

Job No.	Sheet No.	Rev.
J1879		
Drg. Ref.		
Made by E	Date	Checked

INITIAL DATA																														
Soil properties																														
No.	Description	Unit	Wt	K0	Ka	Kp	Kac	Kpc	Kr	Earth pressure coefficients.																				
			[kN/m³]																											
1	Made Ground	16.00	0.66	0.49	2.04	1.40	2.86	0.50	Calculated																					
2	Firm London Clay	17.00	0.63	0.45	2.20	1.35	2.97	0.50	Calculated																					
3	Very Stiff London Clay	19.50	0.63	0.44	2.28	1.32	3.02	0.50	Calculated																					
No.	c0	y0	Gradient of c	E0	Gradient of E	Drained/Undrained																								
	[kN/m²]	[m]	[kN/m²/m]	[kN/m²]	[kN/m²/m]																									
1	0.00	0.00	0.00	15000.	0.00	Drained																								
2	5.00	0.00	0.00	15000.	0.00	Drained																								
3	5.00	0.00	0.00	15000.	0.00	Drained																								
Parameters used to calculate Earth pressure coefficients																														
No.	Phi	Delta/Phi	Beta	Cw/C																										
	[°]	Ratio	[°]	Ratio																										
1	20.00	0.00	0.00	0.00																										
2	22.00	0.00	0.00	0.00																										
3	23.00	0.00	0.00	0.00																										
Soil Strength Partial Factors																														
Document and case:		tan Phi'		c'		Cu		E																						
EC7 DAI Combination		1.25		1.25		1.40		1.00																						
2 (2011)																														
Note: Only the parameters in bold have been affected by Partial Factors, No geometry or other factors have been changed.																														
Design Soil properties after applying Partial Factors																														
No.	Unit	Wt	K0	Ka	Kp	Kac	Kpc	Kr	Earth pressure coefficients.																					
1	16.00	0.66	0.56	1.78	1.50	2.67	0.50	Calculated																						
2	17.00	0.63	0.53	1.89	1.46	2.75	0.50	Calculated																						
3	19.50	0.63	0.51	1.95	1.43	2.79	0.50	Calculated																						
No.	c0	y0	Gradient of c	E0	Gradient of E	Drained/Undrained																								
	[kN/m²]	[m]	[kN/m²/m]	[kN/m²]	[kN/m²/m]																									
1	0.00	0.00	0.00	15000.	0.00	Drained																								
2	4.00	0.00	0.00	15000.	0.00	Drained																								
3	4.00	0.00	0.00	15000.	0.00	Drained																								
Parameters used to calculate design Earth pressure coefficients																														
No.	Phi	Delta/Phi	Beta	Cw/C																										
	[°]	Ratio	[°]	Ratio																										
1	16.23	0.00	0.00	0.00																										
2	17.91	0.00	0.00	0.00																										
3	18.76	0.00	0.00	0.00																										
Surcharge properties																														
No.	Stage	Side	Level	Pressure	Partial Factor	Offset	Width	Ks																						
	In	Out	[m]	[kN/m²]	[m]	[m]																								
1	0	-	Left	0.00	10.00	1.00	1.00	5.00	0.00																					
Note: Only the parameters in bold have been affected by Partial Factors.																														
Surcharge Design properties																														
No.	Stage	Side	Level	Pressure	Offset	Width	Ks																							
	In	Out	[m]	[kN/m²]	[m]	[m]																								
1	0	-	Left	0.00	10.00	1.00	5.00	0.00																						
Strut properties																														
No.	Stage	Node	Level	Prestress	Stiffness	Angle	Lever arm																							
	In	Out	[m]	[kN/m]	[kN/m/m]	[°]	[m]																							
1	1	-	4	-1.00	0.00	100000.00	0.00	0.30																						
STAGE 0 : INITIAL CONDITION																														
Ground level [m] LEFT: 0.00 RIGHT: 0.00 Soil zones changed																														
Water data on LEFT side																														
No.	Level	Pressure	Unit																											
			wt.																											
			[m]	[kN/m²]	[kN/m³]																									
1	0.00	0.00	10.00																											
Water data on RIGHT side																														
No.	Level	Pressure	Unit																											
			wt.																											
			[m]	[kN/m²]	[kN/m³]																									
1	0.00	0.00	10.00																											
Analysis details																														
SAFE model with redistribution and without friction at wall/soil interface																														
				Left	Right																									
E profile Generated																														
Boundary distances [m] :				50.00	50.00																									
Convergence control parameters																														
Maximum number of iterations : 900																														
Tolerance for displacement convergence [mm] : 0.01																														
Tolerance for pressure convergence [kN/m²] : 0.10																														
Damping coefficient : 1.00																														
Maximum incremental displacement [m] : 1.00																														
RESULTS FOR STAGE 0 : Initial condition																														
Surcharge or strut changes																														
Surcharge no. 1 applied at this stage																														
Summary Results																														
	Node	Level	Displacement	Moment	Shear																									
			[mm]	[kNm/m]	[kN/m]																									
		[m]																												
Top wall node	1	0.00	0.00	0.00	0.00																									
STAGE 1 : PERMANENT CONDITION																														
Ground level [m] LEFT: 0.00 RIGHT: -2.80 Soil zones changed and wall EI changed																														
Water data on LEFT side																														
No.	Level	Pressure	Unit																											
			wt.																											
			[m]	[kN/m²]	[kN/m³]																									
1	-7.30	0.00	10.00																											
Water data on RIGHT side																														
No.	Level	Pressure	Unit																											
			wt.																											
			[m]	[kN/m²]	[kN/m³]																									
1	-7.30	0.00	10.00																											
RESULTS FOR STAGE 1 : Permanent Condition																														
Surcharge or strut changes																														
Strut no 1 inserted at this stage																														
Summary Results																														
	Node	Level	Displacement	Moment	Shear																									
			[mm]	[kNm/m]	[kN/m]																									
		[m]																												
Top wall node	1	0.00	-1.51	0.00	0.00																									
Above strut 1	4	-1.00	0.66	-5.74	19.27																									
Below strut 1			-5.74	-46.68																										
Dig level (R)	8	-3.04	4.76	47.96	-5.29																									
Max BM	9	-3.51	5.51	48.02	4.04																									
Wall toe	18	-7.50	9.18	0.00	0.00																									
Strut Forces																														
No.	Node no.	Strut force	Horiz force	Moment	Max strut force																									
			[kN/m]	[kN/m]	[kNm/m]	[kN/m]																								
1	4	65.95	65.95	0.00	65.95																									