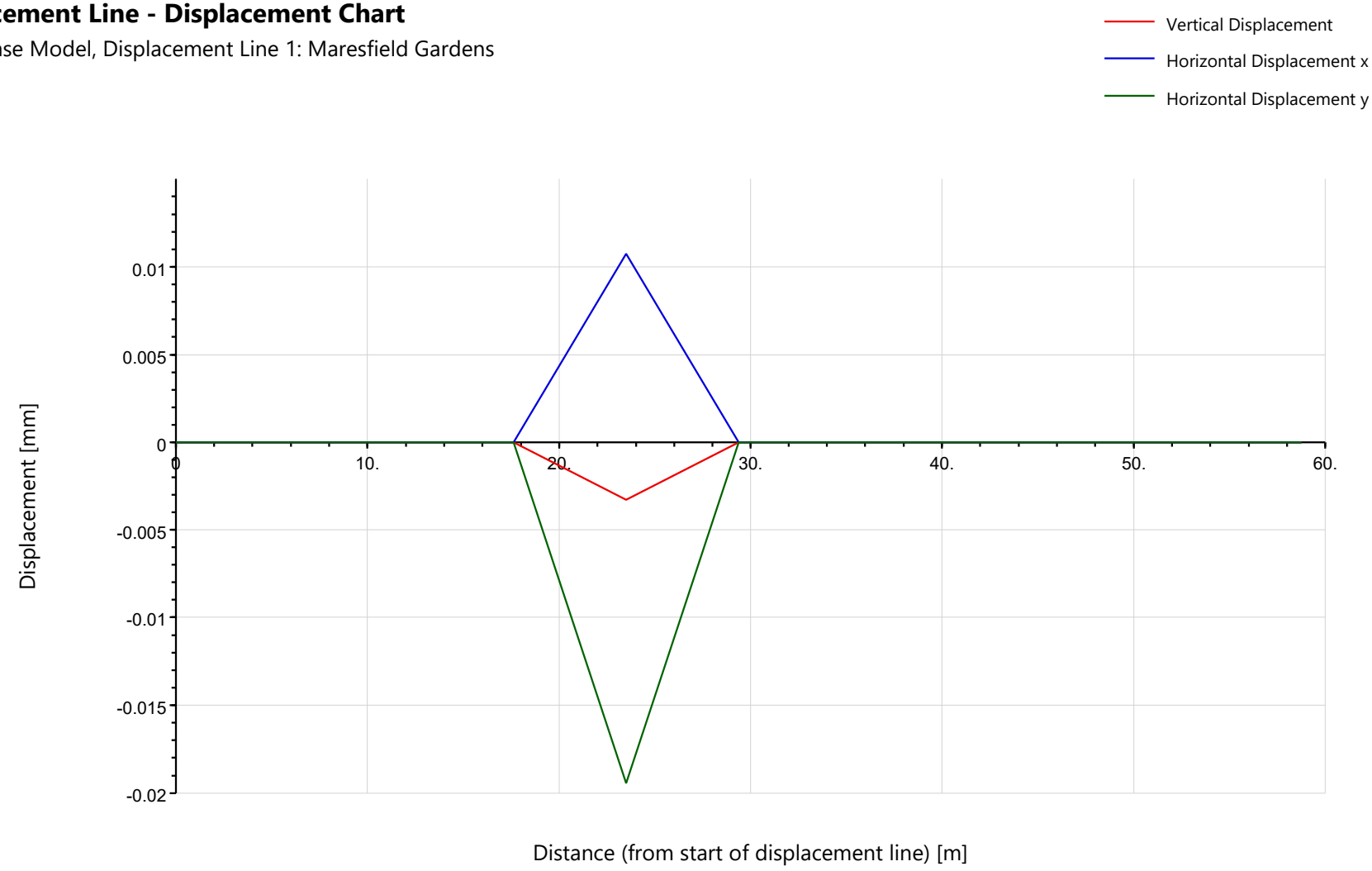
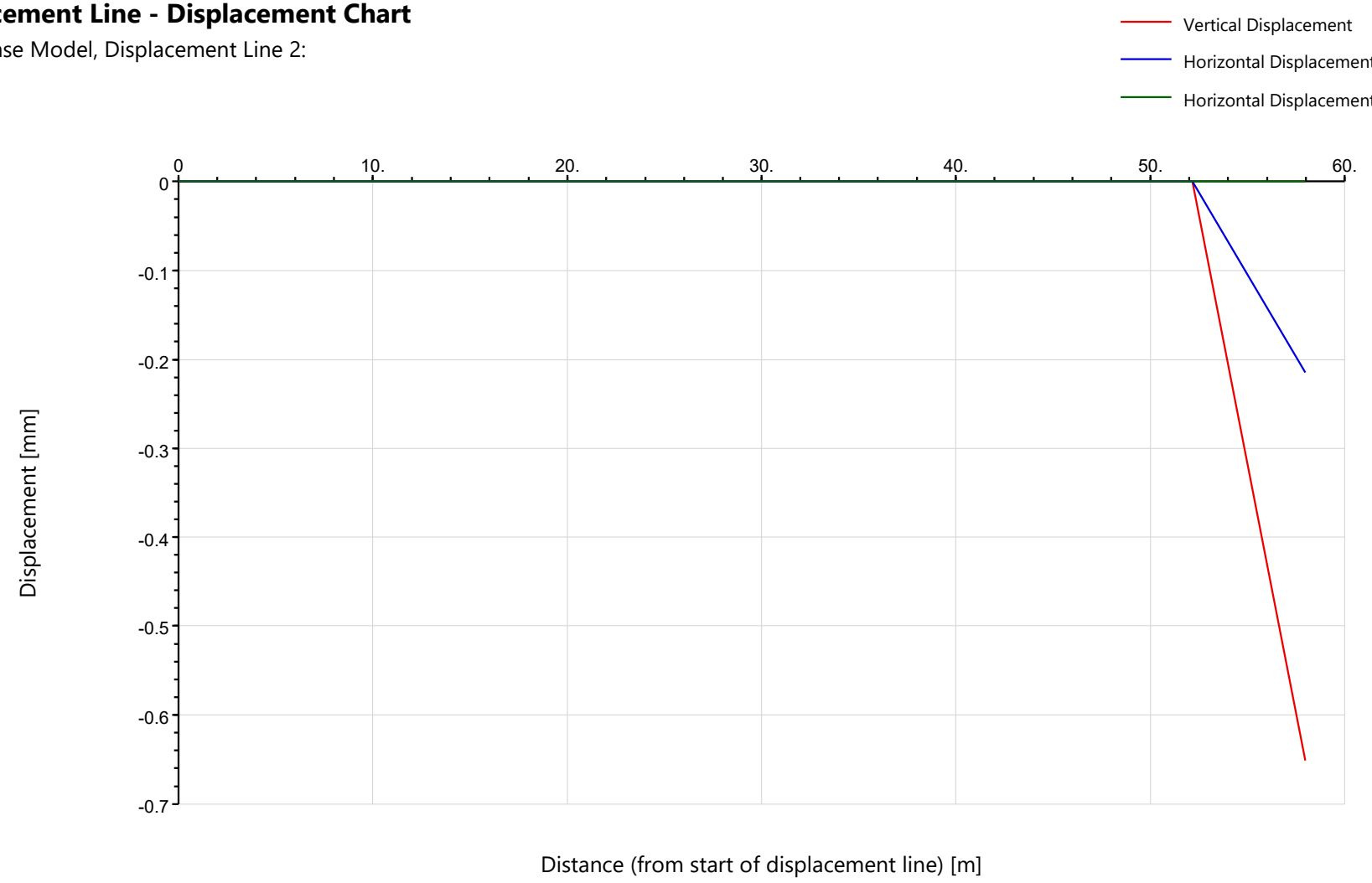
Displacement Line - Displacement Chart

Stage: Base Model, Displacement Line 1: Maresfield Gardens



Displacement Line - Displacement Chart

Stage: Base Model, Displacement Line 2:



Titles

Job No.: J23181
Job Title: 46 Maresfield Gardens, London NW3 5RX
Sub-title: Raft Analysis & Tunnel Assessment
Calculation Heading: Drained Analysis
Initials: ML
Checker:
Date Saved:
Date Checked:
Notes:
File Name: J23181 Drained Raft Analysis & Tunnel Assessment.pdd
File Path: G:\PROJECTS\2023\J23181 - 46 Maresfield Gardens\APPENDIX\GMA

History

Date	Time	By	Notes
20-Jul-2023	21:59	Matt Legg	New
20-Jul-2023	22:58	Matt Legg	
21-Jul-2023	21:37	Matt Legg	
22-Jul-2023	14:54	Matt Legg	
24-Jul-2023	12:22	Matt Legg	
28-Jul-2023	14:53	Matt Legg	
28-Jul-2023	23:11	Matt Legg	
29-Jul-2023	23:01	Matt Legg	
31-Jul-2023	09:49	Matt Legg	
31-Jul-2023	22:51	Matt Legg	
01-Aug-2023	11:55	Matt Legg	
03-Aug-2023	17:32	Matt Legg	
03-Aug-2023	18:04	Matt Legg	
03-Aug-2023	22:23	Matt Legg	
03-Aug-2023	22:59	Matt Legg	
04-Aug-2023	09:51	Matt Legg	
08-Dec-2023	17:08	Matt Legg	
08-Dec-2023	17:19	Matt Legg	
12-Dec-2023	11:03	Matt Legg	
15-Dec-2023	06:51	Matt Legg	Open

Analysis Options

General
Global Poisson's ratio: 0.20
Maximum allowable ratio between values of E: 1.5
Horizontal rigid boundary level: 35.00 [m OD]
Displacements at load centroids: Yes
GSA piled raft data : No

Elastic
Elastic : Yes

Consolidation
Consolidation : No

Soil ProfilesUndrained

Layer ref.	Name	Level at top	Number of intermediate displacement levels	Youngs Modulus : Top	Youngs Modulus : Btm.	Poissons ratio	Non-linear curve
		[mOD]		[kN/m²]	[kN/m²]		
1	MG	75.000	1	9000.0	9000.0	0.50000	None

Layer ref.	Name	Level at top	Number of intermediate displacement levels	Youngs Modulus : Top	Youngs Modulus : Btm.	Poissons ratio	Non-linear curve
2	L.CLAY	74.000	1	22500.	26550.	0.50000	None
3	L.CLAY	73.000	1	26550.	30600.	0.50000	None
4	L.CLAY	72.000	1	40800.	46200.	0.50000	None
5	L.CLAY	71.000	2	46200.	57000.	0.50000	None
6	L.CLAY	69.000	2	57000.	67800.	0.50000	None
7	L.CLAY	67.000	4	67800.	89400.	0.50000	None
8	L.CLAY	63.000	6	89400.	121800.	0.50000	None
9	L.CLAY	57.000	10	121800.	175800.	0.50000	None
10	L.CLAY	47.000	12	175800.	240600.	0.50000	None

Soil ProfilesDrained

Layer ref.	Name	Level at top	Number of intermediate displacement levels	Youngs Modulus : Top	Youngs Modulus : Btm.	Poissons ratio	Non-linear curve
		[mOD]		[kN/m²]	[kN/m²]		
1	MG	75.000	1	4800.0	4800.0	0.20000	None
2	L.CLAY	74.000	1	12000.	14160.	0.20000	None
3	L.CLAY	73.000	1	14160.	16320.	0.20000	None
4	L.CLAY	72.000	1	30600.	34650.	0.20000	None
5	L.CLAY	71.000	2	34650.	42750.	0.20000	None
6	L.CLAY	69.000	2	42750.	50850.	0.20000	None
7	L.CLAY	67.000	4	50850.	67050.	0.20000	None
8	L.CLAY	63.000	6	67050.	91350.	0.20000	None
9	L.CLAY	57.000	10	91350.	131850.	0.20000	None
10	L.CLAY	47.000	12	131850.	180450.	0.20000	None

Soil Zones

Zone	Name	X min [m]	X max [m]	Y min [m]	Y max [m]	Profile
1	Zone 1	10.000	130.00	10.000	130.00	Drained

Polygonal Load Data

Load ref.	Name	Position : Level [m]	Position : Polygon : Coords. [m]	Position : Polygon : Rect. tolerance [%]	No. of Rectangles	Value : Normal (local z) [kN/m²]
1	Basement Raft	71.00000	(59.5,65.1) (59.5,43.9) (56.1,40.1) (43.7,36.7) (38.8,35.1) (27.4,38.7) (22.5,40.4) (25.2,57.9) (29.6,60.3) (41.7,65.1) (59.5,65.1)	10.000	12	50.000

Polygonal Loads' Rectangles

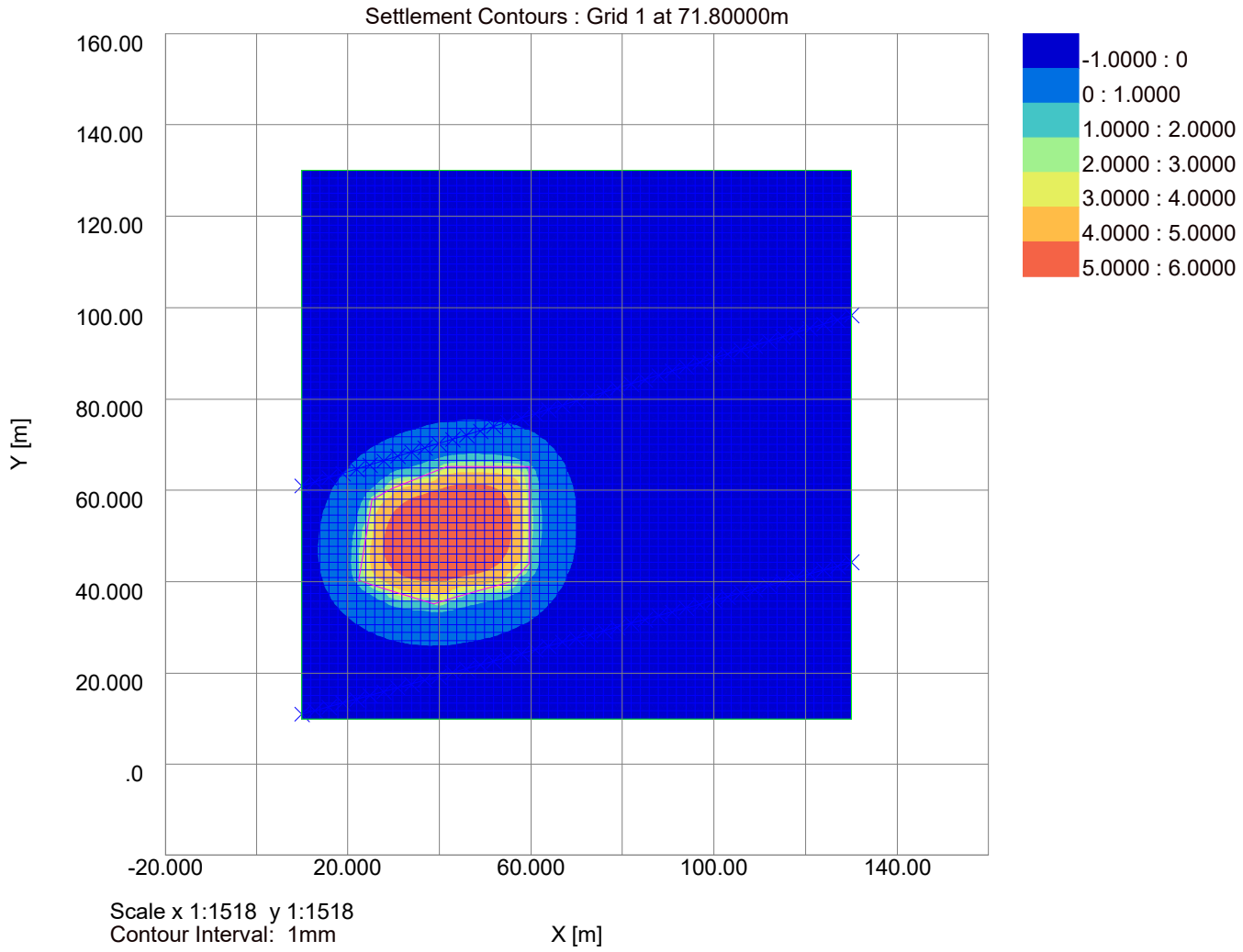
No.	Centre : Centre x [m]	Centre : Centre y [m]	Angle of local x from global X [Degrees]	Width x [m]	Depth y [m]
Load 1 : Basement Raft					
(Edge 2 optimal)					
1	57.82000	53.58250	-180.00	3.4600	23.095
2	49.88500	51.76500	-180.00	12.410	26.730
3	42.70000	50.74203	-180.00	1.9600	28.776
4	40.26500	50.06272	-180.00	2.9100	28.987
5	34.19000	49.36081	-180.00	9.2400	25.601
6	28.49500	49.05301	-180.00	2.1500	21.386
7	26.31500	48.80419	-180.00	2.2100	19.473
8	24.93500	47.84933	-180.00	0.55000	16.645
9	24.38500	46.18281	-180.00	0.55000	12.946
10	23.83500	44.51630	-180.00	0.55000	9.2474
11	23.28500	42.84978	-180.00	0.55000	5.5484
12	22.73500	41.18326	-180.00	0.55000	1.8495

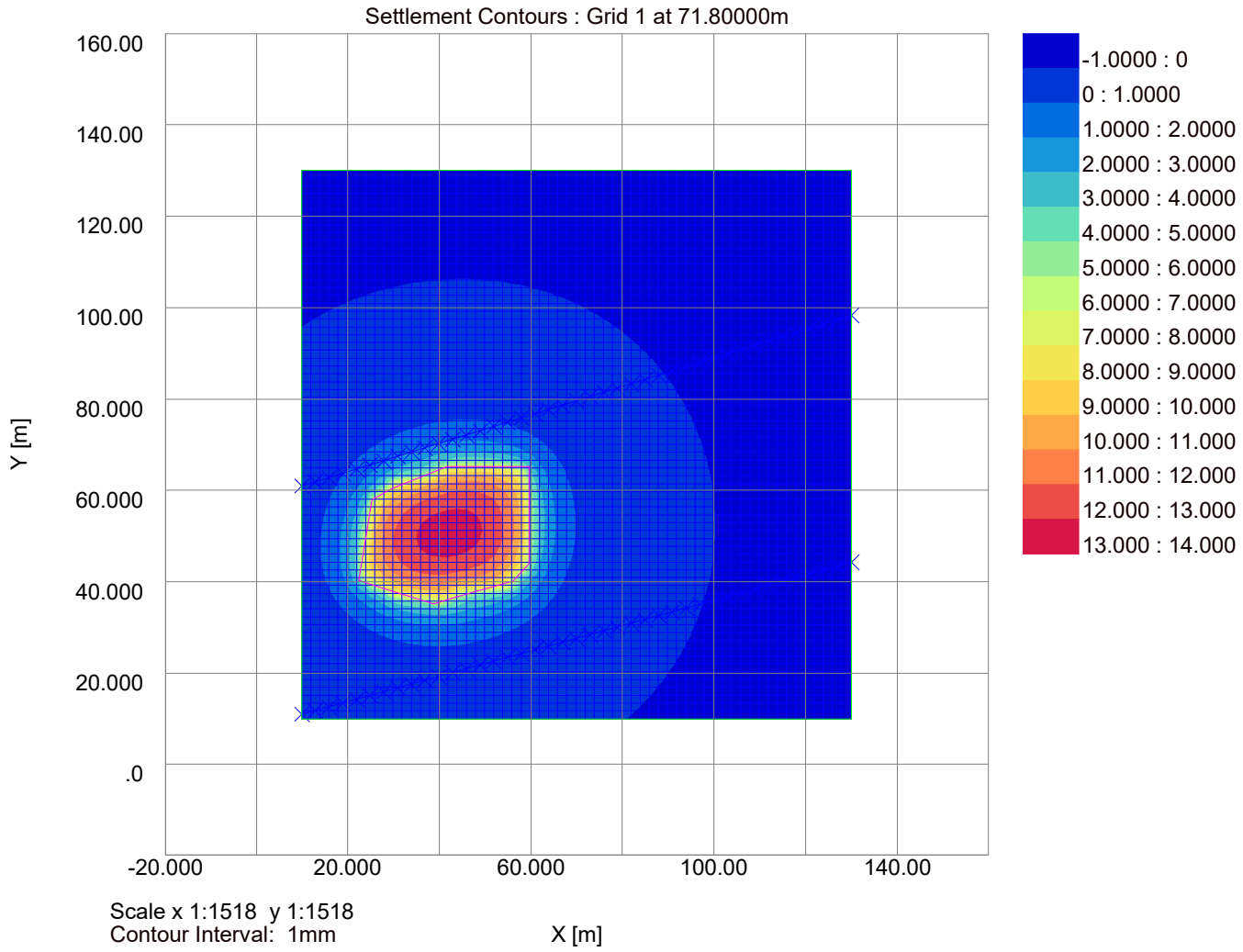
Displacement Lines

Name	X1 [m]	Y1 [m]	Z1 [m]	X2 [m]	Y2 [m]	Z2 [m]	Intervals [No.]	Calculate	Detailed Results
Belsize Tunnel 1	10.00000	11.00000	53.60000	130.00000	44.30000	53.60000	40	Yes	Yes
Belsize Tunnel 2	10.00000	61.00000	53.60000	130.00000	98.30000	53.60000	40	Yes	Yes

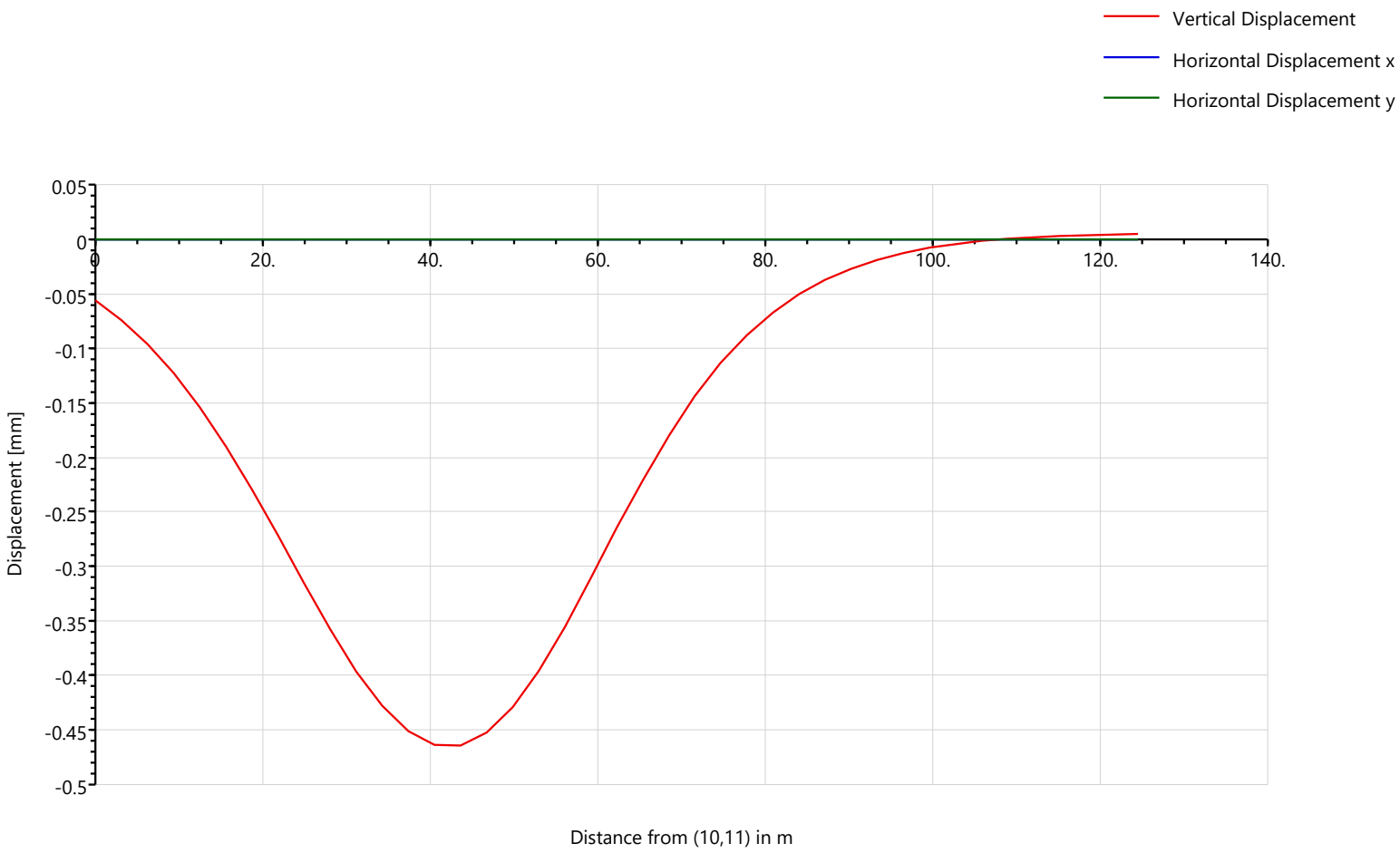
Displacement Grids

Name	Extrusion: Direction	X1 [m]	Y1 [m]	Z1 [m]	X2 [m]	Y2 [m]	Z2 [m]	Intervals Along Line [No.]	Extrusion: Distance [m]	Extrusion: Intervals Along [No.]	Calculate	Detailed Results
Basement 1	Global X	10.00000	10.00000	71.80000	-	130.00000	71.80000	70	120.00000	60	Yes	Yes

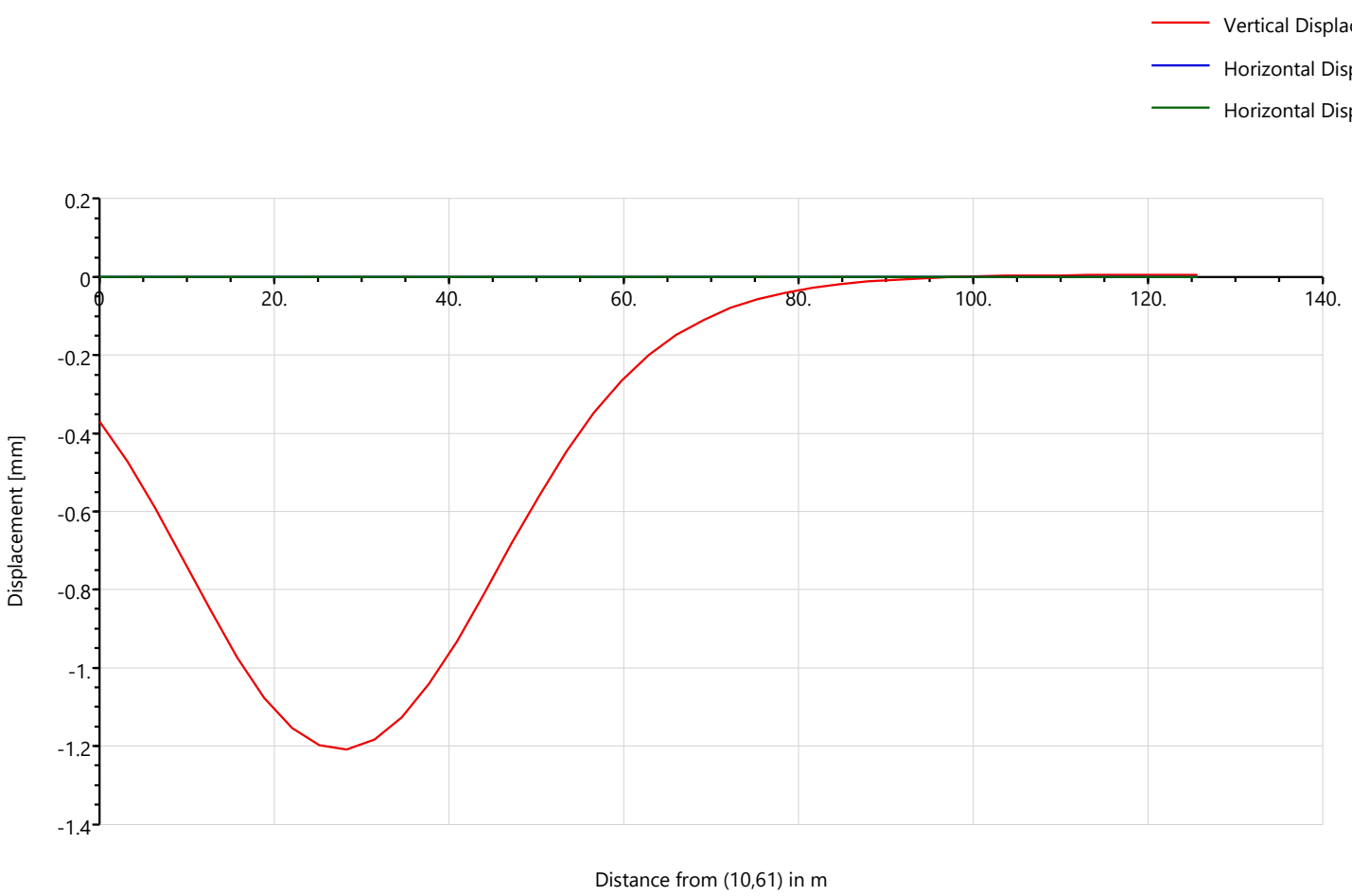

Settlement Contours : Grid 1 at 71.80000m
160.00
140.00
120.00
100.00
80.000
60.000
40.000
20.000
.0
Y [m]
-20.000
20.000
60.000
100.00
140.00
X [m]
-1.0000 : 0
0 : 1.0000
1.0000 : 2.0000
2.0000 : 3.0000
3.0000 : 4.0000
4.0000 : 5.0000
5.0000 : 6.0000
Scale x 1:1518 y 1:1518
Contour Interval: 1mm


Settlement Contours : Grid 1 at 71.80000m
160.00
140.00
120.00
100.00
80.000
60.000
40.000
20.000
.0
Y [m]
-20.000
20.000
60.000
100.00
140.00
X [m]
-1.0000 : 0
0 : 1.0000
1.0000 : 2.0000
2.0000 : 3.0000
3.0000 : 4.0000
4.0000 : 5.0000
5.0000 : 6.0000
6.0000 : 7.0000
7.0000 : 8.0000
8.0000 : 9.0000
9.0000 : 10.000
10.000 : 11.000
11.000 : 12.000
12.000 : 13.000
13.000 : 14.000
Scale x 1:1518 y 1:1518
Contour Interval: 1mm

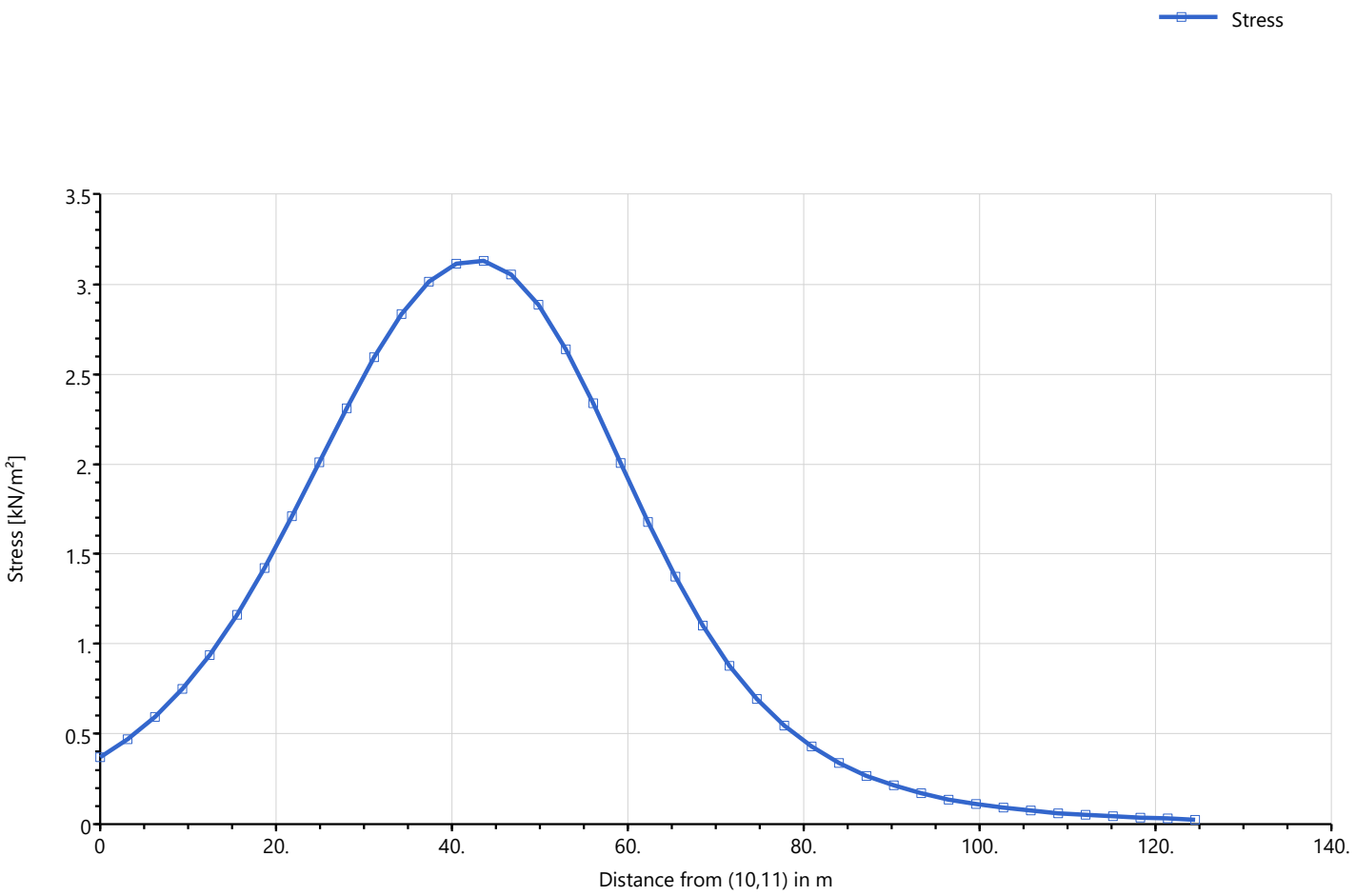
Displacement for Belsize Tunnel 1



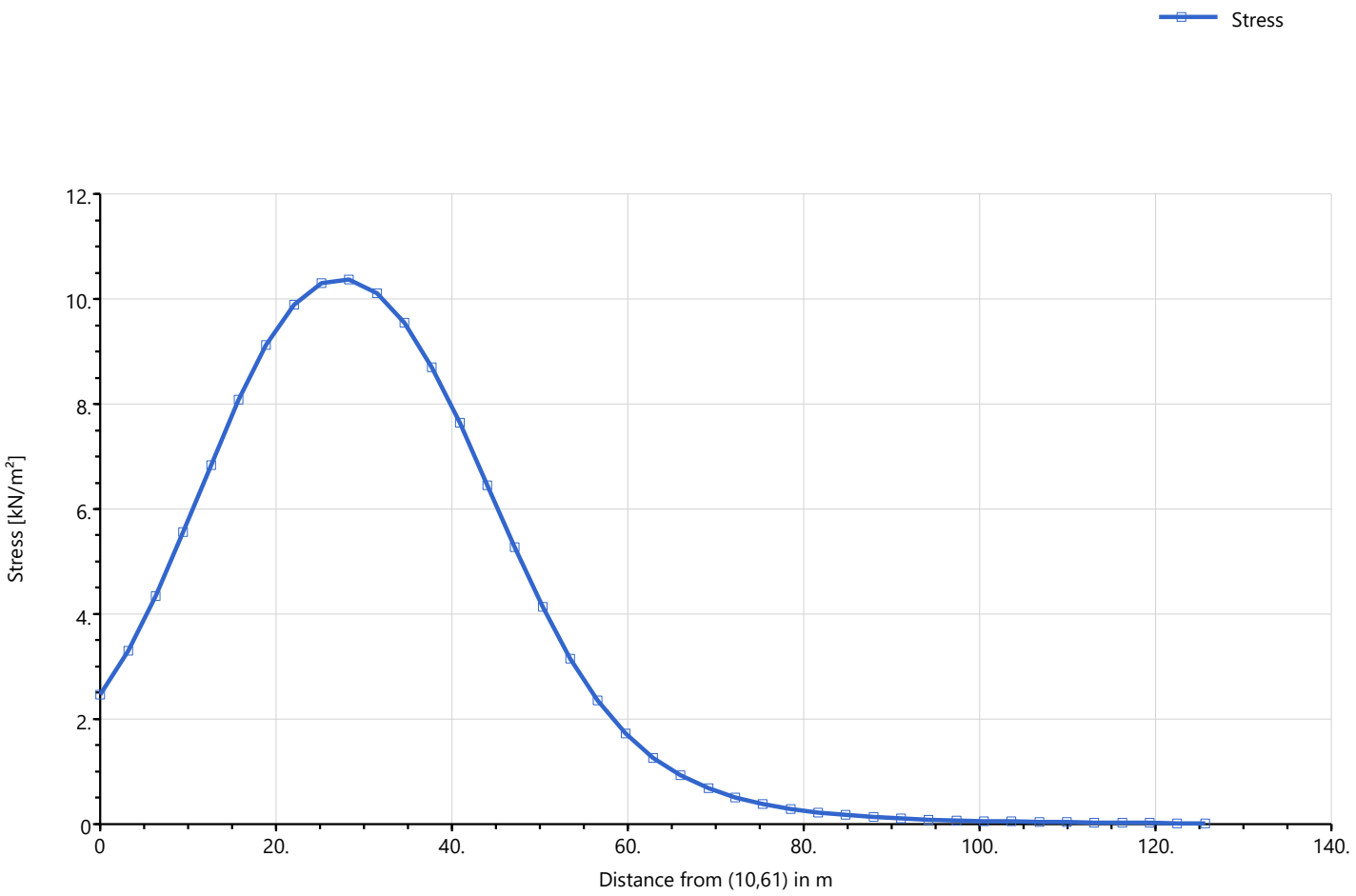
Displacement for Belsize Tunnel 2



Stress for Belsize Tunnel 1



Stress for Belsize Tunnel 2



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