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0 1000 2000 3000 4000 5000mm
SCALE 1: 100 AT A1

FITZROY CLOSE

FITZROY PARK

FITZROY PARK

[S/3000] 1

[S/3000] 2

[S/3001] 3

[S/3001] 4

[S/5000-5010]

[S/3105] F

[S/3100] A

[S/3100] B

[S/3100] C

[S/3100] D

[S/3104] E

[S/3106] G

[S/3200] H

[S/3201] J

BH1

BH1A

BH2

BH2A

BH3

BH3A

BH4

BH4A

BH5A

BH6A

BH7A

BH8A

BH9A

P = +82.40
E = +82.40

P = +80.34
E = +81.18

P = +80.34
E = +81.16

P = +80.34
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P = +80.34
E = +81.04

P = +84.60
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E = +82.39

P = +83.70
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P = +83.70
E = +82.25

P = +83.70
E = +82.46

P = +83.70
E = +82.33

P = +83.70
E = +82.50

APPROXIMATE 18m FROM EDGE OF POND

APPROXIMATE EDGE OF POND

BASE OF LAKE 79.300
WATER LEVEL VARIES 79.450 TO 80.050

NEW PATH TO ARCHITECTS DETAILS

EXISTING DWELLING

POTENTIAL FILTER DRAIN (SEMI-PERFERATED PIPE AT BASE OF TRENCH)

PREVIOUS CONSENTED SCHEME (NOTE; NEARER TO EXISTING ROAD)

SITE BOUNDARY

EDGE OF EXISTING ROAD

EXISTING RETAINING WALL TO BE RETAINED

NEW RETAINING WALL INBOUND OF EXISTING WALL

APPROXIMATE EXISTING CONTOURS SHOWN

PROPOSED LANDSCAPING SHOWN

WORK IN PROGRESS 31.01.17

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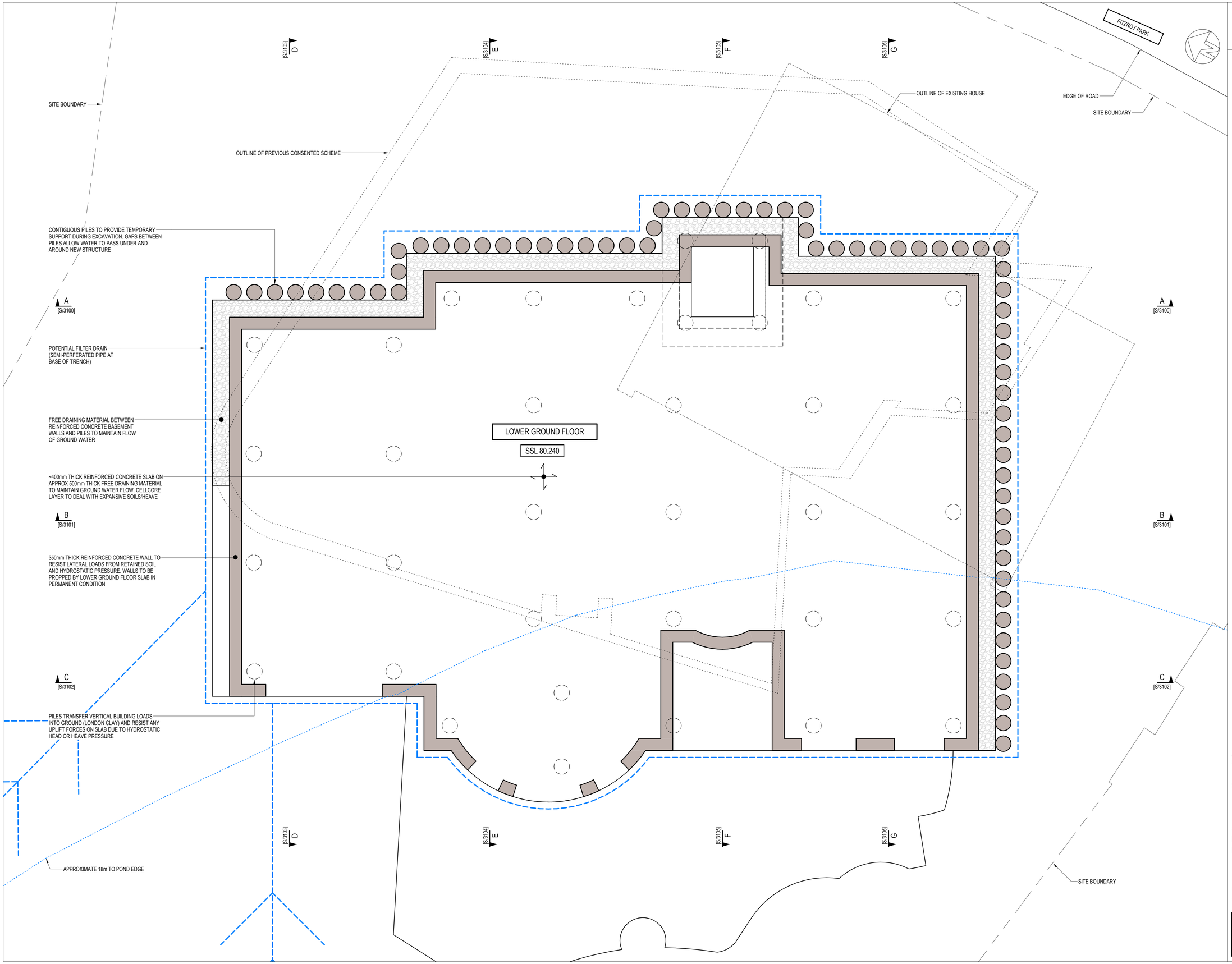
project
53 Fitzroy Park

drawing title
Proposed Site Plan

scale (s)	date	drawn
1:100@A1; 1:200@A3	Oct 2014	BMC

project no.			drawing status.		
2160751			Preliminary		
originator.	zone.	level.	role.	drg no.	revision
EW	00	EXT	S	0100	-



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SCALE 1:50 AT A1

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WORK IN PROGRESS 06.02.17

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project

53 Fitzroy Park

drawing title

Proposed Lower Ground Floor Plan

scale (s)	date	drawn
1:50@A1; 1:100@A3	Oct 2014	BMC

project no.			drawing status.		
2160751			Preliminary		
originator.	zone.	level.	role.	drg no.	revision
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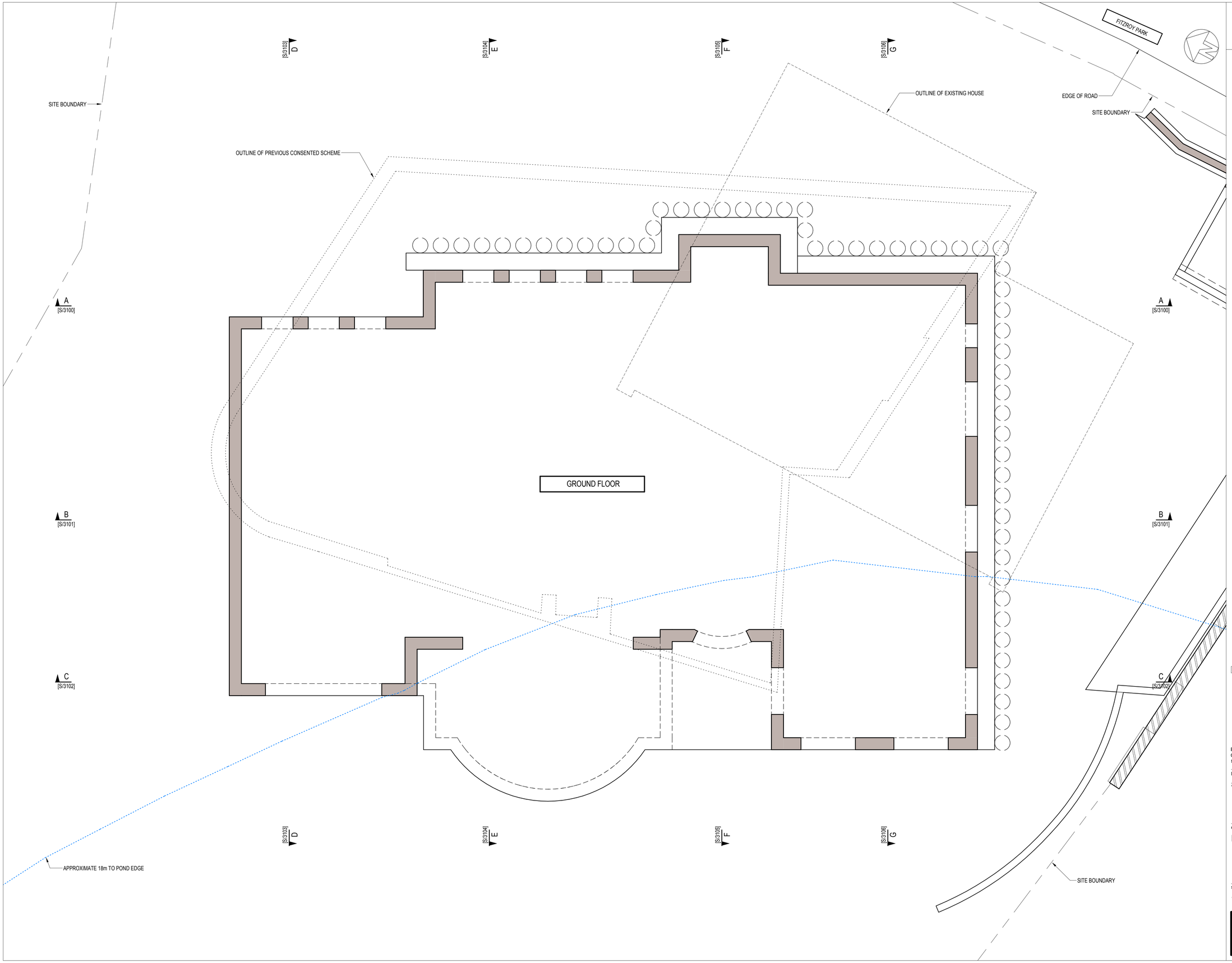

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project

53 Fitzroy Park

drawing title

Proposed Ground Floor Plan

scale (s)	date	drawn
1:50@A1; 1:100@A3	Oct 2014	BMC

project no.			drawing status.		
2160751			Preliminary		
originator.	zone.	level.	role.	drg no.	revision
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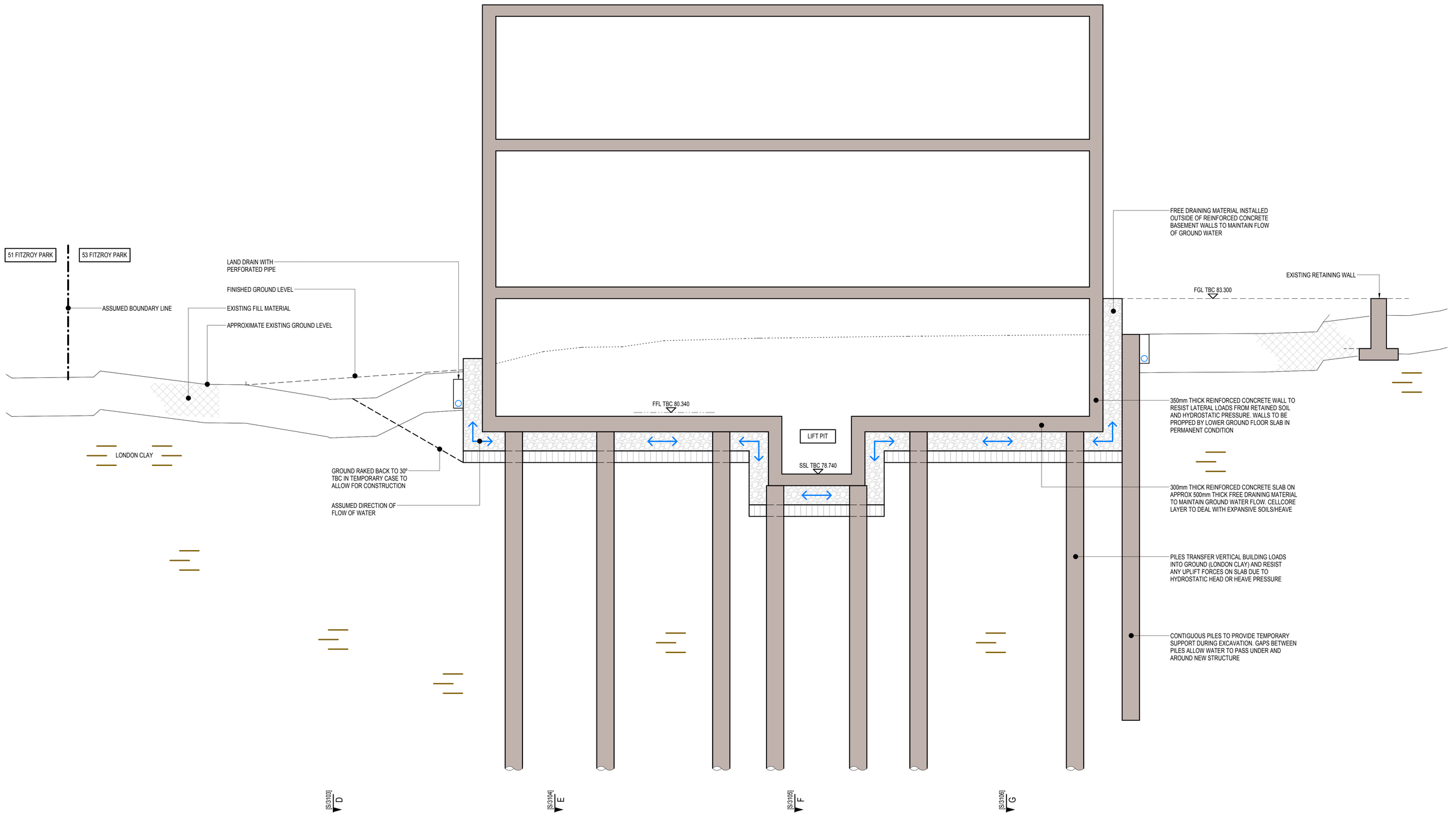
[S3104] E
[S3105] F
[S3106] G



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WORK IN PROGRESS 06.02.17

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rev	date	by	chk	description

drawing title
Building Sections A-A

scale (s)	date	drawn
1:50@A1; 1:100@A3	Oct 2014	BMC

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project no.			drawing status.		
2160751			Preliminary		
originator.	zone.	level.	role.	drg no.	revision
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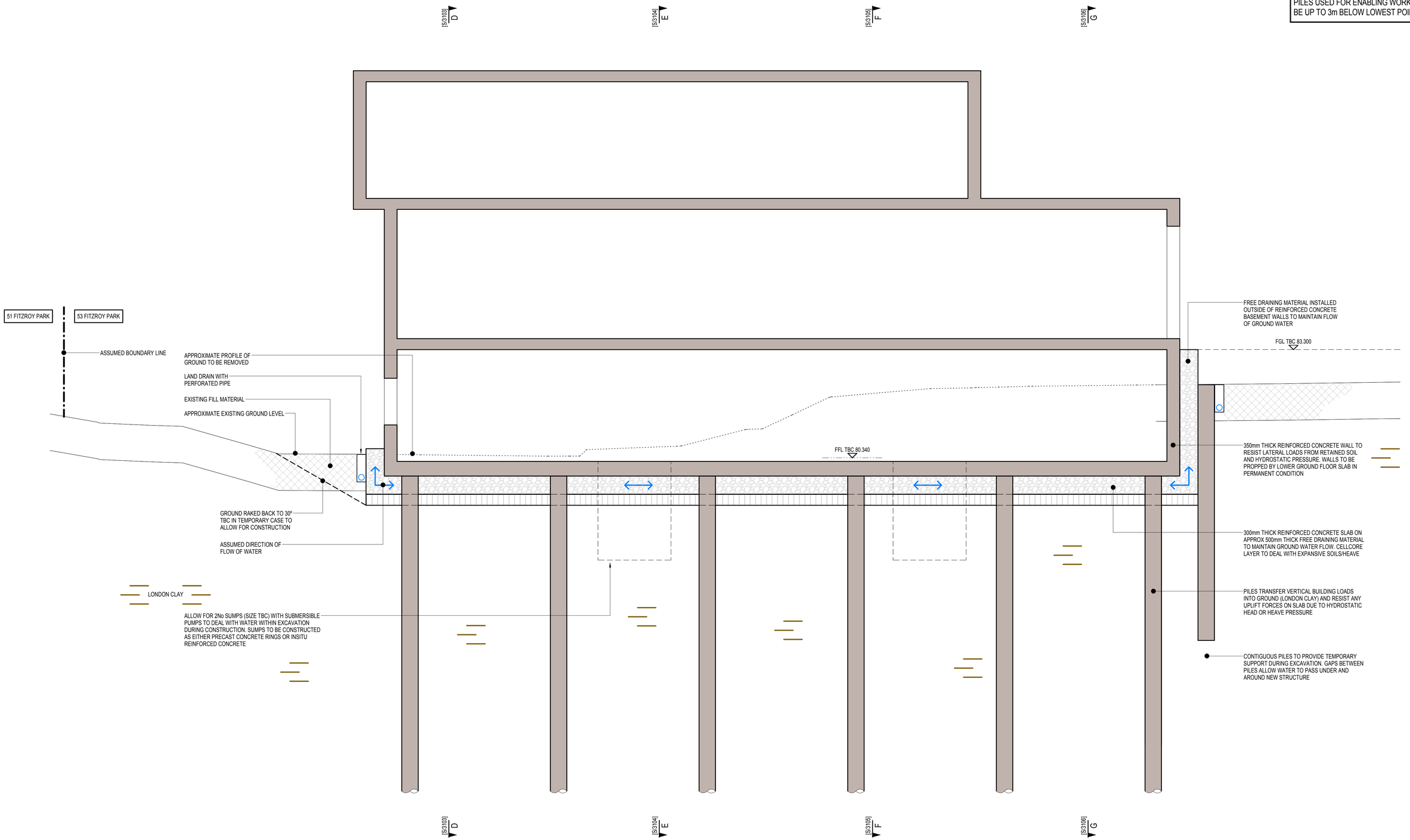

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WORK IN PROGRESS 06.02.17

NOT FOR CONSTRUCTION

rev	date	by	chk	description

drawing title
Building Sections B-B

scale (s)	date	drawn
1:50@A1; 1:100@A3	Oct 2014	BMC

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project
53 Fitzroy Park

project no.				drawing status.	
2160751				Preliminary	
originator.	zone.	level.	role.	drg no.	revision
EW	00	SEC	S	3101	-

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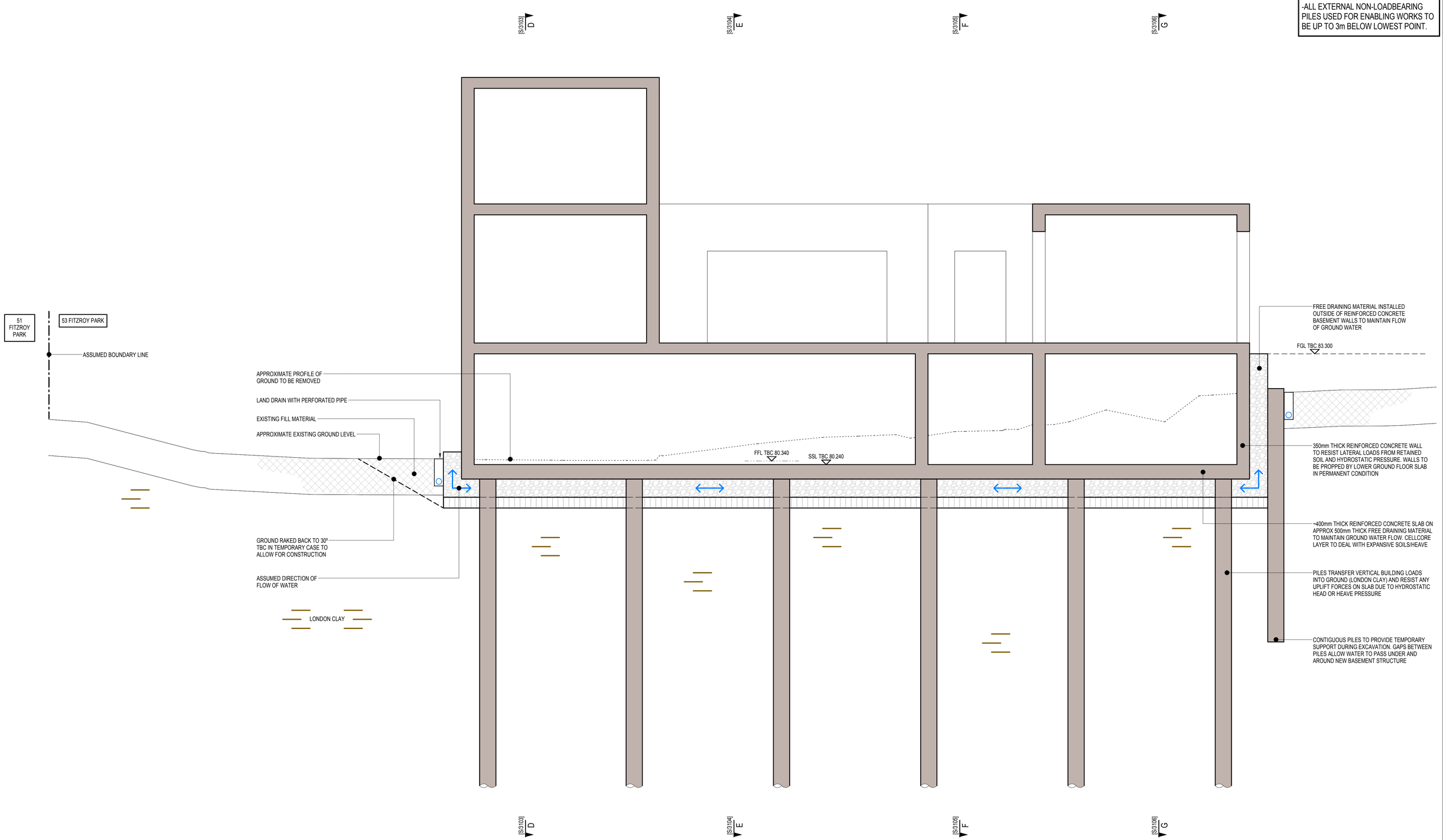

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rev	date	by	chk	description

drawing title
Building Sections C-C

scale (s)	date	drawn
1:50@A1; 1:100@A3	Oct 2014	BMC

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project no.			drawing status.		
2160751			Preliminary		
originator.	zone.	level.	role.	drg no.	revision
EW	00	SEC	S	3102	-

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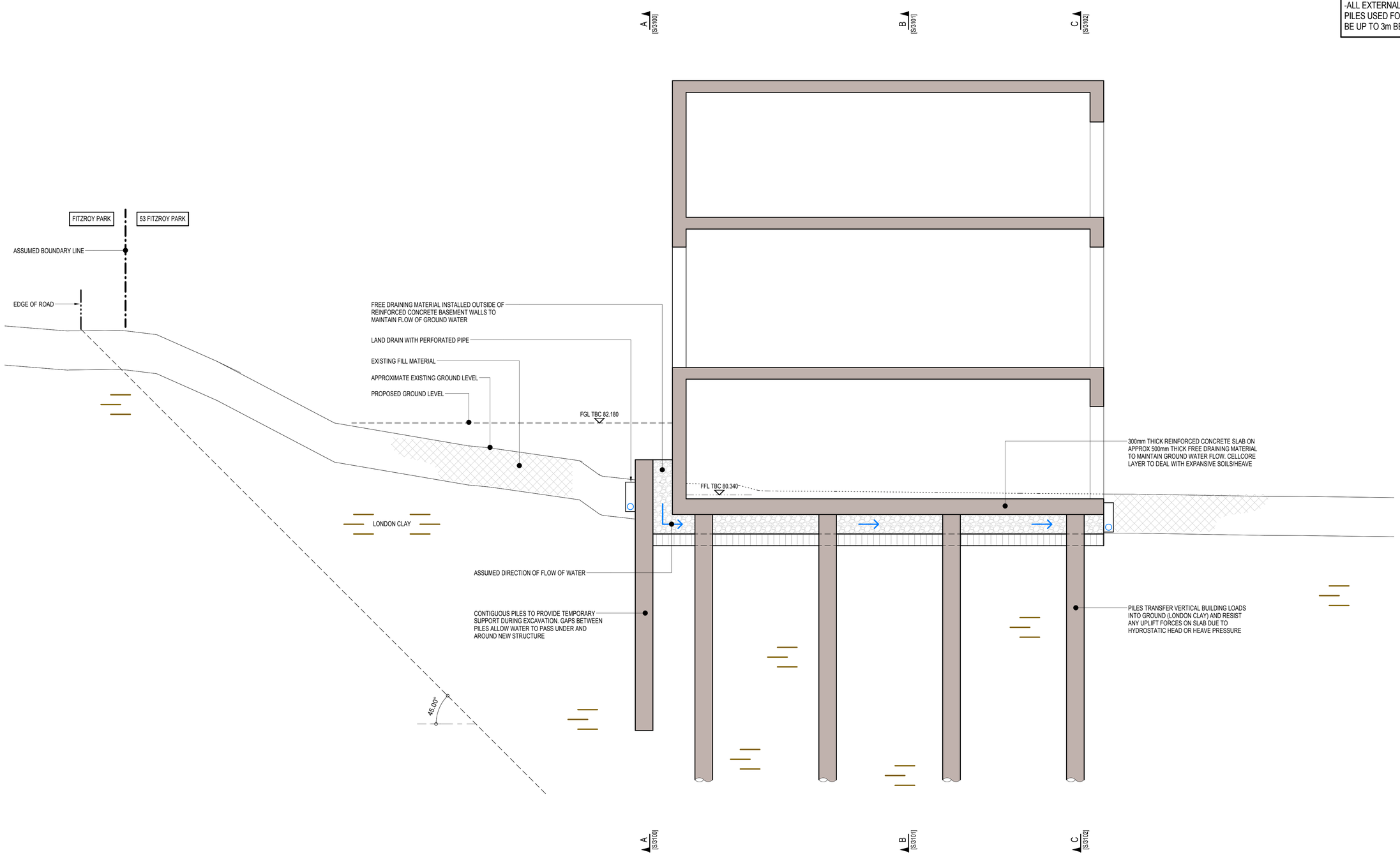

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SCALE 1:50 AT A1

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rev	date	by	chk	description

drawing title
Building Sections D-D

scale (s)	date	drawn
1:50@A1; 1:100@A3	Oct 2014	BMC

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project no.			drawing status.		
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originator.	zone.	level.	role.	drg no.	revision
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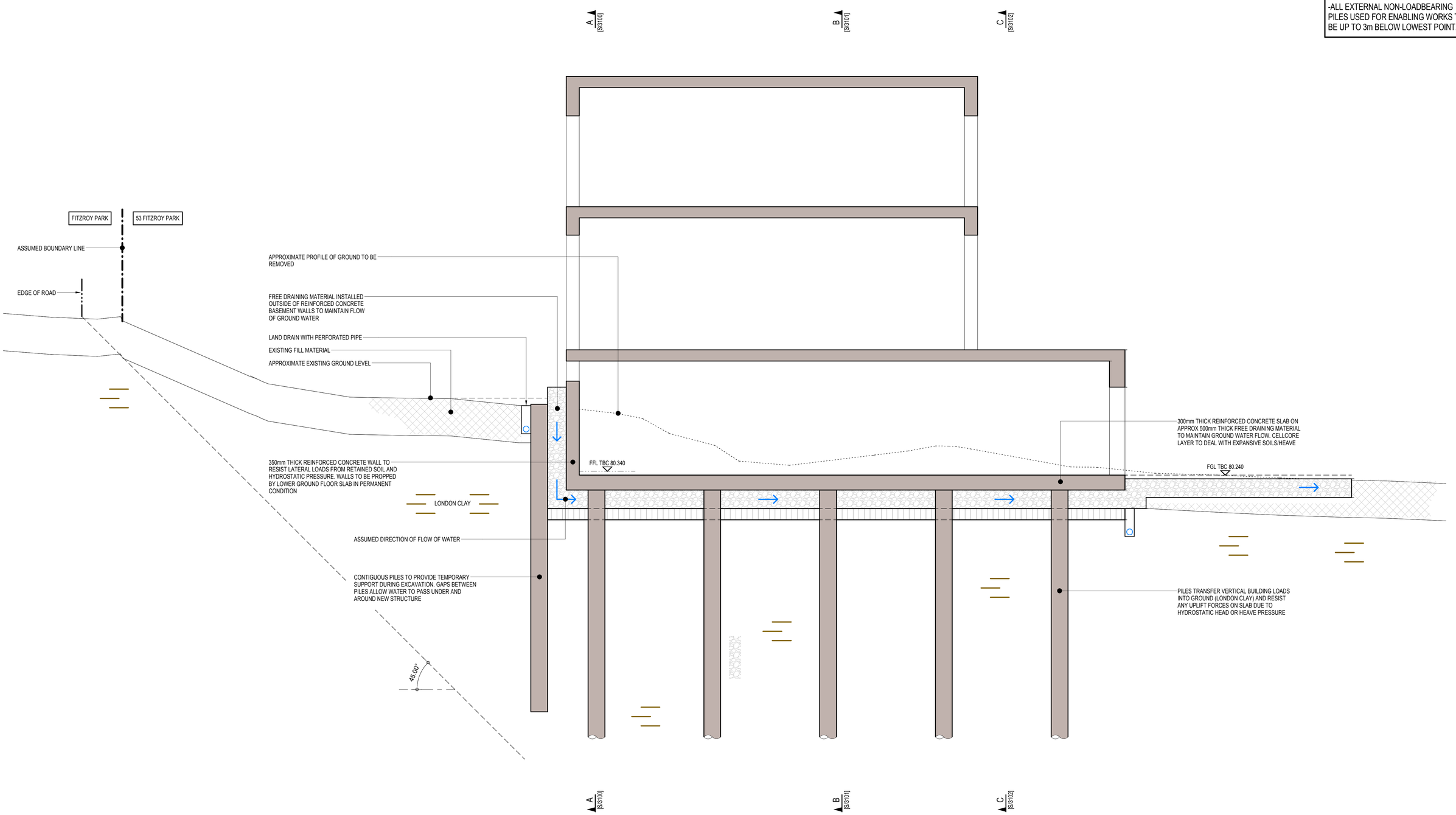

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rev	date	by	chk	description

drawing title
Building Sections E-E

scale (s)	date	drawn
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project
53 Fitzroy Park

project no.			drawing status.		
2160751			Preliminary		
originator.	zone.	level.	role.	drg no.	revision
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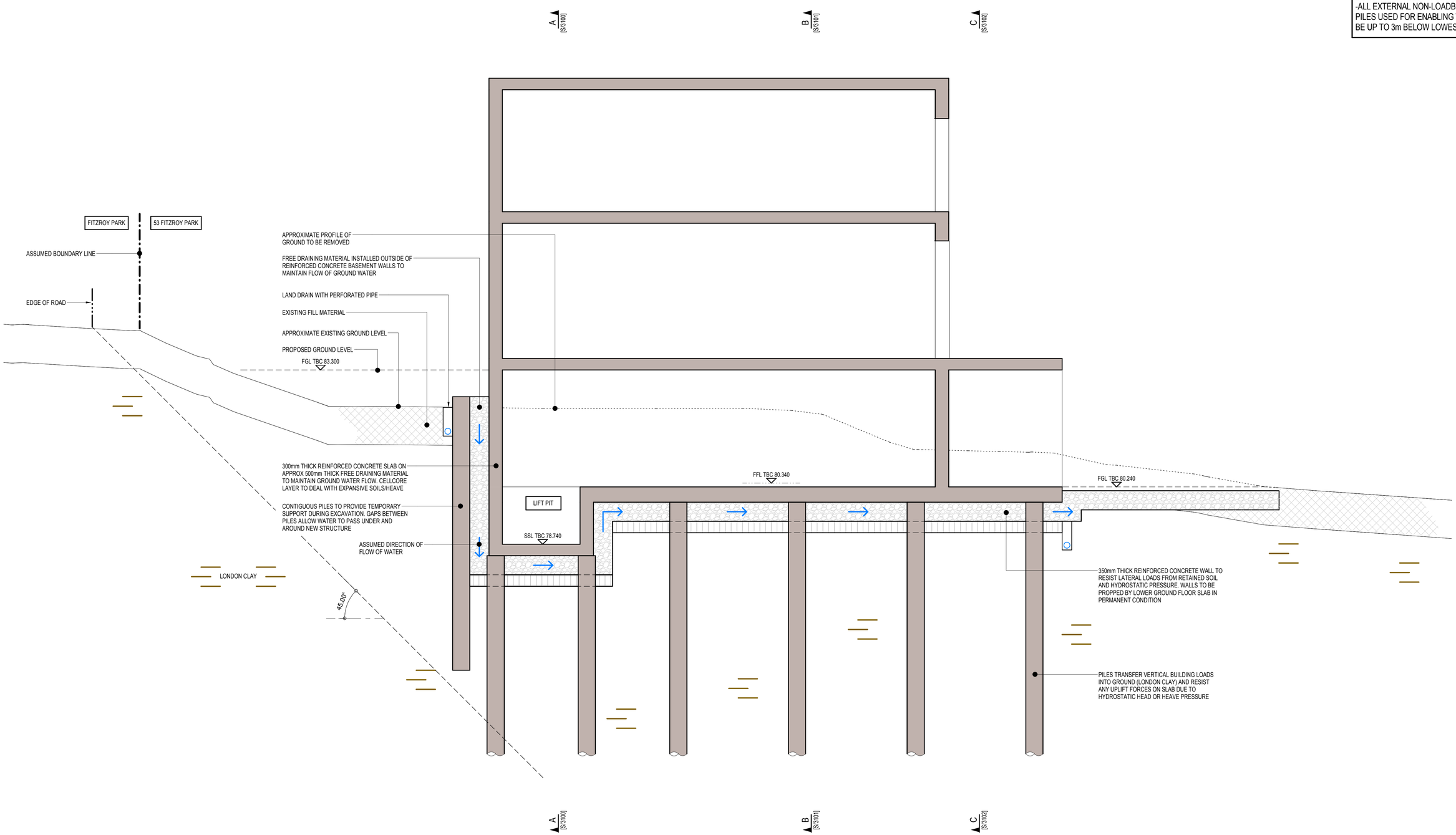

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rev	date	by	chk	description

drawing title
Building Sections F-F

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2160751					Preliminary
originator.	zone.	level.	role.	drg no.	revision
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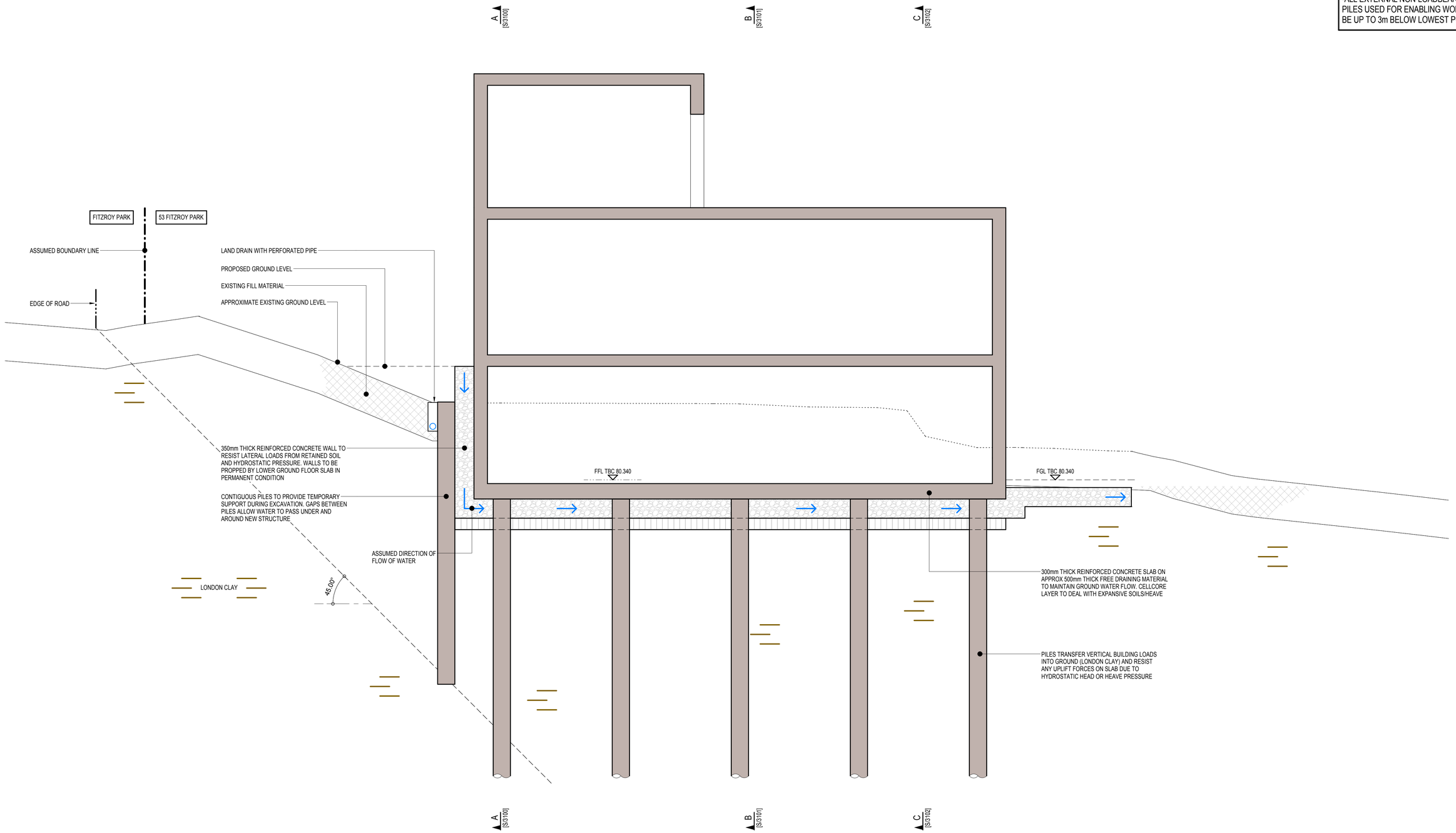

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NOT FOR CONSTRUCTION

rev	date	by	chk	description

drawing title
Building Sections G-G

scale (s)	date	drawn
1:50@A1; 1:100@A3	Oct 2014	BMC

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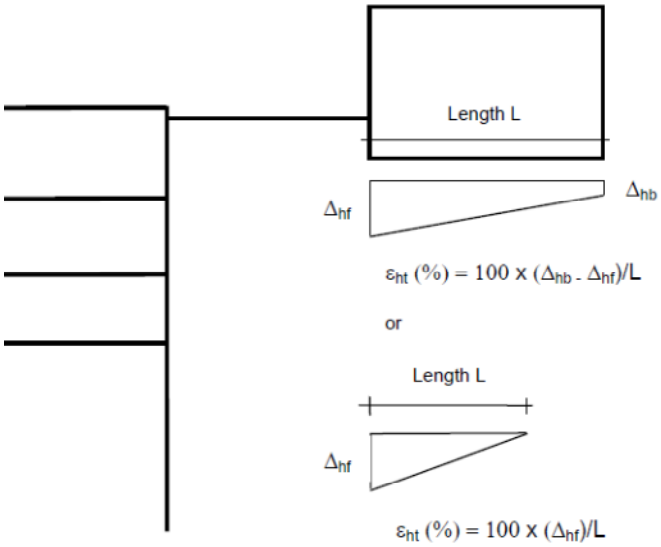
project no.			drawing status.		
2160751			Preliminary		
originator.	zone.	level.	role.	drg no.	revision
EW	00	SEC	S	3106	-

APPENDIX B
DETERMINATION OF HORIZONTAL TENSILE STRAINS AND DEFLECTION RATIOS

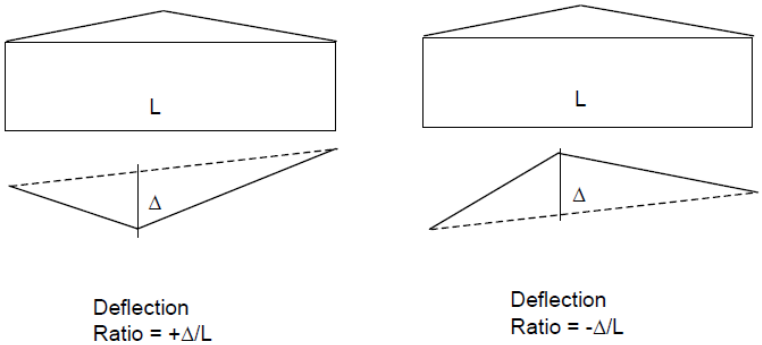
Horizontal Tensile Strain ε_{ht}

To determine the resulting horizontal tensile strain that will develop in the adjacent properties, the lateral displacement to the rear of the property (Δ_{hb}) is subtracted from the lateral displacement at the front of the property (Δ_{hf}). The resulting differential lateral displacement is then divided by the length of the property perpendicular to the basement wall to determine the horizontal tensile strain. Where the lateral displacement is zero at the rear of the property the lateral displacement at the front of the property is divided by the distance from the front of the property to the point of zero lateral displacement to determine the lateral strain. This approach is illustrated below and has been adopted for both the lateral displacements caused by wall installation and excavation.



Deflection Ratio Δ/L

The deflection ratio is defined as the off linear vertical displacement across a structure as illustrated below.

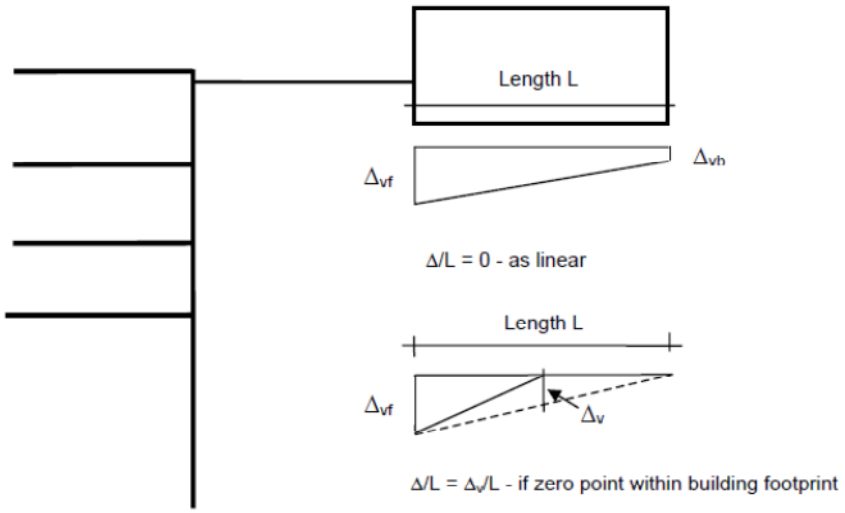


Deflection Ratio = +Δ/L

Deflection Ratio = -Δ/L

A negative deflection ratio will result in greater damage to a property, as tension will be developed in the superstructure. Conversely with a positive deflection ratio compression will develop within the superstructure, which can be more easily resisted.

In the case of properties adjacent to a basement excavation the deflection ratio will depend on the distribution of vertical ground movement across its footprint. Reference to Figure 2.8 of CIRIA 580 in fact indicates a linear distribution of settlement due to wall installation with distance from the wall. As such the Deflection Ratio will be zero unless the point at which settlement ceases is within the footprint of the building as illustrated below.



Reference to Figure 2.11 of CIRIA 580 also indicates that the pattern of ground settlement due to basement excavation is relatively linear. As such the resulting Deflection Ratio is likely to be small. Within one excavation depth of the basement wall some non linearity is indicated however this would tend to result in a positive Deflection Ratio and as such be less likely to cause damage.

From the above discussion it is apparent that based on the empirical approach the vertical movements resulting from basement construction will only have a small influence on the damage to adjacent property compared to the lateral movements.

APPENDIX C
DEFINITION OF DAMAGE CATEGORIES

Table 2.5 *Classification of visible damage to walls (after Burland et al, 1977, Boscardin and Cording, 1989; and Burland, 2001)*

Category of damage	Description of typical damage (ease of repair is underlined)	Approximate crack width (mm)	Limiting tensile strain ε_{lim} (per cent)
0 Negligible	Hairline cracks of less than about 0.1 mm are classed as negligible.	< 0.1	0.0–0.05
1 Very slight	Fine cracks that can easily be treated during normal decoration. Perhaps isolated slight fracture in building. Cracks in external brickwork visible on inspection.	< 1	0.05–0.075
2 Slight	Cracks easily filled. Redecoration probably required. Several slight fractures showing inside of building. Cracks are visible externally and some repointing may be required externally to ensure weathertightness. Doors and windows may stick slightly.	< 5	0.075–0.15
3 Moderate	The cracks require some opening up and can be patched by a mason. Recurrent cracks can be masked by suitable linings. Repointing of external brickwork and possibly a small amount of brickwork to be replaced. Doors and windows sticking. Service pipes may fracture. Weathertightness often impaired.	5–15 or a number of cracks > 3	0.15–0.3
4 Severe	Extensive repair work involving breaking-out and replacing sections of walls, especially over doors and windows. Windows and frames distorted, floor sloping noticeably. Walls leaning or bulging noticeably, some loss of bearing in beams. Service pipes disrupted.	15–25 but also depends on number of cracks	> 0.3
5 Very severe	This requires a major repair involving partial or complete rebuilding. Beams lose bearings, walls lean badly and require shoring. Windows broken with distortion. Danger of instability.	usually > 25 but depends on number of cracks.	

Notes

1. In assessing the degree of damage, account must be taken of its location in the building or structure.
2. Crack width is only one aspect of damage and should not be used on its own as a direct measure of it.