

PROJECT: SLAB RE-DESIGN (WAFFLE), FRAMING & RETAINING WALLS DESIGN

ADDRESS: 8, MARINGA STREET, BULLEEN VIC 3105

WB CIVIL STRUCTURAL ENGINEERS

ABN: 84119322438

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PLAN SET INDEX	SHEET NO:
COVER	1 OF 19
GENERAL NOTES	2 OF 19
DRAINAGE NOTES	3 OF 19
CONSTRUCTION REQUIREMENTS	4 OF 19
WAFFLE BEAM SECTION	5 OF 19
SLAB DETAILS UNIT 1	6 OF 19
SLAB DETAILS UNIT 2	7 OF 19
RETAINING WALLS	8 OF 19
FRAMING & BRACING NOTES	9 OF 19
UNIT 1 FRAMING & BRACING - 1	10 OF 19
UNIT 2 FRAMING & BRACING - 2	11 OF 19
UNIT1 & 2 ROOF FRAMING	12 OF 19
MEMBER SCHEDULES	13 OF 19
BRACING DETAIL	14 OF 19
GENERAL DETAIL 1	15 OF 19
GENERAL DETAIL 2	16 OF 19
GENERAL DETAIL 3	17 OF 19
GENERAL DETAIL 4	18 OF 19
GENERAL DETAIL 5	19 OF 19

DISCLAIMER

CIVIL/STRUCTURAL DESIGN ENGINEER WB CIVIL STRUCTURAL ENGINEERS MUST NOT BE HELD RESPONSIBLE FOR ANY CLAIM ARISING DUE TO MISTAKES, OMISSIONS AND SUBSTANDARD WORKMANSHIP BY BUILDER OR ITS SUB CONTRACTORS AND SUPPLIERS

DIMENSIONS

SETTING-OUT OF ANY ELEMENT MUST BE DONE AS PER ARCHITECTURAL PLANS. DIMENSIONS PROVIDED ON THESE PLANS MUST ALWAYS BE CHECKED AGAINST ARCHITECTURAL PLANS. STRUCTURAL ENGINEER (MOBILE: 0401023328) MUST BE KEPT INFORMED IMMEDIATELY OF ANY DISCREPANCY AND CLARIFICATION SOUGHT BEFORE SETTING-OUT AND CONCRETING IS ORGANISED.



WARNING

ALL SERVICES SHOWN ON THESE DRAWINGS ARE APPROXIMATE ONLY AND EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTOR PRIOR TO COMMENCEMENT OF ANY WORKS.

CLIENT:

ARCHITECTURAL DESIGNS
17 ASSEMBLY DRIVE,
TULLAMARINE VIC

JOB NO: AD/2016/BULEEN

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PROJECT:

SLAB RE-DESIGN
(WAFFLE)

PROJECT ADDRESS:
8, Maringa Street, Bulleen
VIC 3105

SHEET NO: 1/19

SCALE: AS SHOWN

DATE: 20/04/2016



D	REVISED R/W TABLE	13/05/2016	PW
C	REVISED AS PER EMAIL DATED 09/05/2016 FROM VIC PERMITS B/S	09/05/2016	PW
B	REVISED WAFFLE SLAB NO PIERS	28/04/2016	PW
A	REVISED PIERS & FOUNDING DEPTH	22/04/2016	PW
Rev.	Remarks/comments	Date	Aprv.

STANDARDS, MATERIALS, AND WORKMANSHIP REQUIREMENTS

THESE NOTES TO BE FOLLOWED UNLESS NOTED OTHERWISE BY THE ENGINEER

GENERAL NOTES

- G1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH SPECIFICATION AND OTHER WORKING DRAWINGS. ANY DISCREPANCIES SHALL BE NOTIFIED TO THE ENGINEER IMMEDIATELY.
- G2. ALL DIMENSIONS RELEVANT TO SETTING OUT AND OFF-SITE WORK SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION AND FABRICATION IS COMMENCED. THE ENGINEER'S DRAWINGS SHALL NOT BE SCALED.
- G4. MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE SPECIFICATION, THE CURRENT REVISION OF ALL RELEVANT SAA CODES, THE REQUIREMENTS OF THE VICTORIAN BUILDING REGULATIONS, THE BUILDING CODE OF AUSTRALIA AND THE RELEVANT AUTHORITY.
- G5. CONTRACTORS SHALL ENSURE THAT LOCATIONS OF ALL UNDERGROUND SERVICES ARE IDENTIFIED PRIOR TO COMMENCEMENT OF WORKS AND EXCAVATIONS. THE WORK COMMENCES.
- G6. RELEVANT STANDARDS USED:

1	Structural Steel Design	AS4100
2	Structural Reinforced Concrete Design	AS3600
3	Structural Timber Framing	AS1684
4	Timber Structures Design	AS1720
5	Domestic Slab Design	AS2870
6	Brickwork	AS3700
6	Wind Analysis & Design	AS1170
7	Access & Mobility	AS1428
8	Welding	AS1554
9	Bolts & Nuts	AS1252
10	Cold formed Steel	AS 4600
11	Bolts & Nuts	AS1252
12	Stormwater Drainage	AS3500
13	Glazing	AS1288/AS2047
14	Water Proofing to Wet Areas	AS3740/BCA 4-3-1

LIVE LOADS

- L1. THE STRUCTURAL WORK SHOWN ON THESE DRAWINGS HAS BEEN DESIGNED FOR THE FOLLOWING LIVE LOADS:-
- ROOF 0.25 kPa OR $(1.87 A + 0.12)$ WHICHEVER IS GREATER
- FLOOR 1.5 kPa. (OR AS USED FOR COMPUTATIONS)
- Basery 2.0 kPa. (OR AS USED FOR COMPUTATIONS)

TEMPORARY BRACING

- TB1. DURING CONSTRUCTION THE STRUCTURES SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVER STRESSED.
- TB2. THE CONTRACTOR SHALL PROVIDE AND INSTALL ANY ADDITIONAL BRACING EQUIPMENT NECESSARY TO ADEQUATELY AND SAFELY HOLD THE STRUCTURE IN POSITION DURING CONSTRUCTION.

CONCRETE

- C1. ALL CONCRETE AND WORKMANSHIP TO CONFORM TO THE REQUIREMENTS OF AS 3600.
- C2. ALL INSET CONCRETE SHALL BE A CHARACTERISTIC STRENGTH TO BE AS NOTED BELOW AT 28 DAYS UNLESS NOTED OTHERWISE:
- | | |
|-------------------|---------------------------------------|
| BUNDING CONCRETE | 15 MPa |
| STRIP FOOTINGS | 20 MPa |
| PAD FOOTINGS | 20 MPa |
| SLAB ON GROUND | 20 MPa |
| ALL OTHER MEMBERS | TO BE 32 MPa (OR AS NOTED OTHERWISE). |
- MAXIMUM SLUMP TO BE 75mm
- MAXIMUM AGGREGATE TO BE 20mm
- C3. CONCRETE ELEMENTS SHOWN ON THE DRAWINGS MUST NOT BE REDUCED IN ANY WAY WITHOUT THE ENGINEER'S APPROVAL NO

HOLES, CHASES DRY EMBEDMENTS OTHER THAN THOSE SHOWN WILL BE PERMITTED IN ANY CONCRETE ELEMENTS WITHOUT THE ENGINEER'S APPROVAL.

- C4. REINFORCEMENT NOTATION:-
- N - DENOTES HOT-ROLLED DEFORMED BARS TO AS 4671
- RL - DENOTES RECTANGULAR REINFORCEMENT FABRIC TO AS/NZS 4671
- SL - DENOTES SQUARE REINFORCEMENT FABRIC TO AS/NZS 4671
- LXTM - DENOTES TRENCH MESH REINFORCEMENT TO AS/NZS 4671.

LAPPING REINFORCEMENT:

REINFORCEMENT SPICES SHALL BE LAP SPICES AS REQUIRED BY THE CURRENT CONCRETE CODE UNLESS NOTED IN THE DRAWINGS. FOR FABRIC, THE MINIMUM SPICE SHALL BE 220mm MINIMUM WITH THE OVERLAP MEASURED BETWEEN THE OUTERMOST WIRES AND NOT LESS THAN THE PITCH OF THE SECONDARY WIRES.

- C5. CLEAR COVER TO REINFORCEMENT AS NOTED ON THE DRAWINGS.
- C6. CONCRETE COVER TO BE MAINTAINED BY THE USE OF APPROVED BAR CHAIRS AND/OR CONCRETE BLOCKS SPACED AT APPROXIMATELY 1000 CROSS CTS. CONDUITS, PIPES ETC. ARE NOT TO BE PLACED IN CONCRETE COVER.
- C7. CONCRETE TO BE KEPT FREE OF SUPPORTING BRICKWORK BY TWO LAYERS OF A SUITABLE MEMBRANE, VERTICAL FACES OF CONCRETE TO BE KEPT FREE BY 12mm THICKNESS OF BITUMINOUS CANEITE.
- C8. ALL MILD STEEL BRACKETS, SLOTS ETC. EMBEDDED IN THE CONCRETE SHALL BE HOT-DIP GALVANISED.
- C9. DIRECTION OF MESH ON PLAN INDICATES THE DIRECTION OF MAIN WIRES WHICH SHOULD BE PLACED NEAREST THE RELEVANT SLAB SURFACE.
- C10. ALL CONCRETE SHALL BE PROPERLY COMPACTED BY MEANS OF APPROVED VIBRATORS.
- C11. CONSTRUCTION JOINTS WHERE NOT SHOWN, SHALL BE LOCATED TO THE APPROVAL OF THE ENGINEER.
- C12. FORMWORK SHALL NOT BE STRIPPED UNTIL 3 DAYS HAS ELAPSED FROM TIME OF POUR - UNLESS APPROVED OTHERWISE BY THE ENGINEER. NO LOADS APPLIED FOR 28 DAYS.
- C13. ENGINEER TO BE NOTIFIED 48 HOURS PRIOR TO POURING CONCRETE.
- C14. ALL PIPEWORK CAST INTO CONCRETE IS TO BE SLEEVED OR LAGGED WITH APPROPRIATE COMPRESSIBLE MATERIAL FOR THE FULL LENGTH OF EMBEDMENT.

BRICKWORK - BLOCKWORK

- B1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3700.
- B2. LOAD BEARING BRICKS SHALL HAVE A MINIMUM CHARACTERISTIC UNCONFINED STRENGTH OF 20 MPa. AND LOAD BEARING BLOCKS SHALL HAVE A CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF 15 MPa. UNLESS OTHERWISE NOTED.

B3. MORTAR SHALL BE FRESHLY PREPARED AND UNIFORMLY MIXED IN THE RATIO OF ONE PART CEMENT, ONE PART LIME AND SIX

B4. BLOCKWORK CORE FILLING CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE: 20 MPa.

B5. BRICKWORK OR BLOCKWORK SUPPORTING CONCRETE SHALL BE TROWELLED SMOOTH AND SEPARATED AT THE BEARING SURFACE BY A LAYER OF GALVANIZED STRIP OR TWO LAYERS OF BITUMINOUS BUILDING PAPER.

B6. JOINT REINFORCEMENT WHERE SHOWN ON THE PLAN SHALL BE AT EVERY 600mm. WITH AN EXTRA COURSE OVER AND UNDER WINDOW OPENINGS USING 'RECTOR', 'BLOTTER' OR SIMILAR.

B7. NO BRICKWORK OR BLOCKWORK WHICH IS SUPPORTED BY CONCRETE SHALL BE ERECTED UNTIL SUPPORTING FORMWORK HAS BEEN REMOVED.

B8. CAVITY WALL TIES TO BE IN ACCORDANCE WITH THE CURRENT BCA REQUIREMENTS.

STRUCTURAL STEELWORK

- S1. ALL WORKMANSHIP, FABRICATION, ERECTION AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 4100.
- S2. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER AND APPROVED BEFORE FABRICATION IS COMMENCED.
- S3. EXCEPT AS SHOWN STEEL MEMBERS SHALL NOT BE SPLICED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
- S4. WELDING OF STEELWORK TO BE IN ACCORDANCE WITH AS 1554 AND UNLESS OTHERWISE NOTED, SHALL BE 6mm FILLET WELD ALL AROUND.
- S5. ALL HIGH STRENGTH BOLTS SHALL BE ASSEMBLED AND INSPECTED IN ACCORDANCE WITH AS 1252.
- 8.8S BOLTS ARE HIGH STRENGTH BOLTS.
- 8.8TS BOLTS ARE HIGH STRENGTH BEARING TYPE SLOTS.
- B10T BOLTS ARE HIGH STRENGTH FRICTION TYPE BOLTS.
- S6. STEEL WORK TO BE ENCASED IN CONCRETE SHALL NOT BE PAINTED, BUT SHALL BE GIVEN ONE COAT OF CEMENT WASH.
- S7. STEEL WORK NOT ENCASED OR OTHERWISE NOTED SHALL BE GIVEN ONE COAT OF APPROVED METALLIC PRIMER AT LEAST 48 HOURS BEFORE DISPATCH.
- S8. STEEL WORK TO BE ENCASED SHALL BE WRAPPED WITH 3mm VIRE AT 100mm PITCH AND ENCASED IN 42.1 CONCRETE WITH A MINIMUM COVER OF 50mm.
- S9. ALL STEEL WORK BELOW GROUND SHALL BE ENCASED IN CONCRETE AND IF EXPOSED, GALVANISE TO HAVE 600g/sqm OF GALVANISE.
- S10. ALL CLEATS AND DRILLING FOR FIXING OF ARCHITECTURAL ELEMENTS, TIMBER FRAMING ETC. SHALL BE PROVIDED BY THE FABRICATOR. THE STRUCTURAL DRAWINGS ARE DEEMED TO PROVIDE FOR ALL THE NECESSARY MAJOR STRUCTURAL STEEL WORK AND CONNECTIONS. MINOR NON-STRUCTURAL ITEMS SUCH AS TRIMMERS, CLEATS AND OTHER ITEMS SHOWN ON THE ARCHITECTURAL DRAWINGS, BUT NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE ALLOWED FOR BY THE CONTRACTOR IN HIS TENDER PRICE, AND DETAILED.
- S11. THE CONTRACTOR SHALL PROVIDE BRACING AND LEAVE IN PLACE UNTIL PERMANENT BRACING ELEMENTS ARE CONSTRUCTED OR CLEATS, ETC. AS IS NECESSARY TO STABILISE THE STRUCTURE DURING ERECTION.
- S12. ALL UB, UC AND PFC MEMBERS TO HAVE $F_y = 300$ MPa MINIMUM.

TIMBER NOTES

- T1. ALL TIMBER MATERIALS, WORKMANSHIP AND PRACTICE SHALL BE IN ACCORDANCE WITH THE TIMBER ENGINEERING CODE AS 1720 AND THE TIMBER FRAMING CODE AS 1684. ALL UNTELS, BEAMS ETC. NECESSARY FOR THE PROPER SUPPORT OF ROOF FRAMING SHALL BE PROVIDED EITHER AS SHOWN ON THE DRAWINGS OR AS REQUIRED IN ACCORDANCE WITH AS 1684.
- T2. ALL TIMBER SHALL BE IN ACCORDANCE WITH THE STRESS GRADE NOMINATED ON THE DRAWINGS AND SHALL BE FREE OF DEFECTS, SPLITS, ROT ETC. THE ENGINEER RESERVES THE RIGHT TO REJECT UNSUITABLE TIMBER.
- T3. ALL BOLTED TIMBER CONNECTIONS SHALL BE MADE WITH M12 BOLTS UNLESS NOTED OTHERWISE. MILD STEEL WASHERS SHALL BE PLACED UNDER THE HEAD AND NUT IN ACCORDANCE WITH THE TABLE BELOW:
- | | |
|-----------|------------------------|
| 50x50x3mm | BOLTS UP TO M12 |
| 65x65x5mm | M16, M20 BOLTS |
| 75x75x5mm | BOLTS GREATER THAN M10 |
- ALL EXPOSED BOLTS AND FITTINGS SHALL BE HOT-DIP GALVANISED.

T4. ALL BOLTS SHALL BE RETIGHTENED AT THE COMPLETION OF THE CONTRACT AND AGAIN AT THE END OF THE MAINTENANCE PERIOD. BOLTS WHICH ARE INACCESSIBLE AT THE COMPLETION OF THE STRUCTURAL WORKS SHALL BE RETIGHTENED IMMEDIATELY BEFORE BEING BUILT-IN.

T50. ALL PROPRIETARY FIXINGS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS, OR AS NOTED ON THE STRUCTURAL DRAWINGS.

T6. THE STRUCTURAL DRAWINGS ARE DEEMED TO PROVIDE FOR ALL NECESSARY MAJOR STRUCTURAL TIMBER AND CONNECTIONS. MINOR NON-STRUCTURAL ITEMS SUCH AS TRIMMERS, CLEATS AND OTHER ITEMS AS SHOWN ON THE ARCHITECTURAL DRAWINGS, BUT ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS, SHALL BE ALLOWED FOR BY THE CONTRACTOR IN HIS TENDER PRICE, AND DETAILED AT THE SHOP DRAWING STAGE IF REQUIRED.

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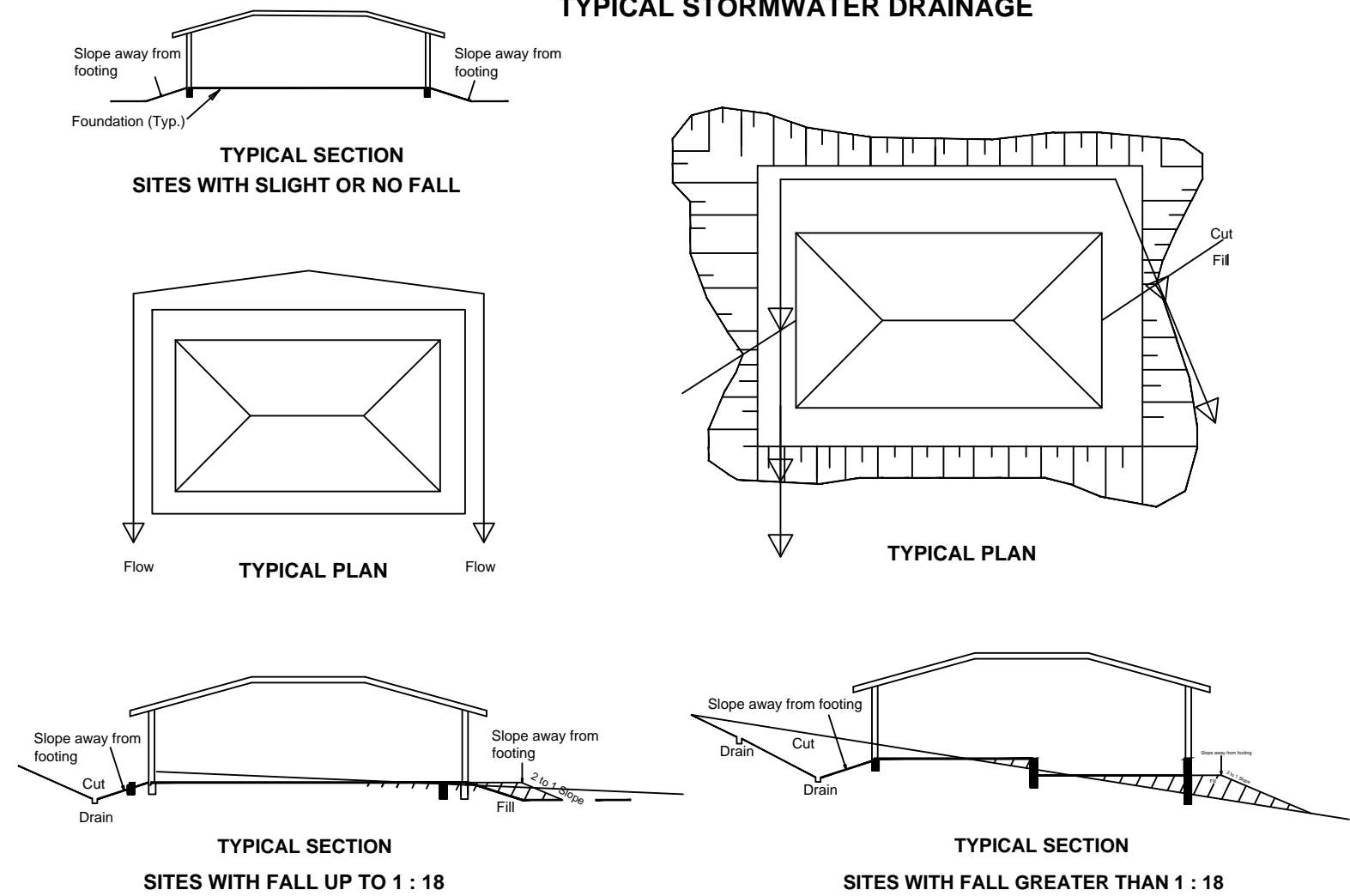
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DATE: 20/04/2016



SITE DRAINAGE REQUIREMENTS

TYPICAL STORMWATER DRAINAGE



MAINTENANCE:

- THE MAINTENANCE OF THE SITE AROUND A NEW HOME IS AN IMPORTANT FACTOR IN THE LONG-TERM PERFORMANCE OF THE FOOTING SYSTEM
- THE PRIMARY OBJECTIVE OF THIS MAINTENANCE IS TO MINIMISE THE VARIATION IN SOIL MOISTURE LEVEL AROUND THE FOOTING THAT COULD LEAD THE EXCESSIVE SOIL MOVEMENT AND POSSIBLE DISTRESS THE SUPERSTRUCTURE AND/OR FOOTING. WHEN THE SLAB FORMS PART OF THE TERMITE BARRIER SYSTEM FOR THE HOUSE, THEN IT IS ALSO NECESSARY TO MAINTAIN THE EFFECTIVENESS OF THAT BARRIER BY APPROPRIATE MAINTENANCE ACTIVITIES.
- WHEN A CONCRETE SLAB-ON-GROUND IS USED AS PART OF THE TERMITE BARRIER SYSTEM AS OUTLINED IN AS3660.0, THEN IT CANNOT BE TOO HIGHLY STRESSED THAT REGULAR INSPECTION AND MAINTENANCE OF THE SLAB SURROUNDING BY A COMPETENT PROFESSIONAL IS REQUIRED TO ENSURE THAT ANY TERMITE INFESTATION IS DETECTED AND TREATED PROMPTLY.
- ONGOING MAINTENANCE AND INSPECTION ON A REGULAR BASIS IS A REQUIREMENT OF AS3660.1 AND OWNER SHOULD BE CLEARLY ADVISED IF THEIR RESPONSIBILITIES TO ENSURE THAT THEIR INVESTMENT IS PROPERLY PROTECTED.
- LEAKING TAPS, DOWNPIPES, SEWERS, GUTTERS AND DRAINAGE CAN ALSO AFFECT THE MOISTURE CONTENT OF THE SOIL AND THESE MUST BE INSPECTED REGULARLY TO ENSURE AGAINST DAMAGE TO THE FOOTINGS. SIMILARLY, GUTTERS, DOWNPIPES AND COLLECTION POINTS CAN GET BLOCKED WITH LEAF AND OTHER DEBRIS, PREVENTING THE EFFECTIVE DRAINAGE OF STORMWATER AWAY FROM THE HOUSE. AGAIN, REGULAR INSPECTIONS AND MAINTENANCE SHOULD BE CARRIED OUT TO PREVENT BLOCKAGE
- IT IS IMPORTANT FOR BUILDER TO MAKE THE HOMEOWNER AWARE OF THE MAINTENANCE ISSUES ASSOCIATED WITH ENSURING THE LONG-TERM PERFORMANCE OF THE FOOTING SYSTEM.

DRAINAGE REQUIREMENTS

GENERAL

THESE DRAINAGE AND OTHER REQUIREMENTS FORM PART OF THE FOOTING DESIGN.

DEFECTIVE SURFACE DRAINAGE IS A COMMON FACTOR IN REACTIVE CLAY FOUNDATION MOVEMENT PROBLEMS. THE EFFECTIVE DRAINAGE OF THE SITE IS A PREREQUISITE FOR SATISFACTORY PERFORMANCE OF A FOUNDATION SYSTEM.

THE BUILDER'S RESPONSIBILITY IS TO MAKE THE OWNER AWARE OF THE IMPORTANCE OF SURFACE DRAINAGE, EVEN IF IT IS NOT PART OF BUILDER'S CONTRACT TO CONSTRUCT SURFACE DRAINAGE.

LANDSCAPING AND OTHER FINISHING SITE WORKS MUST BE INCORPORATED WITH WELL DESIGNED SURFACE DRAINAGE TO MITIGATE ANY ADVERSE IMPACT ON A FOUNDATION SYSTEM.

DRAINAGE NOTES

- ALL SURFACE DRAINAGE WORKS SHALL BE INSTALLED IN ACCORDANCE WITH CLAUSE 5.6.3 DRAINAGE REQUIREMENTS OF AS 2871-2011, WHEREIN FOR BUILDINGS ON MODERATELY, HIGH AND REACTIVE SITES
- SURFACE DRAINAGE SHALL BE CONTROLLED THROUGHOUT CONSTRUCTION AND BE COMPLETED BY THE FINISH OF CONSTRUCTION
- THE BASES OF TRENCHES SHALL SLOPE AWAY FROM THE BUILDING
- WHERE PIPES PASS UNDER THE FOOTING SYSTEM, CLAY PLUGS ARE TO BE ADOPTED TO PREVENT THE INGRESS OF WATER
- FOR BUILDINGS ON HIGHLY REACTIVE SITES, DRAINER SHALL PROVIDE DRAINAGE ARTICULATION TO ALL STORMWATER, SANITARY PLUMBING DRAINS AND DISCHARGE PIPES IN ACCORDANCE WITH CLAUSE 5.6.4 PLUMBING REQUIREMENTS. WHEREIN FLEXIBLE JOINTS IMMEDIATELY OUTSIDE BUILDING AND COMMENCING WITHIN 1m OF THE BUILDING PERIMETER ARE REQUIRED TO ACCOMMODATE THE REQUIRED DIFFERENTIAL MOVEMENT BASED ON THE SOIL CLASSIFICATION. REFER TO TABLE BELOW FOR MINIMUM REQUIREMENTS FOR EXPANSION AND ALLOWABLE FITTINGS
- FLEXIBLE JOINTS ARE REQUIRED AT ENTRY & EXIT OF SLAB/FOOTINGS. SURFACE WATER MUST BE DIVERTED AWAY FROM THE DWELLING AND GRADED AWAY FROM ALL FOUNDATIONS TO GIVE A SLOPE OF NOT LESS THAN 50mm OVER THE FIRST 1000mm FROM THE DWELLING
- SUBSURFACE DRAINS TO REMOVE GROUND WATER SHALL BE DETAILED BY THE DESIGN ENGINEER. FURTHERMORE, DAMP-PROOF MEMBRANE IN ACCORDANCE WITH CLAUSE 5.3.3 OF AS 2870 SHALL BE INSTALLED FOR GROUNDWATER DRAINAGE ON AGGRESSIVE SOILS

SITE DRAINAGE REQUIREMENTS

CONSTRUCTION STAGE

THE GEOTECHNICAL REPORT HAS RECOMMENDED THE USE OF A CERTAIN FOOTING THAT IS APPROPRIATE FOR THIS SITE. WHILE MAKING THIS RECOMMENDATION IT HAS BEEN ASSUMED THAT CERTAIN SITE DRAINAGE REQUIREMENTS AS PER AS2870-2001 HAS BEEN MET.

DURING THE CONSTRUCTION OF THE FOOTING THE FOLLOWING SITE DRAINAGE REQUIREMENTS ARE LISTED AS BEING PART OF THE FINAL FOOTING DESIGN BY THE DESIGN ENGINEER.

- MUST PREVENT WATER PONDING AGAINST OR NEAR THE FOOTING
- THE GROUND IN THE IMMEDIATE VICINITY OF THE PERIMETER FOOTING SHALL BE GRADED TO A FALL OF 50mm MIN. AWAY FROM THE FOOTING OVER A DISTANCE OF 1000mm (1.20) AND SHAPED TO PREVENT PONDING OF WATER (THIS INCLUDES THE GROUND UP HILL FROM THE FOOTING ON A CUT/FILL SITE) - WHERE FILLING IS PLACED ADJACENT TO THE BUILDING, THE FILLING SHALL BE COMPACTED AND GRADED TO ENSURE DRAINAGE AWAY FROM FOOTINGS OR
- ALL COLLECTED STORMWATER MUST BE DISCHARGED TO A LEGAL POINT OF DISCHARGE
- SURFACE DRAINAGE OF THE SITE SHALL BE CONTROLLED FROM THE START OF THE SITE PREPARATION AND CONSTRUCTION. SURFACE DRAINAGE INCLUDES SURFACE WATER RUN-OFF AND BUILDING WATER (ROOF & FLOOR CONCRETE) RUN-OFF
- ALL WATER RUN-OFF SHALL BE CONTROLLED AT ALL TIMES
- USE TEMPORARY DOWNPIPES TO COLLECT WATER FROM A ROOFED BUILDING FRAME
- WHEN SILT PITS ARE USED TO GATHER SURFACE WATER FROM AREAS ADJACENT TO THE FOOTINGS, THESE SILT PITS ARE TO BE AT LEAST 1000mm AWAY FROM THE FOOTING AND CONNECTED TO THE STORMWATER SYSTEM WITH A SOLID PIPE
- STORMWATER DRAINS SHALL BE AT LEAST 90mm AND HAVE A MINIMUM FALL OF 1:100 AND 100mm COVER UNDER THE SOIL AND/OR PAVED AREAS
- INSPECTED HOPEINGS SHOULD BE PROVIDED AT EACH PIPE CONNECTION POINT AND AT A NOMINAL SPACING OF 2.5m
- AVOID UNDERMINING THE FOOTING WITH ANY TRENCHES OR PIPE OR PITS UNLESS THE FOOTING HAS BEEN DESIGNED TO ALLOW FOR SUCH SITUATION. SUB-SURFACE DRAINAGE IS REQUIRED TO REMOVE ANY UNWANTED GROUND WATER BY MEANS OF 90mm SLOTTED PIPE IN A 300mm WIDE TRENCH (MIN. FALL OF 1:100). BASE OF THE TRENCH IS FILLED WITH 10mm CRUSHED ROCK OR SIMILAR COVERING THE SLOTTED PIPE
- AG DRAINS MUST NOT BE INSTALLED WITHIN 1500mm FROM ANY FOOTING
- AG DRAINS MUST BE INSTALLED AT THE BASE OF ALL SITE CUTS THAT EXCEED 400mm IN HEIGHT, ALONG THE HIGH SIDE OF A SLOPING SITE AND POSSIBLY ALONG THE LOW SIDE OF A SLOPING SITE ALONG THE BOUNDARY, TO BE CONNECTED TO

LANDSCAPING

- THE WORKS ON GARDENS SHALL NOT IMPACT ON DRAINAGE REQUIREMENTS, SUBFLOOR VENTILATION AND WEEP HOLE DRAINAGE SYSTEMS. GARDEN BEDS ADJACENT TO THE BUILDING SHALL BE AVOIDED. CARE SHALL BE TAKEN TO AVOID OVERWATERING OF GARDENS CLOSE TO THE BUILDING FOOTINGS. (AS 2870 Cl. B2.3(b))
- PLANTING OF TREES SHALL BE AVOIDED NEAR THE FOUNDATION OF A BUILDING OR NEIGHBOURING BUILDING AS THEY CAN CAUSE DAMAGE DUE TO DRYING OF THE CLAY AT SUBSTANTIAL DISTANCES. TO REDUCE THE POSSIBILITY OF DAMAGE TREES SHOULD BE RESTRICTED TO A DISTANCE FROM THE HOUSE AS FOLLOWS:
 - 1 1/2 x MATURE TREE HEIGHT FOR CLASS E SITES.
 - 1 1/2 x MATURE TREE HEIGHT FOR CLASS H1 AND CLASS H2 SITES
 - 1 1/2 x MATURE TREE HEIGHT FOR CLASS M SITES
- WHERE ROWS OR GROUPS OF TREES ARE INVOLVED, THE DISTANCE FROM THE BUILDING SHOULD BE INCREASED. REMOVAL OF TREES FROM THE SITE CAN ALSO CAUSE SIMILAR PROBLEMS. (AS 2870 B2.3 (c))

SITE CLASS	SEWER EXIT POINTS		MINIMUM REQUIREMENTS FOR SEWER RETICULATION		
	SWIVEL	EXPANDER	MIN. EXPANSION JOINT CAPACITY	ALLOWABLE ROTATION	LAGGING
M	0	0	-	-	MIN. 20
H1	1	1	50MM	15°	MIN. 40
H2/H2-D	2	1	50MM	15°	MIN. 40
E	2	1	120MM	15°	MIN. 40
P	2	1	50MM (UND)	15°	MIN. 40

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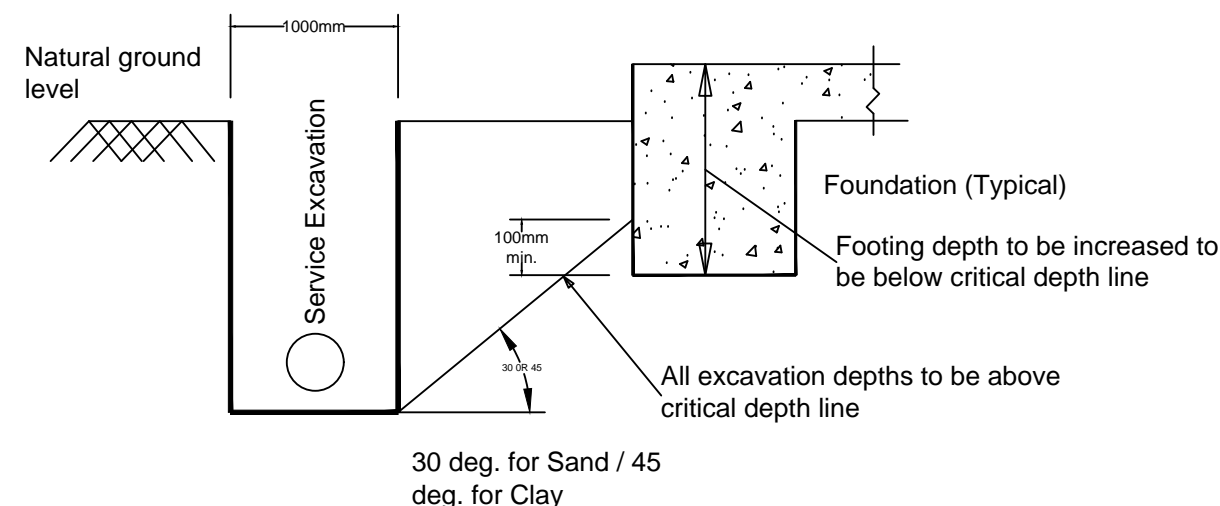
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SLAB, BEAM & OTHER CONSTRUCTION REQUIREMENTS

THESE NOTES TO BE FOLLOWED UNLESS NOTED OTHERWISE BY THE ENGINEER

1. THE SLAB SUBGRADE SHALL BE SCALPED CLEAR OF GRASS, VEGETATION AND ORGANIC MATTER AND BE PREPARED IN ACCORDANCE WITH SECTION 6 - AS 2870 - 2011.
2. EXCAVATIONS ARE TO BE EXAMINED CAREFULLY AND ANY UNUSUAL FEATURES REPORTED TO THE GEOTECHNICAL ENGINEER. CARE MUST BE TAKEN TO ENSURE THAT ALL FOOTINGS ARE FOUNDED ON & IN MATERIAL SPECIFIED IN THE SOIL REPORT.
3. THE INTERIOR SLAB PANELS SHALL BE FOUNDED IN SOIL IN ACCORDANCE WITH GEOTECHNICAL REPORT UNLESS NOTE OTHERWISE.
4. THE VAPOUR BARRIER SHALL BE WELL LAPPED (MINIMUM 300MM) AND TAPED AT JOINTS. CARE MUST BE TAKEN DURING CONSTRUCTION TO PREVENT PUNCTURE OF MEMBRANE.
5. THE SITE IS TO BE GRADED AWAY FROM THE SLAB SO THAT WATER WILL NOT POND AGAINST THE SLAB.
6. ALL DRAINAGE AND SEWERAGE PIPES ADJACENT TO THE BUILDING ARE TO BE SET BACK AT A DEPTH SUCH THAT IS BEYOND THE INFLUENCE OF THE FOOTINGS. ANGLE OF REPOSE = 45°. PROVIDE LAGGING WHERE SUCH PIPES PASS THROUGH SLAB BEAMS TO ALLOW FOR DIFFERENTIAL MOVEMENT.
7. ALL CONCRETE TO BE PLACED IN POSITION IS TO BE ADEQUATELY MECHANICALLY VIBRATED.
8. THE OWNER AND BUILDER ARE TO REFER TO RELEVANT APPENDICES OF SOIL REPORT, AS 2870 ON FOUNDATION MAINTENANCE AND TO C.S.I.R.O.'s PUBLICATION SHEET No. 10-91 "GUIDE TO HOME OWNERS MAINTENANCE AND FOOTING PERFORMANCE".
9. SITE DRAINAGE SHALL BE IN ACCORDANCE WITH PLUMBING REQUIREMENTS CLAUSE 5.6.4 OF AS 2870 - 2011 & DRAINAGE REQUIREMENTS CLAUSE 5.6.3 OF AS 2870 - 2011.
10. TREES MAY (WITH RELEVANT APPROVALS) BE REMOVED OR TREE ROOT BARRIERS PLACED.
11. PROVIDE ADDITIONAL CONTROL JOINTS IN MASONRY WALLS ABOVE JUNCTIONS BETWEEN BEAMS FOUNDED ON DIFFERENT SOIL TYPES.



**SERVICE TRENCH EXCAVATION
ADJACENT TO FOUNDATIONS NTS**

SITE DRAINAGE & PLUMBING REQUIREMENTS

THE REQUIREMENTS STATED IN THE LATEST VERSION OF AS 2870 MUST BE STRICTLY ADHERED TO ALL THE TIME BY THE BUILDER.

PARTICULAR ATTENTION MUST BE PAID TO THE CLAUSES 5.6.3 & 5.6.4 OF AS 2870 REGARDING SITE DRAINAGE AND PLUMBING CONSTRUCTION.

IF ANY OF THE REQUIREMENTS CANNOT BE ACCOMPLISHED, THE BUILDER MUST IMMEDIATELY INFORM THE ENGINEER FOR INSTRUCTIONS.

STEEL & TIMBER BEAMS/LINTELS

- Steel/Timber beams/Lintels to be supported a minimum of 100mm UNO.
- Steel beams/Lintels to be protected from corrosion as per Note S9 on sheet 2/6 of this set of plans.

CLIENT:

ARCHITECTURAL DESIGNS
17 ASSEMBLY DRIVE,
TULLAMARINE VIC

JOB NO: AD/2016/BULEEN

WB CIVIL STRUCTURAL ENGINEERS & BUILDERS

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REGISTERED ENGINEER REGISTERED BUILDER VICTORIAN BUILDING AUTHORITY

PRIYAN WIJEYERATNE
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M.I.E.(AUST.), C.P.ENG.
M.Eng(Struct.), M.Tech.(Mgt.), BSc(Civil)

PROJECT:

SLAB RE-DESIGN
(WAFFLE)

PROJECT ADDRESS:
8, Maringa Street, Bulleen
VIC 3105

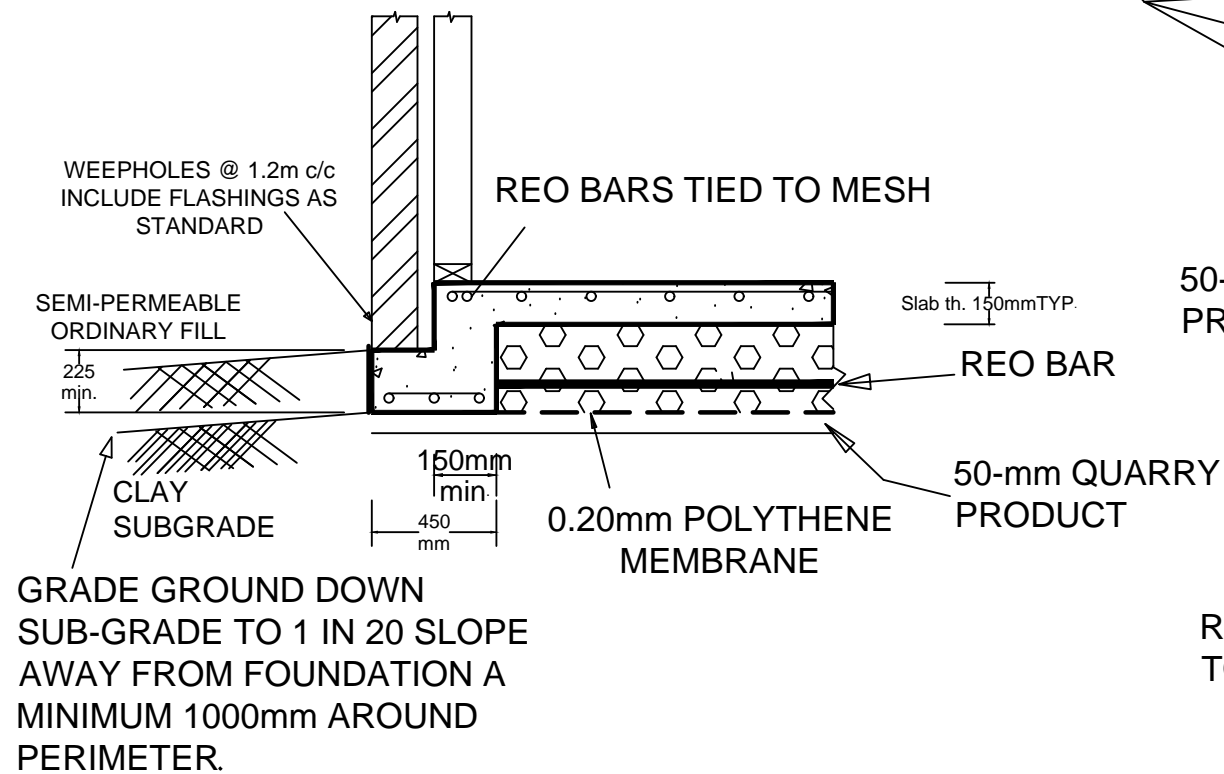
SHEET NO: 4/19

SCALE: AS SHOWN

DATE: 20/04/2016



TYPICAL WAFFLE SLAB BEAM DETAILS



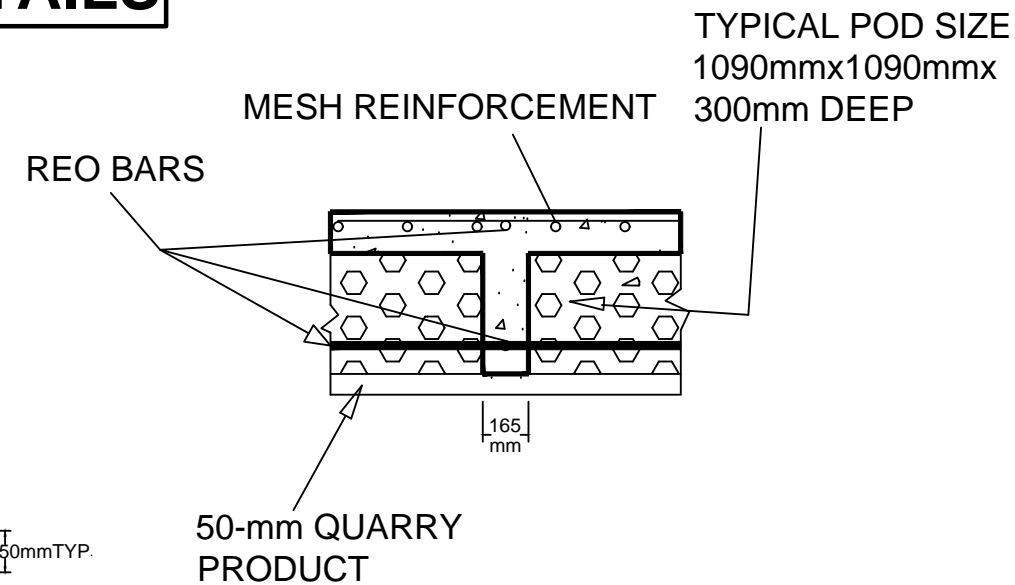
EDGE BEAM NTS

NOTE 1
ENSURE A LEVELED WORKING GROUND SURFACE/FILLING MATERIAL IS WELL COMPACTED PROPOR TO PLACEMENT OF WAFFLE PODS. ANY FILL PLACED DUE TO CUT/FILL OPERATIONS SHALL BE COMPACTED AS "CONTROLLED FILL" IN ACCORDANCE WITH AS 2870-2011 6.4.2.(a). COMPACTION DENSITY TO BE VERIFIED. DEPTH OF FILL NOT TO EXCEED 300MM.

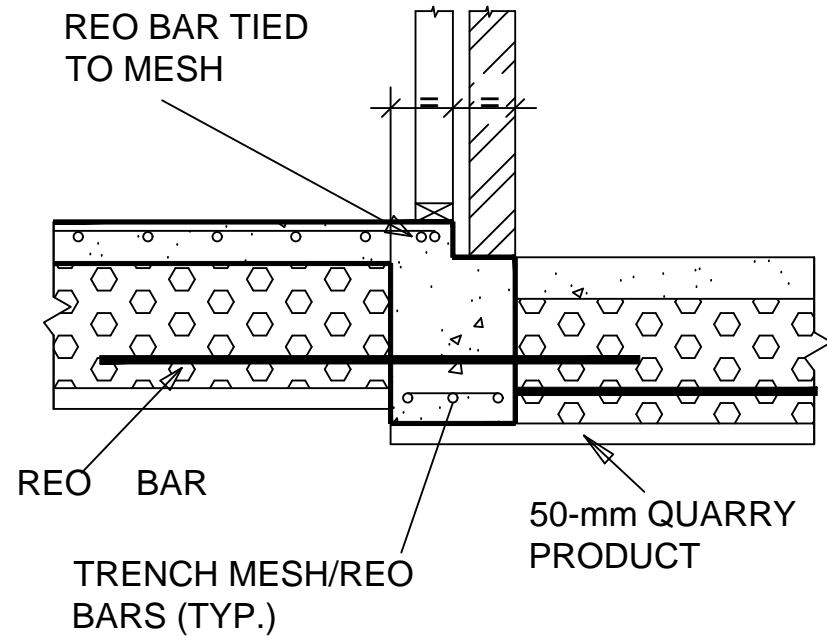
NOTE 2
SUITABLE QUARRY PRODUCTS INCLUDE WELL GRADED QUARRY SAND OR RUBBLE HAVING A MAXIMUM PARTICLE SIZE OF 20MM.

NOTE 3
EXTERNAL / INTERNAL RIBS WIDER THAN 300MM SHALL BE REINFORCED WITH AN ADDITIONAL N16 BAR TOP & BOTTOM FOR EVERY ADDITIONAL 110MM I WIDTH (TYP.).

NOTE 4
MASS CONCRETE PIERS TO UNDERSIDE OF SLAB/EDGE BEAMS, NOT SHOWN FOR CLARITY. REINFORCEMENT SHOWN ARE ONLY TYPICAL, REFER TO SHEET NO: 6 / 6 FOR REINFORCEMENT DETAIL

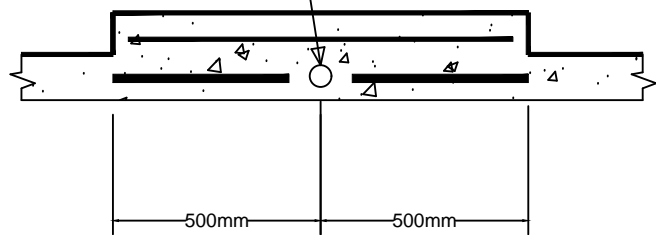


INTERNAL RIB NTS

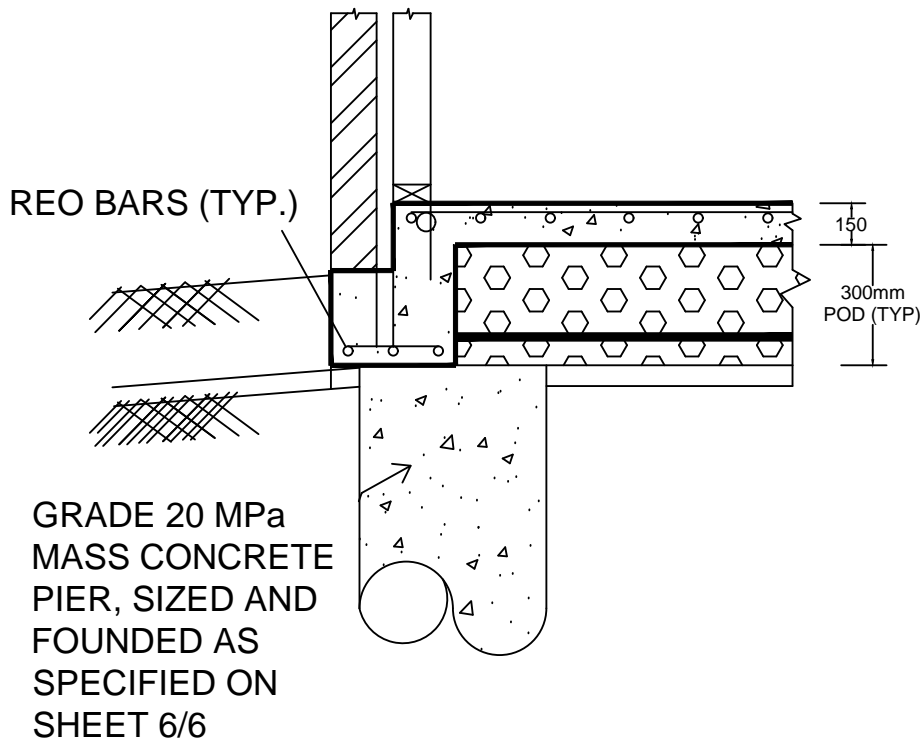


STEP DOWN NTS

CUT BAR TO FORM A VOID OF
MINIMUM RIB WIDTH (100mm
TYP.) AT PIPE. OVERLAP A BAR
500mm EACH SIDE



**SERVICE PENETRATION
IN RIB PLAN VIEW** NTS



**BORED PIER
TYPICAL DETAIL** NTS

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SHEET NO: 5/19

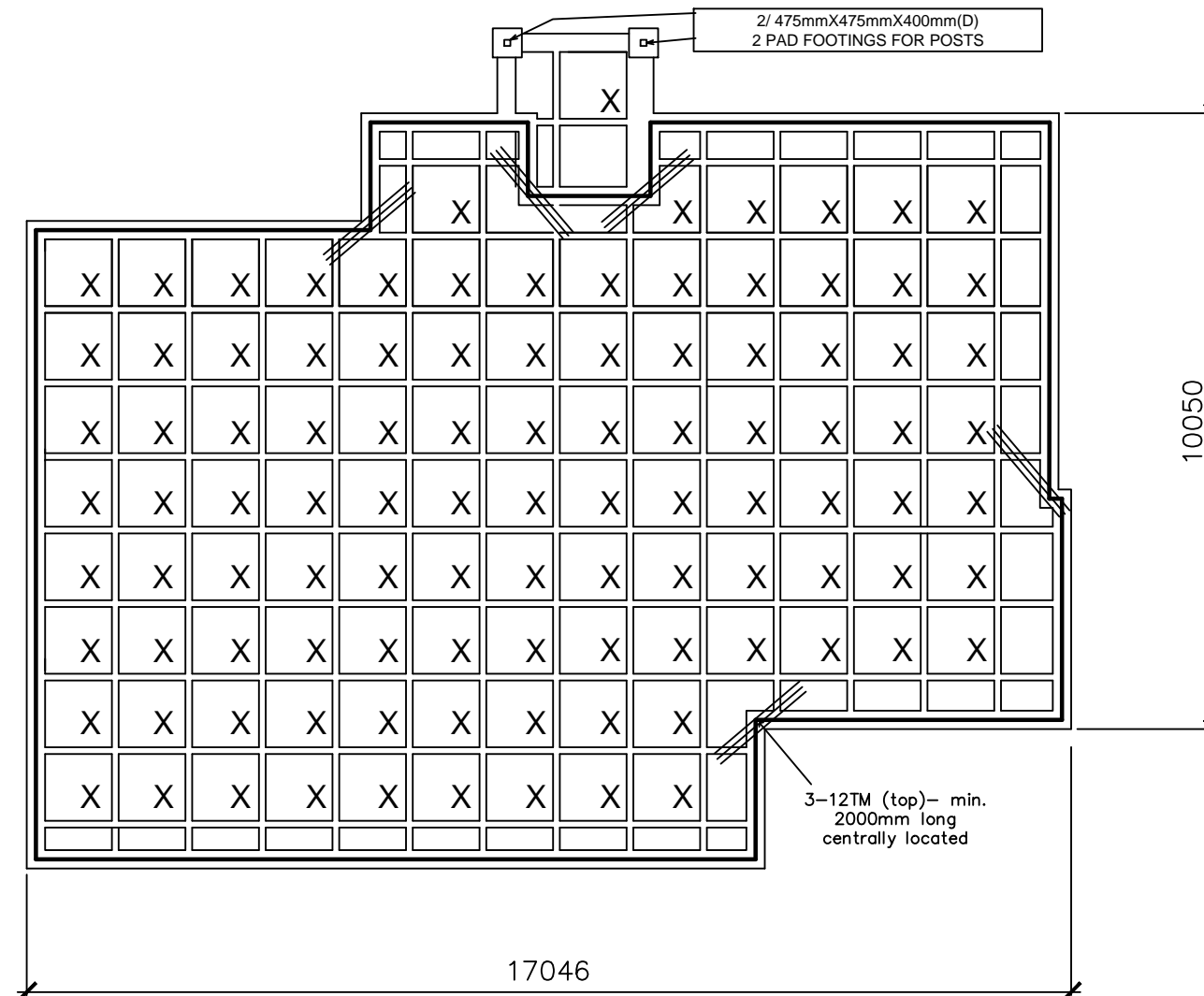
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DATE: 20/04/2016



TYPICAL WAFFLE SLAB DETAIL - UNIT 1

SOIL REPORT - ABH SOIL TESTING & SURVEYING - CLASSIFICATION 'P'
REPORT NO: 5187



WAFFLE SLAB SCHEDULE
Overall Slab Depth - 400mm
Void form height - 300mm
Slab thickness - 100mm
Internal beam/rib width - 110mm
External/edge beam/rib width - 300mm
Stem width min. - 150mm
X - Indicates 1090mmx1090mm Pods
>>Vapour barrier in accordance with
BCA to be lapped 200mm min. and
taped at lap-joints, to be laid on a 50mm
quarry product.
>>Concrete strength to be 20MPa at
28 days with a slump of 100mm at pouring.

REINFORCEMENT
TOP
Slab mesh - SL92 UNO
Internal beam/rib 1-N16 UNO
External beam/rib 2-N16 UNO
BOTTOM
Internal beam/rib - 1-N16 UNO
External beam/rib - 3-N16 UNO
NOTE: 3-N16 or 2/3L12TM200 ACCEPTABLE
Minimum lap lengths
3-L12TM: 500mm
SL 92/82 Mesh: 250mm
N16 bars: 600MM

NOTE: IT IS BUILDER'S RESPONSIBILITY, TO DRAIN
SURFACE & ROOF STORMWATER AWAY FROM
FOUNDATION DURING & AFTER BUILDING

CLIENT:

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17 ASSEMBLY DRIVE,
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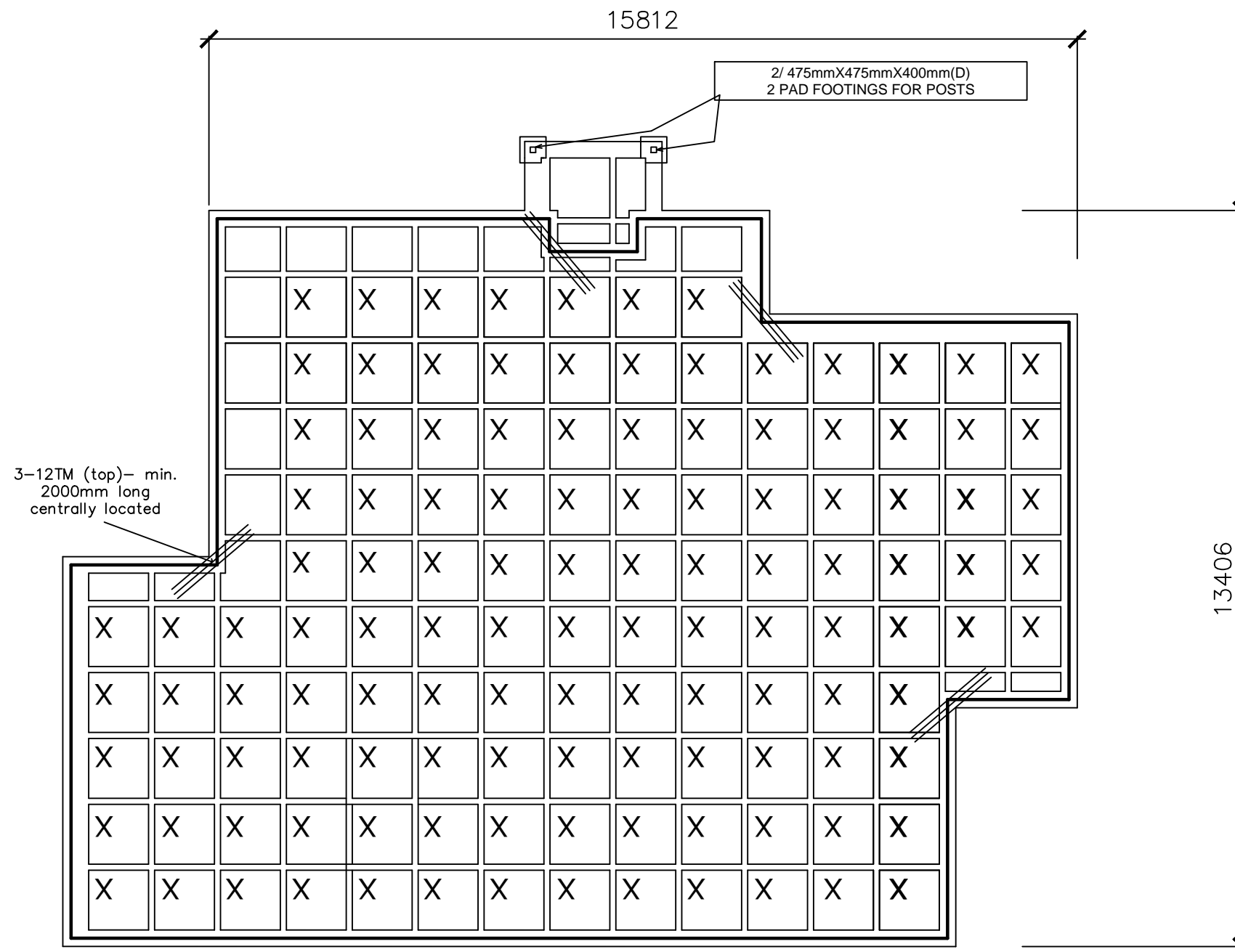
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DATE: 20/04/2016



TYPICAL WAFFLE SLAB DETAIL - UNIT 2

SOIL REPORT - ABH SOIL TESTING & SURVEYING - CLASSIFICATION 'P'
REPORT NO: 5187



WAFFLE SLAB SCHEDULE

Overall Slab Depth - 400mm
Void form height - 300mm
Slab thickness - 100mm
Internal beam/rib width - 110mm
External/edge beam/rib width - 300mm
Stem width min. - 150mm
X - Indicates 1090mmx1090mm Pods
>>Vapour barrier in accordance with
BCA to be lapped 200mm min. and
taped at lap-joints, to be laid on a 50mm
quarry product.
>>Concrete strength to be 20MPa at
28 days with a slump of 100mm at pouring.

REINFORCEMENT

TOP

Slab mesh - SL92 UNO
Internal beam/rib 1-N16 UNO
External beam/rib 2-N16 UNO

BOTTOM

Internal beam/rib - 1-N16 UNO
External beam/rib - 3-N16 UNO

NOTE: 3-N16 or 2/3L12TM200 ACCEPTABLE

Minimum lap lengths
3-L12TM: 500mm
SL 92/82 Mesh: 250mm
N16 bars: 600MM

NOTE: IT IS BUILDER'S RESPONSIBILITY, TO DRAIN
SURFACE & ROOF STORMWATER AWAY FROM
FOUNDATION DURING & AFTER BUILDING

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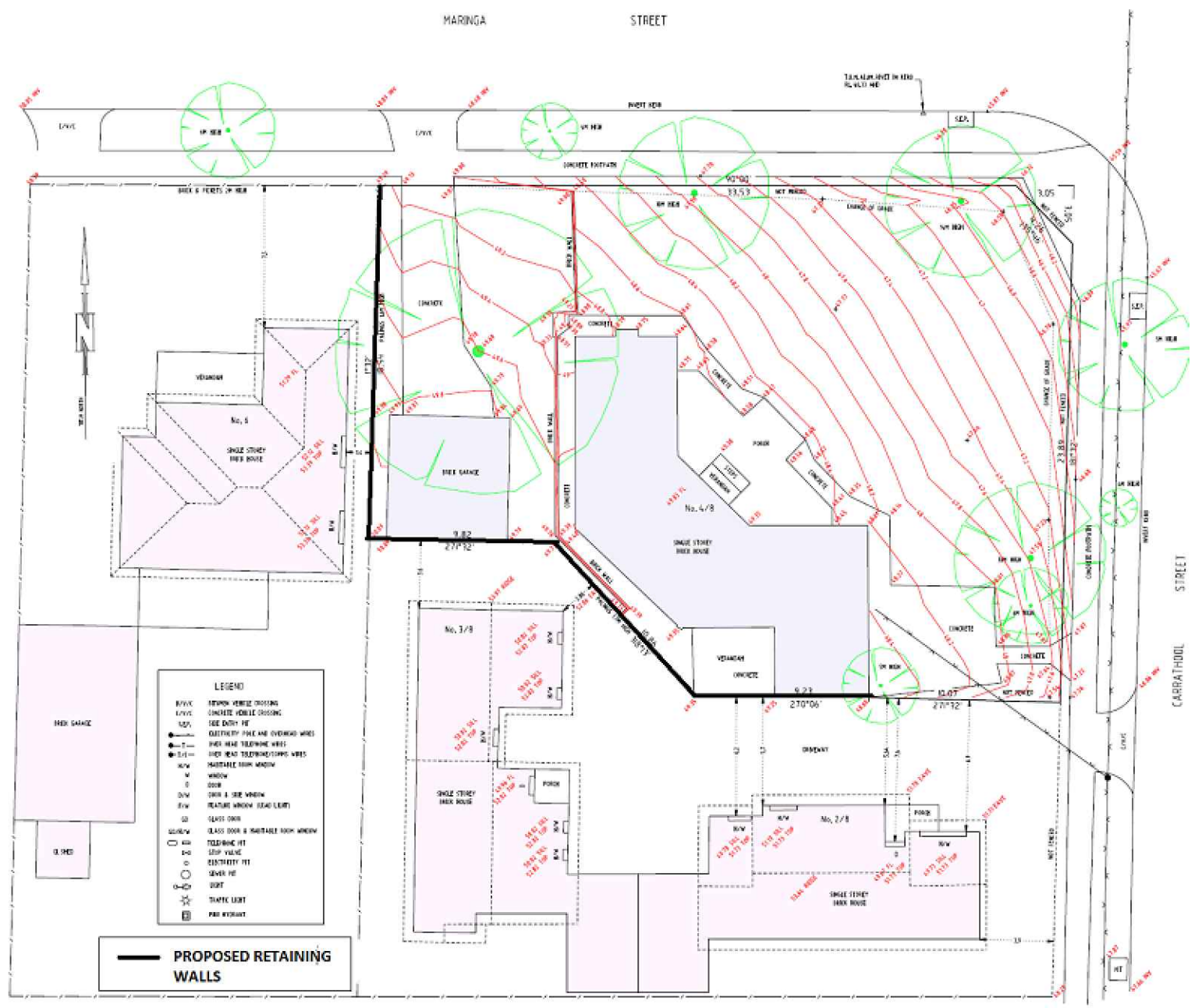
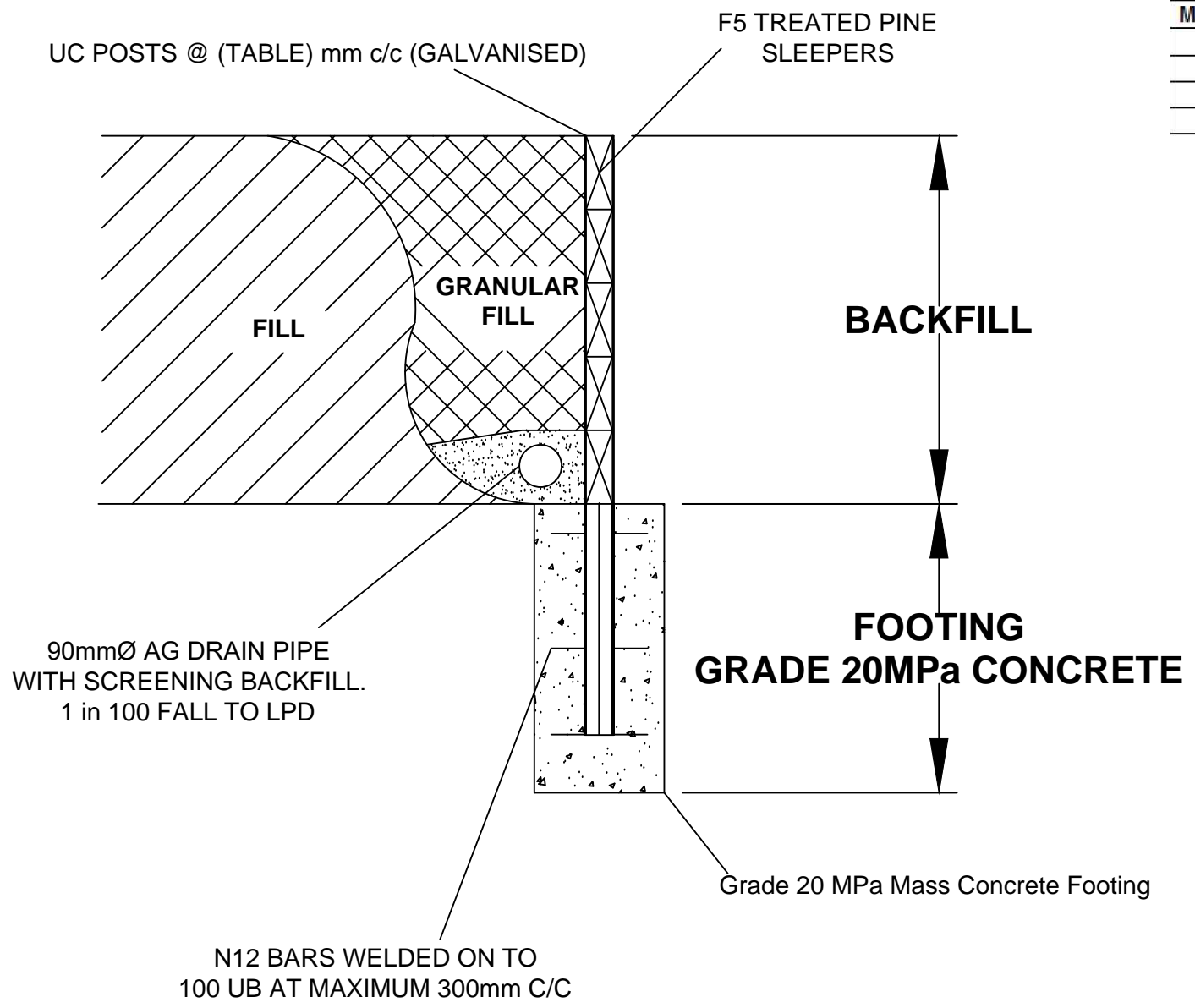
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SCALE: AS SHOWN

DATE: 20/04/2016



RETAINING WALL TABLE - HEIGHT 750mm - 2000mm							
MAX. HEIGHT	SLEEPER SIZE	NO. OF SLEEPERS	UC SIZE	MAX. SPAN	FOOTING DEPTH	FOOTING SIZE	FOOTING
750mm	5(H)X150(V) TREATED PIP	5	100 UC 14.8	1.5m	750mm	450mm DIA.	CONCRETE
1000mm	75(H)X200(V) TP	5	100 UC 14.8	1.5m	1000mm	450mm DIA.	CONCRETE
1500mm	75(H)X200(V) TP	8	100 UC 14.8	1.5m	1500mm	450mm DIA.	CONCRETE
2000mm	100(H)X250(V) TP	8	150 UC 23.4	2.0m	2000mm	450mm DIA.	CONCRETE



NOTES:

1. BUILDER TO CONSTRUCT RETAINING WALL(S) AS SHOWN WHERE GROUND LEVEL DIFFERENCE IS GREATER THAN 400mm AND PROPOSED STRUCTURE WALL IS CLOSER THAN 1.2m TO BOUNDARY LINE. ALSO, BUILDER TO SERVE NOTICE TO ADJOINING PROPERTY OWNERS AS PER VICTORIAN BUILDING REGULATIONS.

SEQUENCE OF R/W CONSTRUCTION (RETAINING PROPERTY BOUNDARY):

1. BORE HOLES FOR STEEL POSTS (MINIMUM 1.0m AWAY FROM BOUNDARY), DOWN TO FOUNDING LEVEL.

2. EXCAVATE DOWN TO FINISH FLOOR LEVEL PLUS 300mm (WITHIN THE PROPERTY SUBJECT PROPERTY).

3. INSTALL STEEL POSTS IN CONCRETE AND LET CONCRETE TO CURE FOR MIN. 3 DAYS.

4. INSTALL SLEEPERS AS PER SPECIFICATIONS

5. EXCAVATE BEHIND THE RETAINING WALL CAREFULLY AND INSTALL AG PIPE, SCREENING, GRANULAR FILL & FILL

6. COMPLETE INSTALLATION BY FIRMLY COMPACTING SOIL BEHIND THE WALL.

7. CLEAN-UP SITE.

NOTE:

BUILDER MAY RE-ASSESS THE EXTENT & HEIGHT OF RETAINING WALL REQUIRED AND INFORM STRUCTURAL ENGINEER FOR ANY VARIATION REQUIRED FOR CONFIRMATION.

CLIENT:

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17 ASSEMBLY DRIVE,
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REGISTERED ENGINEER
REGISTERED BUILDER
VICTORIAN BUILDING AUTHORITY

PRIYAN WIJEYERATNE
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M.I.E.(AUST), C.P.ENG.
M.Eng(Struct), M.Tech.(Mgt.), BSc(Civil)

PROJECT:
SLAB RE-DESIGN
(WAFFLE)

PROJECT ADDRESS:
8, Maringa Street, Buleen
VIC 3105

SHEET NO: 8/19

SCALE: AS SHOWN

DATE: 20/04/2016

ROOF TRUSS NOTES

- 1. TRUSS DESIGNER TO PROVIDE AND SUPPLY COPY OF MANUFACTURERS TRUSS LAYOUT PLAN AND REGULATION 1507: CERTIFICATE OF COMPLIANCE OF DESIGN FOR THIS STRUCTURE FOR APPROVAL TWO WEEKS PRIOR TO COMMENCEMENT OF TRUSS FABRICATION. TRUSS DESIGN MUST BE IN ACCORDANCE WITH AS1720 AND AS1684.
- 2. TRUSS FABRICATOR IS RESPONSIBLE FOR PROVIDING ADEQUATE ROOF BRACING TO ENSURE STABILITY OF THE STRUCTURE.
- 3. ROOF TRUSSES TO BE DESIGNED IN DETAIL, INSTALLED, BRACED AND TIED DOWN TO MANUFACTURER SPECIFICATION AND TO AS1684 FOR CLASS N2 WIND.
- 4. ROOF TRUSS MANUFACTURER TO DESIGN AND SPECIFY WALL FRAMING MEMBERS (INCLUDING LINTELS AND BEAMS) FOR CONCENTRATED POINT LOADS FROM GIRDER TRUSSES IF REQUIRED.
- 5. ROOF TRUSS MANUFACTURER TO SUPPLY FORM 1507 (CERTIFICATE OF COMPLIANCE) FOR ROOF TRUSSES, BRACING AND CONNECTIONS FOR THE ROOF FRAMING.

ARTICULATION NOTES

- 1. PROVIDE ARTICULATION TO MASONRY VENEER IN STRICT ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA (BCA) PART 3.3.1 AND THE PROVISIONS OF THE BCA GENERALLY.
- 2. REFER ALSO TO THE CEMENT CONCRETE AGGREGATES AUSTRALIA - TECHNICAL NOTE 41 AND THE MANUFACTURERS SPECIFICATIONS.
- 3. PROVIDE FULL HEIGHT ARTICULATION JOINTS (A.J.) TO BRICKWORK AT CENTERS AS PER SDIL REPORT. REFER TO ARCHITECT DRAWINGS FOR LOCATION.
- 4. PROVIDE FULL HEIGHT ARTICULATION JOINTS (A.J.) TO BRICKWORK AT DIFFERENT FOOTING FOUNDING DEPTH TO BCA REQUIREMENTS.
- 5. ARTICULATIONS JOINTS (A.J.) TO BE NOT CLOSER THAN THE HEIGHT OF THE WALL AWAY FROM CORNERS.
- 6. FIRE RATING OF ARTICULATION JOINTS TO ARCHITECTS DETAIL IF REQUIRED.
- 7. ARTICULATION JOINTS (A.J.) TO ARCHITECTS DETAILS.

MASONRY NOTES

- 1. ALL MASONRY BRICKWORK DESIGN AND CONSTRUCTION SHALL COMPLY WITH AS3700 - 'MASONRY STRUCTURES' - 2011, AS4473.1 - 'MASONRY IN SMALL BUILDINGS - DESIGN' 2010, AS4473.2 - 'MASONRY IN SMALL BUILDINGS - CONSTRUCTION' - 2010 AND THE PROJECT SPECIFICATION.
- 2. MASONRY UNITS TO HAVE A MINIMUM CHARACTERISTIC UNCONFINED STRENGTH (f'uc) IN ACCORDANCE WITH AS2733 OF:
 - CLAY BRICKS - 30 MPa
 - CONCRETE BRICKS - 15 MPa
- 3. MASONRY TO BE BEDDED IN FRESHLY PREPARED MORTAR.
 - 3.1. CONCRETE BLOCKS: MORTAR MIX TO BE UNIFORMLY MIXED IN A RATIO OF ONE PART CEMENT, ONE PART LIME AND SIX PARTS SAND CONFORMING TO AS2701. 'BRICKIES LOAM' SHALL NOT BE USED.
 - 3.2. CLAY BRICKS: MORTAR MIX TO BE UNIFORMLY MIXED IN THE RATIO OF ONE PART CEMENT, THREE PARTS SAND AND ONE FOURTH PART LIME CONFORMING TO AS2701. 'BRICKIES LOAM' SHALL NOT BE USED.
- 4. GROUT SHALL HAVE A COMPRESSIVE STRENGTH (f'c) OF 20MPa AT 28 DAYS, A SLUMP OF 125mm IN A 150mm SLUMP CONE, A MAXIMUM AGGREGATE SIZE OF 10mm AND BE IN ACCORDANCE WITH AS3700 - 'MASONRY STRUCTURES' AND AS4733.1 - 'DESIGN' AND AS4733.2 - 'CONSTRUCTION' - 2010.
- 5. CONTRACTOR/BUILDER MUST ENSURE MORTAR STRENGTH IS MET BY USE OF THE SCRATCH TEST METHOD WITH A SCRATCH TEST LIMIT OF 0.3mm IN 31.
- 6. BEDDING OF MASONRY SHALL BE FULL FACE WITH CROSS JOINTS COMPLETELY FILLED. JOINT THICKNESS SHALL NOT EXCEED 12mm.
- 7. MASONRY BRICK WORK UNITS TO BE TYPE PR (PROTECTED) AS SPECIFIED IN AS3700.
- 8. WHERE WALLS ARE NON-LOAD BEARING AT EITHER HORIZONTAL OR VERTICAL FACES THEY SHALL BE SEPARATED FROM CONCRETE OR BRICKWORK BY 10mm THICK CAFFE.
- 9. MASONRY WALLS TO BE TIED TO STRUCTURAL STEEL MEMBERS WITH APPROVED METAL TIES SPACED AT 450mm HORIZONTALLY AND 600mm VERTICALLY. TIES TO BE RIGIDLY ATTACHED TO MEMBERS. TIES TO BE EMBEDDED 50mm INTO MASONRY UNITS. TIES AT THE TOP TO BE HALF THE HORIZONTAL SPACING.
- 8. MASONRY WALLS TIES TO BE OF TYPE - R2, MEDIUM DUTY. WALL TIES TO COMPLY WITH AS2699.
- 9. FACE FIXED VENEER TIES TO BE SCREW FIXED AND NOT NAILED TYPE.
- 10. WALL CAVITY SHALL BE 50mm AND SHALL NOT BE SMALLER THAN 40mm UNLESS NOTED OTHERWISE. CAVITY SHALL BE CLEAN AND CLEAR OF OBSTRUCTIONS.
- 11. MASONRY TO BE BRACED DURING CONSTRUCTION.
- 12. LINTELS TO BE PROPPED DURING CONSTRUCTION.
- 13. RAKING OF JOINTS IS NOT PERMITTED WITHOUT PRIOR APPROVAL FROM THE DESIGN ENGINEER.
- 14. ALL WALLS TO BE KEPT STABLE AT ALL STAGES OF CONSTRUCTION AND NOT BE OVERSTRESSED AT ANY TIME.
- 15. UNLESS NOTED OR SHOWN OTHERWISE ON DRAWINGS THERE ARE TO BE NO CHASES OR RECESSES PERMITTED IN MASONRY WALLS WITHOUT THE PRIOR APPROVAL OF THE DESIGN ENGINEER.

TIMBER FRAMING NOTES

- 1. ALL TIMBER SHALL BE THE BEST QUALITY OF THE SPECIES AND GRADES SPECIFIED, AND SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
- 2. STRUCTURAL TIMBER DESIGN LOADS TO COMPLY WITH AS1170.1 - 'STRUCTURAL ACTIONS'. TIMBER FRAMING SHALL COMPLY WITH AS1684 - 'RESIDENTIAL TIMBER FRAMED CONSTRUCTION' - 1999.
- 3. ALL TIMBER STRESS GRADES NOMINATED SHALL BE IN ACCORDANCE WITH THE RELEVANT CODES AND THE STRUCTURAL QUALITY OF A TIMBER SECTION MEETS THE RELEVANT AUSTRALIAN STANDARD AS1720.
- 4. TIMBER SHALL BE STORED AND STORED AND HANDLED SO AS NOT TO BE DETRIMENTAL TO THEIR PERFORMANCE OR INCUR DAMAGE. REFER TO APPENDIX I OF AS1684.2 - 1999.
- 5. ALL TIMBER SHALL BE DRY AND HAVE LESS THAN 15% MOISTURE CONTENT AT THE TIME OF CONSTRUCTION AND SHALL BE PROTECTED AND OR TREATED AS NOTED.
- 6. TIMBER SHALL BE STRAIGHT, SOUND, WELL SEASONED, FREE FROM SIGNIFICANT DEFECTS INCLUDING WHITE ANT, BORER, SAP, LOOSE KNOTS, WARP, TWIST, FRACTURES AND HOLES.
- 7. TIMBER IN CONTACT WITH THE GROUND TO BE DURABILITY CLASS 1 AS DEFINED IN AS1684, APPENDIX A.
- 8. ALL TIMBER BEAMS AND LINTELS ARE TO BEAR ON DOUBLE STUDS, UNLESS NOTED OTHERWISE.
- 9. BEAMS AND STUDS HAVING MORE THAN 1 MEMBER SHALL BE NAIL LAMINATED TOGETHER IN ACCORDANCE WITH AS1684 - 1999.
- 10. ALL EXPOSED TIMBER OR MEMBERS IN POORLY VENTILATED AREAS TO BE DURABILITY CLASS 2 AS DEFINED IN AS1684 APPENDIX A.
- 11. ALL EXPOSED OR EXTERNAL TIMBER TO BE TREATED IN ACCORDANCE WITH THE RELEVANT REQUIREMENTS.
- 12. SIZES NOMINATED FOR UNSEASONED TIMBER TO BE NOT LESS THAN THE NOMINAL SIZE BY 3mm FOR F8 OBHW AND 4mm FOR F1 RS OREGAN.
- 13. SIZES NOMINATED FOR KILN DRIED TIMBER TO BE THE MINIMUM AS SUPPLIED SIZE.
- 14. WHERE TIMBER IS SPECIFIED AS DRESSED THE SIZE SHALL NOT BE LESS THAN 3mm LESS THAN THE CORRECT SAWN SIZE.
- 15. WHERE TIMBER IS SPECIFIED AS DRESSED THE SIZE SHALL NOT BE LESS THAN 3mm LESS THAN THE CORRECT SAWN SIZE.
- 16. NAILS TO COMPLY WITH AS2334 AND DRIVEN BY HAND OR BY GUN. MINIMUM NAIL DIAMETER TO BE 3.75mm FOR PINE AND OREGON AND 3.15mm FOR HARDWOOD.
- 17. MINIMUM NAIL PENETRATIONS INTO THE RECEIVING TIMBER TO BE:
 - 17.1. 10 TIMES THE NAIL DIAMETER WHERE DRIVEN INTO THE SIDE GRAIN
 - 17.2. 15 TIMES THE NAIL DIAMETER WHEN DRIVEN INTO THE END GRAIN

WALL BRACING NOTES

- 1. BUILDING BRACING TO BUILDERS/CONTRACTORS SPECIFICATION TO BE INSTALLED IN ACCORDANCE WITH AS1684 FOR WIND CATEGORY N2.
- 2. WALL BRACING TO BE INSTALLED IN ACCORDANCE WITH AS1684 AUSTRALIAN STANDARDS. REFER TO THE MINIMUM WALL BRACING TYPES (WB1, AND 2) FOR CONSTRUCTION DETAILS.
- 3. FOR SINGLE OR UPPER STOREY CONSTRUCTION, THE MAXIMUM DISTANCE BETWEEN BRACED WALLS AT RIGHT ANGLES TO THE BUILDING LENGTH OR WIDTH SHALL NOT EXCEED 9m FOR WIND CLASSIFICATION UP TO N2.
- 4. BRACING SHALL INITIALLY BE PLACED IN EXTERNAL WALLS AND WHERE POSSIBLE AT THE CORNERS OF THE BUILDING. REMAINING BRACING SHALL THEN BE EVENLY DISTRIBUTED THROUGHOUT THE INTERNAL WALLS.
- 5. MINIMUM LENGTH OF PLYWOOD BRACING TO BE 900mm (WB2).
- 6. THE BRACING SHOWN ON THE PLAN (IF ANY) IS A MINIMUM ONLY IN THAT PARTICULAR SECTION OF WALL. THE REMAINDER OF BRACING UNITS TO BE COMPLETED BY THE BUILDER/CONTRACTOR.

FRAMING MEMBERS (U.N.D)

STUDS:

- 1. UPPER/SINGLE STOREY:
 - 1.1. 90x35 MGP10 AT 450 MAX CENTERS
 - 1.2. NOTCHED 20mm FOR BRACING (MAX. HEIGHT 2700mm)
 - 1.3. 90x45 MGP10 AT 450mm MAX CENTERS (HEIGHT 2700-3000mm)
- 2. LOWER STOREY:
 - 2.1. 90x35 MGP10 AT 450 MAX CENTERS
 - 2.2. NOTCHED 20mm FOR BRACING (MAX. HEIGHT 2700mm)
 - 2.3. 90x45 MGP10 AT 450mm MAX CENTERS (HEIGHT 2700-3000mm)
 - 2.4. 90x45 F17 KD HW AT 450mm MAX CENTERS (MAX. HEIGHT 3700mm)
- 2. FIX END STUD WALLS TO MASONRY WALLS WITH M10 DYNABOLT AT TOP, BOTTOM AND 1500mm MAX CENTERS (TYP)

WALL PLATES:

- 1. UPPER STOREY:
 - 1.1. TOP PLATE - 45x90 MGP10 NO TRENCHED
 - 1.2. BOTTOM PLATE - 45x90 MGP10 NO TRENCHED
- 2. LOWER STOREY:
 - 2.1. TOP PLATE - 2/45x90 MGP10 NO TRENCHED
 - 2.2. BOTTOM PLATE - 45x90 MGP10 NO TRENCHED
 - 2.3. FIXED TO SLAB WITH M10 DYNABOLTS AT 900mm MAX CENTERS
- 3. PROVIDE DOUBLE TOP PLATES IF SUPPORTING TILED ROOF TRUSS

STUDS AT SIDE OPENINGS:

- 1. OPENING WIDTH
 - 1.1. UP TO 1200mm - 1/90x45 MGP10 STUD
 - 1.2. 1200mm TO 1800mm - 2/90x45 MGP10 STUD
 - 1.3. 1800mm TO 2400mm - 2/90x45 MGP10 STUD

MINIMUM FIXING REQUIREMENTS FOR SHEET ROOF STRUCTURES:

- 1. REFER TO AS1684.2 - 'RESIDENTIAL TIMBER FRAMING CONSTRUCTION MANUAL' - 2006 FOR TYPICAL FIXING REQUIREMENTS
- 1. FOR FIXING OF STRUCTURES IN AREAS SUBJECT TO REFLECTIVELY HIGH WINDS. REFER TO AS1684.2 - 'RESIDENTIAL TIMBER FRAMING CONSTRUCTION MANUAL' - 2006, ADDITIONAL FIXING REQUIREMENTS

MINIMUM FIXING REQUIREMENTS FOR SHEET ROOF STRUCTURES:	
JOINT/MEMBER	FIXING DETAILS
RAFTER AND PURLINS	METAL STRAPS, APPROVED FRAMING ANCHORS OR EQUIVALENT SHALL BE USED TO TIE RAFTERS TO TOP WALL PLATES AND TOP WALL PLATES TO STUDS (OR RAFTERS DIRECTLY TO STUDS) WITH A MINIMUM OF 300mm x 3.5mm DIAMETER NAILS OR CLOUTS INTO THE SIDE GRAIN ON EACH MEMBER. MAXIMUM SPACING OF FASTENINGS SHALL BE 1800mm OR THREE STUD SPACINGS, WHICHEVER IS THE LESSER.
LARGE SPAN ROOF (TRUSSES OR ROOF BEAMS > 6m)	AS FOR RAFTERS AND PURLINS. SPACING OF FASTENINGS SHALL NOT EXCEED THE SPACING OF THE ROOF MEMBER

CLIENT:

ARCHITECTURAL DESIGNS
17 ASSEMBLY DRIVE,
TULLAMARINE VIC

JOB NO: AD/2016/BULEEN

WB CIVIL STRUCTURAL
ENGINEERS & BUILDERS

ABN: 84119322436
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REGISTERED ENGINEER
REGISTERED BUILDER
VICTORIAN BUILDING AUTHORITY

PRIYAN WIJEYERATNE
EC 19060, D-BU 22220
M.I.E.(AUST), C.P.ENG.
M.Eng(Struct), M.Tech.(Mgt), BSc(Civil)

PROJECT:

SLAB RE-DESIGN
(WAFFLE)

PROJECT ADDRESS:
8, Maringa Street, Bulleen
VIC 3105

SHEET NO: 9/19

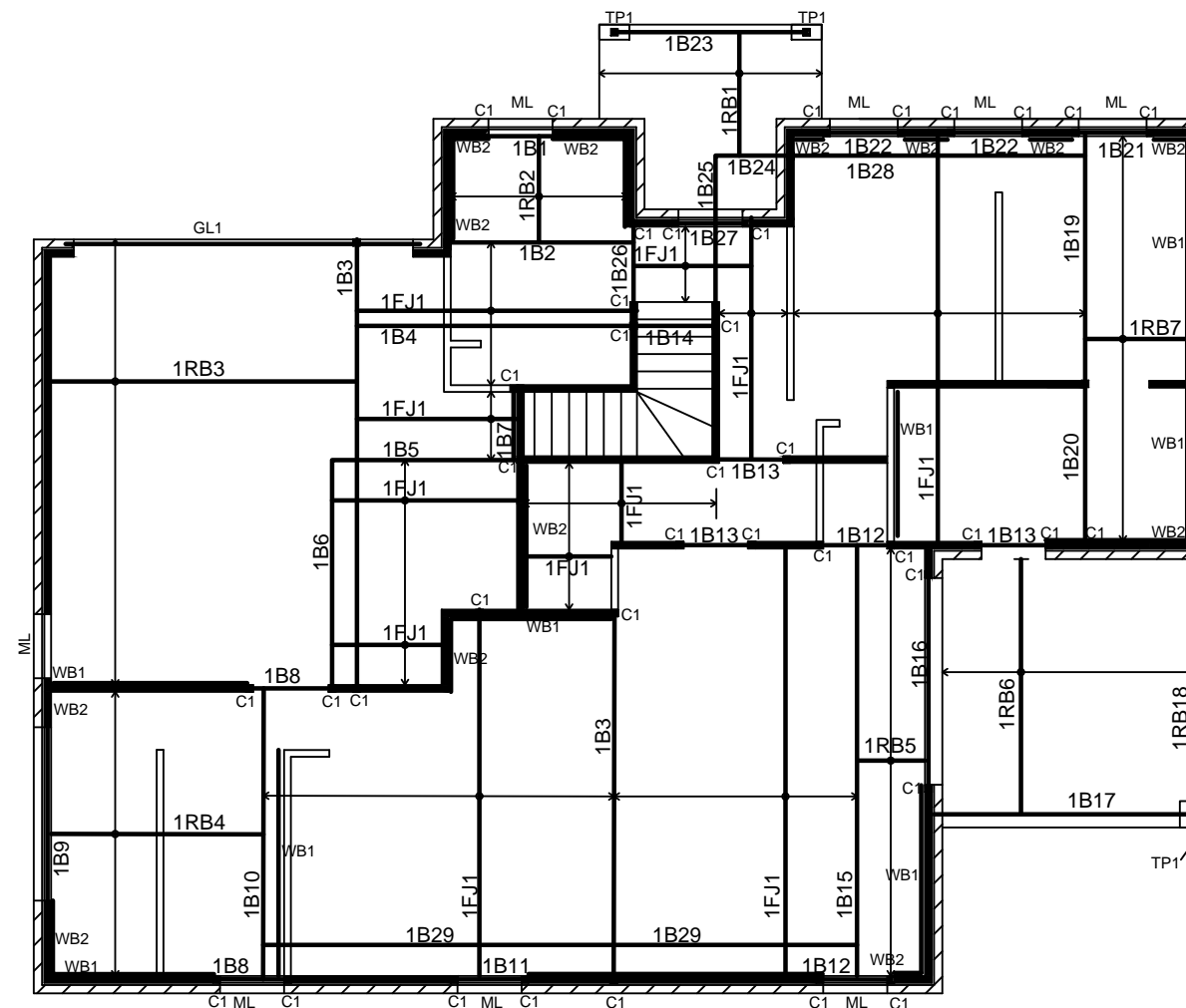
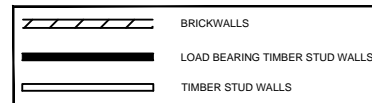
SCALE: AS SHOWN

DATE: 20/04/2016



NOTES

1. PROVIDE SOLID BLOCKING (45WX25D) SECURELY NAILED TO JOISTS/RAFTERS AT 1200 MAX CENTRES.
2. ALL BEAMS, BRICK/BLOCK WORK LINTELKS TO HAVE 150MM MIN. END BEARING.
3. WATERPROOFING TO ARCHITECTS DEATAILS
4. ALL TIMBER FRAMING AND BRACING NOT SHOWN SHALL COMFORM TO AS 1684 – TIMBER FRAMING MANUAL.
5. PROVIDE A MINIMUM OF 2/90X45 MGP 10 PINE STUDS BELOW END OF ALL LINTELS, ROOF & FLOOR BEAMS AND AT SIDES OF ALL WINDOW OPENINGS UNO.
6. PROVIDE A MIN. OF 2/90X45 MGP 10 PINE UNDER ALL GIRDER TRUSSES UNO.
7. BUILDER TO PROVIDE 1/M10 4.6/S GRADE BOLT/NUTS OR EQUIVALENT IMPACT FASTENERS TO ALL STEEL POSTS TO EACH ADJECENT WALL FRAMING STUDS TOP AND BOTTOM AT NOGGIN CENTRES (1/3 POINTS).
8. TRUSSES TO INSTALL TO MANUFACTURERS SPECIFICATIONS.
9. PROVIDE LINTELS TO EACH MASONRY LEAF.
10. SET ANGLES WITH LONG LEG VERTICAL
11. EQUIVALENT TIMBER GRADES CAN BE USED TO REPLACE THE GRADES SPECIFIED.
12. FLOOR JOISTS MANUFACTURER TO DESIGN JOISTS TO SUSTAIN LOAD-BEARING WALLS IN BOTH DIRECTION, IF UNABLE TO DO SO, INFORM THE STRUCTURAL ENGINEER.



UNIT 1 - FIRST FLOOR FRAMING PLAN 1 : 100
UNIT 1 - GROUND STOREY WALL BRACING PLAN 1 : 100

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17 ASSEMBLY DRIVE,
TULLAMARINE VIC

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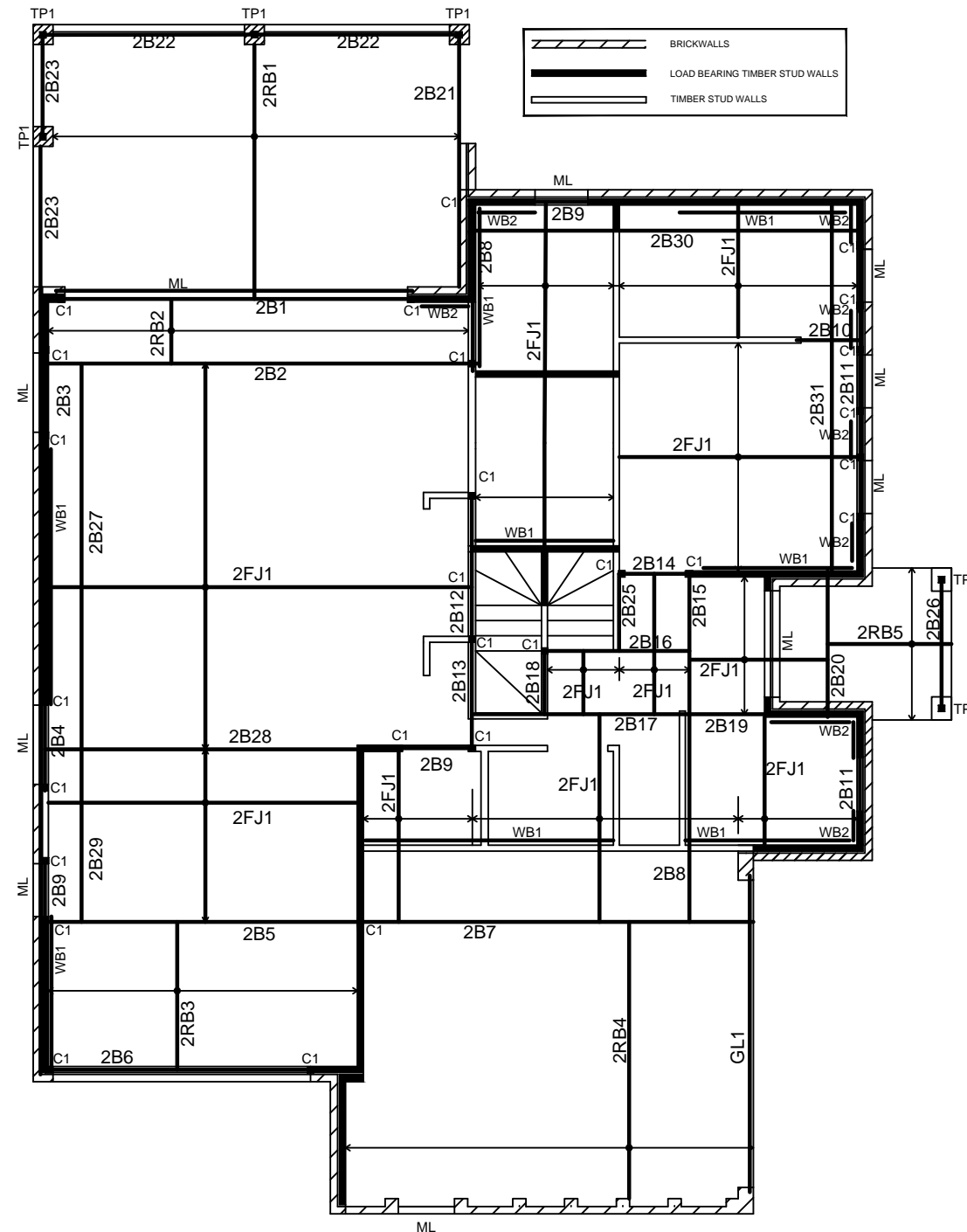
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VIC 3105

SHEET NO: 10/19

SCALE: AS SHOWN

DATE: 20/04/2016





NOTES

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2. ALL BEAMS, BRICK/BLOCK WORK LINTELKS TO HAVE 150MM MIN. END BEARING.
3. WATERPROOFING TO ARCHITECTS DETAILS
4. ALL TIMBER FRAMING AND BRACING NOT SHOWN SHALL COMFORM TO AS 1684 – TIMBER FRAMING MANUAL.
5. PROVIDE A MINIMUM OF 2/90X45 MGP 10 PINE STUDS BELOW END OF ALL LINTELS, ROOF & FLOOR BEAMS AND AT SIDES OF ALL WINDOW OPENINGS UNO.
6. PROVIDE A MIN. OF 2/90X45 MGP 10 PINE UNDER ALL GIRDER TRUSSES UNO.
7. BUILDER TO PROVIDE 1/M10 4.6/S GRADE BOLT/NUTS OR EQUIVALENT IMPACT FASTENERS TO ALL STEEL POSTS TO EACH ADJECENT WALL FRAMING STUDS TOP AND BOTTOM AT NOGGIN CENTRES (1/3 POINTS).
8. TRUSSES TO INSTALL TO MANUFACTURERS SPECIFICATIONS.
9. PROVIDE LINTELS TO EACH MASONRY LEAF.
10. SET ANGLES WITH LONG LEG VERTICAL
11. EQUIVALENT TIMBER GRADES CAN BE USED TO REPLACE THE GRADES SPECIFIED.
12. FLOOR JOISTS MANUFACTURER TO DESIGN JOISTS TO SUSTAIN LOAD-BEARING WALLS IN BOTH DIRECTION, IF UNABLE TO DO SO, INFORM THE STRUCTURAL ENGINEER.

UNIT 2 - FIRST FLOOR FRAMING PLAN NTS

UNIT 2 - UPPER STOREY WALL BRACING PLAN NTS

CLIENT:

ARCHITECTURAL DESIGNS
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TULLAMARINE VIC

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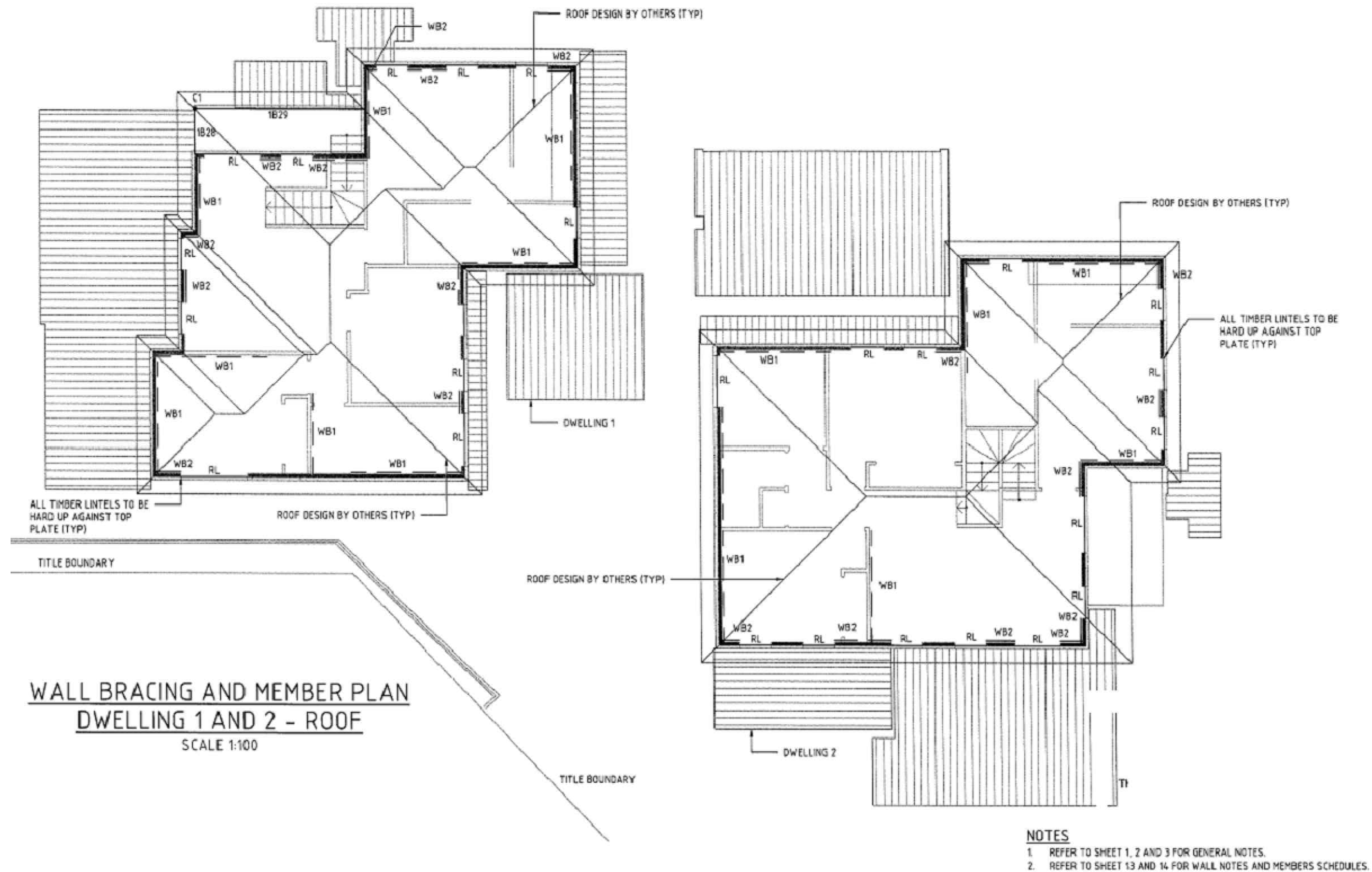
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PROJECT ADDRESS:
8, Maringa Street, Bulleen
VIC 3105

SHEET NO: 12/19

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DATE: 20/04/2016



MEMBER SCHEDULE - DWELLING 1		
MARK	SECTION	REMARKS
GL1	300X90 PFC + 200X10 HPLATE	5m MAX SPAN, 6 CFW 300 FROM ENDS, THEN HIT/MISS 150 MIN END BEARING
C1	89X6 SHS	3.0m MAX SPAN
TP1	100X100 ORIGIN F8	3.0m MAX SPAN
1B1	90X35 MGP 10	1.0m MAX SPAN
1B2	190X45 F17 KDHW OR 240X44 HYNE LGL	2.6m MAX SPAN
1B3	310UB 32.0	6.0m MAX SPAN
1B4	310UB 32.0	4.6m MAX SPAN
1B5	250X90 PFC	2.4m MAX SPAN, 0.4 MAX CANTILEVER
1B6	2/240X45 F17 KDHW OR 300X85 HYNE LGL	2.7m MAX SPAN
1B7	300X44 HYNE LGL	1.2m MAX SPAN
1B8	150X75 PFC	1.2m MAX SPAN
1B9	240X45 F17 KDHW OR 300X44 HYNE LGL	2.5m MAX SPAN
1B10	250X90 PFC	4.6m MAX SPAN
1B11	140X45 F17 KDHW OR 170X44 HYNE LGL	1.0m MAX SPAN
1B12	140X45 F17 KDHW OR 170X44 HYNE LGL	1.0m MAX SPAN
1B13	140X45 F17 KDHW OR 170X44 HYNE LGL	1.0m MAX SPAN
1B14	140X45 F17 KDHW	1.0m MAX SPAN
1B15	300X90 PFC	6.0m MAX SPAN
1B16	240X45 F17 KDHW OR 240X44 HYNE LGL	2.9m MAX SPAN
1B17	240X45 F17 KDHW OR 300X44 HYNE LGL	3.6m MAX SPAN
1B18	190X45 F17 KDHW OR 300X44 HYNE LGL	3.6m MAX SPAN
1B19	2/300X65 HYNE LGL OR 295X85 HYNE LGL	3.8m MAX LGL
1B20	240X45 F17 KDHW OR 240X44 HYNE LGL	2.2m MAX SPAN
1B21	190X45 F17 KDHW OR 200X44 HYNE LGL	1.0m MAX SPAN
1B22	190X45 F17 KDHW OR 170X44 HYNE LGL	1.0m MAX SPAN
1B23	190X45 F17 KDHW OR 200X44 HYNE LGL	2.8m MAX SPAN
1B24	240X45 F17 KDHW OR 240X44 HYNE LGL	1.0m MAX SPAN
1B25	2/240X45 F17 KDHW	2.5m MAX SPAN, 0.7m CANTILEVER
1B26	190X35 F17 KDHW OR 200X44 HYNE LGL	1.0m MAX SPAN
1B27	2/190X45 F17 KDHW OR 200X44 HYNE LGL	1.2m MAX SPAN
1B28	240X45 F17 KDHW OR 240X44 HYNE LGL	4.0m MAX SPAN
1B29	31UB 32.3	5.0m MAX SPAN
FJ1	300 DEEP F17 KDHW JOISTS	AT 450mm MAX C/C MANUFACTURERS SPECIFICATIONS

MEMBER SCHEDULE - DWELLING 2		
MARK	SECTION	REMARKS
GL1	300 PFC + 200X10 HORIZONTAL PLATE	5m MAX SPAN, 6 CFW 300 FROM ENDS, THEN HIT/MISS 150 MIN END BEARING
C1	89X6 SHS	3m MAX HEIGHT
TP1	100X100 OREGON F8	3m MAX HEIGHT
2B1	250X90 PFC	5.5m MAX SPAN
2B2	300 PFC + 200X10 HORIZONTAL PLATE	7.0m MAX SPAN
2B3	300 PFC + 200X10 HORIZONTAL PLATE	1.3 MAX SPAN
2B4	150X75 PFC	1.5m MAX SPAN
2B5	300 PFC + 200X10 HORIZONTAL PLATE	5.6m MAX SPAN
2B6	170X45 F17 KDHW OR 200X44 HYNE LGL	4.2m MAX SPAN
2B7	310 UB 32.0	6.1m MAX SPAN
2B8	2/240X85 HYNE OR 260X85 HYNE LGL	3.3m MAX SPAN
2B9	190X45 F17 KDHW OR 200X44 HYNE LGL	1.0m MAX SPAN
2B10	190X45 F17 KDHW OR 200X44 HYNE LGL	1.0m MAX SPAN
2B11	250X90 PFC	4.3m MAX SPAN
2B12	2/220X45 F17 KDHW OR 200X44 HYNE LGL	2.2m MAX SPAN
2B13	240X45 F17 KDHW OR 300X85 HYNE LGL	1.7m MAX SPAN
2B14	120X35 F17 KDHW OR 130X44 HYNE LGL	1.2m MAX SPAN
2B15	240X45 F17 KDHW OR 200X85 HYNE LGL	1.7 MAX SPAN
2B16	190X45 F17 KDHW OR 200X44 HYNE LGL	2.3m MAX SPAN
2B17	2/240X45 F17 KDHW OR 300X85 HYNE LGL	3.1m MAX SPAN
2B18	120X35 F17 KDHW OR 130X44 HYNE LGL	1.0m MAX SPAN
2B19	2/240X35 F17 KDHW OR 300X85 HYNE LGL	1.6m MAX SPAN
2B20	2/300X42 LVL15	2.0m MAX SPAN
2B21	190X45 F17 KDHW OR 200X44 HYNE LGL	4.1m MAX SPAN
2B22	240X45 F17 KDHW OR 300X44 HYNE LGL	3.3m MAX SPAN
2B23	190X45 F17 KDHW OR 200X44 HYNE LGL	3.3m MAX SPAN
2B24	250X90 PFC	2.2m MAX SPAN
2B25	120X35 MGP 10 OR 90X35 F17 KDHW	0.7m MAX SPAN
2B26	140X45 F17 KDHW OR 150X44 HYNE LGL	2.1m MAX SPAN
2B27	300 PFC + 200X10 HORIZONTAL PLATE	7.0m MAX SPAN
2B28	300 PFC + 200X10 HORIZONTAL PLATE	7.0m MAX SPAN
2B29	300 PFC + 200X10 HORIZONTAL PLATE	7.0m MAX SPAN
2B30	300 PFC + 200X10 HORIZONTAL PLATE	7.0m MAX SPAN
2B31	300 PFC + 200X10 HORIZONTAL PLATE	7.0m MAX SPAN
2FJ2	300 DEEP JOISTS	AT 450mm MAX C/C MANUFACTURERS SPECIFICATIONS

MEMBER ROOF SCHEDULE - DWELLING 1		
MARK	SECTION	REMARKS/COMMENTS
1RB1	140X45 F17 KDHW OR 150X44 HYNE LGL	2.4m MAX SPAN AT 600 MAX CENTRES
1RB2	140X45 F17 KDHW OR 130X44 HYNE LGL	1.7m MAX SPAN AT 600 MAX CENTRES
1RB3	240X45 F17 KDHW OR 200X44 HYNE LGL	4.5m MAX SPAN AT 600 MAX CENTRES
1RB4	190X45 F17 KDHW OR 170X44 HYNE LGL	3.3m MAX SPAN AT 600 MAX CENTRES
1RB5	140X45 MGP 10 OR 90X35 F17 KDHW	1.0m MAX SPAN AT 600 MAX CENTRES
1RB6	190X45 F17 KDHW OR 170X44 HYNE LGL	3.7m MAX SPAN AT 600 MAX CENTRES
1RB7	10X45 F17 KDHW OR 130X44 HYNE LGL	1.7m MAX SPAN AT 600 MAX CENTRES

MEMBER ROOF SCHEDULE - DWELLING 2		
MARK	SECTION	REMARKS/COMMENTS
2RB1	240X45 F17 KDHW OR 200X44 HYNE LGL	4.2m MAX SPAN AT 600 MAX CENTRES
2RB2	140X45 MGP 10 OR 90X35 F17 KDHW	1.2m MAX SPAN AT 600 MAX CENTRES
2RB3	240X45 F17 KDHW OR 200X44 HYNE LGL	4.7m MAX SPAN AT 600 MAX CENTRES
2RB4	240X45 F17 KDHW OR 240X44 HYNE LGL	5.1m MAX SPAN AT 600 MAX CENTRES
2RB5	140X45 F17 KDHW OR 130X44 HYNE LGL	1.9m MAX SPAN AT 600 MAX CENTRES

TIMBER ROOF LINTELS	
SPAN (mm)	SECTION
0-1200	2/120X35 MGP10
1200-1750	2/190X35 MGP10
1750-2400	240X45 F17 KDHW
2400-2950	2/240X45 F17 KDHW

MASONRY ANGLE LINTEL SCHEDULE		
SPAN (mm)	SECTION	MIN END BEARING
0-1200	90X8 EA	100
1200-1500	100X8 EA	150
1500-1800	100X12 EA	150
1800-2400	150X90X10 UA	150
2400-3000	150X100X12 UA	230

CLIENT:
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PROJECT:
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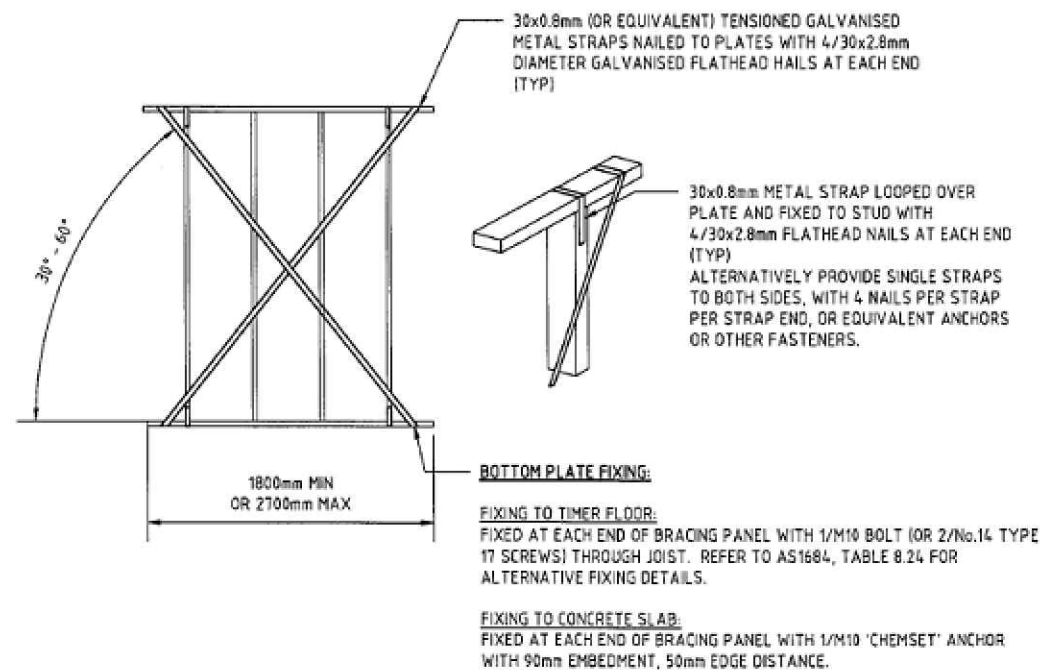
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DATE: 20/04/2016



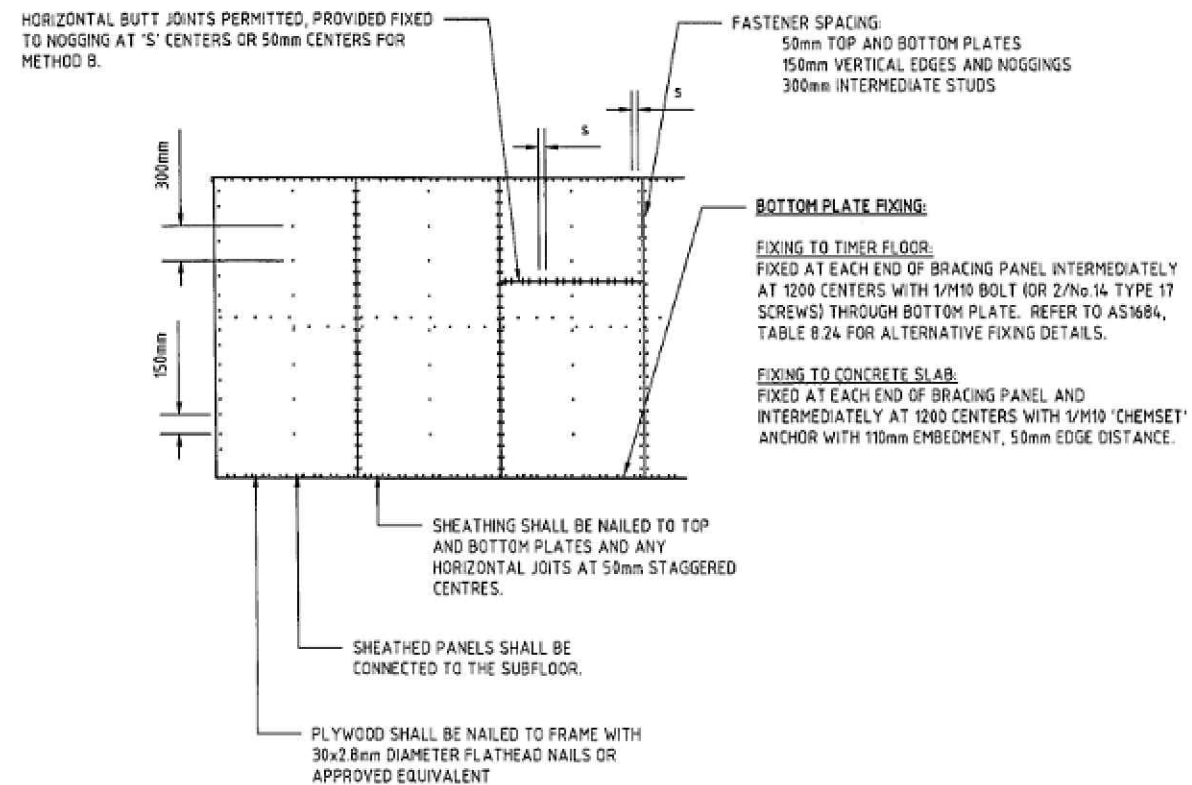
BRACING DETAIL



BRACING WB1 DETAIL

SCALE 1:50

STRAP BRACE - BRACING CAPACITY 3.0kN/m (ULTIMATE)



STRESS GRADE	MINIMUM PLYWOOD THICKNESS (mm)*	
	STUD SPACING (mm)	
	450	600
F8	7	9
F11	6	7
F14	4	6
F27	4	4.5

* - NO NOGGING (EXCEPT HORIZONTAL BUTT JOINTS)

FASTENER SPACING - 'S' (mm)	
ELEMENT	SPACING
TOP AND BOTTOM PLATE: METHOD B	50
VERTICAL EDGE	150
INTERMEDIATE STUD	300

BRACING WB2 DET, IL

SCALE 1:50

PLY BRACE - BRACING CAPACITY 6.0kN/m (ULTIMATE)

NOTES

- REFER TO SHEET 1, 2 AND 3 FOR GENERAL NOTES.
- REFER TO SHEET 10, 12 AND 13 FOR WALL NOTES AND MEMBERS SCHEDULES.

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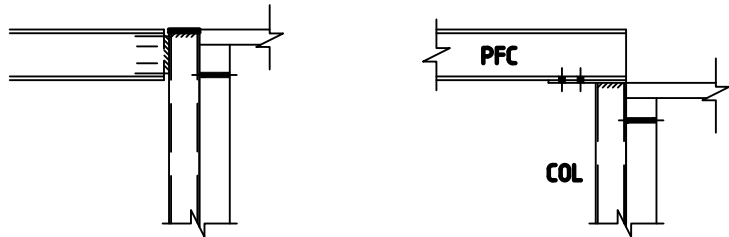
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DATE: 20/04/2016

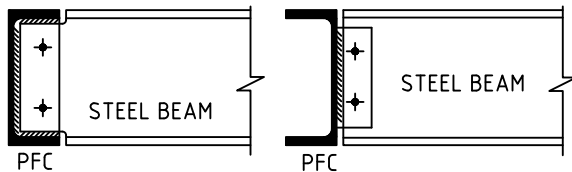


GENERAL DETAIL - 1



STANDARD STEEL BEAM TO COLUMN DETAILS

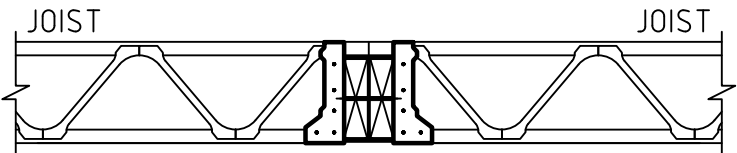
NOTE:
1. DETAILS ARE TO BE USED UNLESS NOTED OTHERWISE ON THE DRAWINGS TYPICAL
2. TOP PLATE LOCATION IS INDICATIVE ONLY



BEAM CONNECTION DETAILS		
MEMBER SIZE	BOLTS REQUIRED	CLEAT PLATE THICKNESS
UPTO 200UB/PFC	2-M16 8.8/S BOLTS	10mm
UPTO 250UB/PFC	2-M16 8.8/S BOLTS	10mm
UPTO 360UB/PFC	3-M20 8.8/S BOLTS	10mm
NOTE: TYPICAL FOR ALL CONNECTIONS (U.N.O. ON DETAILS).		

STEEL BEAM TO STEEL BEAM CONNECTION DETAILS

SCALE : NTS

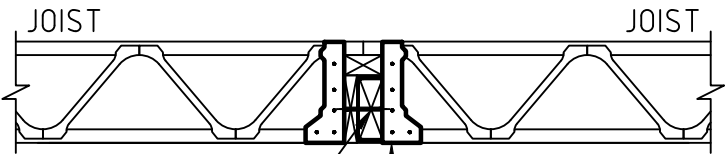


TIMBER NAILING PLATE
1-M10 BOLT AT 450 CRS.

PROVIDE PRYDA JOIST
HANGER CONNECTORS OR
EQUIVALENT, FOR
CONNECTION OF JOISTS TO
NAILING PLATE.

FLOOR JOISTS TO STEEL BEAM CONNECTION DETAIL

SCALE 1:20



TIMBER NAILING PLATE
1-M10 BOLT AT 450 CRS.

PROVIDE PRYDA JOIST
HANGER CONNECTORS OR
EQUIVALENT, FOR
CONNECTION OF JOISTS TO
NAILING PLATE.

FLOOR JOISTS TO STEEL BEAM CONNECTION DETAIL

SCALE NTS

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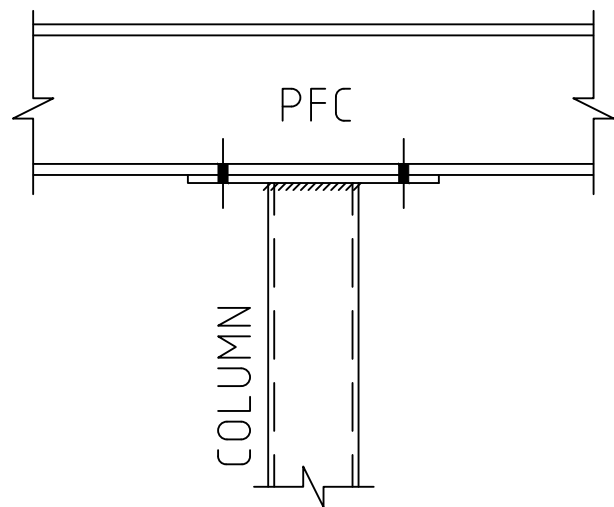
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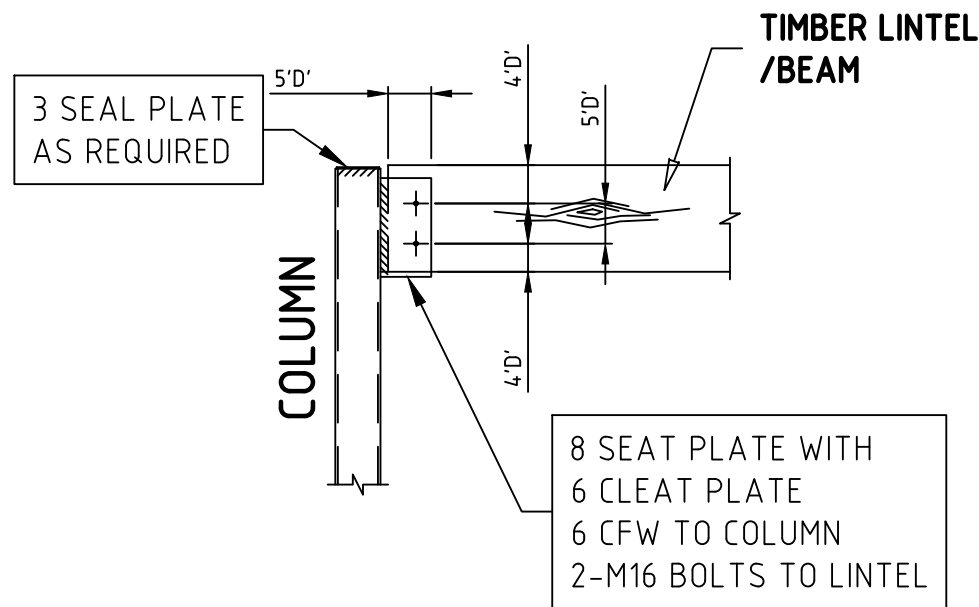
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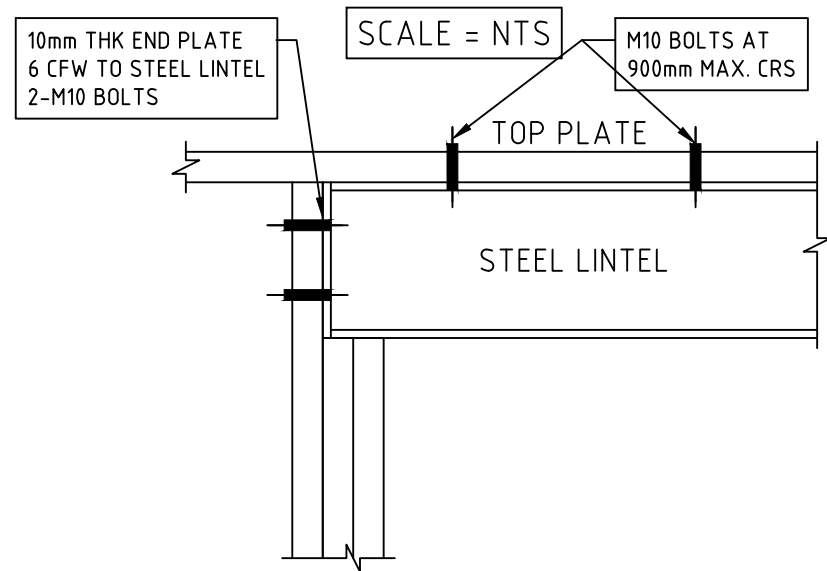
GENERAL DETAIL - 2



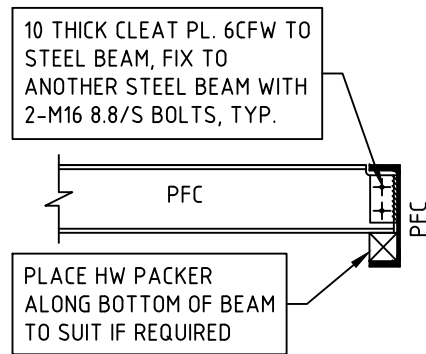
TYPICAL STEEL BEAM TO
STEEL COLUMN DETAIL



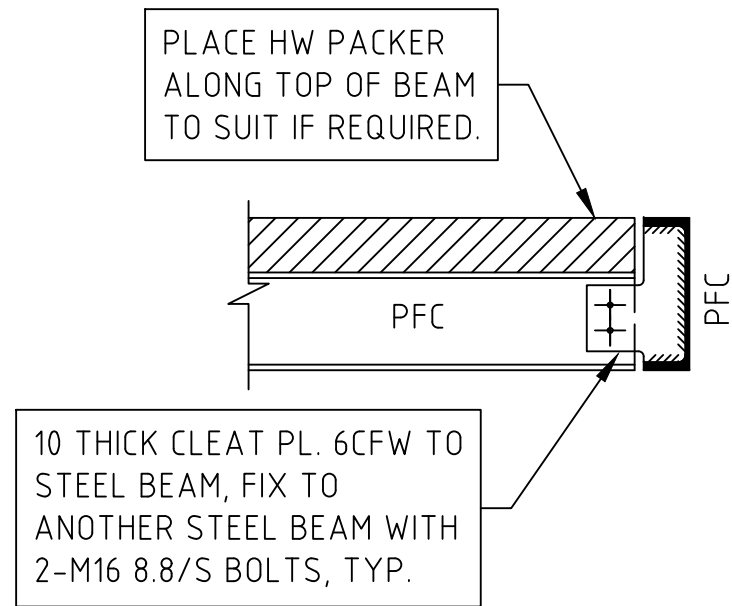
NOTE 'D' DENOTES BOLT DIAMETER
TYPICAL TIMBER BEAM/LINTEL TO
COLUMN CONNECTION DETAIL
SCALE: NTS



TYPICAL STEEL LINTEL TO
DOUBLE STUD DETAIL
SCALE = NTS



TYPICAL STEEL BEAM TO
STEEL BEAM DETAIL



TYPICAL STEEL BEAM TO
STEEL BEAM DETAIL
SCALE: NTS

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SCALE 1:20
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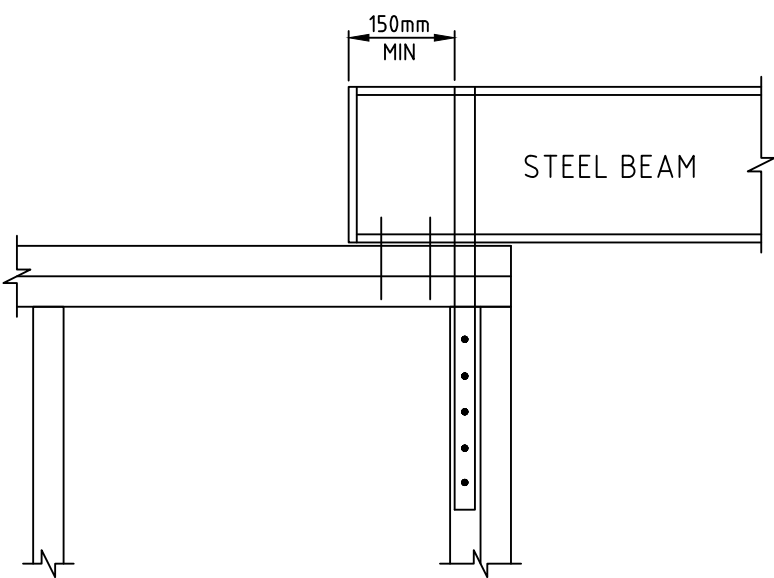
SHEET NO: 16/19

SCALE: AS SHOWN

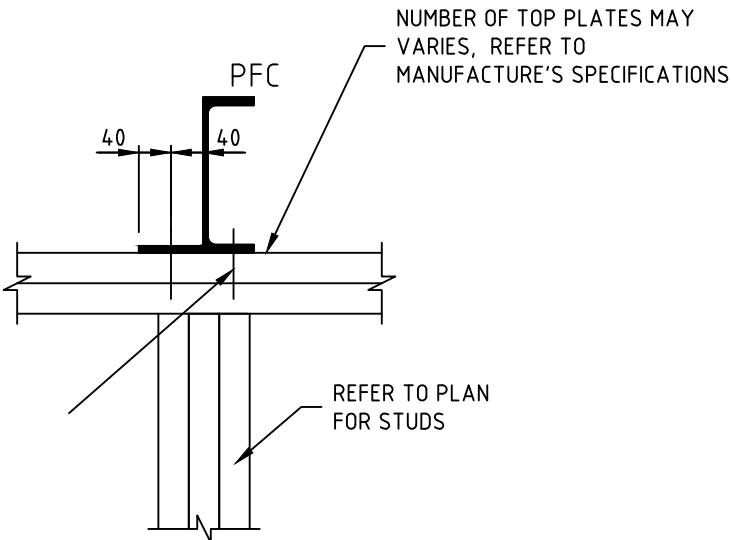
DATE: 20/04/2016



GENERAL DETAIL - 3



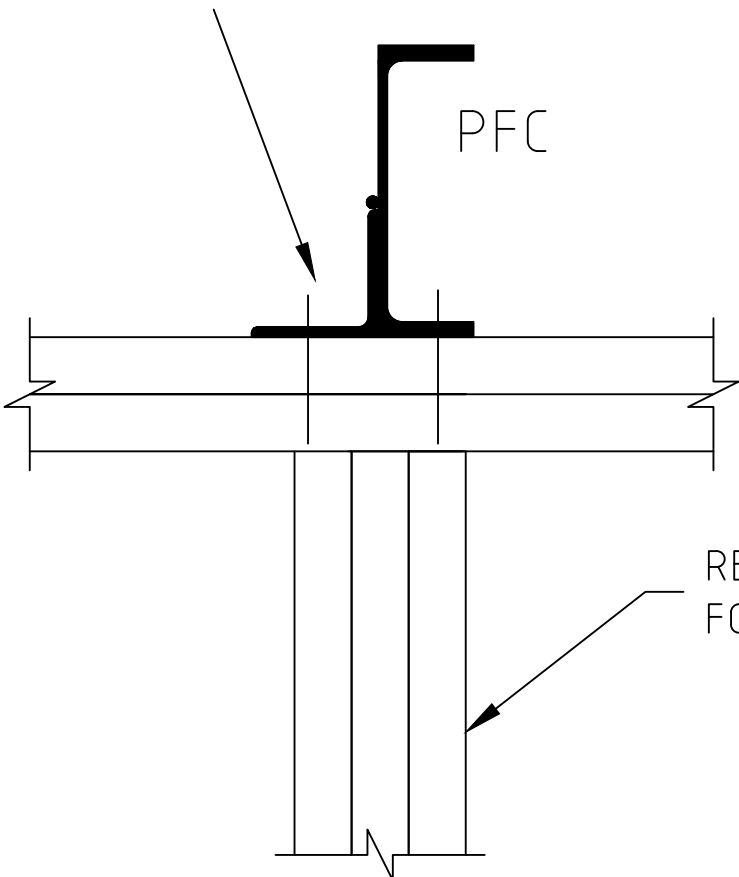
TYPICAL STEEL BEAM TO
DOUBLE STUD DETAIL
SCALE = NTS



TYPICAL PFC PERPENDICULAR
TO DOUBLE TOP PLATE DETAIL
SCALE: NTS

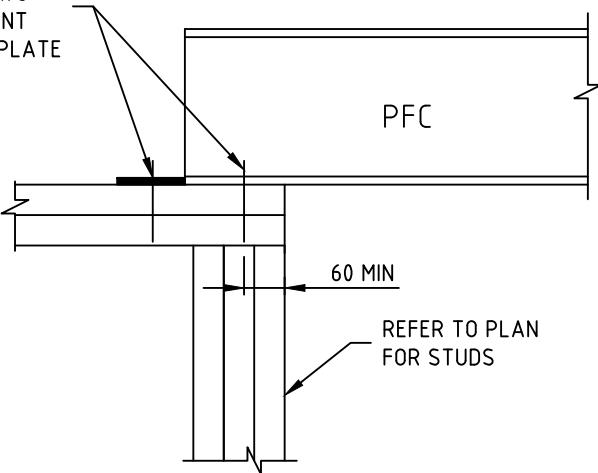
NUMBER OF TOP PLATES MAY
VARIES, REFER TO MANUFACTURE'S
SPECIFICATIONS

100x100x10 EA
6 CFW TO PFC
2-M10 COACH SCREWS
35mm MIN EMBEDMENT
INTO BOTTOM TOP PLATE
MEMBER



TYPICAL PFC PERPENDICULAR
TO TOP PLATE DETAIL
SCALE: NTS

100x75x8 SEAT PLATE
6 CFW TO PFC
2-M10 COACH SCREWS
35mm MIN EMBEDMENT
INTO BOTTOM TOP PLATE
MEMBER



TYPICAL PFC PARALLEL
TO TOP PLATE DETAIL
SCALE: NTS

CLIENT:

ARCHITECTURAL DESIGNS
17 ASSEMBLY DRIVE,
TULLAMARINE VIC

JOB NO: AD/2016/BULEEN

WB CIVIL STRUCTURAL
ENGINEERS

ENGINEERS & BUILDERS
ABN: 84119322436
OFFICE:
NO: 9, NUMERING COURT, MELTON, VIC 3337
Mobile: 0401023328 / Ph: 03 9746 0089
Email: wbcseng@gmail.com

REGISTERED ENGINEER
REGISTERED BUILDER
VICTORIAN BUILDING AUTHORITY

PRIYAN WIJEYERATNE
EC 19060, D-BU 22220
M.I.E.(AUST)., C.P.ENG.
M.Eng(Struct)., M.Tech.(Mgt.), BSc(Civil)

PROJECT:

SLAB RE-DESIGN
(WAFFLE)

PROJECT ADDRESS:
8, Maringa Street, Bulleen
VIC 3105

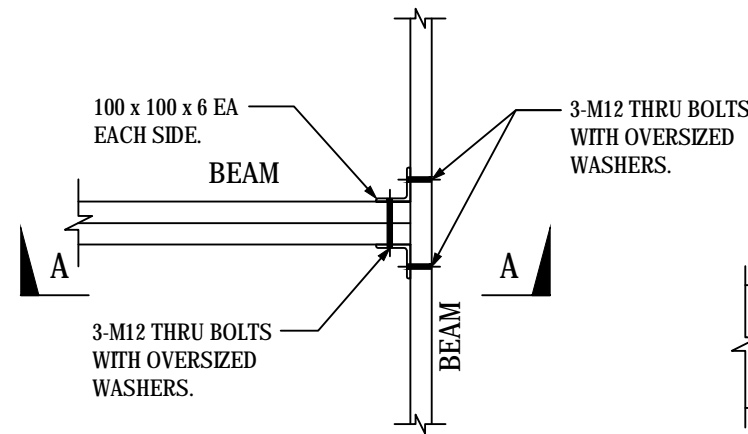
SHEET NO: 17/19

SCALE: AS SHOWN

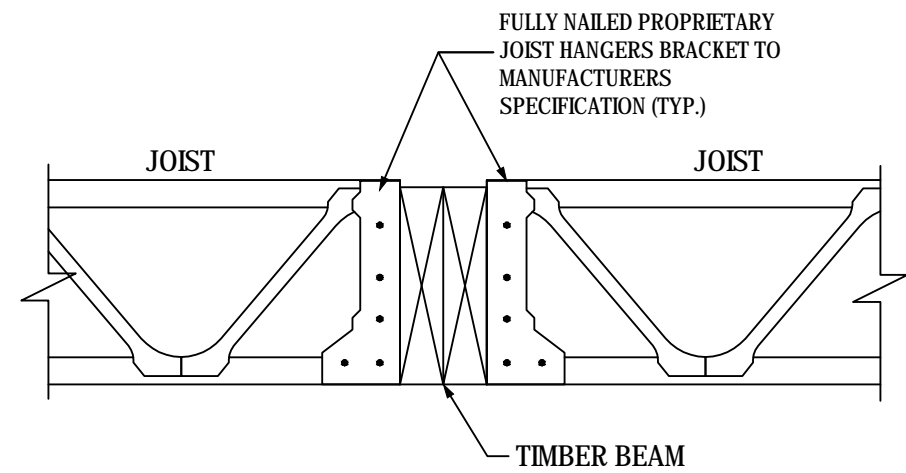
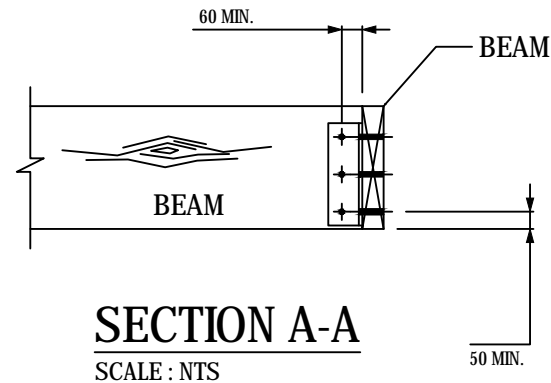
DATE: 20/04/2016



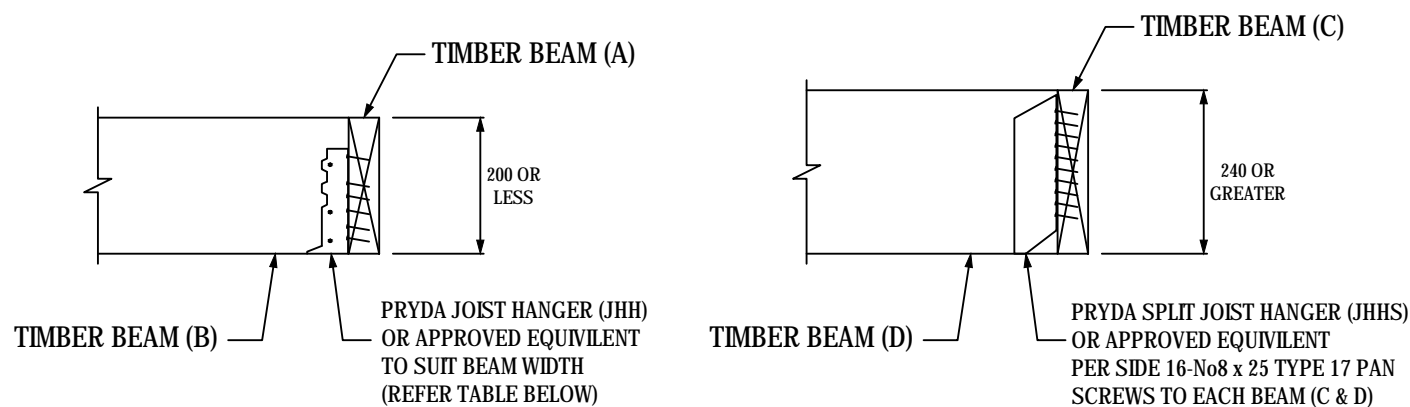
GENERAL DETAIL - 4



TIMBER BEAM TO TIMBER BEAM CONNECTION DETAIL
SCALE: NTS

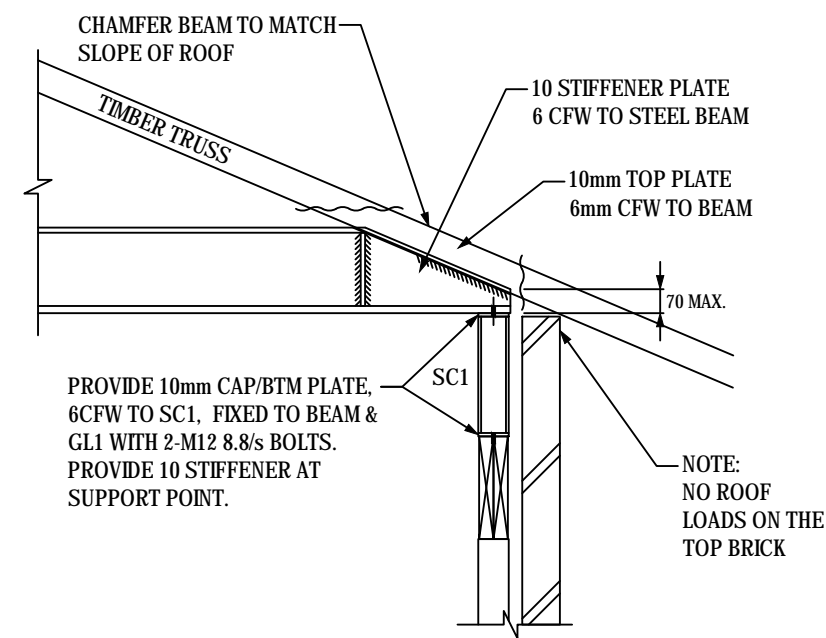


FLOOR JOIST TO TIMBER BEAM CONNECTION DETAIL
SCALE: NTS



BEAM WIDTH (B)	BRACKET	FIXING
63	JHH65	20-No12 x 35 TYPE 17 HEX HEAD SCREWS TO BEAM (A) 16-No12 x 35 TYPE 17 HEX HEAD SCREWS TO BEAM (B)
70	JHH75	20-No12 x 35 TYPE 17 HEX HEAD SCREWS TO BEAM (A) 16-No12 x 35 TYPE 17 HEX HEAD SCREWS TO BEAM (B)
90	JHH100	20-No12 x 35 TYPE 17 HEX HEAD SCREWS TO BEAM (A) 16-No12 x 35 TYPE 17 HEX HEAD SCREWS TO BEAM (B)

ALTRNATIVE TIMBER BEAM TO TIMBER BEAM CONNECTIONS
(FOR PORCH AND / OR ALFRESCO AREAS ONLY)



BEAM/LINTEL TO STUB COLUMN DETAIL (IF REQUIRED)
SCALE: NTS

CLIENT:
ARCHITECTURAL DESIGNS
17 ASSEMBLY DRIVE,
TULLAMARINE VIC

JOB NO: AD/2016/BULEEN

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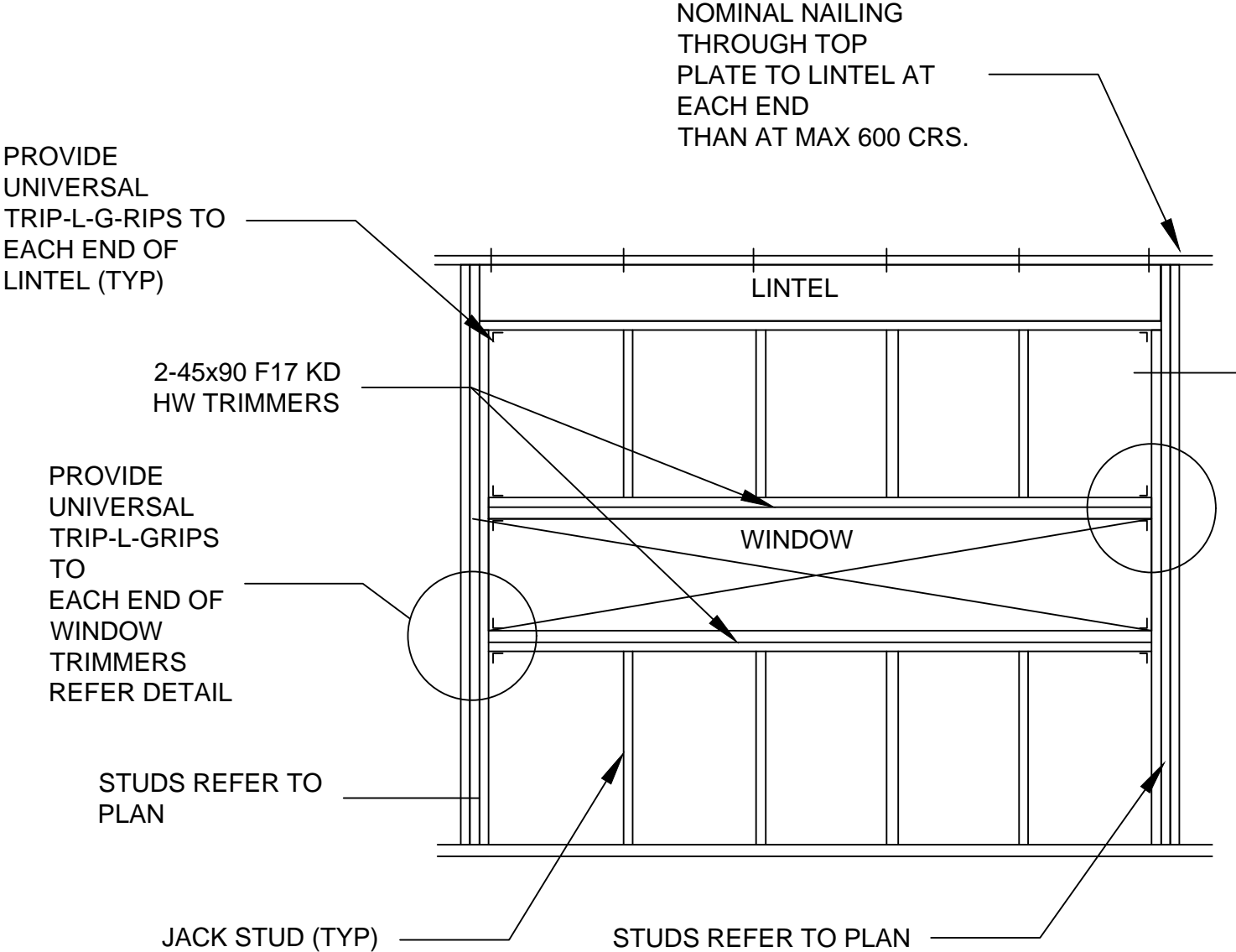
PROJECT:
SLAB RE-DESIGN
(WAFFLE)

PROJECT ADDRESS:
8, Maringa Street, Bulleen
VIC 3105

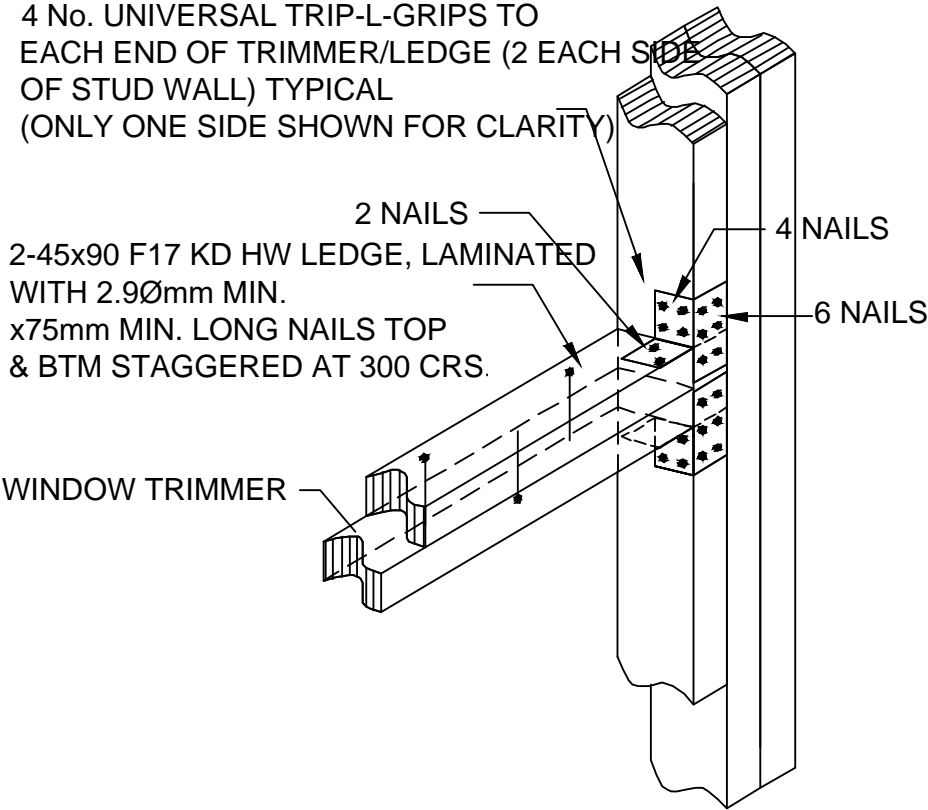
SHEET NO: 18/19

SCALE: AS SHOWN

DATE: 20/04/2016



MID WINDOW TIMBER STUD ELEVATION



TIMBER STUD END CONNECTION