

**CONSTRUCTION NOTES.**

**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 by the Architect for decision before proceeding with the work.
- G2. Dimensions shall not be obtained by scaling the structural drawings.
- G3. Setting out dimensions shown on the drawings shall be verified by the builder.
- G4. During construction the structure shall be maintained in a stable condition and no part shall be overstressed.
- G5. All excavation, shoring of excavation and stability of adjacent structures shall be the responsibility of the builder.
- G6. The structural work shown on the drawings have been designed for the following live loads: Slabs ..... k.P.A. Balconies ..... k.P.A. Stairs and landings ..... k.P.A.

**Foundations.**

- F1. The footings have been designed for the allowable intensity of 400 k.P.A. SANDSTONE
- F2. All slabs on the ground subgrades shall be compacted to 95% M.O.D.
- F3. A Geotechnical Report has been carried out. Refer to Report Ref.3342569p1 Prepared by JGeotechnics Pty Ltd dated 29 July 2021

**Concrete.**

- C1. All workmanship and materials shall be in accordance with AS3600 current edition with amendments, except where verified by the contract documents.
- C2. Concrete quality is to be AS3600. Normal concrete is to have a maximum water cement ratio of 0.5 and a minimum portland cement content of 280 kg per m<sup>3</sup>.

Element	Slump	Max. Size agg.	Cement Type	AS3600 Fc	Admixture
FOOTINGS	80	20	G.P.	40	
GRD. FL. SLAB	80	20	G.P.	40	
DRIVEWAY/PAVING	80	20	G.P.	40	

C3. Clear concrete cover to reinforcement shall be as follows:

Element	Cast against forms complying with AS 1509		Cost against form work of the ground
	In sheltered Locations	Exposed to ground weather or water	
Columns & Pedestals	40	40	65
Beams	25	40	50
Footings	50	65	75
Stops & Walls	20	40	50

- 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. Beam depths are written first and include slab thickness.
- C7. 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.
- C8. All concrete shall be mechanically compacted by a vibrator and the vibrator shall not be used to spread the concrete.
- C9. Formwork to suspended slabs and beams shall remain in place for a full 28 days, cantilevers being backpropped 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.
- C10. Gullies, pipes, etc. must not be placed in concrete cover and shall be spaced minimum distance as for reinforcing steel.
- C11. Reinforcement is represented diagrammatically. It is not necessarily shown in true proportion.
- C12. Welding of reinforcement will not be permitted unless shown on the structural drawings.
- C13. Reinforcement symbols:
  - Y - 410 deformed bar in accordance with AS 1302.
  - S - Structural grade deformed bar in accordance with AS 1302.
  - R - structural grade round bar in accordance with AS 1302.
  - H - Hard drawn steel wire fabric in accordance with AS 1304.

- C14. All reinforcement shall be firmly supported on plastic or M.S. (galvanneal tipped or galvanized) chairs generally at not greater than 1000mm centres both ways. Bars to be tied at alternate intersections.
- C15. Unless noted otherwise, all cross rods and distributors shall be Y12 @ 300 cts.
- C16. Splices in reinforcement shall be made only in the positions shown and shall be sufficient to develop the full strength of the reinforcement.
  - (1) Square fabric - minimum lap side ..... and ..... end .....
  - (2) Rectangular fabric - minimum lap side ..... and ..... end .....
- C17. Splice lengths generally to be in accordance with table 13.1.2.2A of AS 3600.

**Structural Steel.**

- S1. All workmanship and materials shall be in accordance with AS 4100, AS 1554 and for tubular members BS 449 and BS 1772, except where varied by contract documents.
- S2. Connections shall be provided to carry the reactions shown unless otherwise detailed.
- S3. The Contractor shall prepare workshop drawings and shall submit 3 copies of each drawing for examination of connections. Fabrication shall not commence until approval has been received.
- S4. Welds shall be 6mm continuous fillet, all bolts 20mm dia., all gusset plates 10mm thick unless otherwise noted.
- S5. Concrete encased steelwork shall be wrapped with 315 mm. wire at 100 mm. cts. and shall have a minimum 50 mm. cover of concrete unless noted otherwise.
- S6. Unless otherwise noted, all steel shall be in accordance with AS 1204 mild steel and AS B156 steel tubes Grade 15.
- S7. Unless otherwise noted, all steelwork not encased shall be given one coat of red oxide zinc chromate primer prior to dispatch.

**Brickwork (or Blockwork).**

- B1. All load-bearing brickwork shall be constructed in accordance with AS 3700.
- B2. Minimum brick compressive strength to be as follows: C = ..... M.Pa.
- 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.
  - (b) All other load-bearing brickwork - 1 part cement, 1 part lime, 6 parts clean sharp sand.
- B4. Where brickwork supports concrete slabs, top course shall be laid frogs down and covered with two layers of galvanneal iron strips with graphite between.
- B5. Brickwork shall be separated from concrete at all vertical faces by 10mm thick compressible jointing material.
- B6. Where walls are non-load-bearing, they shall be separated from the concrete over by 10mm thick compressible jointing material.
- B7. All steel lintels to be not dipped galvanneal with 150 mm. minimum bearing at each end unless otherwise noted.
- B8. Gout where required shall comprise 1 part cement, 3 parts clean sharp sand, 1/10 part lime and two parts 10 mm. aggregate.
- B9. Cleanout openings shall be provided at base of all reinforced cells to enable cleaning of cells including removal of mortar protruding into cell, prior to placing of reinforcement.
- B10. Lintels shall be in accordance with B7, above or alternatively approved masonry.
- B11. Lintel beams may be used.
- B12. Approved joint reinforcement shall be laid horizontally at a minimum of 600 mm. cts. with additional layers directly above and below window and door openings.

**Timber.**

- T1. Timber constructions to be in accordance with AS 1720 and light timber framing code AS 1684.
- T2. Timber stress grade to be F7 unless noted otherwise.

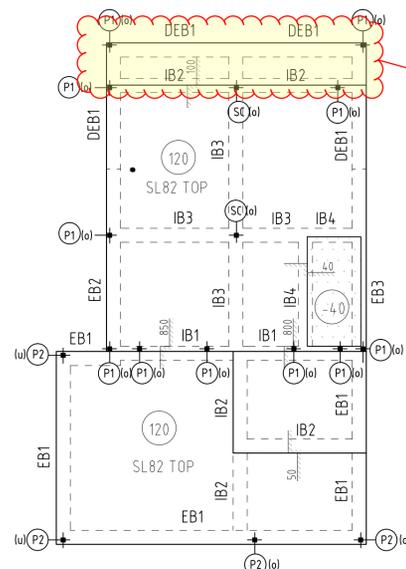
Revision	Issue for CC Approval	Date
A	ISSUE FOR CC APPROVAL	02.09.2025

Project  
**PROPOSED ALTERATION AND ADDITION  
33A PACIFIC HIGHWAY MOONEY MOONEY**

**BURGESS, ARNOTT & GRAVA PTY. LTD.**  
CONSULTING STRUCTURAL, CIVIL &  
HYDRAULIC ENGINEERS  
10/38A BROOKHOLLOW AVE BAILLHAM HILLS  
P.O. BOX 7499 NORWEST NSW 2153  
M: 0448210418  
email rob@gravaconsulting.com.au | jason@gravaconsulting.com.au

Title  
**GROUND FLOOR SLAB PLAN AND DETAILS**

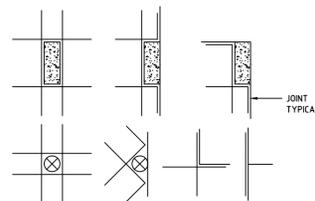
Checked	Scale	Date	Drawing No.	Rev.
J. XU	As shown	SEPT. 2025	2025-129-S1	A
Approved by	Drawing 1 in set of 2			
Chartered Engineer	Drawing size A1			



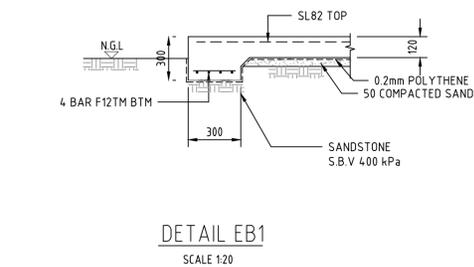
**GROUND FLOOR SLAB - N40MPa CONCRETE**  
Scale 1:100

- GENERAL NOTES:**
- SLABS TO BE 120mm THICK REINFORCED WITH SL82 TOP U.N.O
  - REFER TO STORMWATER DRAWINGS FOR LOCATION OF PITS, GRATES ETC.
  - REFER TO ARCHITECTURAL DRAWINGS FOR SETOUT, LEVELS, FALLS ETC.
  - NOTIFY ARCHITECT & BURGESS ARNOTT & GRAVA P/L OF ANY DISCREPANCIES BEFORE PROCEEDING.
  - THE SLAB AND FOOTINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH AS2810-2011 FOR CLASS "A" SITE
  - A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER TO BE CONTACTED DURING EXCAVATION TO CONFIRM THE SITE CLASSIFICATION.

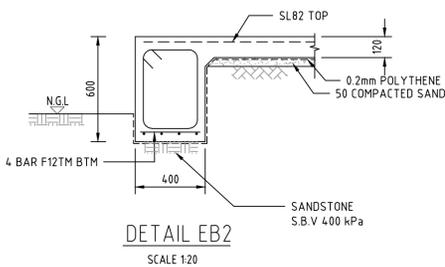
- LEGEND:**
- (120) DENOTES CONCRETE THICKNESS
  - (Px) DENOTES TIMBER POST OVER
  - (SD) DENOTES SLAB SETDOWN



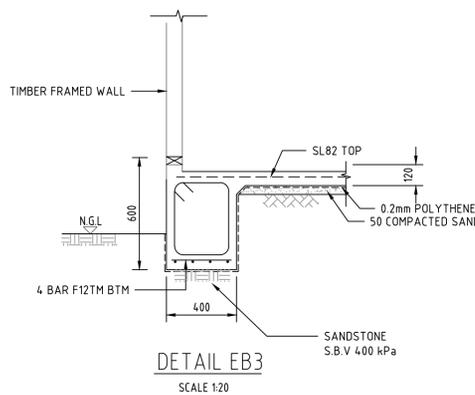
**TYPICAL TRIMMER BARS - PLAN**  
ALL TRIMMER BARS TO BE INHS 500 MIN LEGS. U.N.O.  
AT ALL COLUMN, WALL, PITS FLOOR WASTES, ETC  
THAT CAUSE A PENETRATION THROUGH SLAB.



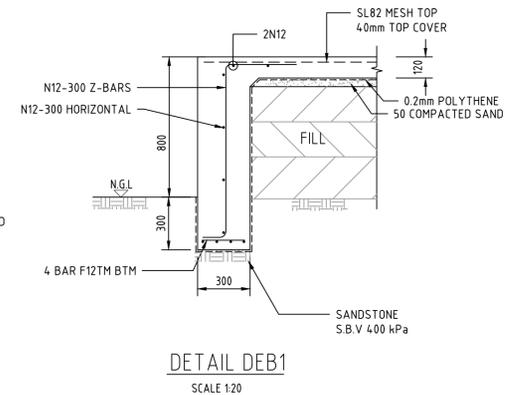
**DETAIL EB1**  
SCALE 1:20



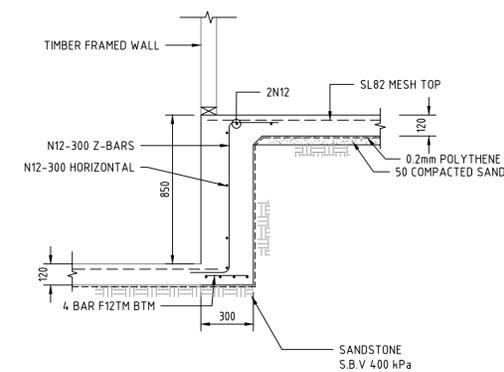
**DETAIL EB2**  
SCALE 1:20



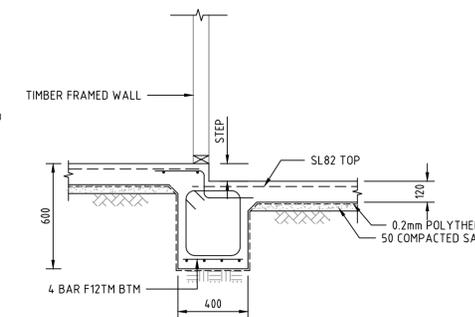
**DETAIL EB3**  
SCALE 1:20



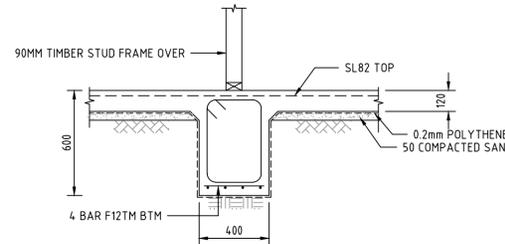
**DETAIL DEB1**  
SCALE 1:20



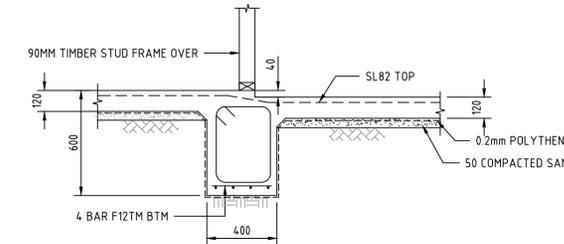
**DETAIL IB1**  
SCALE 1:20



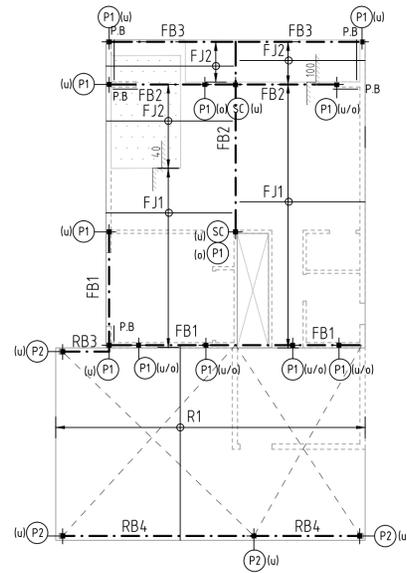
**DETAIL IB2**  
SCALE 1:20



**DETAIL IB3**  
SCALE 1:20



**DETAIL IB4**  
SCALE 1:20

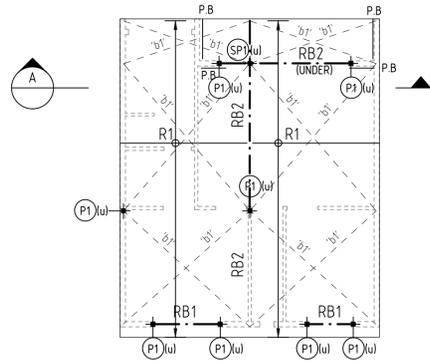


**FIRST FLOOR FRAMING PLAN**

Scale 1:100

**NOTE:**

- DOUBLE FLOOR JOIST TO BE PLACED UNDER ALL WALL ABOVE.
- REFER TO ARCHITECTURAL DRAWINGS FOR SETOUT, LEVELS, FALLS ETC.
- NOTIFY ARCHITECT & BURGESS ARNOTT & GRAVA P/L OF ANY DISCREPANCIES BEFORE PROCEEDING.



**ROOF FRAMING PLAN**

Scale 1:100

**MEMBER SCHEDULE**

**FLOOR BEAMS**

- FB1.....2/240 x 45 MGP10
- FB2.....200UB29
- FB3.....200 x 63 LVL

**ROOF BEAMS**

- RB1.....150 x 45 LVL
- RB2.....300 x 63 LVL
- RB3.....240 x 63 LVL
- RB4.....300 x 75 LVL

**COLUMNS**

- P1.....2 / 90 x 45 F7 TIMBER STUDS
- P2.....90 x 90 F17 HARDWOOD POST
- SP1.....90 x 90 F17 HARDWOOD STUB POST

**FLOOR JOIST**

- FJ1.....240 x 45 MGP10 @ 450 CTRS
- FJ2.....200 x 45 LVL @ 300 CTRS

**RAFTER**

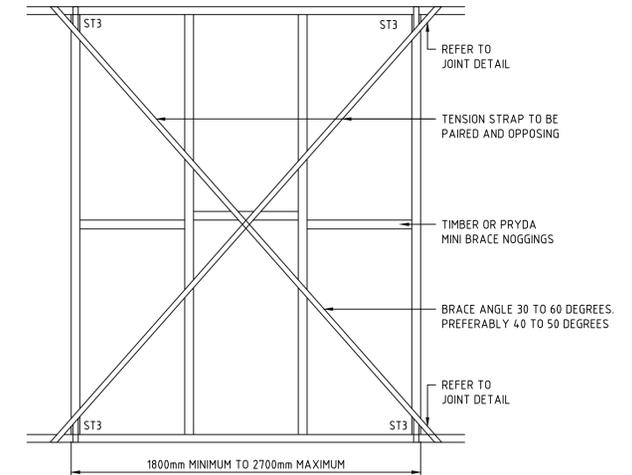
- R1.....150 x 45 LVL @ 450 CTRS
- R2.....200 x 45 LVL @ 450 CTRS

**ROOF**

- 'b'.....32 x 1mm HOOP IRON BRACING

**NOTES:**

- ALL EXPOSED TIMBER MEMBERS TO BE PRESERVATIVE TREATED OR HARDWOOD, DURABILITY GRADE 2 OR BETTER.
- ALL EXPOSED STEEL MEMBERS, FITTINGS & FASTENERS TO BE HOT DIP GALVANISED.
- STEEL MEMBERS SUPPORTED ON MASONRY WALLS TO BE SEPARATED FROM MASONRY WITH ALCOR OR MEMBERS TO BE HOT DIP GALVANISED.
- PROVIDE WALL BRACING, ROOF BRACING & TIE-DOWN IN ACCORDANCE WITH AS1684.2-2021 RESIDENTIAL TIMBER FRAMED CONSTRUCTION.



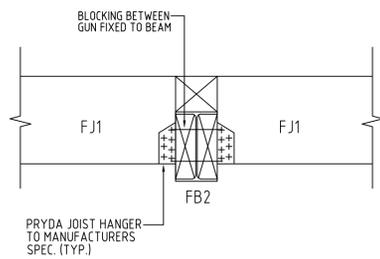
**WB1-TYPE B DIAGONAL STRAP CROSS BRACING UNITS**

SCALE 1:20

**NOTE:**

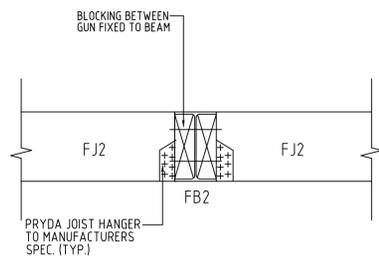
- IF 'PUNCHED' BRACING STRAP IS TO BE USED, CONSULT BURGESS ARNOTT & GRAVA PTY LTD FOR REVISED BRACE SPECIFICATION.

TYPE OF DIAGONAL BRACE	MATERIAL AND SIZE	NAILING REQUIREMENTS		SPECIAL REQUIREMENTS
		TO EACH STUD	TO EACH PLATE	
TENSION STRAP	GALVANISED FLAT METAL TENSION STRAP NOMINAL SIZE 30x0.8mm (UNPUNCHED) AND MIN SECTION 24mm <sup>2</sup>	2/Ø30x3.15mm EACH END GALVANISED	4/Ø30x3.15mm EACH END GALVANISED	STRAPS MUST BE PROPERLY TENSIONED AND STRAP MUST RETURN OVER TOP PLATE AND UNDER BOTTOM PLATE. THE STUD NEAREST TO EACH END OF EACH DIAGONAL STRAP SHALL BE FIXED TO THE PLATES WITH STRAPS OR FRAMING ANCHORS 4/Ø30x2.8mm NAILS EACH END.



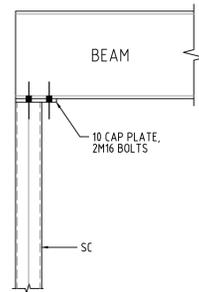
**TYPICAL JOIST TO BEAM CONNECTION DETAIL**

SCALE 1:10



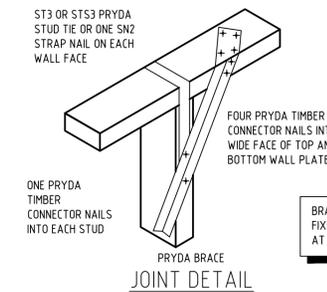
**TYPICAL CAP PLATE DETAIL @ SC**

SCALE 1:10



**TYPICAL PLAN AT BASE PLATE - SC**

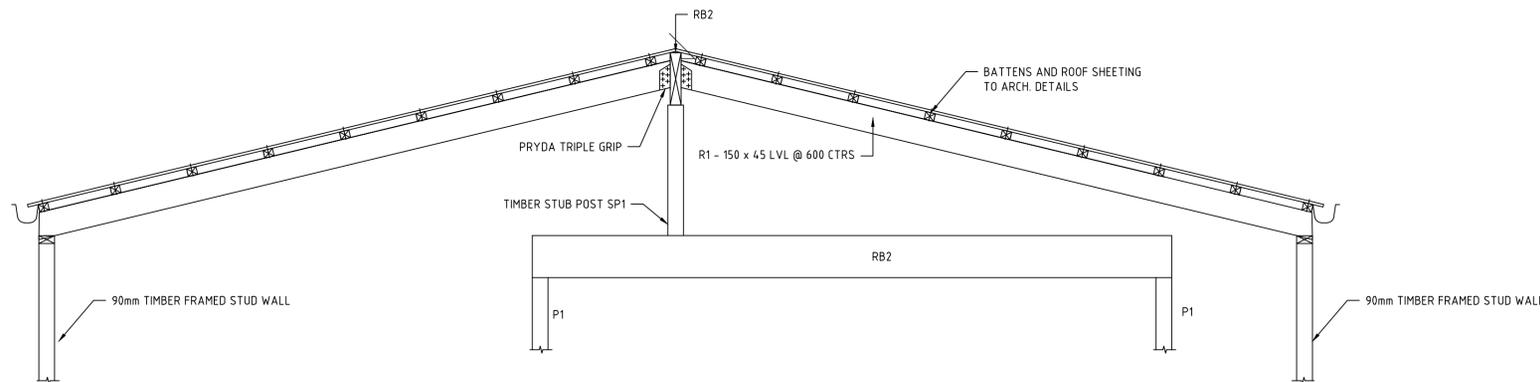
SCALE 1:10



**PRYDA BRACE JOINT DETAIL**

SCALE 1:20

**BRACE: PRYDA STRAP BRACE SB103 OR SPEEDBRACE. FIXING: PRYDA TIMBER CONNECTOR NAILS WITH 4 NAILS AT EACH END AND 1 NAIL AT EACH END.**



**SECTION A**

SCALE 1:20

Revision	Details	Date
A	ISSUE FOR CC APPROVAL	02.09.2025

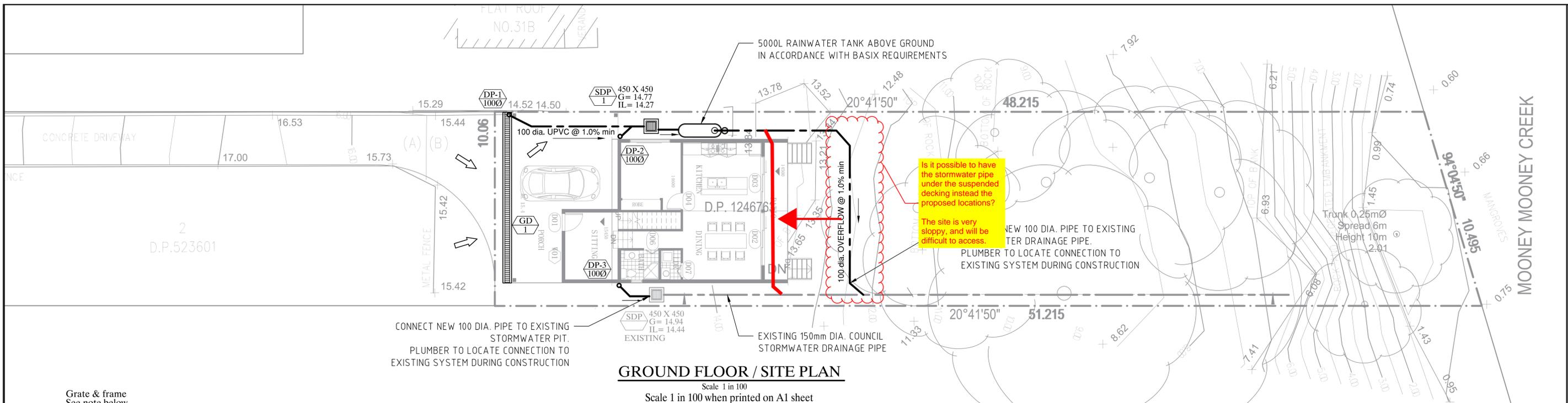
Project  
**PROPOSED ALTERATION AND ADDITION  
33A PACIFIC HIGHWAY MOONEY MOONEY**

**BURGESS, ARNOTT & GRAVA PTY. LTD.**  
CONSULTING STRUCTURAL, CIVIL &  
HYDRAULIC ENGINEERS  
10/38A BROOKHOLLOW AVE BAULKHAM HILLS  
P.O. BOX 7499 NORWEST NSW 2153  
M: 0448210418  
email rob@gravaconsulting.com.au | jason@gravaconsulting.com.au

Title  
**ROOF FRAMING PLAN AND DETAILS**

Checked	Scale	Date	Drawing No.	Rev.
J. XU	As shown	SEPT.2025	2025-129-S2	A

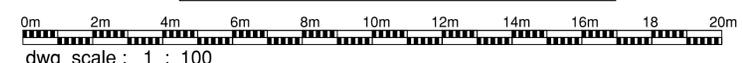
Approved by \_\_\_\_\_ Drawing 2 in set of 2  
Chartered Engineer \_\_\_\_\_ Drawing size A1



**GROUND FLOOR / SITE PLAN**

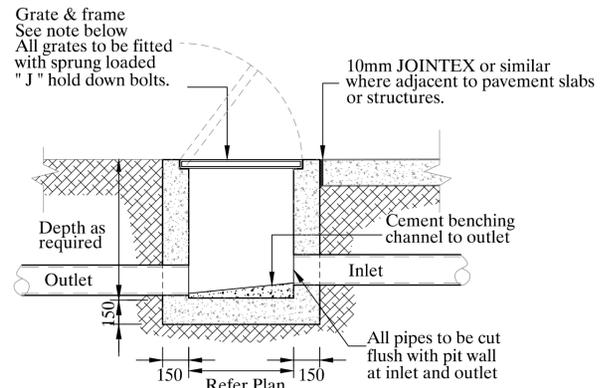
Scale 1 in 100  
Scale 1 in 100 when printed on A1 sheet

ALL STORMWATER DRAINAGE TO BE SEWER GRADE P.V.C.  
ALL STORMWATER DRAINAGE TO 100 Dia. @ 1% MIN. GRADE UNLESS OTHERWISE NOTED ON PLAN



**LEGEND**

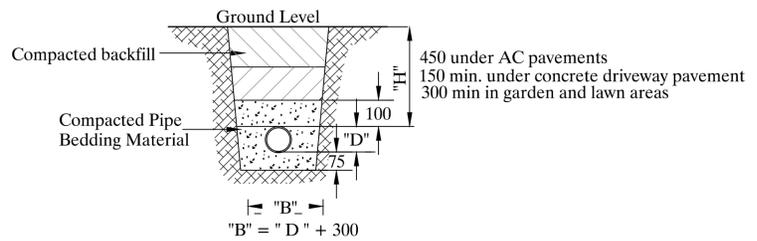
- DP-1/1000 Downpipe with min. size
- 15.36x Existing Level
- 100 dia. @ 1% P.V.C. Gravity Stormwater Drainage With Pipe Size & Flow Direction
- GD 1 Grated Drain 150WIDE x 125DEEP



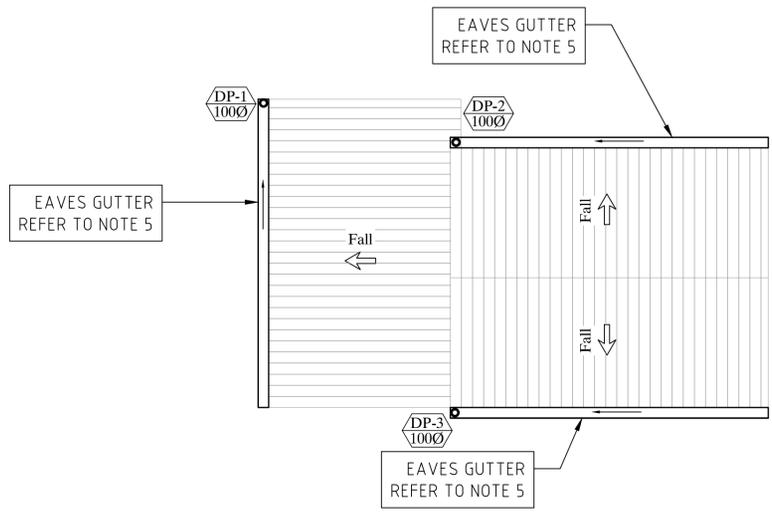
**NOTE :**

All grates to be hinged galvanized steel with galvanized steel frames unless nominated on plan. Grates in gardens and landscape to be class "A" Grates in footpaths and light traffic areas to be class "B" Grates in roads, pavements and driveways to be class "C" All grates are to be held down with sprung loaded "J" bolts. Sealed pits to be provided with gas tight cast iron covers and cast iron frames for the class loading shown above. An alternative approved Pre-cast F.R.C. or Pre-cast Concrete pit may be used. Pits smaller 450 x 450sq. may be of U.P.V.C. provide they are not located in traffic areas. Pits 450 x 450 sq. and larger the plastic pit may only be used as a form for concrete and not as a finished pit Pits deeper than 1200 reinforce walls with N12 at 300 centers eachway all round. Provide step irons to pits deeper than 1200

**TYPICAL PIT DETAIL U.O.N.**  
N.T.S.



**TYPICAL SECTION OF U.P.V.C. UNDER GROUND STORMWATER DRAINAGE**  
N.T.S.



**ROOF PLAN**

Scale 1 in 100  
Scale 1 in 100 when printed on A1 sheet

**GENERAL STORMWATER NOTES**

1. All pipes and stormwater structures shall be in strict accordance with relevant S.A.A. Codes for materials, workmanship and to rules and regulations of the local Council.
2. The drawings are diagrammatic and setouts shall be checked with the Architectural drawings.
3. All levels and dimensions shall be checked on site prior to start of construction.
4. Pipe materials indicated may be altered provided they comply with the requirements of the relevant authorities.
5. Gutters and downpipes shall be in strict accordance with AS 2179 & AS 2180. Gutters shall have a minimum effective cross sectional area of 9300mm sq (125QUOD GUTTER or similar) with 1 in 500 min. grade with 100 dia. downpipes unless otherwise noted on plans.
6. Stormwater pipes up to and including 300 dia. shall be PVC pipes, sewer grade, conforming to AS 1260 and installed in accordance with AS 3500.3 and related reference documents.
7. All existing services to be located prior to the commencement of construction. Any costs incurred for adjustments and/or relocation of services to be borne by the applicant.
8. Provide unrestricted overland flowpaths from all pits and drain to detention tank inlet grates.
9. On-site stormwater detention reduces flooding by providing temporary storage of stormwater during storms. After the storm, the stored water is slowly released, normally through a control orifice. Systems incorporating a High Early Discharge first fill the HED section, then overflow into the storage and later flow-back into HED through a one-way line. During light rain, no storage occurs. During extreme rainfall, the detention system will fill and could overflow. A typical storage system will quickly fill but take several hours to empty. Submersion during this period will not affect most grass, plants or trees.
10. Councils require that on-site detention systems be inspected during construction to enable a final Hydraulic Certificate and Work as Executed details to be supplied upon completion. Councils require that concrete works (tank bases, lids, retaining walls etc.) are inspected before pouring and a Structural Engineers Certificate is issued on completion.
11. These details are subject to approval by Council and possibly other authorities. Do not continue or commit to any works until these details are approved. Advise Design Engineer of any special conditions imposed or design variations made to the details. Any alterations (however minor) must be authorised by the Design Engineer.
12. Conditions found during construction that conflict with these details shall be reported to the Design Engineer. If in doubt, ask. Design sizes, levels, heights and depths must not be varied without approval.
13. All works are to be completed before the Final Certificate will be issued. Tanks are to be clear of all formwork, builder's rubbish and silt. The outline and sump drain is to be clear. All pits and grates are to be completed and shall be free of building material and spoil. All downpipes are to be connected. Landscape works including driveways, kerbs and drive trench grates shall be installed. Orifices, screens, step irons and tank grate locks are to be correctly fitted. Surface detention areas are to be turfed.
14. Maintenance of the on-site stormwater detention system is the responsibility of the Owner. A complete set of these details shall be provided to the present owner. The details should be passed on to subsequent owners. It is important that these systems are not modified without approval. Do not enter any pit or tank where there is risk of inadequate ventilation or buildup of noxious odours, gases, or leakage of any volatile or toxic contaminants into the chamber. Obtain professional assistance if any of these conditions occur.
15. Maintenance and cleaning is required as follows. Remove and flush clean the trash screen. Hose out the tank base and remove accumulated debris. Flush the discharge-line clear. This must be done to Council's time requirements and as all Councils vary it is the responsibility of the Owner to find out Council's requirements.
16. Orifice plates shall be fabricated from 3mm thick stainless steel, with a circular hole machined to 1/2mm. Plates shall be fixed flush using four stainless steel expansion or chemical anchors. If required by Council, the orifice plate shall also be epoxy fixed. Unless otherwise detailed, plates shall be fixed on the centreline of the outlet.
17. Screen mesh shall be Lysaght's expanded metal, type RH3030, and shall not be hot dipped galvanized after fabrication. The screen shall have elongated mesh openings set horizontal, and the projecting mesh lines pointing down and facing upstream. Screens shall be provided with a suitable handle located on the top upstream face of the screen (for removal and, for flat screens, to define the screen orientation). All screens shall be removable by hand without the use of tools. Fixing brackets shall be stainless or galvanneal mild-steel type. Bracket anchors shall be stainless steel. When installed, the maximum edge gap shall be 3mm-3mm.
18. One-way flaps shall be Rocla Floodgate type. Flaps shall be located clear of inlets, screens and step irons and must not prevent the screen from being removed.
19. Concrete shall be 20 MPa for footings and tank bases, and 25 MPa for suspended tank lid slabs. Mesh reinforcement shall be lapped one square plus 25mm and bar reinforcement shall be lapped 500mm.
20. Permanent (non-structural) formwork shall be Lysaght's Bondek, any grade, or equal.
21. Tanks may be in-situ or precast. Note that falls, sumps and the position and depth to orifice plates or discharge control pipe is critical: both for hydraulic and health reasons. Overflow and access grates also provide light and ventilation requirements of various Authorities. Provide step irons to all tanks over 1200 depth.
22. Tank risers should be in-situ concrete. Risers shall have the same clear internal size as the tank access opening. Provide step irons to risers as specified.
23. Individual-rung step irons to tank, tank risers and deep pits shall be an approved type (galvanized steel or high impact plastic) complying with AS 1657. Fix rungs permanently and securely by drilling and epoxy grouting. Provide the specified number of step-irons, equally spaced vertically between 250mm and 350mm, with alternate rungs offset 200mm.
24. Grates and frame units shall be hinged and childproof, using either a sprung loaded bolt or a bolt and lug locking system (padlocks are not permitted). The frames shall be securely attached to the tank or riser, or built into an in-situ slab.
25. Grates shall be class A (light duty) in paths and lawns; class B (medium duty) in residential vehicular areas; and class C (heavy duty) in public roadways.

Revision	A	ISSUE FOR CC APPROVAL	02.09.2025
Project	Proposed Alterations and Additions 33A Pacific Highway Mooney Mooney		

**BURGESS, ARNOTT & GRAVA PTY. LTD.**  
CONSULTING STRUCTURAL, CIVIL & HYDRAULIC ENGINEERS  
61A THE CENTRE FORESTVILLE P.O. BOX 69 FORESTVILLE 2087  
Ph. 9451 4411 Fax. 9975 2274  
email rob@gravaconsulting.com.au

**STORMWATER DRAINAGE GROUND FLOOR/SITE PLAN ROOF PLAN AND DETAILS**

Checked	Scale	Date	Drawing No.	Rev.
J. XU	As shown	SEPT.2025	2025-129-H1	A
Approved by			Drawing 1 in set of 1	
Chartered Engineer			Drawing size A1	