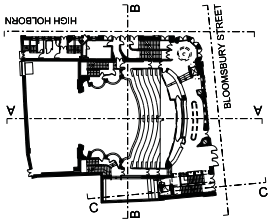


Notes



**BENNETTS
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Registered Architects London EC1V 7TN
T: 020 7463 2020 F: 020 7463 2021
E: mail@bennettsassociates.com
www.bennettsassociates.com

Project 1702

Shaftesbury Theatre
The Theatre of Comedy Company

Drawing Title
Proposed Section
Section BB
Proscenium Stage Left / Stage Right

Drawing Number
1702_20_220

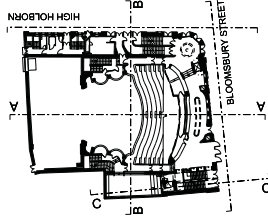
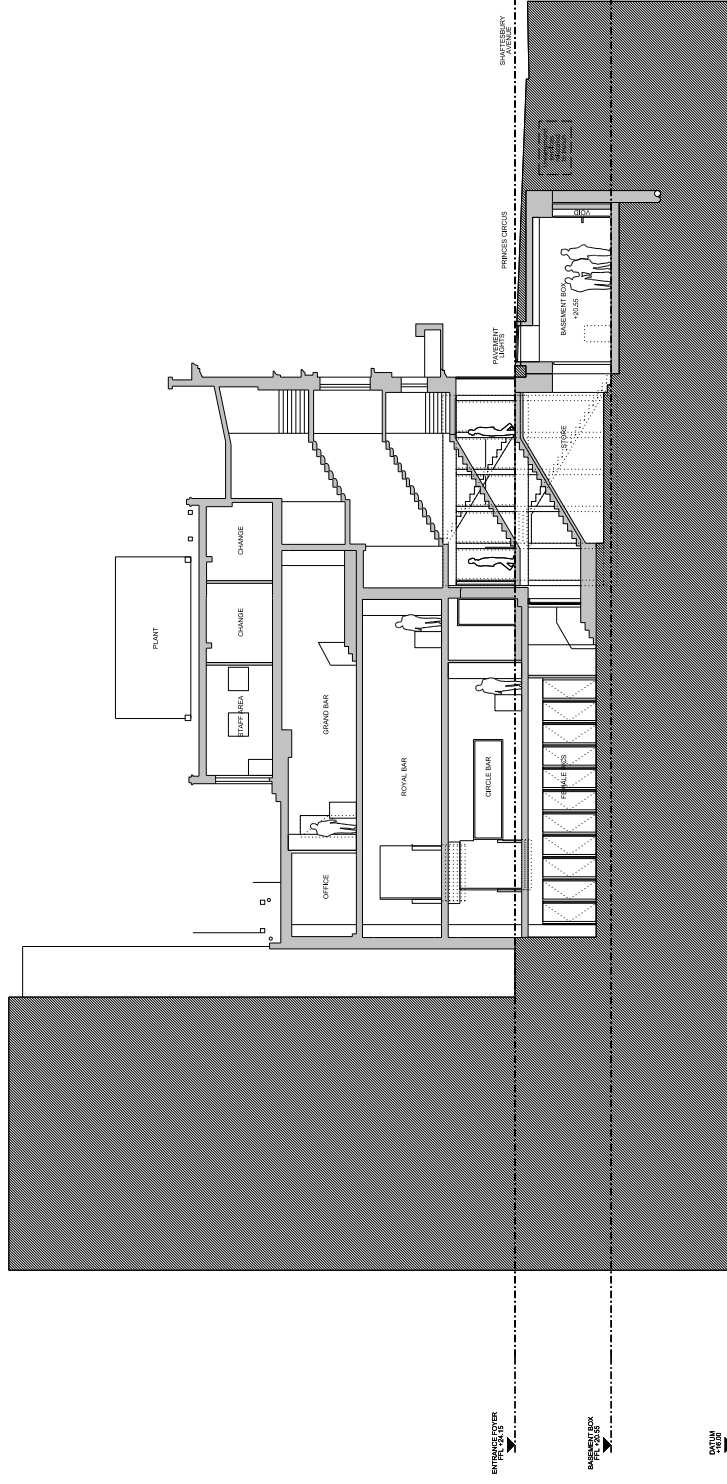
Scale @ A3
1: 200

Scale @ A1
1: 100

Revision Date
171109

TY: MK: 00

Notes



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For Bennetts Associates' electronic information issue disclaimer

Project	Project No.	1702
---------	-------------	------

Shaftesbury Theatre
The Theatre of Comedy Company

Drawing Title

Proposed Section

Section CC

Bars

Drawing Number

1702 20 230

Revision/Suitability

—

Scale @ A3

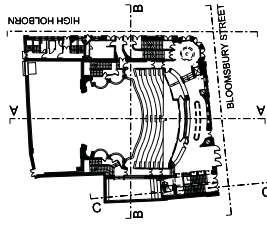
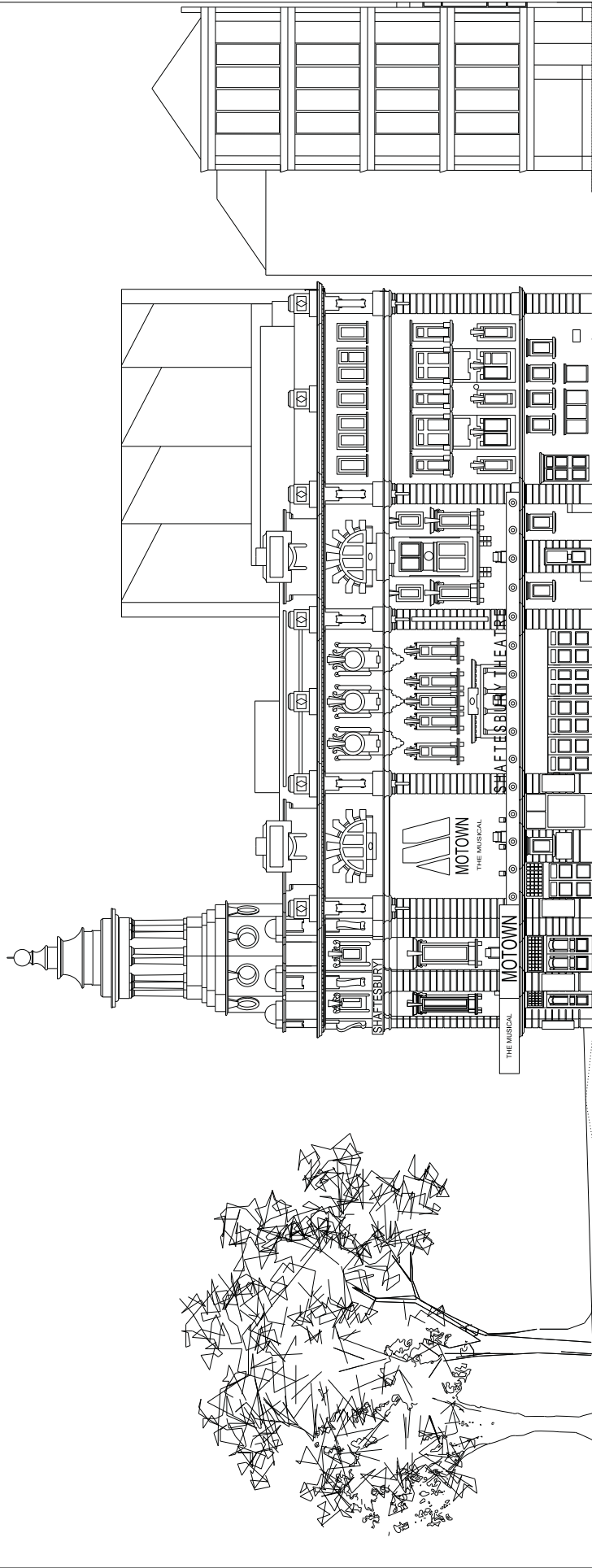
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Revision Date

1.200 1.100

1110

Notes



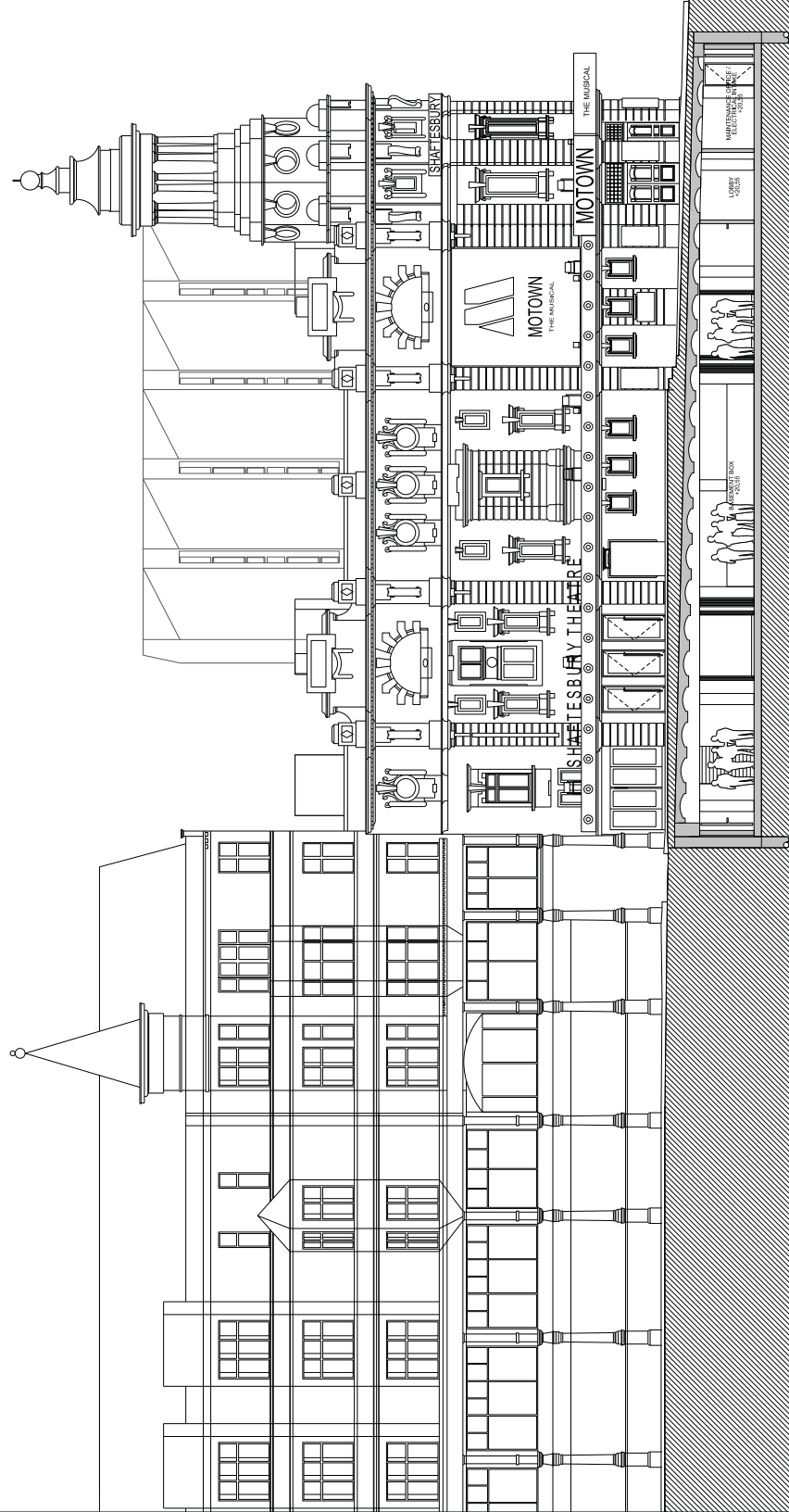
BENNETTS ASSOCIATES

Project No. 1702
Shaftesbury Theatre
The Theatre of Comedy Company

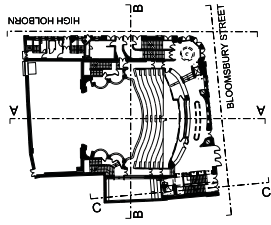
Project No. 1702
Shaftesbury Theatre
The Theatre of Comedy Company

Project No. 1702
Shaftesbury Theatre
The Theatre of Comedy Company

Project No. 1702
Shaftesbury Theatre
The Theatre of Comedy Company



Notes



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Project No. 1702

Shaftesbury Theatre
The Theatre of Comedy Company

Drawing Title

Proposed Elevation
Bloomsbury Street
West

Drawing Number

1702_20_302

Scale @ A3

1: 200

Scale @ A1

1: 100

Revision Date

171109

Revision/Submit

1

171109

171109

Notes



Area to be demolished



Shaftesbury Theatre

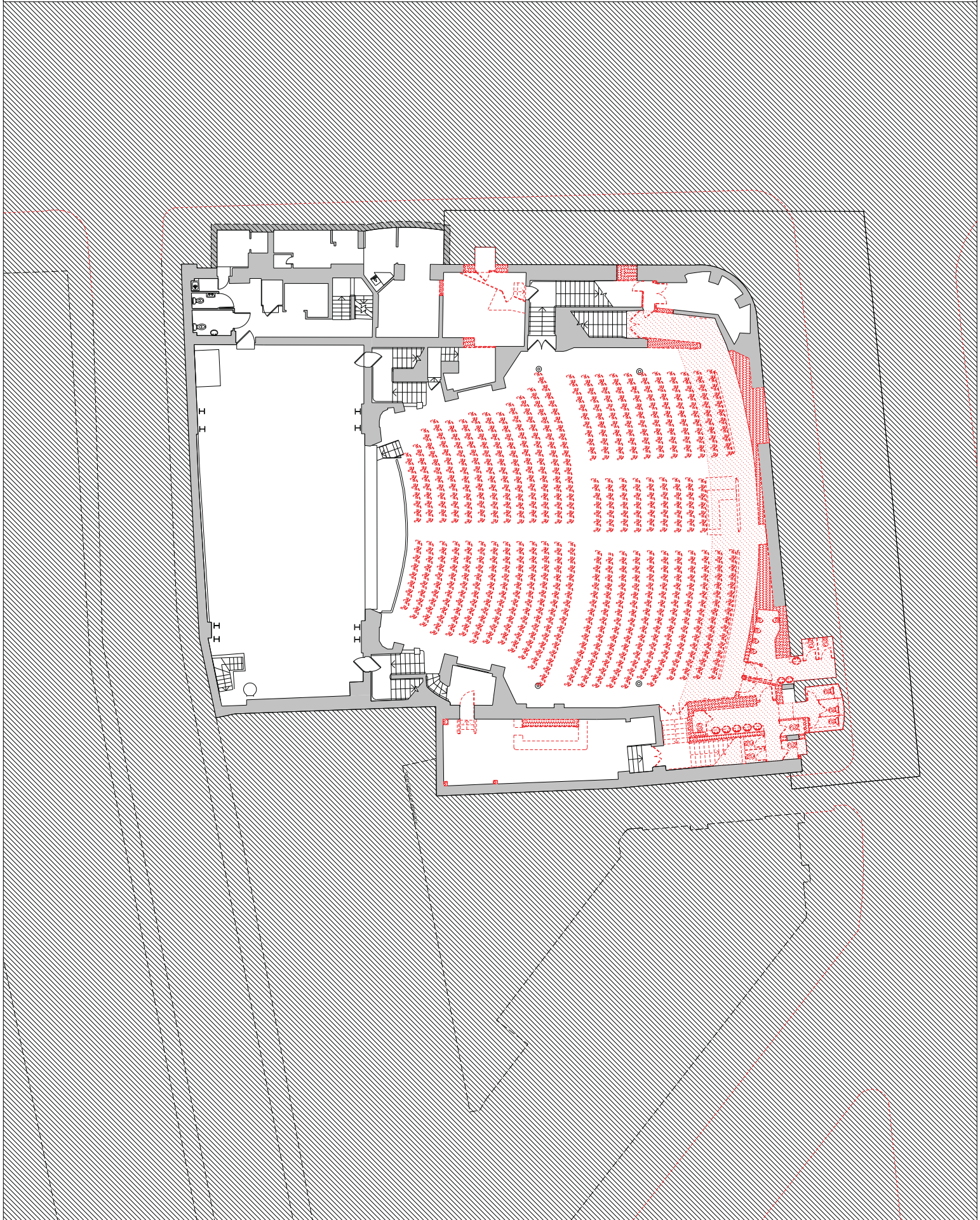
**BENNETTS
ASSOCIATES**

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For Bennett's Associates' complete portfolio please visit our website -

Project 1702
Shaftesbury Theatre
The Theatre of Comedy Company

Drawing Title
Existing Plan
Basement
Stalls Level

Revision/Status	Revision Number	Scale @ A3	Scale @ A1	Revision Date
A	1702_X_099	1: 200	1: 100	171109
				TY MB 00



Revisions	BY	CHK
A 171016 ISSUED FOR INFORMATION	DC	RB
	DC	RB

Notes



Area to be demolished



HIGH HOLBORN

GRAPE STREET

SERVICE
YARD

BLOOMSBURY STREET

SHAFTESBURY AVENUE



Shaftesbury Theatre

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Project 1702

Shaftesbury Theatre
The Theatre of Comedy Company

Drawing Title

Existing Plan
Ground Floor
Lower Royal Circle

Revision/Submit
1702_X_100
A

Scale @ A3
1: 200
Scale @ A1
1: 100
Revision Date
171109
TY M1 00

Revisions
A 171016 ISSUED FOR INFORMATION
BY CHK
DC
PB
DC

Notes



Area to be demolished



**BENNETTS
ASSOCIATES**

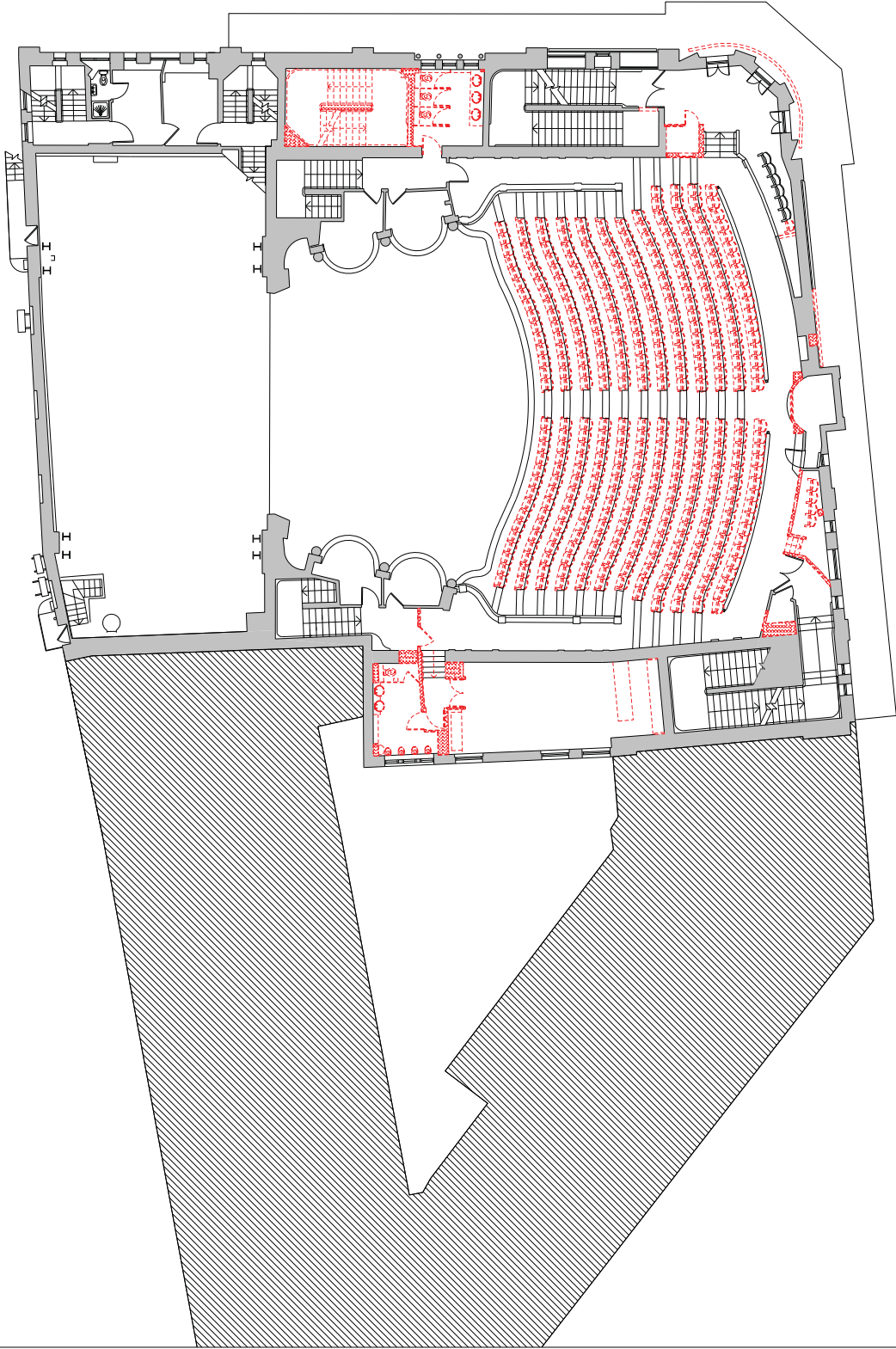
Registered Office: 100 Old London Road, London EC7Y 7NL
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For Bennett's Associates, please refer to the following disclaimer -

Project 1702

Shaftesbury Theatre
The Theatre of Comedy Company

Drawing Title
Existing Plan
First Floor
Upper Royal Circle

Drawing Number	Revision/Submit	Scale @ A1	Revision Date
1702_X_101	A	1: 200	171109
Scale @ A3		1: 100	
			TY MTD 00



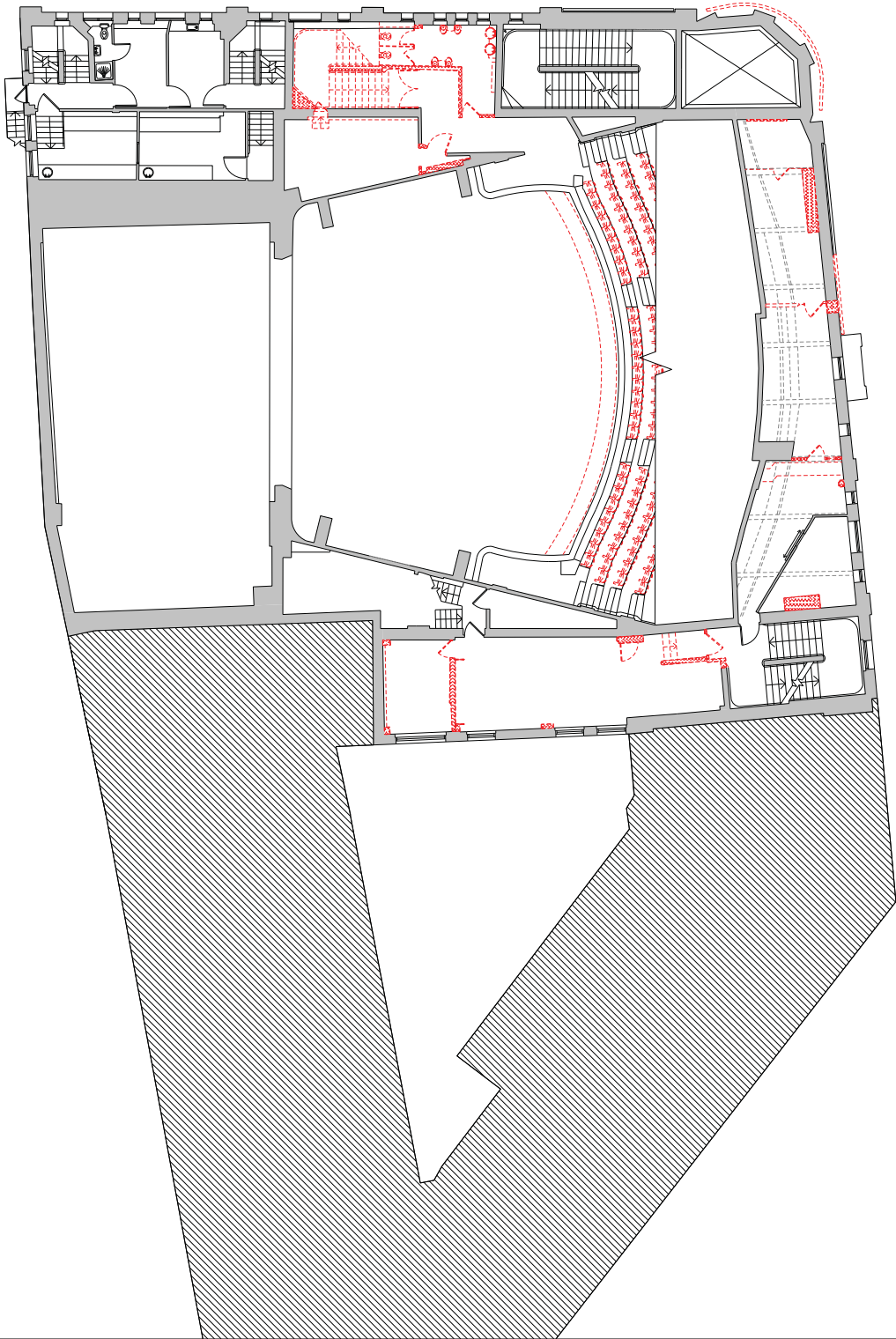
Revisions
A 171016 ISSUED FOR INFORMATION
B 171109 ISSUED FOR INFORMATION

BY CHK
DC
PB
DC
PB

Notes



Area to be demolished



Shaftesbury Theatre

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Project 1702

Shaftesbury Theatre
The Theatre of Comedy Company

Drawing Title

Existing Plan
Second Floor
Lower Grand Circle

Revision/Submit
1702_X_102
A

Scale @ A3
1:200
Scale @ A1
1:100
Revision Date
171109
TY M1 00

Revisions
A 171016 ISSUED FOR INFORMATION
BY CHK
DC
PB
DC
PB

Notes



Area to be demolished



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Project 1702

Shaftesbury Theatre
The Theatre of Comedy Company

Drawing Title

Existing Plan
Third Floor
Upper Grand Circle

Drawing Number	Revision/Suitability	Scale @ A1	Revision Date
1702_X_103	A	1: 200	171109
Scale @ A3		1: 100	
TY	MT	DD	

Revisions
A 171016 ISSUED FOR INFORMATION
BY CHK
DC
PB
DC
PB

Notes



Area to be demolished



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Project 1702

Shaftesbury Theatre
The Theatre of Comedy Company

Drawing Title

Existing Plan
Fourth Floor
Auditorium Roof

Drawing Number

1702_X_104

Revision/Suitability

A

Scale @ A3

1: 200

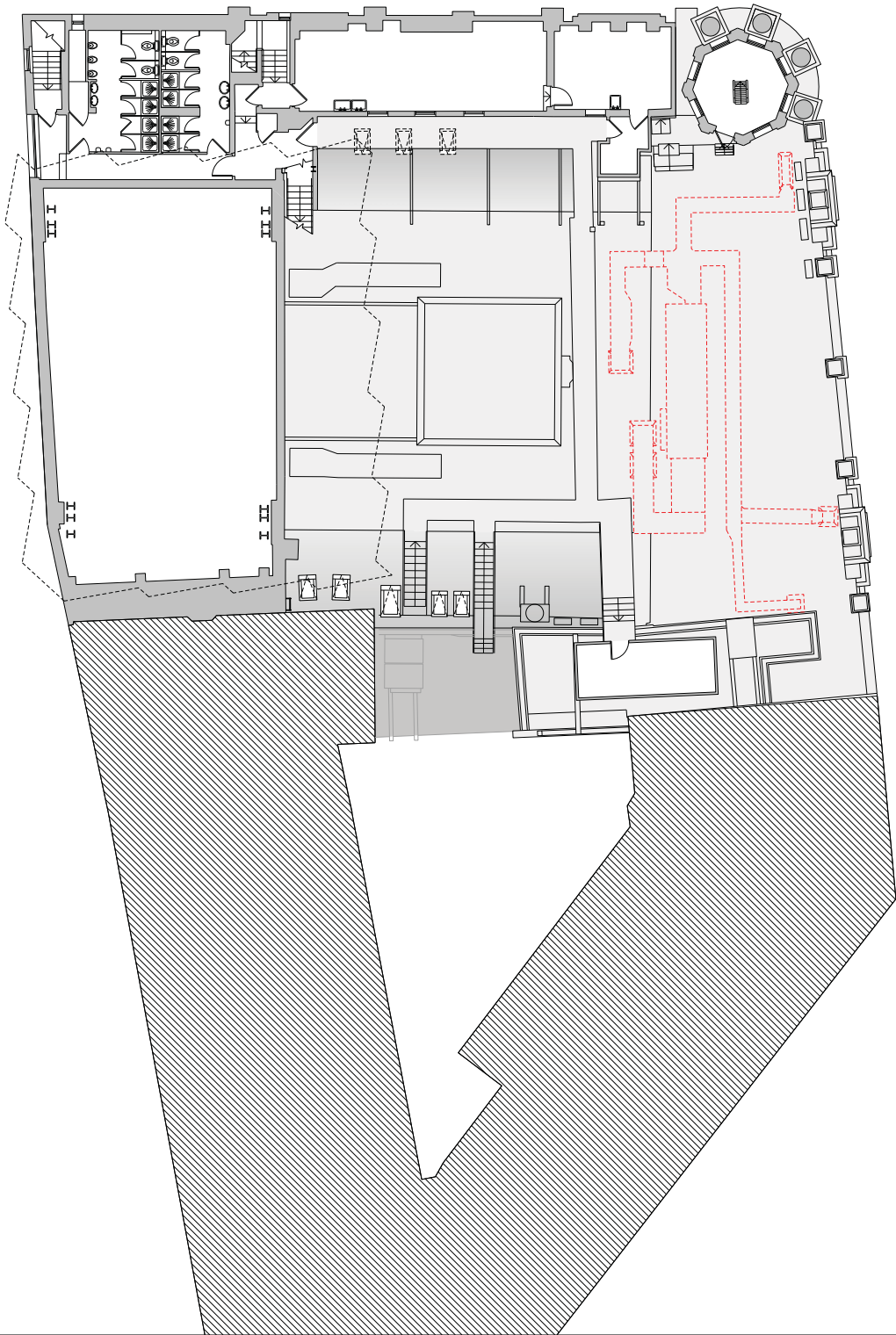
Scale @ A1

1: 100

Revision Date

171109

TY M11 03



Revisions
A 171016 ISSUED FOR INFORMATION
BY CHK
DC
PB
DC
PB

Notes



Area to be demolished



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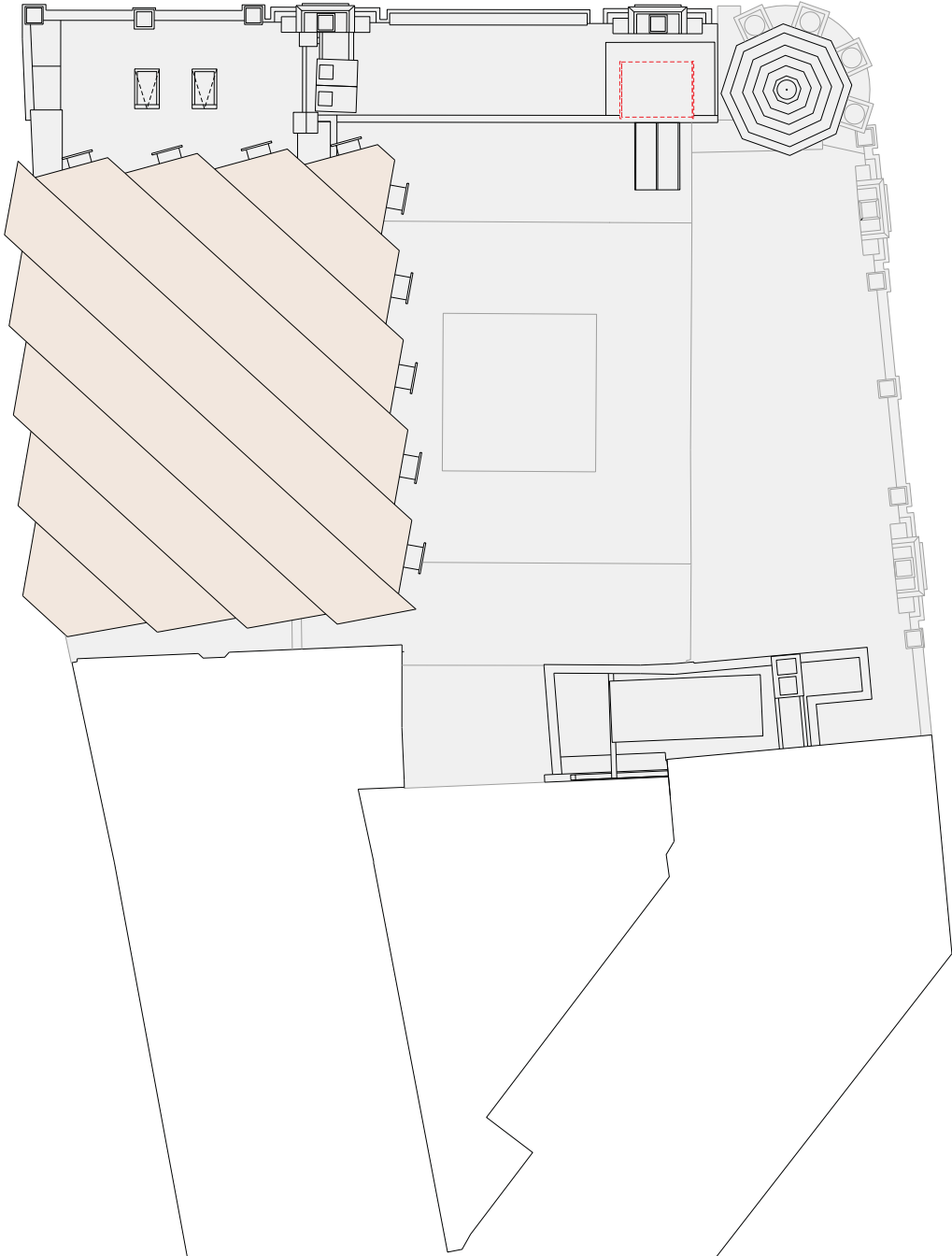
Registered Office: London EC1V 7NL
T +44 (0)20 7520 3300
E mail@bennettsassociates.com
For Bennett's Associates' complete list of services please visit our website -
www.bennettsassociates.com

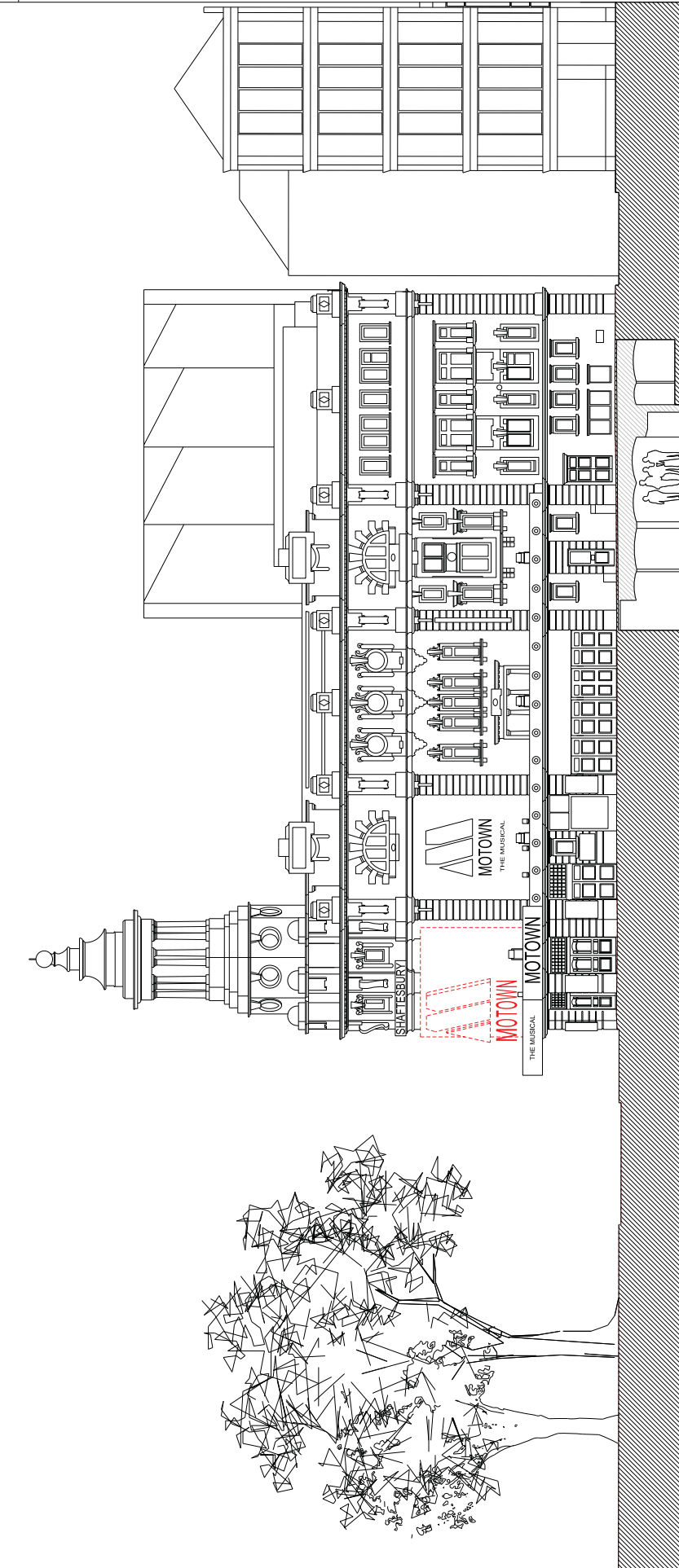
Project 1702

Shaftesbury Theatre
The Theatre of Comedy Company

Drawing Title
Existing Plan
Roof

Drawing Number	Revision/Suitability	Scale @ A3	Scale @ A1	Revision Date
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TY M&C 02				

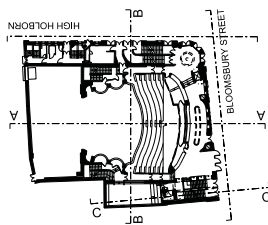




Notes



Area to be demolished


Shaftesbury Theatre

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E email@bennettsassociates.com

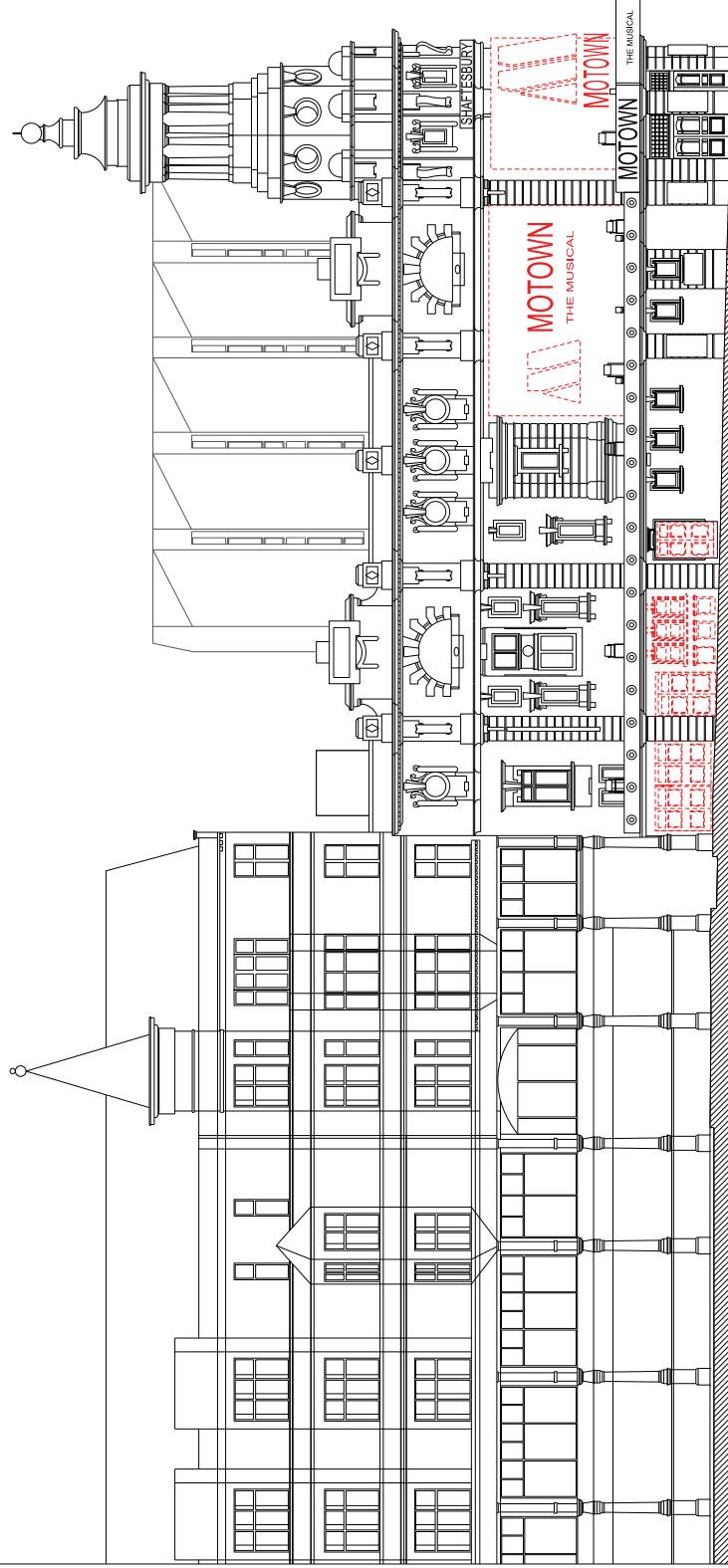
Project	Project No.	1702
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Shaftesbury Theatre
The Theatre of Comedy Company

Drawing Title
Existing Elevation
High Holborn
South

Drawing Number	Revision/Suitability
1702_X 301	1

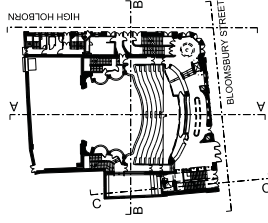
Scale @ A3	Scale @ A1	Revision Date
1 : 200	1 : 100	171109
		YY MM DD



Notes



Area to be demolished


Shaftesbury TheatreBENNETTS
ASSOCIATES

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Project	Project No.	1702
---------	-------------	------

Shaftesbury Theatre
The Theatre of Comedy Company

Drawing Title

Existing Elevation
Bloomsbury Street
West

Drawing Number

1702_X_302

Revision/Suitability

1

Scale @ A3 Scale @ A1

1:200 1:100

Revision Date

171109

YY MM CO

YY MM CO

DO NOT SCALE THIS DRAWING.

Notes

GENERAL

- G1. ALL DIMENSIONS SHOWN ARE IN mm UNLESS NOTED OTHERWISE.
- G2. ALL DIMENSIONS SHOWN ARE APPROXIMATELY AND MUST BE CHECKED AND CONFIRMED BY THE CONTRACTOR VIA A FULL DIMENSIONAL SURVEY OF THE WORKS. THE CONTRACTOR MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE WORK COMMENCES.
- G3. ALL DETAILS AND DIMENSIONS SHOWN ARE APPROXIMATELY AND MUST BE CHECKED AND CONFIRMED BY THE CONTRACTOR VIA A FULL DIMENSIONAL SURVEY OF THE WORKS. THE CONTRACTOR MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE WORK COMMENCES.
- G4. THE DEPTH AND LOCATION OF ANY SERVICES HAS NOT BEEN ESTABLISHED. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING THEM.
- G5. ALL WORKMANSHIP AND MATERIALS TO BE USED MUST COMPLY WITH THE CURRENT BUILDING REGULATIONS AND RELEVANT CURRENT BRITISH STANDARDS.
- G6. THE CONTRACTOR SHALL ALLOW FOR ALL WORK AND NECESSARY TO OBTAIN FULL APPROVAL AND SATISFACTION OF THE BUILDING INSPECTOR.
- G7. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE WORK ACT AND CONSTRUCTION REGULATIONS.
- G8. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT HIS OPERATIONS DO NOT IN ANY WAY IMPAIR THE SAFETY OF OR ADJACENT STRUCTURES. HE IS TO PROVIDE ANY TEMPORARY SUPPORTS, SHORING, AND HE IS TO CAREFULLY INSPECT THE CONDITION OF THE EXISTING STRUCTURES BOTH BEFORE AND DURING THE CONSTRUCTION OF THE WORK. THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY SHOULD ANY DAMAGE OCCUR.
- G9. ALL PROPRIETARY PRODUCTS TO BE USED IN STRICT ACCORDANCE WITH INSTRUCTIONS AND RECOMMENDATIONS.

These drawings have been prepared solely as a guide and are not to be used for any other purpose. The contractor is responsible for ensuring that the work is carried out in accordance with the relevant building regulations and standards.

The scheme is based on a section through the existing structure. The heights and levels of the existing structure are provided by Bennett's Architects. The heights and levels of the new structure are provided by the contractor.

It is anticipated that the contractor will need to provide temporary supports, shoring, and bracing to the existing structure during the construction of the new structure.

Rev.	Date	Description	By

Michael Jackson Consulting
Civil Engineering
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Fax: 0181 720 4405



Site
**SHAFESBURY THEATRE,
LONDON**

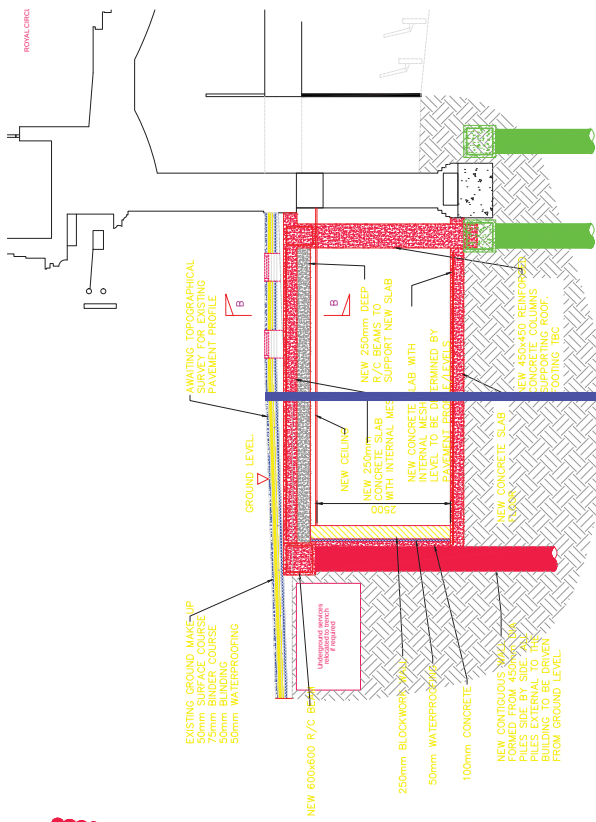
Project
NEW BASEMENT BAR

Drawing Title
**PROPOSED
BASEMENT PLAN**

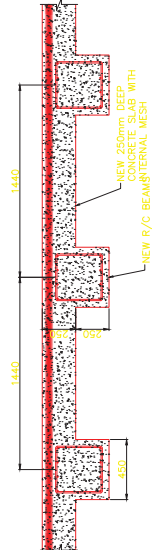
Scale	As Shown	Issue	Sept 2017	Checked	MF	Prepared
DRG. No.	2714-008					

KEY

- 0m ϕ 450mm CONTIGUOUS PILED WALL
- 23m ϕ 450mm PILES
- 30m BOREHOLE



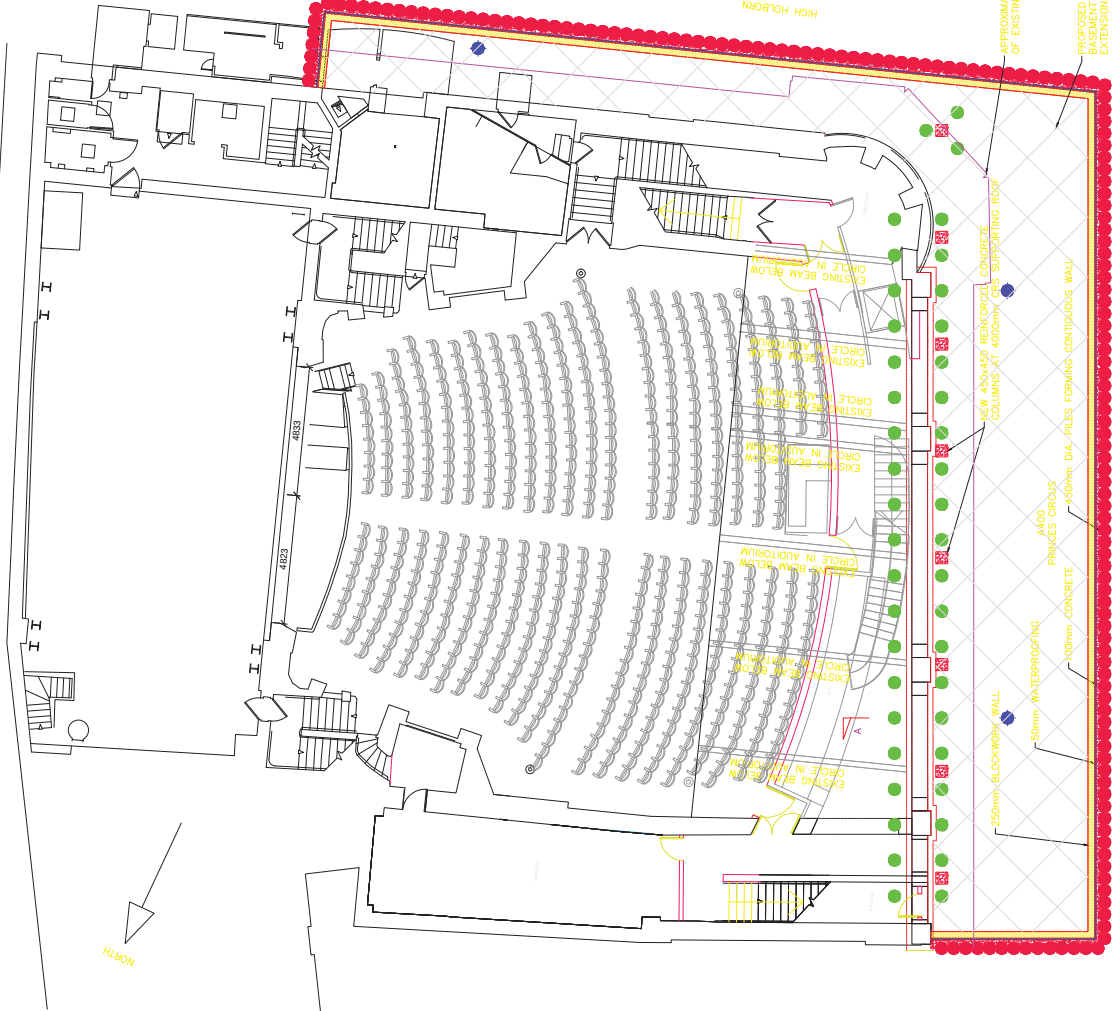
SECTION A-A
(SCALE 1:50 AT A1)



SECTION B-B
SHOWING NEW ROOF PROFILE
(SCALE 1:20 AT A1)

GRAPE STREET

NORTH



PROPOSED BASEMENT
PLAN
(SCALE 1:100 AT A1)

DO NOT SCALE THIS DRAWING.

Notes

GENERAL

- G1. ALL DIMENSIONS SHOWN ARE IN mm UNLESS NOTED OTHERWISE.
- G2. ALL DIMENSIONS SHOWN ARE APPROXIMATELY TO BE CHECKED AND CONFIRMED BY THE CONTRACTOR VIA A FULL DIMENSIONAL SURVEY OF THE WORK AREA PRIOR TO THE UNDERTAKING OF THE WORKS. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES BEFORE THE WORK COMMENCES.
- G3. ALL DETAILS AND DIMENSIONS SHOWN ARE TO BE APPROXIMATE ONLY, BASED UPON NO EXPOSURE OF THE STRUCTURE PRIOR TO THE PREPARATION OF THESE DETAILS.
- G4. THE DEPTH AND LOCATION OF ANY SERVICES HAS NOT BEEN ESTABLISHED. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING THEM.
- G5. ALL WORKMANSHIP AND MATERIALS TO COMPLY WITH THE CURRENT BUILDING REGULATIONS AND RELEVANT CURRENT BRITISH STANDARDS.
- G6. THE CONTRACTOR SHALL ALLOW FOR ALL WORK AND NECESSARY TO OBTAIN FULL APPROVAL AND SATISFACTION OF THE BUILDING INSPECTOR.
- G7. THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT HEALTH AND SAFETY AT WORK ACT AND CONSTRUCTION REGULATIONS.
- G8. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT HIS OPERATIONS DO NOT IN ANY WAY IMPAIR THE SAFETY OF EXISTING OR ADJACENT STRUCTURES. HE IS TO PROVIDE ANY TEMPORARY SUPPORTS, SHORING, AND HE IS TO CAREFULLY INSPECT THE CONDITION OF THE EXISTING STRUCTURES BOTH BEFORE AND DURING THE EXECUTION OF THE WORK. THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY SHOULD ANY DAMAGE OCCUR.
- G9. ALL PROPRIETARY PRODUCTS TO BE USED IN STRICT ACCORDANCE WITH INSTRUCTIONS AND RECOMMENDATIONS.

These drawings have been prepared solely as a guide and are not to be used for the design of RC and steelwork only.

The scheme is based on a section through provided by Bennetts Associates. The heights and levels of the structure are approximate. The contractor is to be responsible for the provision of any temporary supports, shoring, and the condition of the existing structures both before and during the execution of the work. The engineer is to be notified immediately should any damage occur.

Rev.	Date	Description	By
Revisions			



Michael Jackson Consulting
Chartered Structural Engineers

014 2000 2000
014 2000 2000
014 2000 2000

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Fax: 0141 790 4405

Client



Site
**SHAFTESBURY THEATRE,
LONDON**

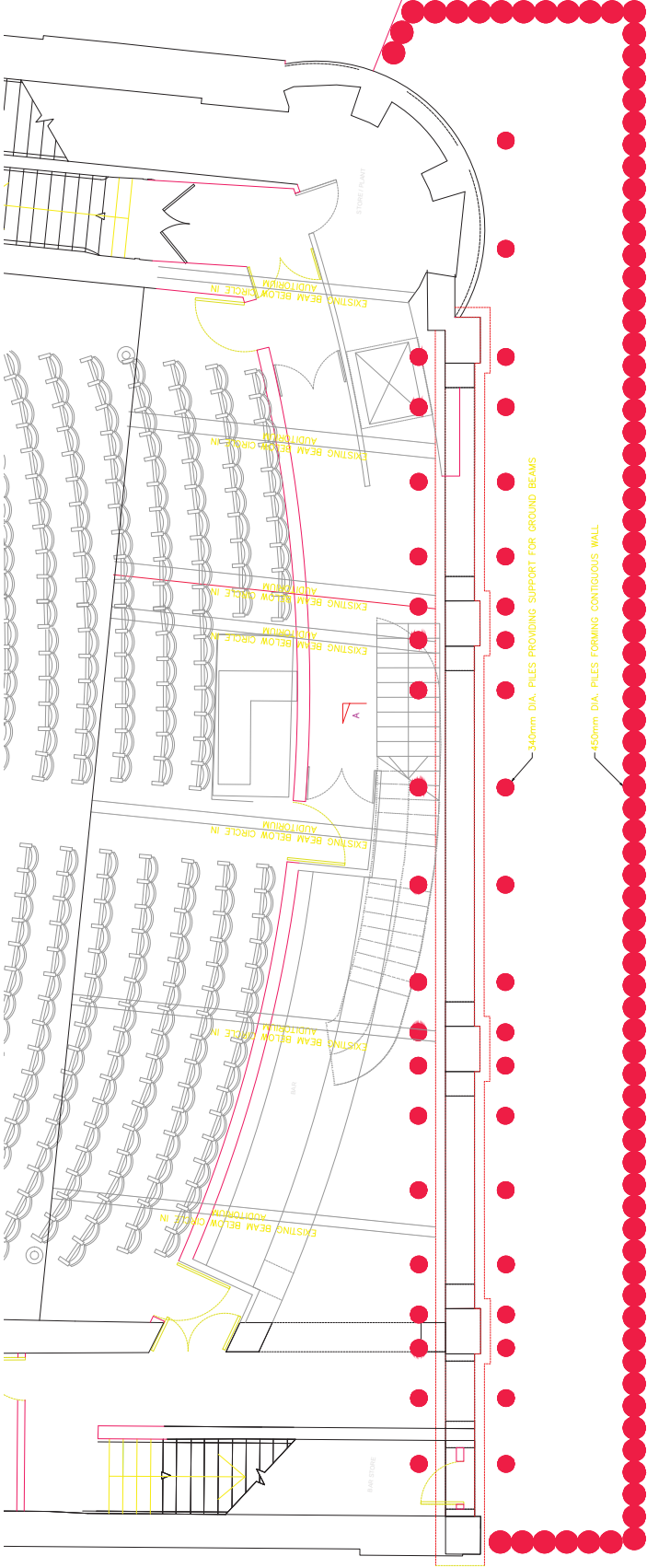
Project
NEW BASEMENT BAR

Drawing Title

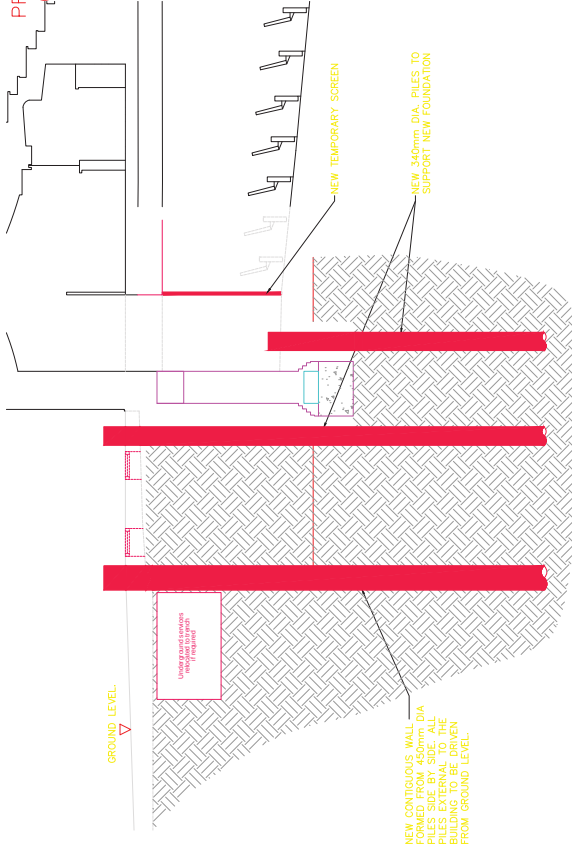
**PHASE 1
PROPOSED PILING
PLAN**

Scale	Date	Drawn	Checked	Printed
AS SHOWN	25/05/17	MF		

DRG. No. **2714-001**



**PROPOSED PILING PLAN
(SCALE 1:50 AT A1)**



**SECTION A-A
(SCALE 1:50 AT A1)**

Notes

The scheme is based on a section through provided by Bennett's Associates. The heights and levels of the foundations are indicative only based on the work done to date.

The foundations are proposed to allow the schemes to be constructed or revised according to the requirements of the client.

It is anticipated that the scheme will need to be lowered to provide an additional headroom to enable the beams to be installed.

Rev.	Date	Description	By
Revisions			

 **Michael Jackson Consulting**
204 BOLTON ROAD
WALKDEN, WORSLEY
MANCHESTER, M20 3BN
Tel: 0161 790 4404
Fax: 0161 790 4405
Chartered Structural Engineers

lient

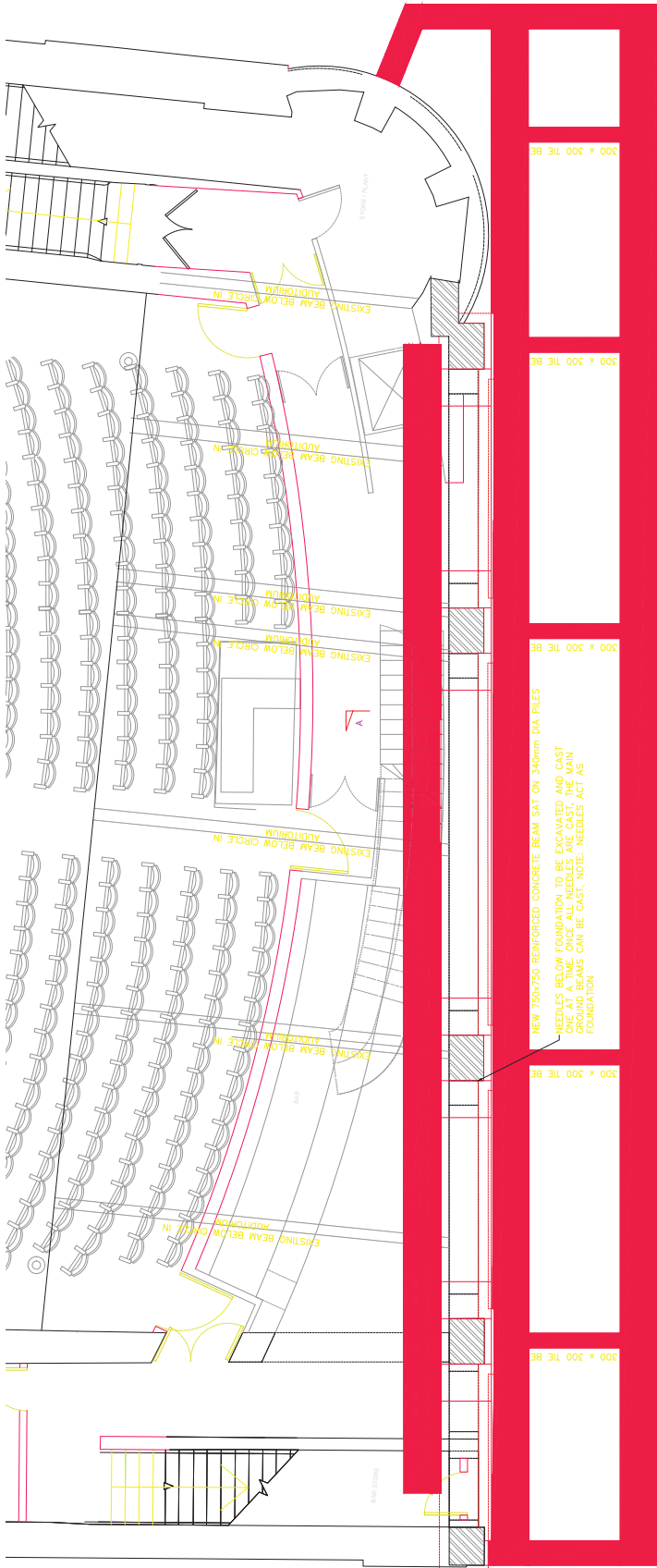


ite
SHAFTESBURY THEATRE,
LONDON

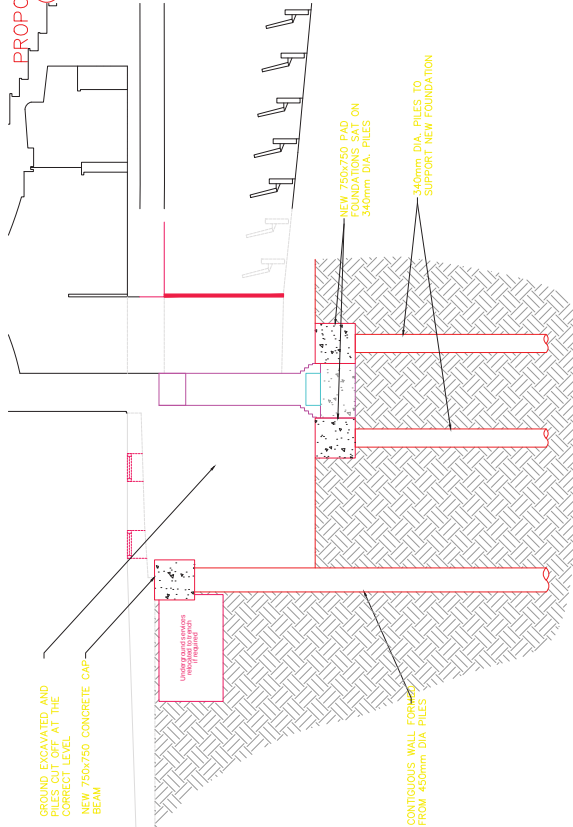
project

NEW BASEMENT BAR

Drawing Title PHASE 2 GROUND BEAM PLAN AND EXCAVATION	Scale	Notes	Checked	Passed
	AS SHOWN	Date 25/05/17	WFF	
DRG. No.				2714-002



PROPOSED GROUND BEAM PLAN
(SCALE 1:50 AT A1)



SECTION A-A
(SCALE 1:50 AT A1)

DO NOT SCALE THIS DRAWING.

Notes

GENERAL

- G1. ALL DIMENSIONS SHOWN ARE IN mm UNLESS NOTED OTHERWISE
- G2. ALL DIMENSIONS SHOWN ARE APPROXIMATELY ONLY AND MUST BE CHECKED AND CONFIRMED BY THE CONTRACTOR VIA A FULL DIMENSIONAL SURVEY OF THE UNDERTAKING OF THE WORKS. THE ENGINEER SHOULD BE NOTIFIED IF DISCREPANCIES BECOME APPARENT.
- G3. ALL DETAILS AND DIMENSIONS SHOWN RELATING TO THE EXISTING STRUCTURE ARE SCHEMATIC AND APPROXIMATE ONLY, BASED ON NO EXPOSURE OF THE STRUCTURE PRIOR TO COMMENCEMENT OF THE PREPARATION OF THESE DETAILS.
- G4. THE DEPTH AND LOCATION OF ANY SERVICES HAS NOT BEEN ESTABLISHED. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING THEM.
- G5. ALL WORKMANSHIP AND MATERIALS TO COMPLY WITH THE CURRENT BUILDING REGULATIONS AND RELEVANT CURRENT BRITISH STANDARDS.
- G6. THE CONTRACTOR SHALL ALLOW FOR ALL APPROVAL AND NECESSARY TO OBTAIN FULL SATISFACTION OF THE BUILDING INSPECTOR.
- G7. THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT REQUIREMENTS OF THE CURRENT ACT AND CONSTRUCTION REGULATIONS.
- G8. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT HIS OPERATIONS DO NOT AFFECT THE SAFETY OF THE EXISTING OR ADJACENT STRUCTURES. HE IS TO PROVIDE ANY TEMPORARY SUPPORTS, SHORING, AND HE IS TO CAREFULLY INSPECT THE CONDITION OF THE EXISTING STRUCTURES BOTH BEFORE AND DURING THE EXECUTION OF THE WORK. THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY SHOULD ANY DAMAGE OCCUR.
- G9. ALL PROPRIETARY PRODUCTS TO BE USED IN STRUCTURES SHALL BE IN ACCORDANCE WITH INSTRUCTIONS AND RECOMMENDATIONS.

These drawings have been prepared solely as a draft scheme to assist the QS in costing the RC and steelwork only.

The scheme is based on a section through provided by Bennetts Associates. The heights and levels of the existing structure are only indicative and may vary from the actual.

The foundations are shown to allow the contractor to understand the required depth and location of the foundations.

It is anticipated that the contractor will be required to provide a full structural analysis and design of the foundations and beams.

Rev.	Date	Description	By
Revisions			



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0181 720 4404
0181 720 4405
0181 720 4406
0181 720 4407

Client



Site
SHAFTESBURY THEATRE,
LONDON

Project
NEW BASEMENT BAR

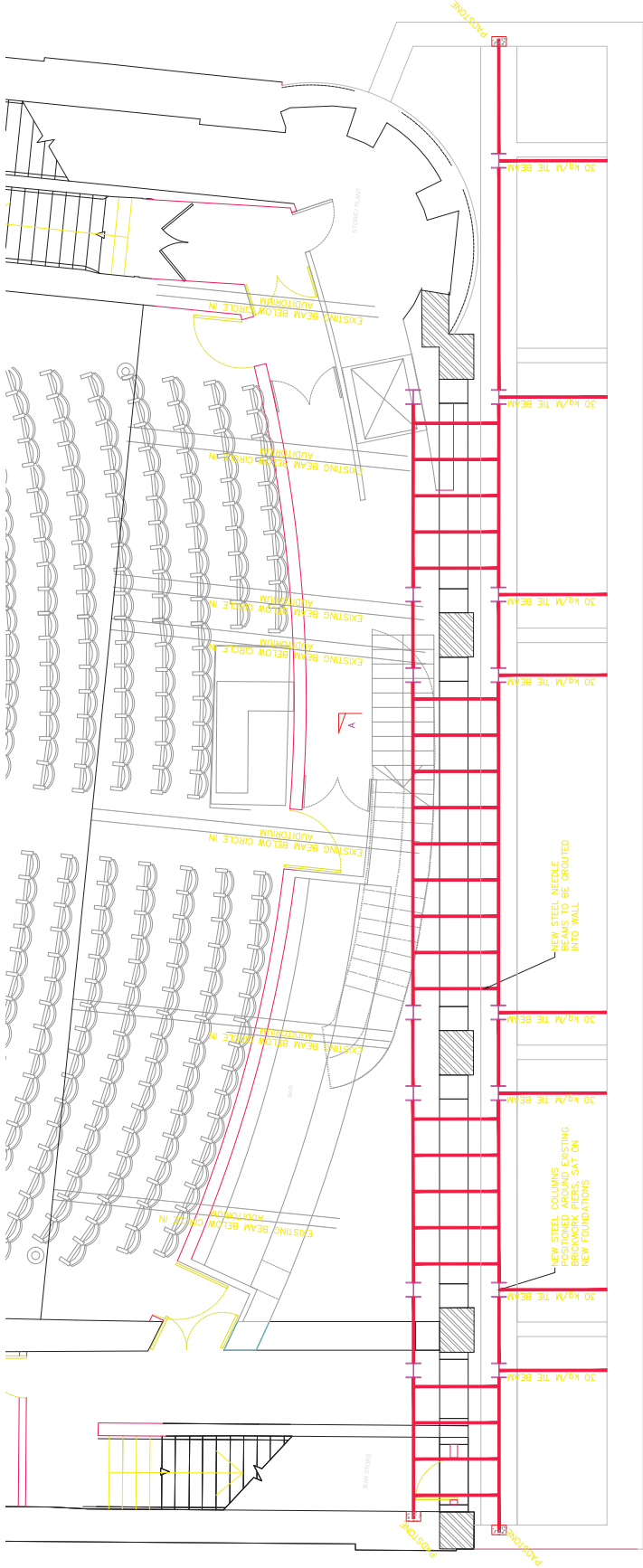
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PHASE 4
NEW STEEL GRILLAGE
AT 'EXTERNAL'
GROUND LEVEL'

Drawn
AS SHOWN

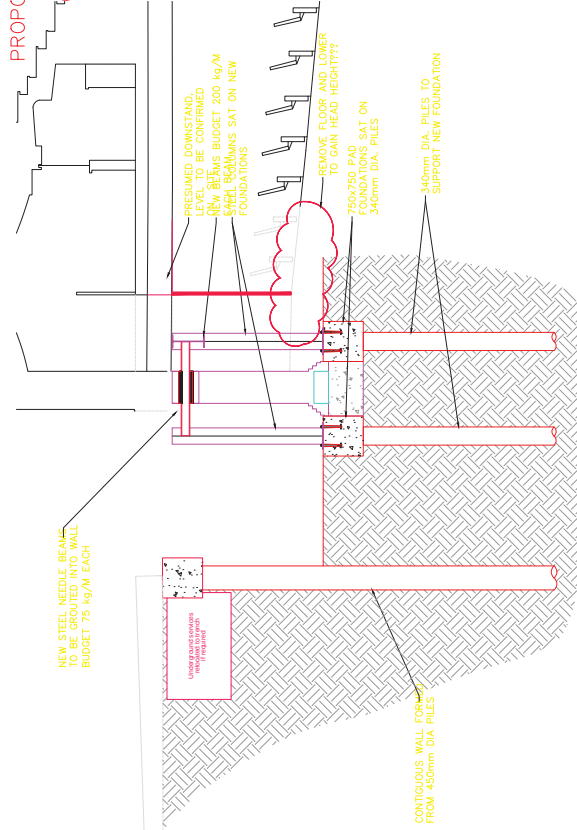
Checked
25/05/17

Project
MF

DRG. No.
2714-004



PROPOSED STEEL NEEDLE BEAM
PLAN
(SCALE 1:50 AT A1)



SECTION A-A
(SCALE 1:50 AT A1)

Notes

Rev.	Date	Description	By
Revisions			



Michael Jackson Consulting

Chartered Structural Engineers

255 DIXON ROAD
MANCHESTER, M18 2JN

Tel: 0161 700 4404
Fax: 0161 700 4405

Client

Site
SHAFTESBURY THEATRE,
LONDON

Project

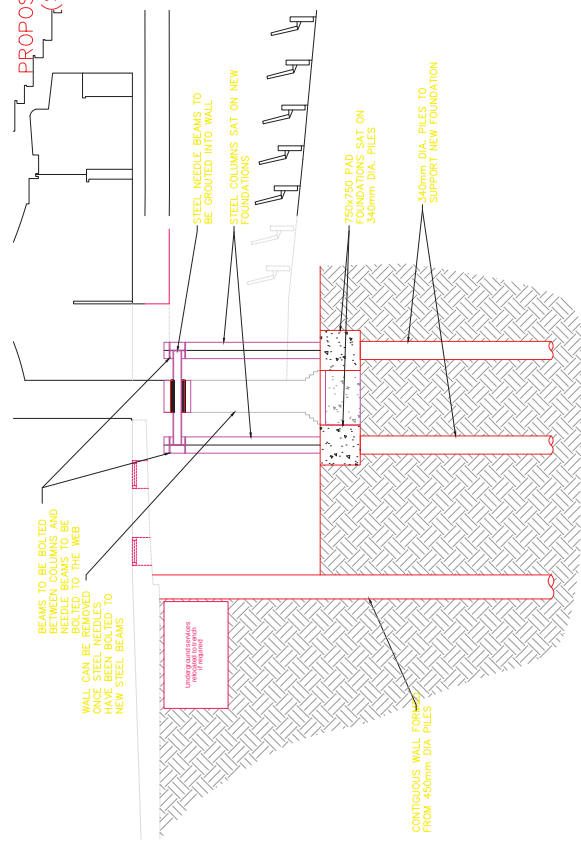
NEW BASEMENT BAR

Drawing Title

PROPOSED WALL
REMOVAL

Scale	Date	Drawn	Checked	Passed
AS SHOWN	25/05/17	MF		

DRG. No. 2714-006



SECTION A-A
(SCALE 1:50 AT A1)

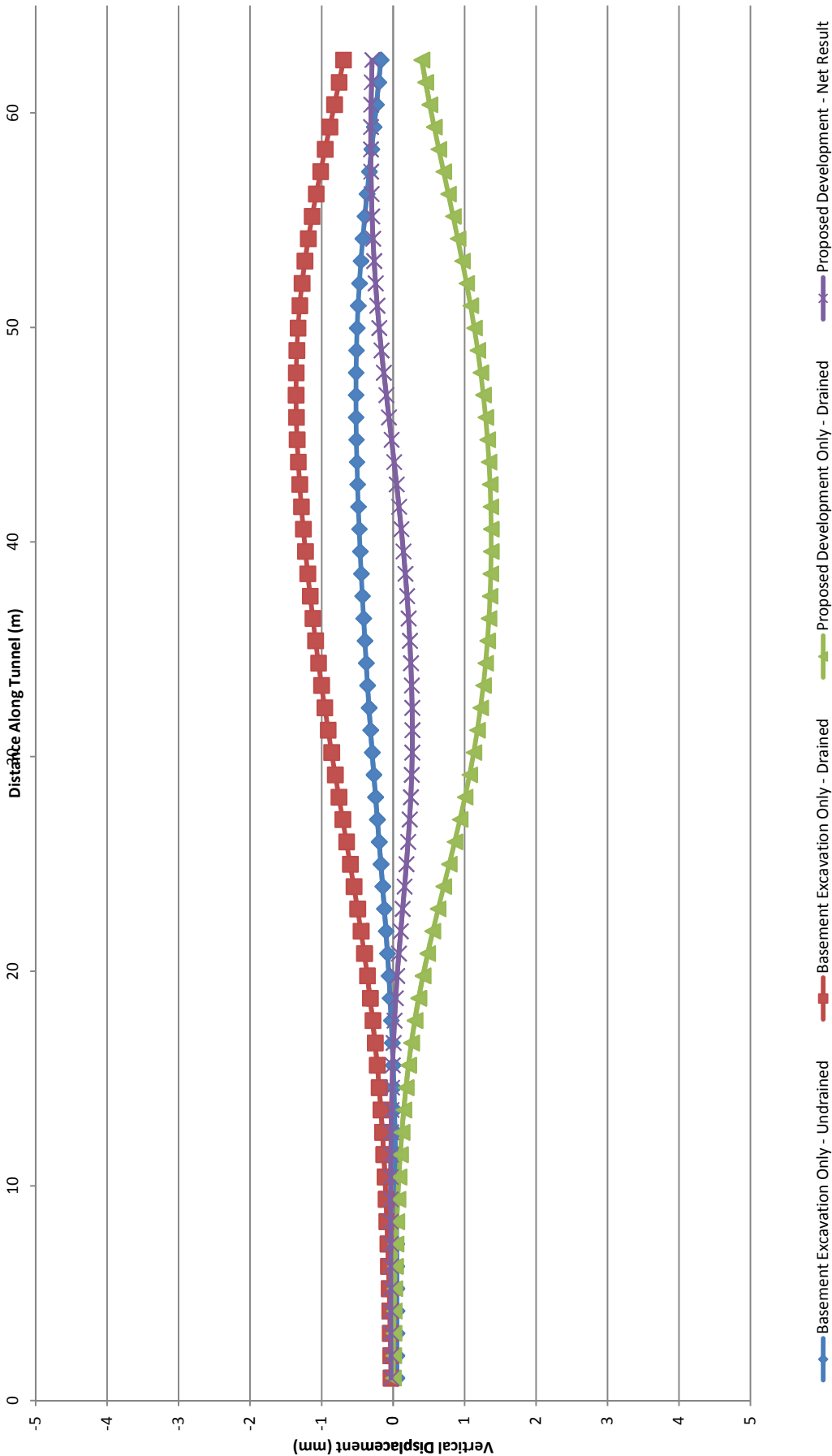
APPENDIX D

PDISP OUTPUTS

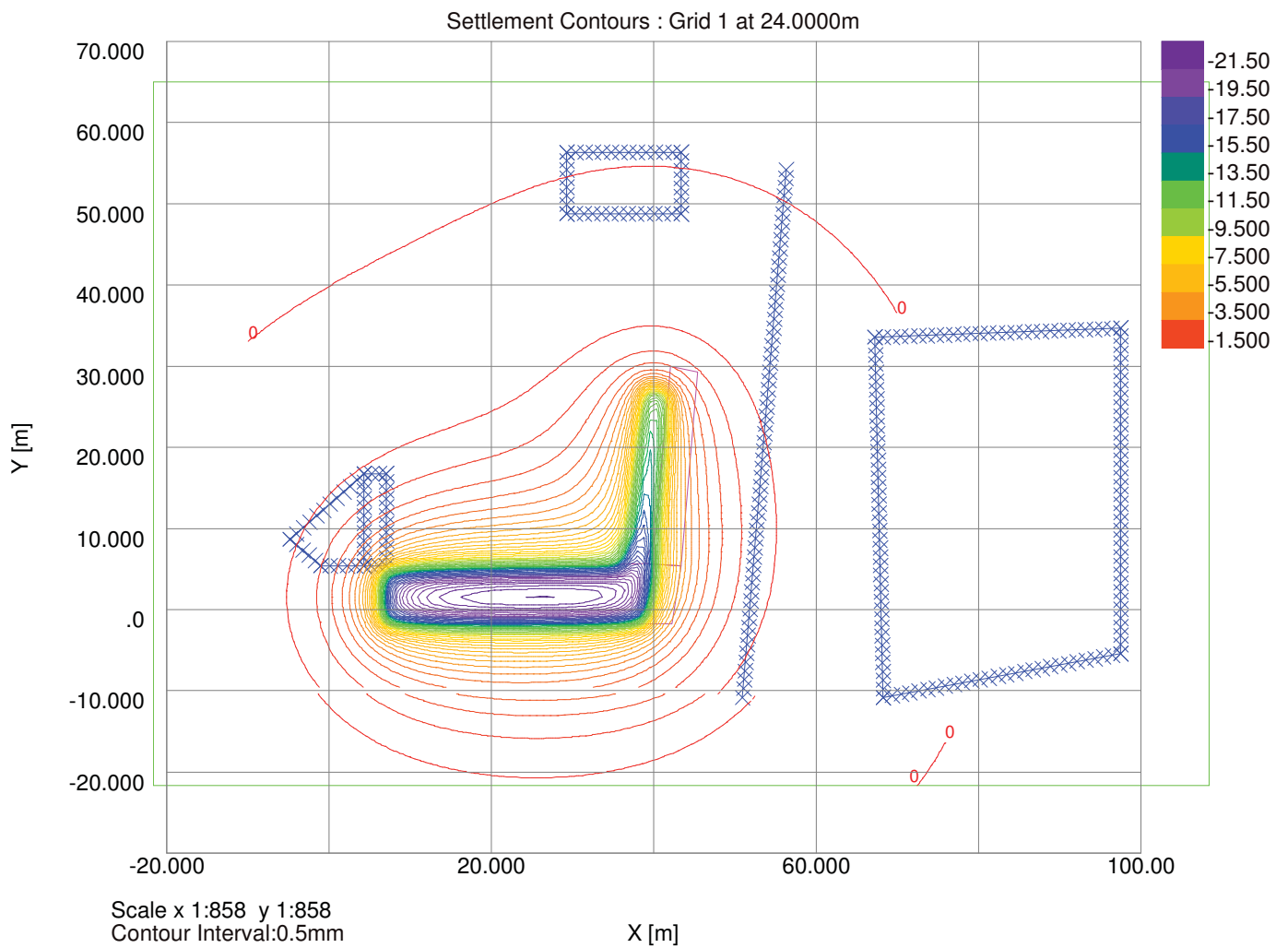
Shaftsbury Theatre

Crossrail Asset Alignment at 10.00m AOD - North to South

Job reference: 371647



Job No.	Sheet No.	Rev.
371647		
Drg. Ref.		
Made by	Date	Checked
ADJT		





Job No.	Sheet No.	Rev.
371647		
Drg. Ref.		
Made by ADJT	Date	Checked

Analysis Options

Analysis: Boussinesq
Global Poisson's ratio: 0.20
Maximum allowable ratio between values of E: 1.5
Horizontal rigid boundary level: -10.10 [m OD]
Stiffness for horizontal displacement calculations: Weighted average
Using legacy heave correction factor: No
Displacements at load centroids: Yes

Soil ProfilesSoil Profile 1

Layer	Level at top	Number of intermediate displacement levels	Youngs Modulus	Poissons ratio	Non-linear curve
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1	24.150	5	20000. 20000.	0.20000	None
2	20.150	5	16000. 85000.	0.20000	None
3	-6.5000	5	85000. 85000.	0.20000	None

Soil Zones

Zone	Name	X coordinates min	X coordinates max	Y coordinates min	Y coordinates max	Profile
1	SZ1	-20.00000	100.00000	-20.00000	60.00000	Soil Profile 1

Load Data

Load ref.	Name	Shape	Orientation of Plane	Centre of load (Global) X Y Z (level)	Angle of local x from Radius	Width x or Radius	Length y	Polygon Coordinates	Rectangle tolerance	Number of rectangles	Normal (local z)	Tangential (local x)	Tangential (local y)
1	Right	Polygonal	Horizontal	[m] N/A [m] N/A [m] 20.30000	[Degrees] N/A	[m] N/A	[m] N/A	[m] (38.8,27.7) (37.1,8.4) (35.9,5.3) (40,5) (41.9,27)	[%] 10.000	8	[kN/m ²] -64.000	[kN/m ²] N/A	[kN/m ²] N/A
2	Bottom	Polygonal	Horizontal	N/A N/A 20.30000	N/A	N/A	N/A	(6.5,4.4) (6.5,-1.8) (39,-1.6) (40,5) (35.9,5.3)	10.000	7	-74.000	N/A	N/A

Polygonal Loads' Rectangles

No.	Centre of load X	Angle of local x from global X [Degrees]	Width x [m]	Depth y [m]
Load 1 : Right				
(Edge 1 optimal)				
1	38.95313	27.64382	-95.034	0.085059
2	39.25940	27.53145	-95.034	0.085059
3	39.56567	27.41909	-95.034	0.085059
4	39.87194	27.30672	-95.034	0.085059
5	40.17821	27.19435	-95.034	0.085059
6	39.50805	17.69929	-95.034	18.949
7	38.32310	6.71999	-95.034	3.1324
8	36.93072	5.23978	-95.034	0.060904
Load 2 : Bottom				
(Edge 2 optimal)				
1	21.22018	1.57035	0.35258	29.405
2	37.45037	1.78934	0.35258	3.0575
3	39.08151	2.06428	0.35258	0.20812
4	39.28562	2.71666	0.35258	0.20812
5	39.48973	3.36904	0.35258	0.20812
6	39.69384	4.02143	0.35258	0.20812
7	39.89795	4.67381	0.35258	0.20812

Displacement Data

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion First point X Y Z (level) Second point X Y Z (level)	No. of intrvl across extrusion/line	Extrusion Depth [m]	No. of intrvl along extrusion	Calculate	Show Detailed results
1	Line	BKH_1	N/A	63.00000 -10.00000 22.50000	62.00000 31.00000 22.50000	41	N/A	N/A	Yes
2	Line	BKH_2	N/A	62.00000 31.00000 22.50000	90.00000 32.00000 22.50000	28	N/A	N/A	Yes
3	Line	BKH_3	N/A	90.00000 32.00000 22.50000	90.00000 -5.00000 22.50000	37	N/A	N/A	Yes
4	Line	BKH_4	N/A	90.00000 -5.00000 22.50000	63.00000 -10.00000 22.50000	27	N/A	N/A	Yes
5	Line	Archway_1	N/A	6.50000 5.00000 20.50000	6.50000 15.50000 20.50000	11	N/A	N/A	Yes
6	Line	Archway_2	N/A	6.50000 15.50000 20.50000	4.00000 15.50000 20.50000	3	N/A	N/A	Yes
7	Line	Archway_3	N/A	4.00000 5.00000 20.50000	6.50000 5.00000 20.50000	3	N/A	N/A	Yes
8	Line	167HH_1	N/A	27.00000 45.00000 20.50000	40.00000 45.00000 20.50000	13	N/A	N/A	Yes
9	Line	167HH_2	N/A	40.00000 45.00000 20.50000	40.00000 52.00000 20.50000	7	N/A	N/A	Yes
10	Line	167HH_3	N/A	40.00000 52.00000 20.50000	27.00000 52.00000 20.50000	13	N/A	N/A	Yes
11	Line	167HH_4	N/A	27.00000 52.00000 20.50000	47.00000 45.00000 20.50000	7	N/A	N/A	Yes
12	Line	210SH_1	N/A	4.00000 5.00000 20.50000	-1.00000 5.00000 20.50000	5	N/A	N/A	Yes
13	Line	210SH_2	N/A	-1.00000 5.00000 20.50000	-4.50000 8.00000 20.50000	5	N/A	N/A	Yes
14	Line	210SH_3	N/A	-4.50000 8.00000 20.50000	4.00000 15.50000 20.50000	11	N/A	N/A	Yes
15	Line	210SH_4	N/A	4.00000 15.50000 20.50000	4.00000 5.00000 20.50000	11	N/A	N/A	Yes
16	Line	Top1	N/A	52.00000 10.00000 24.00000	47.00000 10.00000 24.00000	60	N/A	N/A	Yes
17	Point	GrapeNear	N/A	38.00000 39.00000 24.00000	N/A N/A N/A	N/A	N/A	N/A	Yes
18	Point	GrapeFar	N/A	38.00000 44.50000 24.00000	N/A N/A N/A	N/A	N/A	N/A	Yes
19	Point	HighNear	N/A	41.00000 10.00000 24.00000	N/A N/A N/A	N/A	N/A	N/A	Yes
20	Point	HighFar	N/A	61.00000 10.00000 24.00000	N/A N/A N/A	N/A	N/A	N/A	Yes
21	Point	ShaftsNear	N/A	20.00000 -22.50000 24.00000	N/A N/A N/A	N/A	N/A	N/A	Yes
22	Point	ShaftsFar	N/A	20.00000 -8.00000 24.00000	N/A N/A N/A	N/A	N/A	N/A	Yes
23	Grid	Grid 1	Global X	-10.00000 -20.00000 24.00000	N/A 60.00000 24.00000	100	80.00000	100	No

RESULTS FOR GRIDS

Analysis: Boussinesq
Global Poisson's ratio: 0.20
Horizontal rigid boundary level: -10.10 [m OD]

The maximum displacement difference between the Boussinesq method (-8.5276mm) and the Mindlin method (-6.5743mm) occurs at point X = 41.00000m, Y = 10.00000m, Level = 24.000mOD, and is 1.9534mm.

Name	X	Location Y	Z [Level]	Displacement Z	Calc Level	Stresses Vert Stress	Sum Princ	Vert Strain
Right	39.31649	1.01033	20.30000	-14.341	20.225	-63.997	-148.99	-0.0023499
Bottom	23.29181	1.61507	20.30000	-23.382	20.225	-74.000	-174.98	-0.0026902
BKH_1	63.00000	-10.00000	22.50000	-0.058303	22.108	0.0	0.0	0.0
	62.97561	-9.00000	22.50000	-0.064225	22.108	0.0	0.0	0.0
	62.95122	-8.00000	22.50000	-0.070291	22.108	0.0	0.0	0.0
	62.92693	-7.00000	22.50000	-0.076464	22.108	0.0	0.0	0.0
	62.90244	-6.00000	22.50000	-0.082699	22.108	0.0	0.0	0.0
	62.87805	-5.00000	22.50000	-0.088952	22.108	0.0	0.0	0.0
	62.85366	-4.00000	22.50000	-0.095172	22.108	0.0	0.0	0.0
	62.82927	-3.00000	22.50000	-0.10131	22.108	0.0	0.0	0.0
	62.80488	-2.00000	22.50000	-0.10730	22.108	0.0	0.0	0.0
	62.78049	-1.00000	22.50000	-0.11330	22.108	0.0	0.0	0.0
	62.75610	0.00000	22.50000	-0.11865	22.108	0.0	0.0	0.0
	62.73171	1.00000	22.50000	-0.12390	22.108	0.0	0.0	0.0
	62.70732	2.00000	22.50000	-0.12881	22.108	0.0	0.0	0.0
	62.68293	3.00000	22.50000	-0.13332	22.108	0.0	0.0	0.0
	62.65854	4.00000	22.50000	-0.13740	22.108	0.0	0.0	0.0
	62.63415	5.00000	22.50000	-0.14101	22.108	0.0	0.0	0.0
	62.60976	6.00000	22.50000	-0.14412	22.108	0.0	0.0	0.0
	62.58537	7.00000	22.50000	-0.14672	22.108	0.0	0.0	0.0
	62.56098	8.00000	22.50000	-0.14879	22.108	0.0	0.0	0.0
	62.53659	9.00000	22.50000	-0.15031	22.108	0.0	0.0	0.0
	62.51220	10.00000	22.50000	-0.15128	22.108	0.0	0.0	0.0
	62.48780	11.00000	22.50000	-0.15169	22.108	0.0	0.0	0.0
	62.46341	12.00000	22.50000	-0.15155	22.108	0.0	0.0	0.0



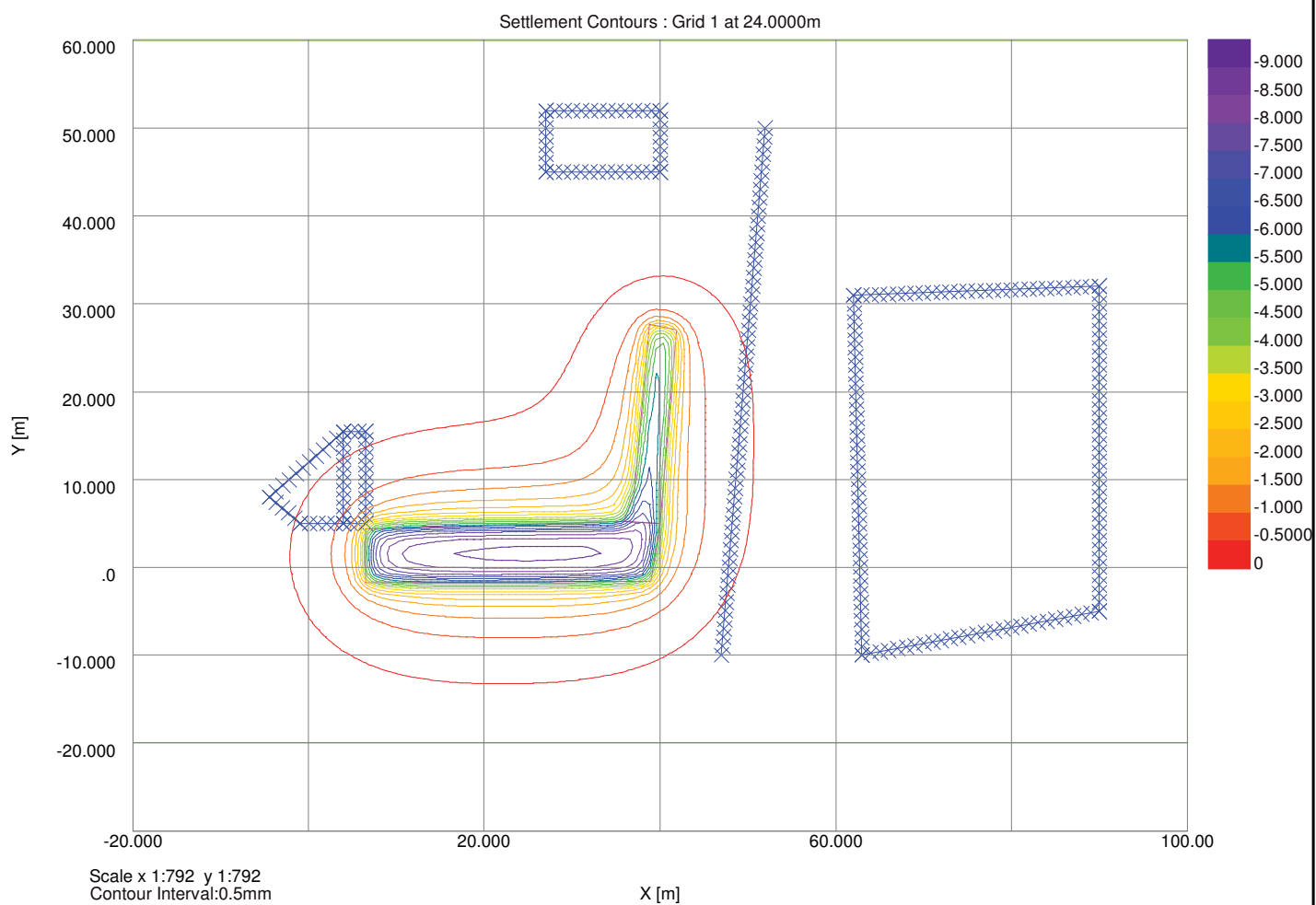
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Name	X [m]	Location Y	Displacement Z [Level] [mm]	Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Sum Princ [kN/m²]	Vert Strain [-]
BKH_2	62.43902	13.00000	22.50000	-0.15087	22.108	0.0	0.0
	62.41463	14.00000	22.50000	-0.14964	22.108	0.0	0.0
	62.39024	15.00000	22.50000	-0.14789	22.108	0.0	0.0
	62.36585	16.00000	22.50000	-0.14561	22.108	0.0	0.0
	62.34146	17.00000	22.50000	-0.14284	22.108	0.0	0.0
	62.31707	18.00000	22.50000	-0.13958	22.108	0.0	0.0
	62.29268	19.00000	22.50000	-0.13586	22.108	0.0	0.0
	62.26829	20.00000	22.50000	-0.13171	22.108	0.0	0.0
	62.24390	21.00000	22.50000	-0.12714	22.108	0.0	0.0
	62.21951	22.00000	22.50000	-0.12219	22.108	0.0	0.0
	62.19512	23.00000	22.50000	-0.11690	22.108	0.0	0.0
	62.17073	24.00000	22.50000	-0.11130	22.108	0.0	0.0
	62.14634	25.00000	22.50000	-0.10545	22.108	0.0	0.0
	62.12195	26.00000	22.50000	-0.099389	22.108	0.0	0.0
	62.09756	27.00000	22.50000	-0.093171	22.108	0.0	0.0
	62.07317	28.00000	22.50000	-0.086850	22.108	0.0	0.0
	62.04878	29.00000	22.50000	-0.080481	22.108	0.0	0.0
	62.02439	30.00000	22.50000	-0.074117	22.108	0.0	0.0
	62.00000	31.00000	22.50000	-0.067811	22.108	0.0	0.0
	62.00000	31.00000	22.50000	-0.067811	22.108	0.0	0.0
	63.00000	31.03571	22.50000	-0.056495	22.108	0.0	0.0
	64.00000	31.07143	22.50000	-0.046610	22.108	0.0	0.0
	65.00000	31.10714	22.50000	-0.037979	22.108	0.0	0.0
	66.00000	31.14286	22.50000	-0.030444	22.108	0.0	0.0
	67.00000	31.17857	22.50000	-0.023971	22.108	0.0	0.0
	68.00000	31.21429	22.50000	-0.018142	22.108	0.0	0.0
	69.00000	31.25000	22.50000	-0.013153	22.108	0.0	0.0
	70.00000	31.28571	22.50000	-0.0088136	22.108	0.0	0.0
	71.00000	31.32143	22.50000	-0.0050453	22.108	0.0	0.0
	72.00000	31.35714	22.50000	-0.0017895	22.108	0.0	0.0
	73.00000	31.39286	22.50000	0.0010476	22.108	0.0	0.0
	74.00000	31.42857	22.50000	0.0034863	22.108	0.0	0.0
	75.00000	31.46429	22.50000	0.0055844	22.108	0.0	0.0
BKH_3	76.00000	31.50000	22.50000	0.0073833	22.108	0.0	0.0
	77.00000	31.53571	22.50000	0.0093191	22.108	0.0	0.0
	78.00000	31.57143	22.50000	0.010224	22.108	0.0	0.0
	79.00000	31.60714	22.50000	0.011325	22.108	0.0	0.0
	80.00000	31.64286	22.50000	0.012248	22.108	0.0	0.0
	81.00000	31.67857	22.50000	0.013015	22.108	0.0	0.0
	82.00000	31.71429	22.50000	0.013644	22.108	0.0	0.0
	83.00000	31.75000	22.50000	0.014153	22.108	0.0	0.0
	84.00000	31.78571	22.50000	0.014556	22.108	0.0	0.0
	85.00000	31.82143	22.50000	0.014867	22.108	0.0	0.0
	86.00000	31.85714	22.50000	0.015097	22.108	0.0	0.0
	87.00000	31.89286	22.50000	0.015256	22.108	0.0	0.0
	88.00000	31.92857	22.50000	0.015355	22.108	0.0	0.0
	89.00000	31.96429	22.50000	0.015399	22.108	0.0	0.0
	90.00000	32.00000	22.50000	0.015398	22.108	0.0	0.0
	90.00000	32.00000	22.50000	0.015398	22.108	0.0	0.0
	90.00000	31.00000	22.50000	0.015435	22.108	0.0	0.0
	90.00000	30.00000	22.50000	0.015468	22.108	0.0	0.0
	90.00000	29.00000	22.50000	0.015497	22.108	0.0	0.0
	90.00000	28.00000	22.50000	0.015524	22.108	0.0	0.0
	90.00000	27.00000	22.50000	0.015548	22.108	0.0	0.0
	90.00000	26.00000	22.50000	0.015569	22.108	0.0	0.0
	90.00000	25.00000	22.50000	0.015589	22.108	0.0	0.0
	90.00000	24.00000	22.50000	0.015606	22.108	0.0	0.0
	90.00000	23.00000	22.50000	0.015623	22.108	0.0	0.0
	90.00000	22.00000	22.50000	0.015639	22.108	0.0	0.0
	90.00000	21.00000	22.50000	0.015654	22.108	0.0	0.0
	90.00000	20.00000	22.50000	0.015669	22.108	0.0	0.0
	90.00000	19.00000	22.50000	0.015684	22.108	0.0	0.0
	90.00000	18.00000	22.50000	0.015700	22.108	0.0	0.0
	90.00000	17.00000	22.50000	0.015717	22.108	0.0	0.0
	90.00000	16.00000	22.50000	0.015734	22.108	0.0	0.0
	90.00000	15.00000	22.50000	0.015753	22.108	0.0	0.0
	90.00000	14.00000	22.50000	0.015774	22.108	0.0	0.0
	90.00000	13.00000	22.50000	0.015796	22.108	0.0	0.0
	90.00000	12.00000	22.50000	0.015820	22.108	0.0	0.0
BKH_4	90.00000	11.00000	22.50000	0.015845	22.108	0.0	0.0
	90.00000	10.00000	22.50000	0.015873	22.108	0.0	0.0
	90.00000	9.00000	22.50000	0.015902	22.108	0.0	0.0
	90.00000	8.00000	22.50000	0.015933	22.108	0.0	0.0
	90.00000	7.00000	22.50000	0.015965	22.108	0.0	0.0
	90.00000	6.00000	22.50000	0.016000	22.108	0.0	0.0
	90.00000	5.00000	22.50000	0.016035	22.108	0.0	0.0
	90.00000	4.00000	22.50000	0.016071	22.108	0.0	0.0
	90.00000	3.00000	22.50000	0.016109	22.108	0.0	0.0
	90.00000	2.00000	22.50000	0.016146	22.108	0.0	0.0
	90.00000	1.00000	22.50000	0.016184	22.108	0.0	0.0
	90.00000	0.00000	22.50000	0.016222	22.108	0.0	0.0
	90.00000	-1.00000	22.50000	0.016259	22.108	0.0	0.0
	90.00000	-2.00000	22.50000	0.016295	22.108	0.0	0.0
	90.00000	-3.00000	22.50000	0.016329	22.108	0.0	0.0
	90.00000	-4.00000	22.50000	0.016362	22.108	0.0	0.0
	90.00000	-5.00000	22.50000	0.016392	22.108	0.0	0.0
	90.00000	-5.00000	22.50000	0.016392	22.108	0.0	0.0
	89.00000	-5.18519	22.50000	0.016335	22.108	0.0	0.0
	88.00000	-5.37037	22.50000	0.016221	22.108	0.0	0.0
	87.00000	-5.55556	22.50000	0.016043	22.108	0.0	0.0
	86.00000	-5.74074	22.50000	0.015790	22.108	0.0	0.0
	85.00000	-5.92593	22.50000	0.015454	22.108	0.0	0.0
	84.00000	-6.11111	22.50000	0.015023	22.108	0.0	0.0
	83.00000	-6.29630	22.50000	0.014484	22.108	0.0	0.0
	82.00000	-6.48148	22.50000	0.013824	22.108	0.0	0.0
	81.00000	-6.66667	22.50000	0.013026	22.108	0.0	0.0
	80.00000	-6.85185	22.50000	0.012074	22.108	0.0	0.0
	79.00000	-7.03704	22.50000	0.010948	22.108	0.0	0.0
	78.00000	-7.22222	22.50000	0.0096254	22.108	0.0	0.0
	77.00000	-7.40741	22.50000	0.0080833	22.108	0.0	0.0
	76.00000	-7.59259	22.50000	0.0062945	22.108	0.0	0.0
	75.00000	-7.77778	22.50000	0.0042291	22.108	0.0	0.0
	74.00000	-7.96296	22.50000	0.0018542	22.108	0.0	0.0
	73.00000	-8.14815	22.50000	-866.75E-6	22.108	0.0	0.0
Archway_1	72.00000	-8.33333	22.50000	-0.0039742	22.108	0.0	0.0
	71.00000	-8.51852	22.50000	-0.0075128	22.108	0.0	0.0
	70.00000	-8.70370	22.50000	-0.011532	22.108	0.0	0.0
	69.00000	-8.88889	22.50000	-0.016084	22.108	0.0	0.0
	68.00000	-9.07407	22.50000	-0.021230	22.108	0.0	0.0
	67.00000	-9.25926	22.50000	-0.027033	22.108	0.0	0.0
	66.00000	-9.44444	22.50000	-0.033563	22.108	0.0	0.0
	65.00000	-9.62963	22.50000	-0.040897	22.108	0.0	0.0
	64.00000	-9.81481	22.50000	-0.049114	22.108	0.0	0.0
	63.00000	-10.00000	22.50000	-0.058303	22.108	0.0	0.0
Archway_2	6.50000	5.00000	20.50000	-6.9789	20.325	0.0	0.0
	6.50000	5.95455	20.50000	-4.8228	20.325	0.0	0.0
	6.50000	6.90909	20.50000	-3.6524	20.325	0.0	0.0
	6.50000	7.86364	20.50000	-2.9425	20.325	0.0	0.0
	6.50000	8.81818	20.50000	-2.4348	20.325	0.0	0.0
	6.50000	9.77273	20.50000	-2.0438	20.325	0.0	0.0
	6.50000	10.72727	20.50000	-1.7324	20.325	0.0	0.0
	6.50000	11.68182	20.50000	-1.4791	20.325	0.0	0.0
	6.50000	12.63636	20.50000	-1.2701	20.325	0.0	0.0
	6.50000	13.59091	20.50000	-1.0955	20.325	0.0	0.0
Archway_3	6.50000	14.54545	20.50000	-0.94827	20.325	0.0	0.0
	6.50000	15.50000	20.50000	-0.82313	20.325	0.0	0.0
	6.50000	15.50000	20.50000	-0.82313	20.325	0.0	0.0
	5.66667	15.50000	20.50000	-0.76677	20.325	0.0	0.0
	4.83333	15.50000	20.50000	-0.71120	20.325	0.0	0.0
	4.00000	15.50000	20.50000	-0.65692	20.325	0.0	0.0
	4.00000	5.00000	20.50000	-2.9881	20.325	0.0	0.0
	4.83333	5.00000	20.50000	-3.7772	20.325	0.0	0.0
	5.66667						

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Name	Location			Displacement	Stresses			
	X	Y	Z [Level]	Z	Calc Level	Vert Stress	Sum Princ	Vert Strain
	[m]	[m]	[mOD]	[mm]	[mOD]	[kN/m²]	[kN/m²]	[-]
167HH_2	34.00000	45.00000	20.50000	-0.065415	20.325	0.0	0.0	0.0
	35.00000	45.00000	20.50000	-0.067705	20.325	0.0	0.0	0.0
	36.00000	45.00000	20.50000	-0.069581	20.325	0.0	0.0	0.0
	37.00000	45.00000	20.50000	-0.070985	20.325	0.0	0.0	0.0
	38.00000	45.00000	20.50000	-0.071869	20.325	0.0	0.0	0.0
	39.00000	45.00000	20.50000	-0.072197	20.325	0.0	0.0	0.0
	40.00000	45.00000	20.50000	-0.071948	20.325	0.0	0.0	0.0
	40.00000	45.00000	20.50000	-0.071948	20.325	0.0	0.0	0.0
	40.00000	46.00000	20.50000	-0.058302	20.325	0.0	0.0	0.0
	40.00000	47.00000	20.50000	-0.046728	20.325	0.0	0.0	0.0
167HH_3	40.00000	48.00000	20.50000	-0.036895	20.325	0.0	0.0	0.0
	40.00000	49.00000	20.50000	-0.028532	20.325	0.0	0.0	0.0
	40.00000	50.00000	20.50000	-0.021414	20.325	0.0	0.0	0.0
	40.00000	51.00000	20.50000	-0.015355	20.325	0.0	0.0	0.0
	40.00000	52.00000	20.50000	-0.010197	20.325	0.0	0.0	0.0
	40.00000	52.00000	20.50000	-0.010197	20.325	0.0	0.0	0.0
	39.00000	52.00000	20.50000	-0.010253	20.325	0.0	0.0	0.0
	38.00000	52.00000	20.50000	-0.010168	20.325	0.0	0.0	0.0
	37.00000	52.00000	20.50000	-0.0099445	20.325	0.0	0.0	0.0
	36.00000	52.00000	20.50000	-0.0095881	20.325	0.0	0.0	0.0
167HH_4	35.00000	52.00000	20.50000	-0.0091066	20.325	0.0	0.0	0.0
	34.00000	52.00000	20.50000	-0.0085096	20.325	0.0	0.0	0.0
	33.00000	52.00000	20.50000	-0.0078083	20.325	0.0	0.0	0.0
	32.00000	52.00000	20.50000	-0.0070151	20.325	0.0	0.0	0.0
	31.00000	52.00000	20.50000	-0.0061432	20.325	0.0	0.0	0.0
	30.00000	52.00000	20.50000	-0.0052058	20.325	0.0	0.0	0.0
	29.00000	52.00000	20.50000	-0.0042165	20.325	0.0	0.0	0.0
	28.00000	52.00000	20.50000	-0.0031882	20.325	0.0	0.0	0.0
	27.00000	52.00000	20.50000	-0.0021333	20.325	0.0	0.0	0.0
	27.00000	52.00000	20.50000	-0.0021333	20.325	0.0	0.0	0.0
210SH_1	27.00000	51.00000	20.50000	-0.0057886	20.325	0.0	0.0	0.0
	27.00000	50.00000	20.50000	-0.010023	20.325	0.0	0.0	0.0
	27.00000	49.00000	20.50000	-0.014917	20.325	0.0	0.0	0.0
	27.00000	48.00000	20.50000	-0.020560	20.325	0.0	0.0	0.0
	27.00000	47.00000	20.50000	-0.027056	20.325	0.0	0.0	0.0
	27.00000	46.00000	20.50000	-0.034519	20.325	0.0	0.0	0.0
	27.00000	45.00000	20.50000	-0.043078	20.325	0.0	0.0	0.0
	4.00000	5.00000	20.50000	-2.9881	20.325	0.0	0.0	0.0
	3.00000	5.00000	20.50000	-2.3412	20.325	0.0	0.0	0.0
	2.00000	5.00000	20.50000	-1.8719	20.325	0.0	0.0	0.0
210SH_2	1.00000	5.00000	20.50000	-1.5160	20.325	0.0	0.0	0.0
	0.00000	5.00000	20.50000	-1.2395	20.325	0.0	0.0	0.0
	-1.00000	5.00000	20.50000	-1.0210	20.325	0.0	0.0	0.0
	-1.00000	5.00000	20.50000	-1.0210	20.325	0.0	0.0	0.0
	-1.70000	5.60000	20.50000	-0.86722	20.325	0.0	0.0	0.0
	-2.40000	6.20000	20.50000	-0.73874	20.325	0.0	0.0	0.0
	-3.10000	6.80000	20.50000	-0.63081	20.325	0.0	0.0	0.0
	-3.80000	7.40000	20.50000	-0.53966	20.325	0.0	0.0	0.0
	-4.50000	8.00000	20.50000	-0.46234	20.325	0.0	0.0	0.0
	-4.50000	8.00000	20.50000	-0.46234	20.325	0.0	0.0	0.0
210SH_3	-3.72727	8.68182	20.50000	-0.50092	20.325	0.0	0.0	0.0
	-2.95455	9.36364	20.50000	-0.53803	20.325	0.0	0.0	0.0
	-2.18182	10.04545	20.50000	-0.57254	20.325	0.0	0.0	0.0
	-1.40909	10.72727	20.50000	-0.60328	20.325	0.0	0.0	0.0
	-0.63636	11.40909	20.50000	-0.62918	20.325	0.0	0.0	0.0
	0.13636	12.09091	20.50000	-0.64937	20.325	0.0	0.0	0.0
	0.90909	12.77273	20.50000	-0.66330	20.325	0.0	0.0	0.0
	1.68182	13.45455	20.50000	-0.67073	20.325	0.0	0.0	0.0
	2.45455	14.13636	20.50000	-0.67182	20.325	0.0	0.0	0.0
	3.22727	14.81818	20.50000	-0.66699	20.325	0.0	0.0	0.0
210SH_4	4.00000	15.50000	20.50000	-0.65692	20.325	0.0	0.0	0.0
	4.00000	15.50000	20.50000	-0.65692	20.325	0.0	0.0	0.0
	4.00000	14.54545	20.50000	-0.75009	20.325	0.0	0.0	0.0
	4.00000	13.59091	20.50000	-0.85734	20.325	0.0	0.0	0.0
	4.00000	12.63636	20.50000	-0.98116	20.325	0.0	0.0	0.0
	4.00000	11.68182	20.50000	-1.1246	20.325	0.0	0.0	0.0
	4.00000	10.72727	20.50000	-1.2913	20.325	0.0	0.0	0.0
	4.00000	9.77273	20.50000	-1.4856	20.325	0.0	0.0	0.0
	4.00000	8.81818	20.50000	-1.7123	20.325	0.0	0.0	0.0
	4.00000	7.86364	20.50000	-1.9763	20.325	0.0	0.0	0.0
Tunnel	4.00000	6.90909	20.50000	-2.2811	20.325	0.0	0.0	0.0
	4.00000	5.95455	20.50000	-2.6245	20.325	0.0	0.0	0.0
	4.00000	5.00000	20.50000	-2.9881	20.325	0.0	0.0	0.0
	52.00000	50.00000	10.00000	-0.027758	8.4049	-0.087108	-0.82264	1.2926E-6
	51.91667	49.00000	10.00000	-0.033156	8.4049	-0.098342	-0.87686	1.2393E-6
	51.83333	48.00000	10.00000	-0.039303	8.4049	-0.11134	-0.93593	1.1575E-6
	51.75000	47.00000	10.00000	-0.046301	8.4049	-0.12642	-1.00054	1.0449E-6
	51.66667	46.00000	10.00000	-0.054261	8.4049	-0.14396	-1.0707	9.3926E-7
	51.58333	45.00000	10.00000	-0.063311	8.4049	-0.16441	-1.1477	8.4050E-7
	51.50000	44.00000	10.00000	-0.073592	8.4049	-0.18929	-1.2319	7.4593E-7
GrapeNear	51.41667	43.00000	10.00000	-0.085260	8.4049	-0.21623	-1.3243	6.4606E-7
	51.33333	42.00000	10.00000	-0.098487	8.4049	-0.24896	-1.4255	5.4916E-7
	51.25000	41.00000	10.00000	-0.11346	8.4049	-0.28734	-1.5366	4.6311E-7
	51.16667	40.00000	10.00000	-0.13038	8.4049	-0.33235	-1.6585	3.8595E-7
	51.08333	39.00000	10.00000	-0.14946	8.4049	-0.38546	-1.7922	3.2239E-6
	51.00000	38.00000	10.00000	-0.17093	8.4049	-0.44679	-1.9387	3.2063E-6
	50.91667	37.00000	10.00000	-0.19499	8.4049	-0.51878	-2.0990	4.3800E-6
	50.83333	36.00000	10.00000	-0.22186	8.4049	-0.60244	-2.2741	5.7926E-6
	50.75000	35.00000	10.00000	-0.25172	8.4049	-0.69913	-2.4646	7.4759E-6
	50.66667	34.00000	10.00000	-0.28472	8.4049	-0.81008	-2.6713	9.4539E-6
HighFar	50.58333	33.00000	10.00000	-0.32095	8.4049	-0.93625	-2.8943	1.1767E-6
	50.50000	32.00000	10.00000	-0.36042	8.4049	-1.0782	-3.1335	1.4122E-6
	50.41667	31.00000	10.00000	-0.40302	8.4049	-1.2358	-3.3883	1.6739E-6
	50.33333	30.00000	10.00000	-0.44854	8.4049	-1.4082	-3.6574	1.9739E-6
	50.25000	29.00000	10.00000	-0.49666	8.4049	-1.5938	-3.9393	2.4298E-6
	50.16667	28.00000	10.00000	-0.54692	8.4049	-1.7899	-4.2315	2.8121E-6
	50.08333	27.00000	10.00000	-0.59876	8.4049	-1.9934	-4.5314	3.2101E-6
	50.00000	26.00000	10.00000	-0.65156	8.4049	-2.2004	-4.8359	3.6151E-6
	49.91667	25.00000	10.00000	-0.70467	8.4049	-2.4070	-5.1419	4.0181E-6
	49.83333	24.00000	10.00000	-0.75749	8.4049	-2.6094	-5.4464	4.4116E-6
ShaftsNear	49.75000	23.00000	10.00000	-0.80944	8.4049	-2.8044	-5.7466	4.8786E-6
	49.66667	22.00000	10.00000	-0.86007	8.4049	-2.9897	-6.0401	5.1411E-6
	49.58333	21.00000	10.00000	-0.90903	8.4049	-3.1637	-6.3251	5.4691E-6
	49.50000	20.00000	10.00000	-0.95609	8.4049	-3.3258	-6.6001	5.7705E-6
	49.41667	19.00000	10.00000	-1.0011	8.4049	-3.4761	-6.8643	6.0460E-6
	49.33333	18.00000	10.00000	-1.0440	8.4049	-3.6153	-7.1170	6.2977E-6
	49.25000	17.00000	10.00000	-1.0849	8.4049	-3.7444	-7.3580	6.5283E-6
	49.16667	16.00000	10.00000	-1.1236	8.4049	-3.8647	-7.5868	6.7413E-6
	49.08333	15.00000	10.00000	-1.1602	8.4049	-3.9773	-7.8031	6.9395E-6
	49.00000	14.00000	10.00000	-1.1946	8.4049	-4.0830	-8.0064	7.1257E-6
ShaftsFar	48.91667	13.00000	10.00000	-1.2268	8.4049	-4.1823	-8.1959	7.3155E-6
	48.83							

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Analysis Options

Analysis: Boussinesq
Global Poisson's ratio: 0.50
Maximum allowable ratio between values of E: 1.5
Horizontal rigid boundary level: -10.10 [m OD]
Displacements at load centroids: Yes

Soil ProfilesSoil Profile 1

Layer	Level at top	Number of intermediate displacement levels	Youngs Modulus	Poissons ratio	Non-linear curve	
	[mOD]		Top [kN/m ²]	Btm [kN/m ²]		
1	24.150	5	20000.	20000.	0.20000	None
2	20.150	5	28000.	140000.	0.50000	None
3	-6.5000	5	140000.	140000.	0.50000	None

Soil Zones

Zone	Name	X coordinates min [m]	X coordinates max [m]	Y coordinates min [m]	Y coordinates max [m]	Profile
1	SZ1	-20.00000	100.00000	-20.00000	60.00000	Soil Profile 1

Load Data

Load ref.	Name	Shape	Orientation of Plane	Centre of load (Global)			Load position			Polygon Coordinates	Rectangle tolerance	Number of rectangles	Load value		
				X	Y	Z (level)	Angle of local x from	Width x or Radius	Length y				Normal (local z)	(local x)	(local y)
1	Right	Polygonal	Horizontal	[m]	[m]	[m]	[Degrees]	[m]	[m]	[m]	[%]	8	[kN/m ²]	[kN/m ²]	[kN/m ²]
				N/A	N/A	20.30000	N/A	N/A	N/A	(38.8,27.7) (37.1,8.4) (35.9,5.3) (40.5) (41.9,27)	10.000		-64.000	N/A	N/A
2	Bottom	Polygonal	Horizontal	N/A	N/A	20.30000	N/A	N/A	N/A	(6.5,4.4) (6.5,-1.8) (39,-1.6) (40,5) (35.9,5.3)	10.000	7	-74.000	N/A	N/A

Polygonal Loads' Rectangles

No.	Centre of load X	Y	Angle of local x from global X [Degrees]	Width x	Depth y
	[m]	[m]	[Degrees]	[m]	[m]

Load 1 : Right

(Edge 1 optimal)					
1	38.95313	27.64382	-95.034	0.085059	0.31495
2	39.25940	27.53145	-95.034	0.085059	0.94484
3	39.56567	27.41909	-95.034	0.085059	1.5747
4	39.87194	27.30672	-95.034	0.085059	2.2046
5	40.17821	27.19435	-95.034	0.085059	2.8345
6	39.50805	17.69929	-95.034	18.949	3.1656
7	38.32310	6.71999	-95.034	3.1324	3.6373
8	36.93072	5.23978	-95.034	0.060904	2.0464

Load 2 : Bottom

(Edge 2 optimal)					
1	21.22018	1.57035	0.35258	29.405	6.5594
2	37.45037	1.78934	0.35258	3.0575	6.7976
3	39.08151	2.06428	0.35258	0.20812	6.0087
4	39.28562	2.71666	0.35258	0.20812	4.6734
5	39.48973	3.36904	0.35258	0.20812	3.3382
6	39.69384	4.02143	0.35258	0.20812	2.0029
7	39.89795	4.67381	0.35258	0.20812	0.66763

Displacement Data

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion	First point	Second point	No. of intrvl's across	Extrusion Depth	No. of intrvl's along	Calculate	Show Detailed results
				X [m]	Y [m]	Z(level) [m]	X [m]	Y [m]	Z(level) [m]	extrusion/line	
1	Line	BKH_1	N/A	63.00000	-10.00000	22.50000	62.00000	31.00000	22.50000	41	N/A
2	Line	BKH_2	N/A	62.00000	31.00000	22.50000	90.00000	32.00000	22.50000	28	N/A
3	Line	BKH_3	N/A	90.00000	32.00000	22.50000	90.00000	-5.00000	22.50000	37	N/A
4	Line	BKH_4	N/A	90.00000	-5.00000	22.50000	63.00000	-10.00000	22.50000	27	N/A
5	Line	Archway_1	N/A	6.50000	5.00000	20.50000	6.50000	15.50000	20.50000	11	N/A
6	Line	Archway_2	N/A	6.50000	15.50000	20.50000	4.00000	15.50000	20.50000	3	N/A
7	Line	Archway_3	N/A	4.00000	5.00000	20.50000	6.50000	5.00000	20.50000	3	N/A
8	Line	167HH_1	N/A	27.00000	45.00000	20.50000	40.00000	45.00000	20.50000	13	N/A
9	Line	167HH_2	N/A	40.00000	45.00000	20.50000	40.00000	52.00000	20.50000	7	N/A
10	Line	167HH_3	N/A	40.00000	52.00000	20.50000	27.00000	52.00000	20.50000	13	N/A
11	Line	167HH_4	N/A	27.00000	52.00000	20.50000	27.00000	45.00000	20.50000	7	N/A
12	Line	210SH_1	N/A	4.00000	5.00000	20.50000	-1.00000	5.00000	20.50000	5	N/A
13	Line	210SH_2	N/A	-1.00000	5.00000	20.50000	-4.50000	8.00000	20.50000	5	N/A
14	Line	210SH_3	N/A	-4.50000	8.00000	20.50000	4.00000	15.50000	20.50000	11	N/A
15	Line	210SH_4	N/A	4.00000	15.50000	20.50000	4.00000	5.00000	20.50000	11	N/A
16	Line	Tunnel	N/A	52.00000	50.00000	10.00000	47.00000	-10.00000	10.00000	60	N/A
17	Point	GrapeNear	N/A	38.00000	39.00000	24.00000	N/A	N/A	N/A	N/A	N/A
18	Point	GrapeFar	N/A	38.00000	44.50000	24.00000	N/A	N/A	N/A	N/A	N/A
19	Point	HighNear	N/A	41.00000	10.00000	24.00000	N/A	N/A	N/A	N/A	N/A
20	Point	HighFar	N/A	61.00000	10.00000	24.00000	N/A	N/A	N/A	N/A	N/A
21	Point	ShaftsNear	N/A	20.00000	-2.50000	24.00000	N/A	N/A	N/A	N/A	N/A
22	Point	ShaftsFar	N/A	20.00000	-8.00000	24.00000	N/A	N/A	N/A	N/A	N/A
23	Grid	Grid 1	Global X	-10.00000	-20.00000	24.00000	N/A	60.00000	24.00000	100	80.00000

RESULTS FOR GRIDS

Analysis: Boussinesq
Global Poisson's ratio: 0.50
Horizontal rigid boundary level: -10.10 [m OD]

The maximum displacement difference between the Boussinesq method (-3.4591mm) and the Mindlin method (-6.8177mm) occurs at point X = 20.00000m, Y = -2.50000m, level = 20.920mOD, and is 3.3587mm.

Name	X [m]	Location Y [m]	Z[level] [mOD]	Displacement Z [mm]	Calc Level [mOD]	Vert Stress [kN/m ²]	Sum Princ [kN/m ²]	Vert Strain [-]
Right	39.31649	16.01033	20.30000	-6.1004	20.225	-63.997	-186.24	-0.0019774
Bottom	23.29181	1.61507	20.30000	-9.4438	20.225	-74.000	-218.73	-0.0022527
BKH_1	62.00000	-10.00000	22.50000	0.14545	22.108	0.0	0.0	0.0
	62.97561	-9.00000	22.50000	0.14707	22.108	0.0	0.0	0.0
	62.95122	-8.00000	22.50000	0.14855	22.108	0.0	0.0	0.0
	62.92693	-7.00000	22.50000	0.14989	22.108	0.0	0.0	0.0
	62.90244	-6.00000	22.50000	0.15110	22.108	0.0	0.0	0.0
	62.87805	-5.00000	22.50000	0.15216	22.108	0.0	0.0	0.0
	62.85366	-4.00000	22.50000	0.15309	22.108	0.0	0.0	0.0
	62.82927	-3.00000	22.50000	0.15387	22.108	0.0	0.0	0.0
	62.80488	-2.00000	22.50000	0.15453	22.108	0.0	0.0	0.0
	62.78049	-1.00000	22.50000	0.15505	22.108	0.0	0.0	0.0
	62.75610	0.00000	22.50000	0.15544	22.108	0.0	0.0	0.0
	62.73171	1.00000	22.50000	0.15571	22.108	0.0	0.0	0.0
	62.70732	2.00000	22.50000	0.15587	22.108	0.0	0.0	0.0
	62.68293	3.00000	22.50000	0.15591	22.108	0.0	0.0	0.0
	62.65854	4.00000	22.50000	0.15584	22.108	0.0	0.0	0.0
	62.63415	5.00000	22.50000	0.15566	22.108	0.0	0.0	0.0
	62.60976	6.00000	22.50000	0.15538	22.108	0.0	0.0	0.0
	62.58537	7.00000	22.50000	0.15501	22.108	0.0	0.0	0.0
	62.56098	8.00000	22.50000	0.15453	22.108	0.0	0.0	0.0
	62.53659	9.00000	22.50000	0.15397	22.108	0.0	0.0	0.0
	62.51220	10.00000	22.50000	0.15331	22.108	0.0	0.0	0.0
	62.48780	11.00000	22.50000	0.15256	22.108	0.0	0.0	0.0
	62.46341	12.00000	22.50000	0.15173	22.108	0.0	0.0	0.0
	62.43902	13.00000	22.50000	0.15081	22.108	0.0	0.0	0.0
	62.41463	14.00000	22.50000	0.14982	22.108	0.0	0.0	0.0



RSK GROUP

Shaftsbury Theatre
Excavation - Undrained

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Drg. Ref.		
Made by ADJT	Date	Checked

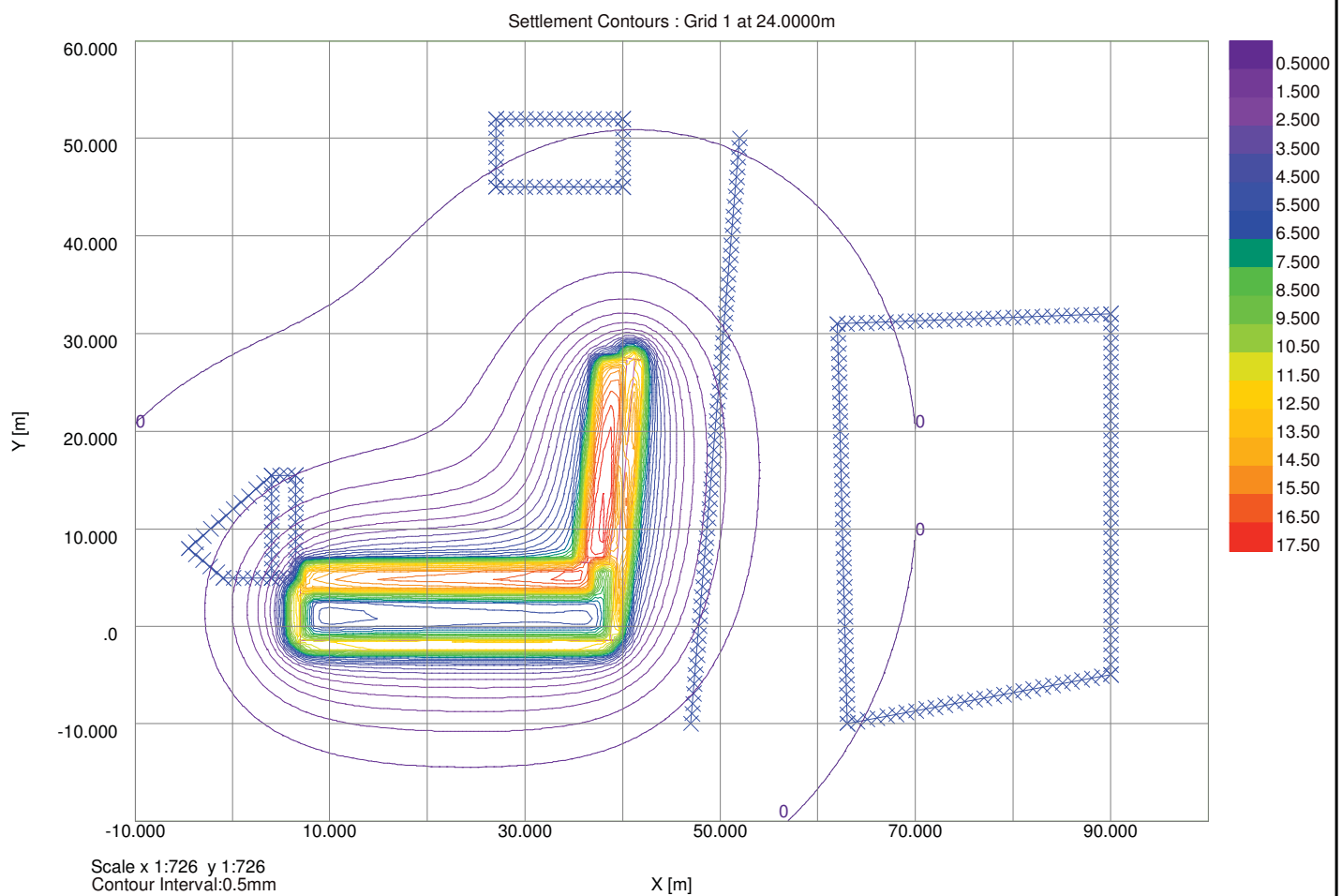
Name	X	Location	Displacement	Stresses				
	[m]	[m]	Z [Level] [mOD]	Z [mm]	Calc Level [mOD]	Vert Stress [kN/m²]	Sum Princ [kN/m²]	Vert Strain [-]
	62.39024	15.00000	22.50000	0.14876	22.108	0.0	0.0	0.0
	62.36585	16.00000	22.50000	0.14762	22.108	0.0	0.0	0.0
	62.34146	17.00000	22.50000	0.14642	22.108	0.0	0.0	0.0
	62.31707	18.00000	22.50000	0.14517	22.108	0.0	0.0	0.0
	62.29268	19.00000	22.50000	0.14386	22.108	0.0	0.0	0.0
	62.26829	20.00000	22.50000	0.14250	22.108	0.0	0.0	0.0
	62.24390	21.00000	22.50000	0.14110	22.108	0.0	0.0	0.0
	62.21951	22.00000	22.50000	0.13966	22.108	0.0	0.0	0.0
	62.19512	23.00000	22.50000	0.13817	22.108	0.0	0.0	0.0
	62.17073	24.00000	22.50000	0.13666	22.108	0.0	0.0	0.0
	62.14634	25.00000	22.50000	0.13510	22.108	0.0	0.0	0.0
	62.12195	26.00000	22.50000	0.13351	22.108	0.0	0.0	0.0
	62.09756	27.00000	22.50000	0.13188	22.108	0.0	0.0	0.0
	62.07317	28.00000	22.50000	0.13021	22.108	0.0	0.0	0.0
	62.04878	29.00000	22.50000	0.12849	22.108	0.0	0.0	0.0
	62.02439	30.00000	22.50000	0.12673	22.108	0.0	0.0	0.0
BKH_2	62.00000	31.00000	22.50000	0.12491	22.108	0.0	0.0	0.0
	62.00000	31.00000	22.50000	0.12491	22.108	0.0	0.0	0.0
	63.00000	31.03571	22.50000	0.12297	22.108	0.0	0.0	0.0
	64.00000	31.07143	22.50000	0.12074	22.108	0.0	0.0	0.0
	65.00000	31.10714	22.50000	0.11828	22.108	0.0	0.0	0.0
	66.00000	31.14286	22.50000	0.11564	22.108	0.0	0.0	0.0
	67.00000	31.17857	22.50000	0.11287	22.108	0.0	0.0	0.0
	68.00000	31.21429	22.50000	0.11001	22.108	0.0	0.0	0.0
	69.00000	31.25000	22.50000	0.10709	22.108	0.0	0.0	0.0
	70.00000	31.28571	22.50000	0.10413	22.108	0.0	0.0	0.0
	71.00000	31.32143	22.50000	0.10116	22.108	0.0	0.0	0.0
	72.00000	31.35714	22.50000	0.098189	22.108	0.0	0.0	0.0
	73.00000	31.39286	22.50000	0.095245	22.108	0.0	0.0	0.0
	74.00000	31.42857	22.50000	0.092335	22.108	0.0	0.0	0.0
	75.00000	31.46429	22.50000	0.089470	22.108	0.0	0.0	0.0
	76.00000	31.50000	22.50000	0.086657	22.108	0.0	0.0	0.0
	77.00000	31.53571	22.50000	0.083903	22.108	0.0	0.0	0.0
	78.00000	31.57143	22.50000	0.081214	22.108	0.0	0.0	0.0
	79.00000	31.60714	22.50000	0.078593	22.108	0.0	0.0	0.0
	80.00000	31.64286	22.50000	0.076043	22.108	0.0	0.0	0.0
	81.00000	31.67857	22.50000	0.073566	22.108	0.0	0.0	0.0
	82.00000	31.71429	22.50000	0.071162	22.108	0.0	0.0	0.0
	83.00000	31.75000	22.50000	0.068832	22.108	0.0	0.0	0.0
	84.00000	31.78571	22.50000	0.066577	22.108	0.0	0.0	0.0
	85.00000	31.82143	22.50000	0.064396	22.108	0.0	0.0	0.0
	86.00000	31.85714	22.50000	0.062287	22.108	0.0	0.0	0.0
	87.00000	31.89286	22.50000	0.060250	22.108	0.0	0.0	0.0
	88.00000	31.92857	22.50000	0.058283	22.108	0.0	0.0	0.0
	89.00000	31.96429	22.50000	0.056385	22.108	0.0	0.0	0.0
BKH_3	90.00000	32.00000	22.50000	0.054555	22.108	0.0	0.0	0.0
	90.00000	32.00000	22.50000	0.054555	22.108	0.0	0.0	0.0
	90.00000	31.00000	22.50000	0.055272	22.108	0.0	0.0	0.0
	90.00000	30.00000	22.50000	0.055973	22.108	0.0	0.0	0.0
	90.00000	29.00000	22.50000	0.056657	22.108	0.0	0.0	0.0
	90.00000	28.00000	22.50000	0.057324	22.108	0.0	0.0	0.0
	90.00000	27.00000	22.50000	0.057970	22.108	0.0	0.0	0.0
	90.00000	26.00000	22.50000	0.058595	22.108	0.0	0.0	0.0
	90.00000	25.00000	22.50000	0.059198	22.108	0.0	0.0	0.0
	90.00000	24.00000	22.50000	0.059776	22.108	0.0	0.0	0.0
	90.00000	23.00000	22.50000	0.060330	22.108	0.0	0.0	0.0
	90.00000	22.00000	22.50000	0.060856	22.108	0.0	0.0	0.0
	90.00000	21.00000	22.50000	0.061355	22.108	0.0	0.0	0.0
	90.00000	20.00000	22.50000	0.061826	22.108	0.0	0.0	0.0
	90.00000	19.00000	22.50000	0.062266	22.108	0.0	0.0	0.0
	90.00000	18.00000	22.50000	0.062674	22.108	0.0	0.0	0.0
	90.00000	17.00000	22.50000	0.063051	22.108	0.0	0.0	0.0
	90.00000	16.00000	22.50000	0.063394	22.108	0.0	0.0	0.0
	90.00000	15.00000	22.50000	0.063704	22.108	0.0	0.0	0.0
	90.00000	14.00000	22.50000	0.063979	22.108	0.0	0.0	0.0
	90.00000	13.00000	22.50000	0.064218	22.108	0.0	0.0	0.0
	90.00000	12.00000	22.50000	0.064421	22.108	0.0	0.0	0.0
	90.00000	11.00000	22.50000	0.064588	22.108	0.0	0.0	0.0
	90.00000	10.00000	22.50000	0.064717	22.108	0.0	0.0	0.0
	90.00000	9.00000	22.50000	0.064809	22.108	0.0	0.0	0.0
	90.00000	8.00000	22.50000	0.064864	22.108	0.0	0.0	0.0
	90.00000	7.00000	22.50000	0.064881	22.108	0.0	0.0	0.0
	90.00000	6.00000	22.50000	0.064861	22.108	0.0	0.0	0.0
	90.00000	5.00000	22.50000	0.064803	22.108	0.0	0.0	0.0
	90.00000	4.00000	22.50000	0.064708	22.108	0.0	0.0	0.0
	90.00000	3.00000	22.50000	0.064576	22.108	0.0	0.0	0.0
	90.00000	2.00000	22.50000	0.064407	22.108	0.0	0.0	0.0
	90.00000	1.00000	22.50000	0.064202	22.108	0.0	0.0	0.0
	90.00000	0.00000	22.50000	0.063961	22.108	0.0	0.0	0.0
	90.00000	-1.00000	22.50000	0.063686	22.108	0.0	0.0	0.0
	90.00000	-2.00000	22.50000	0.063376	22.108	0.0	0.0	0.0
	90.00000	-3.00000	22.50000	0.063033	22.108	0.0	0.0	0.0
	90.00000	-4.00000	22.50000	0.062658	22.108	0.0	0.0	0.0
BKH_4	90.00000	-5.00000	22.50000	0.062252	22.108	0.0	0.0	0.0
	90.00000	-5.00000	22.50000	0.062252	22.108	0.0	0.0	0.0
	89.00000	-5.18519	22.50000	0.064399	22.108	0.0	0.0	0.0
	88.00000	-5.37037	22.50000	0.066626	22.108	0.0	0.0	0.0
	87.00000	-5.55556	22.50000	0.068933	22.108	0.0	0.0	0.0
	86.00000	-5.74074	22.50000	0.071324	22.108	0.0	0.0	0.0
	85.00000	-5.92593	22.50000	0.073799	22.108	0.0	0.0	0.0
	84.00000	-6.11111	22.50000	0.076359	22.108	0.0	0.0	0.0
	83.00000	-6.29630	22.50000	0.079007	22.108	0.0	0.0	0.0
	82.00000	-6.48148	22.50000	0.081742	22.108	0.0	0.0	0.0
	81.00000	-6.66667	22.50000	0.084565	22.108	0.0	0.0	0.0
	80.00000	-6.85185	22.50000	0.087476	22.108	0.0	0.0	0.0
	79.00000	-7.03704	22.50000	0.090474	22.108	0.0	0.0	0.0
	78.00000	-7.22222	22.50000	0.093558	22.108	0.0	0.0	0.0
	77.00000	-7.40741	22.50000	0.096725	22.108	0.0	0.0	0.0
	76.00000	-7.59259	22.50000	0.099972	22.108	0.0	0.0	0.0
	75.00000	-7.77778	22.50000	0.103299	22.108	0.0	0.0	0.0
	74.00000	-7.96296	22.50000	0.10669	22.108	0.0	0.0	0.0



Job No.	Sheet No.	Rev.
371647		
Drg. Ref.		
Made by ADJT	Date	Checked

Name	X [m]	Location Y	Displacement Z [Level] [mm]	Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Sum Princ [kN/m²]	Vert Strain [-]
167HH_2	36.00000	45.00000	20.50000	0.12796	20.325	0.0	0.0
	37.00000	45.00000	20.50000	0.12683	20.325	0.0	0.0
	38.00000	45.00000	20.50000	0.12569	20.325	0.0	0.0
	39.00000	45.00000	20.50000	0.12457	20.325	0.0	0.0
	40.00000	45.00000	20.50000	0.12347	20.325	0.0	0.0
	40.00000	45.00000	20.50000	0.12347	20.325	0.0	0.0
	40.00000	46.00000	20.50000	0.12143	20.325	0.0	0.0
	40.00000	47.00000	20.50000	0.11900	20.325	0.0	0.0
	40.00000	48.00000	20.50000	0.11630	20.325	0.0	0.0
	40.00000	49.00000	20.50000	0.11339	20.325	0.0	0.0
167HH_3	40.00000	50.00000	20.50000	0.11034	20.325	0.0	0.0
	40.00000	51.00000	20.50000	0.10720	20.325	0.0	0.0
	40.00000	52.00000	20.50000	0.10402	20.325	0.0	0.0
	40.00000	52.00000	20.50000	0.10402	20.325	0.0	0.0
	39.00000	52.00000	20.50000	0.10474	20.325	0.0	0.0
	38.00000	52.00000	20.50000	0.10542	20.325	0.0	0.0
	37.00000	52.00000	20.50000	0.10603	20.325	0.0	0.0
	36.00000	52.00000	20.50000	0.10659	20.325	0.0	0.0
	35.00000	52.00000	20.50000	0.10709	20.325	0.0	0.0
	34.00000	52.00000	20.50000	0.10752	20.325	0.0	0.0
167HH_4	33.00000	52.00000	20.50000	0.10788	20.325	0.0	0.0
	32.00000	52.00000	20.50000	0.10817	20.325	0.0	0.0
	31.00000	52.00000	20.50000	0.10839	20.325	0.0	0.0
	30.00000	52.00000	20.50000	0.10854	20.325	0.0	0.0
	29.00000	52.00000	20.50000	0.10861	20.325	0.0	0.0
	28.00000	52.00000	20.50000	0.10859	20.325	0.0	0.0
	27.00000	52.00000	20.50000	0.10850	20.325	0.0	0.0
	27.00000	52.00000	20.50000	0.10850	20.325	0.0	0.0
	27.00000	51.00000	20.50000	0.11224	20.325	0.0	0.0
	27.00000	50.00000	20.50000	0.11603	20.325	0.0	0.0
210SH_1	27.00000	49.00000	20.50000	0.11987	20.325	0.0	0.0
	27.00000	48.00000	20.50000	0.12374	20.325	0.0	0.0
	27.00000	47.00000	20.50000	0.12762	20.325	0.0	0.0
	27.00000	46.00000	20.50000	0.13148	20.325	0.0	0.0
	27.00000	45.00000	20.50000	0.13538	20.325	0.0	0.0
	4.00000	5.00000	20.50000	-0.63752	20.325	0.0	0.0
	3.00000	5.00000	20.50000	-0.42756	20.325	0.0	0.0
	2.00000	5.00000	20.50000	-0.28064	20.325	0.0	0.0
	1.00000	5.00000	20.50000	-0.17247	20.325	0.0	0.0
	0.00000	5.00000	20.50000	-0.09159	20.325	0.0	0.0
210SH_2	-1.00000	5.00000	20.50000	-0.030685	20.325	0.0	0.0
	-1.00000	5.00000	20.50000	-0.030685	20.325	0.0	0.0
	-1.70000	5.60000	20.50000	0.011006	20.325	0.0	0.0
	-2.40000	6.20000	20.50000	0.043964	20.325	0.0	0.0
	-3.10000	6.80000	20.50000	0.069934	20.325	0.0	0.0
	-3.80000	7.40000	20.50000	0.090287	20.325	0.0	0.0
	-4.50000	8.00000	20.50000	0.10610	20.325	0.0	0.0
	-4.50000	8.00000	20.50000	0.10610	20.325	0.0	0.0
	-3.72727	8.68182	20.50000	0.10013	20.325	0.0	0.0
	-2.95455	9.36364	20.50000	0.094383	20.325	0.0	0.0
210SH_3	-2.18182	10.04545	20.50000	0.089209	20.325	0.0	0.0
	-1.40909	10.72727	20.50000	0.084959	20.325	0.0	0.0
	-0.63636	11.40909	20.50000	0.081957	20.325	0.0	0.0
	0.13636	12.09091	20.50000	0.080462	20.325	0.0	0.0
	0.90909	12.77273	20.50000	0.080693	20.325	0.0	0.0
	1.68182	13.45455	20.50000	0.082514	20.325	0.0	0.0
	2.45455	14.13636	20.50000	0.086033	20.325	0.0	0.0
	3.22727	14.81818	20.50000	0.091020	20.325	0.0	0.0
	4.00000	15.50000	20.50000	0.097235	20.325	0.0	0.0
	4.00000	15.50000	20.50000	0.097235	20.325	0.0	0.0
210SH_4	4.00000	14.54545	20.50000	0.074106	20.325	0.0	0.0
	4.00000	13.59091	20.50000	0.045891	20.325	0.0	0.0
	4.00000	12.63636	20.50000	0.011629	20.325	0.0	0.0
	4.00000	11.68182	20.50000	-0.029841	20.325	0.0	0.0
	4.00000	10.72727	20.50000	-0.078900	20.325	0.0	0.0
	4.00000	9.77273	20.50000	-0.14015	20.325	0.0	0.0
	4.00000	8.81818	20.50000	-0.21232	20.325	0.0	0.0
	4.00000	7.86364	20.50000	-0.29807	20.325	0.0	0.0
	4.00000	6.90909	20.50000	-0.39860	20.325	0.0	0.0
	4.00000	5.95455	20.50000	-0.51362	20.325	0.0	0.0
Tunnel	4.00000	5.00000	20.50000	-0.63752	20.325	0.0	0.0
	52.00000	50.00000	10.00000	0.053538	8.3973	-0.087245	-1.0288
	51.91667	49.00000	10.00000	0.053563	8.3973	-0.098495	-1.0966
	51.83333	48.00000	10.00000	0.053309	8.3973	-0.11151	-1.1704
	51.75000	47.00000	10.00000	0.052723	8.3973	-0.12651	-1.2510
	51.66667	46.00000	10.00000	0.051744	8.3973	-0.14417	-1.3390
	51.58333	45.00000	10.00000	0.050303	8.3973	-0.16464	-1.4352
	51.50000	44.00000	10.00000	0.048318	8.3973	-0.18855	-1.5406
	51.41667	43.00000	10.00000	0.045702	8.3973	-0.21652	-1.6560
	51.33333	42.00000	10.00000	0.042553	8.3973	-0.24923	-1.7826
Tunnel	51.25000	41.00000	10.00000	0.038160	8.3973	-0.28771	-1.9215
	51.16667	40.00000	10.00000	0.033000	8.3973	-0.33276	-2.0738
	51.08333	39.00000	10.00000	0.026744	8.3973	-0.38554	-2.2409
	51.00000	38.00000	10.00000	0.019254	8.3973	-0.44729	-2.4241
	50.91667	37.00000	10.00000	0.010388	8.3973	-0.51938	-2.6245
	50.83333	36.00000	10.00000	9.8570E-6	8.3973	-0.60305	-2.8433
	50.75000	35.00000	10.00000	-0.012007	8.3973	-0.69979	-3.0814
	50.66667	34.00000	10.00000	-0.025767	8.3973	-0.81079	-3.3397
	50.58333	33.00000	10.00000	-0.041340	8.3973	-0.93700	-3.6184
	50.50000	32.00000	10.00000	-0.058749	8.3973	-1.0797	-3.9173
Tunnel	50.41667	31.00000	10.00000	-0.077956	8.3973	-1.2366	-4.2357
	50.33333	30.00000	10.00000	-0.098850	8.3973	-1.4091	-4.5720
	50.25000	29.00000	10.00000	-0.121224	8.3973	-1.5947	-4.9242
	50.16667	28.00000	10.00000	-0.14487	8.3973	-1.7908	-5.2893
	50.08333	27.00000	10.00000	-0.16941	8.3973	-1.9943	-5.6640
	50.00000	26.00000	10.00000	-0.19449	8.3973	-2.2013	-6.0445
	49.91667	25.00000	10.00000	-0.21973	8.3973	-2.4079	-6.4269
	49.83333	24.00000	10.00000	-0.24476	8.3973	-2.6103	-6.8073
	49.75000	23.00000	10.00000	-0.26927	8.3973	-2.8054	-7.1824
	49.66667	22.00000	10.00000	-0.29301	8.3973	-2.9908	-7.5492
Tunnel	49.58333	21.00000	10.00000	-0.31578	8.3973	-3.1648	-7.9053
	49.50000	20.00000	10.00000	-0.33748	8.3973	-3.3270	-8.2490
	49.41667	19.00000	10.00000	-0.35808	8.3973	-3.4774	-8.5792
	49.33333	18.00000	10.00000	-0.37758	8.3973	-3.6166	-8.8951
	49.25000	17.00000	10.00000	-0.39602	8.3973	-3.7458	-9.1961
	49.16667	16.00000	10.00000	-0.41346	8.3973	-3.8662	-9.4821
	49.08333	15.00000	10.00000	-0.42994	8.3973	-3.9788	-9.7525
	49.00000	14.00000	10.00000	-0.44547	8.3973	-4.0846	-10.007
	48.91667	13.00000	10.00000	-0.46005	8.3973	-4.1840	-10.243
	48.83333	12.00000	10.00000	-0.47357	8.3973	-4.2771	-10.461
Tunnel	48.75000	11.00000	10.00000	-0.48591	8.3973	-4.3631	-10.658
	48.66667	10.00000	10.00000	-0.49684	8.3973	-4.4405	-10.831
	48.58333	9.00000	10.00000	-0.50607	8.3973	-4.5072	-10.976
	48.50000	8.00000	10.00000	-0.51323	8.3973	-4.5602	-11.100
	48.41667	7.00000	10.00000	-0.51793	8.3973	-4.5959	-11.169
	48.33333	6.00000	10.00000	-0.51972	8.3973	-4.6103	-11.207
	48.25000	5.00000	10.00000	-0.51818	8.3973	-4.5992	-11.201
	48.16667	4.00000	10.00000	-0.51292	8.3973	-4.5589	-11.146
	48.08333	3.00000	10.00000	-0.50394	8.3973	-4.4862	-11.041
	48.00000	2.00000	10.00000	-0.49018	8.3973	-4.3793	-10.883
Tunnel	47.91667	1.00000	10.00000	-0.47253	8.3973	-4.2379	-10.673
	47.83333	0.00000	10.00000	-0.45086	8.3973	-4.0635	-10.413
	47.75000	-1.00000	10.00000	-0.42555	8.3973	-3.8594	-10.106
	47.66667	-2.00000	10.00000	-0.39712	8.3973	-3.6307	-9.7592
	47.58333	-3.00000	10.00000	-0.36522	8.3973	-3.3836	-9.3759
	47.50000	-4.00000	10.00000	-0.33360	8.3973	-3.1249	-8.9664
	47.41667	-5.00000	10.00000	-0.30002	8.3973	-2.8618	-8.5377
	47.33333	-6.00000	10.00000	-0.26624	8.3973	-2.6007	-8.0978

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Made by	Date	Checked
ADJT		



Shaftsbury Theatre
Proposed Development - Drained

Job No.	Sheet No.	Rev.
371647		
Drg. Ref.		
Made by ADJT	Date	Checked

Analysis Options

Analysis: Boussinesq
Global Poisson's ratio: 0.20
Maximum allowable ratio between values of E: 1.5
Horizontal rigid boundary level: -10.10 [m OD]
Stiffness for horizontal displacement calculations: Weighted average
Using legacy heave correction factor: No
Displacements at load centroids: Yes

Soil ProfilesSoil Profile 1

Layer	Level at top	Number of intermediate displacement levels	Youngs Modulus	Poissons ratio	Non-linear curve
	[mOD]		Top [kN/m ²]	Btm [kN/m ²]	
1	24.150	5	20000.	20000.	0.20000 None
2	20.150	5	16000.	85000.	0.20000 None
3	-6.5000	5	85000.	85000.	0.20000 None

Soil Zones

Zone	Name	X coordinates min max	Y coordinates min max	Profile
1	SZ1	-20.00000 100.00000	-20.00000 60.00000	Soil Profile 1

Load Data

Load ref.	Name	Shape	Orientation of Plane	Centre of load (Global)			Load position			Polygon Coordinates	Rectangle tolerance	Number of rectangles	Load value		
				X	Y	Z (level)	Angle of local x from	Width x or Radius	Length y				Normal (local z)	(local x)	(local y)
				[m]	[m]	[m]	[Degrees]	[m]	[m]	[m]	[%]		[kN/m ²]	[kN/m ²]	[kN/m ²]
1	Pile Wall 1	Rectangular	Horizontal	6.50000	1.20000	16.38000	90.0000	6.0000	1.0400	N/A		1	144.00	0.0	0.0
2	Pile Wall 2	Rectangular	Horizontal	23.00000	-2.00000	16.38000	0.0	32.000	1.0400	N/A		1	144.00	0.0	0.0
3	Pile Wall 3	Rectangular	Horizontal	40.50000	13.00000	16.38000	85.0000	29.000	1.0400	N/A		1	144.00	0.0	0.0
4	Pile Wall 4	Rectangular	Horizontal	41.00000	28.00000	16.38000	-10.000	2.0000	1.0400	N/A		1	144.00	0.0	0.0
5	Building Wall 1	Rectangular	Horizontal	22.00000	5.00000	7.70000	0.0	30.000	3.2000	N/A		1	125.00	0.0	0.0
6	Building Wall 2	Rectangular	Horizontal	38.00000	17.00000	7.70000	85.000	21.000	3.2000	N/A		1	125.00	0.0	0.0

Displacement Data

Ref.	Type	Name	Direction of Extrusion	First point X Y Z (level)	Second point X Y Z (level)	No. of intrvl across extrusion/line	Extrusion Depth	No. of intrvl along extrusion	Calculate	Detailled results
				X Y Z [m]	X Y Z [m]		[m]			
1	Line	BKH_1	N/A	63.00000 -10.00000 22.50000	62.00000 31.00000 22.50000	41	N/A	N/A	Yes	Yes
2	Line	BKH_2	N/A	62.00000 31.00000 22.50000	90.00000 32.00000 22.50000	28	N/A	N/A	Yes	Yes
3	Line	BKH_3	N/A	90.00000 32.00000 22.50000	90.00000 -5.00000 22.50000	37	N/A	N/A	Yes	Yes
4	Line	BKH_4	N/A	90.00000 -5.00000 22.50000	10.00000 22.50000	27	N/A	N/A	Yes	Yes
5	Line	Archway_1	N/A	6.50000 5.00000 20.50000	6.50000 15.50000 20.50000	11	N/A	N/A	Yes	Yes
6	Line	Archway_2	N/A	6.50000 15.50000 20.50000	4.00000 15.50000 20.50000	3	N/A	N/A	Yes	Yes
7	Line	Archway_3	N/A	4.00000 5.00000 20.50000	6.50000 5.00000 20.50000	3	N/A	N/A	Yes	Yes
8	Line	167HH_1	N/A	27.00000 45.00000 20.50000	40.00000 45.00000 20.50000	13	N/A	N/A	Yes	Yes
9	Line	167HH_2	N/A	40.00000 45.00000 20.50000	40.00000 52.00000 20.50000	7	N/A	N/A	Yes	Yes
10	Line	167HH_3	N/A	40.00000 52.00000 20.50000	27.00000 52.00000 20.50000	13	N/A	N/A	Yes	Yes
11	Line	167HH_4	N/A	27.00000 52.00000 20.50000	27.00000 45.00000 20.50000	7	N/A	N/A	Yes	Yes
12	Line	210SH_1	N/A	4.00000 5.00000 20.50000	-1.00000 5.00000 20.50000	5	N/A	N/A	Yes	Yes
13	Line	210SH_2	N/A	-1.00000 5.00000 20.50000	-4.50000 8.00000 20.50000	5	N/A	N/A	Yes	Yes
14	Line	210SH_3	N/A	8.00000 20.50000 4.00000	15.50000 20.50000	11	N/A	N/A	Yes	Yes
15	Line	210SH_4	N/A	4.00000 15.50000 20.50000	4.00000 5.00000 20.50000	11	N/A	N/A	Yes	Yes
16	Line	Tunnel	N/A	52.00000 50.00000 10.00000	47.00000 -10.00000 10.00000	60	N/A	N/A	Yes	Yes
17	Point	GrapeNear	N/A	38.00000 39.00000 24.00000	N/A N/A N/A	N/A	N/A	N/A	Yes	Yes
18	Point	GrapeFar	N/A	38.00000 44.50000 24.00000	N/A N/A N/A	N/A	N/A	N/A	Yes	Yes
19	Point	HighNear	N/A	61.00000 10.00000 24.00000	N/A N/A N/A	N/A	N/A	N/A	Yes	Yes
20	Point	HighFar	N/A	61.00000 10.00000 24.00000	N/A N/A N/A	N/A	N/A	N/A	Yes	Yes
21	Point	ShaftsNear	N/A	20.00000 -2.50000 24.00000	N/A N/A N/A	N/A	N/A	N/A	Yes	Yes
22	Point	ShaftsFar	N/A	20.00000 -8.00000 24.00000	N/A N/A N/A	N/A	N/A	N/A	Yes	Yes
23	Grid	Grid 1	Global X	-10.00000 -20.00000 24.00000	N/A 60.00000 24.00000	100	80.00000	100	No	N/A

RESULTS FOR GRIDS

Analysis: Boussinesq
Global Poisson's ratio: 0.20
Horizontal rigid boundary level: -10.10 [m OD]

The maximum displacement difference between the Boussinesq method (11.662mm) and the Mindlin method (2.9397mm) occurs at point X = 41.00000m, Y = 10.00000m, level = 24.000mOD, and is 8.7227mm.

Name	Location X Y Z [Level]	Displacement Z [mm]	Stresses Calc Level [mOD]	Vert Stress [kN/m ²]	Sum Princ [kN/m ²]	Vert Strain [-]
Pile Wall 1	6.50000 1.20000 16.38000	9.7959	14.328	44.245	52.066	0.0013871
Pile Wall 2	23.00000 -2.00000 16.38000	10.343	14.328	44.580	54.636	0.0013835
Pile Wall 3	40.50000 13.00000 16.38000	13.628	14.328	44.578	54.549	0.0013840
Pile Wall 4	41.00000 28.00000 16.38000	9.6305	14.328	38.972	42.516	0.0012436
Building Wall 1	22.00000 5.00000 7.70000	12.335	5.8032	99.648	141.26	0.0017233
Building Wall 2	38.00000 17.00000 7.70000	12.602	5.8032	102.67	142.33	0.0017876
BKH_1	63.00000 -10.00000 22.50000	0.0065585	22.108	0.0	0.0	0.0
	62.97561 -9.00000 22.50000	0.0096240	22.108	0.0	0.0	0.0
	62.95122 -8.00000 22.50000	0.012865	22.108	0.0	0.0	0.0
	62.92683 -7.00000 22.50000	0.016270	22.108	0.0	0.0	0.0
	62.90244 -6.00000 22.50000	0.019823	22.108	0.0	0.0	0.0
	62.87805 -5.00000 22.50000	0.023505	22.108	0.0	0.0	0.0
	62.85366 -4.00000 22.50000	0.027296	22.108	0.0	0.0	0.0
	62.82927 -3.00000 22.50000	0.031172	22.108	0.0	0.0	0.0
	62.80488 -2.00000 22.50000	0.035107	22.108	0.0	0.0	0.0
	62.78049 -1.00000 22.50000	0.039073	22.108	0.0	0.0	0.0
	62.75610 0.00000 22.50000	0.043042	22.108	0.0	0.0	0.0
	62.73171 1.00000 22.50000	0.046985	22.108	0.0	0.0	0.0
	62.70732 2.00000 22.50000	0.050970	22.108	0.0	0.0	0.0
	62.68293 3.00000 22.50000	0.054670	22.108	0.0	0.0	0.0
	62.65854 4.00000 22.50000	0.058352	22.108	0.0	0.0	0.0
	62.63415 5.00000 22.50000	0.061889	22.108	0.0	0.0	0.0
	62.60976 6.00000 22.50000	0.065252	22.108	0.0	0.0	0.0
	62.58537 7.00000 22.50000	0.068414	22.108	0.0	0.0	0.0
	62.56098 8.00000 22.50000	0.071347	22.108	0.0	0.0	0.0
	62.53659 9.00000 22.50000	0.074026	22.108	0.0	0.0	0.0
	62.51220 10.00000 22.50000	0.076426	22.108	0.0	0.0	0.0
	62.48780 11.00000 22.50000	0.078523	22.108	0.0	0.0	0.0
	62.46341 12.00000 22.50000	0.080294	22.108	0.0	0.0	0.0
	62.43902 13.00000 22.50000	0.081718	22.108	0.0	0.0	0.0
	62.41463 14.00000 22.50000	0.082773	22.108	0.0	0.0	0.0
	62.39024 15.00000 22.50000	0.083441	22.108	0.0	0.0	0.0
	62.36585 16.00000 22.50000	0.083703	22.108	0.0	0.0	0.0
	62.34146 17.00000 22.50000	0.083545	22.108	0.0	0.0	0.0
	62.31707 18.00000 22.50000	0.082955	22.108	0.0	0.0	0.0
	62.29268 19.00000 22.50000	0.081923	22.108	0.0	0.0	0.0
	62.26829 20.00000 22.50000	0.080446	22.108	0.0	0.0	0.0
	62.24390 21.00000 22.50000	0.078525	22.108	0.0	0.0	0.0
	62.21951 22.00000 22.50000	0.076169	22.108	0.0	0.0	0.0
	62.19512 23.00000 22.50000	0.073392	22.108	0.0	0.0	0.0
	62.17073 24.00000 22.50000	0.070218	22.108	0.0	0.0	0.0
	62.14634 25.00000 22.50000	0.066676	22.108	0.0	0.0	0.0
	62.12195 26.00000 22.50000	0.062805	22.108	0.0	0.0	0.0
	62.09756 27.00000 22.50000	0.058651	22.108	0.0	0.0	0.0
	62.07317 28.00000 22.50000	0.054264	22.108	0.0	0.0	0.0
	62.04878 29.00000 22.50000	0.049701	22.108	0.0	0.0	0.0
	62.02439 30.00000 22.50000	0.045021	22.108	0.0	0.0	0.0
	62.00000 31.00000 22.50000	0.040284	22.108	0.0	0.0	0.0
BKH_2	62.00000 31.00000 22.50000	0.040284	22.108	0.0	0.0	0.0



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Name	X	Location	Displacement	Stresses	
	[m]	[m]	[mm]	[kN/m²]	
	63.00000	31.03571	22.50000	0.029739	22.108
	64.00000	31.07143	22.50000	0.020925	22.108
	65.00000	31.10714	22.50000	0.013568	22.108
	66.00000	31.14286	22.50000	0.0074365	22.108
	67.00000	31.17857	22.50000	0.0023382	22.108
	68.00000	31.21429	22.50000	-0.0018886	22.108
	69.00000	31.25000	22.50000	-0.0053797	22.108
	70.00000	31.28571	22.50000	-0.0082494	22.108
	71.00000	31.32143	22.50000	-0.010594	22.108
	72.00000	31.35714	22.50000	-0.012495	22.108
	73.00000	31.39286	22.50000	-0.014021	22.108
	74.00000	31.42857	22.50000	-0.015230	22.108
	75.00000	31.46429	22.50000	-0.016171	22.108
	76.00000	31.50000	22.50000	-0.016887	22.108
	77.00000	31.53571	22.50000	-0.017412	22.108
	78.00000	31.57143	22.50000	-0.017777	22.108
	79.00000	31.60714	22.50000	-0.018007	22.108
	80.00000	31.64286	22.50000	-0.018124	22.108
	81.00000	31.67857	22.50000	-0.018148	22.108
	82.00000	31.71429	22.50000	-0.018092	22.108
	83.00000	31.75000	22.50000	-0.017972	22.108
	84.00000	31.78571	22.50000	-0.017798	22.108
	85.00000	31.82143	22.50000	-0.017580	22.108
	86.00000	31.85714	22.50000	-0.017326	22.108
	87.00000	31.89286	22.50000	-0.017044	22.108
	88.00000	31.92857	22.50000	-0.016739	22.108
	89.00000	31.96429	22.50000	-0.016417	22.108
BKH_3	90.00000	32.00000	22.50000	-0.016082	22.108
	90.00000	32.00000	22.50000	-0.016082	22.108
	90.00000	31.00000	22.50000	-0.016213	22.108
	90.00000	30.00000	22.50000	-0.016339	22.108
	90.00000	29.00000	22.50000	-0.016459	22.108
	90.00000	28.00000	22.50000	-0.016574	22.108
	90.00000	27.00000	22.50000	-0.016683	22.108
	90.00000	26.00000	22.50000	-0.016787	22.108
	90.00000	25.00000	22.50000	-0.016885	22.108
	90.00000	24.00000	22.50000	-0.016978	22.108
	90.00000	23.00000	22.50000	-0.017065	22.108
	90.00000	22.00000	22.50000	-0.017146	22.108
	90.00000	21.00000	22.50000	-0.017221	22.108
	90.00000	20.00000	22.50000	-0.017290	22.108
	90.00000	19.00000	22.50000	-0.017354	22.108
	90.00000	18.00000	22.50000	-0.017411	22.108
	90.00000	17.00000	22.50000	-0.017463	22.108
	90.00000	16.00000	22.50000	-0.017508	22.108
	90.00000	15.00000	22.50000	-0.017547	22.108
	90.00000	14.00000	22.50000	-0.017580	22.108
90.00000	13.00000	22.50000	-0.017607	22.108	
90.00000	12.00000	22.50000	-0.017628	22.108	
90.00000	11.00000	22.50000	-0.017642	22.108	
90.00000	10.00000	22.50000	-0.017650	22.108	
90.00000	9.00000	22.50000	-0.017651	22.108	
90.00000	8.00000	22.50000	-0.017646	22.108	
90.00000	7.00000	22.50000	-0.017634	22.108	
90.00000	6.00000	22.50000	-0.017616	22.108	
90.00000	5.00000	22.50000	-0.017591	22.108	
90.00000	4.00000	22.50000	-0.017560	22.108	
90.00000	3.00000	22.50000	-0.017521	22.108	
90.00000	2.00000	22.50000	-0.017477	22.108	
90.00000	1.00000	22.50000	-0.017425	22.108	
90.00000	0.00000	22.50000	-0.017367	22.108	
90.00000	-1.00000	22.50000	-0.017302	22.108	
90.00000	-2.00000	22.50000	-0.017231	22.108	
90.00000	-3.00000	22.50000	-0.017153	22.108	
90.00000	-4.00000	22.50000	-0.017069	22.108	
BKH_4	90.00000	-5.00000	22.50000	-0.016978	22.108
	90.00000	-5.00000	22.50000	-0.016978	22.108
	89.00000	-5.18519	22.50000	-0.017323	22.108
	88.00000	-5.37037	22.50000	-0.017656	22.108
	87.00000	-5.55556	22.50000	-0.017974	22.108
	86.00000	-5.74074	22.50000	-0.018272	22.108
	85.00000	-5.92593	22.50000	-0.018546	22.108
	84.00000	-6.11111	22.50000	-0.018790	22.108
	83.00000	-6.29630	22.50000	-0.018999	22.108
	82.00000	-6.48148	22.50000	-0.019165	22.108
	81.00000	-6.66667	22.50000	-0.019280	22.108
	80.00000	-6.85185	22.50000	-0.019336	22.108
	79.00000	-7.03704	22.50000	-0.019321	22.108
	78.00000	-7.22222	22.50000	-0.019225	22.108
	77.00000	-7.40741	22.50000	-0.019034	22.108
	76.00000	-7.59259	22.50000	-0.018733	22.108
	75.00000	-7.77778	22.50000	-0.018305	22.108
	74.00000	-7.96296	22.50000	-0.017731	22.108
	73.00000	-8.14815	22.50000	-0.016990	22.108
	72.00000	-8.33333	22.50000	-0.016058	22.108
71.00000	-8.51852	22.50000	-0.014907	22.108	
70.00000	-8.70370	22.50000	-0.013508	22.108	
69.00000	-8.88889	22.50000	-0.011827	22.108	
68.00000	-9.07407	22.50000	-0.0098262	22.108	
67.00000	-9.25926	22.50000	-0.0074653	22.108	
66.00000	-9.44444	22.50000	-0.0046984	22.108	
65.00000	-9.62963	22.50000	-0.0014758	22.108	
64.00000	-9.81481	22.50000	0.0022569	22.108	
Archway_1	63.00000	-10.00000	22.50000	0.0065585	22.108
	6.50000	5.00000	20.50000	6.4463	20.325
	6.50000	5.95455	20.50000	4.9513	20.325
	6.50000	6.90909	20.50000	3.4933	20.325
	6.50000	7.86364	20.50000	2.6097	20.325
	6.50000	8.81818	20.50000	2.1232	20.325
	6.50000	9.77273	20.50000	1.7288	20.325
	6.50000	10.72727	20.50000	1.4027	20.325
	6.50000	11.68182	20.50000	1.1380	20.325
	6.50000	12.63636	20.50000	0.92510	20.325
	6.50000	13.59091	20.50000	0.75377	20.325
	6.50000	14.54545	20.50000	0.61539	20.325
	6.50000	15.50000	20.50000	0.50305	20.325
	6.50000	15.50000	20.50000	0.50305	20.325
	6.50000	15.50000	20.50000	0.50305	20.325
Archway_2	5.66667	15.50000	20.50000	0.46165	20.325
	4.83333	15.50000	20.50000	0.42071	20.325
	4.00000	15.50000	20.50000	0.38080	20.325
	4.83333	5.00000	20.50000	2.4559	20.325
	4.83333	5.00000	20.50000	3.1238	20.325
Archway_3	5.66667	5.00000	20.50000	4.2042	20.325
	6.50000	5.00000	20.50000	6.4463	20.325
	27.00000	45.00000	20.50000	0.010628	20.325
	28.00000	45.00000	20.50000	0.014789	20.325
	29.00000	45.00000	20.50000	0.019119	20.325
167HH_1	30.00000	45.00000	20.50000	0.023563	20.325
	31.00000	45.00000	20.50000	0.028052	20.325
	32.00000	45.00000	20.50000	0.032504	20.325
	33.00000	45.00000	20.50000	0.036826	20.325
	34.00000	45.00000	20.50000	0.040916	20.325
	35.00000	45.00000	20.50000	0.044666	20.325
	36.00000	45.00000	20.50000	0.047971	20.325
	37.00000	45.00000	20.50000	0.050729	20.325
	38.00000	45.00000	20.50000	0.052853	20.325
	39.00000	45.00000	20.50000	0.054271	20.325
	40.00000	45.00000	20.50000	0.054938	20.325
	40.00000	45.00000	20.50000	0.054938	20.325
	40.00000	46.00000	20.50000	0.040159	20.325
	40.00000	47.00000	20.50000	0.028205	20.325
	40.00000	48.00000	20.50000	0.018530	20.325
167HH_2	40.00000	49.00000	20.50000	0.010701	20.325
	40.00000	50.00000	20.50000	0.004223	20.325
	40.00000	51.00000	20.50000	-733.20E-6	20.325
	40.00000	52.00000	20.50000	-0.0048391	20.325
	40.00000	52.00000	20.50000	-0.0051022	20.325
167HH_3	39.00000	52.00000	20.50000	-0.0051022	20.325
	38.00000	52.00000	20.50000	-0.0050880	20.325
	37.00000	52.00000	20.50000	-0.0060199	20.325
	36.00000	52.00000	20.50000	-0.0066580	20.325
	35.00000	52.00000	20.50000	-0.0066580	20.325