11 Chamberlain Street, NW1 8XD

Job Number: 8472

Document register

Drawing	Document	Date	11.07.22	15.11.22
		Issue	1	2
		Revision		
100	Lower Ground Floor Plan	P1	T1	
101	Ground Floor Plan	P1	T1	
102	First Floor Plan	P1	T1	
103	Second Floor Plan	P1	T1	
104	Third Floor Plan	P1	T1	
105	Roof plan	P1	T1	
200	Structural Detail & Section	P1	T1	
-	Structural Specification	-	A	
-	Structural Calculations	-	A	

ROO

Risks

These have potential to cause design changes which could lead to increased cost and/or build-time.

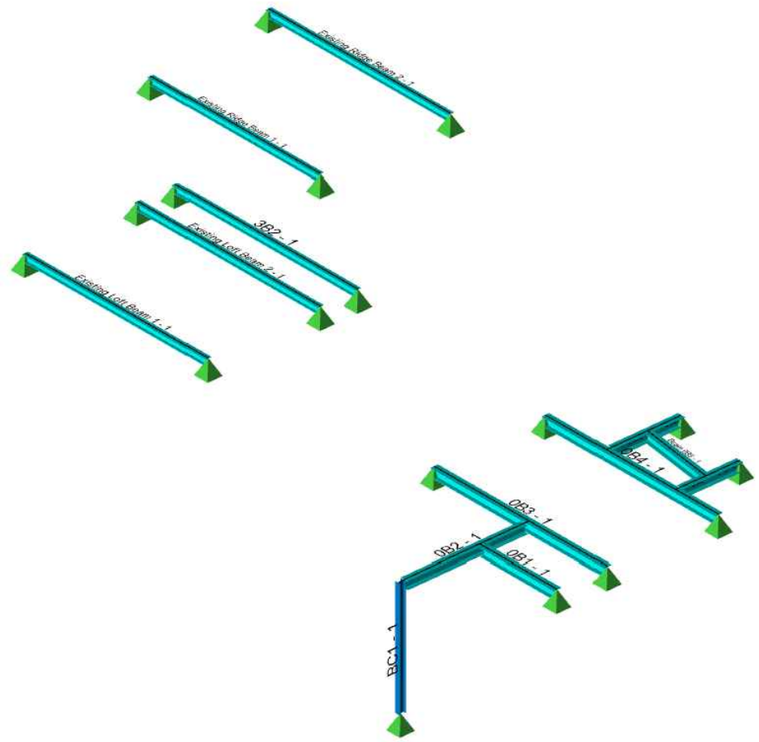
1. Site unknowns: Changes in floor span direction, or structural elements that have not been identified by investigative works in loft structure.
2. Location of drainage / access requirements for drainage unknown. Existing drainage run is public.
3. Presence of existing steelwork bearing onto load bearing structure to be demolished. Additional structure needed to allow removal of structure. Or scheme reconfiguration. Exploratory works needed to confirm

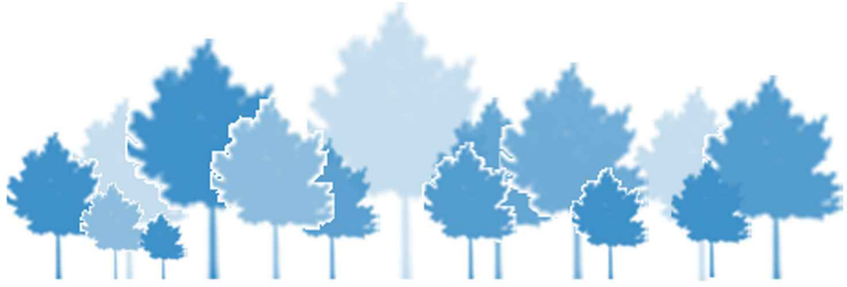
Options

Alternative structural solutions which Blue Engineering have no strong preference over.

1. Opt for UB Sections instead of UC Sections. Lighter sections lead to cost savings but may increase floor depths

3D Model (Not to scale)





8 Trees needed for carbon absorption over 25 years
If you would like to plant these trees donate here.

Materials	Kg	CO2e	£
Steel	1901	3295	8458
Concrete	12367	1499	917

Combined estimated CO2e for these materials is: 4795

Estimated cost of materials is: £9376

Find out why we are doing this and how we got our numbers here.

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CO^2e History

Rev	Date	CO^2e Total
1	11.07.22	3295
2	15.11.22	4795

1 Tree in a Year Absorbs

1 Tonne of Steel

1 Cubic Meter of Concrete

All cutouts to be cleanly disc cut using non percussive hand tools. Beams and lintels to be tightly dry packed into position

Unhatched walls are non-load bearing and are to be constructed to Architect's specification

30x5mm mild steel restraint straps to be installed at 1200mm horizontal centres and 300mm vertical centres, and to be 1200mm long at all junctions between the floor plates and steelwork/masonry

U.N.O. All steelwork is to be grade S355, including plates and connections. Refer to Structural Specification

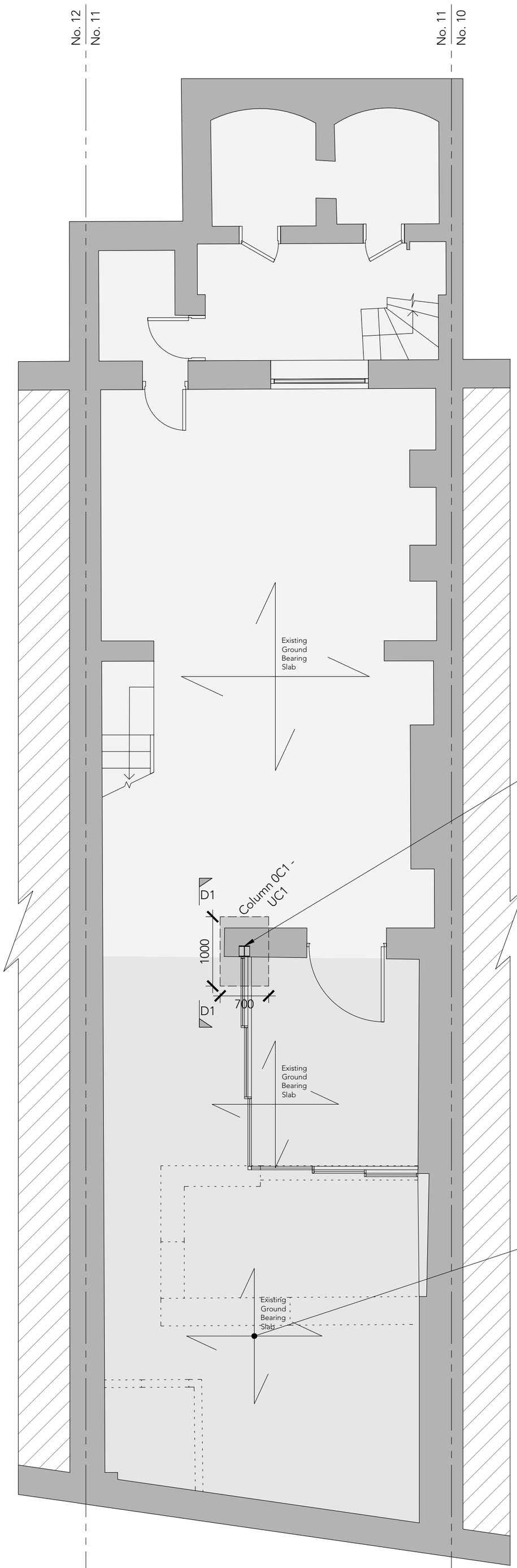
U.N.O. All bolts to be Grade 8.8

– – – – Indicates line of structure under

– - – - – - Indicates existing structure to be demolished

Proposed Steelwork Schedule	
Ref.	Serial Size
UC1	152 x 152 x 23 UC

All Pad foundations to be as dimensioned and formed with FND2 concrete mix or other approved by Building Control officer - depth of foundations to be minimum 1000mm below ground level on virgin ground and as agreed with Building Control



Column to have 15mm thick steel base plate welded to the bottom via 6mm thick full face fillet weld and fixed to foundation via 4no. M16 resin anchors with Hilti HY-200 resin. Minimum embedment to be 300mm. Minimum 25mm thick dry pack between plate and foundation

Finished floor level to be raised throughout by introducing timber packers or installing a layer of screed with H8 bars mid depth. Nominal 50mm cover to ends. New floor to be built over existing slab

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Drawing History

Rev	Date	Description	Drawn	Checked
P1	11.07.22	For Comment	DB	JLA
T1	15.11.22	For Comment	ZR	JLA

Title
Lower Ground Floor Plan

Project
11 Chamberlain Street, NW1 8XD

Client
Jaakko Ahmala & Liisa Tornivaara

Job No.
8472

Drawing No.
100

Revision
T1

Scale
1:50 at A2

A2

All cutouts to be cleanly disc cut using non percussive hand tools. Beams and lintels to be tightly dry packed into position

Unhatched walls are non-load bearing and are to be constructed to Architect's specification

30x5mm mild steel restraint straps to be installed at 1200mm horizontal centres and 300mm vertical centres, and to be 1200mm long at all junctions between the floor plates and steelwork/masonry

Where steelwork is supporting existing masonry or blockwork, minimum 25mm gap to be tightly dry packed between top flange of beam and structure over. Temporary works only to be removed once dry pack has hardened

U.N.O. All steelwork is to be grade S355, including plates and connections. Refer to Structural Specification

U.N.O. Steelwork to steelwork connections to be via 10mm thick end plates with 6mm full face fillet weld fixed into web of opposing beam using 4no. M16 bolts

U.N.O. All bolts to be Grade 8.8

Beams over openings are designed with a total deflection limited to span/325. Live load deflection has been limited to span/500. Manufacturer to confirm if acceptable

Existing timbers to be inspected for general condition, rot and decay. Contact Blue Engineering if poor condition found

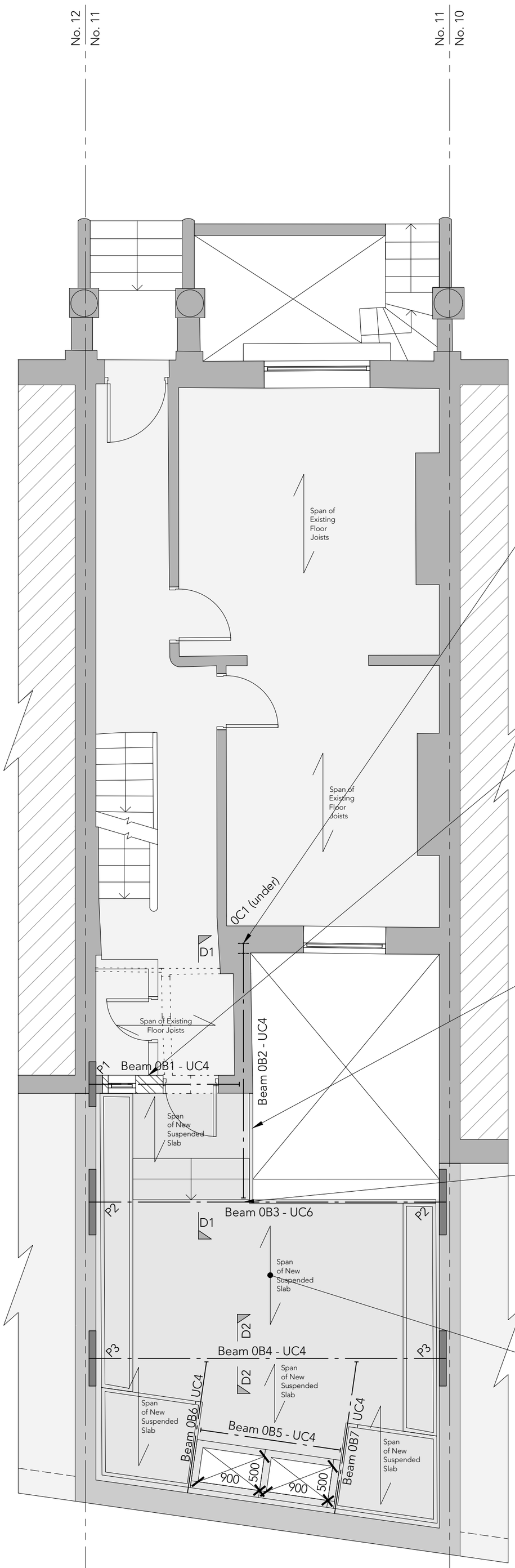
– – – – Indicates line of structure under

- - - - - - Indicates existing structure to be demolished

Proposed Steelwork Schedule	
Ref.	Serial Size
UC4	203 x 203 x 46 UC
UC6	203 x 203 x 60 UC

Padstone Schedule:
P1: 650x100x140mm Pre-Stressed Concrete Lintel
P2: 950mm long Naylor R12 High Spec Lintel
P3: 800mm long Naylor R12 High Spec Lintel

All padstones to be tightly dry packed into position



Beam 0B2 to bear onto Column 0C1 and to be connected via standard endplate connection - 10mm thick endplate welded to each beam via 6mm thick full face fillet weld and 4no. M16 bolts through plates and bottom flange of beam

Opening to be infilled with brickwork to match existing with class (iii) mortar. New brickwork to be toothed into existing

New balustrade design by others. Balustrade to be fixed to the walls. **Architect to confirm**

Beams 0B3 and 0B2 to run at lower level

New 175mm thick RC suspended slab to be formed using RC40 concrete mix with A393 mesh on top and bottom face. Nominal cover to be 50mm to ends

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Drawing History

Rev	Date	Description	Drawn	Checked
P1	11.07.22	For Comment	DB	JLA
T1	15.11.22	For Comment	ZR	JLA

Title
Ground Floor Plan

Project
11 Chamberlain Street, NW1 8XD

Client
Jaakko Ahmala & Liisa Tornivaara

Job No.
8472

Drawing No.
101

Revision
T1

Scale
1:50 at A2

A2

All cutouts to be cleanly disc cut using non percussive hand tools. Beams and lintels to be tightly dry packed into position

Unhatched walls are non-load bearing and are to be constructed to Architect's specification

Existing timbers to be inspected for general condition, rot and decay. Contact Blue Engineering if poor condition found

Manthorpe G912 joist seal to be used for timber beams bearing into solid masonry walls - Refer to Manufactures Specification

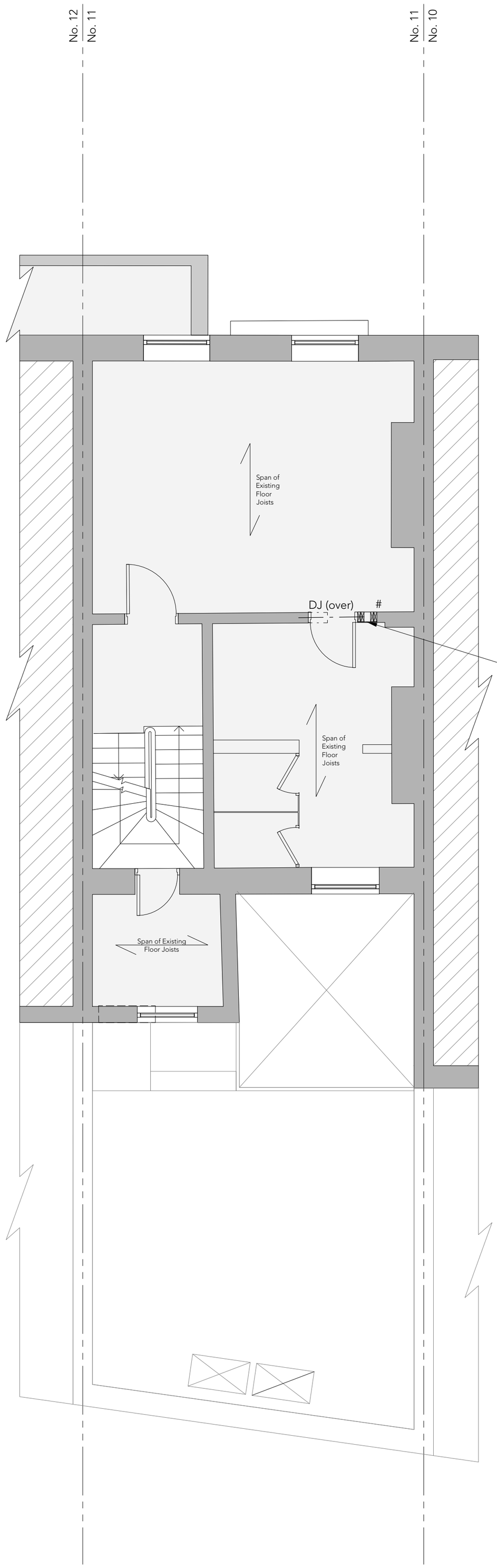
# Denotes junction between timber stud wall and masonry wall. Abutting stud to have M12 chemical anchors fixed to existing masonry at 400mm centres

All doubled and trebled timber members to be bolted together using M12 bolts and double sided tooth connectors at 500mm centres

DJ = 2no. 150x50mm C24 joists

– – – – Indicates line of structure under

- - - - - - Indicates existing structure to be demolished



Opening to be infilled with C24 timber studs to match existing at 400mm centres with 12mm ply to one face

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Drawing History

Rev	Date	Description	Drawn	Checked
P1	11.07.22	For Comment	DB	JLA
T1	15.11.22	For Comment	ZR	JLA

Title
First Floor Plan

Project
11 Chamberlain Street, NW1 8XD

Client
Jaakko Ahmala & Liisa Tornivaara

Job No.
8472

Drawing No.
102

Revision
T1

Scale
1:50 at A2

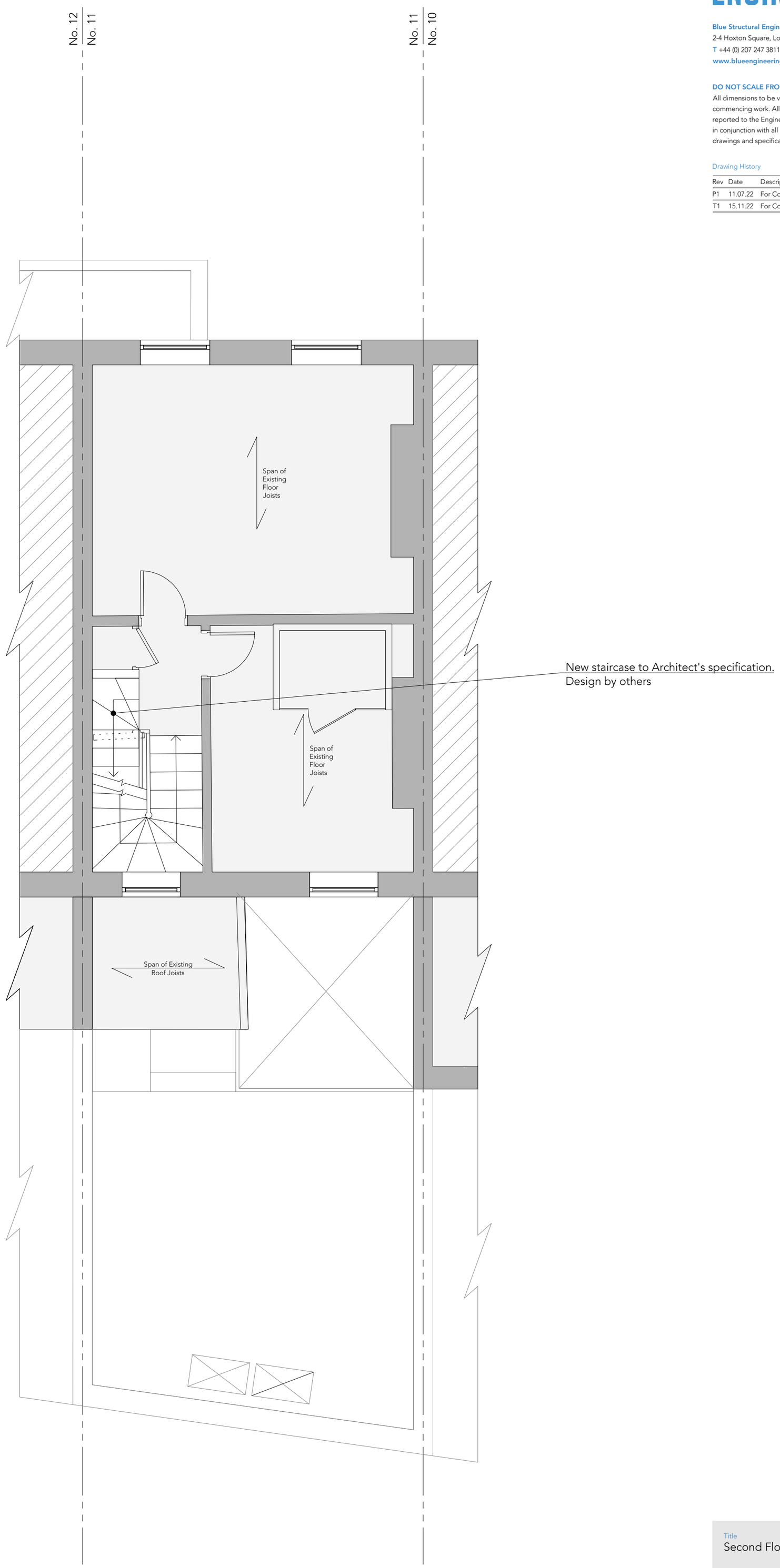
A2

All cutouts to be cleanly disc cut using non percussive hand tools. Beams and lintels to be tightly dry packed into position

Unhatched walls are non-load bearing and are to be constructed to Architect's specification

Existing timbers to be inspected for general condition, rot and decay. Contact Blue Engineering if poor condition found

– – – – – – Indicates existing structure to be demolished



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Drawing History

Rev	Date	Description	Drawn	Checked
P1	11.07.22	For Comment	DB	JLA
T1	15.11.22	For Comment	ZR	JLA

A2

Title
Second Floor Plan

Project
11 Chamberlain Street, NW1 8XD

Client
Jaakko Ahmala & Liisa Tornivaara

Job No.
8472

Drawing No.
103

Revision
T1

Scale
1:50 at A2

Loft redesign in abeyance. Contractor to expose floor joists and notify Blue Engineering of the presence of steelwork is and existing structure

All cutouts to be cleanly disc cut using non percussive hand tools. Beams and lintels to be tightly dry packed into position

Unhatched walls are non-load bearing and are to be constructed to Architect's specification

30x5mm mild steel restraint straps to be installed at 1200mm horizontal centres, 1200mm long at all junctions between the floor plates and steelwork/masonry

U.N.O. All steelwork is to be grade S355, including plates and connections. Refer to Structural Specification

U.N.O. Steelwork to steelwork connections to be via 10mm thick end plates with 6mm full face fillet weld fixed into web of opposing beam using 4no. M16 bolts

U.N.O. All bolts to be Grade 8.8

Existing timbers to be inspected for general condition, rot and decay. Contact Blue Engineering if poor condition found

Manthorpe G912 joist seal to be used for timber beams bearing into solid masonry walls - Refer to Manufactures Specification

Air gap of minimum 25mm to be kept under new floor joists to allow for deflections unless plasterboard is directly affixed

# Denotes junction between timber stud wall and masonry wall. Abutting stud to have M12 chemical anchors fixed to existing masonry at 400mm centres

All doubled and trebled timber members to be bolted together using M12 bolts and double sided tooth connectors at 500mm centres

TP = 2no. 150x50mm C24 timber post

TJ = 3no. 175x50mm C24 joists

– – – – Indicates line of structure under

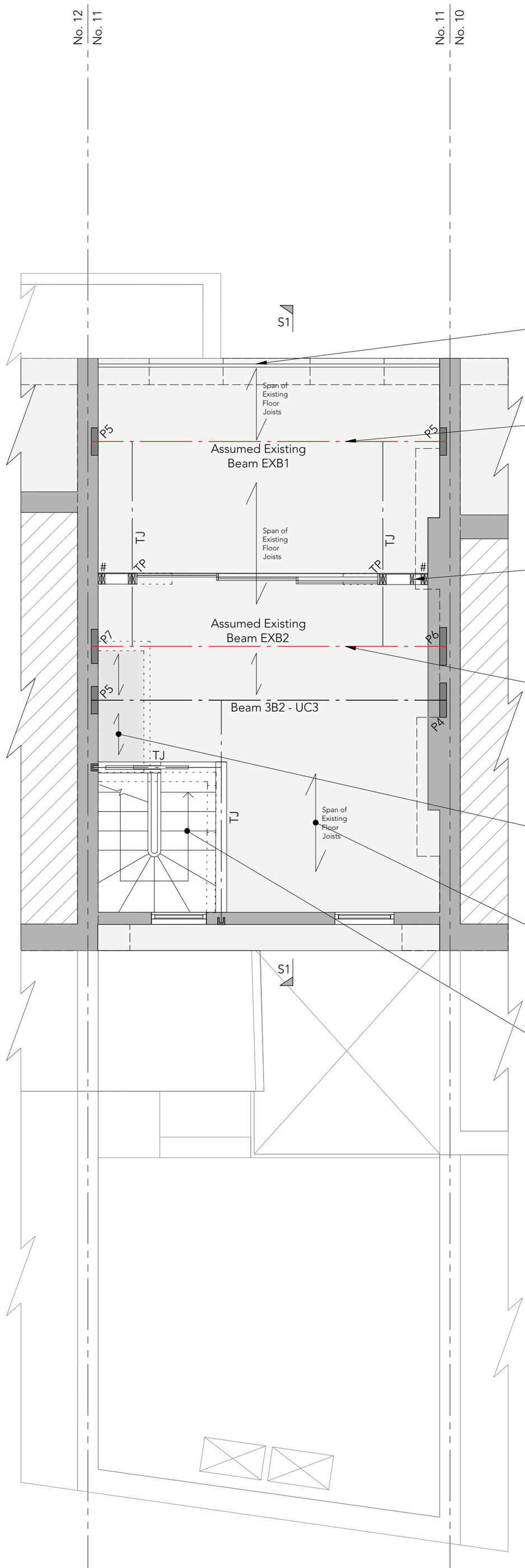
– – – – – – Indicates existing structure to be demolished

Indicates location of Manthorpe G912 joist seal - Refer to Manufactures Specification

Proposed Steelwork Schedule	
Ref.	Serial Size
UC3	152 x 152 x 37 UC
UC4	203 x 203 x 46 UC

Padstone Schedule:
P4: 500x100x15mm thick steel plate
P5: 400x100x10mm thick steel plate
P6: 550x100x150mm deep mass concrete padstone
P7: 500x100x15mm thick steel plate

All padstones to be tightly dry packed into position



New balustrade design by others. Balustrade to be fixed to the walls. **Architect to confirm**

Assumed existing beam in loft floor. Contractor to determine presence, size and padstones. Blue Engineering to be notified of findings. Allow for existing to be replaced by 152x152x37 UC if found inadequate

Existing timber stud wall to have 12mm ply to one side. Studs to be doubled up around openings. Contractor to open up bottom of timber stud wall and identify structure under

Assumed existing beam in loft floor. Contractor to determine presence, size and padstones. Blue Engineering to be notified of findings. Allow for existing to be replaced by 203x203x46 UC if found inadequate

New floor construction over existing void to be formed form 150x50mm C24 timber joists at 400mm centres with 18mm ply over

Existing timber joists to be cut back and re-supported on new steel beams via timber packers and mild steel joist hangers

New staircase to Architect's specification. Design by others

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Drawing History

Rev	Date	Description	Drawn	Checked
P1	11.07.22	For Comment	DB	JLA
T1	15.11.22	For Comment	ZR	JLA

Title
Third Floor Plan

Project
11 Chamberlain Street, NW1 8XD

Client
Jaakko Ahmala & Liisa Tornivaara

Job No.
8472

Drawing No.
104

Revision
T1

Scale
1:50 at A2

A2

All cutouts to be cleanly disc cut using non percussive hand tools. Beams and lintels to be tightly dry packed into position

30x5mm mild steel restraint straps to be installed at 1200mm horizontal centres, 1200mm long at all junctions between the floor plates and steelwork/masonry

U.N.O. All steelwork is to be grade S355, including plates and connections. Refer to Structural Specification

U.N.O. All bolts to be Grade 8.8

Beams over openings are designed with a total deflection limited to span/325. Live load deflection has been limited to span/500. Manufacturer to confirm if acceptable

Existing timbers to be inspected for general condition, rot and decay. Contact Blue Engineering if poor condition found

Manthorpe G912 joist seal to be used for timber beams bearing into solid masonry walls - Refer to Manufactures Specification

All doubled and trebled timber members to be bolted together using M12 bolts and double sided tooth connectors at 500mm centres

TP = 2no. 150x50mm C24 timber post

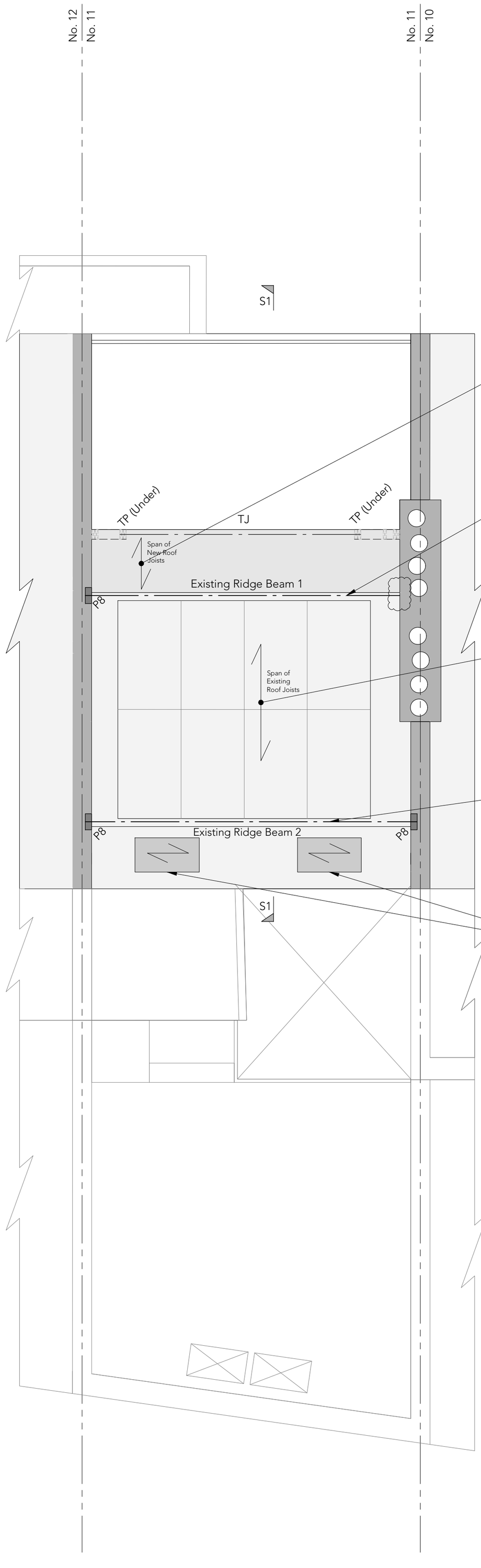
TJ = 3no. 150x50mm C24 joists

– – – – Indicates line of structure under

Proposed Steelwork Schedule	
Ref.	Serial Size
UC2	152 x 152 x 30 UC

Padstone Schedule:
P8: 250x100x10mm thick steel plate

All padstones to be tightly dry packed into position



New flat roof construction to be 150x50mm C24 timber rafters at 400mm centres

Contractor to open up to determine size and form of assumed existing beams and notify Blue Engineering of findings. Contractor to also confirm bearing of end of beam into chimney. If existing beams are found to be in inadequate or poor condition, beams to be replaced by 152x152x30 UC beams

Additional new 150x50mm C24 timber joists installed between existing roof joists to allow for additional 15kg/m^2 from PV units

Contractor to open up to determine size and form of assumed existing beams and notify Blue Engineering of findings. If existing beams are found to be inadequate or in poor condition, beams to be replaced by 152x152x30 UC beams

Existing dormers to be retained

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Drawing History

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P1	11.07.22	For Comment	DB	JLA
T1	15.11.22	For Comment	ZR	JLA

Title
Roof Plan

Project
11 Chamberlain Street, NW1 8XD

Client
Jaakko Ahmala & Liisa Tornivaara

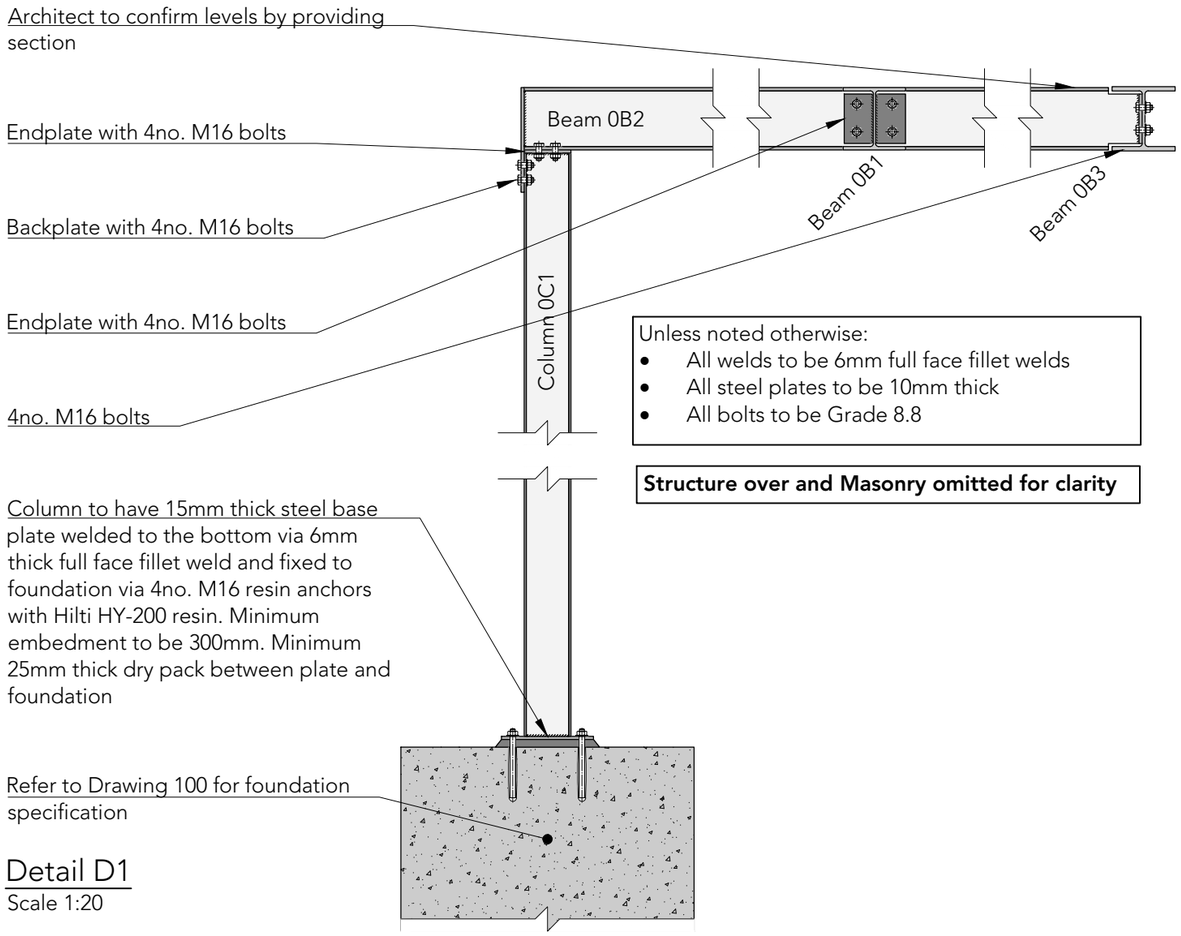
Job No.
8472

Drawing No.
105

Revision
T1

Scale
1:50 at A2

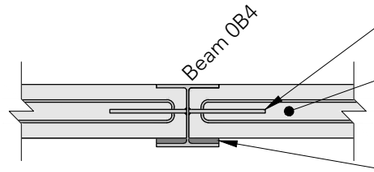
A2



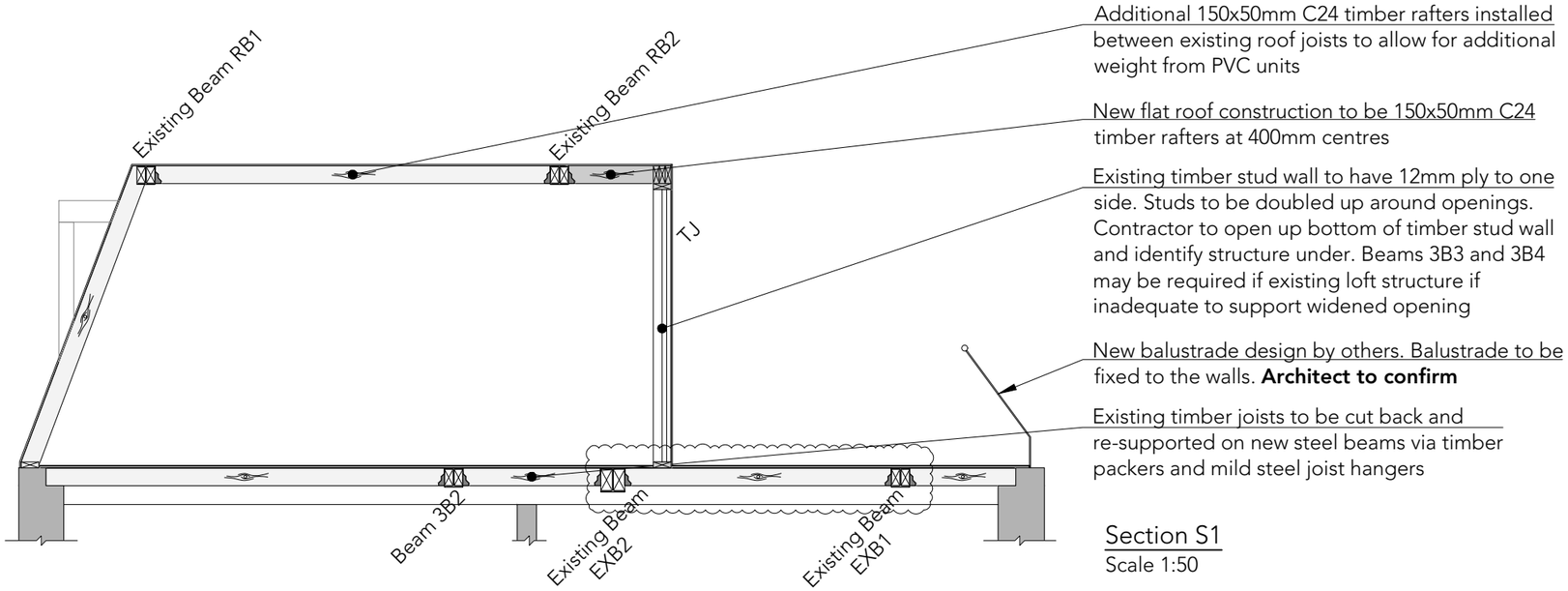
Unless noted otherwise:
- All welds to be 6mm full face fillet welds
- All steel plates to be 10mm thick
- All bolts to be Grade 8.8

Structure over and Masonry omitted for clarity

Detail D1
Scale 1:20



Detail D2
Scale 1:20



Section S1
Scale 1:50

A3

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Drawing History

Rev	Date	Description	Drawn	Checked
P1	11.07.22	For Comment	DB	JLA
T1	11.08.22	For Comment	ZR	JLA

Title
Structural Detail & Section

Project
11 Chamberlain Street, NW1 8XD

Client
Jaakko Ahmala & Liisa Tornivaara

Job No.
8472

Drawing No.
200

Revision
T1

Scale
1:50 at A3