GROUND MOVEMENT ASSESSMENT REPORT

6 Nutley Terrace
London NW3

Client: Mrs Shafi

Engineer: KSR Architects

J11158C

April 2016

Geotechnical & Environmental Associates

Document Control

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CONTENTS

1.0 INTRODUCTION

Geotechnical and Environmental Associates (GEA) has been commissioned by KSR Architects, on behalf of Mrs Shafi, to complete a ground movement assessment for the proposed redevelopment of this site, comprising at 6 Nutley Terrace, London NW3 5BX, which will comprise demolition of the existing house, followed by the construction of two new three-storey houses with a single level basement beneath both buildings.

A Desk Study and Ground Investigation has previously been carried out by GEA (report ref J11158, Report Issue 2, dated 11 October 2011), the findings of which have been used in the derivation of parameters for use in this assessment.

Subsequently, a Basement Impact Assessment (BIA) (ref J11158B, dated March 2016) has recently been prepared for the new proposals and should be read in conjunction with this report.

The purpose of this assessment has been to determine the effects of the proposed basement construction upon nearby sensitive structures, including an adjacent Network Rail tunnel.

The report has been revised on a number of occasions since the original 2011 investigation, due to revisions to the basement proposals, including changes between the construction of a single and double level basement and construction sequencing. The report has now been revised following the basement proposals being amended from a double level to a single level basement following a period of public consultation, and the details have been provided by the consulting engineers.

1.1 Proposed Development

It is understood that consideration is being given to the demolition of the existing house and the subsequent construction of two new three-storey houses with a single level basement that extend to a depth of 4.0 m beneath both houses.

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

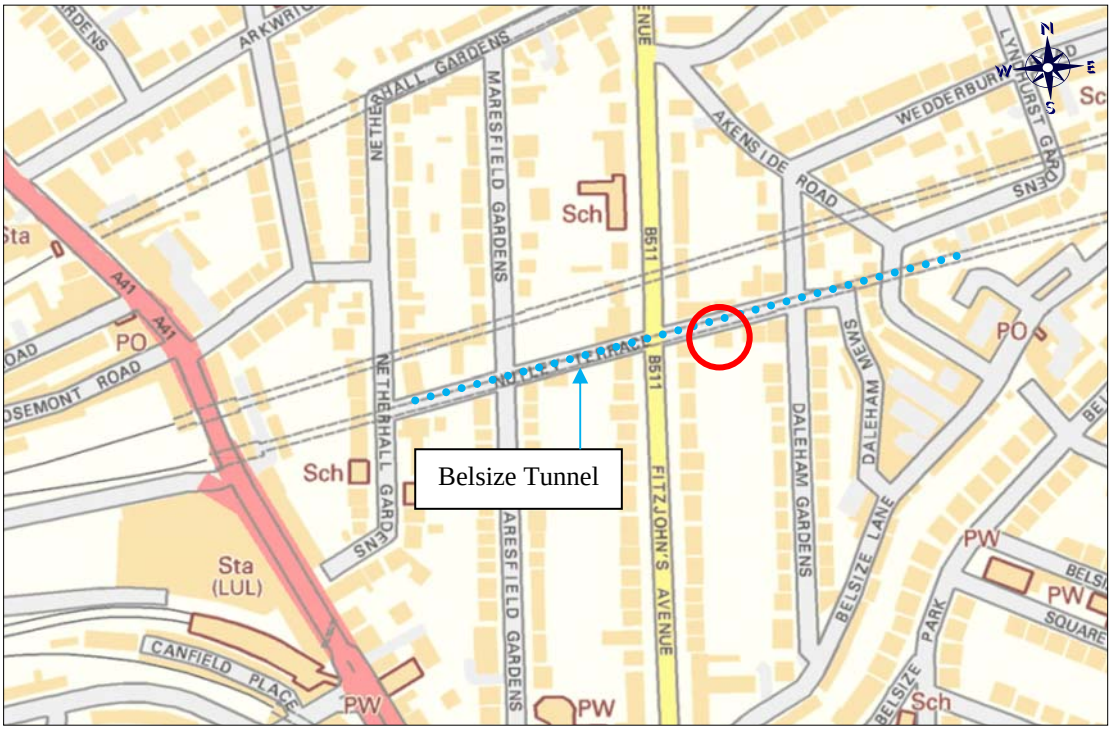
1.2 Limitations

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 400 m to the northeast of Finchley Road London Underground station. It fronts onto Nutley Terrace to the north and is bounded by private gardens to the south, east and west. The site is located immediately to the south of Network Rail's Belsize Tunnel which carries the Midland Mainline service. It is understood that the tunnel is rectangular in section and the depth to the tunnel crown is 23 m. The site may be additionally located by National Grid Reference 526659, 184995, as shown on the map below.



The site is roughly rectangular in shape, measuring approximately 30 m by 60 m and is occupied by the existing two-storey L-shaped house, located on the northern part of the site. A brick paved parking area is present to the front of the house, adjacent to Nutley Terrace. A small grassed area with planted borders and two deciduous trees approximately 20 m high are present to the east of the house.

To the south of the house the rear garden comprises a terraced lawn with a number of mature trees on the eastern and western boundaries; species include ash, beech and poplar. The site slopes gently down towards the south in a series of terraces, from a level of 75.47 m OD at the northern boundary to 73.58 m OD at the southern boundary.

3.0 SUMMARY OF GROUND CONDITIONS

The ground investigation broadly confirmed the expected ground conditions in that, beneath a variable thickness of topsoil or made ground, Head Deposits were encountered over the London Clay, which was encountered and proved to the full depth of the investigation, of 20.00 m (55.18 m OD).

The made ground comprised dark brown silty sandy clay with fine gravel, brick and charcoal with variable amounts of rootlets and concrete fragments and was encountered to depths of between 0.20 m (73.10 m OD) and 1.20 m (73.71 m OD).

The Head Deposits comprised soft becoming firm orange-brown mottled brown and grey silty sandy clay which extended to depths of between 4.75 m (69.57 m OD) and 5.50 m (69.68 m OD).

The London Clay comprised firm dark brownish grey silty fissured clay then extended to depths of between 14.0 m (60.32 m OD) and 14.30 m (60.88 m OD), whereupon stiff grey fissured silty clay with lenses of fine grey sand was encountered to the full depth of the investigation of 20.00 m (55.18 m OD). Selenite crystals were noted throughout the clay and carbonaceous deposits were recorded in the shallow soils.

Desiccation was observed to a depth of up to 2.50 m (72.41 m OD) in Borehole No 5 in close vicinity of mature deciduous trees.

4.0 CONSTRUCTION SEQUENCE

The following sequence of operations has been derived to enable analysis of the ground movements around the basements both during and after construction.

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

- Demolish existing two-storey building;
- construct piled retaining walls to perimeter of proposed basement;
- construct new reinforced concrete slabs and excavate the new basement in a top-down sequence, including corner stiffening, casting floor and basement slabs to provide propping as the excavation proceeds; and
- construct two new three-storey houses.

At this stage in the design and construction process it has been assumed that concrete slabs will be cast and cured before each stage of excavation. The precise detail of the support systems provided to the adjacent walls is beyond the scope of this report will be agreed the contractor and piling sub-contractor once appointed.

When the final excavation depths have been reached the reinforced concrete walls will be cast with a drained cavity lining the inside of the bored pile walls.

5.0 PRELIMINARY RETAINING WALL DESIGN

It is recognised that the final retaining wall design will be undertaken by the successful piling contractor and that it will be tied into elements of both temporary and permanent works undertaken by the principal contractor appointed for the construction. Plainly with planning permission not yet in place a contractor has not been appointed so a preliminary geotechnical design of the piled retaining walls has been undertaken by GEA. The design has been carried out to establish the most likely pile diameter and depths required for the basement and to estimate the movement of the retaining walls both in the short term during construction and also in the long term when different soil properties will govern wall behaviour.

5.1 Basis of Design

The design has been undertaken using the Wallap software (Version 6.05 Revision A42.B57.R48) produced and licensed by Geosolve and commonly used for the design of multi-propped pile retaining walls. This analysis has adopted the BS EN 1997 Eurocode 7 method of analysis although it is understood that some piling contractors may prefer to use the approach set out in CIRIA Report C580[1].

Observation of groundwater during the drilling of the boreholes and the subsequent monitoring have indicated that the long term groundwater level is expected to be at a depth of around 1.0 m OD to 1.5 m OD although groundwater was not encountered during borehole drilling. On this basis it is considered that a contiguous bored pile wall may be suitable for excavation support with perhaps localised grouting or sealing of gaps between piles if seepages occur, whilst the wall should be designed for the long term groundwater pressures arising from a level of 1.0 m below existing ground level. It is understood that the preferred retaining wall type is a secant bored pile wall.

The soil parameters adopted are those set out in the GEA Site Investigation Report referenced J11158, Report Issue 2, dated April 2016.

The design case modelled is specific to the adjacent garage / pool extension to No 4 Nutley Terrace which has been modelled in the wall design as a 16 kN/m^2 surcharge bearing at a depth of 1.0 m on a strip footing of 0.6 m width. This is considered to represent the most onerous wall condition and therefore represents a conservative design solution

Permanent propping will be provided by 250 mm thick floor slabs and a 350 mm thick basement slab all of which are assumed to have a 3 m free length which represents a roughly 6 m wide span at each level.

At this stage in the process, the retaining walls have only been designed for the Serviceability Limit State (SLS). The various load factors, soil parameter factors and output factors are indicated within the results. The detailed design within each case has been based on undrained soil parameters during temporary works and construction with long term drained soil parameters adopted for the long term permanent case with a reversion to at rest earth pressures. At this stage zero drained cohesion, c', has been used in the calculations and an at-rest earth pressure K_0 of 1.0 has been adopted. The results of the wall design run are appended and comprise a single analysis that is considered to represent the critical case in terms of the magnitude of wall deflection. It is assumed that refinement of the design will be for the piling contractor to establish at a later stage.

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

5.2 Summary Results and Bored Pile Wall Proposals

The proposed contiguous piled wall comprises 450 mm diameter piles installed at 600 mm centres and to a depth of 8.0 m.

The maximum displacement is predicted to be 4 mm, whilst the maximum unfactored bending moment is given as 142 kNm /m which represents 85 kNm per pile; detailed reinforcement design will be undertaken by the piling contractor but at this stage these values are deemed sufficient to confirm that a 450 mm diameter scheme is appropriate.

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

6.1 Ground Movements – Surrounding the Basement

6.1.1 Model Used

For the X-Disp analysis, the soil movement relationships used for the embedded retaining walls are based on the default values within CIRIA report C580[2], which were derived from a number of historic case studies. However the movements from the preliminary piled wall design have been used to amend the CIRIA C580 curves to provide site specific results.

The analysis has adopted the ‘installation of a contiguous bored pile wall’ to represent the installation of the retaining walls on all sides of the main excavation. Although the retaining wall will be constructed by means of a secant piled wall, the case history dataset on which the movement contours are based for this type of wall are relatively limited and are generally for larger basements. The data set for a contiguous bored pile wall is more comprehensive and is

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

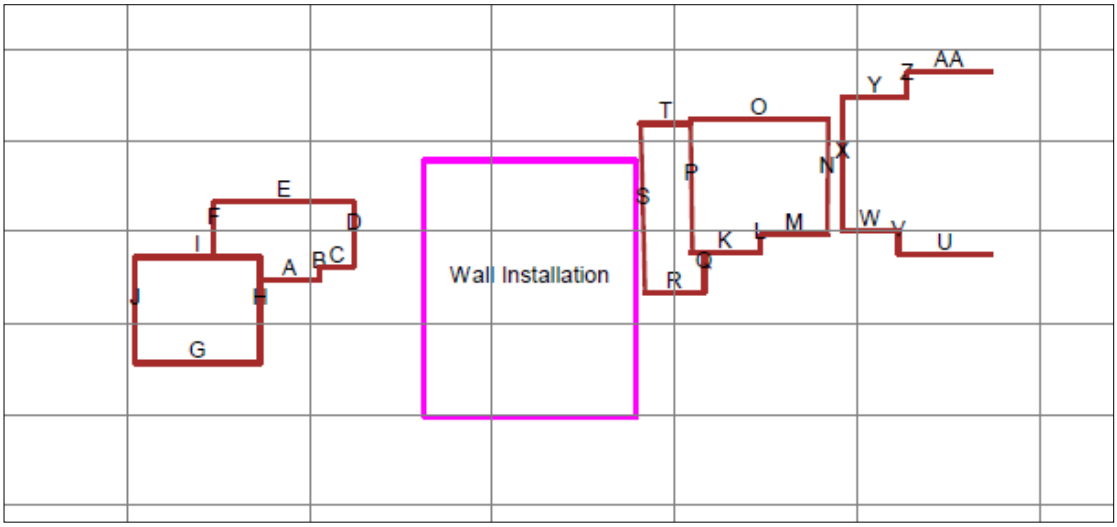
considered within the industry to be more representative for secant piled retaining walls for smaller basements. The ground movement curves for 'excavations in front of high stiffness wall in clay' have been amended and movements reduced by one-fifth, to bring the movements in line with the 4 mm movement predicted using the WALLAP software, to represent the wall design values. The new basement excavation is assumed to extend to a depth of 4.0 m below Nutley Terrace road level on all sides. The new retaining walls are based on the preliminary design with piles to be installed to a depth of 4.0 m below basement level, at a depth of 8.0 m below existing ground level.

6.1.2 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.

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.

Displacement Analysis Points:



The heights and basement depths of each of the nearby sensitive structures are summarised in the table below.

Sensitive Structure	Elevation	Depth below ground level of basement / foundations (m)	Height of building above level of basement / foundations
Nutley Cottage	A to F	1.0	8.0
No 44 Fitzjohn's Avenue	G to J	2.0	19.0
No 4 Nutley Terrace (Main House)	K to P	1.0	11.0
No 4 Nutley Terrace (Extension)	Q to T	1.0	4.0
No 2 Nutley Terrace	U to AA	3.0	17.0

Wall Installation Phase:

Sensitive Structure	Elevation	Maximum Vertical Settlement (mm)	Maximum Horizontal Movement (mm)
Nutley Cottage	A	< 1	< 1
	B	< 1	< 1
	C	2	< 1
	D	2	< 1
	E	2	< 1
	F	< 1	< 1
No 44 Fitzjohn's Avenue	G to J	< 1	< 1
No 4 Nutley Terrace (Main House)	K	3	2
	L	< 1	< 1
	M	< 1	< 1
	N	< 1	< 1
	O	2	< 1
	P	2	2
No 4 Nutley Terrace (Extension)	Q	2	< 1
	R	3	3
	S	4	3
	T	3	2
No 2 Nutley Terrace	U to AA	< 1	< 1

Wall Installation and Excavation Phases (Combined):

Sensitive Structure	Elevation	Maximum Vertical Settlement (mm)	Maximum Horizontal Movement (mm)
Nutley Cottage	A	2	2
	B	2	2
	C	3	4
	D	3	4
	E	3	4
	F	< 1	< 1
No 44 Fitzjohn's Avenue	G to J	< 1	< 1
No 4 Nutley Terrace	K	4	5

Sensitive Structure	Elevation	Maximum Vertical Settlement (mm)	Maximum Horizontal Movement (mm)
(Main House)	L	< 1	< 1
	M	< 1	< 1
	N	< 1	< 1
	O	3	2
	P	4	5
No 4 Nutley Terrace (Extension)	Q	3	4
	R	5	8
	S	5	8
	T	4	4
No 2 Nutley Terrace	U to AA	< 1	< 1

The analysis has indicated that the maximum vertical and horizontal settlements that will result from new retaining wall construction are generally 5 mm or less. 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 less than 10 mm.

6.2 Movements within the Excavation (Heave)

6.2.1 Model Used

At this site unloading of the London Clay will take place as a result of the proposed excavation and the reduction in vertical stress 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 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[3] and Butler[4] and more recently by O'Brien and Sharp[5]. 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[6] 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 profile of the underlying London Clay has been interpolated from the insitu and laboratory results of the cable percussion borehole carried out of the site as part of the original investigation.

[3] Padfield CJ and Sharrock MJ (1983) *Settlement of structures on clay soils*. CIRIA Special Publication 27

[4] Butler FG (1974) *Heavily overconsolidated clays: a state of the art review*. Proc Conf Settlement of Structures, Cambridge, 531-578, Pentech Press, Lond

[5] 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

[6] 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

The soil profile assumed in the analysis is based on SPT and laboratory strength test results from three cable percussion boreholes advanced to a depth of 20.0 m during the original ground investigation carried out in 2011.

The demolition of the existing two-storey house will result in an assumed unloading of 20 kN/m^2, while the proposed 4.0 m deep excavation will result in a further unloading of 80 kN/m^2. A total net unloading of 100 kN/m^2 is assumed to occur in the short term.

It is assumed that all loading from the two proposed detached houses will be supported at a level below the proposed basement level by piled foundations.

The soil parameters used in this assessment are tabulated below.

Stratum	Depth range (m) [Level range mOD]	Eu (MPa)	E' (MPa)
Made Ground	GL to 1.0	10.0	10.0
London Clay	1.0 to 25.0	31.0 – 85.0	18.6 – 45.3

A rigid boundary for the analysis has been set within the London Clay at a depth of about 80 m below existing ground level, where nearby BGS records indicate that the base of this formation is likely to be present. Below this depth the essentially incompressible soils of the Lambeth Group should be present.

The Belsize Tunnel is assumed to be 23 m deep and is reportedly egg-shaped in cross-section; the predicted movements on the tunnel are assessed in Section 7.0.

6.2.2 Results

The P-Disp analysis indicates that, by the time the demolition and basement construction are complete, about 25 mm of heave is likely to have taken place at the centre of the proposed excavation, reducing to about 15 mm at the edges.

In the long term, following completion of the basement construction, a further 35 mm of heave is estimated as a result of long term swelling of the underlying London Clay.

The results of the P-Disp analysis also indicate the likely impact of the proposed basement construction beyond the site boundaries. On the basis of the analysis, total vertical heave movements outside the proposed basement are unlikely to exceed between 10 mm and 15 mm heave at a distance of approximately 5 m, reducing to around 5 mm at about 15 m away.

In order to mitigate the effects of heave on the new building, the new basement floor could be designed to transmit heave forces into the wall piles or onto tension piles within the basement.

Alternatively, or in any case, a void or layer of compressible material should 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 % to 50 % of the total unloading pressure.

6.2.3 Neighbouring Structures

The P-Disp analysis indicates that there may be some effect of total heave due to the proposed excavation, on immediately adjacent structures. Structures that are predicted to receive differential heave movements of greater than 5 mm include Walls E, K, O and P. Structures indicated to have a differential movement of greater than 15 mm and which are of particular concern include Walls R and S, and these are predicted to have differential movements of between 15 mm and 20 mm. The differential movements would cause shallow footings that are perpendicular with the proposed development, i.e. below Wall R to be put into tension. Likewise, if the adjacent Walls S and R are piled, it is likely that piles close to the excavation will be put into tension.

7.0 DAMAGE ASSESSMENT

In addition to the above assessment of the likely movements that will result from the proposed development, neighbouring structures, Nos 2 and 4 Nutley Terrace, Nutley Cottage and No 44 Fitzjohn's Avenue are considered to be sensitive structures, requiring Building Damage Assessments, on the basis of the classification given in Table 2.5 of C580.

7.1 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, which can therefore be considered as conservative, as these movements are likely to have a mitigating effect on the downward settlement predicted by X-Disp.

Building Damage Assessment (wall installation and basement excavation combined)		
Sensitive Structure	**Elevation**	**Category of Damage***
Nutley Cottage	A	Category 0 - Negligible
	B	Category 0 - Negligible
	C	Category 0 - Negligible
	D	Category 0 - Negligible
	E	Category 0 - Negligible
	F	Category 0 - Negligible
No 44 Fitzjohn's Avenue	G to J	Category 0 - Negligible
No 4 Nutley Terrace (Main House)	K	Category 1 – Very Slight
	L	Category 0 - Negligible
	M	Category 0 - Negligible
	N	Category 0 - Negligible

Building Damage Assessment (wall installation and basement excavation combined)		
Sensitive Structure	**Elevation**	**Category of Damage***
	O	Category 0 - Negligible
	P	Category 0 - Negligible
No 4 Nutley Terrace (Extension)	Q	Category 0 - Negligible
	R	Category 1 – Very Slight
	S	Category 0 - Negligible
	T	Category 0 - Negligible
No 2 Nutley Terrace	U to AA	Category 0 - Negligible

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

The analysis has predicted that the installation of the new retaining walls and excavation of the proposed basement may generally result in the building damage for sensitive structures of between Category 0 (negligible) and Category 1 (very slight).

The damage categories above are deemed to fall within acceptable limits as outlined by CPG4.

7.2 Monitoring of Ground Movements

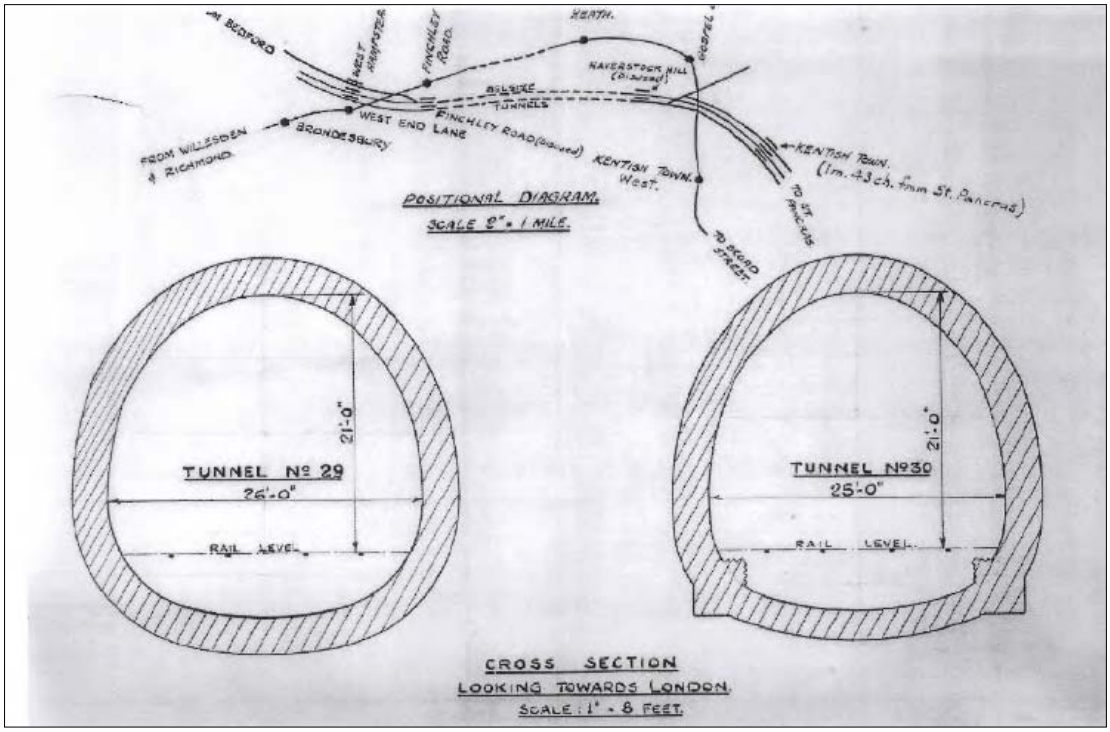
The predictions of ground movement based on the ground movement analysis should be checked by monitoring of adjacent properties and structures. The structures to be monitored during the construction stages should include Nos 2 and 4 Nutley Terrace, No 44 Fitzjohn's Avenue and Nutley Cottage. Condition 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.

8.0 TUNNEL MOVEMENTS

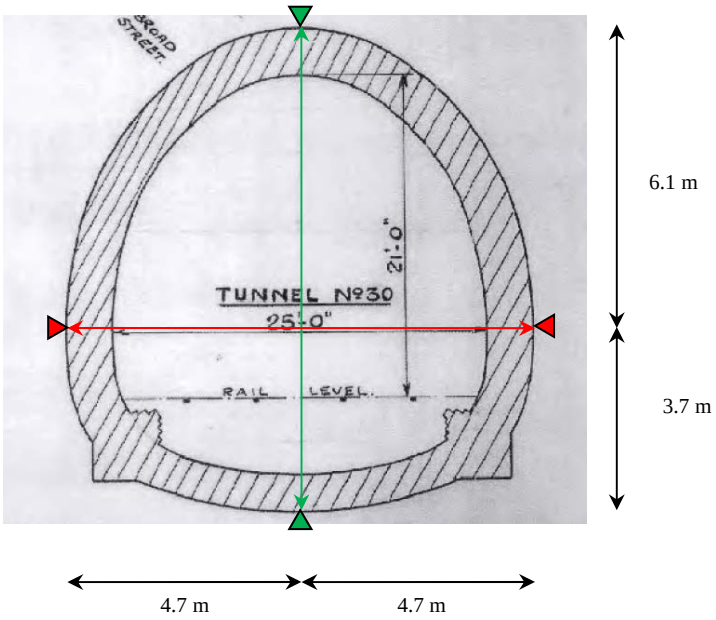
The proposed basement extension will be in close proximity to a Network Rail tunnel.

Network Rail Map Extract: Belsize Tunnels, Hampstead



Network Rail Section Drawing: Belsize Tunnels, Hampstead

It is not clear from the drawings provided whether the tunnel that runs beneath Nutley Terrace is Tunnel Number 29 or 30, but the dimensions of Tunnel No 30 have been used for the purpose of the analysis. All levels are measured from the tunnel crown, which has been modelled at a depth of 23 m below existing pavement level.



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, and the widest points along the northern and southern walls. The crown and invert depths have been modelled at 23.0 m and 32.8 m below ground level respectively. Similarly, the northern and southern side walls have been modelled at 29.1 m below ground level.

The approximate locations 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 2.0 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 will also provide an assessment of the vertical stress and strain along the crown level of the tunnel.

Short term movements:

Tunnel Reference Point	Maximum Vertical Displacement (mm)	Maximum Vertical Stress (kN/m^2)	Maximum Vertical Strain (%)
Crown	3 mm heave	11	-6.0×10^{-5}
Invert	2 mm heave	11	-7.0×10^{-5}
Northern side wall	2 mm heave	7	-4.0×10^{-5}
Southern side wall	3 mm heave	16	-2.0×10^{-4}

Total movements:

Tunnel Reference Point	Maximum Vertical Displacement (mm)	Maximum Vertical Stress (kN/m^2)	Maximum Vertical Strain (%)
Crown	6 mm heave	11	-2.0×10^{-4}
Invert	4 mm heave	11	-2.0×10^{-4}
Northern side wall	4 mm heave	7	-2.0×10^{-4}
Southern side wall	6 mm heave	16	-3.0×10^{-4}

9.0 CONCLUSIONS

The analysis has concluded that the predicted damage to the neighbouring properties from the construction of the contiguous bored pile wall and basement excavation would be 'Negligible' to 'Very Slight', for which the damage that would occur would fall within the acceptable limits. It is recommended that movement monitoring is carried out on all structures prior to and during the proposed basement construction.

APPENDICES

X-DISP ANALYSIS

Wall Installation

Contour Plots of Vertical Movements and Horizontal Movements

Tabular Output of Results

Pile Installation and Basement Excavation

Contour Plots of Combined Vertical Movements and Horizontal Movements

Tabular Output of Results

BUILDING DAMAGE ASSESSMENT (X-DISP)

Tabular Output of Results

WALLAP OUTPUT

P-DISP ANALYSIS

Short Term Movement

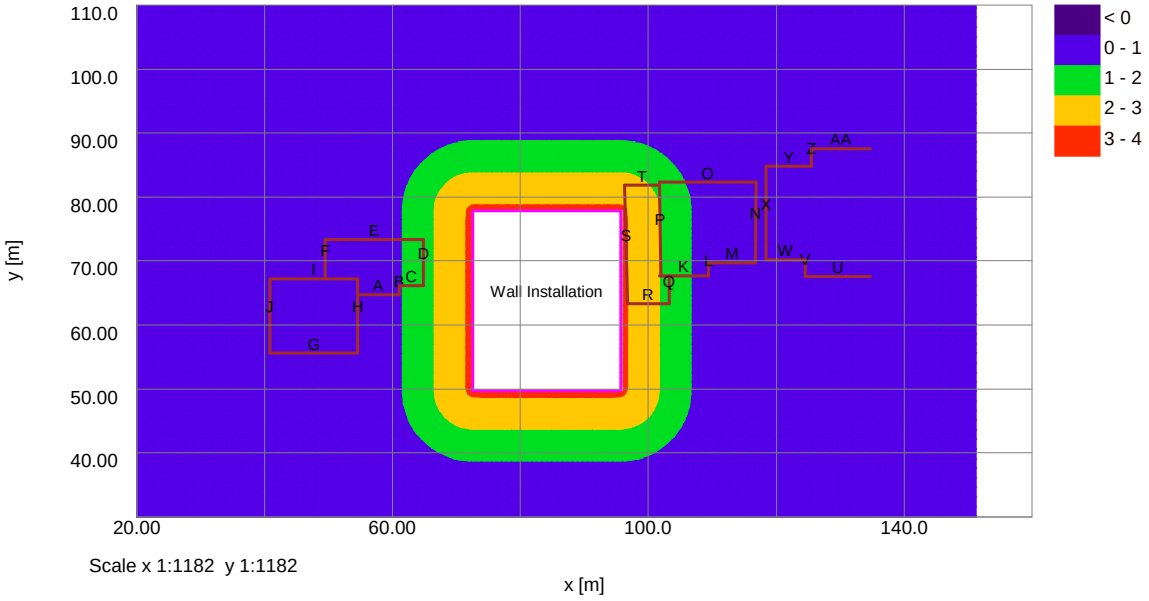
Total Movement

Short Term Tunnel Movements

Total Tunnel Movements

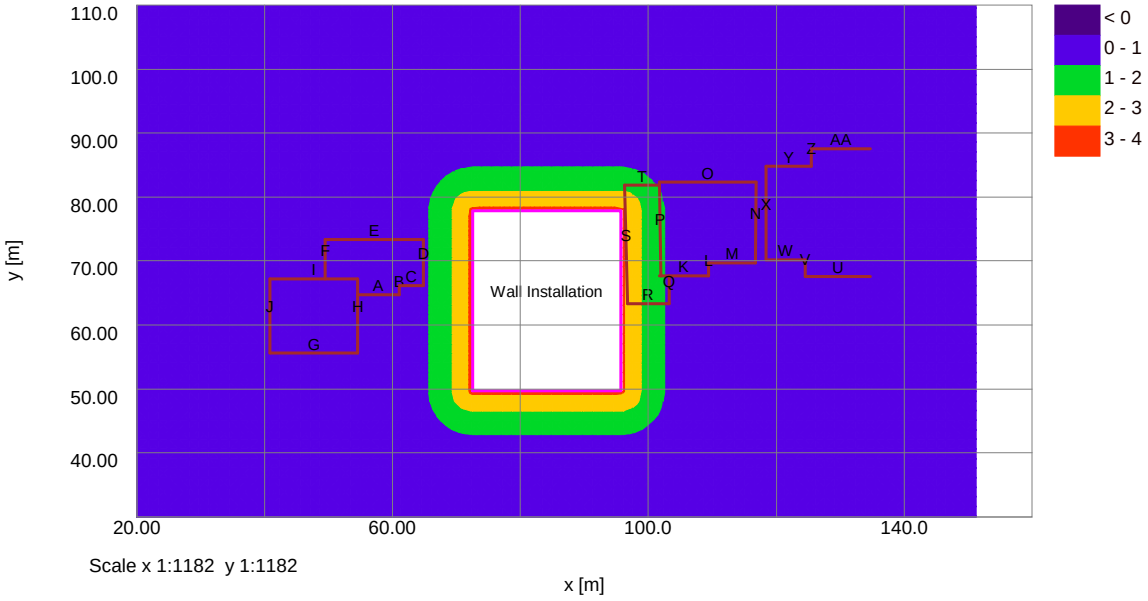
Displacement / Stress /
Strain Plots

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



Scale x 1:1182 y 1:1182

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



Scale x 1:1182 y 1:1182

Problem Type

Problem Type : Tunnelling and Embedded Wall Excavations

Displacement Data

Type	Name	Direction of extrusion	Point/Line/Line for extrusion						No. of intervals across extrusion/line	Extrusion depth	No. of intervals along extrusion	Calculate	Surface type for tunnels
			First point			Second point							
			X [m]	Y [m]	Z(level) [m]	X [m]	Y [m]	Z(level) [m]		[m]			
Line	A	-	54.60000	64.70000	-1.00000	61.00000	64.70000	-1.00000	7	-	-	Yes	Surface
Line	B	-	61.00000	64.70000	-1.00000	61.00000	66.10000	-1.00000	2	-	-	Yes	Surface
Line	C	-	61.00000	66.10000	-1.00000	64.80000	66.10000	-1.00000	4	-	-	Yes	Surface
Line	D	-	64.80000	66.10000	-1.00000	64.80000	73.30000	-1.00000	8	-	-	Yes	Surface
Line	E	-	64.80000	73.30000	-1.00000	49.50000	73.30000	-1.00000	8	-	-	Yes	Surface
Line	F	-	49.50000	73.30000	-1.00000	49.50000	67.20000	-1.00000	7	-	-	Yes	Surface
Line	G	-	40.80000	55.60000	-2.00000	54.60000	55.60000	-2.00000	7	-	-	Yes	Surface
Line	H	-	54.60000	55.60000	-2.00000	54.60000	67.20000	-2.00000	6	-	-	Yes	Surface
Line	I	-	54.60000	67.20000	-2.00000	40.80000	67.20000	-2.00000	7	-	-	Yes	Surface
Line	J	-	40.80000	67.20000	-2.00000	40.80000	55.60000	-2.00000	6	-	-	Yes	Surface
Line	K	-	101.70000	67.70000	-1.00000	109.40000	67.70000	-1.00000	8	-	-	Yes	Surface
Line	L	-	109.40000	67.70000	-1.00000	109.40000	69.70000	-1.00000	2	-	-	Yes	Surface
Line	M	-	109.40000	69.70000	-1.00000	116.70000	69.70000	-1.00000	8	-	-	Yes	Surface
Line	N	-	116.70000	69.70000	-1.00000	116.90000	82.30000	-1.00000	7	-	-	Yes	Surface
Line	O	-	116.90000	82.30000	-1.00000	101.70000	82.30000	-1.00000	8	-	-	Yes	Surface
Line	P	-	101.70000	82.30000	-1.00000	101.90000	67.70000	-1.00000	8	-	-	Yes	Surface
Line	Q	-	103.20000	67.70000	-1.00000	103.20000	63.30000	-1.00000	5	-	-	Yes	Surface
Line	R	-	103.20000	63.30000	-1.00000	96.80000	63.30000	-1.00000	7	-	-	Yes	Surface
Line	S	-	96.80000	63.30000	-1.00000	96.30000	81.80000	-1.00000	10	-	-	Yes	Surface
Line	T	-	96.30000	81.80000	-1.00000	101.70000	81.80000	-1.00000	6	-	-	Yes	Surface
Line	U	-	134.70000	67.60000	-3.00000	124.50000	67.60000	-3.00000	6	-	-	Yes	Surface
Line	V	-	124.50000	67.60000	-3.00000	124.50000	70.10000	-3.00000	3	-	-	Yes	Surface
Line	W	-	124.50000	70.10000	-3.00000	118.40000	70.10000	-3.00000	7	-	-	Yes	Surface
Line	X	-	118.40000	70.10000	-3.00000	118.40000	84.80000	-3.00000	8	-	-	Yes	Surface
Line	Y	-	118.40000	84.80000	-3.00000	125.50000	84.80000	-3.00000	8	-	-	Yes	Surface
Line	Z	-	125.50000	84.80000	-3.00000	125.50000	87.50000	-3.00000	3	-	-	Yes	Surface
Line	AA	-	125.50000	87.50000	-3.00000	134.70000	87.50000	-3.00000	10	-	-	Yes	Surface
Grid	Grid 1	Global X	1.30000	0.15000	0.00000	-	150.00000	0.00000	100	150.00000	95	No	Surface

Vertical Ground Movement Curves

Curve Name: **Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))**
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
[0.000,0.000,0.040][2.000,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = -2.0E-2x + 4.0E-2
Coeff. of Determination: 1.0

Horizontal Ground Movement Curves

Curve Name: **Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))**
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)(%)]
[0.000,0.000,0.041][0.050,0.000,0.039][0.100,0.000,0.036][0.150,0.000,0.034]
[0.200,0.000,0.032][0.250,0.000,0.030][0.300,0.000,0.029][0.350,0.000,0.027]
[0.400,0.000,0.025][0.450,0.000,0.023][0.500,0.000,0.022][0.550,0.000,0.020]
[0.600,0.000,0.019][0.650,0.000,0.018][0.700,0.000,0.016][0.750,0.000,0.015]
[0.800,0.000,0.014][0.850,0.000,0.013][0.900,0.000,0.012][0.950,0.000,0.010]
[1.000,0.000,0.009][1.050,0.000,0.008][1.100,0.000,0.007][1.150,0.000,0.006]
[1.200,0.000,0.005][1.250,0.000,0.004][1.300,0.000,0.004][1.350,0.000,0.003]
[1.400,0.000,0.002][1.450,0.000,0.001][1.500,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 3
y Order: 0
Polynomial: z = $-4.2486E-3x^3 + 1.9096E-2x^2 - 4.6221E-2x + 4.0729E-2$
Coeff. of Determination: 1.0000

Polygonal Excavations

Excavation Name: **Wall Installation**
Surface level [m]: 0.0
Contribution: Positive
Enabled: Yes
Surface movement curves which are selected are applied between surface and [m]: -8.0000

Corner	x [m]	y [m]	Base Level [m]	Stiffened	Previous Side d [m]	Previous Side p1 [%]	Previous Side p2* [%]	Next Side d [m]	Next Side p1 [%]	Next Side p2* [%]
1	72.500	49.700	-8.0000	No	-	-	-	-	-	-
2	95.700	49.700	-8.0000	No	-	-	-	-	-	-
3	95.700	77.800	-8.0000	No	-	-	-	-	-	-
4	72.500	77.800	-8.0000	No	-	-	-	-	-	-

Side	Corner 1 x [m]	Corner 1 y [m]	Corner 2 x [m]	Corner 2 y [m]	Ground Movement Curve: Vertical	Ground Movement Curve: Horizontal
1	72.500	49.700	95.700	49.700	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
2	95.700	49.700	95.700	77.800	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
3	95.700	77.800	72.500	77.800	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
4	72.500	77.800	72.500	49.700	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))

Damage Category Strains

Name	0 (Negligible) to 1 (Very Slight)	1 (Very Slight) to 2 (Slight)	2 (Slight) to 3 (Moderate)	3 (Moderate) to 4 (Severe)
Burland Strain Limits	0.0	500.00E-6	750.00E-6	0.0015000

Specific Structures - Geometry

Structure Name	Sub-Structure Name	Displacement Line	Start Distance Along Line [m]	End Distance Along Line [m]	Vertical Offsets from Line for Vertical Movement Calculations [m]	Vertical Displacement Limit Sensitivity [mm]	Damage Category Strains	Poisson's Ratio	E/G
A		A	0.00000	6.39900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000

Structure Name	Sub-Structure Name	Displacement Line	Start Distance Along Line	End Distance Along Line	Vertical Offsets from Line for Vertical	Vertical Displacement Limit Sensitivity	Damage Category Strains	Poisson's Ratio	E/G
B		B	0.00000	1.39900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
C		C	0.00000	3.79900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
D		D	0.00000	7.19900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
E		E	0.00000	15.29900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
F		F	0.00000	6.09900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
G		G	0.00000	13.79900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
H		H	0.00000	11.59900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
I		I	0.00000	13.79900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
J		J	0.00000	11.59900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
K		K	0.00000	7.69900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
L		L	0.00000	1.99900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
M		M	0.00000	7.29900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
N		N	0.00000	12.60059	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
O		O	0.00000	15.19900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
P		P	0.00000	14.60037	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
Q		Q	0.00000	4.39900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
R		R	0.00000	6.39900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
S		S	0.00000	18.50576	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
T		T	0.00000	5.39900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
U		U	0.00000	10.19900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
V		V	0.00000	2.49900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
W		W	0.00000	6.09900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
X		X	0.00000	14.69900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
Y		Y	0.00000	7.09900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
Z		Z	0.00000	2.69900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
AA		AA	0.00000	9.19900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000

Specific Structures - Bending Parameters

Structure Name	Sub-Structure Name	Height	Default Properties	Hogging			Sagging		
				2nd Moment of Area (per unit width)	Distance of Bending Strain from N.A.	Distance of N.A. from Edge of Beam in Tension	2nd Moment of Area (per unit width)	Distance of Bending Strain from N.A.	Distance of N.A. from Edge of Beam in Tension
		[m]		[m³]	[m]	[m]	[m³]	[m]	[m]
A		8.0000	Yes	170.67	8.0000	8.0000	42.667	4.0000	4.0000
B		8.0000	Yes	170.67	8.0000	8.0000	42.667	4.0000	4.0000
C		8.0000	Yes	170.67	8.0000	8.0000	42.667	4.0000	4.0000
D		8.0000	Yes	170.67	8.0000	8.0000	42.667	4.0000	4.0000
E		8.0000	Yes	170.67	8.0000	8.0000	42.667	4.0000	4.0000
F		8.0000	Yes	170.67	8.0000	8.0000	42.667	4.0000	4.0000
G		19.000	Yes	2286.3	19.000	19.000	571.58	9.5000	9.5000
H		19.000	Yes	2286.3	19.000	19.000	571.58	9.5000	9.5000
I		19.000	Yes	2286.3	19.000	19.000	571.58	9.5000	9.5000
J		19.000	Yes	2286.3	19.000	19.000	571.58	9.5000	9.5000
K		11.000	Yes	443.67	11.000	11.000	110.92	5.5000	5.5000
L		11.000	Yes	443.67	11.000	11.000	110.92	5.5000	5.5000
M		11.000	Yes	443.67	11.000	11.000	110.92	5.5000	5.5000
N		11.000	Yes	443.67	11.000	11.000	110.92	5.5000	5.5000
O		11.000	Yes	443.67	11.000	11.000	110.92	5.5000	5.5000
P		11.000	Yes	443.67	11.000	11.000	110.92	5.5000	5.5000
Q		4.0000	Yes	21.333	4.0000	4.0000	5.3333	2.0000	2.0000
R		4.0000	Yes	21.333	4.0000	4.0000	5.3333	2.0000	2.0000
S		4.0000	Yes	21.333	4.0000	4.0000	5.3333	2.0000	2.0000
T		4.0000	Yes	21.333	4.0000	4.0000	5.3333	2.0000	2.0000
U		17.000	Yes	1637.7	17.000	17.000	409.42	8.5000	8.5000
V		17.000	Yes	1637.7	17.000	17.000	409.42	8.5000	8.5000
W		17.000	Yes	1637.7	17.000	17.000	409.42	8.5000	8.5000
X		17.000	Yes	1637.7	17.000	17.000	409.42	8.5000	8.5000
Y		17.000	Yes	1637.7	17.000	17.000	409.42	8.5000	8.5000
Z		17.000	Yes	1637.7	17.000	17.000	409.42	8.5000	8.5000
AA		17.000	Yes	1637.7	17.000	17.000	409.42	8.5000	8.5000

Building Segment Combinations

Structure Name	Sub-Structure Name	Vertical Offset from Line for Vertical Movement Calculations	Segment Start	Length	Curvature	Combined Segment
		[m]	[m]	[m]		

No structures have segments combined.

Displacement and Strain Results

Type/No.		Coordinates			Displacements					Angle of Line
Name	Dist.	x	y	z	x	y	z	Horizontal dispalcement along the Line	Horizontal displacement perpendicular to Line	to x Axis
	[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]	[mm]	[°]
A	Line 1	54.60000	64.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	0.0
	0.91429	55.51429	64.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	0.0
	1.8286	56.42857	64.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	0.0
	2.7429	57.34286	64.70000	-1.00000	0.0	0.0	0.16857	0.0	0.0	0.0
	3.6571	58.25714	64.70000	-1.00000	0.0	0.0	0.35143	0.0	0.0	0.0
	4.5714	59.17143	64.70000	-1.00000	0.0	0.0	0.53429	0.0	0.0	0.0
	5.4857	60.08571	64.70000	-1.00000	0.0	0.0	0.71714	0.0	0.0	0.0
	6.4000	61.00000	64.70000	-1.00000	0.090038	0.0	0.90000	0.090038	0.0	0.0
B	Line 2	61.00000	64.70000	-1.00000	0.090038	0.0	0.90000	0.0	-0.090038	90.000
	0.70000	61.00000	65.40000	-1.00000	0.090038	0.0	0.90000	0.0	-0.090038	90.000
	1.4000	61.00000	66.10000	-1.00000	0.090038	0.0	0.90000	0.0	-0.090038	90.000
C	Line 3	61.00000	66.10000	-1.00000	0.090038	0.0	0.90000	0.090038	0.0	0.0
	0.95000	61.95000	66.10000	-1.00000	0.25924	0.0	1.0900	0.25924	0.0	0.0
	1.9000	62.90000	66.10000	-1.00000	0.43360	0.0	1.2800	0.43360	0.0	0.0
	2.8500	63.85000	66.10000	-1.00000	0.61653	0.0	1.4700	0.61653	0.0	0.0
	3.8000	64.80000	66.10000	-1.00000	0.81146	0.0	1.6600	0.81146	0.0	0.0
D	Line 4	64.80000	66.10000	-1.00000	0.81146	0.0	1.6600	0.0	-0.81146	90.000
	0.90000	64.80000	67.00000	-1.00000	0.81146	0.0	1.6600	0.0	-0.81146	90.000
	1.8000	64.80000	67.90000	-1.00000	0.81146	0.0	1.6600	0.0	-0.81146	90.000
	2.7000	64.80000	68.80000	-1.00000	0.81146	0.0	1.6600	0.0	-0.81146	90.000
	3.6000	64.80000	69.70000	-1.00000	0.81146	0.0	1.6600	0.0	-0.81146	90.000
	4.5000	64.80000	70.60000	-1.00000	0.81146	0.0	1.6600	0.0	-0.81146	90.000
	5.4000	64.80000	71.50000	-1.00000	0.81146	0.0	1.6600	0.0	-0.81146	90.000
	6.3000	64.80000	72.40000	-1.00000	0.81146	0.0	1.6600	0.0	-0.81146	90.000
	7.2000	64.80000	73.30000	-1.00000	0.81146	0.0	1.6600	0.0	-0.81146	90.000
E	Line 5	64.80000	73.30000	-1.00000	0.81146	0.0	1.6600	-0.81146	0.0	180.00
	1.9125	62.88750	73.30000	-1.00000	0.43126	0.0	1.2775	-0.43126	0.0	180.00
	3.8250	60.97500	73.30000	-1.00000	0.085624	0.0	0.89500	-0.085624	0.0	180.00
	5.7375	59.06250	73.30000	-1.00000	0.0	0.0	0.51250	0.0	0.0	180.00
	7.6500	57.15000	73.30000	-1.00000	0.0	0.0	0.13000	0.0	0.0	180.00
	9.5625	55.23750	73.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	180.00
	11.475	53.32500	73.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	180.00
	13.387	51.41250	73.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	180.00
	15.300	49.50000	73.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	180.00
F	Line 6	49.50000	73.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	270.00
	0.87143	49.50000	72.42857	-1.00000	0.0	0.0	0.0	0.0	0.0	270.00
	1.7429	49.50000	71.55714	-1.00000	0.0	0.0	0.0	0.0	0.0	270.00
	2.6143	49.50000	70.68571	-1.00000	0.0	0.0	0.0	0.0	0.0	270.00
	3.4857	49.50000	69.81429	-1.00000	0.0	0.0	0.0	0.0	0.0	270.00
	4.3571	49.50000	68.94286	-1.00000	0.0	0.0	0.0	0.0	0.0	270.00
	5.2286	49.50000	68.07143	-1.00000	0.0	0.0	0.0	0.0	0.0	270.00
	6.1000	49.50000	67.20000	-1.00000	0.0	0.0	0.0	0.0	0.0	270.00
G	Line 7	40.80000	55.60000	-2.00000	0.0	0.0	0.0	0.0	0.0	0.0
	1.9714	42.77143	55.60000	-2.00000	0.0	0.0	0.0	0.0	0.0	0.0
	3.9429	44.74286	55.60000	-2.00000	0.0	0.0	0.0	0.0	0.0	0.0
	5.9143	46.71429	55.60000	-2.00000	0.0	0.0	0.0	0.0	0.0	0.0
	7.8857	48.68571	55.60000	-2.00000	0.0	0.0	0.0	0.0	0.0	0.0
	9.8571	50.65714	55.60000	-2.00000	0.0	0.0	0.0	0.0	0.0	0.0
	11.829	52.62857	55.60000	-2.00000	0.0	0.0	0.0	0.0	0.0	0.0
	13.800	54.60000	55.60000	-2.00000	0.0	0.0	0.0	0.0	0.0	0.0
H	Line 8	54.60000	55.60000	-2.00000	0.0	0.0	0.0	0.0	0.0	90.000

Type/No.		Coordinates			Displacements					Angle of Line
Name	Dist.	x	y	z	x	y	z	Horizontal displacement	Horizontal displacement	to x Axis
	1.9333	54.60000	57.53333	-2.00000	0.0	0.0	0.0	0.0	0.0	90.000
	3.8667	54.60000	59.46667	-2.00000	0.0	0.0	0.0	0.0	0.0	90.000
	5.8000	54.60000	61.40000	-2.00000	0.0	0.0	0.0	0.0	0.0	90.000
	7.7333	54.60000	63.33333	-2.00000	0.0	0.0	0.0	0.0	0.0	90.000
	9.6667	54.60000	65.26667	-2.00000	0.0	0.0	0.0	0.0	0.0	90.000
	11.600	54.60000	67.20000	-2.00000	0.0	0.0	0.0	0.0	0.0	90.000
I	Line 9	54.60000	67.20000	-2.00000	0.0	0.0	0.0	0.0	0.0	180.00
	1.9714	52.62857	67.20000	-2.00000	0.0	0.0	0.0	0.0	0.0	180.00
	3.9429	50.65714	67.20000	-2.00000	0.0	0.0	0.0	0.0	0.0	180.00
	5.9143	48.68571	67.20000	-2.00000	0.0	0.0	0.0	0.0	0.0	180.00
	7.8857	46.71429	67.20000	-2.00000	0.0	0.0	0.0	0.0	0.0	180.00
	9.8571	44.74286	67.20000	-2.00000	0.0	0.0	0.0	0.0	0.0	180.00
	11.829	42.77143	67.20000	-2.00000	0.0	0.0	0.0	0.0	0.0	180.00
	13.800	40.80000	67.20000	-2.00000	0.0	0.0	0.0	0.0	0.0	180.00
J	Line 10	40.80000	67.20000	-2.00000	0.0	0.0	0.0	0.0	0.0	270.00
	1.9333	40.80000	65.26667	-2.00000	0.0	0.0	0.0	0.0	0.0	270.00
	3.8667	40.80000	63.33333	-2.00000	0.0	0.0	0.0	0.0	0.0	270.00
	5.8000	40.80000	61.40000	-2.00000	0.0	0.0	0.0	0.0	0.0	270.00
	7.7333	40.80000	59.46667	-2.00000	0.0	0.0	0.0	0.0	0.0	270.00
	9.6667	40.80000	57.53333	-2.00000	0.0	0.0	0.0	0.0	0.0	270.00
	11.600	40.80000	55.60000	-2.00000	0.0	0.0	0.0	0.0	0.0	270.00
K	Line 11	101.70000	67.70000	-1.00000	-1.2010	0.0	2.0000	-1.2010	0.0	0.0
	0.96250	102.66250	67.70000	-1.00000	-0.97323	0.0	1.8075	-0.97323	0.0	0.0
	1.9250	103.62500	67.70000	-1.00000	-0.76403	0.0	1.6150	-0.76403	0.0	0.0
	2.8875	104.58750	67.70000	-1.00000	-0.56981	0.0	1.4225	-0.56981	0.0	0.0
	3.8500	105.55000	67.70000	-1.00000	-0.38702	0.0	1.2300	-0.38702	0.0	0.0
	4.8125	106.51250	67.70000	-1.00000	-0.21211	0.0	1.0375	-0.21211	0.0	0.0
	5.7750	107.47500	67.70000	-1.00000	-0.041535	0.0	0.84500	-0.041535	0.0	0.0
	6.7375	108.43750	67.70000	-1.00000	0.0	0.0	0.65250	0.0	0.0	0.0
	7.7000	109.40000	67.70000	-1.00000	0.0	0.0	0.46000	0.0	0.0	0.0
L	Line 12	109.40000	67.70000	-1.00000	0.0	0.0	0.46000	0.0	0.0	90.000
	1.0000	109.40000	68.70000	-1.00000	0.0	0.0	0.46000	0.0	0.0	90.000
	2.0000	109.40000	69.70000	-1.00000	0.0	0.0	0.46000	0.0	0.0	90.000
M	Line 13	109.40000	69.70000	-1.00000	0.0	0.0	0.46000	0.0	0.0	0.0
	0.91250	110.31250	69.70000	-1.00000	0.0	0.0	0.27750	0.0	0.0	0.0
	1.8250	111.22500	69.70000	-1.00000	0.0	0.0	0.095000	0.0	0.0	0.0
	2.7375	112.13750	69.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	0.0
	3.6500	113.05000	69.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	0.0
	4.5625	113.96250	69.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	0.0
	5.4750	114.87500	69.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	0.0
	6.3875	115.78750	69.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	0.0
	7.3000	116.70000	69.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	0.0
N	Line 14	116.70000	69.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	89.091
	1.8002	116.72857	71.50000	-1.00000	0.0	0.0	0.0	0.0	0.0	89.091
	3.6005	116.75714	73.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	89.091
	5.4007	116.78571	75.10000	-1.00000	0.0	0.0	0.0	0.0	0.0	89.091
	7.2009	116.81429	76.90000	-1.00000	0.0	0.0	0.0	0.0	0.0	89.091
	9.0011	116.84286	78.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	89.091
	10.801	116.87143	80.50000	-1.00000	0.0	0.0	0.0	0.0	0.0	89.091
	12.602	116.90000	82.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	89.091
O	Line 15	116.90000	82.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	180.00
	1.9000	115.00000	82.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	180.00
	3.8000	113.10000	82.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	180.00
	5.7000	111.20000	82.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	180.00
	7.6000	109.30000	82.30000	-1.00000	0.0	0.0	0.33497	0.0	0.0	180.00
	9.5000	107.40000	82.30000	-1.00000	0.0	0.0	0.69289	0.0	0.0	180.00
	11.400	105.50000	82.30000	-1.00000	-0.19743	-0.090658	1.0432	0.19743	0.090658	180.00
	13.300	103.60000	82.30000	-1.00000	-0.46069	-0.26242	1.3816	0.46069	0.26242	180.00
	15.200	101.70000	82.30000	-1.00000	-0.68348	-0.51261	1.7000	0.68348	0.51261	180.00
P	Line 16	101.70000	82.30000	-1.00000	-0.68348	-0.51261	1.7000	0.50320	-0.69043	270.78
	1.8252	101.72500	80.47500	-1.00000	-0.96741	-0.42951	1.8816	0.41622	-0.97320	270.78
	3.6503	101.75000	78.65000	-1.00000	-1.1626	-0.16334	1.9781	0.14740	-1.1647	270.78
	5.4755	101.77500	76.82500	-1.00000	-1.1825	0.0	1.9850	-0.016197	-1.1824	270.78
	7.3007	101.80000	75.00000	-1.00000	-1.1763	0.0	1.9800	-0.016113	-1.1762	270.78
	9.1259	101.82500	73.17500	-1.00000	-1.1702	0.0	1.9750	-0.016029	-1.1701	270.78
	10.951	101.85000	71.35000	-1.00000	-1.1641	0.0	1.9700	-0.015945	-1.1640	270.78
	12.776	101.87500	69.52500	-1.00000	-1.1580	0.0	1.9650	-0.015862	-1.1579	270.78
	14.601	101.90000	67.70000	-1.00000	-1.1519	0.0	1.9600	-0.015779	-1.1518	270.78
Q	Line 17	103.20000	67.70000	-1.00000	-0.85435	0.0	1.7000	0.0	-0.85435	270.00
	0.88000	103.20000	66.82000	-1.00000	-0.85435	0.0	1.7000	0.0	-0.85435	270.00
	1.7600	103.20000	65.94000	-1.00000	-0.85435	0.0	1.7000	0.0	-0.85435	270.00
	2.6400	103.20000	65.06000	-1.00000	-0.85435	0.0	1.7000	0.0	-0.85435	270.00
	3.5200	103.20000	64.18000	-1.00000	-0.85435	0.0	1.7000	0.0	-0.85435	270.00
	4.4000	103.20000	63.30000	-1.00000	-0.85435	0.0	1.7000	0.0	-0.85435	270.00
R	Line 18	103.20000	63.30000	-1.00000	-0.85435	0.0	1.7000	0.85435	0.0	180.00
	0.91429	102.28571	63.30000	-1.00000	-1.0600	0.0	1.8829	1.0600	0.0	180.00
	1.8286	101.37143	63.30000	-1.00000	-1.2836	0.0	2.0657	1.2836	0.0	180.00
	2.7429	100.45714	63.30000	-1.00000	-1.5282	0.0	2.2486	1.5282	0.0	180.00
	3.6571	99.54286	63.30000	-1.00000	-1.7969	0.0	2.4314	1.7969	0.0	180.00
	4.5714	98.62857	63.30000	-1.00000	-2.0927	0.0	2.6143	2.0927	0.0	180.00
	5.4857	97.71429	63.30000	-1.00000	-2.4187	0.0	2.7971	2.4187	0.0	180.00
	6.4000	96.80000	63.30000	-1.00000	-2.7779	0.0	2.9800	2.7779	0.0	180.00
S	Line 19	96.80000	63.30000	-1.00000	-2.7779	0.0	2.9800	0.075050	2.7769	91.548
	1.8507	96.75000	65.15000	-1.00000	-2.7985	0.0	2.9900	0.075608	2.7975	91.548
	3.7014	96.70000	67.00000	-1.00000	-2.8193	0.0	3.0000	0.076169	2.8183	91.548
	5.5520	96.65000	68.85000	-1.00000	-2.8402	0.0	3.0100	0.076734	2.8391	91.548
	7.4027	96.60000	70.70000	-1.00000	-2.8612	0.0	3.0200	0.077301	2.8601	91.548
	9.2534	96.55000	72.55000	-1.00000	-2.8823	0.0	3.0300	0.077871	2.8812	91.548
	11.104	96.50000	74.40000	-1.00000	-2.9035	0.0	3.0400	0.078444	2.9024	91.548
	12.955	96.45000	76.25000	-1.00000	-2.9248	0.0	3.0500	0.079020	2.9237	91.548
	14.805	96.40000	78.10000	-1.00000	-2.6838	-1.1502	3.0477	-1.0773	2.7139	91.548
	16.656	96.35000	79.95000	-1.00000	-0.67515	-2.2332	2.7508	-2.2141	0.73524	91.548
	18.507	96.30000	81.80000	-1.00000	-0.25742	-1.7162	2.3911	-1.7086	0.30370	91.548
T	Line 20	96.30000	81.80000	-1.00000	-0.25742	-1.7162	2.3911	-0.25742	-1.7162	0.0
	0.90000	97.20000	81.80000	-1.00000	-0.58554	-1.5614	2.3456	-0.58554	-1.5614	0.0
	1.8000	98.10000	81.80000	-1.00000	-0.79964	-1.3327	2.2670	-0.79964	-1.3327	0.0
	2.7000	99.00000	81.80000	-1.00000	-0.89780	-1.0882	2.1629	-0.89780	-1.0882	0.0
	3.6000	99.90000	81.80000	-1.00000	-0.90585	-0.86272	2.0400	-0.90585	-0.86272	0.0
	4.5000	100.80000	81.80000	-1.00000	-0.85334	-0.66929	1.9037	-0.85334	-0.66929	0.0
	5.4000	101.70000	81.80000	-1.00000	-0.76346	-0.50897	1.7578	-0.76346	-0.50897	0.0
U	Line 21	134.70000	67.60000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	1.7000	133.00000	67.60000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	3.4000	131.30000	67.60000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	5.1000	129.60000	67.60000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	6.8000	127.90000	67.60000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	8.5000	126.20000	67.60000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	10.200	124.50000	67.60000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
V	Line 22	124.50000	67.60000	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	0.83333	124.50000	68.43333	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	1.6667	124.50000	69.26667	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	2.5000	124.50000	70.10000	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
W	Line 23	124.50000	70.10000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	0.87143	123.62857	70.10000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	1.7429	122.75714	70.10000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	2.6143	121.88571	70.10000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	3.4857	121.01429	70.10000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	4.3571	120.14286	70.10000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	5.2286	119.27143	70.10000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	6.1000	118.40000	70.10000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
X	Line 24	118.40000	70.10000	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	1.8375	118.40000	71.93750	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	3.6750	118.40000	73.77500	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	5.5125	118.40000	75.61250	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	7.3500	118.40000	77.45000	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	9.1875	118.40000	79.28750	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	11.025	118.40000	81.12500	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	12.862	118.40000	82.96250	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	14.700	118.40000	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
Y	Line 25	118.40000	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	0.88750	119.28750	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	1.7750	120.17500	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	2.6625	121.06250	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	3.5500	121.95000	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	4.4375	122.83750	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	5.3250	123.72500	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	6.2125	124.61250	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	7.1000	125.50000	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
Z	Line 26	125.50000	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	0.90000	125.50000	85.70000	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	1.8000	125.50000	86.60000	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	2.7000	125.50000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	Angle of Line to x Axis
AA	Line 27	125.50000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	0.92000	126.42000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	1.8400	127.34000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	2.7600	128.26000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	3.6800	129.18000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	4.6000	130.10000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	5.5200	131.02000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	6.4400	131.94000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	7.3600	132.86000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	8.2800	133.78000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	9.2000	134.70000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0

Specific Building Damage Results - Horizontal Displacements

Structure: A | Sub-structure:

Dist.	Coordinates x	y	z	Displacements x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	54.60000	64.70000	-1.00000	0.0	0.0	0.0	0.0
0.91429	55.51429	64.70000	-1.00000	0.0	0.0	0.0	0.0
1.8286	56.42857	64.70000	-1.00000	0.0	0.0	0.0	0.0
2.7429	57.34286	64.70000	-1.00000	0.0	0.0	0.0	0.0
3.6571	58.25714	64.70000	-1.00000	0.0	0.0	0.0	0.0
4.5714	59.17143	64.70000	-1.00000	0.0	0.0	0.0	0.0
5.4857	60.08571	64.70000	-1.00000	0.0	0.0	0.0	0.0
6.4000	61.00000	64.70000	-1.00000	0.090038	0.0	0.090038	0.0

Structure: B | Sub-structure:

Dist.	Coordinates x	y	z	Displacements x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	61.00000	64.70000	-1.00000	0.090038	0.0	0.0	-0.090038
0.70000	61.00000	65.40000	-1.00000	0.090038	0.0	0.0	-0.090038
1.4000	61.00000	66.10000	-1.00000	0.090038	0.0	0.0	-0.090038

Structure: C | Sub-structure:

Dist.	Coordinates x	y	z	Displacements x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	61.00000	66.10000	-1.00000	0.090038	0.0	0.090038	0.0
0.95000	61.95000	66.10000	-1.00000	0.25924	0.0	0.25924	0.0
1.9000	62.90000	66.10000	-1.00000	0.43360	0.0	0.43360	0.0
2.8500	63.85000	66.10000	-1.00000	0.61653	0.0	0.61653	0.0
3.8000	64.80000	66.10000	-1.00000	0.81146	0.0	0.81146	0.0

Structure: D | Sub-structure:

Dist.	Coordinates x	y	z	Displacements x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	64.80000	66.10000	-1.00000	0.81146	0.0	0.0	-0.81146
0.90000	64.80000	67.00000	-1.00000	0.81146	0.0	0.0	-0.81146
1.8000	64.80000	67.90000	-1.00000	0.81146	0.0	0.0	-0.81146
2.7000	64.80000	68.80000	-1.00000	0.81146	0.0	0.0	-0.81146
3.6000	64.80000	69.70000	-1.00000	0.81146	0.0	0.0	-0.81146
4.5000	64.80000	70.60000	-1.00000	0.81146	0.0	0.0	-0.81146
5.4000	64.80000	71.50000	-1.00000	0.81146	0.0	0.0	-0.81146
6.3000	64.80000	72.40000	-1.00000	0.81146	0.0	0.0	-0.81146
7.2000	64.80000	73.30000	-1.00000	0.81146	0.0	0.0	-0.81146

Structure: E | Sub-structure:

Dist.	Coordinates x	y	z	Displacements x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	64.80000	73.30000	-1.00000	0.81146	0.0	-0.81146	0.0
1.9125	62.88750	73.30000	-1.00000	0.43126	0.0	-0.43126	0.0
3.8250	60.97500	73.30000	-1.00000	0.085624	0.0	-0.085624	0.0
5.7375	59.06250	73.30000	-1.00000	0.0	0.0	0.0	0.0
7.6500	57.15000	73.30000	-1.00000	0.0	0.0	0.0	0.0
9.5625	55.23750	73.30000	-1.00000	0.0	0.0	0.0	0.0
11.475	53.32500	73.30000	-1.00000	0.0	0.0	0.0	0.0
13.387	51.41250	73.30000	-1.00000	0.0	0.0	0.0	0.0
15.300	49.50000	73.30000	-1.00000	0.0	0.0	0.0	0.0

Structure: F | Sub-structure:

Dist.	Coordinates x	y	z	Displacements x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	49.50000	73.30000	-1.00000	0.0	0.0	0.0	0.0
0.87143	49.50000	72.42857	-1.00000	0.0	0.0	0.0	0.0
1.7429	49.50000	71.55714	-1.00000	0.0	0.0	0.0	0.0
2.6143	49.50000	70.68571	-1.00000	0.0	0.0	0.0	0.0
3.4857	49.50000	69.81429	-1.00000	0.0	0.0	0.0	0.0
4.3571	49.50000	68.94286	-1.00000	0.0	0.0	0.0	0.0
5.2286	49.50000	68.07143	-1.00000	0.0	0.0	0.0	0.0
6.1000	49.50000	67.20000	-1.00000	0.0	0.0	0.0	0.0

Structure: G | Sub-structure:

Dist.	Coordinates x	y	z	Displacements 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	-2.00000	0.0	0.0	0.0	0.0
1.9714	42.77143	55.60000	-2.00000	0.0	0.0	0.0	0.0
3.9429	44.74286	55.60000	-2.00000	0.0	0.0	0.0	0.0
5.9143	46.71429	55.60000	-2.00000	0.0	0.0	0.0	0.0
7.8857	48.68571	55.60000	-2.00000	0.0	0.0	0.0	0.0
9.8571	50.65714	55.60000	-2.00000	0.0	0.0	0.0	0.0
11.829	52.62857	55.60000	-2.00000	0.0	0.0	0.0	0.0
13.800	54.60000	55.60000	-2.00000	0.0	0.0	0.0	0.0

Structure: H | 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	54.60000	55.60000	-2.00000	0.0	0.0	0.0	0.0
1.9333	54.60000	57.53333	-2.00000	0.0	0.0	0.0	0.0
3.8667	54.60000	59.46667	-2.00000	0.0	0.0	0.0	0.0
5.8000	54.60000	61.40000	-2.00000	0.0	0.0	0.0	0.0
7.7333	54.60000	63.33333	-2.00000	0.0	0.0	0.0	0.0
9.6667	54.60000	65.26667	-2.00000	0.0	0.0	0.0	0.0
11.600	54.60000	67.20000	-2.00000	0.0	0.0	0.0	0.0

Structure: I | 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	54.60000	67.20000	-2.00000	0.0	0.0	0.0	0.0
1.9714	52.62857	67.20000	-2.00000	0.0	0.0	0.0	0.0
3.9429	50.65714	67.20000	-2.00000	0.0	0.0	0.0	0.0
5.9143	48.68571	67.20000	-2.00000	0.0	0.0	0.0	0.0
7.8857	46.71429	67.20000	-2.00000	0.0	0.0	0.0	0.0
9.8571	44.74286	67.20000	-2.00000	0.0	0.0	0.0	0.0
11.829	42.77143	67.20000	-2.00000	0.0	0.0	0.0	0.0
13.800	40.80000	67.20000	-2.00000	0.0	0.0	0.0	0.0

Structure: J | 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	67.20000	-2.00000	0.0	0.0	0.0	0.0
1.9333	40.80000	65.26667	-2.00000	0.0	0.0	0.0	0.0
3.8667	40.80000	63.33333	-2.00000	0.0	0.0	0.0	0.0
5.8000	40.80000	61.40000	-2.00000	0.0	0.0	0.0	0.0
7.7333	40.80000	59.46667	-2.00000	0.0	0.0	0.0	0.0
9.6667	40.80000	57.53333	-2.00000	0.0	0.0	0.0	0.0
11.600	40.80000	55.60000	-2.00000	0.0	0.0	0.0	0.0

Structure: K | 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	101.70000	67.70000	-1.00000	-1.2010	0.0	-1.2010		0.0
0.96250	102.66250	67.70000	-1.00000	-0.97323	0.0	-0.97323		0.0
1.9250	103.62500	67.70000	-1.00000	-0.76403	0.0	-0.76403		0.0
2.8875	104.58750	67.70000	-1.00000	-0.56981	0.0	-0.56981		0.0
3.8500	105.55000	67.70000	-1.00000	-0.38702	0.0	-0.38702		0.0
4.8125	106.51250	67.70000	-1.00000	-0.21211	0.0	-0.21211		0.0
5.7750	107.47500	67.70000	-1.00000	-0.041535	0.0	-0.041535		0.0
6.7375	108.43750	67.70000	-1.00000	0.0	0.0	0.0		0.0
7.7000	109.40000	67.70000	-1.00000	0.0	0.0	0.0		0.0

Structure: L | 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	109.40000	67.70000	-1.00000	0.0	0.0	0.0	0.0
1.0000	109.40000	68.70000	-1.00000	0.0	0.0	0.0	0.0
2.0000	109.40000	69.70000	-1.00000	0.0	0.0	0.0	0.0

Structure: M | 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	109.40000	69.70000	-1.00000	0.0	0.0	0.0	0.0
0.91250	110.31250	69.70000	-1.00000	0.0	0.0	0.0	0.0
1.8250	111.22500	69.70000	-1.00000	0.0	0.0	0.0	0.0
2.7375	112.13750	69.70000	-1.00000	0.0	0.0	0.0	0.0
3.6500	113.05000	69.70000	-1.00000	0.0	0.0	0.0	0.0
4.5625	113.96250	69.70000	-1.00000	0.0	0.0	0.0	0.0
5.4750	114.87500	69.70000	-1.00000	0.0	0.0	0.0	0.0
6.3875	115.78750	69.70000	-1.00000	0.0	0.0	0.0	0.0
7.3000	116.70000	69.70000	-1.00000	0.0	0.0	0.0	0.0

Structure: N | 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	116.70000	69.70000	-1.00000	0.0	0.0	0.0	0.0
1.8002	116.72857	71.50000	-1.00000	0.0	0.0	0.0	0.0
3.6005	116.75714	73.30000	-1.00000	0.0	0.0	0.0	0.0
5.4007	116.78571	75.10000	-1.00000	0.0	0.0	0.0	0.0
7.2009	116.81429	76.90000	-1.00000	0.0	0.0	0.0	0.0
9.0011	116.84286	78.70000	-1.00000	0.0	0.0	0.0	0.0
10.801	116.87143	80.50000	-1.00000	0.0	0.0	0.0	0.0
12.602	116.90000	82.30000	-1.00000	0.0	0.0	0.0	0.0

Structure: O | 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	116.90000	82.30000	-1.00000	0.0	0.0	0.0		0.0
1.9000	115.00000	82.30000	-1.00000	0.0	0.0	0.0		0.0
3.8000	113.10000	82.30000	-1.00000	0.0	0.0	0.0		0.0
5.7000	111.20000	82.30000	-1.00000	0.0	0.0	0.0		0.0
7.6000	109.30000	82.30000	-1.00000	0.0	0.0	0.0		0.0
9.5000	107.40000	82.30000	-1.00000	0.0	0.0	0.0		0.0
11.400	105.50000	82.30000	-1.00000	-0.19743	-0.090658	0.19743		0.090658
13.300	103.60000	82.30000	-1.00000	-0.46069	-0.26242	0.46069		0.26242
15.200	101.70000	82.30000	-1.00000	-0.68348	-0.51261	0.68348		0.51261

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]

Structure: P | 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	101.70000	82.30000	-1.00000	-0.68348	-0.51261	0.50320	-0.69043
1.8252	101.72500	80.47500	-1.00000	-0.96741	-0.42951	0.41622	-0.97320
3.6503	101.75000	78.65000	-1.00000	-1.1626	-0.16334	0.14740	-1.1647
5.4755	101.77500	76.82500	-1.00000	-1.1825	0.0	-0.016197	-1.1824
7.3007	101.80000	75.00000	-1.00000	-1.1763	0.0	-0.016113	-1.1762
9.1259	101.82500	73.17500	-1.00000	-1.1702	0.0	-0.016029	-1.1701
10.951	101.85000	71.35000	-1.00000	-1.1641	0.0	-0.015945	-1.1640
12.776	101.87500	69.52500	-1.00000	-1.1580	0.0	-0.015862	-1.1579
14.601	101.90000	67.70000	-1.00000	-1.1519	0.0	-0.015779	-1.1518

Structure: Q | 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	103.20000	67.70000	-1.00000	-0.85435	0.0	0.0	-0.85435
0.88000	103.20000	66.82000	-1.00000	-0.85435	0.0	0.0	-0.85435
1.7600	103.20000	65.94000	-1.00000	-0.85435	0.0	0.0	-0.85435
2.6400	103.20000	65.06000	-1.00000	-0.85435	0.0	0.0	-0.85435
3.5200	103.20000	64.18000	-1.00000	-0.85435	0.0	0.0	-0.85435
4.4000	103.20000	63.30000	-1.00000	-0.85435	0.0	0.0	-0.85435

Structure: R | 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	103.20000	63.30000	-1.00000	-0.85435	0.0	0.85435	0.0
0.91429	102.28571	63.30000	-1.00000	-1.0600	0.0	1.0600	0.0
1.8286	101.37143	63.30000	-1.00000	-1.2836	0.0	1.2836	0.0
2.7429	100.45714	63.30000	-1.00000	-1.5282	0.0	1.5282	0.0
3.6571	99.54286	63.30000	-1.00000	-1.7969	0.0	1.7969	0.0
4.5714	98.62857	63.30000	-1.00000	-2.0927	0.0	2.0927	0.0
5.4857	97.71429	63.30000	-1.00000	-2.4187	0.0	2.4187	0.0
6.4000	96.80000	63.30000	-1.00000	-2.7779	0.0	2.7779	0.0

Structure: S | 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	96.80000	63.30000	-1.00000	-2.7779	0.0	0.075050	2.7769
1.8507	96.75000	65.15000	-1.00000	-2.7985	0.0	0.075608	2.7975
3.7014	96.70000	67.00000	-1.00000	-2.8193	0.0	0.076169	2.8183
5.5520	96.65000	68.85000	-1.00000	-2.8402	0.0	0.076734	2.8391
7.4027	96.60000	70.70000	-1.00000	-2.8612	0.0	0.077301	2.8601
9.2534	96.55000	72.55000	-1.00000	-2.8823	0.0	0.077871	2.8812
11.104	96.50000	74.40000	-1.00000	-2.9035	0.0	0.078444	2.9024
12.955	96.45000	76.25000	-1.00000	-2.9248	0.0	0.079020	2.9237
14.805	96.40000	78.10000	-1.00000	-2.6838	-1.1502	-1.0773	2.7139
16.656	96.35000	79.95000	-1.00000	-0.67515	-2.2332	-2.2141	0.73524
18.507	96.30000	81.80000	-1.00000	-0.25742	-1.7162	-1.7086	0.30370

Structure: T | 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	96.30000	81.80000	-1.00000	-0.25742	-1.7162	-0.25742	-1.7162
0.90000	97.20000	81.80000	-1.00000	-0.58554	-1.5614	-0.58554	-1.5614
1.8000	98.10000	81.80000	-1.00000	-0.79964	-1.3327	-0.79964	-1.3327
2.7000	99.00000	81.80000	-1.00000	-0.89780	-1.0882	-0.89780	-1.0882
3.6000	99.90000	81.80000	-1.00000	-0.90585	-0.86272	-0.90585	-0.86272
4.5000	100.80000	81.80000	-1.00000	-0.85334	-0.66929	-0.85334	-0.66929
5.4000	101.70000	81.80000	-1.00000	-0.76346	-0.50897	-0.76346	-0.50897

Structure: U | 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	134.70000	67.60000	-3.00000	0.0	0.0	0.0	0.0
1.7000	133.00000	67.60000	-3.00000	0.0	0.0	0.0	0.0
3.4000	131.30000	67.60000	-3.00000	0.0	0.0	0.0	0.0
5.1000	129.60000	67.60000	-3.00000	0.0	0.0	0.0	0.0
6.8000	127.90000	67.60000	-3.00000	0.0	0.0	0.0	0.0
8.5000	126.20000	67.60000	-3.00000	0.0	0.0	0.0	0.0
10.200	124.50000	67.60000	-3.00000	0.0	0.0	0.0	0.0

Structure: V | 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	124.50000	67.60000	-3.00000	0.0	0.0	0.0	0.0
0.83333	124.50000	68.43333	-3.00000	0.0	0.0	0.0	0.0
1.6667	124.50000	69.26667	-3.00000	0.0	0.0	0.0	0.0
2.5000	124.50000	70.10000	-3.00000	0.0	0.0	0.0	0.0

Structure: W | 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	124.50000	70.10000	-3.00000	0.0	0.0	0.0	0.0
0.87143	123.62857	70.10000	-3.00000	0.0	0.0	0.0	0.0
1.7429	122.75714	70.10000	-3.00000	0.0	0.0	0.0	0.0
2.6143	121.88571	70.10000	-3.00000	0.0	0.0	0.0	0.0
3.4857	121.01429	70.10000	-3.00000	0.0	0.0	0.0	0.0
4.3571	120.14286	70.10000	-3.00000	0.0	0.0	0.0	0.0
5.2286	119.27143	70.10000	-3.00000	0.0	0.0	0.0	0.0
6.1000	118.40000	70.10000	-3.00000	0.0	0.0	0.0	0.0

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

Structure: X | 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	118.40000	70.10000	-3.00000	0.0	0.0	0.0	0.0
1.8375	118.40000	71.93750	-3.00000	0.0	0.0	0.0	0.0
3.6750	118.40000	73.77500	-3.00000	0.0	0.0	0.0	0.0
5.5125	118.40000	75.61250	-3.00000	0.0	0.0	0.0	0.0
7.3500	118.40000	77.45000	-3.00000	0.0	0.0	0.0	0.0
9.1875	118.40000	79.28750	-3.00000	0.0	0.0	0.0	0.0
11.025	118.40000	81.12500	-3.00000	0.0	0.0	0.0	0.0
12.862	118.40000	82.96250	-3.00000	0.0	0.0	0.0	0.0
14.700	118.40000	84.80000	-3.00000	0.0	0.0	0.0	0.0

Structure: Y | 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	118.40000	84.80000	-3.00000	0.0	0.0	0.0	0.0
0.88750	119.28750	84.80000	-3.00000	0.0	0.0	0.0	0.0
1.7750	120.17500	84.80000	-3.00000	0.0	0.0	0.0	0.0
2.6625	121.06250	84.80000	-3.00000	0.0	0.0	0.0	0.0
3.5500	121.95000	84.80000	-3.00000	0.0	0.0	0.0	0.0
4.4375	122.83750	84.80000	-3.00000	0.0	0.0	0.0	0.0
5.3250	123.72500	84.80000	-3.00000	0.0	0.0	0.0	0.0
6.2125	124.61250	84.80000	-3.00000	0.0	0.0	0.0	0.0
7.1000	125.50000	84.80000	-3.00000	0.0	0.0	0.0	0.0

Structure: Z | 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	125.50000	84.80000	-3.00000	0.0	0.0	0.0	0.0
0.90000	125.50000	85.70000	-3.00000	0.0	0.0	0.0	0.0
1.8000	125.50000	86.60000	-3.00000	0.0	0.0	0.0	0.0
2.7000	125.50000	87.50000	-3.00000	0.0	0.0	0.0	0.0

Structure: AA | 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	125.50000	87.50000	-3.00000	0.0	0.0	0.0	0.0
0.92000	126.42000	87.50000	-3.00000	0.0	0.0	0.0	0.0
1.8400	127.34000	87.50000	-3.00000	0.0	0.0	0.0	0.0
2.7600	128.26000	87.50000	-3.00000	0.0	0.0	0.0	0.0
3.6800	129.18000	87.50000	-3.00000	0.0	0.0	0.0	0.0
4.6000	130.10000	87.50000	-3.00000	0.0	0.0	0.0	0.0
5.5200	131.02000	87.50000	-3.00000	0.0	0.0	0.0	0.0
6.4400	131.94000	87.50000	-3.00000	0.0	0.0	0.0	0.0
7.3600	132.86000	87.50000	-3.00000	0.0	0.0	0.0	0.0
8.2800	133.78000	87.50000	-3.00000	0.0	0.0	0.0	0.0
9.2000	134.70000	87.50000	-3.00000	0.0	0.0	0.0	0.0

Specific Building Damage Results - Vertical Displacements

Structure: A | Sub-structure:

Dist. [m]	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]
Vertical Offset 1				
0.0	54.60000	64.70000	-1.00000	0.0
0.91429	55.51429	64.70000	-1.00000	0.0
1.8286	56.42857	64.70000	-1.00000	0.0
2.7429	57.34286	64.70000	-1.00000	0.16857
3.6571	58.25714	64.70000	-1.00000	0.35143
4.5714	59.17143	64.70000	-1.00000	0.53429
5.4857	60.08571	64.70000	-1.00000	0.71714
6.4000	61.00000	64.70000	-1.00000	0.90000

Structure: B | Sub-structure:

Dist. [m]	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]
Vertical Offset 1				
0.0	61.00000	64.70000	-1.00000	0.90000
0.70000	61.00000	65.40000	-1.00000	0.90000
1.4000	61.00000	66.10000	-1.00000	0.90000

Structure: C | Sub-structure:

Dist. [m]	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]
Vertical Offset 1				
0.0	61.00000	66.10000	-1.00000	0.90000
0.95000	61.95000	66.10000	-1.00000	1.0900
1.9000	62.90000	66.10000	-1.00000	1.2800
2.8500	63.85000	66.10000	-1.00000	1.4700
3.8000	64.80000	66.10000	-1.00000	1.6600

Structure: D | Sub-structure:

Dist. [m]	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]
Vertical Offset 1				
0.0	64.80000	66.10000	-1.00000	1.6600
0.90000	64.80000	67.00000	-1.00000	1.6600
1.8000	64.80000	67.90000	-1.00000	1.6600
2.7000	64.80000	68.80000	-1.00000	1.6600
3.6000	64.80000	69.70000	-1.00000	1.6600
4.5000	64.80000	70.60000	-1.00000	1.6600
5.4000	64.80000	71.50000	-1.00000	1.6600
6.3000	64.80000	72.40000	-1.00000	1.6600
7.2000	64.80000	73.30000	-1.00000	1.6600

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

Structure: E | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	64.80000	73.30000	-1.00000	1.6600
1.9125	62.88750	73.30000	-1.00000	1.2775
3.8250	60.97500	73.30000	-1.00000	0.89500
5.7375	59.06250	73.30000	-1.00000	0.51250
7.6500	57.15000	73.30000	-1.00000	0.13000
9.5625	55.23750	73.30000	-1.00000	0.0
11.475	53.32500	73.30000	-1.00000	0.0
13.387	51.41250	73.30000	-1.00000	0.0
15.300	49.50000	73.30000	-1.00000	0.0

Structure: F | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	49.50000	73.30000	-1.00000	0.0
0.87143	49.50000	72.42857	-1.00000	0.0
1.7429	49.50000	71.55714	-1.00000	0.0
2.6143	49.50000	70.68571	-1.00000	0.0
3.4857	49.50000	69.81429	-1.00000	0.0
4.3571	49.50000	68.94286	-1.00000	0.0
5.2286	49.50000	68.07143	-1.00000	0.0
6.1000	49.50000	67.20000	-1.00000	0.0

Structure: G | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	40.80000	55.60000	-2.00000	0.0
1.9714	42.77143	55.60000	-2.00000	0.0
3.9429	44.74286	55.60000	-2.00000	0.0
5.9143	46.71429	55.60000	-2.00000	0.0
7.8857	48.68571	55.60000	-2.00000	0.0
9.8571	50.65714	55.60000	-2.00000	0.0
11.829	52.62857	55.60000	-2.00000	0.0
13.800	54.60000	55.60000	-2.00000	0.0

Structure: H | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	54.60000	55.60000	-2.00000	0.0
1.9333	54.60000	57.53333	-2.00000	0.0
3.8667	54.60000	59.46667	-2.00000	0.0
5.8000	54.60000	61.40000	-2.00000	0.0
7.7333	54.60000	63.33333	-2.00000	0.0
9.6667	54.60000	65.26667	-2.00000	0.0
11.600	54.60000	67.20000	-2.00000	0.0

Structure: I | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	54.60000	67.20000	-2.00000	0.0
1.9714	52.62857	67.20000	-2.00000	0.0
3.9429	50.65714	67.20000	-2.00000	0.0
5.9143	48.68571	67.20000	-2.00000	0.0
7.8857	46.71429	67.20000	-2.00000	0.0
9.8571	44.74286	67.20000	-2.00000	0.0
11.829	42.77143	67.20000	-2.00000	0.0
13.800	40.80000	67.20000	-2.00000	0.0

Structure: J | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	40.80000	67.20000	-2.00000	0.0
1.9333	40.80000	65.26667	-2.00000	0.0
3.8667	40.80000	63.33333	-2.00000	0.0
5.8000	40.80000	61.40000	-2.00000	0.0
7.7333	40.80000	59.46667	-2.00000	0.0
9.6667	40.80000	57.53333	-2.00000	0.0
11.600	40.80000	55.60000	-2.00000	0.0

Structure: K | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	101.70000	67.70000	-1.00000	2.0000
0.96250	102.66250	67.70000	-1.00000	1.8075
1.9250	103.62500	67.70000	-1.00000	1.6150
2.8875	104.58750	67.70000	-1.00000	1.4225
3.8500	105.55000	67.70000	-1.00000	1.2300
4.8125	106.51250	67.70000	-1.00000	1.0375
5.7750	107.47500	67.70000	-1.00000	0.84500
6.7375	108.43750	67.70000	-1.00000	0.65250
7.7000	109.40000	67.70000	-1.00000	0.46000

Structure: L | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	109.40000	67.70000	-1.00000	0.46000
1.0000	109.40000	68.70000	-1.00000	0.46000
2.0000	109.40000	69.70000	-1.00000	0.46000

Structure: M | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	109.40000	69.70000	-1.00000	0.46000

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
0.91250	110.31250	69.70000	-1.00000	0.27750
1.8250	111.22500	69.70000	-1.00000	0.095000
2.7375	112.13750	69.70000	-1.00000	0.0
3.6500	113.05000	69.70000	-1.00000	0.0
4.5625	113.96250	69.70000	-1.00000	0.0
5.4750	114.87500	69.70000	-1.00000	0.0
6.3875	115.78750	69.70000	-1.00000	0.0
7.3000	116.70000	69.70000	-1.00000	0.0

Structure: N | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	116.70000	69.70000	-1.00000	0.0
1.8002	116.72857	71.50000	-1.00000	0.0
3.6005	116.75714	73.30000	-1.00000	0.0
5.4007	116.78571	75.10000	-1.00000	0.0
7.2009	116.81429	76.90000	-1.00000	0.0
9.0011	116.84286	78.70000	-1.00000	0.0
10.801	116.87143	80.50000	-1.00000	0.0
12.602	116.90000	82.30000	-1.00000	0.0

Structure: O | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	116.90000	82.30000	-1.00000	0.0
1.9000	115.00000	82.30000	-1.00000	0.0
3.8000	113.10000	82.30000	-1.00000	0.0
5.7000	111.20000	82.30000	-1.00000	0.0
7.6000	109.30000	82.30000	-1.00000	0.33497
9.5000	107.40000	82.30000	-1.00000	0.69289
11.400	105.50000	82.30000	-1.00000	1.0432
13.300	103.60000	82.30000	-1.00000	1.3816
15.200	101.70000	82.30000	-1.00000	1.7000

Structure: P | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	101.70000	82.30000	-1.00000	1.7000
1.8252	101.72500	80.47500	-1.00000	1.8816
3.6503	101.75000	78.65000	-1.00000	1.9781
5.4755	101.77500	76.82500	-1.00000	1.9850
7.3007	101.80000	75.00000	-1.00000	1.9800
9.1259	101.82500	73.17500	-1.00000	1.9750
10.951	101.85000	71.35000	-1.00000	1.9700
12.776	101.87500	69.52500	-1.00000	1.9650
14.601	101.90000	67.70000	-1.00000	1.9600

Structure: Q | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	103.20000	67.70000	-1.00000	1.7000
0.88000	103.20000	66.82000	-1.00000	1.7000
1.7600	103.20000	65.94000	-1.00000	1.7000
2.6400	103.20000	65.06000	-1.00000	1.7000
3.5200	103.20000	64.18000	-1.00000	1.7000
4.4000	103.20000	63.30000	-1.00000	1.7000

Structure: R | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	103.20000	63.30000	-1.00000	1.7000
0.91429	102.28571	63.30000	-1.00000	1.8829
1.8286	101.37143	63.30000	-1.00000	2.0657
2.7429	100.45714	63.30000	-1.00000	2.2486
3.6571	99.54286	63.30000	-1.00000	2.4314
4.5714	98.62857	63.30000	-1.00000	2.6143
5.4857	97.71429	63.30000	-1.00000	2.7971
6.4000	96.80000	63.30000	-1.00000	2.9800

Structure: S | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	96.80000	63.30000	-1.00000	2.9800
1.8507	96.75000	65.15000	-1.00000	2.9900
3.7014	96.70000	67.00000	-1.00000	3.0000
5.5520	96.65000	68.85000	-1.00000	3.0100
7.4027	96.60000	70.70000	-1.00000	3.0200
9.2534	96.55000	72.55000	-1.00000	3.0300
11.104	96.50000	74.40000	-1.00000	3.0400
12.955	96.45000	76.25000	-1.00000	3.0500
14.805	96.40000	78.10000	-1.00000	3.0477
16.656	96.35000	79.95000	-1.00000	2.7508
18.507	96.30000	81.80000	-1.00000	2.3911

Structure: T | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	96.30000	81.80000	-1.00000	2.3911
0.90000	97.20000	81.80000	-1.00000	2.3456
1.8000	98.10000	81.80000	-1.00000	2.2670
2.7000	99.00000	81.80000	-1.00000	2.1629
3.6000	99.90000	81.80000	-1.00000	2.0400
4.5000	100.80000	81.80000	-1.00000	1.9037
5.4000	101.70000	81.80000	-1.00000	1.7578

Structure: U | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	134.70000	67.60000	-3.00000	0.0

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
1.7000	133.00000	67.60000	-3.00000	0.0
3.4000	131.30000	67.60000	-3.00000	0.0
5.1000	129.60000	67.60000	-3.00000	0.0
6.8000	127.90000	67.60000	-3.00000	0.0
8.5000	126.20000	67.60000	-3.00000	0.0
10.200	124.50000	67.60000	-3.00000	0.0

Structure: V | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	124.50000	67.60000	-3.00000	0.0
0.83333	124.50000	68.43333	-3.00000	0.0
1.6667	124.50000	69.26667	-3.00000	0.0
2.5000	124.50000	70.10000	-3.00000	0.0

Structure: W | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	124.50000	70.10000	-3.00000	0.0
0.87143	123.62857	70.10000	-3.00000	0.0
1.7429	122.75714	70.10000	-3.00000	0.0
2.6143	121.88571	70.10000	-3.00000	0.0
3.4857	121.01429	70.10000	-3.00000	0.0
4.3571	120.14286	70.10000	-3.00000	0.0
5.2286	119.27143	70.10000	-3.00000	0.0
6.1000	118.40000	70.10000	-3.00000	0.0

Structure: X | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	118.40000	70.10000	-3.00000	0.0
1.8375	118.40000	71.93750	-3.00000	0.0
3.6750	118.40000	73.77500	-3.00000	0.0
5.5125	118.40000	75.61250	-3.00000	0.0
7.3500	118.40000	77.45000	-3.00000	0.0
9.1875	118.40000	79.28750	-3.00000	0.0
11.025	118.40000	81.12500	-3.00000	0.0
12.862	118.40000	82.96250	-3.00000	0.0
14.700	118.40000	84.80000	-3.00000	0.0

Structure: Y | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	118.40000	84.80000	-3.00000	0.0
0.88750	119.28750	84.80000	-3.00000	0.0
1.7750	120.17500	84.80000	-3.00000	0.0
2.6625	121.06250	84.80000	-3.00000	0.0
3.5500	121.95000	84.80000	-3.00000	0.0
4.4375	122.83750	84.80000	-3.00000	0.0
5.3250	123.72500	84.80000	-3.00000	0.0
6.2125	124.61250	84.80000	-3.00000	0.0
7.1000	125.50000	84.80000	-3.00000	0.0

Structure: Z | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	125.50000	84.80000	-3.00000	0.0
0.90000	125.50000	85.70000	-3.00000	0.0
1.8000	125.50000	86.60000	-3.00000	0.0
2.7000	125.50000	87.50000	-3.00000	0.0

Structure: AA | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	125.50000	87.50000	-3.00000	0.0
0.92000	126.42000	87.50000	-3.00000	0.0
1.8400	127.34000	87.50000	-3.00000	0.0
2.7600	128.26000	87.50000	-3.00000	0.0
3.6800	129.18000	87.50000	-3.00000	0.0
4.6000	130.10000	87.50000	-3.00000	0.0
5.5200	131.02000	87.50000	-3.00000	0.0
6.4400	131.94000	87.50000	-3.00000	0.0
7.3600	132.86000	87.50000	-3.00000	0.0
8.2800	133.78000	87.50000	-3.00000	0.0
9.2000	134.70000	87.50000	-3.00000	0.0

Specific Building Damage Results - All Segments

Structure: A | Sub-structure:

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	2.7429	1.8274	Hogging	0.0	0.0	0.0	0.0	-200.00E-6	16961.	0 (Negligible)
	2	4.5703	1.8287	Sagging	0.0	0.0049181	0.0049183	-98.469E-6	-200.00E-6	37.109E+6	0 (Negligible)

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

Structure: B | Sub-structure:

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	1.3990	Hogging	0.0	0.0	0.0	0.0	0.0 -		0 (Negligible)

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

Structure: C | Sub-structure:

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	3.7990	Sagging	0.0	0.018984	0.018984	-205.14E-6	-199.96E-6	352.65E+6	0 (Negligible)

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

Structure: D | Sub-structure:

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	1.3500	None	0.0	0.0	0.0	0.0	0.0	2.1346E+18	0 (Negligible)
	2	1.3500	1.3500	Sagging	0.0	0.0	0.0	0.0	0.0	14.942E+18	0 (Negligible)
	3	2.7000	0.0	None	0.0	0.0	0.0	0.0	0.0	-	0 (Negligible)
	4	2.7000	1.3500	Sagging	0.0	0.0	0.0	0.0	0.0	14.942E+18	0 (Negligible)
	5	4.0500	1.4995	Sagging	0.0	0.0	0.0	0.0	0.0	14.942E+18	0 (Negligible)
	6	5.5495	1.6495	Sagging	0.0	0.0	0.0	0.0	0.0	1.3572E+18	0 (Negligible)

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

Structure: E | Sub-structure:

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	0.36970	None	0.0	0.019880	0.019880	-198.76E-6	199.96E-6	839.83E+6	0 (Negligible)
	2	0.36970	3.4563	Sagging	0.0	0.018875	0.018875	-198.76E-6	199.99E-6	115.18E+6	0 (Negligible)
	3	3.8260	3.8240	Sagging	0.0	0.0022380	0.0022381	-44.769E-6	200.00E-6	23041.	0 (Negligible)

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

Structure: F | Sub-structure:

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: G | Sub-structure:

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: H | Sub-structure:

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: I | Sub-structure:

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: J | Sub-structure:

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: K | Sub-structure:

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	7.6990	Sagging	0.0	0.015599	0.015600	-236.55E-6	200.00E-6	61.574E+6	0 (Negligible)

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

Structure: L | Sub-structure:

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	1.9990	None	0.0	0.0	0.0	0.0	0.0	-	0 (Negligible)

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
		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	0.45625	None	0.0	0.0	0.0	0.0	200.00E-6	38064.	0 (Negligible)
	2	0.45625	0.45625	Hogging	0.0	0.0	0.0	0.0	200.00E-6	38064.	0 (Negligible)

Structure: M | Sub-structure:

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

Structure: N | 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: O | 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	7.6000	1.8788	None	0.0	0.0	0.0	0.0	-188.38E-6	38685.	0 (Negligible)
	2	9.4788	5.7202	Sagging	304.45E-6	0.011946	0.012174	-138.54E-6	-188.38E-6	163570.	0 (Negligible)

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

Structure: P | 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	9.1259	Sagging	0.0018317	-0.0056896	0.0014762	147.31E-6	-99.487E-6	38690.	0 (Negligible)
	2	9.1259	0.0	None	0.0	0.0	0.0	0.0	2.7395E-6	-	0 (Negligible)
	3	9.1259	4.7075	Sagging	0.0	4.5730E-6	4.5419E-6	0.0	2.7395E-6	14.977E+12	0 (Negligible)
	4	13.833	0.76698	Sagging	0.0	4.5604E-6	4.5419E-6	0.0	2.7395E-6	20.615E+12	0 (Negligible)

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

Structure: Q | 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	1.3200	Sagging	0.0	0.0	0.0	0.0	0.0	2.0407E+18	0 (Negligible)
	2	1.3200	3.0790	Sagging	0.0	0.0	0.0	0.0	0.0	1.1895E+18	0 (Negligible)

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

Structure: R | 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	6.3990	Sagging	0.0	0.030054	0.030054	-392.69E-6	-199.96E-6	122.89E+6	0 (Negligible)

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

Structure: S | 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	3.7014	Sagging	0.0	30.239E-6	30.220E-6	0.0	-5.4034E-6	8.0445E+12	0 (Negligible)
	2	3.7014	0.0	None	0.0	0.0	0.0	0.0	-5.4034E-6	-	0 (Negligible)
	3	3.7014	5.5520	Sagging	0.0	30.639E-6	30.649E-6	0.0	-5.4034E-6	8.1394E+12	0 (Negligible)
	4	9.2534	0.0	None	0.0	0.0	0.0	0.0	-5.4034E-6	-	0 (Negligible)
	5	9.2534	9.2524	Sagging	0.0043068	-0.019311	0.0040036	625.18E-6	194.32E-6	20779.	0 (Negligible)

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	1	0.0	5.3990	Sagging	0.0016368	-0.0093746	0.0019845	364.70E-6	162.12E-6	23149.	0 (Negligible)

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	Segment	Start	Length	Curvature	Deflection	Average	Max.	Maximum	Maximum	Min.	Damage

from Line for Vertical Movement Calculations [m]	Ratio [m]	Horizontal Strain [m]	Tensile Strain [%]	Gradient of Horizontal Displacement Curve [%]	Gradient of Vertical Displacement Curve [%]	Radius of Curvature [m]	Category
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 [m]	Segment	Start Length [m]	Curvature [m]	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: X | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start Length [m]	Curvature [m]	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: Y | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start Length [m]	Curvature [m]	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: Z | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start Length [m]	Curvature [m]	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: AA | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start Length [m]	Curvature [m]	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.

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 [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Maximum Slope	Maximum Settlement [mm]	Max. Tensile Strain [%]	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging) [m]	Min. Radius of Curvature (Sagging) [m]	Damage Category
0.0	0.0	0.0049181	-200.00E-6	0.89980	0.0049183	-98.469E-6	-200.00E-6	16961.	37.109E+6	0 (Negligible)

Structure: B | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Maximum Slope	Maximum Settlement [mm]	Max. Tensile Strain [%]	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging) [m]	Min. Radius of Curvature (Sagging) [m]	Damage Category
0.0	0.0	0.0	0.0	0.90000	0.0	0.0	0.0	-	-	0 (Negligible)

Structure: C | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Maximum Slope	Maximum Settlement [mm]	Max. Tensile Strain [%]	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging) [m]	Min. Radius of Curvature (Sagging) [m]	Damage Category
0.0	0.0	0.018984	-199.96E-6	1.6598	0.018984	-205.14E-6	-199.96E-6	-	352.65E+6	0 (Negligible)

Structure: D | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Maximum Slope	Maximum Settlement [mm]	Max. Tensile Strain [%]	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging) [m]	Min. Radius of Curvature (Sagging) [m]	Damage Category
0.0	0.0	0.0	0.0	1.6600	0.0	0.0	0.0	-	1.3572E+18	0 (Negligible)

Structure: E | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Maximum Slope	Maximum Settlement [mm]	Max. Tensile Strain [%]	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging) [m]	Min. Radius of Curvature (Sagging) [m]	Damage Category
0.0	0.0	0.019880	200.00E-6	1.6600	0.019880	-198.76E-6	200.00E-6	-	23041.	0 (Negligible)

Structure: F | Sub-structure:

Vertical Offset from	Deflection Ratio	Average Horizontal	Maximum Slope	Maximum Settlement	Max. Tensile	Maximum Gradient of	Maximum Gradient of	Min. Radius of	Min. Radius of	Damage Category

Line for Vertical Movement Calculations	Strain		Strain	Horizontal Displacement Curve	Vertical Displacement Curve	Curvature (Hogging)	Curvature (Sagging)
[m]	[%]	[%]	[mm]	[%]		[m]	[m]

Structure: G | 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: H | 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: I | 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: J | 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: K | 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	0.015599	200.00E-6	2.0000	0.015600	-236.55E-6	200.00E-6	-	61.574E+6	0 (Negligible)

Structure: L | 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	0.0	0.0	0.46000	0.0	0.0	0.0	-		0 (Negligible)

Structure: M | 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	0.0	200.00E-6	0.46000	0.0	0.0	200.00E-6	38064.	-	0 (Negligible)

Structure: N | 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: O | 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	304.45E-6	0.011946	-188.38E-6	1.6998	0.012174	-138.54E-6	-188.38E-6	-	163570.	0 (Negligible)

Structure: P | 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	0.0018317	-0.0056896	-99.487E-6	1.9849	0.0014762	147.31E-6	-99.487E-6	-	38690.	0 (Negligible)

Structure: Q | 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	0.0	0.0	1.7000	0.0	0.0	0.0	-	1.1895E+18	0 (Negligible)

Structure: R | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Maximum Slope [%]	Maximum Settlement [mm]	Max. Tensile Strain [%]	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging) [m]	Min. Radius of Curvature (Sagging) [m]	Damage Category
0.0	0.0	0.030054	-199.96E-6	2.9798	0.030054	-392.69E-6	-199.96E-6	-	122.89E+6	0 (Negligible)

Structure: S | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Maximum Slope [%]	Maximum Settlement [mm]	Max. Tensile Strain [%]	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging) [m]	Min. Radius of Curvature (Sagging) [m]	Damage Category
0.0	0.0043068	-0.019311	194.32E-6	3.0500	0.0040036	625.18E-6	194.32E-6	-	20779.	0 (Negligible)

Structure: T | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Maximum Slope [%]	Maximum Settlement [mm]	Max. Tensile Strain [%]	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging) [m]	Min. Radius of Curvature (Sagging) [m]	Damage Category
0.0	0.0016368	-0.0093746	162.12E-6	2.3911	0.0019845	364.70E-6	162.12E-6	-	23149.	0 (Negligible)

Structure: U | Sub-structure:

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

Structure: V | Sub-structure:

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

Structure: W | Sub-structure:

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

Structure: X | Sub-structure:

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

Structure: Y | Sub-structure:

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

Structure: Z | Sub-structure:

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

Structure: AA | Sub-structure:

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

Specific Building Damage Results - Critical Segments within Each Structure

Structure Name	Parameter	Critical Sub-Structure	Critical Segment	Start [m]	End [m]	Curvature	Maximum Slope [%]	Maximum Settlement [mm]	Max. Tensile Strain [%]	Min. Radius of Curvature (Hogging) [m]	Min. Radius of Curvature (Sagging) [m]	Damage Category
A	Maximum Slope		1	2.7429	4.5703	Hogging	**200.00E-6**	0.53406	0.0	16961.	-	0 (Negligible)
	Maximum Settlement		2	4.5703	6.3990	Sagging	200.00E-6	**0.89980**	0.0049183	-	37.109E+6	0 (Negligible)
	Max. Tensile Strain		2	4.5703	6.3990	Sagging	200.00E-6	0.89980	**0.0049183**	-	37.109E+6	0 (Negligible)
	Min. Radius of Curvature (Hogging)		1	2.7429	4.5703	Hogging	200.00E-6	0.53406	0.0	**16961.**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)		2	4.5703	6.3990	Sagging	200.00E-6	0.89980	0.0049183	-	**37.109E+6**	0 (Negligible)
B	Maximum Slope		-	-	-	-	-	-	-	-	-	- -
	Maximum Settlement		1	0.0	1.3990	Hogging	0.0	**0.90000**	0.0	-	-	0 (Negligible)
	Max. Tensile Strain		1	0.0	1.3990	Hogging	0.0	0.90000	**0.0**	-	-	0 (Negligible)
	Min. Radius of Curvature		-	-	-	-	-	-	-	-	-	- -

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
	(Hogging)											
	Min. Radius of Curvature (Sagging)	-	-	-	-		-	-	-	-	- -	
C	Maximum Slope		1	0.0	3.7990	Sagging	**199.96E-6**	1.6598	0.018984	-	352.65E+6	0 (Negligible)
	Maximum Settlement		1	0.0	3.7990	Sagging	199.96E-6	**1.6598**	0.018984	-	352.65E+6	0 (Negligible)
	Max. Tensile Strain		1	0.0	3.7990	Sagging	199.96E-6	1.6598	**0.018984**	-	352.65E+6	0 (Negligible)
	Min. Radius of Curvature (Hogging)	-	-	-	-		-	-	-	-	- -	
	Min. Radius of Curvature (Sagging)		1	0.0	3.7990	Sagging	199.96E-6	1.6598	0.018984	-	**352.65E+6**	0 (Negligible)
D	Maximum Slope		6	5.5495	7.1990	Sagging	**0.0**	1.6600	0.0	-	1.3572E+18	0 (Negligible)
	Maximum Settlement		2	1.3500	2.7000	Sagging	0.0	**1.6600**	0.0	-	14.942E+18	0 (Negligible)
	Max. Tensile Strain		1	0.0	1.3500	Sagging	0.0	1.6600	**0.0**	-	2.1346E+18	0 (Negligible)
	Min. Radius of Curvature (Hogging)	-	-	-	-		-	-	-	-	- -	
	Min. Radius of Curvature (Sagging)		6	5.5495	7.1990	Sagging	0.0	1.6600	0.0	-	**1.3572E+18**	0 (Negligible)
E	Maximum Slope		3	3.8260	7.6500	Sagging	**200.00E-6**	0.89481	0.0022381	-	23041.	0 (Negligible)
	Maximum Settlement		1	0.0	0.36970	Sagging	199.96E-6	**1.6600**	0.019880	-	839.83E+6	0 (Negligible)
	Max. Tensile Strain		1	0.0	0.36970	Sagging	199.96E-6	1.6600	**0.019880**	-	839.83E+6	0 (Negligible)
	Min. Radius of Curvature (Hogging)	-	-	-	-		-	-	-	-	- -	
	Min. Radius of Curvature (Sagging)		3	3.8260	7.6500	Sagging	200.00E-6	0.89481	0.0022381	-	**23041.**	0 (Negligible)
F	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
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	All settlements are less than the Settlement Trough Limit Sensitivity.											
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G	All settlements are less than the Settlement Trough Limit Sensitivity.											
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H	All settlements are less than the Settlement Trough Limit Sensitivity.											
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I	All settlements are less than the Settlement Trough Limit Sensitivity.											
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J	All settlements are less than the Settlement Trough Limit Sensitivity.											
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	All settlements are less than the Settlement Trough Limit Sensitivity.											
K	Maximum Slope		1	0.0	7.6990	Sagging	**200.00E-6**	2.0000	0.015600	-	61.574E+6	0 (Negligible)
	Maximum Settlement		1	0.0	7.6990	Sagging	200.00E-6	**2.0000**	0.015600	-	61.574E+6	0 (Negligible)
	Max. Tensile Strain		1	0.0	7.6990	Sagging	200.00E-6	2.0000	**0.015600**	-	61.574E+6	0 (Negligible)
	Min. Radius of Curvature (Hogging)	-	-	-	-		-	-	-	-	- -	
	Min. Radius of Curvature (Sagging)		1	0.0	7.6990	Sagging	200.00E-6	2.0000	0.015600	-	**61.574E+6**	0 (Negligible)
L	Maximum Slope	-	-	-	-		-	-	-	-	- -	
	Maximum Settlement		1	0.0	1.9990	Sagging	0.0	**0.46000**	0.0	-	-	0 (Negligible)
	Max. Tensile Strain		1	0.0	1.9990	Sagging	0.0	0.46000	**0.0**	-	-	0 (Negligible)
	Min. Radius of Curvature (Hogging)	-	-	-	-		-	-	-	-	- -	
	Min. Radius of Curvature (Sagging)	-	-	-	-		-	-	-	-	- -	
M	Maximum Slope		1	0.0	0.45625	Sagging	**200.00E-6**	0.46000	0.0	-	38064.	0 (Negligible)
	Maximum Settlement		1	0.0	0.45625	Sagging	200.00E-6	**0.46000**	0.0	-	38064.	0 (Negligible)
	Max. Tensile Strain		1	0.0	0.45625	Sagging	200.00E-6	0.46000	**0.0**	-	38064.	0 (Negligible)
	Min. Radius of Curvature (Hogging)		2	0.45625	0.91250	Hogging	200.00E-6	0.36875	0.0	**38064.**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)	-	-	-	-		-	-	-	-	- -	
N	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.											
O	Maximum Slope		1	7.6000	9.4788	Sagging	**188.38E-6**	0.68890	0.0	-	38685.	0 (Negligible)
	Maximum Settlement		2	9.4788	15.199	Sagging	188.38E-6	**1.6998**	0.012174	-	163570.	0 (Negligible)
	Max. Tensile Strain		2	9.4788	15.199	Sagging	188.38E-6	1.6998	**0.012174**	-	163570.	0 (Negligible)
	Min. Radius of Curvature (Hogging)	-	-	-	-		-	-	-	-	- -	
	Min. Radius of Curvature (Sagging)		2	9.4788	15.199	Sagging	188.38E-6	1.6998	0.012174	-	**163570.**	0 (Negligible)
P	Maximum Slope		1	0.0	9.1259	Sagging	**99.487E-6**	1.9849	0.0014762	-	38690.	0 (Negligible)
	Maximum Settlement		1	0.0	9.1259	Sagging	99.487E-6	**1.9849**	0.0014762	-	38690.	0 (Negligible)
	Max. Tensile Strain		1	0.0	9.1259	Sagging	99.487E-6	1.9849	**0.0014762**	-	38690.	0 (Negligible)
	Min. Radius of Curvature (Hogging)	-	-	-	-		-	-	-	-	- -	
	Min. Radius of Curvature (Sagging)		1	0.0	9.1259	Sagging	99.487E-6	1.9849	0.0014762	-	**38690.**	0 (Negligible)
Q	Maximum Slope		2	1.3200	4.3990	Sagging	**0.0**	1.7000	0.0	-	1.1895E+18	0 (Negligible)
	Maximum Settlement		1	0.0	1.3200	Sagging	0.0	**1.7000**	0.0	-	2.0407E+18	0 (Negligible)
	Max. Tensile Strain		1	0.0	1.3200	Sagging	0.0	1.7000	**0.0**	-	2.0407E+18	0 (Negligible)
	Min. Radius of Curvature (Hogging)	-	-	-	-		-	-	-	-	- -	
	Min. Radius of Curvature (Sagging)		2	1.3200	4.3990	Sagging	0.0	1.7000	0.0	-	**1.1895E+18**	0 (Negligible)
R	Maximum Slope		1	0.0	6.3990	Sagging	**199.96E-6**	2.9798	0.030054	-	122.89E+6	0 (Negligible)
	Maximum Settlement		1	0.0	6.3990	Sagging	199.96E-6	**2.9798**	0.030054	-	122.89E+6	0 (Negligible)
	Max. Tensile Strain		1	0.0	6.3990	Sagging	199.96E-6	2.9798	**0.030054**	-	122.89E+6	0 (Negligible)
	Min. Radius of	-	-	-	-		-	-	-	-	- -	

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
	Curvature (Hogging)			- -	- -				- -			
	Min. Radius of Curvature (Sagging)		1	0.0	6.3990	Sagging	199.96E-6	2.9798	0.030054	-	**122.89E+6**	0 (Negligible)
S	Maximum Slope		5	9.2534	18.506	Sagging	**194.32E-6**	3.0500	0.0040036	-	20779.	0 (Negligible)
	Maximum Settlement		5	9.2534	18.506	Sagging	194.32E-6	**3.0500**	0.0040036	-	20779.	0 (Negligible)
	Max. Tensile Strain		5	9.2534	18.506	Sagging	194.32E-6	3.0500	**0.0040036**	-	20779.	0 (Negligible)
	Min. Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min. Radius of Curvature (Sagging)		5	9.2534	18.506	Sagging	194.32E-6	3.0500	0.0040036	-	**20779.**	0 (Negligible)
T	Maximum Slope		1	0.0	5.3990	Sagging	**162.12E-6**	2.3911	0.0019845	-	23149.	0 (Negligible)
	Maximum Settlement		1	0.0	5.3990	Sagging	162.12E-6	**2.3911**	0.0019845	-	23149.	0 (Negligible)
	Max. Tensile Strain		1	0.0	5.3990	Sagging	162.12E-6	2.3911	**0.0019845**	-	23149.	0 (Negligible)
	Min. Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min. Radius of Curvature (Sagging)		1	0.0	5.3990	Sagging	162.12E-6	2.3911	0.0019845	-	**23149.**	0 (Negligible)
U	All settlements are less than the Settlement Trough Limit Sensitivity.											
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	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
V	All settlements are less than the Settlement Trough Limit Sensitivity.											
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W	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	All settlements are less than the Settlement Trough Limit Sensitivity.											
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	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
AA	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.											

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:

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:

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:

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:

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:

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.

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

Structure: G | Sub-structure:

No structures have segments combined.

Structure: H | Sub-structure:

No structures have segments combined.

Structure: I | Sub-structure:

No structures have segments combined.

Structure: J | Sub-structure:

No structures have segments combined.

Structure: K | Sub-structure:

No structures have segments combined.

Structure: L | Sub-structure:

No structures have segments combined.

Structure: M | Sub-structure:

No structures have segments combined.

Structure: N | Sub-structure:

No structures have segments combined.

Structure: O | Sub-structure:

No structures have segments combined.

Structure: P | Sub-structure:

No structures have segments combined.

Structure: Q | Sub-structure:

No structures have segments combined.

Structure: R | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment [m] [m]	Start	Length	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category
No structures have segments combined.								

Structure: S | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment [m] [m]	Start	Length	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category
No structures have segments combined.								

Structure: T | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment [m] [m]	Start	Length	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category
No structures have segments combined.								

Structure: U | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment [m] [m]	Start	Length	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category
No structures have segments combined.								

Structure: V | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment [m] [m]	Start	Length	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category
No structures have segments combined.								

Structure: W | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment [m] [m]	Start	Length	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category
No structures have segments combined.								

Structure: X | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment [m] [m]	Start	Length	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category
No structures have segments combined.								

Structure: Y | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment [m] [m]	Start	Length	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category
No structures have segments combined.								

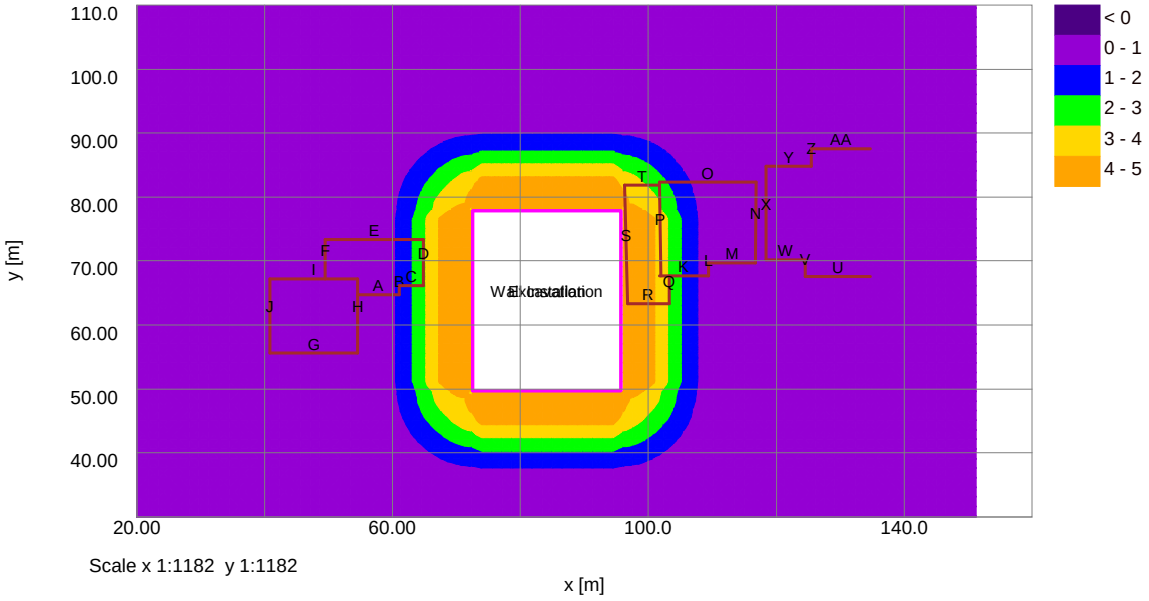
Structure: Z | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment [m] [m]	Start	Length	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category
No structures have segments combined.								

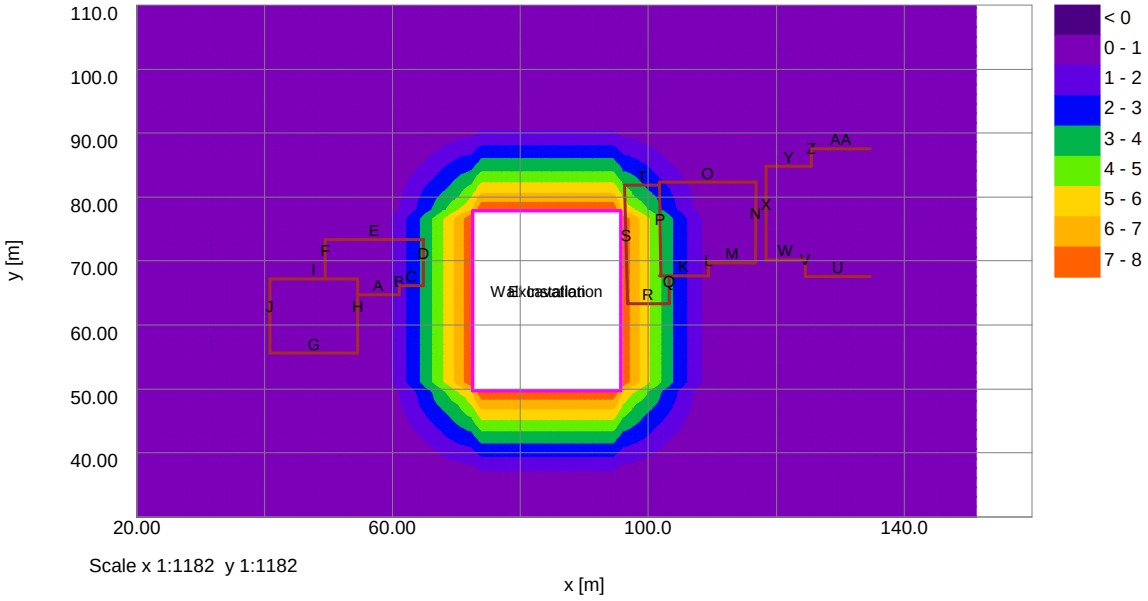
Structure: AA | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment [m] [m]	Start	Length	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category
No structures have segments combined.								

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



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



Problem Type

Problem Type : Tunnelling and Embedded Wall Excavations

Displacement Data

Type	Name	Direction of extrusion	Point/Line/Line for extrusion						No. of intervals across extrusion/line	Extrusion depth	No. of intervals along extrusion	Calculate	Surface type for tunnels
			First point			Second point							
			X [m]	Y [m]	Z(level) [m]	X [m]	Y [m]	Z(level) [m]		[m]			
Line	A	-	54.60000	64.70000	-1.00000	61.00000	64.70000	-1.00000	7	-	-	Yes	Surface
Line	B	-	61.00000	64.70000	-1.00000	61.00000	66.10000	-1.00000	2	-	-	Yes	Surface
Line	C	-	61.00000	66.10000	-1.00000	64.80000	66.10000	-1.00000	4	-	-	Yes	Surface
Line	D	-	64.80000	66.10000	-1.00000	64.80000	73.30000	-1.00000	8	-	-	Yes	Surface
Line	E	-	64.80000	73.30000	-1.00000	49.50000	73.30000	-1.00000	8	-	-	Yes	Surface
Line	F	-	49.50000	73.30000	-1.00000	49.50000	67.20000	-1.00000	7	-	-	Yes	Surface
Line	G	-	40.80000	55.60000	-2.00000	54.60000	55.60000	-2.00000	7	-	-	Yes	Surface
Line	H	-	54.60000	55.60000	-2.00000	54.60000	67.20000	-2.00000	6	-	-	Yes	Surface
Line	I	-	54.60000	67.20000	-2.00000	40.80000	67.20000	-2.00000	7	-	-	Yes	Surface
Line	J	-	40.80000	67.20000	-2.00000	40.80000	55.60000	-2.00000	6	-	-	Yes	Surface
Line	K	-	101.70000	67.70000	-1.00000	109.40000	67.70000	-1.00000	8	-	-	Yes	Surface
Line	L	-	109.40000	67.70000	-1.00000	109.40000	69.70000	-1.00000	2	-	-	Yes	Surface
Line	M	-	109.40000	69.70000	-1.00000	116.70000	69.70000	-1.00000	8	-	-	Yes	Surface
Line	N	-	116.70000	69.70000	-1.00000	116.90000	82.30000	-1.00000	7	-	-	Yes	Surface
Line	O	-	116.90000	82.30000	-1.00000	101.70000	82.30000	-1.00000	8	-	-	Yes	Surface
Line	P	-	101.70000	82.30000	-1.00000	101.90000	67.70000	-1.00000	8	-	-	Yes	Surface
Line	Q	-	103.20000	67.70000	-1.00000	103.20000	63.30000	-1.00000	5	-	-	Yes	Surface
Line	R	-	103.20000	63.30000	-1.00000	96.80000	63.30000	-1.00000	7	-	-	Yes	Surface
Line	S	-	96.80000	63.30000	-1.00000	96.30000	81.80000	-1.00000	10	-	-	Yes	Surface
Line	T	-	96.30000	81.80000	-1.00000	101.70000	81.80000	-1.00000	6	-	-	Yes	Surface
Line	U	-	134.70000	67.60000	-3.00000	124.50000	67.60000	-3.00000	6	-	-	Yes	Surface
Line	V	-	124.50000	67.60000	-3.00000	124.50000	70.10000	-3.00000	3	-	-	Yes	Surface
Line	W	-	124.50000	70.10000	-3.00000	118.40000	70.10000	-3.00000	7	-	-	Yes	Surface
Line	X	-	118.40000	70.10000	-3.00000	118.40000	84.80000	-3.00000	8	-	-	Yes	Surface
Line	Y	-	118.40000	84.80000	-3.00000	125.50000	84.80000	-3.00000	8	-	-	Yes	Surface
Line	Z	-	125.50000	84.80000	-3.00000	125.50000	87.50000	-3.00000	3	-	-	Yes	Surface
Line	AA	-	125.50000	87.50000	-3.00000	134.70000	87.50000	-3.00000	10	-	-	Yes	Surface
Grid	Grid 1	Global X	1.30000	0.15000	0.00000	-	150.00000	0.00000	100	150.00000	95	No	Surface

Vertical Ground Movement Curves

Curve Name: **Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))**
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
[0.000,0.000,0.040][2.000,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = -2.0E-2x + 4.0E-2
Coeff. of Determination: 1.0

Curve Name: **Excavation in front of high stiffness wall in stiff clay (Wallap)**
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
[0.000,0.000,0.030][0.100,0.000,0.038][0.200,0.000,0.044][0.300,0.000,0.048]
[0.400,0.000,0.052][0.500,0.000,0.055][0.600,0.000,0.056][0.700,0.000,0.057]
[0.800,0.000,0.057][0.900,0.000,0.056][1.000,0.000,0.055][1.100,0.000,0.053]
[1.200,0.000,0.051][1.300,0.000,0.048][1.400,0.000,0.045][1.500,0.000,0.042]
[1.600,0.000,0.039][1.700,0.000,0.036][1.800,0.000,0.033][1.900,0.000,0.030]
[2.000,0.000,0.027][2.100,0.000,0.023][2.200,0.000,0.021][2.300,0.000,0.018]
[2.400,0.000,0.016][2.500,0.000,0.013][2.600,0.000,0.011][2.700,0.000,0.009]
[2.800,0.000,0.008][2.900,0.000,0.006][3.000,0.000,0.005][3.100,0.000,0.004]
[3.200,0.000,0.003][3.300,0.000,0.003][3.400,0.000,0.002][3.500,0.000,0.002]
[3.600,0.000,0.002][3.700,0.000,0.002][3.800,0.000,0.001][3.900,0.000,0.001]
[4.000,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 4
y Order: 0
Polynomial: $z = -2.0635E\text{-}3x^4 + 2.2226E\text{-}2x^3 - 7.8395E\text{-}2x^2 + 8.2440E\text{-}2x + 3.0412E\text{-}2$
Coeff. of Determination: 9.9991E-1

Horizontal Ground Movement Curves

Curve Name: **Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))**
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)(%)]
[0.000,0.000,0.041][0.050,0.000,0.039][0.100,0.000,0.036][0.150,0.000,0.034]
[0.200,0.000,0.032][0.250,0.000,0.030][0.300,0.000,0.029][0.350,0.000,0.027]
[0.400,0.000,0.025][0.450,0.000,0.023][0.500,0.000,0.022][0.550,0.000,0.020]
[0.600,0.000,0.019][0.650,0.000,0.018][0.700,0.000,0.016][0.750,0.000,0.015]
[0.800,0.000,0.014][0.850,0.000,0.013][0.900,0.000,0.012][0.950,0.000,0.010]
[1.000,0.000,0.009][1.050,0.000,0.008][1.100,0.000,0.007][1.150,0.000,0.006]
[1.200,0.000,0.005][1.250,0.000,0.004][1.300,0.000,0.004][1.350,0.000,0.003]
[1.400,0.000,0.002][1.450,0.000,0.001][1.500,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 3
y Order: 0
Polynomial: $z = -4.2486E\text{-}3x^3 + 1.9096E\text{-}2x^2 - 4.6221E\text{-}2x + 4.0729E\text{-}2$
Coeff. of Determination: 1.0000

Curve Name: **Excavation in front of high stiffness wall in stiff clay (Wallap)**
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)(%)]
[0.000,0.000,0.117][4.000,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = -2.93E-2x + 1.17E-1
Coeff. of Determination: 1.00

Polygonal Excavations

Excavation Name: **Wall Installation**
Surface level [m]: 0.0
Contribution: Positive
Enabled: Yes
Surface movement curves which are selected are applied between surface and [m]: -8.0000

Corner	x [m]	y [m]	Base Level [m]	Stiffened	Previous Side d [m]	Previous Side p1 [%]	Previous Side p2* [%]	Next Side d [m]	Next Side p1 [%]	Next Side p2* [%]
1	72.500	49.700	-8.0000	No	-	-	-	-	-	-
2	95.700	49.700	-8.0000	No	-	-	-	-	-	-
3	95.700	77.800	-8.0000	No	-	-	-	-	-	-
4	72.500	77.800	-8.0000	No	-	-	-	-	-	-

Corner	x	y	Base Level	Stiffened	Previous Side d	Previous Side p1	Previous Side p2*	Next Side d	Next Side p1	Next Side p2*
	[m]	[m]	[m]		[m]	[%]	[%]	[m]	[%]	[%]

Side	Corner 1 x	Corner 1 y	Corner 2 x	Corner 2 y	Ground Movement Curve Vertical	Ground Movement Curve Horizontal
	[m]	[m]	[m]	[m]		
1	72.500	49.700	95.700	49.700	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
2	95.700	49.700	95.700	77.800	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
3	95.700	77.800	72.500	77.800	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
4	72.500	77.800	72.500	49.700	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))

Excavation Name:	**Excavation**
Surface level [m]:	0.0
Contribution:	Positive
Enabled:	Yes
Surface movement curves which are selected are applied between surface and [m]:	-4.0000

Corner	x	y	Base Level	Stiffened	Previous Side d	Previous Side p1	Previous Side p2*	Next Side d	Next Side p1	Next Side p2*
	[m]	[m]	[m]		[m]	[%]	[%]	[m]	[%]	[%]
1	72.500	49.700	-4.0000	Yes	0.0	67.000	25.000	0.0	67.000	25.000
2	95.700	49.700	-4.0000	Yes	0.0	67.000	25.000	0.0	67.000	25.000
3	95.700	77.800	-4.0000	Yes	0.0	67.000	25.000	0.0	67.000	25.000
4	72.500	77.800	-4.0000	Yes	0.0	67.000	25.000	0.0	67.000	25.000

Side	Corner 1 x	Corner 1 y	Corner 2 x	Corner 2 y	Ground Movement Curve Vertical	Ground Movement Curve Horizontal
	[m]	[m]	[m]	[m]		
1	72.500	49.700	95.700	49.700	Excavation in front of high stiffness wall in stiff clay (Wallap)	Excavation in front of high stiffness wall in stiff clay (Wallap)
2	95.700	49.700	95.700	77.800	Excavation in front of high stiffness wall in stiff clay (Wallap)	Excavation in front of high stiffness wall in stiff clay (Wallap)
3	95.700	77.800	72.500	77.800	Excavation in front of high stiffness wall in stiff clay (Wallap)	Excavation in front of high stiffness wall in stiff clay (Wallap)
4	72.500	77.800	72.500	49.700	Excavation in front of high stiffness wall in stiff clay (Wallap)	Excavation in front of high stiffness wall in stiff clay (Wallap)

Damage Category Strains

Name	0 (Negligible) to 1 (Very Slight)	1 (Very Slight) to 2 (Slight)	2 (Slight) to 3 (Moderate)	3 (Moderate) to 4 (Severe)
Burland Strain Limits	0.0	500.00E-6	750.00E-6	0.0015000

Specific Structures - Geometry

Structure Name	Sub-Structure Name	Displacement Line	Start Distance Along Line	End Distance Along Line	Vertical Offsets from Line for Vertical Movement Calculations	Vertical Displacement Limit Sensitivity	Damage Category Strains	Poisson's Ratio	E/G
			[m]	[m]	[m]	[mm]			
A		A	0.00000	6.39900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
B		B	0.00000	1.39900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
C		C	0.00000	3.79900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
D		D	0.00000	7.19900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
E		E	0.00000	15.29900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
F		F	0.00000	6.09900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
G		G	0.00000	13.79900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
H		H	0.00000	11.59900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
I		I	0.00000	13.79900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
J		J	0.00000	11.59900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
K		K	0.00000	7.69900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
L		L	0.00000	1.99900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
M		M	0.00000	7.29900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
N		N	0.00000	12.60059	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
O		O	0.00000	15.19900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
P		P	0.00000	14.60037	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
Q		Q	0.00000	4.39900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
R		R	0.00000	6.39900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
S		S	0.00000	18.50576	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
T		T	0.00000	5.39900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
U		U	0.00000	10.19900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
V		V	0.00000	2.49900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
W		W	0.00000	6.09900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
X		X	0.00000	14.69900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
Y		Y	0.00000	7.09900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
Z		Z	0.00000	2.69900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
AA		AA	0.00000	9.19900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000

Specific Structures - Bending Parameters

Structure Name	Sub-Structure Name	Height	Default Properties	Hogging 2nd Moment of Area (per unit width)	Hogging Distance of Bending Strain from N.A.	Hogging Distance of N.A. from Edge of Beam in Tension	Sagging 2nd Moment of Area (per unit width)	Sagging Distance of Bending Strain from N.A.	Sagging Distance of N.A. from Edge of Beam in Tension
		[m]		[m³]	[m]	[m]	[m³]	[m]	[m]
A		8.0000	Yes	170.67	8.0000	8.0000	42.667	4.0000	4.0000
B		8.0000	Yes	170.67	8.0000	8.0000	42.667	4.0000	4.0000
C		8.0000	Yes	170.67	8.0000	8.0000	42.667	4.0000	4.0000
D		8.0000	Yes	170.67	8.0000	8.0000	42.667	4.0000	4.0000
E		8.0000	Yes	170.67	8.0000	8.0000	42.667	4.0000	4.0000
F		8.0000	Yes	170.67	8.0000	8.0000	42.667	4.0000	4.0000
G		19.000	Yes	2286.3	19.000	19.000	571.58	9.5000	9.5000
H		19.000	Yes	2286.3	19.000	19.000	571.58	9.5000	9.5000
I		19.000	Yes	2286.3	19.000	19.000	571.58	9.5000	9.5000
J		19.000	Yes	2286.3	19.000	19.000	571.58	9.5000	9.5000
K		11.000	Yes	443.67	11.000	11.000	110.92	5.5000	5.5000
L		11.000	Yes	443.67	11.000	11.000	110.92	5.5000	5.5000
M		11.000	Yes	443.67	11.000	11.000	110.92	5.5000	5.5000
N		11.000	Yes	443.67	11.000	11.000	110.92	5.5000	5.5000
O		11.000	Yes	443.67	11.000	11.000	110.92	5.5000	5.5000
P		11.000	Yes	443.67	11.000	11.000	110.92	5.5000	5.5000
Q		4.0000	Yes	21.333	4.0000	4.0000	5.3333	2.0000	2.0000
R		4.0000	Yes	21.333	4.0000	4.0000	5.3333	2.0000	2.0000
S		4.0000	Yes	21.333	4.0000	4.0000	5.3333	2.0000	2.0000
T		4.0000	Yes	21.333	4.0000	4.0000	5.3333	2.0000	2.0000
U		17.000	Yes	1637.7	17.000	17.000	409.42	8.5000	8.5000
V		17.000	Yes	1637.7	17.000	17.000	409.42	8.5000	8.5000
W		17.000	Yes	1637.7	17.000	17.000	409.42	8.5000	8.5000
X		17.000	Yes	1637.7	17.000	17.000	409.42	8.5000	8.5000
Y		17.000	Yes	1637.7	17.000	17.000	409.42	8.5000	8.5000
Z		17.000	Yes	1637.7	17.000	17.000	409.42	8.5000	8.5000
AA		17.000	Yes	1637.7	17.000	17.000	409.42	8.5000	8.5000

Building Segment Combinations

Structure Name	Sub-Structure	Vertical	Segment Start	Length	Curvature	Combined

Name	Offset from Line for Vertical Movement Calculations [m]	Segment [m]	[m]

No structures have segments combined.

Displacement and Strain Results

Type/No.		Coordinates			Displacements					Angle of Line
Name	Dist.	x	y	z	x	y	z	Horizontal dispalcement along the Line	Horizontal displacement perpendicular to Line	to x Axis
	[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]	[mm]	[°]
A	Line 1	54.60000	64.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	0.0
	0.91429	55.51429	64.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	0.0
	1.8286	56.42857	64.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	0.0
	2.7429	57.34286	64.70000	-1.00000	0.24654	0.0	0.20936	0.24654	0.0	0.0
	3.6571	58.25714	64.70000	-1.00000	0.51396	0.0	0.41972	0.51396	0.0	0.0
	4.5714	59.17143	64.70000	-1.00000	0.78139	0.0	0.63822	0.78139	0.0	0.0
	5.4857	60.08571	64.70000	-1.00000	1.0488	0.0	0.88267	1.0488	0.0	0.0
	6.4000	61.00000	64.70000	-1.00000	1.4063	0.0	1.1655	1.4063	0.0	0.0
B	Line 2	61.00000	64.70000	-1.00000	1.4063	0.0	1.1655	0.0	-1.4063	90.000
	0.70000	61.00000	65.40000	-1.00000	1.4063	0.0	1.1655	0.0	-1.4063	90.000
	1.4000	61.00000	66.10000	-1.00000	1.4063	0.0	1.1655	0.0	-1.4063	90.000
C	Line 3	61.00000	66.10000	-1.00000	1.4063	0.0	1.1655	1.4063	0.0	0.0
	0.95000	61.95000	66.10000	-1.00000	1.8534	0.0	1.5075	1.8534	0.0	0.0
	1.9000	62.90000	66.10000	-1.00000	2.3056	0.0	1.9002	2.3056	0.0	0.0
	2.8500	63.85000	66.10000	-1.00000	2.7664	0.0	2.3389	2.7664	0.0	0.0
	3.8000	64.80000	66.10000	-1.00000	3.2392	0.0	2.8127	3.2392	0.0	0.0
D	Line 4	64.80000	66.10000	-1.00000	3.2392	0.0	2.8127	0.0	-3.2392	90.000
	0.90000	64.80000	67.00000	-1.00000	3.2392	0.0	2.8127	0.0	-3.2392	90.000
	1.8000	64.80000	67.90000	-1.00000	3.2392	0.0	2.8127	0.0	-3.2392	90.000
	2.7000	64.80000	68.80000	-1.00000	3.2392	0.0	2.8127	0.0	-3.2392	90.000
	3.6000	64.80000	69.70000	-1.00000	3.2392	0.0	2.8127	0.0	-3.2392	90.000
	4.5000	64.80000	70.60000	-1.00000	3.2392	0.0	2.8127	0.0	-3.2392	90.000
	5.4000	64.80000	71.50000	-1.00000	3.2392	0.0	2.8127	0.0	-3.2392	90.000
	6.3000	64.80000	72.40000	-1.00000	3.2392	0.0	2.8127	0.0	-3.2392	90.000
	7.2000	64.80000	73.30000	-1.00000	3.2392	0.0	2.8127	0.0	-3.2392	90.000
E	Line 5	64.80000	73.30000	-1.00000	3.2392	0.0	2.8127	-3.2392	0.0	180.00
	1.9125	62.88750	73.30000	-1.00000	2.2996	0.0	1.8947	-2.2996	0.0	180.00
	3.8250	60.97500	73.30000	-1.00000	1.3946	0.0	1.1572	-1.3946	0.0	180.00
	5.7375	59.06250	73.30000	-1.00000	0.74953	0.0	0.61112	-0.74953	0.0	180.00
	7.6500	57.15000	73.30000	-1.00000	0.19012	0.0	0.16394	-0.19012	0.0	180.00
	9.5625	55.23750	73.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	180.00
	11.475	53.32500	73.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	180.00
	13.387	51.41250	73.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	180.00
	15.300	49.50000	73.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	180.00
F	Line 6	49.50000	73.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	270.00
	0.87143	49.50000	72.42857	-1.00000	0.0	0.0	0.0	0.0	0.0	270.00
	1.7429	49.50000	71.55714	-1.00000	0.0	0.0	0.0	0.0	0.0	270.00
	2.6143	49.50000	70.68571	-1.00000	0.0	0.0	0.0	0.0	0.0	270.00
	3.4857	49.50000	69.81429	-1.00000	0.0	0.0	0.0	0.0	0.0	270.00
	4.3571	49.50000	68.94286	-1.00000	0.0	0.0	0.0	0.0	0.0	270.00
	5.2286	49.50000	68.07143	-1.00000	0.0	0.0	0.0	0.0	0.0	270.00
	6.1000	49.50000	67.20000	-1.00000	0.0	0.0	0.0	0.0	0.0	270.00
G	Line 7	40.80000	55.60000	-2.00000	0.0	0.0	0.0	0.0	0.0	0.0
	1.9714	42.77143	55.60000	-2.00000	0.0	0.0	0.0	0.0	0.0	0.0
	3.9429	44.74286	55.60000	-2.00000	0.0	0.0	0.0	0.0	0.0	0.0
	5.9143	46.71429	55.60000	-2.00000	0.0	0.0	0.0	0.0	0.0	0.0
	7.8857	48.68571	55.60000	-2.00000	0.0	0.0	0.0	0.0	0.0	0.0
	9.8571	50.65714	55.60000	-2.00000	0.0	0.0	0.0	0.0	0.0	0.0
	11.829	52.62857	55.60000	-2.00000	0.0	0.0	0.0	0.0	0.0	0.0
	13.800	54.60000	55.60000	-2.00000	0.0	0.0	0.0	0.0	0.0	0.0
H	Line 8	54.60000	55.60000	-2.00000	0.0	0.0	0.0	0.0	0.0	90.000
	1.9333	54.60000	57.53333	-2.00000	0.0	0.0	0.0	0.0	0.0	90.000
	3.8667	54.60000	59.46667	-2.00000	0.0	0.0	0.0	0.0	0.0	90.000
	5.8000	54.60000	61.40000	-2.00000	0.0	0.0	0.0	0.0	0.0	90.000
	7.7333	54.60000	63.33333	-2.00000	0.0	0.0	0.0	0.0	0.0	90.000
	9.6667	54.60000	65.26667	-2.00000	0.0	0.0	0.0	0.0	0.0	90.000
	11.600	54.60000	67.20000	-2.00000	0.0	0.0	0.0	0.0	0.0	90.000
I	Line 9	54.60000	67.20000	-2.00000	0.0	0.0	0.0	0.0	0.0	180.00
	1.9714	52.62857	67.20000	-2.00000	0.0	0.0	0.0	0.0	0.0	180.00
	3.9429	50.65714	67.20000	-2.00000	0.0	0.0	0.0	0.0	0.0	180.00
	5.9143	48.68571	67.20000	-2.00000	0.0	0.0	0.0	0.0	0.0	180.00
	7.8857	46.71429	67.20000	-2.00000	0.0	0.0	0.0	0.0	0.0	180.00
	9.8571	44.74286	67.20000	-2.00000	0.0	0.0	0.0	0.0	0.0	180.00
	11.829	42.77143	67.20000	-2.00000	0.0	0.0	0.0	0.0	0.0	180.00
	13.800	40.80000	67.20000	-2.00000	0.0	0.0	0.0	0.0	0.0	180.00
J	Line 10	40.80000	67.20000	-2.00000	0.0	0.0	0.0	0.0	0.0	270.00
	1.9333	40.80000	65.26667	-2.00000	0.0	0.0	0.0	0.0	0.0	270.00
	3.8667	40.80000	63.33333	-2.00000	0.0	0.0	0.0	0.0	0.0	270.00
	5.8000	40.80000	61.40000	-2.00000	0.0	0.0	0.0	0.0	0.0	270.00
	7.7333	40.80000	59.46667	-2.00000	0.0	0.0	0.0	0.0	0.0	270.00
	9.6667	40.80000	57.53333	-2.00000	0.0	0.0	0.0	0.0	0.0	270.00
	11.600	40.80000	55.60000	-2.00000	0.0	0.0	0.0	0.0	0.0	270.00
K	Line 11	101.70000	67.70000	-1.00000	-4.1260	0.0	3.6900	-4.1260	0.0	0.0
	0.96250	102.66250	67.70000	-1.00000	-3.6167	0.0	3.1940	-3.6167	0.0	0.0
	1.9250	103.62500	67.70000	-1.00000	-3.1260	0.0	2.6981	-3.1260	0.0	0.0
	2.8875	104.58750	67.70000	-1.00000	-2.6502	0.0	2.2254	-2.6502	0.0	0.0
	3.8500	105.55000	67.70000	-1.00000	-2.1859	0.0	1.7921	-2.1859	0.0	0.0
	4.8125	106.51250	67.70000	-1.00000	-1.7295	0.0	1.4079	-1.7295	0.0	0.0
	5.7750	107.47500	67.70000	-1.00000	-1.2773	0.0	1.0759	-1.2773	0.0	0.0
	6.7375	108.43750	67.70000	-1.00000	-0.95428	0.0	0.79239	-0.95428	0.0	0.0
	7.7000	109.40000	67.70000	-1.00000	-0.67275	0.0	0.54721	-0.67275	0.0	0.0
L	Line 12	109.40000	67.70000	-1.00000	-0.67275	0.0	0.54721	0.0	0.67275	90.000
	1.0000	109.40000	68.70000	-1.00000	-0.67275	0.0	0.54721	0.0	0.67275	90.000
	2.0000	109.40000	69.70000	-1.00000	-0.67275	0.0	0.54721	0.0	0.67275	90.000
M	Line 13	109.40000	69.70000	-1.00000	-0.67275	0.0	0.54721	-0.67275	0.0	0.0
	0.91250	110.31250	69.70000	-1.00000	-0.40584	0.0	0.33488	-0.40584	0.0	0.0
	1.8250	111.22500	69.70000	-1.00000	-0.13894	0.0	0.12195	-0.13894	0.0	0.0
	2.7375	112.13750	69.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	0.0
	3.6500	113.05000	69.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	0.0
	4.5625	113.96250	69.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	0.0
	5.4750	114.87500	69.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	0.0
	6.3875	115.78750	69.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	0.0
	7.3000	116.70000	69.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	0.0
N	Line 14	116.70000	69.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	89.091
	1.8002	116.72857	71.50000	-1.00000	0.0	0.0	0.0	0.0	0.0	89.091
	3.6005	116.75714	73.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	89.091
	5.4007	116.78571	75.10000	-1.00000	0.0	0.0	0.0	0.0	0.0	89.091
	7.2009	116.81429	76.90000	-1.00000	0.0	0.0	0.0	0.0	0.0	89.091
	9.0011	116.84286	78.70000	-1.00000	0.0	0.0	0.0	0.0	0.0	89.091
	10.801	116.87143	80.50000	-1.00000	0.0	0.0	0.0	0.0	0.0	89.091
	12.602	116.90000	82.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	89.091
O	Line 15	116.90000	82.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	180.00
	1.9000	115.00000	82.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	180.00
	3.8000	113.10000	82.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	180.00
	5.7000	111.20000	82.30000	-1.00000	0.0	0.0	0.0	0.0	0.0	180.00
	7.6000	109.30000	82.30000	-1.00000	-0.27944	-0.092463	0.37450	0.27944	0.092463	180.00
	9.5000	107.40000	82.30000	-1.00000	-0.55852	-0.21482	0.78464	0.55852	0.21482	180.00
	11.400	105.50000	82.30000	-1.00000	-0.99723	-0.45791	1.2598	0.99723	0.45791	180.00
	13.300	103.60000	82.30000	-1.00000	-1.4403	-0.82042	1.7990	1.4403	0.82042	180.00
	15.200	101.70000	82.30000	-1.00000	-1.7391	-1.3043	2.3450	1.7391	1.3043	180.00
P	Line 16	101.70000	82.30000	-1.00000	-1.7391	-1.3043	2.3450	1.2804	-1.7568	270.78
	1.8252	101.72500	80.47500	-1.00000	-2.4250	-1.0767	2.7536	1.0434	-2.4396	270.78
	3.6503	101.75000	78.65000	-1.00000	-2.9955	-0.42086	3.0378	0.37979	-3.0010	270.78
	5.4755	101.77500	76.82500	-1.00000	-4.0855	0.0	3.6520	-0.055961	-4.0852	270.78
	7.3007	101.80000	75.00000	-1.00000	-4.0721	0.0	3.6393	-0.055777	-4.0717	270.78
	9.1259	101.82500	73.17500	-1.00000	-4.0587	0.0	3.6266	-0.055593	-4.0583	270.78
	10.951	101.85000	71.35000	-1.00000	-4.0452	0.0	3.6138	-0.055409	-4.0449	270.78
	12.776	101.87500	69.52500	-1.00000	-4.0318	0.0	3.6011	-0.055225	-4.0315	270.78
	14.601	101.90000	67.70000	-1.00000	-4.0184	0.0	3.5883	-0.055042	-4.0181	270.78
Q	Line 17	103.20000	67.70000	-1.00000	-3.3406	0.0	2.9154	0.0	-3.3406	270.00
	0.88000	103.20000	66.82000	-1.00000	-3.3406	0.0	2.9154	0.0	-3.3406	270.00
	1.7600	103.20000	65.94000	-1.00000	-3.3406	0.0	2.9154	0.0	-3.3406	270.00

Type/No.		Coordinates			Displacements					Angle of Line
Name	Dist.	x	y	z	x	y	z	Horizontal dispalcement	Horizontal displacement	to x Axis
	2.6400	103.20000	65.06000	-1.00000	-3.3406	0.0	2.9154	0.0	-3.3406	270.00
	3.5200	103.20000	64.18000	-1.00000	-3.3406	0.0	2.9154	0.0	-3.3406	270.00
	4.4000	103.20000	63.30000	-1.00000	-3.3406	0.0	2.9154	0.0	-3.3406	270.00
R	Line 18	103.20000	63.30000	-1.00000	-3.3406	0.0	2.9154	3.3406	0.0	180.00
	0.91429	102.28571	63.30000	-1.00000	-3.8137	0.0	3.3896	3.8137	0.0	180.00
	1.8286	101.37143	63.30000	-1.00000	-4.3047	0.0	3.8543	4.3047	0.0	180.00
	2.7429	100.45714	63.30000	-1.00000	-4.8168	0.0	4.2819	4.8168	0.0	180.00
	3.6571	99.54286	63.30000	-1.00000	-5.3529	0.0	4.6397	5.3529	0.0	180.00
	4.5714	98.62857	63.30000	-1.00000	-5.9161	0.0	4.8894	5.9161	0.0	180.00
	5.4857	97.71429	63.30000	-1.00000	-6.5095	0.0	4.9872	6.5095	0.0	180.00
	6.4000	96.80000	63.30000	-1.00000	-7.1361	0.0	4.8842	7.1361	0.0	180.00
S	Line 19	96.80000	63.30000	-1.00000	-7.1361	0.0	4.8842	0.19280	7.1335	91.548
	1.8507	96.75000	65.15000	-1.00000	-7.1714	0.0	4.8717	0.19375	7.1688	91.548
	3.7014	96.70000	67.00000	-1.00000	-7.2068	0.0	4.8585	0.19471	7.2042	91.548
	5.5520	96.65000	68.85000	-1.00000	-7.2423	0.0	4.8444	0.19567	7.2397	91.548
	7.4027	96.60000	70.70000	-1.00000	-7.2779	0.0	4.8296	0.19663	7.2753	91.548
	9.2534	96.55000	72.55000	-1.00000	-7.3136	0.0	4.8140	0.19759	7.3110	91.548
	11.104	96.50000	74.40000	-1.00000	-7.3495	0.0	4.7976	0.19856	7.3468	91.548
	12.955	96.45000	76.25000	-1.00000	-7.3854	0.0	4.7803	0.19953	7.3827	91.548
	14.805	96.40000	78.10000	-1.00000	-5.0696	-2.1727	4.0591	-2.0349	5.1265	91.548
	16.656	96.35000	79.95000	-1.00000	-1.3812	-4.5686	4.1023	-4.5296	1.5041	91.548
	18.507	96.30000	81.80000	-1.00000	-0.58826	-3.9217	3.7798	-3.9044	0.69400	91.548
T	Line 20	96.30000	81.80000	-1.00000	-0.58826	-3.9217	3.7798	-0.58826	-3.9217	0.0
	0.90000	97.20000	81.80000	-1.00000	-1.2990	-3.4641	3.6116	-1.2990	-3.4641	0.0
	1.8000	98.10000	81.80000	-1.00000	-1.7430	-2.9050	3.4034	-1.7430	-2.9050	0.0
	2.7000	99.00000	81.80000	-1.00000	-1.9460	-2.3587	3.1653	-1.9460	-2.3587	0.0
	3.6000	99.90000	81.80000	-1.00000	-1.9975	-1.9024	2.9245	-1.9975	-1.9024	0.0
	4.5000	100.80000	81.80000	-1.00000	-2.0057	-1.5731	2.7137	-2.0057	-1.5731	0.0
	5.4000	101.70000	81.80000	-1.00000	-1.9243	-1.2829	2.4672	-1.9243	-1.2829	0.0
U	Line 21	134.70000	67.60000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	1.7000	133.00000	67.60000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	3.4000	131.30000	67.60000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	5.1000	129.60000	67.60000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	6.8000	127.90000	67.60000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	8.5000	126.20000	67.60000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	10.200	124.50000	67.60000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
V	Line 22	124.50000	67.60000	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	0.83333	124.50000	68.43333	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	1.6667	124.50000	69.26667	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	2.5000	124.50000	70.10000	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
W	Line 23	124.50000	70.10000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	0.87143	123.62857	70.10000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	1.7429	122.75714	70.10000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	2.6143	121.88571	70.10000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	3.4857	121.01429	70.10000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	4.3571	120.14286	70.10000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	5.2286	119.27143	70.10000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
	6.1000	118.40000	70.10000	-3.00000	0.0	0.0	0.0	0.0	0.0	180.00
X	Line 24	118.40000	70.10000	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	1.8375	118.40000	71.93750	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	3.6750	118.40000	73.77500	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	5.5125	118.40000	75.61250	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	7.3500	118.40000	77.45000	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	9.1875	118.40000	79.28750	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	11.025	118.40000	81.12500	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	12.862	118.40000	82.96250	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	14.700	118.40000	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
Y	Line 25	118.40000	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	0.88750	119.28750	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	1.7750	120.17500	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	2.6625	121.06250	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	3.5500	121.95000	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	4.4375	122.83750	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	5.3250	123.72500	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	6.2125	124.61250	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	7.1000	125.50000	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
Z	Line 26	125.50000	84.80000	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	0.90000	125.50000	85.70000	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	1.8000	125.50000	86.60000	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
	2.7000	125.50000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	90.000
AA	Line 27	125.50000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	0.92000	126.42000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	1.8400	127.34000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	2.7600	128.26000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	3.6800	129.18000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	4.6000	130.10000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	5.5200	131.02000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	6.4400	131.94000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	7.3600	132.86000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	8.2800	133.78000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0
	9.2000	134.70000	87.50000	-3.00000	0.0	0.0	0.0	0.0	0.0	0.0

Specific Building Damage Results - Horizontal Displacements

Structure: A | 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	54.60000	64.70000	-1.00000	0.0	0.0	0.0	0.0
0.91429	55.51429	64.70000	-1.00000	0.0	0.0	0.0	0.0
1.8286	56.42857	64.70000	-1.00000	0.0	0.0	0.0	0.0
2.7429	57.34286	64.70000	-1.00000	0.24654	0.0	0.24654	0.0
3.6571	58.25714	64.70000	-1.00000	0.51396	0.0	0.51396	0.0
4.5714	59.17143	64.70000	-1.00000	0.78139	0.0	0.78139	0.0
5.4857	60.08571	64.70000	-1.00000	1.0488	0.0	1.0488	0.0
6.4000	61.00000	64.70000	-1.00000	1.4063	0.0	1.4063	0.0

Structure: B | 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	61.00000	64.70000	-1.00000	1.4063	0.0	0.0	-1.4063
0.70000	61.00000	65.40000	-1.00000	1.4063	0.0	0.0	-1.4063
1.4000	61.00000	66.10000	-1.00000	1.4063	0.0	0.0	-1.4063

Structure: C | 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	61.00000	66.10000	-1.00000	1.4063	0.0	1.4063	0.0
0.95000	61.95000	66.10000	-1.00000	1.8534	0.0	1.8534	0.0
1.9000	62.90000	66.10000	-1.00000	2.3056	0.0	2.3056	0.0
2.8500	63.85000	66.10000	-1.00000	2.7664	0.0	2.7664	0.0
3.8000	64.80000	66.10000	-1.00000	3.2392	0.0	3.2392	0.0

Structure: D | Sub-structure:

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

[m]	[m]	[m]	[m]	[mm]	[mm]	Line [mm]	to Line [mm]
0.0	64.80000	66.10000	-1.00000	3.2392	0.0	0.0	-3.2392
0.90000	64.80000	67.00000	-1.00000	3.2392	0.0	0.0	-3.2392
1.8000	64.80000	67.90000	-1.00000	3.2392	0.0	0.0	-3.2392
2.7000	64.80000	68.80000	-1.00000	3.2392	0.0	0.0	-3.2392
3.6000	64.80000	69.70000	-1.00000	3.2392	0.0	0.0	-3.2392
4.5000	64.80000	70.60000	-1.00000	3.2392	0.0	0.0	-3.2392
5.4000	64.80000	71.50000	-1.00000	3.2392	0.0	0.0	-3.2392
6.3000	64.80000	72.40000	-1.00000	3.2392	0.0	0.0	-3.2392
7.2000	64.80000	73.30000	-1.00000	3.2392	0.0	0.0	-3.2392

Structure: E | Sub-structure:

Dist.	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	64.80000	73.30000	-1.00000	3.2392	0.0	-3.2392	0.0
1.9125	62.88750	73.30000	-1.00000	2.2996	0.0	-2.2996	0.0
3.8250	60.97500	73.30000	-1.00000	1.3946	0.0	-1.3946	0.0
5.7375	59.06250	73.30000	-1.00000	0.74953	0.0	-0.74953	0.0
7.6500	57.15000	73.30000	-1.00000	0.19012	0.0	-0.19012	0.0
9.5625	55.23750	73.30000	-1.00000	0.0	0.0	0.0	0.0
11.475	53.32500	73.30000	-1.00000	0.0	0.0	0.0	0.0
13.387	51.41250	73.30000	-1.00000	0.0	0.0	0.0	0.0
15.300	49.50000	73.30000	-1.00000	0.0	0.0	0.0	0.0

Structure: F | Sub-structure:

Dist.	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	49.50000	73.30000	-1.00000	0.0	0.0	0.0	0.0
0.87143	49.50000	72.42857	-1.00000	0.0	0.0	0.0	0.0
1.7429	49.50000	71.55714	-1.00000	0.0	0.0	0.0	0.0
2.6143	49.50000	70.68571	-1.00000	0.0	0.0	0.0	0.0
3.4857	49.50000	69.81429	-1.00000	0.0	0.0	0.0	0.0
4.3571	49.50000	68.94286	-1.00000	0.0	0.0	0.0	0.0
5.2286	49.50000	68.07143	-1.00000	0.0	0.0	0.0	0.0
6.1000	49.50000	67.20000	-1.00000	0.0	0.0	0.0	0.0

Structure: G | Sub-structure:

Dist.	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	40.80000	55.60000	-2.00000	0.0	0.0	0.0	0.0
1.9714	42.77143	55.60000	-2.00000	0.0	0.0	0.0	0.0
3.9429	44.74286	55.60000	-2.00000	0.0	0.0	0.0	0.0
5.9143	46.71429	55.60000	-2.00000	0.0	0.0	0.0	0.0
7.8857	48.68571	55.60000	-2.00000	0.0	0.0	0.0	0.0
9.8571	50.65714	55.60000	-2.00000	0.0	0.0	0.0	0.0
11.829	52.62857	55.60000	-2.00000	0.0	0.0	0.0	0.0
13.800	54.60000	55.60000	-2.00000	0.0	0.0	0.0	0.0

Structure: H | Sub-structure:

Dist.	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	54.60000	55.60000	-2.00000	0.0	0.0	0.0	0.0
1.9333	54.60000	57.53333	-2.00000	0.0	0.0	0.0	0.0
3.8667	54.60000	59.46667	-2.00000	0.0	0.0	0.0	0.0
5.8000	54.60000	61.40000	-2.00000	0.0	0.0	0.0	0.0
7.7333	54.60000	63.33333	-2.00000	0.0	0.0	0.0	0.0
9.6667	54.60000	65.26667	-2.00000	0.0	0.0	0.0	0.0
11.600	54.60000	67.20000	-2.00000	0.0	0.0	0.0	0.0

Structure: I | Sub-structure:

Dist.	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	54.60000	67.20000	-2.00000	0.0	0.0	0.0	0.0
1.9714	52.62857	67.20000	-2.00000	0.0	0.0	0.0	0.0
3.9429	50.65714	67.20000	-2.00000	0.0	0.0	0.0	0.0
5.9143	48.68571	67.20000	-2.00000	0.0	0.0	0.0	0.0
7.8857	46.71429	67.20000	-2.00000	0.0	0.0	0.0	0.0
9.8571	44.74286	67.20000	-2.00000	0.0	0.0	0.0	0.0
11.829	42.77143	67.20000	-2.00000	0.0	0.0	0.0	0.0
13.800	40.80000	67.20000	-2.00000	0.0	0.0	0.0	0.0

Structure: J | Sub-structure:

Dist.	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	40.80000	67.20000	-2.00000	0.0	0.0	0.0	0.0
1.9333	40.80000	65.26667	-2.00000	0.0	0.0	0.0	0.0
3.8667	40.80000	63.33333	-2.00000	0.0	0.0	0.0	0.0
5.8000	40.80000	61.40000	-2.00000	0.0	0.0	0.0	0.0
7.7333	40.80000	59.46667	-2.00000	0.0	0.0	0.0	0.0
9.6667	40.80000	57.53333	-2.00000	0.0	0.0	0.0	0.0
11.600	40.80000	55.60000	-2.00000	0.0	0.0	0.0	0.0

Structure: K | Sub-structure:

Dist.	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	101.70000	67.70000	-1.00000	-4.1260	0.0	-4.1260	0.0
0.96250	102.66250	67.70000	-1.00000	-3.6167	0.0	-3.6167	0.0
1.9250	103.62500	67.70000	-1.00000	-3.1260	0.0	-3.1260	0.0
2.8875	104.58750	67.70000	-1.00000	-2.6502	0.0	-2.6502	0.0
3.8500	105.55000	67.70000	-1.00000	-2.1859	0.0	-2.1859	0.0
4.8125	106.51250	67.70000	-1.00000	-1.7295	0.0	-1.7295	0.0
5.7750	107.47500	67.70000	-1.00000	-1.2773	0.0	-1.2773	0.0
6.7375	108.43750	67.70000	-1.00000	-0.95428	0.0	-0.95428	0.0
7.7000	109.40000	67.70000	-1.00000	-0.67275	0.0	-0.67275	0.0

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]

Structure: L | 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	109.40000	67.70000	-1.00000	-0.67275	0.0	0.0	0.67275
1.0000	109.40000	68.70000	-1.00000	-0.67275	0.0	0.0	0.67275
2.0000	109.40000	69.70000	-1.00000	-0.67275	0.0	0.0	0.67275

Structure: M | 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	109.40000	69.70000	-1.00000	-0.67275	0.0	-0.67275	0.0
0.91250	110.31250	69.70000	-1.00000	-0.40584	0.0	-0.40584	0.0
1.8250	111.22500	69.70000	-1.00000	-0.13894	0.0	-0.13894	0.0
2.7375	112.13750	69.70000	-1.00000	0.0	0.0	0.0	0.0
3.6500	113.05000	69.70000	-1.00000	0.0	0.0	0.0	0.0
4.5625	113.96250	69.70000	-1.00000	0.0	0.0	0.0	0.0
5.4750	114.87500	69.70000	-1.00000	0.0	0.0	0.0	0.0
6.3875	115.78750	69.70000	-1.00000	0.0	0.0	0.0	0.0
7.3000	116.70000	69.70000	-1.00000	0.0	0.0	0.0	0.0

Structure: N | 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	116.70000	69.70000	-1.00000	0.0	0.0	0.0	0.0
1.8002	116.72857	71.50000	-1.00000	0.0	0.0	0.0	0.0
3.6005	116.75714	73.30000	-1.00000	0.0	0.0	0.0	0.0
5.4007	116.78571	75.10000	-1.00000	0.0	0.0	0.0	0.0
7.2009	116.81429	76.90000	-1.00000	0.0	0.0	0.0	0.0
9.0011	116.84286	78.70000	-1.00000	0.0	0.0	0.0	0.0
10.801	116.87143	80.50000	-1.00000	0.0	0.0	0.0	0.0
12.602	116.90000	82.30000	-1.00000	0.0	0.0	0.0	0.0

Structure: O | 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	116.90000	82.30000	-1.00000	0.0	0.0	0.0	0.0
1.9000	115.00000	82.30000	-1.00000	0.0	0.0	0.0	0.0
3.8000	113.10000	82.30000	-1.00000	0.0	0.0	0.0	0.0
5.7000	111.20000	82.30000	-1.00000	0.0	0.0	0.0	0.0
7.6000	109.30000	82.30000	-1.00000	-0.27944	-0.092463	0.27944	0.092463
9.5000	107.40000	82.30000	-1.00000	-0.55852	-0.21482	0.55852	0.21482
11.400	105.50000	82.30000	-1.00000	-0.99723	-0.45791	0.99723	0.45791
13.300	103.60000	82.30000	-1.00000	-1.4403	-0.82042	1.4403	0.82042
15.200	101.70000	82.30000	-1.00000	-1.7391	-1.3043	1.7391	1.3043

Structure: P | 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	101.70000	82.30000	-1.00000	-1.7391	-1.3043	1.2804	-1.7568
1.8252	101.72500	80.47500	-1.00000	-2.4250	-1.0767	1.0434	-2.4396
3.6503	101.75000	78.65000	-1.00000	-2.9955	-0.42086	0.37979	-3.0010
5.4755	101.77500	76.82500	-1.00000	-4.0855	0.0	-0.055961	-4.0852
7.3007	101.80000	75.00000	-1.00000	-4.0721	0.0	-0.055777	-4.0717
9.1259	101.82500	73.17500	-1.00000	-4.0587	0.0	-0.055593	-4.0583
10.951	101.85000	71.35000	-1.00000	-4.0452	0.0	-0.055409	-4.0449
12.776	101.87500	69.52500	-1.00000	-4.0318	0.0	-0.055225	-4.0315
14.601	101.90000	67.70000	-1.00000	-4.0184	0.0	-0.055042	-4.0181

Structure: Q | 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	103.20000	67.70000	-1.00000	-3.3406	0.0	0.0	-3.3406
0.88000	103.20000	66.82000	-1.00000	-3.3406	0.0	0.0	-3.3406
1.7600	103.20000	65.94000	-1.00000	-3.3406	0.0	0.0	-3.3406
2.6400	103.20000	65.06000	-1.00000	-3.3406	0.0	0.0	-3.3406
3.5200	103.20000	64.18000	-1.00000	-3.3406	0.0	0.0	-3.3406
4.4000	103.20000	63.30000	-1.00000	-3.3406	0.0	0.0	-3.3406

Structure: R | 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	103.20000	63.30000	-1.00000	-3.3406	0.0	3.3406	0.0
0.91429	102.28571	63.30000	-1.00000	-3.8137	0.0	3.8137	0.0
1.8286	101.37143	63.30000	-1.00000	-4.3047	0.0	4.3047	0.0
2.7429	100.45714	63.30000	-1.00000	-4.8168	0.0	4.8168	0.0
3.6571	99.54286	63.30000	-1.00000	-5.3529	0.0	5.3529	0.0
4.5714	98.62857	63.30000	-1.00000	-5.9161	0.0	5.9161	0.0
5.4857	97.71429	63.30000	-1.00000	-6.5095	0.0	6.5095	0.0
6.4000	96.80000	63.30000	-1.00000	-7.1361	0.0	7.1361	0.0

Structure: S | 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	96.80000	63.30000	-1.00000	-7.1361	0.0	0.19280	7.1335
1.8507	96.75000	65.15000	-1.00000	-7.1714	0.0	0.19375	7.1688
3.7014	96.70000	67.00000	-1.00000	-7.2068	0.0	0.19471	7.2042
5.5520	96.65000	68.85000	-1.00000	-7.2423	0.0	0.19567	7.2397
7.4027	96.60000	70.70000	-1.00000	-7.2779	0.0	0.19663	7.2753
9.2534	96.55000	72.55000	-1.00000	-7.3136	0.0	0.19759	7.3110
11.104	96.50000	74.40000	-1.00000	-7.3495	0.0	0.19856	7.3468
12.955	96.45000	76.25000	-1.00000	-7.3854	0.0	0.19953	7.3827

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
14.805	96.40000	78.10000	-1.00000	-5.0696	-2.1727	-2.0349	-5.1265
16.656	96.35000	79.95000	-1.00000	-1.3812	-4.5686	-4.5296	1.5041
18.507	96.30000	81.80000	-1.00000	-0.58826	-3.9217	-3.9044	0.69400

Structure: T | 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	96.30000	81.80000	-1.00000	-0.58826	-3.9217	-0.58826	-3.9217
0.90000	97.20000	81.80000	-1.00000	-1.2990	-3.4641	-1.2990	-3.4641
1.8000	98.10000	81.80000	-1.00000	-1.7430	-2.9050	-1.7430	-2.9050
2.7000	99.00000	81.80000	-1.00000	-1.9460	-2.3587	-1.9460	-2.3587
3.6000	99.90000	81.80000	-1.00000	-1.9975	-1.9024	-1.9975	-1.9024
4.5000	100.80000	81.80000	-1.00000	-2.0057	-1.5731	-2.0057	-1.5731
5.4000	101.70000	81.80000	-1.00000	-1.9243	-1.2829	-1.9243	-1.2829

Structure: U | 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	134.70000	67.60000	-3.00000	0.0	0.0	0.0	0.0
1.7000	133.00000	67.60000	-3.00000	0.0	0.0	0.0	0.0
3.4000	131.30000	67.60000	-3.00000	0.0	0.0	0.0	0.0
5.1000	129.60000	67.60000	-3.00000	0.0	0.0	0.0	0.0
6.8000	127.90000	67.60000	-3.00000	0.0	0.0	0.0	0.0
8.5000	126.20000	67.60000	-3.00000	0.0	0.0	0.0	0.0
10.200	124.50000	67.60000	-3.00000	0.0	0.0	0.0	0.0

Structure: V | 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	124.50000	67.60000	-3.00000	0.0	0.0	0.0	0.0
0.83333	124.50000	68.43333	-3.00000	0.0	0.0	0.0	0.0
1.6667	124.50000	69.26667	-3.00000	0.0	0.0	0.0	0.0
2.5000	124.50000	70.10000	-3.00000	0.0	0.0	0.0	0.0

Structure: W | 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	124.50000	70.10000	-3.00000	0.0	0.0	0.0	0.0
0.87143	123.62857	70.10000	-3.00000	0.0	0.0	0.0	0.0
1.7429	122.75714	70.10000	-3.00000	0.0	0.0	0.0	0.0
2.6143	121.88571	70.10000	-3.00000	0.0	0.0	0.0	0.0
3.4857	121.01429	70.10000	-3.00000	0.0	0.0	0.0	0.0
4.3571	120.14286	70.10000	-3.00000	0.0	0.0	0.0	0.0
5.2286	119.27143	70.10000	-3.00000	0.0	0.0	0.0	0.0
6.1000	118.40000	70.10000	-3.00000	0.0	0.0	0.0	0.0

Structure: X | 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	118.40000	70.10000	-3.00000	0.0	0.0	0.0	0.0
1.8375	118.40000	71.93750	-3.00000	0.0	0.0	0.0	0.0
3.6750	118.40000	73.77500	-3.00000	0.0	0.0	0.0	0.0
5.5125	118.40000	75.61250	-3.00000	0.0	0.0	0.0	0.0
7.3500	118.40000	77.45000	-3.00000	0.0	0.0	0.0	0.0
9.1875	118.40000	79.28750	-3.00000	0.0	0.0	0.0	0.0
11.025	118.40000	81.12500	-3.00000	0.0	0.0	0.0	0.0
12.862	118.40000	82.96250	-3.00000	0.0	0.0	0.0	0.0
14.700	118.40000	84.80000	-3.00000	0.0	0.0	0.0	0.0

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	118.40000	84.80000	-3.00000	0.0	0.0	0.0	0.0
0.88750	119.28750	84.80000	-3.00000	0.0	0.0	0.0	0.0
1.7750	120.17500	84.80000	-3.00000	0.0	0.0	0.0	0.0
2.6625	121.06250	84.80000	-3.00000	0.0	0.0	0.0	0.0
3.5500	121.95000	84.80000	-3.00000	0.0	0.0	0.0	0.0
4.4375	122.83750	84.80000	-3.00000	0.0	0.0	0.0	0.0
5.3250	123.72500	84.80000	-3.00000	0.0	0.0	0.0	0.0
6.2125	124.61250	84.80000	-3.00000	0.0	0.0	0.0	0.0
7.1000	125.50000	84.80000	-3.00000	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	125.50000	84.80000	-3.00000	0.0	0.0	0.0	0.0
0.90000	125.50000	85.70000	-3.00000	0.0	0.0	0.0	0.0
1.8000	125.50000	86.60000	-3.00000	0.0	0.0	0.0	0.0
2.7000	125.50000	87.50000	-3.00000	0.0	0.0	0.0	0.0

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	125.50000	87.50000	-3.00000	0.0	0.0	0.0	0.0
0.92000	126.42000	87.50000	-3.00000	0.0	0.0	0.0	0.0
1.8400	127.34000	87.50000	-3.00000	0.0	0.0	0.0	0.0
2.7600	128.26000	87.50000	-3.00000	0.0	0.0	0.0	0.0
3.6800	129.18000	87.50000	-3.00000	0.0	0.0	0.0	0.0
4.6000	130.10000	87.50000	-3.00000	0.0	0.0	0.0	0.0
5.5200	131.02000	87.50000	-3.00000	0.0	0.0	0.0	0.0

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the	Horizontal displacement perpendicular
6.4400	131.94000	87.50000	-3.00000	0.0	0.0	0.0	0.0
7.3600	132.86000	87.50000	-3.00000	0.0	0.0	0.0	0.0
8.2800	133.78000	87.50000	-3.00000	0.0	0.0	0.0	0.0
9.2000	134.70000	87.50000	-3.00000	0.0	0.0	0.0	0.0

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	54.60000	64.70000	-1.00000	0.0
0.91429	55.51429	64.70000	-1.00000	0.0
1.8286	56.42857	64.70000	-1.00000	0.0
2.7429	57.34286	64.70000	-1.00000	0.20936
3.6571	58.25714	64.70000	-1.00000	0.41972
4.5714	59.17143	64.70000	-1.00000	0.63822
5.4857	60.08571	64.70000	-1.00000	0.88267
6.4000	61.00000	64.70000	-1.00000	1.1655

Structure: B | Sub-structure:

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	61.00000	64.70000	-1.00000	1.1655
0.70000	61.00000	65.40000	-1.00000	1.1655
1.4000	61.00000	66.10000	-1.00000	1.1655

Structure: C | Sub-structure:

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	61.00000	66.10000	-1.00000	1.1655
0.95000	61.95000	66.10000	-1.00000	1.5075
1.9000	62.90000	66.10000	-1.00000	1.9002
2.8500	63.85000	66.10000	-1.00000	2.3389
3.8000	64.80000	66.10000	-1.00000	2.8127

Structure: D | Sub-structure:

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	64.80000	66.10000	-1.00000	2.8127
0.90000	64.80000	67.00000	-1.00000	2.8127
1.8000	64.80000	67.90000	-1.00000	2.8127
2.7000	64.80000	68.80000	-1.00000	2.8127
3.6000	64.80000	69.70000	-1.00000	2.8127
4.5000	64.80000	70.60000	-1.00000	2.8127
5.4000	64.80000	71.50000	-1.00000	2.8127
6.3000	64.80000	72.40000	-1.00000	2.8127
7.2000	64.80000	73.30000	-1.00000	2.8127

Structure: E | Sub-structure:

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	64.80000	73.30000	-1.00000	2.8127
1.9125	62.88750	73.30000	-1.00000	1.8947
3.8250	60.97500	73.30000	-1.00000	1.1572
5.7375	59.06250	73.30000	-1.00000	0.61112
7.6500	57.15000	73.30000	-1.00000	0.16394
9.5625	55.23750	73.30000	-1.00000	0.0
11.475	53.32500	73.30000	-1.00000	0.0
13.387	51.41250	73.30000	-1.00000	0.0
15.300	49.50000	73.30000	-1.00000	0.0

Structure: F | Sub-structure:

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	49.50000	73.30000	-1.00000	0.0
0.87143	49.50000	72.42857	-1.00000	0.0
1.7429	49.50000	71.55714	-1.00000	0.0
2.6143	49.50000	70.68571	-1.00000	0.0
3.4857	49.50000	69.81429	-1.00000	0.0
4.3571	49.50000	68.94286	-1.00000	0.0
5.2286	49.50000	68.07143	-1.00000	0.0
6.1000	49.50000	67.20000	-1.00000	0.0

Structure: G | Sub-structure:

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	40.80000	55.60000	-2.00000	0.0
1.9714	42.77143	55.60000	-2.00000	0.0
3.9429	44.74286	55.60000	-2.00000	0.0
5.9143	46.71429	55.60000	-2.00000	0.0
7.8857	48.68571	55.60000	-2.00000	0.0
9.8571	50.65714	55.60000	-2.00000	0.0
11.829	52.62857	55.60000	-2.00000	0.0
13.800	54.60000	55.60000	-2.00000	0.0

Structure: H | Sub-structure:

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	54.60000	55.60000	-2.00000	0.0
1.9333	54.60000	57.53333	-2.00000	0.0
3.8667	54.60000	59.46667	-2.00000	0.0
5.8000	54.60000	61.40000	-2.00000	0.0
7.7333	54.60000	63.33333	-2.00000	0.0
9.6667	54.60000	65.26667	-2.00000	0.0
11.600	54.60000	67.20000	-2.00000	0.0

Structure: I | Sub-structure:

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

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

Vertical Offset 1

0.0	54.60000	67.20000	-2.00000	0.0
1.9714	52.62857	67.20000	-2.00000	0.0
3.9429	50.65714	67.20000	-2.00000	0.0
5.9143	48.68571	67.20000	-2.00000	0.0
7.8857	46.71429	67.20000	-2.00000	0.0
9.8571	44.74286	67.20000	-2.00000	0.0
11.829	42.77143	67.20000	-2.00000	0.0
13.800	40.80000	67.20000	-2.00000	0.0

Structure: J | Sub-structure:

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

Vertical Offset 1

0.0	40.80000	67.20000	-2.00000	0.0
1.9333	40.80000	65.26667	-2.00000	0.0
3.8667	40.80000	63.33333	-2.00000	0.0
5.8000	40.80000	61.40000	-2.00000	0.0
7.7333	40.80000	59.46667	-2.00000	0.0
9.6667	40.80000	57.53333	-2.00000	0.0
11.600	40.80000	55.60000	-2.00000	0.0

Structure: K | Sub-structure:

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

Vertical Offset 1

0.0	101.70000	67.70000	-1.00000	3.6900
0.96250	102.66250	67.70000	-1.00000	3.1940
1.9250	103.62500	67.70000	-1.00000	2.6981
2.8875	104.58750	67.70000	-1.00000	2.2254
3.8500	105.55000	67.70000	-1.00000	1.7921
4.8125	106.51250	67.70000	-1.00000	1.4079
5.7750	107.47500	67.70000	-1.00000	1.0759
6.7375	108.43750	67.70000	-1.00000	0.79239
7.7000	109.40000	67.70000	-1.00000	0.54721

Structure: L | Sub-structure:

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

Vertical Offset 1

0.0	109.40000	67.70000	-1.00000	0.54721
1.0000	109.40000	68.70000	-1.00000	0.54721
2.0000	109.40000	69.70000	-1.00000	0.54721

Structure: M | Sub-structure:

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

Vertical Offset 1

0.0	109.40000	69.70000	-1.00000	0.54721
0.91250	110.31250	69.70000	-1.00000	0.33488
1.8250	111.22500	69.70000	-1.00000	0.12195
2.7375	112.13750	69.70000	-1.00000	0.0
3.6500	113.05000	69.70000	-1.00000	0.0
4.5625	113.96250	69.70000	-1.00000	0.0
5.4750	114.87500	69.70000	-1.00000	0.0
6.3875	115.78750	69.70000	-1.00000	0.0
7.3000	116.70000	69.70000	-1.00000	0.0

Structure: N | Sub-structure:

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

Vertical Offset 1

0.0	116.70000	69.70000	-1.00000	0.0
1.8002	116.72857	71.50000	-1.00000	0.0
3.6005	116.75714	73.30000	-1.00000	0.0
5.4007	116.78571	75.10000	-1.00000	0.0
7.2009	116.81429	76.90000	-1.00000	0.0
9.0011	116.84286	78.70000	-1.00000	0.0
10.801	116.87143	80.50000	-1.00000	0.0
12.602	116.90000	82.30000	-1.00000	0.0

Structure: O | Sub-structure:

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

Vertical Offset 1

0.0	116.90000	82.30000	-1.00000	0.0
1.9000	115.00000	82.30000	-1.00000	0.0
3.8000	113.10000	82.30000	-1.00000	0.0
5.7000	111.20000	82.30000	-1.00000	0.0
7.6000	109.30000	82.30000	-1.00000	0.37450
9.5000	107.40000	82.30000	-1.00000	0.78464
11.400	105.50000	82.30000	-1.00000	1.2598
13.300	103.60000	82.30000	-1.00000	1.7990
15.200	101.70000	82.30000	-1.00000	2.3450

Structure: P | Sub-structure:

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

Vertical Offset 1

0.0	101.70000	82.30000	-1.00000	2.3450
1.8252	101.72500	80.47500	-1.00000	2.7536
3.6503	101.75000	78.65000	-1.00000	3.0378
5.4755	101.77500	76.82500	-1.00000	3.6520
7.3007	101.80000	75.00000	-1.00000	3.6393
9.1259	101.82500	73.17500	-1.00000	3.6266
10.951	101.85000	71.35000	-1.00000	3.6138
12.776	101.87500	69.52500	-1.00000	3.6011
14.601	101.90000	67.70000	-1.00000	3.5883

Structure: Q | Sub-structure:

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

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	103.20000	67.70000	-1.00000	2.9154
0.88000	103.20000	66.82000	-1.00000	2.9154
1.7600	103.20000	65.94000	-1.00000	2.9154
2.6400	103.20000	65.06000	-1.00000	2.9154
3.5200	103.20000	64.18000	-1.00000	2.9154
4.4000	103.20000	63.30000	-1.00000	2.9154

Structure: R | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	103.20000	63.30000	-1.00000	2.9154
0.91429	102.28571	63.30000	-1.00000	3.3896
1.8286	101.37143	63.30000	-1.00000	3.8543
2.7429	100.45714	63.30000	-1.00000	4.2819
3.6571	99.54286	63.30000	-1.00000	4.6397
4.5714	98.62857	63.30000	-1.00000	4.8894
5.4857	97.71429	63.30000	-1.00000	4.9872
6.4000	96.80000	63.30000	-1.00000	4.8842

Structure: S | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	96.80000	63.30000	-1.00000	4.8842
1.8507	96.75000	65.15000	-1.00000	4.8717
3.7014	96.70000	67.00000	-1.00000	4.8585
5.5520	96.65000	68.85000	-1.00000	4.8444
7.4027	96.60000	70.70000	-1.00000	4.8296
9.2534	96.55000	72.55000	-1.00000	4.8140
11.104	96.50000	74.40000	-1.00000	4.7976
12.955	96.45000	76.25000	-1.00000	4.7803
14.805	96.40000	78.10000	-1.00000	4.0591
16.656	96.35000	79.95000	-1.00000	4.1023
18.507	96.30000	81.80000	-1.00000	3.7798

Structure: T | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	96.30000	81.80000	-1.00000	3.7798
0.90000	97.20000	81.80000	-1.00000	3.6116
1.8000	98.10000	81.80000	-1.00000	3.4034
2.7000	99.00000	81.80000	-1.00000	3.1653
3.6000	99.90000	81.80000	-1.00000	2.9245
4.5000	100.80000	81.80000	-1.00000	2.7137
5.4000	101.70000	81.80000	-1.00000	2.4672

Structure: U | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	134.70000	67.60000	-3.00000	0.0
1.7000	133.00000	67.60000	-3.00000	0.0
3.4000	131.30000	67.60000	-3.00000	0.0
5.1000	129.60000	67.60000	-3.00000	0.0
6.8000	127.90000	67.60000	-3.00000	0.0
8.5000	126.20000	67.60000	-3.00000	0.0
10.200	124.50000	67.60000	-3.00000	0.0

Structure: V | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	124.50000	67.60000	-3.00000	0.0
0.83333	124.50000	68.43333	-3.00000	0.0
1.6667	124.50000	69.26667	-3.00000	0.0
2.5000	124.50000	70.10000	-3.00000	0.0

Structure: W | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	124.50000	70.10000	-3.00000	0.0
0.87143	123.62857	70.10000	-3.00000	0.0
1.7429	122.75714	70.10000	-3.00000	0.0
2.6143	121.88571	70.10000	-3.00000	0.0
3.4857	121.01429	70.10000	-3.00000	0.0
4.3571	120.14286	70.10000	-3.00000	0.0
5.2286	119.27143	70.10000	-3.00000	0.0
6.1000	118.40000	70.10000	-3.00000	0.0

Structure: X | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	118.40000	70.10000	-3.00000	0.0
1.8375	118.40000	71.93750	-3.00000	0.0
3.6750	118.40000	73.77500	-3.00000	0.0
5.5125	118.40000	75.61250	-3.00000	0.0
7.3500	118.40000	77.45000	-3.00000	0.0
9.1875	118.40000	79.28750	-3.00000	0.0
11.025	118.40000	81.12500	-3.00000	0.0
12.862	118.40000	82.96250	-3.00000	0.0
14.700	118.40000	84.80000	-3.00000	0.0

Structure: Y | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	118.40000	84.80000	-3.00000	0.0
0.88750	119.28750	84.80000	-3.00000	0.0
1.7750	120.17500	84.80000	-3.00000	0.0
2.6625	121.06250	84.80000	-3.00000	0.0
3.5500	121.95000	84.80000	-3.00000	0.0
4.4375	122.83750	84.80000	-3.00000	0.0

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
5.3250	123.72500	84.80000	-3.00000	0.0
6.2125	124.61250	84.80000	-3.00000	0.0
7.1000	125.50000	84.80000	-3.00000	0.0

Structure: Z | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	125.50000	84.80000	-3.00000	0.0
0.90000	125.50000	85.70000	-3.00000	0.0
1.8000	125.50000	86.60000	-3.00000	0.0
2.7000	125.50000	87.50000	-3.00000	0.0

Structure: AA | Sub-structure:

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	125.50000	87.50000	-3.00000	0.0
0.92000	126.42000	87.50000	-3.00000	0.0
1.8400	127.34000	87.50000	-3.00000	0.0
2.7600	128.26000	87.50000	-3.00000	0.0
3.6800	129.18000	87.50000	-3.00000	0.0
4.6000	130.10000	87.50000	-3.00000	0.0
5.5200	131.02000	87.50000	-3.00000	0.0
6.4400	131.94000	87.50000	-3.00000	0.0
7.3600	132.86000	87.50000	-3.00000	0.0
8.2800	133.78000	87.50000	-3.00000	0.0
9.2000	134.70000	87.50000	-3.00000	0.0

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	1	2.7429	3.6561	Hogging	0.0013418	0.031710	0.032175	-390.83E-6	-309.23E-6	15240.	0 (Negligible)

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

Structure: B | 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	1.3990	Hogging	0.0	0.0	0.0	0.0	0.0	-	0 (Negligible)

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

Structure: C | 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	3.7990	Hogging	0.0023281	0.048234	0.049073	-497.44E-6	-498.51E-6	17437.	0 (Negligible)

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

Structure: D | 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	7.1990	Sagging	0.0	0.0	0.0	0.0	0.0	-	0 (Negligible)

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

Structure: E | 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	7.6500	Hogging	0.0043053	0.039857	0.042849	-491.06E-6	479.77E-6	17651.	0 (Negligible)

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

Structure: F | 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: G | 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: H | 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]	

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: I | 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: J | 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: K | 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	0.46820	None	0.0	0.052911	0.052911	-528.83E-6	515.08E-6	166060.	1 (Very Slight)
	2	0.46820	7.2308	Hogging	0.0041409	0.044327	0.046364	-528.83E-6	515.08E-6	18409.	0 (Negligible)

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

Structure: L | 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	1.9990	None	0.0	0.0	0.0	0.0	0.0	-	0 (Negligible)

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

Structure: M | 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	0.46834	None	0.0	0.029250	0.029250	-292.41E-6	232.62E-6	35450.	0 (Negligible)
	2	0.46834	1.3567	Sagging	14.512E-6	0.029250	0.029253	-292.41E-6	233.28E-6	10986.	0 (Negligible)

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

Structure: N | 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: O | 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	7.6000	7.1026	Hogging	0.0013015	0.019449	0.020079	-233.13E-6	-287.34E-6	28280.	0 (Negligible)
	2	14.703	0.49641	Hogging	0.0	0.015725	0.015725	-157.23E-6	-287.34E-6	482510.	0 (Negligible)

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

Structure: P | 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	14.600	Sagging	0.0057281	-0.0091463	0.0031005	363.70E-6	-336.57E-6	13995.	0 (Negligible)

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

Structure: Q | 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	4.3990	None	0.0	0.0	0.0	0.0	0.0	-	0 (Negligible)

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

Structure: R | 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	6.3990	Sagging	0.0093420	0.059304	0.073186	-684.87E-6	-518.39E-6	3924.4	1 (Very Slight)

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

Structure: S | Sub-structure:

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	14.033	Sagging	0.0026970	-0.0092301	0.0018839	0.0012088	390.19E-6	19445.	0 (Negligible)
	2	14.033	1.8501	Hogging	0.0099783	-0.12893	0.026409	0.0013498	390.19E-6	29919.	0 (Negligible)
	3	15.883	2.6225	Sagging	0.0040849	-0.015897	0.0038645	0.0013498	174.20E-6	5275.1	0 (Negligible)

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

Structure: T | Sub-structure:

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	2.8766	Sagging	0.0013459	-0.047550	0.0095348	790.36E-6	267.63E-6	19124.	0 (Negligible)
	2	2.8766	0.92069	Hogging	557.36E-6	-0.0046953	993.31E-6	57.258E-6	267.63E-6	150950.	0 (Negligible)
	3	3.7972	1.6018	Sagging	968.37E-6	0.0046737	0.0052467	-90.433E-6	273.92E-6	15510.	0 (Negligible)

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

Structure: U | Sub-structure:

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: V | Sub-structure:

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: W | Sub-structure:

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: X | Sub-structure:

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: Y | Sub-structure:

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: Z | Sub-structure:

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: AA | Sub-structure:

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.

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 [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Maximum Slope [mm]	Maximum Settlement [mm]	Max. Tensile Strain [%]	Maximum Gradient of Horizontal Displacement Curve	Maximum Gradient of Vertical Displacement Curve	Min. Radius of Curvature (Hogging) [m]	Min. Radius of Curvature (Sagging) [m]	Damage Category
0.0	0.0013418	0.031710	-309.23E-6	1.1652	0.032175	-390.83E-6	-309.23E-6	15240.		- 0 (Negligible)

Structure: B | Sub-structure:

Vertical Offset from	Deflection Ratio	Average Horizontal	Maximum Slope	Maximum Settlement	Max. Tensile	Maximum Gradient of	Maximum Gradient of	Min. Radius of	Min. Radius of	Damage Category

Line for Vertical Movement Calculations	Strain		Strain	Horizontal Displacement Curve	Vertical Displacement Curve	Curvature (Hogging)	Curvature (Sagging)	
[m]	[%]	[%]	[mm]	[%]		[m]	[m]	
0.0	0.0	0.0	1.1655	0.0	0.0	0.0	-	- 0 (Negligible)

Structure: C | 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	0.0023281	0.048234	-498.51E-6	2.8122	0.049073	-497.44E-6	-498.51E-6	17437.		- 0 (Negligible)

Structure: D | 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	0.0	0.0	2.8127	0.0	0.0	0.0	-		- 0 (Negligible)

Structure: E | 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	0.0043053	0.039857	479.77E-6	2.8127	0.042849	-491.06E-6	479.77E-6	17651.		- 0 (Negligible)

Structure: F | 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: G | 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: H | 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: I | 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: J | 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: K | 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	0.0041409	0.052911	515.08E-6	3.6900	0.052911	-528.83E-6	515.08E-6	18409.		- 1 (Very Slight)

Structure: L | 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	0.0	0.0	0.54721	0.0	0.0	0.0	-		- 0 (Negligible)

Structure: M | 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	14.512E-6	0.029250	233.28E-6	0.54721	0.029253	-292.41E-6	233.28E-6	-	10986.	0 (Negligible)

Structure: N | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Maximum Slope [%]	Maximum Settlement [mm]	Max. Tensile Strain [%]	Maximum Gradient of Horizontal Displacement Curve [m]	Maximum Gradient of Vertical Displacement Curve [m]	Min. Radius of Curvature (Hogging) [m]	Min. Radius of Curvature (Sagging) [m]	Damage Category
Structure: O | Sub-structure:										
0.0	0.0013015	0.019449	-287.34E-6	2.3448	0.020079	-233.13E-6	-287.34E-6	28280.		- 0 (Negligible)
Structure: P | Sub-structure:										
0.0	0.0057281	-0.0091463	-336.57E-6	3.6511	0.0031005	363.70E-6	-336.57E-6	-	13995.	0 (Negligible)
Structure: Q | Sub-structure:										
0.0	0.0	0.0	0.0	2.9154	0.0	0.0	0.0	-		- 0 (Negligible)
Structure: R | Sub-structure:										
0.0	0.0093420	0.059304	-518.39E-6	4.9863	0.073186	-684.87E-6	-518.39E-6	-	3924.4	1 (Very Slight)
Structure: S | Sub-structure:										
0.0	0.0099783	-0.12893	390.19E-6	4.8842	0.026409	0.0013498	390.19E-6	29919.	5275.1	0 (Negligible)
Structure: T | Sub-structure:										
0.0	0.0013459	-0.047550	273.92E-6	3.7798	0.0095348	790.36E-6	273.92E-6	150950.	15510.	0 (Negligible)
Structure: U | Sub-structure:										
Structure: V | Sub-structure:										
Structure: W | Sub-structure:										
Structure: X | Sub-structure:										
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]	

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]	

Specific Building Damage Results - Critical Segments within Each Structure

Structure Name	Parameter	Critical Sub-Structure	Critical Segment	Start [m]	End [m]	Curvature	Maximum Slope	Maximum Settlement [mm]	Max. Tensile Strain [%]	Min. Radius of Curvature (Hogging) [m]	Min. Radius of Curvature (Sagging) [m]	Damage Category
A	Maximum Slope		1	2.7429	6.3990	Hogging	**309.23E-6**	1.1652	0.032175	15240.		- 0 (Negligible)
	Maximum Settlement		1	2.7429	6.3990	Hogging	309.23E-6	**1.1652**	0.032175	15240.		- 0 (Negligible)
	Max. Tensile Strain		1	2.7429	6.3990	Hogging	309.23E-6	1.1652	**0.032175**	15240.		- 0 (Negligible)
	Min. Radius of Curvature (Hogging)		1	2.7429	6.3990	Hogging	309.23E-6	1.1652	0.032175	**15240.**		- 0 (Negligible)
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	- -
B	Maximum Slope		-	-	-	-	-	-	-	-	-	- -
	Maximum Settlement		1	0.0	1.3990	Hogging	0.0	**1.1655**	0.0	-		- 0 (Negligible)
	Max. Tensile Strain		1	0.0	1.3990	Hogging	0.0	1.1655	**0.0**	-		- 0 (Negligible)
	Min. Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	- -
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	- -
C	Maximum Slope		1	0.0	3.7990	Hogging	**498.51E-6**	2.8122	0.049073	17437.		- 0 (Negligible)
	Maximum Settlement		1	0.0	3.7990	Hogging	498.51E-6	**2.8122**	0.049073	17437.		- 0 (Negligible)
	Max. Tensile Strain		1	0.0	3.7990	Hogging	498.51E-6	2.8122	**0.049073**	17437.		- 0 (Negligible)
	Min. Radius of Curvature (Hogging)		1	0.0	3.7990	Hogging	498.51E-6	2.8122	0.049073	**17437.**		- 0 (Negligible)
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	- -
D	Maximum Slope		-	-	-	-	-	-	-	-	-	- -
	Maximum Settlement		1	0.0	7.1990	Sagging	0.0	**2.8127**	0.0	-		- 0 (Negligible)
	Max. Tensile Strain		1	0.0	7.1990	Sagging	0.0	2.8127	**0.0**	-		- 0 (Negligible)
	Min. Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	- -
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	- -
E	Maximum Slope		1	0.0	7.6500	Hogging	**479.77E-6**	2.8127	0.042849	17651.		- 0 (Negligible)
	Maximum Settlement		1	0.0	7.6500	Hogging	479.77E-6	**2.8127**	0.042849	17651.		- 0 (Negligible)
	Max. Tensile Strain		1	0.0	7.6500	Hogging	479.77E-6	2.8127	**0.042849**	17651.		- 0 (Negligible)
	Min. Radius of Curvature (Hogging)		1	0.0	7.6500	Hogging	479.77E-6	2.8127	0.042849	**17651.**		- 0 (Negligible)
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	- -
F	All settlements are less than the Settlement Trough Limit Sensitivity.											
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	All settlements are less than the Settlement Trough Limit Sensitivity.											
K	Maximum Slope		1	0.0	0.46820	Sagging	**515.08E-6**	3.6900	0.052911	-	166060.	1 (Very Slight)
	Maximum Settlement		1	0.0	0.46820	Sagging	515.08E-6	**3.6900**	0.052911	-	166060.	1 (Very Slight)
	Max. Tensile Strain		1	0.0	0.46820	Sagging	515.08E-6	3.6900	**0.052911**	-	166060.	1 (Very Slight)
	Min. Radius of Curvature (Hogging)		2	0.46820	7.6990	Hogging	515.08E-6	3.4487	0.046364	**18409.**		- 0 (Negligible)
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	- -
L	Maximum Slope		-	-	-	-	-	-	-	-	-	- -
	Maximum Settlement		1	0.0	1.9990	Sagging	0.0	**0.54721**	0.0	-		- 0 (Negligible)
	Max. Tensile Strain		1	0.0	1.9990	Sagging	0.0	0.54721	**0.0**	-		- 0 (Negligible)
	Min. Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	- -
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	- -
M	Maximum Slope		2	0.46834	1.8250	Sagging	**233.28E-6**	0.43823	0.029253	-	10986.	0 (Negligible)
	Maximum Settlement		1	0.0	0.46834	Sagging	232.62E-6	**0.54721**	0.029250	-	35450.	0 (Negligible)
	Max. Tensile Strain		2	0.46834	1.8250	Sagging	233.28E-6	0.43823	**0.029253**	-	10986.	0 (Negligible)
	Min. Radius of Curvature		-	-	-	-	-	-	-	-	-	- -

Structure Name	Parameter	Critical Sub-Structure	Critical Segment	Start [m]	End [m]	Curvature	Maximum Slope	Maximum Settlement [mm]	Max. Tensile Strain [%]	Min. Radius of Curvature (Hogging) [m]	Min. Radius of Curvature (Sagging) [m]	Damage Category
	(Hogging)											
	Min. Radius of Curvature (Sagging)		2	0.46834	1.8250	Sagging	233.28E-6	0.43823	0.029253	-	**10986.**	0 (Negligible)
N	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
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	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
O	Maximum Slope		1	7.6000	14.703	Hogging	**287.34E-6**	2.2021	0.020079	28280.	-	0 (Negligible)
	Maximum Settlement		2	14.703	15.199	Hogging	287.34E-6	**2.3448**	0.015725	482510.	-	0 (Negligible)
	Max. Tensile Strain		1	7.6000	14.703	Hogging	287.34E-6	2.2021	**0.020079**	28280.	-	0 (Negligible)
	Min. Radius of Curvature (Hogging)		1	7.6000	14.703	Hogging	287.34E-6	2.2021	0.020079	**28280.**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
P	Maximum Slope		1	0.0	14.600	Sagging	**336.57E-6**	3.6511	0.0031005	-	13995.	0 (Negligible)
	Maximum Settlement		1	0.0	14.600	Sagging	336.57E-6	**3.6511**	0.0031005	-	13995.	0 (Negligible)
	Max. Tensile Strain		1	0.0	14.600	Sagging	336.57E-6	3.6511	**0.0031005**	-	13995.	0 (Negligible)
	Min. Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min. Radius of Curvature (Sagging)		1	0.0	14.600	Sagging	336.57E-6	3.6511	0.0031005	-	**13995.**	0 (Negligible)
Q	Maximum Slope		-	-	-	-	-	-	-	-	-	-
	Maximum Settlement		1	0.0	4.3990	Sagging	0.0	**2.9154**	0.0	-	-	0 (Negligible)
	Max. Tensile Strain		1	0.0	4.3990	Sagging	0.0	2.9154	**0.0**	-	-	0 (Negligible)
	Min. Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min. Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
R	Maximum Slope		1	0.0	6.3990	Sagging	**518.39E-6**	4.9863	0.073186	-	3924.4	1 (Very Slight)
	Maximum Settlement		1	0.0	6.3990	Sagging	518.39E-6	**4.9863**	0.073186	-	3924.4	1 (Very Slight)
	Max. Tensile Strain		1	0.0	6.3990	Sagging	518.39E-6	4.9863	**0.073186**	-	3924.4	1 (Very Slight)
	Min. Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min. Radius of Curvature (Sagging)		1	0.0	6.3990	Sagging	518.39E-6	4.9863	0.073186	-	**3924.4**	1 (Very Slight)
S	Maximum Slope		1	0.0	14.033	Sagging	**390.19E-6**	4.8842	0.0018839	-	19445.	0 (Negligible)
	Maximum Settlement		1	0.0	14.033	Sagging	390.19E-6	**4.8842**	0.0018839	-	19445.	0 (Negligible)
	Max. Tensile Strain		2	14.033	15.883	Hogging	390.19E-6	4.3600	**0.026409**	29919.	-	0 (Negligible)
	Min. Radius of Curvature (Hogging)		2	14.033	15.883	Hogging	390.19E-6	4.3600	0.026409	**29919.**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)		3	15.883	18.506	Sagging	174.20E-6	4.1023	0.0038645	-	**5275.1**	0 (Negligible)
T	Maximum Slope		3	3.7972	5.3990	Sagging	**273.92E-6**	2.8783	0.0052467	-	15510.	0 (Negligible)
	Maximum Settlement		1	0.0	2.8766	Sagging	267.63E-6	**3.7798**	0.0095348	-	19124.	0 (Negligible)
	Max. Tensile Strain		1	0.0	2.8766	Sagging	267.63E-6	3.7798	**0.0095348**	-	19124.	0 (Negligible)
	Min. Radius of Curvature (Hogging)		2	2.8766	3.7972	Hogging	267.63E-6	3.1181	993.31E-6	**150950.**	-	0 (Negligible)
	Min. Radius of Curvature (Sagging)		3	3.7972	5.3990	Sagging	273.92E-6	2.8783	0.0052467	-	**15510.**	0 (Negligible)
U	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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AA	All settlements are less than the Settlement Trough Limit Sensitivity.											
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Specific Building Damage Results - All Combined Segments

Structure: A | Sub-structure:

Vertical Offset from Line for Vertical Movement Calculations [m]	Combined Segment Start [m]	Length [m]	Curvature Ratio [%]	Deflection [%]	Average Horizontal Strain [%]	Max. Tensile Strain [%]	Damage Category
No structures have segments combined.							

Structure: B | Sub-structure:

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

No structures have segments combined.

Structure: D | Sub-structure:

No structures have segments combined.

Structure: E | Sub-structure:

No structures have segments combined.

Structure: F | Sub-structure:

No structures have segments combined.

Structure: G | Sub-structure:

No structures have segments combined.

Structure: H | Sub-structure:

No structures have segments combined.

Structure: I | Sub-structure:

No structures have segments combined.

Structure: J | Sub-structure:

No structures have segments combined.

Structure: K | Sub-structure:

No structures have segments combined.

Structure: L | Sub-structure:

No structures have segments combined.

Structure: M | Sub-structure:

No structures have segments combined.

Structure: N | Sub-structure:

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

No structures have segments combined.

Structure: O | Sub-structure:

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

No structures have segments combined.

Structure: P | Sub-structure:

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

No structures have segments combined.

Structure: Q | Sub-structure:

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

No structures have segments combined.

Structure: R | Sub-structure:

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

No structures have segments combined.

Structure: S | Sub-structure:

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

No structures have segments combined.

Structure: U | Sub-structure:

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

No structures have segments combined.

Structure: V | Sub-structure:

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

No structures have segments combined.

Structure: W | Sub-structure:

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

No structures have segments combined.

Structure: X | Sub-structure:

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

No structures have segments combined.

Structure: Y | Sub-structure:

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

Vertical Offset from Line for Vertical	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]	[%]		[%]	[%]	

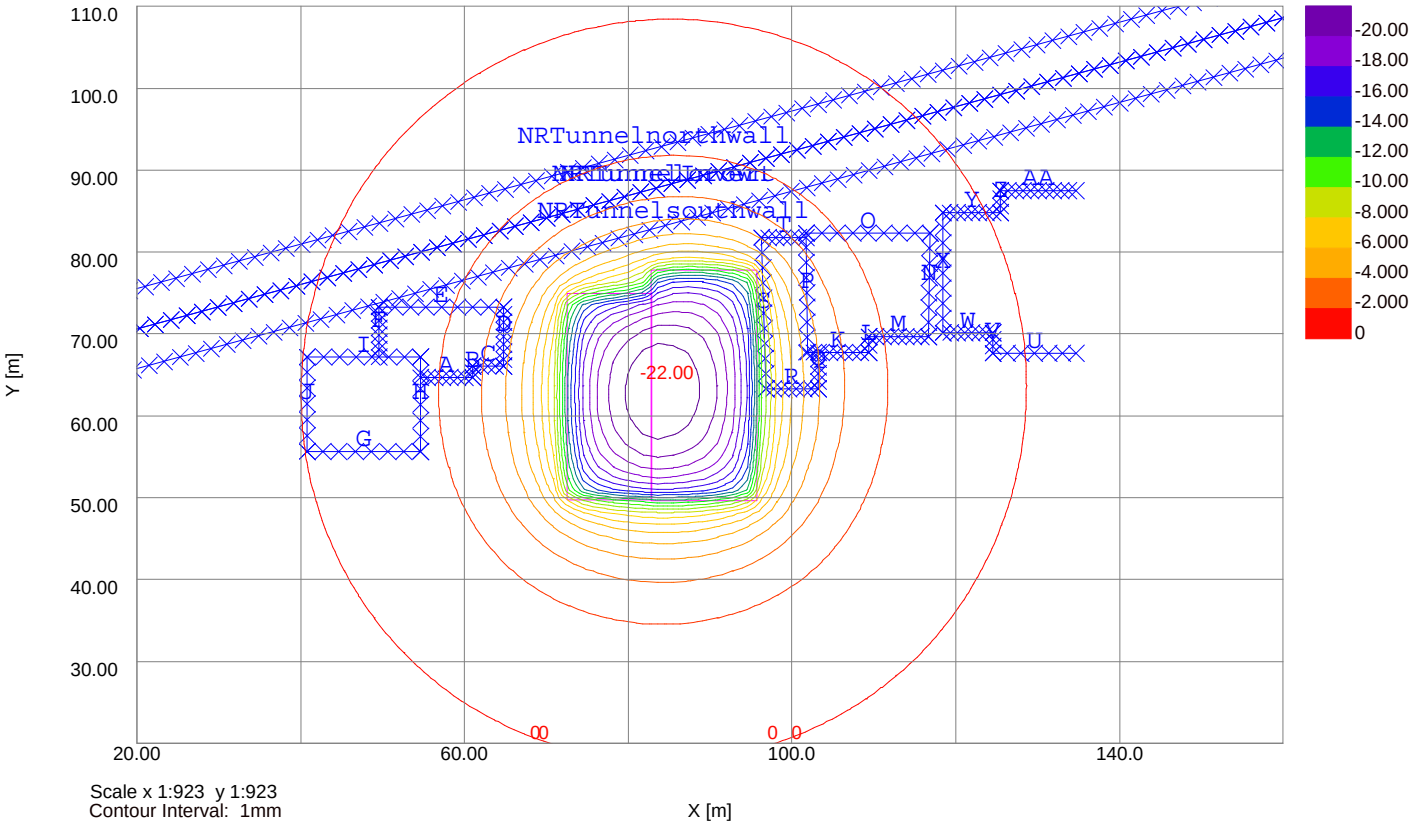
No structures have segments combined.

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]	[%]		[%]	[%]	

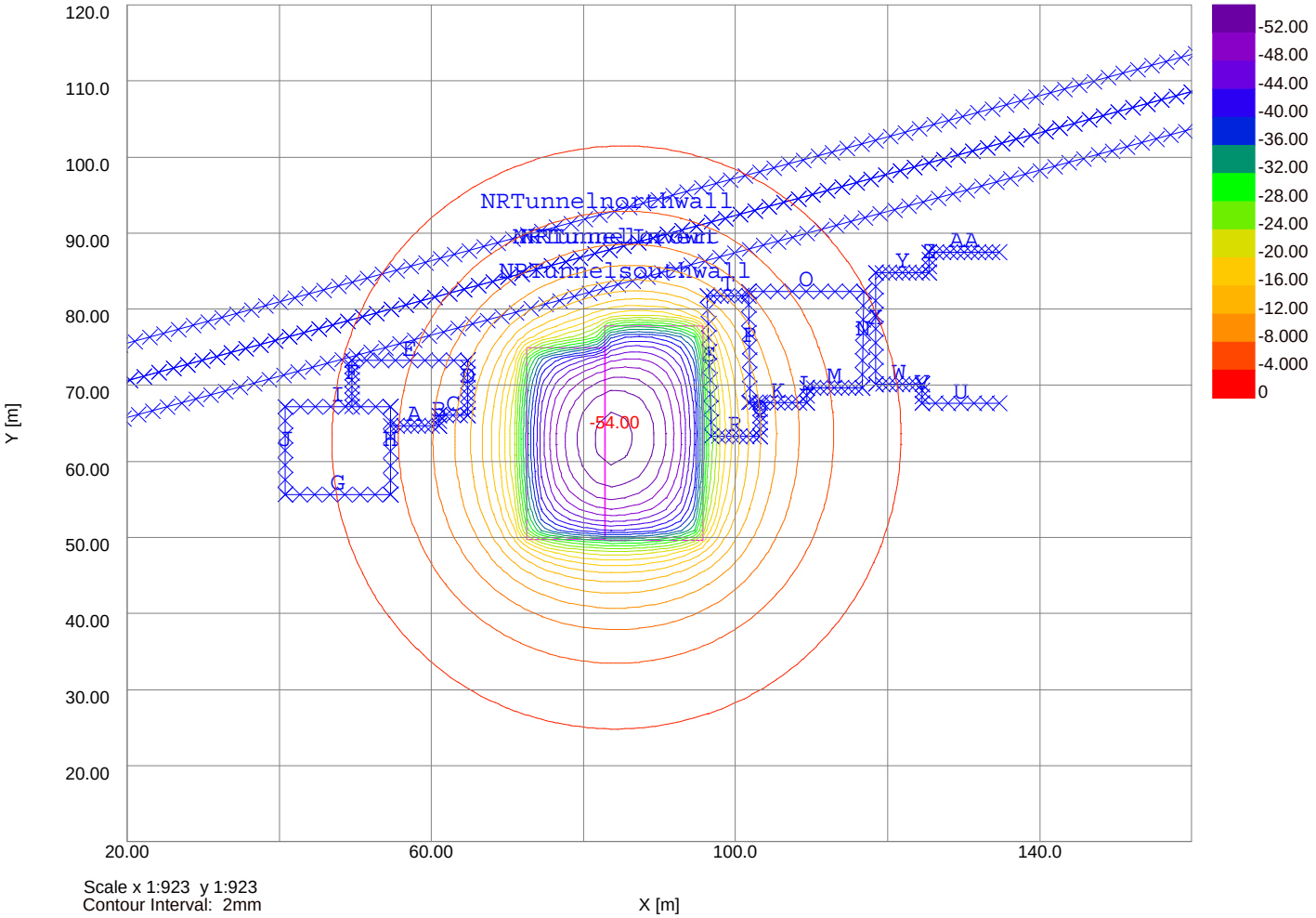
No structures have segments combined.

Settlement Contours : Grid 1 at 0.0000m



Scale x 1:923 y 1:923
Contour Interval: 1mm

Settlement Contours : Grid 1 at 0.0000m



Scale x 1:923 y 1:923
Contour Interval: 2mm

Analysis Options

Analysis: Boussinesq
Global Poisson's ratio: 0.20
Maximum allowable ratio between values of E: 1.5
Horizontal rigid boundary level: -80.00 [m OD]
Displacements at area centroids calculated.

Soil ProfilesSoil Profile 1

Layer	Level at top [mOD]	Number of intermediate displacement levels	Youngs Modulus Top [kN/m²]	Youngs Modulus Btm [kN/m²]	Poissons ratio	Non-linear curve
1	0.0	1	10000.	10000.	0.20000	None
2	-1.0000	2	18600.	19800.	0.20000	None
3	-1.5000	3	19800.	21000.	0.20000	None
4	-2.0000	4	21000.	21600.	0.20000	None
5	-3.0000	5	21600.	24000.	0.20000	None
6	-4.5000	7	24000.	27000.	0.20000	None
7	-7.0000	10	27000.	32400.	0.20000	None
8	-11.000	15	32400.	39600.	0.20000	None
9	-17.000	20	39600.	51000.	0.20000	None
10	-25.000	25	51000.	72000.	0.20000	None
11	-40.000	35	72000.	135000.	0.20000	None

Soil Zones

Zone	Name	X coordinates min [m]	X coordinates max [m]	Y coordinates min [m]	Y coordinates max [m]	Profile
1	Zone 1	-20.000	180.00	-20.000	140.00	Soil Profile 1

Load Data

Load ref.	Name	Shape	Orientation of Plane	Centre of load (Global) X [m]	Y [m]	Z (level) [m]	Load position Angle of local x from [Degrees]	Width x or Radius [m]	Length y [m]	Polygon Coordinates [m]	Rectangle tolerance	Number of rectangles	Load value Normal (local z) [kN/m²]	Tangential (local x) [kN/m²]	Tangential (local y) [kN/m²]
1	E1	Rectangular	Horizontal	77.700	62.300	-4.0000	0.0	10.400	25.200	N/A	N/A	1	-100.00	0.0	0.0
2	E2	Rectangular	Horizontal	89.250	63.700	-4.0000	0.0	12.900	28.200	N/A	N/A	1	-100.00	0.0	0.0

Displacement Data

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion First point X [m]	First point Y [m]	First point Z(level) [m]	Second point X [m]	Second point Y [m]	Second point Z(level) [m]	No. of intrvls across extrusion/line	No. of intrvls along Extrusion Depth [m]	No. of intrvls along extrusion	Calculate	Show Detailed results
1	Grid	Ground level	Global X	0.0	0.0	0.0	N/A	140.00	0.0	99	180.00	99	No	N/A
2	Line	A	N/A	54.600	64.700	-1.0000	61.000	64.700	-1.0000	7	N/A	N/A	No	N/A
3	Line	B	N/A	61.000	64.700	-1.0000	61.000	66.100	-1.0000	2	N/A	N/A	No	N/A
4	Line	C	N/A	61.000	66.100	-1.0000	64.800	66.100	-1.0000	4	N/A	N/A	No	N/A
5	Line	D	N/A	64.800	66.100	-1.0000	64.800	73.300	-1.0000	8	N/A	N/A	No	N/A
6	Line	E	N/A	64.800	73.300	-1.0000	49.500	73.300	-1.0000	8	N/A	N/A	No	N/A
7	Line	F	N/A	49.500	73.300	-1.0000	49.500	67.200	-1.0000	7	N/A	N/A	No	N/A
8	Line	G	N/A	40.800	55.600	-2.0000	54.600	55.600	-2.0000	7	N/A	N/A	No	N/A
9	Line	H	N/A	54.600	55.600	-2.0000	54.600	67.200	-2.0000	6	N/A	N/A	No	N/A
10	Line	I	N/A	54.600	67.200	-2.0000	40.800	67.200	-2.0000	7	N/A	N/A	No	N/A
11	Line	J	N/A	40.800	67.200	-2.0000	40.800	55.600	-2.0000	6	N/A	N/A	No	N/A
12	Line	K	N/A	101.70	67.700	-1.0000	109.40	67.700	-1.0000	8	N/A	N/A	No	N/A
13	Line	L	N/A	109.40	67.700	-1.0000	109.40	69.700	-1.0000	2	N/A	N/A	No	N/A
14	Line	M	N/A	109.40	69.700	-1.0000	116.70	69.700	-1.0000	8	N/A	N/A	No	N/A
15	Line	N	N/A	116.70	69.700	-1.0000	116.90	82.300	-1.0000	7	N/A	N/A	No	N/A
16	Line	O	N/A	116.90	82.300	-1.0000	101.70	82.300	-1.0000	8	N/A	N/A	No	N/A
17	Line	P	N/A	101.70	82.300	-1.0000	101.90	67.700	-1.0000	8	N/A	N/A	No	N/A
18	Line	Q	N/A	103.20	67.700	-1.0000	103.20	63.300	-1.0000	5	N/A	N/A	No	N/A
19	Line	R	N/A	103.20	63.300	-1.0000	96.800	63.300	-1.0000	7	N/A	N/A	No	N/A
20	Line	S	N/A	96.800	63.300	-1.0000	96.300	81.800	-1.0000	10	N/A	N/A	No	N/A
21	Line	T	N/A	96.300	81.800	-1.0000	101.70	81.800	-1.0000	6	N/A	N/A	No	N/A
22	Line	U	N/A	134.70	67.600	-3.0000	124.50	67.600	-3.0000	6	N/A	N/A	No	N/A
23	Line	V	N/A	124.50	67.600	-3.0000	124.50	70.100	-3.0000	3	N/A	N/A	No	N/A
24	Line	W	N/A	124.50	70.100	-3.0000	118.40	70.100	-3.0000	7	N/A	N/A	No	N/A
25	Line	X	N/A	118.40	70.100	-3.0000	118.40	84.800	-3.0000	8	N/A	N/A	No	N/A
26	Line	Y	N/A	118.40	84.800	-3.0000	125.50	84.800	-3.0000	8	N/A	N/A	No	N/A
27	Line	Z	N/A	125.50	84.800	-3.0000	125.50	87.500	-3.0000	3	N/A	N/A	No	N/A
28	Line	AA	N/A	125.50	87.500	-3.0000	134.70	87.500	-3.0000	10	N/A	N/A	No	N/A
29	Line	NRTunnelcrown	N/A	1.2300	65.500	-23.000	167.60	110.70	-23.000	87	N/A	N/A	Yes	Yes
30	Line	NRTunnelInvert	N/A	1.2300	65.500	-32.800	167.60	110.70	-32.800	87	N/A	N/A	Yes	Yes
31	Line	NRTunnelnorthwall	N/A	0.0	70.100	-29.100	166.30	115.20	-29.100	87	N/A	N/A	Yes	Yes
32	Line	NRTunnelsouthwall	N/A	2.4000	61.000	-29.100	168.80	106.10	-29.100	87	N/A	N/A	Yes	Yes

RESULTS FOR GRIDS

Analysis: Boussinesq
Global Poisson's ratio: 0.20
Horizontal rigid boundary level: -80.00 [m OD]

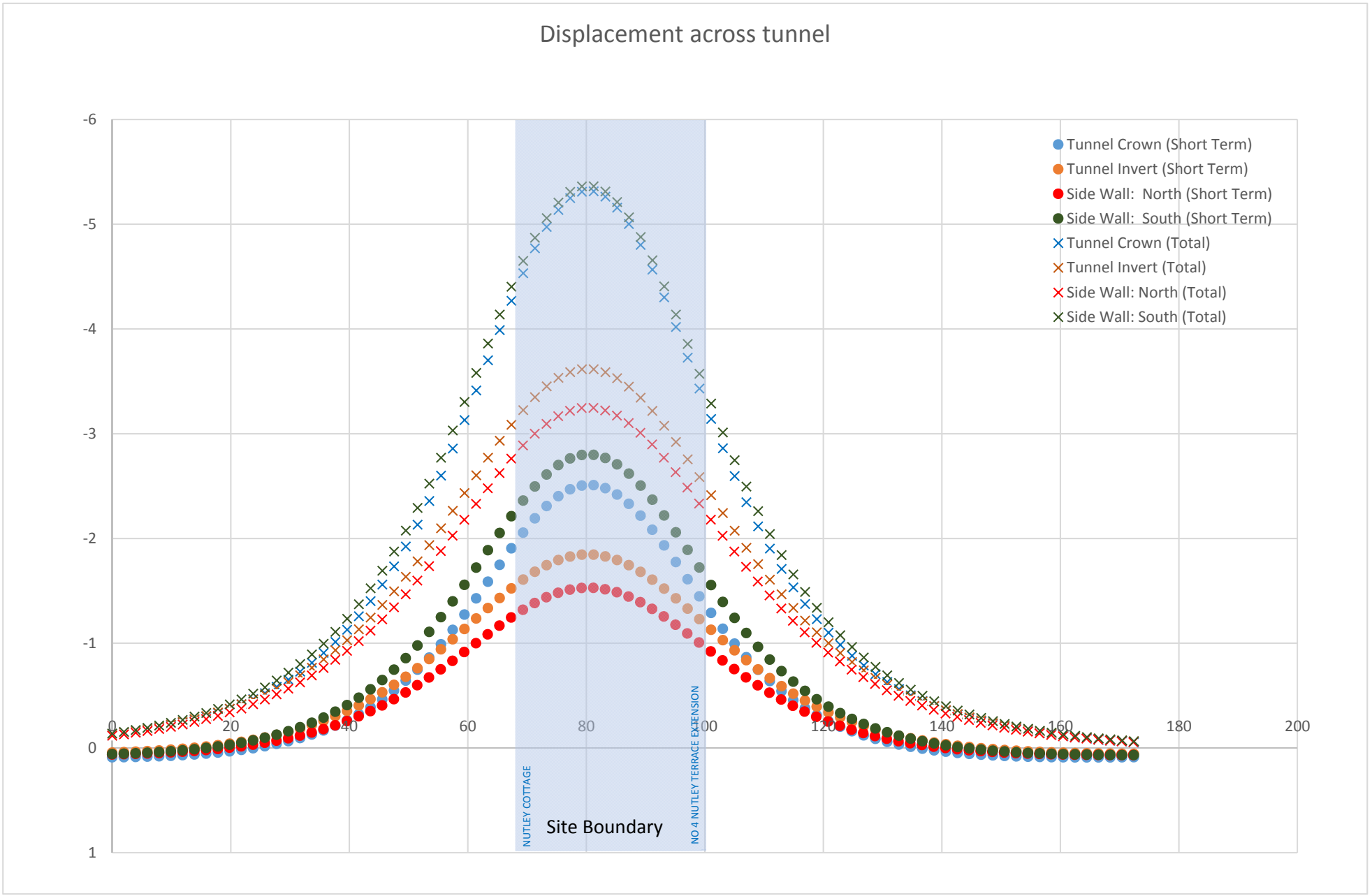
The maximum displacement difference between
Boussinesq method (-22.003mm) and Mindlin method (-22.004mm)
occurs at point X=89.250m Y=63.700m Level -15.835mOD and is 795.35E-6mm

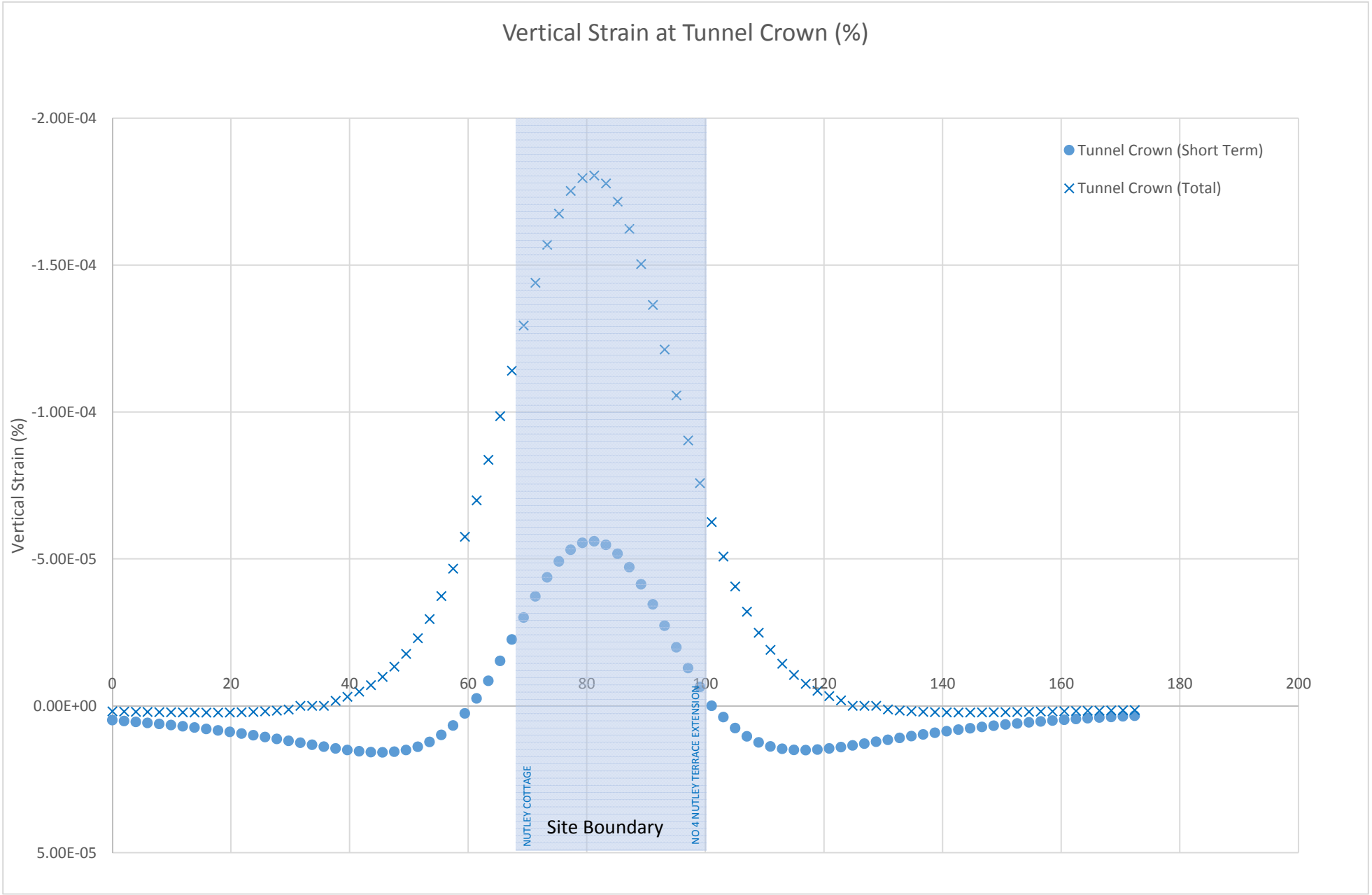
Name	Location X [m]	Location Y [m]	Z[Level] [mOD]	Z [mm]	Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Stresses Sum Princ [kN/m²]	Vert Strain [-]
E1	77.70000	62.30000	-4.00000	-50.227	-4.1231	-100.00	-237.20	-0.0031013
E2	89.25000	63.70000	-4.00000	-52.040	-4.1231	-100.00	-237.51	-0.0030986
NRTunnelcrown	1.23000	65.50000	-23.00000	-0.11832	-23.135	-0.049245	-0.75099	1.8845E-6
	3.14230	66.01954	-23.00000	-0.13329	-23.135	-0.055070	-0.80252	1.9531E-6
	5.05460	66.53908	-23.00000	-0.14996	-23.135	-0.061719	-0.85868	2.0204E-6
	6.96690	67.05862	-23.00000	-0.16853	-23.135	-0.069327	-0.91997	2.0851E-6
	8.87920	67.57816	-23.00000	-0.18921	-23.135	-0.078054	-0.98696	2.1457E-6
	10.79149	68.09770	-23.00000	-0.21225	-23.135	-0.088089	-1.0603	2.2000E-6
	12.70379	68.61724	-23.00000	-0.23793	-23.135	-0.099658	-1.1407	2.2454E-6
	14.61609	69.13678	-23.00000	-0.26656	-23.135	-0.11303	-1.2290	2.2786E-6
	16.52839	69.65632	-23.00000	-0.29846	-23.135	-0.12853	-1.3260	2.2955E-6
	18.44069	70.17587	-23.00000	-0.33403	-23.135	-0.14654	-1.4330	2.2907E-6
	20.35299	70.69540	-23.00000	-0.37370	-23.135	-0.16753	-1.5509	2.2576E-6
	22.26529	71.21494	-23.00000	-0.41793	-23.135	-0.19206	-1.6812	2.1879E-6
	24.17759	71.73448	-23.00000	-0.46725	-23.135	-0.22079	-1.8254	2.0710E-6
	26.08989	72.25402	-23.00000	-0.52225	-23.135	-0.25455	-1.9851	1.8938E-6
	28.00218	72.77356	-23.00000	-0.58357	-23.135	-0.29432	-2.1623	1.6398E-6
	29.91448	73.29311	-23.00000	-0.65192	-23.135	-0.34129	-2.3592	1.2885E-6
	31.82678	73.81264	-23.00000	-0.72809	-23.135	-0.39689	-2.5781	0.0
	33.73908	74.33218	-23.00000	-0.81292	-23.135	-0.46287	-2.8218	0.0
	35.65138	74.85172	-23.00000	-0.90735	-23.135	-0.54133	-3.0933	0.0
	37.56368	75.37126	-23.00000	-1.0123	-23.135	-0.63481	-3.3959	-1.7083E-6
	39.47598	75.89081	-23.00000	-1.1290	-23.135	-0.74634	-3.7333	-3.0812E-6
	41.38828	76.41035	-23.00000	-1.2583	-23.135	-0.87956	-4.1093	-4.8324E-6
	43.30058	76.92989	-23.00000	-1.4014	-23.135	-1.0387	-4.5281	-7.0511E-6
	45.21288	77.44942	-23.00000	-1.5594	-23.135	-1.2289	-4.9939	-9.8442E-6
	47.12517	77.96896	-23.00000	-1.7333	-23.135	-1.4558	-5.5109	-13.337E-6
	49.03747	78.48850	-23.00000	-1.9240	-23.135	-1.7258	-6.0830	-17.672E-6
	50.94977	79.00805	-23.00000	-2.1319	-23.135	-2.0459	-6.7135	-23.010E-6
	52.86207	79.52759	-23.00000	-2.3573	-23.135	-2.4232	-7.4045	-29.517E-6
	54.77437	80.04713	-23.00000	-2.5999	-23.135	-2.8643	-8.1562	-37.357E-6
	56.68667	80.56667	-23.00000	-2.8583	-23.135	-3.3744	-8.9664	-46.667E-6
	58.59896	81.08620	-23.00000	-3.1305	-23.135	-3.9559	-9.8296	-57.530E-6
	60.51126	81.60574	-23.00000	-3.4130	-23.135	-4.6066	-10.736	-69.933E-6
	62.42356	82.12529	-23.00000	-3.7012	-23.135	-5.3181	-11.669	-83.732E-6
	64.33586	82.64483	-23.00000	-3.9890	-23.135	-6.0743	-12.611	-98.610E-6
	66.24816	83.16437	-23.00000	-4.2687	-23.135	-6.8511	-13.534	-114.07E-6
	68.16046	83.68391	-23.00000	-4.5321	-23.135	-7.6168	-14.410	-129.45E-6
	70.07276	84.20345	-23.00000	-4.7701	-23.135	-8.3356	-15.207	-144.00E-6

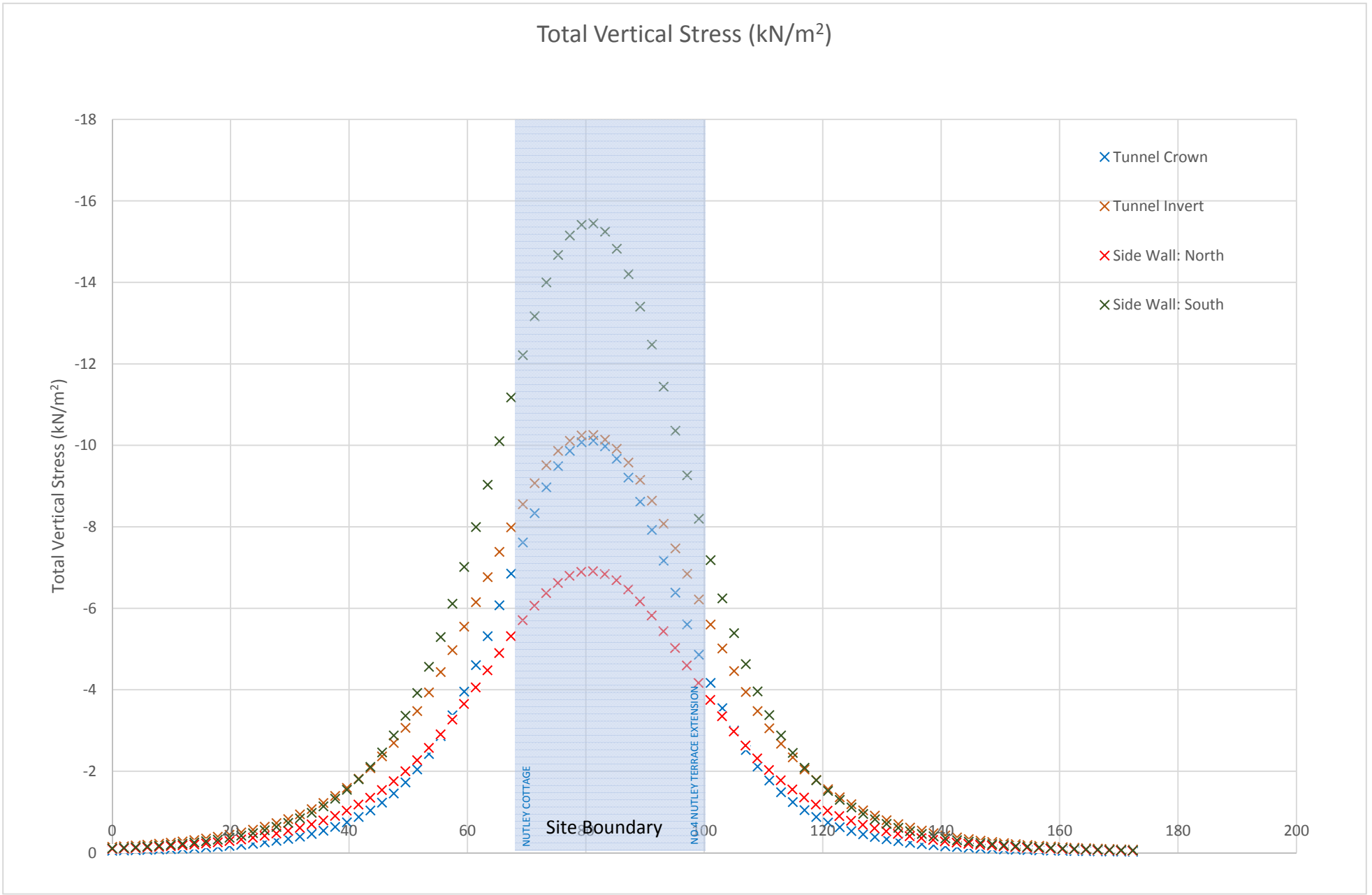
Name	Location X [m]	Location Y [m]	Z[Level] [mOD]	Z [mm]	Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Stresses Sum Princ [kN/m²]	Vert Strain [-]
	71.98505	84.72299	-23.00000	-4.9740	-23.135	-8.9708	-15.894	-156.93E-6
	73.89735	85.24253	-23.00000	-5.1360	-23.135	-9.4894	-16.442	-167.53E-6
	75.80965	85.76207	-23.00000	-5.2495	-23.135	-9.8644	-16.829	-175.24E-6
	77.72195	86.28161	-23.00000	-5.3099	-23.135	-10.077	-17.037	-179.64E-6
	79.63425	86.80115	-23.00000	-5.3146	-23.135	-10.115	-17.058	-180.51E-6
	81.54655	87.32069	-23.00000	-5.2632	-23.135	-9.9777	-16.890	-177.80E-6
	83.45885	87.84023	-23.00000	-5.1576	-23.135	-9.6706	-16.538	-171.63E-6
	85.37115	88.35977	-23.00000	-5.0020	-23.135	-9.2090	-16.019	-162.32E-6
	87.28345	88.87931	-23.00000	-4.8022	-23.135	-8.6167	-15.353	-150.37E-6
	89.19575	89.39885	-23.00000	-4.5660	-23.135	-7.9246	-14.567	-136.45E-6
	91.10805	89.91839	-23.00000	-4.3019	-23.135	-7.1681	-13.691	-121.29E-6
	93.02035	90.43793	-23.00000	-4.0190	-23.135	-6.3837	-12.759	-105.68E-6
	94.93264	90.95747	-23.00000	-3.7261	-23.135	-5.6050	-11.799	-90.317E-6
	96.84494	91.47701	-23.00000	-3.4312	-23.135	-4.8604	-10.841	-75.797E-6
	98.75724	91.99655	-23.00000	-3.1411	-23.135	-4.1705	-9.9076	-62.535E-6
	100.66954	92.51609	-23.00000	-2.8613	-23.135	-3.5482	-9.0156	-50.778E-6
	102.58184	93.03563	-23.00000	-2.5956	-23.135	-2.9993	-8.1777	-40.619E-6
	104.49414	93.55518	-23.00000	-2.3465	-23.135	-2.5236	-7.4009	-32.024E-6
	106.40643	94.07471	-23.00000	-2.1156	-23.135	-2.1172	-6.6886	-24.883E-6
	108.31873	94.59425	-23.00000	-1.9032	-23.135	-1.7737	-6.0407	-19.036E-6
	110.23103	95.11379	-23.00000	-1.7093	-23.135	-1.4855	-5.4553	-14.306E-6
	112.14333	95.63333	-23.00000	-1.5332	-23.135	-1.2451	-4.9286	-10.517E-6
	114.05563	96.15287	-23.00000	-1.3738	-23.135	-1.0452	-4.4563	-7.5090E-6
	115.96793	96.67242	-23.00000	-1.2301	-23.135	-0.87927	-4.0338	-5.1376E-6
	117.88023	97.19196	-23.00000	-1.1008	-23.135	-0.74156	-3.6562	-3.2812E-6
	119.79253	97.71149	-23.00000	-0.98467	-23.135	-0.62721	-3.3190	-1.8379E-6
	121.70483	98.23103	-23.00000	-0.88054	-23.135	-0.53213	-3.0178	0.0
	123.61713	98.75057	-23.00000	-0.78724	-23.135	-0.45292	-2.7486	0.0
	125.52943	99.27012	-23.00000	-0.70370	-23.135	-0.38678	-2.5078	0.0
	127.44173	99.78966	-23.00000	-0.62893	-23.135	-0.33140	-2.2922	1.2569E-6
	129.35402	100.30920	-23.00000	-0.56202	-23.135	-0.28489	-2.0989	1.6117E-6
	131.26633	100.82874	-23.00000	-0.50217	-23.135	-0.24572	-1.9254	1.8660E-6
	133.17862	101.34827	-23.00000	-0.44861	-23.135	-0.21263	-1.7693	2.0419E-6
	135.09093	101.86781	-23.00000	-0.40069	-23.135	-0.18458	-1.6288	2.1566E-6
	137.00322	102.38736	-23.00000	-0.35781	-23.135	-0.16073	-1.5019	2.2239E-6
	138.91551	102.90690	-23.00000	-0.31942	-23.135	-0.14039	-1.3873	2.2547E-6
	140.82782	103.42644	-23.00000	-0.28506	-23.135	-0.12298	-1.2835	2.2575E-6
	142.74011	103.94598	-23.00000	-0.25428	-23.135	-0.10804	-1.1894	2.2390E-6
	144.65242	104.46552	-23.00000	-0.22671	-23.135	-0.095181	-1.1040	2.2046E-6
	146.56471	104.98505	-23.00000	-0.20201	-23.135	-0.084076	-1.0262	2.1583E-6
	148.47701	105.50460	-23.00000	-0.17987	-23.135	-0.074461	-0.95525	2.1037E-6
	150.38931	106.02414	-23.00000	-0.16002	-23.135	-0.066111	-0.89050	2.0431E-6
	152.30161	106.54368	-23.00000	-0.14222	-23.135	-0.058841	-0.83130	1.9786E-6
	154.21391	107.06322	-23.00000	-0.12625	-23.135	-0.052493	-0.77707	1.9118E-6
	156.12621	107.58276	-23.00000	-0.11192	-23.135	-0.046937	-0.72732	1.8439E-6
	158.03851	108.10230	-23.00000	-0.099062	-23.135	-0.042061	-0.68161	1.7758E-6
	159.95081	108.62184	-23.00000	-0.087520	-23.135	-0.037772	-0.63956	1.7083E-6
	161.86310	109.14138	-23.00000	-0.077158	-23.135	-0.033990	-0.60081	1.6419E-6
	163.77541	109.66092	-23.00000	-0.067854	-23.135	-0.030648	-0.56505	1.5769E-6
	165.68770	110.18046	-23.00000	-0.059499	-23.135	-0.027687	-0.53201	1.5137E-6
	167.60001	110.70000	-23.00000	-0.051995	-23.135	-0.025059	-0.50144	1.4525E-6
NRTunnelInvert	1.23000	65.50000	-32.80000	-0.13094	-32.974	-0.14463	-1.0307	0.0
	3.14230	66.01954	-32.80000	-0.14585	-32.974	-0.16051	-1.0966	0.0
	5.05460	66.53908	-32.80000	-0.16234	-32.974	-0.17843	-1.1679	0.0
	6.96690	67.05862	-32.80000	-0.18058	-32.974	-0.19869	-1.2450	0.0
	8.87920	67.57816	-32.80000	-0.20078	-32.974	-0.22164	-1.3286	0.0
	10.79149	68.09770	-32.80000	-0.22312	-32.974	-0.24768	-1.4192	0.0
	12.70379	68.61724	-32.80000	-0.24784	-32.974	-0.27725	-1.5176	0.0
	14.61609	69.13678	-32.80000	-0.27519	-32.974	-0.31091	-1.6245	0.0
	16.52839	69.65632	-32.80000	-0.30543	-32.974	-0.34927	-1.7407	-1.1421E-6
	18.44069	70.17587	-32.80000	-0.33888	-32.974	-0.39306	-1.8671	-1.5806E-6
	20.35299	70.69540	-32.80000	-0.37585	-32.974	-0.44311	-2.0047	-2.1039E-6
	22.26529	71.21494	-32.80000	-0.41669	-32.974	-0.50038	-2.1547	-2.7271E-6
	24.17759	71.73448	-32.80000	-0.46179	-32.974	-0.56601	-2.3181	-3.4682E-6
	26.08989	72.25402	-32.80000	-0.51156	-32.974	-0.64126	-2.4962	-4.3479E-6
	28.00218	72.77356	-32.80000	-0.56641	-32.974	-0.72764	-2.6904	-5.3905E-6
	29.91448	73.29311	-32.80000	-0.62682	-32.974	-0.82684	-2.9021	-6.6242E-6
	31.82678	73.81264	-32.80000	-0.69325	-32.974	-0.94078	-3.1329	-8.0813E-6
	33.73908	74.33218	-32.80000	-0.76620	-32.974	-1.0717	-3.3843	-9.7990E-6
	35.65138	74.85172	-32.80000	-0.84614	-32.974	-1.2219	-3.6578	-11.819E-6
	37.56368	75.37126	-32.80000	-0.93356	-32.974	-1.3943	-3.9552	-14.190E-6
	39.47598	75.89081	-32.80000	-1.0289	-32.974	-1.5916	-4.2778	-16.962E-6
	41.38828	76.41035	-32.80000	-1.1326	-32.974	-1.8172	-4.6272	-20.192E-6
	43.30058	76.92989	-32.80000	-1.2449	-32.974	-2.0742	-5.0044	-23.940E-6
	45.21288	77.44942	-32.80000	-1.3661	-32.974	-2.3661	-5.4102	-28.268E-6
	47.12517	77.96896	-32.80000	-1.4961	-32.974	-2.6958	-5.8451	-33.234E-6
	49.03747	78.48850	-32.80000	-1.6349	-32.974	-3.0661	-6.3086	-38.892E-6
	50.94977	79.00805	-32.80000	-1.7820	-32.974	-3.4791	-6.7996	-45.285E-6
	52.86207	79.52759	-32.80000	-1.9367	-32.974	-3.9357	-7.3159	-52.436E-6
	54.77437	80.04713	-32.80000	-2.0979	-32.974	-4.4351	-7.8541	-60.345E-6
	56.68667	80.56667	-32.80000	-2.2641	-32.974	-4.9746	-8.4092	-68.974E-6
	58.59896	81.08620	-32.80000	-2.4333	-32.974	-5.5490	-8.9750	-78.242E-6
	60.51126	81.60574	-32.80000	-2.6031	-32.974	-6.1502	-9.5435	-88.018E-6
	62.42356	82.12529	-32.80000	-2.7705	-32.974	-6.7669	-10.105	-98.117E-6
	64.33586	82.64483	-32.80000	-2.9325	-32.974	-7.3850	-10.649	-108.30E-6
	66.24816	83.16437	-32.80000	-3.0853	-32.974	-7.9875	-11.162	-118.28E-6
	68.16046	83.68391	-32.80000	-3.2254	-32.974	-8.5559	-11.634	-127.73E-6
	70.07276	84.20345	-32.80000	-3.3489	-32.974	-9.0704	-12.050	-136.33E-6
	71.98505	84.72299	-32.80000	-3.4525	-32.974	-9.5121	-12.400	-143.73E-6
	73.89735	85.24253	-32.80000	-3.5331	-32.974	-9.8637	-12.672	-149.64E-6
	75.80965	85.76207	-32.80000	-3.5882	-32.974	-10.111	-12.858	-153.81E-6
	77.72195	86.28161	-32.80000	-3.6160	-32.974	-10.243	-12.953	-156.05E-6
	79.63425	86.80115	-32.80000	-3.6156	-32.974	-10.254	-12.952	-156.27E-6
	81.54655	87.32069	-32.80000	-3.5869	-32.974	-10.143	-12.855	-154.45E-6
	83.45885	87.84023	-32.80000	-3.5308	-32.974	-9.9160	-12.666	-150.67E-6
	85.37115	88.35977	-32.80000	-3.4489	-32.974	-9.5806	-12.391	-145.08E-6
	87.28345	88.87931	-32.80000	-3.3437	-32.974	-9.1506	-12.037	-137.92E-6
	89.19575	89.39885	-32.80000	-3.2183	-32.974	-8.6428	-11.614	-129.47E-6
	91.10805	89.91839	-32.80000	-3.0761	-32.974	-8.0761	-11.136	-120.07E-6
	93.02035	90.43793	-32.80000	-2.9208	-32.974	-7.4701	-10.614	-110.05E-6
	94.93264	90.95747	-32.80000	-2.7563	-32.974	-6.8444	-10.061	-99.753E-6
	96.84494	91.47701	-32.80000	-2.5861	-32.974	-6.2166	-9.4906	-89.471E-6
	98.75724	91.99655	-32.80000	-2.4137	-32.974	-5.6022	-8.9129	-79.469E-6
	100.66954	92.51609	-32.80000	-2.2421	-32.974	-5.0136	-8.3382	-69.955E-6
	102.58184	93.03563	-32.80000	-2.0737	-32.974	-4.4598	-7.7749	-61.078E-6
	104.49414	93.55518	-32.80000	-1.9107	-32.974	-3.9472	-7.2298	-52.936E-6
	106.40643	94.07471	-32.80000	-1.7546	-32.974	-3.4789	-6.7078	-45.576E-6
	108.31873	94.59425	-32.80000	-1.6064	-32.974	-3.0560	-6.2125	-39.006E-6
	110.23103	95.11379	-32.80000	-1.4670	-32.974	-2.6778	-5.7462	-33.205E-6
	112.14333	95.63333	-32.80000	-1.3368	-32.974	-2.3422	-5.3099	-28.130E-6
	114.05563	96.15287	-32.80000	-1.2158	-32.974	-2.0463	-4.9039	-23.724E-6
	115.96793	96.67242	-32.80000	-1.1040	-32.974	-1.7867	-4.5276	-19.923E-6
	117.88023	97.19196	-32.80000	-1.0010	-32.974	-1.5598	-4.1800	-16.662E-6
	119.79253	97.71149	-32.80000	-0.90664	-32.974	-1.3622	-3.8600	-13.877E-6
	121.70483	98.23103	-32.80000	-0.82033	-32.974	-1.1904	-3.5658	-11.507E-6
	123.61713	98.75057	-32.80000	-0.74162	-32.974	-1.0413	-3.2958	-9.4967E-6
	125.52943	99.27012	-32.80000	-0.66999	-32.974	-0.91186	-3.0483	-7.7952E-6
	127.44173	99.78966	-32.80000	-0.60491	-32.974	-0.79965	-2.8216	-6.3583E-6
	129.35402	100.30920	-32.80000	-0.54587	-32.974	-0.70232	-2.6140	-5.1473E-6
	131.26633	100.82874	-32.80000	-0.49236	-32.974	-0.61785	-2.4240	-4.1281E-6
	133.17862	101.34827	-32.80000	-0.44393	-32.974	-0.54448	-2.2500	-3.2717E-6
	135.09093	101.86781	-32.80000	-0.40011	-32.974	-0.48069	-2.0906	-2.5531E-6
	137.00322	102.38736	-32.80000	-0.36050	-32.974	-0.42516	-1.9445	-1.9510E-6
	138.91551	102.90690	-32.80000	-0.32470	-32.974	-0.37675	-1.8106	-1.4474E-6
	140.82782	103.42644	-32.80000	-0.29236	-32.974	-0.33449	-1.6878	-1.0269E-6
	142.74011	103.94598	-32.80000	-0.26316	-32.974	-0.29753	-1.5749	0.0
	144.65242	104.46552	-32.80000	-0.23679	-32.974	-0.26516	-1.4713	0.0
	146.56471	104.98505	-32.80000	-0.21298	-32.974	-0.23676	-1.3759	0.0
	148.47701	105.50460	-32.80000	-0.19148	-32.974	-0.21179	-1.2881	0.0
	150.38931	106.02414	-32.80000	-0.17208	-32.974	-0.18981	-1.2071	0.0
	152.30161	106.54368	-32.80000	-0.15456	-32.974	-0.17042	-1.1325	0.0
	154.21391	107.06322	-32.80000	-0.13874	-32.974	-0.15328	-1.0635	0.0
	156.12621	107.58276	-32.80000	-0.12445	-32.974	-0.13811	-0.99977	0.0
	158.03851	108.10230	-32.80000	-0.11155	-32.974	-0.12465	-0.94078	0.0
	159.95081	108.62184	-32.80000	-0.099894	-32.974	-0.11269	-0.88614	0.0
	161.86310	109.14138	-32.80000	-0.089367	-32.974	-0.10205	-0.83547	0.0
	163.77541	109.66092	-32.80000	-0.079856	-32.974	-0.092566	-0.78843	0.0
	165.68770	110.18046	-32.80000	-0.071262	-32.974	-0.084093	-0.74472	0.0
	167.60001	110.70000	-32.80000	-0.063496	-32.974	-0.076513	-0.70406	0.0
NRTunnelnorthwall	0.00000	70.10000	-29.10000	-0.11691	-29.303	-0.094954	-0.89217	1.1309E-6
	1.91149	70.61839	-29.10000	-0.13055	-29.303	-0.10532	-0.94887	1.1116E-6

Name	Location X [m]	Location Y [m]	Z[Level] [mOD]	Z [mm]	Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Stresses Sum Princ [kN/m²]	Vert Strain [-]
	3.82299	71.13678	-29.10000	-0.14563	-29.303	-0.11702	-1.0102	1.0804E-6
	5.73448	71.65517	-29.10000	-0.16231	-29.303	-0.13024	-1.0765	1.0348E-6
	7.64598	72.17356	-29.10000	-0.18075	-29.303	-0.14520	-1.1483	0.0
	9.55747	72.69196	-29.10000	-0.20113	-29.303	-0.16215	-1.2261	0.0
	11.46897	73.21034	-29.10000	-0.22366	-29.303	-0.18141	-1.3105	0.0
	13.38046	73.72874	-29.10000	-0.24856	-29.303	-0.20331	-1.4022	0.0
	15.29195	74.24712	-29.10000	-0.27607	-29.303	-0.22826	-1.5018	0.0
	17.20345	74.76552	-29.10000	-0.30645	-29.303	-0.25671	-1.6102	0.0
	19.11494	75.28391	-29.10000	-0.33998	-29.303	-0.28922	-1.7281	0.0
	21.02644	75.80230	-29.10000	-0.37698	-29.303	-0.32641	-1.8564	0.0
	22.93793	76.32069	-29.10000	-0.41778	-29.303	-0.36901	-1.9962	0.0
	24.84942	76.83908	-29.10000	-0.46273	-29.303	-0.41784	-2.1486	-1.2573E-6
	26.76092	77.35747	-29.10000	-0.51221	-29.303	-0.47388	-2.3146	-1.8544E-6
	28.67241	77.87586	-29.10000	-0.56661	-29.303	-0.53824	-2.4955	-2.5740E-6
	30.58391	78.39426	-29.10000	-0.62635	-29.303	-0.61217	-2.6927	-3.4383E-6
	32.49540	78.91264	-29.10000	-0.69185	-29.303	-0.69711	-2.9074	-4.4728E-6
	34.40689	79.43104	-29.10000	-0.76353	-29.303	-0.79467	-3.1410	-5.7065E-6
	36.31839	79.94942	-29.10000	-0.84181	-29.303	-0.90666	-3.3949	-7.1726E-6
	38.22989	80.46782	-29.10000	-0.92707	-29.303	-1.0351	-3.6705	-8.9080E-6
	40.14138	80.98621	-29.10000	-1.0197	-29.303	-1.1820	-3.9690	-10.953E-6
	42.05287	81.50460	-29.10000	-1.1199	-29.303	-1.3497	-4.2914	-13.352E-6
	43.96437	82.02299	-29.10000	-1.2279	-29.303	-1.5406	-4.6386	-16.151E-6
	45.87586	82.54138	-29.10000	-1.3437	-29.303	-1.7568	-5.0109	-19.394E-6
	47.78736	83.05977	-29.10000	-1.4673	-29.303	-2.0003	-5.4082	-23.126E-6
	49.69885	83.57816	-29.10000	-1.5982	-29.303	-2.2729	-5.8297	-27.384E-6
	51.61034	84.09655	-29.10000	-1.7359	-29.303	-2.5754	-6.2737	-32.192E-6
	53.52184	84.61494	-29.10000	-1.8795	-29.303	-2.9077	-6.7374	-37.559E-6
	55.43333	85.13333	-29.10000	-2.0275	-29.303	-3.2684	-7.2169	-43.468E-6
	57.34483	85.65173	-29.10000	-2.1784	-29.303	-3.6545	-7.7069	-49.874E-6
	59.25632	86.17011	-29.10000	-2.3300	-29.303	-4.0606	-8.2004	-56.690E-6
	61.16782	86.68851	-29.10000	-2.4798	-29.303	-4.4796	-8.6894	-63.791E-6
	63.07931	87.20689	-29.10000	-2.6250	-29.303	-4.9017	-9.1644	-71.008E-6
	64.99081	87.72529	-29.10000	-2.7622	-29.303	-5.3156	-9.6149	-78.137E-6
	66.90230	88.24368	-29.10000	-2.8883	-29.303	-5.7081	-10.030	-84.941E-6
	68.81379	88.76207	-29.10000	-2.9999	-29.303	-6.0655	-10.398	-91.172E-6
	70.72529	89.28046	-29.10000	-3.0940	-29.303	-6.3743	-10.708	-96.582E-6
	72.63678	89.79885	-29.10000	-3.1676	-29.303	-6.6222	-10.952	-100.94E-6
	74.54828	90.31724	-29.10000	-3.2185	-29.303	-6.7988	-11.121	-104.07E-6
	76.45977	90.83563	-29.10000	-3.2450	-29.303	-6.8963	-11.210	-105.81E-6
	78.37126	91.35403	-29.10000	-3.2463	-29.303	-6.9105	-11.215	-106.09E-6
	80.28276	91.87241	-29.10000	-3.2222	-29.303	-6.8407	-11.136	-104.90E-6
	82.19425	92.39081	-29.10000	-3.1735	-29.303	-6.6895	-10.976	-102.28E-6
	84.10574	92.90919	-29.10000	-3.1016	-29.303	-6.4633	-10.739	-98.346E-6
	86.01724	93.42759	-29.10000	-3.0086	-29.303	-6.1713	-10.433	-93.276E-6
	87.92873	93.94598	-29.10000	-2.8974	-29.303	-5.8254	-10.067	-87.279E-6
	89.84023	94.46437	-29.10000	-2.7709	-29.303	-5.4386	-9.6514	-80.598E-6
	91.75172	94.98276	-29.10000	-2.6326	-29.303	-5.0250	-9.1976	-73.485E-6
	93.66322	95.50115	-29.10000	-2.4858	-29.303	-4.5980	-8.7169	-66.187E-6
	95.57471	96.01954	-29.10000	-2.3338	-29.303	-4.1702	-8.2203	-58.926E-6
	97.48621	96.53793	-29.10000	-2.1797	-29.303	-3.7522	-7.7178	-51.892E-6
	99.39770	97.05632	-29.10000	-2.0261	-29.303	-3.3526	-7.2183	-45.234E-6
	101.30920	97.57471	-29.10000	-1.8754	-29.303	-2.9776	-6.7290	-39.059E-6
	103.22069	98.09310	-29.10000	-1.7292	-29.303	-2.6312	-6.2558	-33.430E-6
	105.13219	98.61150	-29.10000	-1.5892	-29.303	-2.3157	-5.8032	-28.377E-6
	107.04368	99.12988	-29.10000	-1.4562	-29.303	-2.0314	-5.3740	-23.901E-6
	108.95517	99.64828	-29.10000	-1.3309	-29.303	-1.7778	-4.9702	-19.980E-6
	110.86667	100.16666	-29.10000	-1.2137	-29.303	-1.5533	-4.5927	-16.579E-6
	112.77816	100.68506	-29.10000	-1.1047	-29.303	-1.3557	-4.2415	-13.654E-6
	114.68965	101.20345	-29.10000	-1.0039	-29.303	-1.1828	-3.9163	-11.154E-6
	116.60115	101.72184	-29.10000	-0.91093	-29.303	-1.0319	-3.6160	-9.0325E-6
	118.51264	102.24023	-29.10000	-0.82558	-29.303	-0.90065	-3.3395	-7.2402E-6
	120.42414	102.75862	-29.10000	-0.74744	-29.303	-0.78670	-3.0855	-5.7334E-6
	122.33563	103.27701	-29.10000	-0.67608	-29.303	-0.68789	-2.8524	-4.4716E-6
	124.24712	103.79540	-29.10000	-0.61104	-29.303	-0.60226	-2.6388	-3.4188E-6
	126.15862	104.31379	-29.10000	-0.55187	-29.303	-0.52806	-2.4431	-2.5437E-6
	128.07011	104.83218	-29.10000	-0.49812	-29.303	-0.46374	-2.2639	-1.8186E-6
	129.98161	105.35058	-29.10000	-0.44934	-29.303	-0.40795	-2.0999	-1.2200E-6
	131.89310	105.86897	-29.10000	-0.40513	-29.303	-0.35951	-1.9496	0.0
	133.80460	106.38736	-29.10000	-0.36508	-29.303	-0.31741	-1.8120	0.0
	135.71609	106.90575	-29.10000	-0.32883	-29.303	-0.28078	-1.6858	0.0
	137.62758	107.42414	-29.10000	-0.29603	-29.303	-0.24884	-1.5701	0.0
	139.53908	107.94253	-29.10000	-0.26637	-29.303	-0.22096	-1.4640	0.0
	141.45058	108.46092	-29.10000	-0.23956	-29.303	-0.19658	-1.3665	0.0
	143.36208	108.97931	-29.10000	-0.21532	-29.303	-0.17523	-1.2768	0.0
	145.27356	109.49770	-29.10000	-0.19342	-29.303	-0.15649	-1.1943	0.0
	147.18506	110.01609	-29.10000	-0.17363	-29.303	-0.14002	-1.1184	0.0
	149.09656	110.53448	-29.10000	-0.15576	-29.303	-0.12552	-1.0484	1.0356E-6
	151.00804	111.05287	-29.10000	-0.13961	-29.303	-0.11272	-0.98375	1.0783E-6
	152.91954	111.57127	-29.10000	-0.12502	-29.303	-0.10141	-0.92406	1.1070E-6
	154.83104	112.08965	-29.10000	-0.11183	-29.303	-0.091390	-0.86886	1.1242E-6
	156.74252	112.60805	-29.10000	-0.099926	-29.303	-0.082505	-0.81777	1.1319E-6
	158.65402	113.12643	-29.10000	-0.089167	-29.303	-0.074609	-0.77043	1.1321E-6
	160.56552	113.64483	-29.10000	-0.079448	-29.303	-0.067579	-0.72652	1.1260E-6
	162.47701	114.16322	-29.10000	-0.070666	-29.303	-0.061311	-0.68574	1.1149E-6
	164.38850	114.68161	-29.10000	-0.062732	-29.303	-0.055711	-0.64784	1.0998E-6
	166.30000	115.20000	-29.10000	-0.055564	-29.303	-0.050700	-0.61258	1.0816E-6
NRTunnelsouthwall	2.40000	61.00000	-29.10000	-0.13711	-29.303	-0.11040	-0.97551	1.0982E-6
	4.31264	61.51839	-29.10000	-0.15353	-29.303	-0.12327	-1.0416	1.0591E-6
	6.22529	62.03678	-29.10000	-0.17181	-29.303	-0.13793	-1.1135	1.0028E-6
	8.13793	62.55517	-29.10000	-0.19215	-29.303	-0.15466	-1.1918	0.0
	10.05057	63.07356	-29.10000	-0.21479	-29.303	-0.17380	-1.2773	0.0
	11.96322	63.59195	-29.10000	-0.23999	-29.303	-0.19574	-1.3707	0.0
	13.87586	64.11034	-29.10000	-0.26806	-29.303	-0.22095	-1.4728	0.0
	15.78851	64.62874	-29.10000	-0.29932	-29.303	-0.24999	-1.5847	0.0
	17.70115	65.14713	-29.10000	-0.33415	-29.303	-0.28352	-1.7075	0.0
	19.61379	65.66552	-29.10000	-0.37295	-29.303	-0.32233	-1.8424	0.0
	21.52644	66.18391	-29.10000	-0.41620	-29.303	-0.36733	-1.9907	0.0
	23.43908	66.70230	-29.10000	-0.46438	-29.303	-0.41964	-2.1540	-1.2762E-6
	25.35172	67.22069	-29.10000	-0.51808	-29.303	-0.48059	-2.3341	-1.9272E-6
	27.26437	67.73908	-29.10000	-0.57791	-29.303	-0.55175	-2.5328	-2.7277E-6
	29.17701	68.25747	-29.10000	-0.64455	-29.303	-0.63499	-2.7523	-3.7094E-6
	31.08965	68.77586	-29.10000	-0.71874	-29.303	-0.73254	-2.9951	-4.9109E-6
	33.00230	69.29425	-29.10000	-0.80131	-29.303	-0.84705	-3.2636	-6.3788E-6
	34.91494	69.81264	-29.10000	-0.89312	-29.303	-0.98164	-3.5608	-8.1687E-6
	36.82759	70.33103	-29.10000	-0.99509	-29.303	-1.1400	-3.8897	-10.347E-6
	38.74023	70.84943	-29.10000	-1.1082	-29.303	-1.3264	-4.2537	-12.994E-6
	40.65287	71.36781	-29.10000	-1.2335	-29.303	-1.5459	-4.6564	-16.201E-6
	42.56552	71.88621	-29.10000	-1.3719	-29.303	-1.8042	-5.1012	-20.076E-6
	44.47816	72.40459	-29.10000	-1.5245	-29.303	-2.1078	-5.5917	-24.744E-6
	46.39080	72.92299	-29.10000	-1.6921	-29.303	-2.4637	-6.1315	-30.342E-6
	48.30345	73.44138	-29.10000	-1.8755	-29.303	-2.8798	-6.7234	-37.021E-6
	50.21609	73.95977	-29.10000	-2.0752	-29.303	-3.3639	-7.3698	-44.941E-6
	52.12873	74.47816	-29.10000	-2.2913	-29.303	-3.9236	-8.0719	-54.258E-6
	54.04138	74.99655	-29.10000	-2.5236	-29.303	-4.5658	-8.8294	-65.113E-6
	55.95402	75.51495	-29.10000	-2.7709	-29.303	-5.2950	-9.6396	-77.617E-6
	57.86666	76.03333	-29.10000	-3.0315	-29.303	-6.1127	-10.498	-91.816E-6
	59.77931	76.55173	-29.10000	-3.3029	-29.303	-7.0158	-11.395	-107.67E-6
	61.69196	77.07011	-29.10000	-3.5810	-29.303	-7.9947	-12.319	-125.03E-6
	63.60460	77.58851	-29.10000	-3.8612	-29.303	-9.0325	-13.253	-143.59E-6
	65.51724	78.10690	-29.10000	-4.1374	-29.303	-10.104	-14.179	-162.90E-6
	67.42989	78.62529	-29.10000	-4.4028	-29.303	-11.177	-15.071	-182.36E-6
	69.34253	79.14368	-29.10000	-4.6498	-29.303	-12.213	-15.905	-201.22E-6
	71.25517	79.66207	-29.10000	-4.8710	-29.303	-13.168	-16.653	-218.70E-6
	73.16782	80.18046	-29.10000	-5.0587	-29.303	-14.001	-17.290	-234.00E-6
	75.08046	80.69885	-29.10000	-5.2064	-29.303	-14.673	-17.793	-246.38E-6
	76.99310	81.21724	-29.10000	-5.3086	-29.303	-15.152	-18.141	-255.23E-6
	78.90575	81.73563	-29.10000	-5.3614	-29.303	-15.414	-18.323	-260.11E-6
	80.81839	82.25402	-29.10000	-5.3627	-29.303	-15.447	-18.329	-260.77E-6
	82.73103	82.77242	-29.10000	-5.3123	-29.303	-15.248	-18.160	-257.18E-6
	84.64368	83.29080	-29.10000	-5.2120	-29.303	-14.827	-17.822	-249.51E-6
	86.55632	83.80920	-29.10000	-5.0654	-29.303	-14.203	-17.326	-238.11E-6
	88.46896	84.32758	-29.10000	-4.8777	-29.303	-13.405	-16.692	-223.55E-6
	90.38161	84.84598	-29.10000	-4.6555	-29.303	-12.471	-15.942	-206.52E-6
	92.29425	85.36436	-29.10000	-4.4060	-29.303	-11.441	-15.102	-187.80E-6
	94.20689	85.88276	-29.10000	-4.1371	-29.303	-10.359	-14.198	-168.20E-6
	96.11954	86.40115	-29.10000	-3.8566	-29.303	-9.2665	-13.258	-148.50E-6
	98.03218	86.91954	-29.10000	-3.5715	-29.303	-8.1985	-12.306	-129.36E-6
	99.94482	87.43793	-29.10000	-3.2882	-29.303	-7.1842	-11.364	-111.32E-6
	101.85747	87.95632	-29.10000	-3.0120	-29.303	-6.2442	-10.449	-94.753E-6
	103.77012	88.47472	-29.10000	-2.7468	-29.303	-5.3910	-9.5745	-79.866E-6
	105.68276	88.99310	-29.10000	-2.4957	-29.303	-4.6301	-8.7499	-66.746E-6

Name	Location				Stresses			
	X [m]	Y [m]	Z[Level] [mOD]	Z [mm]	Calc Level [mOD]	Vert Stress [kN/m²]	Sum Princ [kN/m²]	Vert Strain [-]
	107.59541	89.51150	-29.10000	-2.2605	-29.303	-3.9612	-7.9808	-55.367E-6
	109.50805	90.02988	-29.10000	-2.0422	-29.303	-3.3799	-7.2699	-45.628E-6
	111.42069	90.54828	-29.10000	-1.8412	-29.303	-2.8794	-6.6176	-37.383E-6
	113.33334	91.06667	-29.10000	-1.6572	-29.303	-2.4514	-6.0224	-30.464E-6
	115.24598	91.58506	-29.10000	-1.4897	-29.303	-2.0873	-5.4816	-24.700E-6
	117.15862	92.10345	-29.10000	-1.3377	-29.303	-1.7787	-4.9919	-19.923E-6
	119.07127	92.62184	-29.10000	-1.2002	-29.303	-1.5177	-4.5494	-15.983E-6
	120.98391	93.14023	-29.10000	-1.0763	-29.303	-1.2973	-4.1502	-12.743E-6
	122.89655	93.65862	-29.10000	-0.96471	-29.303	-1.1110	-3.7904	-10.087E-6
	124.80920	94.17701	-29.10000	-0.86442	-29.303	-0.95373	-3.4662	-7.9130E-6
	126.72184	94.69540	-29.10000	-0.77439	-29.303	-0.82068	-3.1741	-6.1378E-6
	128.63448	95.21379	-29.10000	-0.69362	-29.303	-0.70801	-2.9107	-4.6903E-6
	130.54712	95.73219	-29.10000	-0.62120	-29.303	-0.61242	-2.6732	-3.5119E-6
	132.45976	96.25057	-29.10000	-0.55630	-29.303	-0.53117	-2.4588	-2.5540E-6
	134.37242	96.76897	-29.10000	-0.49815	-29.303	-0.46194	-2.2650	-1.7768E-6
	136.28506	97.28735	-29.10000	-0.44605	-29.303	-0.40282	-2.0897	-1.1476E-6
	138.19771	97.80575	-29.10000	-0.39937	-29.303	-0.35221	-1.9309	0.0
	140.11035	98.32413	-29.10000	-0.35754	-29.303	-0.30878	-1.7868	0.0
	142.02299	98.84253	-29.10000	-0.32006	-29.303	-0.27141	-1.6559	0.0
	143.93564	99.36092	-29.10000	-0.28646	-29.303	-0.23917	-1.5369	0.0
	145.84828	99.87931	-29.10000	-0.25633	-29.303	-0.21130	-1.4284	0.0
	147.76093	100.39770	-29.10000	-0.22931	-29.303	-0.18712	-1.3295	0.0
	149.67357	100.91609	-29.10000	-0.20506	-29.303	-0.16611	-1.2391	0.0
	151.58621	101.43449	-29.10000	-0.18331	-29.303	-0.14780	-1.1564	0.0
	153.49886	101.95287	-29.10000	-0.16378	-29.303	-0.13181	-1.0806	1.0162E-6
	155.41150	102.47127	-29.10000	-0.14624	-29.303	-0.11780	-1.0110	1.0670E-6
	157.32414	102.98965	-29.10000	-0.13048	-29.303	-0.10551	-0.94713	1.1015E-6
	159.23679	103.50805	-29.10000	-0.11632	-29.303	-0.094696	-0.88832	1.1228E-6
	161.14943	104.02644	-29.10000	-0.10359	-29.303	-0.085162	-0.83413	1.1334E-6
	163.06207	104.54483	-29.10000	-0.092151	-29.303	-0.076736	-0.78413	1.1354E-6
	164.97472	105.06322	-29.10000	-0.081858	-29.303	-0.069276	-0.73794	1.1303E-6
	166.88736	105.58161	-29.10000	-0.072599	-29.303	-0.062655	-0.69521	1.1198E-6
	168.80000	106.10000	-29.10000	-0.064267	-29.303	-0.056768	-0.65563	1.1049E-6


Displacement across tunnel
-6
-5
-4
-3
-2
-1
0
1
0
20
40
60
80
100
120
140
160
180
200
Tunnel Crown (Short Term)
Tunnel Invert (Short Term)
Side Wall: North (Short Term)
Side Wall: South (Short Term)
Tunnel Crown (Total)
Tunnel Invert (Total)
Side Wall: North (Total)
Side Wall: South (Total)
NUTLEY COTTAGE
Site Boundary
NO 4 NUTLEY TERRACE EXTENSION


Vertical Strain at Tunnel Crown (%)
Vertical Strain (%)
-2.00E-04
-1.50E-04
-1.00E-04
-5.00E-05
0.00E+00
5.00E-05
0
20
40
60
80
100
120
140
160
180
200
Tunnel Crown (Short Term)
Tunnel Crown (Total)
NUTLEY COTTAGE
Site Boundary
NO 4 NUTLEY TERRACE EXTENSION


Total Vertical Stress (kN/m²)
Total Vertical Stress (kN/m²)
-18
-16
-14
-12
-10
-8
-6
-4
-2
0
0
20
40
60
80
100
120
140
160
180
200
Tunnel Crown
Tunnel Invert
Side Wall: North
Side Wall: South
NUTLEY COTTAGE
Site Boundary
NO 4 NUTLEY TERRACE EXTENSION

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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