

PROPOSED NEW STORE & GARBAGE ROOM & FIRE  
EGRESS STAIRS - ENGINEERING DESIGN AT  
SMIGGINS HOTEL, SMIGGIN HOLES NSW 2627

PRACTICAL ENGINEERING SOLUTIONS P/L



ACN 157 931 069

# STRUCTURAL DRAWING LIST

SHEET NO	TITLE
S01	COVER
S02	SPECIFICATIONS
S03	FIRE EGRESS STAIRS - FOOTING & FRAMING PLAN
S04	STORE AND GARBAGE ROOM - FOOTING & FRAMING PLAN

PRACTICAL ENGINEERING  
SOLUTIONS P/L

ABN 67 157 931 069

**Structural &  
Project Management ENGINEERS**

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Drawing Name:

PROPOSED NEW STORE &  
GARBAGE ROOM & FIRE STAIRS -  
ENGINEERING DESIGN AT  
SMIGGINS HOTEL, SMIGGIN  
HOLES NSW 2627

Client:

BELINDA SHORE

Structural Sheet No. S01 of 4

Scale: NTS  
Date: 15.01.2021  
Drawing No: 090131A\_STAIRS  
COVER PAGE

Sheet Size: A3

Designed: O Boaru

Drawn: A Sferle

Checked: O Boaru

Approved:

Ovi Boaru MIEAust CPEng

ISSUE	DATE	AMENDMENT
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All workmanship and materials to conform with latest edition of the Building Code of Australia and relevant Australian Standards.

The contractor is to confirm all dimensions prior to commencing any works on site.

Refer to specification for other relevant information details.

**NOTES:**

1. All workmanship and materials to conform with the latest edition of the building code of Australia and relevant Australian standards.
2. It is not implied or guaranteed that all structural designs and details shown in these plans are complete. The scope of the work has been determined by the Engineer based on the information supplied by the client or the clients consultants. The Engineer will provide further designs if required, but is not responsible for any associated cost where design details have not been specifically requested.
3. All dimensions on these plans should be checked on site by the builder and verified using Architectural plans and other contract documents. Discrepancies to be referred to the Architect or Engineer.
4. DO NOT SCALE FROM THESE DRAWINGS
5. The structural details shown in these plans are applicable to the Architectural plans and building elements by AM DESIGN:  
Plans No. -  
Plan date - 09/2019  
Roof Structure - Timber Rafters & Colorbond  
Wall Structure - Timber Frame  
Floor Structure - Pad footings and steel posts, and concrete slab
6. Reference to UNO = Unless Noted Otherwise & NA = Not Applicable.
7. Handrail construction to BCA requirements.
8. Where disturbed existing building must have bracing and tie-down investigated by the builder and referred to the Engineer for compliance checking.

**SITE CONDITIONS:**

1. Stability/Vegetation - NA
2. Drainage - NA
3. Soil Type/profile - NA
4. AS2870.1 - 2011 site classification - 'P' -  
see Lapontengineering geotechnical report
5. AS4055 - 2012 wind classification N3 50m/s (Vh,u).
6. AS1170.3 - 2003 Ground Design Snow Load  
Smiggin Hole for  $\frac{1}{150}$  return - Sg = 13.52 KPa

**CONCRETE:**

1. All concrete works to be in accordance with AS3600 2001
2. Concrete strength cover and durability details (refer AS3600)  
Footings - 25MPa  
External Slab - 40 MPa
3. All reinforcement to be adequately supported on bar chairs in correct positions.
4. Concrete to be formed as required by AS3610 and compacted in accordance with AS3600 and AS3610 to achieve specified or relevant density durability and strength.
5. All reinforced fabric to be lapped one mesh panel plus 25mm and reinforcement bars lapped 40 bar diameters, UNO.

**FOOTINGS:**

1. Footings and slabs on ground designs conform with AS 2870-2011.

**MASONRY:**

1. All masonry (clay, stone and concrete) to comply with AS3700 2001. masonry code.
2. Masonry control joints to AS3700.
3. Core fill grout mix for hollow block fill to be 20 MPa.

**TIMBER:**

1. All timber construction to comply with Australian Framing Code AS1684.2 - 2010.
2. Bracing and tie down detail to comply with AS 1684.2-2010.
3. For external use, use Class 1 or Class 2 HW or Treated Timbers.

**STEEL:**

1. All steel construction to comply with AS4100 steel structures code and AISC Connection Details.

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**Client:**


BELINDA SHORE

**Structural Sheet No. S02 of 4**

**Scale:** NTS  
**Date:** 15.01.2021  
**Drawing No:** 090131A\_STAIRS SPECIFICATIONS

**Sheet Size:** A3  
**Designed:** O Boaru  
**Drawn:** A Sferle  
**Checked:** O Boaru

**Approved:**



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**Client:**

BELINDA SHORE

**Structural Sheet No. S03 of 4**

**Scale:** 1:50

**Date:** 15.01.2021

**Drawing No:** 090131A\_STAIRS  
 FIRE STAIRS - FOOTING & FRAMING

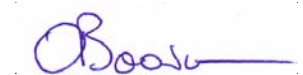
**Sheet Size:** A3

**Designed:** O Boaru

**Drawn:** A Sferle

**Checked:** O Boaru

**Approved:**



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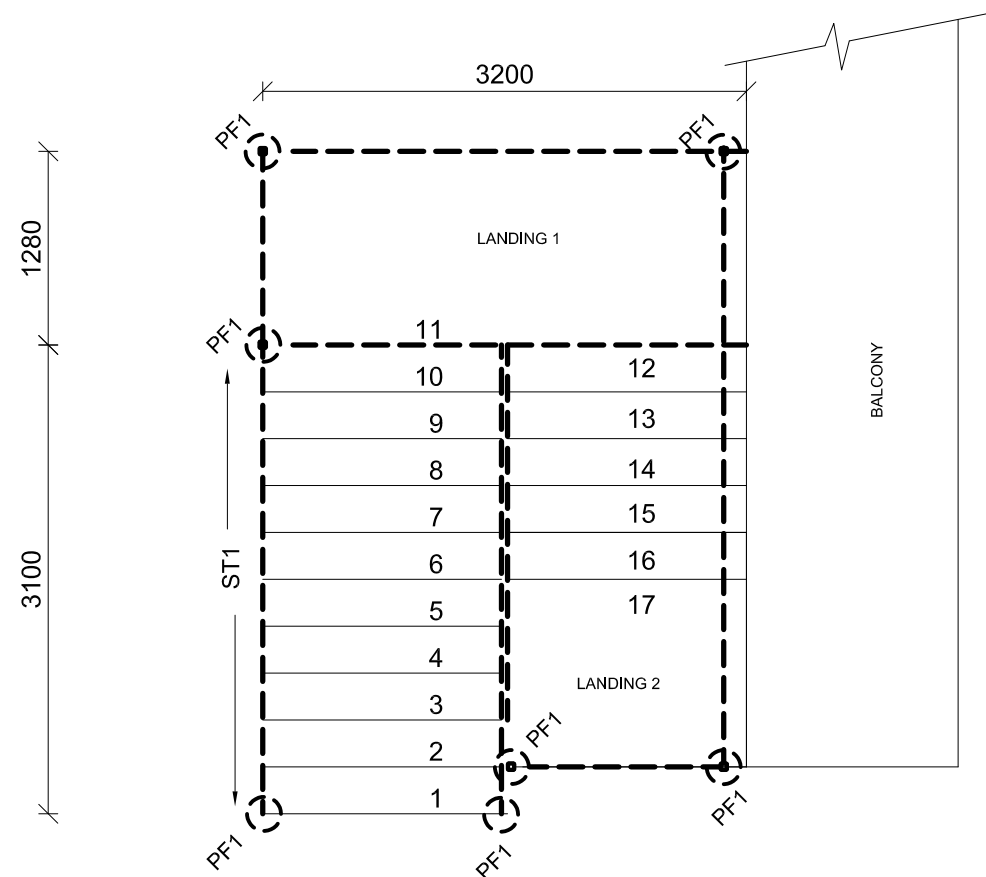
**Stairs Design:**

- \* Riser R = 170mm
- \* Going G = 310 mm

Total Stairs Height from existing ground level to first floor level was measured on site as H = 2,890 mm. We need 17 risers

**STEEL KEY:**

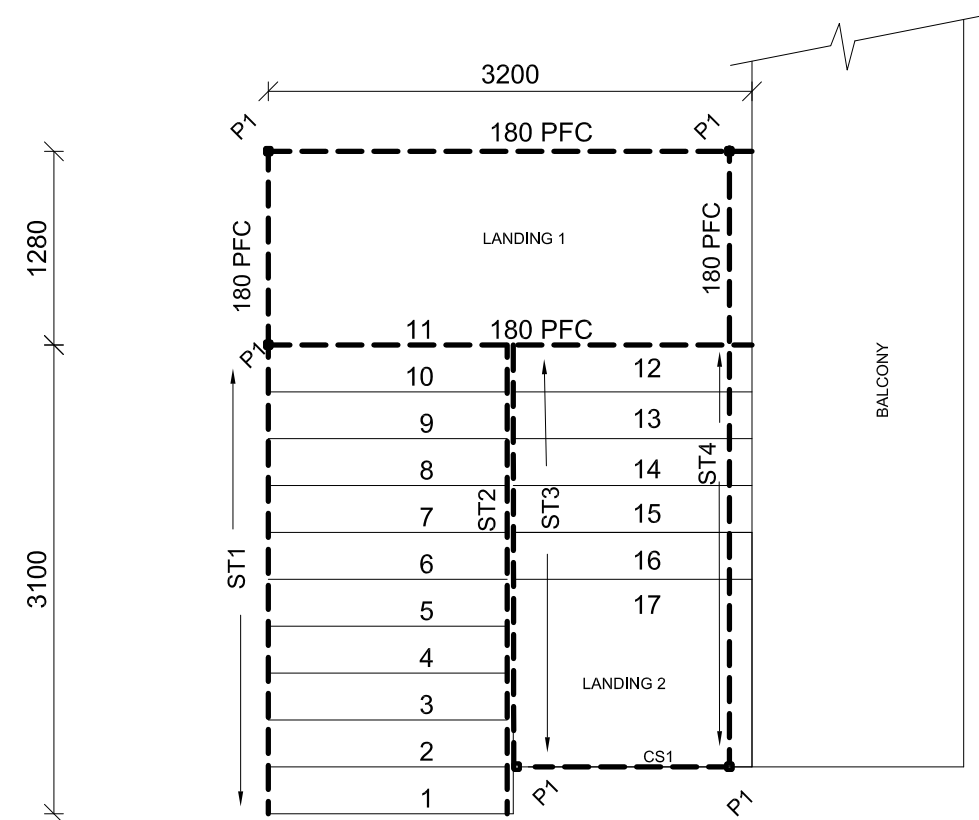
- \* P1 - 89 x 5.0 SHS - WELDED TO CAST IN PLATE
- ST1 & ST2 BOLTED TO LANDING 1 FRAME - 180 PFC or 250 x 12 STEEL FLATS SECURED THROUGH THE WEBFORGE STEPS
- ST3 - STRINGER AND CRANKED LANDING 2 - 180 PFC
- ST4 - STRINGER AND CRANKED LANDING 2 - 180 PFC
- CS1 - 89 x 5.0 SHS - BRACING STIFFENER - WELDED
- THREADS USE WEBFORGE GRATING



**FOOTING PLAN**  
SCALE 1:50

**FOOTING & SLAB KEY:**

- \* PF1 - 450Ø x MIN 700 DEEP & EMBEDDED MIN 200 mm 100 KPa CLAYEY GRAVEL. REINFORCE WITH FIBRE MASH AND PROVIDE CAST IN PLATES WITH 3 N16 X 300 LONG
- \* PF1 - 450Ø x MIN 400 DEEP & EMBEDDED MIN 200 mm 100 KPa CLAYEY GRAVEL



**FRAMING PLAN**  
SCALE 1:50

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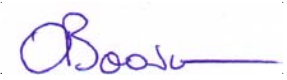
**Drawing Name:**  
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**Client:**  
 BELINDA SHORE

**Structural Sheet No. S04 of 4**

**Scale:** 1:100  
**Date:** 15.01.2021  
**Drawing No:** 090131A\_STAIRS  
 FIRE STAIRS - FOOTING & FRAMING

**Sheet Size:** A3  
**Designed:** O Boaru  
**Drawn:** A Sferle  
**Checked:** O Boaru

**Approved:**  
  
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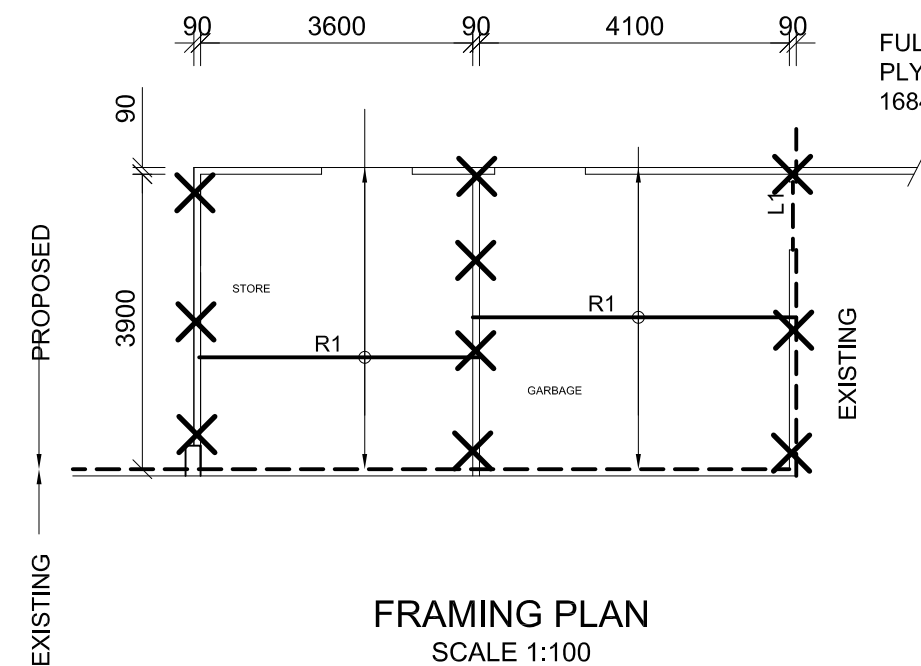
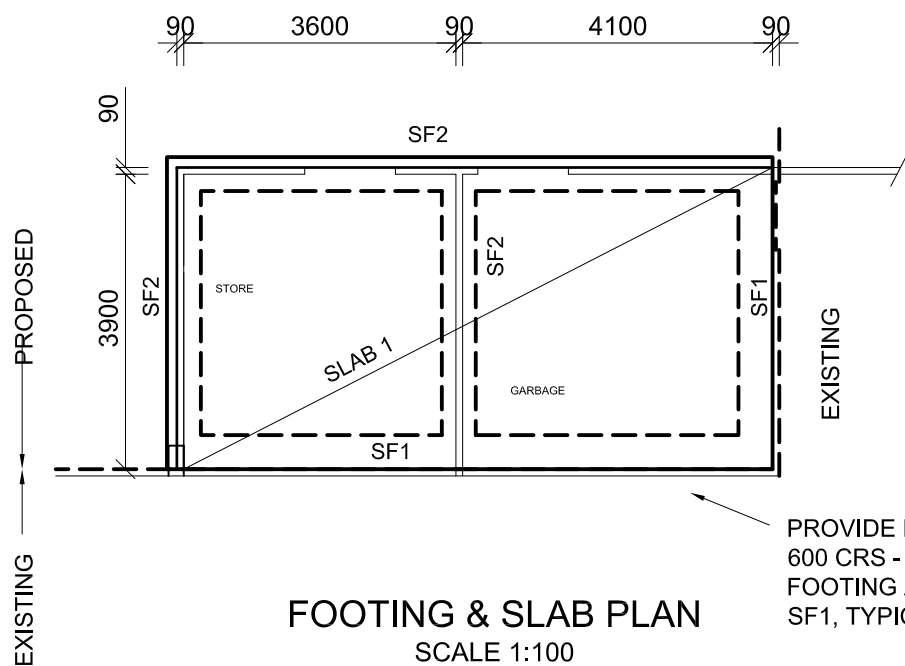
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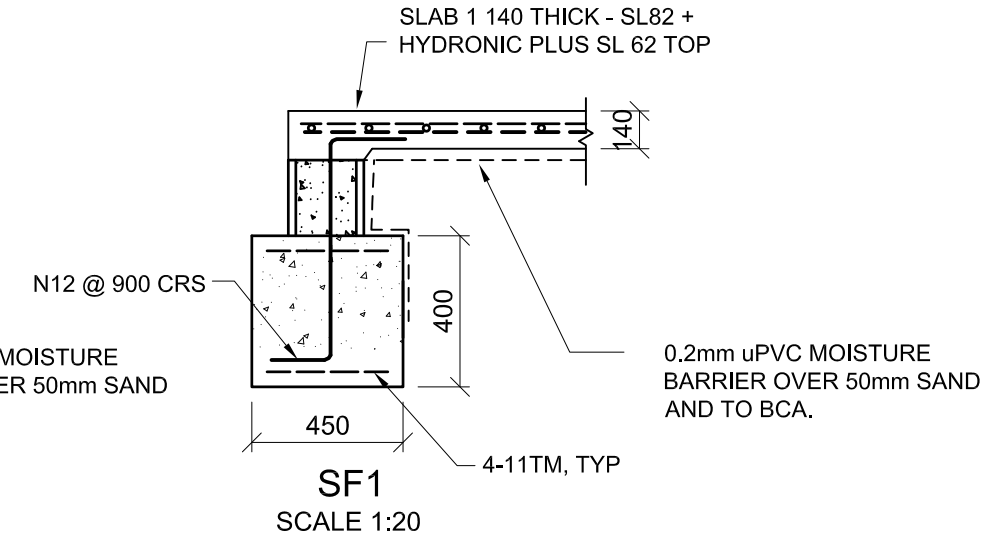
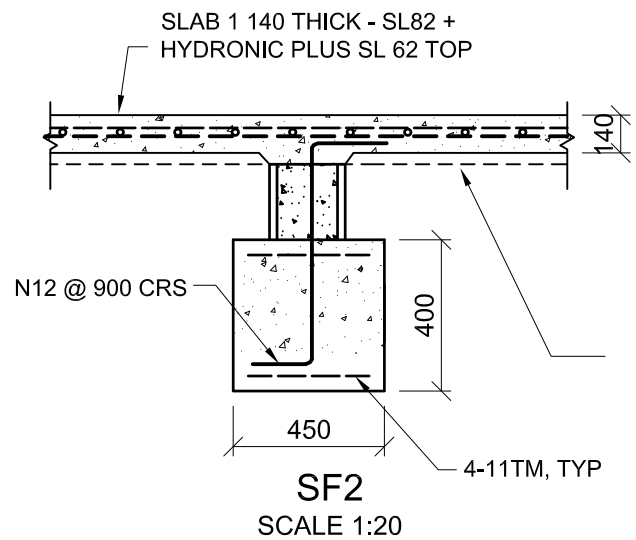
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SYMBOL	SPECIFICATION	
X	100 STEEL RODS CHEMSET INTO SLAB SEE FRAMING NOTE 3	MAX SPAN
R1	240 x 63 LVL @ 600 CRS	4.2 m
L1	2 / 140 x 45 F7 TP LAMINATED TO AS 1684	2.60 m
-	-	-



SLAB 1- MAYBE 120 THICK WHERE HYDRONIC FLOOR HEATING NOT USED. USE 32 MPa CONCRETE IN SLAB AND 25 MPa CONCRETE IN FOOTINGS

- NOTES:**
- ENSURE ALL FOOTINGS ARE FOUNDED MINIMUM 200mm INTO 100 KPA - SANDY CLAY AS PER GEOTECHNICAL ENGINEERS REPORT ENSURE FILL UNDER SLAB IS MAXIMUM 400 mm - AND WELL COMPACTED. OTHERWISE - IN FILL:  
 - PROVIDE 450Ø CONCRETE PIERS UNDER THE SLAB AT MAXIMUM 1500 CRS EACH WAY PLUS A 810 x 810 SQUARE PANEL MESH ON TOP OF EACH PIER
  - GRADE SURFACE AWAY FROM THE HOUSE MIN 1.0 METERS ALL AROUND AND SUFFICIENT TO DRAIN AWAY FROM THE DEVELOPMENT SITE TO PREVENT STORMWATER ENTERING THE BUILDING
  - WHERE CERTIFYING AUTHORITY REQUESTS AN ENGINEER TO INSPECTION THE FOUNDATIONS, THIS OFFICE MAY CONDUCT SUCH WORK AT COMPANY HOURLY RATES FOR TRAVEL, INSPECT AND REPORT.

- NOTES:**
- ENSURE ROOF RAFTERS ARE FIXED TO TOP PLATE WITH TWO FRAMING ANCHORS MINIMUM THREE NAILS TO EACH LEG PLUS ONE CYCLONE STRAP.
  - ENSURE BRACING SHEETING IS NAILED FROM TOP PLATE TO BOTTOM PLATE.
  - ENSURE 10mm DIA TIEDOWN RODS ARE CONTINUOUS ALL THE WAY THROUGH TO FOOTINGS.
  - ALL EXTERNAL TIMBER WORK TO BE EITHER TREATED PINE (TP) OR CLASS 1 OR CLASS 2 HW OR H3 TREATED FOR WEATHER PROTECTION.