GROUND MOVEMENT ASSESSMENT REPORT

19–21 High Holborn
London
WC1V 6BS

Client: The Honourable Society of Gray's Inn

Engineer: AECOM

J15193A

March 2016




GEA Geotechnical & Environmental Associates

Document Control

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1.0 INTRODUCTION

Geotechnical and Environmental Associates (GEA) has been commissioned by AECOM, on behalf of The Honourable Society of Gray's Inn, to complete a ground movement assessment for the proposed extension of the existing single level basement beneath Nos 19–21 High Holborn, London, WC1V 6BS, including an additional storey on the main building which will increase the loadings at the front of the building.

It is understood that the extension to the rear will not provide larger forces on the ground than that of the original structure. The existing four-storey rear extension is a reinforced concrete frame, which is to be replaced with a lightweight steel frame, therefore the worst case ground movements are likely to be the heave which will occur during the excavation stage.

A Desk Study and Ground Investigation Report has previously been carried out by GEA (report ref J15193, dated 15th September 2015) and the findings of the report have been used in the derivation of parameters for use in this assessment.

The purpose of this assessment has been to assess any effects of the proposed basement construction upon nearby sensitive structures.

1.1 Proposed Development

Consideration is being given to the demolition of a four-storey extension at the rear of the existing building and subsequent construction of a new six-storey extension. A single storey will be also be added to the main building and the existing basement beneath the main building will be extended below the new six-storey extension. Latest information provided by the consulting engineers suggests there will be a small increase in depth of the proposed basement extension in relation to the existing basement.

This report is specific to the proposed development and the advice herein should be reviewed if the development proposals are amended.

1.2 Limitations

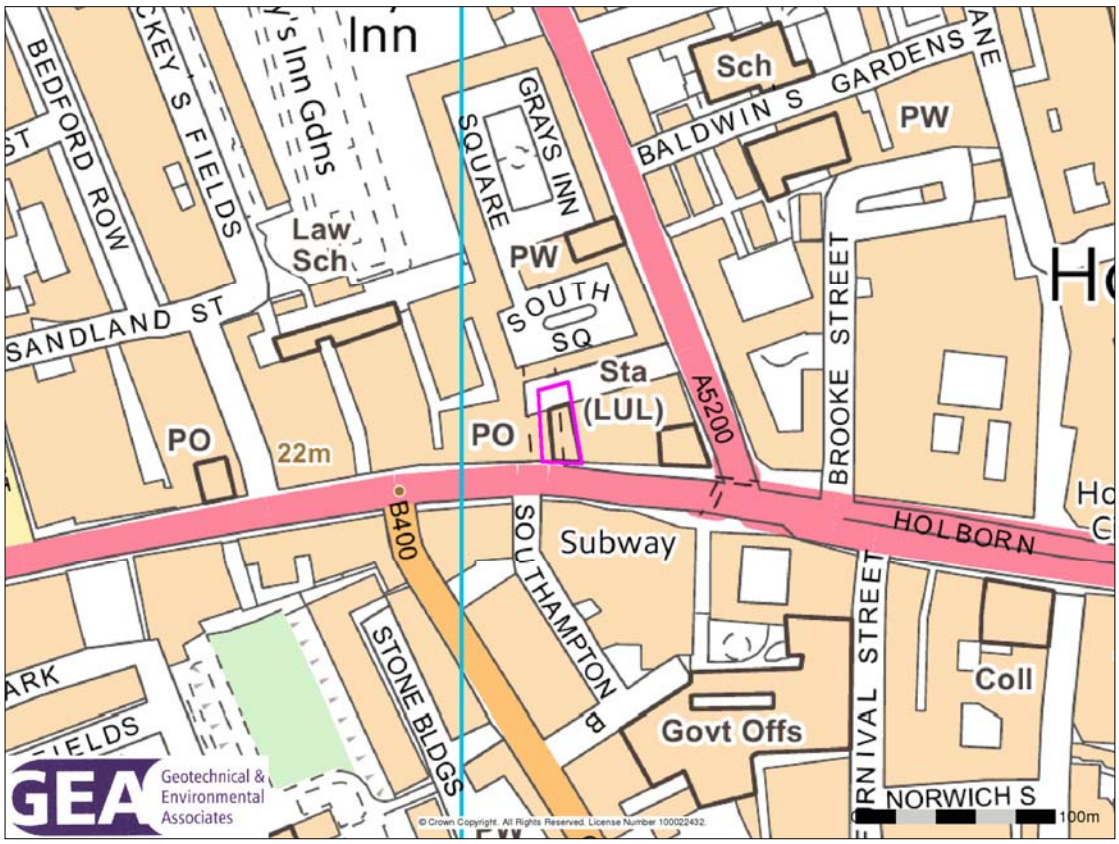
The conclusions and recommendations made in this report are limited to those that can be made on the basis of the investigation. The results of the work should be viewed in the context of the range of data sources consulted, the number of locations where the ground was sampled and the number of soil, gas or groundwater samples tested; no liability can be accepted for information in other data sources or conditions not revealed by the sampling or testing. Any comments made on the basis of information obtained from the client or other third parties are given in good faith on the assumption that the information is accurate; no independent validation of such information has been made by GEA.

2.0 THE SITE

2.1 Site Description

The site is located approximately 85 m west of Chancery Lane London Underground station and 520 m east of Holborn London Underground station. The site fronts onto High Holborn to the south and is bounded to the west by No 22 High Holborn, the four-storey Cittie of Yorke public house, to the east by a six storey commercial building and to the north by a private access road leading to Gray's Inn Square to the north. The site may additionally be

located by National Grid Reference 531051, 181641 and is shown on the map overleaf.



The site is irregular in shape and measures roughly 30 m north-south by 20 m east-west. The site is occupied by a seven-storey commercial building, which occupies roughly three-quarters of the site in the southeast and at the time of the walkover was occupied at ground level by a stationers. A private access road runs south-north from High Holborn along the west of the site and joins with another private access road orientated east-west from Gray's Inn Road to the east. Above the private access road in the west is five-storey building that is suspended from the public house and commercial building on either side; the ground level of the suspended building is occupied by an archway to allow access to the private road. There is an electricity substation immediately to the northeast of the site at the rear of the commercial building and accessed from the northern private access road. The site is sensibly level with an approximate ground level of 20.0 m OD, with no discernible fall in level and is devoid of vegetation.

During the site walkover it was noted that there is a single level basement that extends beneath the seven-storey commercial building. The adjacent Cittie of Yorke public house was found to have a single level basement and rudimentary measurements taken during the fieldwork suggests the basement does not extend beneath the road in the west.

The Central Line of London Underground runs directly under High Holborn which borders the site to the south. Specifically, the escalator barrel sits underneath the site and the mechanisms contained within are highly sensitive to ground movements, the latter of which has been modelled separately to this report by AECOM (report reference 60472955).

3.0 SUMMARY OF GROUND CONDITIONS

The ground investigation generally encountered a significant thickness of made ground over the Hackney Gravel, over the London Clay Formation and was proved to the full depth investigated.

The made ground comprised brown gravelly sand, very sandy clayey silt and silty sandy gravelly clay with frequent crushed brick, concrete, ash, tile, shell and coal and extended to a maximum depth of 4.00 m (15.85 m OD).

Adjacent to the western elevation of the existing building, the Hackney Gravel initially comprised soft to firm brown silty sandy very gravelly clay which extended to a depth of 4.60 m (15.84 m OD). Below this layer, or directly below the made ground elsewhere, the Hackney Gravel comprised medium dense to dense brown and pale brown slightly silty sand and gravel, and extended to a depth of 6.60 m (13.25 m OD).

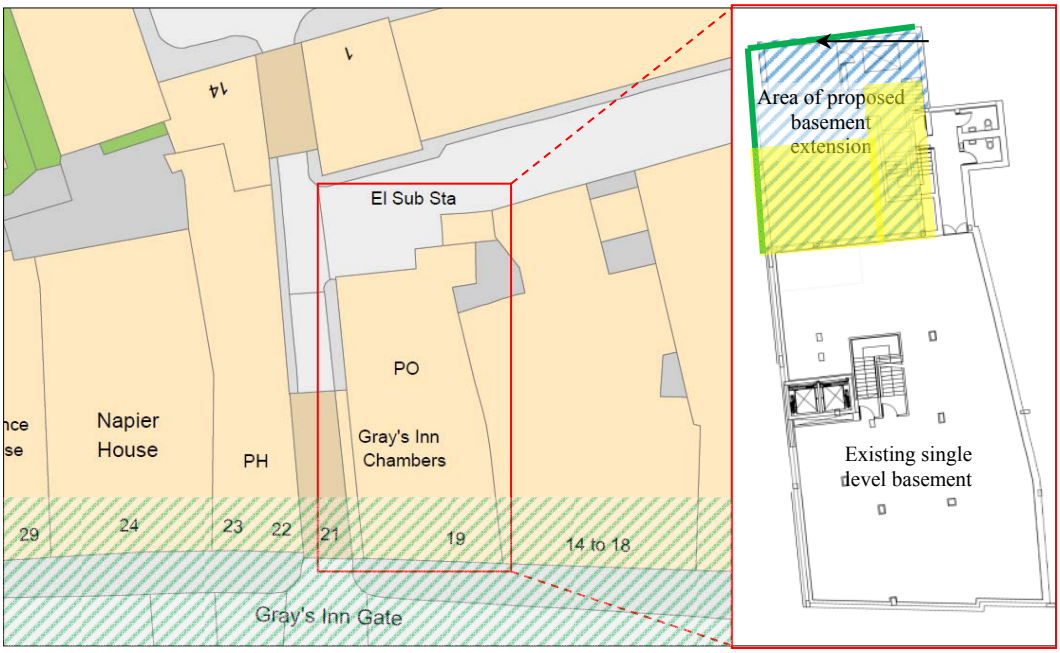
The London Clay initially comprised firm brown clay to a depth of 6.80 m (13.05 m OD), over high strength stiff fissured dark brownish grey silty clay to a depth of 15.50 m (4.35 m OD) over fissured dark brown very silty clay with occasional fine shell fragments, medium selenite crystals and black carbonaceous material to the full depth investigated, of 20.00 m (-0.15 m OD).

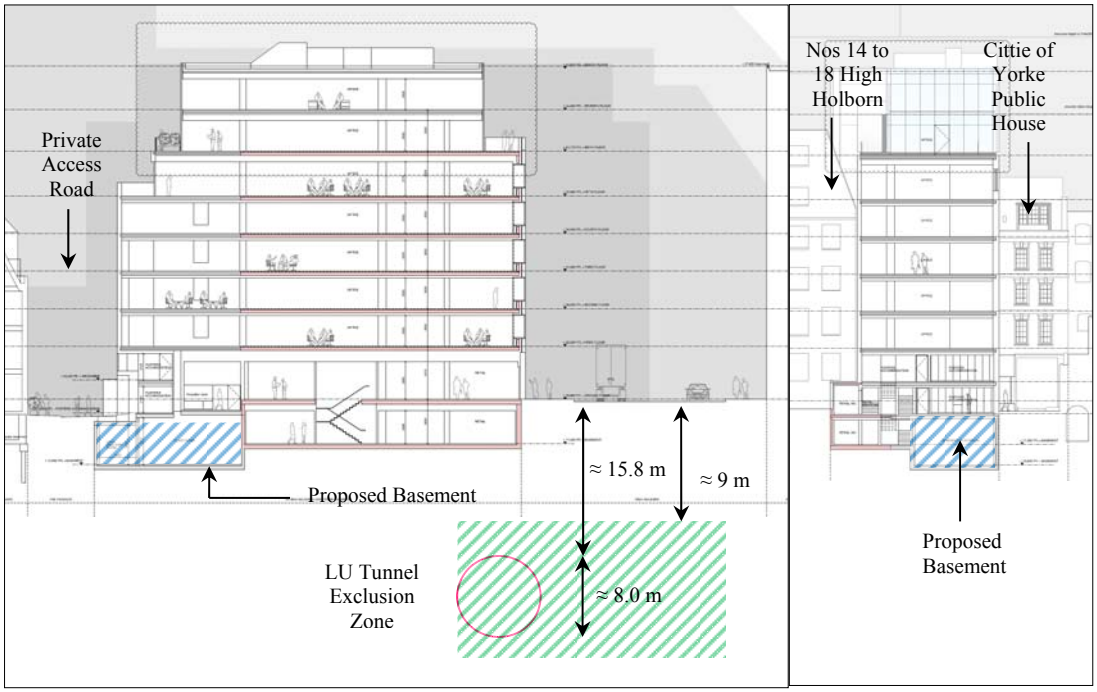
Claystones were encountered within the London Clay at depths of 14.30 m (5.55 m OD), 15.50 m (4.35 m OD) and 18.20 m (1.65 m OD).

Groundwater was measured at a shallowest depth of 5.00 m (14.85 m OD).

4.0 CONSTRUCTION SEQUENCE

The proposed basement layout and areas of demolition are shown in the diagrams below.





Section of Proposed Basement

For the purposes of the ground movement assessment, the ground level will be taken at an arbitrary level of zero, although the LU tunnel depths have been calculated based on a ground level of 21.2 m OD. The position of the LU tunnel is in accordance with AECOM drawing reference ACM-SK-150710-001. The proposed basement will be formed by means of contiguous bored pile walls to a depth of 15.0 m below ground level, with all new loadings assumed to be applied at the same depth. Proposed basement depth is assumed to be a maximum of 4.6 m depth from existing ground level. The area highlighted in yellow in the previous diagram depicts the area of building that has recently been demolished as part of the proposed development. This demolition stage has not been included as part of this analysis. The extension to the rear will not provide larger forces on the ground than that of the original structure. The existing four storey rear extension is a reinforced concrete frame and this is to be replaced with a lightweight steel frame, therefore the worst case ground movements are likely to be the heave which will occur during the excavation stage.

The building above the access road between the Cittie of Yorke Public House and Nos 19 to 21 High Holborn has not been considered in this assessment. The resulting movements of the aforementioned buildings may be used to carry out a structural check of the building above the access road.

In general, the sequence of works for basement construction will comprise the following stages.

- Construct piled retaining walls to northern and western perimeters of proposed basement;
- Connect new retaining walls into existing basement, excavate new basement and temporarily retain and strengthen the new retaining walls; and
- construct an additional floor to the existing building.

The detail of the support provided to adjacent walls is beyond the scope of this report at this

stage and the structural engineer will be best placed to agree a methodology with the temporary works contractor once appointed.

When the final excavation depths have been reached the permanent works will be formed, which are likely to comprise reinforced concrete walls with a drained cavity lining the inside of the bored pile walls. Reinforced concrete will be used for floor slabs and it is anticipated that heave protection will be installed beneath the basement slab. Following this, the floor slab will be constructed at basement depth and the temporary props will be removed.

5.0 GROUND MOVEMENTS

An assessment of ground movements within and surrounding the excavation has been undertaken using the X-Disp and P-Disp computer programs licensed from the OASYS suite of geotechnical modelling software from Arup. These programs are commonly used within the ground engineering industry and are considered to be appropriate tools for this analysis.

The X-Disp program has been used to predict ground movements likely to arise from the construction of the proposed basement. This includes the settlement of the ground (vertical movement) and the lateral movement of soil behind the proposed retaining walls (horizontal movement).

The analysis of potential ground movements within the excavation, as a result of unloading of the underlying soils, has been carried out using the Oasys P-Disp Version 19.3 – Build 12 software package and is based on the assumption that the soils behave elastically, which provides a reasonable approximation to soil behaviour at small strains.

For the purpose of these analyses, the corners have been defined by x and y coordinates, with the x-direction parallel with the orientation east-west, whilst the y-direction is parallel with the orientation of north-south. Vertical movement is in the z-direction. Wall lengths of less than 10 m have been modelled as 1 m long structural elements, while greater than 10 m wall lengths have been modelled as 2 m elements to reflect the greater stiffness of the longer walls. The London Underground structures have been modelled as 1 m long displacement lines along the crown and invert depths and also along the sides of the tunnel.

The full outputs of all the analyses can be provided on request and samples of the output movement contour plots are included within the appendix.

5.1 Ground Movements – Surrounding the Basement

5.1.1 Model Used

For the X-Disp analysis, the soil movement relationships used for the embedded retaining walls are the default values within CIRIA report C580[1], which were derived from a number of historic case studies.

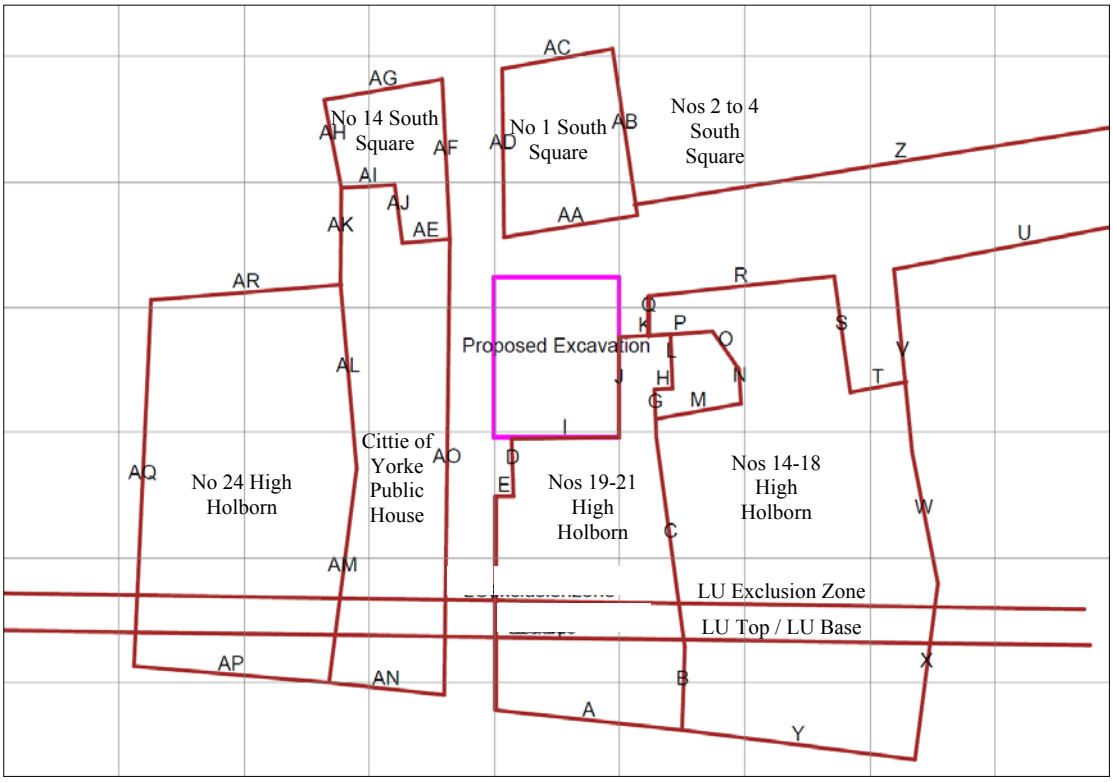
The analysis has adopted the values for 'installation of a contiguous bored pile wall'. The ground movement curves for 'excavations in front of a wall in sand' have been adopted as being considered most appropriate for the proposed excavation and its support at this site as the walls will be generally supporting granular soils.

[1] Gaba, A, Simpson, B, Powrie, W and Beadman, D (2003) *Embedded retaining walls – guidance for economic design.* CIRIA Report C580.

5.1.2 Results

The predicted movements are based on the worst case of the individually analysed segments of 'hogging' and 'sagging' and these are summarised in the tables below. It should be noted that the combined effect of segments acting together typically improve the resultant movements and the values below are therefore deemed to be conservative.

Displacement Analysis Points:



The heights and basement depths of each of the nearby sensitive structures are summarised in the table below. All buildings are assumed to have basements that extend to a depth of 3.3 m below ground level.

Sensitive Structure	Elevation	Height of building above level of basement / foundations (m)
Nos 19-21 High Holborn	A to L	28.3
Nos 14 to 18 High Holborn	N to S	15.3
	M, T, W, X, Y	26.3
Nos 4 to 13 High Holborn	U, V	
Nos 2 to 4 South Square	AB, Z	23.3
No 1 South Square	AA , AC, AD	19.3
No 14 South Square	AE to AJ	
Cittie of Yorke Public House	AK, AO	15.3
	AN	20.3
No 24 High Holborn	AP to AR, AL, AM	26.3

The results are presented to the degree of accuracy required to allow predicted variations in ground movements around the structure(s) to be illustrated, but may not reflect the anticipated

accuracy of the predictions.

Wall Installation Phase:

Sensitive Structure	Elevation	Vertical Movement (Settlement) (mm)	Horizontal Movement (mm)
Nos 19-21 High Holborn	A	< 1	< 1
	B	< 1	< 1
	C	< 1	< 1
	D	< 1	< 1
	E	< 1	< 1
	F	< 1	< 1
	G	< 1	< 1
	H	< 1	< 1
	I	< 1	< 1
	J	< 1	< 1
	K	< 1	< 1
	L	< 1	< 1
Nos 14 to 18 High Holborn	M to T, X to Y	< 1	< 1
Nos 4 to 13 High Holborn	U, V	< 1	< 1
Nos 2 to 4 South Square	AB, Z	4	2
No 1 South Square	AA, AC, AD	6	5
No 14 South Square	AE to AJ	3	2
Cittie of Yorke Public House	AK, AO, AN	5	3
No 24 High Holborn	AP to AR, AL, AM	4	2

Wall Installation and Excavation Phases Combined:

Sensitive Structure	Elevation	Vertical Movement (Settlement) (mm)	Horizontal Movement (mm)
Nos 19-21 High Holborn	A	< 1	< 1
	B	< 1	< 1
	C	4	< 1
	D	14	< 1
	E	3	< 1
	F	3	< 1
	G	6	< 1
	H	6	< 1
	I	15	< 1
	J	15	< 1
	K	15	< 1
	L	4	< 1

Sensitive Structure	Elevation	Vertical Movement (Settlement) (mm)	Horizontal Movement (mm)
Nos 14 to 18 High Holborn	M	6	< 1
	N, O	1	< 1
	P	7	< 1
	Q	7	< 1
	R	7	< 1
	S, T, W, X, Y	< 1	< 1
Nos 4 to 13 High Holborn	U, V	< 1	< 1
Nos 2 to 4 South Square	AB, Z	4	2
No 1 South Square	AA	11	5
	AC	3	2
	AD	11	5
No 14 South Square	AE to AJ	4	2
Cittie of Yorke Public House	AK	4	2
	AO	10	5
	AN	< 1	< 1
No 24 High Holborn	AP to AR, AL, AM	4	2

The analysis has indicated that the maximum vertical settlements and horizontal movements that will result from the new retaining wall construction are less than 10 mm. Furthermore, the analysis has indicated that the maximum vertical settlements and horizontal movements that will result from the combined effect of the retaining wall installation and excavation are generally up to around 15 mm.

5.2 Movements within the Excavation (Heave)

5.2.1 Model Used

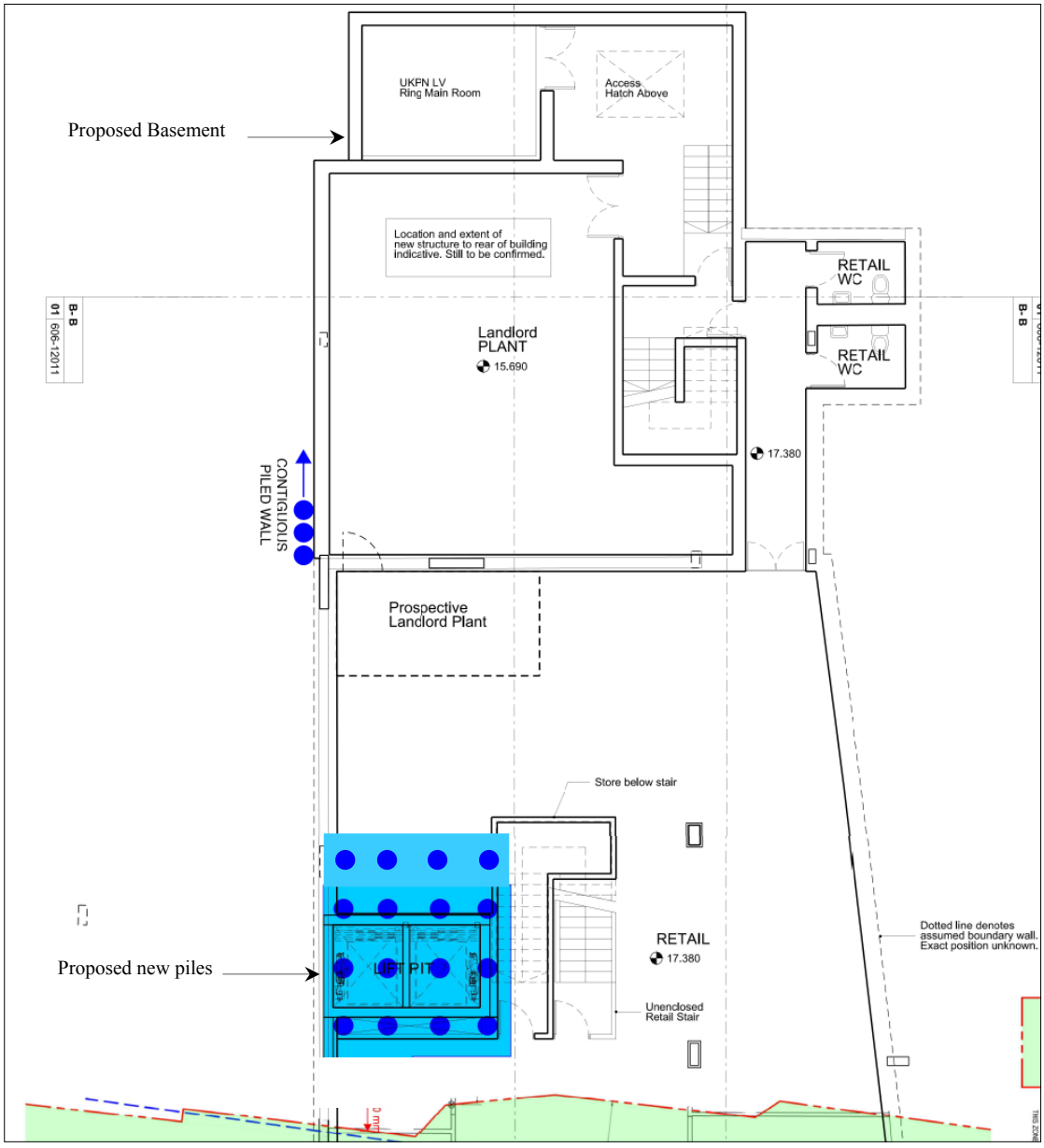
At this site unloading of the London Clay will take place as a result of the proposed building demolition and subsequent excavation and the reduction in vertical stress in the short term will cause heave to take place. Undrained soil parameters have been used to estimate the potential short term movements, which include the "immediate" or elastic movements as a result of the basement excavation. Drained parameters have been used to provide an estimate of the total long-term movement.

The elastic analysis requires values of soil stiffness at various levels to calculate displacements. Values of stiffness for the soils at this site are readily available from published data and we have used a well-established method to provide our estimates. This relates values of E_u and E', the drained and undrained stiffness respectively, to values of undrained cohesion, as described by Padfield and Sharrock[2] and Butler[3] and more recently by O'Brien and Sharp[4]. Relationships of $E_u = 500\ C_u$ and $E' = 300\ C_u$ for the cohesive soils have been used to obtain values of Young's modulus. More recent published data[5] indicates stiffness values of 750 x Cu for the London Clay and a ratio of E' to Eu of 0.75, and it is considered that the use of the more conservative values provides a sensible approach for this stage in the design. The

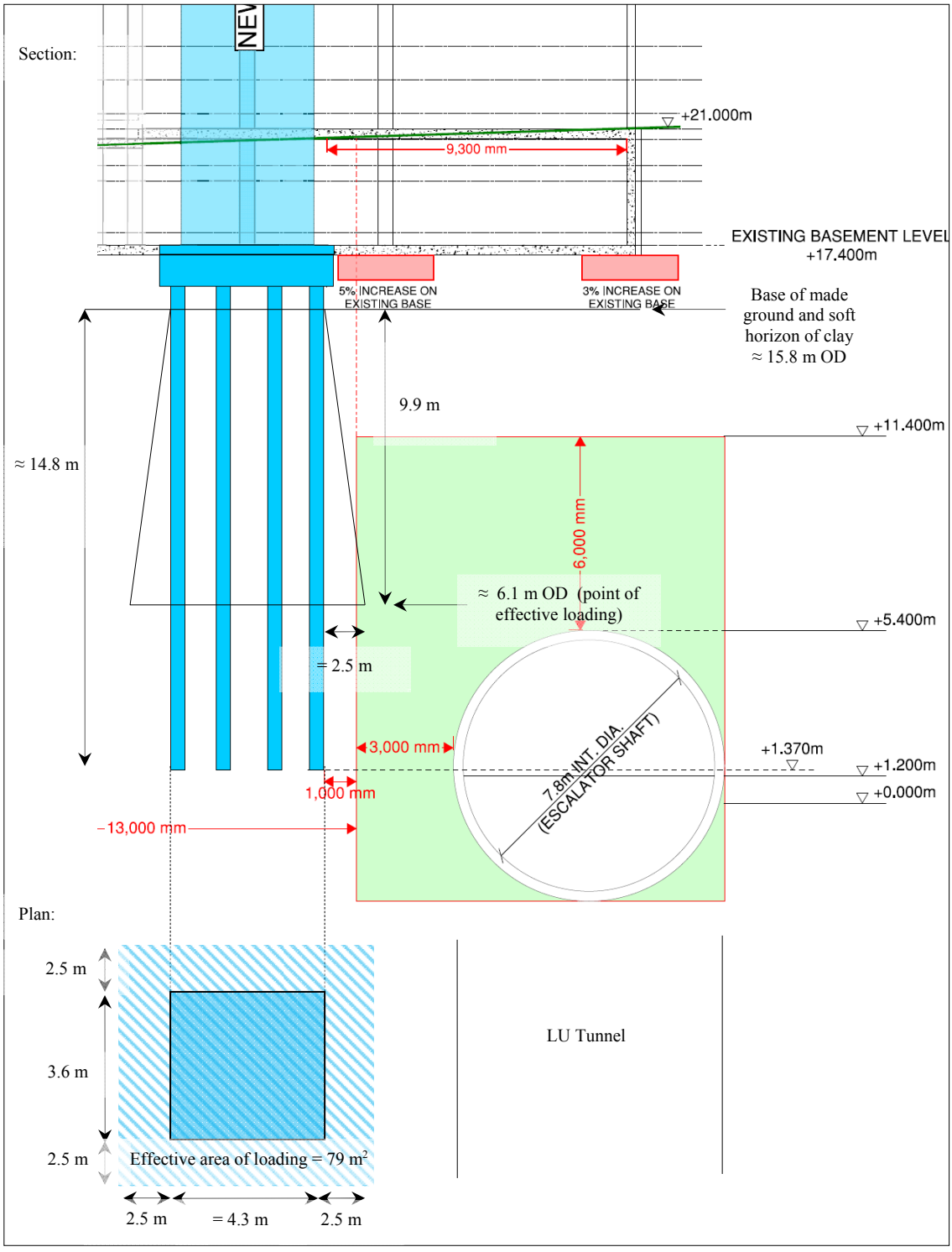
2 Padfield CJ and Sharrock MJ (1983) *Settlement of structures on clay soils*. CIRIA Special Publication 27
3 Butler FG (1974) *Heavily overconsolidated clays: a state of the art review.* Proc Conf Settlement of Structures, Cambridge, 531-578, Pentech Press, Lond
4 O'Brien AS and Sharp P (2001) *Settlement and heave of overconsolidated clays - a simplified non-linear method.* Part Two, Ground Engineering, Nov 2001, 48-53
5 Burland JB, Standing, JR, and Jardine, FM (2001) *Building response to tunnelling, case studies from construction of the Jubilee Line Extension* CIRIA Special Publication 200

profile of the underlying London Clay has been interpolated from testing carried out during the original ground investigation and supplemented by testing carried out at a nearby site investigation carried out by GEA at Gray's Inn Road, roughly 100 m to the northeast.

The proposed excavation will result in a net unloading of 90 kN/m^2. All loading from the proposed building will be supported at a level below the proposed basement level by piled foundations. The assessment also includes an assessment of a pile group located adjacent to the LU tunnel and shown in the diagram below. The pile group will support a total load of 9000 kN applied over an area of roughly 15.5 m^2 and bearing at a depth of 20.0 m below ground level.



The pile group has been modelled as friction piles acting as a raft with an applied pressure of 114 kN/m^2 at a depth of two-thirds of pile embedment within the Hackney Gravel and London Clay, as shown on the diagram overleaf.



A rigid boundary for the analysis has been set within the London Clay at a depth of 35 m below existing ground level, where nearby BGS records indicate that the base of these formations are likely to be present.

5.2.2 Results

The P-Disp analysis indicates that, by the time the basement construction is complete and the pile group loading has occurred, around 10 mm to 15 mm of heave is likely to have taken place at the centre of the proposed excavation, reducing to between 5 mm to 10 mm at the

edges.

Following completion of the basement construction, an additional 15 mm to 20 mm is likely to have occurred at the centre of the proposed excavation in the long term.

The results of the P-Disp analysis can be used to indicate the likely impact of the proposed basement construction beyond the site boundaries; about 5 m away from the excavation a total movement up to around 5 mm to 15 mm is predicted, reducing to between 5 mm and 10 mm about 10 m away.

A void or layer of compressible material may need to be incorporated into the design to accommodate these potential long term movements. If a compressible material is used beneath the slab, it will need to be designed to be able to resist the potential uplift forces generated by the ground movements. In this respect potential heave pressures are typically taken to equate to around 30 % of the total unloading pressure.

The effect of the basement construction and adjacent pile group loading on the tunnel has been assessed and the results are presented in Section 7.0.

6.0 DAMAGE ASSESSMENT

In addition to the above assessment of the likely movements that will result from the proposed development, the neighbouring buildings are considered to be sensitive structures, requiring Building Damage Assessments, on the basis of the classification given in Table 2.5 of C580[1].

All structures are shown on the plan in Section 5.1.2.

6.1 Damage to Neighbouring Structures

The movements resulting from the wall installation phase and the combined retaining wall installation and basement excavation phases, have been calculated using the X-Disp modelling software to carry out an assessment of the likely damage to adjacent properties and the results are summarised for the combined wall installation and basement excavation in the table below.

The potential heave movements predicted by P-Disp have not been included in this assessment.

Sensitive Structure	Elevation	Category of Damage*
Nos 19-21 High Holborn	A	Category 0 - Negligible
	B	Category 0 - Negligible
	C	Category 0 - Negligible
	D	Category 0 - Negligible
	E	Category 0 - Negligible
	F	Category 0 - Negligible
	G	Category 0 - Negligible
	H	Category 0 - Negligible
	I	Category 2 - Slight

Sensitive Structure	Elevation	Category of Damage*
	J	Category 2 - Slight
	K	Category 0 - Negligible
	L	Category 0 - Negligible
Nos 14 to 18 High Holborn	M to T, W to Y	Category 0 - Negligible
Nos 4 to 13 High Holborn	U, V	Category 0 - Negligible
Nos 2 to 4 South Square	AB, Z	Category 0 - Negligible
No 1 South Square	AA, AC, AD	Category 0 - Negligible
No 14 South Square	AE to AJ	Category 0 - Negligible
Cittie of Yorke Public House	AK, AO, AN	Category 0 - Negligible
No 24 High Holborn	AP to AR, AL, AM	Category 0 - Negligible

**From Table 2.5 of C580[1]: Classification of visible damage to walls.*

The analysis has predicted that the proposed installation of the bored pile retaining walls and excavation of the proposed basement may generally result in a building damage for sensitive structures of Category 0 (negligible), which fall within acceptable limits according to the Camden Planning Guidance, with sensitive structures I and J resulting in a building damage of Category 2 (slight), which fall outside acceptable limits. Wall elevations I and J are located adjacent to the proposed excavation and it is likely that the walls will be supported and / or reconstructed as part of the redevelopment of the site.

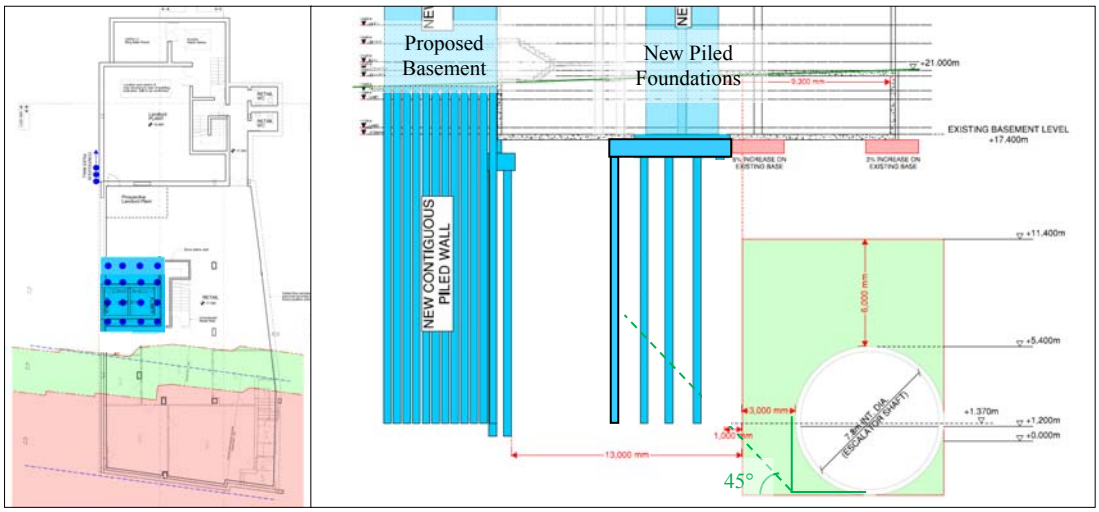
6.2 Monitoring of Ground Movements

The predictions of ground movement based on the ground movement analysis should be checked by monitoring of the adjacent properties and structures. The structures to be monitored during the construction stages should include the neighbouring structures. Condition surveys of the above existing structures should be carried out before and after the proposed works.

The precise monitoring strategy will be developed at a later stage and it will be subject to discussions and agreements with the owners of the adjacent properties and structures. Contingency measures will be implemented if movements of the adjacent structures exceed predefined trigger levels. Both contingency measures and trigger levels will need to be developed within a future monitoring specification for the works.

7.0 TUNNEL MOVEMENTS

The proposed basement extension will be in close proximity to a London Underground tunnel. In addition to this, the consulting engineers have requested that the installation of a group of proposed piles is included in the tunnel analysis and in shown on the diagram below.



The proposed piled foundations are assumed to be constructed to a depth of 15.0 m from ground level.

It is recommended that the piles that are located close to the LU tunnel exclusion zone are permanently sleeved over the upper portion of the pile so that no load can be transferred to the sensitive structures through shedding of shaft friction within the zone of influence of the tunnel. The typical pile detail is shown on the attached sketch; the minimum sleeved length being determined by a 45° line drawn from the intersection of the outside edge and invert level of the structure and extended until it meets the proposed new piles, 4 m away. This is indicated by the green dashed line in the diagram above. The typical pile detail indicates that a permanent sleeve in the order of the full length of the pile is likely to be required; thus it is likely that the piles will need to be increased in length to take the sleeving into consideration.

The analysis has been carried out using the Oasys PDisp software. The LU tunnel has been modelled at four discrete reference points; the crown level, invert level, northern side and southern side. The crown and invert depths have been modelled as 15.8 m and 23.8 m below ground level (21.2 m OD) respectively. Similarly, the northern and southern side walls have been modelled at 19.8 m below ground level.

The approximate location of the four reference points described above have been analysed along the length of the tunnel adjacent to the site based on drawings provided by the consulting engineers. The four points have been modelled as straight lines at roughly 1 m intervals.

The analysis will assess the change in vertical movement of the four reference points in order to demonstrate the differential movement, if any, across the tunnel structure. The analysis provides an assessment of the vertical stress and strain along the crown level of the tunnel. The results of the short and total movements are shown in the table overleaf and a positive displacement is in the downward direction.

Basement excavation only

Tunnel Reference Point	Maximum Vertical Displacement (mm)	Maximum Vertical Stress (kN/m²)	Maximum Vertical Strain (%)
Crown	-0.3	-0.50	-3.00×10^{-6}
Invert	-0.20	-1.14	-1.54×10^{-5}
Northern side wall	-0.43	-1.56	-2.40×10^{-5}
Southern side wall	-0.15	-0.47	-4.34×10^{-6}

Basement excavation and pile group loading

Tunnel Reference Point	Maximum Vertical Displacement (mm)	Maximum Vertical Stress (kN/m²)	Maximum Vertical Strain (%)
Crown	0.9	-0.5	-1.39×10^{-5}
Invert	0.8	4.5	6.65×10^{-5}
Northern side wall	2.8	14.4	2.51×10^{-4}
Southern side wall	0.4	-0.3	-8.79×10^{-6}

The results indicate a differential in displacements around the cross section of the tunnel, with a relatively high level of stress at the northern side wall.

The above assessment should be repeated once the proposed foundation sizes, positions and applied loadings have been confirmed. The assessment has assumed the pressure from the pile group is applied uniformly over the area, with no allowance for eccentric loads.

8.0 REUSE OF PAD FOUNDATIONS

It is understood that a number of existing pad foundations will be incorporated into the proposed development. The existing pads are assumed to be 3.5 m by 3.5 m square and are founded at a depth of 2.0 m below existing ground level, or 5.3 m below existing ground level. For the purpose of this assessment a single pad will be considered and is assumed to be located directly over the crown of the existing London Underground tunnel, at a depth of 15.8 m below ground level. The pad foundation will have an increase in net loading of up to 150 kN, or 12.3 kN/m^2.

On the basis of the above, the assessment has predicted that an approximate stress increase of 2.5 kN/m^2 will occur at the crown of the tunnel.

9.0 CONCLUSIONS

The analysis has concluded that the predicted damage to the neighbouring properties from the construction of the bored pile retaining walls and basement excavations would generally be 'Negligible', with the walls immediately adjacent to the excavation assigned the category 'Slight', for which the damage that would occur would fall outside the acceptable limits although it is likely that the walls will be supported and / or reconstructed as part of the redevelopment of the site. It is recommended that movement monitoring is carried out on all

structures prior to and during the proposed basement construction.

The separate phases of work, including excavation of the proposed basement, will in practice be separated by a number of weeks during which time construction of permanent supports, basement slab and retaining wall curing will take place. This will provide an opportunity for the ground movements during and immediately after bored pile retaining wall construction to be measured and the data acquired can be fed back into the design and compared with the predicted values. Such a comparison will allow the ground model to be reviewed and the predicted wall movements to be reassessed prior to the main excavation taking place so that propping arrangements can be adjusted if required.

APPENDICES

X-DISP ANALYSIS:

Wall Installation

Contour Plots of Vertical Movements and Horizontal Movements

Pile Installation and Basement Excavation combined

Contour Plots of Combined Vertical Movements and Horizontal Movements

Tabular Output of Results

London Underground Displacement Plots

P-DISP ANALYSIS

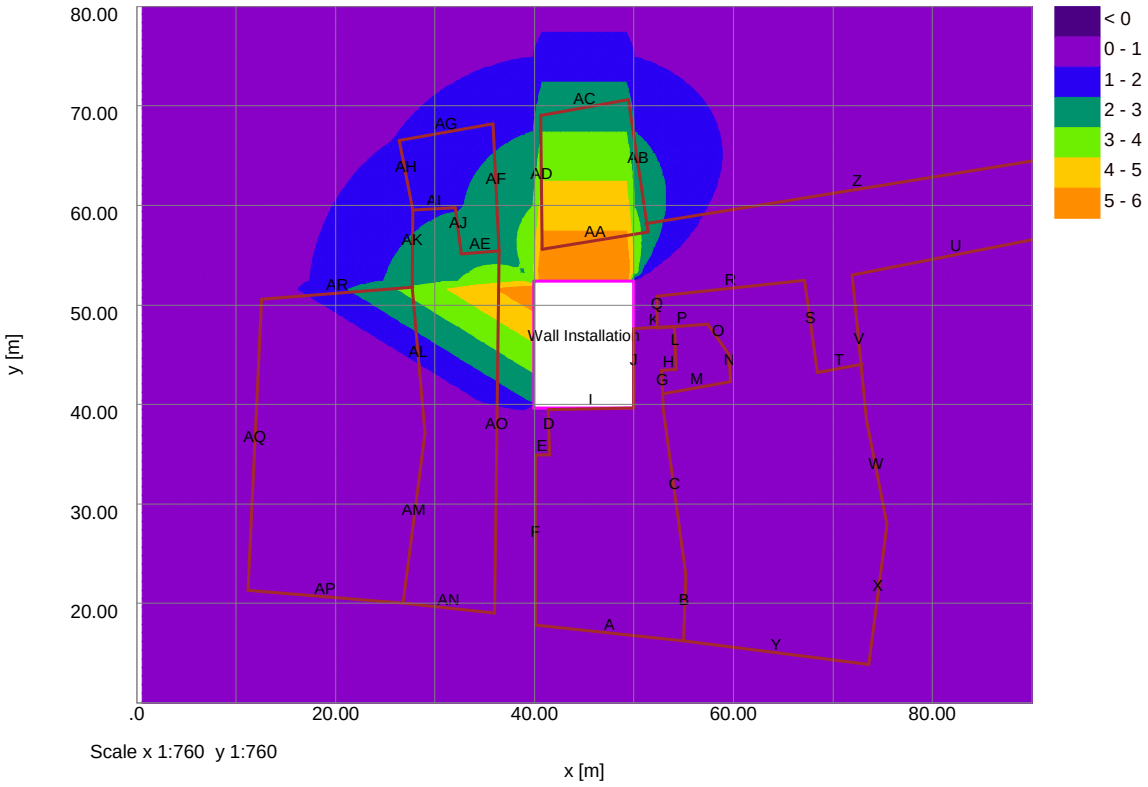
Short Term Movement Contour Plots

Short Term London Underground Displacement Plots

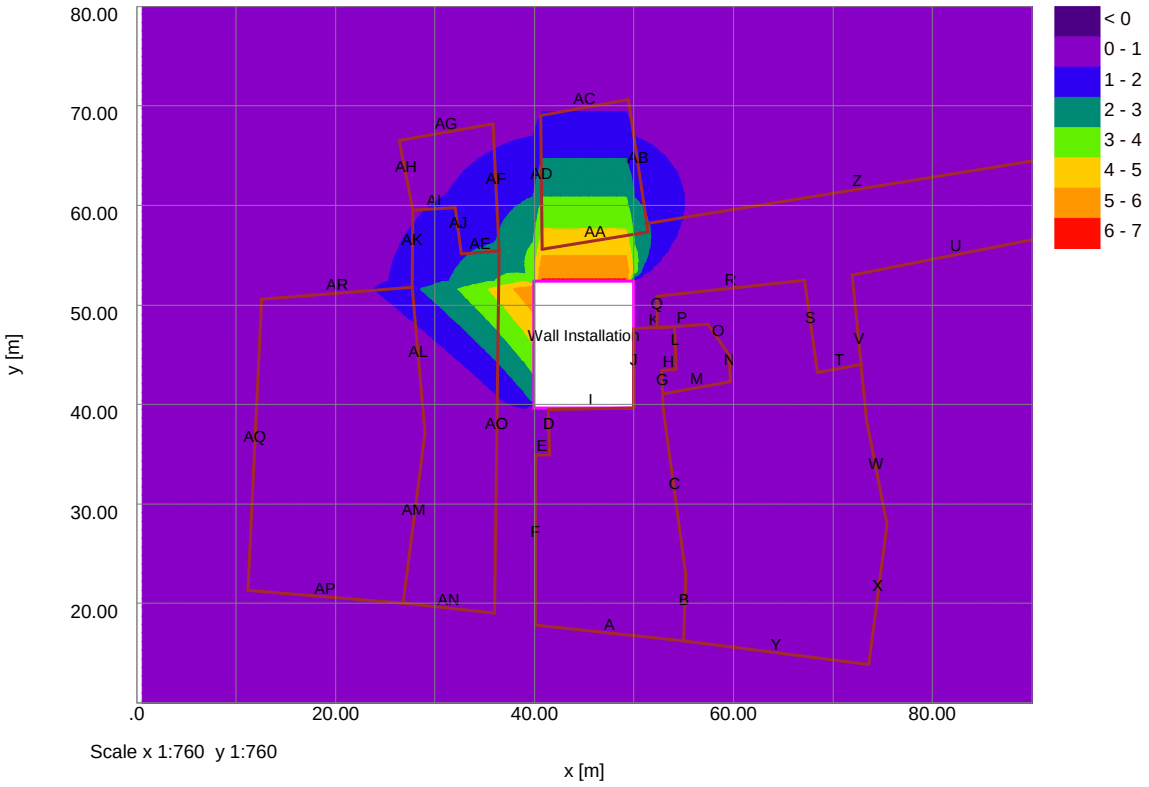
Total Movement Contour Plots

Total London Underground Displacement Plots

Vertical Settlement Contours: Grid 1 (level 0.000m) (Interval 1mm)

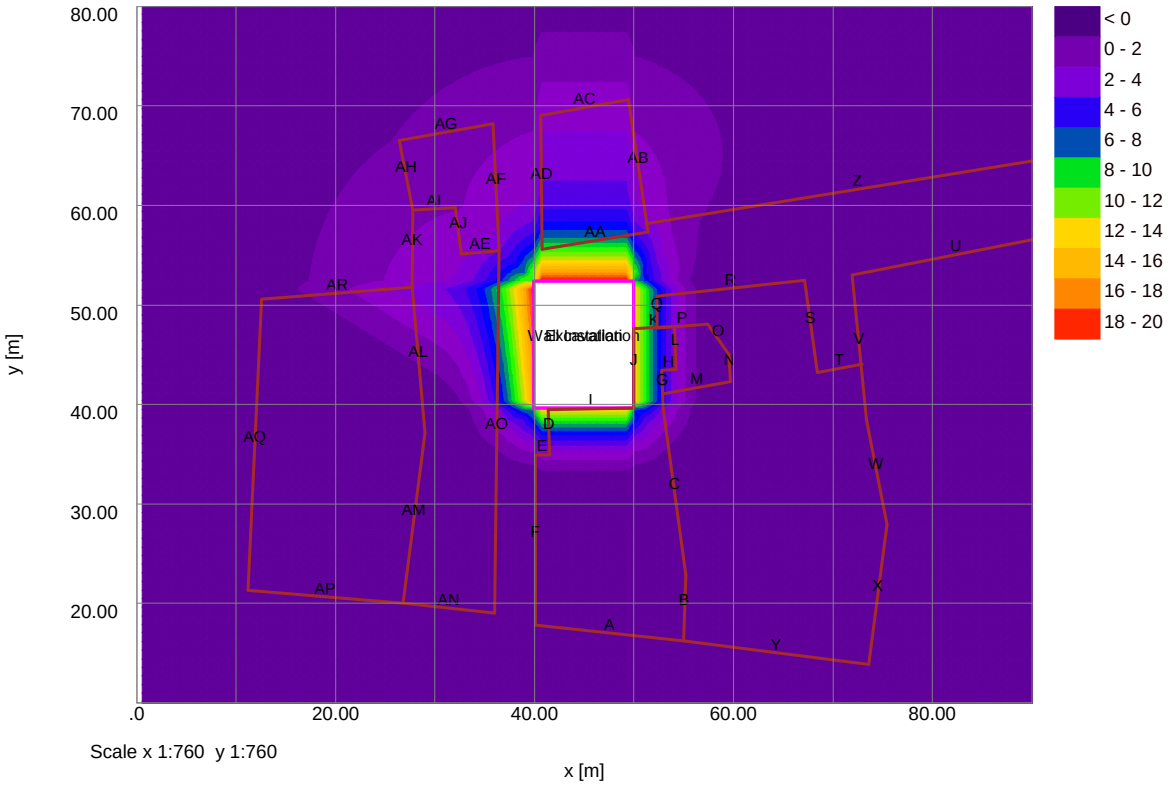


Horizontal Displacement Contours: Grid 1 (level 0.000m) Interval 1mm

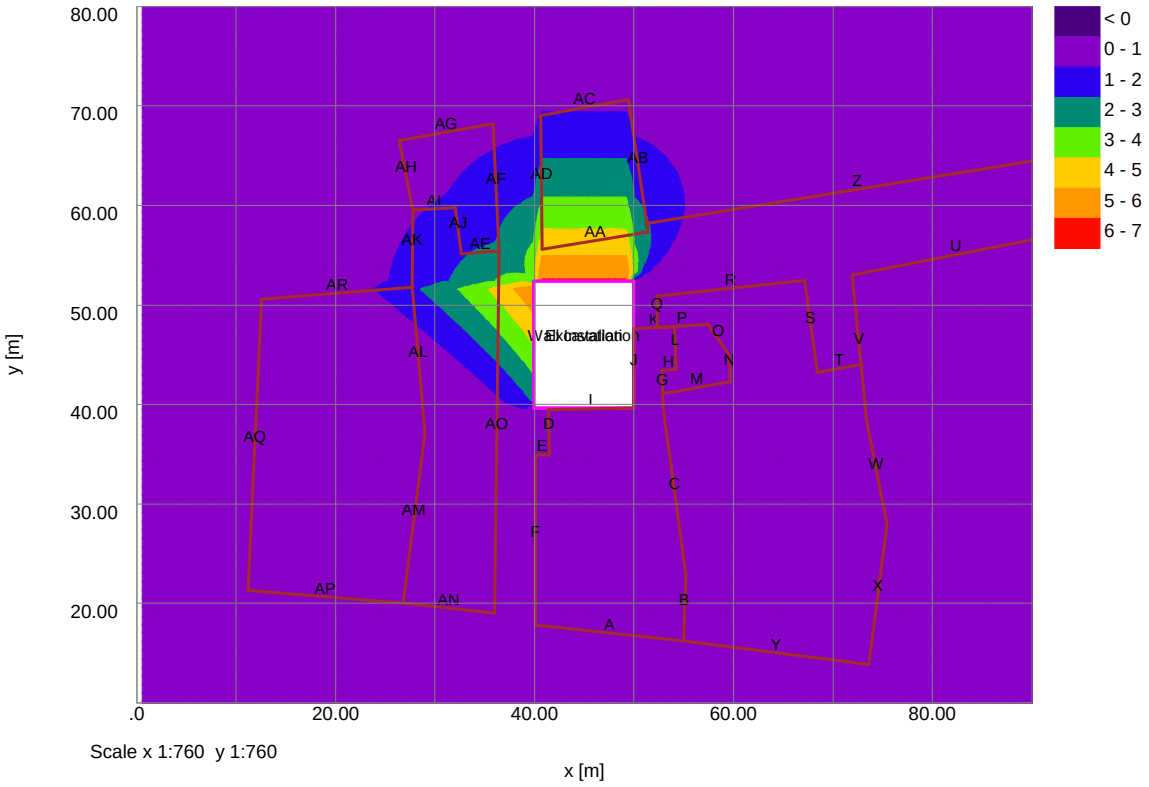


Scale x 1:760 y 1:760

Vertical Settlement Contours: Grid 1 (level 0.000m) (Interval 1mm)



Horizontal Displacement Contours: Grid 1 (level 0.000m) Interval 1mm



Scale x 1:760 y 1:760

Specific Building Damage Results - Horizontal Displacements

Structure: A | Sub-structure:

Dist.	Coordinates x	y	z	x	y	Displacements Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	40.10000	17.80000	-3.30000	0.0	0.0	0.0	0.0
1.8732	41.96250	17.60000	-3.30000	0.0	0.0	0.0	0.0
3.7464	43.82500	17.40000	-3.30000	0.0	0.0	0.0	0.0
5.6196	45.68750	17.20000	-3.30000	0.0	0.0	0.0	0.0
7.4928	47.55000	17.00000	-3.30000	0.0	0.0	0.0	0.0
9.3660	49.41250	16.80000	-3.30000	0.0	0.0	0.0	0.0
11.239	51.27500	16.60000	-3.30000	0.0	0.0	0.0	0.0
13.112	53.13750	16.40000	-3.30000	0.0	0.0	0.0	0.0
14.986	55.00000	16.20000	-3.30000	0.0	0.0	0.0	0.0

Structure: B | Sub-structure: Sub #

Dist.	Coordinates x	y	z	x	y	Displacements Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	55.00000	16.20000	-3.30000	0.0	0.0	0.0	0.0
0.94329	55.02857	17.14286	-3.30000	0.0	0.0	0.0	0.0
1.8866	55.05714	18.08571	-3.30000	0.0	0.0	0.0	0.0
2.8299	55.08571	19.02857	-3.30000	0.0	0.0	0.0	0.0
3.7732	55.11429	19.97143	-3.30000	0.0	0.0	0.0	0.0
4.7164	55.14286	20.91429	-3.30000	0.0	0.0	0.0	0.0
5.6597	55.17143	21.85714	-3.30000	0.0	0.0	0.0	0.0
6.6030	55.20000	22.80000	-3.30000	0.0	0.0	0.0	0.0

Structure: C | Sub-structure: Sub #

Dist.	Coordinates x	y	z	x	y	Displacements Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	55.20000	22.80000	-3.30000	0.0	0.0	0.0	0.0
1.8841	54.94444	24.66667	-3.30000	0.0	0.0	0.0	0.0
3.7682	54.68889	26.53333	-3.30000	0.0	0.0	0.0	0.0
5.6522	54.43333	28.40000	-3.30000	0.0	0.0	0.0	0.0
7.5363	54.17778	30.26667	-3.30000	0.0	0.0	0.0	0.0
9.4204	53.92222	32.13333	-3.30000	0.0	0.0	0.0	0.0
11.304	53.66667	34.00000	-3.30000	0.0	0.0	0.0	0.0
13.189	53.41111	35.86667	-3.30000	0.0	0.0	0.0	0.0
15.073	53.15556	37.73333	-3.30000	0.0	0.0	0.0	0.0
16.957	52.90000	39.60000	-3.30000	0.0	0.0	0.0	0.0

Structure: D | Sub-structure: Sub #

Dist.	Coordinates x	y	z	x	y	Displacements Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	41.40000	39.40000	-3.30000	0.0	0.0	0.0	0.0
0.90022	41.42000	38.50000	-3.30000	0.0	0.0	0.0	0.0
1.8004	41.44000	37.60000	-3.30000	0.0	0.0	0.0	0.0
2.7007	41.46000	36.70000	-3.30000	0.0	0.0	0.0	0.0
3.6009	41.48000	35.80000	-3.30000	0.0	0.0	0.0	0.0
4.5011	41.50000	34.90000	-3.30000	0.0	0.0	0.0	0.0

Structure: E | Sub-structure: Sub #

Dist.	Coordinates x	y	z	x	y	Displacements Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	41.50000	34.90000	-3.30000	0.0	0.0	0.0	0.0
0.70000	40.80000	34.90000	-3.30000	0.0	0.0	0.0	0.0
1.4000	40.10000	34.90000	-3.30000	0.0	0.0	0.0	0.0

Structure: F | Sub-structure: Sub #

Dist.	Coordinates x	y	z	x	y	Displacements Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	40.10000	34.90000	-3.30000	0.0	0.0	0.0	0.0
1.9000	40.10000	33.00000	-3.30000	0.0	0.0	0.0	0.0
3.8000	40.10000	31.10000	-3.30000	0.0	0.0	0.0	0.0
5.7000	40.10000	29.20000	-3.30000	0.0	0.0	0.0	0.0
7.6000	40.10000	27.30000	-3.30000	0.0	0.0	0.0	0.0
9.5000	40.10000	25.40000	-3.30000	0.0	0.0	0.0	0.0
11.400	40.10000	23.50000	-3.30000	0.0	0.0	0.0	0.0
13.300	40.10000	21.60000	-3.30000	0.0	0.0	0.0	0.0
15.200	40.10000	19.70000	-3.30000	0.0	0.0	0.0	0.0
17.100	40.10000	17.80000	-3.30000	0.0	0.0	0.0	0.0

Structure: G | Sub-structure: Sub #

Dist.	Coordinates x	y	z	x	y	Displacements Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	52.90000	39.80000	-3.30000	0.0	0.0	0.0	0.0
0.90035	52.87500	40.70000	-3.30000	0.0	0.0	0.0	0.0
1.8007	52.85000	41.60000	-3.30000	0.0	0.0	0.0	0.0
2.7010	52.82500	42.50000	-3.30000	0.0	0.0	0.0	0.0
3.6014	52.80000	43.40000	-3.30000	0.0	0.0	0.0	0.0

Structure: H | Sub-structure: Sub #

Dist.	Coordinates x	y	z	x	y	Displacements Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	52.80000	43.40000	-3.30000	0.0	0.0	0.0	0.0
0.70178	53.50000	43.45000	-3.30000	0.0	0.0	0.0	0.0
1.4036	54.20000	43.50000	-3.30000	0.0	0.0	0.0	0.0

Structure: I | Sub-structure: Sub #

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	41.40000	39.50000	-3.30000	0.0	0.0	0.0	0.0
0.95562	42.35556	39.51111	-3.30000	0.0	0.0	0.0	0.0
1.9112	43.31111	39.52222	-3.30000	0.0	0.0	0.0	0.0
2.8669	44.26667	39.53333	-3.30000	0.0	0.0	0.0	0.0
3.8225	45.22222	39.54444	-3.30000	0.0	0.0	0.0	0.0
4.7781	46.17778	39.55556	-3.30000	0.0	0.0	0.0	0.0
5.7337	47.13333	39.56667	-3.30000	0.0	0.0	0.0	0.0
6.6893	48.08889	39.57778	-3.30000	0.0	0.0	0.0	0.0
7.6450	49.04444	39.58889	-3.30000	0.0	0.0	0.0	0.0
8.6006	50.00000	39.60000	-3.30000	0.0	0.0	0.0	0.0

Structure: J | Sub-structure: Sub #

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	50.00000	39.60000	-3.30000	0.0	0.0	0.0	0.0
1.0000	50.00000	40.60000	-3.30000	0.0	0.0	0.0	0.0
2.0000	50.00000	41.60000	-3.30000	0.0	0.0	0.0	0.0
3.0000	50.00000	42.60000	-3.30000	0.0	0.0	0.0	0.0
4.0000	50.00000	43.60000	-3.30000	0.0	0.0	0.0	0.0
5.0000	50.00000	44.60000	-3.30000	0.0	0.0	0.0	0.0
6.0000	50.00000	45.60000	-3.30000	0.0	0.0	0.0	0.0
7.0000	50.00000	46.60000	-3.30000	0.0	0.0	0.0	0.0
8.0000	50.00000	47.60000	-3.30000	0.0	0.0	0.0	0.0

Structure: K | Sub-structure: Sub #

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	50.00000	47.60000	-3.30000	0.0	0.0	0.0	0.0
0.82098	50.82000	47.64000	-3.30000	0.0	0.0	0.0	0.0
1.6420	51.64000	47.68000	-3.30000	0.0	0.0	0.0	0.0
2.4629	52.46000	47.72000	-3.30000	0.0	0.0	0.0	0.0
3.2839	53.28000	47.76000	-3.30000	0.0	0.0	0.0	0.0
4.1049	54.10000	47.80000	-3.30000	0.0	0.0	0.0	0.0

Structure: L | Sub-structure: Sub #

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	54.10000	47.80000	-3.30000	0.0	0.0	0.0	0.0
0.86023	54.12000	46.94000	-3.30000	0.0	0.0	0.0	0.0
1.7205	54.14000	46.08000	-3.30000	0.0	0.0	0.0	0.0
2.5807	54.16000	45.22000	-3.30000	0.0	0.0	0.0	0.0
3.4409	54.18000	44.36000	-3.30000	0.0	0.0	0.0	0.0
4.3012	54.20000	43.50000	-3.30000	0.0	0.0	0.0	0.0

Structure: M | Sub-structure: Sub #

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	52.90000	41.10000	-3.30000	0.0	0.0	0.0	0.0
0.98644	53.87143	41.27143	-3.30000	0.0	0.0	0.0	0.0
1.9729	54.84286	41.44286	-3.30000	0.0	0.0	0.0	0.0
2.9593	55.81429	41.61429	-3.30000	0.0	0.0	0.0	0.0
3.9458	56.78571	41.78571	-3.30000	0.0	0.0	0.0	0.0
4.9322	57.75714	41.95714	-3.30000	0.0	0.0	0.0	0.0
5.9186	58.72857	42.12857	-3.30000	0.0	0.0	0.0	0.0
6.9051	59.70000	42.30000	-3.30000	0.0	0.0	0.0	0.0

Structure: N | Sub-structure: Sub #

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	59.70000	42.30000	-3.30000	0.0	0.0	0.0	0.0
0.90247	59.63333	43.20000	-3.30000	0.0	0.0	0.0	0.0
1.8049	59.56667	44.10000	-3.30000	0.0	0.0	0.0	0.0
2.7074	59.50000	45.00000	-3.30000	0.0	0.0	0.0	0.0

Structure: O | Sub-structure: Sub #

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	59.50000	45.00000	-3.30000	0.0	0.0	0.0	0.0
0.93608	58.97500	45.77500	-3.30000	0.0	0.0	0.0	0.0
1.8722	58.45000	46.55000	-3.30000	0.0	0.0	0.0	0.0
2.8082	57.92500	47.32500	-3.30000	0.0	0.0	0.0	0.0
3.7443	57.40000	48.10000	-3.30000	0.0	0.0	0.0	0.0

Structure: P | Sub-structure: Sub #

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	57.40000	48.10000	-3.30000	0.0	0.0	0.0	0.0
0.85261	56.55000	48.03333	-3.30000	0.0	0.0	0.0	0.0
1.7052	55.70000	47.96667	-3.30000	0.0	0.0	0.0	0.0
2.5578	54.85000	47.90000	-3.30000	0.0	0.0	0.0	0.0
3.4104	54.00000	47.83333	-3.30000	0.0	0.0	0.0	0.0
4.2631	53.15000	47.76667	-3.30000	0.0	0.0	0.0	0.0
5.1157	52.30000	47.70000	-3.30000	0.0	0.0	0.0	0.0

Structure: Q | Sub-structure: Sub #

Dist.	Coordinates			Displacements

x [m]	y [m]	z [m]	x [mm]	y [mm]	Horizontal displacement along the Line [mm]	Horizontal displacement perpendicular to Line [mm]
0.0	52.30000	47.70000	-3.30000	0.0	0.0	0.0
0.80000	52.30000	48.50000	-3.30000	0.0	0.0	0.0
1.6000	52.30000	49.30000	-3.30000	0.0	0.0	0.0
2.4000	52.30000	50.10000	-3.30000	0.0	0.0	0.0
3.2000	52.30000	50.90000	-3.30000	0.0	0.0	0.0

Structure: R | Sub-structure: Sub #

Dist. [m]	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	Horizontal displacement along the Line [mm]	Horizontal displacement perpendicular to Line [mm]
0.0	52.30000	50.90000	-3.30000	0.0	0.0	0.0	0.0
1.8608	54.15000	51.10000	-3.30000	0.0	0.0	0.0	0.0
3.7216	56.00000	51.30000	-3.30000	0.0	0.0	0.0	0.0
5.5823	57.85000	51.50000	-3.30000	0.0	0.0	0.0	0.0
7.4431	59.70000	51.70000	-3.30000	0.0	0.0	0.0	0.0
9.3039	61.55000	51.90000	-3.30000	0.0	0.0	0.0	0.0
11.165	63.40000	52.10000	-3.30000	0.0	0.0	0.0	0.0
13.025	65.25000	52.30000	-3.30000	0.0	0.0	0.0	0.0
14.886	67.10000	52.50000	-3.30000	-0.0018313	-10.709E-6	-0.0018219	186.19E-6

Structure: S | Sub-structure: Sub #

Dist. [m]	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	Horizontal displacement along the Line [mm]	Horizontal displacement perpendicular to Line [mm]
0.0	67.10000	52.50000	-3.30000	-0.0018313	-10.709E-6	-242.92E-6	-0.0018152
1.8781	67.36000	50.64000	-3.30000	0.0	0.0	0.0	0.0
3.7562	67.62000	48.78000	-3.30000	0.0	0.0	0.0	0.0
5.6343	67.88000	46.92000	-3.30000	0.0	0.0	0.0	0.0
7.5123	68.14000	45.06000	-3.30000	0.0	0.0	0.0	0.0
9.3904	68.40000	43.20000	-3.30000	0.0	0.0	0.0	0.0

Structure: T | Sub-structure:

Dist. [m]	Coordinates x [m]	y [m]	z [m]	x [mm]	y [mm]	Horizontal displacement along the Line [mm]	Horizontal displacement perpendicular to Line [mm]
0.0	68.40000	43.20000	-3.30000	0.0	0.0	0.0	0.0
0.91411	69.30000	43.36000	-3.30000	0.0	0.0	0.0	0.0
1.8282	70.20000	43.52000	-3.30000	0.0	0.0	0.0	0.0
2.7423	71.10000	43.68000	-3.30000	0.0	0.0	0.0	0.0
3.6564	72.00000	43.84000	-3.30000	0.0	0.0	0.0	0.0
4.5706	72.90000	44.00000	-3.30000	0.0	0.0	0.0	0.0

Structure: U | Sub-structure:

Dist. [m]	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	Horizontal displacement along the Line [mm]	Horizontal displacement perpendicular to Line [mm]
0.0	92.80000	57.10000	-3.30000	0.0	0.0	0.0	0.0
1.9362	90.90000	56.72727	-3.30000	0.0	0.0	0.0	0.0
3.8724	89.00000	56.35455	-3.30000	0.0	0.0	0.0	0.0
5.8086	87.10000	55.98182	-3.30000	0.0	0.0	0.0	0.0
7.7449	85.20000	55.60909	-3.30000	0.0	0.0	0.0	0.0
9.6811	83.30000	55.23636	-3.30000	0.0	0.0	0.0	0.0
11.617	81.40000	54.86364	-3.30000	0.0	0.0	0.0	0.0
13.553	79.50000	54.49091	-3.30000	0.0	0.0	0.0	0.0
15.490	77.60000	54.11818	-3.30000	0.0	0.0	0.0	0.0
17.426	75.70000	53.74545	-3.30000	0.0	0.0	0.0	0.0
19.362	73.80000	53.37273	-3.30000	0.0	0.0	0.0	0.0
21.298	71.90000	53.00000	-3.30000	-939.74E-6	-25.746E-6	927.12E-6	-155.64E-6

Structure: V | Sub-structure:

Dist. [m]	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	Horizontal displacement along the Line [mm]	Horizontal displacement perpendicular to Line [mm]
0.0	71.90000	53.00000	-3.30000	-939.74E-6	-25.746E-6	-70.431E-6	-937.45E-6
1.8346	72.08750	51.17500	-3.30000	0.0	0.0	0.0	0.0
3.6692	72.27500	49.35000	-3.30000	0.0	0.0	0.0	0.0
5.5038	72.46250	47.52500	-3.30000	0.0	0.0	0.0	0.0
7.3384	72.65000	45.70000	-3.30000	0.0	0.0	0.0	0.0
9.1730	72.83750	43.87500	-3.30000	0.0	0.0	0.0	0.0
11.008	73.02500	42.05000	-3.30000	0.0	0.0	0.0	0.0
12.842	73.21250	40.22500	-3.30000	0.0	0.0	0.0	0.0
14.677	73.40000	38.40000	-3.30000	0.0	0.0	0.0	0.0

Structure: W | Sub-structure:

Dist. [m]	Coordinates x [m]	y [m]	z [m]	x [mm]	y [mm]	Horizontal displacement along the Line [mm]	Horizontal displacement perpendicular to Line [mm]
0.0	73.40000	38.40000	-3.30000	0.0	0.0	0.0	0.0
1.7815	73.73333	36.65000	-3.30000	0.0	0.0	0.0	0.0
3.5629	74.06667	34.90000	-3.30000	0.0	0.0	0.0	0.0
5.3444	74.40000	33.15000	-3.30000	0.0	0.0	0.0	0.0
7.1259	74.73333	31.40000	-3.30000	0.0	0.0	0.0	0.0
8.9073	75.06667	29.65000	-3.30000	0.0	0.0	0.0	0.0
10.689	75.40000	27.90000	-3.30000	0.0	0.0	0.0	0.0

Structure: X | Sub-structure:

Dist. [m]	Coordinates x [m]	y [m]	z [m]	x [mm]	y [mm]	Horizontal displacement along the Line [mm]	Horizontal displacement perpendicular to Line [mm]
0.0	75.40000	27.90000	-3.30000	0.0	0.0	0.0	0.0
1.7644	75.17500	26.15000	-3.30000	0.0	0.0	0.0	0.0
3.5288	74.95000	24.40000	-3.30000	0.0	0.0	0.0	0.0
5.2932	74.72500	22.65000	-3.30000	0.0	0.0	0.0	0.0
7.0576	74.50000	20.90000	-3.30000	0.0	0.0	0.0	0.0
8.8220	74.27500	19.15000	-3.30000	0.0	0.0	0.0	0.0
10.586	74.05000	17.40000	-3.30000	0.0	0.0	0.0	0.0
12.351	73.82500	15.65000	-3.30000	0.0	0.0	0.0	0.0
14.115	73.60000	13.90000	-3.30000	0.0	0.0	0.0	0.0

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line

Structure: Y | Sub-structure:

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	73.60000	13.90000	-3.30000	0.0	0.0	0.0	0.0
1.8742	71.74000	14.13000	-3.30000	0.0	0.0	0.0	0.0
3.7483	69.88000	14.36000	-3.30000	0.0	0.0	0.0	0.0
5.6225	68.02000	14.59000	-3.30000	0.0	0.0	0.0	0.0
7.4967	66.16000	14.82000	-3.30000	0.0	0.0	0.0	0.0
9.3708	64.30000	15.05000	-3.30000	0.0	0.0	0.0	0.0
11.245	62.44000	15.28000	-3.30000	0.0	0.0	0.0	0.0
13.119	60.58000	15.51000	-3.30000	0.0	0.0	0.0	0.0
14.993	58.72000	15.74000	-3.30000	0.0	0.0	0.0	0.0
16.867	56.86000	15.97000	-3.30000	0.0	0.0	0.0	0.0
18.742	55.00000	16.20000	-3.30000	0.0	0.0	0.0	0.0

Structure: Z | Sub-structure:

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	93.80000	65.10000	-3.30000	0.0	0.0	0.0	0.0
1.9616	91.86364	64.78636	-3.30000	0.0	0.0	0.0	0.0
3.9232	89.92727	64.47273	-3.30000	0.0	0.0	0.0	0.0
5.8848	87.99091	64.15909	-3.30000	0.0	0.0	0.0	0.0
7.8464	86.05455	63.84545	-3.30000	0.0	0.0	0.0	0.0
9.8080	84.11818	63.53182	-3.30000	0.0	0.0	0.0	0.0
11.770	82.18182	63.21818	-3.30000	0.0	0.0	0.0	0.0
13.731	80.24545	62.90455	-3.30000	0.0	0.0	0.0	0.0
15.693	78.30909	62.59091	-3.30000	0.0	0.0	0.0	0.0
17.654	76.37273	62.27727	-3.30000	0.0	0.0	0.0	0.0
19.616	74.43636	61.96364	-3.30000	0.0	0.0	0.0	0.0
21.578	72.50000	61.65000	-3.30000	0.0	0.0	0.0	0.0
23.539	70.56364	61.33636	-3.30000	-0.0020825	-904.98E-6	0.0022004	560.37E-6
25.501	68.62727	61.02273	-3.30000	-0.044154	-0.020439	0.046854	0.013117
27.462	66.69091	60.70909	-3.30000	-0.091231	-0.045417	0.097319	0.030246
29.424	64.75455	60.39545	-3.30000	-0.14530	-0.078738	0.15602	0.054493
31.386	62.81818	60.08182	-3.30000	-0.20858	-0.12500	0.22588	0.090042
33.347	60.88182	59.76818	-3.30000	-0.28319	-0.19175	0.31020	0.14400
35.309	58.94545	59.45455	-3.30000	-0.36997	-0.29176	0.41186	0.22886
37.270	57.00909	59.14091	-3.30000	-0.46473	-0.44695	0.53021	0.36689
39.232	55.07273	58.82727	-3.30000	-0.59564	-0.75469	0.70864	0.64974
41.194	53.13636	58.51364	-3.30000	-0.66033	-1.2872	0.85763	1.1650
43.155	51.20000	58.20000	-3.30000	-0.42946	-2.0757	0.75582	1.9804

Structure: AA | Sub-structure:

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	40.80000	55.60000	-3.30000	0.0	-4.7544	-0.75288	-4.6944
1.7892	42.56667	55.88333	-3.30000	0.0	-4.6458	-0.73568	-4.5872
3.5785	44.33333	56.16667	-3.30000	0.0	-4.5389	-0.71875	-4.4816
5.3677	46.10000	56.45000	-3.30000	0.0	-4.4336	-0.70208	-4.3777
7.1570	47.86667	56.73333	-3.30000	0.0	-4.3301	-0.68569	-4.2755
8.9462	49.63333	57.01667	-3.30000	0.0	-4.2282	-0.66955	-4.1749
10.735	51.40000	57.30000	-3.30000	-0.58123	-2.0343	-0.89604	-1.9166

Structure: AB | Sub-structure:

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	51.40000	57.30000	-3.30000	-0.58123	-2.0343	-1.9253	0.87728
1.9214	51.11429	59.20000	-3.30000	-0.32694	-1.9952	-1.9244	0.62000
3.8427	50.82857	61.10000	-3.30000	-0.17120	-1.7976	-1.7522	0.43661
5.7641	50.54286	63.00000	-3.30000	-0.079273	-1.5479	-1.5189	0.30857
7.6854	50.25714	64.90000	-3.30000	-0.026449	-1.2857	-1.2675	0.21735
9.6068	49.97143	66.80000	-3.30000	0.0	-1.5295	-1.5125	0.22744
11.528	49.68571	68.70000	-3.30000	0.0	-1.1399	-1.1272	0.16951
13.450	49.40000	70.60000	-3.30000	0.0	-0.77561	-0.76698	0.11534

Structure: AC | Sub-structure:

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	49.40000	70.60000	-3.30000	0.0	-0.77561	0.13874	0.76310
0.99381	48.42222	70.42222	-3.30000	0.0	-0.80883	0.14469	0.79579
1.9876	47.44444	70.24444	-3.30000	0.0	-0.84222	0.15066	0.82863
2.9814	46.46667	70.06667	-3.30000	0.0	-0.87577	0.15666	0.86164
3.9752	45.48889	69.88889	-3.30000	0.0	-0.90949	0.16269	0.89482
4.9690	44.51111	69.71111	-3.30000	0.0	-0.94339	0.16876	0.92818
5.9628	43.53333	69.53333	-3.30000	0.0	-0.97748	0.17486	0.96171
6.9567	42.55556	69.35556	-3.30000	0.0	-1.0118	0.18099	0.99544
7.9505	41.57778	69.17778	-3.30000	0.0	-1.0462	0.18716	1.0294
8.9443	40.60000	69.00000	-3.30000	0.0	-1.0809	0.19336	1.0635

Structure: AD | Sub-structure:

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	40.60000	69.00000	-3.30000	0.0	-1.0809	1.0808	-0.016131
1.9145	40.62857	67.08571	-3.30000	0.0	-1.4690	1.4688	-0.021922
3.8290	40.65714	65.17143	-3.30000	0.0	-1.8894	1.8891	-0.028196
5.7435	40.68571	63.25714	-3.30000	0.0	-2.3500	2.3498	-0.035071
7.6580	40.71429	61.34286	-3.30000	0.0	-2.8589	2.8586	-0.042666
9.5725	40.74286	59.42857	-3.30000	0.0	-3.4240	3.4236	-0.051099
11.487	40.77143	57.51429	-3.30000	0.0	-4.0532	4.0527	-0.060488
13.401	40.80000	55.60000	-3.30000	0.0	-4.7544	4.7539	-0.070954

Structure: AE | Sub-structure:

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	32.60000	55.10000	-3.30000	1.7774	-0.65739	1.7201	-0.79523
0.95296	33.55000	55.17500	-3.30000	1.8387	-0.80353	1.7698	-0.94575

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
1.9059	34.50000	55.25000	-3.30000	1.8578	-0.98050	1.7749	-1.1237
2.8589	35.45000	55.32500	-3.30000	1.8099	-1.1897	1.7107	-1.3284
3.8118	36.40000	55.40000	-3.30000	1.6595	-1.4224	1.5424	-1.5486

Structure: AF | Sub-structure: Sub #

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	36.40000	55.40000	-3.30000	1.6595	-1.4224	-1.4985	-1.5910
1.8306	36.31429	57.22857	-3.30000	1.1885	-1.6004	-1.6543	-1.1122
3.6612	36.22857	59.05714	-3.30000	0.87988	-1.5954	-1.6349	-0.80421
5.4917	36.14286	60.88571	-3.30000	0.64910	-1.4660	-1.4948	-0.57974
7.3223	36.05714	62.71429	-3.30000	0.47858	-1.2845	-1.3055	-0.41791
9.1529	35.97143	64.54286	-3.30000	0.35065	-1.0838	-1.0991	-0.29952
10.983	35.88571	66.37143	-3.30000	0.25252	-0.87887	-0.88973	-0.21109
12.814	35.80000	68.20000	-3.30000	0.17539	-0.67588	-0.68335	-0.14355

Structure: AG | Sub-structure: Sub #

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	35.80000	68.20000	-3.30000	0.17539	-0.67588	-0.052305	0.69630
1.9105	33.92000	67.86000	-3.30000	0.23110	-0.59747	-0.12109	0.62906
3.8210	32.04000	67.52000	-3.30000	0.25994	-0.50003	-0.16680	0.53831
5.7315	30.16000	67.18000	-3.30000	0.26017	-0.39479	-0.18576	0.43479
7.6420	28.28000	66.84000	-3.30000	0.23408	-0.29088	-0.17857	0.32790
9.5525	26.40000	66.50000	-3.30000	0.18608	-0.19435	-0.14852	0.22436

Structure: AH | Sub-structure: Sub #

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	26.40000	66.50000	-3.30000	0.18608	-0.19435	0.22707	0.14435
0.89233	26.57500	65.62500	-3.30000	0.23794	-0.23615	0.27823	0.18700
1.7847	26.75000	64.75000	-3.30000	0.29756	-0.27946	0.33238	0.23697
2.6770	26.92500	63.87500	-3.30000	0.36196	-0.32012	0.38489	0.29215
3.5693	27.10000	63.00000	-3.30000	0.43164	-0.35745	0.43516	0.35315
4.4616	27.27500	62.12500	-3.30000	0.50702	-0.39056	0.48241	0.42058
5.3540	27.45000	61.25000	-3.30000	0.58849	-0.41832	0.52561	0.49502
6.2463	27.62500	60.37500	-3.30000	0.67628	-0.43937	0.56347	0.57698
7.1386	27.80000	59.50000	-3.30000	0.77043	-0.45207	0.59439	0.66681

Structure: AI | Sub-structure: Sub #

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	27.80000	59.50000	-3.30000	0.77043	-0.45207	0.73627	-0.50582
0.84214	28.64000	59.56000	-3.30000	0.81291	-0.51692	0.77402	-0.57352
1.6843	29.48000	59.62000	-3.30000	0.84644	-0.58650	0.80250	-0.64531
2.5264	30.32000	59.68000	-3.30000	0.86907	-0.66042	0.81981	-0.72066
3.3686	31.16000	59.74000	-3.30000	0.87862	-0.73788	0.82381	-0.79860
4.2107	32.00000	59.80000	-3.30000	0.87273	-0.81750	0.81227	-0.87760

Structure: AJ | Sub-structure: Sub #

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	32.00000	59.80000	-3.30000	0.87273	-0.81750	0.92143	0.76219
0.94763	32.12000	58.86000	-3.30000	1.0169	-0.84438	0.96636	0.90180
1.8953	32.24000	57.92000	-3.30000	1.1808	-0.85089	0.99357	1.0635
2.8429	32.36000	56.98000	-3.30000	1.3644	-0.82878	0.99489	1.2485
3.7905	32.48000	56.04000	-3.30000	1.5655	-0.76797	0.96002	1.4556
4.7381	32.60000	55.10000	-3.30000	1.7774	-0.65739	0.87717	1.6798

Structure: AK | Sub-structure:

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	27.80000	59.50000	-3.30000	0.77043	-0.45207	0.44203	0.77624
0.96258	27.78750	58.53750	-3.30000	0.86594	-0.43878	0.42749	0.87156
1.9252	27.77500	57.57500	-3.30000	0.96240	-0.41076	0.39822	0.96765
2.8877	27.76250	56.61250	-3.30000	1.0570	-0.36684	0.35308	1.0616
3.8503	27.75000	55.65000	-3.30000	1.1462	-0.30658	0.29168	1.1500
4.8129	27.73750	54.68750	-3.30000	1.2261	-0.23060	0.21466	1.2290
5.7755	27.72500	53.72500	-3.30000	1.2927	-0.14069	0.12389	1.2944
6.7381	27.71250	52.76250	-3.30000	1.3424	-0.039929	0.022493	1.3428
7.7006	27.70000	51.80000	-3.30000	1.8640	0.0	-0.024205	1.8638

Structure: AL | Sub-structure: Sub #

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	27.70000	51.80000	-3.30000	1.8640	0.0	0.16420	1.8567
1.8447	27.86250	49.96250	-3.30000	1.4269	0.0	0.12570	1.4214
3.6893	28.02500	48.12500	-3.30000	1.0066	0.0	0.088671	1.0027
5.5340	28.18750	46.28750	-3.30000	0.60569	0.0	0.053356	0.60333
7.3787	28.35000	44.45000	-3.30000	0.22523	0.0	0.019841	0.22435
9.2234	28.51250	42.61250	-3.30000	0.0	0.0	0.0	0.0
11.068	28.67500	40.77500	-3.30000	0.0	0.0	0.0	0.0
12.913	28.83750	38.93750	-3.30000	0.0	0.0	0.0	0.0
14.757	29.00000	37.10000	-3.30000	0.0	0.0	0.0	0.0

Structure: AM | Sub-structure: Sub #

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	29.00000	37.10000	-3.30000	0.0	0.0	0.0	0.0
1.9157	28.75556	35.20000	-3.30000	0.0	0.0	0.0	0.0

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
3.8313	28.51111	33.30000	-3.30000	0.0	0.0	0.0	0.0
5.7470	28.26667	31.40000	-3.30000	0.0	0.0	0.0	0.0
7.6626	28.02222	29.50000	-3.30000	0.0	0.0	0.0	0.0
9.5783	27.77778	27.60000	-3.30000	0.0	0.0	0.0	0.0
11.494	27.53333	25.70000	-3.30000	0.0	0.0	0.0	0.0
13.410	27.28889	23.80000	-3.30000	0.0	0.0	0.0	0.0
15.325	27.04444	21.90000	-3.30000	0.0	0.0	0.0	0.0
17.241	26.80000	20.00000	-3.30000	0.0	0.0	0.0	0.0

Structure: AN | Sub-structure:

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	26.80000	20.00000	-3.30000	0.0	0.0	0.0	0.0
1.8508	28.64000	19.80000	-3.30000	0.0	0.0	0.0	0.0
3.7017	30.48000	19.60000	-3.30000	0.0	0.0	0.0	0.0
5.5525	32.32000	19.40000	-3.30000	0.0	0.0	0.0	0.0
7.4034	34.16000	19.20000	-3.30000	0.0	0.0	0.0	0.0
9.2542	36.00000	19.00000	-3.30000	0.0	0.0	0.0	0.0

Structure: AO | Sub-structure:

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	36.00000	19.00000	-3.30000	0.0	0.0	0.0	0.0
4.0447	36.04444	23.04444	-3.30000	0.0	0.0	0.0	0.0
8.0894	36.08889	27.08889	-3.30000	0.0	0.0	0.0	0.0
12.134	36.13333	31.13333	-3.30000	0.0	0.0	0.0	0.0
16.179	36.17778	35.17778	-3.30000	0.028836	0.034258	0.034573	-0.028457
20.223	36.22222	39.22222	-3.30000	0.38597	0.039647	0.043886	-0.38552
24.268	36.26667	43.26667	-3.30000	1.7047	0.0	0.018732	-1.7046
28.313	36.31111	47.31111	-3.30000	2.9762	0.0	0.032704	-2.9760
32.358	36.35556	51.35556	-3.30000	4.2855	0.0	0.047090	-4.2852
36.402	36.40000	55.40000	-3.30000	1.6595	-1.4224	-1.4041	-1.6750

Structure: AP | Sub-structure:

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	26.70000	20.00000	-3.30000	0.0	0.0	0.0	0.0
1.9443	24.76250	20.16250	-3.30000	0.0	0.0	0.0	0.0
3.8886	22.82500	20.32500	-3.30000	0.0	0.0	0.0	0.0
5.8329	20.88750	20.48750	-3.30000	0.0	0.0	0.0	0.0
7.7772	18.95000	20.65000	-3.30000	0.0	0.0	0.0	0.0
9.7215	17.01250	20.81250	-3.30000	0.0	0.0	0.0	0.0
11.666	15.07500	20.97500	-3.30000	0.0	0.0	0.0	0.0
13.610	13.13750	21.13750	-3.30000	0.0	0.0	0.0	0.0
15.554	11.20000	21.30000	-3.30000	0.0	0.0	0.0	0.0

Structure: AQ | Sub-structure: Sub #

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	11.20000	21.30000	-3.30000	0.0	0.0	0.0	0.0
1.9556	11.29333	23.25333	-3.30000	0.0	0.0	0.0	0.0
3.9111	11.38667	25.20667	-3.30000	0.0	0.0	0.0	0.0
5.8667	11.48000	27.16000	-3.30000	0.0	0.0	0.0	0.0
7.8222	11.57333	29.11333	-3.30000	0.0	0.0	0.0	0.0
9.7778	11.66667	31.06667	-3.30000	0.0	0.0	0.0	0.0
11.733	11.76000	33.02000	-3.30000	0.0	0.0	0.0	0.0
13.689	11.85333	34.97333	-3.30000	0.0	0.0	0.0	0.0
15.644	11.94667	36.92667	-3.30000	0.0	0.0	0.0	0.0
17.600	12.04000	38.88000	-3.30000	0.0	0.0	0.0	0.0
19.556	12.13333	40.83333	-3.30000	0.0	0.0	0.0	0.0
21.511	12.22667	42.78667	-3.30000	0.0	0.0	0.0	0.0
23.467	12.32000	44.74000	-3.30000	0.0	0.0	0.0	0.0
25.422	12.41333	46.69333	-3.30000	0.0	0.0	0.0	0.0
27.378	12.50667	48.64667	-3.30000	0.0	0.0	0.0	0.0
29.333	12.60000	50.60000	-3.30000	0.0	0.0	0.0	0.0

Structure: AR | Sub-structure: Sub #

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	12.60000	50.60000	-3.30000	0.0	0.0	0.0	0.0
1.9059	14.50000	50.75000	-3.30000	0.0	0.0	0.0	0.0
3.8118	16.40000	50.90000	-3.30000	0.0	0.0	0.0	0.0
5.7177	18.30000	51.05000	-3.30000	0.0	0.0	0.0	0.0
7.6236	20.20000	51.20000	-3.30000	0.23938	0.0	0.23864	-0.018840
9.5296	22.10000	51.35000	-3.30000	0.61405	0.0	0.61214	-0.048327
11.435	24.00000	51.50000	-3.30000	1.0069	0.0	1.0038	-0.079244
13.341	25.90000	51.65000	-3.30000	1.4281	0.0	1.4237	-0.11239
15.247	27.80000	51.80000	-3.30000	1.8871	0.0	1.8813	-0.14852

Specific Building Damage Results - Vertical Displacements

Structure: A | Sub-structure:

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	40.10000	17.80000	-3.30000	0.0
1.8732	41.96250	17.60000	-3.30000	0.0
3.7464	43.82500	17.40000	-3.30000	0.0
5.6196	45.68750	17.20000	-3.30000	0.0
7.4928	47.55000	17.00000	-3.30000	0.0
9.3660	49.41250	16.80000	-3.30000	0.0
11.239	51.27500	16.60000	-3.30000	0.0
13.112	53.13750	16.40000	-3.30000	0.0
14.986	55.00000	16.20000	-3.30000	0.0

Structure: B | Sub-structure: Sub #

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	55.00000	16.20000	-3.30000	0.0

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
0.94329	55.02857	17.14286	-3.30000	0.0
1.8866	55.05714	18.08571	-3.30000	0.0
2.8299	55.08571	19.02857	-3.30000	0.0
3.7732	55.11429	19.97143	-3.30000	0.0
4.7164	55.14286	20.91429	-3.30000	0.0
5.6597	55.17143	21.85714	-3.30000	0.0
6.6030	55.20000	22.80000	-3.30000	0.0

Structure: C | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	55.20000	22.80000	-3.30000	0.0
1.8841	54.94444	24.66667	-3.30000	0.0
3.7682	54.68889	26.53333	-3.30000	0.0
5.6522	54.43333	28.40000	-3.30000	0.0
7.5363	54.17778	30.26667	-3.30000	0.0
9.4204	53.92222	32.13333	-3.30000	0.040665
11.304	53.66667	34.00000	-3.30000	0.36419
13.189	53.41111	35.86667	-3.30000	1.0329
15.073	53.15556	37.73333	-3.30000	2.2139
16.957	52.90000	39.60000	-3.30000	3.6593

Structure: D | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	41.40000	39.40000	-3.30000	13.279
0.90022	41.42000	38.50000	-3.30000	10.173
1.8004	41.44000	37.60000	-3.30000	7.5818
2.7007	41.46000	36.70000	-3.30000	5.4616
3.6009	41.48000	35.80000	-3.30000	3.7668
4.5011	41.50000	34.90000	-3.30000	2.4523

Structure: E | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	41.50000	34.90000	-3.30000	2.4523
0.70000	40.80000	34.90000	-3.30000	2.4523
1.4000	40.10000	34.90000	-3.30000	2.4523

Structure: F | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	40.10000	34.90000	-3.30000	2.4523
1.9000	40.10000	33.00000	-3.30000	0.72293
3.8000	40.10000	31.10000	-3.30000	0.062260
5.7000	40.10000	29.20000	-3.30000	0.0
7.6000	40.10000	27.30000	-3.30000	0.0
9.5000	40.10000	25.40000	-3.30000	0.0
11.400	40.10000	23.50000	-3.30000	0.0
13.300	40.10000	21.60000	-3.30000	0.0
15.200	40.10000	19.70000	-3.30000	0.0
17.100	40.10000	17.80000	-3.30000	0.0

Structure: G | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	52.90000	39.80000	-3.30000	5.4616
0.90035	52.87500	40.70000	-3.30000	5.5146
1.8007	52.85000	41.60000	-3.30000	5.5678
2.7010	52.82500	42.50000	-3.30000	5.6214
3.6014	52.80000	43.40000	-3.30000	5.6754

Structure: H | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	52.80000	43.40000	-3.30000	5.6754
0.70178	53.50000	43.45000	-3.30000	4.2873
1.4036	54.20000	43.50000	-3.30000	3.1384

Structure: I | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	41.40000	39.50000	-3.30000	13.658
0.95562	42.35556	39.51111	-3.30000	13.701
1.9112	43.31111	39.52222	-3.30000	13.743
2.8669	44.26667	39.53333	-3.30000	13.786
3.8225	45.22222	39.54444	-3.30000	13.829
4.7781	46.17778	39.55556	-3.30000	13.872
5.7337	47.13333	39.56667	-3.30000	13.915
6.6893	48.08889	39.57778	-3.30000	13.958
7.6450	49.04444	39.58889	-3.30000	14.001
8.6006	50.00000	39.60000	-3.30000	9.4096

Structure: J | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	50.00000	39.60000	-3.30000	9.4096
1.0000	50.00000	40.60000	-3.30000	14.044
2.0000	50.00000	41.60000	-3.30000	14.044
3.0000	50.00000	42.60000	-3.30000	14.044
4.0000	50.00000	43.60000	-3.30000	14.044
5.0000	50.00000	44.60000	-3.30000	14.044
6.0000	50.00000	45.60000	-3.30000	14.044
7.0000	50.00000	46.60000	-3.30000	14.044
8.0000	50.00000	47.60000	-3.30000	14.044

Structure: K | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	50.00000	47.60000	-3.30000	14.044
0.82098	50.82000	47.64000	-3.30000	11.082
1.6420	51.64000	47.68000	-3.30000	8.5592
2.4629	52.46000	47.72000	-3.30000	6.4422
3.2839	53.28000	47.76000	-3.30000	4.6968
4.1049	54.10000	47.80000	-3.30000	3.2886

Structure: L | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	54.10000	47.80000	-3.30000	3.2886
0.86023	54.12000	46.94000	-3.30000	3.2582
1.7205	54.14000	46.08000	-3.30000	3.2280
2.5807	54.16000	45.22000	-3.30000	3.1979
3.4409	54.18000	44.36000	-3.30000	3.1681
4.3012	54.20000	43.50000	-3.30000	3.1384

Structure: M | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	52.90000	41.10000	-3.30000	5.4616
0.98644	53.87143	41.27143	-3.30000	3.6492
1.9729	54.84286	41.44286	-3.30000	2.2757
2.9593	55.81429	41.61429	-3.30000	1.2842
3.9458	56.78571	41.78571	-3.30000	0.61808
4.9322	57.75714	41.95714	-3.30000	0.22045
5.9186	58.72857	42.12857	-3.30000	0.034565
6.9051	59.70000	42.30000	-3.30000	0.0

Structure: N | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	59.70000	42.30000	-3.30000	0.0
0.90247	59.63333	43.20000	-3.30000	0.0
1.8049	59.56667	44.10000	-3.30000	0.0
2.7074	59.50000	45.00000	-3.30000	0.0

Structure: O | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	59.50000	45.00000	-3.30000	0.0
0.93608	58.97500	45.77500	-3.30000	0.014295
1.8722	58.45000	46.55000	-3.30000	0.069534
2.8082	57.92500	47.32500	-3.30000	0.17479
3.7443	57.40000	48.10000	-3.30000	0.33902

Structure: P | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	57.40000	48.10000	-3.30000	0.33902
0.85261	56.55000	48.03333	-3.30000	0.75289
1.7052	55.70000	47.96667	-3.30000	1.3829
2.5578	54.85000	47.90000	-3.30000	2.2671
3.4104	54.00000	47.83333	-3.30000	3.4435
4.2631	53.15000	47.76667	-3.30000	4.9501
5.1157	52.30000	47.70000	-3.30000	6.8250

Structure: Q | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	52.30000	47.70000	-3.30000	6.8250
0.80000	52.30000	48.50000	-3.30000	6.8250
1.6000	52.30000	49.30000	-3.30000	6.8250
2.4000	52.30000	50.10000	-3.30000	6.8250
3.2000	52.30000	50.90000	-3.30000	6.8250

Structure: R | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	52.30000	50.90000	-3.30000	6.8250
1.8608	54.15000	51.10000	-3.30000	3.2129
3.7216	56.00000	51.30000	-3.30000	1.1335
5.5823	57.85000	51.50000	-3.30000	0.19443
7.4431	59.70000	51.70000	-3.30000	0.0
9.3039	61.55000	51.90000	-3.30000	0.0
11.165	63.40000	52.10000	-3.30000	0.0
13.025	65.25000	52.30000	-3.30000	0.0
14.886	67.10000	52.50000	-3.30000	0.0048024

Structure: S | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	67.10000	52.50000	-3.30000	0.0048024
1.8781	67.36000	50.64000	-3.30000	0.0
3.7562	67.62000	48.78000	-3.30000	0.0
5.6343	67.88000	46.92000	-3.30000	0.0
7.5123	68.14000	45.06000	-3.30000	0.0
9.3904	68.40000	43.20000	-3.30000	0.0

Structure: T | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z

[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	68.40000	43.20000	-3.30000	0.0
0.91411	69.30000	43.36000	-3.30000	0.0
1.8282	70.20000	43.52000	-3.30000	0.0
2.7423	71.10000	43.68000	-3.30000	0.0
3.6564	72.00000	43.84000	-3.30000	0.0
4.5706	72.90000	44.00000	-3.30000	0.0

Structure: U | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	92.80000	57.10000	-3.30000	0.0
1.9362	90.90000	56.72727	-3.30000	0.0
3.8724	89.00000	56.35455	-3.30000	0.0
5.8086	87.10000	55.98182	-3.30000	0.0
7.7449	85.20000	55.60909	-3.30000	0.0
9.6811	83.30000	55.23636	-3.30000	0.0
11.617	81.40000	54.86364	-3.30000	0.0
13.553	79.50000	54.49091	-3.30000	0.0019190
15.490	77.60000	54.11818	-3.30000	0.0092078
17.426	75.70000	53.74545	-3.30000	0.014201
19.362	73.80000	53.37273	-3.30000	0.016071
21.298	71.90000	53.00000	-3.30000	0.014110

Structure: V | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	71.90000	53.00000	-3.30000	0.014110
1.8346	72.08750	51.17500	-3.30000	0.0
3.6692	72.27500	49.35000	-3.30000	0.0
5.5038	72.46250	47.52500	-3.30000	0.0
7.3384	72.65000	45.70000	-3.30000	0.0
9.1730	72.83750	43.87500	-3.30000	0.0
11.008	73.02500	42.05000	-3.30000	0.0
12.842	73.21250	40.22500	-3.30000	0.0
14.677	73.40000	38.40000	-3.30000	0.0

Structure: W | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	73.40000	38.40000	-3.30000	0.0
1.7815	73.73333	36.65000	-3.30000	0.0
3.5629	74.06667	34.90000	-3.30000	0.0
5.3444	74.40000	33.15000	-3.30000	0.0
7.1259	74.73333	31.40000	-3.30000	0.0
8.9073	75.06667	29.65000	-3.30000	0.0
10.689	75.40000	27.90000	-3.30000	0.0

Structure: X | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	75.40000	27.90000	-3.30000	0.0
1.7644	75.17500	26.15000	-3.30000	0.0
3.5288	74.95000	24.40000	-3.30000	0.0
5.2932	74.72500	22.65000	-3.30000	0.0
7.0576	74.50000	20.90000	-3.30000	0.0
8.8220	74.27500	19.15000	-3.30000	0.0
10.586	74.05000	17.40000	-3.30000	0.0
12.351	73.82500	15.65000	-3.30000	0.0
14.115	73.60000	13.90000	-3.30000	0.0

Structure: Y | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	73.60000	13.90000	-3.30000	0.0
1.8742	71.74000	14.13000	-3.30000	0.0
3.7483	69.88000	14.36000	-3.30000	0.0
5.6225	68.02000	14.59000	-3.30000	0.0
7.4967	66.16000	14.82000	-3.30000	0.0
9.3708	64.30000	15.05000	-3.30000	0.0
11.245	62.44000	15.28000	-3.30000	0.0
13.119	60.58000	15.51000	-3.30000	0.0
14.993	58.72000	15.74000	-3.30000	0.0
16.867	56.86000	15.97000	-3.30000	0.0
18.742	55.00000	16.20000	-3.30000	0.0

Structure: Z | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	93.80000	65.10000	-3.30000	0.0
1.9616	91.86364	64.78636	-3.30000	0.0
3.9232	89.92727	64.47273	-3.30000	0.0
5.8848	87.99091	64.15909	-3.30000	0.0
7.8464	86.05455	63.84545	-3.30000	0.0
9.8080	84.11818	63.53182	-3.30000	0.0
11.770	82.18182	63.21818	-3.30000	0.0
13.731	80.24545	62.90455	-3.30000	0.0
15.693	78.30909	62.59091	-3.30000	0.0
17.654	76.37273	62.27727	-3.30000	0.041938
19.616	74.43636	61.96364	-3.30000	0.089267
21.578	72.50000	61.65000	-3.30000	0.14086
23.539	70.56364	61.33636	-3.30000	0.19779
25.501	68.62727	61.02273	-3.30000	0.26147
27.462	66.69091	60.70909	-3.30000	0.33391
29.424	64.75455	60.39545	-3.30000	0.41789
31.386	62.81818	60.08182	-3.30000	0.51750
33.347	60.88182	59.76818	-3.30000	0.63879
35.309	58.94545	59.45455	-3.30000	0.79103
37.270	57.00909	59.14091	-3.30000	0.98860
39.232	55.07273	58.82727	-3.30000	1.4247
41.194	53.13636	58.51364	-3.30000	2.2519
43.155	51.20000	58.20000	-3.30000	3.4487

Structure: AA | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z

[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1

0.0	40.80000	55.60000	-3.30000	10.212
1.7892	42.56667	55.88333	-3.30000	9.6208
3.5785	44.33333	56.16667	-3.30000	9.0692
5.3677	46.10000	56.45000	-3.30000	8.5555
7.1570	47.86667	56.73333	-3.30000	8.0782
8.9462	49.63333	57.01667	-3.30000	7.6360
10.735	51.40000	57.30000	-3.30000	3.8049

Structure: AB | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1

0.0	51.40000	57.30000	-3.30000	3.8049
1.9214	51.11429	59.20000	-3.30000	3.0527
3.8427	50.82857	61.10000	-3.30000	2.6548
5.7641	50.54286	63.00000	-3.30000	2.4916
7.6854	50.25714	64.90000	-3.30000	2.3062
9.6068	49.97143	66.80000	-3.30000	3.1200
11.528	49.68571	68.70000	-3.30000	2.7400
13.450	49.40000	70.60000	-3.30000	2.3600

Structure: AC | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1

0.0	49.40000	70.60000	-3.30000	2.3600
0.99381	48.42222	70.42222	-3.30000	2.3956
1.9876	47.44444	70.24444	-3.30000	2.4311
2.9814	46.46667	70.06667	-3.30000	2.4667
3.9752	45.48889	69.88889	-3.30000	2.5022
4.9690	44.51111	69.71111	-3.30000	2.5378
5.9628	43.53333	69.53333	-3.30000	2.5733
6.9567	42.55556	69.35556	-3.30000	2.6089
7.9505	41.57778	69.17778	-3.30000	2.6444
8.9443	40.60000	69.00000	-3.30000	2.6800

Structure: AD | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1

0.0	40.60000	69.00000	-3.30000	2.6800
1.9145	40.62857	67.08571	-3.30000	3.0629
3.8290	40.65714	65.17143	-3.30000	3.4457
5.7435	40.68571	63.25714	-3.30000	3.8286
7.6580	40.71429	61.34286	-3.30000	4.2278
9.5725	40.74286	59.42857	-3.30000	5.0900
11.487	40.77143	57.51429	-3.30000	6.9398
13.401	40.80000	55.60000	-3.30000	10.212

Structure: AE | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1

0.0	32.60000	55.10000	-3.30000	2.7627
0.95296	33.55000	55.17500	-3.30000	2.9956
1.9059	34.50000	55.25000	-3.30000	3.2941
2.8589	35.45000	55.32500	-3.30000	3.6316
3.8118	36.40000	55.40000	-3.30000	3.9502

Structure: AF | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1

0.0	36.40000	55.40000	-3.30000	3.9502
1.8306	36.31429	57.22857	-3.30000	3.1476
3.6612	36.22857	59.05714	-3.30000	2.6630
5.4917	36.14286	60.88571	-3.30000	2.4026
7.3223	36.05714	62.71429	-3.30000	2.2518
9.1529	35.97143	64.54286	-3.30000	2.0763
10.983	35.88571	66.37143	-3.30000	1.8848
12.814	35.80000	68.20000	-3.30000	1.6824

Structure: AG | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1

0.0	35.80000	68.20000	-3.30000	1.6824
1.9105	33.92000	67.86000	-3.30000	1.5843
3.8210	32.04000	67.52000	-3.30000	1.4676
5.7315	30.16000	67.18000	-3.30000	1.3379
7.6420	28.28000	66.84000	-3.30000	1.2000
9.5525	26.40000	66.50000	-3.30000	1.0578

Structure: AH | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1

0.0	26.40000	66.50000	-3.30000	1.0578
0.89233	26.57500	65.62500	-3.30000	1.1244
1.7847	26.75000	64.75000	-3.30000	1.2122
2.6770	26.92500	63.87500	-3.30000	1.3015
3.5693	27.10000	63.00000	-3.30000	1.3924
4.4616	27.27500	62.12500	-3.30000	1.4849
5.3540	27.45000	61.25000	-3.30000	1.5792
6.2463	27.62500	60.37500	-3.30000	1.6753
7.1386	27.80000	59.50000	-3.30000	1.7732

Structure: AI | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1

0.0	27.80000	59.50000	-3.30000	1.7732
0.84214	28.64000	59.56000	-3.30000	1.8236
1.6843	29.48000	59.62000	-3.30000	1.8669

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
2.5264	30.32000	59.68000	-3.30000	1.9022
3.3686	31.16000	59.74000	-3.30000	1.9285
4.2107	32.00000	59.80000	-3.30000	1.9447

Structure: AJ | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	32.00000	59.80000	-3.30000	1.9447
0.94763	32.12000	58.86000	-3.30000	2.0683
1.8953	32.24000	57.92000	-3.30000	2.1991
2.8429	32.36000	56.98000	-3.30000	2.3516
3.7905	32.48000	56.04000	-3.30000	2.5408
4.7381	32.60000	55.10000	-3.30000	2.7627

Structure: AK | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	27.80000	59.50000	-3.30000	1.7732
0.96258	27.78750	58.53750	-3.30000	1.8670
1.9252	27.77500	57.57500	-3.30000	1.9598
2.8877	27.76250	56.61250	-3.30000	2.0504
3.8503	27.75000	55.65000	-3.30000	2.1375
4.8129	27.73750	54.68750	-3.30000	2.2198
5.7755	27.72500	53.72500	-3.30000	2.2956
6.7381	27.71250	52.76250	-3.30000	2.3632
7.7006	27.70000	51.80000	-3.30000	3.3650

Structure: AL | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	27.70000	51.80000	-3.30000	3.3650
1.8447	27.86250	49.96250	-3.30000	2.8003
3.6893	28.02500	48.12500	-3.30000	2.2356
5.5340	28.18750	46.28750	-3.30000	1.6709
7.3787	28.35000	44.45000	-3.30000	1.1063
9.2234	28.51250	42.61250	-3.30000	0.54156
11.068	28.67500	40.77500	-3.30000	0.0
12.913	28.83750	38.93750	-3.30000	0.0
14.757	29.00000	37.10000	-3.30000	0.0

Structure: AM | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	29.00000	37.10000	-3.30000	0.0
1.9157	28.75556	35.20000	-3.30000	0.0
3.8313	28.51111	33.30000	-3.30000	0.0
5.7470	28.26667	31.40000	-3.30000	0.0
7.6626	28.02222	29.50000	-3.30000	0.0
9.5783	27.77778	27.60000	-3.30000	0.0
11.494	27.53333	25.70000	-3.30000	0.0
13.410	27.28889	23.80000	-3.30000	0.0
15.325	27.04444	21.90000	-3.30000	0.0
17.241	26.80000	20.00000	-3.30000	0.0

Structure: AN | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	26.80000	20.00000	-3.30000	0.0
1.8508	28.64000	19.80000	-3.30000	0.0
3.7017	30.48000	19.60000	-3.30000	0.0
5.5525	32.32000	19.40000	-3.30000	0.0
7.4034	34.16000	19.20000	-3.30000	0.0
9.2542	36.00000	19.00000	-3.30000	0.0

Structure: AO | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	36.00000	19.00000	-3.30000	0.0
4.0447	36.04444	23.04444	-3.30000	0.0
8.0894	36.08889	27.08889	-3.30000	0.0
12.134	36.13333	31.13333	-3.30000	0.0
16.179	36.17778	35.17778	-3.30000	0.83327
20.223	36.22222	39.22222	-3.30000	3.2299
24.268	36.26667	43.26667	-3.30000	6.3556
28.313	36.31111	47.31111	-3.30000	7.7569
32.358	36.35556	51.35556	-3.30000	9.1591
36.402	36.40000	55.40000	-3.30000	3.9502

Structure: AP | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	26.70000	20.00000	-3.30000	0.0
1.9443	24.76250	20.16250	-3.30000	0.0
3.8886	22.82500	20.32500	-3.30000	0.0
5.8329	20.88750	20.48750	-3.30000	0.0
7.7772	18.95000	20.65000	-3.30000	0.0
9.7215	17.01250	20.81250	-3.30000	0.0
11.666	15.07500	20.97500	-3.30000	0.0
13.610	13.13750	21.13750	-3.30000	0.0
15.554	11.20000	21.30000	-3.30000	0.0

Structure: AQ | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	11.20000	21.30000	-3.30000	0.0
1.9556	11.29333	23.25333	-3.30000	0.0
3.9111	11.38667	25.20667	-3.30000	0.0
5.8667	11.48000	27.16000	-3.30000	0.0
7.8222	11.57333	29.11333	-3.30000	0.0

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
9.7778	11.66667	31.06667	-3.30000	0.0
11.733	11.76000	33.02000	-3.30000	0.0
13.689	11.85333	34.97333	-3.30000	0.0
15.644	11.94667	36.92667	-3.30000	0.0
17.600	12.04000	38.88000	-3.30000	0.0
19.556	12.13333	40.83333	-3.30000	0.0
21.511	12.22667	42.78667	-3.30000	0.0
23.467	12.32000	44.74000	-3.30000	0.0
25.422	12.41333	46.69333	-3.30000	0.0
27.378	12.50667	48.64667	-3.30000	0.0
29.333	12.60000	50.60000	-3.30000	0.0

Structure: AR | Sub-structure: Sub #

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	12.60000	50.60000	-3.30000	0.0
1.9059	14.50000	50.75000	-3.30000	0.38375
3.8118	16.40000	50.90000	-3.30000	0.81250
5.7177	18.30000	51.05000	-3.30000	1.2413
7.6236	20.20000	51.20000	-3.30000	1.6700
9.5296	22.10000	51.35000	-3.30000	2.0988
11.435	24.00000	51.50000	-3.30000	2.5275
13.341	25.90000	51.65000	-3.30000	2.9563
15.247	27.80000	51.80000	-3.30000	3.3850

Specific Building Damage Results - All Segments

Structure: A | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	11.304	5.6515	Hogging	0.0076009	0.0	0.0075815	0.0	-767.18E-6	8688.7	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	4.5000	Hogging	0.030341	0.0	0.030292	0.0	0.0034509	1537.6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: E | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	1.3990	None	0.0	0.0	0.0	0.0	0.0 -		0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: F | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	1.9000	None	0.0	0.0	0.0	0.0	910.22E-6	3043.0	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: G | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	3.6000	Hogging	18.245E-6	0.0	18.203E-6	0.0	-59.901E-6	2.4436E+6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: H | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	1.4030	Hogging	0.0084369	0.0	0.0084356	0.0	0.0019779	2058.5	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: I | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start [m]	Length [m]	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature [m]	Damage Category
0.0	1	0.0	5.7338	Hogging	6.7670E-6	0.0	6.7592E-6	0.0	-45.057E-6	10.526E+6	0 (Negligible)
	2	5.7338	2.8662	Sagging	0.10773	0.0	0.10745	0.0	0.0048046	157.60	2 (Slight)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: J | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start [m]	Length [m]	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature [m]	Damage Category
0.0	1	0.0	3.0000	Sagging	0.10299	0.0	0.10269	0.0	-0.0046346	172.62	2 (Slight)
	2	3.0000	4.9990	None	0.0	0.0	0.0	0.0	0.0	-	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: K | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start [m]	Length [m]	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature [m]	Damage Category
0.0	1	0.0	4.1040	Hogging	0.028796	0.0	0.028758	0.0	0.0036084	1503.3	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: L | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start [m]	Length [m]	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature [m]	Damage Category
0.0	1	0.0	4.3000	Hogging	12.498E-6	0.0	12.481E-6	0.0	35.360E-6	4.1113E+6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: M | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start [m]	Length [m]	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature [m]	Damage Category
0.0	1	0.0	4.9322	Hogging	0.022066	0.0	0.022016	0.0	0.0018373	2147.7	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: N | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start [m]	Length [m]	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature [m]	Damage Category
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: O | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start [m]	Length [m]	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature [m]	Damage Category
0.0	1	2.8082	0.93475	None	0.0	0.0	0.0	0.0	-175.45E-6	14302.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: P | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start [m]	Length [m]	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature [m]	Damage Category
0.0	1	0.0	5.1150	Hogging	0.025646	0.0	0.025464	0.0	-0.0021991	1923.2	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: Q | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start [m]	Length [m]	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature [m]	Damage Category
0.0	1	0.0	0.40000	Hogging	0.0	0.0	0.0	0.0	0.0	2.9515E+18	0 (Negligible)
	2	0.40000	2.4015	None	0.0	0.0	0.0	0.0	0.0	1.4854E+18	0 (Negligible)
	3	2.8015	0.39749	None	0.0	0.0	0.0	0.0	0.0	2.9719E+18	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: R | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start [m]	Length [m]	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature [m]	Damage Category
0.0	1	0.0	5.5823	Hogging	0.025113	0.0	0.024901	0.0	0.0019412	2123.3	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: S | Sub-structure: Sub #

Vertical Offset from Line for Vertical	Segment	Start [m]	Length [m]	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Maximum Gradient of Horizontal	Maximum Gradient of Vertical	Min. Radius of Curvature [m]	Damage Category

Movement Calculations							Displacement Curve	Displacement Curve		
[m]		[m]	[m]	[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.									

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: T | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: U | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: V | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: W | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: X | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: Y | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: Z | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	21.578	21.576	Hogging	0.0072182	0.0035033	0.0085590	-90.952E-6	-610.11E-6	10260.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: AA | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	5.4438	Hogging	742.36E-6	945.92E-6	0.0013098	-9.6154E-6	330.22E-6	80811.	0 (Negligible)
	2	5.4438	5.2902	Sagging	0.041809	-0.0036759	0.039608	126.60E-6	0.0021415	753.80	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: AB | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	8.3781	Hogging	0.0071026	0.0067969	0.010858	-130.84E-6	-423.63E-6	9614.1	0 (Negligible)
	2	8.3781	4.1105	Sagging	0.012943	0.0099415	0.018135	-200.46E-6	-423.63E-6	10651.	0 (Negligible)
	3	12.489	0.96040	Sagging	0.0	0.018750	0.018750	-187.47E-6	197.74E-6	12371.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: AC | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	6.9567	Sagging	0.0	607.25E-6	607.22E-6	-6.1700E-6	-35.777E-6	453.02E+9	0 (Negligible)
	2	6.9567	0.0	None	0.0	617.80E-6	617.80E-6	-6.2055E-6	-35.777E-6	9.2853E+18	0 (Negligible)
	3	6.9567	1.9863	Sagging	0.0	622.39E-6	622.38E-6	-6.2422E-6	-35.777E-6	170.57E+9	0 (Negligible)

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	1.9177	Sagging	0.0	0.020270	0.020270	-219.51E-6	-199.94E-6	535.36E+6	0 (Negligible)
	2	1.9177	11.482	Hogging	0.023829	0.028599	0.040377	-366.11E-6	-0.0017084	2395.3	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: AD | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	2.7408	Hogging	0.0019878	-54.600E-6	0.0019636	67.361E-6	-354.19E-6	12574.	0 (Negligible)
	2	2.7408	1.0702	Sagging	194.08E-6	-0.016457	0.0032933	176.65E-6	-354.19E-6	27241.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: AE | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	8.0446	Hogging	0.0059991	0.0034120	0.0076410	-112.77E-6	438.48E-6	9810.9	0 (Negligible)
	2	8.0446	4.7684	Sagging	218.88E-6	0.011337	0.011419	-114.34E-6	110.57E-6	198050.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: AF | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	9.5510	Sagging	365.82E-6	-0.0010077	292.65E-6	36.003E-6	74.450E-6	181540.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: AG | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	7.1380	Hogging	344.09E-6	0.0051456	0.0052427	-60.688E-6	-109.69E-6	30605.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: AH | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	4.2100	Sagging	620.37E-6	0.0018056	0.0020113	-44.827E-6	-59.782E-6	67602.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: AI | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	4.7370	Hogging	0.0017646	-932.37E-6	0.0014717	87.445E-6	-234.12E-6	26679.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: AJ | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	4.8396	Sagging	194.30E-6	-0.0047502	956.33E-6	94.307E-6	-97.491E-6	143170.	0 (Negligible)
	2	4.8396	2.8604	Hogging	0.021378	-0.0082615	0.018594	105.35E-6	-0.0010408	791.81	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: AK | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	9.2234	Hogging	0.0	-0.0017803	356.02E-6	20.871E-6	306.12E-6	23155.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: AL | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Vertical Offset from Line for Vertical Movement	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement	Maximum Gradient of Vertical Displacement	Min. Radius of Curvature	Damage Category

Structure: AN | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: AO | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	16.179	5.3510	Hogging	0.0033030	22.212E-6	0.0032862	-8.5477E-6	-772.80E-6	13955.	0 (Negligible)
	2	21.530	14.871	Sagging	0.034461	-0.0096791	0.031803	358.91E-6	0.0012883	1978.5	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: AP | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: AQ | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: AR | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	1.9059	3.8060	Sagging	0.0	0.0	0.0	0.0	-224.96E-6	107630.	0 (Negligible)
	2	5.7119	9.5341	Sagging	0.0	0.019729	0.019729	-240.06E-6	-224.96E-6	106.23E+6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Specific Building Damage Results - Critical Values for All Segments within Each Sub-Structure

Structure: A | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	

Structure: B | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	

Structure: C | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0076009	0.0	-767.18E-6	3.6587	0.0075815	0.0	-767.18E-6	8688.7	-	0 (Negligible)

Structure: D | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.030341	0.0	0.0034509	13.279	0.030292	0.0	0.0034509	1537.6	-	0 (Negligible)

Structure: E | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	0.0	0.0	2.4523	0.0	0.0	0.0	-	-	0 (Negligible)

Structure: F | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category

Calculations

[m]	[%]	[%]	[mm]	[%]			[m]	[m]	
0.0	0.0	0.0	910.22E-6	2.4523	0.0	0.0	910.22E-6	-	- 0 (Negligible)

Structure: G | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
Calculations										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	18.245E-6	0.0	-59.901E-6	5.6753	18.203E-6	0.0	-59.901E-6	2.4436E+6		- 0 (Negligible)

Structure: H | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
Calculations										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0084369	0.0	0.0019779	5.6754	0.0084356	0.0	0.0019779	2058.5		- 0 (Negligible)

Structure: I | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
Calculations										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.10773	0.0	0.0048046	14.001	0.10745	0.0	0.0048046	10.526E+6	157.60	2 (Slight)

Structure: J | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
Calculations										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.10299	0.0	-0.0046346	14.044	0.10269	0.0	-0.0046346	-	172.62	2 (Slight)

Structure: K | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
Calculations										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.028796	0.0	0.0036084	14.044	0.028758	0.0	0.0036084	1503.3		- 0 (Negligible)

Structure: L | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
Calculations										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	12.498E-6	0.0	35.360E-6	3.2886	12.481E-6	0.0	35.360E-6	4.1113E+6		- 0 (Negligible)

Structure: M | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
Calculations										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.022066	0.0	0.0018373	5.4616	0.022016	0.0	0.0018373	2147.7		- 0 (Negligible)

Structure: N | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
Calculations										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	

Structure: O | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
Calculations										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	0.0	-175.45E-6	0.33879	0.0	0.0	-175.45E-6	-		- 0 (Negligible)

Structure: P | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
Calculations										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.025646	0.0	-0.0021991	6.8236	0.025464	0.0	-0.0021991	1923.2		- 0 (Negligible)

Structure: Q | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
Calculations										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	0.0	0.0	6.8250	0.0	0.0	0.0	2.9515E+18		- 0 (Negligible)

Structure: R | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.025113	0.0	0.0019412	6.8250	0.024901	0.0	0.0019412	2123.3		- 0 (Negligible)

Structure: S | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	

Structure: T | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	

Structure: U | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	

Structure: V | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	

Structure: W | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	

Structure: X | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	

Structure: Y | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	

Structure: Z | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0072182	0.0035033	-610.11E-6	3.4479	0.0085590	-90.952E-6	-610.11E-6	10260.		- 0 (Negligible)

Structure: AA | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.041809	-0.0036759	0.0021415	10.212	0.039608	126.60E-6	0.0021415	80811.	753.80	0 (Negligible)

Structure: AB | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.012943	0.018750	-423.63E-6	3.8049	0.018750	-200.46E-6	-423.63E-6	9614.1	10651.	0 (Negligible)

Structure: AC | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	622.39E-6	-35.777E-6	2.6800	622.38E-6	-6.2422E-6	-35.777E-6	- 170.57E+9		0 (Negligible)

Vertical Offset from Line for Vertical	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement	Maximum Gradient of Vertical Displacement	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category

Structure: AD | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.023829	0.028599	-0.0017084	10.209	0.040377	-366.11E-6	-0.0017084	2395.3	535.36E+6	0 (Negligible)

Structure: AE | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0019878	-0.016457	-354.19E-6	3.9499	0.0032933	176.65E-6	-354.19E-6	12574.	27241.	0 (Negligible)

Structure: AF | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0059991	0.011337	438.48E-6	3.9502	0.011419	-114.34E-6	438.48E-6	9810.9	198050.	0 (Negligible)

Structure: AG | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	365.82E-6	-0.0010077	74.450E-6	1.6824	292.65E-6	36.003E-6	74.450E-6	-	181540.	0 (Negligible)

Structure: AH | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	344.09E-6	0.0051456	-109.69E-6	1.7731	0.0052427	-60.688E-6	-109.69E-6	30605.	-	0 (Negligible)

Structure: AI | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	620.37E-6	0.0018056	-59.782E-6	1.9447	0.0020113	-44.827E-6	-59.782E-6	-	67602.	0 (Negligible)

Structure: AJ | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0017646	-932.37E-6	-234.12E-6	2.7624	0.0014717	87.445E-6	-234.12E-6	26679.	-	0 (Negligible)

Structure: AK | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.021378	-0.0082615	-0.0010408	3.3643	0.018594	105.35E-6	-0.0010408	791.81	143170.	0 (Negligible)

Structure: AL | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	-0.0017803	306.12E-6	3.3650	356.02E-6	20.871E-6	306.12E-6	23155.	-	0 (Negligible)

Structure: AM | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	

Structure: AN | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	

Structure: AO | Sub-structure:

Vertical Offset from Line for Vertical	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement	Maximum Gradient of Vertical Displacement	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category

Movement Calculations						Curve	Curve		
[m]	[%]	[%]		[mm]	[%]			[m]	[m]
0.0	0.034461	-0.0096791	0.0012883	9.1545	0.031803	358.91E-6	0.0012883	13955.	1978.5 0 (Negligible)

Structure: AP | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	

Structure: AQ | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	

Structure: AR | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	0.019729	-224.96E-6	3.3847	0.019729	-240.06E-6	-224.96E-6	-	107630.	0 (Negligible)

Specific Building Damage Results - Critical Segments within Each Structure

Structure Name	Parameter	Critical Sub-Structure	Critical Segment	Start	End	Curvature	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
				[m]	[m]			[mm]	[%]	[m]	[m]	
A	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
B	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
C	Maximum Slope	Sub #	1	11.304	16.956	Hogging	**767.18E-6**	3.6587	0.0075815	8688.7		- 0 (Negligible)
	Maximum Settlement	Sub #	1	11.304	16.956	Hogging	767.18E-6	**3.6587**	0.0075815	8688.7		- 0 (Negligible)
	Max. Tensile Strain	Sub #	1	11.304	16.956	Hogging	767.18E-6	3.6587	**0.0075815**	8688.7		- 0 (Negligible)
	Min. Radius of Curvature (Hogging)	Sub #	1	11.304	16.956	Hogging	767.18E-6	3.6587	0.0075815	**8688.7**		- 0 (Negligible)
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	- -
D	Maximum Slope	Sub #	1	0.0	4.5000	Hogging	**0.0034509**	13.279	0.030292	1537.6		- 0 (Negligible)
	Maximum Settlement	Sub #	1	0.0	4.5000	Hogging	0.0034509	**13.279**	0.030292	1537.6		- 0 (Negligible)
	Max. Tensile Strain	Sub #	1	0.0	4.5000	Hogging	0.0034509	13.279	**0.030292**	1537.6		- 0 (Negligible)
	Min. Radius of Curvature (Hogging)	Sub #	1	0.0	4.5000	Hogging	0.0034509	13.279	0.030292	**1537.6**		- 0 (Negligible)
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	- -
E	Maximum Slope		-	-	-	-	-	-	-	-	-	- -
	Maximum Settlement	Sub #	1	0.0	1.3990	Sagging	0.0	**2.4523**	0.0	-		- 0 (Negligible)
	Max. Tensile Strain	Sub #	1	0.0	1.3990	Sagging	0.0	2.4523	**0.0**	-		- 0 (Negligible)
	Min. Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	- -
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	- -
F	Maximum Slope	Sub #	1	0.0	1.9000	Sagging	**910.22E-6**	2.4523	0.0	-	3043.0	0 (Negligible)
	Maximum Settlement	Sub #	1	0.0	1.9000	Sagging	910.22E-6	**2.4523**	0.0	-	3043.0	0 (Negligible)
	Max. Tensile Strain	Sub #	1	0.0	1.9000	Sagging	910.22E-6	2.4523	**0.0**	-	3043.0	0 (Negligible)
	Min. Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	- -
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	- -
G	Maximum Slope	Sub #	1	0.0	3.6000	Hogging	**59.901E-6**	5.6753	18.203E-6	2.4436E+6		- 0 (Negligible)
	Maximum Settlement	Sub #	1	0.0	3.6000	Hogging	59.901E-6	**5.6753**	18.203E-6	2.4436E+6		- 0 (Negligible)
	Max. Tensile Strain	Sub #	1	0.0	3.6000	Hogging	59.901E-6	5.6753	**18.203E-6**	2.4436E+6		- 0 (Negligible)
	Min. Radius of Curvature (Hogging)	Sub #	1	0.0	3.6000	Hogging	59.901E-6	5.6753	18.203E-6	**2.4436E+6**		- 0 (Negligible)
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	- -
H	Maximum Slope	Sub #	1	0.0	1.4030	Hogging	**0.0019779**	5.6754	0.0084356	2058.5		- 0 (Negligible)
	Maximum Settlement	Sub #	1	0.0	1.4030	Hogging	0.0019779	**5.6754**	0.0084356	2058.5		- 0 (Negligible)
	Max. Tensile Strain	Sub #	1	0.0	1.4030	Hogging	0.0019779	5.6754	**0.0084356**	2058.5		- 0 (Negligible)
	Min. Radius of Curvature (Hogging)	Sub #	1	0.0	1.4030	Hogging	0.0019779	5.6754	0.0084356	**2058.5**		- 0 (Negligible)
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	- -
I	Maximum Slope	Sub #	2	5.7338	8.6000	Sagging	**0.0048046**	14.001	0.10745	-	157.60	2 (Slight)
	Maximum Settlement	Sub #	2	5.7338	8.6000	Sagging	0.0048046	**14.001**	0.10745	-	157.60	2 (Slight)
	Max. Tensile Strain	Sub #	2	5.7338	8.6000	Sagging	0.0048046	14.001	**0.10745**	-	157.60	2 (Slight)
	Min. Radius of Curvature (Hogging)	Sub #	1	0.0	5.7338	Hogging	45.057E-6	13.915	6.7592E-6	**10.526E+6**		- 0 (Negligible)
	Min. Radius of Curvature (Sagging)	Sub #	2	5.7338	8.6000	Sagging	0.0048046	14.001	0.10745	-	**157.60**	2 (Slight)
J	Maximum Slope	Sub #	1	0.0	3.0000	Sagging	**0.0046346**	14.044	0.10269	-	172.62	2 (Slight)
	Maximum Settlement	Sub #	2	3.0000	7.9990	Sagging	0.0	**14.044**	0.0	-		- 0 (Negligible)

Structure Name	Parameter	Critical Sub-Structure	Critical Segment	Start	End	Curvature	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
	Max. Tensile Strain	Sub #	1	0.0	3.0000	Sagging	0.0046346	14.044	**0.10269**	-	172.62	2 (Slight)
	Min. Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min. Radius of Curvature (Sagging)	Sub #	1	0.0	3.0000	Sagging	0.0046346	14.044	0.10269	-	**172.62**	2 (Slight)
K	Maximum Slope	Sub #	1	0.0	4.1040	Hogging	**0.0036084**	14.044	0.028758	1503.3	-	0 (Negligible)
	Maximum Settlement	Sub #	1	0.0	4.1040	Hogging	0.0036084	**14.044**	0.028758	1503.3	-	0 (Negligible)
	Max. Tensile Strain	Sub #	1	0.0	4.1040	Hogging	0.0036084	14.044	**0.028758**	1503.3	-	0 (Negligible)
	Min. Radius of Curvature (Hogging)	Sub #	1	0.0	4.1040	Hogging	0.0036084	14.044	0.028758	**1503.3**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
L	Maximum Slope	Sub #	1	0.0	4.3000	Hogging	**35.360E-6**	3.2886	12.481E-6	4.1113E+6	-	0 (Negligible)
	Maximum Settlement	Sub #	1	0.0	4.3000	Hogging	35.360E-6	**3.2886**	12.481E-6	4.1113E+6	-	0 (Negligible)
	Max. Tensile Strain	Sub #	1	0.0	4.3000	Hogging	35.360E-6	3.2886	**12.481E-6**	4.1113E+6	-	0 (Negligible)
	Min. Radius of Curvature (Hogging)	Sub #	1	0.0	4.3000	Hogging	35.360E-6	3.2886	12.481E-6	**4.1113E+6**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
M	Maximum Slope	Sub #	1	0.0	4.9322	Hogging	**0.0018373**	5.4616	0.022016	2147.7	-	0 (Negligible)
	Maximum Settlement	Sub #	1	0.0	4.9322	Hogging	0.0018373	**5.4616**	0.022016	2147.7	-	0 (Negligible)
	Max. Tensile Strain	Sub #	1	0.0	4.9322	Hogging	0.0018373	5.4616	**0.022016**	2147.7	-	0 (Negligible)
	Min. Radius of Curvature (Hogging)	Sub #	1	0.0	4.9322	Hogging	0.0018373	5.4616	0.022016	**2147.7**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
N	All settlements are less than the Settlement Trough Limit Sensitivity.											
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	All settlements are less than the Settlement Trough Limit Sensitivity.											
O	Maximum Slope	Sub #	1	2.8082	3.7430	Sagging	**175.45E-6**	0.33879	0.0	-	14302.	0 (Negligible)
	Maximum Settlement	Sub #	1	2.8082	3.7430	Sagging	175.45E-6	**0.33879**	0.0	-	14302.	0 (Negligible)
	Max. Tensile Strain	Sub #	1	2.8082	3.7430	Sagging	175.45E-6	0.33879	**0.0**	-	14302.	0 (Negligible)
	Min. Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
P	Maximum Slope	Sub #	1	0.0	5.1150	Hogging	**0.0021991**	6.8236	0.025464	1923.2	-	0 (Negligible)
	Maximum Settlement	Sub #	1	0.0	5.1150	Hogging	0.0021991	**6.8236**	0.025464	1923.2	-	0 (Negligible)
	Max. Tensile Strain	Sub #	1	0.0	5.1150	Hogging	0.0021991	6.8236	**0.025464**	1923.2	-	0 (Negligible)
	Min. Radius of Curvature (Hogging)	Sub #	1	0.0	5.1150	Hogging	0.0021991	6.8236	0.025464	**1923.2**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
Q	Maximum Slope	Sub #	2	0.40000	2.8015	Sagging	**0.0**	6.8250	0.0	-	1.4854E+18	0 (Negligible)
	Maximum Settlement	Sub #	3	2.8015	3.1990	Sagging	0.0	**6.8250**	0.0	-	2.9719E+18	0 (Negligible)
	Max. Tensile Strain	Sub #	1	0.0	0.40000	Hogging	0.0	6.8250	**0.0**	2.9515E+18	-	0 (Negligible)
	Min. Radius of Curvature (Hogging)	Sub #	1	0.0	0.40000	Hogging	0.0	6.8250	0.0	**2.9515E+18**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
R	Maximum Slope	Sub #	1	0.0	5.5823	Hogging	**0.0019412**	6.8250	0.024901	2123.3	-	0 (Negligible)
	Maximum Settlement	Sub #	1	0.0	5.5823	Hogging	0.0019412	**6.8250**	0.024901	2123.3	-	0 (Negligible)
	Max. Tensile Strain	Sub #	1	0.0	5.5823	Hogging	0.0019412	6.8250	**0.024901**	2123.3	-	0 (Negligible)
	Min. Radius of Curvature (Hogging)	Sub #	1	0.0	5.5823	Hogging	0.0019412	6.8250	0.024901	**2123.3**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
S	All settlements are less than the Settlement Trough Limit Sensitivity.											
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X	All settlements are less than the Settlement Trough Limit Sensitivity.											
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Y	All settlements are less than the Settlement Trough Limit Sensitivity.											
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Z	Maximum Slope		1	21.578	43.154	Hogging	**610.11E-6**	3.4479	0.0085590	10260.	-	0 (Negligible)
	Maximum Settlement		1	21.578	43.154	Hogging	610.11E-6	**3.4479**	0.0085590	10260.	-	0 (Negligible)
	Max. Tensile Strain		1	21.578	43.154	Hogging	610.11E-6	3.4479	**0.0085590**	10260.	-	0 (Negligible)
	Min. Radius of Curvature (Hogging)		1	21.578	43.154	Hogging	610.11E-6	3.4479	0.0085590	**10260.**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
AA	Maximum Slope		2	5.4438	10.734	Sagging	**0.0021415**	8.5352	0.039608	-	753.80	0 (Negligible)
	Maximum Settlement		1	0.0	5.4438	Hogging	330.22E-6	**10.212**	0.0013098	80811.	-	0 (Negligible)

Structure Name	Parameter	Critical Sub-Structure	Critical Segment	Start	End	Curvature	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
	Max. Tensile Strain		2	5.4438	10.734	Sagging	0.0021415	8.5352	**0.039608**	-	753.80	0 (Negligible)
	Min. Radius of Curvature (Hogging)		1	0.0	5.4438	Hogging	330.22E-6	10.212	0.0013098	**80811.**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)		2	5.4438	10.734	Sagging	0.0021415	8.5352	0.039608	-	**753.80**	0 (Negligible)
AB	Maximum Slope		1	0.0	8.3781	Hogging	**423.63E-6**	3.8049	0.010858	9614.1	-	0 (Negligible)
	Maximum Settlement		1	0.0	8.3781	Hogging	423.63E-6	**3.8049**	0.010858	9614.1	-	0 (Negligible)
	Max. Tensile Strain		3	12.489	13.449	Sagging	197.74E-6	2.5500	**0.018750**	-	12371.	0 (Negligible)
	Min. Radius of Curvature (Hogging)		1	0.0	8.3781	Hogging	423.63E-6	3.8049	0.010858	**9614.1**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)		2	8.3781	12.489	Sagging	423.63E-6	3.1166	0.018135	-	**10651.**	0 (Negligible)
AC	Maximum Slope		1	0.0	6.9567	Sagging	**35.777E-6**	2.6089	607.22E-6	-	453.02E+9	0 (Negligible)
	Maximum Settlement		3	6.9567	8.9430	Sagging	35.777E-6	**2.6800**	622.38E-6	-	170.57E+9	0 (Negligible)
	Max. Tensile Strain		3	6.9567	8.9430	Sagging	35.777E-6	2.6800	**622.38E-6**	-	170.57E+9	0 (Negligible)
	Min. Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min. Radius of Curvature (Sagging)		3	6.9567	8.9430	Sagging	35.777E-6	2.6800	622.38E-6	-	**170.57E+9**	0 (Negligible)
AD	Maximum Slope		2	1.9177	13.400	Hogging	**0.0017084**	10.209	0.040377	2395.3	-	0 (Negligible)
	Maximum Settlement		2	1.9177	13.400	Hogging	0.0017084	**10.209**	0.040377	2395.3	-	0 (Negligible)
	Max. Tensile Strain		2	1.9177	13.400	Hogging	0.0017084	10.209	**0.040377**	2395.3	-	0 (Negligible)
	Min. Radius of Curvature (Hogging)		2	1.9177	13.400	Hogging	0.0017084	10.209	0.040377	**2395.3**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)		1	0.0	1.9177	Sagging	199.94E-6	3.0635	0.020270	-	**535.36E+6**	0 (Negligible)
AE	Maximum Slope		1	0.0	2.7408	Hogging	**354.19E-6**	3.5898	0.0019636	12574.	-	0 (Negligible)
	Maximum Settlement		2	2.7408	3.8110	Sagging	354.19E-6	**3.9499**	0.0032933	-	27241.	0 (Negligible)
	Max. Tensile Strain		2	2.7408	3.8110	Sagging	354.19E-6	3.9499	**0.0032933**	-	27241.	0 (Negligible)
	Min. Radius of Curvature (Hogging)		1	0.0	2.7408	Hogging	354.19E-6	3.5898	0.0019636	**12574.**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)		2	2.7408	3.8110	Sagging	354.19E-6	3.9499	0.0032933	-	**27241.**	0 (Negligible)
AF	Maximum Slope	Sub #	1	0.0	8.0446	Hogging	**438.48E-6**	3.9502	0.0076410	9810.9	-	0 (Negligible)
	Maximum Settlement	Sub #	1	0.0	8.0446	Hogging	438.48E-6	**3.9502**	0.0076410	9810.9	-	0 (Negligible)
	Max. Tensile Strain	Sub #	2	8.0446	12.813	Sagging	110.57E-6	2.1826	**0.011419**	-	198050.	0 (Negligible)
	Min. Radius of Curvature (Hogging)	Sub #	1	0.0	8.0446	Hogging	438.48E-6	3.9502	0.0076410	**9810.9**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)	Sub #	2	8.0446	12.813	Sagging	110.57E-6	2.1826	0.011419	-	**198050.**	0 (Negligible)
AG	Maximum Slope	Sub #	1	0.0	9.5510	Sagging	**74.450E-6**	1.6824	292.65E-6	-	181540.	0 (Negligible)
	Maximum Settlement	Sub #	1	0.0	9.5510	Sagging	74.450E-6	**1.6824**	292.65E-6	-	181540.	0 (Negligible)
	Max. Tensile Strain	Sub #	1	0.0	9.5510	Sagging	74.450E-6	1.6824	**292.65E-6**	-	181540.	0 (Negligible)
	Min. Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min. Radius of Curvature (Sagging)	Sub #	1	0.0	9.5510	Sagging	74.450E-6	1.6824	292.65E-6	-	**181540.**	0 (Negligible)
AH	Maximum Slope	Sub #	1	0.0	7.1380	Hogging	**109.69E-6**	1.7731	0.0052427	30605.	-	0 (Negligible)
	Maximum Settlement	Sub #	1	0.0	7.1380	Hogging	109.69E-6	**1.7731**	0.0052427	30605.	-	0 (Negligible)
	Max. Tensile Strain	Sub #	1	0.0	7.1380	Hogging	109.69E-6	1.7731	**0.0052427**	30605.	-	0 (Negligible)
	Min. Radius of Curvature (Hogging)	Sub #	1	0.0	7.1380	Hogging	109.69E-6	1.7731	0.0052427	**30605.**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
AI	Maximum Slope	Sub #	1	0.0	4.2100	Sagging	**59.782E-6**	1.9447	0.0020113	-	67602.	0 (Negligible)
	Maximum Settlement	Sub #	1	0.0	4.2100	Sagging	59.782E-6	**1.9447**	0.0020113	-	67602.	0 (Negligible)
	Max. Tensile Strain	Sub #	1	0.0	4.2100	Sagging	59.782E-6	1.9447	**0.0020113**	-	67602.	0 (Negligible)
	Min. Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min. Radius of Curvature (Sagging)	Sub #	1	0.0	4.2100	Sagging	59.782E-6	1.9447	0.0020113	-	**67602.**	0 (Negligible)
AJ	Maximum Slope	Sub #	1	0.0	4.7370	Hogging	**234.12E-6**	2.7624	0.0014717	26679.	-	0 (Negligible)
	Maximum Settlement	Sub #	1	0.0	4.7370	Hogging	234.12E-6	**2.7624**	0.0014717	26679.	-	0 (Negligible)
	Max. Tensile Strain	Sub #	1	0.0	4.7370	Hogging	234.12E-6	2.7624	**0.0014717**	26679.	-	0 (Negligible)
	Min. Radius of Curvature (Hogging)	Sub #	1	0.0	4.7370	Hogging	234.12E-6	2.7624	0.0014717	**26679.**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
AK	Maximum Slope		2	4.8396	7.7000	Hogging	**0.0010408**	3.3643	0.018594	791.81	-	0 (Negligible)
	Maximum Settlement		2	4.8396	7.7000	Hogging	0.0010408	**3.3643**	0.018594	791.81	-	0 (Negligible)
	Max. Tensile Strain		2	4.8396	7.7000	Hogging	0.0010408	3.3643	**0.018594**	791.81	-	0 (Negligible)
	Min. Radius of Curvature (Hogging)		2	4.8396	7.7000	Hogging	0.0010408	3.3643	0.018594	**791.81**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)		1	0.0	4.8396	Sagging	97.491E-6	2.2219	956.33E-6	-	**143170.**	0 (Negligible)
AL	Maximum Slope	Sub #	1	0.0	9.2234	Hogging	**306.12E-6**	3.3650	356.02E-6	23155.	-	0 (Negligible)
	Maximum Settlement	Sub #	1	0.0	9.2234	Hogging	306.12E-6	**3.3650**	356.02E-6	23155.	-	0 (Negligible)
	Max. Tensile Strain	Sub #	1	0.0	9.2234	Hogging	306.12E-6	3.3650	**356.02E-6**	23155.	-	0 (Negligible)
	Min. Radius of Curvature (Hogging)	Sub #	1	0.0	9.2234	Hogging	306.12E-6	3.3650	356.02E-6	**23155.**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
AM	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
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Structure Name	Parameter	Critical Sub-Structure	Critical Segment	Start	End	Curvature	Maximum Slope	Maximum Settlement	Max. Tensile Strain	Min. Radius of Curvature (Hogging)	Min. Radius of Curvature (Sagging)	Damage Category
	All settlements are less than the Settlement Trough Limit Sensitivity.											
AO	Maximum Slope		2	21.530	36.401	Sagging	**0.0012883**	9.1545	0.031803	-	1978.5	0 (Negligible)
	Maximum Settlement		2	21.530	36.401	Sagging	0.0012883	**9.1545**	0.031803	-	1978.5	0 (Negligible)
	Max. Tensile Strain		2	21.530	36.401	Sagging	0.0012883	9.1545	**0.031803**	-	1978.5	0 (Negligible)
	Min. Radius of Curvature (Hogging)		1	16.179	21.530	Hogging	772.80E-6	4.2394	0.0032862	**13955.**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)		2	21.530	36.401	Sagging	0.0012883	9.1545	0.031803	-	**1978.5**	0 (Negligible)
AP	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
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AQ	All settlements are less than the Settlement Trough Limit Sensitivity.											
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	All settlements are less than the Settlement Trough Limit Sensitivity.											
AR	Maximum Slope	Sub #	1	1.9059	5.7119	Sagging	**224.96E-6**	1.2399	0.0	-	107630.	0 (Negligible)
	Maximum Settlement	Sub #	2	5.7119	15.246	Sagging	224.96E-6	**3.3847**	0.019729	-	106.23E+6	0 (Negligible)
	Max. Tensile Strain	Sub #	2	5.7119	15.246	Sagging	224.96E-6	3.3847	**0.019729**	-	106.23E+6	0 (Negligible)
	Min. Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min. Radius of Curvature (Sagging)	Sub #	1	1.9059	5.7119	Sagging	224.96E-6	1.2399	0.0	-	**107630.**	0 (Negligible)

Specific Building Damage Results - All Combined Segments

Structure: A | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]	

No structures have segments combined.

Structure: B | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]	

No structures have segments combined.

Structure: C | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]	

No structures have segments combined.

Structure: D | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]	

No structures have segments combined.

Structure: E | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]	

No structures have segments combined.

Structure: F | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]	

No structures have segments combined.

Structure: G | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]	

No structures have segments combined.

Structure: H | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]	

No structures have segments combined.

Structure: I | Sub-structure: Sub #

Vertical	Combined	Start	Length	Curvature	Deflection	Average	Max.	Damage Category

Offset from Line for Vertical Movement Calculations	Segment	Ratio	Horizontal Strain	Tensile Strain
[m]	[m] [m]	[%]	[%]	[%]

No structures have segments combined.

Structure: J | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start [m]	Length [m]	Curvature Ratio	Deflection [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category

No structures have segments combined.

Structure: K | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start [m]	Length [m]	Curvature Ratio	Deflection [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category

No structures have segments combined.

Structure: L | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start [m]	Length [m]	Curvature Ratio	Deflection [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category

No structures have segments combined.

Structure: M | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start [m]	Length [m]	Curvature Ratio	Deflection [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category

No structures have segments combined.

Structure: N | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start [m]	Length [m]	Curvature Ratio	Deflection [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category

No structures have segments combined.

Structure: O | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start [m]	Length [m]	Curvature Ratio	Deflection [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category

No structures have segments combined.

Structure: P | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start [m]	Length [m]	Curvature Ratio	Deflection [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category

No structures have segments combined.

Structure: Q | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start [m]	Length [m]	Curvature Ratio	Deflection [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category

No structures have segments combined.

Structure: R | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start [m]	Length [m]	Curvature Ratio	Deflection [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category

No structures have segments combined.

Structure: S | Sub-structure: Sub #

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start [m]	Length [m]	Curvature Ratio	Deflection [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category

No structures have segments combined.

Structure: T | Sub-structure:

Vertical Offset from Line for Vertical Movement	Combined Segment	Start [m]	Length [m]	Curvature Ratio	Deflection [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category

Calculations
[m] [m] [m] [%] [%] [%]
No structures have segments combined.

Structure: U | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start	Length	Curvature Ratio	Deflection	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]	[%]		[%]	[%]	

No structures have segments combined.

Structure: V | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start	Length	Curvature Ratio	Deflection	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]	[%]		[%]	[%]	

No structures have segments combined.

Structure: W | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start	Length	Curvature Ratio	Deflection	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]	[%]		[%]	[%]	

No structures have segments combined.

Structure: X | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start	Length	Curvature Ratio	Deflection	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]	[%]		[%]	[%]	

No structures have segments combined.

Structure: Y | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start	Length	Curvature Ratio	Deflection	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]	[%]		[%]	[%]	

No structures have segments combined.

Structure: Z | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start	Length	Curvature Ratio	Deflection	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]	[%]		[%]	[%]	

No structures have segments combined.

Structure: AA | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start	Length	Curvature Ratio	Deflection	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]	[%]		[%]	[%]	

No structures have segments combined.

Structure: AB | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start	Length	Curvature Ratio	Deflection	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]	[%]		[%]	[%]	

No structures have segments combined.

Structure: AC | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start	Length	Curvature Ratio	Deflection	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]	[%]		[%]	[%]	

No structures have segments combined.

Structure: AD | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start	Length	Curvature Ratio	Deflection	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]	[%]		[%]	[%]	

No structures have segments combined.

Structure: AE | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start	Length	Curvature Ratio	Deflection	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]	[%]		[%]	[%]	

No structures have segments combined.

Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start	Length	Curvature Ratio	Deflection	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]	[%]		[%]	[%]	

Structure: AF | Sub-structure: Sub #

No structures have segments combined.

Structure: AG | Sub-structure: Sub #

No structures have segments combined.

Structure: AH | Sub-structure: Sub #

No structures have segments combined.

Structure: AI | Sub-structure: Sub #

No structures have segments combined.

Structure: AJ | Sub-structure: Sub #

No structures have segments combined.

Structure: AK | Sub-structure:

No structures have segments combined.

Structure: AL | Sub-structure: Sub #

No structures have segments combined.

Structure: AM | Sub-structure: Sub #

No structures have segments combined.

Structure: AN | Sub-structure:

No structures have segments combined.

Structure: AO | Sub-structure:

No structures have segments combined.

Structure: AP | Sub-structure:

No structures have segments combined.

Structure: AQ | Sub-structure: Sub #

Vertical Movement Calculations	Combined Segment	Start	Length	Curvature Ratio	Deflection	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]	[%]	[%]	[%]		

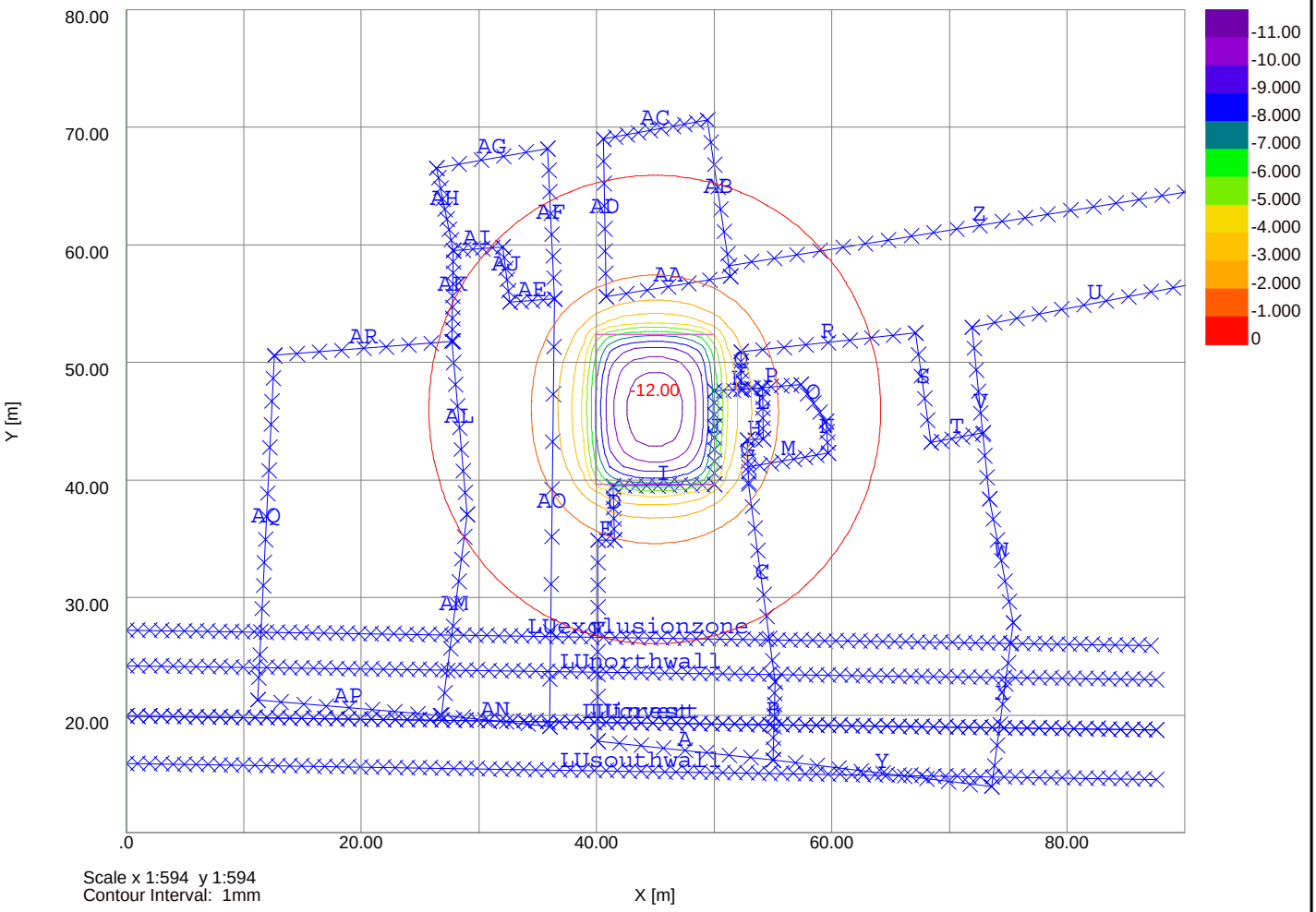
No structures have segments combined.

Structure: AR | Sub-structure: Sub #

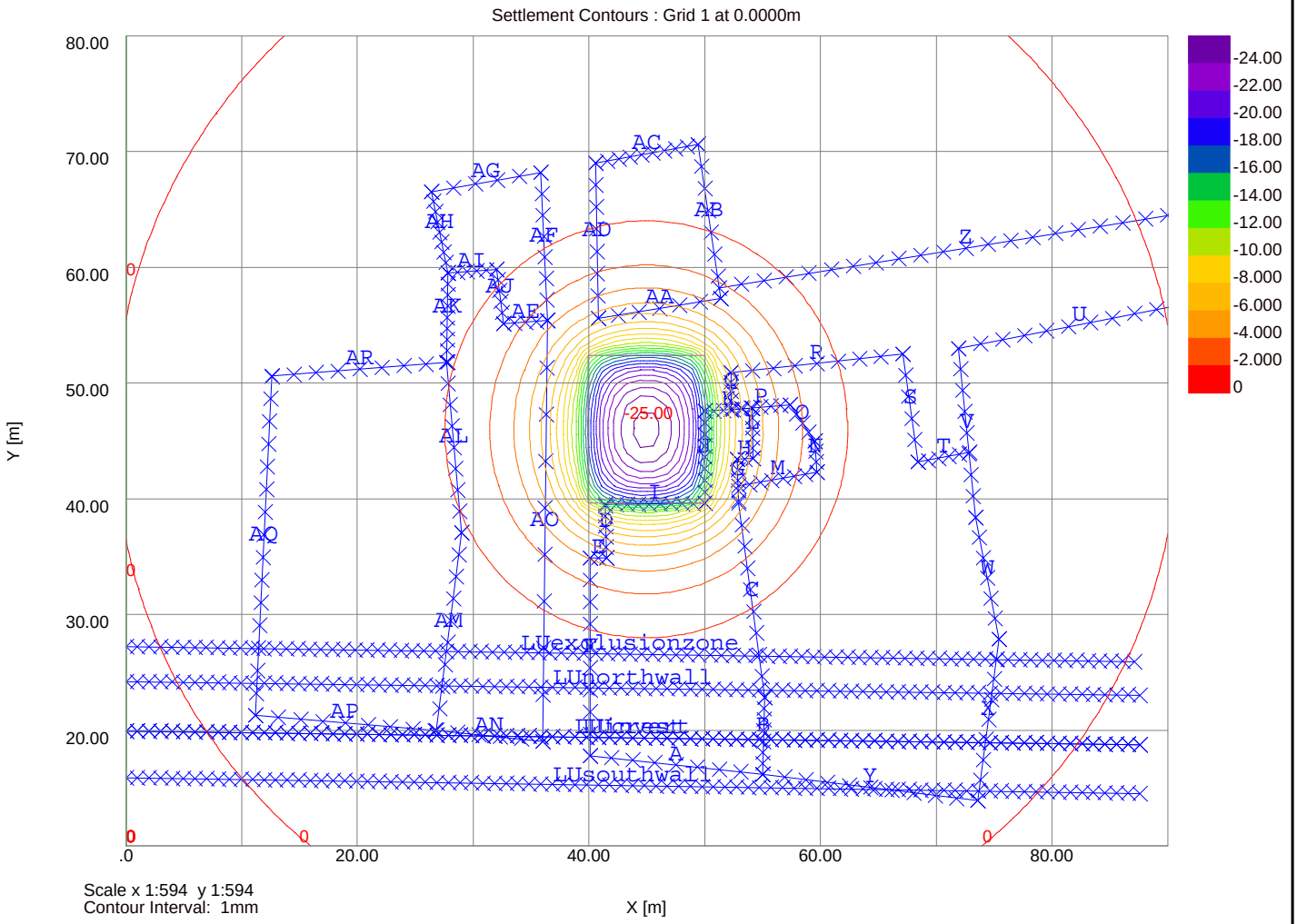
Vertical Offset from Line for Vertical Movement Calculations	Combined Segment	Start	Length	Curvature Ratio	Deflection	Average Horizontal Strain	Max. Tensile Strain	Damage Category
[m]		[m]	[m]	[%]	[%]	[%]		

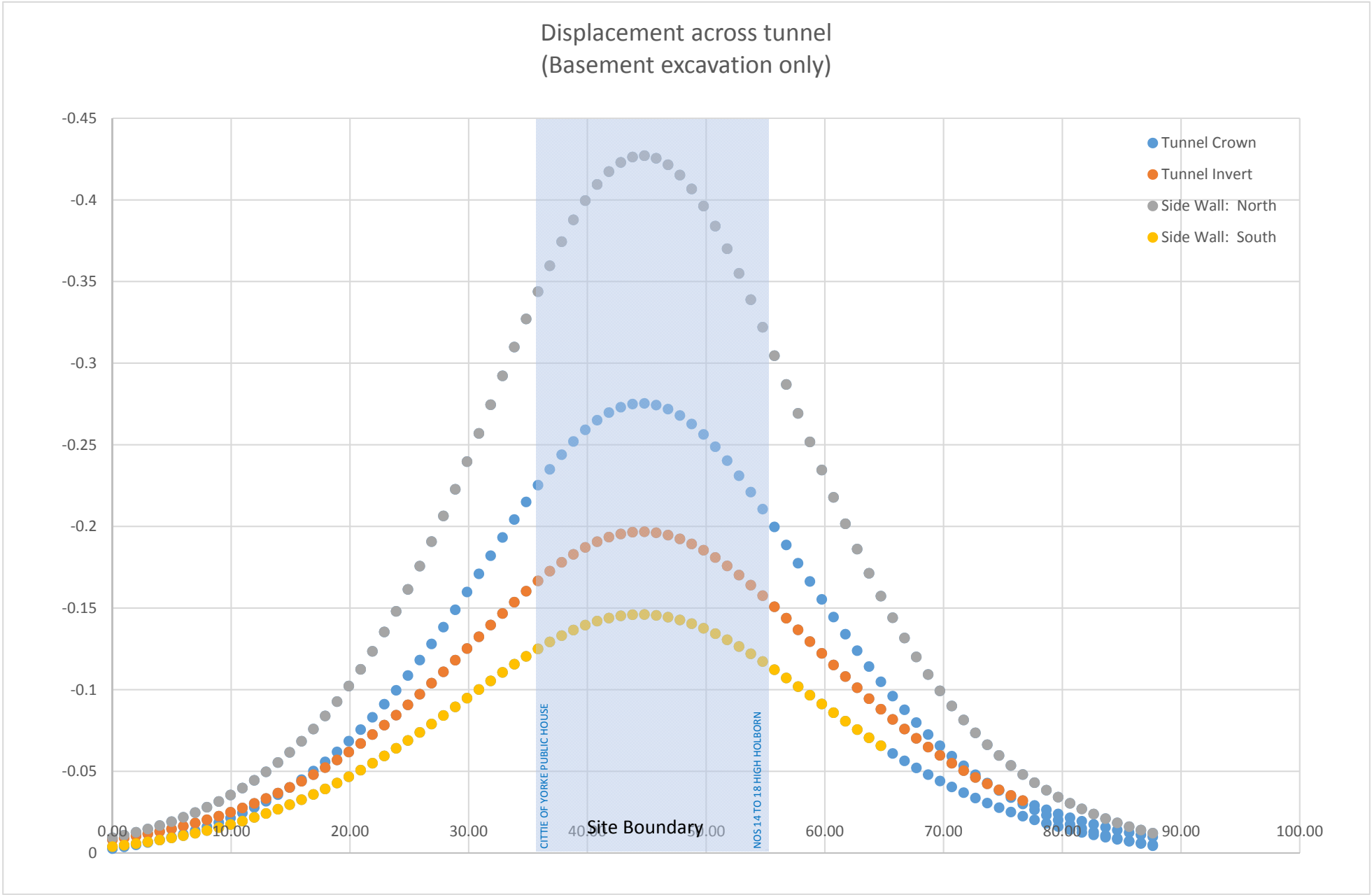
No structures have segments combined.

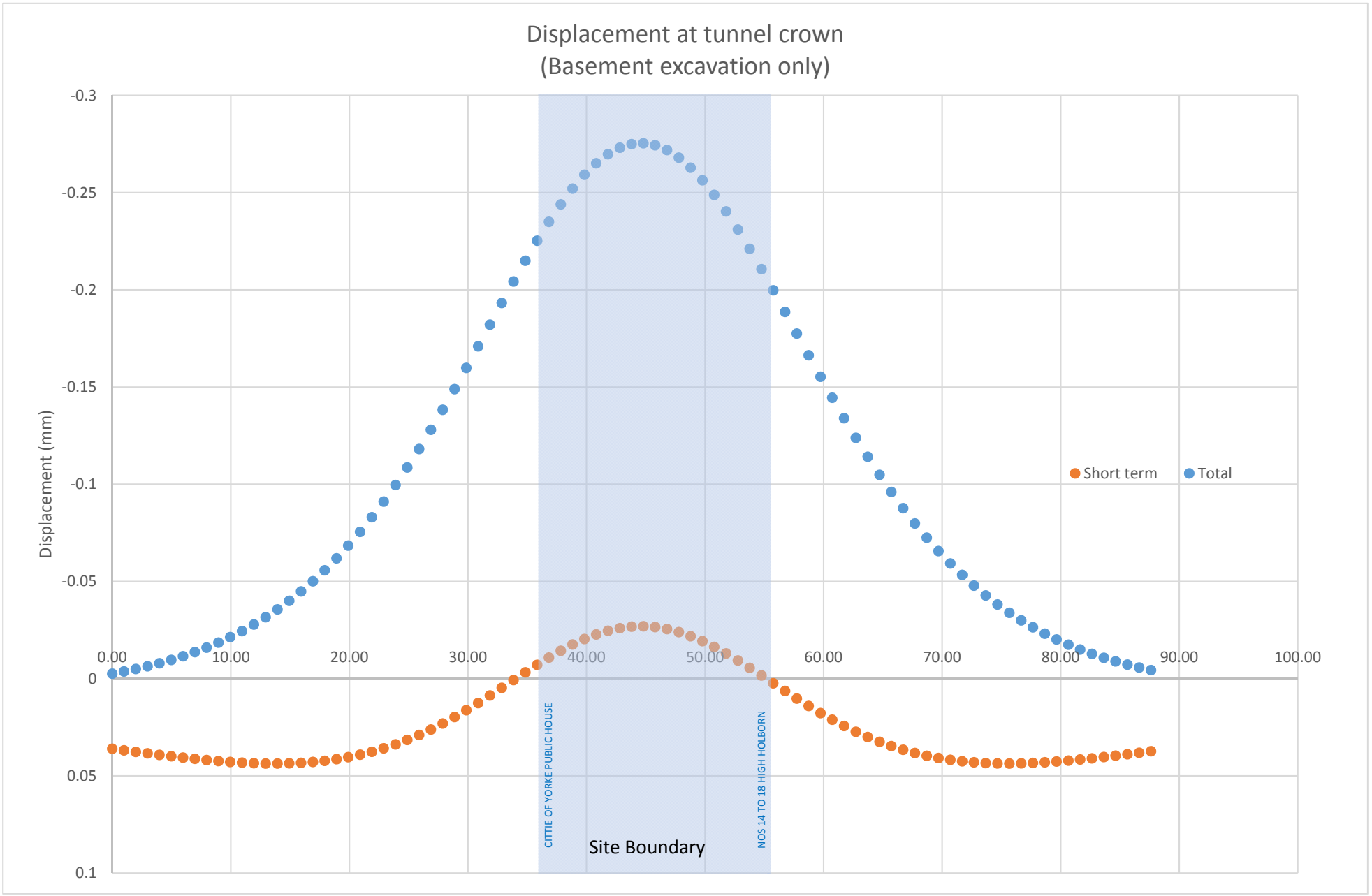
Settlement Contours : Grid 1 at 0.0000m

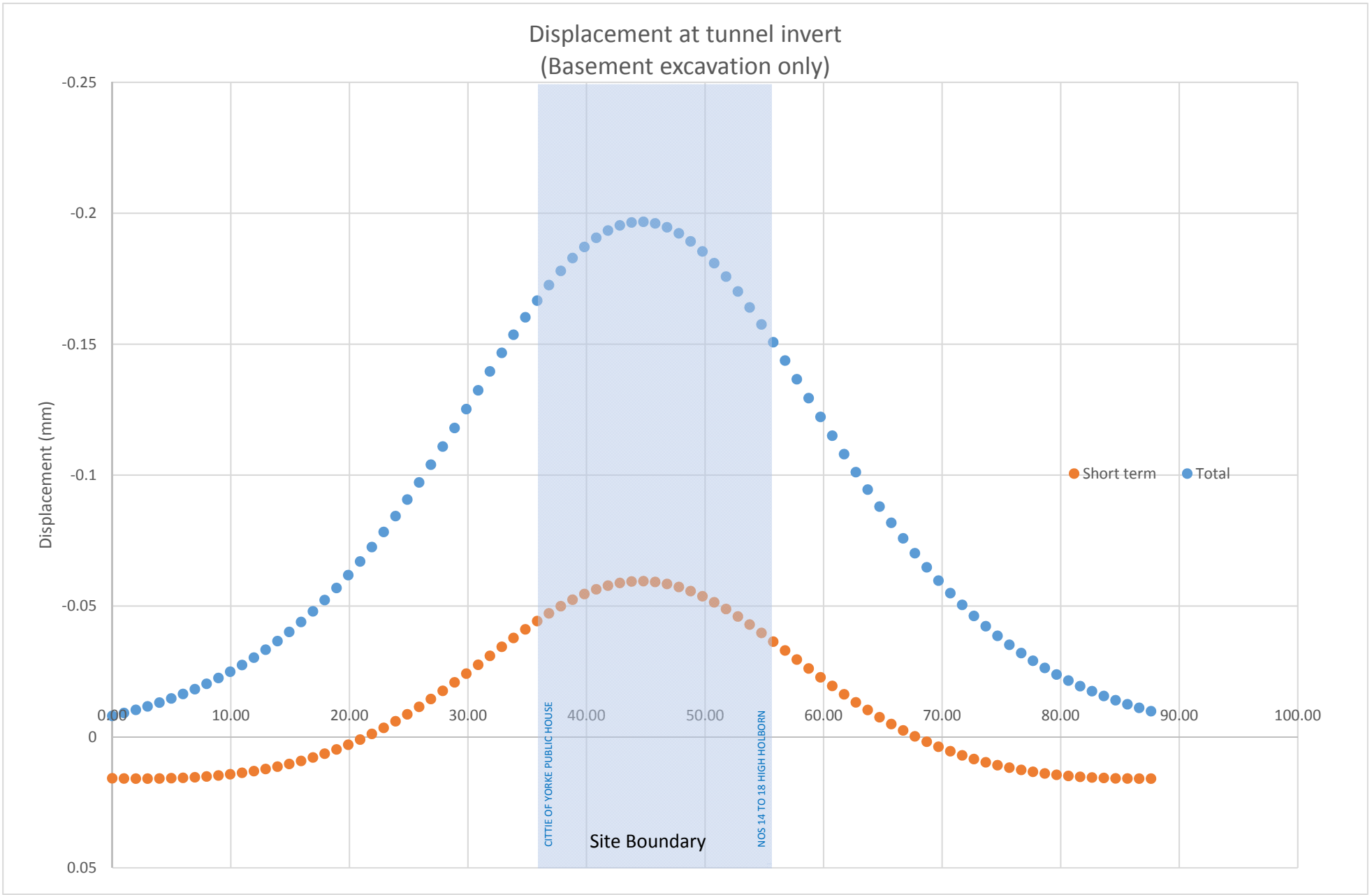


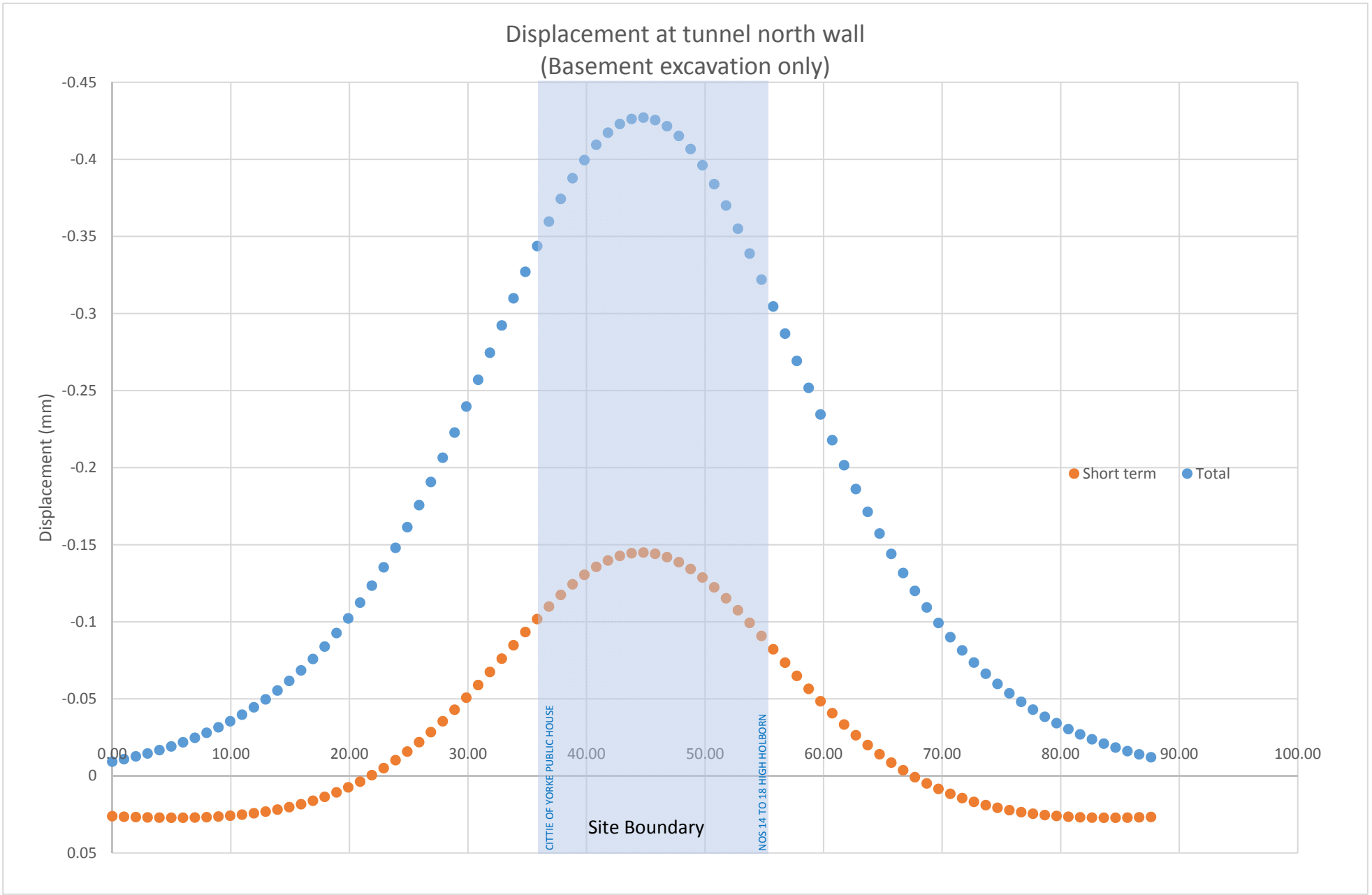
Scale x 1:594 y 1:594
Contour Interval: 1mm

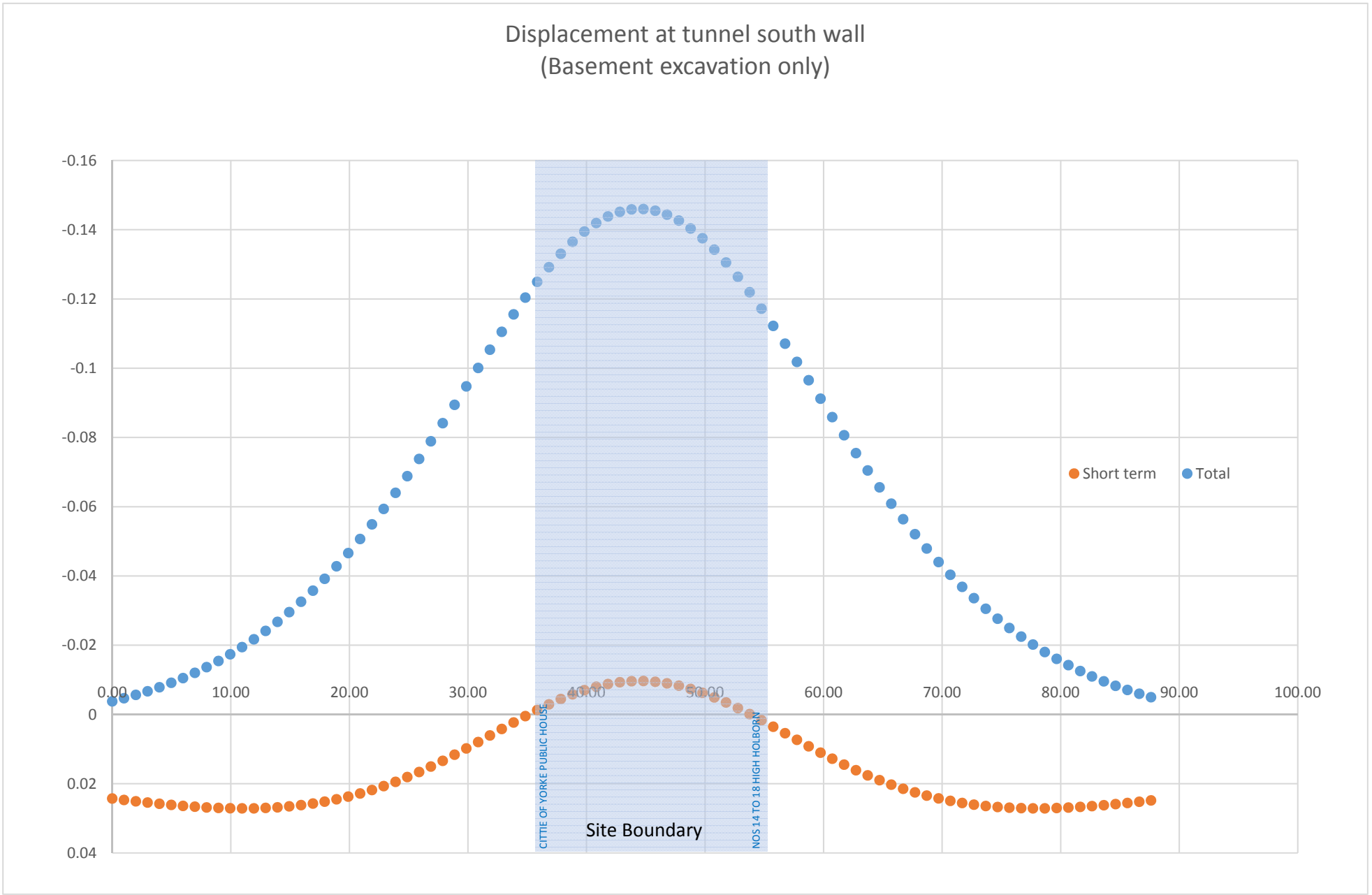

Settlement Contours : Grid 1 at 0.0000m
80.00
70.00
60.00
50.00
40.00
30.00
20.00
Y [m]
.0
20.00
40.00
60.00
80.00
X [m]
-25.00
LUexclusionzone
LUnorthwall
LUsouthwall
-24.00
-22.00
-20.00
-18.00
-16.00
-14.00
-12.00
-10.00
-8.000
-6.000
-4.000
-2.000
0
Scale x 1:594 y 1:594
Contour Interval: 1mm

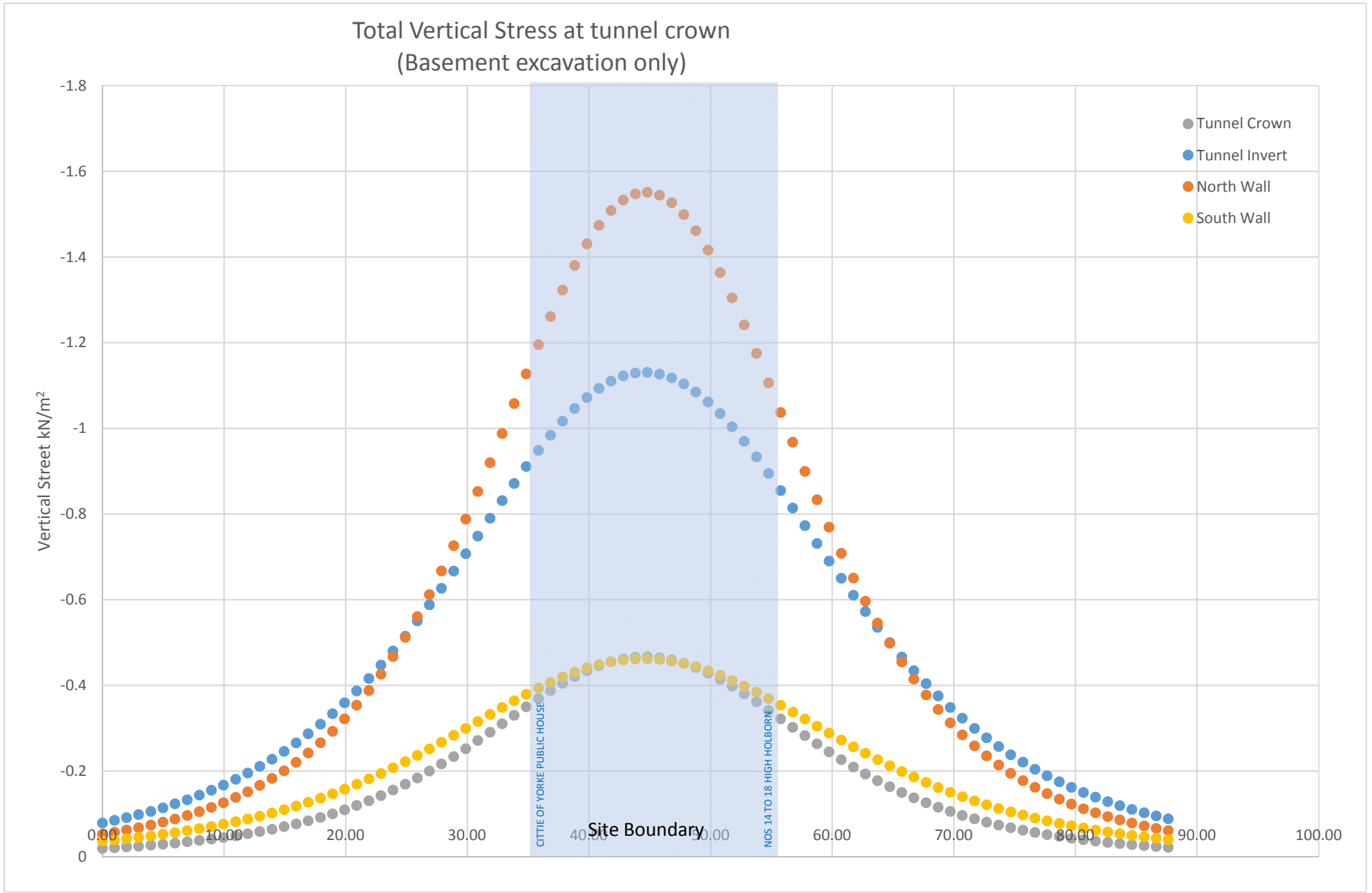

Displacement across tunnel
(Basement excavation only)
-0.45
-0.4
-0.35
-0.3
-0.25
-0.2
-0.15
-0.1
-0.05
0
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
Tunnel Crown
Tunnel Invert
Side Wall: North
Side Wall: South
CITTIE OF YORKE PUBLIC HOUSE
NOS 14 TO 18 HIGH HOLBORN
Site Boundary

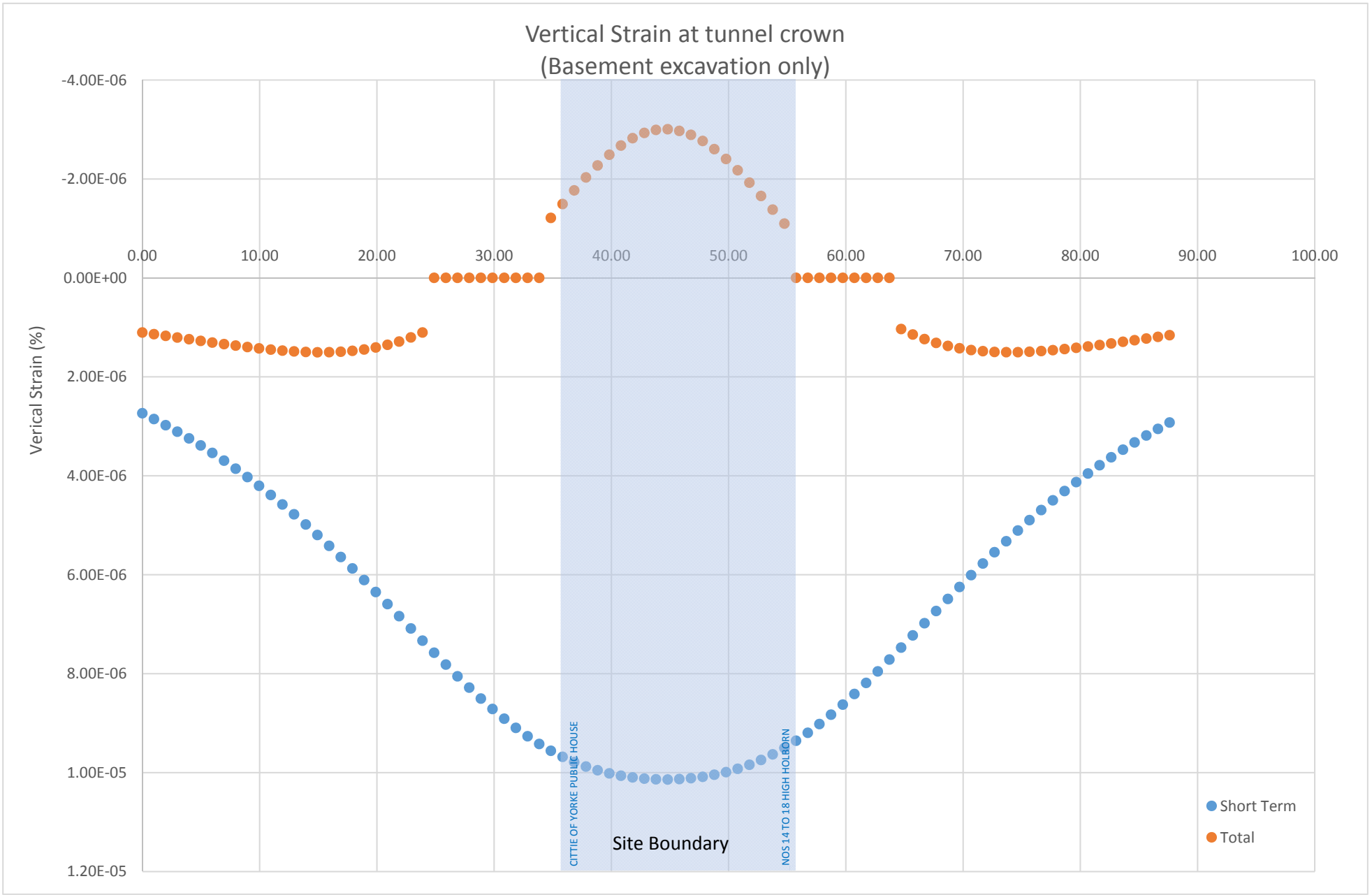

Displacement at tunnel crown
(Basement excavation only)
Displacement (mm)
-0.3
-0.25
-0.2
-0.15
-0.1
-0.05
0
0.05
0.1
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
Short term
Total
CITTIE OF YORKE PUBLIC HOUSE
NOS 14 TO 18 HIGH HOLBORN
Site Boundary

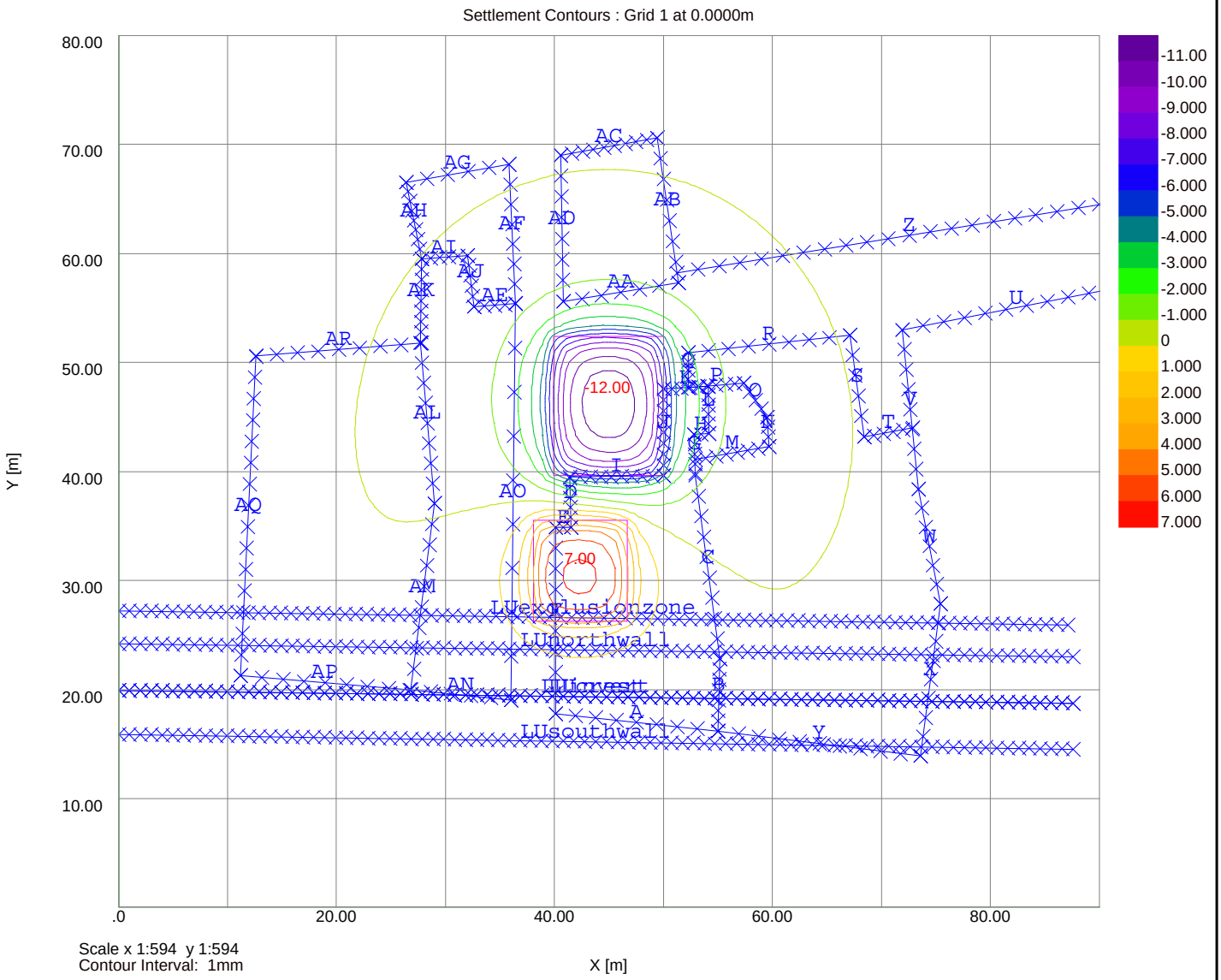

Displacement at tunnel invert
(Basement excavation only)
Displacement (mm)
-0.25
-0.2
-0.15
-0.1
-0.05
0
0.05
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
Short term
Total
CITTIE OF YORKE PUBLIC HOUSE
Site Boundary
NOS 14 TO 18 HIGH HOLBORN

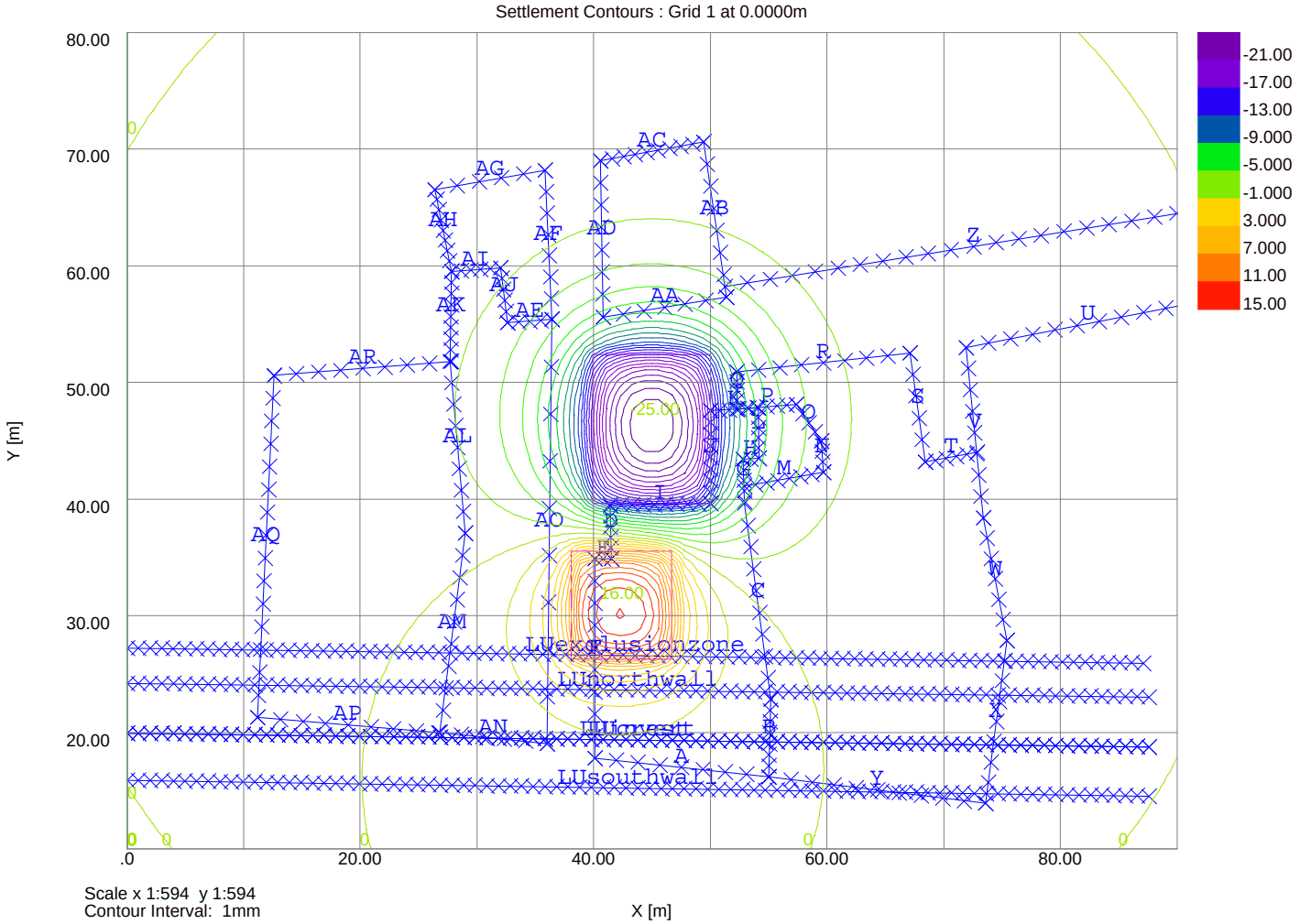

Displacement at tunnel north wall
(Basement excavation only)
Displacement (mm)
-0.45
-0.4
-0.35
-0.3
-0.25
-0.2
-0.15
-0.1
-0.05
0
0.05
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
Short term
Total
CITTIE OF YORKE PUBLIC HOUSE
NOS 14 TO 18 HIGH HOLBORN
Site Boundary

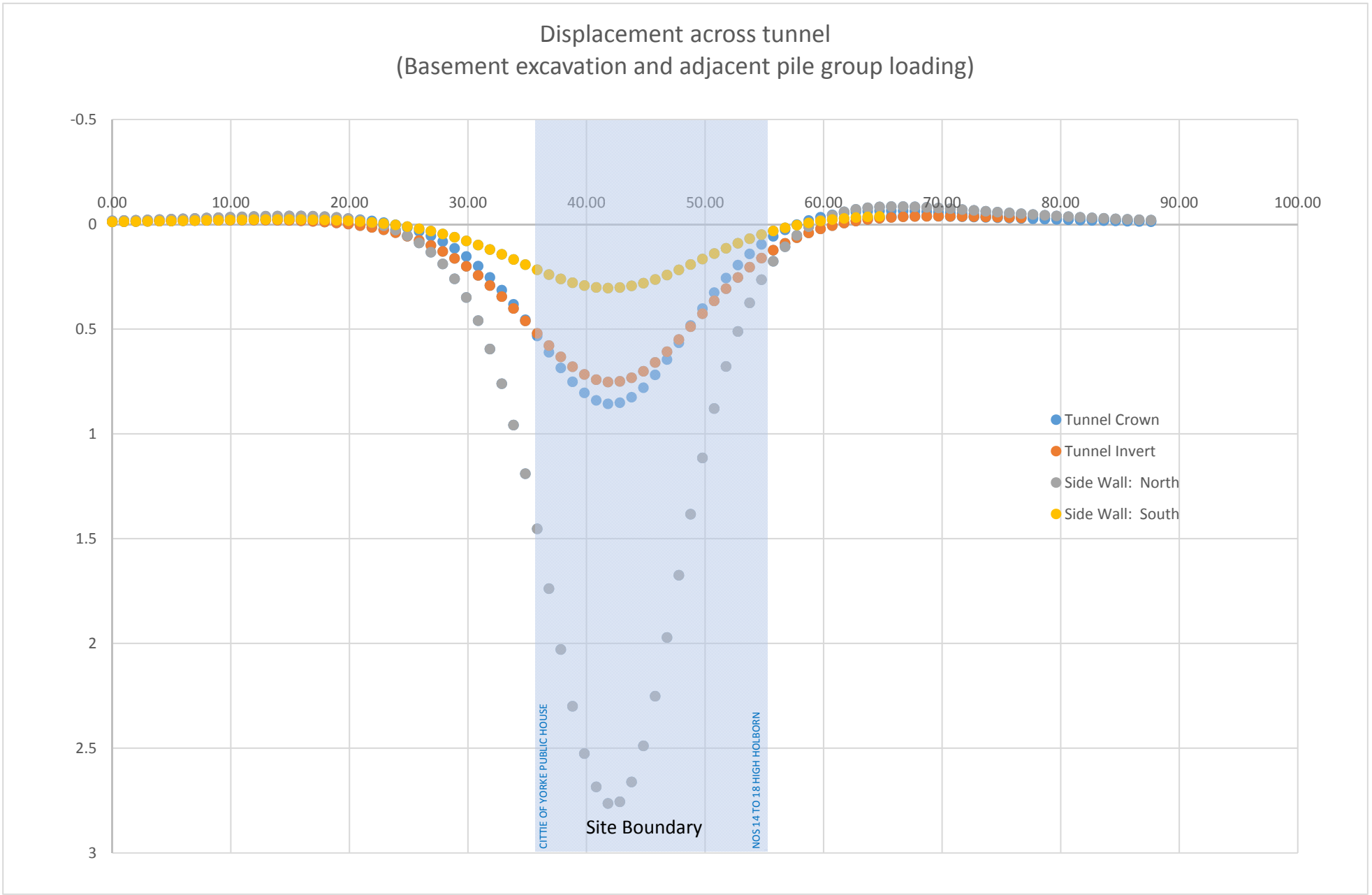

Displacement at tunnel south wall
(Basement excavation only)
-0.16
-0.14
-0.12
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
Short term
Total
CITTIE OF YORKE PUBLIC HOUSE
NOS 14 TO 18 HIGH HOLBORN
Site Boundary

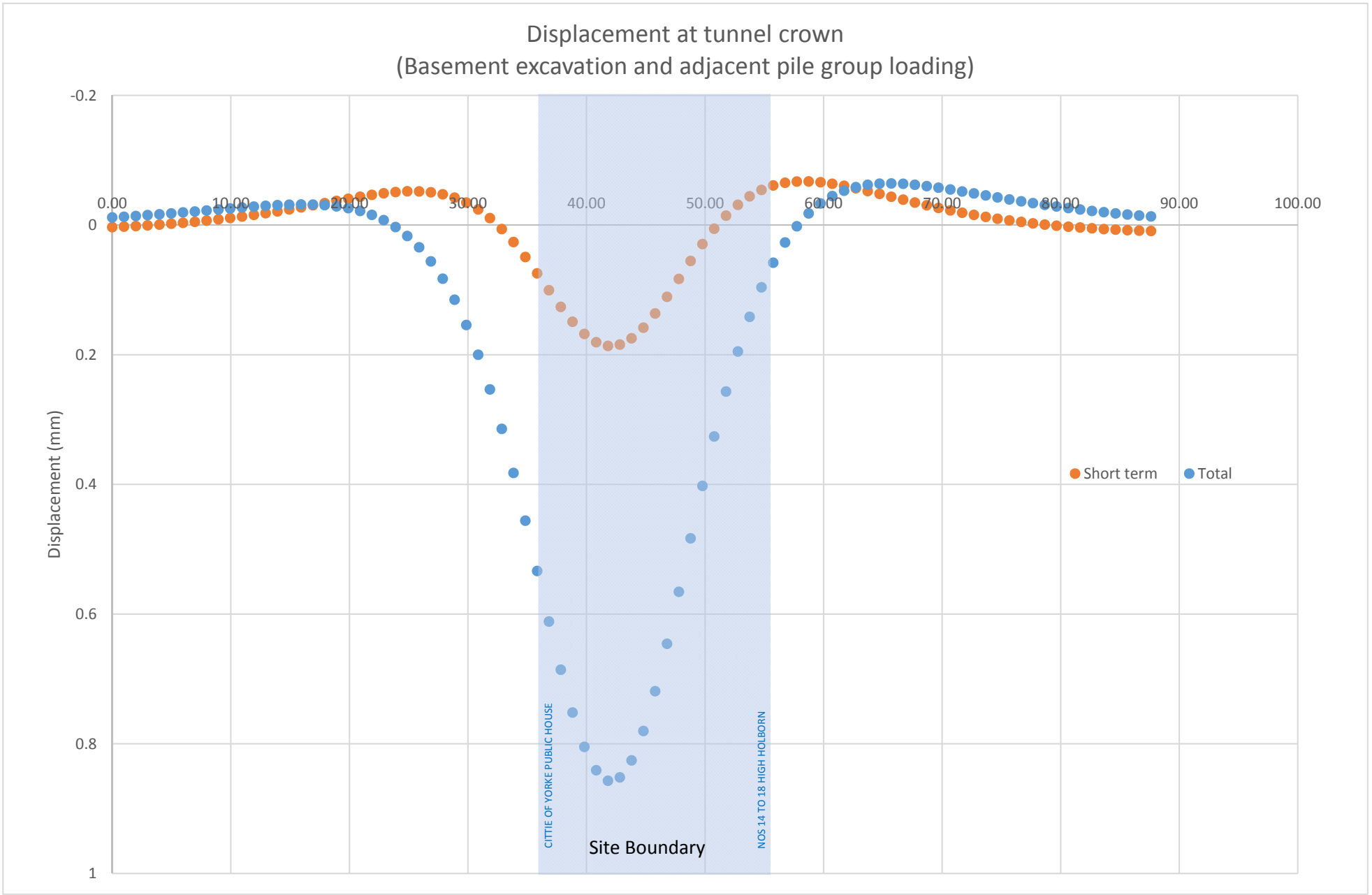

Total Vertical Stress at tunnel crown
(Basement excavation only)
Vertical Street kN/m²
-1.8
-1.6
-1.4
-1.2
-1
-0.8
-0.6
-0.4
-0.2
0
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
Tunnel Crown
Tunnel Invert
North Wall
South Wall
CITTIE OF YORKE PUBLIC HOUSE
Site Boundary
NOS 14 TO 18 HIGH HOLBORN

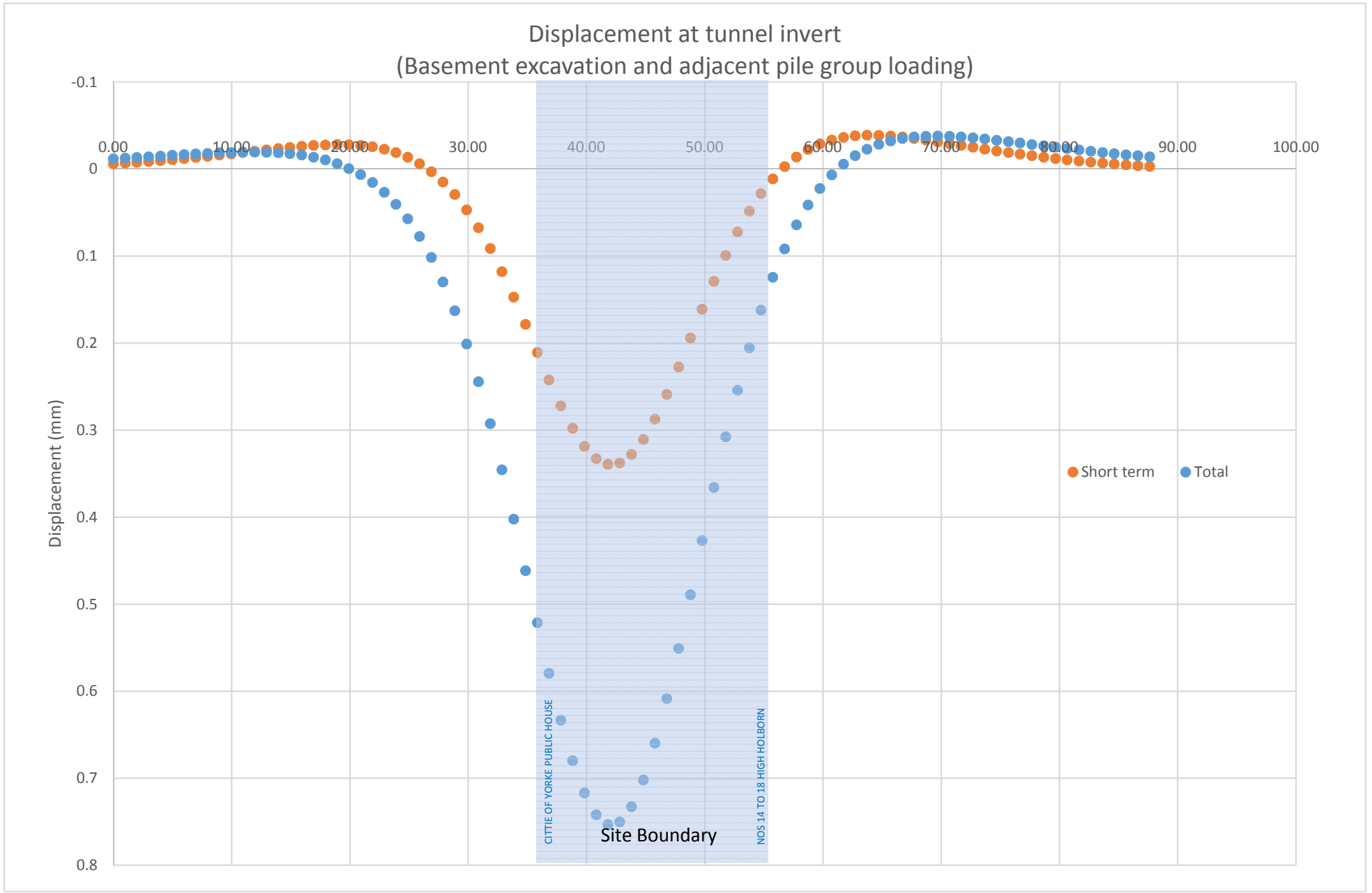

Vertical Strain at tunnel crown
(Basement excavation only)
Verical Strain (%)
-4.00E-06
-2.00E-06
0.00E+00
2.00E-06
4.00E-06
6.00E-06
8.00E-06
1.00E-05
1.20E-05
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
CITTIE OF YORKE PUBLIC HOUSE
NOS 14 TO 18 HIGH HOLBORN
Site Boundary
Short Term
Total

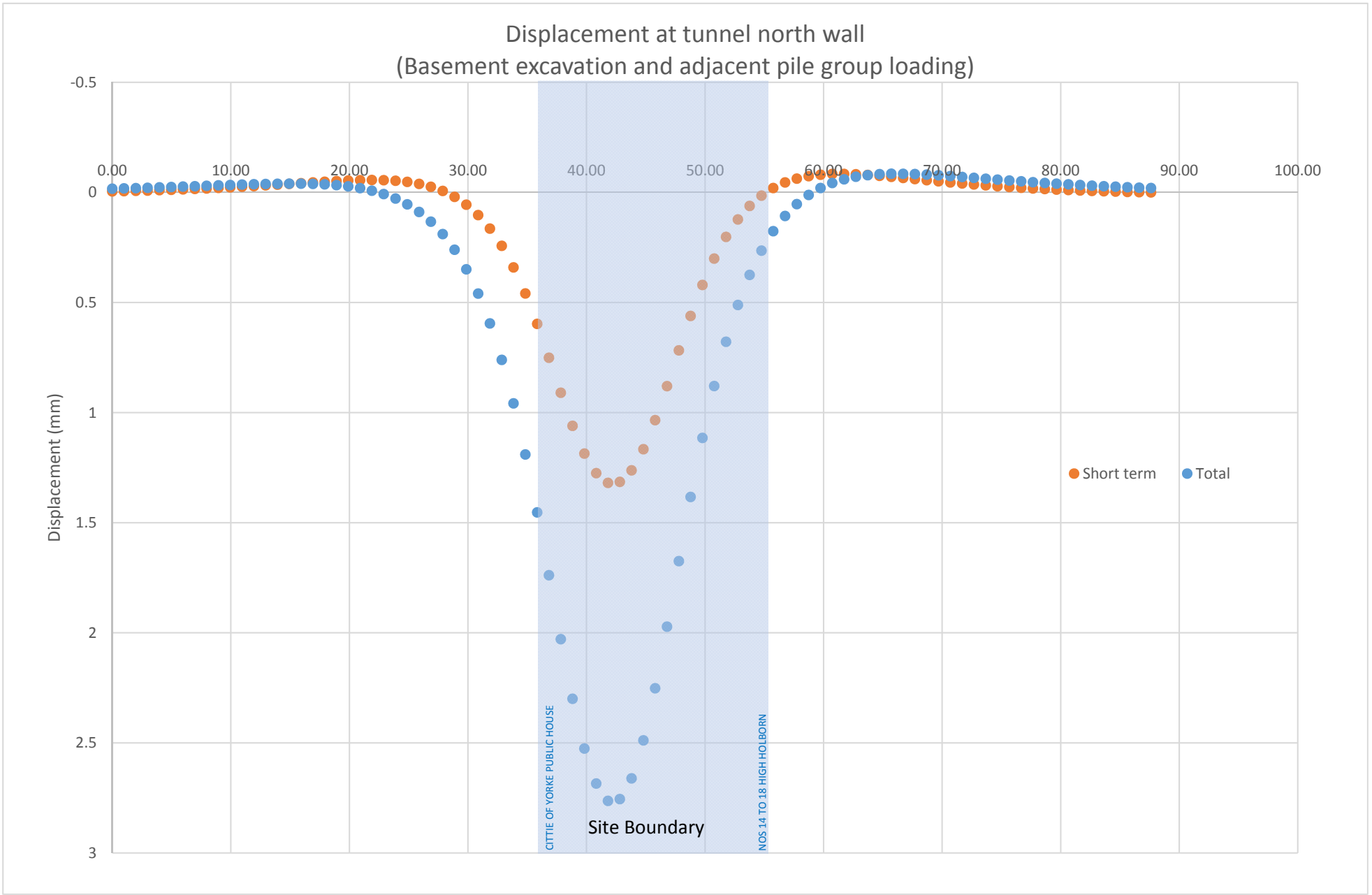

Settlement Contours : Grid 1 at 0.0000m
-12.00
7.00
-11.00
-10.00
-9.000
-8.000
-7.000
-6.000
-5.000
-4.000
-3.000
-2.000
-1.000
0
1.000
2.000
3.000
4.000
5.000
6.000
7.000
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
Y [m]
.0
20.00
40.00
60.00
80.00
X [m]
Scale x 1:594 y 1:594
Contour Interval: 1mm

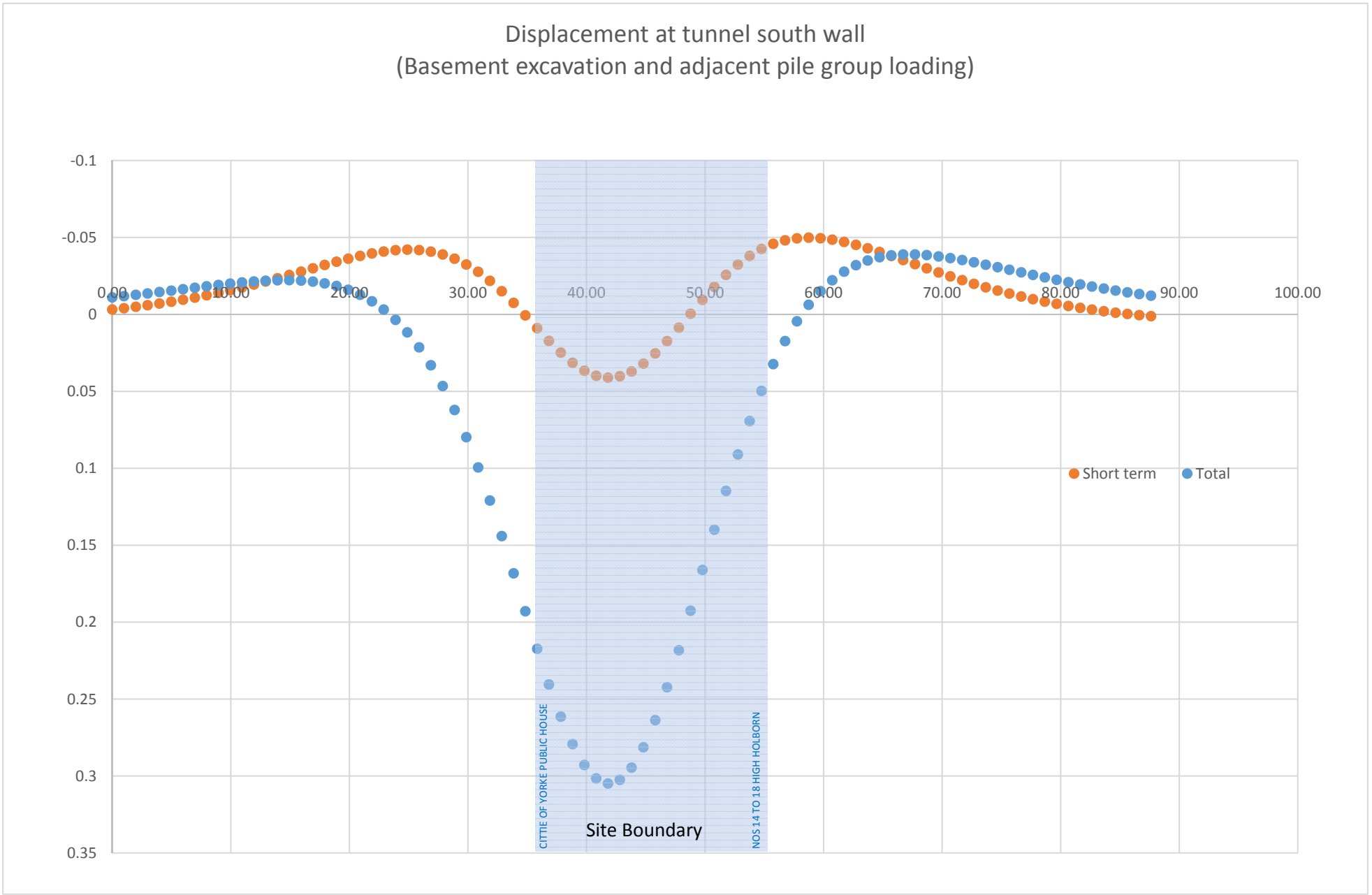

Settlement Contours : Grid 1 at 0.0000m
80.00
70.00
60.00
50.00
40.00
30.00
20.00
Y [m]
.0
20.00
40.00
60.00
80.00
X [m]
-21.00
-17.00
-13.00
-9.000
-5.000
-1.000
3.000
7.000
11.00
15.00
25.00
16.00
LUexclusionzone
LUnorthwall
LUsouthwall
Scale x 1:594 y 1:594
Contour Interval: 1mm

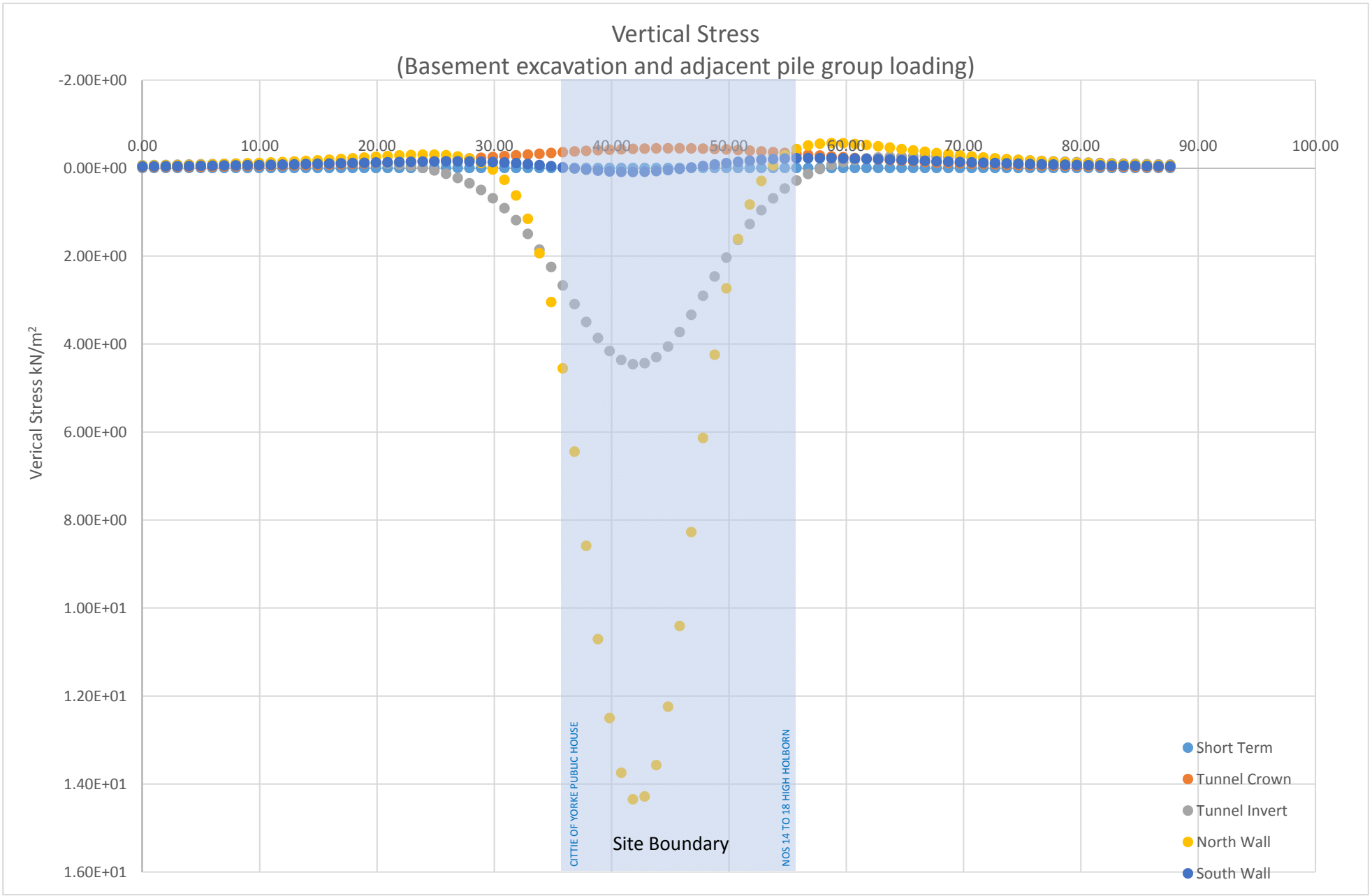

Displacement across tunnel
(Basement excavation and adjacent pile group loading)
-0.5
0
0.5
1
1.5
2
2.5
3
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
Tunnel Crown
Tunnel Invert
Side Wall: North
Side Wall: South
CITTIE OF YORKE PUBLIC HOUSE
Site Boundary
NOS 14 TO 18 HIGH HOLBORN

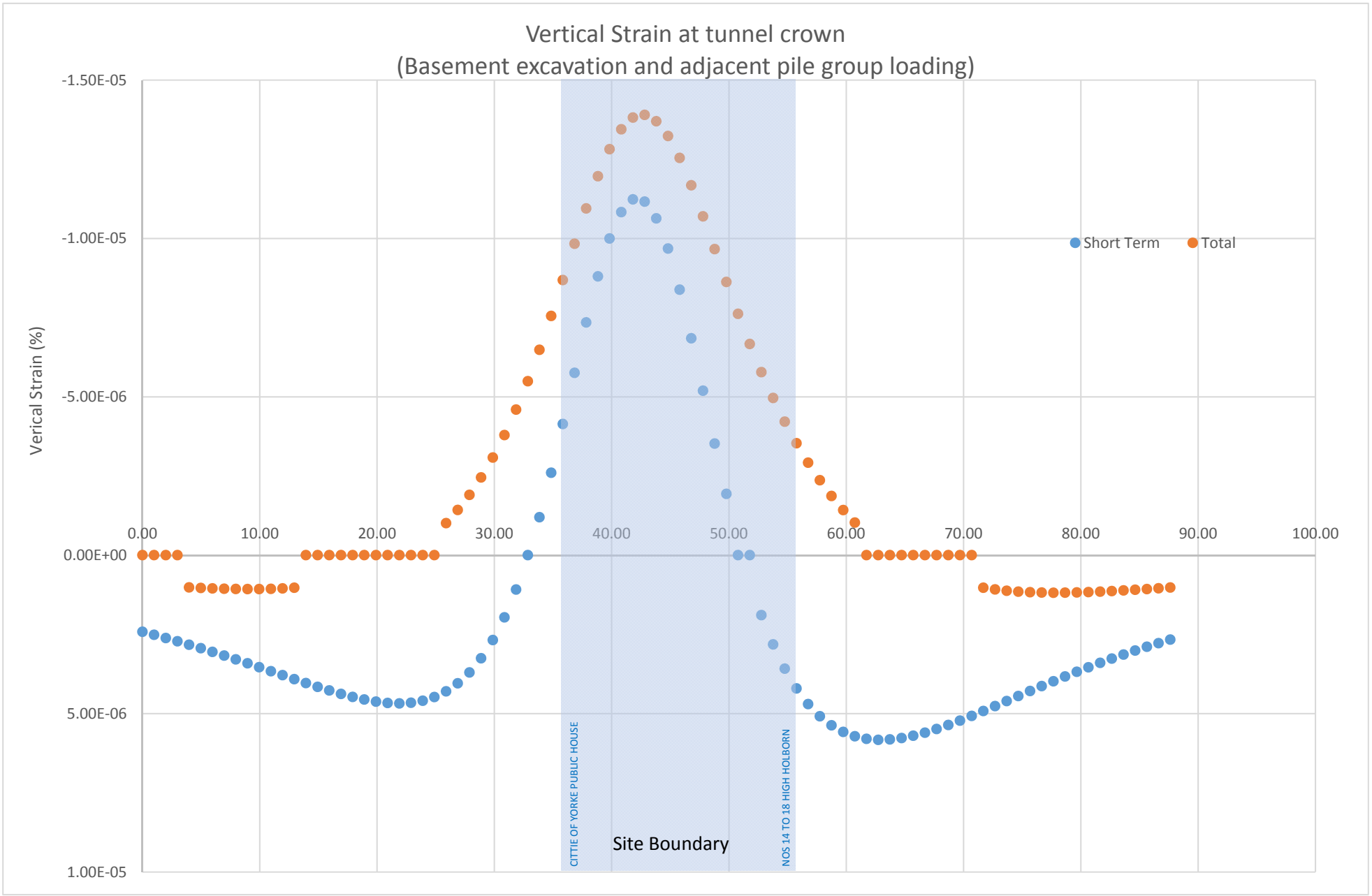

Displacement at tunnel crown
(Basement excavation and adjacent pile group loading)
Displacement (mm)
-0.2
0
0.2
0.4
0.6
0.8
1
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
Short term
Total
CITTIE OF YORKE PUBLIC HOUSE
Site Boundary
NOS 14 TO 18 HIGH HOLBORN


Displacement at tunnel invert
(Basement excavation and adjacent pile group loading)
Displacement (mm)
-0.1
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
Short term
Total
CITTIE OF YORKE PUBLIC HOUSE
NOS 14 TO 18 HIGH HOLBORN
Site Boundary


Displacement at tunnel north wall
(Basement excavation and adjacent pile group loading)
Displacement (mm)
-0.5
0
0.5
1
1.5
2
2.5
3
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
Short term
Total
CITTIE OF YORKE PUBLIC HOUSE
Site Boundary
NOS 14 TO 18 HIGH HOLBORN


Displacement at tunnel south wall
(Basement excavation and adjacent pile group loading)
-0.1
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
Short term
Total
CITTIE OF YORKE PUBLIC HOUSE
Site Boundary
NOS 14 TO 18 HIGH HOLBORN


Vertical Stress
(Basement excavation and adjacent pile group loading)
Verical Stress kN/m²
-2.00E+00
0.00E+00
2.00E+00
4.00E+00
6.00E+00
8.00E+00
1.00E+01
1.20E+01
1.40E+01
1.60E+01
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
CITTIE OF YORKE PUBLIC HOUSE
Site Boundary
NOS 14 TO 18 HIGH HOLBORN
Short Term
Tunnel Crown
Tunnel Invert
North Wall
South Wall


Vertical Strain at tunnel crown
(Basement excavation and adjacent pile group loading)
Verical Strain (%)
-1.50E-05
-1.00E-05
-5.00E-06
0.00E+00
5.00E-06
1.00E-05
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
Short Term
Total
CITTIE OF YORKE PUBLIC HOUSE
Site Boundary
NOS 14 TO 18 HIGH HOLBORN

Geotechnical & Environmental Associates (GEA)
is an engineer-led and client-focused independent specialist providing a complete range of geotechnical and contaminated land investigation, analytical and consultancy services to the property and construction industries.

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