



Structural Planning Statement

**66 Leighton Road
London
NW5 2QE**



Buildings



Urbanism



Energy



Risk

CAR is an independent consultancy providing specialist advice for policy-makers, design professions and the construction industry. Founded in 1987, CAR's interdisciplinary team is at the forefront of new thinking in all aspects of the built environment.

1. INTRODUCTION

The purpose of this report is to give an overview of the proposed structural alterations to 66 Leighton Road, London NW5 2QE to form part of the documentation to be submitted for Planning Approval and Listed Building Consent.

Given the Grade II listed status of the building a conservation based approach has been adopted where possible in developing the structural proposals. Where not possible the approach taken is to minimise impact on the historic fabric of the building.

This report is to be read with the relevant structural drawings.

2. DESCRIPTION OF THE BUILDING

2.1. General

The property is mid-terrace building consisting of 3 storeys above a single lower ground floor / basement storey.

The building was constructed circa 1840 and is part of a Grade II listed terrace of similar buildings.

The main structure is of traditional construction with solid brickwork walls supporting timber floors and roof.

The building has been altered and extended in the past with the addition of a modern glass box and new slab in the rear section of the basement level along with alterations to internal partitions on the upper levels.

The building is in reasonable structural condition and has benefitted from previous refurbishment and some maintenance. However there are some areas which will require structural intervention as part of the planned works, such as strengthening and levelling of some of the existing floors and general tying of the structure to the floors.

Trial pits were excavated to expose the existing footings. This confirmed that the existing foundations consist of shallow brick corbelled footings founded on firm London Clay.

2.2. Proposed Alterations

The proposed alterations are described in more detail in other documents; however the main structural alterations are outlined below:

- **Roof** - The structural works at this level will involve localised trimming and strengthening of the existing roof structure to create an opening for a new rooflight. The strengthening works will involve doubling / trebling up of existing rafters and ceiling joists. The remainder of the existing roof remains unchanged structurally.

- **First and Second Floors** - The structural works at these levels will involve strengthening and levelling of the existing floor, and installing restraint ties between the external wall and the floor structure. The strengthening and levelling works will involve installing new joists alongside and bolting to the existing joists.

In addition there will be heightening of existing door openings. New timber lintels are proposed over these openings due to the increased height.

- **Ground Floor** - The structural works at this level is mainly concentrated around the existing stair. It is proposed to remove the existing raised section of floor (probably not original) and infill with a new level landing and feature stairs. The new floor will be of timber construction to match existing.

New restraint ties are also to be installed at this level.

- **Lower Ground Floor / Basement** - The main structural works at this level will consist of removal of the existing modern glazed rear extension and construction of a new glazed extension on a slightly larger footprint, along with a new ground slab and foundations. These works are outside of the footprint of the original building and therefore do not have a major impact on the historic structure.

There are a number of openings in the existing rear wall at this level and the proposal is to combine these openings into one large opening to link the rear extension to the internal space. This will require a new steel frame box frame to be inserted to support the existing rear wall and part of the roof to the new extension. The new frame will be supported on new foundations founded at a deeper level than the existing shallow ones. This will require removal of the existing foundations on this line.

The floor in the front section of the property at this level is a raised timber structure. The proposal is to remove this small section of floor and replace it with a new concrete slab set at the same level as the other sections of floor.

- **Staircase** - The original stair has been significantly altered at ground to lower ground level in the past. These alterations have resulted in a tight winding stair which does not comply with current regulations. In addition there has been some structural movement of the upper flights which can be seen on the sloping treads and deflected shape generally.

It is proposed to remove the existing stairs and replace it with a new stair throughout which will be designed to meet the current Building Regulations. This work will also involve strengthening of the trimmer beams at each floor level.

3. CONCLUSION

The proposed structural alterations to the building will not have a significant impact on the existing historic fabric.

The proposals aim to use a conservation based approach to minimise damage to the existing building where possible.

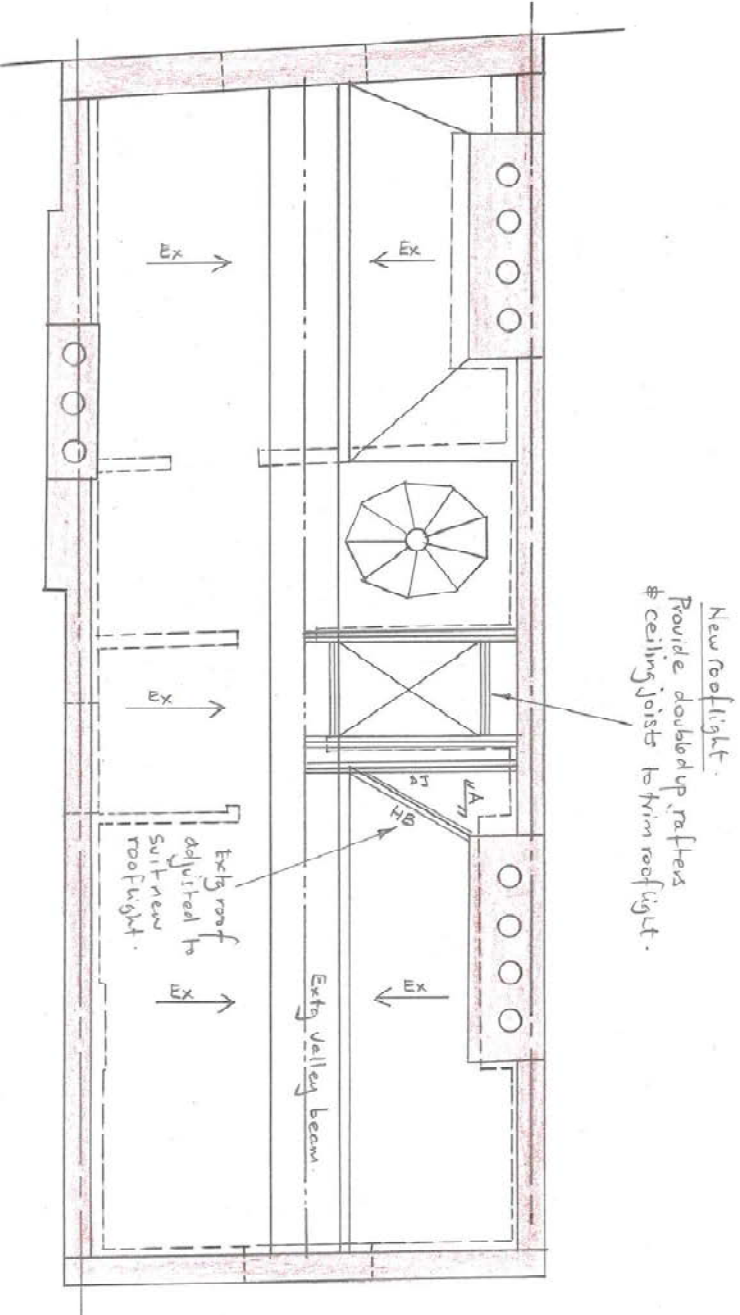
The main structural interventions are in areas that have been significantly altered in the past.

NOTE:

1. DO NOT SCALE. IF IN DOUBT ASK.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT STRUCTURAL ENGINEER'S DRAWINGS AND DETAILS. THE SPECIFICATION FOR THE WORKS, THE RELEVANT ARCHITECT'S DRAWINGS AND ANY OTHER SPECIALISTS' DRAWINGS.
3. All timber to be Grade C24.
4. Multiple timber members to be bolted together using M12 ϕ bolts @ max 600mm c/c.

KEY.

- 4A \rightarrow Min 100x50 C24 rafters @ 4000c/c (Size to match extg.). Re-use extg if possible.
- H.B. - Hip beam - 2x 150x50 C24 bolted together. See note 4.
- B.J. - 2x 175x50 C24 beams @ ceiling level. See note 4.



Roof Plan

Revisions

2714/SK100

Scale at A3: 1:50

Drw	App	Rev
TB		
CHK	Date	Rev

Drawing Title

66 LEIGHTON ROAD, LONDON
PROPOSED ROOF PLAN

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25 Gwydir Street
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Fax: +44(0)1223 464142
Web: www.carltd.co.uk

NOTE:

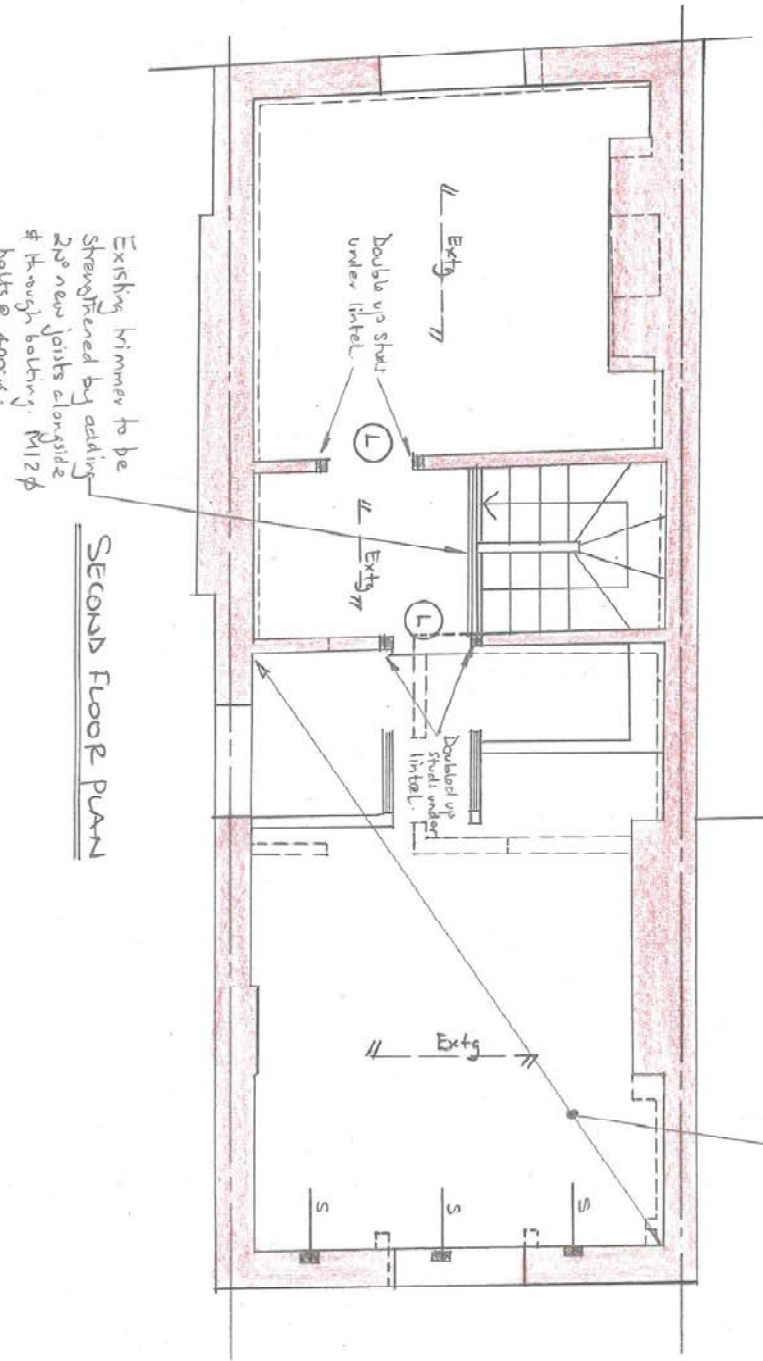
1. DO NOT SCALE. F IN DOUBLE ASK.
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3. Double up joist under line of all new partitions.

Floor to be levelled by bolting new joist alongside existing joist. New joist to be installed level. Provide solid full depth noggin @ 1/3 span of joists.

KEY.

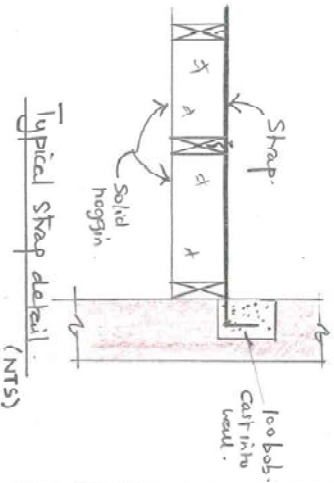
(L) - denotes new timber lintel.
Min 2x20 / 75x50x24 bolted together. M12 ϕ bolts @ 300mm.

S - denotes BAT M305 gully.
restraint strap (concreted into extg wall & screwed over 3rd joist. Provide solid full depth noggin under strap. (See below).



Existing brimex to be strengthened by adding 2nd new joists alongside & through bolting. M12 ϕ bolts @ 400mm.

SECOND FLOOR PLAN



Typical Strap detail.
(NTS)

Revisions

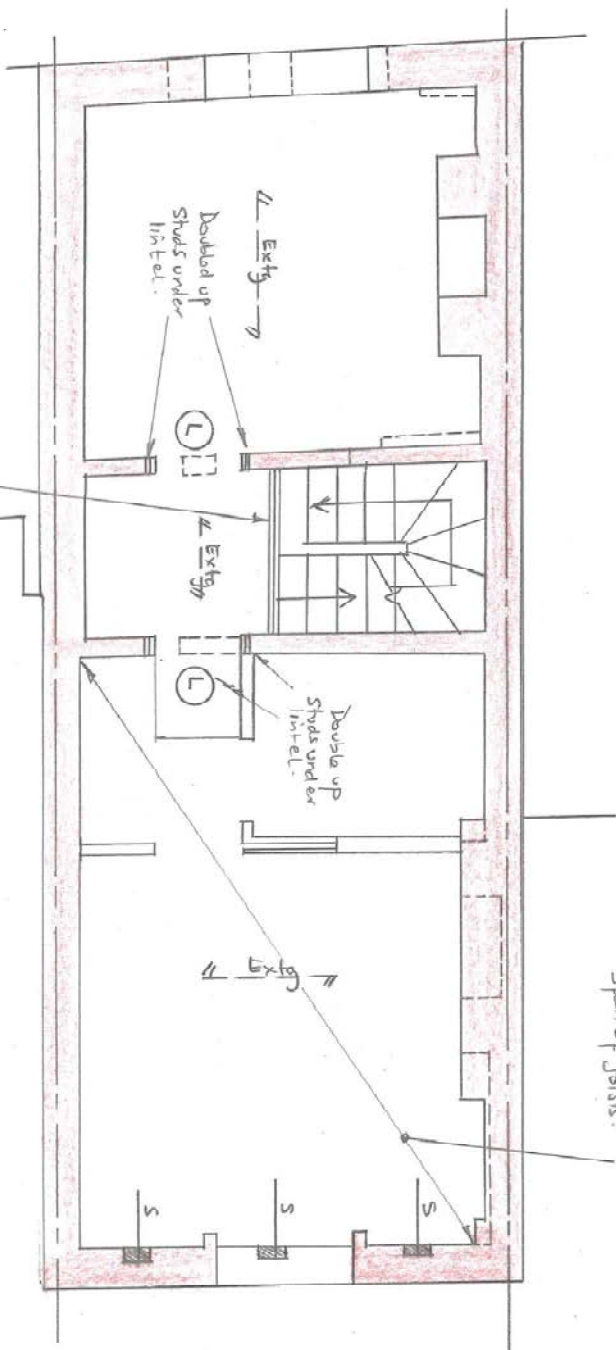
2714 / SK200			
Scale at A3: 1:50			
Drawn by	Appr.	Rev.	
CHK	Date	Rev.	Date

Drawing Title
66 LEICHTON ROAD, LONDON
PROPOSED SECOND FLOOR PLAN
Cambridge Architectural Research Ltd
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NOTE:

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3. Double up joists under line of all new park benches.

Floor to be levelled by bolting new joists alongside existing joist. New joists to be installed level. Provide solid full depth noggin @ 1/3 span of joists.



KEY.

- (L) denotes new timber lintel Min 2x 175x50x24 bolted together. M12 @ bolts @ 300 c/s.
- S denotes BAT M305 restraint strap. (See notes on S16200)

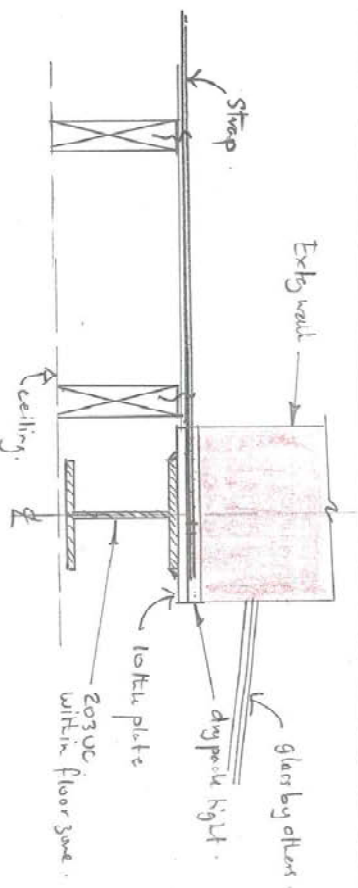
FIRST FLOOR PLAN

Existing trimmer to be strengthened by adding 2x new joists alongside through bolting. M12 @ bolts @ 400 c/s.

Revisers

Scale at A3	1:50
Drawn by	TB
App	
Rev	
Date	Nov 15

Drawing Title	66 LEIGHTON ROAD, LONDON Proposed First Floor Plan
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SECTION A-A.

(1:10)

KEY.

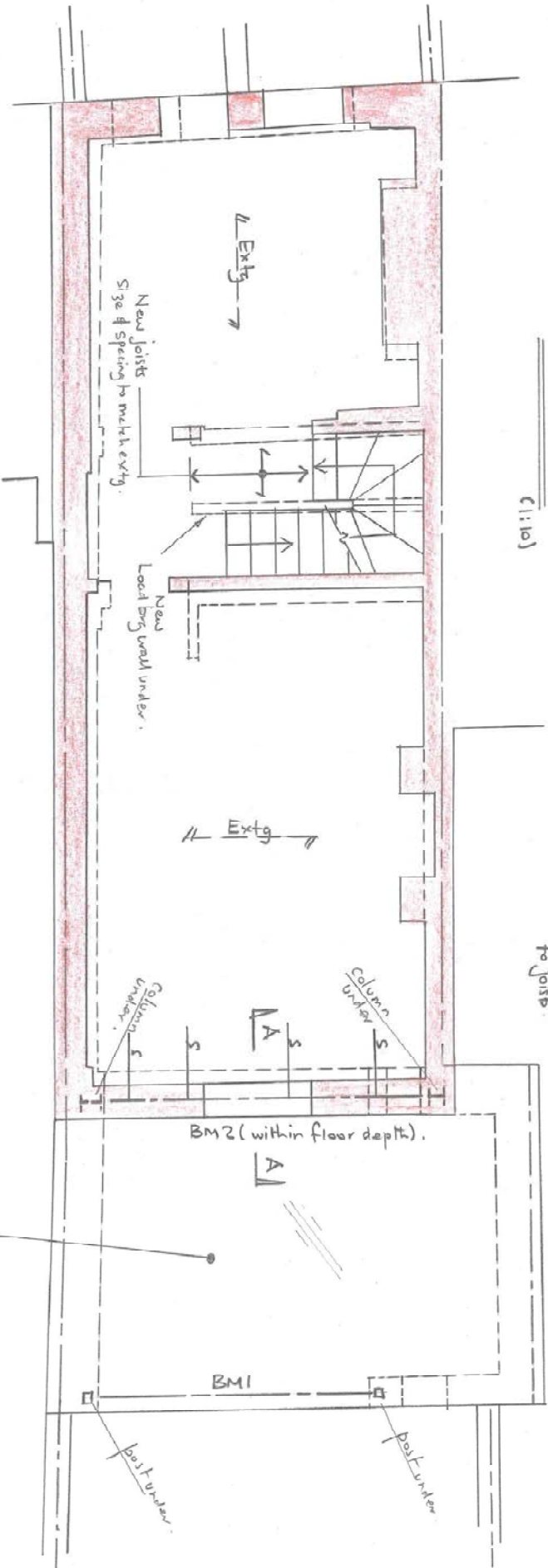
BM1 - 152 X 152 X 23 UC + 10th plate welded to bottom flange to suit o/a width of door head tracks.

BM2 - 203 X 203 X 60 UC + 10th plate welded to top flange to support full wall thickness.

S denotes girth. M305S shop
Shot fired to steel & screwed to joist.

NOTE:

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3. All steelwork to be Grade S275 UNO.

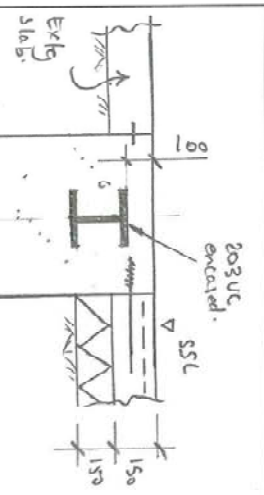


GROUND FLOOR PLAN

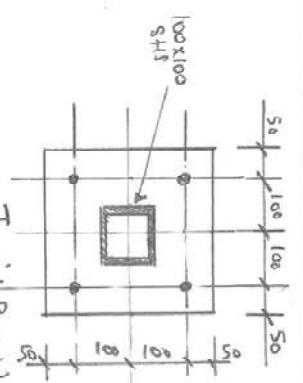
Revisions

2714/SK 400			
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Drw	TP	App	Rev
CHK		Date Nov 15	Date

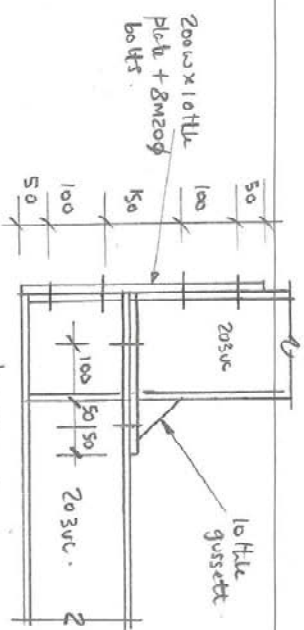
Drawing Title		Cambridge Architectural Research Ltd	
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PROPOSED GROUND FLOOR PLAN		Fax +44(0)1223 464142	
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SECTION B-B.

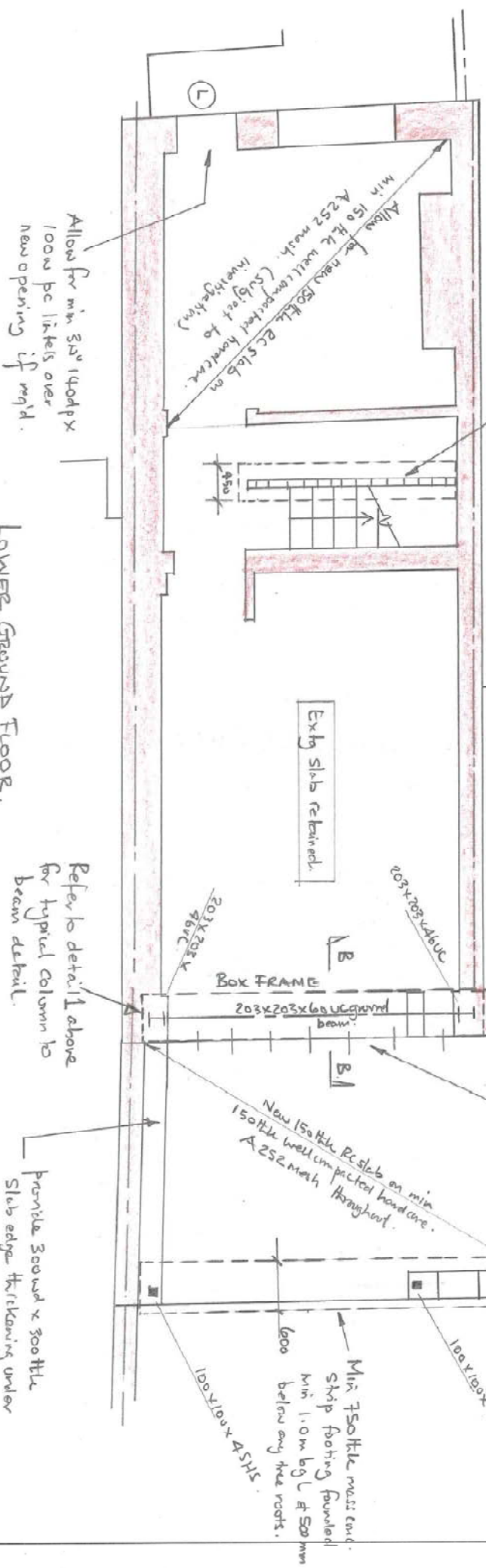


Typical Base plate detail



DETAIL 1 (1:10)

- NOTE:
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 3. All concrete to be Grade C40 class BS2/AC1.



LOWER GROUND FLOOR.

Revisions			
Scale at A3:	1:50	Scale at A4:	1:50
Drawn by:	TB	App:	
Checked by:		Rev:	
Date:	15	Date:	

Drawing Title

2714 / SK 500

PROPOSED LOWER GROUND FLOOR PLAN

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