



S10 Earth Pressure

Analysis Mode	
Design(D)/Factor of Safety(FS)	D

Analysis Type	
Soil Nail(SN)/Tie Back(TB)/Active EP(AEP)/Passive EP(PEP)	AEP

General	
Toe Segment No.	1
Toe Specification Type (X/Y)	Y
Toe Y Value	49
X-Base	0
Y-Base	0
Minimum Toe Angle (deg)	30
Maximum Toe Angle (deg)	70
No. Toe Angles	20
Minimum Exit X Value	3
Maximum Exit X Value	35
No. Exit Points	20
Water Unit Weight	62.4
Seismic Coefficient (g's)	0

Factors of Safety	
Service Load Design(SLD)/Load-Resistance Factor Design(LRFD)	SLD
FS - Cohesion	1
FS - Friction Angle	1
Strength Factor - Nail Tendon	1
Strength Factor - Nail Head	1
Strength Factor - Pullout	1
	0
	0
	0
	0
	0

Soil	Cohesion	Friction	Unit Wt.	Pullout
1	0	30	120	2000
2	0	40	135	6000

Piezo	X	Y

Node	X	Y
1	0.0	49.0
2	0.0	59.0
3	0.0	70.0
4	40.0	70.0
5	40.0	59.0
6	2.0	64.0
7	14.0	64.0
8	0.0	57.7
9	0.0	64.7

Segment	Node 1	Node 2	Top Soil #	Bot. Soil #	Top PO #	Bot. PO #
1	1	2	0	2	0	2
2	2	3	0	1	0	1
3	3	4	0	1	0	1
4	2	5	1	2	1	2

Surcharge	Node 1	P1	Node 2	P2	Angle
1	1	0	8	630	0
2	8	630	9	630	0
3	9	630	3	0	0
4	3	250	4	250	270
5	6	235	7	235	270

Face Press	Node 1	P1	Node 2	P2	Angle
1	1	1.00	3	1.00	0.00

Analysis Type: Active Earth Pressure

Analysis Mode: Design

Earth Pressure Factor: 32.31

Critical Slip Surface: 31

Resultant Force: 678

Orientation: 0.00

Surface	X Center	Y Center	Surf. X Value	Toe Angle	EP Fac
1	-20.25	84.08	4.29	70.00	-52.74
2	-22.97	88.78	4.90	70.00	-46.14
3	-26.77	95.37	5.62	70.00	-33.87
4	-33.15	106.42	6.45	70.00	-22.68
5	-44.40	125.91	7.32	70.00	-14.37
6	-18.74	84.41	4.99	67.89	-26.85
7	-21.48	89.57	5.67	67.89	-21.81
8	-25.43	97.05	6.48	67.89	-11.82
9	-32.33	110.08	7.41	67.89	-3.59
10	-46.13	136.15	8.44	67.89	1.56
11	-17.39	84.99	5.74	65.79	-5.35
12	-20.09	90.59	6.48	65.79	-2.63
13	-24.34	99.37	7.40	65.79	4.93
14	-32.16	115.56	8.47	65.79	9.90
15	-14.34	81.69	5.74	63.68	2.76
16	-16.22	85.98	6.57	63.68	11.76
17	-19.12	92.59	7.44	63.68	12.37
18	-23.60	102.80	8.44	63.68	16.43
19	-32.00	121.96	9.58	63.68	16.99
20	-13.26	82.52	6.57	61.58	17.54
21	-15.16	87.33	7.40	61.58	17.49
22	-18.19	95.00	8.45	61.58	21.48
23	-23.21	107.68	9.59	61.58	21.77
24	-33.09	132.67	10.86	61.58	17.70
25	-12.30	83.78	7.51	59.47	27.63
26	-14.35	89.58	8.46	59.47	24.94
27	-17.54	98.60	9.60	59.47	24.88
28	-23.19	114.58	10.87	59.47	20.53
29	-34.35	146.15	12.19	59.47	11.33
30	-9.99	80.93	7.51	57.37	29.19
31	-11.41	85.47	8.55	57.37	32.31
32	-13.55	92.33	9.61	57.37	26.15
33	-17.05	103.50	10.88	57.37	21.63

Surface	X Center	Y Center	Surf. X Value	Toe Angle	EP Fac
34	-23.61	124.47	12.30	57.37	11.94
35	-9.11	82.39	8.57	55.26	31.57
36	-10.57	87.73	9.62	55.26	25.24
37	-12.85	96.08	10.89	55.26	20.69
38	-16.74	110.33	12.31	55.26	10.96
39	-24.57	139.04	13.89	55.26	-4.79
40	-7.22	79.87	8.56	53.16	28.31
41	-8.23	84.21	9.63	53.16	22.10
42	-9.75	90.71	10.91	53.16	17.55
43	-12.18	101.12	12.33	53.16	7.81
44	-16.55	119.81	13.90	53.16	-7.90
45	-26.27	161.39	15.66	53.16	-30.77
46	-6.34	81.45	9.72	51.05	22.16
47	-7.35	86.65	10.92	51.05	12.00
48	-8.94	94.76	12.36	51.05	2.27
49	-11.50	107.88	13.92	51.05	-13.35
50	-16.46	133.25	15.67	51.05	-36.13
51	-4.76	79.21	9.73	48.95	13.67
52	-5.43	83.48	10.93	48.95	3.85
53	-6.42	89.81	12.35	48.95	-5.56
54	-8.00	99.79	13.94	48.95	-21.22
55	-10.77	117.39	15.72	48.95	-44.11
56	-16.35	152.83	17.64	48.95	-74.31
57	-3.83	80.89	11.00	46.84	-1.85
58	-4.45	86.09	12.37	46.84	-16.37
59	-5.39	93.89	13.96	46.84	-31.66
60	-6.91	106.61	15.72	46.84	-54.24
61	-9.80	130.70	17.73	46.84	-85.51
62	-16.13	183.44	19.84	46.84	-124.13
63	-2.47	78.85	11.03	44.74	-16.29
64	-2.83	83.14	12.38	44.74	-30.26
65	-3.35	89.43	13.97	44.74	-45.12
66	-4.16	99.19	15.74	44.74	-67.37
67	-5.52	115.66	17.70	44.74	-97.93
68	-8.19	147.83	19.88	44.74	-138.36
69	-1.29	77.12	11.03	42.63	-34.32
70	-1.46	80.73	12.39	42.63	-47.60
71	-1.70	85.92	13.98	42.63	-61.91
72	-2.05	93.68	15.76	42.63	-83.71
73	-2.62	106.06	17.73	42.63	-114.04
74	-3.62	127.81	19.92	42.63	-155.74
75	-5.73	173.75	22.33	42.63	-206.82
76	-0.27	78.74	12.40	40.53	-68.80
77	-0.31	83.09	13.99	40.53	-82.35

Surface	X Center	Y Center	Surf. X Value	Toe Angle	EP Fac
78	-0.37	89.43	15.78	40.53	-103.53
79	-0.46	99.10	17.75	40.53	-133.42
80	-0.61	114.96	19.95	40.53	-176.21
81	-0.87	144.21	22.38	40.53	-227.65
82	0.77	77.06	12.48	38.42	-88.99
83	0.88	80.79	14.02	38.42	-106.80
84	1.02	86.04	15.79	38.42	-127.13
85	1.24	93.83	17.77	38.42	-157.10
86	1.57	105.98	19.98	38.42	-200.25
87	2.14	126.49	22.42	38.42	-251.94
88	3.22	165.81	25.08	38.42	-311.79
89	1.92	78.80	14.01	36.32	-135.66
90	2.21	83.28	15.80	36.32	-155.08
91	2.62	89.72	17.79	36.32	-185.70
92	3.24	99.35	20.00	36.32	-228.29
93	4.23	114.66	22.46	36.32	-279.95
94	5.94	141.21	25.16	36.32	-340.78
95	9.51	196.65	28.17	36.32	-411.77
96	2.86	77.16	14.03	34.21	-169.74
97	3.24	80.99	15.81	34.21	-187.85
98	3.79	86.39	17.80	34.21	-218.78
99	4.58	94.18	20.01	34.21	-260.43
100	5.80	106.18	22.49	34.21	-312.14
101	7.75	125.47	25.22	34.21	-373.67
102	11.28	160.27	28.23	34.21	-445.40
103	4.17	79.05	15.82	32.11	-226.00
104	4.81	83.66	17.82	32.11	-257.14
105	5.71	90.20	20.04	32.11	-298.03
106	7.04	99.79	22.38	32.11	-352.69
107	9.09	114.53	25.26	32.11	-410.98
108	12.44	138.74	28.29	32.11	-483.53
109	18.68	183.70	31.62	32.11	-567.08
110	5.01	77.39	15.83	30.00	-271.39
111	5.70	81.34	17.82	30.00	-301.25
112	6.68	86.90	19.95	30.00	-344.92
113	8.08	94.80	22.41	30.00	-394.99
114	10.14	106.49	25.14	30.00	-456.50
115	13.31	124.48	28.34	30.00	-526.74
116	18.70	155.03	31.74	30.00	-612.93