



Solpile

LATERALLY LOADED PILE ANALYSIS

Single pile in layered soil

ANALYSIS REPORT

Company	Solplan
Project Name	Solpile example
Generated	2026-10-02 17:59
Program	Solpile (App Pile)

Notes. Illustrative example for learning. Not a site-specific foundation design.

Table of Contents

1. Program Options & Settings	3
1.1 Options	3
2. Pile Sections	3
2.1 Pile Section Schedule	3
2.2 Circular pile — Elastic Section (Non-yielding)	3
3. Soil Materials & Layers	4
3.1 Soil Materials — Soft Clay (Matlock)	4
3.2 Soil Materials — Sand (Reese)	4
3.3 Soil Materials — Stiff Clay without Free Water (Reese)	4
3.4 Soil Layer Profile	4
4. Loading	4
4.1 Pile-head Load Cases	4
5. Special Analyses & LRFD	4
6. Validation & Warnings	4
7. Results — Load Case Summary	4
7.1 Load Case Summary	4
8. Results — Response Profiles per Load Case	4
8.1 Load Case 1 — response profile	4
8.2 Load Case 2 — response profile	7
8.3 Load Case 3 — response profile	9

1. Program Options & Settings

1.1 Options

Option	Value
Analysis mode	conventional
Unit system	SI
Loading type	static
Pile increments	100
Max iterations	500
Convergence tolerance (m)	1e-05
Deflection limit (m)	2.54
P-Delta effects	yes
Shear deformation	no
Use load-test data	no
Extend p-y curves to maximum displacement	no
Layering correction (Georgiadis)	yes
Layering correction across same soil type	yes
Include batter/slope	no
Use p/y modifiers	no
Include tip shear	no
Include tip moment	no
Include side-resistance moment	no
Distributed load — shared	no
Distributed load — per load case	no
Soil movement — shared	no
Soil movement — per load case	no
Concentrated loads — shared	no
Concentrated loads — per load case	no
Variable pile length enabled	no
Stiffness matrix enabled	no
Pushover enabled	no
Buckling enabled	no

2. Pile Sections

Total pile length (m): 18; pile head above ground (m): 0

2.1 Pile Section Schedule

Section	Type	Top (m)	Bottom (m)	Length (m)
Circular pile	Elastic Section (Non-yielding)	0	18	18

2.2 Circular pile — Elastic Section (Non-yielding)

Property	Value
Length of Section (m)	18
Structural Shape	Circular shape without void
Section Diameter (mm) — top → bottom	600 – 600
Auto-compute Area & Inertia from dimensions	yes
Area (mm ²)	282743
Moment of Inertia (mm ⁴) — top → bottom	6361725123.519 → 6361725123.519
Elastic Mod. (kPa)	28000000

3. Soil Materials & Layers

3.1 Soil Materials — Soft Clay (Matlock)

Material	γ unsat (kN/m ³)	γ sat (kN/m ³)	Undrained shear strength, c_u (kPa)	Strain factor, ϵ_{50}
Soft clay	17	19	35	0.01

3.2 Soil Materials — Sand (Reese)

Material	γ unsat (kN/m ³)	γ sat (kN/m ³)	Friction angle, ϕ' (°)	Subgrade modulus, k ($E_s = k \cdot x$) (kN/m ³)
Dense sand	18	20	35	16000

3.3 Soil Materials — Stiff Clay without Free Water (Reese)

Material	γ unsat (kN/m ³)	γ sat (kN/m ³)	Undrained shear strength, c_u (kPa)	Strain factor, ϵ_{50}
Stiff clay	19	20	110	0.005

3.4 Soil Layer Profile

Layer	Top (m)	Bottom (m)	Thickness (m)	Material	p-y model
Soft clay	0	4	4	Soft clay	Soft Clay (Matlock)
Dense sand	4	12	8	Dense sand	Sand (Reese)
Stiff clay	12	20	8	Stiff clay	Stiff Clay without Free Water (Reese)

Water table depth below ground (m): 2

4. Loading

4.1 Pile-head Load Cases

LC	Condition	Value 1	Value 2	Axial (kN)	Compute top y vs pile length
1	V + M	50	0	250	no
2	V + M	100	0	250	no
3	V + M	150	0	250	no

5. Special Analyses & LRFD

No special analysis or LRFD result is configured for this project.

6. Validation & Warnings

No model-validation errors or warnings were found at export time.

7. Results — Load Case Summary

7.1 Load Case Summary

Case / Combination	Status	Iter	y top (m)	Slope top (rad)	M max (kN-m)	Depth Mmax (m)	V max (kN)	Depth Vmax (m)
1	converged	13	0.0028182	-0.00115477	60.3897	2.34	50	0
2	converged	15	0.010233	-0.00343195	149.983	2.88	100	0
3	converged	15	0.0210107	-0.00641719	258.619	3.24	150	0

8. Results — Response Profiles per Load Case

8.1 Load Case 1 — response profile

Depth (m)	y (m)	Moment (kN-m)	Shear (kN)	Slope (rad)	Total stress (kPa)	Bending stiffness (kN-m ²)	Soil p (kN/m)	Soil spr. $E_s \cdot H$ (kN/m)	Distrib. lat. load (kN/m)
0	0.0028182	-2.38429e-12	50	-0.00115477	884.194	178128	-18.0716	577.123	0
0.18	0.00261034	8.7592	46.6626	-0.00115034	1297.25	178128	-19.0111	1310.94	0

Depth (m)	y (m)	Moment (kN-m)	Shear (kN)	Slope (rad)	Total stress (kPa)	Bending stiffness (kN-m ²)	Soil p (kN/m)	Soil spr. Es*H (kN/m)	Distrib. lat. load (kN/m)
0.36	0.00240408	16.9021	43.1647	-0.00113737	1681.24	178128	-19.8542	1486.54	0
0.54	0.00220089	24.4009	39.5241	-0.00111651	2034.87	178128	-20.5969	1684.52	0
0.72	0.00200213	31.2312	35.7592	-0.0010884	2356.96	178128	-21.2352	1909.13	0
0.9	0.00180906	37.3721	31.8892	-0.00105374	2646.55	178128	-21.7654	2165.63	0
1.08	0.00162279	42.8061	27.9338	-0.00101323	2902.8	178128	-22.1835	2460.6	0
1.26	0.0014443	47.5195	23.9135	-0.000967588	3125.07	178128	-22.486	2802.38	0
1.44	0.00127446	51.5021	19.8496	-0.000917557	3312.88	178128	-22.6689	3201.67	0
1.62	0.00111398	54.7479	15.7638	-0.000863874	3465.94	178128	-22.7281	3672.46	0
1.8	0.000963463	57.2548	11.679	-0.000807284	3584.16	178128	-22.6593	4233.35	0
1.98	0.000823359	59.025	7.61847	-0.000748533	3667.64	178128	-22.4574	4909.57	0
2.16	0.000693991	60.0648	3.61896	-0.000688363	3716.67	178128	-21.9815	5701.33	0
2.34	0.000575548	60.3897	-0.28171	-0.000627502	3731.99	178128	-21.3593	6680.01	0
2.52	0.00046809	60.0199	-4.05798	-0.000566665	3714.55	178128	-20.5993	7921.29	0
2.7	0.000371549	58.9799	-7.68386	-0.00050654	3665.51	178128	-19.6882	9538.13	0
2.88	0.000285736	57.2993	-11.1303	-0.00044779	3586.26	178128	-18.6056	11720.6	0
3.06	0.000210345	55.0133	-14.3634	-0.000391043	3478.46	178128	-17.3177	14819.4	0
3.24	0.00014496	52.1637	-17.3408	-0.000336892	3344.08	178128	-15.7641	19574.6	0
3.42	8.90637e-05	48.8009	-20.0032	-0.000285879	3185.5	178128	-13.8192	27928.9	0
3.6	4.20437e-05	44.9882	-22.2501	-0.000238492	3005.7	178128	-11.1454	47716.4	0
3.78	3.20674e-06	40.8124	-23.7945	-0.000195141	2808.78	178128	-6.01501	337633	0
3.96	-2.82068e-05	36.4398	-23.4438	-0.000156109	2602.58	178128	9.91148	63249.4	0
4.14	-5.29923e-05	32.3866	-22.2359	-0.000121334	2411.45	178128	3.51021	11923.2	0
4.32	-7.1887e-05	28.4458	-21.4727	-9.0598e-05	2225.61	178128	4.96883	12441.6	0
4.5	-8.56076e-05	24.6646	-20.4708	-6.37638e-05	2047.3	178128	6.16375	12960	0
4.68	-9.4842e-05	21.082	-19.2769	-4.06501e-05	1878.36	178128	7.10177	13478.4	0
4.86	-0.000100242	17.7286	-17.9362	-2.10409e-05	1720.22	178128	7.79479	13996.8	0
5.04	-0.000102417	14.6269	-16.4914	-4.6932e-06	1573.95	178128	8.25888	14515.2	0
5.22	-0.000101931	11.7921	-14.9819	8.65508e-06	1440.27	178128	8.51329	15033.6	0
5.4	-9.93009e-05	9.23261	-13.4435	1.92779e-05	1319.58	178128	8.57959	15552	0
5.58	-9.49912e-05	6.95068	-11.9081	2.74546e-05	1211.97	178128	8.48081	16070.4	0
5.76	-8.94172e-05	4.94322	-10.4032	3.3464e-05	1117.3	178128	8.24069	16588.8	0
5.94	-8.29441e-05	3.20253	-8.95204	3.75797e-05	1035.22	178128	7.88301	17107.2	0
6.12	-7.58885e-05	1.7171	-7.57378	4.00653e-05	965.167	178128	7.43101	17625.6	0
6.3	-6.85206e-05	0.472361	-6.28337	4.11716e-05	906.469	178128	6.90688	18144	0
6.48	-6.10668e-05	-0.548617	-5.09192	4.1133e-05	910.065	178128	6.3314	18662.4	0
6.66	-5.37127e-05	-1.36443	-4.00697	4.01664e-05	948.537	178128	5.72363	19180.8	0
6.84	-4.66069e-05	-1.99474	-3.03278	3.84692e-05	978.26	178128	5.10065	19699.2	0
7.02	-3.98638e-05	-2.4597	-2.17075	3.62186e-05	1000.19	178128	4.4775	20217.6	0
7.2	-3.35682e-05	-2.77947	-1.41974	3.35715e-05	1015.27	178128	3.86705	20736	0
7.38	-2.77781e-05	-2.97382	-0.776501	3.06646e-05	1024.43	178128	3.28004	21254.4	0
7.56	-2.25289e-05	-3.06177	-0.236039	2.76151e-05	1028.58	178128	2.7251	21772.8	0
7.74	-1.78366e-05	-3.06128	0.20802	2.45214e-05	1028.56	178128	2.20889	22291.2	0
7.92	-1.37012e-05	-2.98909	0.563079	2.14644e-05	1025.15	178128	1.73622	22809.6	0
8.1	-1.01094e-05	-2.86051	0.837255	1.85089e-05	1019.09	178128	1.31018	23328	0
8.28	-7.03799e-06	-2.68934	1.03909	1.57048e-05	1011.02	178128	0.932392	23846.4	0
8.46	-4.4557e-06	-2.48785	1.17728	1.3089e-05	1001.51	178128	0.603124	24364.8	0
8.64	-2.32593e-06	-2.2667	1.2605	1.06868e-05	991.085	178128	0.321537	24883.2	0
8.82	-6.08461e-07	-2.03503	1.29717	8.51331e-06	980.16	178128	0.085866	25401.6	0
9	7.38858e-07	-1.80048	1.29532	6.57541e-06	969.1	178128	-0.106396	25920	0

Depth (m)	y (m)	Moment (kN-m)	Shear (kN)	Slope (rad)	Total stress (kPa)	Bending stiffness (kN-m ²)	Soil p (kN/m)	Soil spr. Es*H (kN/m)	Distrib. lat. load (kN/m)
9.18	1.75868e-06	-1.56931	1.2625	4.87281e-06	958.198	178128	-0.258316	26438.4	0
9.36	2.49307e-06	-1.34642	1.20565	3.39962e-06	947.687	178128	-0.373362	26956.8	0
9.54	2.98255e-06	-1.13558	1.13107	2.14558e-06	937.745	178128	-0.455256	27475.2	0
9.72	3.26548e-06	-0.939432	1.04439	1.09718e-06	928.495	178128	-0.507847	27993.6	0
9.9	3.37753e-06	-0.759696	0.950535	2.38685e-07	920.019	178128	-0.535001	28512	0
10.08	3.3514e-06	-0.59726	0.853739	-4.46923e-07	912.359	178128	-0.540515	29030.4	0
10.26	3.21664e-06	-0.45231	0.757568	-9.77223e-07	905.524	178128	-0.528044	29548.8	0
10.44	2.9996e-06	-0.324448	0.66495	-1.36968e-06	899.494	178128	-0.501054	30067.2	0
10.62	2.72355e-06	-0.212805	0.578204	-1.64113e-06	894.229	178128	-0.462786	30585.6	0
10.8	2.4088e-06	-0.116147	0.499092	-1.80734e-06	889.671	178128	-0.41624	31104	0
10.98	2.07291e-06	-0.0329694	0.428855	-1.88268e-06	885.749	178128	-0.364169	31622.4	0
11.16	1.73103e-06	0.0384104	0.368261	-1.87993e-06	886.005	178128	-0.309093	32140.8	0
11.34	1.39614e-06	0.0997738	0.317644	-1.81011e-06	888.899	178128	-0.253316	32659.2	0
11.52	1.07939e-06	0.152925	0.27694	-1.68243e-06	891.406	178128	-0.198954	33177.6	0
11.7	7.90464e-07	0.199624	0.245717	-1.50431e-06	893.608	178128	-0.147975	33696	0
11.88	5.37843e-07	0.241519	0.223198	-1.28142e-06	895.583	178128	-0.102233	34214.4	0
12.06	3.29153e-07	0.28009	0.067359	-1.01787e-06	897.402	178128	-1.62931	891000	0
12.24	1.71409e-07	0.265859	-0.155642	-7.42029e-07	896.731	178128	-0.848476	891000	0
12.42	6.20228e-08	0.224126	-0.259636	-4.94462e-07	894.763	178128	-0.307013	891000	0
12.6	-6.59711e-09	0.172435	-0.284328	-2.94098e-07	892.326	178128	0.0326557	891000	0
12.78	-4.38525e-08	0.121795	-0.261852	-1.45437e-07	889.938	178128	0.21707	891000	0
12.96	-5.89546e-08	0.0781814	-0.216052	-4.43988e-08	887.881	178128	0.291825	891000	0
13.14	-5.98361e-08	0.0440199	-0.163131	1.73439e-08	886.27	178128	0.296189	891000	0
13.32	-5.27108e-08	0.0194529	-0.112991	4.94138e-08	885.111	178128	0.260918	891000	0
13.5	-4.20471e-08	0.00333869	-0.0707763	6.09293e-08	884.352	178128	0.208133	891000	0
13.68	-3.07762e-08	-0.00603211	-0.0383335	5.95684e-08	884.479	178128	0.152342	891000	0
13.86	-2.06025e-08	-0.0104668	-0.0154443	5.12323e-08	884.688	178128	0.101982	891000	0
14.04	-1.23326e-08	-0.0115967	-0.000771751	4.00847e-08	884.741	178128	0.0610463	891000	0
14.22	-6.17202e-09	-0.0107482	0.00747205	2.87948e-08	884.701	178128	0.0305515	891000	0
14.4	-1.96645e-09	-0.00890934	0.0110977	1.88628e-08	884.614	178128	0.00973394	891000	0
14.58	6.18583e-10	-0.0067547	0.0116982	1.09485e-08	884.513	178128	-0.00306199	891000	0
14.76	1.975e-09	-0.00469896	0.0105428	5.16146e-09	884.416	178128	-0.00977624	891000	0
14.94	2.47671e-09	-0.00295976	0.00855954	1.29186e-09	884.334	178128	-0.0122597	891000	0
15.12	2.44007e-09	-0.00161765	0.00636912	-1.02089e-09	884.27	178128	-0.0120783	891000	0
15.3	2.10919e-09	-0.000666791	0.00434242	-2.17511e-09	884.226	178128	-0.0104405	891000	0
15.48	1.65703e-09	-5.4178e-05	0.00266457	-2.53938e-09	884.197	178128	-0.00820229	891000	0
15.66	1.19501e-09	0.000292683	0.00139399	-2.41888e-09	884.208	178128	-0.00591531	891000	0
15.84	7.86232e-10	0.000447876	0.000511345	-2.04471e-09	884.215	178128	-0.00389185	891000	0
16.02	4.58916e-10	0.000476952	-4.33687e-05	-1.57744e-09	884.217	178128	-0.00227164	891000	0
16.2	2.18355e-10	0.000432405	-0.000345093	-1.11798e-09	884.215	178128	-0.00108086	891000	0
16.38	5.64438e-11	0.000352819	-0.000467516	-7.21242e-10	884.211	178128	-0.000279397	891000	0
16.56	-4.12925e-11	0.000264164	-0.000474266	-4.09509e-10	884.207	178128	0.000204398	891000	0
16.74	-9.09796e-11	0.00018212	-0.000415338	-1.84022e-10	884.203	178128	0.000450349	891000	0
16.92	-1.07541e-10	0.000114659	-0.000326898	-3.40733e-11	884.2	178128	0.000532326	891000	0
17.1	-1.03246e-10	6.44402e-05	-0.000232992	5.64173e-11	884.197	178128	0.000511068	891000	0
17.28	-8.72303e-11	3.07769e-05	-0.000148135	1.04526e-10	884.196	178128	0.00043179	891000	0
17.46	-6.56166e-11	1.11023e-05	-8.00418e-05	1.25686e-10	884.195	178128	0.000324802	891000	0
17.64	-4.19834e-11	1.95066e-06	-3.21061e-05	1.32281e-10	884.194	178128	0.000207818	891000	0
17.82	-1.79955e-11	-4.67739e-07	-5.38546e-06	1.3303e-10	884.194	178128	8.90776e-05	891000	0

Depth (m)	y (m)	Moment (kN-m)	Shear (kN)	Slope (rad)	Total stress (kPa)	Bending stiffness (kN-m ²)	Soil p (kN/m)	Soil spr. Es*H (kN/m)	Distrib. lat. load (kN/m)
18	5.90741e-12	0	-2.30943e-10	1.32794e-10	884.194	178128	-2.92417e-05	445500	0

8.2 Load Case 2 — response profile

Depth (m)	y (m)	Moment (kN-m)	Shear (kN)	Slope (rad)	Total stress (kPa)	Bending stiffness (kN-m ²)	Soil p (kN/m)	Soil spr. Es*H (kN/m)	Distrib. lat. load (kN/m)
0	0.010233	-9.53714e-12	100	-0.00343195	884.194	178128	-27.747	244.037	0
0.18	0.00961522	17.7049	94.8632	-0.003423	1719.11	178128	-29.3283	549.035	0
0.36	0.00900069	34.4588	89.4522	-0.00339664	2509.17	178128	-30.7942	615.837	0
0.54	0.00839243	50.2134	83.7881	-0.00335386	3252.11	178128	-32.1404	689.344	0
0.72	0.0077933	64.9244	77.8928	-0.00329569	3945.83	178128	-33.3628	770.572	0
0.9	0.00720598	78.5514	71.789	-0.0032232	4588.45	178128	-34.4572	860.716	0
1.08	0.00663295	91.0585	65.5001	-0.0031375	5178.24	178128	-35.42	961.202	0
1.26	0.00607648	102.414	59.05	-0.00303975	5713.73	178128	-36.2473	1073.73	0
1.44	0.00553864	112.59	52.4635	-0.00293112	6193.61	178128	-36.9356	1200.37	0
1.62	0.00502128	121.565	45.766	-0.00281281	6616.81	178128	-37.4813	1343.61	0
1.8	0.00452603	129.319	38.9834	-0.00268605	6982.49	178128	-37.881	1506.53	0
1.98	0.0040543	135.84	32.1423	-0.00255208	7290.02	178128	-38.1311	1692.92	0
2.16	0.00360728	141.12	25.291	-0.00241214	7538.99	178128	-37.9948	1895.91	0
2.34	0.00318593	145.162	18.4791	-0.0022675	7729.61	178128	-37.6926	2129.57	0
2.52	0.00279098	147.976	11.7341	-0.00211939	7862.32	178128	-37.2516	2402.48	0
2.7	0.00242295	149.577	5.08136	-0.00196905	7937.81	178128	-36.6679	2724.05	0
2.88	0.00208212	149.983	-1.45311	-0.00181769	7956.94	178128	-35.9372	3106.78	0
3.06	0.00176858	149.218	-7.84233	-0.00166652	7920.85	178128	-35.0541	3567.69	0
3.24	0.00148217	147.31	-14.0582	-0.0015167	7830.88	178128	-34.0115	4130.47	0
3.42	0.00122257	144.293	-20.0713	-0.00136937	7688.63	178128	-32.8002	4829.21	0
3.6	0.000989203	140.207	-25.8499	-0.00122562	7495.95	178128	-31.4068	5714.93	0
3.78	0.000781342	135.097	-31.3596	-0.00108652	7254.99	178128	-29.8122	6867.93	0
3.96	0.000598055	129.016	-36.5615	-0.000953079	6968.19	178128	-27.9864	8423.22	0
4.14	0.000438234	122.021	-41.6929	-0.000826242	6638.35	178128	-29.0286	11923.2	0
4.32	0.000300608	114.081	-46.1754	-0.00070695	6263.89	178128	-20.778	12441.6	0
4.5	0.000183732	105.462	-49.236	-0.000596026	5857.45	178128	-13.2287	12960	0
4.68	8.60382e-05	96.4092	-51.0065	-0.00049403	5430.57	178128	-6.44254	13478.4	0
4.86	5.88081e-06	87.1437	-51.6274	-0.000401289	4993.63	178128	-0.457292	13996.8	0
5.04	-5.84259e-05	77.8594	-51.2446	-0.000317921	4555.81	178128	4.71146	14515.2	0
5.22	-0.000108571	68.7243	-50.0044	-0.000243859	4125.03	178128	9.06782	15033.6	0
5.4	-0.000146215	59.8798	-48.0514	-0.000178881	3707.95	178128	12.633	15552	0
5.58	-0.000172968	51.4419	-45.5246	-0.000122635	3310.04	178128	15.4426	16070.4	0
5.76	-0.000190364	43.502	-42.5558	-7.46645e-05	2935.62	178128	17.5439	16588.8	0
5.94	-0.000199847	36.1285	-39.2674	-3.44309e-05	2587.91	178128	18.9935	17107.2	0
6.12	-0.000202759	29.3688	-35.7711	-1.33811e-06	2269.14	178128	19.8541	17625.6	0
6.3	-0.000200329	23.251	-32.1669	2.52483e-05	1980.64	178128	20.1931	18144	0
6.48	-0.000193669	17.7865	-28.5423	4.59826e-05	1722.95	178128	20.0796	18662.4	0
6.66	-0.000183775	12.9717	-24.9727	6.15233e-05	1495.9	178128	19.5831	19180.8	0
6.84	-0.000171521	8.79077	-21.5208	7.25189e-05	1298.74	178128	18.7713	19699.2	0
7.02	-0.000157668	5.21766	-18.2375	7.95967e-05	1130.24	178128	17.7093	20217.6	0
7.2	-0.000142866	2.21809	-15.1625	8.33536e-05	988.793	178128	16.4582	20736	0
7.38	-0.000127661	-0.248331	-12.3246	8.43489e-05	895.905	178128	15.0742	21254.4	0
7.56	-0.000112501	-2.22634	-9.74315	8.30985e-05	989.182	178128	13.6081	21772.8	0
7.74	-9.77454e-05	-3.76334	-7.42899	8.00722e-05	1061.66	178128	12.1048	22291.2	0
7.92	-8.36747e-05	-4.90798	-5.38527	7.5691e-05	1115.64	178128	10.6033	22809.6	0

Depth (m)	y (m)	Moment (kN-m)	Shear (kN)	Slope (rad)	Total stress (kPa)	Bending stiffness (kN-m ²)	Soil p (kN/m)	Soil spr. Es*H (kN/m)	Distrib. lat. load (kN/m)
8.1	-7.04967e-05	-5.70885	-3.6087	7.03268e-05	1153.41	178128	9.13637	23328	0
8.28	-5.8357e-05	-6.21344	-2.09062	6.4303e-05	1177.2	178128	7.73114	23846.4	0
8.46	-4.73476e-05	-6.46726	-0.818015	5.7896e-05	1189.17	178128	6.40897	24364.8	0
8.64	-3.75145e-05	-6.51314	0.225532	5.13376e-05	1191.33	178128	5.186	24883.2	0
8.82	-2.8866e-05	-6.39069	1.05889	4.48179e-05	1185.56	178128	4.07357	25401.6	0
9	-2.138e-05	-6.13597	1.7026	3.84888e-05	1173.55	178128	3.07872	25920	0
9.18	-1.50101e-05	-5.78122	2.17811	3.24676e-05	1156.82	178128	2.20468	26438.4	0
9.36	-9.69168e-06	-5.35477	2.50716	2.68411e-05	1136.71	178128	1.45143	26956.8	0
9.54	-5.34728e-06	-4.88106	2.71124	2.16694e-05	1114.37	178128	0.816209	27475.2	0
9.72	-1.8907e-06	-4.38068	2.81117	1.69899e-05	1090.77	178128	0.294042	27993.6	0
9.9	7.69067e-07	-3.87057	2.82667	1.28209e-05	1066.72	178128	-0.12182	28512	0
10.08	2.72481e-06	-3.36423	2.77615	9.16547e-06	1042.84	178128	-0.439458	29030.4	0
10.26	4.06864e-06	-2.87198	2.67649	6.0146e-06	1019.63	178128	-0.667907	29548.8	0
10.44	4.89007e-06	-2.40124	2.54286	3.35029e-06	997.429	178128	-0.816837	30067.2	0
10.62	5.27474e-06	-1.95685	2.38868	1.14835e-06	976.473	178128	-0.896284	30585.6	0
10.8	5.30347e-06	-1.54142	2.22553	-6.19166e-07	956.883	178128	-0.91644	31104	0
10.98	5.05184e-06	-1.1556	2.06318	-1.98185e-06	938.689	178128	-0.887507	31622.4	0
11.16	4.59001e-06	-0.798493	1.90954	-2.96916e-06	921.849	178128	-0.819592	32140.8	0
11.34	3.98294e-06	-0.467901	1.77074	-3.60901e-06	906.259	178128	-0.722665	32659.2	0
11.52	3.29077e-06	-0.160702	1.65111	-3.92661e-06	891.772	178128	-0.606554	33177.6	0
11.7	2.56936e-06	0.126851	1.55323	-3.94372e-06	890.176	178128	-0.480984	33696	0
11.88	1.87103e-06	0.398815	1.47793	-3.67812e-06	903.001	178128	-0.355645	34214.4	0
12.06	1.24524e-06	0.659238	0.891172	-3.14354e-06	915.282	178128	-6.16392	891000	0
12.24	7.39354e-07	0.71992	0.00703689	-2.44671e-06	918.143	178128	-3.6598	891000	0
12.42	3.64419e-07	0.661991	-0.484694	-1.7485e-06	915.412	178128	-1.80388	891000	0
12.6	1.09895e-07	0.545587	-0.696001	-1.13836e-06	909.922	178128	-0.543981	891000	0
12.78	-4.53915e-08	0.411533	-0.724738	-6.54775e-07	903.601	178128	0.224688	891000	0
12.96	-1.25824e-07	0.284741	-0.648461	-3.0298e-07	897.622	178128	0.622828	891000	0
13.14	-1.54464e-07	0.178114	-0.523593	-6.91207e-08	892.593	178128	0.764598	891000	0
13.32	-1.50707e-07	0.0962533	-0.387639	6.95047e-08	888.733	178128	0.746001	891000	0
13.5	-1.29443e-07	0.0385582	-0.262832	1.37619e-07	886.012	178128	0.640741	891000	0
13.68	-1.01165e-07	0.00162137	-0.160097	1.5792e-07	884.271	178128	0.500765	891000	0
13.86	-7.25916e-08	-0.0190908	-0.0826883	1.49093e-07	885.094	178128	0.359328	891000	0
14.04	-4.7491e-08	-0.0281598	-0.0291915	1.2522e-07	885.522	178128	0.235081	891000	0
14.22	-2.75125e-08	-0.029611	0.00422263	9.60307e-08	885.59	178128	0.136187	891000	0
14.4	-1.292e-08	-0.0266483	0.0222353	6.76054e-08	885.451	178128	0.063954	891000	0
14.58	-3.17457e-09	-0.0216123	0.0294055	4.32216e-08	885.213	178128	0.0157141	891000	0
14.76	2.63976e-09	-0.0160662	0.0296437	2.41843e-08	884.952	178128	-0.0130668	891000	0
14.94	5.53178e-09	-0.0109428	0.0260033	1.05379e-08	884.71	178128	-0.0273823	891000	0
15.12	6.4334e-09	-0.006706	0.0206728	1.62079e-09	884.51	178128	-0.0318453	891000	0
15.3	6.11526e-09	-0.00350071	0.0150824	-3.53619e-09	884.359	178128	-0.0302706	891000	0
15.48	5.16038e-09	-0.00127603	0.0100591	-5.94966e-09	884.254	178128	-0.0255439	891000	0
15.66	3.97339e-09	0.000121093	0.00598999	-6.53319e-09	884.2	178128	-0.0196683	891000	0
15.84	2.80843e-09	0.000880957	0.00296869	-6.0269e-09	884.236	178128	-0.0139017	891000	0
16.02	1.8037e-09	0.00119036	0.000913985	-4.98036e-09	884.25	178128	-0.00892834	891000	0
16.2	1.0155e-09	0.00121044	-0.00034197	-3.76734e-09	884.251	178128	-0.00502672	891000	0
16.38	4.47461e-10	0.00106759	-0.000993718	-2.61636e-09	884.244	178128	-0.00221493	891000	0
16.56	7.36098e-11	0.000852937	-0.00122586	-1.646e-09	884.234	178128	-0.000364368	891000	0
16.74	-1.45099e-10	0.000626435	-0.00119401	-8.98543e-10	884.224	178128	0.000718242	891000	0

Depth (m)	y (m)	Moment (kN-m)	Shear (kN)	Slope (rad)	Total stress (kPa)	Bending stiffness (kN-m ²)	Soil p (kN/m)	Soil spr. Es*H (kN/m)	Distrib. lat. load (kN/m)
16.92	-2.49866e-10	0.000423176	-0.00101805	-3.68222e-10	884.214	178128	0.00123683	891000	0
17.1	-2.7766e-10	0.000259971	-0.000783037	-2.30598e-11	884.206	178128	0.00137441	891000	0
17.28	-2.58167e-10	0.000141285	-0.000544326	1.79676e-10	884.201	178128	0.00127793	891000	0
17.46	-2.12976e-10	6.39977e-05	-0.000334432	2.83396e-10	884.197	178128	0.00105423	891000	0
17.64	-1.56144e-10	2.08645e-05	-0.000169989	3.26273e-10	884.195	178128	0.000772915	891000	0
17.82	-9.55177e-11	2.77275e-06	-5.78735e-05	3.38216e-10	884.194	178128	0.000472813	891000	0
18	-3.43866e-11	1.77643e-20	-1.09139e-09	3.39617e-10	884.194	178128	0.000170214	445500	0

8.3 Load Case 3 — response profile

Depth (m)	y (m)	Moment (kN-m)	Shear (kN)	Slope (rad)	Total stress (kPa)	Bending stiffness (kN-m ²)	Soil p (kN/m)	Soil spr. Es*H (kN/m)	Distrib. lat. load (kN/m)
0	0.0210107	1.90743e-11	150	-0.00641719	884.194	178128	-35.2537	151.011	0
0.18	0.0198556	26.7177	143.467	-0.00640369	2144.12	178128	-37.3336	338.446	0
0.36	0.0187054	52.2245	136.572	-0.00636381	3346.95	178128	-39.2826	378.013	0
0.54	0.0175646	76.4562	129.338	-0.00629879	4489.64	178128	-41.0959	421.145	0
0.72	0.0164378	99.3529	121.79	-0.00620996	5569.38	178128	-42.7688	468.334	0
0.9	0.015329	120.859	113.954	-0.0060987	6583.56	178128	-44.2968	520.152	0
1.08	0.0142423	140.925	105.856	-0.00596643	7529.81	178128	-45.6756	577.268	0
1.26	0.0131811	159.505	97.5245	-0.00581464	8405.96	178128	-46.9007	640.472	0
1.44	0.012149	176.557	88.9863	-0.00564484	9210.11	178128	-47.9681	710.698	0
1.62	0.011149	192.048	80.2706	-0.0054586	9940.6	178128	-48.8736	789.063	0
1.8	0.0101839	205.946	71.4068	-0.00525752	10596	178128	-49.6129	876.908	0
1.98	0.00925627	218.227	62.4252	-0.0050432	11175.2	178128	-50.1821	975.856	0
2.16	0.00836834	228.873	53.3847	-0.0048173	11677.2	178128	-50.2682	1081.25	0
2.34	0.00752204	237.879	44.3462	-0.00458147	12101.9	178128	-50.16	1200.31	0
2.52	0.00671901	245.25	35.3413	-0.00433737	12449.5	178128	-49.8936	1336.63	0
2.7	0.00596058	250.993	26.3991	-0.00408664	12720.3	178128	-49.4651	1493.77	0
2.88	0.00524781	255.121	17.5489	-0.00383093	12915	178128	-48.8702	1676.25	0
3.06	0.00458145	257.655	8.82122	-0.00357184	13034.4	178128	-48.1039	1889.95	0
3.24	0.00396195	258.619	0.247414	-0.00331099	13079.9	178128	-47.1606	2142.61	0
3.42	0.00338949	258.042	-8.14006	-0.00304995	13052.7	178128	-46.0336	2444.63	0
3.6	0.00286397	255.963	-16.3074	-0.00279025	12954.6	178128	-44.7145	2810.3	0
3.78	0.002385	252.423	-24.219	-0.00253338	12787.7	178128	-43.1927	3259.82	0
3.96	0.00195195	247.472	-31.8372	-0.00228081	12554.2	178128	-41.4542	3822.72	0
4.14	0.00156391	241.167	-42.1042	-0.00203392	12256.9	178128	-72.6231	8358.63	0
4.32	0.00121974	232.497	-54.816	-0.0017946	11848.1	178128	-68.6191	10126.3	0
4.5	0.000917855	221.594	-66.6759	-0.00156517	11333.9	178128	-63.1575	12385.8	0
4.68	0.000656277	208.635	-76.7829	-0.0013478	10722.8	178128	-49.142	13478.4	0
4.86	0.000432648	194.074	-84.2335	-0.00114433	10036.1	178128	-33.6427	13996.8	0
5.04	0.00024432	178.414	-89.0345	-0.000956126	9297.66	178128	-19.7019	14515.2	0
5.22	8.84431e-05	162.107	-91.4725	-0.000784076	8528.69	178128	-7.38676	15033.6	0
5.4	-3.79476e-05	145.554	-91.8422	-0.000628629	7748.1	178128	3.27868	15552	0
5.58	-0.000137863	129.101	-90.4394	-0.000489858	6972.2	178128	12.3084	16070.4	0
5.76	-0.000214297	113.04	-87.5542	-0.000367516	6214.83	178128	19.7496	16588.8	0
5.94	-0.000270169	97.6143	-83.4658	-0.000261082	5487.39	178128	25.6769	17107.2	0
6.12	-0.000308286	83.016	-78.438	-0.000169818	4798.98	178128	30.1874	17625.6	0
6.3	-0.000331303	69.3919	-72.7156	-9.28129e-05	4156.51	178128	33.3954	18144	0
6.48	-0.000341699	56.8467	-66.5215	-2.90303e-05	3564.92	178128	35.4273	18662.4	0
6.66	-0.000341754	45.4468	-60.0555	2.26539e-05	3027.33	178128	36.4173	19180.8	0
6.84	-0.000333543	35.2247	-53.4927	6.34135e-05	2545.29	178128	36.503	19699.2	0

Depth (m)	y (m)	Moment (kN-m)	Shear (kN)	Slope (rad)	Total stress (kPa)	Bending stiffness (kN-m ²)	Soil p (kN/m)	Soil spr. Es*H (kN/m)	Distrib. lat. load (kN/m)
7.02	-0.000318925	26.1837	-46.9834	9.44403e-05	2118.94	178128	35.8217	20217.6	0
7.2	-0.000299545	18.3022	-40.6538	0.000116917	1747.27	178128	34.5076	20736	0
7.38	-0.000276835	11.5378	-34.6062	0.000131994	1428.28	178128	32.6887	21254.4	0
7.56	-0.000252027	5.83209	-28.9205	0.00014077	1159.22	178128	30.4852	21772.8	0
7.74	-0.000226158	1.11379	-23.6562	0.000144279	936.717	178128	28.0074	22291.2	0
7.92	-0.000200086	-2.69712	-18.8536	0.000143479	1011.38	178128	25.3549	22809.6	0
8.1	-0.000174505	-5.68641	-14.5362	0.000139244	1152.35	178128	22.6159	23328	0
8.28	-0.000149959	-7.94268	-10.7128	0.000132357	1258.75	178128	19.8665	23846.4	0
8.46	-0.000126857	-9.55491	-7.37936	0.000123517	1334.78	178128	17.1713	24364.8	0
8.64	-0.000105493	-10.6104	-4.52144	0.000113328	1384.55	178128	14.5833	24883.2	0
8.82	-8.60585e-05	-11.1928	-2.11593	0.000102312	1412.01	178128	12.1446	25401.6	0
9	-6.86603e-05	-11.3813	-0.13308	9.09064e-05	1420.9	178128	9.88708	25920	0
9.18	-5.33322e-05	-11.2489	1.46177	7.94724e-05	1414.66	178128	7.83344	26438.4	0
9.36	-4.00503e-05	-10.8622	2.70659	6.83006e-05	1396.42	178128	5.99793	26956.8	0
9.54	-2.8744e-05	-10.2807	3.64128	5.76181e-05	1369	178128	4.38749	27475.2	0
9.72	-1.93077e-05	-9.55655	4.3064	4.75953e-05	1334.85	178128	3.00274	27993.6	0
9.9	-1.16097e-05	-8.73468	4.74215	3.83535e-05	1296.1	178128	1.83898	28512	0
10.08	-5.50046e-06	-7.85282	4.9875	2.99726e-05	1254.51	178128	0.887114	29030.4	0
10.26	-8.19565e-07	-6.94187	5.07945	2.24976e-05	1211.55	178128	0.13454	29548.8	0
10.44	2.59867e-06	-6.02625	5.05249	1.59454e-05	1168.37	178128	-0.434081	30067.2	0
10.62	4.92077e-06	-5.12441	4.93817	1.03115e-05	1125.85	178128	-0.836138	30585.6	0
10.8	6.31079e-06	-4.24943	4.76477	5.5753e-06	1084.58	178128	-1.09051	31104	0
10.98	6.92788e-06	-3.40959	4.55709	1.70554e-06	1044.98	178128	-1.21709	31622.4	0
11.16	6.92479e-06	-2.60903	4.33627	-1.33539e-06	1007.23	178128	-1.23649	32140.8	0
11.34	6.44714e-06	-1.84842	4.1197	-3.58754e-06	971.36	178128	-1.16977	32659.2	0
11.52	5.63328e-06	-1.12562	3.92098	-5.09018e-06	937.275	178128	-1.03833	33177.6	0
11.7	4.61467e-06	-0.436409	3.74978	-5.8794e-06	904.774	178128	-0.863867	33696	0
11.88	3.51669e-06	0.224831	3.61187	-5.9863e-06	894.796	178128	-0.668453	34214.4	0
12.06	2.45961e-06	0.864402	2.45595	-5.43596e-06	924.957	178128	-12.1751	891000	0
12.24	1.55975e-06	1.10946	0.665332	-4.43866e-06	936.513	178128	-7.72075	891000	0
12.42	8.61689e-07	1.10432	-0.413418	-3.32014e-06	936.271	178128	-4.26536	891000	0
12.6	3.64498e-07	0.960931	-0.959685	-2.27666e-06	929.509	178128	-1.80427	891000	0
12.78	4.20921e-08	0.75904	-1.14082	-1.40764e-06	919.988	178128	-0.208356	891000	0
12.96	-1.42251e-07	0.550363	-1.0962	-7.46057e-07	910.148	178128	0.704143	891000	0
13.14	-2.26488e-07	0.364475	-0.931926	-2.83831e-07	901.382	178128	1.12112	891000	0
13.32	-2.4443e-07	0.214895	-0.722132	8.89741e-09	894.328	178128	1.20993	891000	0
13.5	-2.23285e-07	0.104507	-0.513765	1.70276e-07	889.122	178128	1.10526	891000	0
13.68	-1.83131e-07	0.0299242	-0.332706	2.38198e-07	885.605	178128	0.906499	891000	0
13.86	-1.37534e-07	-0.015289	-0.18985	2.45592e-07	884.915	178128	0.680793	891000	0
14.04	-9.47178e-08	-0.0384439	-0.0863817	2.18444e-07	886.007	178128	0.468853	891000	0
14.22	-5.88943e-08	-0.0464061	-0.0179476	1.75573e-07	886.383	178128	0.291527	891000	0
14.4	-3.15116e-08	-0.0449208	0.0223282	1.2943e-07	886.312	178128	0.155982	891000	0
14.58	-1.22996e-08	-0.0383796	0.0418462	8.73417e-08	886.004	178128	0.0608832	891000	0
14.76	-6.85837e-11	-0.029864	0.0473562	5.28614e-08	885.602	178128	0.000339489	891000	0
14.94	6.73045e-09	-0.0213361	0.0443883	2.69923e-08	885.2	178128	-0.0333157	891000	0
15.12	9.64864e-09	-0.0138867	0.0370914	9.19583e-09	884.849	178128	-0.0477607	891000	0
15.3	1.0041e-08	-0.00798403	0.0283197	-1.85443e-09	884.571	178128	-0.0497027	891000	0
15.48	8.98104e-09	-0.0036914	0.0198454	-7.75348e-09	884.368	178128	-0.0444562	891000	0
15.66	7.2497e-09	-0.000838975	0.0126146	-1.00425e-08	884.234	178128	-0.035886	891000	0

Depth (m)	y (m)	Moment (kN-m)	Shear (kN)	Slope (rad)	Total stress (kPa)	Bending stiffness (kN-m ²)	Soil p (kN/m)	Soil spr. Es*H (kN/m)	Distrib. lat. load (kN/m)
15.84	5.36575e-09	0.000850778	0.00699446	-1.00365e-08	884.234	178128	-0.0265605	891000	0
16.02	3.63656e-09	0.00167993	0.00298393	-8.75786e-09	884.273	178128	-0.018001	891000	0
16.2	2.21292e-09	0.00192578	0.000377985	-6.93605e-09	884.285	178128	-0.010954	891000	0
16.38	1.13958e-09	0.00181663	-0.00111555	-5.04518e-09	884.28	178128	-0.0056409	891000	0
16.56	3.96658e-10	0.00152464	-0.00179995	-3.357e-09	884.266	178128	-0.00196346	891000	0
16.74	-6.89418e-11	0.00116896	-0.00194594	-1.99605e-09	884.249	178128	0.000341262	891000	0
16.92	-3.21919e-10	0.000824278	-0.00177182	-9.88959e-10	884.233	178128	0.0015935	891000	0
17.1	-4.24967e-10	0.000531192	-0.00143908	-3.04103e-10	884.219	178128	0.00210359	891000	0
17.28	-4.31396e-10	0.000306238	-0.00105757	1.19012e-10	884.209	178128	0.00213541	891000	0
17.46	-3.82123e-10	0.000150457	-0.000695146	3.49758e-10	884.201	178128	0.00189151	891000	0
17.64	-3.05483e-10	5.59545e-05	-0.000388818	4.54049e-10	884.197	178128	0.00151214	891000	0
17.82	-2.18665e-10	1.04427e-05	-0.00015531	4.87596e-10	884.195	178128	0.00108239	891000	0
18	-1.29948e-10	1.77643e-19	-2.34598e-09	4.92872e-10	884.194	178128	0.000643244	445500	0