



W24 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	42
X-Base	0
Y-Base	0
Minimum Toe Angle (deg)	30
Maximum Toe Angle (deg)	70
No. Toe Angles	20
Minimum Exit X Value	5
Maximum Exit X Value	45
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	1000
2	0	40	135	6000

Piezo	X	Y

Node	X	Y
1	0.0	42.0
2	0.0	70.0
3	0.0	79.0
4	50.0	79.0
5	50.0	70.0
6	17.0	77.0
7	19.0	77.0
8	0.0	49.4
9	0.0	71.6

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	888	0
2	8	888	9	888	0
3	9	888	3	0	0
4	3	500	4	500	270
5	6	3000	7	3000	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: 17.95

Critical Slip Surface: 50

Resultant Force: 664

Orientation: 0.00

Surface	X Center	Y Center	Surf. X Value	Toe Angle	EP Fac
1	-38.01	107.84	6.53	70.00	-175.08
2	-38.48	108.66	6.67	70.00	-171.34
3	-42.16	115.03	7.46	70.00	-154.02
4	-47.92	125.00	8.45	70.00	-134.84
5	-55.93	138.88	9.32	70.00	-123.68
6	-33.05	104.43	7.14	67.89	-143.96
7	-31.36	101.25	6.60	67.89	-154.81
8	-33.91	106.07	7.43	67.89	-137.64
9	-37.60	113.03	8.41	67.89	-119.55
10	-42.64	122.56	9.45	67.89	-103.07
11	-50.24	136.92	10.46	67.89	-93.11
12	-62.25	159.60	11.69	67.89	-80.56
13	-27.21	98.32	7.10	65.79	-129.89
14	-29.06	102.14	7.87	65.79	-115.42
15	-27.99	99.93	7.47	65.79	-122.16
16	-30.43	104.98	8.40	65.79	-105.76
17	-33.77	111.90	9.45	65.79	-90.04
18	-38.57	121.82	10.61	65.79	-75.57
19	-45.90	136.99	11.75	65.79	-68.08
20	-58.13	162.31	13.17	65.79	-58.64
21	-25.68	100.54	8.69	63.68	-90.85
22	-25.02	99.04	8.40	63.68	-94.60
23	-27.33	104.31	9.45	63.68	-79.67
24	-30.57	111.69	10.62	63.68	-65.74
25	-35.19	122.22	11.91	63.68	-53.96
26	-42.44	138.75	13.19	63.68	-49.75
27	-54.66	166.61	14.74	63.68	-44.58
28	-22.40	98.64	9.44	61.58	-72.21
29	-24.62	104.26	10.61	61.58	-59.05
30	-27.74	112.13	11.91	61.58	-47.69
31	-32.36	123.83	13.36	61.58	-39.01
32	-39.87	142.82	14.83	61.58	-38.72
33	-20.05	98.72	10.61	59.47	-55.38

Surface	X Center	Y Center	Surf. X Value	Toe Angle	EP Fac
34	-22.21	104.80	11.90	59.47	-44.47
35	-25.27	113.47	13.35	59.47	-36.16
36	-29.89	126.54	14.96	59.47	-31.51
37	-37.49	148.01	16.58	59.47	-36.17
38	-16.42	94.49	10.72	57.37	-51.70
39	-16.41	94.46	10.62	57.37	-55.03
40	-17.89	99.21	11.89	57.37	-44.91
41	-20.01	105.98	13.35	57.37	-36.83
42	-22.97	115.44	14.92	57.37	-32.52
43	-27.76	130.76	16.76	57.37	-32.57
44	-36.06	157.31	18.64	57.37	-13.06
45	-14.44	94.92	11.90	55.26	-48.90
46	-15.91	100.30	13.35	55.26	-41.08
47	-17.97	107.86	14.96	55.26	-36.73
48	-20.96	118.83	16.73	55.26	-36.99
49	-25.85	136.75	18.58	55.26	-14.02
50	-34.48	168.36	20.79	55.26	17.95
51	-12.58	95.84	13.34	53.16	-49.49
52	-14.02	101.95	14.98	53.16	-45.04
53	-16.02	110.54	16.76	53.16	-45.19
54	-19.04	123.45	18.74	53.16	-4.75
55	-24.09	145.06	20.81	53.16	12.07
56	-33.52	185.39	23.26	53.16	-23.84
57	-9.81	92.22	13.33	51.05	-62.50
58	-10.78	97.20	14.96	51.05	-57.88
59	-12.13	104.12	16.76	51.05	-57.69
60	-14.09	114.15	18.75	51.05	-10.62
61	-17.14	129.73	20.81	51.05	2.01
62	-22.36	156.46	23.28	51.05	-33.84
63	-8.10	93.44	14.95	48.95	-75.52
64	-9.00	99.17	16.78	48.95	-74.92
65	-10.25	107.11	18.76	48.95	-21.47
66	-12.13	119.04	20.99	48.95	-8.92
67	-15.17	138.34	23.33	48.95	-48.82
68	-20.47	172.03	26.04	48.95	-93.57
69	-6.37	95.06	16.75	46.84	-97.40
70	-7.15	101.60	18.76	46.84	-37.58
71	-8.28	111.04	21.00	46.84	-29.13
72	-10.01	125.40	23.31	46.84	-67.92
73	-12.85	149.07	26.06	46.84	-112.61
74	-18.21	193.73	29.10	46.84	-168.53
75	-4.12	91.76	16.75	44.74	-125.63
76	-4.57	97.19	18.76	44.74	-59.47
77	-5.21	104.85	20.99	44.74	-55.04

Surface	X Center	Y Center	Surf. X Value	Toe Angle	EP Fac
78	-6.14	116.11	23.32	44.74	-92.95
79	-7.60	133.68	26.08	44.74	-137.13
80	-10.10	163.83	29.14	44.74	-192.79
81	-2.37	93.59	18.75	42.63	-87.64
82	-2.66	99.93	20.99	42.63	-87.35
83	-3.08	109.00	23.49	42.63	-120.36
84	-3.70	122.60	26.09	42.63	-167.31
85	-4.71	144.44	29.16	42.63	-222.22
86	-6.51	183.63	32.57	42.63	-290.56
87	-0.45	90.59	18.75	40.53	-122.94
88	-0.50	95.97	21.01	40.53	-126.95
89	-0.56	103.40	23.48	40.53	-158.37
90	-0.66	114.27	26.10	40.53	-204.00
91	-0.82	130.88	29.17	40.53	-257.94
92	-1.06	157.57	32.49	40.53	-324.10
93	-1.55	210.33	36.37	40.53	-408.27
94	1.39	92.61	20.99	38.42	-173.95
95	1.57	98.87	23.48	38.42	-203.76
96	1.81	107.77	26.11	38.42	-247.85
97	2.18	120.92	29.19	38.42	-300.65
98	2.74	141.44	32.61	38.42	-367.49
99	3.71	176.67	36.42	38.42	-450.17
100	3.08	89.81	20.98	36.32	-229.88
101	3.42	95.14	23.48	36.32	-257.60
102	3.90	102.56	26.27	36.32	-296.09
103	4.59	113.31	29.22	36.32	-351.20
104	5.62	129.23	32.64	36.32	-416.68
105	7.27	154.87	36.46	36.32	-498.94
106	10.22	200.66	40.71	36.32	-598.69
107	5.07	92.00	23.48	34.21	-320.79
108	5.71	98.28	26.26	34.21	-356.88
109	6.60	107.12	29.20	34.21	-409.59
110	7.90	119.96	32.64	34.21	-473.83
111	9.89	139.59	36.48	34.21	-555.33
112	13.16	171.82	40.74	34.21	-655.34
113	6.56	89.34	23.47	32.11	-394.49
114	7.31	94.71	26.26	32.11	-427.75
115	8.34	102.16	29.21	32.11	-477.84
116	9.81	112.71	32.65	32.11	-540.24
117	11.96	128.25	36.49	32.11	-620.34
118	15.30	152.36	40.77	32.11	-720.06
119	8.76	91.69	26.25	30.00	-509.85
120	9.88	98.04	29.21	30.00	-556.86
121	11.44	106.88	32.66	30.00	-616.70

Surface	X Center	Y Center	Surf. X Value	Toe Angle	EP Fac
122	13.65	119.44	36.48	30.00	-694.74
123	16.98	138.31	40.79	30.00	-793.95