



S6 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	25
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	0.55
Strength Factor - Nail Head	0.67
Strength Factor - Pullout	0.5
	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	58.0
3	0.0	60.0
4	11.0	60.0
5	11.0	67.0
6	30.0	67.0
7	30.0	58.0
8	6.0	57.0
9	22.0	57.0

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	4	5	0	1	0	1
5	5	6	0	1	0	1
6	2	7	1	2	1	2

Surcharge	Node 1	P1	Node 2	P2	Angle
1	1	330	3	0	0
2	8	275	9	275	270
3	5	250	6	250	270
4	3	250	4	250	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: 46.60

Critical Slip Surface: 15

Resultant Force: 513

Orientation: 0.00

Surface	X Center	Y Center	Surf. X Value	Toe Angle	EP Fac
1	-15.13	77.58	3.05	67.89	25.15
2	-11.50	72.80	3.04	65.79	24.89
3	-13.61	77.18	3.41	65.79	33.03
4	-9.13	69.81	3.05	63.68	24.46
5	-10.49	72.92	3.42	63.68	32.65
6	-12.50	77.50	3.82	63.68	39.64
7	-7.33	67.53	3.04	61.58	22.52
8	-8.23	69.81	3.41	61.58	30.68
9	-9.59	73.25	3.84	61.58	38.29
10	-11.71	78.62	4.30	61.58	44.50
11	-5.97	65.90	3.05	59.47	19.94
12	-6.61	67.71	3.43	59.47	28.28
13	-7.49	70.18	3.84	59.47	35.57
14	-8.82	73.93	4.30	59.47	41.88
15	-10.99	80.09	4.81	59.47	46.60
16	-4.88	64.60	3.05	57.37	16.01
17	-5.32	66.00	3.42	57.37	24.19
18	-5.93	67.95	3.84	57.37	31.70
19	-6.80	70.75	4.30	57.37	38.17
20	-8.15	75.04	4.82	57.37	43.09
21	-10.41	82.29	5.39	57.37	45.90
22	-4.19	64.34	3.33	55.26	17.47
23	-4.29	64.71	3.42	55.26	18.97
24	-4.71	66.25	3.84	55.26	26.60
25	-5.30	68.42	4.30	55.26	33.22
26	-6.17	71.61	4.82	55.26	38.37
27	-7.54	76.64	5.39	55.26	41.48
28	-9.95	85.48	6.03	55.26	41.94
29	-3.72	64.93	3.84	53.16	20.11
30	-4.12	66.63	4.29	53.16	26.82
31	-4.71	69.14	4.82	53.16	32.34
32	-5.57	72.84	5.39	53.16	35.75
33	-6.99	78.88	6.03	53.16	36.58

Surface	X Center	Y Center	Surf. X Value	Toe Angle	EP Fac
34	-2.90	63.86	3.87	51.05	13.29
35	-3.18	65.29	4.30	51.05	19.15
36	-3.57	67.25	4.81	51.05	24.84
37	-4.12	70.11	5.39	51.05	28.61
38	-4.98	74.50	6.03	51.05	29.82
39	-6.43	81.91	6.74	51.05	27.78
40	-2.39	64.18	4.30	48.95	9.76
41	-2.64	65.79	4.81	48.95	15.76
42	-3.01	68.09	5.40	48.95	19.99
43	-3.53	71.41	6.03	48.95	21.59
44	-4.35	76.65	6.73	48.95	20.04
45	-5.84	86.11	7.54	48.95	14.48
46	-1.87	64.61	4.81	46.84	4.93
47	-2.09	66.46	5.39	46.84	9.53
48	-2.41	69.12	6.03	46.84	11.67
49	-2.90	73.13	6.75	46.84	10.67
50	-3.70	79.86	7.56	46.84	5.60
51	-5.15	91.93	8.43	46.84	-2.60
52	-1.21	63.65	4.85	44.74	-6.69
53	-1.34	65.18	5.39	44.74	-2.76
54	-1.52	67.34	6.03	44.74	-0.05
55	-1.78	70.49	6.74	44.74	-0.48
56	-2.19	75.38	7.54	44.74	-4.86
57	-2.87	83.67	8.43	44.74	-11.42
58	-2.83	83.15	8.33	44.74	-11.86
59	-3.43	90.42	8.87	44.74	-17.31
60	-4.38	101.90	9.44	44.74	-25.39
61	-6.10	122.65	10.05	44.74	-36.29
62	-9.90	168.49	10.67	44.74	-49.83
63	-0.70	64.14	5.39	42.63	-17.11
64	-0.78	65.93	6.03	42.63	-13.79
65	-0.89	68.47	6.74	42.63	-13.55
66	-1.07	72.26	7.54	42.63	-17.27
67	-1.35	78.30	8.43	42.63	-21.94
68	-1.84	89.00	9.42	42.63	-33.79
69	-1.44	80.23	8.59	42.63	-24.98
70	-1.70	85.97	9.14	42.63	-31.10
71	-2.10	94.65	9.73	42.63	-40.03
72	-2.77	109.27	10.38	42.63	-52.13
73	-4.03	136.70	18.19	42.63	30.73
74	-0.13	63.27	5.42	40.53	-32.70
75	-0.14	64.77	6.03	40.53	-29.81
76	-0.16	66.87	6.74	40.53	-28.83
77	-0.19	69.90	7.54	40.53	-30.42

Surface	X Center	Y Center	Surf. X Value	Toe Angle	EP Fac
78	-0.23	74.51	8.43	40.53	-34.46
79	-0.30	82.08	9.42	40.53	-45.71
80	-0.43	96.24	10.53	40.53	-65.14
81	-0.27	77.86	8.86	40.53	-40.36
82	-0.31	82.62	9.43	40.53	-47.19
83	-0.37	89.51	10.04	40.53	-57.02
84	-0.47	100.32	10.71	40.53	-70.16
85	-0.64	118.84	18.23	40.53	17.44
86	-0.99	156.25	20.30	40.53	-13.88
87	0.41	63.82	6.03	38.42	-48.22
88	0.46	65.57	6.74	38.42	-46.44
89	0.53	68.06	7.54	38.42	-45.76
90	0.63	71.71	8.43	38.42	-49.14
91	0.78	77.39	9.36	38.42	-60.80
92	1.05	87.01	10.45	38.42	-79.67
93	0.74	75.91	9.13	38.42	-57.96
94	0.85	79.84	9.71	38.42	-65.41
95	1.01	85.48	10.35	38.42	-76.16
96	1.24	93.91	16.39	38.42	14.09
97	1.61	107.38	18.26	38.42	1.43
98	2.27	131.37	20.34	38.42	-30.01
99	3.67	182.30	22.61	38.42	-81.71
100	0.90	63.01	6.06	36.32	-68.35
101	1.00	64.50	6.74	36.32	-66.73
102	1.13	66.58	7.54	36.32	-63.61
103	1.32	69.55	8.43	36.32	-66.23
104	1.61	73.99	9.36	36.32	-77.20
105	2.06	81.04	10.46	36.32	-95.59
106	1.63	74.28	9.40	36.32	-78.16
107	1.84	77.61	9.99	36.32	-86.35
108	2.14	82.28	10.65	36.32	-97.96
109	2.58	89.07	16.41	36.32	-4.84
110	3.24	99.37	18.29	36.32	-17.37
111	4.33	116.26	20.38	36.32	-50.15
112	6.33	147.27	22.68	36.32	-102.82
113	1.48	63.61	6.74	34.21	-88.52
114	1.66	65.36	7.54	34.21	-84.25
115	1.91	67.82	8.43	34.21	-86.02
116	2.27	71.39	9.37	34.21	-96.21
117	2.82	76.82	10.46	34.21	-113.98
118	2.42	72.89	9.68	34.21	-101.24
119	2.71	75.75	10.28	34.21	-110.13
120	3.11	79.70	10.96	34.21	-122.29
121	3.68	85.28	16.43	34.21	-26.45

Surface	X Center	Y Center	Surf. X Value	Toe Angle	EP Fac
122	4.51	93.46	18.32	34.21	-40.17
123	5.79	106.09	20.42	34.21	-73.00
124	7.92	127.08	22.73	34.21	-127.45
125	1.92	62.85	6.74	32.11	-113.21
126	2.13	64.35	7.54	32.11	-108.05
127	2.42	66.42	8.43	32.11	-108.87
128	2.82	69.36	9.37	32.11	-118.13
129	3.42	73.66	10.47	32.11	-135.15
130	3.49	74.17	10.58	32.11	-137.03
131	3.96	77.55	14.74	32.11	-55.57
132	4.61	82.22	16.44	32.11	-52.18
133	5.53	88.90	18.34	32.11	-66.08
134	6.90	98.77	20.45	32.11	-100.05
135	9.04	114.18	22.78	32.11	-155.46
136	2.55	63.49	7.53	30.00	-135.40
137	2.87	65.26	8.43	30.00	-135.15
138	3.30	67.72	9.42	30.00	-142.35
139	3.92	71.23	10.47	30.00	-159.47
140	4.20	72.81	10.88	30.00	-167.37
141	4.71	75.74	14.74	30.00	-84.33
142	5.42	79.72	16.45	30.00	-81.90
143	6.39	85.27	18.25	30.00	-100.83
144	7.80	93.23	20.35	30.00	-135.18
145	9.89	105.09	22.82	30.00	-187.85