



12 Eldon Grove
Long-term
Ground Movement Analysis

Job No.	Sheet No.	Rev.
P18-180		
Drg. Ref.		
Made by VB	Date	Checked

Titles

Job No.: P18-180
Job Title: 12 Eldon Grove
Sub-title: Long-term
Calculation Heading: Ground Movement Analysis
Initials: VB
Checker:
Date Saved:
Date Checked:
Notes:
File Name: 12 Eldon Grove Long Term.pdd
File Path: C:\Users\JSpyvee\Desktop\J9146 - Park Street Hotel, Cambridge\Eldon Grove

History

Date	Time	By	Notes
02-Feb-2017	21:29	jgudgin	
02-Feb-2017	22:19	jgudgin	
05-Feb-2017	19:42	jgudgin	
06-Feb-2017	11:07	jgudgin	
08-Aug-2017	21:12	jgudgin	
08-Oct-2019	15:49	dru	
10-Oct-2019	15:22	dru	
31-Oct-2019	09:46	dru	
31-Oct-2019	16:24	dru	
01-Nov-2019	17:24	dru	
12-Sep-2022	12:00	JSpyvee	Open

Analysis Options

General

Global Poisson's ratio: 0.20
Maximum allowable ratio between values of E: 1.5
Horizontal rigid boundary level: -30.00 [m OD]
Displacements at load centroids: Yes
GSA piled raft data : No

Elastic

Elastic : Yes
Analysis: Mindlin
Calculate horizontal displacements: Yes
Stiffness for horizontal displacement calculations: Weighted average
Using legacy heave correction factor: Yes
Soil above horizontal load on horizontal plane dampens displacements below load: Yes
Soil above vertical load on horizontal plane dampens displacements below load: Yes

Consolidation

Consolidation : No

Soil ProfilesSoil Profile 1

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	Layer 1	0.0	5	40000.	40000.	0.20000	None
2	Layer 2	-1.1000	5	40000.	400000.	0.20000	None

Non-linear Curve Coordinates - Non-linear Curve 1

Point Strain Factor
[%]

Soil Zones

Zone	Name	X min	X max	Y min	Y max	Profile
		[m]	[m]	[m]	[m]	
1	zone 1	-10.000	20.000	-20.000	10.000	Soil Profile 1

Polygonal Load Data

Load ref.	Name	Position : Level	Position : Polygon	Coords. : Rect. tolerance	No. of Rectangles	Value : Normal (local z)
		[m]	[m]	[%]		[kN/m²]
1	Basement Excavation	-4.00000	(0,0) (10.7,0) (10.7,-10.6) (10.4,-10.6) (10.4,-11.7) (6.24,-11.7) (6.24,-10.6) (4.12,-10.6) (4.12,-11.7) (0,-11.7) (0,0)	10.000	3	-63.000

Polygonal Loads' Rectangles

No.	Centre : x	Centre : y	Angle of local x from global X [Degrees]	Width x [m]	Depth y [m]
Load 1 : Basement Excavation					
(Edge 2 optimal)					
1	5.35050	-5.29500	-90.000	10.590	10.701
2	2.05800	-11.14000	-90.000	1.1000	4.1160
3	8.29350	-11.16250	-90.000	1.0550	4.1150

Displacement Grids

Name	Extrusion: Direction	X1	Y1	Z1	X2	Y2	Z2	Intervals Along Line [No.]	Extrusion: Distance [m]	Extrusion: Intervals Along [No.]	Calculate Detailed Results
		[m]	[m]	[m]	[m]	[m]	[m]		[m]		
Ground Level	Global X	-10.00000	10.00000	0.00000	-	-20.00000	0.00000	10	30.00000	10	Yes Yes
Exclusion Zone	Global X	-10.00000	10.00000	-15.00000	-	-20.00000	-15.00000	10	30.00000	10	Yes Yes
Network Rail Asset	Global X	-10.00000	10.00000	-25.00000	-	-20.00000	-25.00000	10	30.00000	10	Yes Yes
Basement	Global X	-10.00000	10.00000	-4.00000	-	-20.00000	-4.00000	10	30.00000	10	Yes Yes