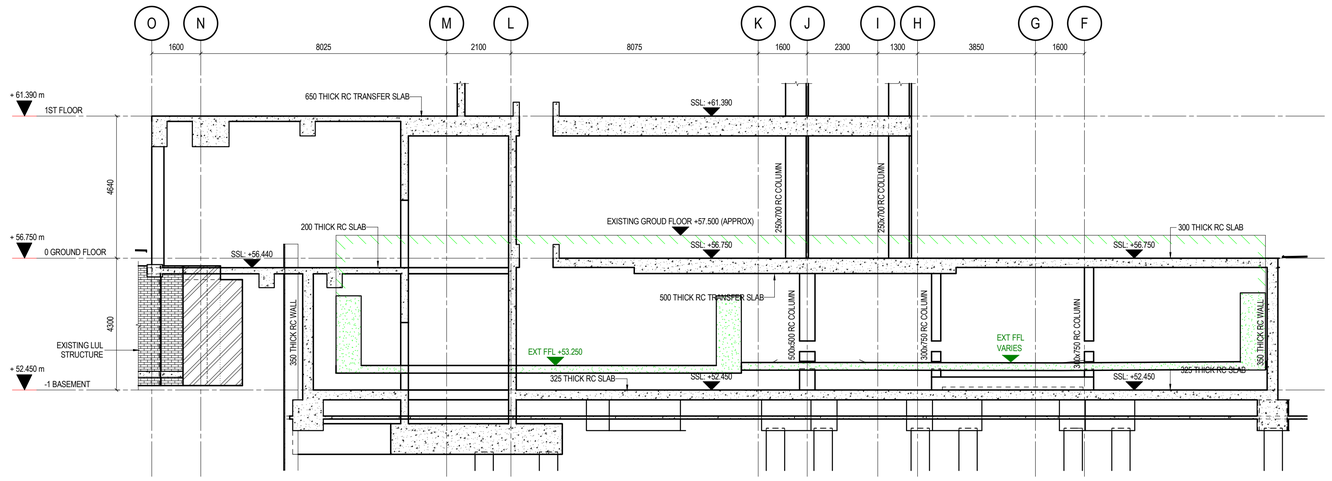

SECTION 7 - 7

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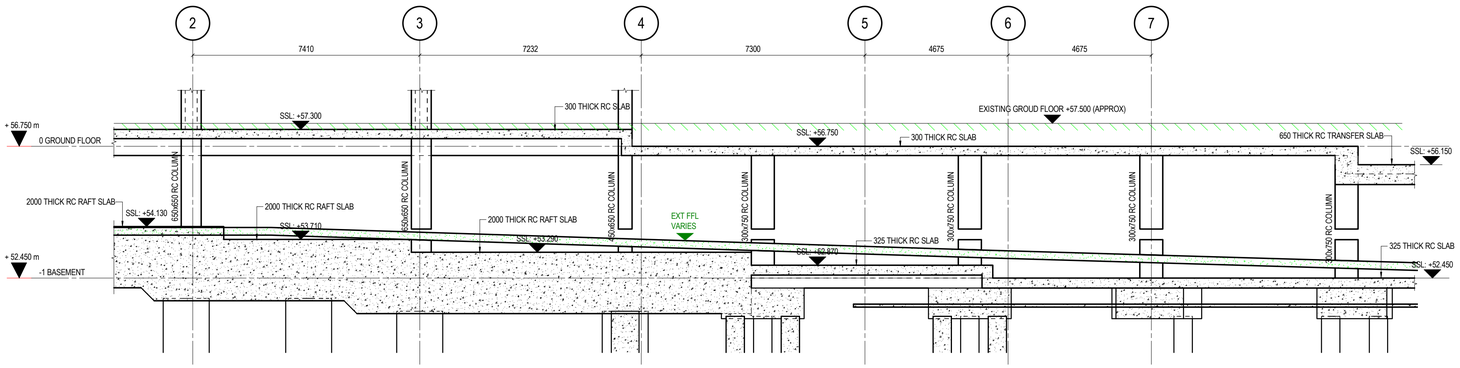
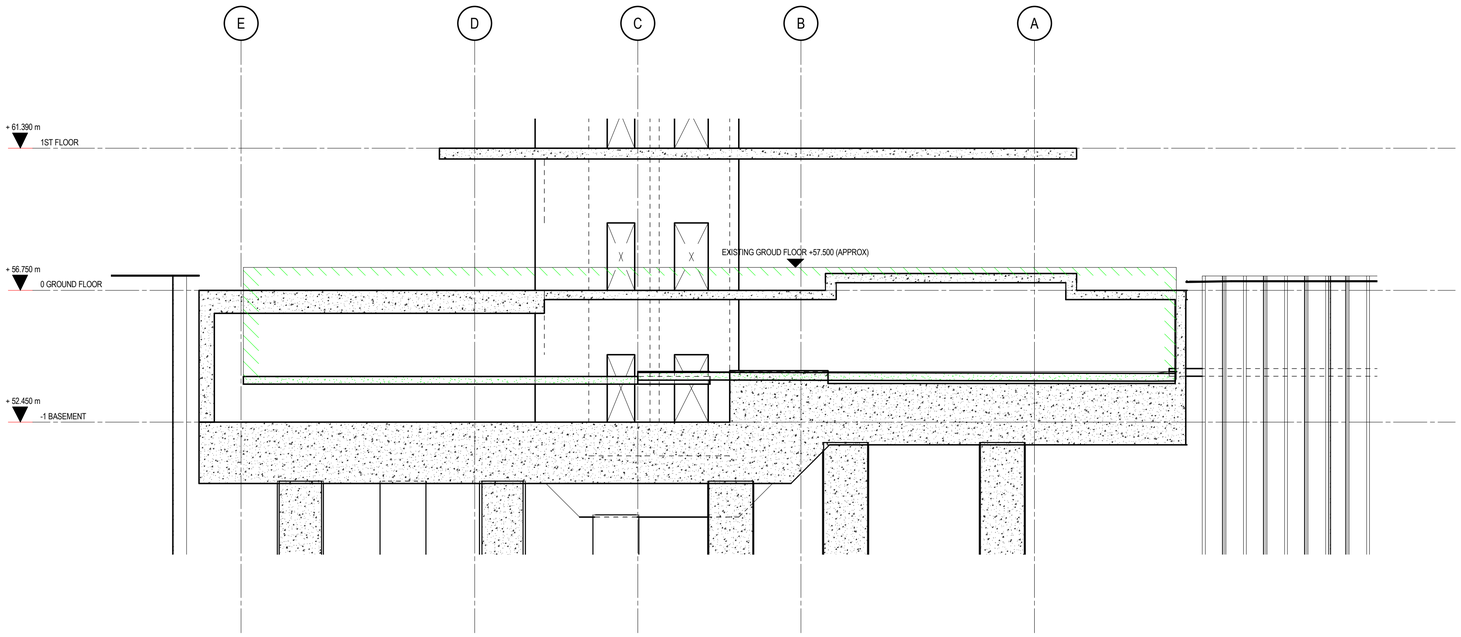


SECTION 8 - 8

1 : 100



SECTION 9 - 9

1 : 100

Significant hazards relative to the structural design shown on this drawing have been assessed and highlighted with reasonable skill and care using a warning triangle system.

This drawing is to be read in conjunction with all other hazards/risks which have been identified and recorded within the construction phase H&S plan.

It is assumed that all works on this drawing will be carried out by a competent contractor working, where appropriate, to an approved method statement.

Significant hazards are defined as:
- Those not likely to be obvious to a competent contractor or other designers.
- Those of an unusual nature.
- Those likely to be difficult to manage effectively.

CONSTRUCTION RISKS	MAINTENANCE / CLEANING RISK	DEMOLITION RISKS

In addition to the hazard/risks normally associated with the types of work detailed on this drawing take note of above.
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NOTES

1.THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE RELEVANT SPECIFICATION AND ALL OTHER RELEVANT DRAWINGS ISSUED BY THE ENGINEER AND ARCHITECT.

2. ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE AND THE ENGINEER NOTIFIED OF ANY DISCREPANCIES PRIOR TO COMMENCEMENT OF WORK.

3. DO NOT SCALE FROM THIS DRAWING.

4. ALL LEVELS AND DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

5. CONCRETE GRADES TO BE AS FOLLOWS: SLABS - GRADE C40
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7. CONTRACTOR TO CONFIRM ALL LEVELS AND DIMENSIONS ON SITE. ANY DIMENSIONAL VARIATION PROPOSED AS A RESULT OF IRREGULARITIES IN LINE AND LEVEL ENCOUNTERED ON SITE ARE ONLY TO BE MADE AFTER AGREEMENT WITH THE CONSTRUCTION MANAGER.

8. ALL DIMENSIONS AND LEVELS OF EXISTING STRUCTURE ARE AS SHOWN ON SURVEY DRAWINGS AND MAY NOT BE AS CONSTRUCTED ON SITE.

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COORDINATION ISSUE. ISSUED FOR COMMENTS.	MIC	02.12.13	P1
PRELIMINARY ISSUE	JE/ALG	23/07/14	P2
DRAFT STAGE C ISSUE	MIC	16.01.14	A
Revision Details	By / Check	Date	Suffix

Purpose of issue

PRELIMINARY

Client

ESSENTIAL LIVING (SWISS COTTAGE) LTD.

Project Title

100 AVENUE ROAD
SWISS COTTAGE

Drawing Title

SECTIONS SHEET 2

Drawn	Checked	Approved	Date
MIC	ALG	ALG	OCT 2013

URS Internal Project No.

Suitability

Scale @ A1: 1 : 100

Zone / Mileage

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Drawing Number: 47066169/2121

Rev: P2

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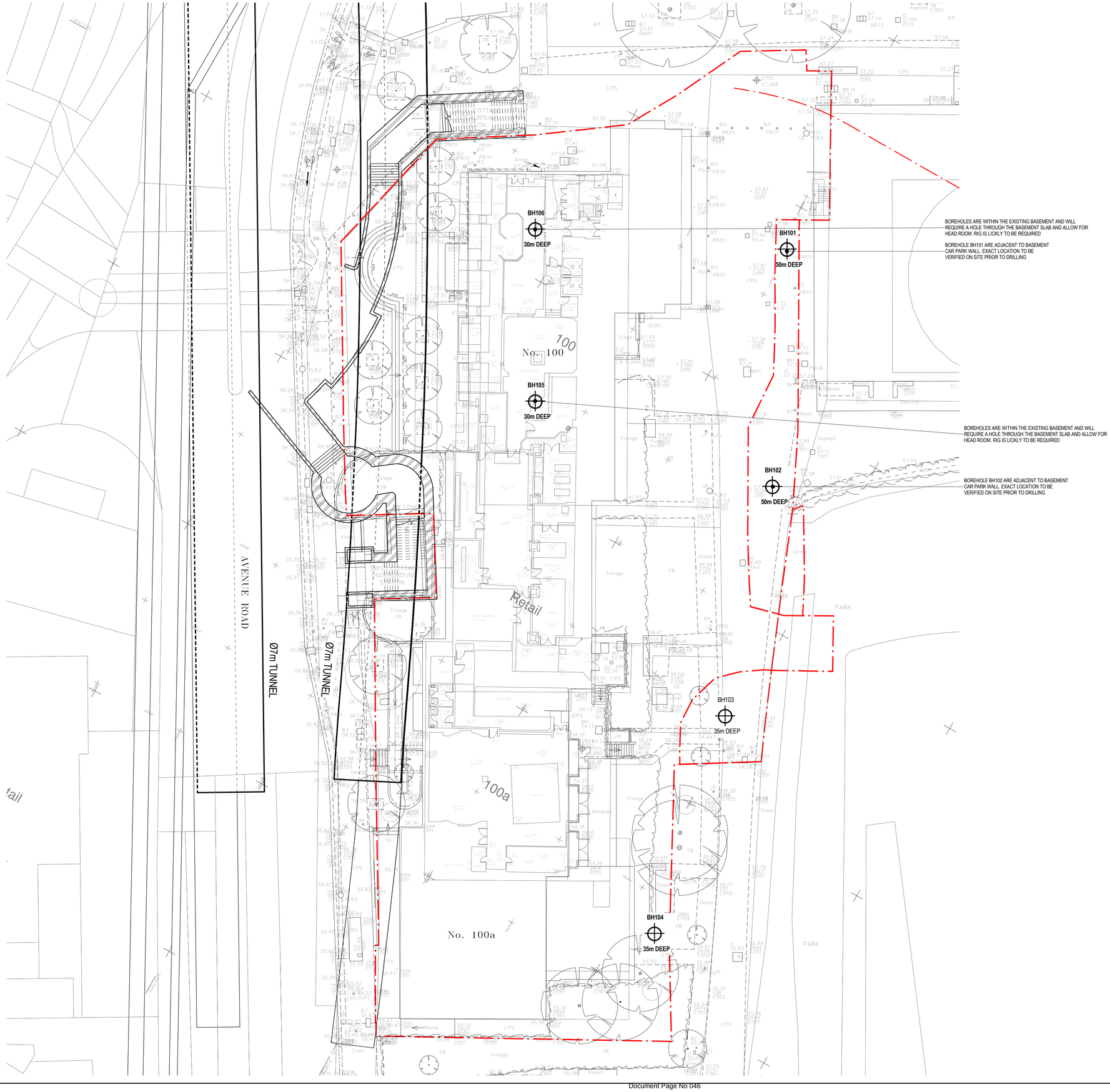
\\eurukjobs\Wimbledon-Jobs\Essential Land LLP\47066169 100 Avenue Road Swiss Cottage\CAD\Revit\Models\13-47066169-m001-structure.rvt

APPENDIX C PROPOSED BOREHOLE LOCATIONS



CONSTRUCTION RISKS	MAINTENANCE / CLEANING RISK	DEMOLITION RISKS

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NOTES

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KEY:

BH DEEP — APPROXIMATE BOREHOLE LOCATION WITH RESPECTIVE DEPTH PROPOSED BY URS

SITE BOUNDARY LINE

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Purpose of issue

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ESSENTIAL LIVING (SWISS COTTAGE) LTD.

Project Title

100 AVENUE ROAD SWISS COTTAGE

Drawing Title

PRELIMINARY BOREHOLE LOCATION PLAN

Drawn	Checked	Approved	Date
MIC	Checker	Approver	MAY 15

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Drawing Number: 47066169/0101

Rev: A

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APPENDIX C IMPACT OF BUILDING DEMOLITION AND CONSTRUCTION REPORT-GROUND MODELING CALCULATIONS

Calculation Sheet: 47066169/URS/Cal-02

Project Title	Swiss Cottage – 100 Avenue Road	**Client**	Essential Living
Project Number	47066169	**Page**	Page **1** of **9**
Project Group	ENR – Ground Engineering		

Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	23/07/14				
Originator	AM	AM				
Checker	JC	JC				

100 AVENUE ROAD, SWISS COTTAGE
IMPACT OF BUILDING DEMOLITION AND CONSTRUCTION ON LU TUNNEL

1.0 PURPOSE OF ANALYSIS

URS Infrastructure and Environment UK Limited have been commissioned by Essential Living (Swiss Cottage) Ltd to provide Civil & Structural Engineering Design Services pertaining to a multi-storey mixed use residential development on Avenue Road in Camden Borough, London.

The purpose of this analysis is to calculate the impact in terms of predicted deflections of the LU Tunnel and related infrastructure due to the demolition of the existing building and construction of the new development, in accordance with LU guidance document G0023 A2, clause 3.24, Loading onto LU structures including ground movement.

These are preliminary calculations. It may be necessary to carry out a more detailed assessment at a later date using Finite Element Techniques.

The existing building is a six-storey office building dating from the mid-1980s. The proposed development comprises a twenty-six-storey tower and an eleven-storey block.

The analysis is split into three phases, the demolition of the existing building and excavation to the proposed basement level (Unload), and the construction of the new development (Re-load) and Long term.

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Date	02/07/14	23/07/14				
Originator	AM	AM				
Checker	JC	JC				

2.0 PROPOSED WORKS

The existing incumbent of the site is an office building dating from the mid-1980's. The building height is staggered, being 6-storeys tall at the north end of the site, reducing to 3 storeys at the south. It is founded on piles to toe levels of 30-34mATD and with cap level of 50.8mATD.

Immediately adjacent to the west of the site is Swiss Cottage Underground station on the Jubilee Line and associated LU infrastructure.

The layout of the existing structure relative to the LU assets is shown on drawings 47066169/0050 and 47066169/0052 shown in Appendix A. The representative pile toe level at 32mATD was taken as this gave a marginally worse deflection profile than a toe level at 30mATD.

The proposed works are the demolition of the existing structure, and the construction of a residential-led mixed use development consisting of two linked buildings of 24 storeys and 6/7 storeys, with a single level basement that extends under both buildings.

The extent of the excavation levels below the existing basement to below proposed basement level are shown on 47066169/SK02, also in Appendix A. As with the loads from the existing structure, the removal of the excavated material has been modelled as negative loads acting at the equivalent raft level.

Building loads for the proposed development are as shown on sketch 47066169/SK02 in Appendix A. More details on the applied loads can be found in the CDS Document

More information on the proposed development is given in the Conceptual Design Statement (CDS) for interface with LUL Document.

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Item	Original	2	3	4	5	6
Date	02/07/14	23/07/14				
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3.0 GROUND CONDITIONS

It is proposed to undertake a Geo-environmental Investigation in September 2014 to accurately determine the ground conditions at the site. However, at the time of writing, there has not been a site-specific site investigation carried out, and therefore a ground model has been developed based on the desk study report carried out by RSK. In order to ascertain a suitable strength profile for the London Clay, a back analysis on the existing pile design was carried out using a design approach likely to have been used at the time of construction.

Material	Top of Layer (mATD)	Base of Layer (mATD)	Material Density (kN/m3)	Cu (kPa)	Stiffness (kPa)
Made Ground	57	51	20	-	10000
London Clay	51	0	20	60+6z*	1000Cu

**z is the depth below 51mATD*

4.0 APPROACH TO ANALYSES

The analyses of the movements caused by the demolition of the existing structure and the subsequent construction of the proposed buildings have been carried out using PDisp software. This is an industry standard, marketed by OASYS (Over Arup). The calculation method used was the Boussinesq method.

In the Boussinesq method the stress distribution through the soil mass is correct for a uniform isotropic, elastic material having a constant Poisson's ratio. Vertical strains are derived from this stress distribution using the elastic constants appropriate to that strain level for each soil layer and then summed to give displacements.

No soil/structure interaction is allowed in the method. It is assumed that the structure moves the same amount as the soil. In reality the stiffness of the structure will reduce the movements and distribute them more evenly than PDisp predicts. Above the loaded rafts, the soil is assumed to follow the deflected shape at raft level.

4.1 Design Assumptions

The following assumptions have been made in carrying out the analysis:

(i) Representative pile toe level of existing structure taken as 32mATD and pile cap level at 50.8mATD

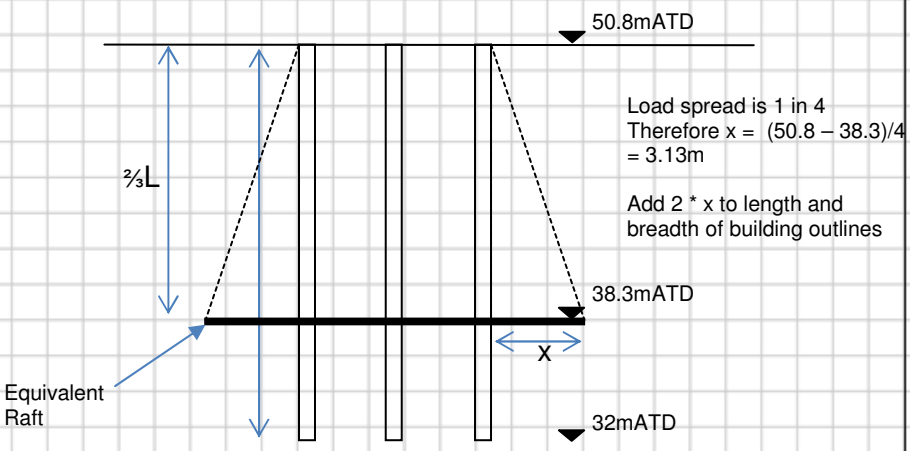
(ii) Building load of 10kPa per storey, plus 10kPa for the basement for the existing structure

(iii) Representative pile toe level of proposed twenty-six-storey tower piles taken as 8mATD and pile cap level at 51mATD

(iv) Representative pile toe level of proposed eleven-storey block piles taken as 20mATD and pile cap level at 51mATD

(v) Live loads have been applied at 50% their characteristic value as this is a serviceability limit state analysis.

(vi) Pile load assumed to act on an equivalent raft at 2/3 pile length with a load spread of 1 in 4 (see diagram below based on levels for existing structure)



The calculation of the equivalent rafts for each existing structure can be seen in Appendix B and for the proposed development in Appendix C

(vii) Pile loads from the proposed development have been applied as positive loads and pile loads from the existing structure have been applied as negative, giving a net stress change and therefore deflection profile.

(viii) Loading conditions remain constant following construction

(ix) Stiffness of the London Clay reduces to 400Cu in the Long Term condition

4.2 Analysis Stages

The PDisp model calculates the ground movements experienced due to a change in load or a change in the stiffness of the ground, therefore, three phases have been considered. They are:

- Demolition of existing structure and excavation to new basement level
- Construction of the proposed development
- Long term conditions, accounting for reduced stiffness in the London Clay

5.0 RESULTS AND DISCUSSION

The effect of the demolition of the existing structure and the proposed redevelopment has been assessed in terms of the impact on the Jubilee line tunnels and the escalator barrel at Swiss Cottage Underground Station.

The positions of the displacement curves are shown on drawings 47066169/0050 and 47066169/0052 in Appendix A.

5.1 Demolition and Excavation Results

A contour plan of the vertical ground movements due to demolition and excavation, over the extent of the site at mid-tunnel level is shown in Appendix D. The plot shows a maximum heave of 10mm at the centre of the zones with the largest load removal.

The displacement curves for the Demolition and Excavation phase are also shown in Appendix D.

The results show that the maximum deformation at the location of the southbound track is 4.7mm and the maximum differential between the two southbound tracks is 1.1mm. This is a conservative estimate as it assumes that the tracks are independent bodies, whereas in reality they are both connected to the tunnel lining. In any case, these results represent movements that are deemed to be insignificant.

The maximum deflection in the southbound station tunnel is 7mm at the waist and in the SB running tunnel is 6.5mm. The graphs also show that there is minor differential settlement between the two sides of the tunnel. The maximum cant in the SB station tunnel being 1:1500 or 0.037° and in the SB running tunnel being 1:1300 or 0.045°.

The displacements at the crown and invert of the station tunnel were also assessed in order to calculate the ovulation of the tunnel. The results show that the tunnel squats by 0.0008mm during the Unload phase.

Displacements of the Northbound Station Tunnel and the Escalator Barrel have been calculated to show that the movements in these assets are negligible. During the unload phase, the maximum deflection in the Northbound Tunnel is 1.1mm.

The maximum deflection in the escalator barrel is 1.6mm, and the differential movement between the bottom of the escalator and the top is 1.2mm over 18m. The degree of cant in the escalator barrel is also negligible, being 1:9000 or 0.006° angle of rotation.

5.2 Construction Results

The reload phase shows net deflections of the site, taking into account the unloading of the site during demolition and the subsequent re-loading of the site following construction.

A contour plan of the net vertical ground movements due to construction of the proposed development, over the extent of the site at mid-tunnel level is shown in Appendix E. The plot shows a maximum settlement of 5mm at the centre of the most heavily loaded zone.

The displacement curves for the Construction phase are shown in Appendix E.

The results show that the maximum settlement at the location of the southbound tracks is 5mm, and that the maximum differential between the two southbound tracks is 0.5mm during the short term phase.

The maximum net deflection in the southbound station tunnel is 4.5mm and in the SB running tunnel, is 2.75mm. The graphs also show that there is minor differential settlement between the two sides of the tunnel. The maximum cant in the SB station tunnel being 1:2800 or 0.020° and in the SB running tunnel being 1:3000 or 0.019°.

The displacements at the crown and invert of the station tunnel were also assessed in order to calculate the ovulation of the tunnel. The results show that the tunnel stretches by 0.3mm during the Construction.

Displacements of the Northbound Station Tunnel and the Escalator Barrel have been calculated to show that the movements in these assets are negligible. The maximum deflection in the Northbound Tunnel is 0.45mm

The maximum deflection in the escalator barrel is 2mm, and the differential movement between the bottom of the escalator and the top is 1.75mm over 18m. The degree of cant in the escalator barrel is also negligible, being 1:5300 or 0.011° angle of rotation.

5.3 Long Term Results

The displacement curves for the Long Term phase are shown in Appendix F.

A contour plan of the net vertical ground movements due to construction of the proposed development, over the extent of the site at mid-tunnel level is shown in Appendix F. The plot shows a maximum settlement of 15mm at the centre of the most heavily loaded zone.

The results show that the maximum settlement at the location of the southbound tracks is 12mm, and that the maximum differential between the two southbound tracks is 1mm during the short term phase.

The maximum net deflection in the southbound station tunnel is 11.5mm and in the SB running tunnel, is 7mm. The graphs also show that there is minor differential settlement between the two sides of the tunnel. The maximum cant in the SB station tunnel being 1:1170 or 0.049° and in the SB running tunnel being 1:1125 or 0.051°.

The displacements at the crown and invert of the station tunnel were also assessed in order to calculate the ovulation of the tunnel. The results show that the tunnel stretches by 0.8mm in the Long Term.

Displacements of the Northbound Station Tunnel and the Escalator Barrel have been calculated. The maximum deflection in the Northbound Tunnel is 1.2mm.

Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	23/07/14				
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Checker	JC	JC				

The maximum deflection in the escalator barrel is 5mm, and the differential movement between the bottom of the escalator and the top is 4mm over 18m. The degree of cant in the escalator barrel is also negligible, being 1:2000 or 0.029° angle of rotation.

6.0 CONCLUSION

The critical phase for these works in terms of the maximum track, tunnel and escalator movements is the long term phase where a reduction in the stiffness of the London Clay has been applied.

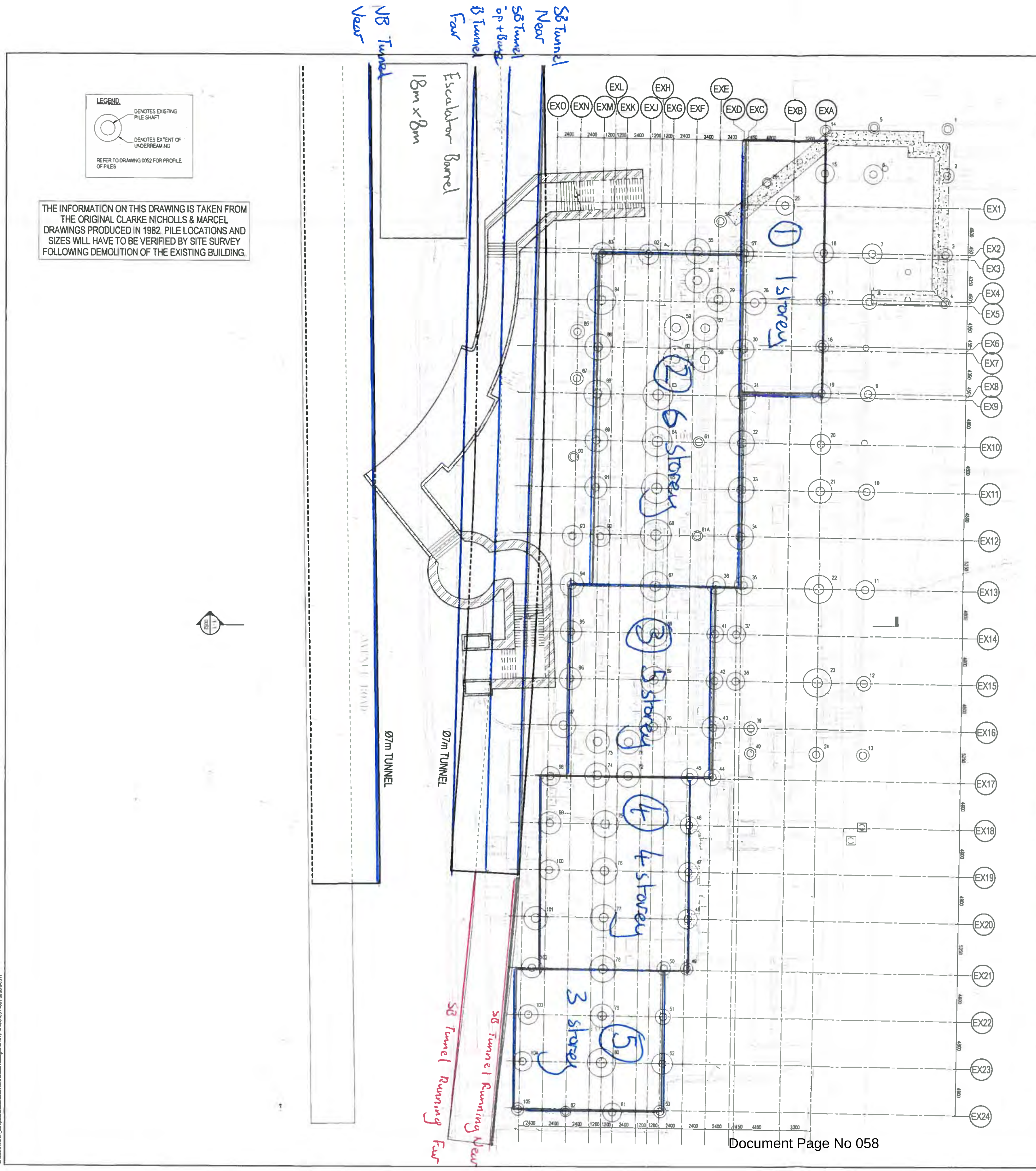
The results of this analysis will be provided to London Underground Track Design Engineers to analyse the effects on the track as a result of the ground movements.

Based on the above calculations, it is not considered that anticipated ground movements will cause significant deflections of London Underground Tunnels and associated infrastructure during the demolition, construction or long term phases. However, following the completion of a site-specific ground investigation, further analysis will be carried out using Finite Element software to validate the findings of this report.

Calculation Sheet: 47066169/URS/Cal-02

Project Title	Swiss Cottage – 100 Avenue Road				**Client**	Essential Living
Project Number	47066169					
Project Group	ENR – Ground Engineering					
Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	23/07/14				
Originator	AM	AM				
Checker	JC	JC				

Appendix A – Site Plans and locations of applied loads



EXISTING PILE SCHEDULE					
PILE No.	LOAD (kN)	CUT-OFF LEVEL (m)	BASE LEVEL (m)	SHAFT DIA. (mm)	BELL DIA. (mm)
1	1000	53 025	34 000	750	1200
2	1600	53 025	34 000	750	1500
3	1600	53 025	34 000	750	1400
4	800	53 025	34 000	750	1050
5	1200	53 025	34 000	750	1150
6	2300	52 990	34 000	750	2000
7	2300	52 990	34 000	750	2030
8	1800	53 025	34 000	750	1520
9	1800	53 025	34 000	750	1560
10	1800	52 485	34 000	750	1660
11	1800	51 925	34 000	750	1950
12	1800	51 760	34 000	750	1500
13	800	51 675	34 000	750	1300
14	1000	53 025	34 000	750	1150
15	2300	52 990	34 000	750	1950
16	2300	52 990	34 000	750	2020
17	1500	52 990	34 000	750	1280
18	1500	52 990	34 000	750	1300
19	2300	52 990	34 000	750	1970
20	2500	52 720	34 000	750	2110
21	3300	52 450	34 000	900	2440
22	4300	51 890	34 000	1050	2870
23	4100	51 725	34 000	1050	2910
24	1750	51 640	34 000	750	1500
25	2300	52 990	34 000	750	1950
26	1300	53 025	34 000	750	1050
27	2000	52 375	34 000	750	1800
28	3500	52 175	33 000	900	2470
29	3500	52 175	33 000	900	2460
30	2600	52 990	34 000	750	2150
31	3800	52 990	34 000	900	2670
32	3600	52 720	34 000	900	2530
33	3600	52 455	34 000	900	2600
34	3750	52 185	34 000	900	2570
35	2250	51 890	34 000	750	1870
36	2100	51 890	34 000	750	1890
37	2150	51 810	34 000	750	1840
38	2150	51 725	34 000	750	1830
39	1400	48 220	34 000	750	1400
40	1400	48 220	34 000	750	1200
41	2000	51 825	34 000	750	1700
42	2000	51 745	34 000	750	1700
43	2800	48 220	34 000	750	2300
44	1900	48 220	34 000	750	1690
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46	2300	52 275	34 000	750	1800
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52	2300	53 245	34 000	750	2130
53	900	53 245	34 000	750	1250
54	1300	53 025	34 000	750	1200
55	3500	52 175	33 000	900	2580
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57	3500	50 900	33 000	900	2600
58	3500	50 900	33 000	900	2620
59	3500	50 900	33 000	900	2570
60	3500	50 900	33 000	900	2640
61	850	52 025	33 000	750	1130
61A	850	52 025	33 000	750	1050
62	2500	52 375	32 000	750	2100
63	4900	52 025	32 000	1050	3120
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67	5000	52 025	32 000	1050	3050
68	4000	52 025	32 000	900	2720
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70	4000	52 025	31 000	900	2820
71	3200	51 825	31 000	900	2440
72	3200	51 825	31 000	900	2400
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91	2500	52 025	30 000	750	2250
92	2100	51 675	30 000	750	2100
93	2100	51 675	30 000	750	2110
94	2750	51 675	30 000	900	2420
95	2500	51 675	30 000	750	2220
96	2500	51 675	30 000	750	2270
97	3300	52 025	30 000	900	2540
98	2100	52 025	30 000	750	1970
99	2100	52 975	30 000	750	2280
100	2100	52 975	30 000	750	2050
101	2900	52 975	30 000	900	2390
102	2300	52 975	30 000	750	2100
103	2000	54 575	30 000	750	2020
104	2000	54 575	30 000	750	1970
105	1100	53 575	30 000	750	1300

CONSTRUCTION RISKS	MAINTENANCE / CLEANING RISK	DEMOLITION RISKS

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NOTES

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Revision Details	By / Check	Date	Suffix
DRAFT STAGE C ISSUE	MIC	16 01 14	A
PRELIMINARY ISSUE	MIC	01 08 13	-

Purpose of issue
INFORMATION

Client
ESSENTIAL LIVING (SWISS COTTAGE) LTD.

Project Title
100 AVENUE ROAD SWISS COTTAGE

Drawing Title
LAYOUT OF EXISTING PILES

Drawn	Checked	Approved	Date
MIC	ALG	ALG	MAY 2013

URS Internal Project No
Suitability
Scale @ A1: 1 : 200
Zone / Mileage

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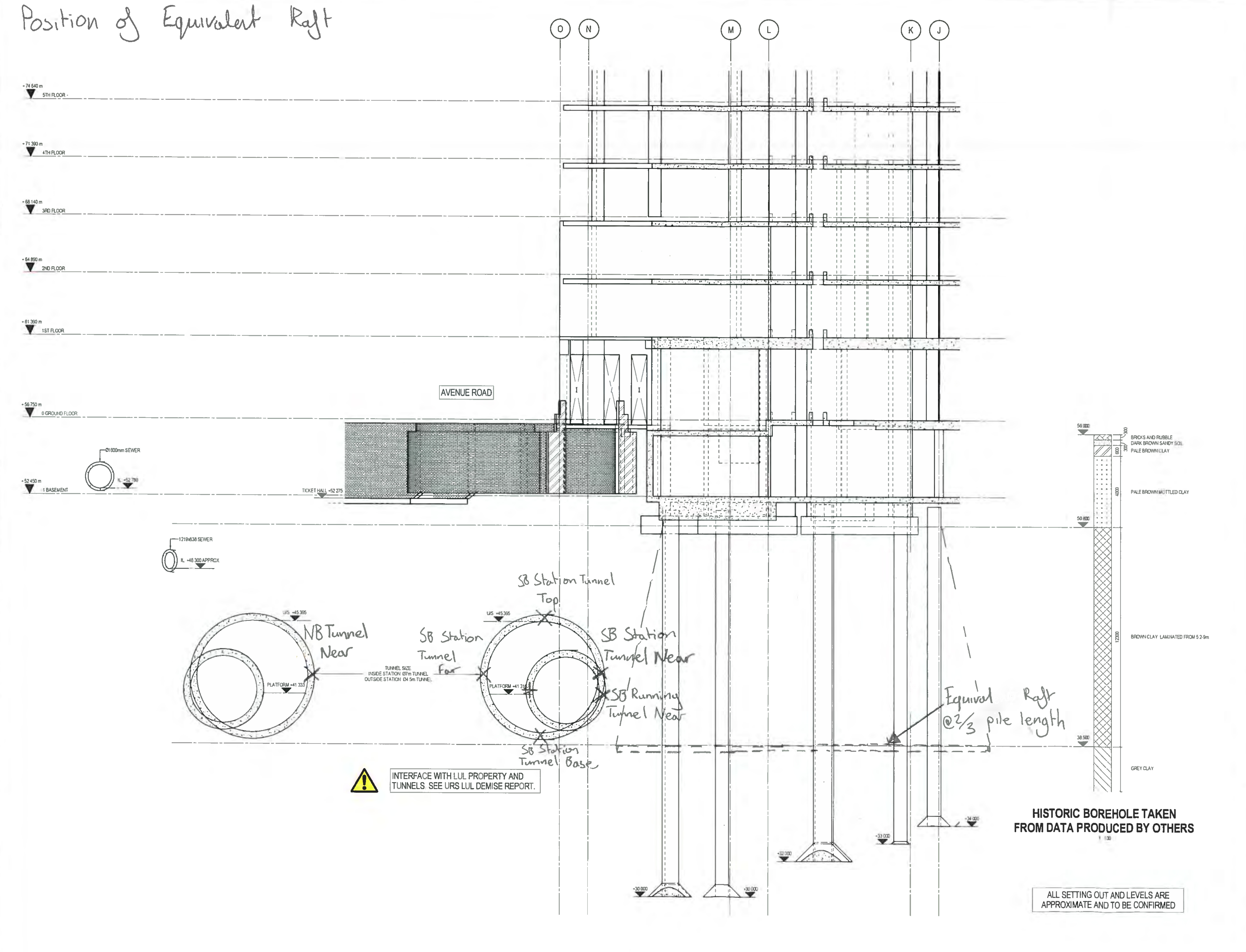
Drawing Number: 47066169/0050
Rev: A



SECTION 1 - 1
1 : 100

CONSTRUCTION RISKS	MAINTENANCE / CLEANING RISK	DEMOLITION RISKS

In addition to the hazard/risks normally associated with the types of work detailed on this drawing take note of above
It is assumed that all works on this drawing will be carried out by a competent contractor working where appropriate to an appropriate method statement

SAFETY HEALTH AND ENVIRONMENTAL INFORMATION BOX

NOTES

1 THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE RELEVANT SPECIFICATION AND ALL OTHER RELEVANT DRAWINGS ISSUED BY THE ENGINEER AND ARCHITECT

2 ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE AND THE ENGINEER NOTIFIED OF ANY DISCREPANCIES PRIOR TO COMMENCEMENT OF WORK

3 DO NOT SCALE FROM THIS DRAWING

4 ALL LEVELS AND DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE

5 CONCRETE GRADES TO BE AS FOLLOWS SLABS GRADE C40
VERTICAL ELEMENTS (I E COLUMNS AND WALLS) GRADE C60

6 REFERENCES TO DRAWING NUMBERS (USUALLY 4 DIGITS) SHALL BE PREFIXED WITH 47066169/ UNLESS OTHERWISE NOTED

7 CONTRACTOR TO CONFIRM ALL LEVELS AND DIMENSIONS ON SITE ANY DIMENSIONAL VARIATION PROPOSED AS A RESULT OF IRREGULARITIES IN LINE AND LEVEL ENCOUNTERED ON SITE ARE ONLY TO BE MADE AFTER AGREEMENT WITH THE CONSTRUCTION MANAGER

8 ALL DIMENSIONS AND LEVELS OF EXISTING STRUCTURE ARE AS SHOWN ON SURVEY DRAWINGS AND MAY NOT BE AS CONSTRUCTED ON SITE

This drawing is for preliminary purposes only and is subject to amendment during design development. UNDER NO CIRCUMSTANCES MUST THIS DRAWING BE USED FOR CONSTRUCTION PURPOSES

Revision Details	By / Check	Date	Suffix
DRAFT STAGE C ISSUE	MIC	16 01 14	A
PRELIMINARY ISSUE	MIC	01 08 13	-

Purpose of issue
INFORMATION

Client
ESSENTIAL LIVING
(SWISS COTTAGE) LTD.

Project Title
100 AVENUE ROAD
SWISS COTTAGE

Drawing Title
INDICATIVE SECTION THROUGH
EXISTING TUNNELS

Drawn	Checked	Approved	Date
MIC	ALG	ALG	MAY 2013

URS Internal Project No	Suitability

Scale @ A1	Zone / Mileage
1 100	

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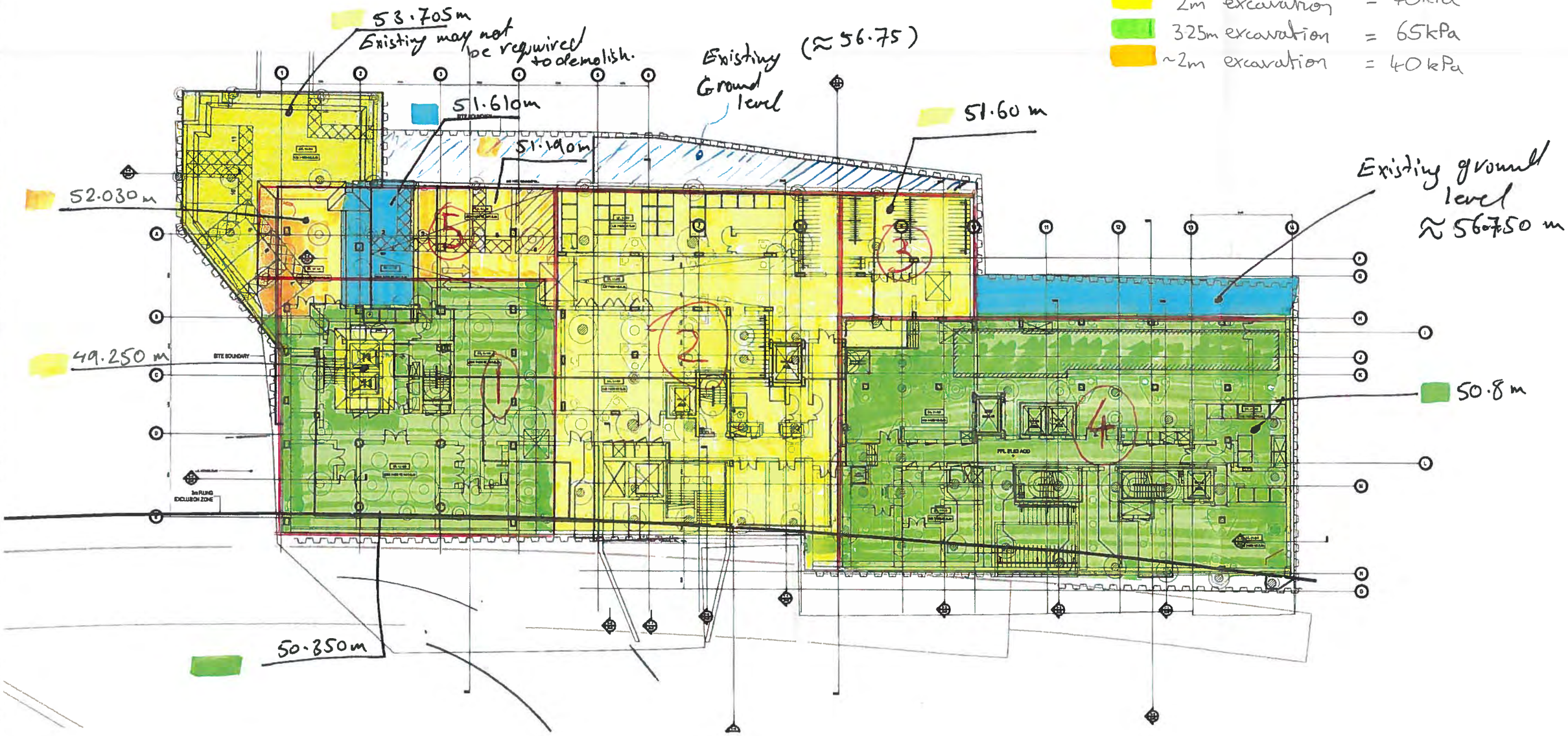
Drawing Number	Rev
47066169/0052	A

Excavation Level beneath existing basement

Assume underside of existing slab level = 53.6mAHD

- 2m excavation = 40kPa
- 325m excavation = 65kPa
- ~2m excavation = 40kPa



Excavation level Plan

47066169/SK02

MKA

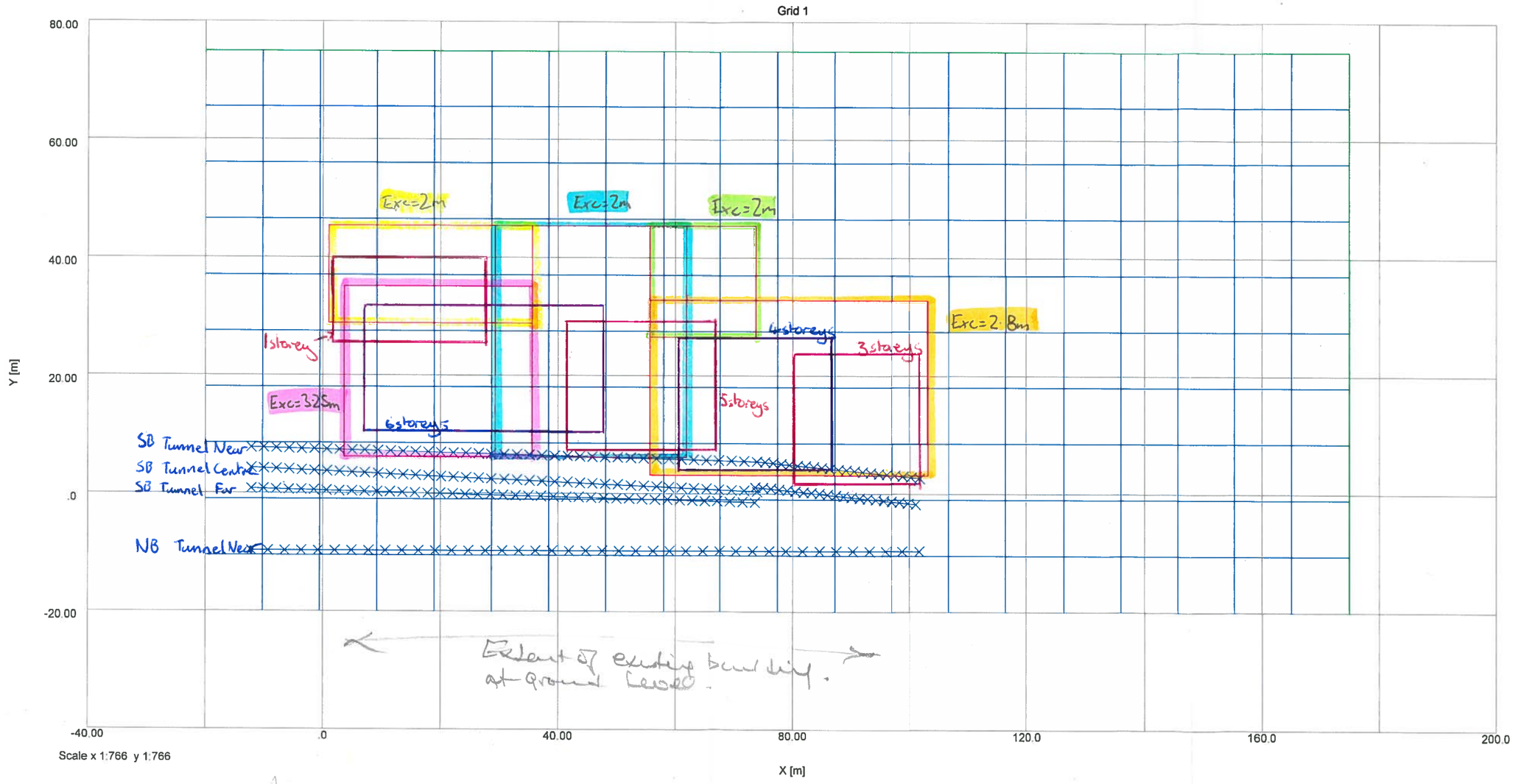
01/07/14

PDisp Equivalent Rafts

Job No.	Sheet No.	Rev.
47066169	SK01	

Drg. Ref.

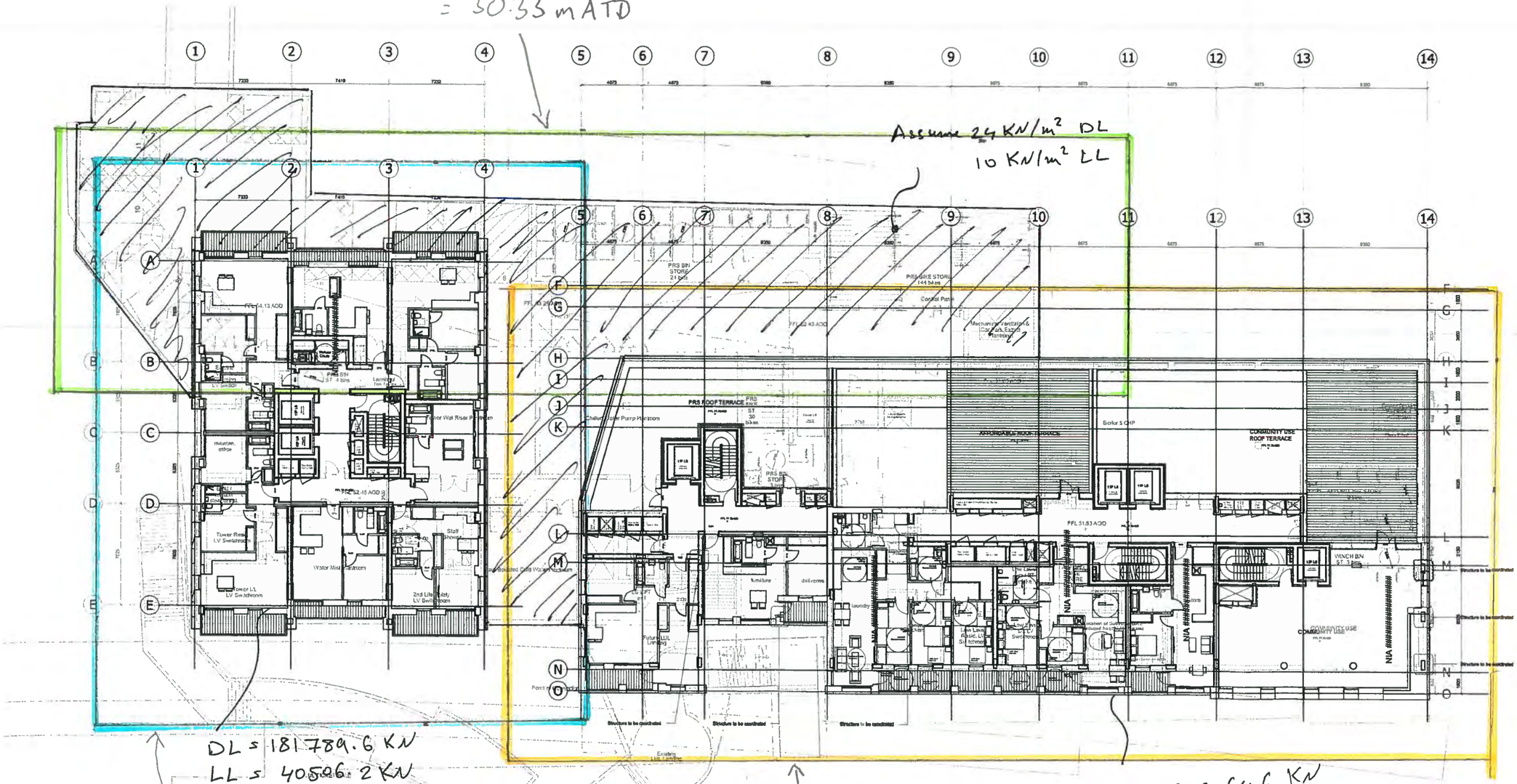
Made by	Date	Checked
AM	02-Jul-2014	



Add escalator

Equivalent Raft Level
= 30.33 m ATD

Assume 24 KN/m² DL
10 KN/m² LL



DL = 181789.6 KN
LL = 40596.2 KN

Equivalent Raft Level
= 22.33 m ATD

DL = 202064.6 KN
LL = 43523.9 KN

Equivalent Raft Level
= 30.33 m ATD

47066169 / SK03

Project Title	Swiss Cottage – 100 Avenue Road				**Client**	Essential Living
Project Number	47066169					
Project Group	ENR – Ground Engineering					
Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	23/07/14				
Originator	AM	AM				
Checker	JC	JC				

Appendix B – Demolition Phase Equivalent Raft Calculations

Calculation Sheet: 47066169/URS/Cal-02 Appendix B

Project Title	Swiss Cottage - Calculation of Existing Structure Equivalent Raft from Pile Loads	**Client**	Essential Living Ltd
Project Number	47066169 - Swiss Cottage	**Page**	1 of 2
Project Group	ENR – Ground Engineering		

Revision and Verification

Item	Original	2	3	4	5	6
Date	26/06/14					
Originator	AM					
Checker	-					

Cut off Level	50.8
Toe Level	32
2/3 eqv raft	38.27
1 in 4 spread	**3.13**

	Building 1 - 1 Storey Existing Outline		Building 1 - 1 Storey Equivalent Raft	
	X	Y	X	Y
a	4.80	28.60	1.67	25.47
b	24.80	28.60	27.93	25.47
d	24.80	37.00	27.93	40.13
c	4.80	37.00	1.67	40.13
a	4.80	28.60	1.67	25.47
Area =	168 m2		Area =	385.24 m2
Load =	20 kPa		Eqv stress	8.72 kPa

	Building 4 - 4 Storey Existing Outline		Building 4 - 4 Storey Equivalent Raft	
	X	Y	X	Y
a	63.70	7.20	60.57	4.07
b	83.50	7.20	86.63	4.07
d	83.50	23.30	86.63	26.43
c	63.70	23.30	60.57	26.43
a	63.70	7.20	60.57	4.07
Area =	318.78 m2		Area =	583.02 m2
Load =	50 kPa		Eqv stress	27.34 kPa

	Building 2 - 6 Storey Existing Outline		Building 2 - 6 Storey Equivalent Raft	
	X	Y	X	Y
a	10.25	13.60	7.12	10.47
b	44.60	13.60	47.73	10.47
d	44.60	28.70	47.73	31.83
c	10.25	28.70	7.12	31.83
a	10.25	13.60	7.12	10.47
Area =	518.685 m2		Area =	867.84 m2
Load =	70 kPa		Eqv stress	41.84 kPa

	Building 5 - 3 Storey Existing Outline		Building 5 - 3 Storey Equivalent Raft	
	X	Y	X	Y
a	83.50	5.00	80.37	1.87
b	98.60	5.00	101.73	1.87
d	98.60	20.60	101.73	23.73
c	83.50	20.60	80.37	23.73
a	83.50	5.00	80.37	1.87
Area =	235.56 m2		Area =	467.22 m2
Load =	40 kPa		Eqv stress	20.17 kPa

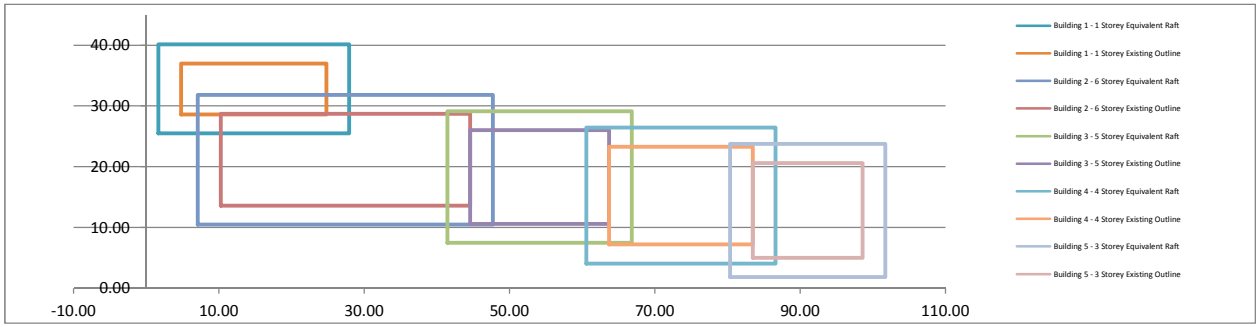
	Building 3 - 5 Storey Existing Outline		Building 3 - 5 Storey Equivalent Raft	
	X	Y	X	Y
a	44.60	10.60	41.47	7.47
b	63.70	10.60	66.83	7.47
d	63.70	26.00	66.83	29.13
c	44.60	26.00	41.47	29.13
a	44.60	10.60	41.47	7.47
Area =	294.14 m2		Area =	549.61 m2
Load =	60 kPa		Eqv stress	32.11 kPa

	Soil Removal Existing Outline		Soil Removal Equivalent Raft	
	X	Y	X	Y
a	83.50	5.00	80.37	1.87
b	98.60	5.00	101.73	1.87
d	98.60	20.60	101.73	23.73
c	83.50	20.60	80.37	23.73
a	83.50	5.00	80.37	1.87
Area =	235.56 m2		Area =	467.22 m2
Load =	40 kPa		Eqv stress	20.17 kPa

Project Title	Swiss Cottage - Calculation of Existing Structure Equivalent Raft from Pile Loads	**Client**	Essential Living Ltd
Project Number	47066169 - Swiss Cottage	**Page**	2 of 2
Project Group	ENR – Ground Engineering		

Revision and Verification

Item	Original	2	3	4	5	6
Date	26/06/14					
Originator	AM					
Checker	-					



Input into Pdisp

	Centre of Load			Dimension		Load (kPa)
Building	X	Y	Z	X	Y	
Existing 1 St	14.80	32.80	38.27	26.27	14.67	-8.72
Existing 6 St	27.43	21.15	38.27	40.62	21.37	-41.84
Existing 5 St	54.15	18.30	38.27	25.37	21.67	-32.11
Existing 4 St	73.60	15.25	38.27	26.07	22.37	-27.34
Existing 3 St	91.05	12.80	38.27	21.37	21.87	-20.17
Soil Removal	91.05	12.80	53.25	21.37	21.87	0.00

Calculation Sheet: 47066169/URS/Cal-02 Appendix B

Project Title	Swiss Cottage - Calculation of Excavation to proposed basement level Equivalent Rafts	**Client**	Essential Living Ltd
Project Number	47066169 - Swiss Cottage	**Page**	1 of 2
Project Group	ENR – Ground Engineering		

Revision and Verification						
Item	Original	2	3	4	5	6
Date	26/06/14					
Originator	AM					
Checker	-					

Cut off Level	50.8
Toe Level	32
2/3 eqv raft	38.27
1 in 4 spread	**3.13**

	Exc 1 Existing Outline		Exc 1 Equivalent Raft	
	X	Y	X	Y
a	6.75	9.30	3.62	6.17
b	32.50	9.30	35.63	6.17
d	32.50	32.00	35.63	35.13
c	6.75	32.00	3.62	35.13
a	6.75	9.30	3.62	6.17
	Area =	584.525 m2	Area =	927.42 m2
	Load =	65 kPa	Eqv stress	40.97 kPa

	Exc 2 Existing Outline		Exc 2 Equivalent Raft	
	X	Y	X	Y
a	32.50	9.30	29.37	6.17
b	58.80	9.30	61.93	6.17
d	58.80	42.30	61.93	45.43
c	32.50	42.30	29.37	45.43
a	32.50	9.30	29.37	6.17
	Area =	867.9 m2	Area =	1278.78 m2
	Load =	40 kPa	Eqv stress	27.15 kPa

	Exc 3 Existing Outline		Exc 3 Equivalent Raft	
	X	Y	X	Y
a	58.80	29.70	55.67	26.57
b	70.70	29.70	73.83	26.57
d	70.70	42.30	73.83	45.43
c	58.80	42.30	55.67	45.43
a	58.80	29.70	55.67	26.57
	Area =	149.94 m2	Area =	342.74 m2
	Load =	40 kPa	Eqv stress	17.50 kPa

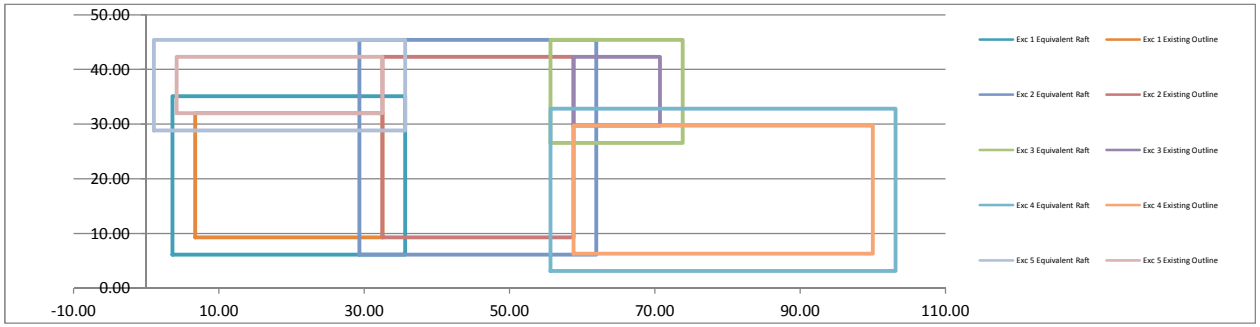
	Exc 4 Existing Outline		Exc 4 Equivalent Raft	
	X	Y	X	Y
a	58.80	6.30	55.67	3.17
b	100.00	6.30	103.13	3.17
d	100.00	29.70	103.13	32.83
c	58.80	29.70	55.67	32.83
a	58.80	6.30	55.67	3.17
	Area =	964.08 m2	Area =	1408.18 m2
	Load =	56 kPa	Eqv stress	38.34 kPa

	Exc 5 Existing Outline		Exc 5 Equivalent Raft	
	X	Y	X	Y
a	4.20	32.00	1.07	28.87
b	32.50	32.00	35.63	28.87
d	32.50	42.30	35.63	45.43
c	4.20	42.30	1.07	45.43
a	4.20	32.00	1.07	28.87
	Area =	291.49 m2	Area =	572.65 m2
	Load =	40 kPa	Eqv stress	20.36 kPa

Project Title	Swiss Cottage - Calculation of Excavation to proposed basement level Equivalent Rafts	**Client**	Essential Living Ltd
Project Number	47066169 - Swiss Cottage	**Page**	2 of 2
Project Group	ENR – Ground Engineering		

Revision and Verification

Item	Original	2	3	4	5	6
Date	26/06/14					
Originator	AM					
Checker	-					



Input into Pdisp

	Centre of Load			Dimension		Load (kPa)
Building	X	Y	Z	X	Y	
Exc 1	19.63	20.65	38.27	32.02	28.97	-40.97
Exc 2	45.65	25.80	38.27	32.57	39.27	-27.15
Exc 3	64.75	36.00	38.27	18.17	18.87	-17.50
Exc 4	79.40	18.00	38.27	47.47	29.67	-38.34
Exc 5	18.35	37.15	38.27	34.57	16.57	-20.36

-8.27	1	**41.3**	**9.73**	**1**	51.7	20
-8.27	-7	**41.3**	**9.73**	**-7**	51.7	20

Calculation Sheet: 47066169/URS/Cal-02

Project Title	Swiss Cottage – 100 Avenue Road				**Client**	Essential Living
Project Number	47066169					
Project Group	ENR – Ground Engineering					
Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	23/07/14				
Originator	AM	AM				
Checker	JC	JC				

Appendix C – Construction Phase Equivalent Raft Calculations

Calculation Sheet: 47066169/URS/Cal-02 Appendix C

Project Title	Swiss Cottage - Calculation of Proposed Structure Equivalent Raft from Pile Loads	**Client**	Essential Living Ltd
Project Number	47066169 - Swiss Cottage	**Page**	1 of 2
Project Group	ENR – Ground Engineering		

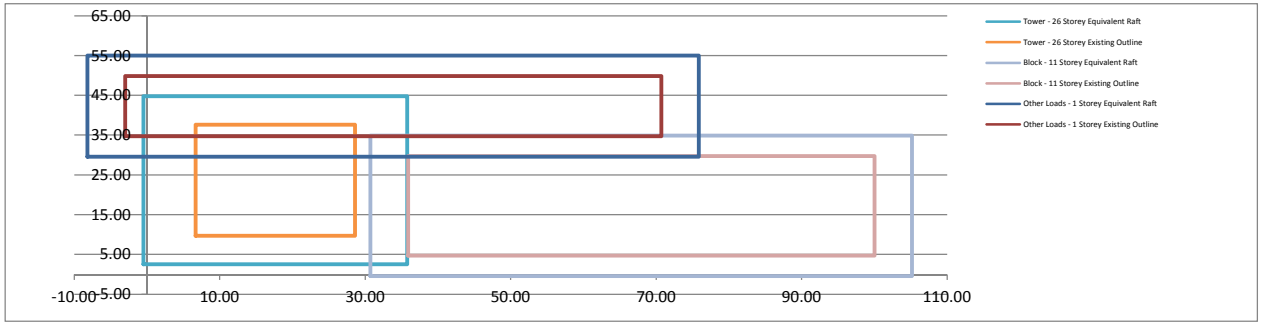
Revision and Verification						
Item	Original	2	3	4	5	6
Date	30/06/14					
Originator	AM					
Checker	-					

Tower		**Block**	
Cut off Level	51	Cut off Level	51
Toe Level	8	Toe Level	20
2/3 eqv raft	22.33	2/3 eqv raft	30.33
1 in 4 spread	**7.17**	1 in 4 spread	**5.17**

	Tower - 26 Storey Existing Outline		Tower - 26 Storey Equivalent Raft			
	X	Y	X	Y		
a	6.70	9.70	-0.47	2.53	Load - Dead	181789.60 kN
b	28.60	9.70	35.77	2.53	Load - Live	20253.10 kN
d	28.60	37.60	35.77	44.77	Unfactored pressure	330.67 kPa
c	6.70	37.60	-0.47	44.77		
a	6.70	9.70	-0.47	2.53		
	Area =	611.01 m2	Area =	1530.25 m2		
	Load =	330.67 kPa	Eqv stress	132.03 kPa		

	Block - 11 Storey Existing Outline		Block - 11 Storey Equivalent Raft			
	X	Y	X	Y		
a	35.90	4.70	30.73	-0.47	Load - Dead	202064.60 kN
b	100.00	4.70	105.17	-0.47	Load - Live	21761.95 kN
d	100.00	29.70	105.17	34.87	Unfactored pressure	139.67 kPa
c	35.90	29.70	30.73	34.87		
a	35.90	4.70	30.73	-0.47		
	Area =	1602.5 m2	Area =	2629.98 m2		
	Load =	139.67 kPa	Eqv stress	85.11 kPa		

	Other Loads - 1 Storey Existing Outline		Other Loads - 1 Storey Equivalent Raft	
	X	Y	X	Y
a	-3.00	34.70	-8.17	29.53
b	70.70	34.70	75.87	29.53
d	70.70	49.80	75.87	54.97
c	-3.00	49.80	-8.17	54.97
a	-3.00	34.70	-8.17	29.53
	Area =	1112.87 m2	Area =	2137.25 m2
	Load =	34.00 kPa	Eqv stress	17.70 kPa



Project Title	Swiss Cottage - Calculation of Proposed Structure Equivalent Raft from Pile Loads				**Client**	Essential Living Ltd
Project Number	47066169 - Swiss Cottage				**Page**	2 of 2
Project Group	ENR – Ground Engineering					
Revision and Verification						
Item	Original	2	3	4	5	6
Date	30/06/14					
Originator	AM					
Checker	-					

Input into Pdisp

	Centre of Load			Dimension		Load (kPa)
Building	X	Y	Z	X	Y	
Tower - 26 S	17.65	23.65	22.33	36.23	42.23	132.03
Block - 11 St	67.95	17.20	30.33	74.43	35.33	85.11
Other Loads	33.85	42.25	30.33	84.03	25.43	17.70

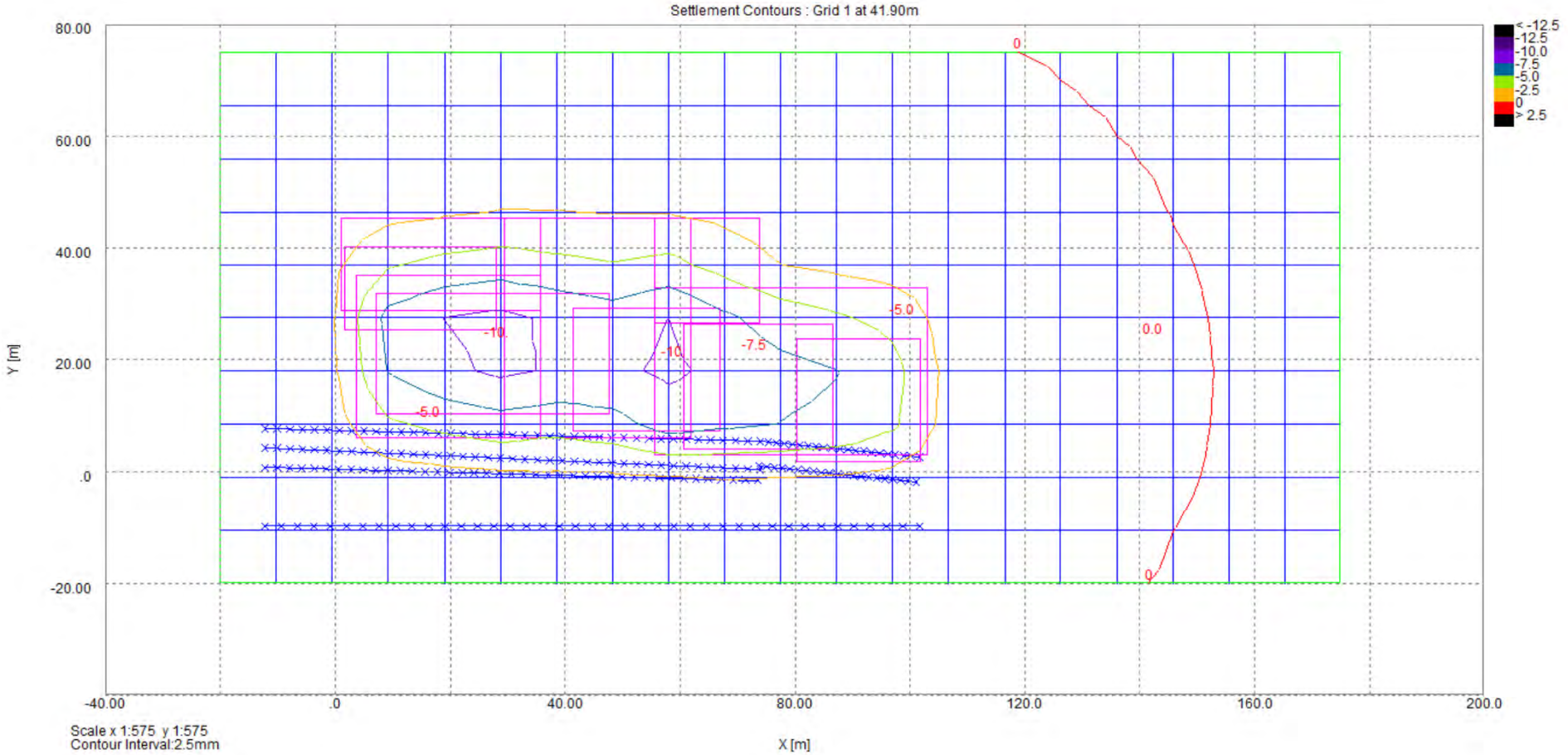
Appendix D – Demolition Phase PDisp Output

Project Title	Swiss Cottage - LU Tunnel Deformation during Demolition
Project Number	47066169 - Swiss Cottage
Project Group	ENR – Ground Engineering

Revision and Verification

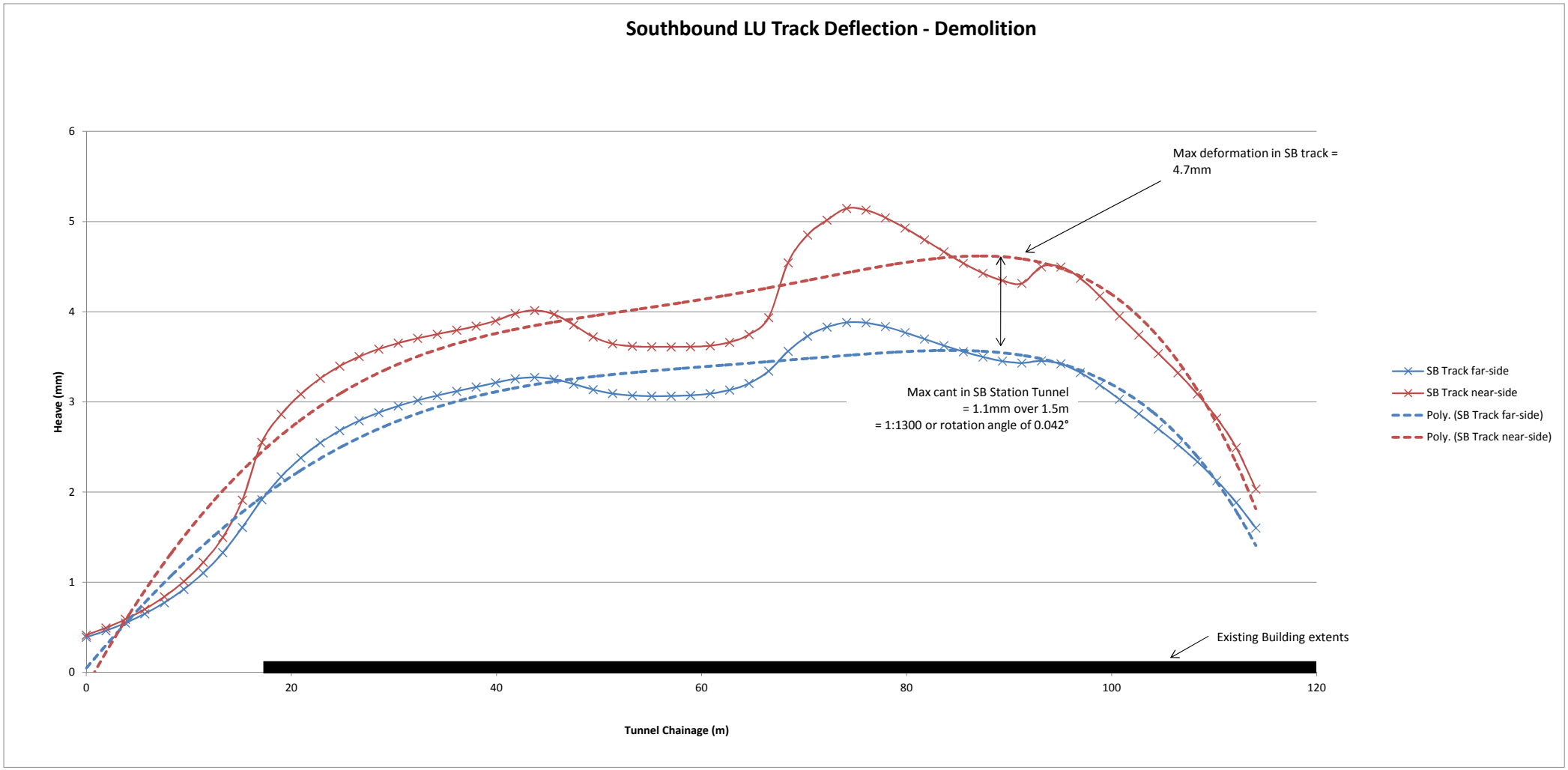
Item	Original	2	3	4	5	6
Date	02/07/14	18/07/14				
Originator	AM	AM				
Checker	-	JC				

Settlement Contours - Demolition Phase

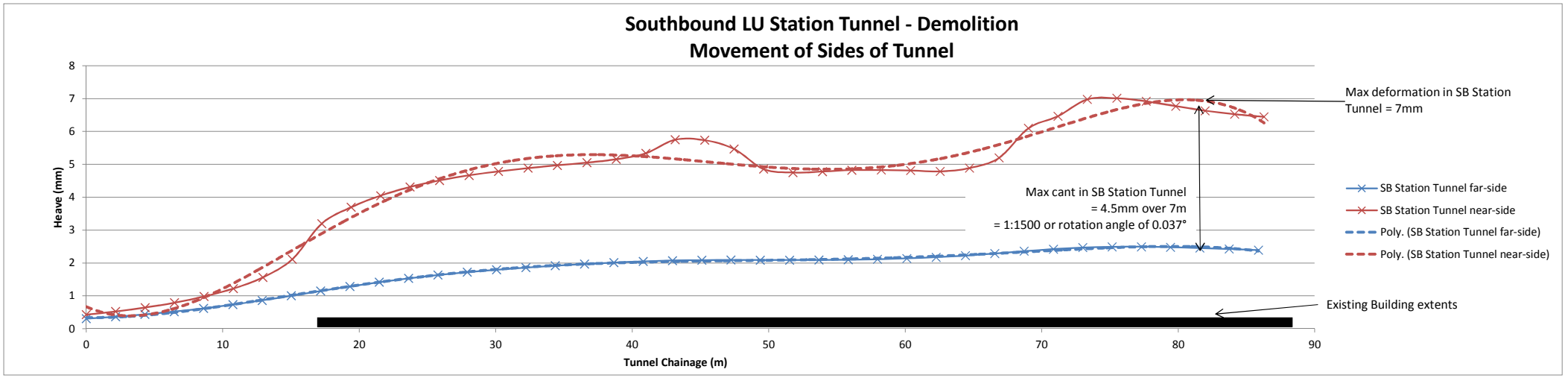


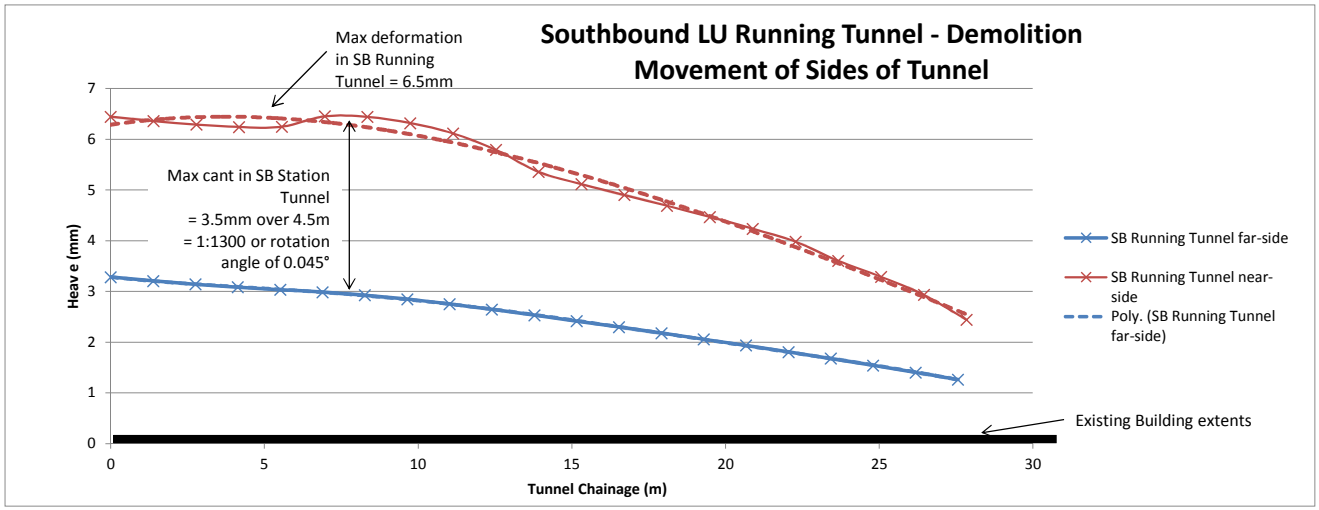
NB Heave is shown as negative settlement in this diagram

Project Title	Swiss Cottage - LU Tunnel Deformation during Demolition					
Project Number	47066169 - Swiss Cottage					
Project Group	ENR – Ground Engineering					
Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	18/07/14				
Originator	AM	AM				
Checker	-	JC				

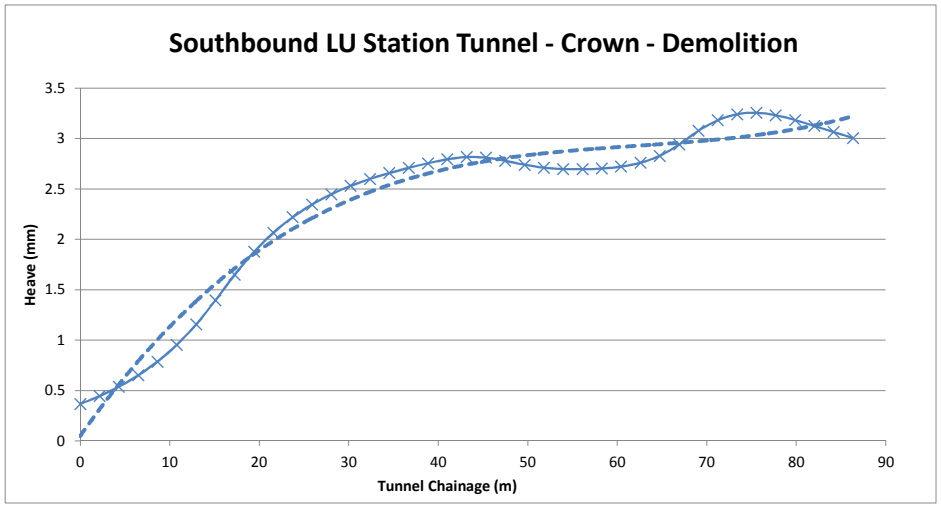


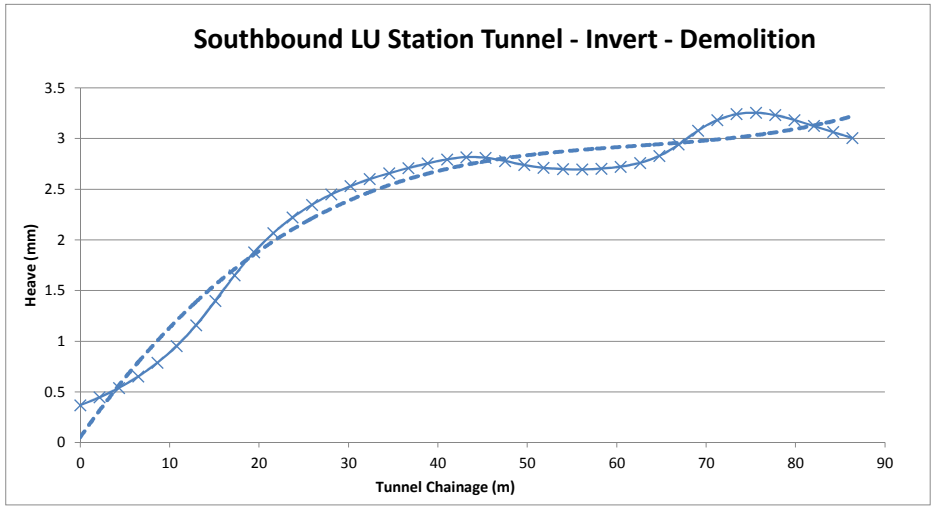
Project Title	Swiss Cottage - LU Tunnel Deformation during Demolition					
Project Number	47066169 - Swiss Cottage					
Project Group	ENR – Ground Engineering					
Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	18/07/14				
Originator	AM	AM				
Checker	-	JC				

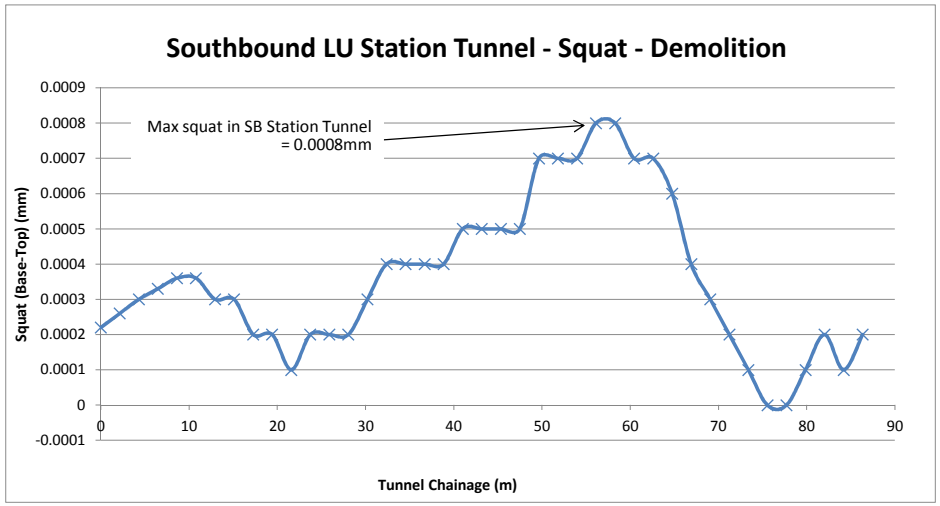




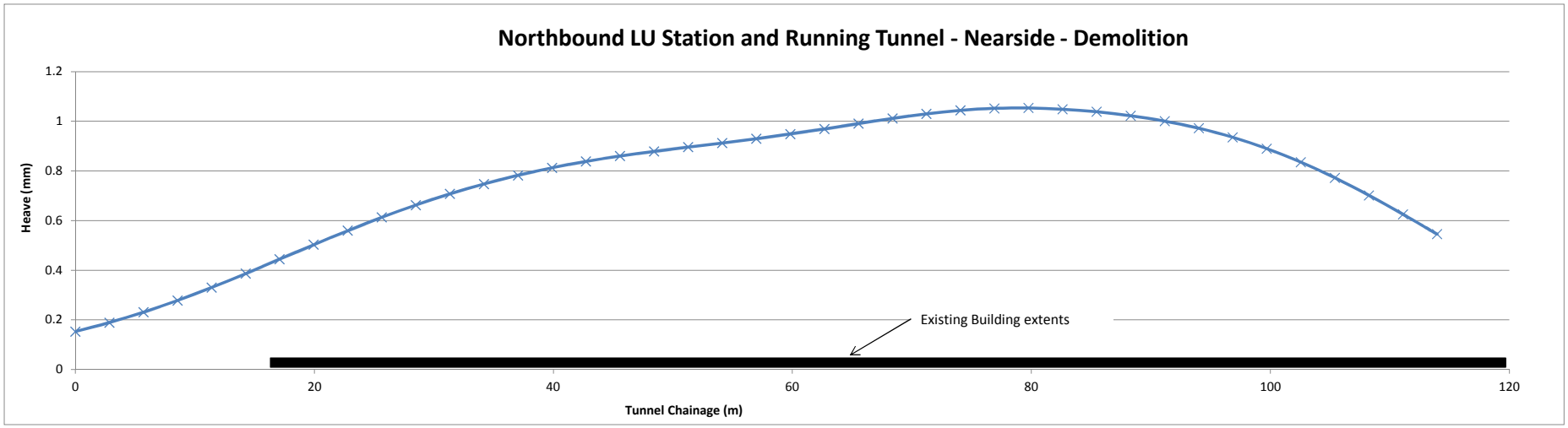
Project Title	Swiss Cottage - LU Tunnel Deformation during Demolition					
Project Number	47066169 - Swiss Cottage					
Project Group	ENR – Ground Engineering					
Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	18/07/14				
Originator	AM	AM				
Checker	-	JC				

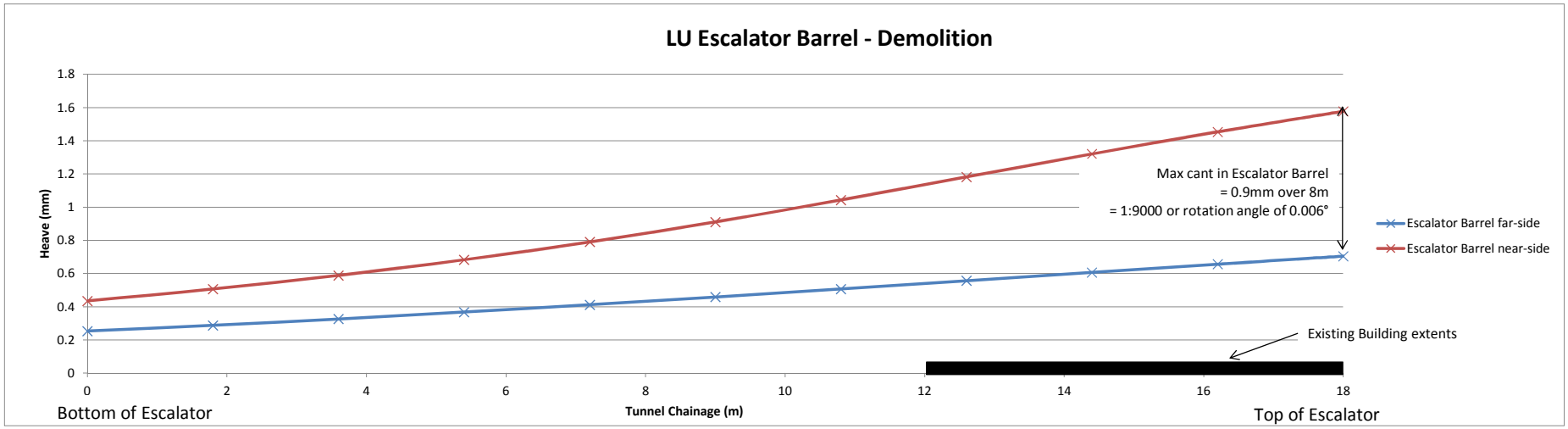






Project Title	Swiss Cottage - LU Tunnel Deformation during Demolition					
Project Number	47066169 - Swiss Cottage					
Project Group	ENR – Ground Engineering					
Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	18/07/14				
Originator	AM	AM				
Checker	-	JC				



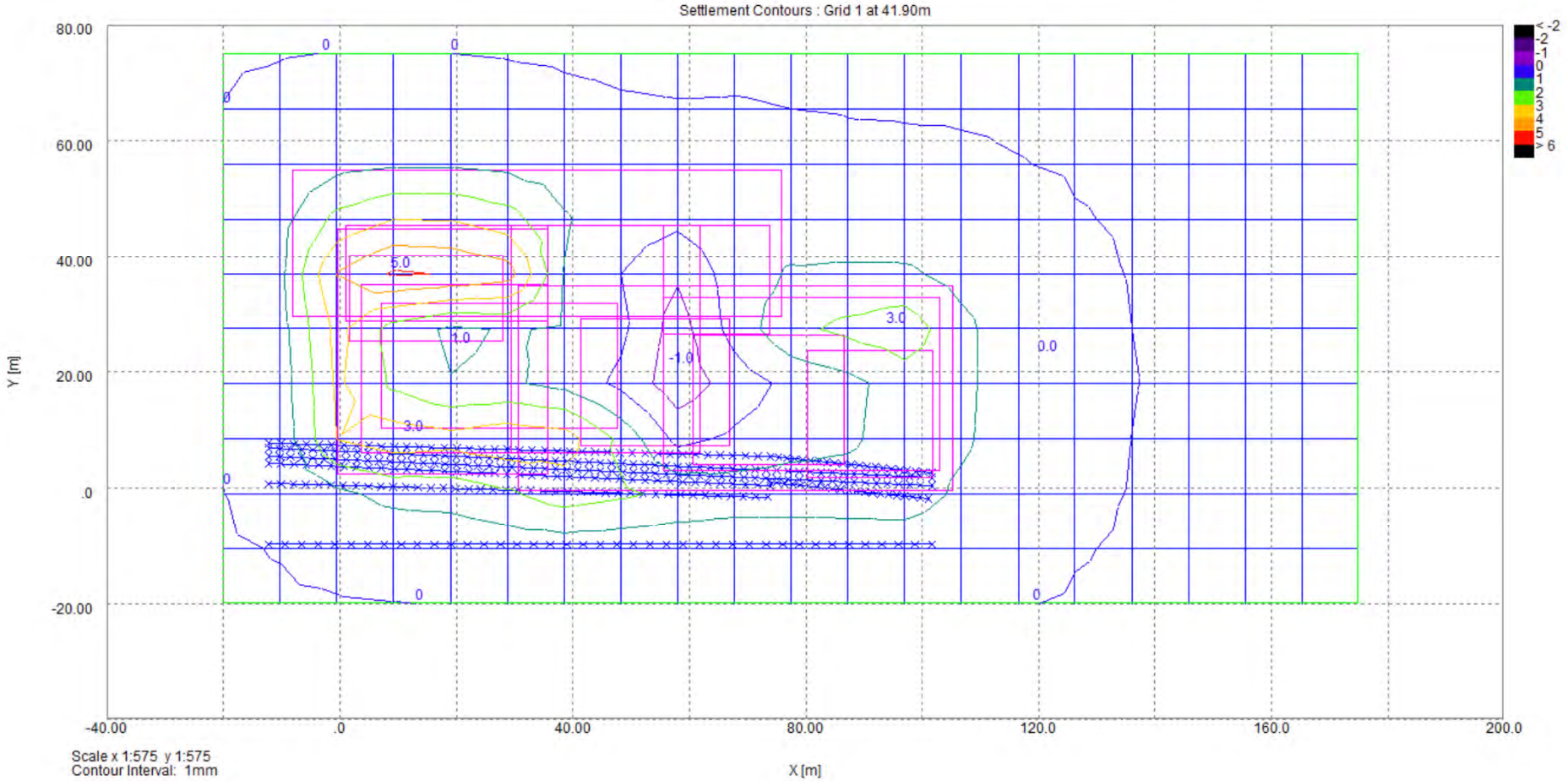


Project Title	Swiss Cottage – 100 Avenue Road				**Client**	Essential Living
Project Number	47066169					
Project Group	ENR – Ground Engineering					
Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	23/07/14				
Originator	AM	AM				
Checker	JC	JC				

Appendix E – Short Term Reload PDisp Outputs

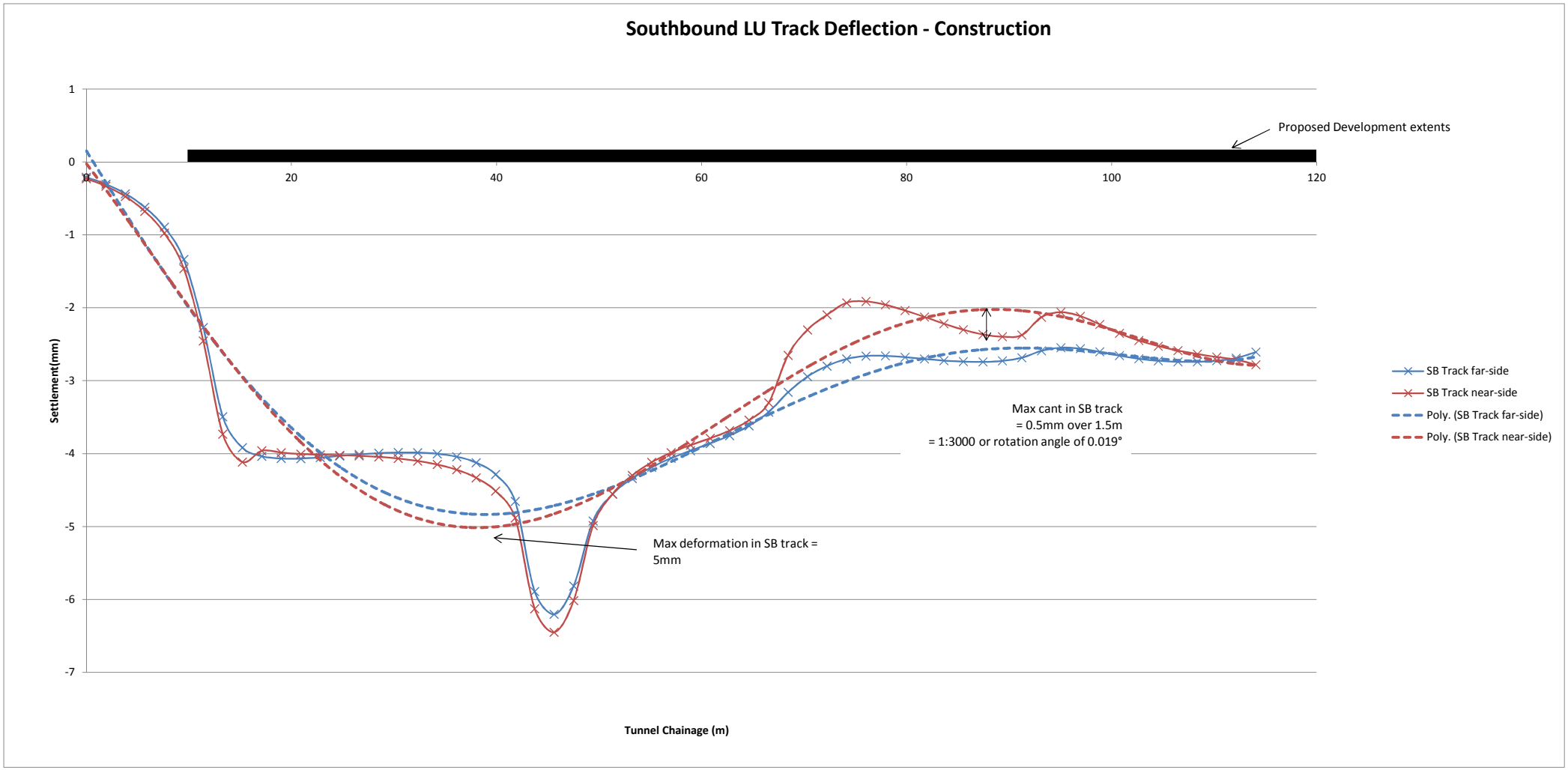
Project Title	Swiss Cottage - LU Tunnel Deformation during Construction					
Project Number	47066169 - Swiss Cottage					
Project Group	ENR – Ground Engineering					
Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	18/07/14				
Originator	AM	AM				
Checker	-	JC				

Settlement Contours - Construction Phase



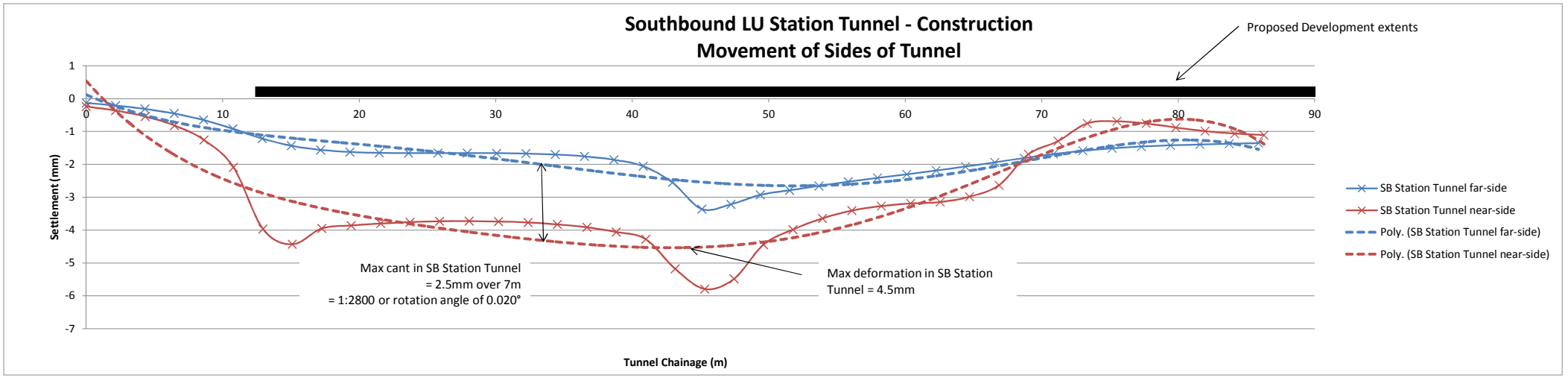
NB Heave is shown as negative settlement in this diagram

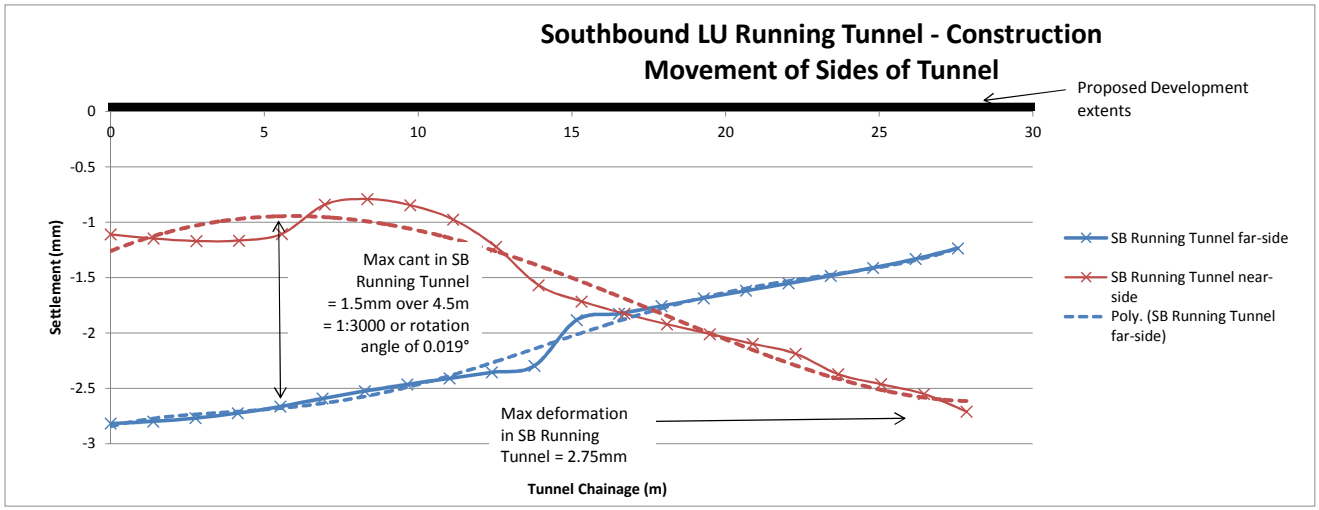
Project Title	Swiss Cottage - LU Tunnel Deformation during Construction					
Project Number	47066169 - Swiss Cottage					
Project Group	ENR – Ground Engineering					
Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	18/07/14				
Originator	AM	AM				
Checker	-	JC				



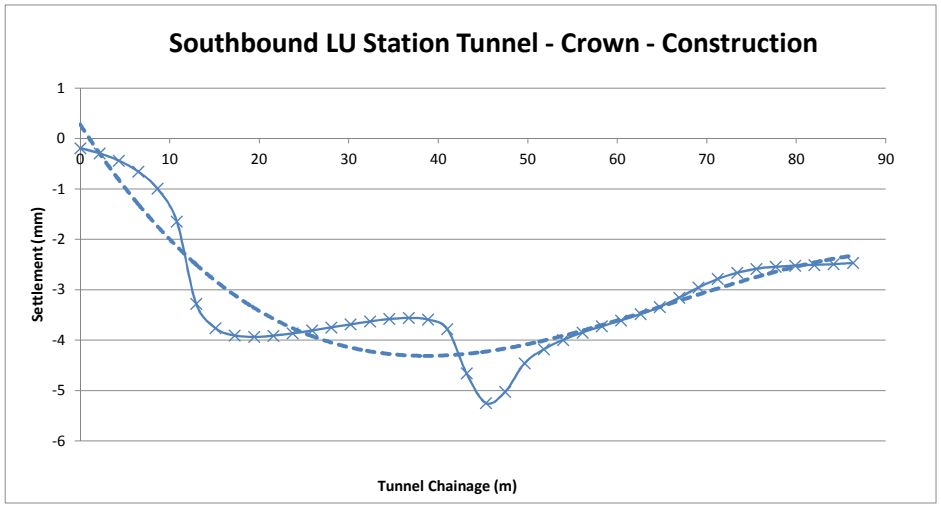
Calculation Sheet: 47066169/URS/Cal-02 Appendix E

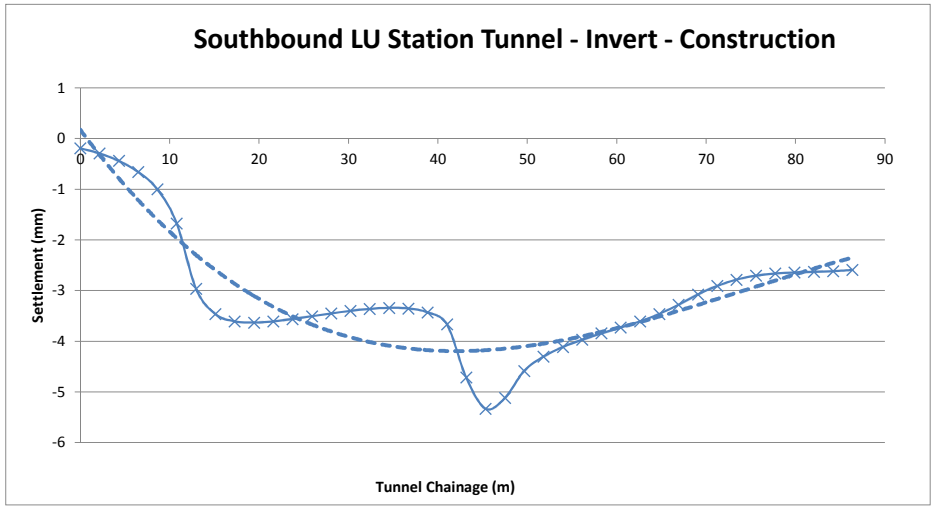
Project Title	Swiss Cottage - LU Tunnel Deformation during Construction					
Project Number	47066169 - Swiss Cottage					
Project Group	ENR – Ground Engineering					
Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	18/07/14				
Originator	AM	AM				
Checker	-	JC				

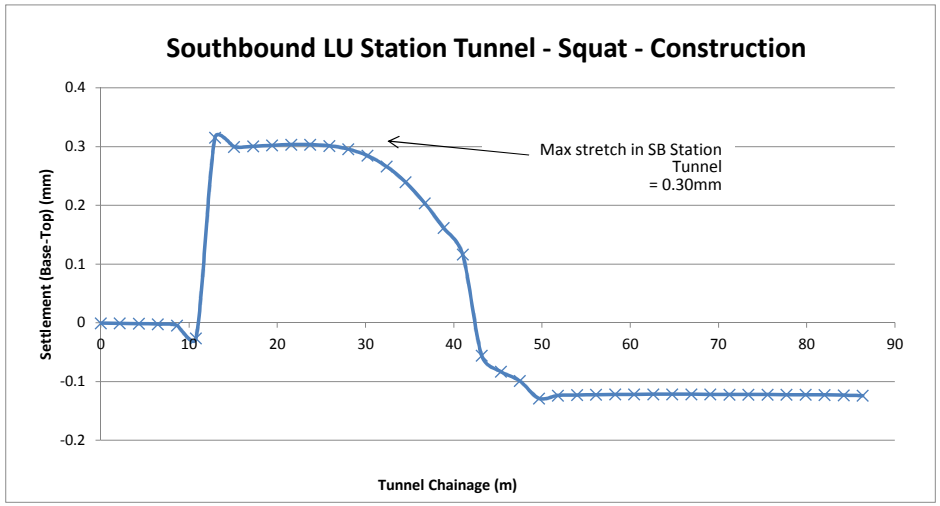




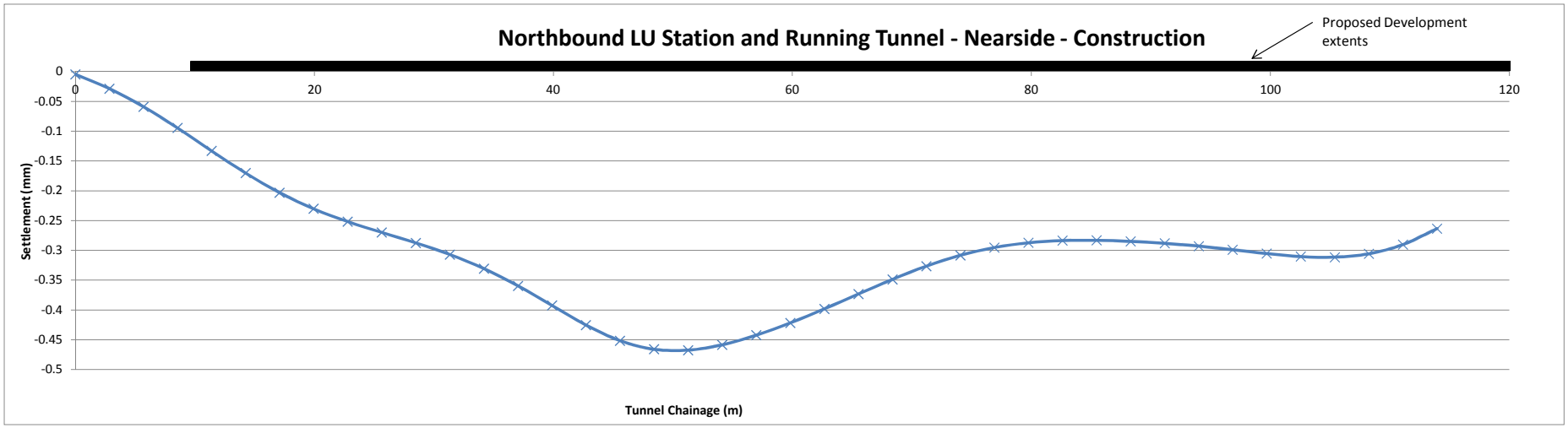
Project Title	Swiss Cottage - LU Tunnel Deformation during Construction					
Project Number	47066169 - Swiss Cottage					
Project Group	ENR – Ground Engineering					
Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	18/07/14				
Originator	AM	AM				
Checker	-	JC				

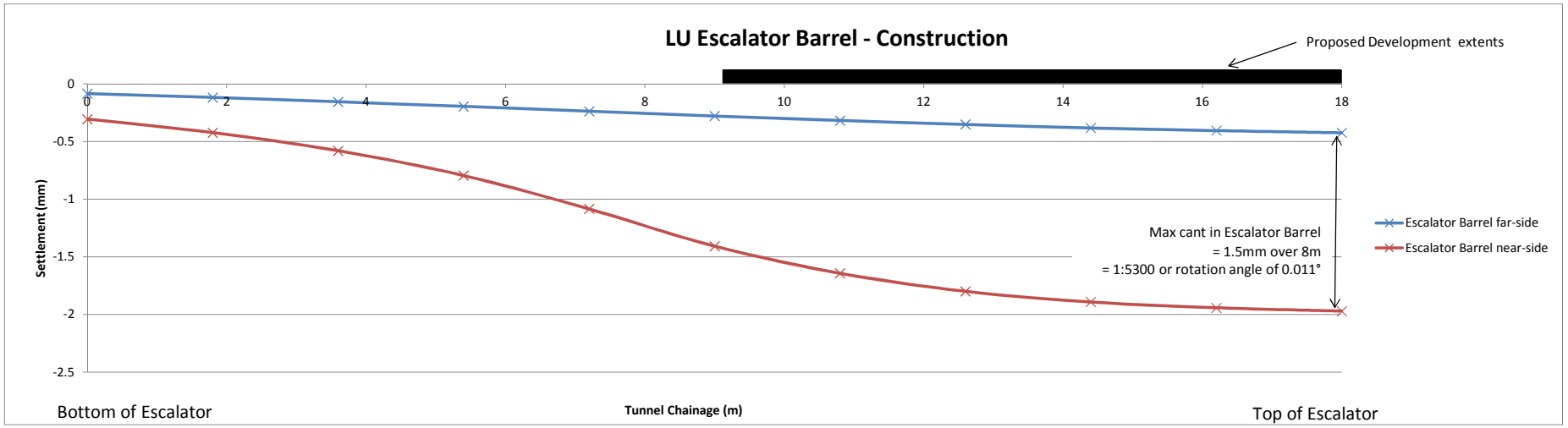






Project Title	Swiss Cottage - LU Tunnel Deformation during Construction					
Project Number	47066169 - Swiss Cottage					
Project Group	ENR – Ground Engineering					
Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	18/07/14				
Originator	AM	AM				
Checker	-	JC				

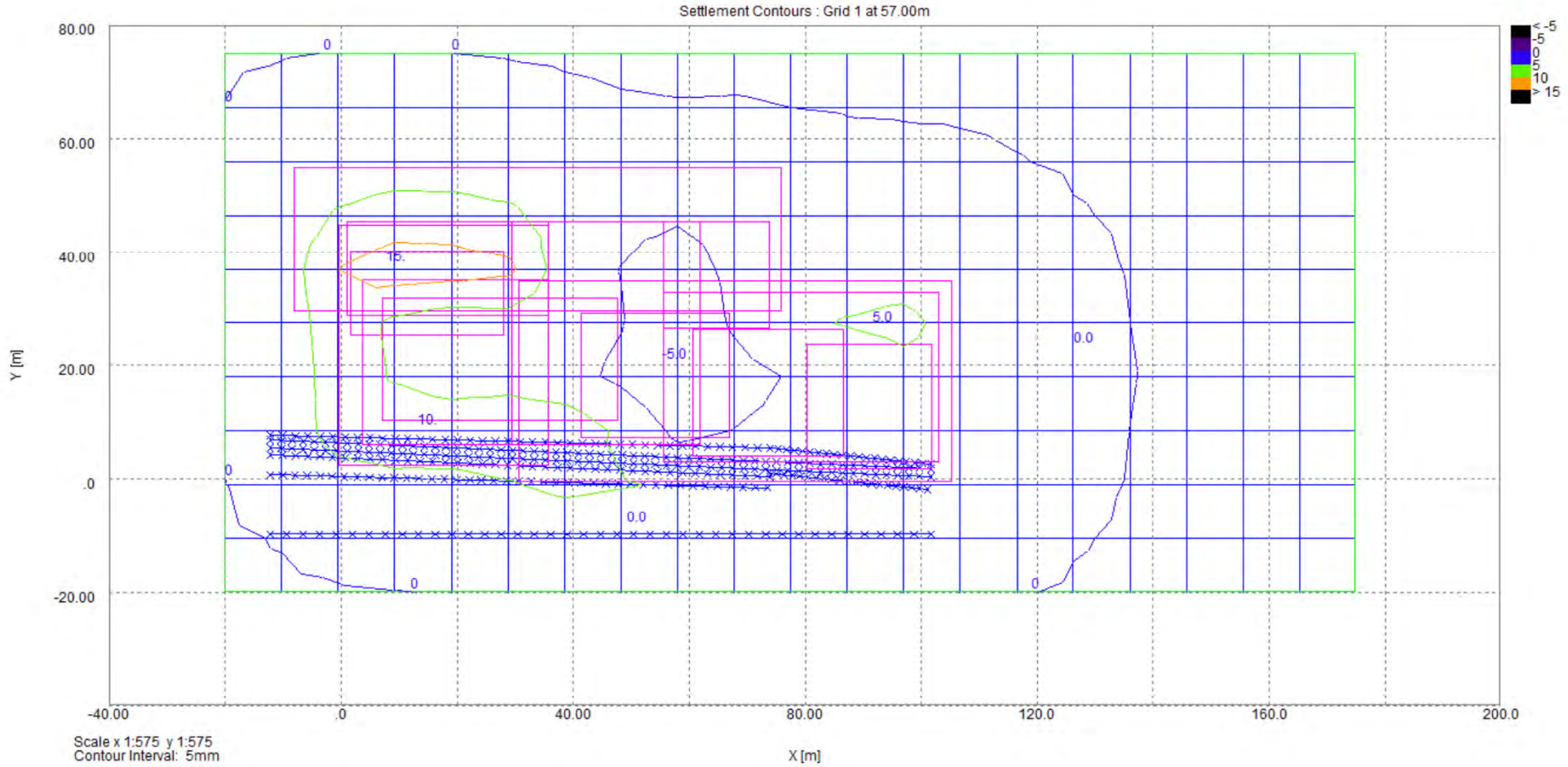




Appendix F – Long Term Reload PDisp Outputs

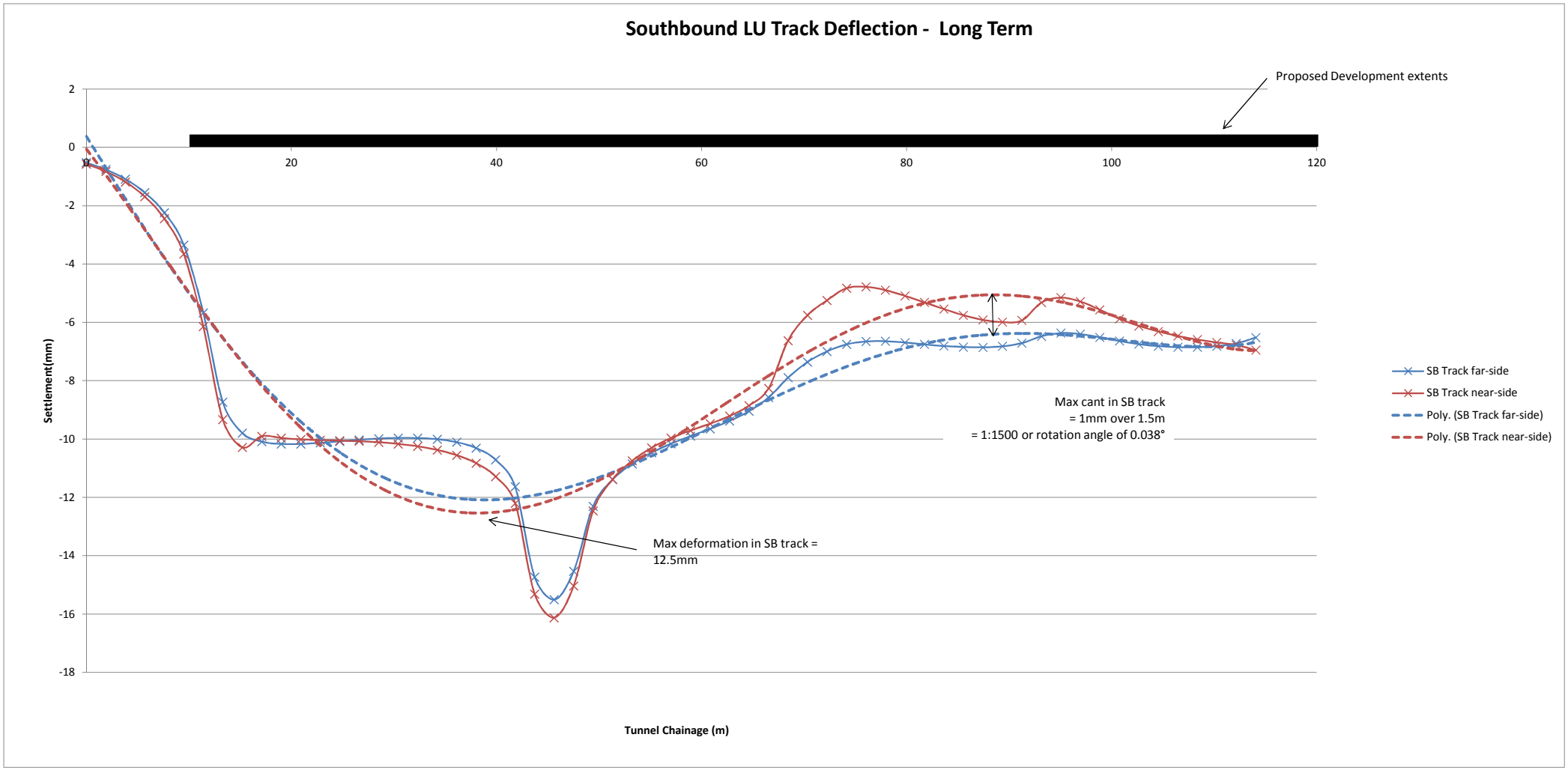
Project Title	Swiss Cottage - LU Tunnel Deformation during Long Term Condition					
Project Number	47066169 - Swiss Cottage					
Project Group	ENR – Ground Engineering					
Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	18/07/14				
Originator	AM	AM				
Checker	-	JC				

Settlement Contours - Long term Phase



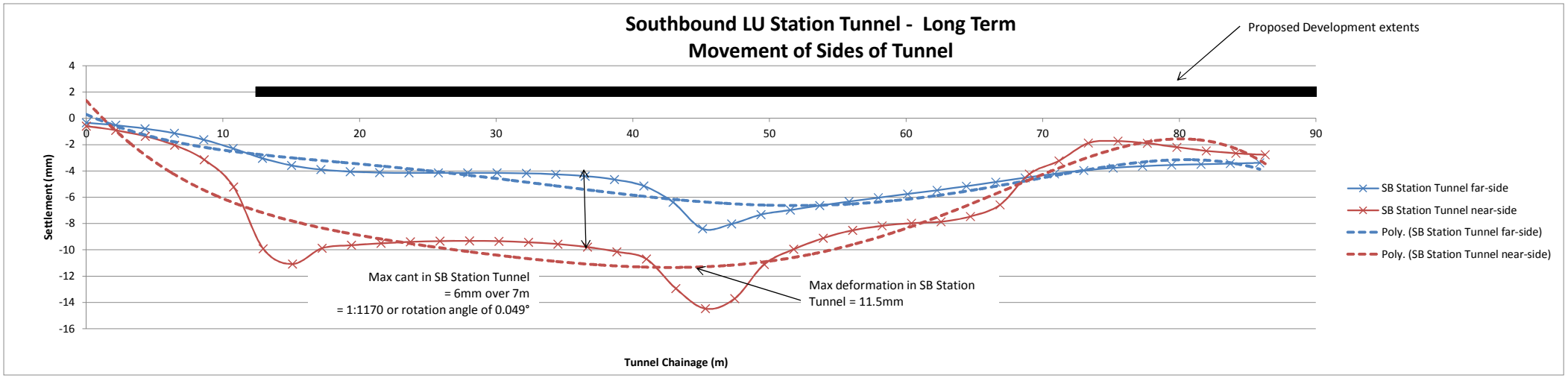
NB Heave is shown as negative settlement in this diagram

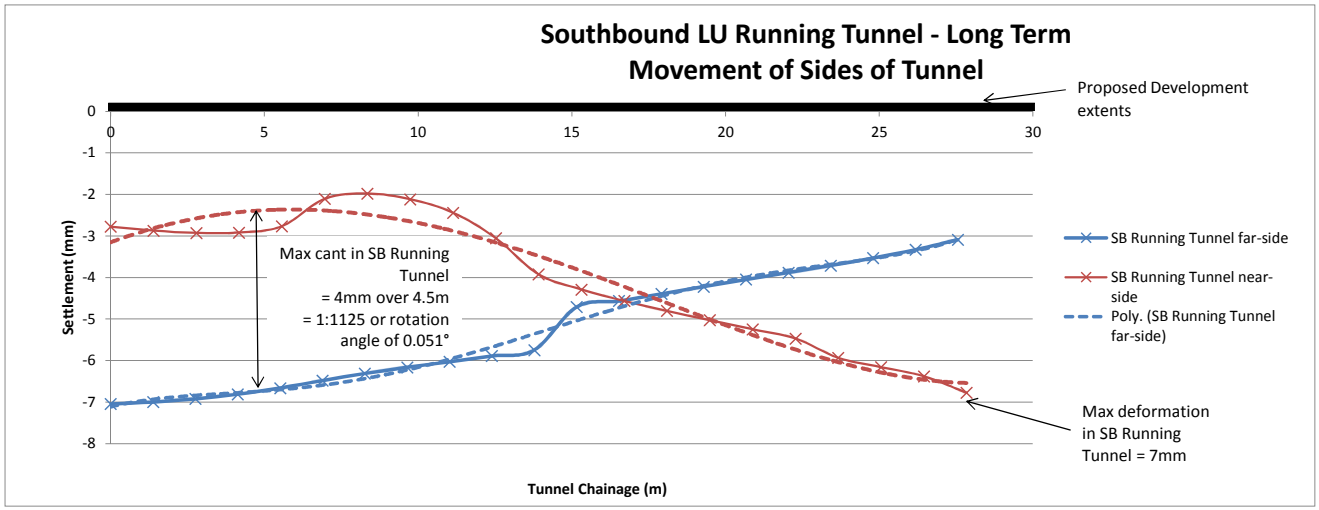
Project Title	Swiss Cottage - LU Tunnel Deformation during Long Term Condition					
Project Number	47066169 - Swiss Cottage					
Project Group	ENR – Ground Engineering					
Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	18/07/14				
Originator	AM	AM				
Checker	-	JC				



Calculation Sheet: 47066169/URS/Cal-02 Appendix F

Project Title	Swiss Cottage - LU Tunnel Deformation during Long Term Condition					
Project Number	47066169 - Swiss Cottage					
Project Group	ENR – Ground Engineering					
Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	18/07/14				
Originator	AM	AM				
Checker	-	JC				



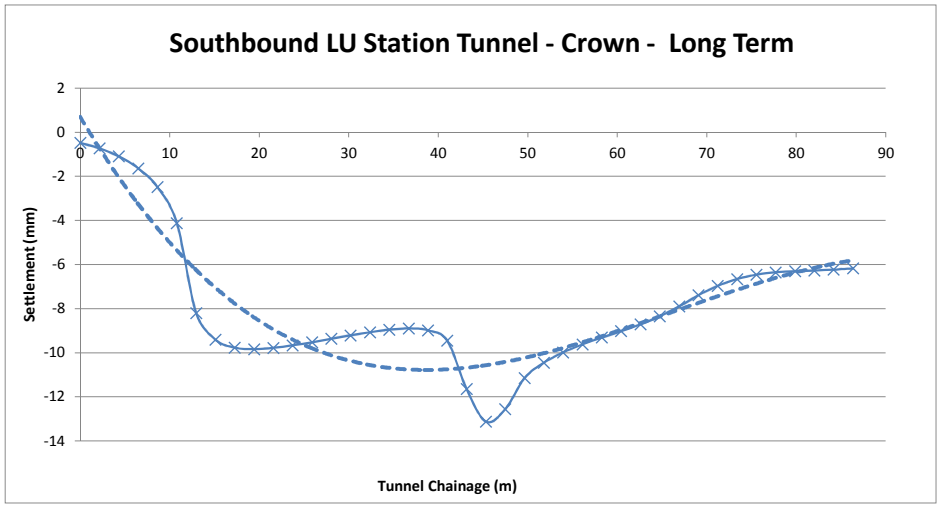


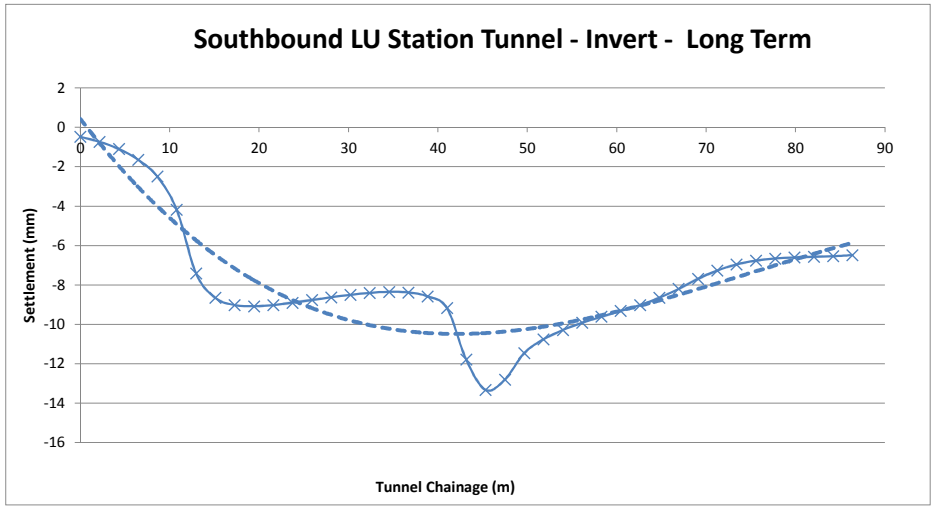
Calculation Sheet: 47066169/URS/Cal-02 Appendix F

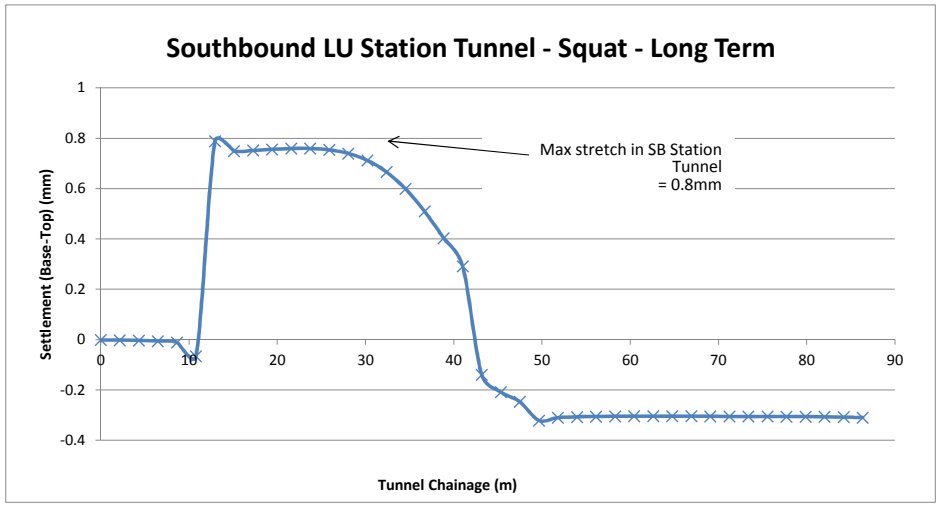
Project Title	Swiss Cottage - LU Tunnel Deformation during Long Term Condition
Project Number	47066169 - Swiss Cottage
Project Group	ENR – Ground Engineering

Revision and Verification

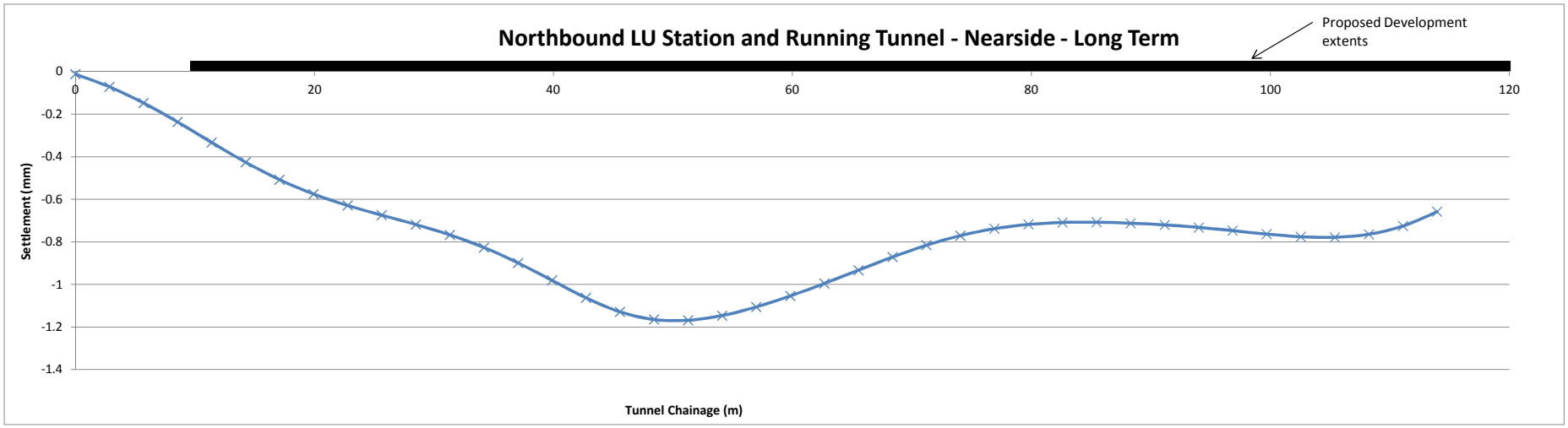
Item	Original	2	3	4	5	6
Date	02/07/14	18/07/14				
Originator	AM	AM				
Checker	-	JC				

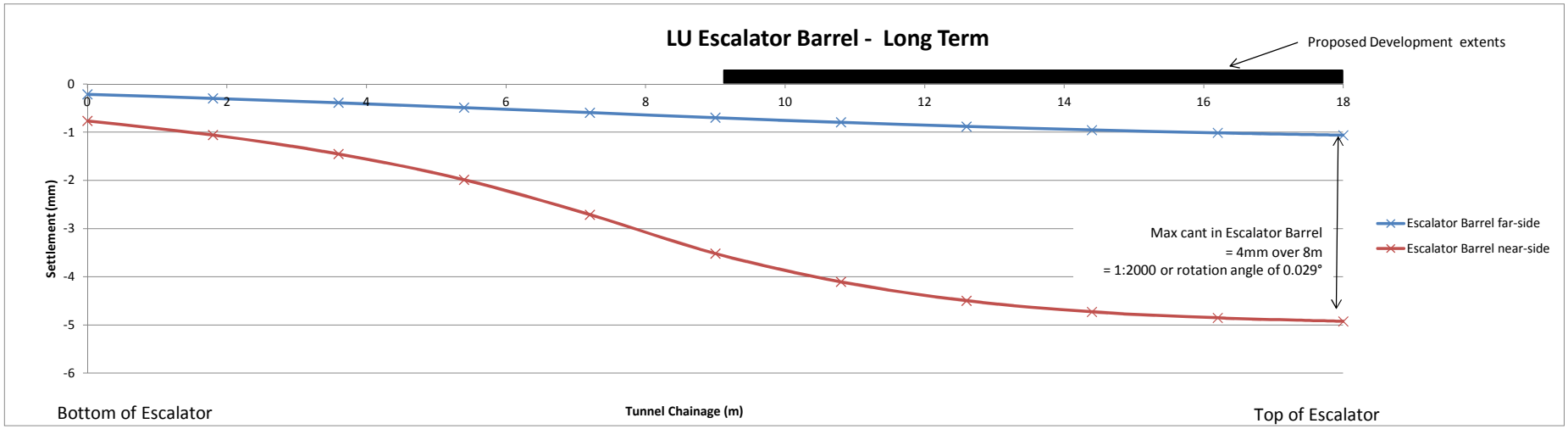






Project Title	Swiss Cottage - LU Tunnel Deformation during Long Term Condition					
Project Number	47066169 - Swiss Cottage					
Project Group	ENR – Ground Engineering					
Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	18/07/14				
Originator	AM	AM				
Checker	-	JC				





From:	Grandison, Andrew
To:	Hunter, Wayne
Subject:	FW: 100 Avenue Road - Impact assessment
Date:	13 July 2016 10:34:26
Attachments:	image002.png App F Results - Long Term Rev 4 grh 20160620.pdf App E Results - Construction Rev 4 grh 20160620.pdf App D Results - Demolition Rev 4 grh 20160620.pdf LORP0016 LUL Survey Tracker 24-6-16.pdf

Please add this email and these graphs to the BACK of appendix C

Andrew Grandison, IEng AMIStructE
Technical Director, Buildings and Places London & Commercial
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M +44-(0)7767-346017
andrew.grandison@aecom.com

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aecom.com

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From: Grandison, Andrew
Sent: 27 June 2016 13:24
To: Brierley Peter
Cc: 'Oller, Jordi (Capita)'; 'Raymond Gonzalez Rios'; 'Olivia Birtwistle'; Hughes, Glenn; Chandegra, Mitesh
Subject: RE: 100 Avenue Road - Impact assessment

Peter,

Thank you for this, we will update the monitoring plan accordingly as requested.

With respect to the points in your email we comment as follows. Since we will be updating this report in any event shortly we have responded to your points below and will incorporate them into the report when next updated:

1. In your ground movement assessment could you overlay the graphs showing the track movement and the tunnel movement so that we can identify differential movement as this effects the clearance for the train. **Please find attached the replotted graphs overlays as requested, they will be incorporated into the report.**
2. Could you also state in the report that the movement in the track over 2m and 5m cords is negligible (i.e. less than 2mm). This appears to be the case from your graphs. **We confirm we consider these movements to be negligible**
3. The track assessment shows that there are some areas that are close to the limit of the track geometry standard so we could not allow any change in the track geometry. **Noted and accepted.**
4. Therefore the monitoring action plan will have an absolute movement (your predicted movement) as the amber trigger, which is relatively simple to measure with the targets you have set up in the tunnels already. Then should you go above this level you will need to do a detailed track survey and compare to the track survey we have already. The red trigger will be set by the track standard. **Noted and accepted.**

Please find attached a copy of our recently updated tracking document for your use and reference.

With respect to the Impact Assessment Report (formally the Conceptual Design Statement) which was reissued to address your comments in May 16, are you now in a position to formally confirm acceptance of this document as this is required to progress other activities?

We would like to convene a meeting with you to generally review progress and upcoming activities, please can you advise of a few dates when you are available. We can host at our office or Essential's all of which are local to you.
John Chandler has now left Aecom for pastures new, it will also be an opportunity for you to meet the member of his department that will be picking up the project.

Andrew Grandison, IEng AMIStructE
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M +44-(0)7767-346017
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aecom.com

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From: Brierley Peter [mailto:PeterBrierley@tfl.gov.uk]
Sent: 22 June 2016 11:48
To: Grandison, Andrew
Cc: 'Oller, Jordi (Capita)'; 'Raymond Gonzalez Rios'; 'Olivia Birtwistle'
Subject: RE: 100 Avenue Road - Impact assessment

Andrew

Please see attached the track assessment report for Swiss Cottage Jubilee line. If you could update the monitoring action plan and the comments on the email below then we can close out the requirements prior to excavation.

Regards

Peter Brierley CEng MICE
Outside Parties Engineer | Infrastructure Protection

London Underground | Albany House Floor 3 | London SW1H 0BD
Email: Peter.Brierley@tube.tfl.gov.uk Mob: 07793948422

Find out more about Infrastructure Protection - https://youtu.be/0hGoJMTBOEg

From: Brierley Peter
Sent: 08 June 2016 14:49
To: 'Grandison, Andrew'
Cc: 'Oller, Jordi (Capita)'; 'Raymond Gonzalez Rios'; Olivia Birtwistle
Subject: 100 Avenue Road - Impact assessment

Andrew

I reviewed the detailed track assessment and monitoring action plan with the track engineers yesterday. Points from the meeting:

1. In your ground movement assessment could you overlay the graphs showing the track movement and the tunnel movement so that we can identify differential movement as this effects the clearance for the train.
2. Could you also state in the report that the movement in the track over 2m and 5m cords is negligible (i.e. less than 2mm). This appears to be the case from your graphs.
3. The track assessment shows that there are some areas that are close to the limit of the track geometry standard so we could not allow any change in the track geometry.
4. Therefore the monitoring action plan will have an absolute movement (your predicted movement) as the amber trigger, which is relatively simple to measure with the targets you have set up in the tunnels already. Then should you go above this level you will need to do a detailed track survey and compare to the track survey we have already. The red trigger will be set by the track standard.

If you could make the changes to your report. Then we'll finalise the track assessment and the monitoring action plan.

Regards

Peter Brierley CEng MICE | Outside Parties Engineer - Infrastructure Protection
London Underground | Capital Programmes Directorate, 3rd Floor | Albany House | 55 Broadway | London | SW1H 0BD
✉: Peter.Brierley@tube.tfl.gov.uk | ☎: 07793948422

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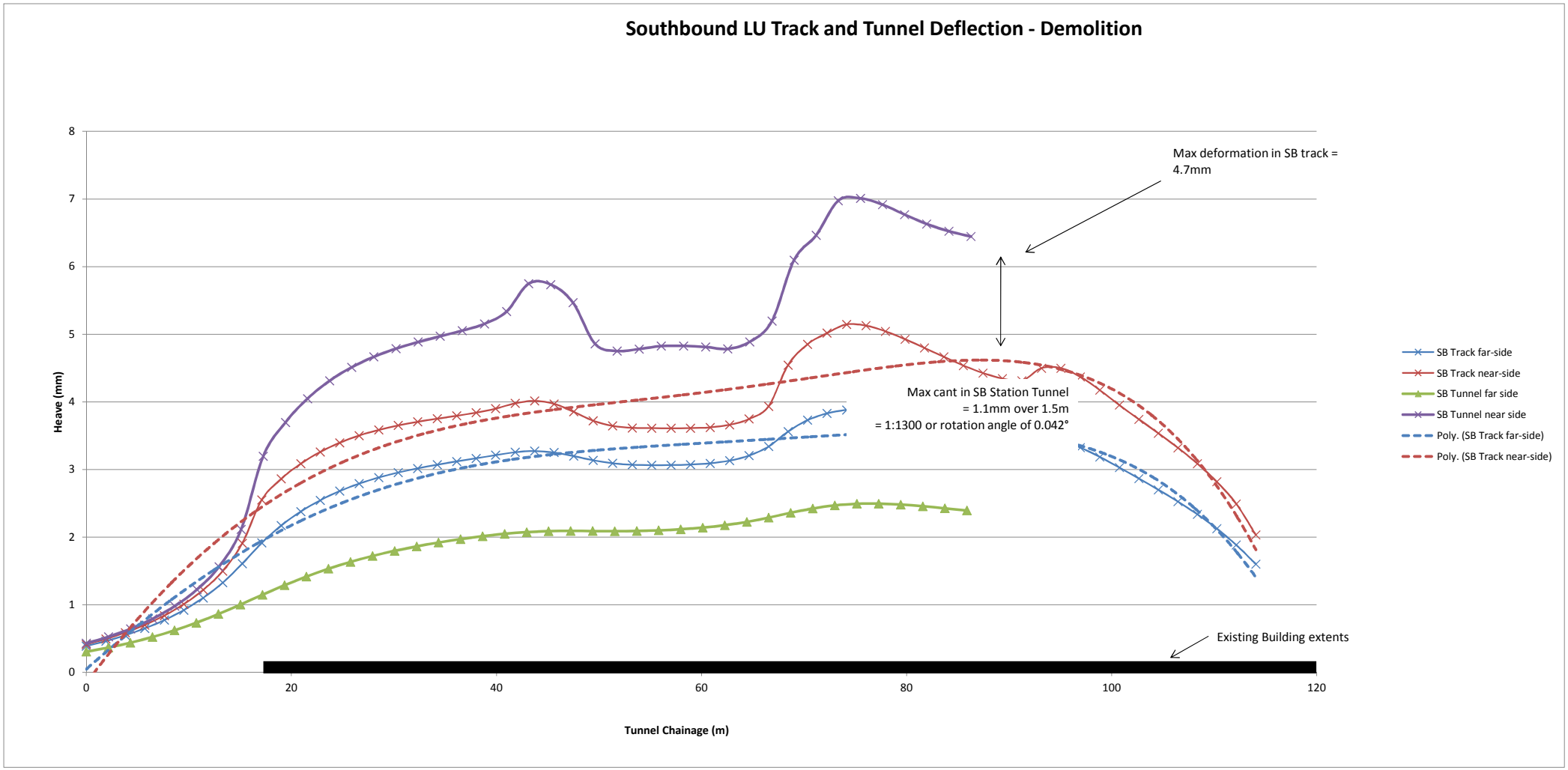
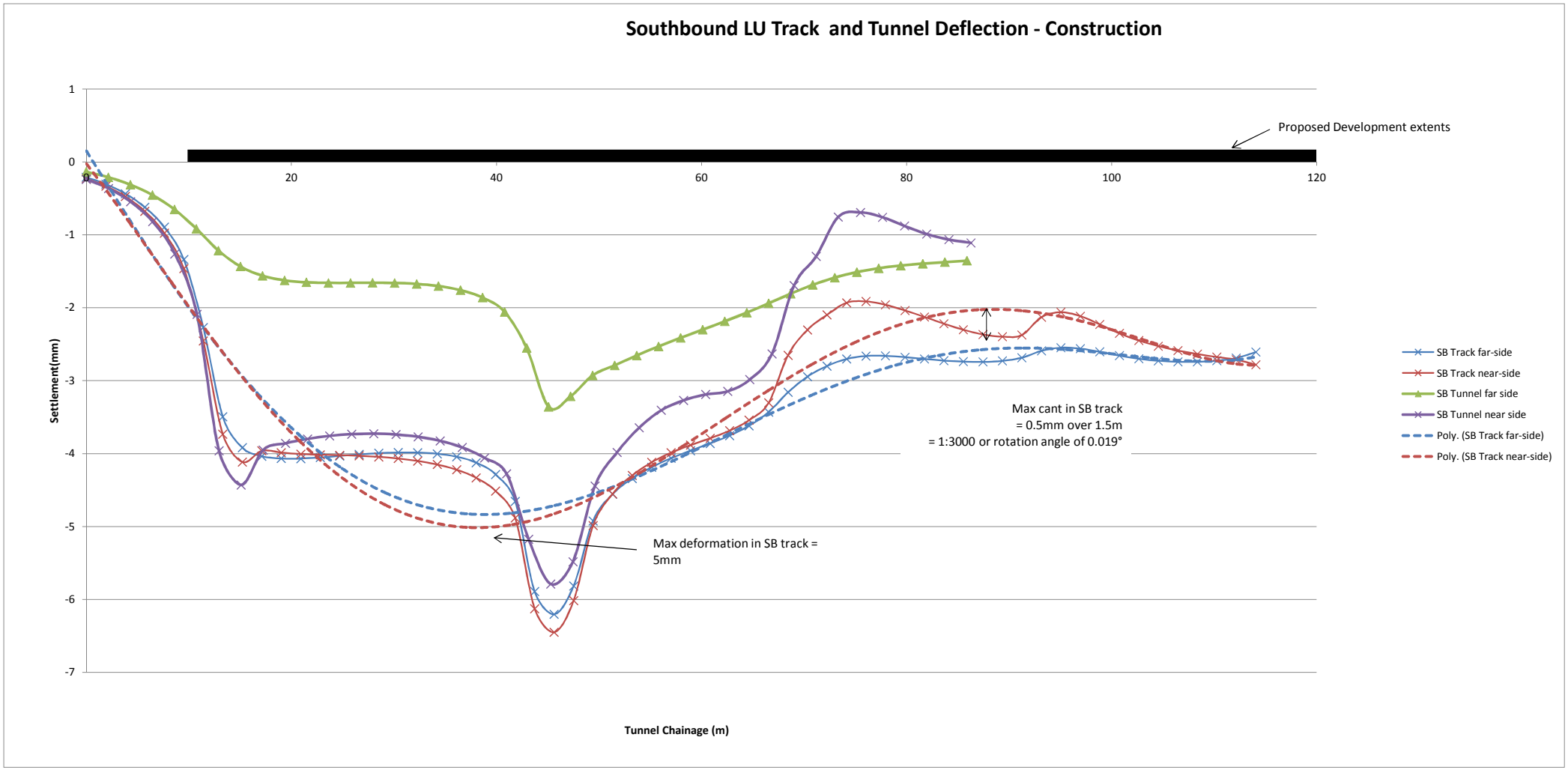
Project Title	Swiss Cottage - LU Tunnel Deformation during Demolition					
Project Number	47066169 - Swiss Cottage					
Project Group	ENR – Ground Engineering					
Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	18/07/14	19/08/14	21/06/16		
Originator	AM	AM	AM	GH		
Checker	-	JC	JC			

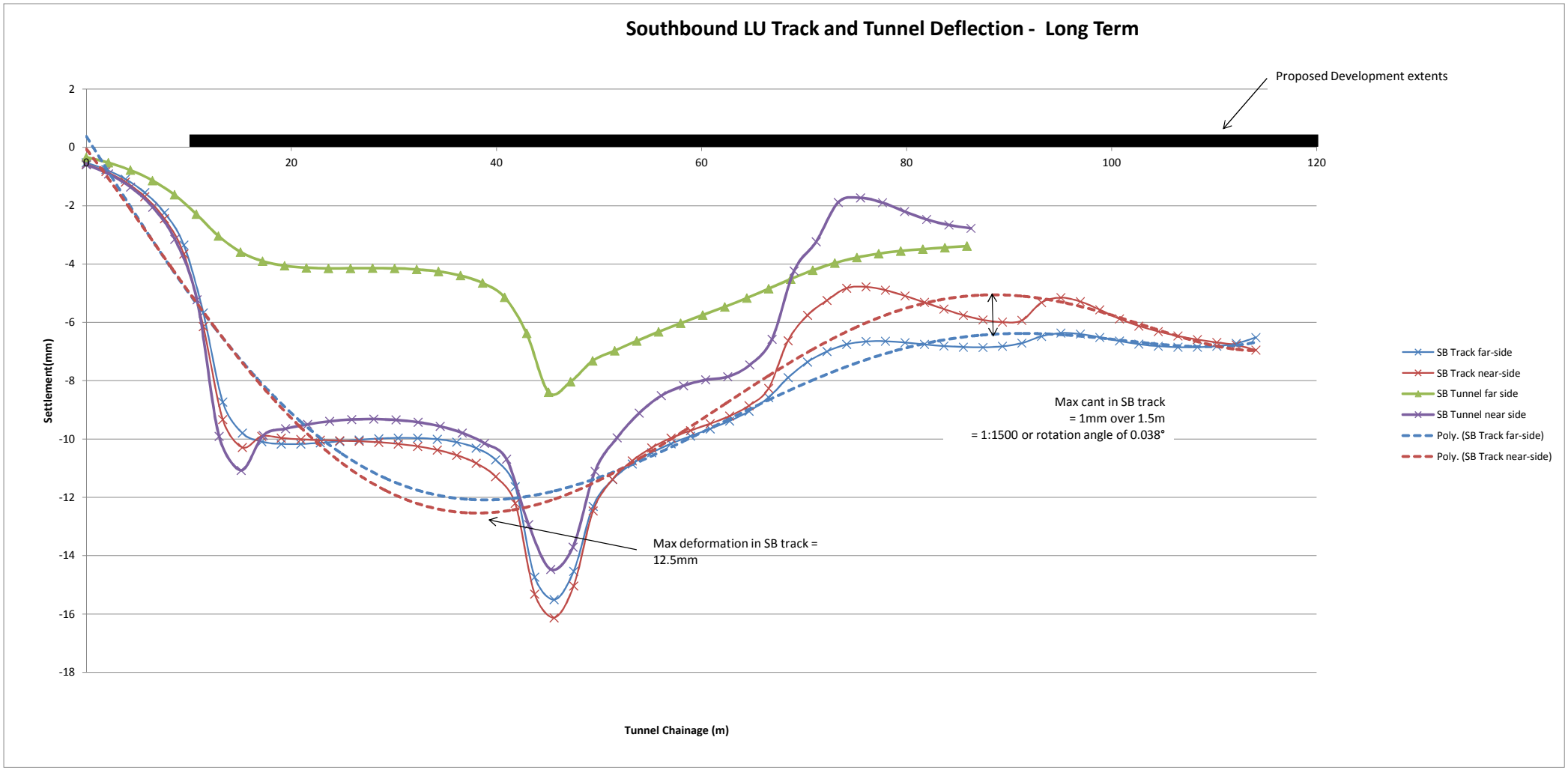


Calculation Sheet: 47066169/URS/Cal-02 Appendix E

Project Title	Swiss Cottage - LU Tunnel Deformation during Construction					
Project Number	47066169 - Swiss Cottage					
Project Group	ENR – Ground Engineering					
Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	18/07/14	19/08/14	21/06/16		
Originator	AM	AM	AM	GH		
Checker	-	JC	JC			



Project Title	Swiss Cottage - LU Tunnel Deformation during Long Term Condition					
Project Number	47066169 - Swiss Cottage					
Project Group	ENR – Ground Engineering					
Revision and Verification						
Item	Original	2	3	4	5	6
Date	02/07/14	18/07/14	19/08/14	21/06/16		
Originator	AM	AM	AM	GH		
Checker	-	JC	JC			



APPENDIX D LUL APPROVED IN PRINCIPAL "LETTER OF NO OBJECTION"

Transport for London
London Underground

Albany House
Petty France
London
SW1H 0BD

Activity No 1813694

4th July 2016

Andrew Grandison
Technical Director
Aecom
St George's House
5 St George's Road
Wimbledon
SW19 4DR

Dear Andrew,

LETTER OF ACCEPTANCE TO 100 AVENUE ROAD IMPACT ASSESSMENT ON SWISS COTTAGE UNDERGROUND STATION

Based on the following Documents and Appendices:

Impact assessment for interface with LUL – 100 Avenue Road, Swiss Cottage *Issue 5, 20th May 2016*

Based on the information provided London Underground has no objection to your proposed development of 100 Avenue Road, Swiss Cottage. This notification of no objection does not constitute acceptance of liability by London Underground for any accident, incident or breach of stature that may arise from the design and method adopted.

Please note the comments below:

- A monitoring action plan must be in place throughout the works.
- The project is to provide regular updates on the works and any changes to the programme.
- London Underground withholds the right to object to any design or method of work which we believe may have a detrimental impact upon LUL infrastructure or operation. Aecom and your client Essential Living should continue to consult with London Underground on a regular basis to determine what activities may have an impact on LUL infrastructure such that we can agree a method of working that is acceptable to both parties.
- London Underground Infrastructure Protection inspectors will monitor the works, plant and methods of working as detailed in any agreed Method Statements, in order to ensure the protection of LUL infrastructure and operations.
- You are reminded that the responsibility for the health, safety and environmental aspects of the works on site rests fully and unreservedly with

yourself and designated contractors. This letter of acceptance to the works detailed in the documents listed above does not absolve you from that responsibility, nor does it confirm or suggest that you have met statutory requirements.

Any subsequent variation to designs or methods of construction must be accepted by London Underground. Any such variations shall be formally recorded and signed by both parties.

I trust the above is clear and understood. Should there be any queries or you require further clarification or information do not hesitate to contact the undersigned.

Yours sincerely,

P Brierley

Peter Brierley
Infrastructure Protection Engineer
Direct line 07793 948422
Email Peter.Brierley@tube.tfl.gov.uk

London Underground Limited
trading as London Underground
whose registered office is
55 Broadway
London SW1H 0BD

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Company number 1900907

VAT number 238 7244 46

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APPENDIX E COPIES OF THE LUL COSULTATION EMAILS/LETTERS

From:	Johnstone-Cella Wendy
To:	Chantler, John; "Middleton-Smith, Klaus (Capita) (Klaus.Middleton-Smith@capita.co.uk)"
Cc:	Grandison, Andrew; Brierley Peter (TLL)
Subject:	RE: 100 Avenue Road Swiss Cottage
Date:	15 September 2014 14:21:20
Attachments:	image001.jpg 1P3569-B112-1813694-5 - no further comment on assessment report.docx

John,

Please find attached letter of conditional acceptance of the assessment report.

A signed copy is in the post.

Regards

Wendy

Wendy Johnstone-Cella| Outside Parties Engineer - Infrastructure Protection, Capital Programmes Directorate
London Underground | Infrastructure Protection, 3rd Floor, South Wing, Albany House, 55 Broadway, London SW1H 0BD
Tel: 020 7027 2889 | Fax: 020 7027 3725 | Mobile: 07740 812 903 | Email:wendy.johnstone-cella@tube.tfl.gov.uk

http://source.tfl/images/LU_Tube_2_420.jpg

From: Johnstone-Cella Wendy
Sent: 01 September 2014 16:26
To: 'Chantler, John'; Middleton-Smith, Klaus (Capita) (Klaus.Middleton-Smith@capita.co.uk)
Cc: Grandison, Andrew
Subject: RE: 100 Avenue Road Swiss Cottage

John,

Thank you for issuing the revised document for review.

I am happy that the majority of my comments of 14/08/14 have been addressed satisfactorily.

However, some comments have not been addressed, see below, however, I am happy for them to be addressed separately within an email exchange.

16. Please provide a table of results to show movement in mm for each activity and cumulative movement in mm of each activity.
17. Please provide a section referring to monitoring of LU assets.
18. Has the impact of temporary works been taken into consideration.

On receipt of a response to the above and if everything is in order, then the next step would next to

issue conditional acceptance of the assessment report. Condition of acceptance is for the assessment to be reviewed in light of the track survey analysis. In parallel, I will obtain current escalator inspection reports to verify the condition of the escalator.

Regards

Wendy

From: Chantler, John [mailto:John.Chantler@urs.com]
Sent: 19 August 2014 18:18
To: Johnstone-Cella Wendy; Middleton-Smith, Klaus (Capita) (Klaus.Middleton-Smith@capita.co.uk)
Cc: Grandison, Andrew
Subject: 100 Avenue Road Swiss Cottage

Wendy,

Please find attached the revised assessment calculations which reflect your comments of the 14th of Aug.

Yours,

John.

John Chantler M.A., M.I.C.E., CEng
Technical Director
URS Infrastructure & Environment UK Limited
6-8 Greencoat Place, London, SW1P 1PL

T +44 (0)20 7821 4327 (Internal 747 4327)
M +44 (0)7764 475187
E john.chantler@urs.com
W www.urs.com

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