95	-59.277937	832.9759	0	635
34	16327	96.80307	0	-305.75435	438.61705	0	400
35	16327	99.285945	4.595	-592.49562	-640.36459	0	800

Slices of Slip Surface: **18218**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	18218	3.7111195	-5.9	62.398994	267.82643	184.96769	0
2	18218	5.8632935	-8.398381	218.29916	831.06377	0	635
3	18218	8.5678825	-11.198381	393.00618	1083.3044	0	635
4	18218	11.690199	-13.96379	565.57205	1244.3848	0	440
5	18218	15.230235	-16.66612	734.19984	1502.33	0	440
6	18218	18.77027	-18.95233	876.85543	1718.9974	0	440
7	18218	21.720145	-20.604385	979.93696	1844.534	0	336.04
8	18218	24.478945	-21.910675	1061.4718	1997.9675	0	349.11
9	18218	27.63684	-23.200995	1141.9725	2201.9284	0	362.01
10	18218	30.057895	-24.05949	1195.5599	2343.6842	0	370.59
11	18218	32.4875	-24.75991	1239.273	2468.0887	0	377.6
12	18218	35.6625	-25.521615	1286.7863	2613.6228	0	385.22
13	18218	38.834165	-26.08854	1322.1594	2739.2872	0	390.89
14	18218	42.0025	-26.46708	1345.7764	2845.865	0	394.67
15	18218	45.170835	-26.6619	1357.9371	2932.5599	0	396.62
16	18218	48.339165	-26.674945	1358.7616	2999.7006	0	396.75
17	18218	51.5075	-26.506345	1348.2431	3047.3879	0	395.06
18	18218	54.675835	-26.154415	1326.2793	3075.5228	0	391.54
19	18218	57.8425	-25.615965	1292.6899	3083.8599	0	386.16
20	18218	61.0075	-24.885555	1247.1122	3071.9309	0	378.86
21	18218	64.28	-23.91602	1186.6065	3038.0477	0	369.16
22	18218	67.66	-22.680625	1109.5127	2979.1582	0	356.81
23	18218	71.38768	-21.00034	1004.6551	2881.2991	0	340
24	18218	74.55768	-19.350355	901.6859	2742.8226	0	440
25	18218	77.1675	-17.740645	801.26491	2621.3	0	440
26	18218	80.1225	-15.67753	672.51246	2457.1111	0	440
27	18218	82.82274	-13.53724	538.97244	2215.8865	0	440
28	18218	85.797715	-10.777716	366.7764	1798.981	0	635
29	18218	89.302185	-6.977716	129.64937	1334.5372	0	635
30	18218	91.32721	-4.5361675	-22.703018	1032.774	0	635
31	18218	92.020365	-3.5861675	-81.981872	899.46459	0	635
32	18218	94.26258	0	-305.76705	546.07568	0	400
33	18218	96.835665	4.55	-589.6809	-509.85308	0	800
34	18218	97.75957	6.4946265	0	-611.92206	0	600



Method: Spencer

Name: Berm Model: Mohr-Coulomb Unit Weight: 115 pcf Cohesion: 600 psf
Name: CH/CL EL. 6.85 to EL. 3 Model: Mohr-Coulomb Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Mohr-Coulomb Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Mohr-Coulomb Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Mohr-Coulomb Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Mohr-Coulomb Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Mohr-Coulomb Unit Weight: 115 pcf Cohesion: 1300 psf
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

Surcharge (Unit Weight): 300 pcf

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN WEIR SPILLWAY
STATION: 26+60
4:1 SLOPE
DUMP TRUCK ON BERM CREST
GLOBAL ANALYSIS (CIRCULAR METHOD)

Circular (with truck load)

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File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 145
Last Edited By: Hoppes, Andrew
Date: 9/16/2013
Time: 10:59:40 AM
File Name: 5. Sedimentation Basin Sta 26+60 - Original with Rip Rap.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/16/2013
Last Solved Time: 11:01:16 AM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

Circular (with truck load)

Kind: SLOPE/W
Method: Spencer
Settings
- Apply Phreatic Correction: No
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Right to Left
- Use Passive Mode: No
- Slip Surface Option: Entry and Exit
- Critical slip surfaces saved: 1
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

FOS Distribution
- FOS Calculation Option: Constant

Advanced
- Number of Slices: 30
- Optimization Tolerance: 0.01
- Minimum Slip Surface Depth: 0.1 ft
- Optimization Maximum Iterations: 2000
- Optimization Convergence Tolerance: 1e-007
- Starting Optimization Points: 8
- Ending Optimization Points: 16
- Complete Passes per Insertion: 1
- Driving Side Maximum Convex Angle: 5 °
- Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Mohr-Coulomb
Unit Weight: 115 pcf
Cohesion: 600 psf
Phi: 0 °
Phi-B: 0 °

CH/CL EL. 6.85 to EL. 3

Model: Mohr-Coulomb
Unit Weight: 112 pcf
Cohesion: 800 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. 3 to EL. -3

Model: Mohr-Coulomb
Unit Weight: 110 pcf
Cohesion: 400 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Mohr-Coulomb
Unit Weight: 106 pcf
Cohesion: 635 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. -12.5 to -20

Model: Mohr-Coulomb
Unit Weight: 106 pcf
Cohesion: 440 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH EL. -31 to El. -41

Model: Mohr-Coulomb
Unit Weight: 115 pcf
Cohesion: 850 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Mohr-Coulomb
Unit Weight: 115 pcf
Cohesion: 1300 psf
Phi: 0 °
Phi-B: 0 °

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 42 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Entry and Exit

Left Projection: Range
Left-Zone Left Coordinate: (-39.69337, -0.92283) ft
Left-Zone Right Coordinate: (31.388, -2.88454) ft
Left-Zone Increment: 30
Right Projection: Range
Right-Zone Left Coordinate: (35.4249, -1.92944) ft
Right-Zone Right Coordinate: (100.03, 6.19) ft
Right-Zone Increment: 30
Radius Increments: 30

Slip Surface Limits

Left Coordinate: (-110, 6.1) ft
Right Coordinate: (180, 6.1) ft

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-4.9
	180	-4.9

Surcharge Loads

Surcharge Load 1

Surcharge (Unit Weight): 300 pcf
Direction: Vertical

Coordinates

	X (ft)	Y (ft)

	81.6	10
	91.6	10

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points
Region 1	CH El. -12.5 to -20	2,13,12,1
Region 2	CH EL. -31 to El. -41	4,6,7,5
Region 3	CL EL. -41 to EL. -61	6,8,9,7
Region 4	CL El. -61 to El. -73	8,10,11,9
Region 5	CH El. -20 to El. -31	5,12,13,4
Region 6	Berm	16,17,18,34,47
Region 7	Berm	46,28,29,30,52
Region 8	CH/CL EL. 6.85 to EL. 3	45,52,30,31,3,51
Region 9	CH/CL EL. 6.85 to EL. 3	14,15,16,47,35,48
Region 10	CH El. 3 to EL. -3	32,14,48,36,49
Region 11	CH El. 3 to EL. -3	44,51,3,33,50
Region 12	CH El. -3 to EL. -12.5	1,32,49,37,38,39,40,41,42,43,50,33,2
Region 13	Rip Rap	28,27,26,25,24,23,22,21,20,19,18,34,47,35,48,36,49,37,38,39,40,41,42,43,50,44,51,45,52,46

Points

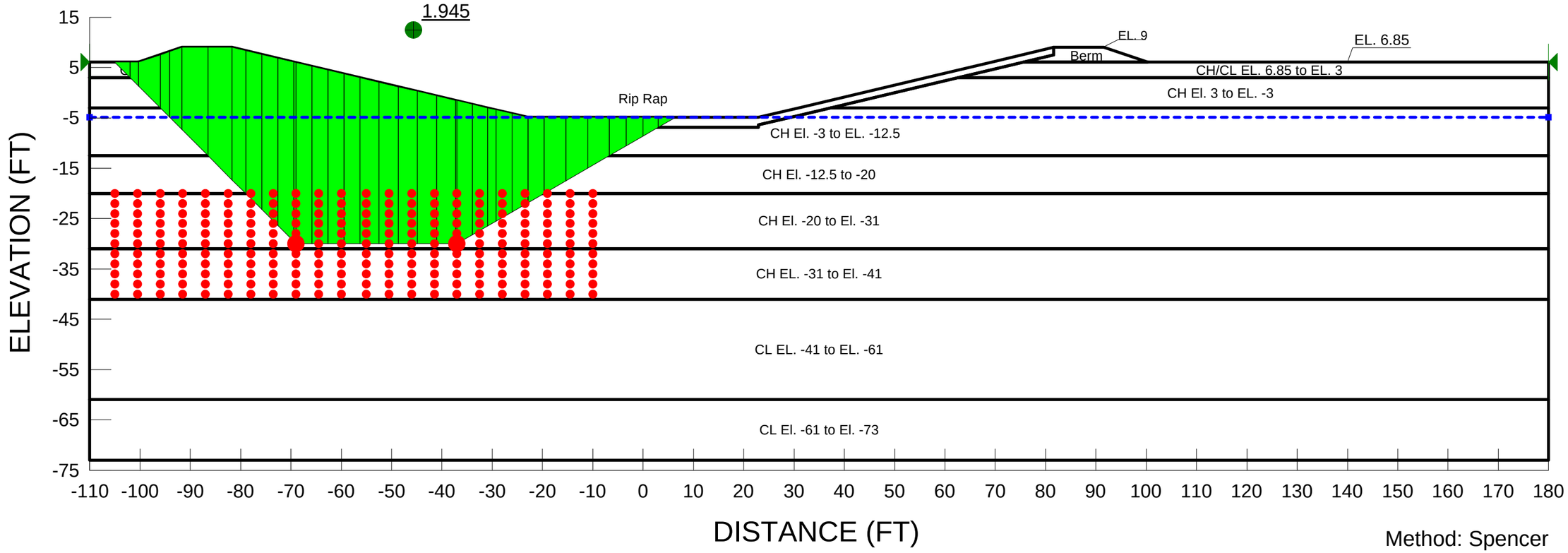
	X (ft)	Y (ft)
Point 1	-110	-12.5
Point 2	180	-12.5
Point 3	180	3
Point 4	180	-31
Point 5	-110	-31
Point 6	180	-41
Point 7	-110	-41
Point 8	180	-61
Point 9	-110	-61
Point 10	180	-73
Point 11	-110	-73
Point 12	-110	-20
Point 13	180	-20
Point 14	-110	3
Point 15	-110	6.1
Point 16	-100.3	6.1
Point 17	-91.7	9
Point 18	-81.7	9
Point 19	-69.4	6.1
Point 20	-56.3	3
Point 21	-30.9	-3
Point 22	-22.9	-4.9
Point 23	0	-4.9
Point 24	22.9	-4.9
Point 25	30.9	-3
Point 26	56.26	3
Point 27	69.35	6.1
Point 28	81.6	9
Point 29	91.6	9
Point 30	100.3	6.1
Point 31	180	6.1
Point 32	-110	-3
Point 33	180	-3
Point 34	-81.7	7.5
Point 35	-69.4	4.6
Point 36	-56.3	1.5
Point 37	-30.9	-4.5
Point 38	-22.9	-6.4
Point 39	-22.9	-6.9
Point 40	0	-6.9
Point 41	22.9	-6.9
Point 42	22.9	-6.4
Point 43	30.9	-4.5
Point 44	56.26	1.5
Point 45	69.35	4.6
Point 46	81.6	7.5
Point 47	-75.78	6.1
Point 48	-62.66	3
Point 49	-37.26	-3
Point 50	37.25	-3
Point 51	62.59	3
Point 52	75.69	6.1

Critical Slip Surfaces

	Slip Surface	FOS	Center (ft)	Radius (ft)	Entry (ft)	Exit (ft)
1	19180	1.780	(48.462, 25.788)	52.957	(97.9322, 6.88925)	(5.30397, -4.9)

Slices of Slip Surface: 19180

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal	Frictional Strength	Cohesive Strength
					Stress (psf)	(psf)	(psf)
1	19180	6.05114	-5.9	62.400665	334.48182	244.98298	0
2	19180	8.0682055	-8.4003865	218.42354	887.13499	0	635
3	19180	10.607996	-11.200387	393.13961	1130.328	0	635
4	19180	13.541065	-13.961155	565.41809	1271.1349	0	440
5	19180	16.867415	-16.66023	733.82818	1524.5221	0	440
6	19180	20.193765	-18.949075	876.67265	1738.4016	0	440
7	19180	22.37847	-20.295195	960.65839	1827.537	0	332.95
8	19180	24.478945	-21.393005	1029.1692	1960.6664	0	343.93
9	19180	27.63684	-22.871385	1121.4117	2183.5214	0	358.71
10	19180	30.057895	-23.85932	1183.0472	2338.0909	0	368.59
11	19180	32.4875	-24.674045	1233.914	2473.6533	0	376.74
12	19180	35.6625	-25.572235	1289.9616	2632.3663	0	385.72
13	19180	38.834165	-26.260915	1332.9253	2769.5723	0	392.61
14	19180	42.0025	-26.74875	1363.3566	2886.3838	0	397.49
15	19180	45.170835	-27.04224	1381.6764	2982.129	0	400.42
16	19180	48.339165	-27.14463	1388.0762	3057.3088	0	401.45
17	19180	51.5075	-27.05704	1382.5987	3112.1232	0	400.57
18	19180	54.675835	-26.778515	1365.2254	3146.6382	0	397.79
19	19180	57.8425	-26.30633	1335.7397	3160.55	0	393.06
20	19180	61.0075	-25.63533	1293.8718	3153.3366	0	386.35
21	19180	64.28	-24.72002	1236.7771	3123.2116	0	377.2
22	19180	67.66	-23.53297	1162.6923	3067.8137	0	365.33
23	19180	70.7795	-22.210525	1080.174	2992.9735	0	352.11
24	19180	73.6385	-20.77294	990.47005	2900.9831	0	337.73
25	19180	75.379	-19.816445	930.78058	2801.7844	0	440
26	19180	77.1675	-18.679125	859.83144	2713.4076	0	440
27	19180	80.1225	-16.622395	731.48501	2546.991	0	440
28	19180	83.323525	-14.009715	568.4479	2539.8922	0	440
29	19180	86.68529	-10.788025	367.4144	2047.1768	0	635
30	19180	89.961765	-7.002762	131.21151	1571.1776	0	635
31	19180	91.610485	-4.914737	0.91958745	1014.1862	0	635
32	19180	92.265935	-3.95	-59.281567	866.53679	0	635
33	19180	94.58817	0	-305.75724	477.86751	0	400
34	19180	96.94445	4.55	-589.67512	-672.20068	0	800
35	19180	97.77785	6.4946265	0	-751.64061	0	600



Method: Spencer

Name: Berm Model: Mohr-Coulomb Unit Weight: 115 pcf Cohesion: 600 psf
Name: CH/CL EL. 6.85 to EL. 3 Model: Mohr-Coulomb Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Mohr-Coulomb Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Mohr-Coulomb Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Mohr-Coulomb Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Mohr-Coulomb Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Mohr-Coulomb Unit Weight: 115 pcf Cohesion: 1300 psf
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN WEIR SPILLWAY
STATION: 26+60
4:1 SLOPE
NO LOAD
GLOBAL ANALYSIS (BLOCK METHOD)

Wedge L to R (Original)

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File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 145
Last Edited By: Hoppes, Andrew
Date: 9/16/2013
Time: 10:59:40 AM
File Name: 5. Sedimentation Basin Sta 26+60 - Original with Rip Rap.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/16/2013
Last Solved Time: 11:01:38 AM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

Wedge L to R (Original)

Kind: SLOPE/W
Method: Spencer
Settings
- Apply Phreatic Correction: No
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Left to Right
- Use Passive Mode: No
- Slip Surface Option: Block
- Critical slip surfaces saved: 50
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

FOS Distribution
- FOS Calculation Option: Constant

Restrict Block Crossing: Yes
Advanced
- Number of Slices: 30
- Optimization Tolerance: 0.01
- Minimum Slip Surface Depth: 0.1 ft
- Optimization Maximum Iterations: 2000
- Optimization Convergence Tolerance: 1e-007
- Starting Optimization Points: 8
- Ending Optimization Points: 16
- Complete Passes per Insertion: 1
- Driving Side Maximum Convex Angle: 5 °
- Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Mohr-Coulomb
Unit Weight: 115 pcf
Cohesion: 600 psf
Phi: 0 °
Phi-B: 0 °

CH/CL EL. 6.85 to EL. 3

Model: Mohr-Coulomb
Unit Weight: 112 pcf
Cohesion: 800 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. 3 to EL. -3

Model: Mohr-Coulomb
Unit Weight: 110 pcf
Cohesion: 400 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Mohr-Coulomb
Unit Weight: 106 pcf
Cohesion: 635 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. -12.5 to -20

Model: Mohr-Coulomb
Unit Weight: 106 pcf
Cohesion: 440 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH EL. -31 to El. -41

Model: Mohr-Coulomb
Unit Weight: 115 pcf
Cohesion: 850 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Mohr-Coulomb
Unit Weight: 115 pcf
Cohesion: 1300 psf
Phi: 0 °
Phi-B: 0 °

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 42 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Limits

Left Coordinate: (-110, 6.1) ft
Right Coordinate: (180, 6.1) ft

Slip Surface Block

Left Grid
- Upper Left: (-105, -20) ft
- Lower Left: (-105, -40) ft
- Lower Right: (-60, -40) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 135 °
- Ending Angle: 115 °
- Angle Increments: 2

Right Grid
- Upper Left: (-55, -20) ft
- Lower Left: (-55, -40) ft
- Lower Right: (-10, -40) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 45 °
- Ending Angle: 15 °
- Angle Increments: 2

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-4.9
	180	-4.9

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points
Region 1	CH El. -12.5 to -20	2,13,12,1
Region 2	CH EL. -31 to El. -41	4,6,7,5
Region 3	CL EL. -41 to EL. -61	6,8,9,7
Region 4	CL El. -61 to El. -73	8,10,11,9
Region 5	CH El. -20 to El. -31	5,12,13,4
Region 6	Berm	16,17,18,34,47
Region 7	Berm	46,28,29,30,52
Region 8	CH/CL EL. 6.85 to EL. 3	45,52,30,31,3,51
Region 9	CH/CL EL. 6.85 to EL. 3	14,15,16,47,35,48
Region 10	CH El. 3 to EL. -3	32,14,48,36,49
Region 11	CH El. 3 to EL. -3	44,51,3,33,50
Region 12	CH El. -3 to EL. -12.5	1,32,49,37,38,39,40,41,42,43,50,33,2
Region 13	Rip Rap	28,27,26,25,24,23,22,21,20,19,18,34,47,35,48,36,49,37,38,39,40,41,42,43,50,44,51,45,52,46

Points

	X (ft)	Y (ft)
Point 1	-110	-12.5
Point 2	180	-12.5
Point 3	180	3
Point 4	180	-31
Point 5	-110	-31
Point 6	180	-41
Point 7	-110	-41
Point 8	180	-61
Point 9	-110	-61
Point 10	180	-73
Point 11	-110	-73
Point 12	-110	-20
Point 13	180	-20
Point 14	-110	3
Point 15	-110	6.1
Point 16	-100.3	6.1
Point 17	-91.7	9
Point 18	-81.7	9
Point 19	-69.4	6.1
Point 20	-56.3	3
Point 21	-30.9	-3
Point 22	-22.9	-4.9
Point 23	0	-4.9
Point 24	22.9	-4.9
Point 25	30.9	-3
Point 26	56.26	3
Point 27	69.35	6.1
Point 28	81.6	9
Point 29	91.6	9
Point 30	100.3	6.1
Point 31	180	6.1
Point 32	-110	-3
Point 33	180	-3
Point 34	-81.7	7.5
Point 35	-69.4	4.6
Point 36	-56.3	1.5
Point 37	-30.9	-4.5
Point 38	-22.9	-6.4
Point 39	-22.9	-6.9
Point 40	0	-6.9
Point 41	22.9	-6.9
Point 42	22.9	-6.4
Point 43	30.9	-4.5
Point 44	56.26	1.5
Point 45	69.35	4.6
Point 46	81.6	7.5
Point 47	-75.78	6.1
Point 48	-62.66	3
Point 49	-37.26	-3
Point 50	37.25	-3
Point 51	62.59	3
Point 52	75.69	6.1

Critical Slip Surfaces

	Slip Surface	FOS	Center (ft)	Radius (ft)	Entry (ft)	Exit (ft)
1	6251	1.945	(-48.499, 8.85)	50.728	(-105.1, 6.1)	(6.47448, -4.9)
2	6350	1.945	(-46.215, 8.85)	49.279	(-100.6, 6.1)	(6.47448, -4.9)
3	5162	1.947	(-49.19, 8.85)	48.272	(-103.1, 6.1)	(3.01037, -4.9)
4	6353	1.948	(-43.999, 8.85)	50.822	(-100.6, 6.1)	(10.9745, -4.9)
5	5165	1.950	(-46.974, 8.85)	49.882	(-103.1, 6.1)	(7.51037, -4.9)
6	6248	1.954	(-50.715, 8.85)	49.267	(-105.1, 6.1)	(1.97448, -4.9)
7	6254	1.955	(-46.281, 8.85)	52.23	(-105.1, 6.1)	(10.9745, -4.9)
8	6256	1.958	(-53.112, 8.85)	47.657	(-105.1, 6.1)	(-2.9, -4.9)
9	4076	1.958	(-47.664, 8.85)	47.399	(-101.1, 6.1)	(4.04627, -4.9)
10	4073	1.958	(-49.875, 8.85)	45.866	(-101.1, 6.1)	(-0.453728, -4.9)
11	6253	1.958	(-55.321, 8.85)	46.207	(-105.1, 6.1)	(-7.4, -4.9)
12	5159	1.959	(-51.402, 8.85)	46.906	(-103.1, 6.1)	(-1.48963, -4.9)
13	6347	1.960	(-48.428, 8.85)	47.854	(-100.6, 6.1)	(1.97448, -4.9)
14	5261	1.960	(-47.049, 9.386)	47.22	(-99.0287, 6.5287)	(3.01037, -4.9)
15	5167	1.961	(-53.076, 8.85)	45.683	(-103.1, 6.1)	(-4.9, -4.9)
16	5164	1.962	(-55.281, 8.85)	44.22	(-103.1, 6.1)	(-9.4, -4.9)
17	5264	1.963	(-44.84, 9.386)	48.638	(-99.0287, 6.5287)	(7.51037, -4.9)
18	4078	1.968	(-53.037, 8.85)	43.762	(-101.1, 6.1)	(-6.9, -4.9)
19	4075	1.972	(-55.238, 8.85)	42.332	(-101.1, 6.1)	(-11.4, -4.9)
20	6355	1.975	(-50.821, 8.85)	46.209	(-100.6, 6.1)	(-2.9, -4.9)
21	6356	1.975	(-41.781, 8.85)	52.247	(-100.6, 6.1)	(15.4745, -4.9)
22	4070	1.976	(-52.083, 8.85)	44.431	(-101.1, 6.1)	(-4.95373, -4.9)
23	5168	1.977	(-44.756, 8.85)	51.49	(-103.1, 6.1)	(12.0104, -4.9)
24	6257	1.978	(-44.06, 8.85)	53.687	(-105.1, 6.1)	(15.4745, -4.9)
25	5258	1.978	(-49.255, 9.386)	45.705	(-99.0287, 6.5287)	(-1.48963, -4.9)

26	6352	1.978	(-53.026, 8.85)	44.765	(-100.6, 6.1)	(-7.4, -4.9)
27	4079	1.982	(-45.449, 8.85)	49.313	(-101.1, 6.1)	(8.54627, -4.9)
28	5267	1.982	(-42.627, 9.386)	50.134	(-99.0287, 6.5287)	(12.0104, -4.9)
29	6245	1.982	(-52.928, 8.85)	47.78	(-105.1, 6.1)	(-2.52553, -4.9)
30	2987	1.982	(-48.452, 9.228)	45.107	(-99.4026, 6.40261)	(0.58217, -4.9)
31	5266	1.984	(-50.924, 9.386)	44.593	(-99.0287, 6.5287)	(-4.9, -4.9)
32	6152	1.984	(-50.781, 8.85)	52.218	(-109.6, 6.1)	(6.47448, -4.9)
33	5063	1.986	(-51.474, 8.85)	49.78	(-107.6, 6.1)	(3.01037, -4.9)
34	6154	1.986	(-57.612, 8.85)	47.664	(-109.6, 6.1)	(-7.4, -4.9)
35	5065	1.987	(-57.576, 8.85)	45.69	(-107.6, 6.1)	(-9.4, -4.9)
36	2984	1.987	(-50.657, 9.228)	43.63	(-99.4026, 6.40261)	(-3.91783, -4.9)
37	6250	1.988	(-57.526, 8.85)	44.725	(-105.1, 6.1)	(-11.9, -4.9)
38	4175	1.988	(-45.692, 10.016)	46.643	(-97.533, 7.03304)	(4.04627, -4.9)
39	4172	1.988	(-47.893, 10.016)	45.178	(-97.533, 7.03304)	(-0.453728, -4.9)
40	6157	1.989	(-55.399, 8.85)	49.201	(-109.6, 6.1)	(-2.9, -4.9)
41	5068	1.989	(-55.366, 8.85)	47.177	(-107.6, 6.1)	(-4.9, -4.9)
42	5066	1.990	(-49.256, 8.85)	51.224	(-107.6, 6.1)	(7.51037, -4.9)
43	6149	1.991	(-52.999, 8.85)	50.775	(-109.6, 6.1)	(1.97448, -4.9)
44	2989	1.991	(-53.093, 9.228)	42.007	(-99.4026, 6.40261)	(-8.9, -4.9)
45	6155	1.993	(-48.56, 8.85)	53.685	(-109.6, 6.1)	(10.9745, -4.9)
46	3974	1.993	(-52.164, 8.85)	47.346	(-105.6, 6.1)	(-0.453728, -4.9)
47	3976	1.994	(-57.537, 8.85)	43.804	(-105.6, 6.1)	(-11.4, -4.9)
48	5263	1.994	(-53.121, 9.386)	43.171	(-99.0287, 6.5287)	(-9.4, -4.9)
49	3979	1.994	(-55.331, 8.85)	45.317	(-105.6, 6.1)	(-6.9, -4.9)
50	5156	1.995	(-53.61, 8.85)	45.36	(-103.1, 6.1)	(-5.98963, -4.9)

Slices of Slip Surface: **6251**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	6251	-103.55	4.55	-589.68144	-216.68033	0	800
2	6251	-101.15	2.15	-439.90362	234.17297	0	400
3	6251	-98.15	-0.85	-252.71669	634.25837	0	400
4	6251	-95.05	-3.95	-59.281594	963.93532	0	635
5	6251	-92.9	-6.1	74.879652	1265.2201	0	635
6	6251	-89.1	-9.9	311.99725	1700.0478	0	635
7	6251	-84.1	-14.9	624.00701	2306.7886	0	440
8	6251	-80.35	-18.65	858.00852	2685.1723	0	440
9	6251	-77.39	-21.61	1042.6969	2956.2332	0	346.1
10	6251	-74.185	-24.815	1242.6904	3186.6356	0	378.15
11	6251	-70.995	-28.005	1441.7443	3417.1658	0	410.05
12	6251	-69.2	-29.8	1553.7612	3546.671	0	428
13	6251	-67.415	-30	1566.2461	3858.6751	0	430
14	6251	-64.245	-30	1566.2461	3774.4479	0	430
15	6251	-61.07	-30	1566.2264	3691.195	0	430
16	6251	-57.89	-30	1566.2264	3608.1761	0	430
17	6251	-54.396	-30	1566.229	3517.3319	0	430
18	6251	-50.588	-30	1566.229	3418.5924	0	430
19	6251	-46.78	-30	1566.229	3319.5903	0	430
20	6251	-42.972	-30	1566.229	3220.5882	0	430
21	6251	-39.164	-30	1566.229	3121.5861	0	430
22	6251	-37.13	-30	1566.2308	3068.9615	0	430
23	6251	-35.475	-29.11954	1511.2852	3118.8269	0	421.2
24	6251	-32.425	-27.35862	1401.4277	2845.1061	0	403.59
25	6251	-30.057895	-25.99197	1316.1528	2632.4084	0	389.92
26	6251	-27.63684	-24.594175	1228.903	2414.7226	0	375.94
27	6251	-24.478945	-22.770965	1115.1476	2130.8005	0	357.71
28	6251	-21.289745	-20.92968	1000.263	1900.1689	0	339.3
29	6251	-17.514425	-18.75	864.24	1696.84	0	440
30	6251	-13.1843	-16.25	708.24	1426.66	0	440
31	6251	-8.8541755	-13.75	552.24	1156.46	0	440
32	6251	-5.016833	-11.53451	413.98668	979.45085	0	635
33	6251	-1.6722775	-9.60353	293.50382	770.77443	0	635
34	6251	1.505187	-7.76902	179.02637	572.51272	0	635
35	6251	4.7424245	-5.9	62.4	168.12	95.190716	0

Slices of Slip Surface: **6350**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	6350	-100.45	5.95	-677.03112	-360.55372	0	800
2	6350	-98.9	4.4	-580.30738	-142.22948	0	800
3	6350	-96.05	1.55	-402.49009	455.01106	0	400
4	6350	-93.15	-1.35	-221.5195	868.40035	0	400
5	6350	-91.6	-2.9	-124.80082	1085.6211	0	400
6	6350	-90.55	-3.95	-59.281594	1081.9849	0	635
7	6350	-87.7	-6.8	118.55947	1371.4149	0	635
8	6350	-83.9	-10.6	355.67468	1757.3277	0	635
9	6350	-81.85	-12.65	483.59029	2057.327	0	440
10	6350	-80.22	-14.28	585.32199	2213.1726	0	440
11	6350	-77.26	-17.24	770.00587	2436.8907	0	440
12	6350	-75.14	-19.36	902.27948	2597.6236	0	440
13	6350	-71.95	-22.55	1101.3535	2880.559	0	355.5
14	6350	-66.95	-27.55	1413.3622	3238.1163	0	405.5
15	6350	-63.58	-30	1566.25	3759.2935	0	430
16	6350	-61.07	-30	1566.2264	3693.3962	0	430
17	6350	-57.89	-30	1566.2264	3610.6918	0	430
18	6350	-54.396	-30	1566.229	3519.6954	0	430
19	6350	-50.588	-30	1566.229	3420.9559	0	430
20	6350	-46.78	-30	1566.229	3321.9538	0	430
21	6350	-42.972	-30	1566.229	3222.9517	0	430
22	6350	-39.164	-30	1566.229	3123.9496	0	430
23	6350	-37.13	-30	1566.2308	3071.3077	0	430
24	6350	-35.475	-29.11954	1511.2852	3140.6905	0	421.2
25	6350	-32.425	-27.35862	1401.4277	2864.9821	0	403.59
26	6350	-30.057895	-25.99197	1316.1528	2650.9711	0	389.92
27	6350	-27.63684	-24.594175	1228.903	2431.8627	0	375.94
28	6350	-24.478945	-22.770965	1115.1476	2146.0758	0	357.71
29	6350	-21.289745	-20.92968	1000.263	1913.8833	0	339.3
30	6350	-18.055695	-19.0625	883.73333	1743.84	0	440
31	6350	-14.8081	-17.1875	766.74667	1539.9467	0	440
32	6350	-11.560503	-15.3125	649.73333	1336.0267	0	440
33	6350	-8.3129085	-13.4375	532.74667	1132.1333	0	440
34	6350	-5.016833	-11.53451	413.98668	989.08326	0	635
35	6350	-1.6722775	-9.60353	293.50382	779.11216	0	635
36	6350	1.505187	-7.76902	179.02637	579.58965	0	635
37	6350	4.7424245	-5.9	62.4	170.355	97.203119	0

Slices of Slip Surface: **5162**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	5162	-101.7	4.7	-599.04571	-230.23902	0	800
2	5162	-100.15	3.15	-502.32862	-57.216719	0	800
3	5162	-98.5	1.5	-399.35031	370.52393	0	400
4	5162	-95.5	-1.5	-212.1603	800.96336	0	400
5	5162	-93.05	-3.95	-59.281594	1036.7673	0	635
6	5162	-91.9	-5.1	12.480082	1197.3263	0	635
7	5162	-89.9	-7.1	137.28085	1409.2441	0	635
8	5162	-86.3	-10.7	361.92081	1777.2539	0	635
9	5162	-83.1	-13.9	561.5943	2197.3343	0	440
10	5162	-79.35	-17.65	795.60041	2548.1419	0	440

11	5162	-76.39	-20.61	980.32795	2822.9782	0	336.1
12	5162	-74.185	-22.815	1117.8938	2981.1535	0	358.15
13	5162	-70.995	-26.005	1316.9477	3210.797	0	390.05
14	5162	-69.2	-27.8	1428.9568	3340.019	0	408
15	5162	-67.415	-28	1441.4511	3647.0032	0	410
16	5162	-64.245	-28	1441.4511	3563.0915	0	410
17	5162	-61.07	-28	1441.4465	3479.5597	0	410
18	5162	-57.89	-28	1441.4465	3396.8553	0	410
19	5162	-54.396	-28	1441.4391	3305.9349	0	410
20	5162	-50.588	-28	1441.4391	3206.9328	0	410
21	5162	-46.78	-28	1441.4391	3107.9307	0	410
22	5162	-42.972	-28	1441.4391	3009.1912	0	410
23	5162	-39.164	-28	1441.4391	2910.1891	0	410
24	5162	-37.13	-28	1441.4231	2857.3846	0	410
25	5162	-35.475	-27.11954	1386.4923	2903.3144	0	401.2
26	5162	-32.425	-25.35862	1276.6065	2628.8837	0	383.59
27	5162	-30.057895	-23.99197	1191.3558	2415.7749	0	369.92
28	5162	-27.69774	-22.629335	1106.3146	2203.045	0	356.29
29	5162	-24.66164	-20.876445	996.92394	1929.44	0	338.76
30	5162	-23.021795	-19.92968	937.86352	1817.3505	0	440
31	5162	-21.30665	-18.93944	876.0542	1721.8069	0	440
32	5162	-18.119955	-17.0996	761.26164	1522.5233	0	440
33	5162	-14.93326	-15.25976	646.44191	1323.2397	0	440
34	5162	-11.74656	-13.41992	531.64935	1123.9833	0	440
35	5162	-8.5366305	-11.566665	416.00897	986.14295	0	635
36	5162	-5.30347	-9.6999985	299.51788	783.96436	0	635
37	5162	-2.0703085	-7.8333335	183.04019	581.75898	0	635
38	5162	-0.226864	-6.76902	116.62661	315.60168	179.15796	0
39	5162	1.505187	-5.76902	54.227751	146.74288	83.300999	0

Slices of Slip Surface: **6353**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Strength (psf)	Strength (psf)
1	6353	-100.45	5.95	-677.03112	-359.89375	0	800
2	6353	-98.9	4.4	-580.30738	-141.61834	0	800
3	6353	-96.05	1.55	-402.49009	455.20612	0	400
4	6353	-93.15	-1.35	-221.5195	868.4735	0	400
5	6353	-91.6	-2.9	-124.80082	1085.6564	0	400
6	6353	-90.55	-3.95	-59.281594	1082.2082	0	635
7	6353	-87.7	-6.8	118.55947	1371.5637	0	635
8	6353	-83.9	-10.6	355.67468	1757.3835	0	635
9	6353	-81.85	-12.65	483.59029	2057.1856	0	440
10	6353	-80.22	-14.28	585.32199	2213.0054	0	440
11	6353	-77.26	-17.24	770.00587	2436.6518	0	440
12	6353	-75.14	-19.36	902.27948	2597.3474	0	440
13	6353	-71.95	-22.55	1101.3535	2880.143	0	355.5
14	6353	-66.95	-27.55	1413.3622	3237.6834	0	405.5
15	6353	-63.58	-30	1566.25	3759.2391	0	430
16	6353	-61.07	-30	1566.2264	3693.3962	0	430
17	6353	-57.89	-30	1566.2264	3610.6918	0	430
18	6353	-54.396	-30	1566.229	3519.6954	0	430
19	6353	-50.588	-30	1566.229	3420.6933	0	430
20	6353	-46.78	-30	1566.229	3321.9538	0	430
21	6353	-42.972	-30	1566.229	3222.9517	0	430
22	6353	-39.164	-30	1566.229	3123.9496	0	430
23	6353	-34.88	-30	1566.2395	3014.916	0	430
24	6353	-31.7	-29.53812	1537.4115	3090.7362	0	425.38
25	6353	-30.057895	-28.59005	1478.2809	2942.2155	0	415.9
26	6353	-27.63684	-27.192255	1391.0344	2723.0522	0	401.92
27	6353	-24.478945	-25.369045	1277.2791	2437.2104	0	383.69
28	6353	-20.969875	-23.34308	1150.8407	2184.327	0	363.43
29	6353	-17.10962	-21.11436	1011.7698	1934.6319	0	341.14
30	6353	-13.014425	-18.75	864.24	1709.82	0	440
31	6353	-8.684299	-16.25	708.24	1437.92	0	440
32	6353	-4.3541745	-13.75	552.24	1166	0	440
33	6353	-1.0945555	-11.86806	434.81065	1025.134	0	635
34	6353	1.8775935	-10.152089	327.7357	838.49233	0	635
35	6353	5.6327805	-7.984029	192.44411	602.68222	0	635
36	6353	9.242427	-5.9	62.4	170.2975	97.151345	0

Slices of Slip Surface: **5165**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	5165	-101.7	4.7	-599.04571	-229.01926	0	800
2	5165	-100.15	3.15	-502.32862	-56.198486	0	800
3	5165	-98.5	1.5	-399.35031	370.57107	0	400
4	5165	-95.5	-1.5	-212.1603	800.51553	0	400
5	5165	-93.05	-3.95	-59.281594	1036.3207	0	635
6	5165	-91.9	-5.1	12.480082	1196.6899	0	635
7	5165	-89.9	-7.1	137.28085	1408.3602	0	635
8	5165	-86.3	-10.7	361.92081	1775.9379	0	635
9	5165	-83.1	-13.9	561.5943	2195.2887	0	440
10	5165	-79.35	-17.65	795.60041	2545.7348	0	440
11	5165	-76.39	-20.61	980.32795	2820.0802	0	336.1
12	5165	-74.185	-22.815	1117.8938	2978.2719	0	358.15
13	5165	-70.995	-26.005	1316.9477	3207.472	0	390.05
14	5165	-69.2	-27.8	1428.9568	3336.6603	0	408
15	5165	-67.415	-28	1441.4511	3647.0032	0	410
16	5165	-64.245	-28	1441.4511	3563.0915	0	410
17	5165	-61.07	-28	1441.4465	3479.8742	0	410
18	5165	-57.89	-28	1441.4465	3396.8553	0	410
19	5165	-54.396	-28	1441.4391	3305.9349	0	410
20	5165	-50.588	-28	1441.4391	3207.1954	0	410
21	5165	-46.78	-28	1441.4391	3108.1933	0	410
22	5165	-42.972	-28	1441.4391	3009.1912	0	410
23	5165	-39.164	-28	1441.4391	2910.1891	0	410
24	5165	-34.88	-28	1441.4496	2801.2605	0	410
25	5165	-31.7	-27.53812	1412.5956	2855.4479	0	405.38
26	5165	-30.057895	-26.59005	1353.4839	2707.4306	0	395.9
27	5165	-27.63684	-25.192255	1266.2272	2489.0968	0	381.92
28	5165	-24.478945	-23.369045	1152.4719	2204.2972	0	363.69
29	5165	-20.771795	-21.22872	1018.9069	1939.6017	0	342.29
30	5165	-17.019795	-19.0625	883.73333	1736.32	0	440
31	5165	-13.7722	-17.1875	766.74667	1533.0933	0	440
32	5165	-10.524604	-15.3125	649.73333	1329.8667	0	440
33	5165	-7.27701	-13.4375	532.74667	1126.64	0	440
34	5165	-4.239909	-11.68403	423.33	999.51469	0	635
35	5165	-1.413303	-10.052088	321.48814	822.63953	0	635
36	5165	2.023136	-8.068058	197.68706	607.58956	0	635
37	5165	5.778323	-5.9	62.4	169.0125	95.994326	0

Slices of Slip Surface: **6248**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	6248	-103.55	4.55	-589.68144	-214.15527	0	800
2	6248	-101.15	2.15	-439.90362	234.97159	0	400
3	6248	-98.15	-0.85	-252.71669	634.50504	0	400
4	6248	-95.05	-3.95	-59.281594	964.41913	0	635
5	6248	-92.9	-6.1	74.879652	1265.2496	0	635
6	6248	-89.1	-9.9	311.99725	1699.5038	0	635
7	6248	-84.1	-14.9	624.00701	2304.8735	0	440
8	6248	-80.35	-18.65	858.00852	2682.8152	0	440
9	6248	-77.39	-21.61	1042.6969	2953.3784	0	346.1
10	6248	-74.185	-24.815	1242.6904	3183.5323	0	378.15
11	6248	-70.995	-28.005	1441.7443	3413.6191	0	410.05
12	6248	-69.2	-29.8	1553.7612	3542.9587	0	428
13	6248	-67.415	-30	1566.2461	3858.6751	0	430
14	6248	-64.245	-30	1566.2461	3774.7634	0	430
15	6248	-61.07	-30	1566.2264	3691.5094	0	430
16	6248	-57.89	-30	1566.2264	3608.4906	0	430
17	6248	-54.45	-30	1566.2432	3519.1892	0	430
18	6248	-50.75	-30	1566.2432	3422.973	0	430

19	6248	-47.05	-30	1566.2432	3326.7568	0	430
20	6248	-43.35	-30	1566.2432	3230.8108	0	430
21	6248	-39.38	-28.776015	1489.8702	3184.6861	0	417.76
22	6248	-35.67	-26.634045	1356.2011	2849.4412	0	396.34
23	6248	-32.49	-24.798075	1241.6298	2563.6529	0	377.98
24	6248	-30.057895	-23.3939	1154.0247	2345.0206	0	363.94
25	6248	-26.69764	-21.453855	1032.9615	2042.6745	0	344.54
26	6248	-23.539745	-19.63064	919.16368	1794.8058	0	440
27	6248	-20.948185	-18.1344	825.81941	1631.3616	0	440
28	6248	-17.044555	-15.88064	685.18785	1387.5914	0	440
29	6248	-13.140925	-13.62688	544.55629	1143.7989	0	440
30	6248	-9.5725295	-11.566665	416.00897	983.33044	0	635
31	6248	-6.3393685	-9.6999985	299.51788	781.41971	0	635
32	6248	-3.106207	-7.8333335	183.04019	579.50898	0	635
33	6248	-0.744813	-6.469982	97.966829	264.11104	149.59692	0
34	6248	0.9872375	-5.469982	35.566913	95.884607	54.310296	0

Slices of Slip Surface: **6254**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	6254	-103.55	4.55	-589.68144	-215.10188	0	800
2	6254	-101.15	2.15	-439.90362	235.14213	0	400
3	6254	-98.15	-0.85	-252.71669	635.42592	0	400
4	6254	-95.05	-3.95	-59.281594	965.79613	0	635
5	6254	-92.9	-6.1	74.879652	1267.2236	0	635
6	6254	-89.1	-9.9	311.99725	1702.3595	0	635
7	6254	-84.1	-14.9	624.00701	2308.9983	0	440
8	6254	-80.35	-18.65	858.00852	2687.5293	0	440
9	6254	-77.39	-21.61	1042.6969	2958.6487	0	346.1
10	6254	-74.185	-24.815	1242.6904	3189.0739	0	378.15
11	6254	-70.995	-28.005	1441.7443	3419.8257	0	410.05
12	6254	-69.2	-29.8	1553.7612	3549.4994	0	428
13	6254	-67.415	-30	1566.2461	3858.3596	0	430
14	6254	-64.245	-30	1566.2461	3774.4479	0	430
15	6254	-61.07	-30	1566.2264	3690.8805	0	430
16	6254	-57.89	-30	1566.2264	3608.1761	0	430
17	6254	-54.396	-30	1566.229	3517.3319	0	430
18	6254	-50.588	-30	1566.229	3418.3298	0	430
19	6254	-46.78	-30	1566.229	3319.3277	0	430
20	6254	-42.972	-30	1566.229	3220.5882	0	430
21	6254	-39.164	-30	1566.229	3121.5861	0	430
22	6254	-34.88	-30	1566.2395	3012.395	0	430
23	6254	-31.7	-29.53812	1537.4115	3067.2994	0	425.38
24	6254	-30.057895	-28.59005	1478.2809	2919.7962	0	415.9
25	6254	-27.63684	-27.192255	1391.0344	2702.2098	0	401.92
26	6254	-24.478945	-25.369045	1277.2791	2418.3974	0	383.69
27	6254	-20.969875	-23.34308	1150.8407	2167.3441	0	363.43
28	6254	-17.10962	-21.11436	1011.7698	1919.4663	0	341.14
29	6254	-13.014425	-18.75	864.24	1695.46	0	440
30	6254	-8.684299	-16.25	708.24	1425.36	0	440
31	6254	-4.3541745	-13.75	552.24	1155.26	0	440
32	6254	-1.0945555	-11.86806	434.81065	1013.9779	0	635
33	6254	1.8775935	-10.152089	327.7357	828.59868	0	635
34	6254	5.6327805	-7.984029	192.44411	594.35679	0	635
35	6254	9.242427	-5.9	62.4	167.795	94.898084	0

Slices of Slip Surface: **6256**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	6256	-103.55	4.55	-589.68144	-211.2607	0	800
2	6256	-101.15	2.15	-439.90362	235.19204	0	400
3	6256	-98.15	-0.85	-252.71669	633.28816	0	400
4	6256	-95.05	-3.95	-59.281594	962.63276	0	635
5	6256	-92.9	-6.1	74.879652	1262.4211	0	635
6	6256	-90.4	-8.6	230.88126	1562.4341	0	635
7	6256	-87.8	-11.2	393.1242	1827.844	0	635
8	6256	-84.1	-14.9	624.00701	2297.8024	0	440
9	6256	-80.35	-18.65	858.00852	2674.1728	0	440
10	6256	-77.39	-21.61	1042.6969	2943.7161	0	346.1
11	6256	-74.185	-24.815	1242.6904	3173.1142	0	378.15
12	6256	-70.995	-28.005	1441.7443	3402.3143	0	410.05
13	6256	-69.2	-29.8	1553.7612	3531.4682	0	428
14	6256	-67.415	-30	1566.2461	3859.6215	0	430
15	6256	-64.245	-30	1566.2461	3775.7098	0	430
16	6256	-61.07	-30	1566.2264	3692.1384	0	430
17	6256	-57.89	-30	1566.2264	3609.434	0	430
18	6256	-54.713335	-30	1566.2397	3526.576	0	430
19	6256	-51.54	-30	1566.2397	3444.3281	0	430
20	6256	-48.366665	-30	1566.2397	3361.7651	0	430
21	6256	-45.193335	-30	1566.2397	3279.202	0	430
22	6256	-42.02	-30	1566.2397	3196.9541	0	430
23	6256	-38.846665	-30	1566.2397	3114.4541	0	430
24	6256	-35.67	-30	1566.2264	3033.3962	0	430
25	6256	-32.49	-30	1566.2264	2953.7421	0	430
26	6256	-30.057895	-30	1566.2527	2892.6898	0	430
27	6256	-28.607895	-30	1566.2257	2856.1699	0	430
28	6256	-25.45	-27.45	1407.1425	2820.8015	0	404.5
29	6256	-20.45	-22.45	1095.1209	2190.4438	0	354.5
30	6256	-16.125	-18.125	825.24073	1760.809	0	440
31	6256	-12.375	-14.375	591.23553	1347.4438	0	440
32	6256	-9.1	-11.1	386.88842	1094.0205	0	635
33	6256	-6.3	-8.3	212.15981	785.36834	0	635
34	6256	-3.9	-5.9	62.398641	217.37878	139.54474	0

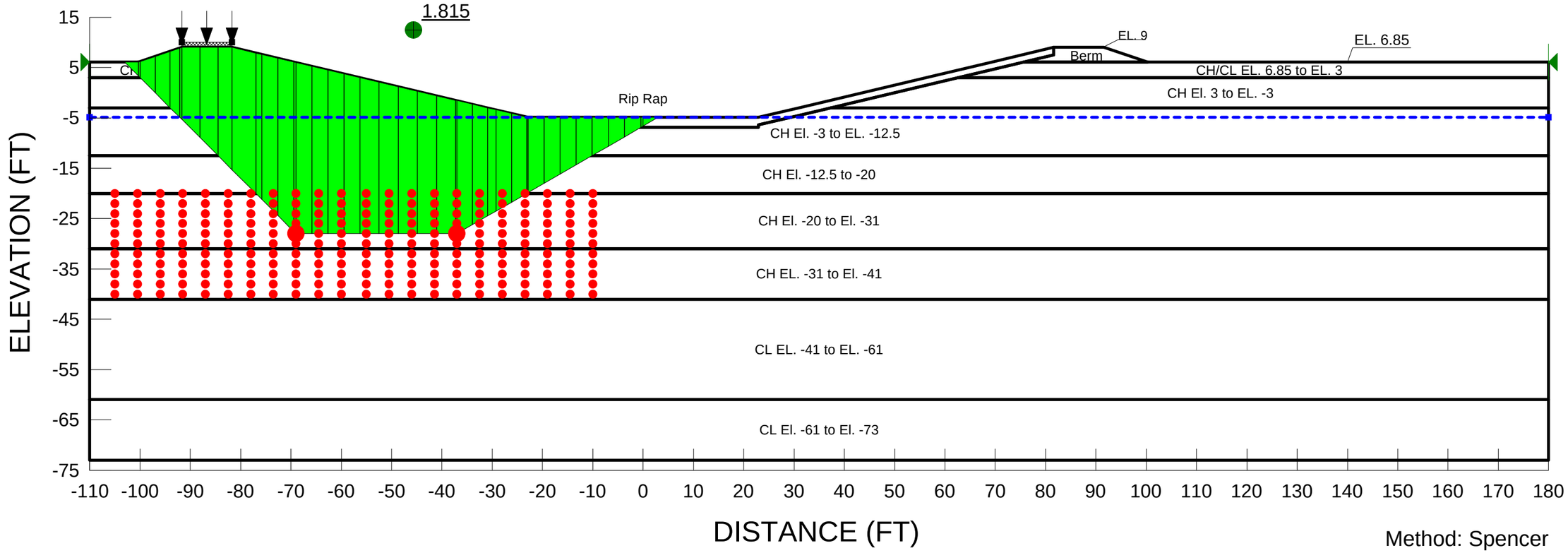
Slices of Slip Surface: **4076**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	4076	-100.7	5.7	-661.43643	-331.85401	0	800
2	4076	-99.15	4.15	-564.7324	-122.69533	0	800
3	4076	-96.5	1.5	-399.35031	444.84084	0	400
4	4076	-93.5	-1.5	-212.1603	872.68755	0	400
5	4076	-91.85	-3.15	-109.20085	997.3269	0	635
6	4076	-90.9	-4.1	-49.921732	1099.4183	0	635
7	4076	-88.2	-6.8	118.55947	1373.7781	0	635
8	4076	-84.4	-10.6	355.67468	1759.8956	0	635
9	4076	-82.1	-12.9	499.19964	2084.9041	0	440
10	4076	-80.22	-14.78	616.52069	2266.2773	0	440
11	4076	-77.26	-17.74	801.20457	2490.1626	0	440
12	4076	-75.39	-19.61	917.87864	2631.796	0	440
13	4076	-73.6	-21.4	1029.598	2813.2748	0	344
14	4076	-70.8	-24.2	1204.3291	3013.7901	0	372
15	4076	-69.2	-25.8	1304.1524	3128.4173	0	388
16	4076	-67.415	-26	1316.6246	3435.6467	0	390
17	4076	-64.245	-26	1316.6246	3351.735	0	390
18	4076	-61.07	-26	1316.6352	3268.239	0	390
19	4076	-57.89	-26	1316.6352	3185.5346	0	390
20	4076	-54.396	-26	1316.6492	3094.5378	0	390
21	4076	-50.588	-26	1316.6492	2995.7983	0	390
22	4076	-46.78	-26	1316.6492	2896.7962	0	390
23	4076	-42.972	-26	1316.6492	2797.7941	0	390
24	4076	-39.164	-26	1316.6492	2698.792	0	390
25	4076	-34.88	-26	1316.6387	2589.7059	0	390
26	4076	-31.7	-25.53812	1287.8338	2640.6195	0	385.38
27	4076	-30.057895	-24.59005	1228.6355	2492.1854	0	375.9
28	4076	-27.63684	-23.192255	1141.4474	2273.1592	0	361.92
29	4076	-24.478945	-21.369045	1027.6646	1987.482	0	343.69

30	4076	-22.50385	-20.22872	956.51339	1833.9121	0	332.29
31	4076	-20.4839	-19.0625	883.73333	1742.1333	0	440
32	4076	-17.2363	-17.1875	766.74667	1538.2933	0	440
33	4076	-13.988705	-15.3125	649.73333	1334.48	0	440
34	4076	-10.741112	-13.4375	532.74667	1130.64	0	440
35	4076	-7.5977615	-11.622685	419.49063	996.73549	0	635
36	4076	-4.558657	-9.868057	310.00873	805.98281	0	635
37	4076	-1.5195525	-8.11343	200.51829	615.23012	0	635
38	4076	0.2910852	-7.068058	135.28653	501.58241	0	635
39	4076	2.3142212	-5.9	62.4	169.9175	96.809192	0

Slices of Slip Surface: **4073**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	4073	-100.7	5.7	-661.43643	-332.23408	0	800
2	4073	-99.15	4.15	-564.7324	-122.90746	0	800
3	4073	-96.5	1.5	-399.35031	445.14726	0	400
4	4073	-93.5	-1.5	-212.1603	873.32395	0	400
5	4073	-91.85	-3.15	-109.20085	998.03401	0	635
6	4073	-90.9	-4.1	-49.921732	1100.2138	0	635
7	4073	-88.2	-6.8	118.55947	1374.7829	0	635
8	4073	-84.4	-10.6	355.67468	1761.1982	0	635
9	4073	-82.1	-12.9	499.19964	2086.5834	0	440
10	4073	-80.22	-14.78	616.52069	2268.0212	0	440
11	4073	-77.26	-17.74	801.20457	2492.0737	0	440
12	4073	-75.39	-19.61	917.87864	2633.8811	0	440
13	4073	-73.6	-21.4	1029.598	2815.5477	0	344
14	4073	-70.8	-24.2	1204.3291	3016.0629	0	372
15	4073	-69.2	-25.8	1304.1524	3130.8922	0	388
16	4073	-67.415	-26	1316.6246	3435.6467	0	390
17	4073	-64.245	-26	1316.6246	3351.735	0	390
18	4073	-61.07	-26	1316.6352	3268.239	0	390
19	4073	-57.89	-26	1316.6352	3185.5346	0	390
20	4073	-54.713335	-26	1316.6283	3102.7629	0	390
21	4073	-51.54	-26	1316.6283	3020.3259	0	390
22	4073	-48.366665	-26	1316.6283	2937.889	0	390
23	4073	-45.193335	-26	1316.6283	2855.452	0	390
24	4073	-42.02	-26	1316.6283	2772.9835	0	390
25	4073	-38.846665	-26	1316.6283	2690.5465	0	390
26	4073	-37.13	-26	1316.6538	2646.0769	0	390
27	4073	-35.475	-25.11954	1261.6995	2689.3067	0	381.2
28	4073	-32.425	-23.35862	1151.8137	2413.9107	0	363.59
29	4073	-30.057895	-21.99197	1066.5589	2200.1184	0	349.92
30	4073	-27.911745	-20.75289	989.21891	2006.0646	0	337.53
31	4073	-24.75385	-18.92968	875.46289	1759.7082	0	440
32	4073	-21.352885	-16.966135	752.91632	1513.3615	0	440
33	4073	-18.258655	-15.17968	641.43847	1319.2619	0	440
34	4073	-15.164425	-13.393225	529.98861	1125.1342	0	440
35	4073	-12.00073	-11.566665	416.00897	989.9733	0	635
36	4073	-8.7675705	-9.6999985	299.51788	787.15186	0	635
37	4073	-5.5344105	-7.8333335	183.04019	584.30362	0	635
38	4073	-2.185779	-5.9	62.4	169.77	96.676382	0



Method: Spencer

Name: Berm Model: Mohr-Coulomb Unit Weight: 115 pcf Cohesion: 600 psf
Name: CH/CL EL. 6.85 to EL. 3 Model: Mohr-Coulomb Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Mohr-Coulomb Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Mohr-Coulomb Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Mohr-Coulomb Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Mohr-Coulomb Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Mohr-Coulomb Unit Weight: 115 pcf Cohesion: 1300 psf
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

Surcharge (Unit Weight): 300 pcf

URS

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN WEIR SPILLWAY
STATION: 26+60
4:1 SLOPE
DUMP TRUCK ON BERM CREST
GLOBAL ANALYSIS (BLOCK METHOD)

Wedge L to R (with truck load)

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File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 145
Last Edited By: Hoppes, Andrew
Date: 9/16/2013
Time: 10:59:40 AM
File Name: 5. Sedimentation Basin Sta 26+60 - Original with Rip Rap.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/16/2013
Last Solved Time: 11:01:52 AM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

Wedge L to R (with truck load)

Kind: SLOPE/W
Method: Spencer
Settings
- Apply Phreatic Correction: No
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Left to Right
- Use Passive Mode: No
- Slip Surface Option: Block
- Critical slip surfaces saved: 1
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

FOS Distribution
- FOS Calculation Option: Constant

Restrict Block Crossing: Yes
Advanced
- Number of Slices: 30
- Optimization Tolerance: 0.01
- Minimum Slip Surface Depth: 0.1 ft
- Optimization Maximum Iterations: 2000
- Optimization Convergence Tolerance: 1e-007
- Starting Optimization Points: 8
- Ending Optimization Points: 16
- Complete Passes per Insertion: 1
- Driving Side Maximum Convex Angle: 5 °
- Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Mohr-Coulomb
Unit Weight: 115 pcf
Cohesion: 600 psf
Phi: 0 °
Phi-B: 0 °

CH/CL EL. 6.85 to EL. 3

Model: Mohr-Coulomb
Unit Weight: 112 pcf
Cohesion: 800 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. 3 to EL. -3

Model: Mohr-Coulomb
Unit Weight: 110 pcf
Cohesion: 400 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Mohr-Coulomb
Unit Weight: 106 pcf
Cohesion: 635 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. -12.5 to -20

Model: Mohr-Coulomb
Unit Weight: 106 pcf
Cohesion: 440 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH EL. -31 to El. -41

Model: Mohr-Coulomb
Unit Weight: 115 pcf
Cohesion: 850 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Mohr-Coulomb
Unit Weight: 115 pcf
Cohesion: 1300 psf
Phi: 0 °
Phi-B: 0 °

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 42 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Limits

Left Coordinate: (-110, 6.1) ft
Right Coordinate: (180, 6.1) ft

Slip Surface Block

Left Grid
- Upper Left: (-105, -20) ft
- Lower Left: (-105, -40) ft
- Lower Right: (-60, -40) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 135 °
- Ending Angle: 115 °
- Angle Increments: 2

Right Grid
- Upper Left: (-55, -20) ft
- Lower Left: (-55, -40) ft
- Lower Right: (-10, -40) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 45 °
- Ending Angle: 15 °
- Angle Increments: 2

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-4.9
	180	-4.9

Surcharge Loads

Surcharge Load 1

Surcharge (Unit Weight): 300 pcf
Direction: Vertical

Coordinates

	X (ft)	Y (ft)
	-91.7	10
	-81.7	10

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points
Region 1	CH El. -12.5 to -20	2,13,12,1
Region 2	CH EL. -31 to El. -41	4,6,7,5
Region 3	CL EL. -41 to EL. -61	6,8,9,7
Region 4	CL El. -61 to El. -73	8,10,11,9
Region 5	CH El. -20 to El. -31	5,12,13,4
Region 6	Berm	16,17,18,34,47
Region 7	Berm	46,28,29,30,52
Region 8	CH/CL EL. 6.85 to EL. 3	45,52,30,31,3,51
Region 9	CH/CL EL. 6.85 to EL. 3	14,15,16,47,35,48
Region 10	CH El. 3 to EL. -3	32,14,48,36,49
Region 11	CH El. 3 to EL. -3	44,51,3,33,50
Region 12	CH El. -3 to EL. -12.5	1,32,49,37,38,39,40,41,42,43,50,33,2
Region 13	Rip Rap	28,27,26,25,24,23,22,21,20,19,18,34,47,35,48,36,49,37,38,39,40,41,42,43,50,44,51,45,52,46

Points

	X (ft)	Y (ft)
Point 1	-110	-12.5
Point 2	180	-12.5
Point 3	180	3
Point 4	180	-31
Point 5	-110	-31
Point 6	180	-41
Point 7	-110	-41
Point 8	180	-61
Point 9	-110	-61
Point 10	180	-73
Point 11	-110	-73
Point 12	-110	-20
Point 13	180	-20
Point 14	-110	3
Point 15	-110	6.1
Point 16	-100.3	6.1
Point 17	-91.7	9
Point 18	-81.7	9
Point 19	-69.4	6.1
Point 20	-56.3	3
Point 21	-30.9	-3
Point 22	-22.9	-4.9
Point 23	0	-4.9
Point 24	22.9	-4.9
Point 25	30.9	-3
Point 26	56.26	3
Point 27	69.35	6.1
Point 28	81.6	9
Point 29	91.6	9
Point 30	100.3	6.1
Point 31	180	6.1
Point 32	-110	-3
Point 33	180	-3
Point 34	-81.7	7.5
Point 35	-69.4	4.6
Point 36	-56.3	1.5
Point 37	-30.9	-4.5
Point 38	-22.9	-6.4
Point 39	-22.9	-6.9
Point 40	0	-6.9
Point 41	22.9	-6.9
Point 42	22.9	-6.4
Point 43	30.9	-4.5
Point 44	56.26	1.5
Point 45	69.35	4.6
Point 46	81.6	7.5
Point 47	-75.78	6.1
Point 48	-62.66	3
Point 49	-37.26	-3
Point 50	37.25	-3
Point 51	62.59	3
Point 52	75.69	6.1

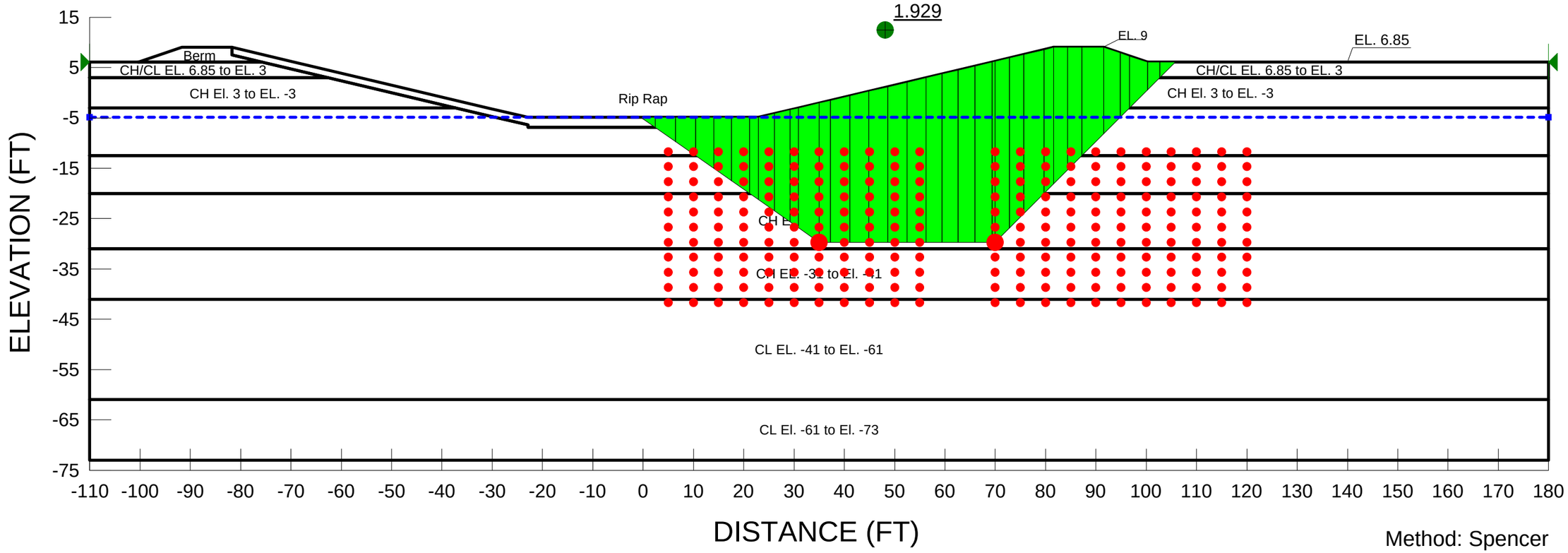
Critical Slip Surfaces

	Slip Surface	FOS	Center (ft)	Radius (ft)	Entry (ft)	Exit (ft)
1	5162	1.815	(-49.19, 8.85)	48.272	(-103.1, 6.1)	(3.01037, -4.9)

Slices of Slip Surface: 5162

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	5162	-101.7	4.7	-599.04571	-253.82608	0	800
2	5162	-100.15	3.15	-502.32862	-81.897101	0	800
3	5162	-98.5	1.5	-399.35031	355.69825	0	400
4	5162	-95.5	-1.5	-212.1603	783.45069	0	400
5	5162	-93.05	-3.95	-59.281594	1010.4183	0	635
6	5162	-91.9	-5.1	12.480082	1169.9789	0	635
7	5162	-89.9	-7.1	137.28085	1668.0648	0	635
8	5162	-86.3	-10.7	361.92081	2033.7176	0	635
9	5162	-83.1	-13.9	561.5943	2457.3476	0	440
10	5162	-79.35	-17.65	795.60041	2518.5036	0	440
11	5162	-76.39	-20.61	980.32795	2794.8098	0	336.1
12	5162	-74.185	-22.815	1117.8938	2951.4506	0	358.15
13	5162	-70.995	-26.005	1316.9477	3178.6557	0	390.05
14	5162	-69.2	-27.8	1428.9568	3306.4315	0	408
15	5162	-67.415	-28	1441.4511	3648.8959	0	410
16	5162	-64.245	-28	1441.4511	3564.9842	0	410
17	5162	-61.07	-28	1441.4465	3481.4465	0	410
18	5162	-57.89	-28	1441.4465	3398.7421	0	410
19	5162	-54.396	-28	1441.4391	3307.7731	0	410
20	5162	-50.588	-28	1441.4391	3209.0336	0	410
21	5162	-46.78	-28	1441.4391	3110.0315	0	410
22	5162	-42.972	-28	1441.4391	3011.0294	0	410
23	5162	-39.164	-28	1441.4391	2912.0273	0	410
24	5162	-37.13	-28	1441.4231	2859.3846	0	410
25	5162	-35.475	-27.11954	1386.4923	2925.4619	0	401.2
26	5162	-32.425	-25.35862	1276.6065	2649.4128	0	383.59
27	5162	-30.057895	-23.99197	1191.3558	2435.1089	0	369.92
28	5162	-27.69774	-22.629335	1106.3146	2221.215	0	356.29

29	5162	-24.66164	-20.876445	996.92394	1946.0697	0	338.76
30	5162	-23.021795	-19.92968	937.86352	1836.2998	0	440
31	5162	-21.30665	-18.93944	876.0542	1740.3411	0	440
32	5162	-18.119955	-17.0996	761.26164	1540.2966	0	440
33	5162	-14.93326	-15.25976	646.44191	1340.252	0	440
34	5162	-11.74656	-13.41992	531.64935	1140.2347	0	440
35	5162	-8.5366305	-11.566665	416.00897	1007.1162	0	635
36	5162	-5.30347	-9.6999985	299.51788	804.16079	0	635
37	5162	-2.0703085	-7.8333335	183.04019	601.20541	0	635
38	5162	-0.226864	-6.76902	116.62661	324.45799	187.13222	0
39	5162	1.505187	-5.76902	54.227751	150.85671	87.005108	0



Method: Spencer

Name: Berm Model: Mohr-Coulomb Unit Weight: 115 pcf Cohesion: 600 psf
Name: CH/CL EL. 6.85 to EL. 3 Model: Mohr-Coulomb Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Mohr-Coulomb Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Mohr-Coulomb Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Mohr-Coulomb Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Mohr-Coulomb Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Mohr-Coulomb Unit Weight: 115 pcf Cohesion: 1300 psf
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN WEIR SPILLWAY
STATION: 26+60
4:1 SLOPE
NO LOAD
GLOBAL ANALYSIS (BLOCK METHOD)

Wedge R to L (Original)

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File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 145
Last Edited By: Hoppes, Andrew
Date: 9/16/2013
Time: 10:59:40 AM
File Name: 5. Sedimentation Basin Sta 26+60 - Original with Rip Rap.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/16/2013
Last Solved Time: 11:02:08 AM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

Wedge R to L (Original)

Kind: SLOPE/W
Method: Spencer
Settings
- Apply Phreatic Correction: No
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Right to Left
- Use Passive Mode: No
- Slip Surface Option: Block
- Critical slip surfaces saved: 50
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

FOS Distribution
- FOS Calculation Option: Constant

Restrict Block Crossing: Yes
Advanced
- Number of Slices: 30
- Optimization Tolerance: 0.01
- Minimum Slip Surface Depth: 0.1 ft
- Optimization Maximum Iterations: 2000
- Optimization Convergence Tolerance: 1e-007
- Starting Optimization Points: 8
- Ending Optimization Points: 16
- Complete Passes per Insertion: 1
- Driving Side Maximum Convex Angle: 5 °
- Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Mohr-Coulomb
Unit Weight: 115 pcf
Cohesion: 600 psf
Phi: 0 °
Phi-B: 0 °

CH/CL EL. 6.85 to EL. 3

Model: Mohr-Coulomb
Unit Weight: 112 pcf
Cohesion: 800 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. 3 to EL. -3

Model: Mohr-Coulomb
Unit Weight: 110 pcf
Cohesion: 400 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Mohr-Coulomb
Unit Weight: 106 pcf
Cohesion: 635 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. -12.5 to -20

Model: Mohr-Coulomb
Unit Weight: 106 pcf
Cohesion: 440 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH EL. -31 to El. -41

Model: Mohr-Coulomb
Unit Weight: 115 pcf
Cohesion: 850 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Mohr-Coulomb
Unit Weight: 115 pcf
Cohesion: 1300 psf
Phi: 0 °
Phi-B: 0 °

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 42 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Limits

Left Coordinate: (-110, 6.1) ft
Right Coordinate: (180, 6.1) ft

Slip Surface Block

Left Grid
- Upper Left: (5, -11.7) ft
- Lower Left: (5, -41.7) ft
- Lower Right: (55, -41.7) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 135 °
- Ending Angle: 145 °
- Angle Increments: 2

Right Grid
- Upper Left: (70, -11.7) ft
- Lower Left: (70, -41.7) ft
- Lower Right: (120, -41.7) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 45 °
- Ending Angle: 65 °
- Angle Increments: 2

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-4.9
	180	-4.9

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points
Region 1	CH El. -12.5 to -20	2,13,12,1
Region 2	CH EL. -31 to El. -41	4,6,7,5
Region 3	CL EL. -41 to EL. -61	6,8,9,7
Region 4	CL El. -61 to El. -73	8,10,11,9
Region 5	CH El. -20 to El. -31	5,12,13,4
Region 6	Berm	16,17,18,34,47
Region 7	Berm	46,28,29,30,52
Region 8	CH/CL EL. 6.85 to EL. 3	45,52,30,31,3,51
Region 9	CH/CL EL. 6.85 to EL. 3	14,15,16,47,35,48
Region 10	CH El. 3 to EL. -3	32,14,48,36,49
Region 11	CH El. 3 to EL. -3	44,51,3,33,50
Region 12	CH El. -3 to EL. -12.5	1,32,49,37,38,39,40,41,42,43,50,33,2
Region 13	Rip Rap	28,27,26,25,24,23,22,21,20,19,18,34,47,35,48,36,49,37,38,39,40,41,42,43,50,44,51,45,52,46

Points

	X (ft)	Y (ft)
Point 1	-110	-12.5
Point 2	180	-12.5
Point 3	180	3
Point 4	180	-31
Point 5	-110	-31
Point 6	180	-41
Point 7	-110	-41
Point 8	180	-61
Point 9	-110	-61
Point 10	180	-73
Point 11	-110	-73
Point 12	-110	-20
Point 13	180	-20
Point 14	-110	3
Point 15	-110	6.1
Point 16	-100.3	6.1
Point 17	-91.7	9
Point 18	-81.7	9
Point 19	-69.4	6.1
Point 20	-56.3	3
Point 21	-30.9	-3
Point 22	-22.9	-4.9
Point 23	0	-4.9
Point 24	22.9	-4.9
Point 25	30.9	-3
Point 26	56.26	3
Point 27	69.35	6.1
Point 28	81.6	9
Point 29	91.6	9
Point 30	100.3	6.1
Point 31	180	6.1
Point 32	-110	-3
Point 33	180	-3
Point 34	-81.7	7.5
Point 35	-69.4	4.6
Point 36	-56.3	1.5
Point 37	-30.9	-4.5
Point 38	-22.9	-6.4
Point 39	-22.9	-6.9
Point 40	0	-6.9
Point 41	22.9	-6.9
Point 42	22.9	-6.4
Point 43	30.9	-4.5
Point 44	56.26	1.5
Point 45	69.35	4.6
Point 46	81.6	7.5
Point 47	-75.78	6.1
Point 48	-62.66	3
Point 49	-37.26	-3
Point 50	37.25	-3
Point 51	62.59	3
Point 52	75.69	6.1

Critical Slip Surfaces

	Slip Surface	FOS	Center (ft)	Radius (ft)	Entry (ft)	Exit (ft)
1	7195	1.929	(51.837, 8.85)	48.957	(105.8, 6.1)	(-0.418071, -4.9)
2	6106	1.937	(52.416, 8.85)	45.965	(102.8, 6.1)	(3.86637, -4.9)
3	7063	1.938	(52.261, 8.85)	48.659	(105.8, 6.1)	(0.444511, -4.9)
4	7162	1.938	(54.718, 8.85)	46.964	(105.8, 6.1)	(5.44451, -4.9)
5	7096	1.942	(49.375, 8.85)	50.715	(105.8, 6.1)	(-5.41807, -4.9)
6	5974	1.942	(52.491, 8.85)	45.506	(102.8, 6.1)	(4.01977, -4.9)
7	7294	1.946	(54.294, 8.85)	47.349	(105.8, 6.1)	(4.58193, -4.9)
8	6007	1.946	(49.96, 8.85)	47.309	(102.8, 6.1)	(-1.13363, -4.9)
9	6073	1.947	(54.942, 8.85)	44.079	(102.8, 6.1)	(9.01977, -4.9)
10	7030	1.957	(54.598, 8.85)	47.046	(105.8, 6.1)	(5.2, -4.9)
11	5941	1.961	(54.541, 8.85)	44.186	(102.8, 6.1)	(8.2, -4.9)
12	6205	1.961	(54.867, 8.85)	44.134	(102.8, 6.1)	(8.86637, -4.9)
13	4885	1.968	(52.755, 9.006)	42.628	(99.925, 6.225)	(7.59503, -4.9)
14	6964	1.970	(49.8, 8.85)	50.408	(105.8, 6.1)	(-4.55549, -4.9)
15	4918	1.970	(50.579, 9.006)	44.015	(99.925, 6.225)	(3.15082, -4.9)
16	7129	1.971	(57.051, 8.85)	45.426	(105.8, 6.1)	(10.2, -4.9)
17	5017	1.971	(53.026, 9.006)	42.429	(99.925, 6.225)	(8.15082, -4.9)
18	7261	1.973	(57.171, 8.85)	45.343	(105.8, 6.1)	(10.4445, -4.9)
19	5875	1.975	(50.035, 8.85)	47.254	(102.8, 6.1)	(-0.980228, -4.9)
20	5908	1.982	(47.5, 8.85)	49.411	(102.8, 6.1)	(-6.13363, -4.9)
21	6040	1.983	(56.987, 8.85)	42.593	(102.8, 6.1)	(13.2, -4.9)
22	4984	1.983	(55.197, 9.006)	40.869	(99.925, 6.225)	(12.595, -4.9)
23	6931	1.984	(52.141, 8.85)	48.897	(105.8, 6.1)	(0.2, -4.9)
24	6997	1.984	(46.91, 8.85)	52.166	(105.8, 6.1)	(-10.4181, -4.9)
25	5842	1.984	(52.089, 8.85)	45.957	(102.8, 6.1)	(3.2, -4.9)
26	7198	1.986	(54.375, 8.85)	50.8	(110.8, 6.1)	(-0.418071, -4.9)
27	7165	1.989	(57.261, 8.85)	48.914	(110.8, 6.1)	(5.44451, -4.9)
28	7066	1.989	(54.8, 8.85)	50.488	(110.8, 6.1)	(0.444511, -4.9)
29	4852	1.989	(54.516, 9.006)	41.353	(99.925, 6.225)	(11.2, -4.9)
30	6109	1.990	(54.96, 8.85)	47.394	(107.8, 6.1)	(3.86637, -4.9)
31	5977	1.991	(55.035, 8.85)	47.164	(107.8, 6.1)	(4.01977, -4.9)
32	6172	1.991	(57.388, 8.85)	42.521	(102.8, 6.1)	(14.0198, -4.9)
33	6076	1.994	(57.491, 8.85)	45.561	(107.8, 6.1)	(9.01977, -4.9)
34	7393	1.995	(56.748, 8.85)	45.634	(105.8, 6.1)	(9.58193, -4.9)
35	4786	1.996	(50.306, 9.006)	44.212	(99.925, 6.225)	(2.59503, -4.9)
36	7297	1.999	(56.837, 8.85)	49.228	(110.8, 6.1)	(4.58193, -4.9)
37	4819	1.999	(48.126, 9.006)	45.817	(99.925, 6.225)	(-1.84918, -4.9)
38	7099	2.000	(51.91, 8.85)	52.395	(110.8, 6.1)	(-5.41807, -4.9)
39	6010	2.003	(52.5, 8.85)	48.828	(107.8, 6.1)	(-1.13363, -4.9)

40	7033	2.005	(57.141, 8.85)	48.798	(110.8, 6.1)	(5.2, -4.9)
41	5116	2.005	(55.468, 9.006)	40.677	(99.925, 6.225)	(13.1508, -4.9)
42	5944	2.007	(57.089, 8.85)	45.733	(107.8, 6.1)	(8.2, -4.9)
43	4753	2.008	(52.072, 9.006)	43.13	(99.925, 6.225)	(6.2, -4.9)
44	4888	2.010	(55.264, 8.85)	44.013	(104.8, 6.1)	(7.59503, -4.9)
45	6208	2.010	(57.416, 8.85)	45.614	(107.8, 6.1)	(8.86637, -4.9)
46	5020	2.015	(55.536, 8.85)	43.821	(104.8, 6.1)	(8.15082, -4.9)
47	7132	2.017	(59.598, 8.85)	47.208	(110.8, 6.1)	(10.2, -4.9)
48	4921	2.018	(53.083, 8.85)	45.429	(104.8, 6.1)	(3.15082, -4.9)
49	7199	2.020	(48.934, 8.929)	47.274	(100.111, 6.16285)	(-0.418071, -4.9)
50	4987	2.021	(57.713, 8.85)	42.31	(104.8, 6.1)	(12.595, -4.9)

Slices of Slip Surface: **7195**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	7195	-0.2090353	-5.046368	9.1333756	26.320126	15.475019	0
2	7195	1.2191125	-6.046368	71.533104	206.14314	121.20342	0
3	7195	4.4376325	-8.3	212.16183	677.57814	0	635
4	7195	8.436445	-11.1	386.87731	981.98335	0	635
5	7195	12.221035	-13.75	552.23939	1193.7732	0	440
6	7195	15.791405	-16.25	708.22924	1465.5796	0	440
7	7195	19.361775	-18.75	864.24203	1737.363	0	440
8	7195	22.02348	-20.613745	980.5328	1899.3384	0	336.14
9	7195	24.478945	-22.33308	1087.812	2118.8936	0	353.33
10	7195	27.63684	-24.54426	1225.8118	2449.4705	0	375.44
11	7195	30.057895	-26.2395	1331.5882	2702.913	0	392.4
12	7195	32.95	-28.264575	1457.9507	3005.4887	0	412.65
13	7195	36.125	-29.7	1547.5111	3012.7111	0	427
14	7195	39.151	-29.7	1547.5276	3090.4787	0	427
15	7195	42.953	-29.7	1547.5276	3189.374	0	427
16	7195	46.755	-29.7	1547.5276	3288.2693	0	427
17	7195	50.557	-29.7	1547.5276	3387.1647	0	427
18	7195	54.359	-29.7	1547.5276	3486.06	0	427
19	7195	57.8425	-29.7	1547.5197	3576.9352	0	427
20	7195	61.0075	-29.7	1547.5197	3659.3997	0	427
21	7195	64.28	-29.7	1547.5148	3745.2663	0	427
22	7195	67.66	-29.7	1547.5148	3834.9112	0	427
23	7195	69.675	-29.7	1547.5385	3888.4615	0	427
24	7195	71.4225	-28.2775	1458.7524	3446.8035	0	412.77
25	7195	74.2675	-25.4325	1281.2177	3242.0035	0	384.32
26	7195	77.695	-22.005	1067.3434	2997.0044	0	350.05
27	7195	80.65	-19.05	882.953	2728.762	0	440
28	7195	83	-16.7	736.32544	2484.2681	0	440
29	7195	85.8	-13.9	561.5943	2197.6879	0	440
30	7195	89.4	-10.3	336.95243	1735.1435	0	635
31	7195	93.2	-6.5	99.839067	1286.9566	0	635
32	7195	95.75	-3.95	-59.281594	931.5945	0	635
33	7195	98.5	-1.2	-230.87036	654.83978	0	400
34	7195	101.5	1.8	-418.07683	269.59032	0	400
35	7195	104.25	4.55	-589.68144	-218.57811	0	800

Slices of Slip Surface: **6106**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	6106	5.294521	-5.9	62.399373	181.29889	107.0576	0
2	6106	8.7220745	-8.3	212.16183	681.5522	0	635
3	6106	12.72089	-11.1	386.87731	987.26845	0	635
4	6106	16.765225	-13.93187	563.59315	1219.5596	0	440
5	6106	20.855075	-16.795615	742.29098	1532.2507	0	440
6	6106	24.165705	-19.113745	886.94257	1803.2352	0	440
7	6106	27.3236	-21.324925	1024.9193	2088.411	0	343.25
8	6106	30.057895	-23.2395	1144.3838	2375.9254	0	362.4
9	6106	32.95	-25.264575	1270.7445	2679.8258	0	382.65
10	6106	36.125	-26.7	1360.3111	2695.3333	0	397
11	6106	38.834165	-26.7	1360.3052	2764.7978	0	397
12	6106	42.0025	-26.7	1360.3052	2847.2386	0	397
13	6106	45.170835	-26.7	1360.3052	2929.711	0	397
14	6106	48.339165	-26.7	1360.3052	3012.1518	0	397
15	6106	51.5075	-26.7	1360.3052	3094.5926	0	397
16	6106	54.675835	-26.7	1360.3052	3177.065	0	397
17	6106	57.8425	-26.7	1360.316	3259.3997	0	397
18	6106	61.0075	-26.7	1360.316	3341.8641	0	397
19	6106	64.28	-26.7	1360.3254	3428.1065	0	397
20	6106	67.66	-26.7	1360.3254	3517.7515	0	397
21	6106	69.675	-26.7	1360.3231	3571.0769	0	397
22	6106	71.4225	-25.2775	1271.5494	3137.6151	0	382.78
23	6106	74.2675	-22.4325	1094.0395	2934.0579	0	354.33
24	6106	76.195	-20.505	973.77685	2796.6417	0	335.05
25	6106	79.15	-17.55	789.36211	2523.3612	0	440
26	6106	82.9	-13.8	555.35083	2176.9372	0	440
27	6106	86.05	-10.65	358.80893	1763.7919	0	635
28	6106	89.75	-6.95	127.91944	1387.3053	0	635
29	6106	91.7	-5	6.2398641	1185.2171	0	635
30	6106	92.75	-3.95	-59.281594	1039.7446	0	635
31	6106	95.2	-1.5	-212.1603	806.14881	0	400
32	6106	98.2	1.5	-399.35031	378.96207	0	400
33	6106	100	3.3	-511.67427	-67.907003	0	800
34	6106	101.55	4.85	-608.39466	-245.59232	0	800

Slices of Slip Surface: **7063**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	7063	1.6362645	-5.9	62.3986	194.55572	118.9948	0
2	7063	4.496473	-8.3	212.15892	726.87796	0	635
3	7063	7.833383	-11.1	386.88925	1032.8678	0	635
4	7063	10.991529	-13.75	552.23163	1231.6838	0	440
5	7063	13.970915	-16.25	708.24902	1504.8942	0	440
6	7063	16.9503	-18.75	864.2407	1778.0789	0	440
7	7063	20.669995	-21.871195	1059.0112	2076.7317	0	348.71
8	7063	24.478945	-25.067285	1258.436	2466.8034	0	380.67
9	7063	27.63684	-27.717075	1423.7791	2850.8087	0	407.17
10	7063	29.607895	-29.370985	1526.989	3090.3162	0	423.71
11	7063	30.45	-29.7	1547.5556	2870.3333	0	427
12	7063	32.4875	-29.7	1547.5276	2921.4488	0	427
13	7063	35.6625	-29.7	1547.5276	3001.1024	0	427
14	7063	39.151	-29.7	1547.5276	3090.4787	0	427
15	7063	42.953	-29.7	1547.5276	3189.374	0	427
16	7063	46.755	-29.7	1547.5276	3288.2693	0	427
17	7063	50.557	-29.7	1547.5276	3387.1647	0	427
18	7063	54.359	-29.7	1547.5276	3486.06	0	427
19	7063	57.8425	-29.7	1547.5197	3576.9352	0	427
20	7063	61.0075	-29.7	1547.5197	3659.3997	0	427
21	7063	64.28	-29.7	1547.5148	3745.2663	0	427
22	7063	67.66	-29.7	1547.5148	3834.9112	0	427
23	7063	69.675	-29.7	1547.5385	3888.4615	0	427
24	7063	71.4225	-28.2775	1458.7524	3447.5491	0	412.77
25	7063	74.2675	-25.4325	1281.2177	3242.7491	0	384.32
26	7063	77.695	-22.005	1067.3434	2997.5334	0	350.05
27	7063	80.65	-19.05	882.953	2729.6552	0	440
28	7063	83	-16.7	736.32544	2485.152	0	440
29	7063	85.8	-13.9	561.5943	2198.597	0	440
30	7063	89.4	-10.3	336.95243	1736.5899	0	635
31	7063	93.2	-6.5	99.839067	1288.3929	0	635
32	7063	95.75	-3.95	-59.281594	933.04593	0	635
33	7063	98.5	-1.2	-230.87036	655.76295	0	400
34	7063	101.5	1.8	-418.07683	270.53902	0	400
35	7063	104.25	4.55	-589.68144	-216.62787	0	800

Slices of Slip Surface: **7162**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal	Frictional Strength	Cohesive Strength

					Stress (psf)	(psf)	(psf)
1	7162	6.6362645	-5.9	62.3986	195.01853	119.41152	0
2	7162	9.496474	-8.3	212.15892	728.00283	0	635
3	7162	12.833385	-11.1	386.88925	1034.2682	0	635
4	7162	15.901535	-13.67448	547.54058	1224.9267	0	440
5	7162	18.70092	-16.023445	694.106	1481.8814	0	440
6	7162	21.500305	-18.37241	840.67141	1738.8087	0	440
7	7162	23.169995	-19.773445	928.10812	1884.0781	0	440
8	7162	24.88394	-21.21162	1017.856	2040.301	0	342.12
9	7162	27.77184	-23.634855	1169.0542	2391.7175	0	366.35
10	7162	30.057895	-25.55308	1288.7403	2669.8584	0	385.53
11	7162	32.95	-27.979845	1440.1822	3021.5782	0	409.8
12	7162	36.125	-29.7	1547.5111	3012.9333	0	427
13	7162	38.834165	-29.7	1547.533	3082.4096	0	427
14	7162	42.0025	-29.7	1547.533	3164.7557	0	427
15	7162	45.170835	-29.7	1547.533	3247.4491	0	427
16	7162	48.339165	-29.7	1547.533	3329.8268	0	427
17	7162	51.5075	-29.7	1547.533	3412.2045	0	427
18	7162	54.675835	-29.7	1547.533	3494.5822	0	427
19	7162	57.8425	-29.7	1547.5197	3576.9352	0	427
20	7162	61.0075	-29.7	1547.5197	3659.3997	0	427
21	7162	64.28	-29.7	1547.5148	3745.5621	0	427
22	7162	67.66	-29.7	1547.5148	3835.2071	0	427
23	7162	69.675	-29.7	1547.5385	3888.6154	0	427
24	7162	71.4225	-28.2775	1458.7524	3443.8209	0	412.77
25	7162	74.2675	-25.4325	1281.2177	3239.518	0	384.32
26	7162	77.695	-22.005	1067.3434	2994.5357	0	350.05
27	7162	80.65	-19.05	882.953	2726.9012	0	440
28	7162	83	-16.7	736.32544	2482.6771	0	440
29	7162	85.8	-13.9	561.5943	2196.4252	0	440
30	7162	89.4	-10.3	336.95243	1734.9828	0	635
31	7162	93.2	-6.5	99.839067	1287.3543	0	635
32	7162	95.75	-3.95	-59.281594	932.41325	0	635
33	7162	98.5	-1.2	-230.87036	655.2719	0	400
34	7162	101.5	1.8	-418.07683	270.4742	0	400
35	7162	104.25	4.55	-589.68144	-215.92076	0	800

Slices of Slip Surface: **7096**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	7096	-3.989923	-5.9	62.399373	178.72066	104.73616	0
2	7096	-1.2808875	-7.796887	180.76652	619.34245	0	635
3	7096	2.717927	-10.596887	355.48775	923.21329	0	635
4	7096	7.221039	-13.75	552.23939	1189.9876	0	440
5	7096	10.791407	-16.25	708.22924	1461.3122	0	440
6	7096	14.361775	-18.75	864.24203	1732.6138	0	440
7	7096	17.83522	-21.18213	1015.9955	1958.5795	0	341.82
8	7096	21.21174	-23.546395	1163.5464	2224.3264	0	365.46
9	7096	24.478945	-25.83412	1306.2771	2507.2904	0	388.34
10	7096	27.63684	-28.0453	1444.2769	2837.2967	0	410.45
11	7096	29.607895	-29.425445	1530.3794	3043.1058	0	424.25
12	7096	30.45	-29.7	1547.5556	2869.7778	0	427
13	7096	32.4875	-29.7	1547.5276	2920.8819	0	427
14	7096	35.6625	-29.7	1547.5276	3000.5354	0	427
15	7096	39.151	-29.7	1547.5276	3089.9527	0	427
16	7096	42.953	-29.7	1547.5276	3188.848	0	427
17	7096	46.755	-29.7	1547.5276	3287.7433	0	427
18	7096	50.557	-29.7	1547.5276	3386.6386	0	427
19	7096	54.359	-29.7	1547.5276	3485.5339	0	427
20	7096	57.8425	-29.7	1547.5197	3576.3033	0	427
21	7096	61.0075	-29.7	1547.5197	3658.7678	0	427
22	7096	64.28	-29.7	1547.5148	3744.6746	0	427
23	7096	67.66	-29.7	1547.5148	3834.3195	0	427
24	7096	69.675	-29.7	1547.5385	3887.8462	0	427
25	7096	71.4225	-28.2775	1458.7524	3455.751	0	412.77
26	7096	74.2675	-25.4325	1281.2177	3250.7025	0	384.32
27	7096	77.695	-22.005	1067.3434	3004.9395	0	350.05
28	7096	80.65	-19.05	882.953	2736.2425	0	440
29	7096	83	-16.7	736.32544	2491.1624	0	440
30	7096	85.8	-13.9	561.5943	2203.9003	0	440
31	7096	89.4	-10.3	336.95243	1740.6075	0	635
32	7096	93.2	-6.5	99.839067	1291.4423	0	635
33	7096	95.75	-3.95	-59.281594	935.24168	0	635
34	7096	98.5	-1.2	-230.87036	657.29501	0	400
35	7096	101.5	1.8	-418.07683	271.12827	0	400
36	7096	104.25	4.55	-589.68144	-217.30532	0	800

Slices of Slip Surface: **5974**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	5974	5.2115255	-5.9	62.3986	196.97903	121.17676	0
2	5974	8.071734	-8.3	212.15892	732.59417	0	635
3	5974	11.408645	-11.1	386.88925	1040.3517	0	635
4	5974	14.56679	-13.75	552.23163	1239.86	0	440
5	5974	17.546175	-16.25	708.24902	1514.6388	0	440
6	5974	20.52556	-18.75	864.2407	1789.4177	0	440
7	5974	22.457625	-20.371195	965.40307	1917.5589	0	333.71
8	5974	24.478945	-22.067285	1071.2365	2138.1793	0	350.67
9	5974	27.63684	-24.717075	1236.5795	2524.2951	0	377.17
10	5974	29.607895	-26.370985	1339.8273	2765.3231	0	393.71
11	5974	30.45	-26.7	1360.3333	2553.1111	0	397
12	5974	32.4875	-26.7	1360.315	2604.2205	0	397
13	5974	35.6625	-26.7	1360.315	2683.874	0	397
14	5974	38.834165	-26.7	1360.3052	2764.924	0	397
15	5974	42.0025	-26.7	1360.3052	2847.3648	0	397
16	5974	45.170835	-26.7	1360.3052	2929.8372	0	397
17	5974	48.339165	-26.7	1360.3052	3012.2781	0	397
18	5974	51.5075	-26.7	1360.3052	3094.7189	0	397
19	5974	54.675835	-26.7	1360.3052	3177.065	0	397
20	5974	57.8425	-26.7	1360.316	3259.7156	0	397
21	5974	61.0075	-26.7	1360.316	3342.1801	0	397
22	5974	64.28	-26.7	1360.3254	3428.1065	0	397
23	5974	67.66	-26.7	1360.3254	3517.7515	0	397
24	5974	69.675	-26.7	1360.3231	3571.2308	0	397
25	5974	71.4225	-25.2775	1271.5494	3136.3724	0	382.78
26	5974	74.2675	-22.4325	1094.0395	2932.8152	0	354.33
27	5974	76.195	-20.505	973.77685	2795.3815	0	335.05
28	5974	79.15	-17.55	789.36211	2522.3511	0	440
29	5974	82.9	-13.8	555.35083	2176.2845	0	440
30	5974	86.05	-10.65	358.80893	1763.7346	0	635
31	5974	89.75	-6.95	127.91944	1387.4773	0	635
32	5974	91.7	-5	6.2398641	1185.4999	0	635
33	5974	92.75	-3.95	-59.281594	1040.1168	0	635
34	5974	95.2	-1.5	-212.1603	806.29023	0	400
35	5974	98.2	1.5	-399.35031	379.38633	0	400
36	5974	100	3.3	-511.67427	-66.526966	0	800
37	5974	101.55	4.85	-608.39466	-244.09891	0	800

Slices of Slip Surface: **7294**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	7294	6.010077	-5.9	62.399373	179.75023	105.66319	0
2	7294	9.4376325	-8.3	212.16183	676.77923	0	635
3	7294	13.436445	-11.1	386.87731	981.53268	0	635
4	7294	17.30189	-13.806615	555.77017	1200.2362	0	440
5	7294	21.033965	-16.41984	718.82915	1484.673	0	440
6	7294	24.52348	-18.863225	871.30772	1777.6827	0	440
7	7294	27.681375	-21.074405	1009.2773	2061.3697	0	340.74
8	7294	30.057895	-22.73846	1113.1101	2310.4111	0	357.38
9	7294	32.4875	-24.43969	1219.2853	2564.8362	0	374.4

10	7294	35.6625	-26.66285	1358.0123	2897.3475	0	396.63
11	7294	38.625	-28.737215	1487.4312	3208.6931	0	417.37
12	7294	41.626	-29.7	1547.5092	3154.9815	0	427
13	7294	44.878	-29.7	1547.5092	3239.5449	0	427
14	7294	48.13	-29.7	1547.5092	3324.4157	0	427
15	7294	51.382	-29.7	1547.5092	3408.9791	0	427
16	7294	54.634	-29.7	1547.5092	3493.5424	0	427
17	7294	57.8425	-29.7	1547.5197	3576.9352	0	427
18	7294	61.0075	-29.7	1547.5197	3659.3997	0	427
19	7294	64.28	-29.7	1547.5148	3745.5621	0	427
20	7294	67.66	-29.7	1547.5148	3835.2071	0	427
21	7294	69.675	-29.7	1547.5385	3888.6154	0	427
22	7294	71.4225	-28.2775	1458.7524	3443.3238	0	412.77
23	7294	74.2675	-25.4325	1281.2177	3239.021	0	384.32
24	7294	77.695	-22.005	1067.3434	2994.0067	0	350.05
25	7294	80.65	-19.05	882.953	2726.7152	0	440
26	7294	83	-16.7	736.32544	2482.5761	0	440
27	7294	85.8	-13.9	561.5943	2196.4504	0	440
28	7294	89.4	-10.3	336.95243	1735.6256	0	635
29	7294	93.2	-6.5	99.839067	1288.1277	0	635
30	7294	95.75	-3.95	-59.281594	933.30644	0	635
31	7294	98.5	-1.2	-230.87036	655.82188	0	400
32	7294	101.5	1.8	-418.07683	271.16363	0	400
33	7294	104.25	4.55	-589.68144	-214.24651	0	800

Slices of Slip Surface: **6007**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	6007	-0.5668135	-5.296887	24.765482	71.541193	42.117039	0
2	6007	0.8613345	-6.296887	87.166326	251.79851	148.23548	0
3	6007	3.7220765	-8.3	212.16183	678.25414	0	635
4	6007	7.720891	-11.1	386.87731	983.39681	0	635
5	6007	11.505484	-13.75	552.23939	1196.0216	0	440
6	6007	15.075855	-16.25	708.22924	1468.4704	0	440
7	6007	18.646225	-18.75	864.24203	1740.9192	0	440
8	6007	21.665705	-20.864265	996.18595	1931.7466	0	338.64
9	6007	24.478945	-22.83412	1119.0954	2180.0856	0	358.34
10	6007	27.63684	-25.0453	1257.0692	2511.4408	0	380.45
11	6007	29.607895	-26.425445	1343.1949	2718.2488	0	394.25
12	6007	30.45	-26.7	1360.3333	2552.4444	0	397
13	6007	32.4875	-26.7	1360.315	2603.5591	0	397
14	6007	35.6625	-26.7	1360.315	2683.2126	0	397
15	6007	39.151	-26.7	1360.3104	2772.4882	0	397
16	6007	42.953	-26.7	1360.3104	2871.3835	0	397
17	6007	46.755	-26.7	1360.3104	2970.2788	0	397
18	6007	50.557	-26.7	1360.3104	3069.4371	0	397
19	6007	54.359	-26.7	1360.3104	3168.3325	0	397
20	6007	57.8425	-26.7	1360.316	3259.0837	0	397
21	6007	61.0075	-26.7	1360.316	3341.2322	0	397
22	6007	64.28	-26.7	1360.3254	3427.5148	0	397
23	6007	67.66	-26.7	1360.3254	3517.1598	0	397
24	6007	69.675	-26.7	1360.3231	3570.4615	0	397
25	6007	71.4225	-25.2775	1271.5494	3146.0656	0	382.78
26	6007	74.2675	-22.4325	1094.0395	2942.0113	0	354.33
27	6007	76.195	-20.505	973.77685	2804.1329	0	335.05
28	6007	79.15	-17.55	789.36211	2530.288	0	440
29	6007	82.9	-13.8	555.35083	2183.002	0	440
30	6007	86.05	-10.65	358.80893	1768.9901	0	635
31	6007	89.75	-6.95	127.91944	1391.548	0	635
32	6007	91.7	-5	6.2398641	1188.9294	0	635
33	6007	92.75	-3.95	-59.281594	1043.0568	0	635
34	6007	95.2	-1.5	-212.1603	808.62369	0	400
35	6007	98.2	1.5	-399.35031	380.35271	0	400
36	6007	100	3.3	-511.67427	-67.225823	0	800
37	6007	101.55	4.85	-608.39466	-245.36605	0	800

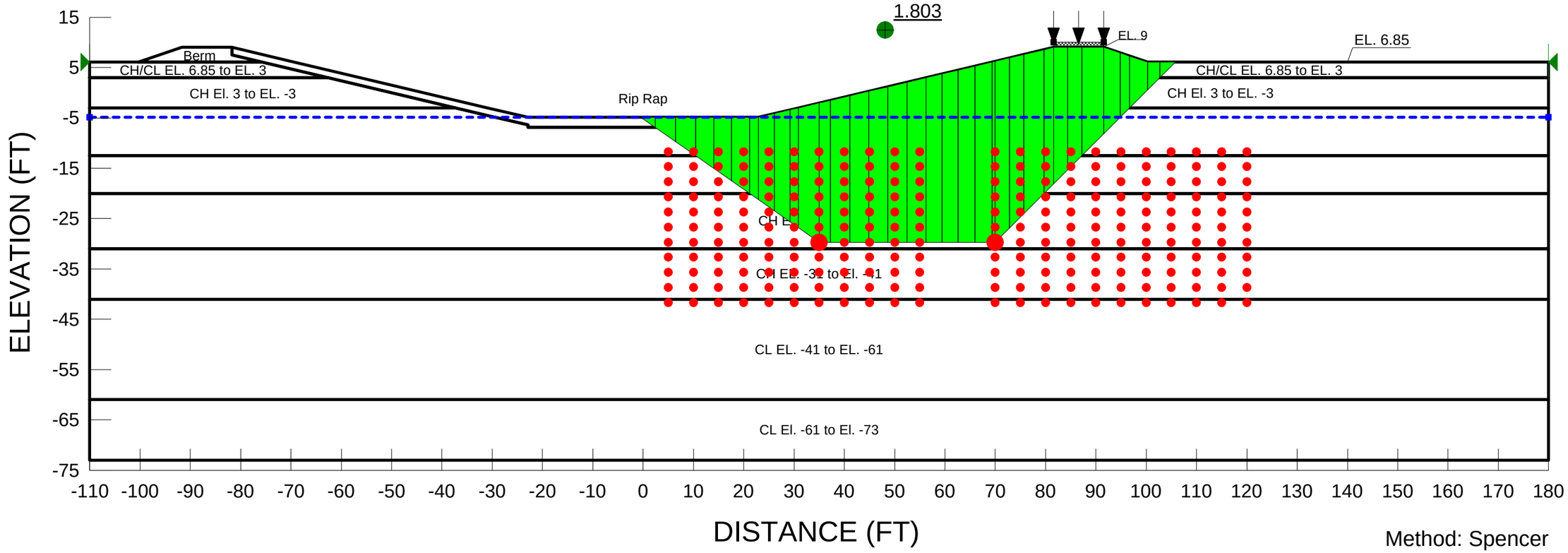
Slices of Slip Surface: **6073**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	6073	10.211526	-5.9	62.3986	196.95332	121.15361	0
2	6073	13.071735	-8.3	212.15892	732.34165	0	635
3	6073	16.408645	-11.1	386.88925	1040.191	0	635
4	6073	19.282825	-13.511725	537.36985	1213.7519	0	440
5	6073	21.694275	-15.53517	663.64351	1436.2159	0	440
6	6073	24.957625	-18.273445	834.50001	1775.9791	0	440
7	6073	28.11552	-20.923235	999.8611	2102.4515	0	339.23
8	6073	30.057895	-22.55308	1101.5742	2340.0093	0	355.53
9	6073	32.95	-24.979845	1252.9871	2693.4869	0	379.8
10	6073	36.125	-26.7	1360.3111	2695.5556	0	397
11	6073	38.834165	-26.7	1360.3052	2764.9871	0	397
12	6073	42.0025	-26.7	1360.3052	2847.4595	0	397
13	6073	45.170835	-26.7	1360.3052	2929.9004	0	397
14	6073	48.339165	-26.7	1360.3052	3012.3412	0	397
15	6073	51.5075	-26.7	1360.3052	3094.782	0	397
16	6073	54.675835	-26.7	1360.3052	3177.3807	0	397
17	6073	57.8425	-26.7	1360.316	3259.7156	0	397
18	6073	61.0075	-26.7	1360.316	3342.1801	0	397
19	6073	64.28	-26.7	1360.3254	3428.1065	0	397
20	6073	67.66	-26.7	1360.3254	3517.7515	0	397
21	6073	69.675	-26.7	1360.3231	3571.2308	0	397
22	6073	71.4225	-25.2775	1271.5494	3135.6268	0	382.78
23	6073	74.2675	-22.4325	1094.0395	2932.3181	0	354.33
24	6073	76.195	-20.505	973.77685	2794.8215	0	335.05
25	6073	77.925	-18.775	865.78737	2614.6213	0	440
26	6073	80.375	-16.325	712.90799	2429.5613	0	440
27	6073	82.9	-13.8	555.35083	2176.0941	0	440
28	6073	86.05	-10.65	358.80893	1763.983	0	635
29	6073	89.75	-6.95	127.91944	1387.8787	0	635
30	6073	91.7	-5	6.2398641	1185.9949	0	635
31	6073	92.75	-3.95	-59.281594	1040.675	0	635
32	6073	95.2	-1.5	-212.1603	806.57308	0	400
33	6073	98.2	1.5	-399.35031	379.83416	0	400
34	6073	100	3.3	-511.67427	-65.315456	0	800
35	6073	101.55	4.85	-608.39466	-242.81763	0	800

Slices of Slip Surface: **7030**

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	7030	6.2	-5.9	62.398641	217.01108	139.21367	0
2	7030	8.6	-8.3	212.15981	784.78751	0	635
3	7030	11.4	-11.1	386.88842	1093.2376	0	635
4	7030	14.675	-14.375	591.23553	1346.5387	0	440
5	7030	18.425	-18.125	825.24073	1759.6399	0	440
6	7030	21.6	-21.3	1023.3468	2055.9403	0	343
7	7030	24.478945	-24.178945	1203.0171	2415.1701	0	371.79
8	7030	27.63684	-27.33684	1400.0642	2863.0044	0	403.37
9	7030	29.607895	-29.307895	1523.0276	3142.625	0	423.08
10	7030	30.45	-29.7	1547.5556	2870.6667	0	427
11	7030	32.4875	-29.7	1547.5276	2921.7953	0	427
12	7030	35.6625	-29.7	1547.5276	3001.4488	0	427
13	7030	38.834165	-29.7	1547.533	3082.5043	0	427
14	7030	42.0025	-29.7	1547.533	3165.0713	0	427
15	7030	45.170835	-29.7	1547.533	3247.4491	0	427
16	7030	48.339165	-29.7	1547.533	3329.8268	0	427
17	7030	51.5075	-29.7	1547.533	3412.2045	0	427
18	7030	54.675835	-29.7	1547.533	3494.5822	0	427
19	7030	57.8425	-29.7	1547.5197	3577.2512	0	427
20	7030	61.0075	-29.7	1547.5197	3659.7156	0	427
21	7030	64.28	-29.7	1547.5148	3745.5621	0	427
22	7030	67.66	-29.7	1547.5148	3835.2071	0	427
23	7030	69.675	-29.7	1547.5385	3888.7692	0	427
24	7030	71.4225	-28.2775	1458.7524	3443.0753	0	412.77
25	7030	74.2675	-25.4325	1281.2177	3238.5239	0	384.32

26	7030	77.695	-22.005	1067.3434	2993.654	0	350.05
27	7030	80.65	-19.05	882.953	2726.7896	0	440
28	7030	83	-16.7	736.32544	2482.7529	0	440
29	7030	85.8	-13.9	561.5943	2196.7535	0	440
30	7030	89.4	-10.3	336.95243	1736.5899	0	635
31	7030	93.2	-6.5	99.839067	1289.3872	0	635
32	7030	95.75	-3.95	-59.281594	934.72065	0	635
33	7030	98.5	-1.2	-230.87036	656.68612	0	400
34	7030	101.5	1.8	-418.07683	272.20072	0	400
35	7030	104.25	4.55	-589.68144	-211.84235	0	800



Method: Spencer

Name: Berm Model: Mohr-Coulomb Unit Weight: 115 pcf Cohesion: 600 psf
Name: CH/CL EL. 6.85 to EL. 3 Model: Mohr-Coulomb Unit Weight: 112 pcf Cohesion: 800 psf Piezometric Line: 1
Name: CH El. 3 to EL. -3 Model: Mohr-Coulomb Unit Weight: 110 pcf Cohesion: 400 psf Piezometric Line: 1
Name: CH El. -3 to EL. -12.5 Model: Mohr-Coulomb Unit Weight: 106 pcf Cohesion: 635 psf Piezometric Line: 1
Name: CH El. -12.5 to -20 Model: Mohr-Coulomb Unit Weight: 106 pcf Cohesion: 440 psf Piezometric Line: 1
Name: CH El. -20 to El. -31 Model: S=f(depth) Unit Weight: 106 pcf C-Top of Layer: 330 psf C-Rate of Change: 10 psf/ft Limiting C: 440 psf Piezometric Line: 1
Name: CH EL. -31 to El. -41 Model: Mohr-Coulomb Unit Weight: 115 pcf Cohesion: 850 psf Piezometric Line: 1
Name: CL EL. -41 to EL. -61 Model: Mohr-Coulomb Unit Weight: 115 pcf Cohesion: 1300 psf
Name: CL El. -61 to El. -73 Model: Mohr-Coulomb Unit Weight: 114 pcf Cohesion: 975 psf Piezometric Line: 1
Name: Rip Rap Model: Mohr-Coulomb Unit Weight: 135 pcf Cohesion: 0 psf Piezometric Line: 1

Surcharge (Unit Weight): 300 pcf

LAKE MAUREPAS DIVERSION PROJECT
SEDIMENTATION BASIN WEIR SPILLWAY
STATION: 26+60
4:1 SLOPE
DUMP TRUCK ON BERM CREST
GLOBAL ANALYSIS (BLOCK METHOD)

Wedge R to L (with truck load)

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File Information

Title: LDNR SEDIMENTATION BASIN
Revision Number: 145
Last Edited By: Hoppes, Andrew
Date: 9/16/2013
Time: 10:59:40 AM
File Name: 5. Sedimentation Basin Sta 26+60 - Original with Rip Rap.gsz
Directory: K:\URS METARIE\10001863-MAUREPAS\01102\Geotech\Slope-W\Maurepas from BR\Originals with Rip Rap\
Last Solved Date: 9/16/2013
Last Solved Time: 11:02:28 AM

Project Settings

Length(L) Units: feet
Time(t) Units: Seconds
Force(F) Units: lbf
Pressure(p) Units: psf
Strength Units: psf
Unit Weight of Water: 62.4 pcf
View: 2D

Analysis Settings

Wedge R to L (with truck load)

Kind: SLOPE/W
Method: Spencer
Settings
- Apply Phreatic Correction: No
- PWP Conditions Source: Piezometric Line
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Right to Left
- Use Passive Mode: No
- Slip Surface Option: Block
- Critical slip surfaces saved: 1
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

FOS Distribution
- FOS Calculation Option: Constant

Restrict Block Crossing: Yes
Advanced
- Number of Slices: 30
- Optimization Tolerance: 0.01
- Minimum Slip Surface Depth: 0.1 ft
- Optimization Maximum Iterations: 2000
- Optimization Convergence Tolerance: 1e-007
- Starting Optimization Points: 8
- Ending Optimization Points: 16
- Complete Passes per Insertion: 1
- Driving Side Maximum Convex Angle: 5 °
- Resisting Side Maximum Convex Angle: 1 °

Materials

Berm

Model: Mohr-Coulomb
Unit Weight: 115 pcf
Cohesion: 600 psf
Phi: 0 °
Phi-B: 0 °

CH/CL EL. 6.85 to EL. 3

Model: Mohr-Coulomb
Unit Weight: 112 pcf
Cohesion: 800 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. 3 to EL. -3

Model: Mohr-Coulomb
Unit Weight: 110 pcf
Cohesion: 400 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. -3 to EL. -12.5

Model: Mohr-Coulomb
Unit Weight: 106 pcf
Cohesion: 635 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. -12.5 to -20

Model: Mohr-Coulomb
Unit Weight: 106 pcf
Cohesion: 440 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CH El. -20 to El. -31

Model: S=f(depth)
Unit Weight: 106 pcf
C-Top of Layer: 330 psf
C-Rate of Change: 10 psf/ft
Limiting C: 440 psf
Pore Water Pressure
- Piezometric Line: 1

CH EL. -31 to El. -41

Model: Mohr-Coulomb
Unit Weight: 115 pcf
Cohesion: 850 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

CL EL. -41 to EL. -61

Model: Mohr-Coulomb
Unit Weight: 115 pcf
Cohesion: 1300 psf
Phi: 0 °
Phi-B: 0 °

CL El. -61 to El. -73

Model: Mohr-Coulomb
Unit Weight: 114 pcf
Cohesion: 975 psf
Phi: 0 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Rip Rap

Model: Mohr-Coulomb
Unit Weight: 135 pcf
Cohesion: 0 psf
Phi: 42 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Limits

Left Coordinate: (-110, 6.1) ft
Right Coordinate: (180, 6.1) ft

Slip Surface Block

Left Grid
- Upper Left: (5, -11.7) ft
- Lower Left: (5, -41.7) ft
- Lower Right: (55, -41.7) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 135 °
- Ending Angle: 145 °
- Angle Increments: 2

Right Grid
- Upper Left: (70, -11.7) ft
- Lower Left: (70, -41.7) ft
- Lower Right: (120, -41.7) ft
- X Increments: 10
- Y Increments: 10
- Starting Angle: 45 °
- Ending Angle: 65 °
- Angle Increments: 2

Piezometric Lines

Piezometric Line 1

Coordinates

	X (ft)	Y (ft)
	-110	-4.9
	180	-4.9

Surcharge Loads

Surcharge Load 1

Surcharge (Unit Weight): 300 pcf
Direction: Vertical

Coordinates

	X (ft)	Y (ft)
	81.6	10
	91.6	10

Seismic Loads

Horz Seismic Load: 0
Vert Seismic Load: 0

Regions

	Material	Points
Region 1	CH El. -12.5 to -20	2,13,12,1
Region 2	CH EL. -31 to El. -41	4,6,7,5
Region 3	CL EL. -41 to EL. -61	6,8,9,7
Region 4	CL El. -61 to El. -73	8,10,11,9
Region 5	CH El. -20 to El. -31	5,12,13,4
Region 6	Berm	16,17,18,34,47
Region 7	Berm	46,28,29,30,52
Region 8	CH/CL EL. 6.85 to EL. 3	45,52,30,31,3,51
Region 9	CH/CL EL. 6.85 to EL. 3	14,15,16,47,35,48
Region 10	CH El. 3 to EL. -3	32,14,48,36,49
Region 11	CH El. 3 to EL. -3	44,51,3,33,50
Region 12	CH El. -3 to EL. -12.5	1,32,49,37,38,39,40,41,42,43,50,33,2
Region 13	Rip Rap	28,27,26,25,24,23,22,21,20,19,18,34,47,35,48,36,49,37,38,39,40,41,42,43,50,44,51,45,52,46

Points

	X (ft)	Y (ft)
Point 1	-110	-12.5
Point 2	180	-12.5
Point 3	180	3
Point 4	180	-31
Point 5	-110	-31
Point 6	180	-41
Point 7	-110	-41
Point 8	180	-61
Point 9	-110	-61
Point 10	180	-73
Point 11	-110	-73
Point 12	-110	-20
Point 13	180	-20
Point 14	-110	3
Point 15	-110	6.1
Point 16	-100.3	6.1
Point 17	-91.7	9
Point 18	-81.7	9
Point 19	-69.4	6.1
Point 20	-56.3	3
Point 21	-30.9	-3
Point 22	-22.9	-4.9
Point 23	0	-4.9
Point 24	22.9	-4.9
Point 25	30.9	-3
Point 26	56.26	3
Point 27	69.35	6.1
Point 28	81.6	9
Point 29	91.6	9
Point 30	100.3	6.1
Point 31	180	6.1
Point 32	-110	-3
Point 33	180	-3
Point 34	-81.7	7.5
Point 35	-69.4	4.6
Point 36	-56.3	1.5
Point 37	-30.9	-4.5
Point 38	-22.9	-6.4
Point 39	-22.9	-6.9
Point 40	0	-6.9
Point 41	22.9	-6.9
Point 42	22.9	-6.4
Point 43	30.9	-4.5
Point 44	56.26	1.5
Point 45	69.35	4.6
Point 46	81.6	7.5
Point 47	-75.78	6.1
Point 48	-62.66	3
Point 49	-37.26	-3
Point 50	37.25	-3
Point 51	62.59	3
Point 52	75.69	6.1

Critical Slip Surfaces

	Slip	FOS	Center (ft)	Radius	Entry (ft)	Exit (ft)
	Surface			(ft)		
1	7195	1.803	(51.837, 8.85)	48.957	(105.8, 6.1)	(-0.418071, -4.9)

Slices of Slip Surface: 7195

	Slip Surface	X (ft)	Y (ft)	PWP (psf)	Base Normal Stress (psf)	Frictional Strength (psf)	Cohesive Strength (psf)
1	7195	-0.2090353	-5.046368	9.1333756	27.019619	16.104845	0
2	7195	1.2191125	-6.046368	71.533104	211.62604	126.14025	0
3	7195	4.4376325	-8.3	212.16183	695.35901	0	635
4	7195	8.436445	-11.1	386.87731	999.82567	0	635
5	7195	12.221035	-13.75	552.23939	1206.2771	0	440
6	7195	15.791405	-16.25	708.22924	1478.1294	0	440
7	7195	19.361775	-18.75	864.24203	1749.9817	0	440
8	7195	22.02348	-20.613745	980.5328	1909.1045	0	336.14
9	7195	24.478945	-22.33308	1087.812	2129.1917	0	353.33
10	7195	27.63684	-24.54426	1225.8118	2460.4431	0	375.44
11	7195	30.057895	-26.2395	1331.5882	2714.44	0	392.4
12	7195	32.95	-28.264575	1457.9507	3017.6761	0	412.65
13	7195	36.125	-29.7	1547.5111	3013.3778	0	427
14	7195	39.151	-29.7	1547.5276	3091.0047	0	427
15	7195	42.953	-29.7	1547.5276	3189.9001	0	427
16	7195	46.755	-29.7	1547.5276	3289.0584	0	427
17	7195	50.557	-29.7	1547.5276	3387.9537	0	427
18	7195	54.359	-29.7	1547.5276	3486.849	0	427
19	7195	57.8425	-29.7	1547.5197	3577.5671	0	427
20	7195	61.0075	-29.7	1547.5197	3660.0316	0	427
21	7195	64.28	-29.7	1547.5148	3745.858	0	427
22	7195	67.66	-29.7	1547.5148	3835.7988	0	427
23	7195	69.675	-29.7	1547.5385	3889.0769	0	427
24	7195	71.4225	-28.2775	1458.7524	3431.8908	0	412.77
25	7195	74.2675	-25.4325	1281.2177	3228.3336	0	384.32
26	7195	77.695	-22.005	1067.3434	2984.3082	0	350.05
27	7195	80.65	-19.05	882.953	2713.2057	0	440
28	7195	83	-16.7	736.32544	2758.2215	0	440

29	7195	85.8	-13.9	561.5943	2471.8685	0	440
30	7195	89.4	-10.3	336.95243	2002.8799	0	635
31	7195	93.2	-6.5	99.839067	1265.3235	0	635
32	7195	95.75	-3.95	-59.281594	910.04635	0	635
33	7195	98.5	-1.2	-230.87036	641.26726	0	400
34	7195	101.5	1.8	-418.07683	256.12877	0	400
35	7195	104.25	4.55	-589.68144	-245.27482	0	800