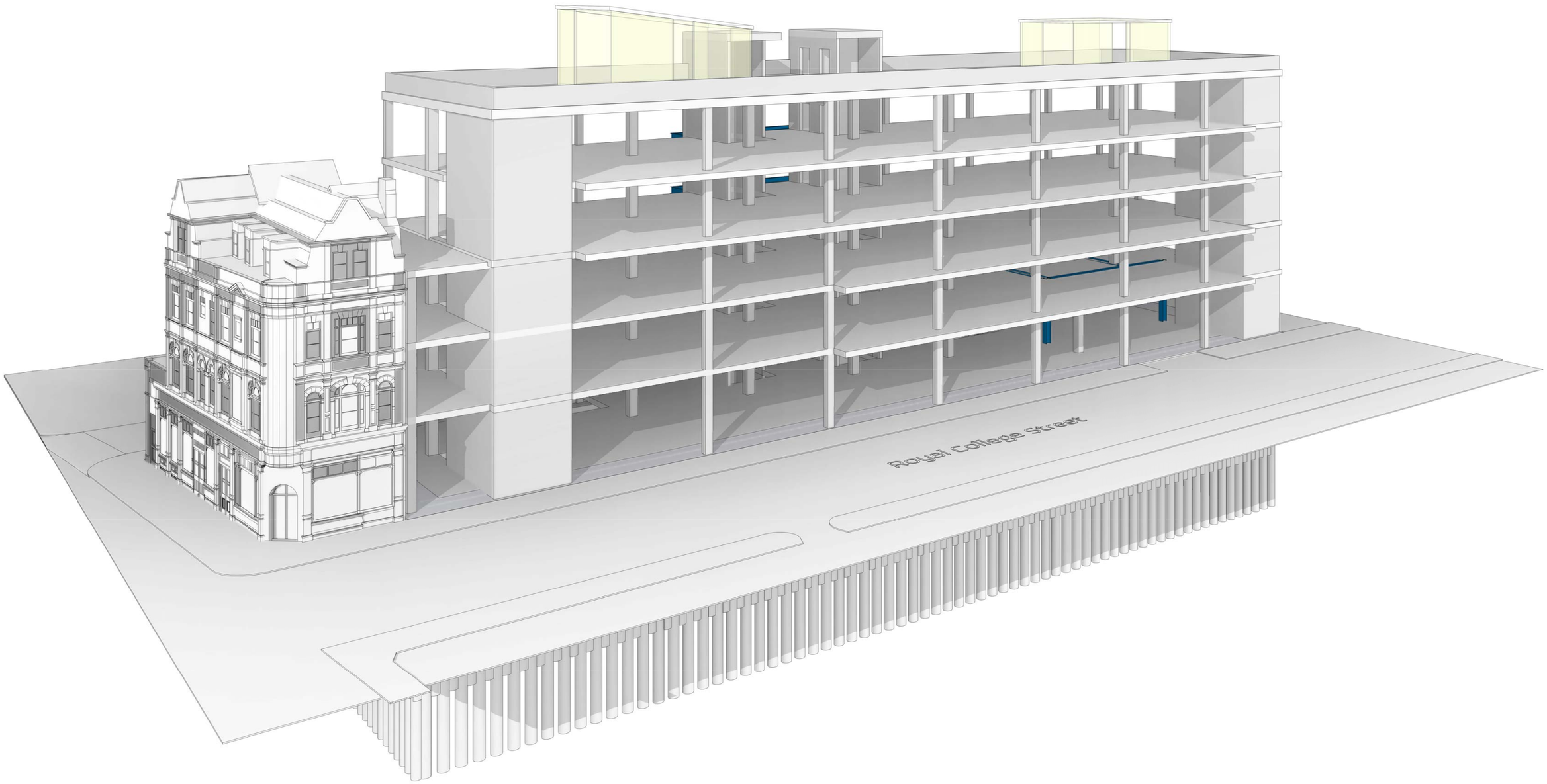
Appendix A

HTS Structural Drawings

HEYNE TILLETT STEEL



100mm @ A1 (50mm @ A3)

1 This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.

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HEYNE TILLETT STEEL

STRUCTURAL ENGINEERS

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Job Name
60-86 Royal College Street

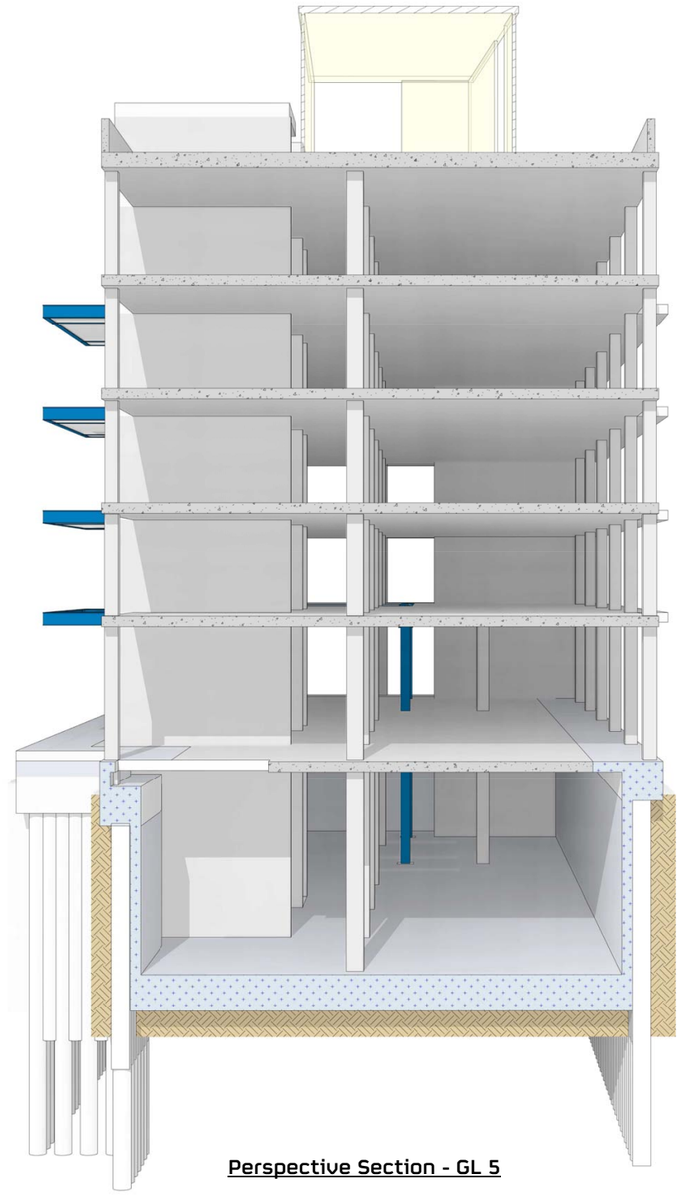
Drawing Title
Proposed Perspective Site View - Royal College Street

Rev	Date	By	Eng	Amendments
P2	12.12.19	LG	GG	Issue For Planning
P1	06.12.19	LG	GG	Issue For Planning

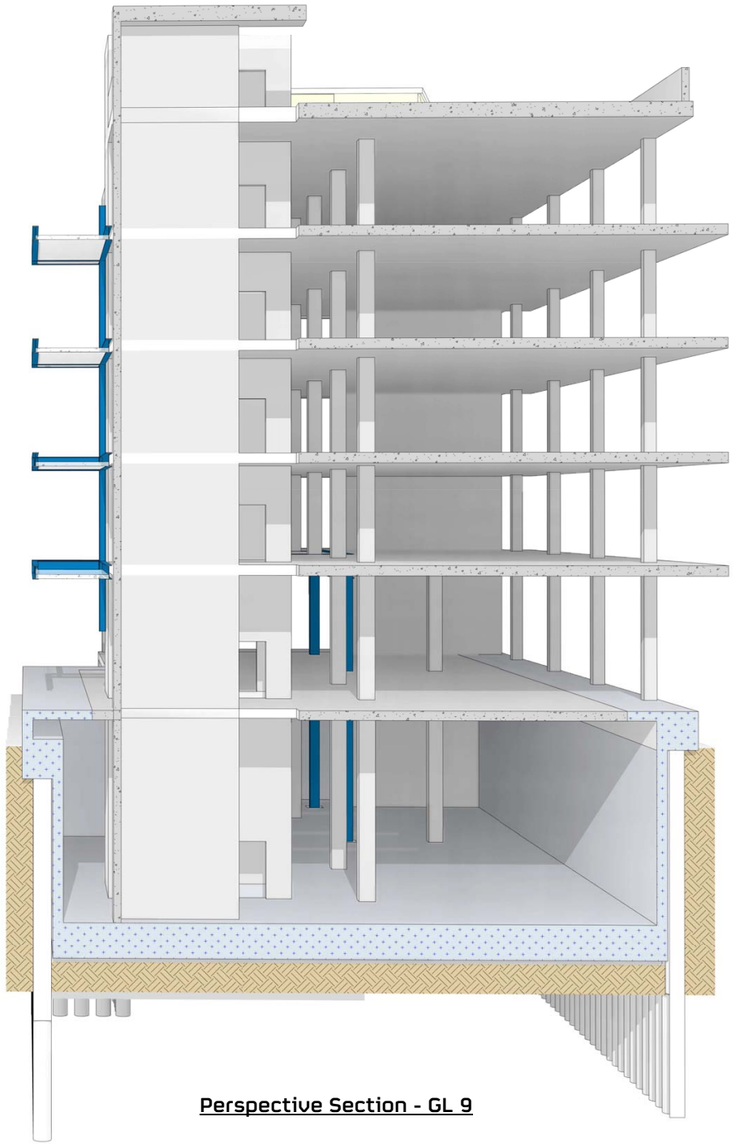
Purpose of Issue **Preliminary** Scale at A1

Drg No 2222-HTS-XX-ZZ-DR-S-3010

Rev P2



Perspective Section - GL 5



Perspective Section - GL 9

100mm @ A1 (50mm @ A3)

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Rev	Date	By	Eng	Amendments
P1	06.12.19	LG	GG	Issue For Planning

HEYNE TILLETT STEEL

STRUCTURAL ENGINEERS

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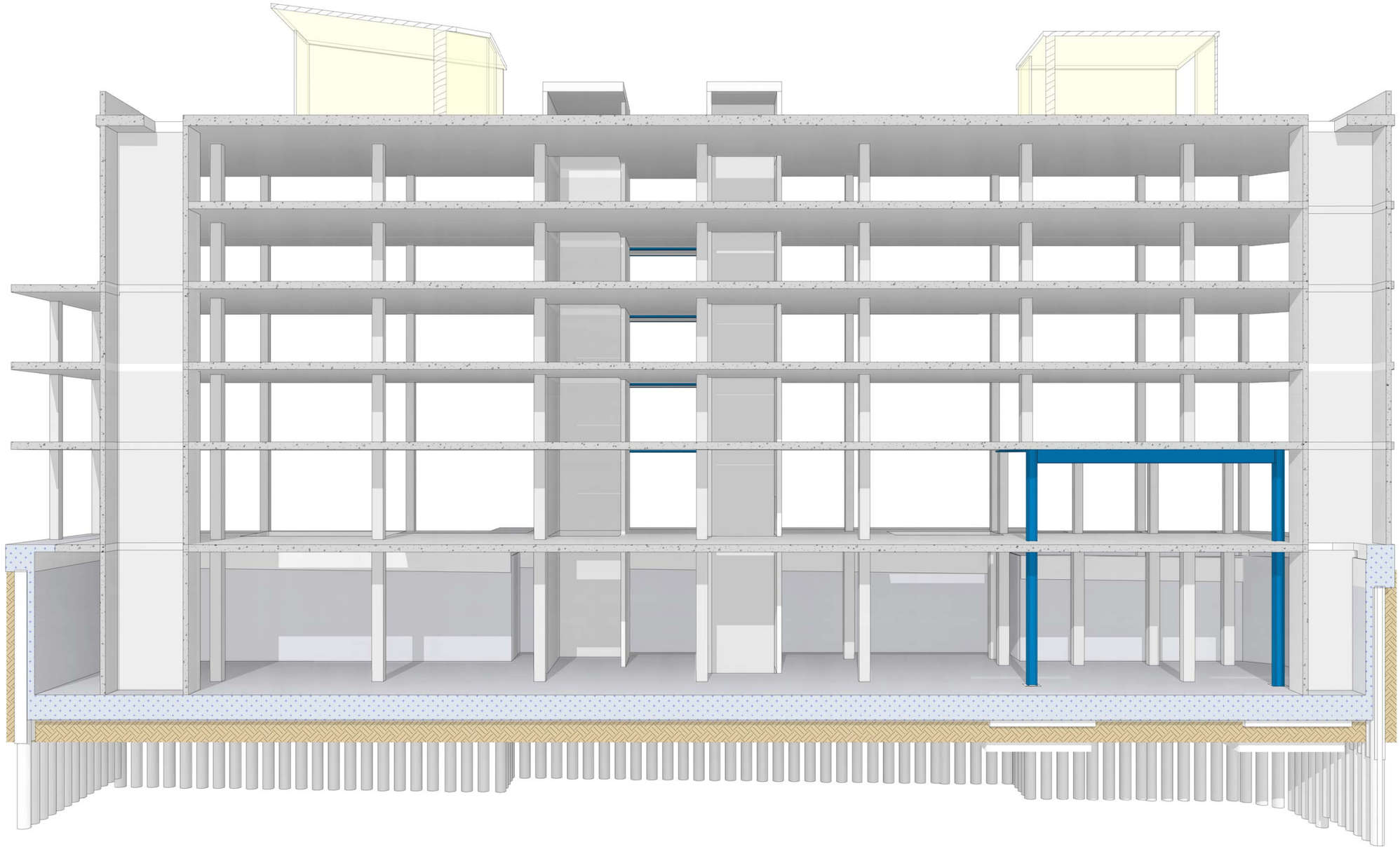
Job Name
60-86 Royal College Street

Drawing Title
Proposed Perspective Long Section

Purpose of Issue **Preliminary** Scale at A1

Drg No **2222-HTS-XX-ZZ-DR-S-3011**

Rev **P1**



100mm @ A1 (50mm @ A3)

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Rev	Date	By	Eng	Amendments
P2	12.12.19	LG	GG	Issue For Planning
P1	06.12.19	LG	GG	Issue For Planning

HEYNE TILLETT STEEL

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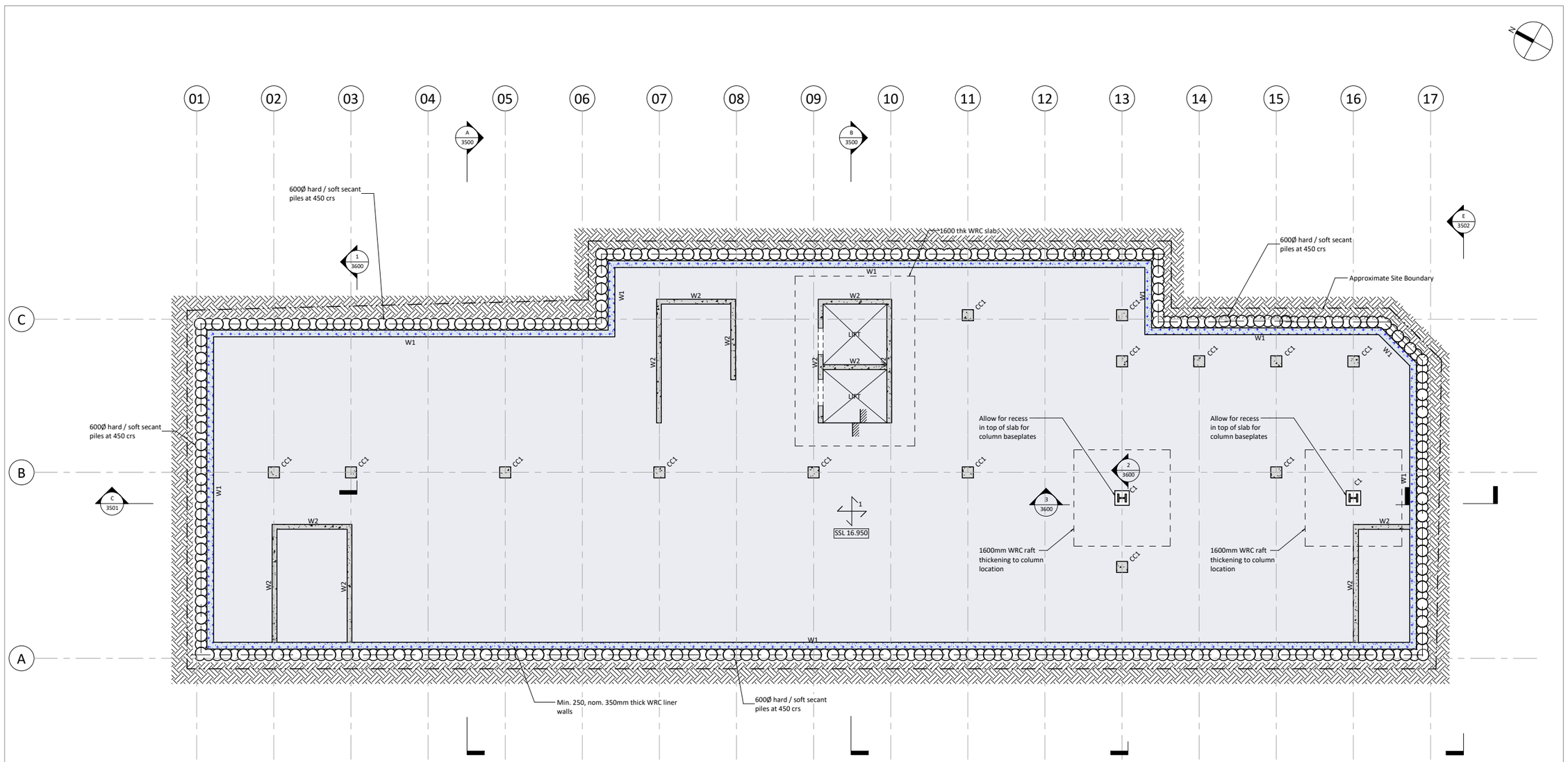
Job Name
60-86 Royal College Street

Drawing Title
Proposed Perspective Cross Section - Royal College Street

Purpose of Issue **Preliminary** Scale at A1

Drg No 2222-HTS-XX-ZZ-DR-S-3012

Rev P2



Piles to be installed with a guide wall with a maximum allowable installation tolerance of 25mm + H/125 where H is the depth of the tolerance measurement below +23.950mAOD. At lower ground floor SSL this is equivalent to 81mm.

100mm @ A1 (50mm @ A3)

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Column Schedule

C1	356x406x551 UC	CC2	550 x 550mm RC40/50
C2	203x203x100 UC	CC3	450 x 450mm RC40/50
CC1	575 x 575mm RC40/50	CC5	425 x 425mm RC40/50

Beam Schedule

B1	356x406x551 UC	B3	457x191x98 UB
B2	1016x305x350 UB	CB1	450 x 450mm RC40/50

Wall Schedule

Ref	Thickness	Type
W1	350	WRC
W2	250	RC
W3	110	CLT wall panels

Floor Schedule

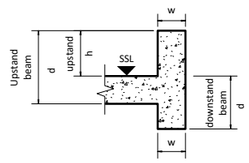
Concrete Floor X	Profiled deck X	Timber Floor X

1	1200 thk WRC slab RC32/40
2	350 thk WRC slab RC32/40
3	500 thk RC slab RC32/40
4	350 thk RC slab RC32/40
5	130 thk profiled slab on TATA Comflor 60 1.0 mm gauge deck with A193 mesh top and 1 no. H12 bar per trough
6	220thk 5 layer C24 CLT Panels

Legend

	Proposed RC structure
	Proposed WRC structure
	Proposed Steel Framing
Dim	Red dimension TBC by architect
ST	Connection Strengthening
M	Moment connection
B1 [25mm]	Pre-camber
C	Crank
S	Splice
TB	Thermal Break
BR	Break in beam

Typical Beam Notation



Rev	Date	By	Eng	Amendments
P1	06.12.19	LG	GG	Issue For Planning

HEYNE TILLETT STEEL
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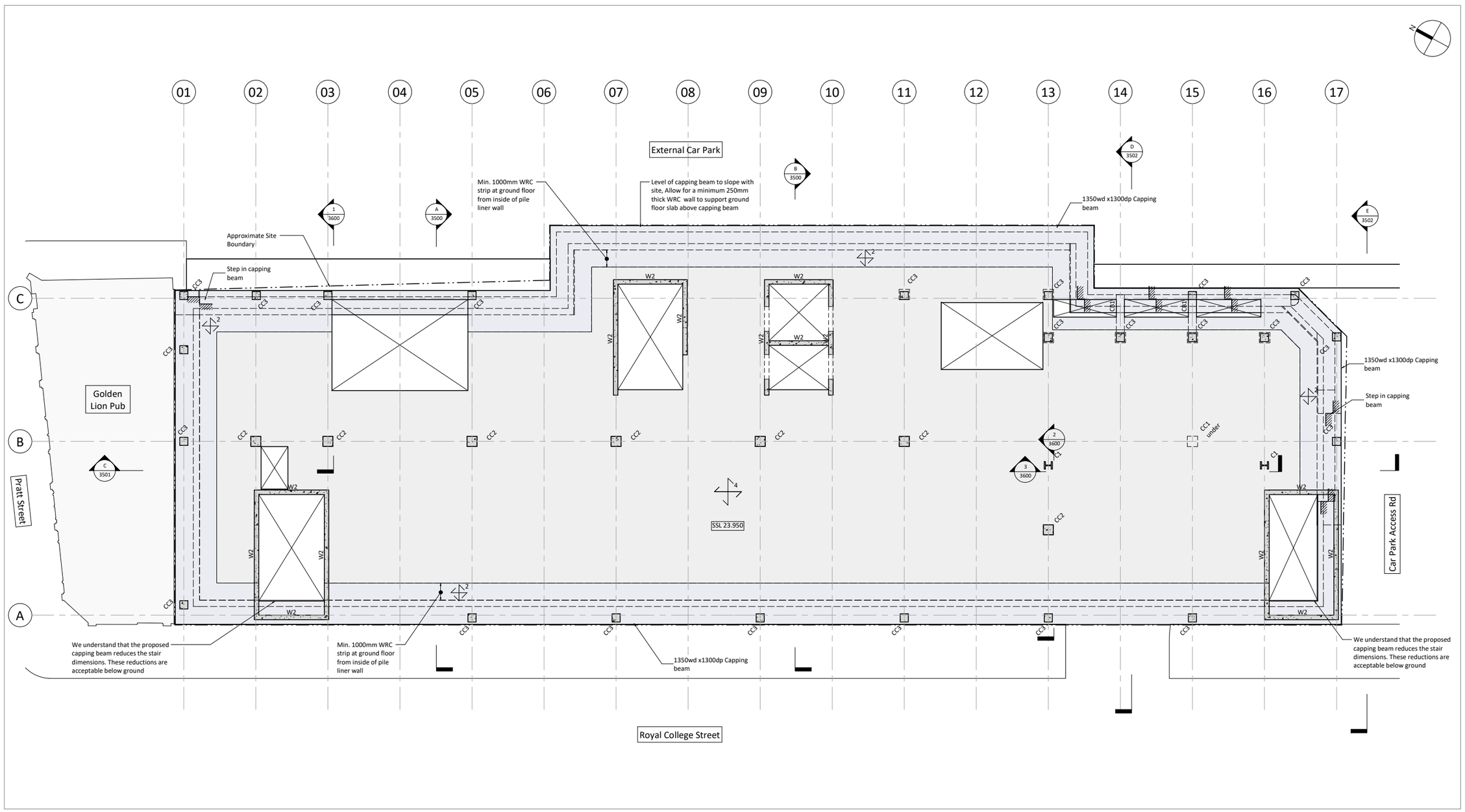
Job Name
60-86 Royal College Street

Drawing Title
Proposed Lower Ground Floor Plan

Purpose of Issue **Preliminary** Scale at A1 **1 : 100**

Drg No **2222-HTS-XX-B1-DR-S-3090**

Rev **P1**



100mm @ A1 (50mm @ A3)

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Column Schedule

C1	356x406x551 UC	CC2	550 x 550mm RC40/50
C2	203x203x100 UC	CC3	450 x 450mm RC40/50
CC1	575 x 575mm RC40/50	CC5	425 x 425mm RC40/50

Beam Schedule

B1	356x406x551 UC	B3	457x191x98 UB
B2	1016x305x350 UB	CB1	450 x 450mm RC40/50

Wall Schedule

Ref	Thickness	Type
W1	350	WRC
W2	250	RC
W3	110	CLT wall panels

Floor Schedule

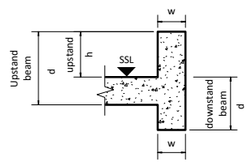
Concrete Floor X	Profiled deck X	Timber Floor X

1	1200 thk WRC slab RC32/40
2	350 thk WRC slab RC32/40
3	500 thk RC slab RC32/40
4	350 thk RC slab RC32/40
5	130 thk profiled slab on TATA Comflor 60 1.0 mm gauge deck with A193 mesh top and 1 no. H12 bar per trough
6	220thk 5 layer C24 CLT Panels

Legend

	Proposed RC structure
	Proposed WRC structure
	Proposed Steel Framing
Dim	Red dimension TBC by architect
ST	Connection Strengthening
M	Moment connection
B1 [25mm]	Pre-camber
C	Crank
S	Splice
TB	Thermal Break
BR	Break in beam

Typical Beam Notation



Rev	Date	By	Eng	Amendments
P1	06.12.19	LG	GG	Issue For Planning

HEYNE TILLETT STEEL
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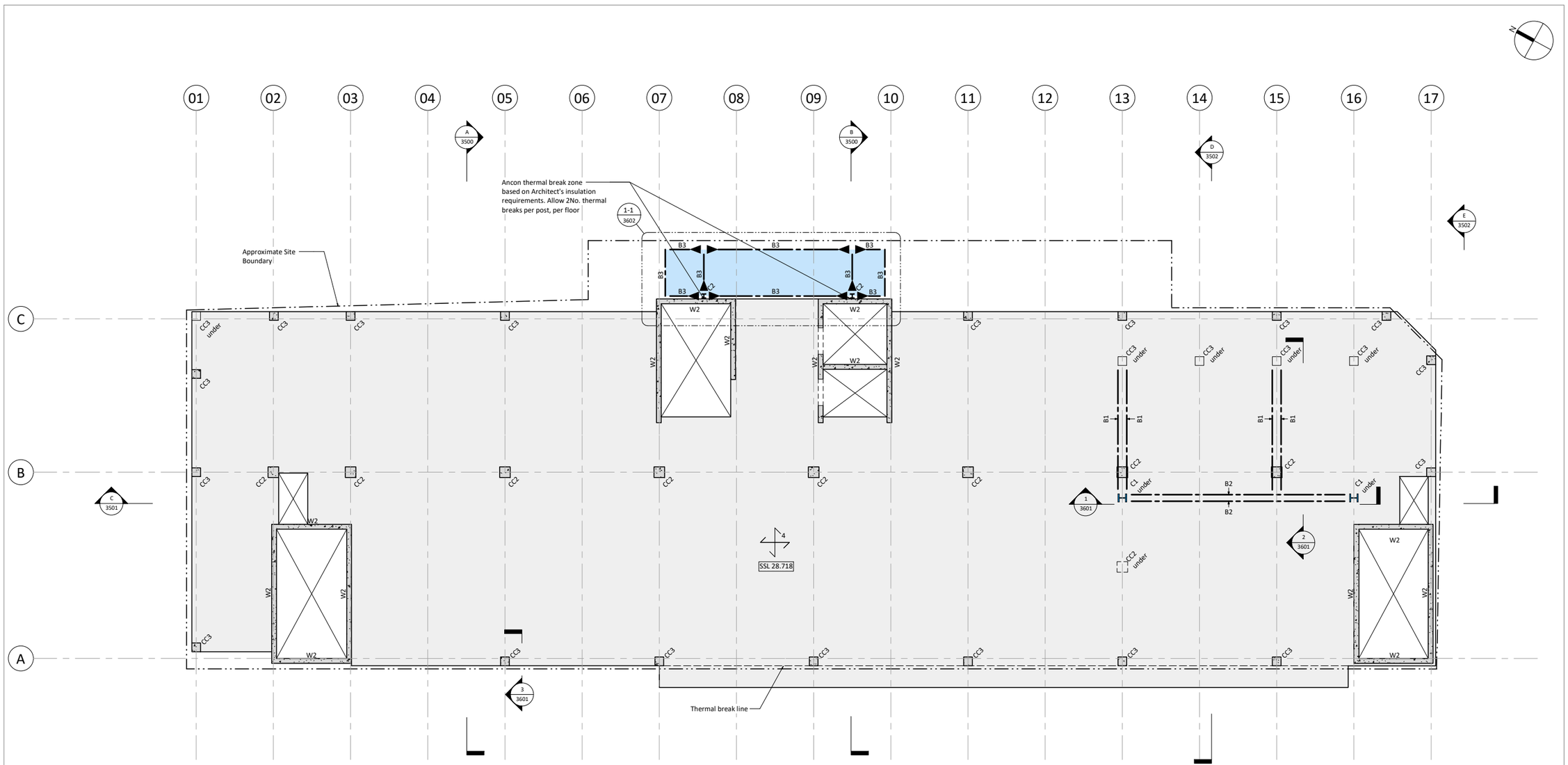
Job Name
60-86 Royal College Street

Drawing Title
Proposed Ground Floor Plan

Purpose of Issue **Preliminary** Scale at A1 **1 : 100**

Drg No **2222-HTS-XX-00-DR-S-3100**

Rev **P1**



100mm @ A1 (50mm @ A3)

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Column Schedule

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C2	203x203x100 UC	CC3	450 x 450mm RC40/50
CC1	575 x 575mm RC40/50	CC5	425 x 425mm RC40/50

Beam Schedule

B1	356x406x551 UC	B3	457x191x98 UB
B2	1016x305x350 UB	CB1	450 x 450mm RC40/50

Wall Schedule

Ref	Thickness	Type
W1	350	WRC
W2	250	RC
W3	110	CLT wall panels

Floor Schedule

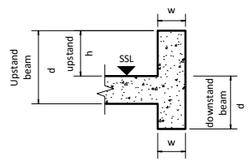
Concrete Floor X	Profiled deck X	Timber Floor X

1	1200 thk WRC slab RC32/40
2	350 thk WRC slab RC32/40
3	500 thk RC slab RC32/40
4	350 thk RC slab RC32/40
5	130 thk profiled slab on TATA Comflor 60 1.0 mm gauge deck with A193 mesh top and 1 no. H12 bar per trough
6	220thk 5 layer C24 CLT Panels

Legend

	Proposed RC structure
	Proposed WRC structure
	Proposed Steel Framing
Dim	Red dimension TBC by architect
ST Connection Strengthening	C Crank
M Moment connection	S Splice
B1 [25mm] Pre-camber	TB Thermal Break
	BR Break in beam

Typical Beam Notation



Rev	Date	By	Eng	Amendments
P1	06.12.19	LG	GG	Issue For Planning

HEYNE TILLETT STEEL
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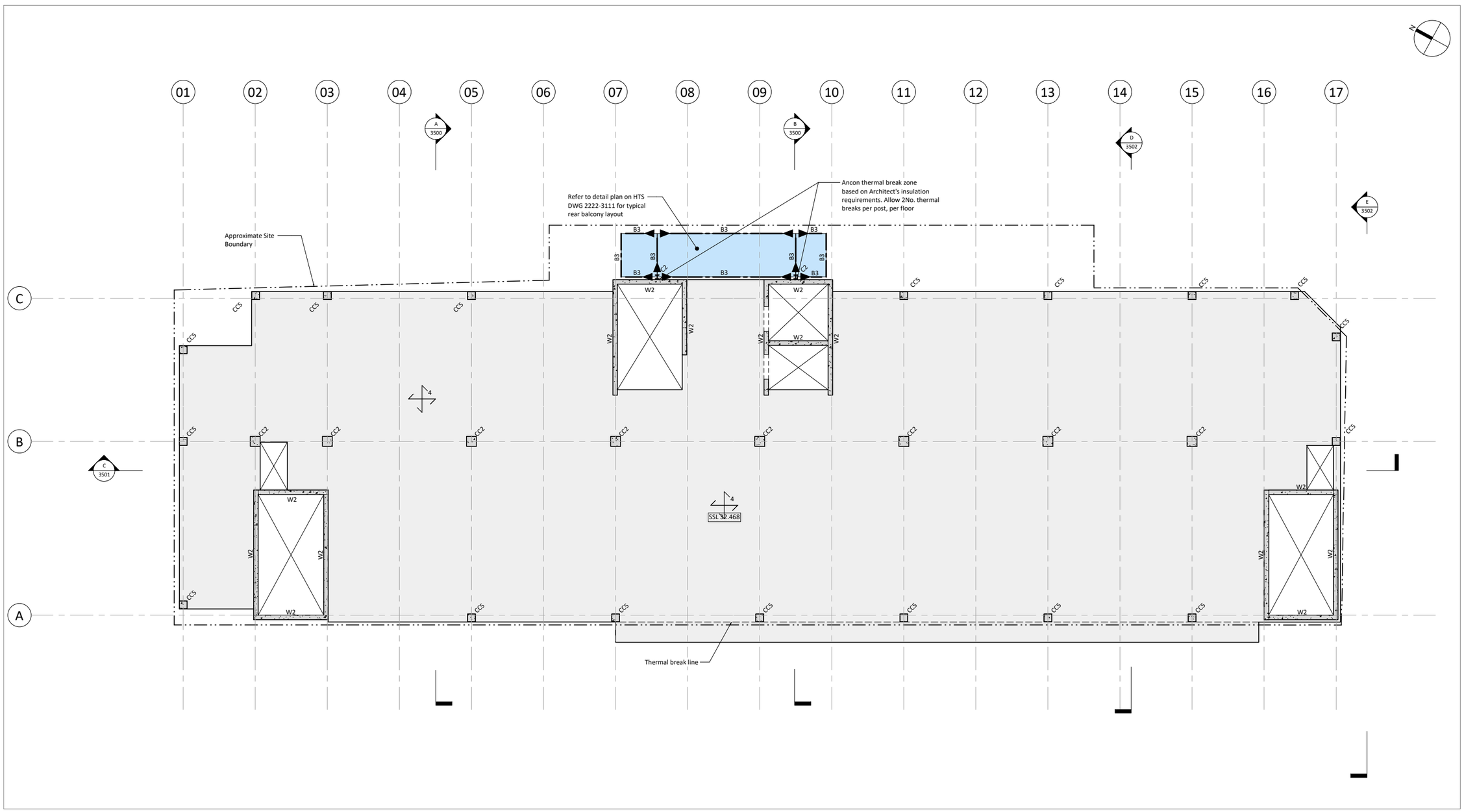
Job Name
60-86 Royal College Street

Drawing Title
Proposed First Floor Plan

Purpose of Issue **Preliminary** Scale at A1 **1 : 100**

Drg No **2222-HTS-XX-01-DR-S-3110**

Rev **P1**



100mm @ A1 (50mm @ A3)

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Column Schedule

C1	356x406x551 UC	CC2	550 x 550mm RC40/50
C2	203x203x100 UC	CC3	450 x 450mm RC40/50
CC1	575 x 575mm RC40/50	CC5	425 x 425mm RC40/50

Beam Schedule

B1	356x406x551 UC	B3	457x191x98 UB
B2	1016x305x350 UB	CB1	450 x 450mm RC40/50

Wall Schedule

Ref	Thickness	Type
W1	350	WRC
W2	250	RC
W3	110	CLT wall panels

Floor Schedule

Concrete Floor X	Profiled deck X	Timber Floor X

1	1200 thk WRC slab RC32/40
2	350 thk WRC slab RC32/40
3	500 thk RC slab RC32/40
4	350 thk RC slab RC32/40
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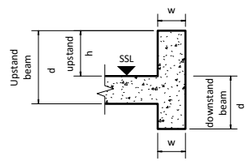
6	220thk 5 layer C24 CLT Panels

Legend

	Proposed RC structure
	Proposed WRC structure
	Proposed Steel Framing
Dim	Red dimension TBC by architect
ST	Connection Strengthening
M	Moment connection
B1 [25mm]	Pre-camber
C	Crank
S	Splice
TB	Thermal Break
BR	Break in beam

Typical Beam Notation



Rev	Date	By	Eng	Amendments
P1	06.12.19	LG	GG	Issue For Planning

HEYNE TILLETT STEEL
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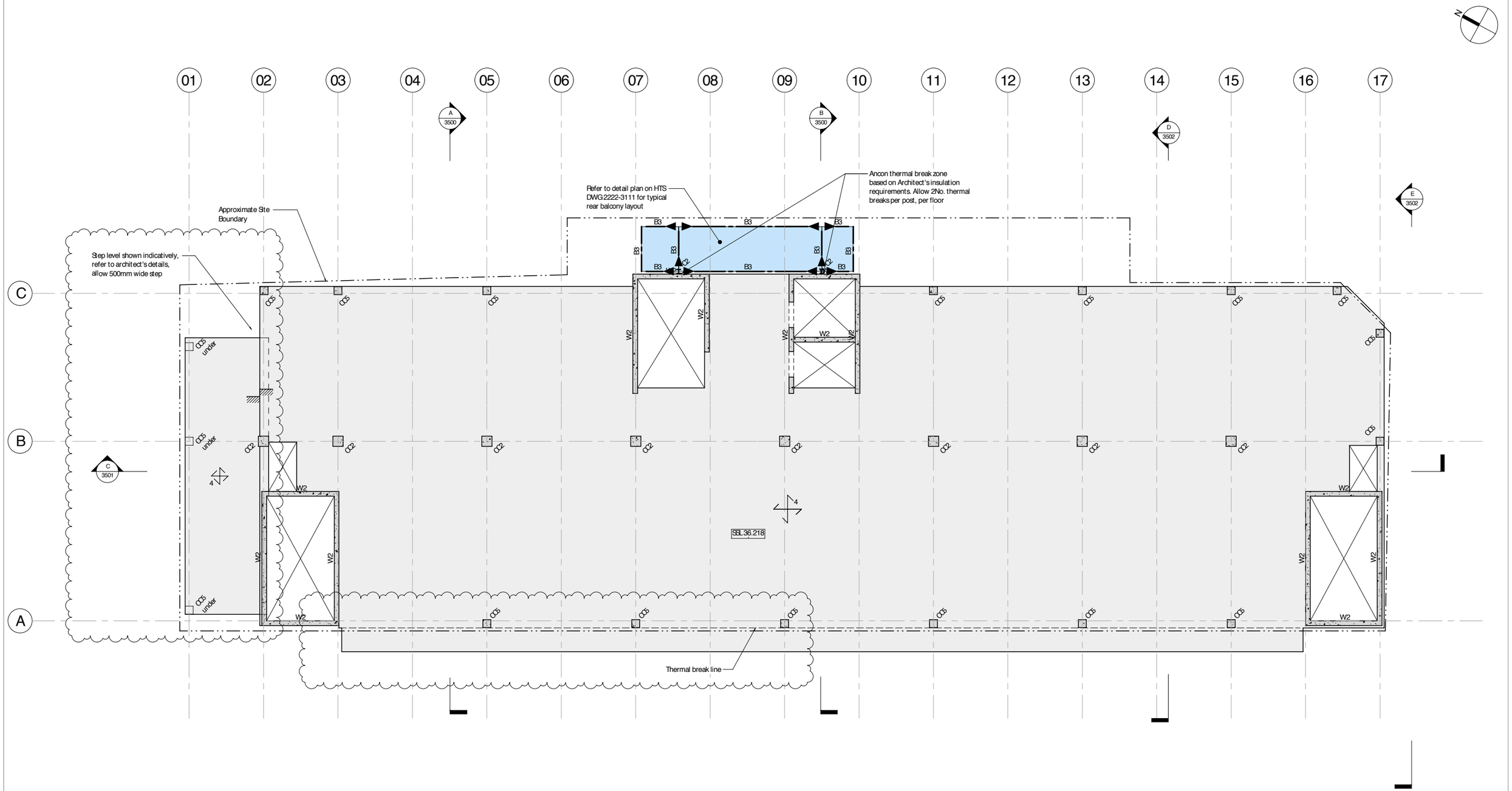
Job Name
60-86 Royal College Street

Drawing Title
Proposed Second Floor Plan

Purpose of Issue **Preliminary** Scale at A1 **1 : 100**

Drg No **2222-HTS-XX-02-DR-S-3120**

Rev **P1**



100mm @ A1 (50mm @ A3)

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Column Schedule

C1	356x406x551 UC	CC2	550 x 550mm RC40/50
C2	203x203x100 UC	CC3	450 x 450mm RC40/50
CC1	575 x 575mm RC40/50	CC5	425 x 425mm RC40/50

Beam Schedule

B1	356x406x551 UC	B3	457x191x98 UB
B2	1016x305x350 UB	CB1	450 x 450mm RC40/50

Wall Schedule

Ref	Thickness	Type
W1	350	WRC
W2	250	RC
W3	110	CLT wall panels

Floor Schedule

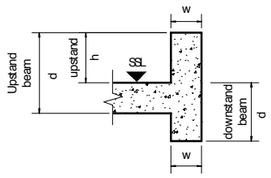
Concrete Floor X	Profiled deck X	Timber Floor X

1	1200 thk WRC slab RC32/40
2	350 thk WRC slab RC32/40
3	500 thk RC slab RC32/40
4	350 thk RC slab RC32/40
5	130 thk profiled slab on TATA Comflor 60 1.0 mm gauge deck with A193 mesh top and 1 no. H12 bar per trough
6	220thk 5 layer C24 CLT Panels

Legend

	Proposed RC structure
	Proposed WRC structure
	Proposed Steel Framing
Dim	Red dimension TBC by architect
ST — Connection Strengthening	C — Crank
	S — Splice
M — Moment connection	TB — Thermal Break
B1 [25mm] — Pre-camber	BR — Break in beam

Typical Beam Notation



Rev	Date	By	Eng	Amendments
P2	12.12.19	LG	GG	Issue For Planning
P1	06.12.19	LG	GG	Issue For Planning

HEYNE TILLETT STEEL
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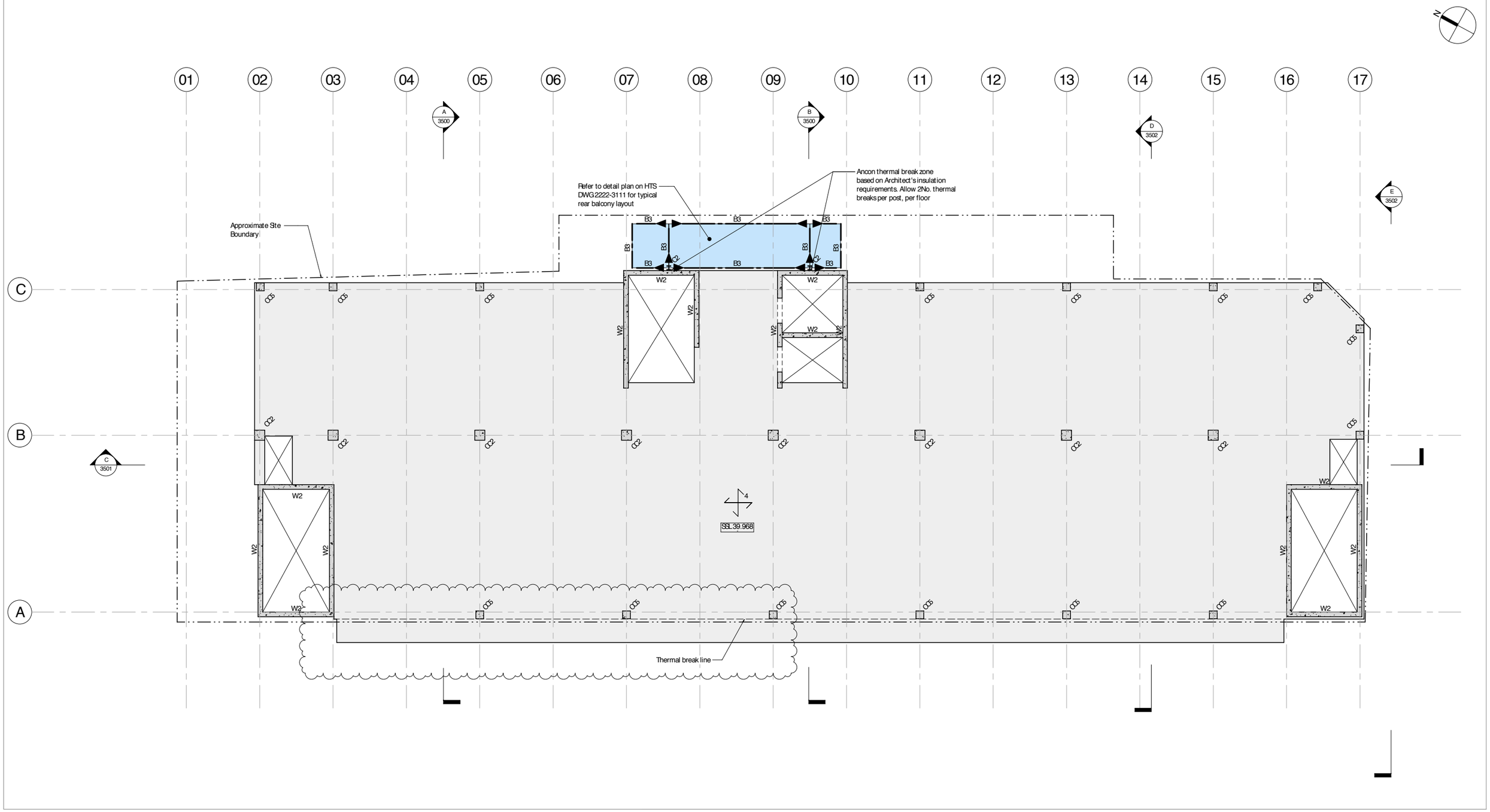
Job Name
60-86 Royal College Street

Drawing Title
Proposed Third Floor Plan

Purpose of Issue **Preliminary** Scale at A1 **1 : 100**

Drg No 2222-HTS-XX-03-DR-S-3130

Rev P2



100mm @ A1 (50mm @ A3)

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Column Schedule

C1	356x406x551 UC	CC2	550 x 550mm RC40/50
C2	203x203x100 UC	CC3	450 x 450mm RC40/50
CC1	575 x 575mm RC40/50	CC5	425 x 425mm RC40/50

Beam Schedule

B1	356x406x551 UC	B3	457x191x98 UB
B2	1016x305x350 UB	CB1	450 x 450mm RC40/50

Wall Schedule

Ref	Thickness	Type
W1	350	WRC
W2	250	RC
W3	110	CLT wall panels

Floor Schedule

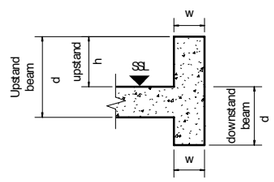
Concrete Floor X	Profiled deck X	Timber Floor X

1	1200 thk WRC slab RC32/40
2	350 thk WRC slab RC32/40
3	500 thk RC slab RC32/40
4	350 thk RC slab RC32/40
5	130 thk profiled slab on TATA Comflor 60 1.0 mm gauge deck with A193 mesh top and 1 no. H12 bar per trough
6	220thk 5 layer C24 CLT Panels

Legend

	Proposed RC structure
	Proposed WRC structure
	Proposed Steel Framing
Dim	Red dimension TBC by architect
ST	Connection Strengthening
M	Moment connection
B1 [25mm]	Pre-camber
C	Crank
S	Splice
TB	Thermal Break
BR	Break in beam

Typical Beam Notation



Rev	Date	By	Eng	Amendments
P2	12.12.19	LG	GG	Issue For Planning
P1	06.12.19	LG	GG	Issue For Planning

HEYNE TILLETT STEEL
STRUCTURAL ENGINEERS
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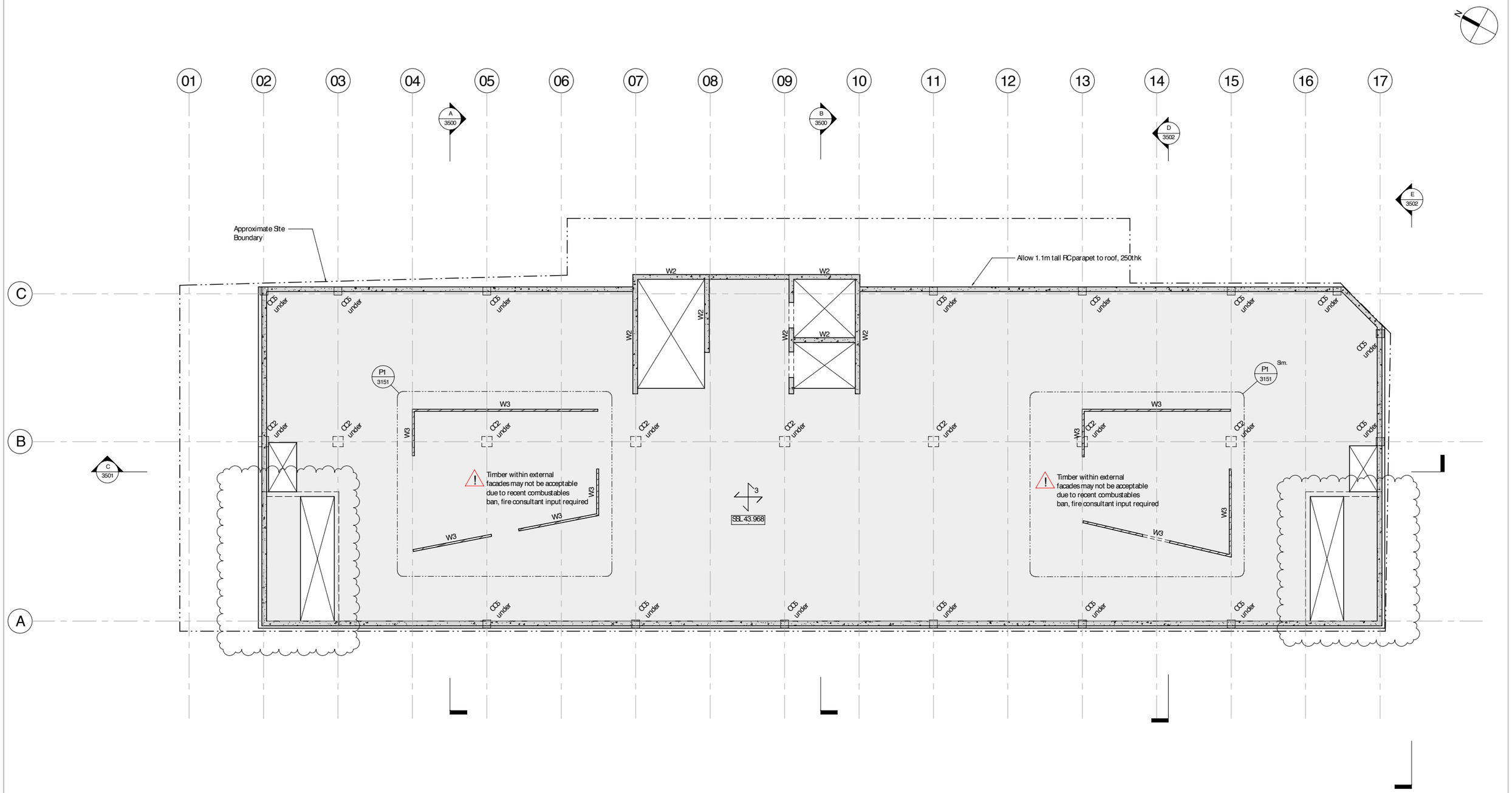
Job Name
60-86 Royal College Street

Drawing Title
Proposed Fourth Floor Plan

Purpose of Issue **Preliminary** Scale at A1 **1 : 100**

Drg No 2222-HTS-XX-04-DR-S-3140

Rev P2



100mm @ A1 (50mm @ A3)

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Column Schedule

C1	356x406x551 UC	CC2	550 x 550mm RC40/50
C2	203x203x100 UC	CC3	450 x 450mm RC40/50
CC1	575 x 575mm RC40/50	CC5	425 x 425mm RC40/50

Beam Schedule

B1	356x406x551 UC	B3	457x191x98 UB
B2	1016x305x350 UB	CB1	450 x 450mm RC40/50

Wall Schedule

Ref	Thickness	Type
W1	350	WRC
W2	250	RC
W3	110	CLT wall panels

Floor Schedule

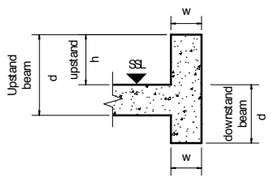
Concrete Floor	Profiled deck	Timber Floor

1	1200 thk WRC slab RC32/40
2	350 thk WRC slab RC32/40
3	500 thk RC slab RC32/40
4	350 thk RC slab RC32/40
5	130 thk profiled slab on TATA Comflor 60 1.0 mm gauge deck with A193 mesh top and 1 no. H12 bar per trough
6	220thk 5 layer C24 CLT Panels

Legend

	Proposed RC structure
	Proposed WRC structure
	Proposed Steel Framing
Dim	Red dimension TBC by architect
ST Connection Strengthening	C Crank
M Moment connection	S Splice
B1 [25mm] Pre-camber	TB Thermal Break
	BR Break in beam

Typical Beam Notation



HEYNE TILLETT STEEL

STRUCTURAL ENGINEERS

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Job Name
60-86 Royal College Street

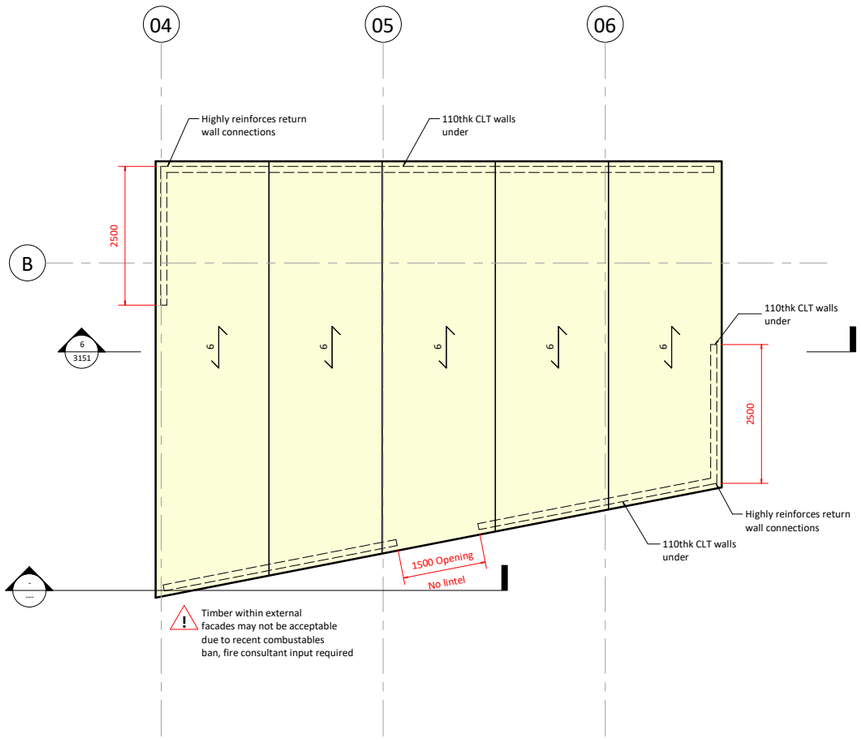
Drawing Title
Proposed Fifth Floor Plan

Rev	Date	By	Eng	Amendments
P2	12.12.19	LG	GG	Issue For Planning
P1	06.12.19	LG	GG	Issue For Planning

Purpose of Issue **Preliminary** Scale at A1 **1 : 100**

Drg No 2222-HTS-XX-05-DR-S-3150

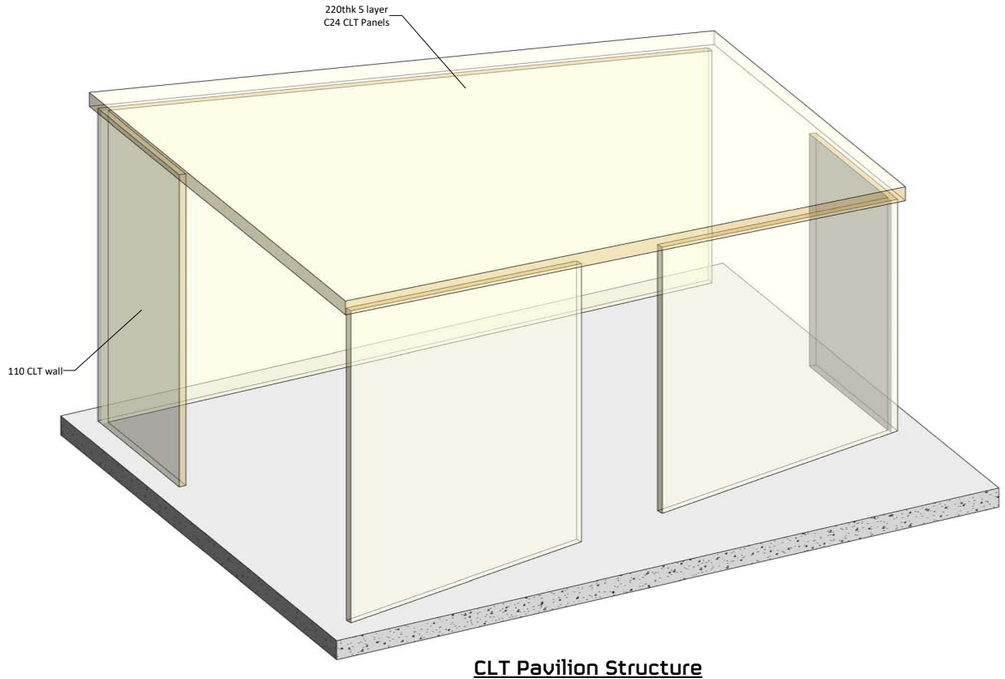
Rev P2



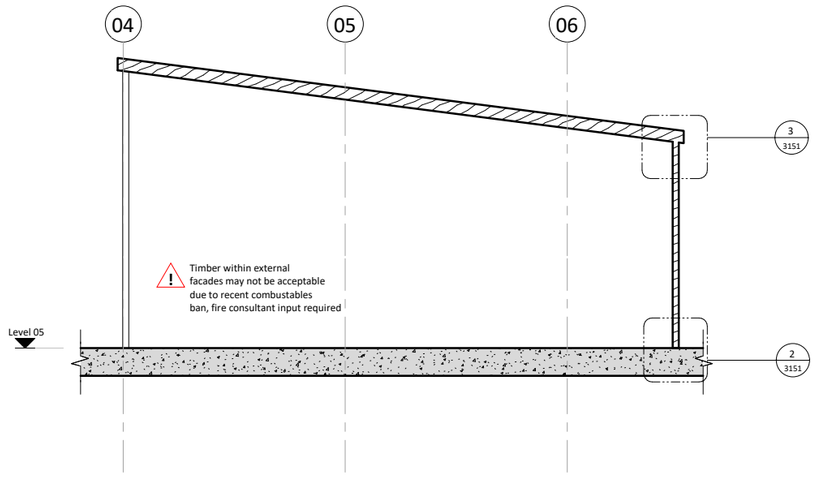
DWG 3150

Proposed Fifth Floor Timber Pavilion

1 : 50



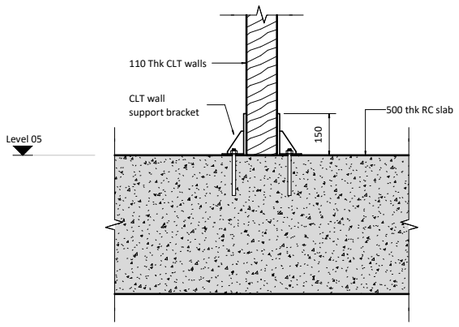
CLT Pavilion Structure



DWG 3151

Section 6-6

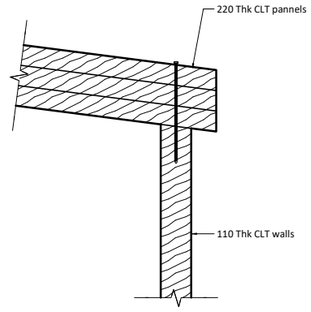
1 : 50



DWG 3151

Detail 2-2

1 : 10



DWG 3151

Detail 3-3

1 : 10

100mm @ A1 (50mm @ A3)

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Column Schedule

C1	356x406x551 UC	CC2	550 x 550mm RC40/50
C2	203x203x100 UC	CC3	450 x 450mm RC40/50
CC1	575 x 575mm RC40/50	CC5	425 x 425mm RC40/50

Beam Schedule

B1	356x406x551 UC	B3	457x191x98 UB
B2	1016x305x350 UB	CB1	450 x 450mm RC40/50

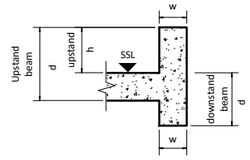
Floor Schedule

Concrete Floor X	Profiled deck X / Timber Floor X
1	1200 thk WRC slab RC32/40
2	350 thk WRC slab RC32/40
3	500 thk RC slab RC32/40
4	350 thk RC slab RC32/40
5	130 thk profiled slab on TATA Comflor 60 1.0 mm gauge deck with A193 mesh top and 1 no. H12 bar per trough
6	220thk 5 layer C24 CLT Panels

Legend

	Proposed RC structure
	Proposed WRC structure
	Proposed Steel Framing
Dim	Red dimension TBC by architect
PSx	PS1 - 450lg x 215wd x 150dp MC padstone PS1 - 600lg x 215wd x 215dp MC padstone
ST Connection Strengthening	C Crank
M Moment connection	S Splice
B1 [25mm] Pre-camber	TB Thermal Break
	BR Break in beam

Typical Beam Notation



Rev	Date	By	Eng	Amendments
P1	06.12.19	LG	GG	Issue For Planning

HEYNE TILLETT STEEL

STRUCTURAL ENGINEERS

hts.uk.com

Job Name

60-86 Royal College Street

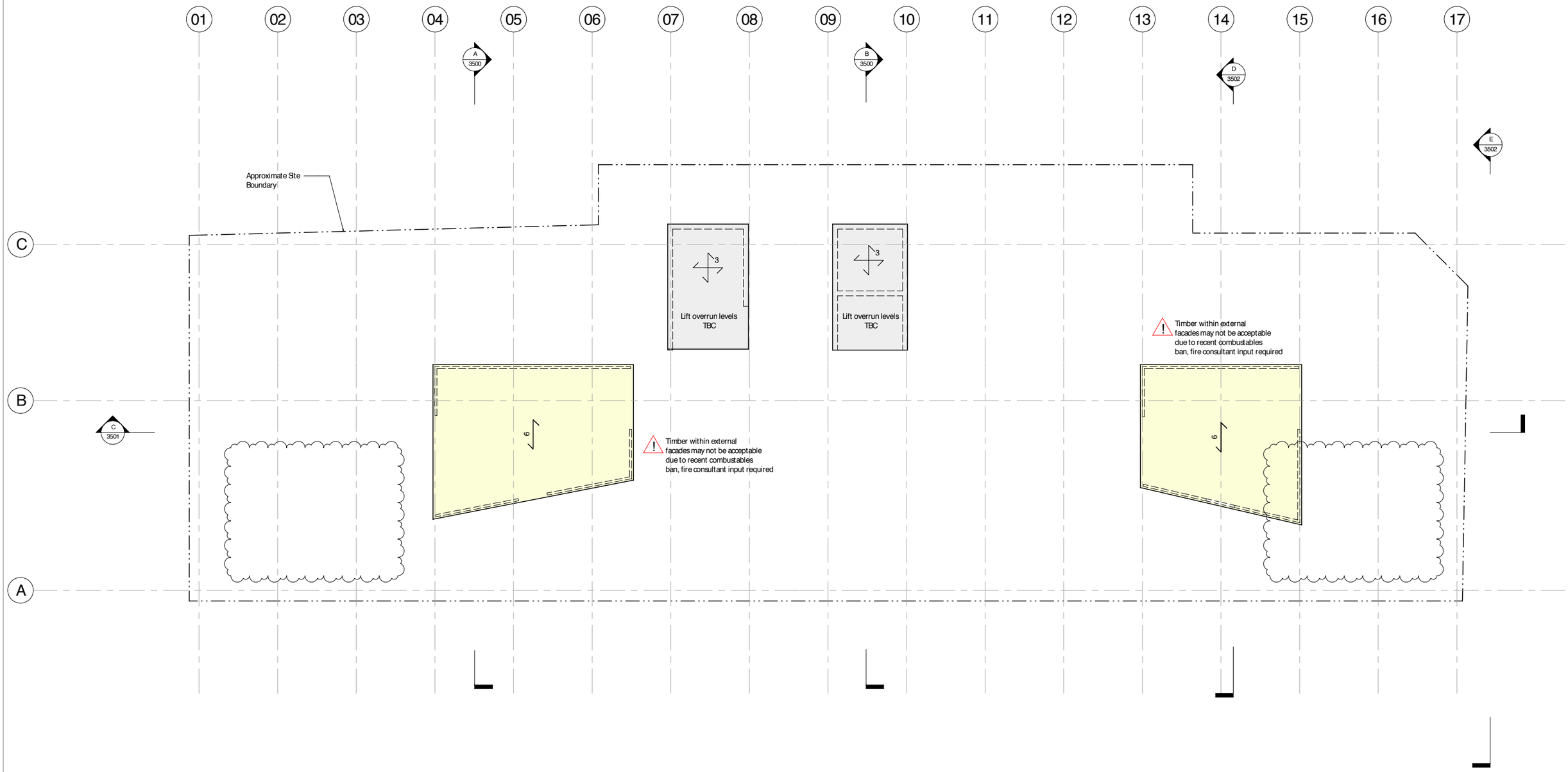
Drawing Title

Proposed Fifth Floor Timber Structure

Purpose of Issue **Preliminary** Scale at A1 **As indicated**

Drg No **2222-HTS-XX-05-DR-S-3151**

Rev **P1**



100mm @ A1 (50mm @ A3)

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Column Schedule

C1	356x406x551 UC	CC2	550 x 550mm RC40/50
C2	203x203x100 UC	CC3	450 x 450mm RC40/50
CC1	575 x 575mm RC40/50	CC5	425 x 425mm RC40/50

Beam Schedule

B1	356x406x551 UC	B3	457x191x98 UB
B2	1016x305x350 UB	CB1	450 x 450mm RC40/50

Wall Schedule

Ref	Thickness	Type
W1	350	WRC
W2	250	RC
W3	110	CLT wall panels

Floor Schedule

Concrete Floor X	Profiled deck X	Timber Floor X

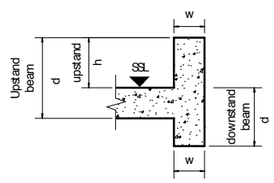
1	1200 thk WRC slab RC32/40
2	350 thk WRC slab RC32/40
3	500 thk RC slab RC32/40
4	350 thk RC slab RC32/40
5	130 thk profiled slab on TATA Comflor 60 1.0 mm gauge deck with A193 mesh top and 1 no. H12 bar per trough
6	220thk 5 layer C24 CLT Panels

Legend

	Proposed RC structure
	Proposed WRC structure
	Proposed Steel Framing
Dim	Red dimension TBC by architect

ST	Connection Strengthening	C	Crank
		S	Splice
M	Moment connection	TB	Thermal Break
B1 [25mm]	Pre-camber	BR	Break in beam

Typical Beam Notation



Rev	Date	By	Eng	Amendments
P2	12.12.19	LG	GG	Issue For Planning
P1	06.12.19	LG	GG	Issue For Planning

HEYNE TILLETT STEEL
STRUCTURAL ENGINEERS
hts.uk.com

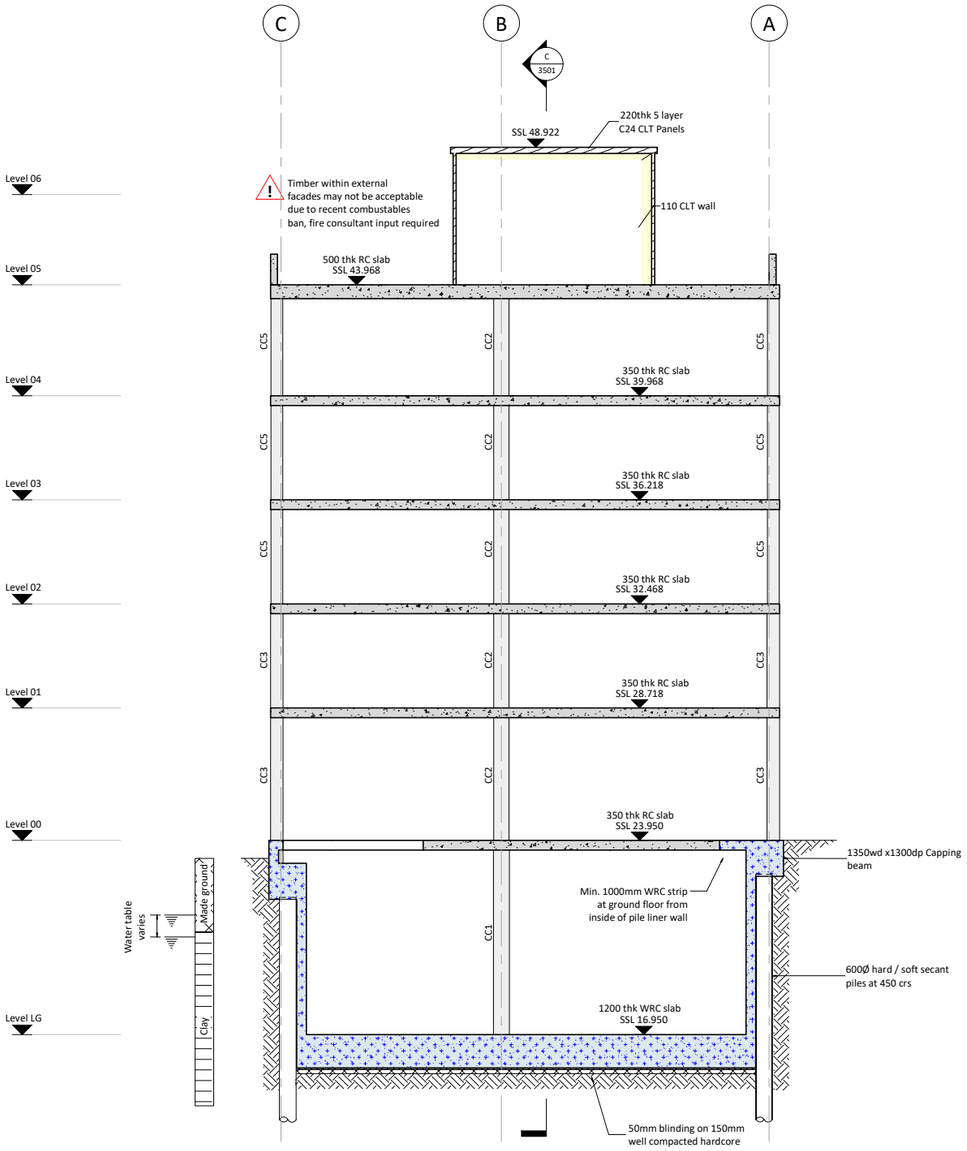
Job Name
60-86 Royal College Street

Drawing Title
Proposed Roof Floor Plan

Purpose of Issue **Preliminary** Scale at A1 **1 : 100**

Drg No 2222-HTS-XX-RF-DR-S-3160

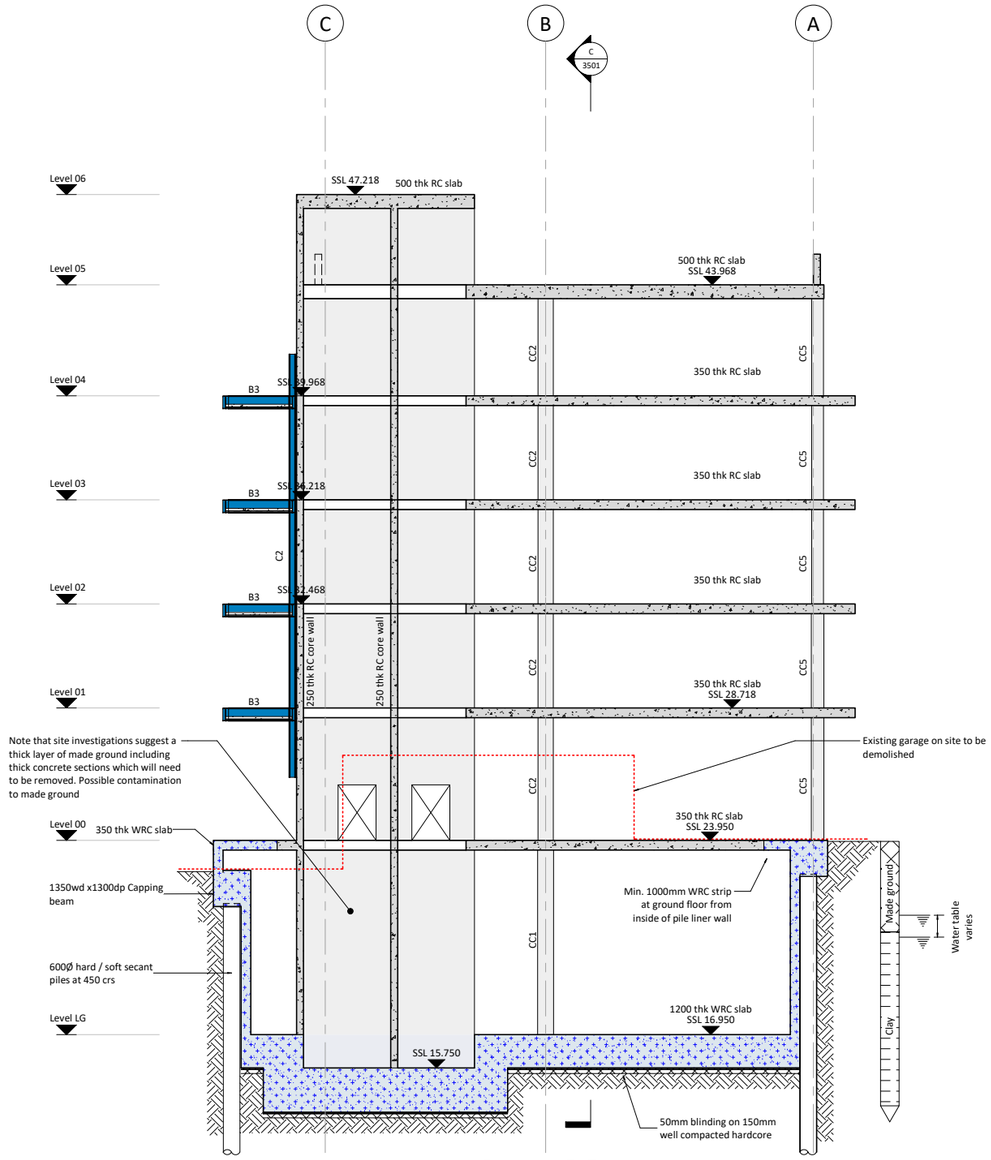
Rev P2



DWG 3090

Section A-A

1 : 100



DWG 3090

Section B-B

1 : 100

100mm @ A1 (50mm @ A3)

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Column Schedule

C1	356x406x551 UC	CC2	550 x 550mm RC40/50
C2	203x203x100 UC	CC3	450 x 450mm RC40/50
CC1	575 x 575mm RC40/50	CC5	425 x 425mm RC40/50

Beam Schedule

B1	356x406x551 UC	B3	457x191x98 UB
B2	1016x305x350 UB	CB1	450 x 450mm RC40/50

Wall Schedule

Ref	Thickness	Type
W1	350	WRC
W2	250	RC
W3	110	CLT wall panels

Floor Schedule

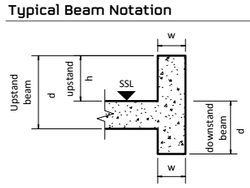
Concrete Floor X	Profiled deck X	Timber Floor X

1	1200 thk WRC slab RC32/40
2	350 thk WRC slab RC32/40
3	500 thk RC slab RC32/40
4	350 thk RC slab RC32/40
5	130 thk profiled slab on TATA Comflor 60 1.0 mm gauge deck with A193 mesh top and 1 no. H12 bar per trough
6	220thk 5 layer C24 CLT Panels

Legend

	Proposed RC structure
	Proposed WRC structure
	Proposed Steel Framing
Dim	Red dimension TBC by architect
ST	Connection Strengthening
M	Moment connection
B1 [25mm]	Pre-camber
C	Crank
S	Splice
TB	Thermal Break
BR	Break in beam

Typical Beam Notation



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STRUCTURAL ENGINEERS
hts.uk.com

Job Name
60-86 Royal College Street

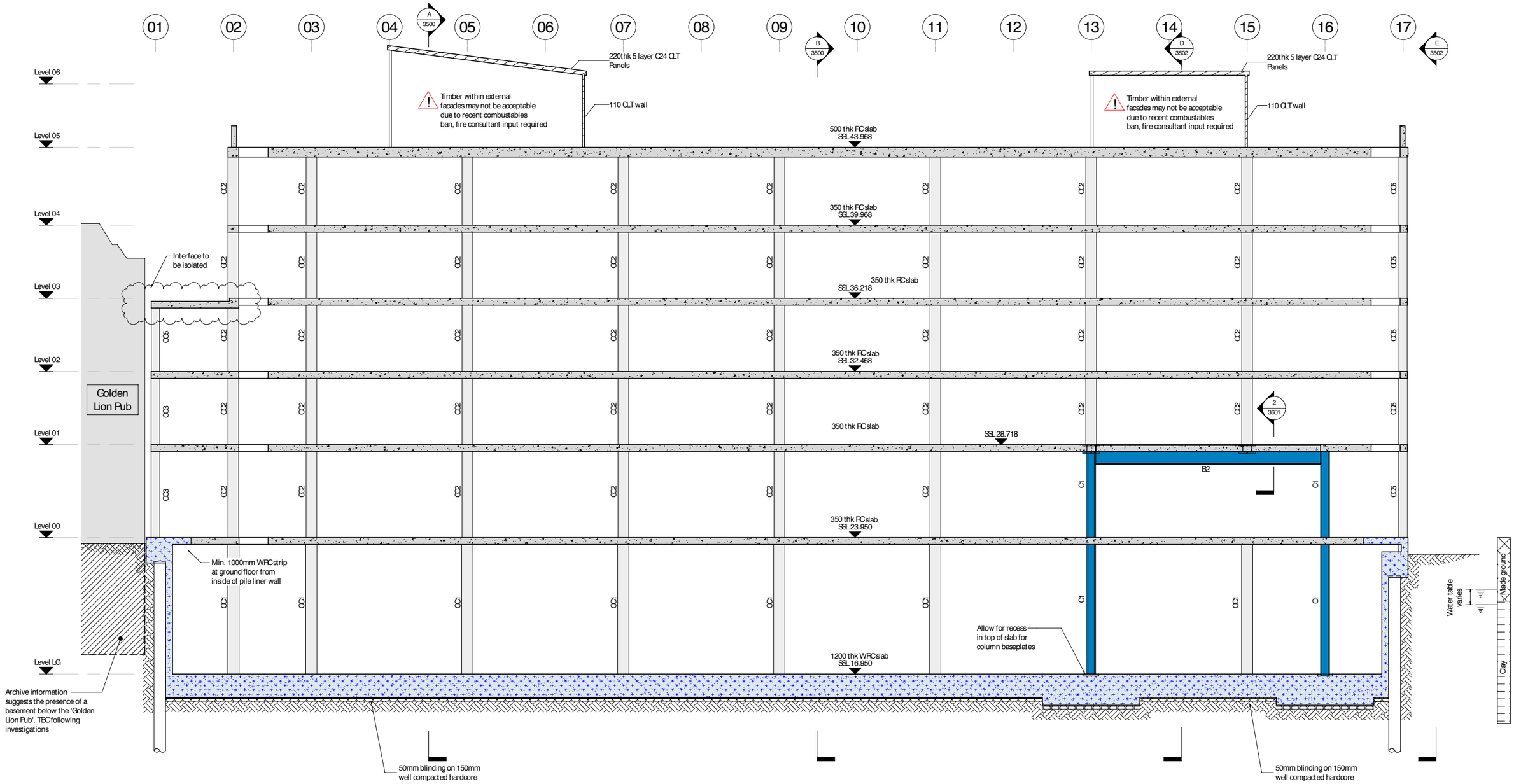
Drawing Title
Proposed Building Sections A-A and B-B

Rev	Date	By	Eng	Amendments
P1	06.12.19	LG	GG	Issue For Planning

Purpose of Issue **Preliminary** Scale at A1 **1 : 100**

Drg No **2222-HTS-XX-ZZ-DR-S-3500**

Rev **P1**



100mm @ A1 (50mm @ A3)

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Column Schedule

C1	356x406x551 UC	CC2	550 x 550mm RC40/50
C2	203x203x100 UC	CC3	450 x 450mm RC40/50
CC1	575 x 575mm RC40/50	CC5	425 x 425mm RC40/50

Beam Schedule

B1	356x406x551 UC	B3	457x191x98 UB
B2	1016x305x350 UB	CB1	450 x 450mm RC40/50

Wall Schedule

Ref	Thickness	Type
W1	350	WRC
W2	250	RC
W3	110	CLT wall panels

Floor Schedule

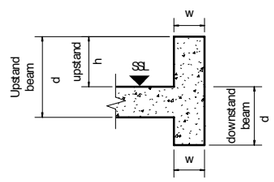
Concrete Floor X	Profiled deck X	Timber Floor X

1	1200 thk WRC slab RC32/40
2	350 thk WRC slab RC32/40
3	500 thk RC slab RC32/40
4	350 thk RC slab RC32/40
5	130 thk profiled slab on TATA Comflor 60 1.0 mm gauge deck with A193 mesh top and 1 no. H12 bar per trough
6	220thk 5 layer C24 CLT Panels

Legend

- Proposed RC structure
- Proposed WRC structure
- Proposed Steel Framing
- Dim — Red dimension TBC by architect
- ST — Connection Strengthening
- M — Moment connection
- B1 [25mm] — Pre-camber
- C — Crank
- S — Splice
- TB — Thermal Break
- BR — Break in beam

Typical Beam Notation



HEYNE TILLETT STEEL

STRUCTURAL ENGINEERS

hts.uk.com

Job Name
60-86 Royal College Street

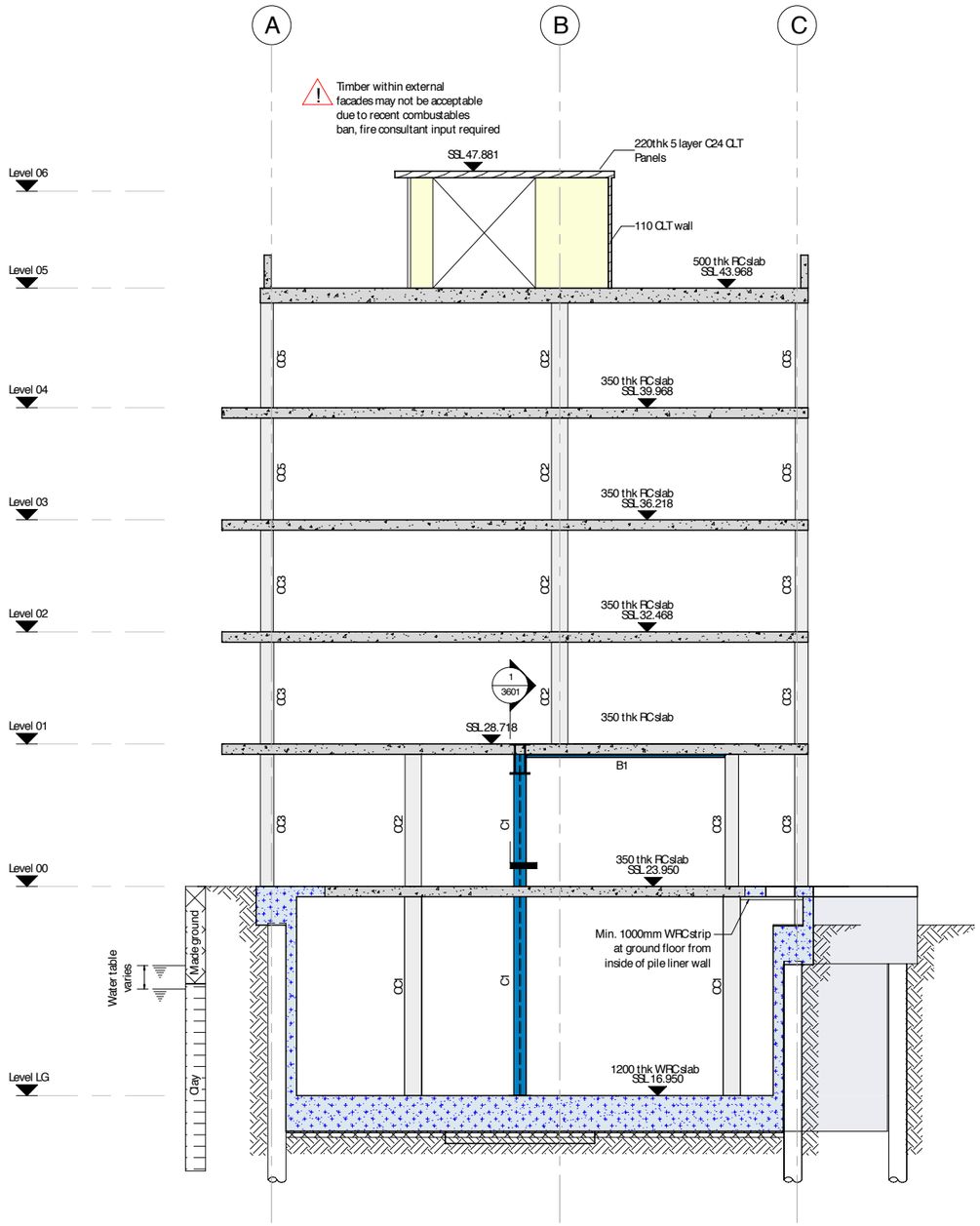
Drawing Title
Proposed Building Section C-C

Rev	Date	By	Eng	Amendments
P2	12.12.19	LG	GG	Issue For Planning
P1	06.12.19	LG	GG	Issue For Planning

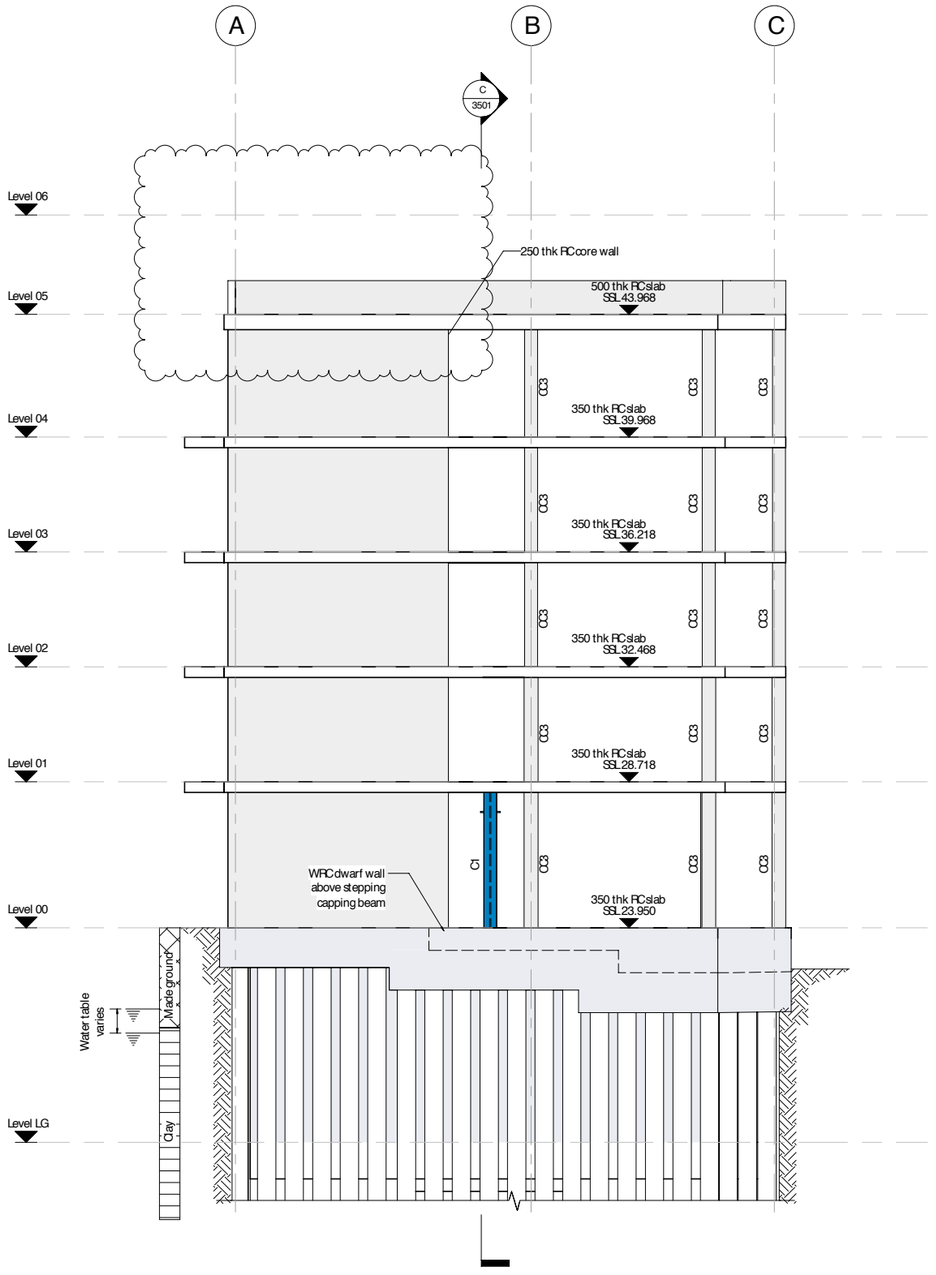
Purpose of Issue **Preliminary** Scale at A1 **1 : 100**

Drg No 2222-HTS-XX-ZZ-DR-S-3501

Rev P2



DWG 3100 **Section D-D**
1 : 100



DWG 3090 **Section E-E**
1 : 100

100mm @ A1 (50mm @ A3)

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Column Schedule

C1	356x406x551 UC	CC2	550 x 550mm RC40/50
C2	203x203x100 UC	CC3	450 x 450mm RC40/50
CC1	575 x 575mm RC40/50	CC5	425 x 425mm RC40/50

Beam Schedule

B1	356x406x551 UC	B3	457x191x98 UB
B2	1016x305x350 UB	CB1	450 x 450mm RC40/50

Wall Schedule

Ref	Thickness	Type
W1	350	WRC
W2	250	RC
W3	110	CLT wall panels

Floor Schedule

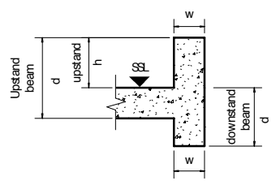
Concrete Floor X	Profiled deck X	Timber Floor X

1	1200 thk WRC slab RC32/40
2	350 thk WRC slab RC32/40
3	500 thk RC slab RC32/40
4	350 thk RC slab RC32/40
5	130 thk profiled slab on TATA Comflor 60 1.0 mm gauge deck with A193 mesh top and 1 no. H12 bar per trough
6	220thk 5 layer C24 CLT Panels

Legend

	Proposed RC structure
	Proposed WRC structure
	Proposed Steel Framing
Dim	Red dimension TBC by architect
ST Connection Strengthening	C Crank
	S Splice
M Moment connection	TB Thermal Break
B1 [25mm] Pre-camber	BR Break in beam

Typical Beam Notation



Rev	Date	By	Eng	Amendments
P2	12.12.19	LG	GG	Issue For Planning
P1	06.12.19	LG	GG	Issue For Planning

HEYNE TILLETT STEEL
STRUCTURAL ENGINEERS
hts.uk.com

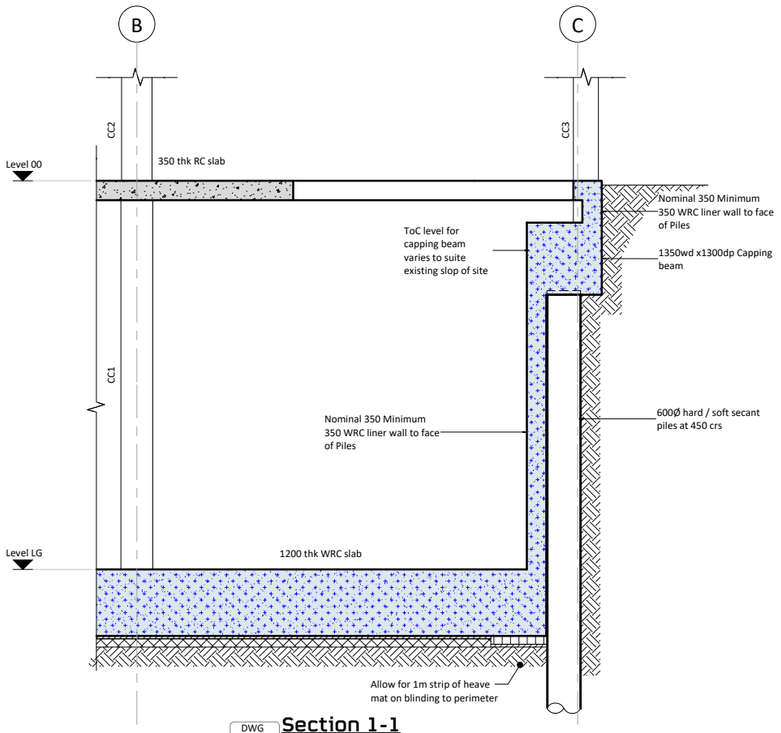
Job Name
60-86 Royal College Street

Drawing Title
Proposed Building Sections D-D & E-E

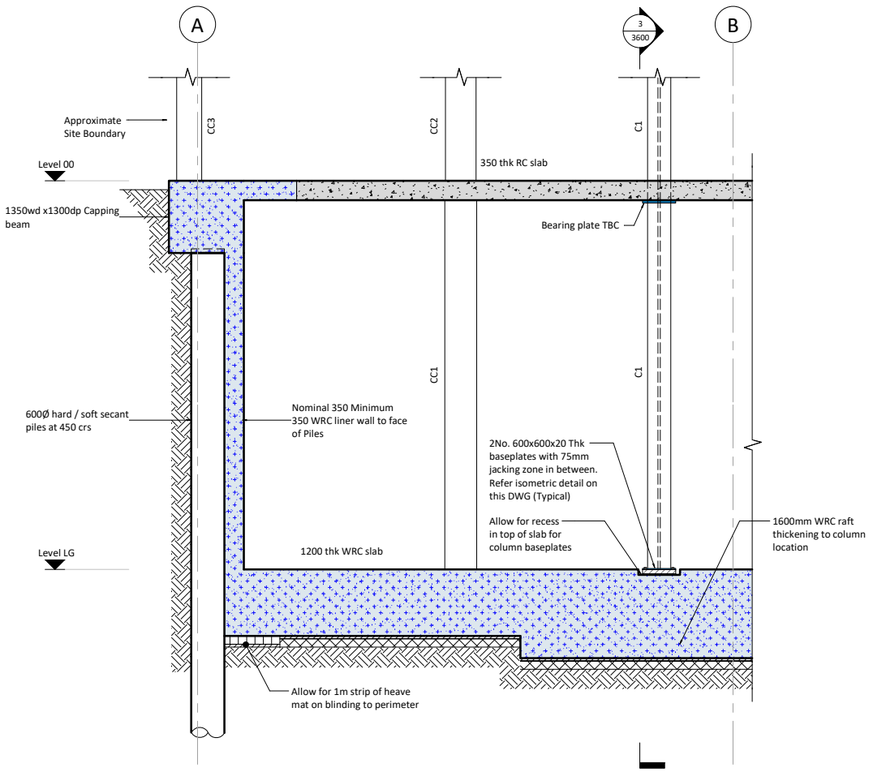
Purpose of Issue **Preliminary** Scale at A1 **1 : 100**

Drg No 2222-HTS-XX-ZZ-DR-S-3502

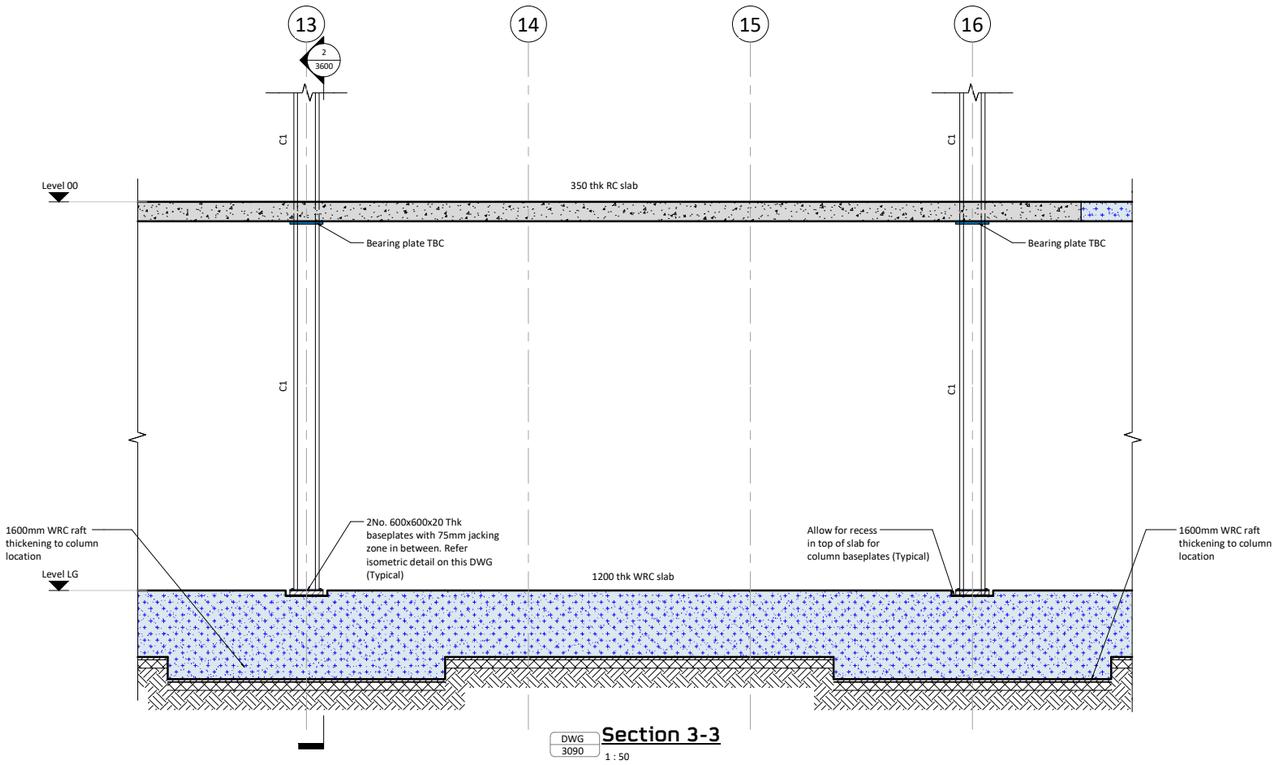
Rev P2



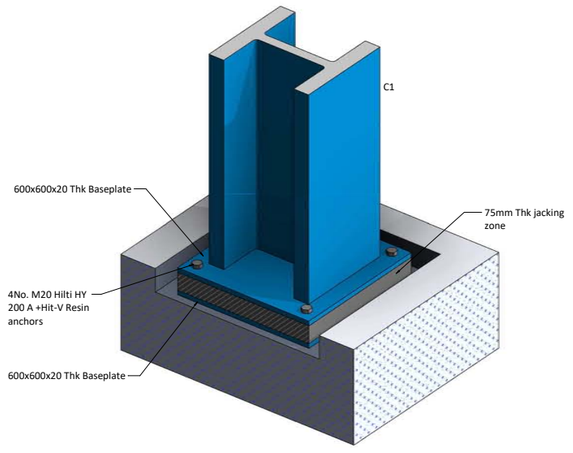
DWG 3090 **Section 1-1**
1 : 50



DWG 3090 **Section 2-2**
1 : 50



DWG 3090 **Section 3-3**
1 : 50



Baseplate Isometric

100mm @ A1 (50mm @ A3)

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Column Schedule

C1	356x406x551 UC	CC2	550 x 550mm RC40/50
C2	203x203x100 UC	CC3	450 x 450mm RC40/50
CC1	575 x 575mm RC40/50	CC5	425 x 425mm RC40/50

Beam Schedule

B1	356x406x551 UC	B3	457x191x98 UB
B2	1016x305x350 UB	CB1	450 x 450mm RC40/50

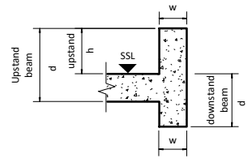
Floor Schedule

	Concrete Floor X	Profiled deck X	Timber Floor X
1	1200 thk WRC slab RC32/40		
2	350 thk WRC slab RC32/40		
3	500 thk RC slab RC32/40		
4	350 thk RC slab RC32/40		
5	130 thk profiled slab on TATA Comflor 60 1.0 mm gauge deck with A193 mesh top and 1 no. H12 bar per trough		
6	220thk 5 layer C24 CLT Panels		

Legend

	Proposed RC structure
	Proposed WRC structure
	Proposed Steel Framing
Dim	Red dimension TBC by architect
PSx	PS1 - 450lg x 215wd x 150dp MC padstone PS1 - 600lg x 215wd x 215dp MC padstone
ST Connection Strengthening	C Crank
M Moment connection	S Splice
B1 [25mm] Pre-camber	TB Thermal Break
	BR Break in beam

Typical Beam Notation



Rev	Date	By	Eng	Amendments
P1	06.12.19	LG	GG	Issue For Planning

HEYNE TILLETT STEEL
STRUCTURAL ENGINEERS
hts.uk.com

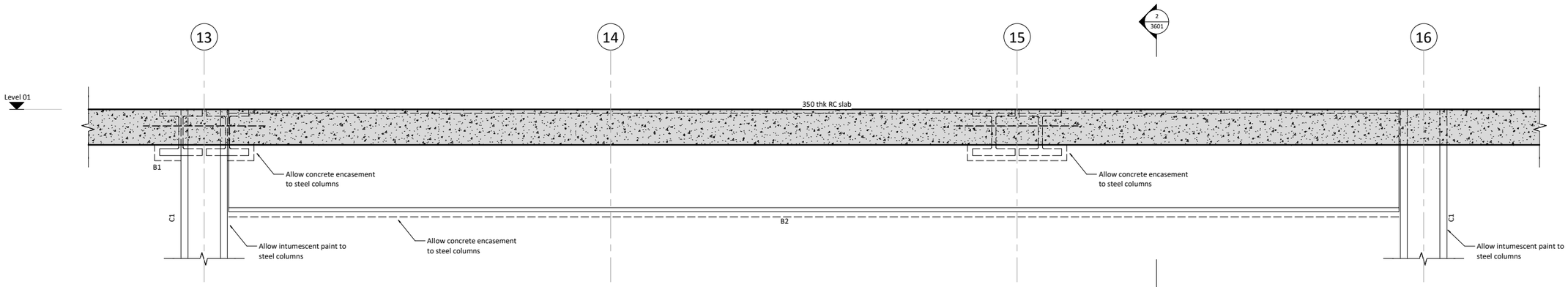
Job Name
60-86 Royal College Street

Drawing Title
Proposed Basement and Ground Floor Sections

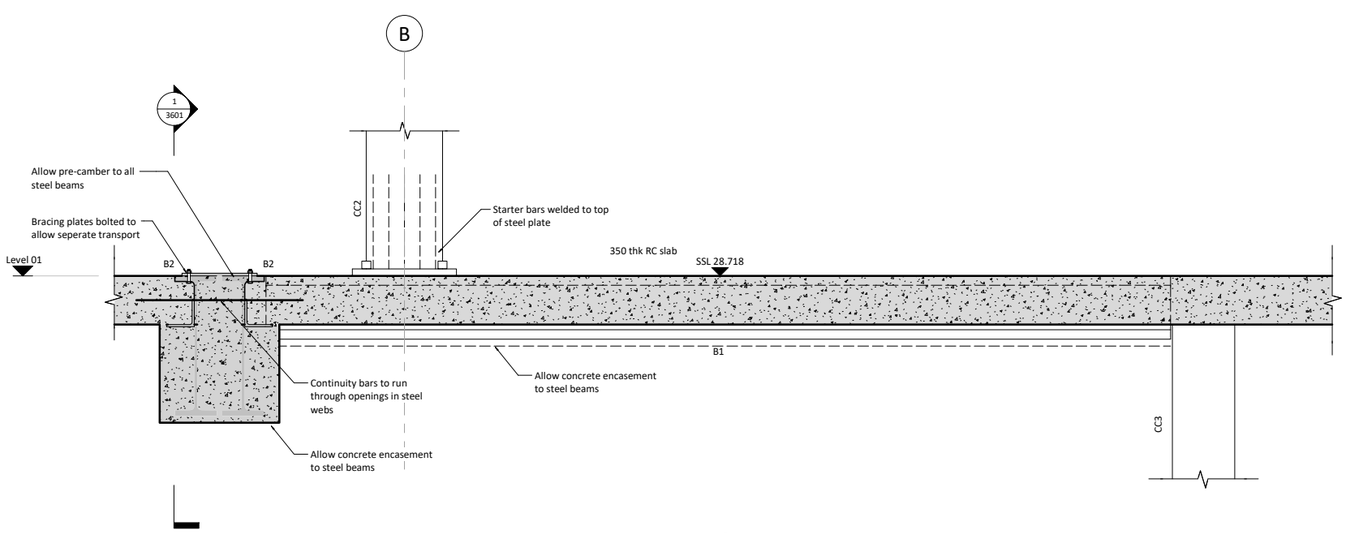
Purpose of Issue **Preliminary** Scale at A1 **1 : 50**

Drg No **2222-HTS-XX-ZZ-DR-S-3600**

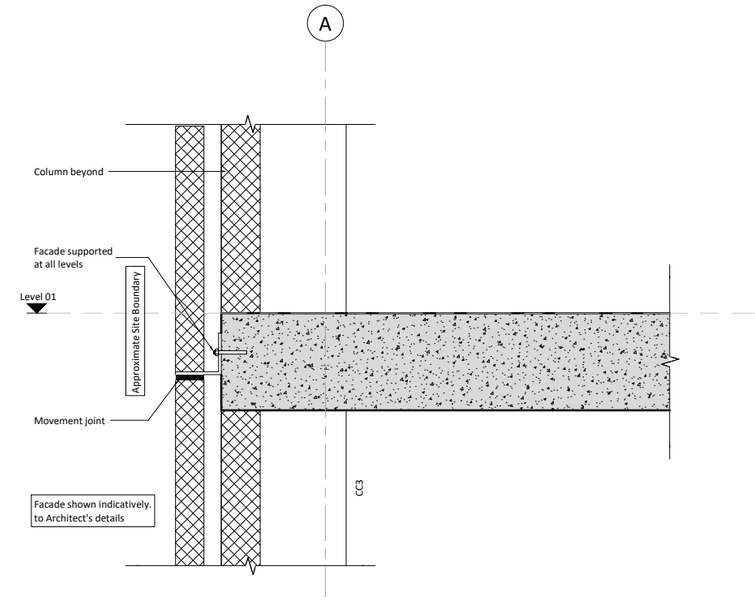
Rev **P1**



DWG 3110 **Section 1-1**
1 : 20



DWG 3110 **Section 2-2**
1 : 20



DWG 3110 **Section 3-3**
1 : 10

100mm @ A1 (50mm @ A3)

1 This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.

2 Do not scale from this drawing in either paper or digital form. Use written dimensions only. To check drawing has been printed to the intended scale the above bar should be 100mm

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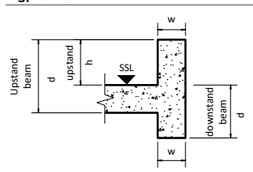
Typical Beam Notation



Rev	Date	By	Eng	Amendments
P1	06.12.19	LG	GG	Issue For Planning

HEYNE TILLETT STEEL
STRUCTURAL ENGINEERS
hts.uk.com

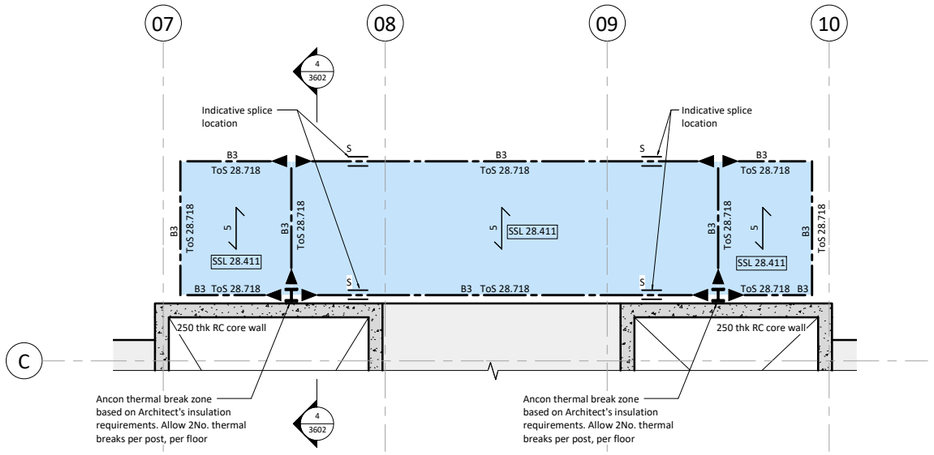
Job Name
60-86 Royal College Street

Drawing Title
Proposed First Floor Sections and Details

Purpose of Issue **Preliminary** Scale at A1 **As indicated**

Drg No **2222-HTS-XX-ZZ-DR-S-3601**

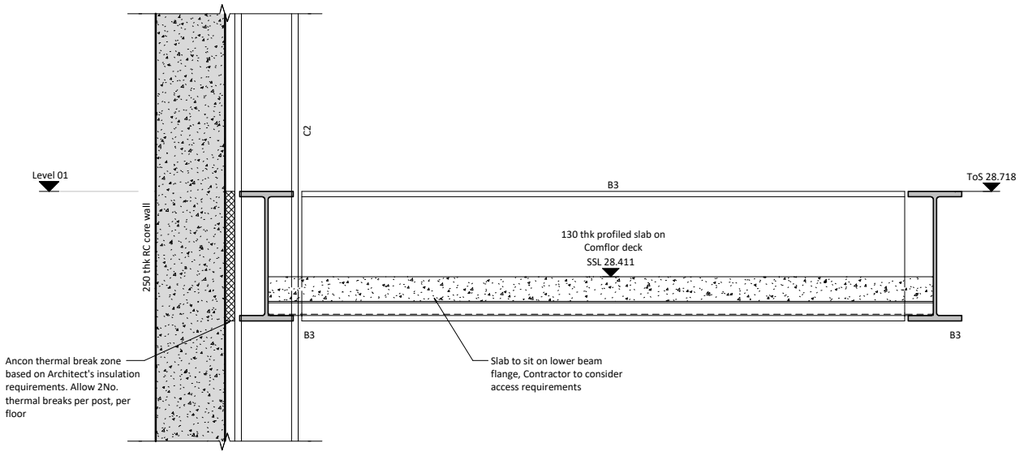
Rev **P1**



DWG 3110

Proposed Balcony Plan

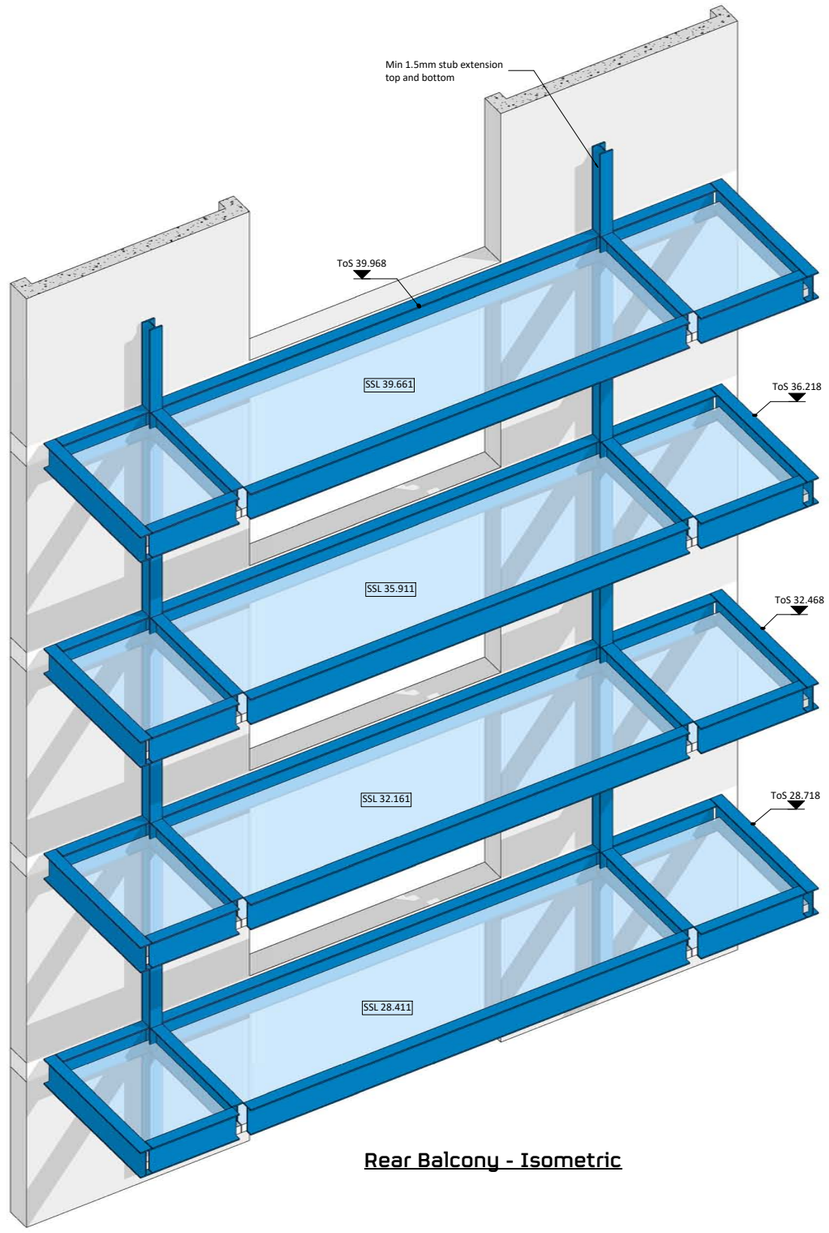
1 : 50



DWG 3602

Section 4-4

1 : 10



Rear Balcony - Isometric

100mm @ A1 (50mm @ A3)

1 This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.

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3 Any setting out dimensions shown in red are to be confirmed by the architect. All dimensions are to be checked by the contractor against site dimensions prior to fabrication /commencement of work on site. Beams and columns are to be centred on grid unless noted otherwise. Setting out of steelwork is shown to the centre of symmetric sections and to the back face of PFCs and RSAs.

Column Schedule

C1	356x406x551 UC	CC2	550 x 550mm RC40/50
C2	203x203x100 UC	CC3	450 x 450mm RC40/50
CC1	575 x 575mm RC40/50	CC5	425 x 425mm RC40/50

Beam Schedule

B1	356x406x551 UC	B3	457x191x98 UB
B2	1016x305x350 UB	CB1	450 x 450mm RC40/50

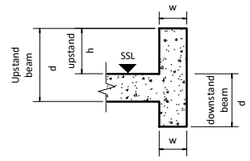
Floor Schedule

Concrete Floor	Profiled deck	Timber Floor
1	1200 thk WRC slab RC32/40	
2	350 thk WRC slab RC32/40	
3	500 thk RC slab RC32/40	
4	350 thk RC slab RC32/40	
5	130 thk profiled slab on TATA Comflor 60 1.0 mm gauge deck with A193 mesh top and 1 no. H12 bar per trough	
6	220thk C24 CLT Panels	

Legend

	Proposed RC structure
	Proposed WRC structure
	Proposed Steel Framing
Dim	Red dimension TBC by architect
PSx	PS1 - 450lg x 215wd x 150dp MC padstone PS1 - 600lg x 215wd x 215dp MC padstone
ST Connection Strengthening	C Crank
M Moment connection	S Splice
B1 [25mm] Pre-camber	TB Thermal Break
	BR Break in beam

Typical Beam Notation



Rev	Date	By	Eng	Amendments
P1	06.12.19	LG	GG	Issue For Planning

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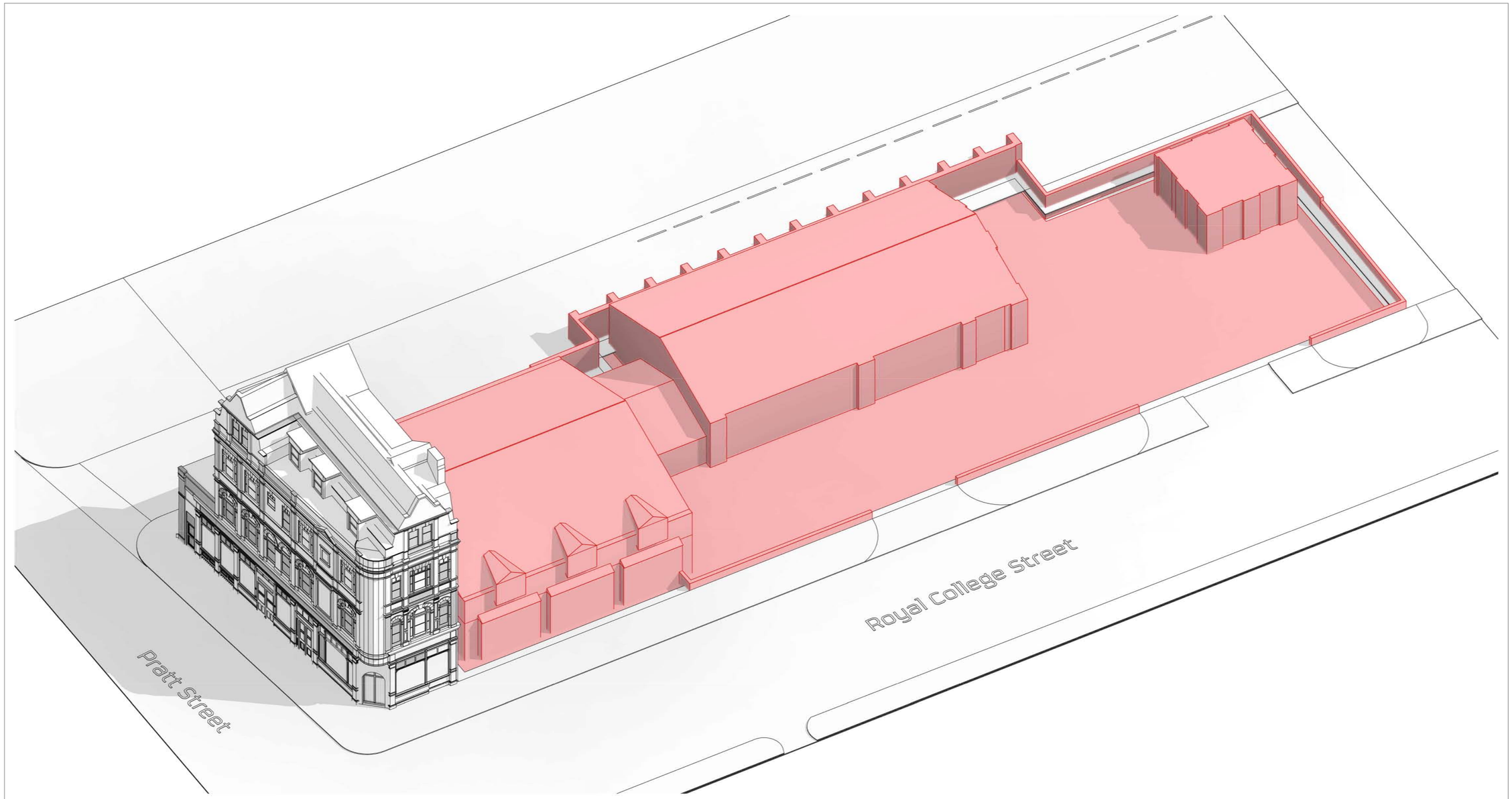
Job Name
60-86 Royal College Street

Drawing Title
Proposed Rear Balcony Typical Layout & Details

Purpose of Issue **Preliminary** Scale at A1 **As indicated**

Drg No **2222-HTS-XX-ZZ-DR-S-3602**

Rev **P1**



100mm @ A1 (50mm @ A3)

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3 All demolition drawings are to be read in conjunction with proposed plans

4 Assume all edges of RC are to be disc-cut UNO
Where edges of slab are to be demolished, floors are to be disc cut to face of nearest beam if applicable.

5 Care to be taken not to cut / adversely affect existing retained beams / columns while demolition is taking place. Contractor to undertake careful exploratory works and submit appropriate method statement to ensure retained structure is not damaged undertaking areas of demolition

6 Treat all cut concrete faces with Ronabond concrete repair system by Ronacrete, or similar concrete repair system

7 Temporary bracing required prior to demolition of existing stability cores and until the new stability structure is in placeprior to construction of new stability structure. Contractor to submit full temporary works and sequencing proposal to the CA for review prior to commencing work

8 The foundations of the existing structure must not be undermined. Upon exposing the retained structures the contractor should identify if any proposed excavation levels are deeper than the existing founding levels and notify the engineer accordingly

The existing structural information shown on these drawings is based on visual inspection of the building, limited opening up works and relevant archive information. All details of the existing construction are subject to confirmation by the Contractor during the works on site. No materials are to be ordered until the relevant details and conditions are confirmed by the Contractor on site. Should the contractor discover any discrepancies between the assumed existing structure and what is found on site they should notify the engineer immediately, and await further instruction

Demolition legend

	Area of floor to be demolished
	Beam demolished / removed
	Column demolished / removed
	RC / Masonry wall demolished

Demolition Key

1	Notes
2	Notes

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Job Name
60-86 Royal College Street

Drawing Title
Demolition Perspective Site View - Royal College Street

Purpose of Issue **Preliminary** Scale at A1

Drg No **2222-HTS-XX-B1-DR-S-1010**

Rev **P1**

Rev	Date	By	Eng	Amendments
P1	06.12.19	LG	GG	Issue For Planning

Columns

Structural Material	Volume	Density	CO2e (per kg)	Total CO2e (tonnes)
Concrete - Cast In Situ	136.65 m³	154067.95 kg/m³	0.224	73.7
Metal - Steel - General	2.04 m³	47100.00 kg/m³	2.592	41.5
	138.69 m³	201167.95 kg/m³		115.1

Floors

Structural Material	Volume	Density	CO2e (per kg)	Total CO2e(tonnes)
Concrete - Cast In Situ	2391.09 m³	2407.31 kg/m³	0.84	226.8
Concrete - Cast In Situ - Water resistant	1528.26 m³	2407.31 kg/m³	0.84	31.7
Wood - Plywood new	28.53 m³	552.00 kg/m³	1	7.9
	3947.88 m³		2.68	266.4

Beams (Assuming 10% Additional For Connections)

Structural Material	Volume	Density	CO2e (per kg)	Total CO2e (tonnes)
Concrete - Cast In Situ	0.18 m³	2407.31 kg/m³	0.224	0.1
Metal - Steel - General	4.39 m³	7850.00 kg/m³	2.592	98.4
	4.57 m³			98.5

Foundations / Piles

Structural Material	Volume	Density	CO2e (per kg)	Total CO2e (tonnes)
Concrete - Cast In Situ	0.00 m³	2407.31 kg/m³	0.107	0.0
Concrete - Cast In Situ - Water resistant	295.59 m³	2407.31 kg/m³	0.14	99.6
Secant Pile Hard	933.46 m³	2500.00 kg/m³	0.107	249.7
	1229.05 m³			349.3

Walls

Structural Material	Volume	Density	CO2e (per kg)	Total CO2e (tonnes)
Concrete - Cast In Situ	545.71 m³	2407.31 kg/m³	0.204	268.0
Concrete - Cast In Situ - Water resistant	318.59 m³	2407.31 kg/m³	0.204	156.5
Wood - Plywood new	20.01 m³	552.00 kg/m³	0.5	5.5
	884.31 m³			430.0

Profiled Deck Floor (Concrete)

Structural Material	Volume	Density	CO2e (per kg)	HTS_Concrete reduction factor	Total CO2e (tonnes)
Concrete - Profiled Decking LWC	15.24 m³	2500.00 kg/m³	0.123	0.74	3.5
	15.24 m³				3.5

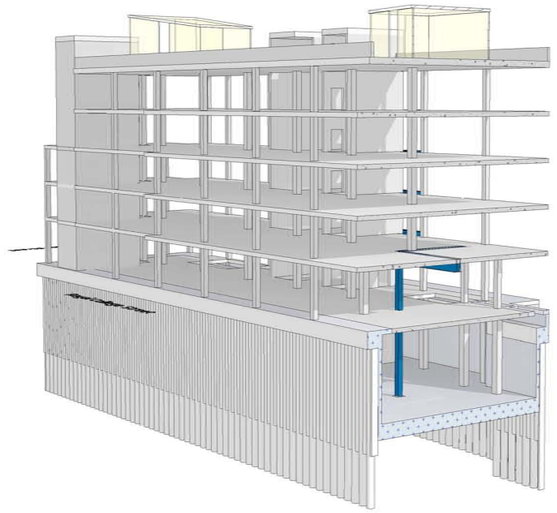
Profiled Deck Floor (Steel)

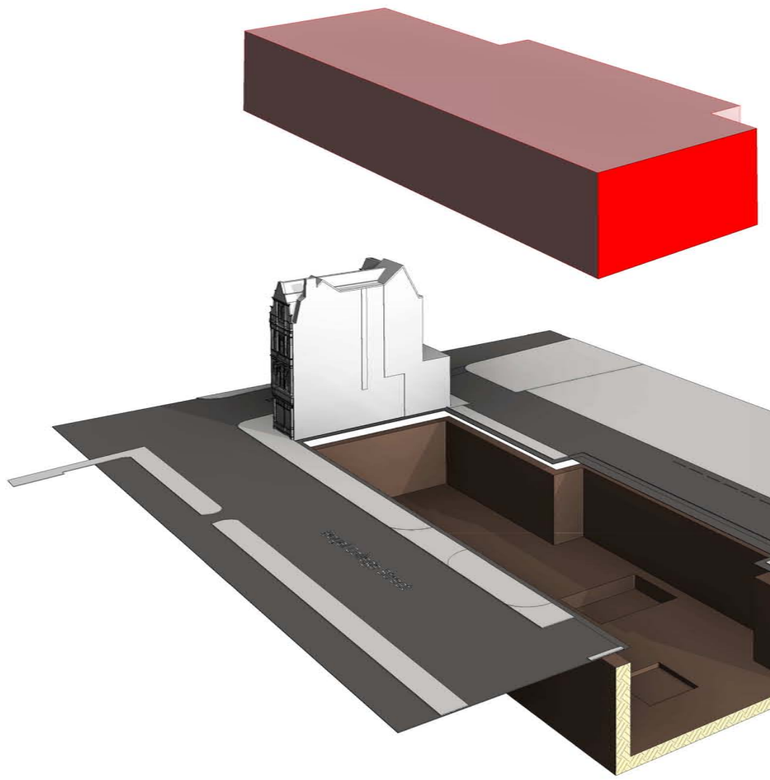
Material	Total Area (m²)	CO2e (per kg decking)	HTS decking weight per m2 (kg)	Total C02e (tonnes)
Concrete - Profiled Decking LWC	108.83	0.123	11.22	0.2
	108.83			0.2

Site Excavation

Structural Material	Volume	Density	Total C02 Emmisions
Site - Earth	9452.60 m³	2000.00 kg/m³	2147.6
Site - Paving	1.65 m³	2400.00 kg/m³	0.4
	9454.25 m³		2148.1

Total eCO2 = 3509 tonnes Approx





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Concrete Assumptions

- Concrete sourced 10km from site
- C32/40 w/ 70% GGBS for all foundations (piles, pile caps, Ground beams, basement and ground floor slabs)
- 50% GGBS in remaining RC
- Rebar 97% recycled content, 300km
- FSC plywood formwork reused 3 times (general not applicable for visual concrete) 5% site waste (concrete)

Steelwork Assumptions

- 20% recycled content
- Sourced from 300km from site
- Connections assumed to be 10% of frame

Profiled Deck Assumptions

- Concrete sourced 10km from site
- Sourced 300km away from site
- Shear studs not considered

Demolition Assumptions

- Values include energy released by site plant during demolition period

Other Assumptions

- All figures exclude sequestration and are taken up to practical completion only
- All items transported to site using HGV lorries
- Organic waste impacts from formwork considered in practical completion
- No direct consideration of site program considered (eg. concrete slower than steel)
- Site emissions considered, though transport carbon attributed to excavation assumed to have been excluded

Rev	Date	By	Eng	Amendments
P1	06.12.19	LG	GG	Issue For Planning

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Job Name
60-86 Royal College Street

Drawing Title
Embodied Carbon Assesment

Purpose of Issue **Preliminary** Scale at A1

Drg No **2222-HTS-XX-ZZ-DR-S-3800**

Rev **P1**