## GENERAL

G1. These drawings shall be read in conjunction with all architectural and other consultants drawings and specifications and with such other written instructions as may be issued during the course of the works. All discrepancies shall be referred to the Architect and Engineer for decision before proceeding with the work.

G2. Dimensions shall not be obtained by scaling the drawing.

G3. All levels and setting out dimensions shown on the drawing shall be verified by the builder.

G4. During construction the structure shall be maintained in a stable condition and no part shall be over-stressed. Masonry walls shall be adequately braced against wind forces.

G5. All excavation, shoring excavation and stability of adjacent structures shall be the responsibility of the builder.

G6. The structural work shown on these drawings has been designed for the relevant live loads in accordance with current S.A.A. loading code unless otherwise noted.

G7. Unless detailed otherwise, no walls are designed as retaining structures.

## CONCRETE

C1. All workmanship and materials shall be in accordance with S.A.A. Concrete Structures Code A.S.3600

C2. Concrete Quality

Standard to AS3600

| ELEMENT | SLUMP mm | MAX. AGG. SIZE mm | CEMENT TYPE | Fc MPa |
|---|---|---|---|---|
| Footing | 80 | 20 | A | 20 |
| Slab | 80 | 20 | A | 25 |
| Beams & Cols | 80 | 20 | A | 25 |

C3.Clear concrete cover to reinforcement shall be as follows unless otherwise shown: Provision of cover is the responsibility of the builder.

| ELEMENT | FORMED NOT EXPOSED TO WEATHER | FORMED EXPOSED TO WEATHER | NOT FORMED POURED AGAINST EARTH |
|---|---|---|---|
| Slabs | 20 | 40 | 45 |
| Walls | 20 | 30 | 60 |
| Beams | 25 | 40 | 65 |
| Columns & Pedesta | 40 | 50 | 75 |
| Footings | | 40 | 65 |

C4. Sizes of concrete elements do not include thickness of applied finishes.

C5. Construction joints where not shown shall be located to the approval of the Engineer. All construction joints shall be scabbled over the whole face and any unsound material removed.

C6.No holes or chases other than those shown on the structural drawings shall be made in concrete members without the prior approval of the Engineer. Reinforcing shall not be cut, but shall be displaced at holes.

C7.All concrete shall be mechanically vibrated and vibrator shall not be used to spread concrete.

C8.Formwork to suspended slabs and beams shall remain in brace for a full 21 days, cantilevers being back propped for a full 28 days, if there is less than 21 days between placing of concrete for successive slabs, props shall be placed directly under props over so that two slabs are carrying the load. Do not place or build brickwork off slabs until formwork is removed.

C9. Conduits, pipes etc. must not be placed in concrete cover. place in middle third of edge & internal beams.

C10. Reinforcement is represented diagrammatically. It is not shown in true projection.

C11.Welding of reinforcement shall not be permitted unless shown on the structural drawings.

C12.All reinforcement shall be firmly supported on plastic or M.S. chairs plastic tipped or galvanized generally not greater than 750mm centres both ways. Bars to be tied at alternate intersections.

C13.Reinforcement symbols:

Y = Tempcore twisted deformed bar in accordance with A.S.1302

The number following this symbol is the diameter of the bar in millimetres

S = Structural grade deformed bar in accordance with A.S.1302.

R = Structural grade round bar in accordance with A.S.1302

F = Welded wire fabric in accordance with A.S.1302

C14.Unless noted otherwise all top crossroads shall be Y12 @ 400mm centre, all bottom crossrods shall be Y12 @ 300mm centres.

C15.Splices in reinforcement shall be made only in the positions shown and shall be sufficient to develop the full strength of the reinforcement.

(1) Fabric – One full mesh plus 25mm both ways unless noted otherwise.
(2) Bars – 50 bar diameters unless noted otherwise.

## STRUCTURAL STEEL

S1.All workmanship and materials shall be in accordance with S.A.A. Steel structures Code A.S.4100

S2.Connections shall be provided to carry the reactions shown unless otherwise detailed.

S3. Two copies of workshop drawings shall be submitted for examination and approval before fabrication.

S4.Welds shall be 6 continuous fillet, all bolts 16 dia, all gusset plates 10 thick unless otherwise noted.

S5. Concrete encased steelwork shall be wrapped with 4mm wire at 100mm centres and shall have a minimum 50mm cover of concrete unless noted otherwise.

S6.Unless otherwise noted or specified all steelwork not encased in concrete shall be given one coat of red oxide zinc chromate primer prior to dispatch.

S7.All high tensile bolts shall be manufactured and tensioned in compliance with current S.A.A Code for High Tensile Bolts.

## FOUNDATIONS

F1. The footings have been designed for an allowable bearing intensity of 600 kPa. Foundation material shall be approved for this pressure before placing concrete.

F2. Footings have been designed for soil with a site classification of Class in accordance with the provisions of AS2870.1-1996.

F3. Fill to be placed in layers of 200mm using multiple passes of and excavator or similar consolidation device in accordance with AS2870.1:6.4.2

F4. If the site has been subject to a Geotechnical Investigation, the requirements of the Geotechnical Engineer shall be complied with in full.

F5. Foundation depth are minimum requirements only and should be increased to provide 100mm into firm natural material. Where shale or rock strata is encountered less than 600mm below finished ground level, provide piers or footings to shale or rock strata.

F6. Where required piering to be in accordance with (u.n.o.):
- 450mm dia in controlled fill and clay at 1800c/s
- 300mm dia to underlying rock/shale at 1800c/s
- pier reinforcement as directed by Engineer.

## BRICKWORK

B1. All load-bearing brickwork shall be constructed in accordance with S.A.A. Masonry Code A.S. 3700

B2. Minimum brick compressive strength to be as follows in accordance with the current relevant S.A.A. Code

Face brickwork and piers F'c = 20 MPa
Common brickwork F'c = 20 MPa

B3. Mortar to brickwork to be as follows:

(a) Retaining walls and all brickwork below ground 1 part cement, 1/10 part lime, 3 parts clean sharp sand, average 28 day stress = 11 MPa.

(b) All other load-bearing brickwork – 1 part cement, 1 part lime, 6 parts clean sharp sand, average 28 days strength = 3 MPa.

B4. Brickwork shall be separated from concrete at all vertical faces by 10mm thick concrete.

B5. Where walls are not load-bearing they shall be separated from the concrete over by 20mm thick Caneite or expanded polystyrene.

B6. All steel lintels to be hot dipped galvanised with 150mm minimum bearing at each end unless otherwise noted.

B7. Where new brickwork abuts existing walls all new work shall be separated from the existing brickwork by 10mm bitumen impregnated fibre board ("Jointex" or similar).

B8. New brick walls are to be secured to existing walls with proprietary anchors to resist transverse movement of the wall. Anchors are to be free allow lateral movement between the walls.

B9. Where brickwork supports concrete slabs, top course shall be covered with two layers at ALCOR with graphite grease.

## BLOCKWORK

M1. All blockwork shall be constructed in accordance with S.A.A. Masonry CODE A.S. 3700.

M2. All concrete masonry units shall be class A units in accordance with A.S. 3700.

M3. Mortar shall be in accordance with B3 above.

M4. Grout where required shall comprise 1 part cement, 3 parts clean sharp sand, 1/10 part time and two parts 10mm aggregate.

M5. Clean out openings shall be provided at base of all reinforced cores to enable cleaning of cores including removal of mortar protruding into core, prior to placing of last reinforcement.

M6. Lintels shall be in accordance with B6 above or alternatively approved masonry lintel beams may be used.

M7. Approved joint reinforcement shall be laid horizontally at a maximum of 600mm centres with additional layers directly above and below window and door openings.

This is the plan/spec. referred to in Fitzgerald Certifiers Certificate
Cert No: 2010 - 1253
23.7.10
Paul Fitzgerald Accreditation No BPB 0119

FOR CONSTRUCTION

| ISSUE | DATE | REVISION |
|---|---|---|
| | | |
| | | |
| | | |
| A | 23.3.10 | MINOR CHANGES |

PROJECT
PROPOSED ALTERATIONS & ADDITIONS
210-212 PITTWATER ROAD, MANLY

FOR
MIEHS NOMINIES PTY LTD

# STRUCTURAL NOTES


CPM ENGINEERING
Civil & Structural Consulting Engineers
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| APPROVED | | |

EXTENT OF NEIGHBOURING WORK TO BE VERIFIED

P1

P1

P1

P1

P1

P1

LINE

KERB

BALCONY STRUCTURE TO FUTURE DETAIL

SHOP SPACE
RESTORATION TO
HERITAGE CONSULTANTS
DETAILS

RL:6.61

RL:6.56

BDY

SF1

SF2

120
6.61
30S/D

120
6.61

120
6.46

120
6.63

120
6.56

120
6.56
30S/D

F72 MESH
TOP

F72 MESH
TOP

6.63

RETAIN EXISTING
STRUCTURE AS
SUITABLE

REFER ARCH
PLANS FOR
ALTERATIONS

UNDERPIN EXISTING BRICK
FOOTINGS A MINIMUM OF 400mm
DOWN TO FIRM BEARING MATERIAL
BY SPECIALIST TECHNIQUES.
COMMENCE WITH EXTERNAL
REFER SECTION

## VERTICAL JOINT NOTE

DENOTES FULL HEIGHT VERTICAL BRICK JOINT.
USE 10mm 'ABELFLEX' OR SIMILAR HIGHLY COMPESSABLE FOAM JOINT FILLER. JOINTS ADJACENT TO WINDOW OR DOOR FRAME MUST ALLOW MOVEMENT.

## GROUND FLOOR STRUCTURAL PLAN

1:100

FOR CONSTRUCTION

| ISSUE | DATE | REVISION |
|---|---|---|
| | | |
| | | |
| | | |
| A | 23.3.10 | MINOR LEVEL CHANGES |

PROJECT: PROPOSED ALTERATIONS & ADDITIONS
210-212 PITTWATER ROAD, MANLY

FOR: MIEHS NOMINIES PTY LTD

STRUCTURAL PLAN

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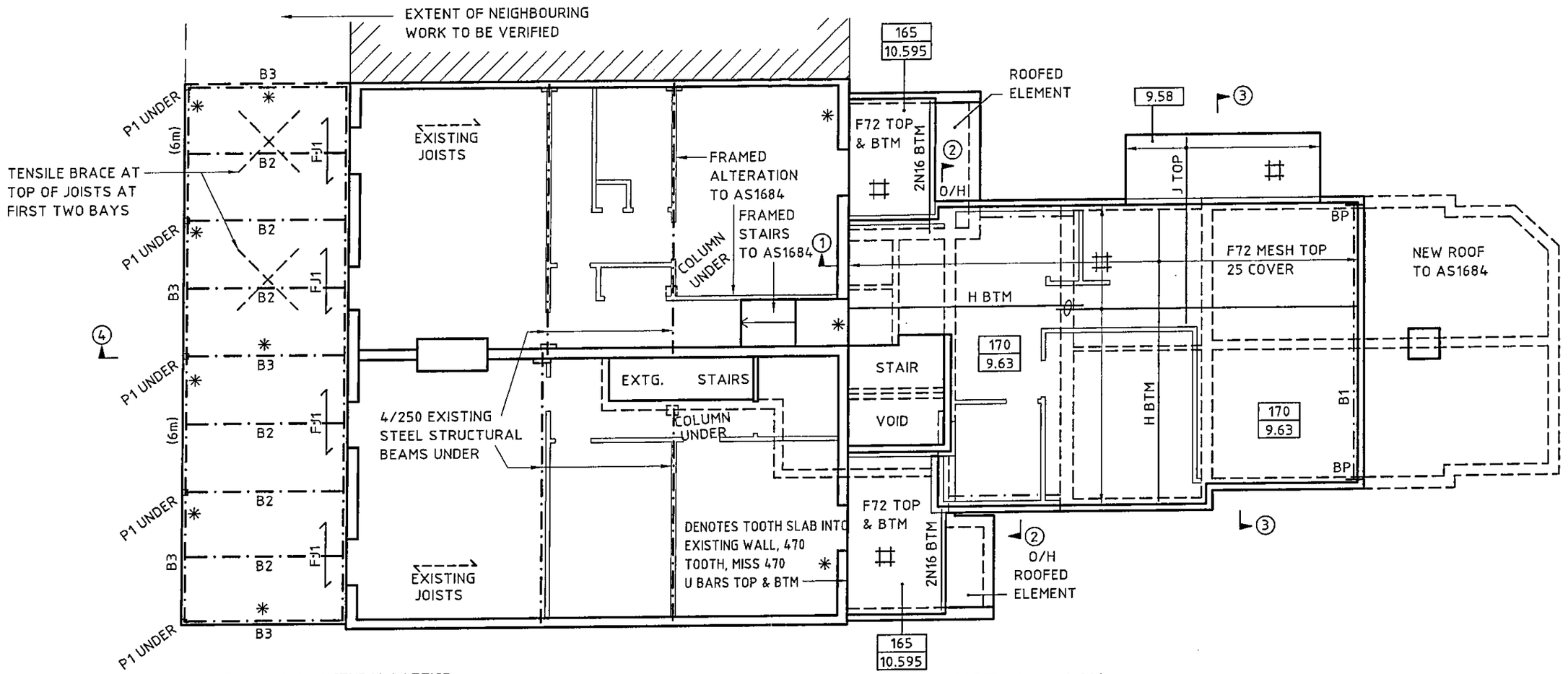


✱ DENOTES STRUCTURAL LATTICE UNDER TO SPECIFICATION

## FIRST FLOOR STRUCTURAL PLAN

1:100

| BAR LAP TABLE | |
|---|---|
| BAR SIZE | LAP |
| N10 | 300 |
| N12 | 400 |
| N16 | 550 |
| N20 | 700 |
| N24 | 900 |
| N28 | 1200 |
| N32 | 1400 |
| N36 | 1600 |

| REINFORCEMENT SCHEDULE | |
|---|---|
| LABEL | REINFORCEMENT |
| E | N12-300 |
| F | N12-250 |
| G | N12-200 |
| H | N16-250 |
| J | N16-200 |
| K | N16-150 |

A LAYER B LAYER

| ISSUE | DATE | REVISION |
|---|---|---|
| | | |
| | | |
| | | |
| A | 23.3.10 | VERANDAH BEARERS & JOISTS |

PROJECT: PROPOSED ALTERATIONS & ADDITIONS 210-212 PITTWATER ROAD, MANLY

FOR: MIEHS NOMINIES PTY LTD

# STRUCTURAL PLAN

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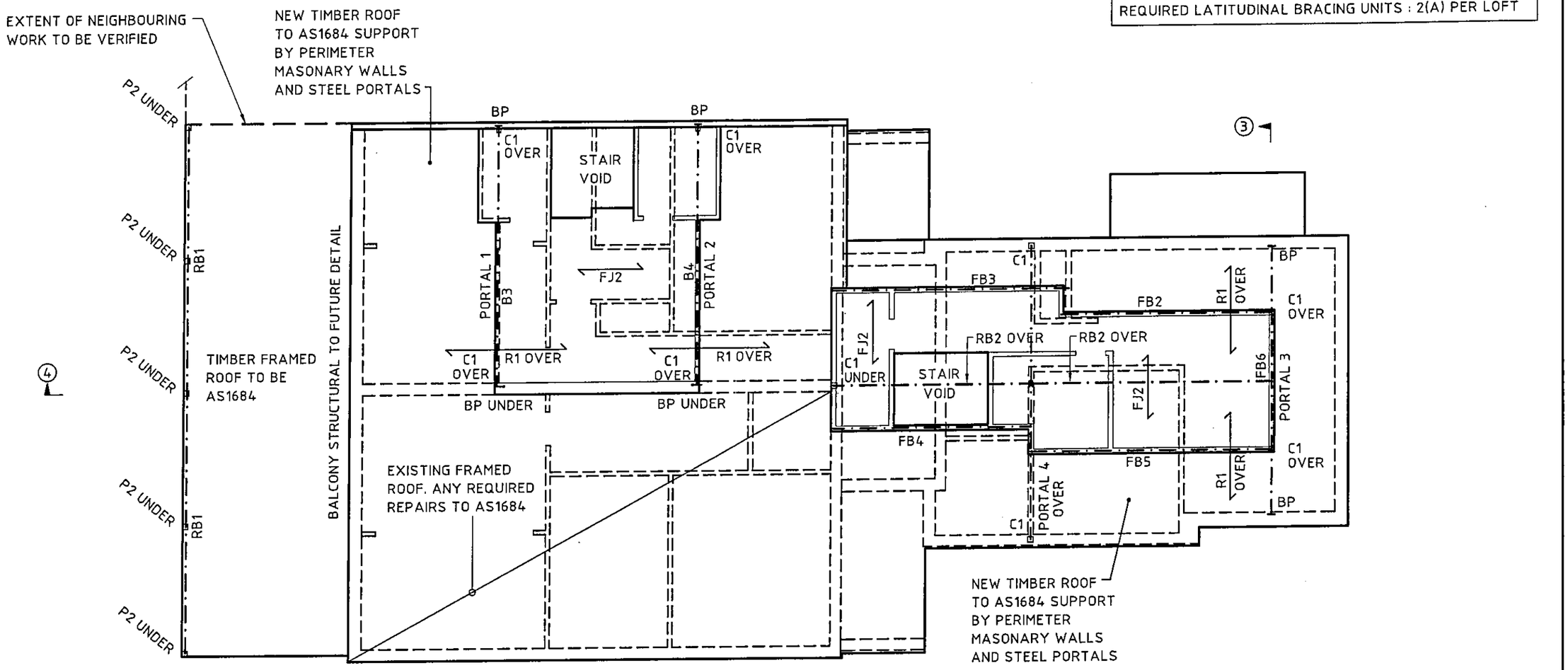
SITE WIND CLASSIFICATION : N2
REQUIRED LONGITUDINAL BRACING UNITS : 2(A) PER LOFT
REQUIRED LATITUDINAL BRACING UNITS : 2(A) PER LOFT




## LOFT & ROOF STRUCTURAL PLAN
1:100

### STRUCTURAL SCHEDULE

B1 : 250 UB 37
B2 : 210x66 FIN. F14
B3 : 231x99 FIN. F14
FB1 : 190x45 F7
FB2 : 250 UB 31
FB3 : 2/240x45 LVL
FB4 : 2/240x45 LVL
FB5 : 250 UB 25
FB6 : 250 UB 37
FJ1 : 115x66 FIN. F14 @ 450
FJ2 : 240x36 LVL @ 450
C1 : 89 SHSx4.0
BP : 300x90x6mm BEARING PLATE

### TIE DOWN SPECIFICATION

MINIMUM TYPICAL FIXINGS UNLESS NOMINATED OTHERWISE

- RAFTER TO TOP PLATE : 2/75mm SKEW NAILS PLUS ONE TRIPLE GRIP EVERY SECOND RAFTER - 3 NAILS EACH LEG
- TOP PLATES TO STUDS(@450) : 2/90mm THROUGH PLATE
- BTM PLATES TO JOISTS : 2/75mm NAILS @450. AT FIRST FLOOR : 1M10 BOLT, 38Øx2.0 WASHER, BOTTOM PLATE THROUGH TO TOP PLATE @ 1.8m AROUND EXTERNAL
- 38x75 F7 BATENS @ 900 : 2/75x3.15Ø NAILS TO RAFTERS
- BTM PLATE TO SLAB : 1 MASONRY ANCHOR @ 1200
- HP & TS : 30X0.8mm G.I. STRAP OVER TOP & BTM, 4 NAILS EACH END/SIDE), SAME FOR ROOF BEAMS

| ISSUE | DATE | REVISION |
|---|---|---|
| A | 23.3.10 | VERANDAH BEARERS & JOISTS |

PROJECT: PROPOSED ALTERATIONS & ADDITIONS 210-212 PITTWATER ROAD, MANLY
FOR: MIEHS NOMINIES PTY LTD
STRUCTURAL PLAN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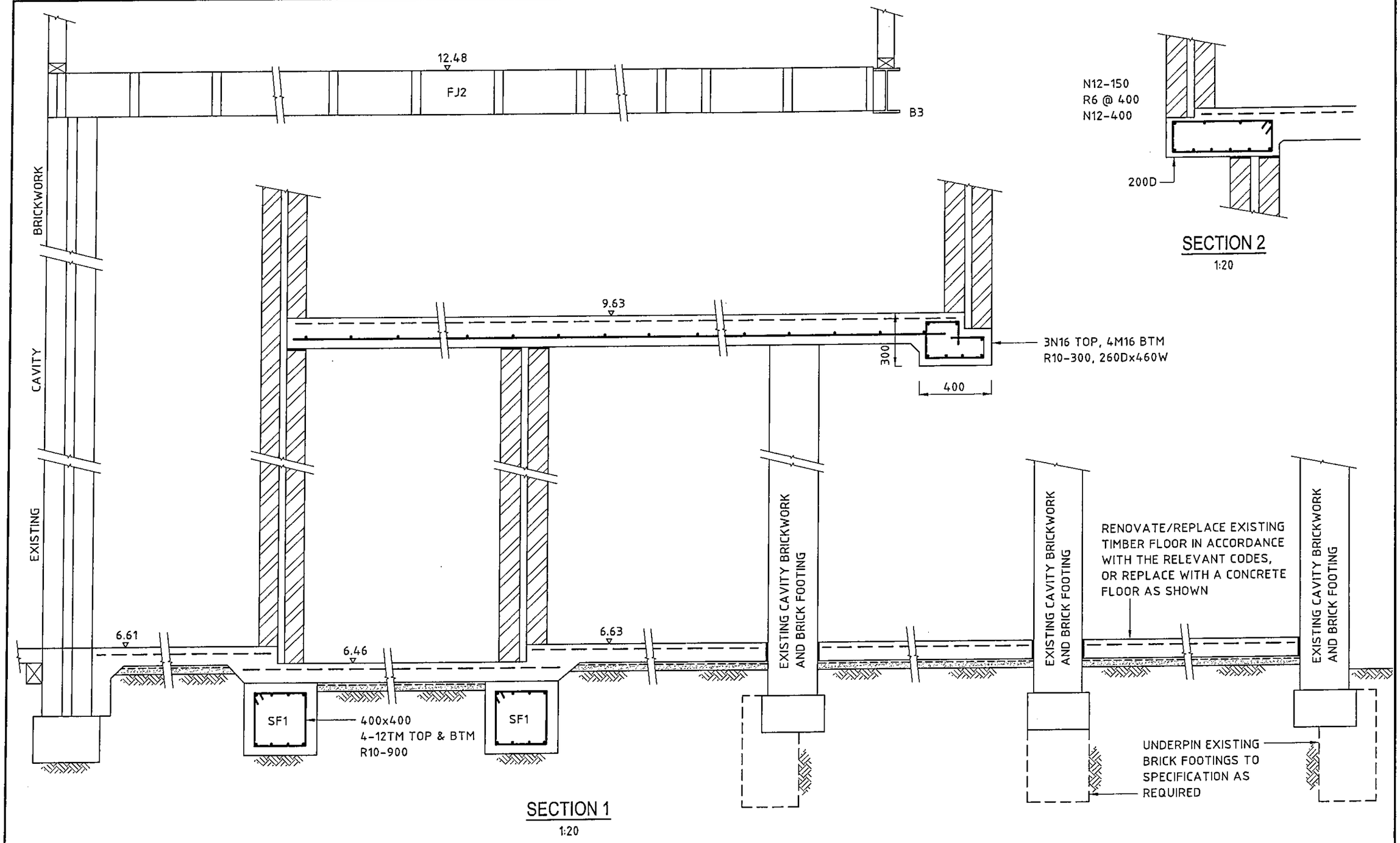


SECTION 1
1:20




SECTION 2
1:20

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| A | 23.3.10 | LEVELS |
| ISSUE | DATE | DESCRIPTION |
| REVISION | | |

PROJECT
PROPOSED ALTERATIONS & ADDITIONS
210-212 PITTWATER ROAD, MANLY

FOR
MIEHS NOMINIES PTY LTD

# STRUCTURAL DETAILS

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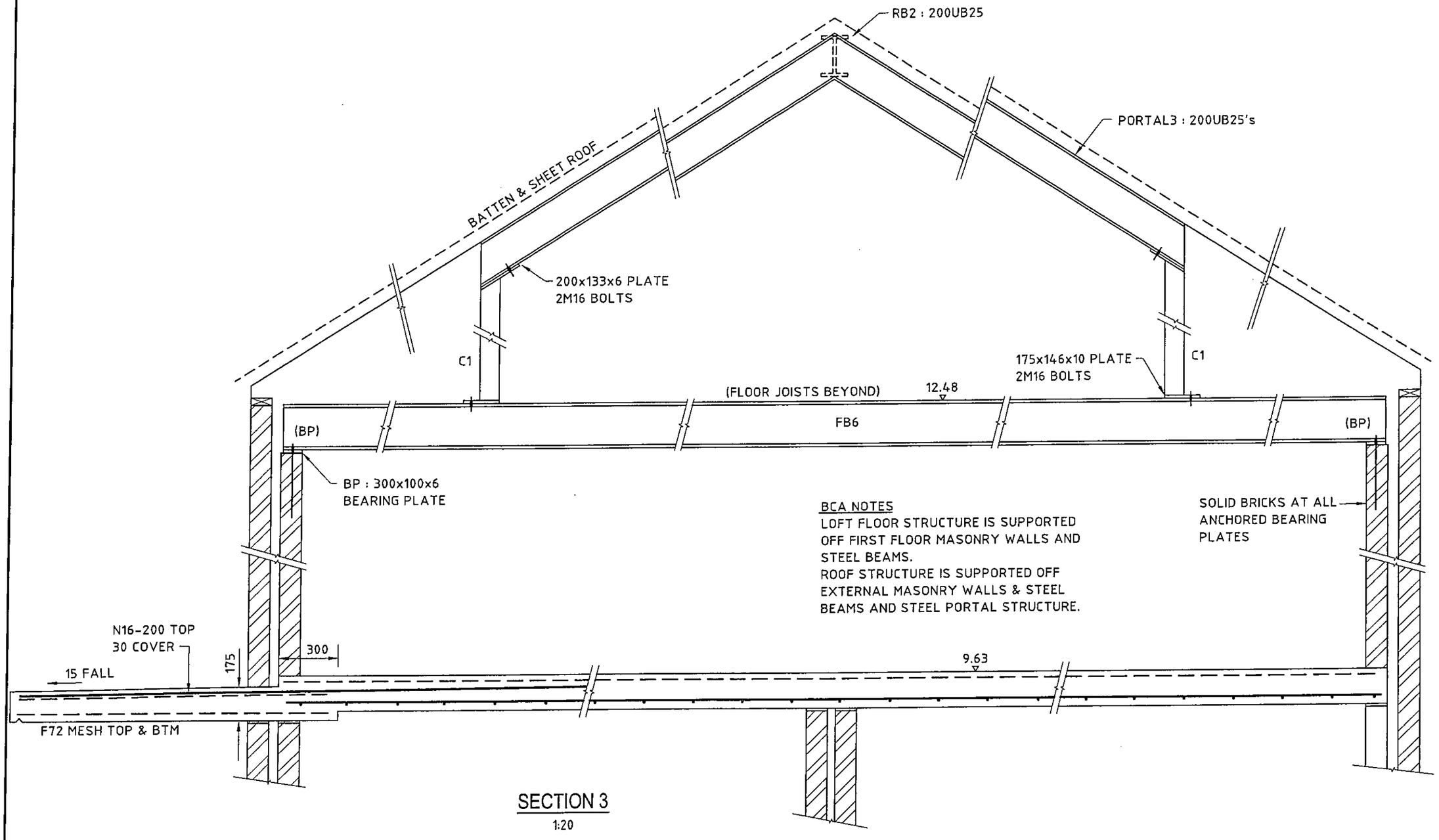


SECTION 3
1:20

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|---|---|---|---|
| | | | PROJECT: PROPOSED ALTERATIONS & ADDITIONS 210-212 PITTWATER ROAD, MANLY |
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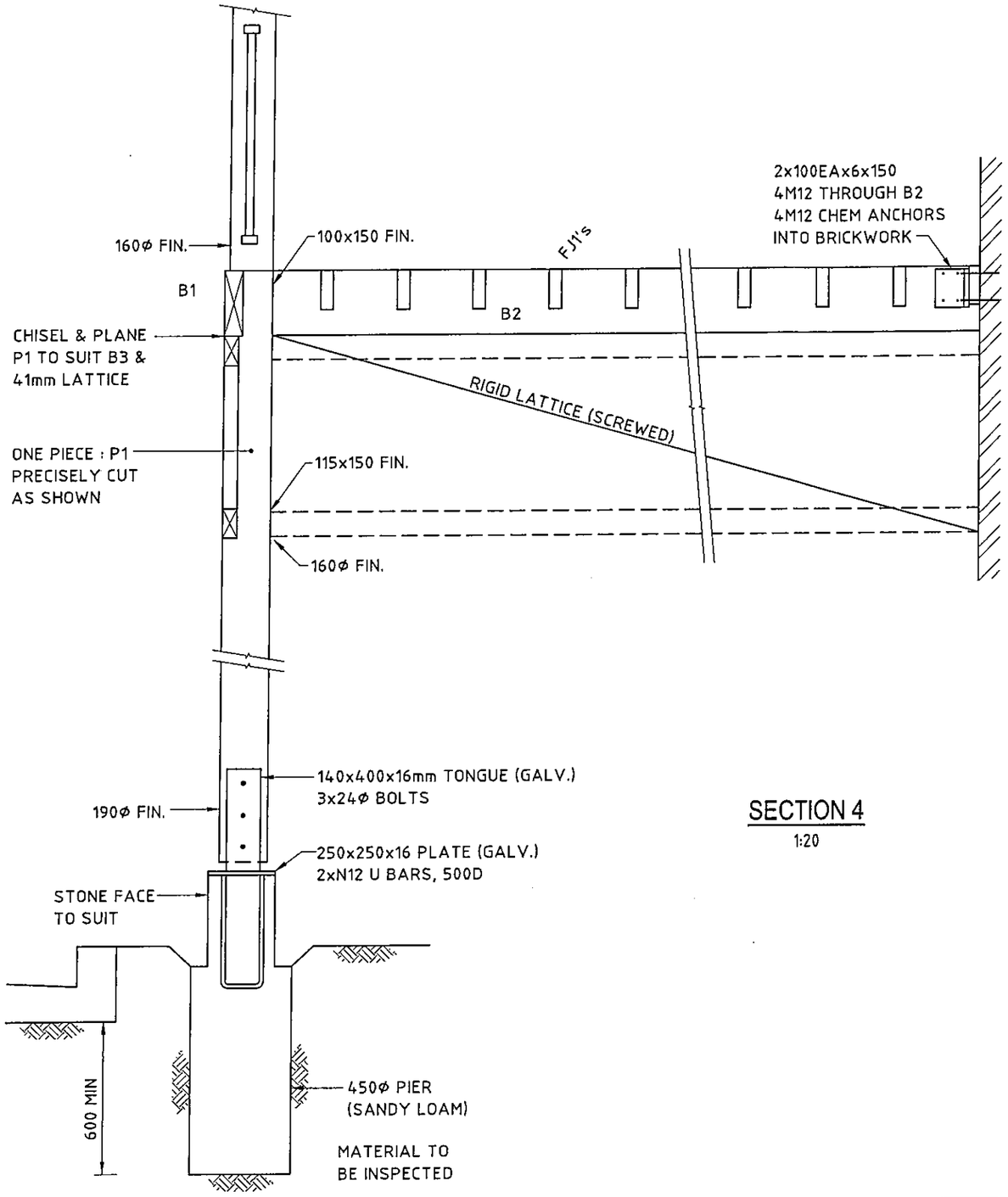
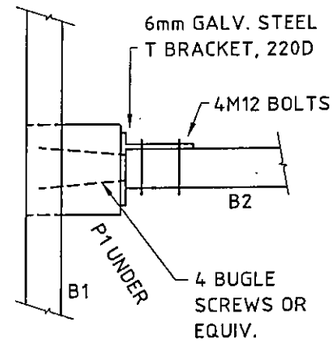



SECTION 4

1:20




PLAN: B1/P1/B2 CONNECTION

1:20

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| | | |
| A | 23.3.10 | NO CHANGE |
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| REVISION | | |

PROJECT: PROPOSED ALTERATIONS & ADDITIONS
210-212 PITTWATER ROAD, MANLY

FOR: MIEHS NOMINIES PTY LTD

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| APPROVED | | |

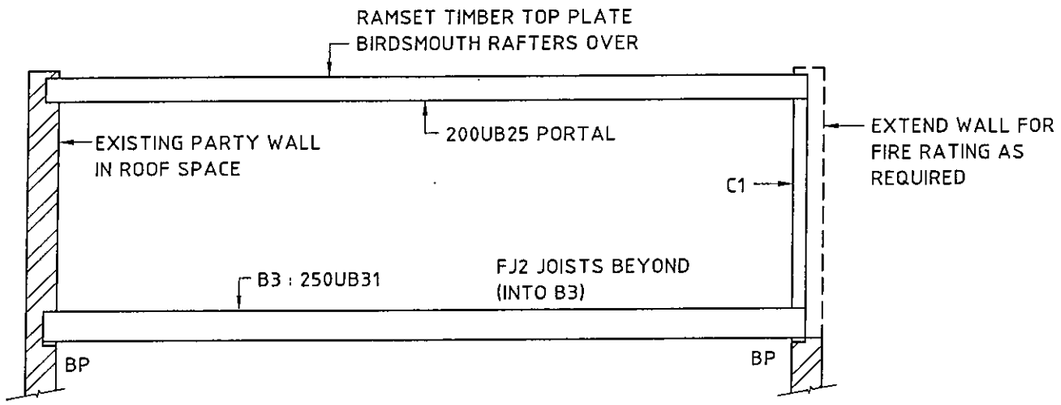


DIAGRAM : PORTAL 1
1:50

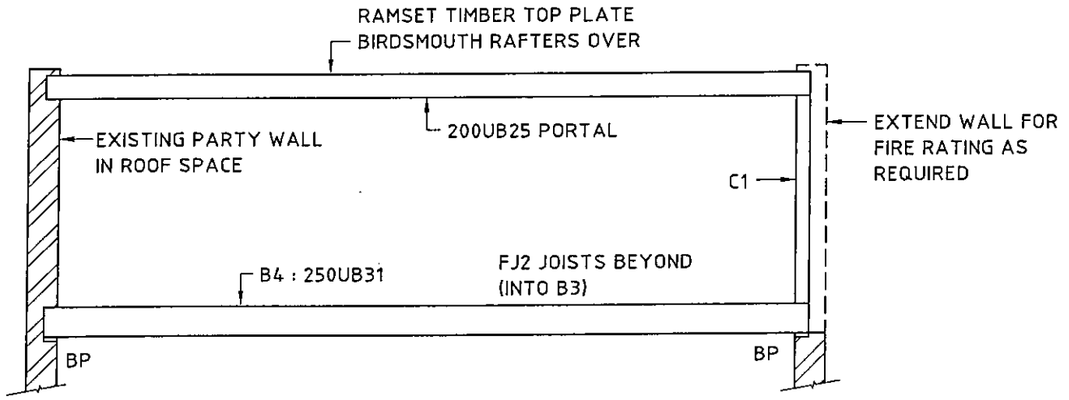


DIAGRAM : PORTAL 2
1:50

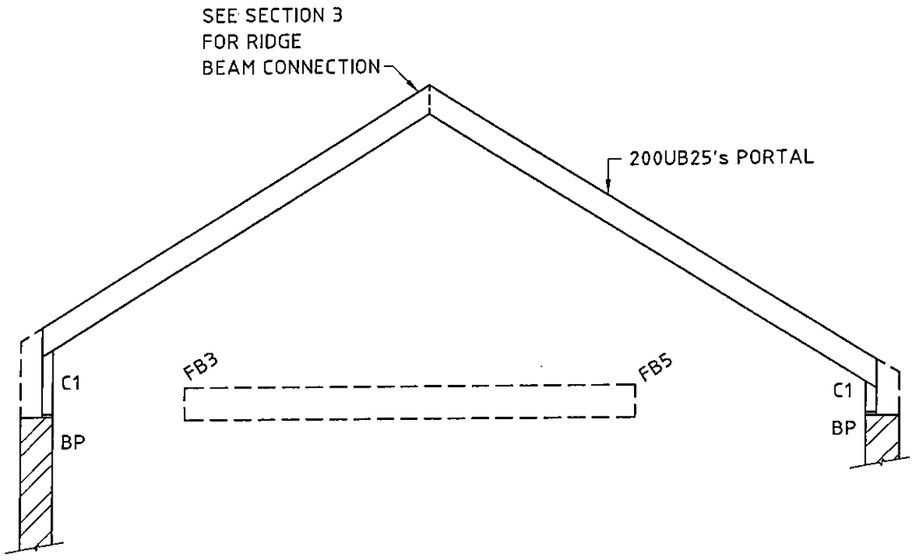


DIAGRAM : PORTAL 4
1:50

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| | | |
| A | 23.3.10 | NO CHANGE |
| ISSUE | DATE | DESCRIPTION |
| REVISION | | |

PROJECT
PROPOSED ALTERATIONS & ADDITIONS
210-212 PITTWATER ROAD, MANLY

FOR
MIEHS NOMINIES PTY LTD

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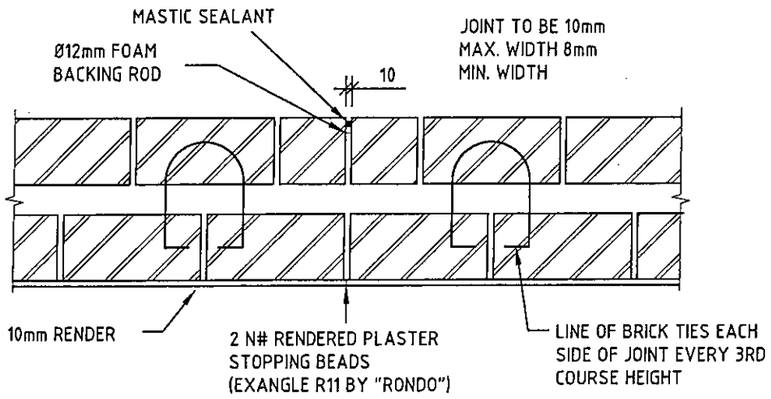
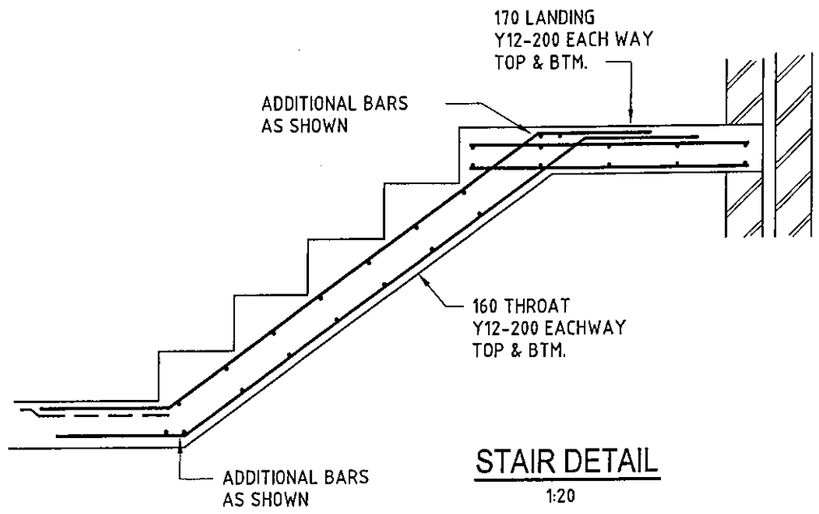


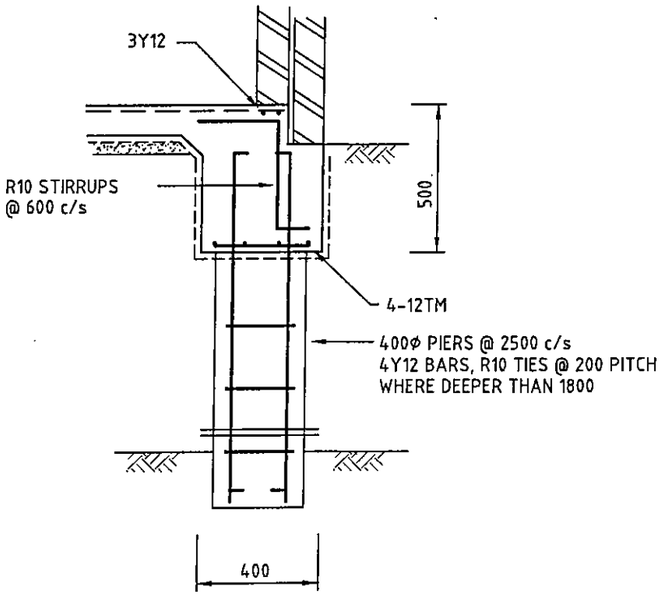

## CAVITY BRICK WALL JOINT DETAIL

(REFER TO PLAN FOR LOCATIONS)



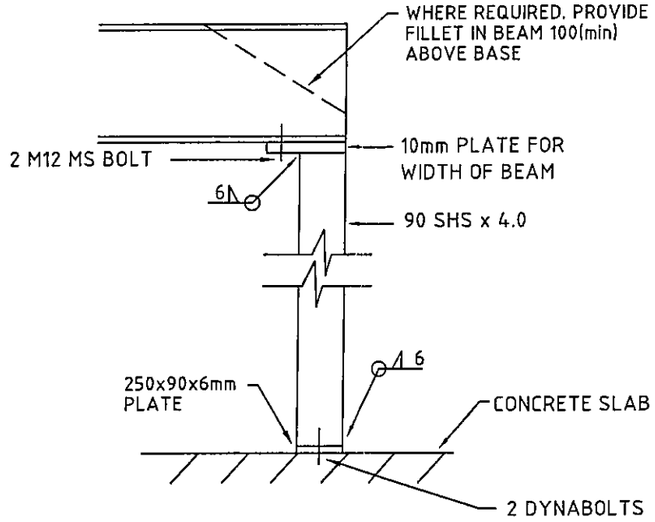

## STAIR DETAIL

1:20



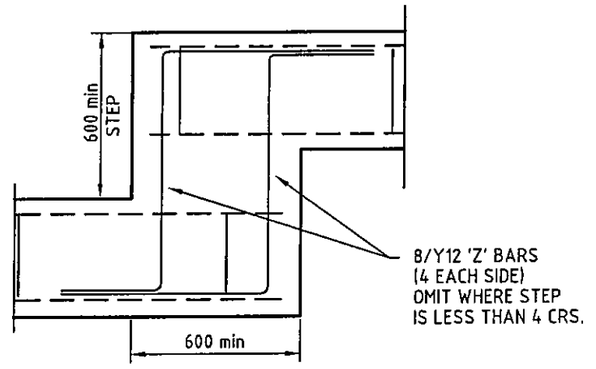

## EB1 ALTERNATE

1:20

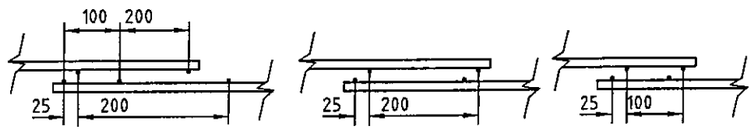



## STEEL POST DETAIL IF REQUIRED

1:10




## TYPICAL FOOTING STEP




## FABRIC LAP DETAILS

| | | | |
|---|---|---|---|
| | | | PROJECT: PROPOSED ALTERATIONS & ADDITIONS 210-212 PITTWATER ROAD, MANLY |
| | | | FOR: MIEHS NOMINIES PTY LTD |
| A | 23.3.10 | NO CHANGE | STRUCTURAL DETAILS |
| ISSUE | DATE | DESCRIPTION | |
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| CPM | | 09021-S01 |
| DRAWN | DATE | SHEET |
| PS | 4.9.09 | 9/9 |
| APPROVED | | |