

#### THESE DETAILS HAVE BEEN PREPARED IN ACCORDANCE WITH ARCHITECTURAL WINDERMERE ACT 31 **DESIGN NAME:** PREPARED BY: RAWSON HOMES DRAWING/JOB No. A000350 REVISION/ISSUE: DATED: 04.10.22

| SITE CLASSIFICATION       | Р  |
|---------------------------|----|
| SLAB CLASSIFICATION       | М  |
| WIND CLASSIFICATION       | N1 |
| DURABILITY CLASSIFICATION | R3 |

DURABILITY CLASSIFICATION TO BE READ IN CONJUNCTION WITH AS4773,

- R1/R2: 10KM OR MORE FROM BREAKING SURF OR 1KM OR MORE FROM SALT WATER NOT SUBJECT TO BREAKING SURF.
- R3: 1KM OR MORE BUT LESS THAN 10KM FROM BREAKING SURF OR 100M OR MORE BUT LESS THAN 1KM FROM SALT WATER NOT SUBJECT TO BREAKING SURF
- R4: LESS THAN 1KM FROM BREAKING SURF OR LESS THAN 100M FROM SALT WATER NOT SUBJECT TO BREAKING SURF OR WITHIN HEAVY INDUSTRIAL AREAS.

# WAFFLE RAFT SPECIFICATION

| SLAB THICKNESS:                     | 85   |
|-------------------------------------|------|
| SLAB FABRIC:                        | SL72 |
| CONCRETE STRENGTH: (F'c AT 28 DAYS) | N20  |
| MAX SLUMP:                          | 100  |
| MAX SIZE AGGREGATE                  | 20   |

## PIER SPECIFICATION

ENGINEER TO BE NOTIFIED IF PIERS COLLAPSE IN CONSTRUCTION. BUCKET, SCREW PIERS OR TIMBER PILES MAY NEED TO BE USED

| DIAMETER Ø                          | 400 |
|-------------------------------------|-----|
| CONCRETE STRENGTH: (F'c AT 28 DAYS) | N20 |
| MAX SLUMP:                          | 100 |
| MAX SIZE AGGREGATE                  | 20  |
| TOTAL NUMBER OF PIERS               | 74  |

# **EXPOSURE CLASSIFICATION**

HWS/ACU/LPG SLABS

REFER TO TYPICAL STRUCTURAL DETAILS

REFER TO ARCHITECTURAL FOR LOCATIONS

**WET AREA NOTE** 

REFER TO ARCHITECTURAL FOR

SPECIFICATION AND LOCATIONS.

ALSO TO DETERMINE IF REQUIRED.

IF REQUIRED REFER TO OPTIONAL TYPICAL STRUCTURAL DETAILS.

(50mm DEEP MAX. FOR WET AREAS

MASS CONCRETE PIERS FOUNDED IN ZONE OF INFLUENCE FROM BASE OF ADJACENT RETAINING

IF ROCK IS NOT ENCOUNTERED THEN EXCAVATE PIERS 300 BELOW ZONE OF INFLUENCE FROM

WALL SHALL BEAR ON WEATHERED ROCK.

BEARING MATERIAL NOTE

ALL MASS CONCRETE PIERS SHALL BEAR

ON WEATHERED ROCK

OMIT MASS CONCRETE PIERS WHERE EDGE

AND INTERNAL BEAMS CAN BE BUILT

DIRECTLY OFF WEATHERED ROCK.

BASE OF ADJACENT RETAINING WALL.

SIMILAR TO HOUSE SERVICES DETAIL

**RETAINING WALL NOTE:** 

EXPOSURE CLASSIFICATION (EC) EXPOSURE CLASSIFICATION (SO4)

**A1** 

THE SLAB AND PIERS SHOWN ON THIS DRAWING HAS BEEN DESIGNED TO COMPLY WITH THE EXPOSURE CLASSIFICATION OF THE GEOTECHNICAL ASSESSMENT OF THE SITE AS IN REPORT

3.22.2461.1 DATE: 24-FEBRUARY-2022

RESIDENTIAL ENGINEERING

# BEARING MATERIAL NOTE

BEARING MATERIAL: WEATHERED ROCK

AVERAGE BEARING DEPTH: 1.4m + FILL

- DEPTH AND BEARING MATERIAL OF THE PIER HOLES SHALL COMPLY WITH THE GEOTECHNICAL ASSESSMENT OF THE SITE AS IN THE REPORT NOTED IN THE GENERAL NOTES SUB-HEADING SITE CLASSIFICATION.
- BEARING MATERIAL AND DEPTH OF THE PROPOSED PIER HOLES SHALL BE CONFIRMED ON SITE AND BE IN ACCORDANCE WITH THE ABOVE RECOMMENDATIONS
- . CONTACT THE DESIGN ENGINEER IMMEDIATELY IF THE BEARING MATERIAL DIFFERS FROM THAT NOTED ABOVE. OTHERWISE CONTINUE PIERING THE RESIDENCE

APPROVED BY: CLIENT REF DATE AMENDMENT RESIDENTIAL A000350 THIS DRAWING MS. OLIVIA BOYLE & RW6158 RAWSON HOMES ENGINEERING REMAINS THE PROPERTY OF RESIDENTIAL DATE: MR. ANDREW IEMMA HOMEBUSH BAY DRIVE 14/10/2022 ENGINEERING AN BUILDING F, LEVEL 2, SUITE 1 SITE ADDRESS: MAY NOT BE DRAWN: RHODES, NSW, 2138 LOT 7 (10) COURTLEY ROAD ALTERED IN ANY TELEPHONE: 02 8765 5500 01 of 11 BEACON HILL Unit 8, 12 Jindalee Road, PORT MACQUARIE, NSW 2444 02 8765 8099 GERVASE PURICH SCALE: ENGINEERING FIEAust, C.P.Eng., NER, BPB, RPEQ BUILDER'S LICENCE No. 33493C

**A3** 31/10/2022 9:30:49 AM, JordanC

## **GENERAL NOTES**

- 1. ENGINEERS STRUCTURAL DRAWINGS ARE SIGNED & ISSUED ON THE UNDERSTANDING THAT THE BUILDER MAINTAINS IN FORCE, PROPER & ADEQUATE CONTRACT WORKS INSURANCE & PUBLIC LIABILITY INSURANCE DURING THE COURSE OF THE CONSTRUCTION, &/OR ANY MAINTENANCE PERIOD. CLAIMS OF DAMAGE TO ANY ADJACENT PROPERTY OR BUILDING IS NOT THE RESPONSIBILITY OF THE ENGINEER.
- 2. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL & OTHER CONSULTANTS DRAWINGS & SPECIFICATIONS & WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ALL DISCREPANCIES SHALL BE REFERRED TO THE BUILDER/ARCHITECT FOR DECISION BEFORE PROCEEDING WITH THE WORK.
- ANY SUBSTITUTION IN THESE DOCUMENTS SHALL BE REFERRED TO RESIDENTIAL ENGINEERING FOR DECISION BEFORE PROCEEDING WITH THE WORK
- 4. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE STRUCTURAL DRAWINGS. REFER TO THE ARCHITECTURAL DRAWINGS FOR DIMENSIONS. ANY SET OUT DIMENSIONS SHOWN ON THESE DOCUMENTS SHALL BE VERIFIED BY THE BUILDER.
- 5. THE SECTIONS & DETAILS ON THESE DRAWINGS ARE INTENDED TO GIVE THE STRUCTURAL SPECIFICATIONS ONLY. ARCHITECTURAL SECTIONS & DETAILS ON THESE DRAWINGS ARE ILLUSTRATIVE ONLY.
- THESE DOCUMENTS ARE SIGNED SUBJECT TO CERTIFICATE OF INSPECTION BEING ISSUED BY THIS FIRM. ALL PIERS, SLAB & FOOTING REINFORCEMENT SHALL BE INSPECTED BY THE ENGINEER PRIOR TO THE POURING OF CONCRETE. GIVE 24 HRS NOTICE TO THE ENGINEER.

#### SITE CLASSIFICATION

7. THE SITE HAS BEEN THE SUBJECT OF A GEOTECHNICAL INVESTIGATION REQUIRING ADHERENCE TO PARTICULAR CONSTRUCTION PROCEDURES &/OR TECHNIQUES. THEREFORE THESE DOCUMENTS HAVE BEEN PREPARED USING THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.

SITE CLASSIFICATION: P

CLASSIFIED BY: RESIDENTIAL ENGINEERING

REPORT No: 3.22.2461.1

DATED: 24-FEBRUARY-2022

#### FOUNDATION & FILLING

- 8. STRIP TOPSOIL & OTHER ORGANIC MATTER TO A DEPTH OF 100mm & STOCKPILE.
- 9. FILL USED TO SUPPORT THE SLAB SHALL BE ROLLED FILL OR CONTROLLED FILL AS FOLLOWS:
- (a). ROLLED FILL CONSISTS OF MATERIAL COMPACTED IN LAYERS BY REPEATED ROLLING WITH AN EXCAVATOR OR SIMILAR EQUIPMENT. THE DEPTH SHALL NOT EXCEED 600mm COMPACTED IN LAYERS NOT MORE THAN 300mm THICK FOR SAND OR 300mm COMPACTED IN LAYERS NOT MORE THAN 150mm FOR OTHER MATERIAL.
- (b). CONTROLLED FILL SHALL BE PLACED, TESTED & CERTIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER AS DEFINED IN AS3798. THIS IS DEEMED TO BE ADEQUATE TO SUPPORT THE FOOTING.
- WHERE FILL CONSISTS OF REACTIVE CLAY, THE FILL SHALL BE PLACED IN A MOIST CONDITION.
- 11. ANY FILL SHALL CONTINUE PAST THE EDGE OF THE BUILDING BY AT LEAST 1m & SHALL BE RETAINED OR BATTERED BEYOND THIS POINT BY A SLOPE NOT STEEPER THAN 1:2.
- 12. EXCEPT FOR SITES WITH AGGRESSIVE SOILS, A BLINDING LAYER OF SAND IS NOT REQ'D. WHERE USED, THE BLINDING LAYER OF SAND SHALL COMPLY WITH ROLLED FILL REQUIREMENTS.

## DRAINAGE DESIGN REQUIREMENTS

- 13. SURFACE DRAINAGE SHALL BE DESIGNED & CONSTRUCTED TO AVOID WATER PONDING AGAINST OR NEAR THE FOOTING. DURING CONSTRUCTION, WATER RUN-OFF SHALL BE COLLECTED & CHANNELED AWAY FROM THE BUILDING.
- 14. THE GROUND IN THE IMMEDIATE VICINITY OF THE PERIMETER FOOTING SHALL BE GRADED TO FALL 50mm MIN AWAY FROM THE FOOTING OVER A DISTANCE OF 1m.
- 15. THE MINIMUM HEIGHT OF THE SLAB ABOVE LANDSCAPING, PAVING OR F.G.L. SHALL BE 150mm. WHERE ADJOINING PAVED AREAS SLOPE AWAY FROM THE BUILDING. THIS HEIGHT MAY BE REDUCED TO 50mm.
- 16. THE BASE OF THE SERVICE TRENCH SHALL BE SLOPED AWAY FROM THE BUILDING & BACKFILLED IN ACCORDANCE WITH AS2870.

#### AGGRESSIVE SOILS

17. BUILDINGS WITH MASONRY OR CONCRETE IDENTIFIED TO BE EXPOSED TO SALINE OR ACID SULFATE SOILS SHALL BE PROTECTED IN ACCORDANCE WITH THE MANAGEMENT PLANS FROM GEOTECHNICAL & LOCAL AUTHORITIES. ANY PROTECTION REQUIREMENTS SHALL BE PROVIDED TO THIS OFFICE BY THE BUILDER BEFORE COMMENCING DETAILING.

#### CONCRETE PIERS

- 18. U.N.O. MINIMUM PIER DEPTH IS 600mm BELOW FOOTINGS & WHEREVER NOMINATED SHOULD BE SOCKETED 300mm MIN INTO STIFF CLAY.
- 19. ALL PIER HOLES SHALL BE CLEANED & DEWATERED PRIOR TO THE PLACEMENT OF CONCRETE.
- 20. ALL PIER HOLES SHALL BE SEPERATE TO SLAB & FOOTINGS.
- 21. PIERS & FOOTINGS ARE REQUIRED TO HAVE A UNIFORM BEARING.
  RESIDENTIAL ENGINEERING OR COUNCIL SHALL INSPECT THE BEARING OF
  PIERS &/OR FOOTINGS PRIOR TO THE POURING OF CONCRETE.
- 22. IF ANY OF THE PIERS &/OR FOOTINGS ENCOUNTER ROCK OR SHALE, THEN ALL PIERS &/OR FOOTINGS SHALL BEAR ON ROCK OR SHALE. IF PARTIALLY PIERED TO ROCK OR SHALE THEN ARTICULATION JOINTS SHALL BE PROVIDED AT THE ROCK/NON-ROCK INTERFACE.

#### SAFE BEARING TABLE

| STRATA                      | STIFF CLAY | ROCK & SHALE | NATURAL SAND |  |  |  |
|-----------------------------|------------|--------------|--------------|--|--|--|
| MIN BEARING<br>CAPACITY kPa | 250        | 600          | 150          |  |  |  |

#### SCREW PIERS

- SCREW PIERS SHALL BE INSTALLED & CERTIFIED BY A SUITABLY QUALIFIED LICENSED CONTRACTOR
- (a). ALL SCREW PIERS MUST BE FOUNDED BELOW 1.25 x Hs TO COMPLY WITH CLAUSE G6.3 OF AS2870-2011.
- (b). SCREW PIERS ARE TO BE INSTALLED IN ACCORDANCE WITH AS2870 AND AS2159
- 24. U.N.O. MINIMUM CAPACITY SHALL BE 70kN SWL

#### **EXCAVATIONS**

- 25. TEMPORARY EXCAVATIONS IN THE AREA OF THE FOOTING SHALL BE CARRIED OUT ONLY WHERE ADEQUATE SUPPORT FOR THE FOOTING SYSTEM IS MAINTAINED SUCH AS PIERING BENEATH THE EXPECTED EXCAVATION LEVEL OR UNDERPINNING.
- 26. PERMANENT EXCAVATIONS OF ANY VERTICAL OR NEAR VERTICAL STRUCTURE WITHIN 2m OF THE BUILDING & DEEPER THAN 0.6m IN MATERIAL OTHER THAN ROCK SHALL BE ADEQUATELY RETAINED OR BATTERED.
- 27. EXCAVATIONS SHALL NOT EXTEND BELOW A LINE DRAWN AT 30° FOR SAND & 45° FOR CLAY TO THE HORIZONTAL FROM THE BOTTOM EDGE OF THE FOOTING/PIER WITHOUT PRIOR CONSENT.

#### PLUMBING

- 28. CLOSE CELL POLYETHYLENE LAGGING SHALL BE USED AROUND ALL STORMWATER & SANITARY PLUMBING DRAIN PIPE PENETRATIONS THROUGH FOOTINGS. THE LAGGING SHALL BE 20mm MIN THICK ON H1 SITES & 40mm MIN THICK ON H2 & E CLASS SITES
- 29. VERTICAL PENETRATIONS DO NOT REQUIRE LAGGING.
- 30. DRAINS ATTACHED TO OR EMERGING FROM UNDERNEATH THE BUILDING INCLUDING STORMWATER, SANITARY & DISCHARGE PIPES SHALL INCORPORATE FLEXIBLE JOINTS IMMEDIATELY OUTSIDE THE FOOTING & COMMENCING WITHIN 1m OF THE BUILDING PERIMETER SHALL ACCOMMODATE A TOTAL RANGE OF DIFFERENTIAL MOVEMENT OF THE SITE (YS).

#### DAMP PROOFING MEMBRANE

- 31. A 0.2mm MIN POLYETHYLENE DAMP PROOFING HIGH IMPACT RESISTANT MEMBRANE SHALL BE PLACED BENEATH THE SLAB SO THAT THE BOTTOM SURFACE IS ENTIRELY UNDERLAID & TERMINATES AT GROUND LEVEL.
- 32. THE MEMBRANE SHALL BE BRANDED CONTINUOUSLY "AS2870 CONCRETE UNDERLAY, 0.2mm HIGH IMPACT RESISTANT" TOGETHER WITH MANUFACTURER OR DISTRIBUTORS NAME, TRADEMARK OR CODE.
- 33. LAPPING SHALL BE 200mm AT JOINTS & TAPED OR SEALED AT PLUMBING PENETRATIONS WITH CONTINUOUS CLOSE FITTING SLEAVE OR MADE CONTINUOUS WITH THE VAPOUR BARRIER BY TAPING & MADE WATERPROOF.

## REINFORCEMENT & FIXING

- 34. MINIMUM CONCRETE COVER AS FOLLOWS:
  - 40mm TO UNPROTECTED GROUND
  - 30mm TO A MEMBRANE IN CONTACT WITH THE GROUND 40mm TO A EXTERNAL SURFACE
  - 20mm TO A INTERNAL SURFACE
- SLAB FABRIC SHALL BE SUPPLIED IN FLAT SHEETS & BE LAPPED ONE FULL SQUARE PLUS 25mm AT SPLICES & PLACED ON BAR CHAIRS AT 1m CTS EW.
- 36. REINFORCING BARS SHALL HAVE A LAP LENGTH AT SPLICES NOT LESS
  THAN: 500mm UP TO A BAR Ø OF 16mm
  700mm UP TO A BAR Ø OF 16mm
  - AT 'T' & 'L' INTERSECTIONS THE REINFORCING BARS SHALL BE CONTINUED ACROSS THE FULL WIDTH OF THE INTERSECTION.
- 37. REINFORCING BARS SHALL BE TIED BENEATH THE SLAB FABRIC IF USED OR OTHERWISE PLACED ON BAR CHAIRS.
- 38. REINFORCEMENT & VOID FORMERS SHALL BE FIXED INTO POSITION PRIOR TO POURING CONCRETE BY MEANS OF PROPRIETARY SPACERS, BAR CHAIRS & LIGATURES TO ACHIEVE THE REQUIRED REINFORCEMENT POSITION & COVER.
- ALL FOOTING TRENCHES & BEAMS SHALL BE CLEANED & DEWATERED PRIOR TO THE PLACEMENT OF CONCRETE.
- 40. CONCRETE IN TRENCHES & BEAMS SHALL BE MECHANICALLY VIBRATED.

## SHRINKAGE CRACKING CONTROL

- 41. AT RE-ENTRANT CORNERS, ONE STRIP OF 3-L11 T.M. OR 3-N12 BARS 2m LONG SHALL BE PLACED ACROSS THE DIRECTION OF POTENTIAL CRACKING.
- 42. WHERE BRITTLE FLOOR COVERINGS ARE TO BE USED OVER AN AREA GREATER THAN 16m<sup>2</sup> ONE OF THE FOLLOWING APPLIES:
- (a). SLAB REINFORCEMENT IN PART OF THE SLAB WHICH BRITTLE FINISHES ARE APPLIED SHALL NOT BE LESS THAN \$1.92 OR FOLIVALENT.
- (b). THE BEDDING SYSTEM FOR BRITTLE COVERINGS SHALL BE SELECTED ON THE BASIS OF THE EXPECTED SLAB MOVEMENT.
- (c). THE PLACEMENT OF FLOOR COVERINGS SHALL BE DELAYED BY A MINIMUM PERIOD OF 3 MONTHS.
- 43. WATER SHALL NOT BE ADDED TO THE CONCRETE ON SITE SO AS TO INCREASE THE SLUMP ABOVE THAT SPECIFIED.
- 44. CURING THE CONCRETE SHALL START IMMEDIATELY AFTER FINISHING BY CONTINUALLY WETTING FOR 7 DAYS MIN. PLASTIC OR WAX LIQUID SPRAYS MAY BE USED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. EXTRA PRECAUTIONS SUCH AS THE METHOD OF EVAPORATIVE RETARDATION (THE USE OF ALPHATIC ALCOHOLS) IS RECOMMENDED DURING HOT WEATHER POURS TO HELP AVOID THERMAL RELATED CRACKING.

## SUB-TERRANEAN TERMITE PROTECTION & MAINTENANCE (b).

- 45. ALL WORKS SHALL BE IN ACCORDANCE WITH AS3660.
- 46. ANY FUTURE CRACKING OCCURRING IN THE SLAB/FOOTING SYSTEM SHALL BE ASSESSED BY A QUALIFIED PEST EXPERT & WHERE DIRECTED BE SEALED BY AN EPOXY INJECTION.
- 47. INSPECTIONS OF THE RESIDENCE & IMMEDIATE SURROUNDS SHALL BE CARRIED OUT BY A QUALIFIED PEST EXPERT ON AN ANNUAL BASIS BY THE HOME OWNER.
- 48. SITE MAINTENANCE IS THE RESPONSIBILITY OF THE HOME OWNER. ALL RECOMMENDATIONS OUTLINED IN THE FOLLOWING SHOULD BE CARRIED OUT IN FULL:
- (a). CSIRO BOOKLET "FOUNDATION MAINTENANCE AND FOOTING PERFORMANCE: A HOMEOWNERS GUIDE".
- (b). AS2870 APPENDIX 'B' FOUNDATION PERFORMANCE & MAINTENANCE.

## MASONRY

- MASONRY, MORTAR & BUILT IN MASONRY COMPONENTS SHALL COMPLY WITH AS3700 & AS4773
- 50. THE SLAB IS DESIGNED FOR ARTICULATION REQUIREMENTS. ARTICULATION JOINTS SHALL BE CARRIED OUT IN ACCORDANCE WITH AS4773 & CEMENT & AGGREGATES AUSTRALIA BOOKLET TN61.

#### ROOF

- 51. THE SLAB HAS BEEN DESIGNED FOR ROOF LOADING TO BE SUPPORTED BY PROPRIETARY TRUSSES ONTO EXTERNAL WALLS ONLY
- 52. PITCHED ROOF REQUIREMENTS SHALL BE PROVIDED BY THE BUILDER TO THIS OFFICE BEFORE COMMENCING DETAILING.

#### STRUCTURAL STEEL

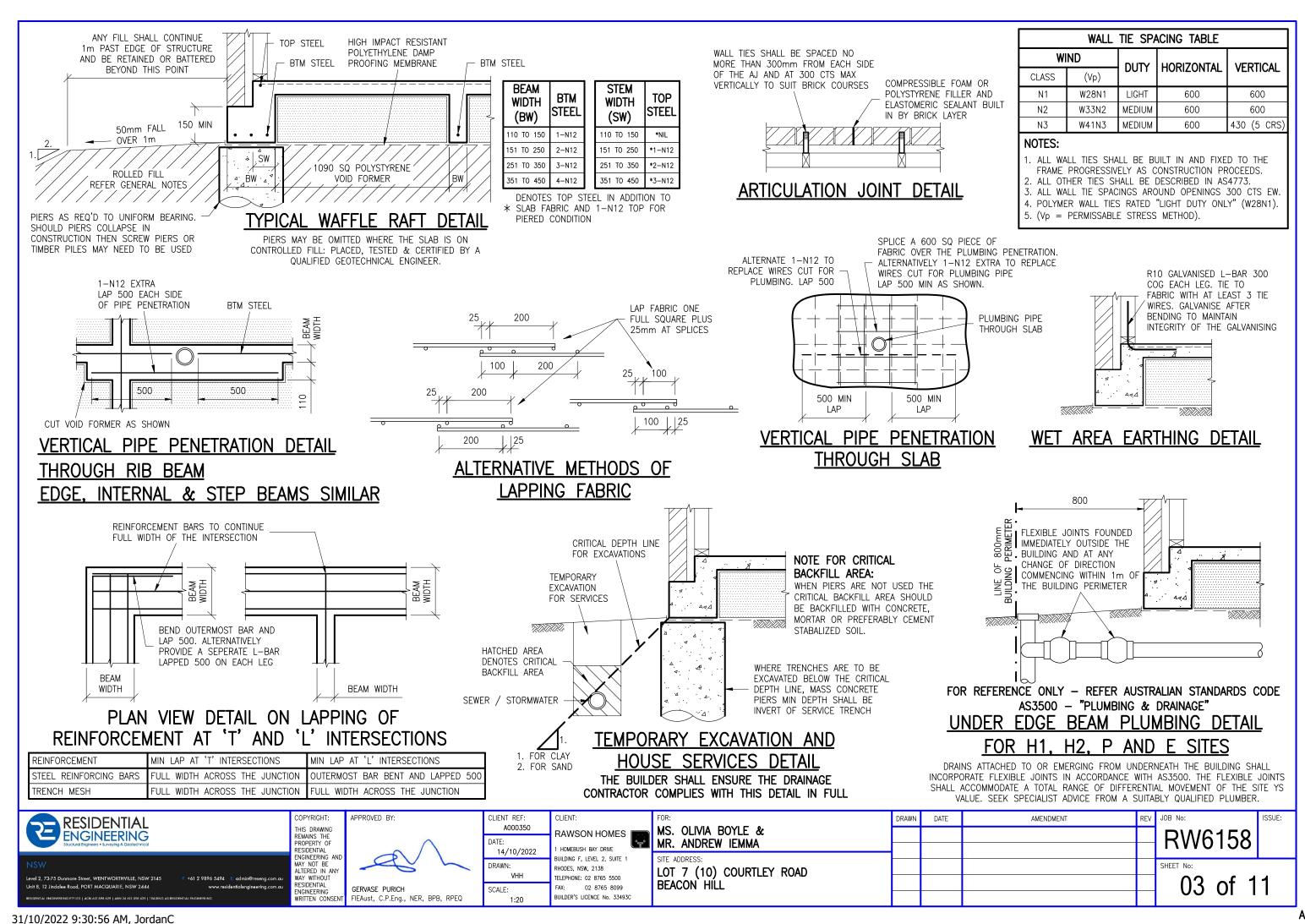
- 53. ALL WORKMANSHIP & MATERIALS SHALL BE IN ACCORDANCE WITH AS4100.
- 54. STEELWORK DESIGNED IN ACCORDANCE WITH AS4100 "STEEL STRUCTURES CODE" & AS1170 "DEAD & LIVE LOADS & WIND LOADS". STRUCTURAL STEEL SHALL BE GRADE (BHP 300 PLUS).
- 55. SURFACE PREPARATION & FINISH SHALL COMPLY WITH AS/NZS2312. THE BUILDER MUST CLARIFY HIS CONTRACTURAL OBLIGATIONS IN THIS REGARD.
- 56. THE INSTALLATION OF GALINTELS & 'T' BARS SHALL BE STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.
- 57. THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION IS THE BUILDERS RESPONSIBILITY. ADEQUATE TEMPORARY BRACING SHALL BE PROVIDED AS IS NECESSARY TO STABALISE THE STRUCTURE DURING CONSTRUCTION.
- 58. WELDS:
- (a). ALL WELDS SHALL BE 6mm CONTINUOUS FILLET WELD U.N.O.
- (b). BUTT WELDS WHERE INDICATED IN THE DOCUMENTS SHALL BE COMPLETE PENETRATION BUTT WELDS AS DEFINED IN AS1554.
- (c). ALL SHOP WELDS SHALL BE FULLY WELDED U.N.O.
- (d). USE E41XX ELECTRODES FOR ALL WELDING U.N.O.
- (e). SITE WELDING OF HOT DIP GALVANISED STEEL IS PERMISSIBLE IF UPON COMPLETION THE WELDS ARE TREATED WITH THE APPROPRIATE COATING AS PER AS/NZS2312
- 59. BOLTS:
- (a). 4.6/S COMMERCIAL BOLT OF GRADE 4.6 TO AS1111 SNUG TIGHTENED.
- (b). 8.8/S HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS1252 SNUG TIGHTENED
- (c). BOLTS SHALL BE PROVIDED WITH THREADS CLEAR OF SHEAR PLANE.
- (d). ALL BOLTS & WASHERS SHALL BE GALVANISED.
- (e). NO CONNECTION SHALL HAVE LESS THAN 2 BOLTS.
- 60. BEAMS SUPPORTED ON BRICKWORK (BEARING NOTED ON PLAN) SHALL HAVE INCOMPRESSIBLE PACKING AS REQ'D UNDER THE ENDS OF THE BEAM TO ENSURE EVEN BEARING ON THE BRICKWORK.
- 61. FABRICATION:
- (a). THE BUILDER SHALL PROVIDE ALL CLEATS AND DRILL HOLES

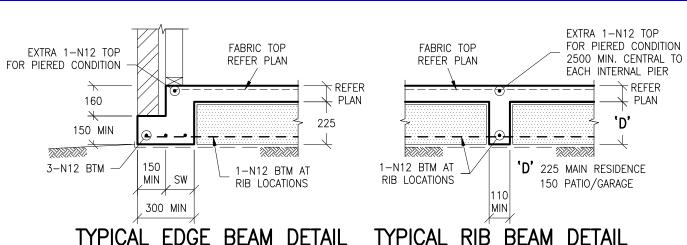
  NECESSARY FOR FIXING STEEL TO STEEL & TIMBER TO STEEL
- (b). ALL GUSSET PLATES SHALL BE 10mm THICK U.N.O.
- 62. COLUMNS:
- (a). TIMBER FRAMED BUILDINGS: SHALL BE LATERALLY RESTRAINED BY THE BUILDING FRAME AT EACH SUPPORT LOCATION THROUGH POSITIVE SCREW FIXING OF WALL STUDS TO THE COLUMNS & EITHER JOISTS OR NOGGINS TO THE BEAM.
- (b). FULL MASONRY BUILDINGS: SHALL BE LATERALLY RESTRAINED BY BRICKWORK AT EACH SUPPORT LOCATION THROUGH POSITIVE FIXING OF WALL TIES.
- (c). WHERE A BEAM DIRECTLY SUPPORTS A CONCRETE SLAB NO ADDITIONAL RESTRAINT IS REQ'D
- REFER TO THE MANUFACTURERS SPECIFICATIONS FOR INSTALLATION DETAILS OF JOISTS, TIMBER BEAMS & TRUSSES WHERE APPLICABLE.
- SOLID TIMBER JOISTS SHALL NOT BE NOTCHED IN EXCESS OF THE RECOMMENDATIONS OF AS1684. WHERE NECESSARY PROVIDE A TIMBER PLATE OVER THE STEEL BEAM & PROVIDE TOP MOUNT JOIST HANGERS ALTERNATIVELY USE TIMBER BLOCKING BETWEEN THE FLANGES OF THE STEEL BEAM SUPPORTING THE JOISTS & USE FACE MOUNTED HANGERS.

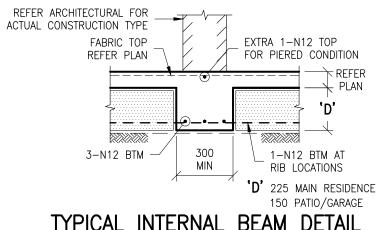
THE BUILDER IS TO MAKE GOOD AND/OR REPAIR ALL DAMAGED SURFACES DURING PERFORMANCE OF THE WORK

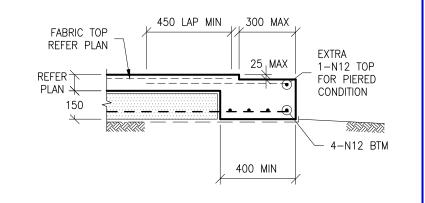
IF IN DOUBT, CONTACT ENGINEER.

CLIENT REF: APPROVED BY AMENDMENT DATE RESIDENTIAL A000350 MS. OLIVIA BOYLE & THIS DRAWING RAWSON HOMES RW6158 ENGINEERING REMAINS THE PROPERTY OF RESIDENTIAL DATE: MR. ANDREW IEMMA HOMEBUSH BAY DRIVE 14/10/2022 ENGINEERING AND BUILDING F, LEVEL 2, SUITE 1 MAY NOT BE DRAWN: RHODES, NSW, 2138 ALTERED IN ANY LOT 7 (10) COURTLEY ROAD +61 2 9896 5494 E: admin@reseng.com.ai TELEPHONE: 02 8765 5500 02 of 11 BEACON HILL Unit 8, 12 Jindalee Road, PORT MACQUARIE, NSW 2444 GERVASE PURICH 02 8765 8099 SCALE: NGINEERING FIEAust, C.P.Eng., NER, BPB, RPEQ BUILDER'S LICENCE No. 33493C WRITTEN CONSENT



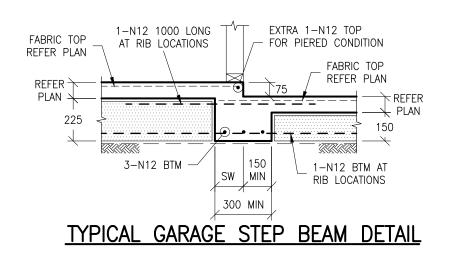


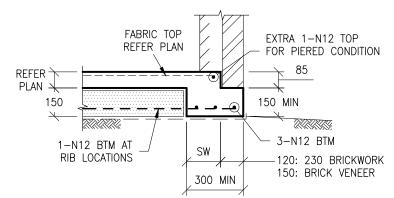


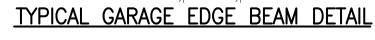


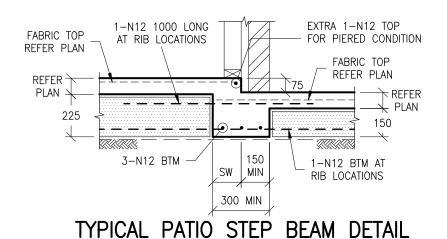
## TYPICAL GARAGE DOOR REBATE DETAIL

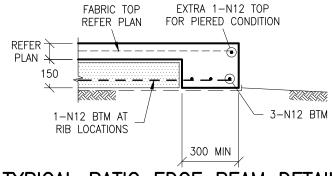
- GARAGE DOOR REBATE SHOWN IS DIAGRAMMATIC ONLY AND SHALL BE READ IN CONJUNCTION WITH THE ARCHITECTURAL FOR ACTUAL REBATE DEPTH x WIDTH.
- IF REQUIRED PROVIDE
   10mm FALL FROM
   BACK OF GARAGE TO
   GARAGE DOOR OPENING



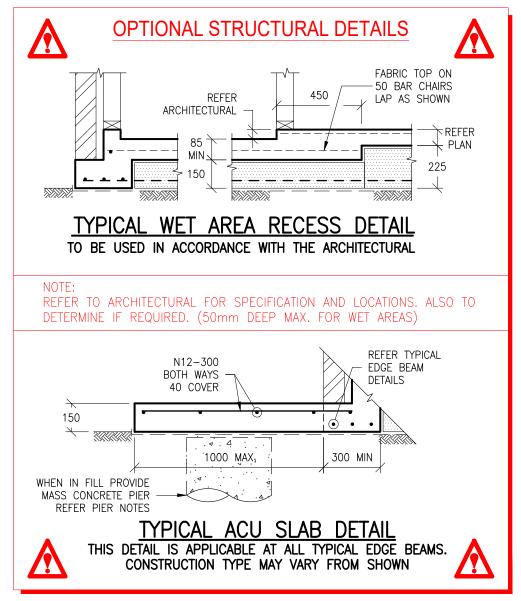






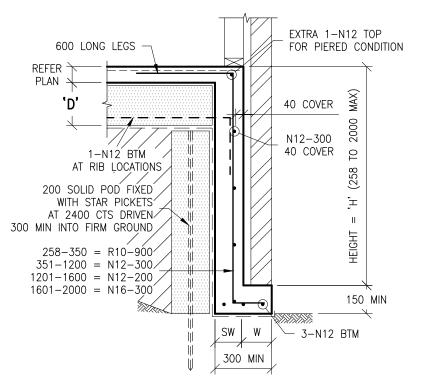


TYPICAL PATIO EDGE BEAM DETAIL





31/10/2022 9:30:59 AM, JordanC



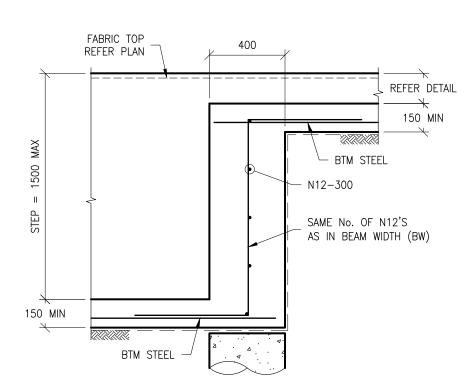
#### OMIT LIP WHERE BULLNOSE FABRIC TOP 600 LONG EXTRA 1-N12 TOP **APPLICABLE** REFER PLAN LEGS FOR PIERED CONDITION REFER PLAN 1-N12 150 TOP 2000 2 258-350 = R10-900351-1200 = N12-300(258 $.1201 - 1600 = N12 - 200^{\circ}$ 1601-2000 = N16-300Ţ N12-300 40 COVER N.G.L 150 MIN 150 MIN 200 SOLID POD FIXED WITH 3-N12 BTM -120 SW ─ 3−N12 BTM STAR PICKETS AT 2400 CTS DRIVEN 300 MIN INTO FIRM GROUND 300 MIN 300 MIN

# DEEPENED BEAM STEM WIDTH TABLE

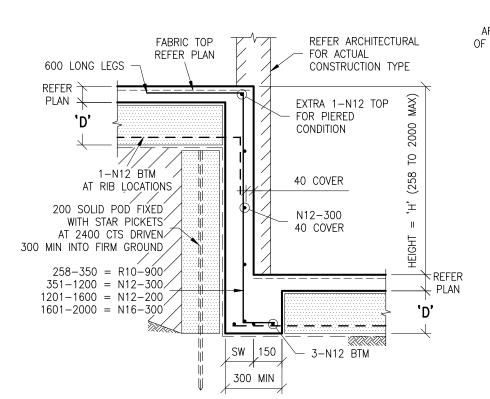
| HEIGHT (H)   | (SW)<br>STEM WIDTH |  |  |  |  |
|--------------|--------------------|--|--|--|--|
| UP TO 1200   | 150                |  |  |  |  |
| 1201 TO 1600 | 200                |  |  |  |  |
| 1601 TO 2000 | 250                |  |  |  |  |

# TYPICAL DEEPENED EDGE BEAM DETAIL

'D' = 225 MAIN RESIDENCE 150 PATIO/GARAGE 'W' = 120 MIN FOR SINGLE LEAF MASONRY WITH ENGAGED PIER. 150 MIN FOR BRICK VENEER

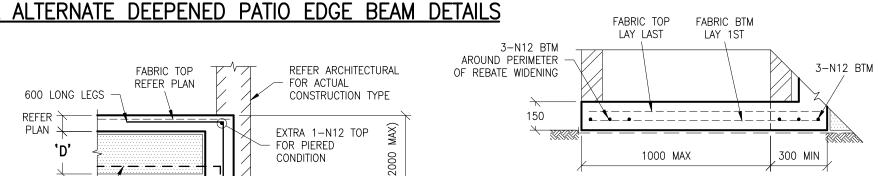


# TYPICAL DEEPENED EDGE BEAM TRANSITION DETAIL

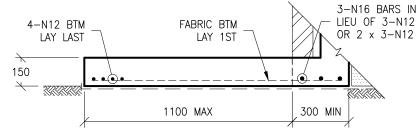


# TYPICAL DEEPENED STEP BEAM DETAIL

'D' = 225 MAIN RESIDENCE 150 PATIO/GARAGE

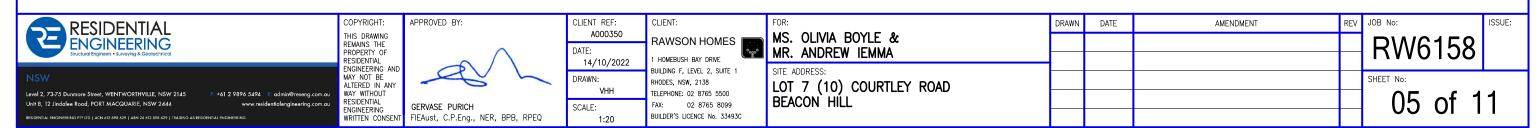


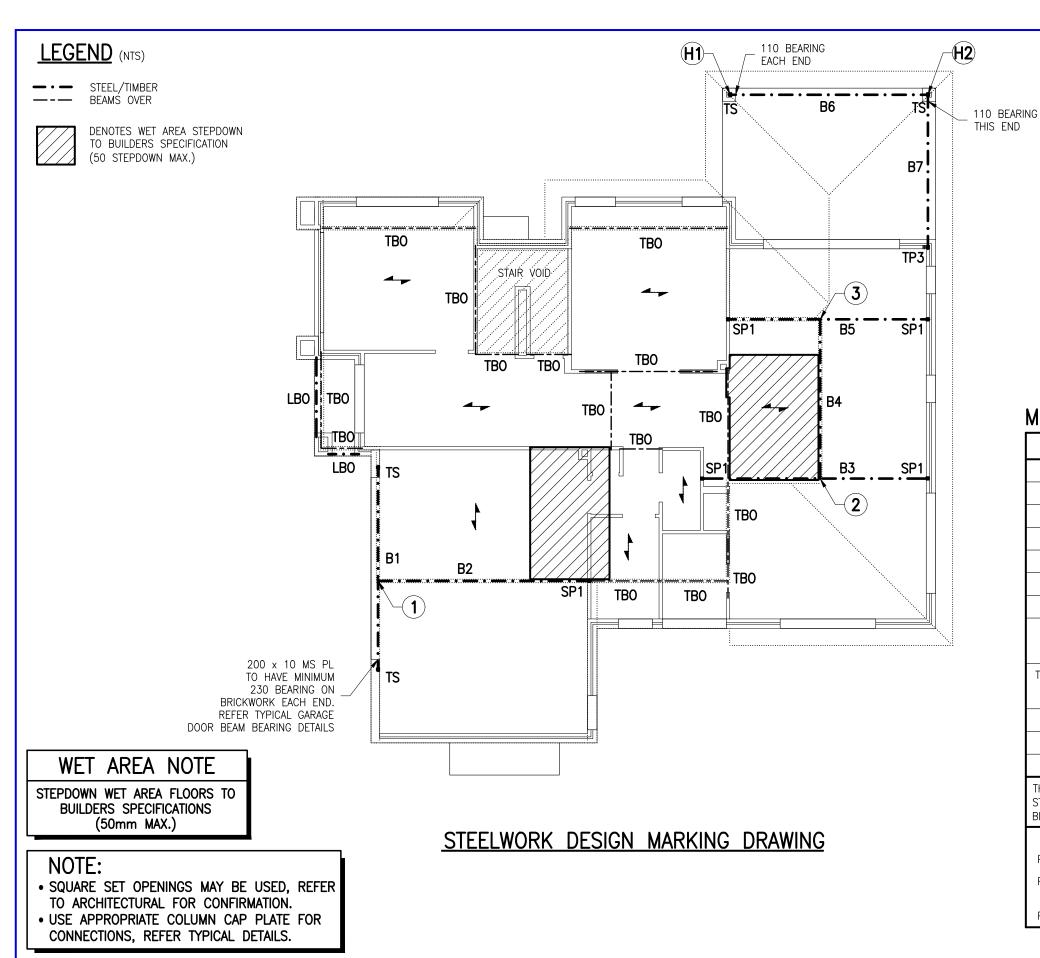
# REBATE WIDENING DETAIL 'R4' THIS DETAIL IS APPLICABLE AT ALL TYPICAL EDGE BEAMS. CONSTRUCTION TYPE MAY VARY FROM SHOWN



# TYPICAL RAINWATER TANK SLAB DETAIL THIS DETAIL IS APPLICABLE AT ALL TYPICAL EDGE BEAMS.

DETAIL IS APPLICABLE AT ALL TYPICAL EDGE BE CONSTRUCTION TYPE MAY VARY FROM SHOWN





MEMBER SCHEDULE R3 (MARINE) ITEM **DESCRIPTION** LOCATION 300 PFC + 200 x 10 MS PL PCL B1 B2 300 PFC PC1 В3 250UC73 PC1 В4 200 PFC B5 250 PFC B6-B7 200 PFC PCL 75 x 75 x 4.0 SHS SP1 PC1 TEMPORARY SUPPORT INSTALLED TO MANUFACTURERS TS **SPECIFICATION** TP1 to TP5 4 / 90 x 45 MGP10 STUDS N/A REFER REFER TYPICAL TIMBER POST DETAILS FOR APPLICATIONS DETAILS TB0 N/A TIMBER BEAM BY OTHERS LB0 LINTEL BY OTHERS FLOOR JOIST DIRECTION OVER BY BUILDER N/A 4

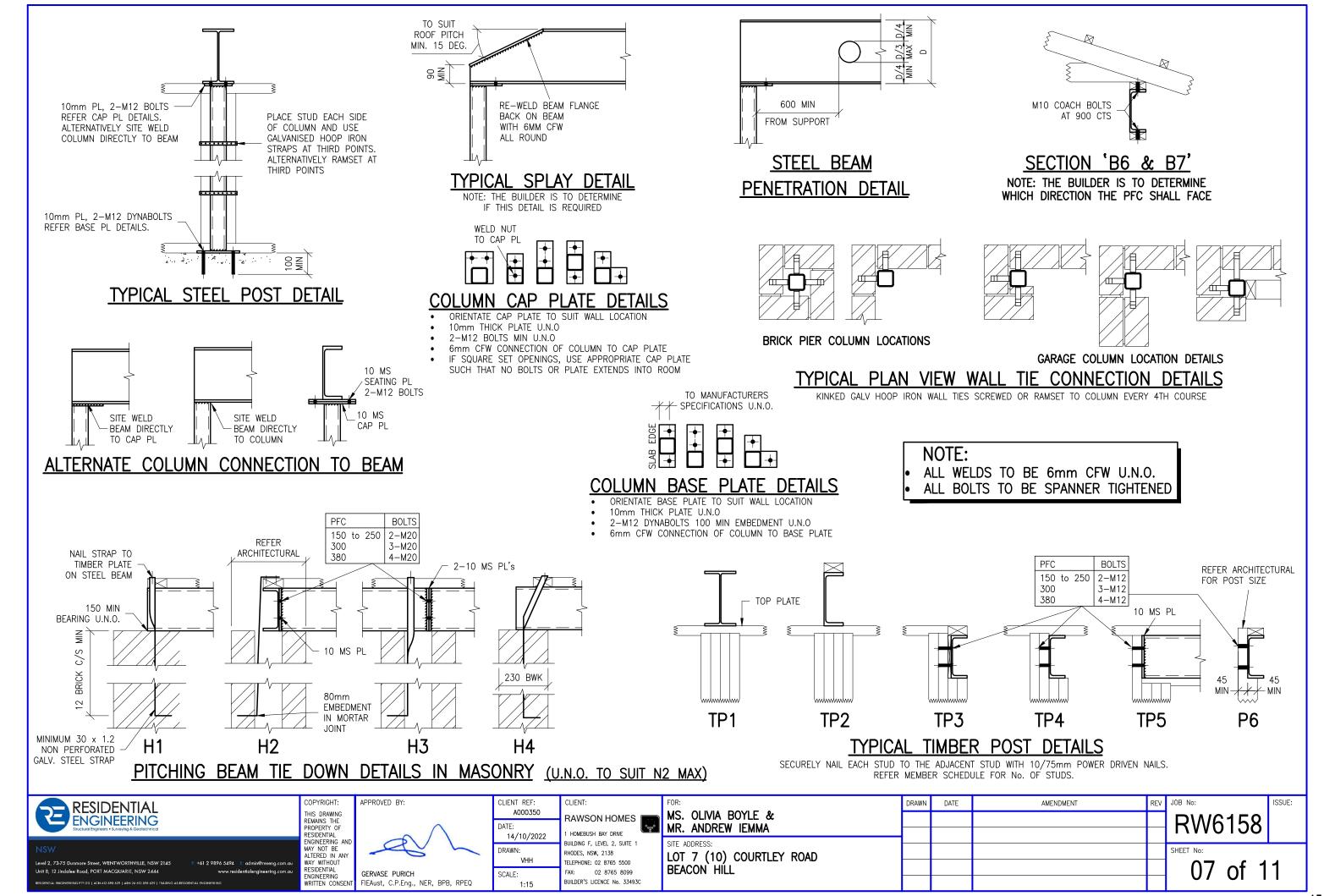
THE BEAM(S) SPECIFIED ON THIS DRAWING DOES NOT REPRESENT THE ONLY POSSIBLE STRUCTURAL SOLUTION. PLEASE CONTACT RESIDENTIAL ENGINEERING IF AN ALTERNATIVE BEAM PROFILE WOULD BE PREFERRED FOR ARCHITECTURAL OR CONSTRUCTABILITY REASONS.

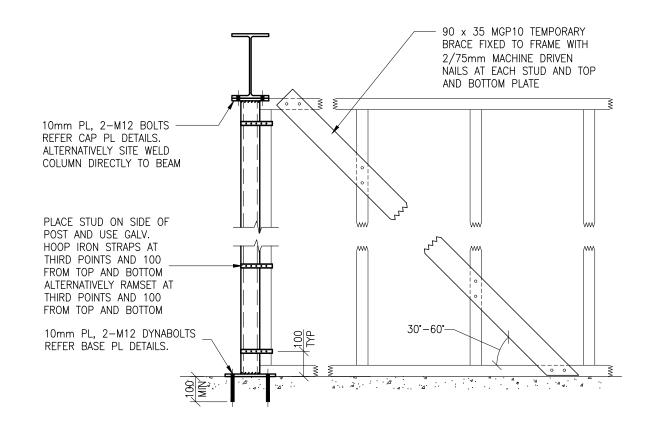
## PROTECTIVE COATINGS FOR STEELWORK:

- PC1. INTERNAL STEELWORK NO PROTECTIVE COATINGS REQUIRED.
- PC2. EXTERNAL STEELWORK TO BE HOT DIPPED GALVANISED 300g/m<sup>2</sup> OR COATED WITH 2 COATS OF ALKYD PRIMER.
- PCL. LINTELS IN MASONRY TO BE HOT DIPPED GALVANISED 300g/m2.

|   |   |                                   | _                   |  |                          |       |      |           |          |           |        |
|---|---|-----------------------------------|---------------------|--|--------------------------|-------|------|-----------|----------|-----------|--------|
| RESIDENTIAL   |   | APPROVED BY:                      | CLIENT REF:         | CLIENT:                                      | FOR:                     | DRAWN | DATE | AMENDMENT | REV      | JOB No:   | ISSUE: |
| ENGINEERING   | THIS DRAWING<br>REMAINS THE   |                                   | A000350             | RAWSON HOMES                                 | MS. OLIVIA BOYLE &       |       |      |           | П        | DIME1E0   |        |
| Structural Engineers • Surveying & Geotechnical   | PROPERTY OF<br>RESIDENTIAL<br>ENGINEERING AND<br>MAY NOT BE<br>ALTERED IN ANY | $\sim$                            | DATE:<br>14/10/2022 | 1 HOMEBUSH BAY DRIVE                         | MR. ANDREW IEMMA         |       |      |           | Н        | RW6158    |        |
| NSW   | ENGINEERING AND   | av L                              | DRAWN:              | BUILDING F, LEVEL 2, SUITE 1                 | SITE ADDRESS:            |       |      |           | $\vdash$ | SHEET No: |        |
|   | ALTERED IN ANY  | -6                                | VHH                 | RHODES, NSW, 2138<br>TELEPHONE: 02 8765 5500 | LOT 7 (10) COURTLEY ROAD |       |      |           | Ш        |           |        |
| Level 2, 73-75 Dunmore Street, WENTWORTHVILLE, NSW 2145 P. +61 2 9896 5494 E: admin@res Unit 8, 12 Jindalee Road, PORT MACQUARIE, NSW 2444 www.residentialenginee | DECIDENTIAL   | GERVASE PURICH                    | SCALE:              | FAX: 02 8765 8099                            | BEACON` HÍLL             |       |      |           | ΙI       | 06 of 1   | 1      |
| RESIDENTIAL ENGINEERING FTY LID   ACN 612 898 629   ABN 26 612 898 629   TRADING AS RESIDENTIAL ENGINEERING   | ENGINEERING<br>WRITTEN CONSENT  | FIEAust, C.P.Eng., NER, BPB, RPEQ | 1·100               | BUILDER'S LICENCE No. 33493C                 |                          |       |      |           |          |           | I      |

31/10/2022 9:31:05 AM, JordanC

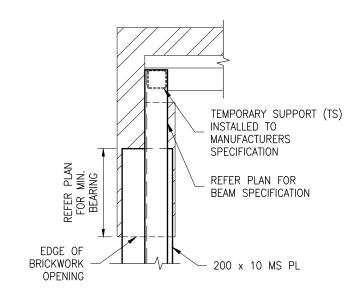




# TYPICAL TEMPORARY SUPPORT FRAME CONNECTION DETAIL

## **NOTE:**

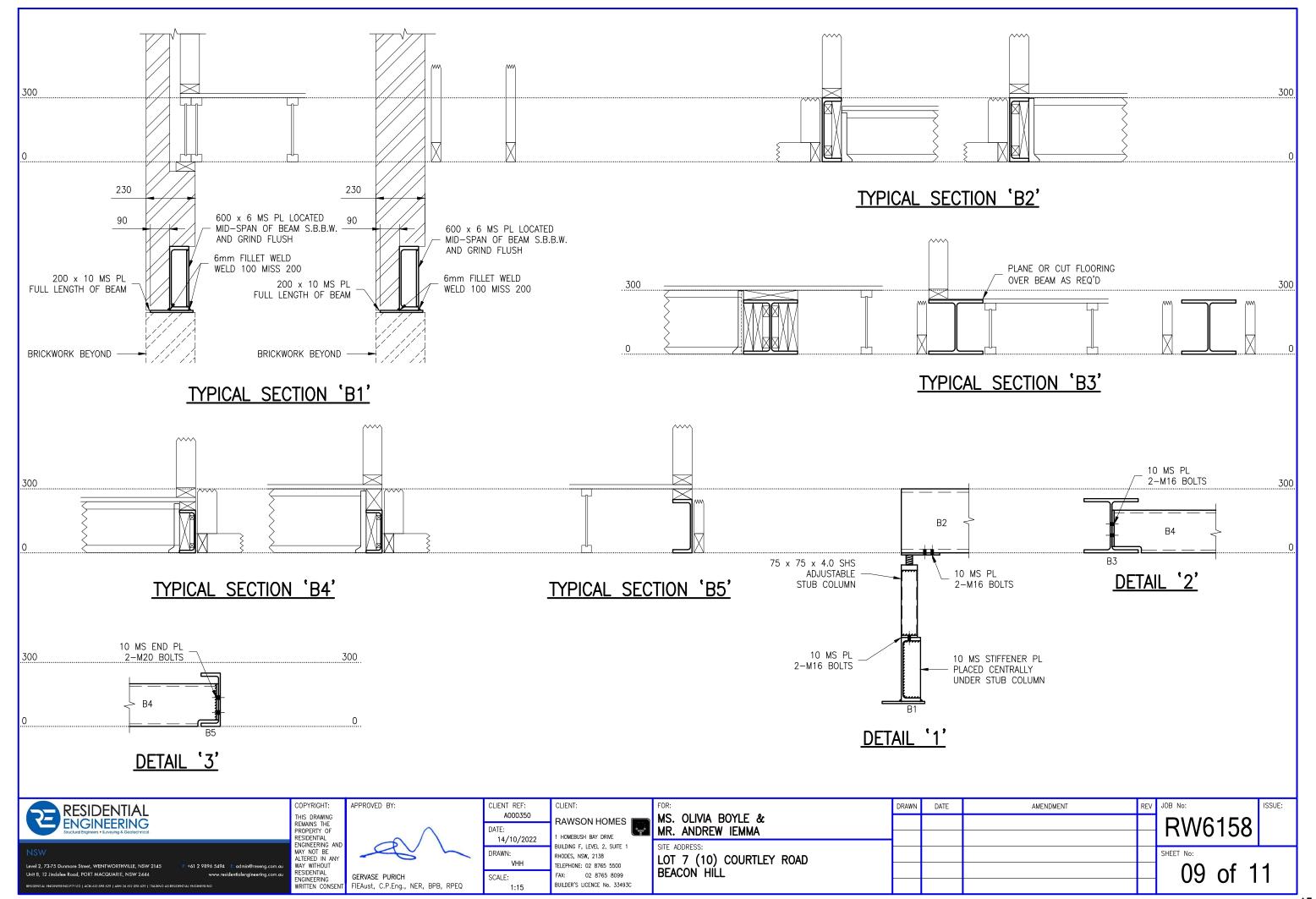
TEMPORARY BRACING TO BE CARRIED OUT IN ACCORDANCE WITH BUILDER'S SPECIFICATION TO MAINTAIN THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION IN ADDITION TO TEMPORARY BRACING SHOWN IN DETAIL

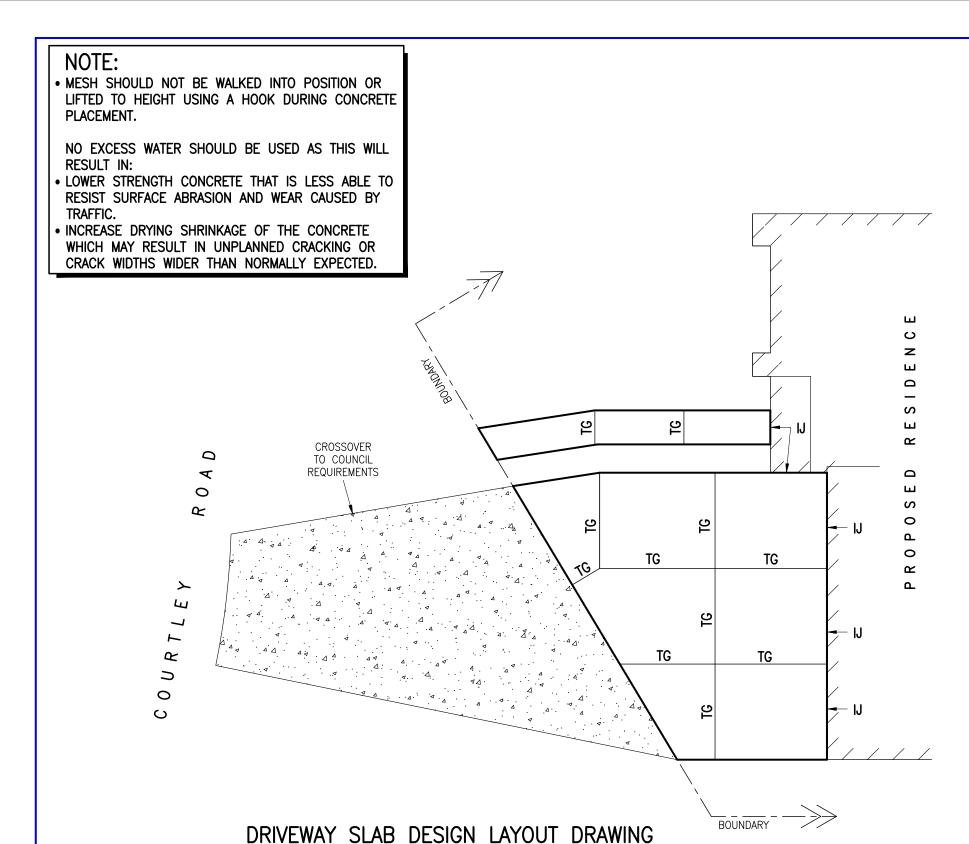


# TYPICAL GARAGE DOOR BEAM BEARING DETAIL (PLAN VIEW)



31/10/2022 9:31:11 AM, JordanC





LIGHT TRAFFIC ONLY

DRIVEWAY SLAB 100 THICK, SL72 FABRIC TOP 40 COVER

25MPa CONCRETE, 100 SLUMP, 20 MAX AGGREGATE

TO BEAR ON FIRM NATURAL GROUND

PAVEMENT NOTES

THE LOCAL AUTHORITY'S REQUIREMENTS FOR GRADES AND PAVEMENT DETAILS BETWEEN THE PROPERTY BOUNDARY AND KERB SHOULD BE ASCERTAINED.

#### ADJACENT STRUCTURES

• FINISHED LEVELS SHALL BE IN ACCORDANCE WITH AS2870 AND THE NCC IN REGARDS TO TERMITE BARRIERS, SLOPING AWAY FROM STRUCTURES TO AVOID FLOODING, FLASHING AND DAMP PROOFING COURSES

#### **SUBGRADE**

- ALL TOPSOIL, VEGETATION, DEBRIS AND OTHER FOREIGN MATTER SHALL BE REMOVED FROM THE PROPOSED PAVEMENT FOOTPRINT.
- THE FORMATION SHOULD BE TRIMMED TO WITHIN +0, -25 OF THE DESIGN LEVEL.
- ANY SOFT, WEAK, SATURATED OR OTHERWISE UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH GOOD QUALITY MATERIAL FROM THE SITE OR BY IMPORTED ROADBASE, AND COMPACTED USING A RAMMER PLATE/UPRIGHT COMPACTOR.
- THE SUBGRADE SHOULD BE DAMPENED PRIOR TO PLACEMENT OF THE CONCRETE IF A MEMBRANE OR SUBBASE IS NOT USED.
- ALL FILL SUBGRADE SHOULD BE UNIFORMLY COMPACTED IN LAYERS OF 200mm.

#### SUBBASE IF REQUIRED (RECOMMENDED FOR HIGHLY REACTIVE SITES)

- A MIN 100mm THICK LAYER OF ROADBASE OR SIMILAR MATERIAL (NOT SAND OR GRAVEL)
   SHOULD BE PROVIDED UNDER THE SLAB AND THOROUGHLY COMPACTED AS PER THE
   SUBGRADE NOTES.
- THE SUBBASE SHOULD BE DAMPENED PRIOR TO PLACEMENT OF THE CONCRETE.

## DAMP PROOFING MEMBRANE (OPTIONAL) AND SAND LAYER

- A DAMP PROOFING MEMBRANE OR SAND LAYER SHALL BE PROVIDED BENEATH THE PAVEMENT TO REDUCE FRICTION BETWEEN THE SLAB AND SUBGRADE/SUBBASE.
- A 0.2mm MIN POLYETHYLENE DAMP PROOFING HIGH IMPACT RESISTANT MEMBRANE SHOULD BE PLACED BENEATH THE SLAB SO THAT THE BOTTOM SURFACE IS ENTIRELY UNDERLAIN.
- LAPPING SHALL BE 200mm AT JOINTS, TAPPED AND MADE WATERPROOF AT PLUMBING PENETRATIONS.
- THE SAND LAYER SHALL BE 20mm MIN AND BE PROVIDED UNDER THE ENTIRE SLAB AREA AND HAVE NO MORE THAN 5% OF SILT AND CLAY PARTICLES.

#### REINFORCEMENT

- SLAB FABRIC SHALL BE SUPPLIED IN FLAT SHEETS AND LAPPED ONE FULL SQUARE PLUS 25mm AT SPLICES AND PLACED ON BAR CHAIRS AT 800mm CTS EW.
- SLAB COVER SHALL BE 40mm.
- WHERE THE SLAB SURROUNDS ANOTHER STRUCTURE SUCH AS A DRAINAGE PIT OR HAS A RE-ENTRANT CORNER, TRIMMING REINFORCEMENT SHOULD BE USED UNLESS JOINTS ARE PROVIDED. TRIMMING REINFORCEMENT SHOULD NOT BE LESS THAN 1-N12 BAR ON MINIMUM LENGTH 600.

#### CONCRETE

- MINIMUM SLAB THICKNESS SHALL BE 100mm, N25 UNO, 20 MAX AGGREGATE 100 MAX SLUMP
- THE BUILDER MUST CLARIFY HIS CONTRACTURAL OBLIGATIONS IN REGARDS TO SPECIAL CLASS
  CONCRETE FOR SUCH PROPERTIES AS STRENGTH, COLOUR, AGGREGATES AND CEMENT COLOUR.
- CONCRETE SHOULD BE CONTINUOUSLY CURED FOR AT LEAST 3 DAYS AND CURED IN ACCORDANCE WITH ANY MANUFACTURER'S SPECIFICATIONS FOR DECORATIVE PRODUCTS AND FINISHES.

#### **FINISHING**

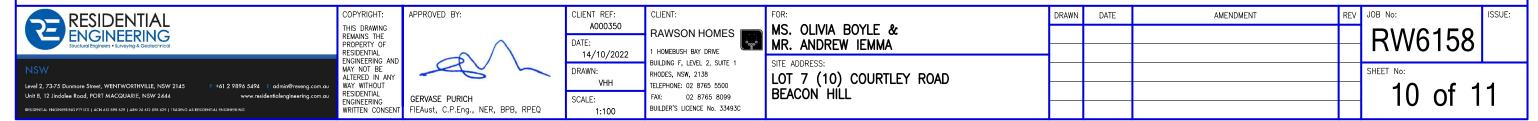
 THE APPLICATION AND COVERAGE OF ANY PROPRIETARY PRODUCTS SHOULD BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

#### **JOINTS**

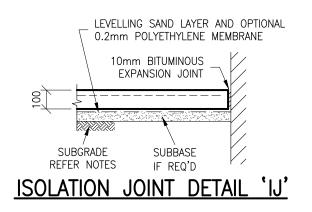
- ISOLATION AND CONTROL JOINTS SHALL BE PROVIDED WHERE SHOWN.
- ANY ANGLE FORMED BETWEEN A JOINT AND SLAB EDGE SHOULD BE AT RIGHT ANGLES.

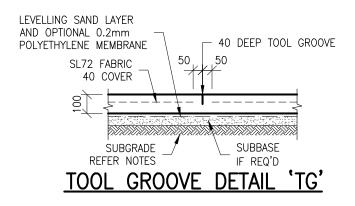
## **SEALER**

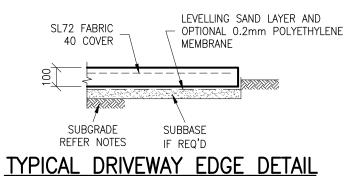
• THE SEALER SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S DETAILS.

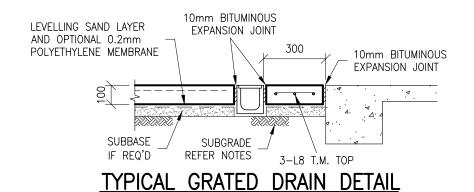


31/10/2022 9:31:16 AM, JordanC

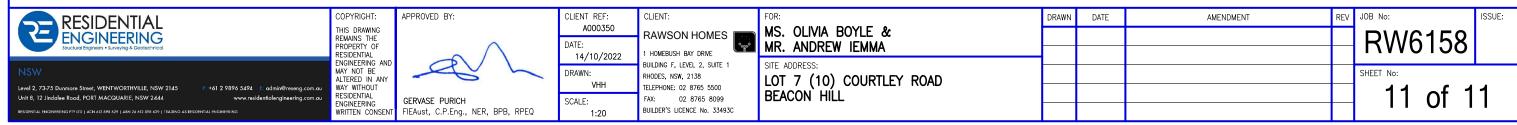








Α3



31/10/2022 9:31:19 AM, JordanC