

STRUCTURAL ENGINEERING DESIGN

11 MERRIS STREET, KINGSGROVE, NSW 2208

LIST OF DRAWINGS

SHEET No.	SHEET NAME	REV	DATE
S01	CONSTRUCTION NOTES 01	02	11/06/2025
S02	CONSTRUCTION NOTES 02	02	11/06/2025
S03	FOOTING PLAN	02	11/06/2025
S04	FOOTING SECTIONS & DETAILS	02	11/06/2025
S05	FOOTING SECTIONS & DETAILS	02	11/06/2025
S06	FIRST FLOOR TOP REQ. PLAN	02	11/06/2025
S07	FIRST FLOOR TOP REQ. PLAN	02	11/06/2025
S08	FIRST FLOOR SECTIONS & DETAILS	02	11/06/2025
S09	FIRST FLOOR SECTIONS & DETAILS	02	11/06/2025
S10	ROOF PLAN	02	11/06/2025
S11	TIEDOWN SPECIFICATION	02	11/06/2025
S12	TYPICAL HYJOIST CONNECTION	02	11/06/2025
S13	MULTIPLE MEMBER OF SMARTLVL	02	11/06/2025
S14	TIMBER FRAME FIXING DETAILS	02	11/06/2025
S15	SWIMMING POOL DETAILS	02	11/06/2025

GENERAL

- STRUCTURAL ENGINEERING DRAWINGS ARE ISSUED ON THE UNDERSTANDING THAT THE BUILDER MAINTAINS IN FORCE, PROPER AND ADEQUATE CONTRACT WORKS INSURANCE AND PUBLIC LIABILITY INSURANCE DURING THE FULL COURSE OF THE CONSTRUCTION, AND/OR ANY MAINTENANCE PERIOD. CLAIMS OF DAMAGE TO ANY ADJACENT PROPERTY OF BUILDING IS NOT THE RESPONSIBILITY OF THE ENGINEER.
- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS DRAWINGS AND SPECIFICATION AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ALL DISCREPANCIES SHALL BE REFERRED TO THE ARCHITECT FOR DECISION BEFORE PROCEEDING.
- DURING CONSTRUCTION IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE STRUCTURE IS MAINTAINED IN A SAFE AND STABLE CONDITION AND NO PART IS OVERSTRESSED. TEMPORARY BRACING TO BE PROVIDED BY THE CONTRACTOR AS REQUIRED TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ANY EXCAVATION IN A STABLE CONDITION WITHOUT ADVERSELY AFFECTING SURROUNDING PROPERTY INCLUDING SERVICES. THIS INCLUDES OBTAINING ALL NECESSARY APPROVALS FOR SHORING AND ANCHORING SYSTEMS.
- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT EDITIONS OF THE BCA AND THERE-BY LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITY.
- DIMENSION SHALL NOT BE OBTAINED BY SCALING THE STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR SET OUT PLAN MEASUREMENTS. ANY SET OUT DIMENSIONS SHOWN ON THIS DOCUMENT SHALL BE VERIFIED BY THE BUILDER.
- ANY DISCREPANCIES/ SUBSTITUTION IN THESE DOCUMENTS SHALL BE REFERRED TO THE ENGINEER FOR DECISION BEFORE PROCEEDING.
- 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 5S PROJECTS CONSULTING. ALL PIERS, SLAB AND FOOTING REINFORCEMENT SHALL BE INSPECTED BY THE ENGINEER PRIOR TO THE POURING OF CONCRETE. NOTICE SHALL BE GIVEN AT LEAST 24 HOURS BEFORE INSPECTION.
- UNLESS NOTED OTHERWISE, ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.
- THE STRUCTURAL COMPONENTS DETAILED ON THESE DRAWINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE RELEVANT S.A.A. CODES AND NCC BUILDING CODE OF AUSTRALIA FOR THE FOLLOWING LOADINGS:

ELEMENT	LIVE LOAD (kPa)
STAIRS/STEPS/CORRIDORS	4.0
NON TRAFFICABLE ROOF	0.25
FLOOR LIVE LOAD	1.5
BALCONY	2.0
SUPERIMPOSED	0.5

WIND LOADING HAS BEEN DETERMINED IN ACCORDANCE WITH AS 1170.2 BASED UPON A BASIC WIND VELOCITY OF 46m/s (V_b) AND TERRAIN CATEGORY 3.

OR N2 CLASSIFICATION IN ACCORDANCE WITH AS4055

SITE CLEARANCE & PREPARATION

- STRIP TOPSOIL AND VEGETATION TO A 100mm MINIMUM DEPTH AND STOCKPILE.
- THE SITE IS TO BE BENCHED BY CUT AND FILL TO DESIRED LEVELS.
- ANY FILL USED IN THE CONSTRUCTION OF A SLAB EXCEPT WHERE THE SLAB IS SUSPENDED SHALL CONSIST OF "ROLLED OR CONTROLLED FILL"
- CONTROLLED FILL:
 - SAND FILL UP TO 800mm DEEP - WELL COMPACTED IN LAYERS NOT MORE THAN 300mm DEEP BY VIBRATING PLATE OR VIBRATING ROLLER.
 - CLAY FILL UP TO 400mm DEEP - COMPACTED IN LAYERS OF NOT MORE THAN 150mm BY A MECHANICAL ROLLER.
- ROLLED FILL:
 - SAND FILL UP TO 600mm DEEP - COMPACTED IN LAYERS OF NOT MORE THAN 300mm BY REPEATED ROLLING BY AN EXCAVATOR OR OTHER SUITABLE MECHANICAL EQUIPMENT.
 - CLAY FILL UP TO 300mm DEEP - COMPACTED IN LAYERS OF NOT MORE THAN 150mm BY REPEATED ROLLING BY AN EXCAVATOR OR SIMILAR MACHINE.
- THE FILL IS TO EXTEND PAST THE EDGE OF THE SLAB BY AT LEAST ONE METRE AND SHALL BE BATTERED OFF NOT STEEPER THAN TWO (HORIZONTAL) TO ONE (VERTICAL) OR BY A SUITABLE RETAINING STRUCTURE PROVIDED BY THE OWNER OF BUILDER.
- THE FINISHED LEVELS SHALL ALLOW FOR THE MAIN SLAB TO BE AT LEAST 150mm ABOVE THE ADJACENT GROUND.
- SURFACE DRAINAGE SHALL BE PROVIDED AS REQUIRED TO AVOID THE POSSIBILITY OF WATER PONDING NEAR THE SLAB. A FALL OF 50mm OVER A DISTANCE OF ONE METRE AWAY FROM THE SLAB IS CONSIDERED ADEQUATE. SUBSOIL DRAINS (AGRICULTURAL DRAINS) ARE CONSIDERED DESIRABLE BUT SHOULD BE AVOIDED BEING LOCATED DIRECTLY ADJACENT TO THE FOOTING.

CONCRETE FOOTING & FLOOR SLAB

- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE PIER TOPS ARE CLEAN OF FOREIGN MATTER PRIOR TO THE PLACEMENT OF THE MEMBRANE AND CONCRETE SLAB. ENGINEER'S SPOT CHECK DOES NOT RELEASE THE CONTRACTOR FROM THIS RESPONSIBILITY.
- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600.
- UNLESS NOTED OTHERWISE, QUALITY OF CONCRETE SHALL BE USED AS FOLLOW:

ELEMENT	SLUMP	MAX. AGG. SIZE (mm)	CEMENT TYPE	CONC. GRADE	SALINITY AFFECTED SITE
PIERS	80	20	GP	N32	N32
FOOTING & SLAB ON GROUND	80	20	GP	N32	N32
SUSPENDED SLAB WALL & COLUMN	80	20	GP	N32	N32

- PIPES OR CONDUITS SHALL NOT BE PLACED WITHIN THE CONCRETE COVER TO REINFORCEMENT WITHOUT THE APPROVAL OF THE ENGINEER.
- PIPE PENETRATION IN THE EDGE AND SPINE BEAMS ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE DETAILS. WHERE SLAB FABRIC IS CUT TO PERMIT PENETRATIONS OF PIPES, A 600x600mm PIECE OF FABRIC IS TO BE SPLICED OVER THE PENETRATION.
- FOR 'H' AND 'E' CLASS SITES, ALL PENETRATIONS THROUGH FOOTINGS AND EDGE BEAMS SHALL BE SLEAVED TO ALLOW MINIMUM 20mm ('H' CLASS) AND 40mm ('E' CLASS) MOVEMENT AS PER AS2870. ALL PLUMBING AND DRAINAGE SERVICES ARE TO BE FITTED WITH FLEXIBLE CONNECTIONS AS PER AS2870.
- SUBTERRANEAN TERMITE PROTECTION IS TO BE PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF AS3660.
- A DAMP-PROOF MEMBRANE MUST BE PLACED BENEATH THE SLAB SO THAT THE BOTTOM OF THE SLAB IS ENTIRELY UNDERLAIN. THE DAMP-PROOF MEMBRANE MUST BE 0.2mm NOMINAL THICK POLYTHENE FILM AND OF HIGH IMPACT RESISTANCE. LAPS SHALL BE 200mm MINIMUM AT JOINTS. ALL PLUMBING PENETRATION AND JOINTS ARE TO BE TAPED AND WATERPROOFED. THE SITE IS TO BE PROPERLY DRAINED TO ELIMINATE SURFACE AND SUBSOIL WATER FLOW.

- ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON INSULATED STEEL, PLASTIC OR CONCRETE CHAIRS. BAR CHAIRS SHALL BE PLACED SUCH THAT REINFORCEMENT IS ALWAYS POSITIONED WITH SPECIFIED COVER.
- SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITIONS SHOWN. THE WRITTEN APPROVAL OF THE ENGINEER SHALL BE OBTAINED FOR ANY OTHER SPLICES, WHERE LAP LENGTHS ARE NOT SHOWN THEY SHALL SATISFY THE REQUIREMENTS OF AS3800.
- IF SLAB FABRIC IS USED, IT IS TO BE SUPPLIED IN FLAT SHEETS AND IS TO BE LAPPED ONE FULL SQUARE PLUS 25mm AT SPLICES AND PLACED ON BAR CHAIRS AT ONE METRE CENTRES BOTH WAYS UNLESS REDUCED SPACING IS SPECIFIED.
- WELDING OF REINFORCEMENT OTHER THAN TACK WELDING FOR PURPOSE OF MAINTAINING BARS IN CORRECT POSITION IS NOT PERMITTED UNLESS SPECIFICALLY NOMINATED ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER.
- ALL CONCRETE SHALL BE MECHANICALLY VIBRATED. VIBRATORS SHALL NOT BE USED TO SPREAD CONCRETE.
- REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY ONLY. IT IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
- BEAM DEPTHS ARE WRITTEN FIRST AND INCLUDE SLAB THICKNESS IF ANY. THICKNESS OF APPLIED FINISHES ARE NOT INCLUDED.

PIERS

- PIERS HAVE BEEN DESIGNED TO BE FOUNDED ON NATURAL CLAY OR ROCK WITH MINIMUM BEARING CAPACITY **250 kPa**
- THE ABOVE MENTIONED GEOTECHNICAL PARAMETERS ASSUMED FOR DESIGN OF THE PIER TO BE APPROVED BY A QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF THE REINFORCEMENT AND CONCRETE.
- TEMPORARY CASINGS SHALL BE USED, WHERE REQUIRED SHOULD COLLAPSING SOIL IS ENCOUNTERED.
- BORE HOLES SHALL BE CLEANED OF ANY LOOSE MATERIAL PRIOR TO PLACING CONCRETE OR REINFORCEMENT.
- WHEN CASTING THE PIERS, A TREMIE OR CONCRETE PUMP HOSE SHALL BE USED TO LIMIT THE FREE FALL OF CONCRETE TO 1.0 METRE MAX.
- ANY GROUND WATER PRESENT SHOULD BE PUMPED OUT PRIOR TO PLACEMENT OF CONCRETE.
- UNLESS NOTED OTHERWISE, MINIMUM PIER DEPTH IS 600mm BELOW FOOTING TRENCH AND WHEREVER NOMINATED SHOULD BE SOCKETED A MINIMUM 300mm INTO STIFF CLAY.
- ALL PIERS SHALL BE POURED SEPARATELY TO RAFT SLAB.
- IF ANY OF THE FOOTING BEAMS ENCOUNTER ROCK OR SHALE, THEN ALL BEAMS AND LOAD BEARING SPINE BEAMS SHALL BE PIERED TO ROCK OR SHALE. IF PARTIALLY PIERED TO ROCK THEN BRICK JOINTS ARE TO BE PROVIDED AT THE ROCK/ NON-ROCK INTERFACE.


SHRINKAGE CONTROL & MAINTENANCE

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600 AND AS2870.
- WATER IS NOT TO BE ADDED TO THE CONCRETE ON SITE SO AS TO INCREASE THE SLUMP ABOVE THAT SPECIFIED.
- NO HOLES OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE ELEMENTS WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
- CURING THE CONCRETE SHALL START IMMEDIATELY AFTER FINISHING BY CONTINUALLY WETTING FOR 7 DAYS MINIMUM. PLASTIC OR WAX LIQUID SPRAYS MAY BE USED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. EXTRA PRECAUTION SUCH AS THE METHOD OF EVAPORATIVE RETARDATION IS RECOMMENDED DURING HOT WEATHER POURS TO HELP AVOID THERMAL RELATED SLAB CRACKING.
- CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE LOCATED TO THE APPROVAL OF THE ENGINEER.
- CAUTION SHOULD BE EXERCISED WHEN APPLYING BRITTLE FINISHES SUCH AS CERAMIC TILES TO THE FLOOR SLAB. BRITTLE FLOOR COVERINGS ARE TO BE LAID ON A SUITABLE, FLEXIBLE TYPE BEDDING SYSTEM AND SUPPLIED WITH CONTROL JOINTS AT 400mm CENTRES MAXIMUM. ALTERNATIVELY SL92 FABRIC CAN BE USED, OR DELAY APPLYING FINISHES FOR 3 MONTHS (REFER TO AS2870 OR AS3958).

TERMITE PROTECTION

- ALL WORKS TO BE IN ACCORDANCE WITH AS3660.1.
- ANY FUTURE CRACKING IN THE SLAB IS TO BE ASSESSED BY A QUALIFIED PEST EXPERT AND WERE DIRECTED, BE SEALED BY EPOXY INJECTION.

REV	DESCRIPTION	DATE	DRAWN	CHECKED
01	ISSUED FOR CC SUBMISSION	19/02/2025	LT	ET
02	ISSUED FOR AMENDED	11/06/2025	LT	ET

 <div>5S PROJECTS CONSULTING ENGINEERS STRUCTURAL CIVIL HYDRAULIC A.B.N 38 634 702 113 A: PO Box 208, Earlwood NSW 2206 M: 02 9906 5668 E: info@5sprojects.com.au W: 5sprojects.com.au</div>	DRAWING NUMBER FSP-DWG-243035-S01
	REVISION 02
	TOTAL SHEET 15

DRAWING TITLE: CONSTRUCTION NOTES 01	
LGA: CANTERBURY BANKSTOWN COUNCIL	CLIENT: TERRY VU
PROJECT ADDRESS: 11 MERRIS STREET, KINGSGROVE, NSW 2208	

THIS DRAWING IS TO BE READ/PRINTED IN COLOUR

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED
0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL

REINFORCEMENT

1. UNLESS NOTED OTHERWISE, COVER FOR REINFORCEMENT SHALL BE PROVIDED AS FOLLOW:

ELEMENT	CAST AGAINST FORMS		CAST AGAINST GROUND	
	INTERIOR	EXTERIOR	PROTECTED	UNPROTECTED
PIERS	40	40	40	50
FOOTINGS	50	50	50	50
SLABS	20	40	30	40
WALLS	40	40	50	50
BEAMS	40	40	40	40
COLUMNS	25	40		

2. UNLESS NOTED OTHERWISE LAPS IN REINFORCEMENT SHALL BE:

	N12	N16	N20	N24	N28	N32
TOP (×)	600	800	1000	1200	1400	1600
ALL OTHER BARS	500	650	800	950	1150	1300

(×) DENOTES HORIZONTAL BARS WITH 300mm OR MORE CONCRETE CAST BELOW.

UNLESS NOTED OTHERWISE LAPS IN FABRIC SHALL BE:



DO NOT LAP OVER SLAB SUPPORTS. FABRIC TO BE LOCATED AT COVER DISTANCE FROM FORM EDGES.

3. SLAB REINFORCEMENT SHALL EXTEND MINIMUM 65mm ONTO MASONRY SUPPORT WALLS AND MINIMUM 50% OF BOTTOM REINFORCEMENT TO BE COGGED TO ACHIEVE ANCHORAGE AT SIMPLY SUPPORTED ENDS. TERMINATE ALL TOP BARS WITH STANDARD COGS AT FORM EDGES.
4. SITE BENDING OF DEFORMED REINFORCMENT BARS SHALL BE DONE WITHOUT HEATING USING MECHANICAL BENDING TOOLS.
5. WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE PROJECT ENGINEER.
6. JOGGLES TO BARS SHALL BE 1 BAR DIAMETER OVER A LENGTH OF 12 BAR DIAMETERS.
7. DISTRIBUTION REINFORCEMENT AND TYING STEEL SHALL BE N12-300 MINIMUM FOR CONVENTIONAL SLABS UNLESS NOTED OTHERWISE ON PLAN. LAP WITH MAIN BARS 400mm U.N.O.
8. REINFORCEMENT CROSSING PENETRATIONS SHALL BE DISPLACED AS NECESSARY, NO REINFORCEMENT SHALL BE CUT WITHOUT THE PRIOR WRITTEN APPROVAL OF THE PROJECT ENGINEER.
9. FORMWORK SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH AS 3610 AND AS 3600.
10. N12-300
SPACING (mm)
BAR SIZE (mm)
TYPE OF REINF'T.
- 3N28
BAR SIZE (mm)
TYPE OF REINF'T.
NUMBER OF BARS.

TIMBER

1. ALL WORKMANSHIP AND MATERIALS ARE TO BE IN ACCORDANCE WITH CURRENT SAA CODES AS1684, AS1720 & AS3959.
2. ALL MEMBERS ARE TO BE H2 OR T2 TREATED U.N.O.
3. ALL EXTERNAL ABOVE GROUND MEMBERS ARE TO BE H3 TREATED U.N.O.
4. ALL HOLES FOR BOLTS ARE TO BE A SNUG FIT. WASHERS ARE TO BE PROVIDED UNDER ALL NUTS AND BOLTS AND TO BE A MINIMUM 2.5 TIMES THE DIAMETER OF THE BOLT.
5. ALL BOLTED CONNECTIONS ARE TO BE M16 AND NO CONNECTION TO HAVE LESS THAN 2 BOLTS U.N.O.
6. ALL BOLTS, NAILS, CLOUTS AND SCREWS ARE TO BE GALVANIZED IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS.
7. ALL CUT ENDS OF MEMBERS ARE TO BE TREATED TO ACHIEVE THE REQUIRED HAZARD PROTECTION LEVEL.
8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ADEQUATELY INSTALL TIE-DOWN CONNECTIONS FROM ROOF TO WALLS VIA TOP PLATE, TOP PLATE TO STUD/MASONRY WALL, STUD WALLS TO FLOOR VIA BOTTOM PLATE AND FROM FLOOR TO FOOTINGS. ALL HOLD DOWN TO ROOF, WALL AND FLOOR FRAMING TO BE IN ACCORDANCE WITH AS1684, AS3700 AND AS4773.
9. TERMITE MANAGEMENT SYSTEM TO BE IN ACCORDANCE WITH AS3660.

FORMWORK

1. THE DESIGN CERTIFICATION, CONSTRUCTION AND PERFORMANCE OF THE FORMWORK AND FALSE WORK SHALL BE THE RESPONSIBILITY OF THE BUILDER, EXCEPT TO THE EXTENT THAT FORMWORK DESIGN IS SHOWN ON THE DRAWINGS.
2. FORMWORK DESIGN, CONSTRUCTION TOLERANCES AND STRIPPING TIMES SHALL COMPLY WITH AS 3610 AND AS 3600 UNLESS APPROVED OTHERWISE BY THE PROJECT ENGINEER.
3. DURING CONSTRUCTION, SUPPORT PROPPING WILL BE REQUIRED WHERE LOADS FROM STACKED MATERIALS, FORMWORK AND OTHER SUPPORTED SLABS INDUCE LOADS IN A SLAB OR BEAM WHICH EXCEED THE DESIGN LOAD FOR STRENGTH OR SERVICEABILITY AT THAT AGE. ONCE THE NOMINATED 28 DAY STRENGTH HAS BEEN ATTAINED, THESE LOADS SHALL NOT EXCEED THE DESIGN SUPERIMPOSED LOADS SET OUT IN THE GENERAL NOTES.
4. STRIPPING OF FORMWORK AND BACKPROPPING DETAILS SHALL BE IN ACCORDANCE WITH PROJECT ENGINEER'S SPECIFICATION.
5. THE FORMWORK SHALL NOT BE DESIGNED TO RELY ON RESTRAINT OR SUPPORT FROM THE PERMANENT STRUCTURE WITHOUT THE PRIOR APPROVAL FROM THE PROJECT ENGINEER.
6. CONCRETE FORMED SURFACES SHALL HAVE FINISHES IN ACCORDANCE WITH AS 3610, AS SPECIFIED BY THE ARCHITECT.
7. DO NOT PLACE PERMANENT LOADS, INCLUDING MASONRY WALLS AND THE LIKE, ON THE CONCRETE STRUCTURE UNTIL AFTER THE FORMWORK AND BACKPROPPING HAS BEEN REMOVED.
8. DESIGN INFORMATION CONCERNING THE FOUNDATION FORMWORK SHALL BE DETERMINED FROM THE CONDITIONS EXISTING ON SITE AT THE TIME OF CONSTRUCTION. ALSO REFER GEOTECHNICAL REPORT WHERE AVAILABLE FOR FURTHER DETAILS.

STRUCTURAL STEEL

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 4100.
2. ALL WELDS SHALL BE 8mm CONTINUOUS FILLET WELD TYPE SP UNLESS NOTED OTHERWISE.
3. WELDING SHALL BE PERFORMED BY AN EXPERIENCED OPERATOR IN ACCORDANCE WITH AS 1554.
4. BOLT DESIGNATION:
- 4.6/S COMMERCIAL BOLTS OF GRADE 4.6 TO AS 1111 TIGHTENED TO A SNUG TIGHT FIT.
- 8.8/S HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS 1252 TIGHTENED TO A SNUG TIGHT FIT.
- 8.8/TB HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS 1252 FULLY TENSIONED TO AS 1511 AS A BEARING JOINT.
- 8.8/TF HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS 1252 FULLY TENSIONED TO AS 1511 AS A FRICTION JOINT WITH FACING SURFACES LEFT UNCOATED.

UNLESS NOTED OTHERWISE ALL BOLTS SHALL BE M20 GRADE 8.8/S. NO STEEL TO STEEL CONNECTION SHALL HAVE LESS THAN 2 COMMERCIAL BOLTS GRADE 4.6/S.

5. TB AND TF BOLTS TO BE INSTALLED REFER TO SPECIFICATIONS.
6. THE CONTRACTOR SHALL PROVIDE AND LEAVE IN PLACE UNTIL PERMANENT BRACING ELEMENTS ARE CONSTRUCTED SUCH TEMPORY BRACING AS IS NECESSARY TO STABILISE THE STRUCTURE DURING ERECTION.
7. CONCRETE ENCASED STEELWORK SHALL BE UNPAINTED AND HAVE A CONCRETE STRENGTH OF 25 MPa AND COVER OF 65mm OR ADEQUATE TO SUIT FIRE RATING OR EXPOSURE CONDITIONS. CONCRETE ENCASING SHALL BE CENTRALLY REINFORCED WITH 5mm WIRE TO AS 1303 OR 6mm STRUCTURAL GRADE BARS TO AS 1302 AT 150mm PITCH.
8. PROVIDE SEAL PLATES TO ALL HOLLOW SECTIONS, WITH "BREATHER" HOLES IF MEMBERS TO BE HOT DIP GALVANISED.
9. CAMBER TO BE AS NOTED ON THE DRAWINGS.
10. BEFORE FABRICATION IS COMMENCED THE CONTRACTOR SHALL SUBMIT 3 COPIES OF THE SHOP DRAWINGS TO THE ENGINEER FOR REVIEW. REVIEW DOES NOT INCLUDE THE CHECKING OF DIMENSIONS.
11. UNLESS OTHERWISE SPECIFIED ALL STEELWORK SHALL BE SHOP POWER BRUSHED AND PAINTED ONE SHOP COAT OF APPROVED ZINC RICH PRIMER. MINIMUM DRY FILM THICKNESS 75 MICRONS.
12. AFTER FABRICATION ALL EXPOSED STEELWORK AND STEELWORK BUILT IN EXTERNAL WALLS INCLUDING FITMENTS, NUTS, BOLTS, WASHERS AND HOLDING DOWN BOLTS TO BE HOT DIP GALVANISED AFTER PICKLE OR ABRASIVE BLAST TO CLASS 3, TO COMPLY WITH AS 1650. ANY FURTHER WELDED JOINTS ARE TO BE PAINTED WITH 2 COATS OF APPROVED GALVANISED PAINT.
13. FOR SURFACE TREATMENT OF STRUCTURAL STEELWORK NOT ENCASED IN CONCRETE REFER TO SPECIFICATIONS.

MASONRY

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3700.
2. ALL BLOCKWORK WALLS SHALL BE CONSTRUCTED IN GRADE 16 BLOCKS (15MPa) ACCORDING TO AS 2733. ALL BRICKS SHALL HAVE A MINIMUM UNCONFINED COMPRESSIVE STRENGTH OF 20 MPa ACCORDING TO AS 3600. THE MAXIMUM UNRESTRAINED FIVE YEAR EXPANSION OF BRICKS SHALL BE IN ACCORDANCE WITH NATA TEST B01.
3. ALL MASONRY SUPPORTING OR SUPPORTED BY CONCRETE FLOORS SHALL BE PROVIDED WITH VERTICAL JOINTS TO MATCH ANY CONTROL JOINTS IN THE CONCRETE.
4. NON LOAD BEARING WALL SHALL BE SEPARATED FROM CONCRETE ABOVE BY 12mm THICK CLOSE CELL POLYETHELENE STRIPS.
5. NO CHASES OR RECESSES ARE PERMITTED IN THE LOAD BEARING MASONRY WITHOUT THE APPROVAL OF THE ENGINEER.
6. MORTAR ADMIXTURES SHALL NOT BE USED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.
7. UNLESS NOTED OTHERWISE THE NOMINAL PROPORTIONS BY VOLUME OF MORTAR SHALL BE 1 : 1 : 6 OF CEMENT, LIME AND SAND. NO PLASTICISERS TO BE USED IN THE MIX.
8. GROUT USED TO FILL CAVITIES AND CORES IN REINFORCED MASONRY SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 15MPa AND A SLUMP OF 230mm (+/- 25mm). MAXIMUM AGGREGATE SIZE OF 10mm ROUNDED GRAVEL. NOMINAL PROPORTIONS SHALL BE 1 : 0.3 : 3 : 2 OF CEMENT, LIME, SAND AND AGGREGATE AND WITH A MINIMUM CEMENT CONTENT OF 300 kg/cm. PROVIDE CLEAN OUT HOLES AT BASE OF PILASTERS AND EVERY CORE OF REINFORCED WALLS.
9. HORIZONTAL JOINT REINFORCEMENT SHALL BE PROVIDED AT MAXIMUM 600 VERTICAL SPACING FOR ALL CONCRETE BLOCKWORK, CONCRETE BRICKWORK, AND CALCIUM SILICOTE BRICKWORK.
10. HOLLOW BLOCKWORK OPENINGS GREATER THAN 600mm VERTICALLY OR HORIZONTALLY SHALL BE TRIMMED AT THE SIDES AND BOTTOM BY FILLING ONE CORE AND REINFORCE WITH 1Y12 EXTENDING 600mm PAST OPENING. THE TOP OF THE OPENING SHALL HAVE A REINFORCED LINTEL BEAM, ARCH BAR OR STEEL ANGLE SUPPORT AS DETAILED.
11. ALL TIES AND REINFORCEMENT SHALL HAVE A MINIMUM CLEAR COVER OF 50mm TO EXTERNAL FACE OF MASONRY.
12. ALL WALLS SHALL BE TIED OR BONDED AT THEIR INTERSECTIONS.
13. NO CAVITY OR CORE SHALL BE FILLED TO A HEIGHT GREATER THAN 1200mm WITHOUT SUITABLE SHORING.
14. ALL MASONRY WALLS AND PIERS SUPPORTING SLABS AND BEAMS SHALL HAVE A PRE-GREASED GALVANISED STEEL SLIP JOINT BETWEEN CONCRETE SOFFIT AND THE TOP OF THE MASONRY ELEMENT, DENOTED AS S.J. THROUGHOUT.
15. PROVIDE VERTICAL CONTROL JOINTS AT 10m MAXIMUM CENTRES AND 5m MAXIMUM FROM CORNERS IN ALL MASONRY WALLS.
16. BACKFILL TO RETAINING WALLS TO BE FREE DRAINING GRANULAR MATERIAL UNLESS NOTED OTHERWISE. PROVIDE SUBSOIL DRAIN TO WEEP HOLES.
17. DO NOT CONSTRUCT MASONRY WALLS ON SUSPENDED CONCRETE SLABS UNTIL SLAB HAS BEEN STRIPPED AND DE-PROPPED.
18. ALL CAVITY CONSTRUCTION TO HAVE GALVANISED /STAINLESS STEEL WALL TIES INSTALLED AS PER CLAUSE 3.8, IN AS 3700.

(×) ALL STEEL LINTELS TO BE HOT DIPPED GALVANISED

BRICK LINTEL SCHEDULE

OPENING SIZE (mm)	INTERNAL SKIN	EXTERNAL SKIN	END BEARING
UP TO 900mm	100x6mm FLAT BAR	100x6mm FLAT BAR	100mm
1200	100x10mm FLAT BAR	100x8mm FLAT BAR	100mm
1500	100x100x8mm ANGLE	100x100x6mm ANGLE	150mm
2100	150x100x8mm ANGLE	150x100x6mm ANGLE	150mm
2400	150x100x8mm ANGLE	150x100x8mm ANGLE	150mm
2700	150x100x10mm ANGLE	150x100x10mm ANGLE	150mm
3000	150x100x12mm ANGLE	150x100x12mm ANGLE	150mm

REINFORCED CONCRETE BLOCKWORK

1. ALL WORKMANSHIP SHALL COMPLY WITH AS 3700, AND THE SPECIFICATIONS.
2. ALL BLOCKS SHALL CONFORM TO AS 2733.
3. THE DESIGN STRENGTH OF CONCRETE MASONRY SHALL BE:

ELEMENT	BLOCK STRENGTH GRADE	MORTAR MIX CEMENT:LIME:SAND
REINFORCED BLOCKWORK	15	1:0.5 'DYNEX' WATER THICKENER TO BE USED IN LIEU OF LIME

4. LAY BOTTOM COURSE OF BLOCKS ON FULL MORTAR BED. ALL PERPENDS SHALL BE FULLY FILLED WITH MORTAR, EXCEPT WHERE REQUIRED FOR WEEPHOLES.
5. CLEAN OUT HOLES SHALL BE PROVIDED AT THE BASE OF ALL REINFORCED CORES. REINFORCED CORES SHALL BE CLEANED OF MORTAR PROTRUSIONS BEFORE GROUTING.
6. ALL REINFORCED CORES SHALL BE FILLED WITH GROUT. THE GROUT FILLING SHALL BE THOROUGHLY COMPACTED BY MECHANICAL VIBRATOR OR RODDING. UNREINFORCED CORES SHALL ALSO BE FILLED UNLESS OTHERWISE NOTED.
7. GROUT SHALL BE IN ACCORDANCE WITH AS 3600 AND COMPLY WITH THE FOLLOWING:
- CHARACTERISTIC STRENGTH F'C=20 MPa AT 28 DAYS.
 - MAX. AGGREGATE SIZE 10MM
 - SLUMP 230MM.
8. MAXIMUM CONTINUOUS POUR HEIGHT SHALL BE 3600mm. STOP POUR 50MM BELOW TOP OF BLOCK TO PROVIDE KEY FOR THE FOLLOWING POUR.
9. PROVIDE VERTICAL CONTROL JOINTS IN ALL WALLS AT A MAXIMUM OF 10M CENTRES OR WHERE INDICATED ON PLAN.
10. PROVIDE WATERPROOFING AND DRAINAGE TO BACK OF WALLS AS REQUIRED BY THE ARCHITECTS SPECIFICATION.
11. PROVIDE TEMPORARY PROPPING TO WALLS WHERE REQUIRED FOR STABILITY DURING CONSTRUCTION.
12. BACKFILL RETAINING WALLS, AFTER OBTAINING MAIN CONTRACTORS APPROVAL, WITH CLEAN GRANULAR FILLING, FREE FROM CLAY AND OTHER ORGANIC MATTER.
13. VERTICAL REINFORCEMENT TO BE POSITIONED 50MM CLEAR FROM FACE OF BLOCKWORK UNLESS NOTED OTHERWISE.
14. REFER TO LOADBEARING MASONRY NOTES FOR SLIP BEARING JOINTS, ADMIXTURES, CHASES, ETC.

MISCELLANEOUS

1. NO PENETRATIONS OR CHASES SHALL BE MADE IN MASONRY WALLS OR OTHER STRUCTURE WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER.

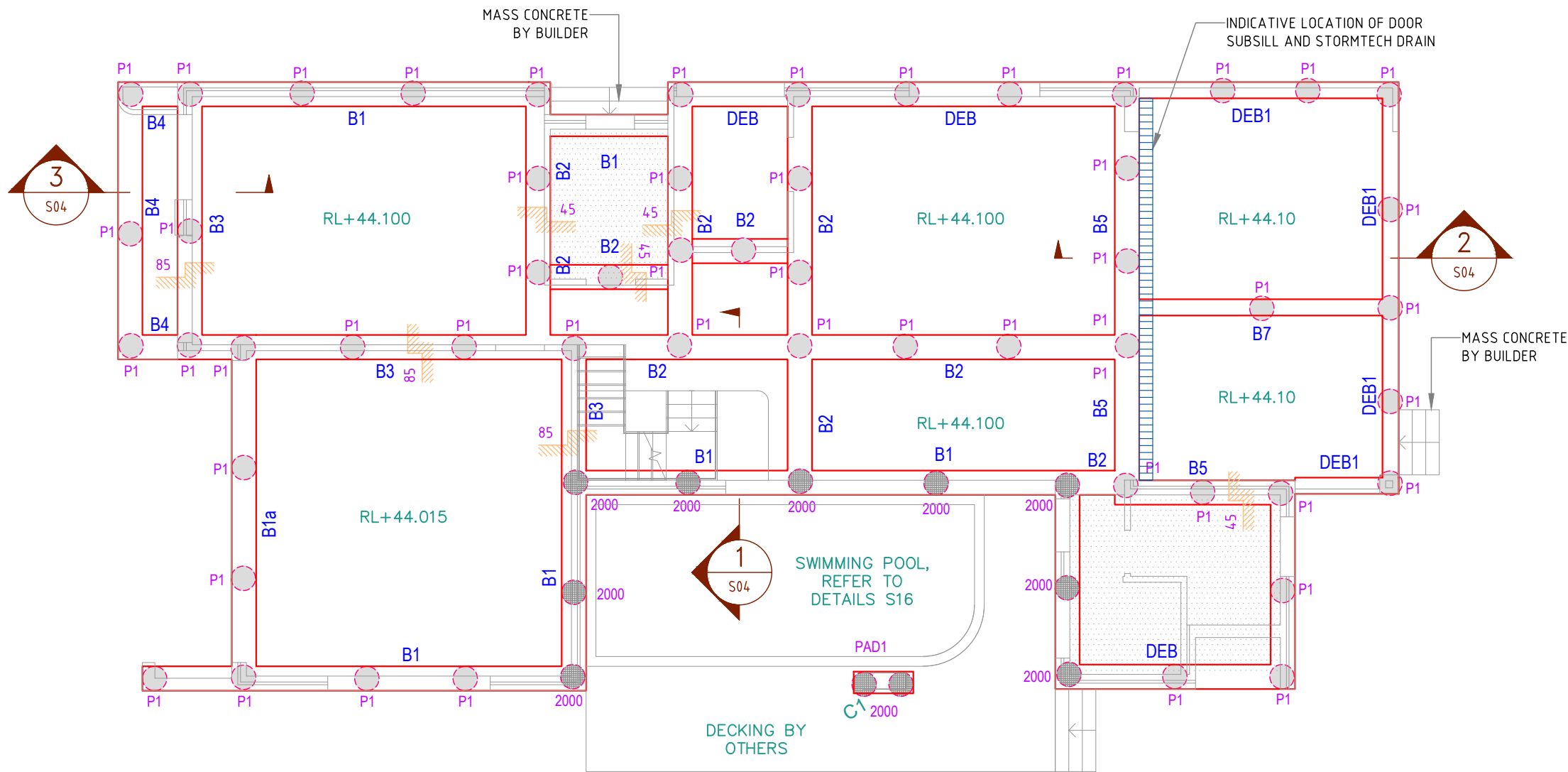
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02	ISSUED FOR AMENDED	11/06/2025	LT	ET

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	REVISION 02
	TOTAL SHEET 15

DRAWING TITLE: CONSTRUCTION NOTES 02	
LGA: CANTERBURY BANKSTOWN COUNCIL	CLIENT: TERRY VU
PROJECT ADDRESS:	11 MERRIS STREET, KINGSGROVE, NSW 2208

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LEGEND	
	P1 450 DIA. CONCRETE PIER TO FIRM CLAY OR ROCK FOUNDATION
	xxx PIER OF XXX MIN.DEPTH
	xxx STEP IN SLAB
	STEPDOWN FOR WET AREA

HOLD POINT 1: PIER EXCAVATION
THE BUILDER MUST CONTACT THE ENGINEER FOR INSPECTION AND CERTIFICATION OF PIER EXCAVATION BEFORE POURING CONCRETE TO ENSURE THE PIER IS FOUNDED ON ADEQUATE CLAY OR/AND ROCK FOUNDATION.

HOLD POINT 2: FOOTING
THE BUILDER MUST CONTACT THE ENGINEER FOR INSPECTION AND CERTIFICATION OF FOOTING EXCAVATION AND REINFORCEMENT BEFORE POURING CONCRETE.


HOLD POINT 3: CONCRETE SLAB
THE BUILDER MUST CONTACT THE ENGINEER FOR INSPECTION AND CERTIFICATION OF CONCRETE SLAB REINFORCEMENT BEFORE POURING CONCRETE.

SLAB DESIGN SUMMARY	
SLAB THICKNESS (mm)	100 U.N.O
TOP REINFORCEMENT	SL 82 U.N.O
TOP COVER (mm)	20 (INTERNAL) 40 (EXTERNAL)
COVER TO FOOTING REINFORCEMENT ON GROUND (mm)	50
SLAB CONCRETE STRENGTH (f _c)	32 MPa
PIERS CONCRETE STRENGTH (f _c)	32 MPa

GEOTECHNICAL INFORMATION	
SITE CLASSIFICATION	ASSUME-M
SOIL CLASSIFICATION	ASSUME-M
SOIL TEST REFERENCE	NOT PROVIDE
FOUNDING MATERIAL	SILTY CLAY TBC ON SITE
SALINITY AND/OR ACID SULFATE	NOT ADVISED

- DESIGN CRITERIA:**
- REMOVAL AND TREATMENT OF TOP SOIL TO BE IN ACCORDANCE WITH PROVIDED GEOTECHNICAL REPORT.
 - THE ASSUMED GEOTECHNICAL PARAMETERS ARE TO BE VERIFIED ON SITE BY THE ENGINEER PRIOR TO CONSTRUCTION OF CONCRETE FOOTING AND SLAB.
 - REMOVE VEGETATION & ORGANIC MATTER FOR A DEPTH OF 200mm IN THE WAY OF THE GROUND SLAB, COMPACT SUBGRADE.
 - SAND NOT GREATER THAN 50mm THICK IS TO BE PLACED AS A LEVELING LAYER AND WELL WATERED DOWN.
 - A 0.2mm THICK UNPUNCTURED VAPOUR BARRIER IS TO BE PLACED OVER THE SAND.
 - LAPS TO BE 200mm AT JOINTS AND ALL JOINTS AND PLUMBING PENETRATIONS TO BE TAPED.

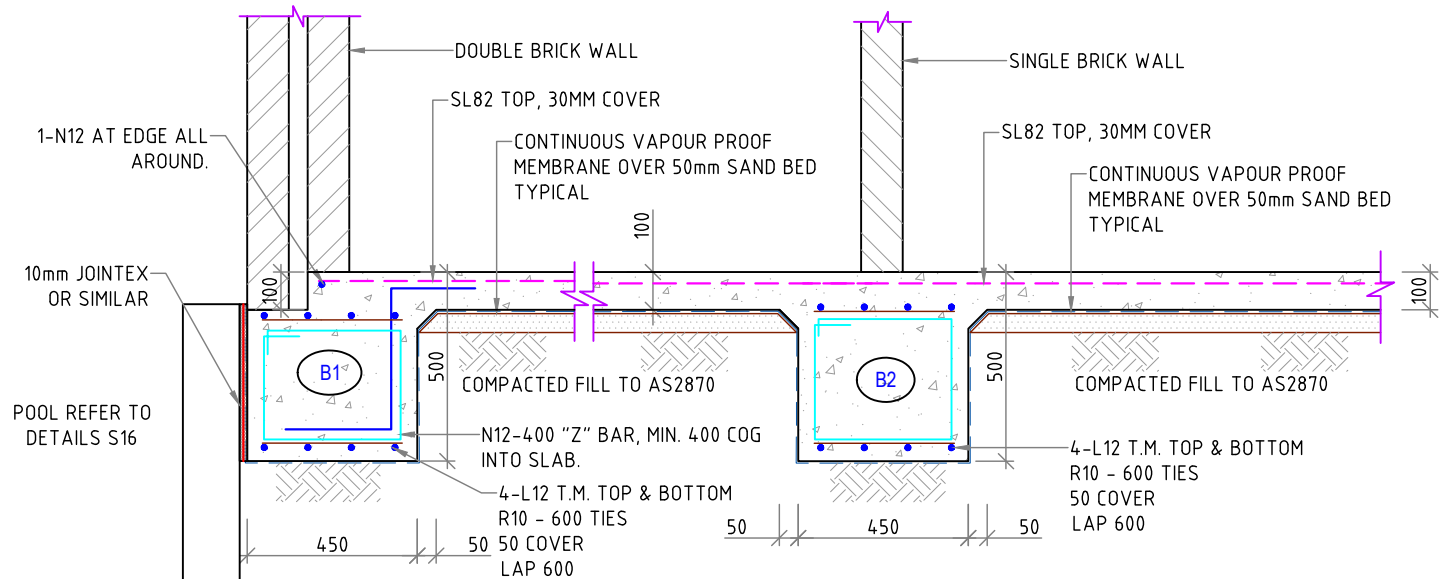
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	REVISION 02
	TOTAL SHEET 15

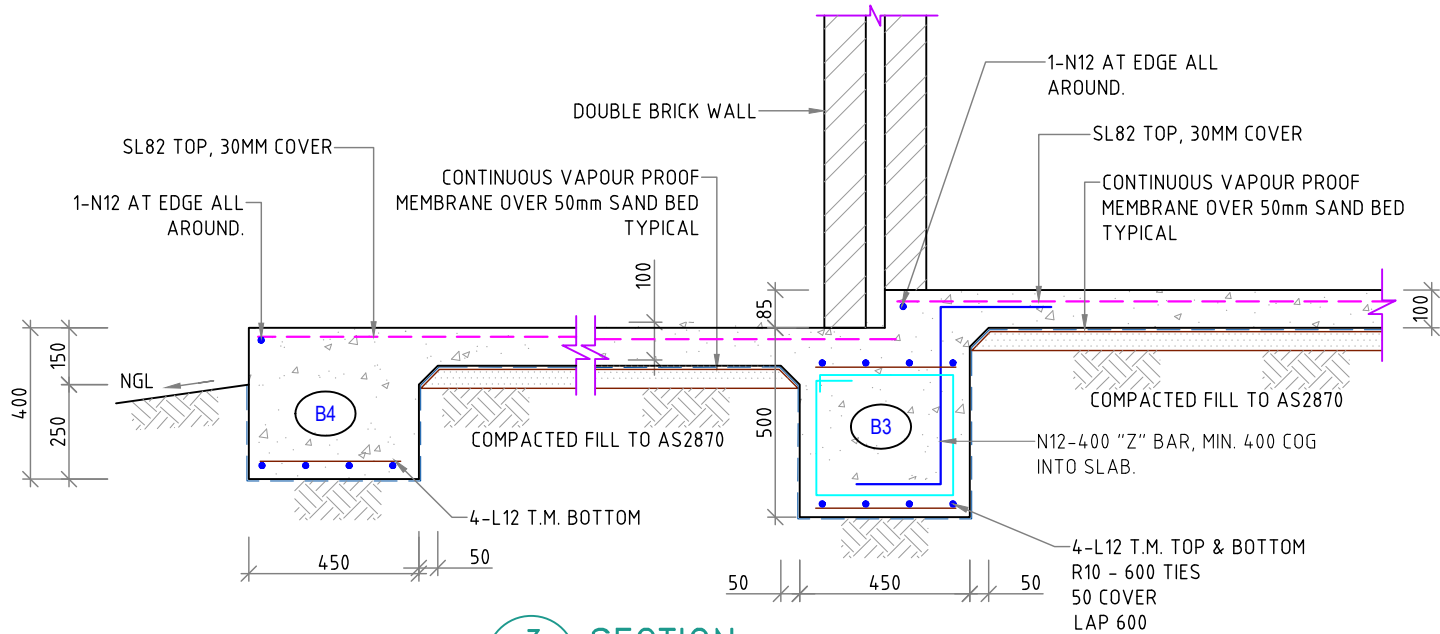
DRAWING TITLE: FOOTING PLAN	
LGA: CANTERBURY BANKSTOWN COUNCIL	CLIENT: TERRY VU
PROJECT ADDRESS: 11 MERRIS STREET, KINGSGROVE, NSW 2208	

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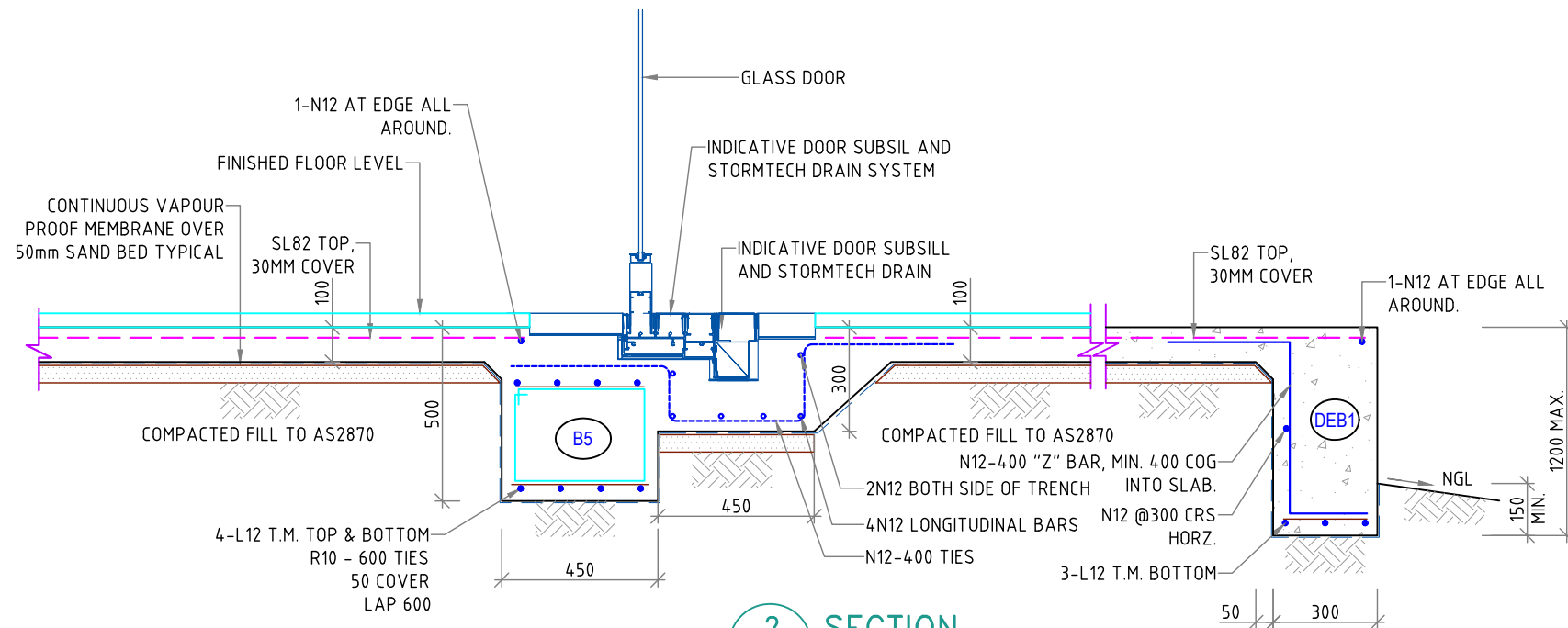
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0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL



1 SECTION
S03 SCALE: 1:20
PIERS NOT SHOWN FOR CLARITY




3 SECTION
S03 SCALE: 1:20
PIERS NOT SHOWN FOR CLARITY

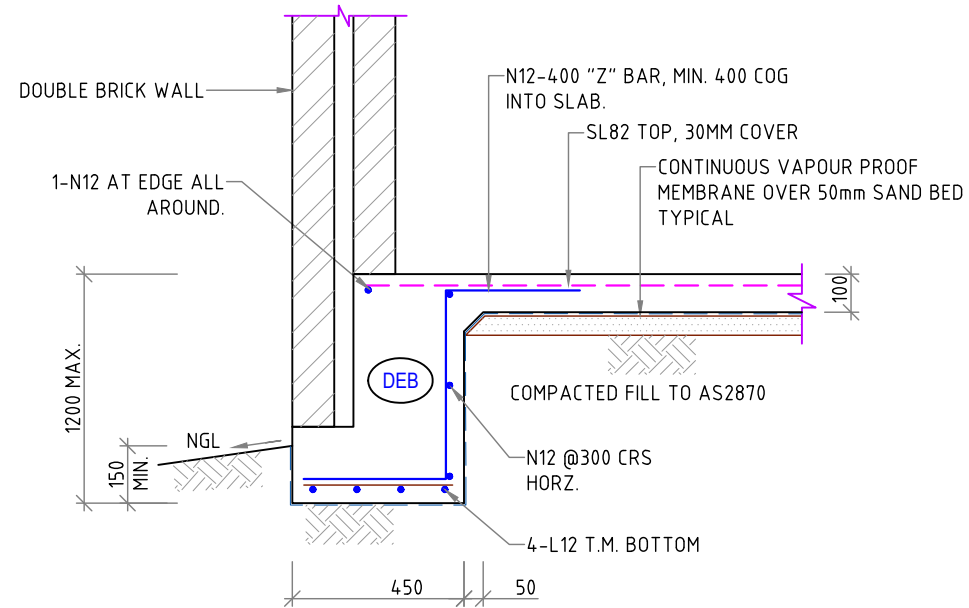


2 SECTION
S03 SCALE: 1:20
PIERS NOT SHOWN FOR CLARITY

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02	ISSUED FOR AMENDED	11/06/2025	LT	ET

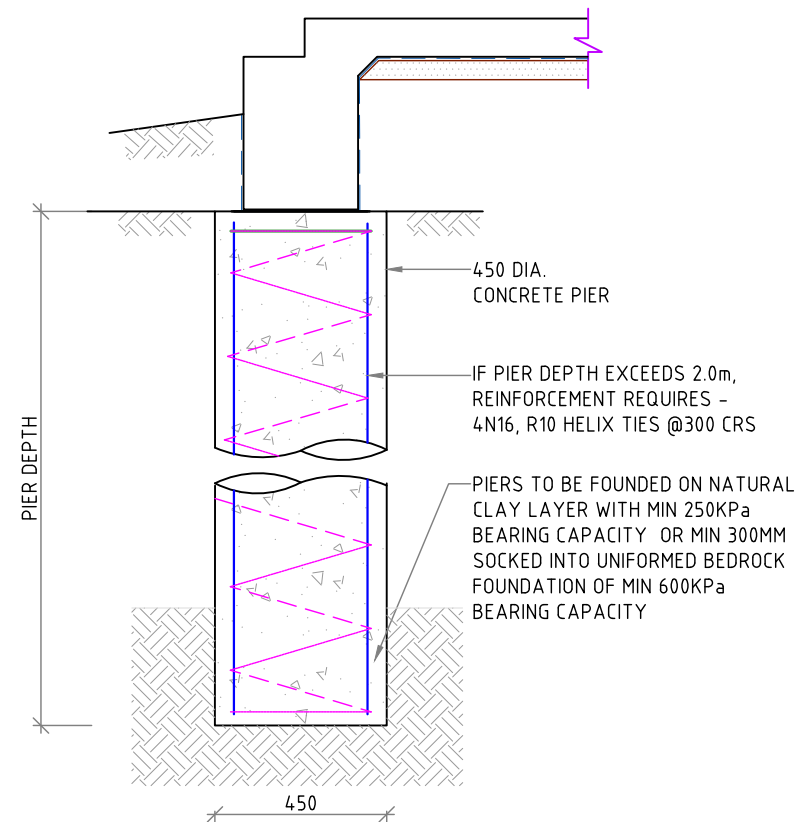
 5S PROJECTS CONSULTING ENGINEERS STRUCTURAL CIVIL HYDRAULIC A.B.N 38 634 702 113 A: PO Box 208, Earlwood NSW 2206 M: 02 9906 5668 E: info@5sprojects.com.au W: 5sprojects.com.au	DRAWING NUMBER	FSP-DWG-243035-S04
	REVISION	02
	TOTAL SHEET	15
	DRAWING TITLE:	FOOTING SECTIONS & DETAILS
LGA: CANTERBURY BANKSTOWN COUNCIL		CLIENT: TERRY VU
PROJECT ADDRESS: 11 MERRIS STREET, KINGS GROVE, NSW 2208		

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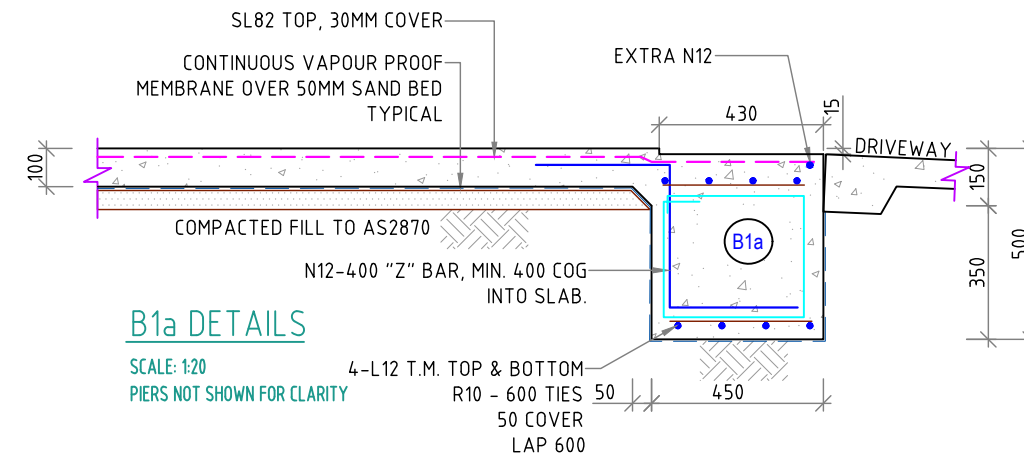
DEEP EDGE BEAM DETAILS (TYP.)

SCALE: 1:20
PIERS NOT SHOWN FOR CLARITY



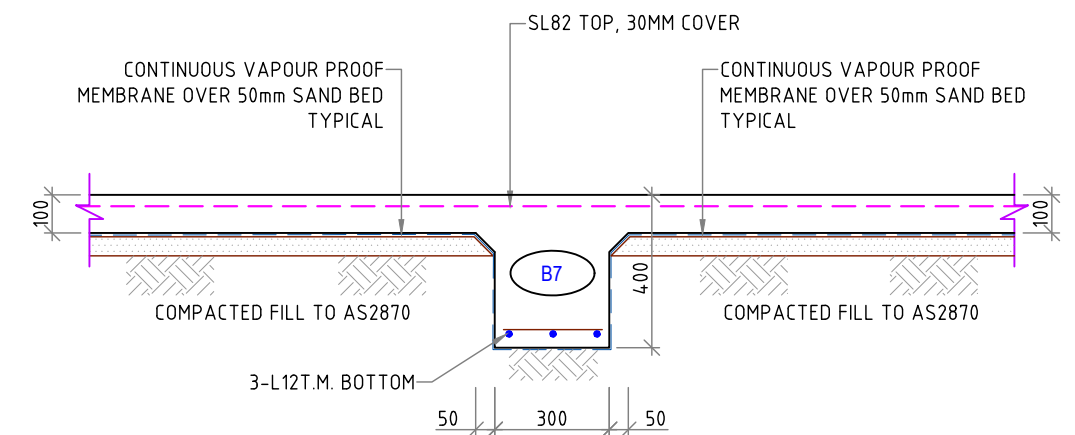
PIER TYPICAL DETAILS

SCALE: 1:20



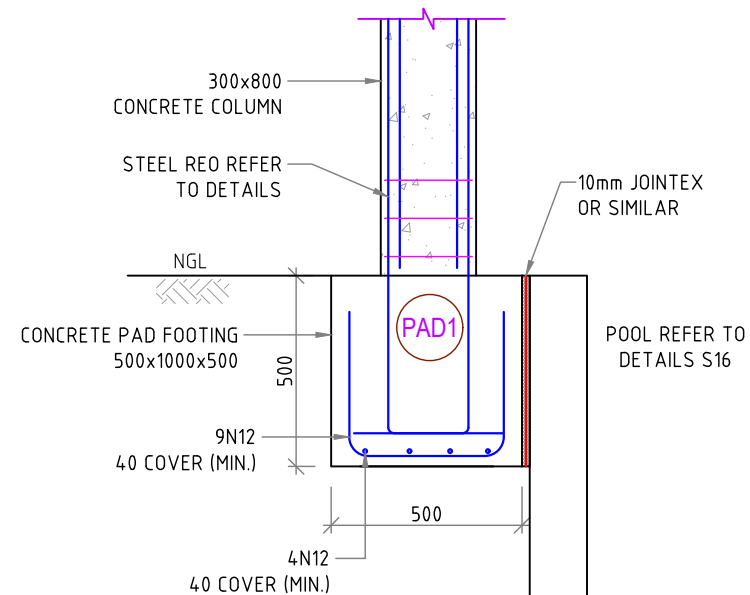
B1a DETAILS

SCALE: 1:20
PIERS NOT SHOWN FOR CLARITY



B7 DETAILS

SCALE: 1:20
PIERS NOT SHOWN FOR CLARITY



PAD FOOTING PAD1

SCALE: 1:20

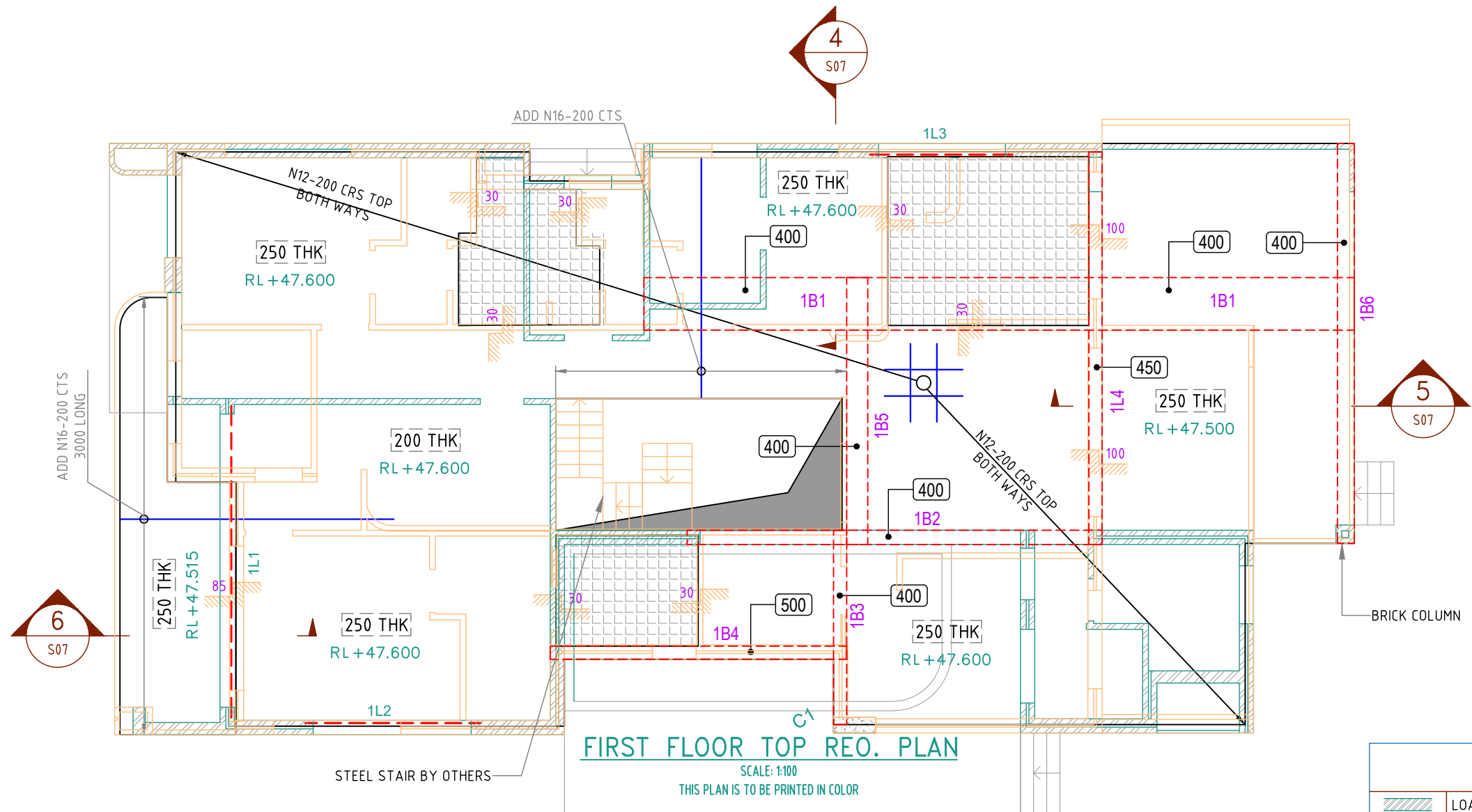
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02	ISSUED FOR AMENDED	11/06/2025	LT	ET

 <div> <h1>5S PROJECTS</h1> <h2>CONSULTING ENGINEERS</h2> <h3>STRUCTURAL CIVIL HYDRAULIC</h3> <p>A . B . N 38 634 702 113</p> </div>	<p>DRAWING NUMBER</p> <p>FSP-DWG-243035-S05</p>	45
	<p>REVISION</p> <p>02</p>	40
	<p>TOTAL SHEET</p> <p>15</p>	35
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		20

R	DRAWING TITLE: FOOTING SECTIONS & DETAILS		15
	LGA: CANTERBURY BANKSTOWN COUNCIL	CLIENT: TERRY VU	10
	PROJECT ADDRESS: 11 MERRIS STREET, KINGSGROVE, NSW 2208		5

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0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL



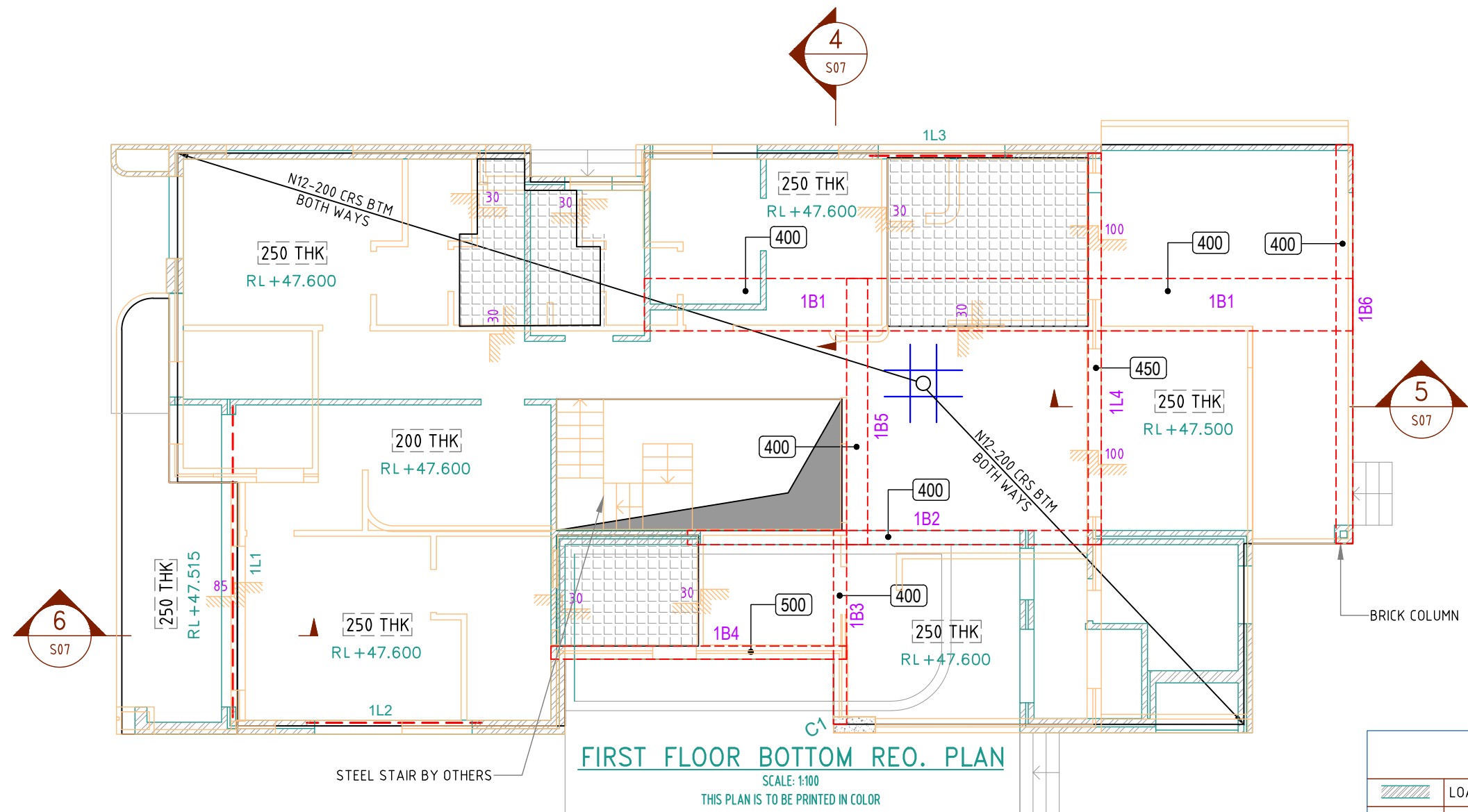
MEMBER SCHEDULE		
MARK	DESIGNATION	COMMENTS
1L1,1L2,1L3	250x12 WEB - 200x100 FLANGE T- BAR	MAX SPAN 5600

LEGEND	
	LOAD BEARING WALLS UNDER FLOOR
	WALLS ON FLOOR & ROOF FRAME
	STEEL BEAM/BEARER
	TIMBER BEAM/BEARER
	CONCRETE BEAM
	30 STEP DOWN WET AREA

CONCRETE FOOTING/BEAM SCHEDULE					
MARK	SIZE (WxD)	BOTTOM REINFORCEMENT	TOP REINFORCEMENT	MID REINFORCEMENT	TIES
1B1	1000 x 400	8N16	8N16	-	2/N10-200 CLOSED TIES
1B2,1B3	270 x 400	3N16	3N16	-	N10-200 CLOSED TIES
1B4	270 x 500	3N16	3N16	-	N10-200 CLOSED TIES
1L4	270 x 450	3N16	3N16	-	N10-200 CLOSED TIES
1B5	400 x 400	4N16	4N16	-	N10-200 CLOSED TIES
1B6	350 x 400	3N16	3N16	-	N10-200 CLOSED TIES
C1		CONCRETE COLUMN 300x800			REFER TO DETAILS

REV	DESCRIPTION	DATE	DRAWN	CHECKED
01	ISSUED FOR CC SUBMISSION	19/02/2025	LT	ET
02	ISSUED FOR AMENDED	11/06/2025	LT	ET
<div><div><div>5S PROJECTS</div><div>CONSULTING ENGINEERS</div><div>STRUCTURAL CIVIL HYDRAULIC</div><div>A.B.N 38 634 702 113</div><div>A: PO Box 208, Earlwood NSW 2206 M: 02 9906 5668</div><div>E: info@5sprojects.com.au W: 5sprojects.com.au</div></div></div>			DRAWING NUMBER	
			FSP-DWG-243035-S06	
			REVISION	
			02	
			TOTAL SHEET	
			15	
DRAWING TITLE: FIRST FLOOR TOP REO. PLAN				
LGA: CANTERBURY BANKSTOWN COUNCIL		CLIENT: TERRY VU		
PROJECT ADDRESS: 11 MERRIS STREET, KINGSGROVE, NSW 2208				

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MEMBER SCHEDULE		
MARK	DESIGNATION	COMMENTS
1L1,1L2,1L3	250x12 WEB - 200x100 FLANGE T- BAR	MAX SPAN 5600

LEGEND	
	LOAD BEARING WALLS UNDER FLOOR
	WALLS ON FLOOR & ROOF FRAME
	STEEL BEAM/BEARER
	TIMBER BEAM/BEARER
	CONCRETE BEAM
	30 STEP DOWN WET AREA

CONCRETE FOOTING/BEAM SCHEDULE					
MARK	SIZE (WxD)	BOTTOM REINFORCEMENT	TOP REINFORCEMENT	MID REINFORCEMENT	TIES
1B1	1000 x 400	8N16	8N16	-	2/N10-200 CLOSED TIES
1B2,1B3	270 x 400	3N16	3N16	-	N10-200 CLOSED TIES
1B4	270 x 500	3N16	3N16	-	N10-200 CLOSED TIES
1L4	270 x 450	3N16	3N16	-	N10-200 CLOSED TIES
1B5	400 x 400	4N16	4N16	-	N10-200 CLOSED TIES
1B6	350 x 400	3N16	3N16	-	N10-200 CLOSED TIES
C1		CONCRETE COLUMN 300x800			REFER TO DETAILS

REV	DESCRIPTION	DATE	DRAWN	CHECKED
01	ISSUED FOR CC SUBMISSION	19/02/2025	LT	ET
02	ISSUED FOR AMENDED	11/06/2025	LT	ET



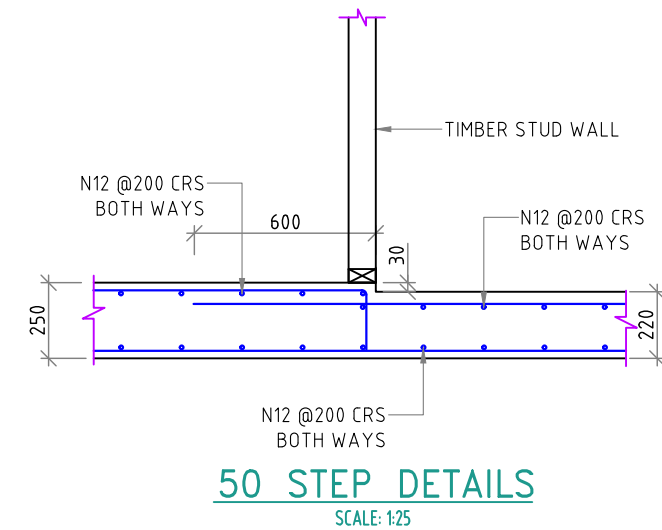
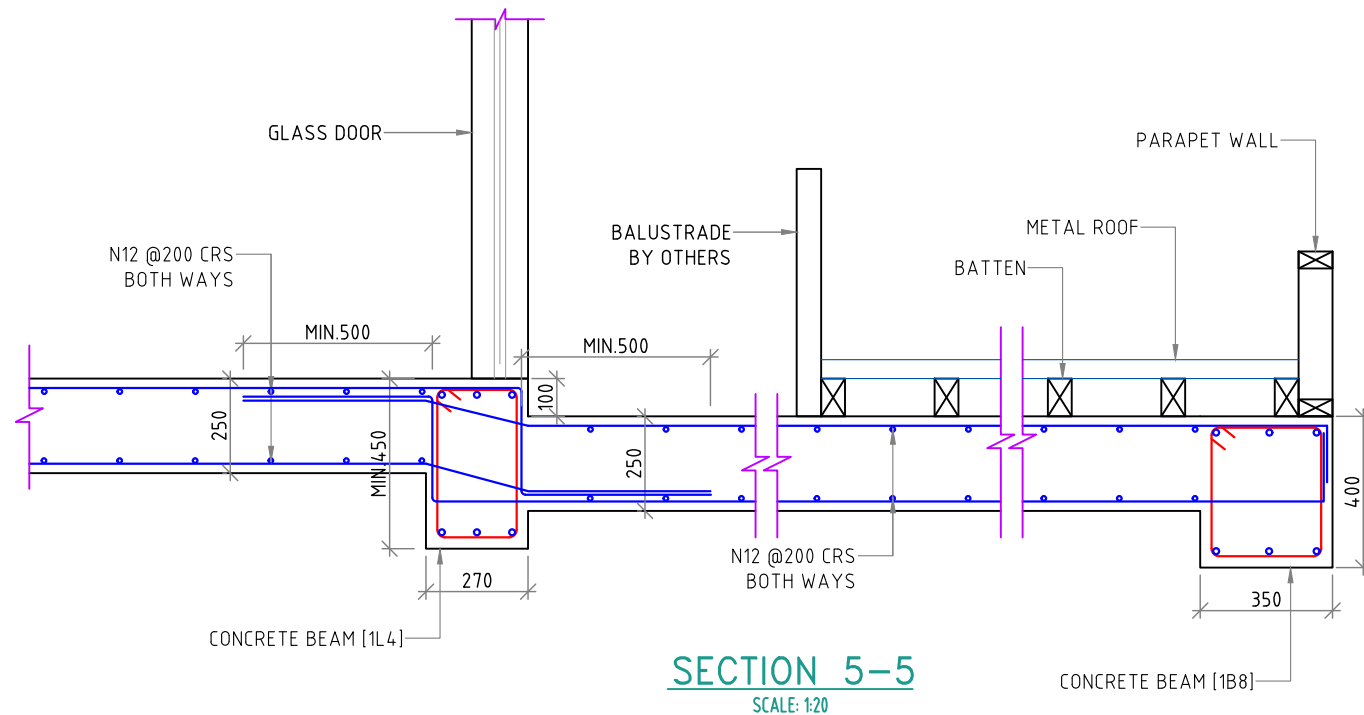
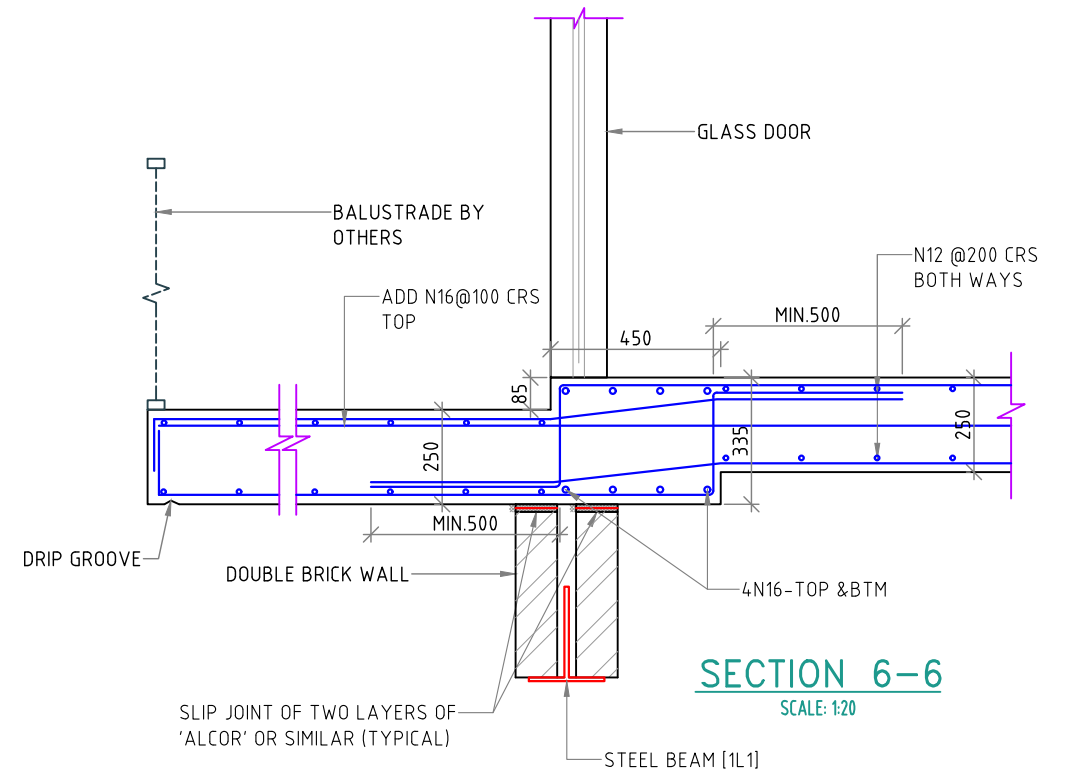
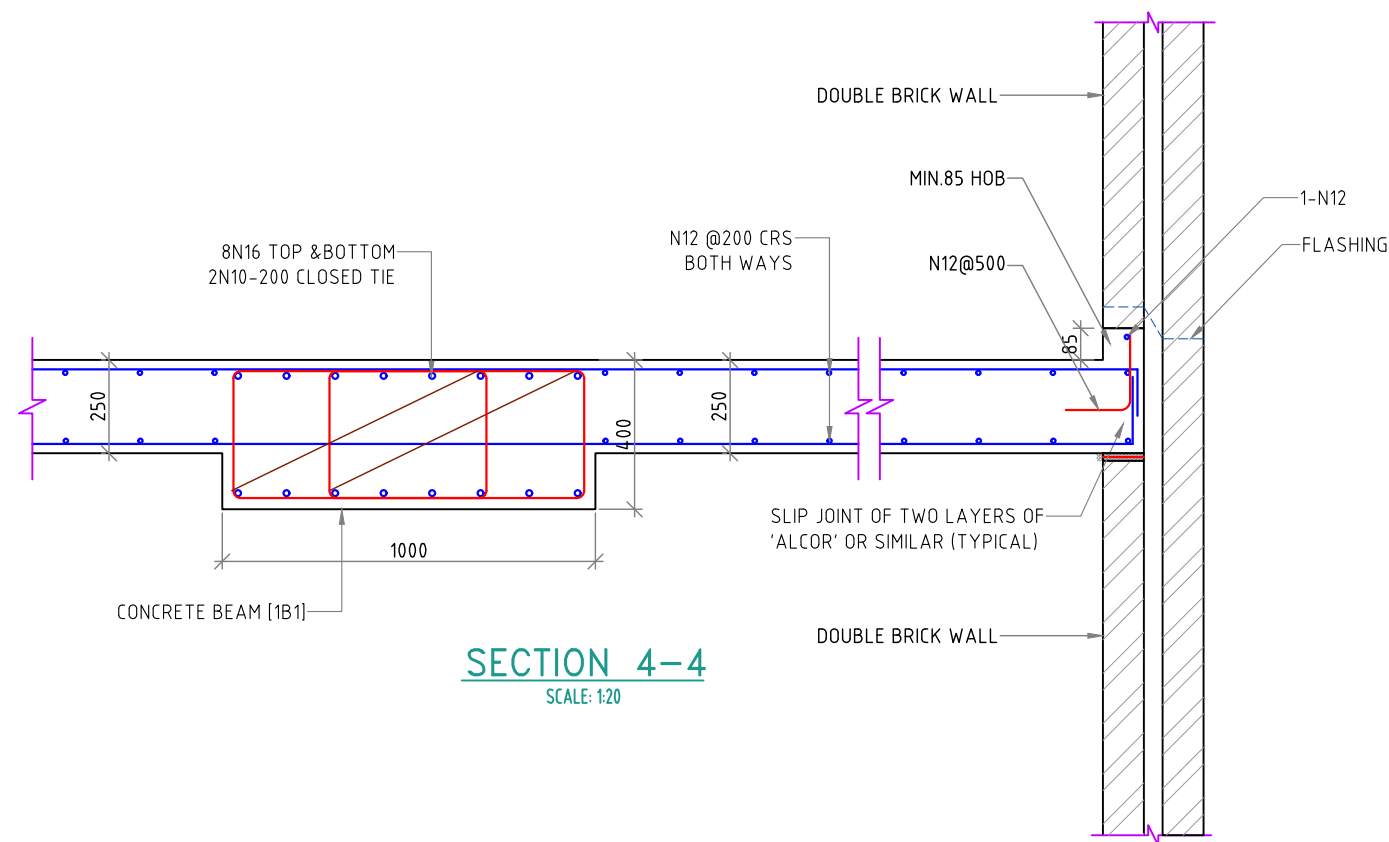
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DRAWING NUMBER
FSP-DWG-243035-S07
REVISION
02
TOTAL SHEET
15

DRAWING TITLE:		FIRST FLOOR TOP REQ. PLAN	
LGA: CANTERBURY BANKSTOWN COUNCIL		CLIENT: TERRY VU	
PROJECT ADDRESS:		11 MERRIS STREET, KINGSGROVE, NSW 2208	

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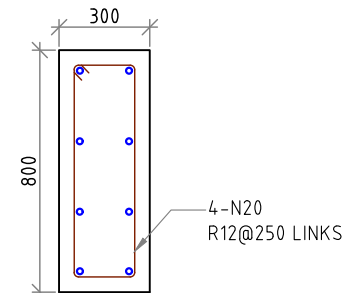
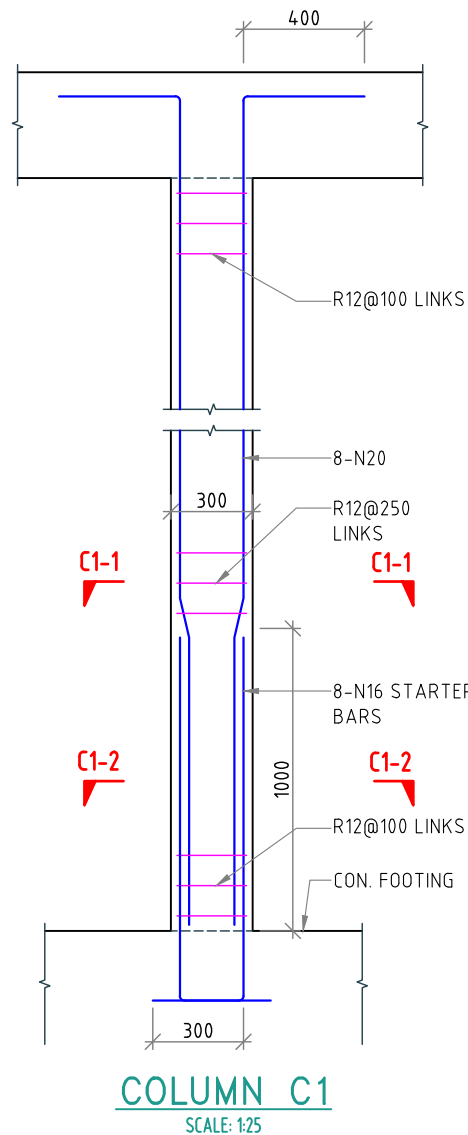


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			REVISION 02	
			TOTAL SHEET 15	
DRAWING TITLE: FIRST FLOOR SECTIONS & DETAILS				
LGA: CANTERBURY BANKSTOWN COUNCIL		CLIENT: TERRY VU		
PROJECT ADDRESS:		11 MERRIS STREET, KINGSGROVE, NSW 2208		

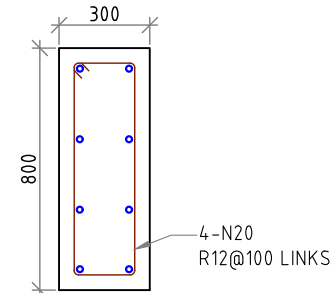
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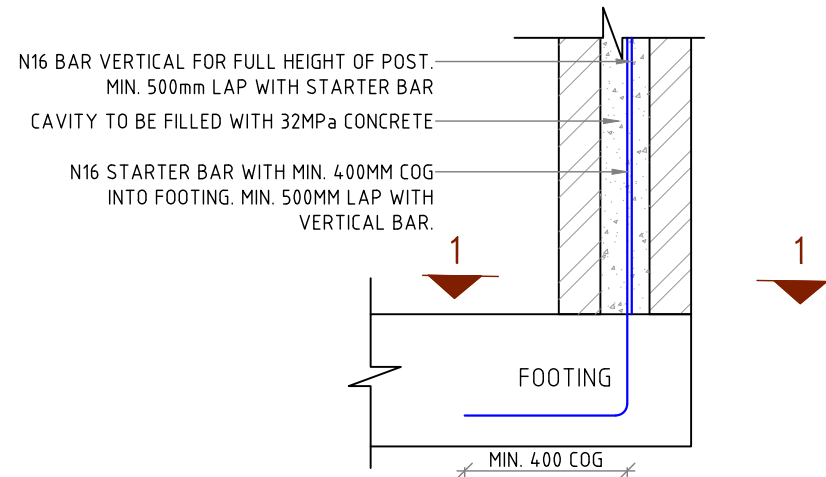
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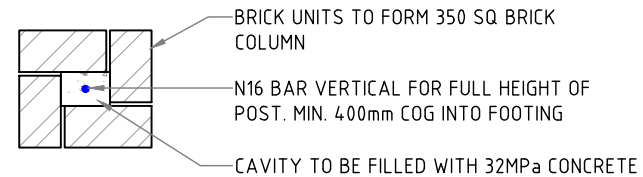
SECTION C1-1
SCALE 1:25




SECTION C1-2
SCALE 1:25



350SQ BRICK POST DETAILS
SCALE: 1:20



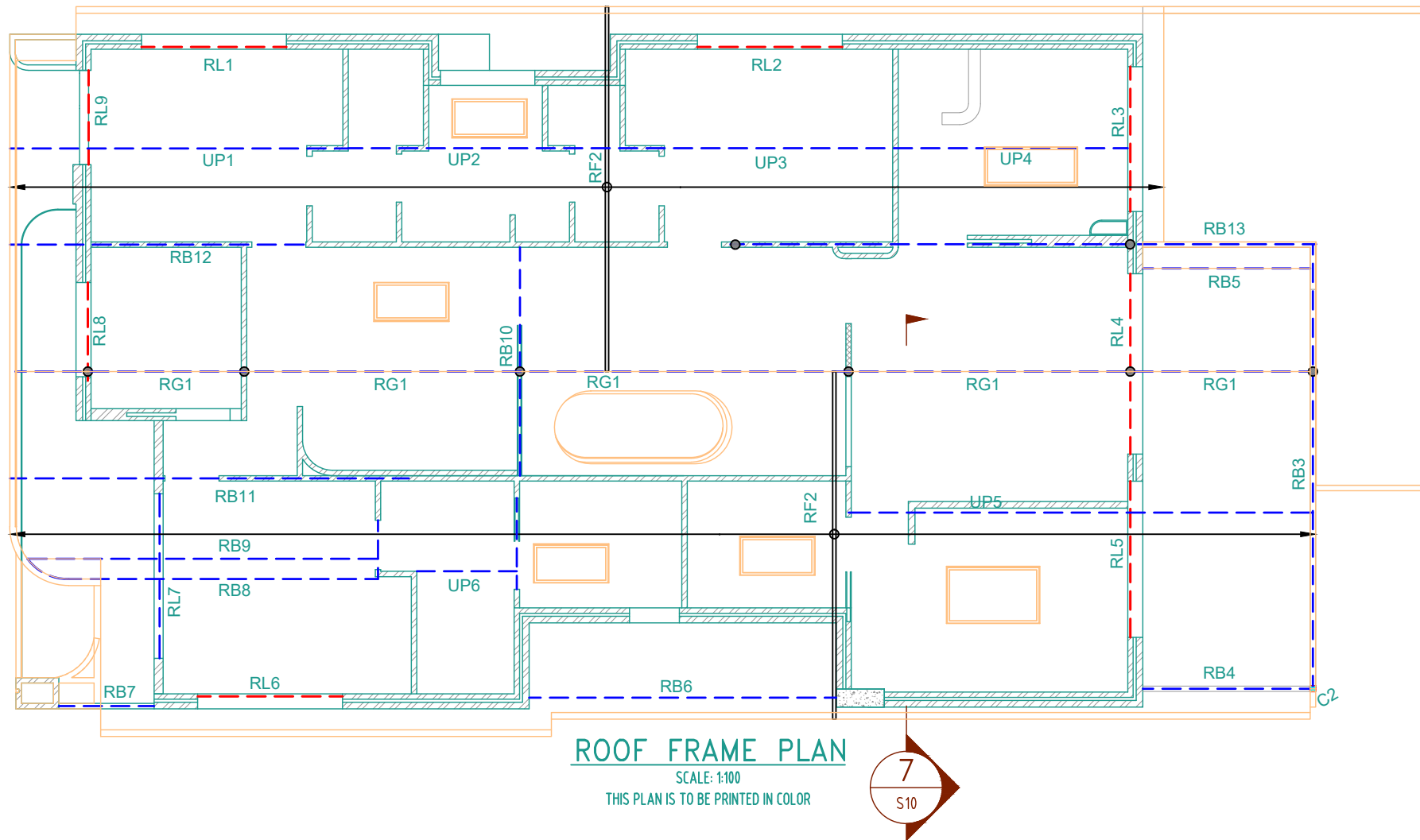
SECTION 1-1
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			REVISION 02	
			TOTAL SHEET 15	
DRAWING TITLE: FIRST FLOOR SECTIONS & DETAILS				
LGA: CANTERBURY BANKSTOWN COUNCIL		CLIENT: TERRY VU		
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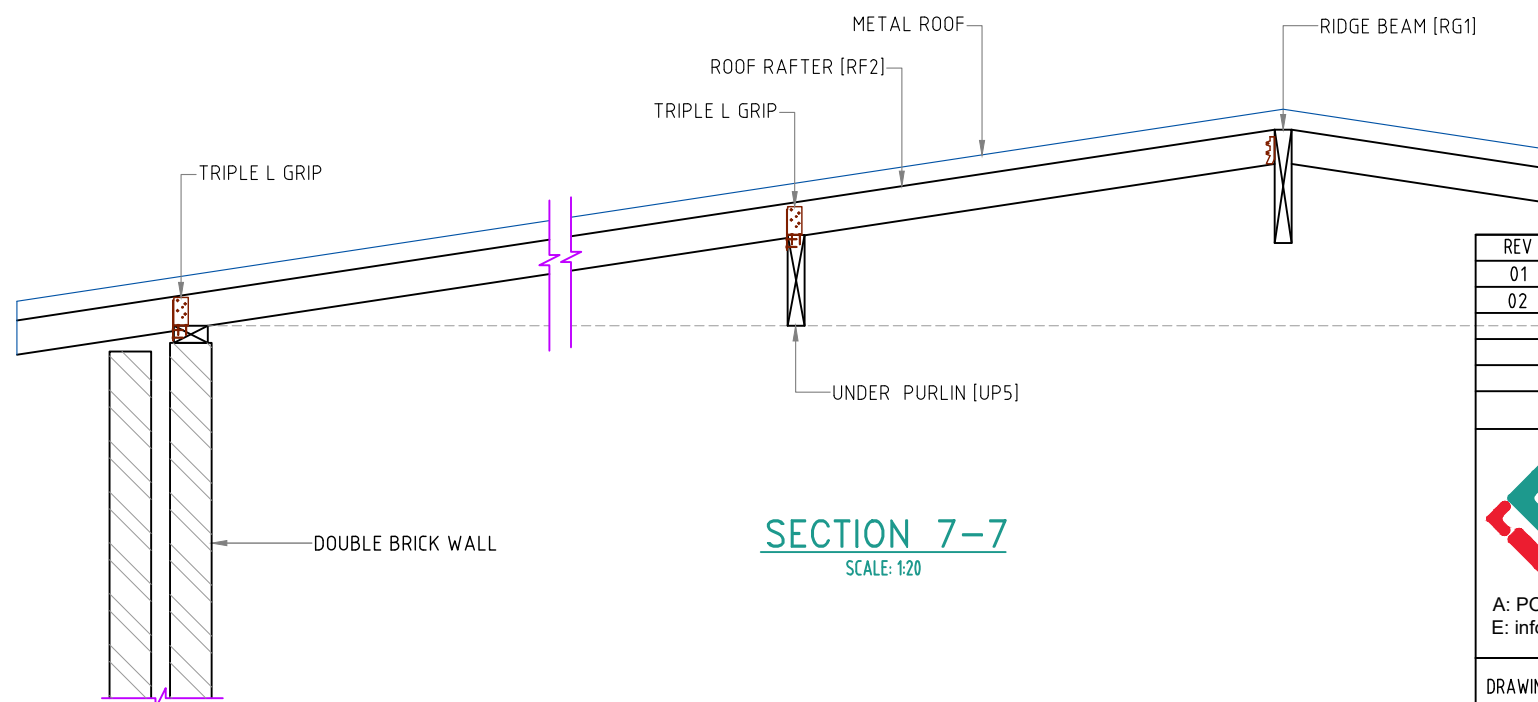
0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL



ROOF FRAME PLAN
SCALE: 1:100
THIS PLAN IS TO BE PRINTED IN COLOR

MEMBER SCHEDULE

MARK	DESIGNATION	COMMENTS
RG1	300x63 LVL hySPAN	MAX. SPAN 5500
RB3	2/300x45 LVL hySPAN	MAX. SPAN 6600
RB4,RB5,RB7	2/200x45 LVL hySPAN	MAX. SPAN 2800
RB6	2/200x45 LVL hySPAN	MAX. SPAN 5200
RB8,RB9	2/300x63 LVL hySPAN	MAX. SPAN 4100. CANTILEVER 2100
RB10	2/24.0x45 hySPAN	MAX. SPAN 3800
RB11,RB12	2/300x63 LVL hySPAN	MAX. SPAN 4100. CANTILEVER 2100
RB13	2/300x63 LVL hySPAN	MAX. SPAN 6000. CANTILEVER 3000
UP1	2/300x45 hySPAN	MAX. SPAN 3700
UP2,UP3,UP4	170x63 hySPAN	MAX. SPAN 3900
UP5	24.0x63 hySPAN	MAX. SPAN 4700
UP6	170x63 hySPAN	MAX. SPAN 1700
RL1,RL2,RL3	200x10WEB-200x10 FLANGE T-BAR	MAX. SPAN 2500
RL4,RL5,RL7	200x10WEB-200x10 FLANGE T-BAR	MAX. SPAN 3000
RL6	200x10WEB-200x10 FLANGE T-BAR	MAX. SPAN 2500
RF2	90x45 MPG10 @600CRS	MAX. SPAN 2600
C2	100SQ. HARDWOOD	TIMBER POST



SECTION 7-7
SCALE: 1:20

LEGEND

	LOAD BEARING WALLS UNDER FLOOR
	ROOF FRAME
	TIMBER BEAM/BEARER
	STEEL BEAM/BEARER
	STRUTTING POINT
	ROOF BEAM TIEDOWN POINT

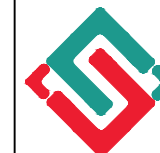
NOTES:

- THE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS.
- ALL DIMENSION ARE INDICATIVE ONLY AND TO BE CONFIRMED ON SITE BY THE CONTRACTOR/BUILDER.
- SPECIFIED MEMBER SIZES ARE MINIMUM ONLY AND CAN BE UPGRADED TO SUIT CONSTRUCTION CONDITIONS. CONSULT ENGINEER IF IN DOUBT.
- ONLY MAIN STRUCTURAL MEMBERS ARE SHOWN. OTHER MEMBERS AND COMPONENTS SIZE AND CONNECTION SUCH AS TIMBER LINTELS, ADDITIONAL BLOCKING AND STRUTTING ARE TO BE IN ACCORDANCE WITH AS 1684.2-2010.
- DETAIL CONNECTION REQUIREMENTS OF JOIST HANGER AND TRIPLE L GRIP ARE TO BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION.
- ENSURE THAT ALL TIMBER FRAMING, FIXINGS AND TIE DOWN DETAILS ARE IN ACCORDANCE WITH AS1684-RESIDENTIAL TIMBER FRAMED CONSTRUCTION.
- HOLD DOWN TO AS1684

DESIGN LOADINGS:

- LIVE LOAD: 0.25KPA (NON TRAFFIC-ABLE ROOF).
- DEAD LOAD: 0.4KPA FOR METAL ROOF.
- WIND LOAD: N2 CLASSIFICATION.

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01	ISSUED FOR CC SUBMISSION	19/02/2025	LT	ET
02	ISSUED FOR AMENDED	11/06/2025	LT	ET



5S PROJECTS
CONSULTING ENGINEERS
STRUCTURAL CIVIL HYDRAULIC
A.B.N 38 634 702 113

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DRAWING NUMBER
FSP-DWG-243035-S10

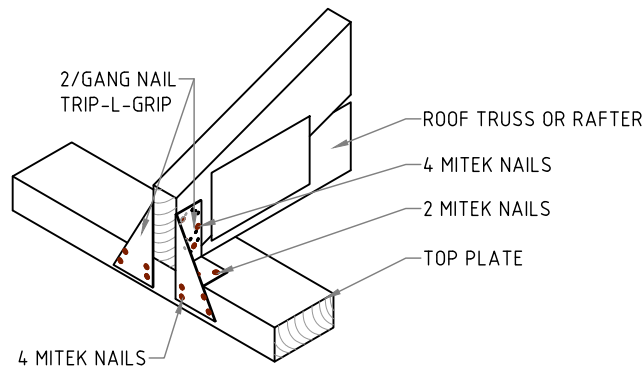
REVISION
02

TOTAL SHEET
15

DRAWING TITLE: ROOF PLAN	
LGA: CANTERBURY BANKSTOWN COUNCIL	CLIENT: TERRY VU
PROJECT ADDRESS: 11 MERRIS STREET, KINGSGROVE, NSW 2208	

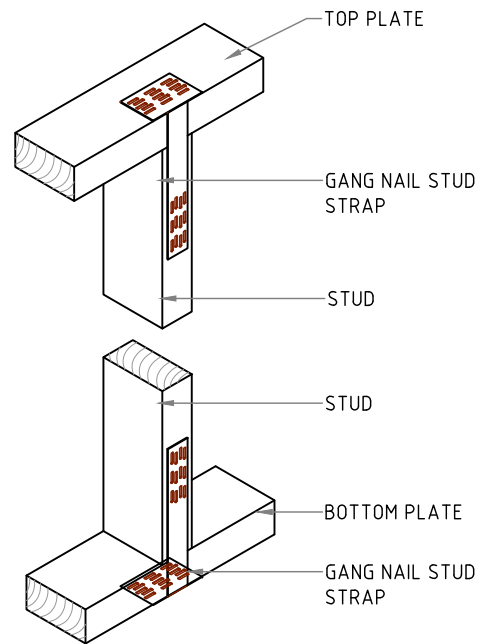
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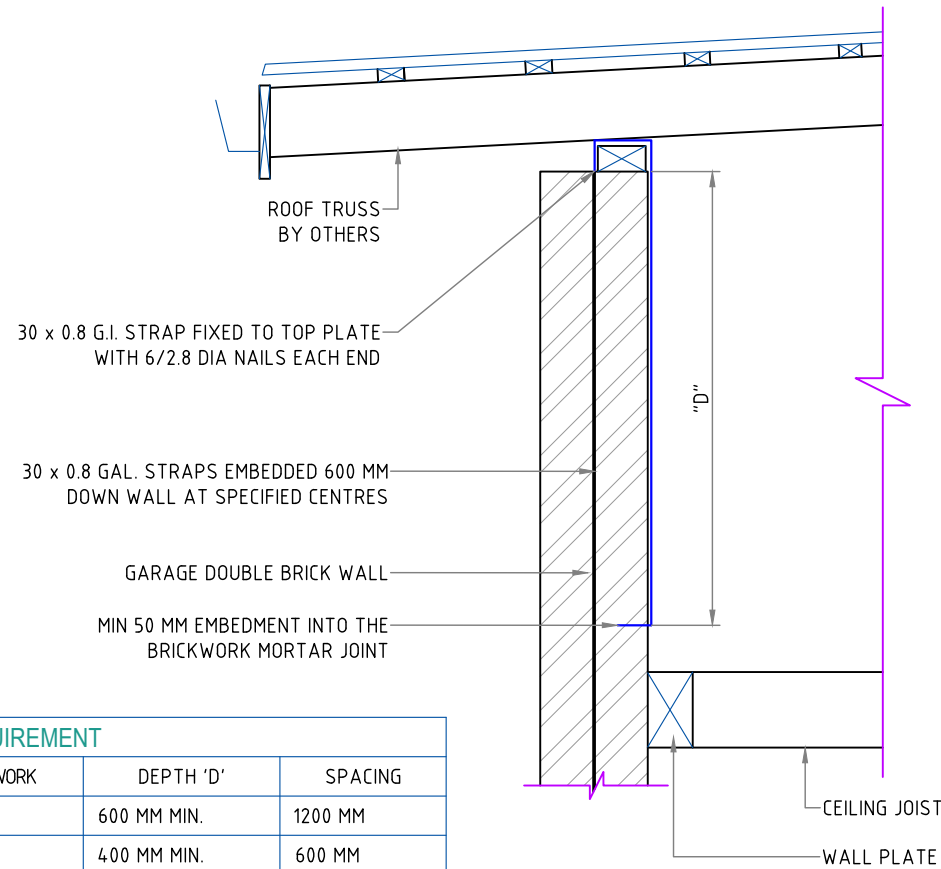
DETAIL-ROOF TRUSS TO TOP PLATE

NTS
USING TRIP-L-GRIP



DETAIL-ROOF TRUSS TO TOP PLATE

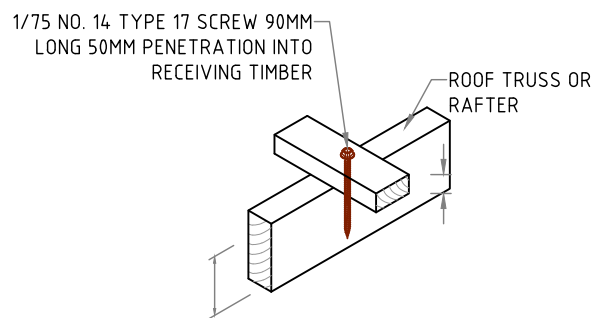
NTS
USING STUD STRAP



TIE DOWN REQUIREMENT		
HEIGHT OF BRICKWORK	DEPTH 'D'	SPACING
>600 MM	600 MM MIN.	1200 MM
<600 MM	400 MM MIN.	600 MM

DETAIL – WALL TOP PLATE TIE-DOWN-AT GARAGE WALL

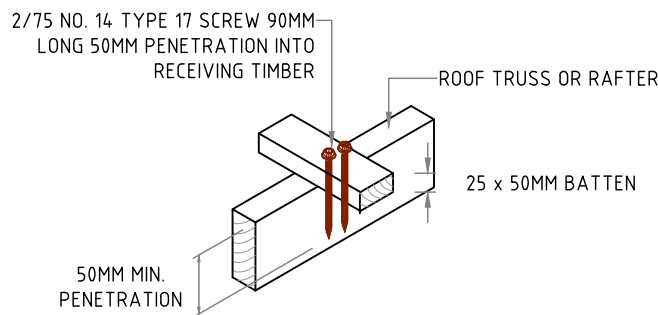
NTS



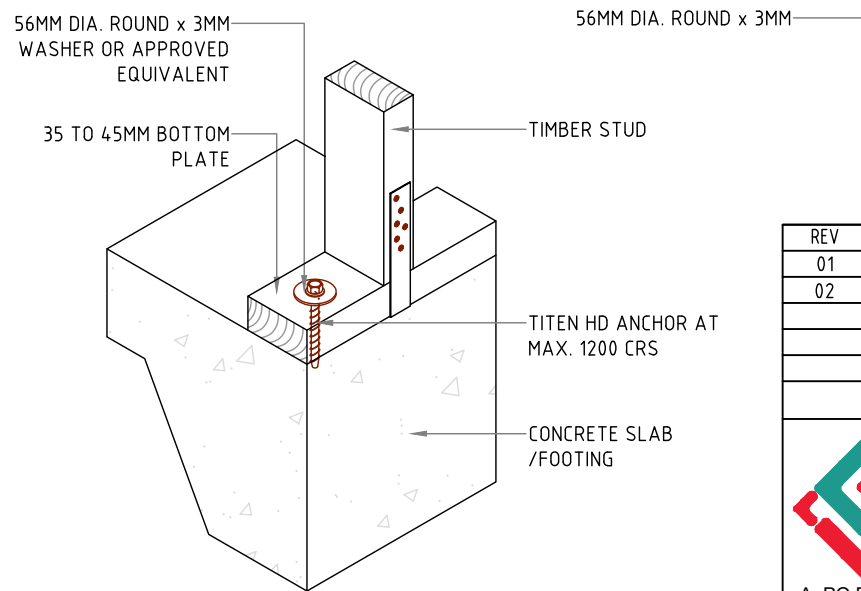
FOR GENERAL AREAS

DETAIL-BATTEN TIE-DOWN TO RAFTER

NTS
USING 14 GAUGE TYPE 17 SCREW




FOR AREAS WITHIN 1200MM OF EDGES

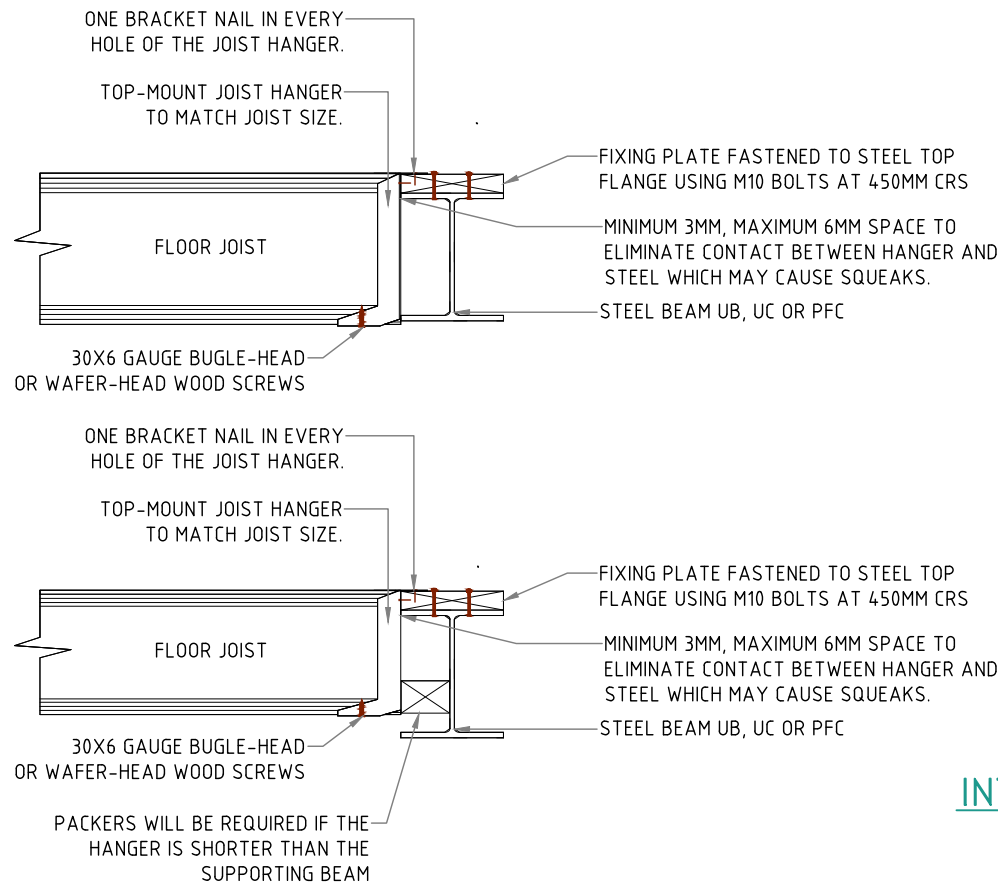


DETAIL-BOTTOM PLATE TO SLAB

NTS

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01	ISSUED FOR CC SUBMISSION	19/02/2025	LT	ET
02	ISSUED FOR AMENDED	11/06/2025	LT	ET
 <div>5S PROJECTS CONSULTING ENGINEERS STRUCTURAL CIVIL HYDRAULIC A . B . N 3 8 6 3 4 7 0 2 1 1 3 A: PO Box 208, Earlwood NSW 2206 M: 02 9906 5668 E: info@5sprojects.com.au W: 5sprojects.com.au</div>			DRAWING NUMBER FSP-DWG-243035-S11	
			REVISION 02	
			TOTAL SHEET 15	
DRAWING TITLE: TIEDOWN SPECIFICATION				
LGA: CANTERBURY BANKSTOWN COUNCIL		CLIENT: TERRY VU		
PROJECT ADDRESS: 11 MERRIS STREET, KINGSGROVE, NSW 2208				

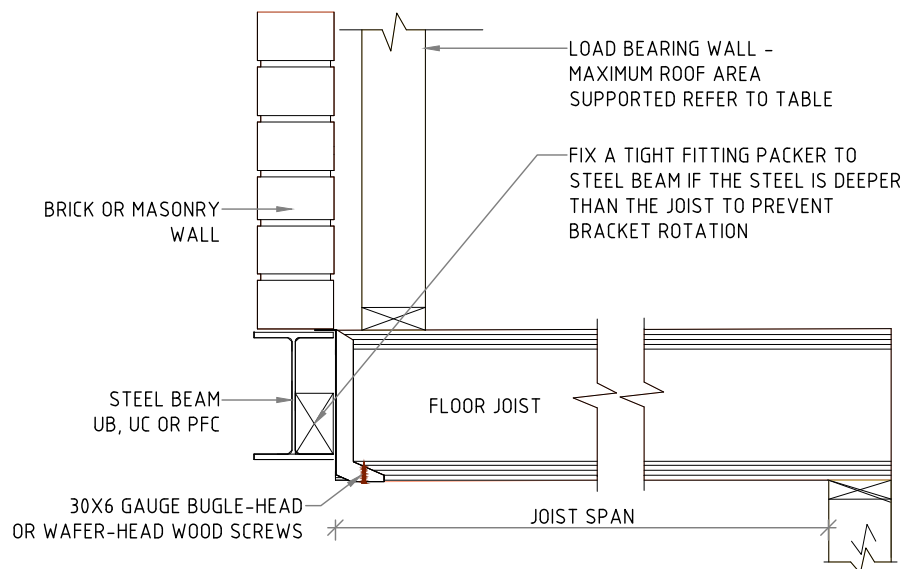
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NOTE:
IT IS IMPORTANT TO USE THE CORRECT NAIL SIZE. WOOD MAY SPLIT IF THE NAILS ARE TOO LARGE. NAILS SHOULD BE 3.75 X 40 MM, WITH A NAIL IN EACH BRACKET HOLE.

FLOOR JOIST TO STEEL BEAM

SCALE: NTS

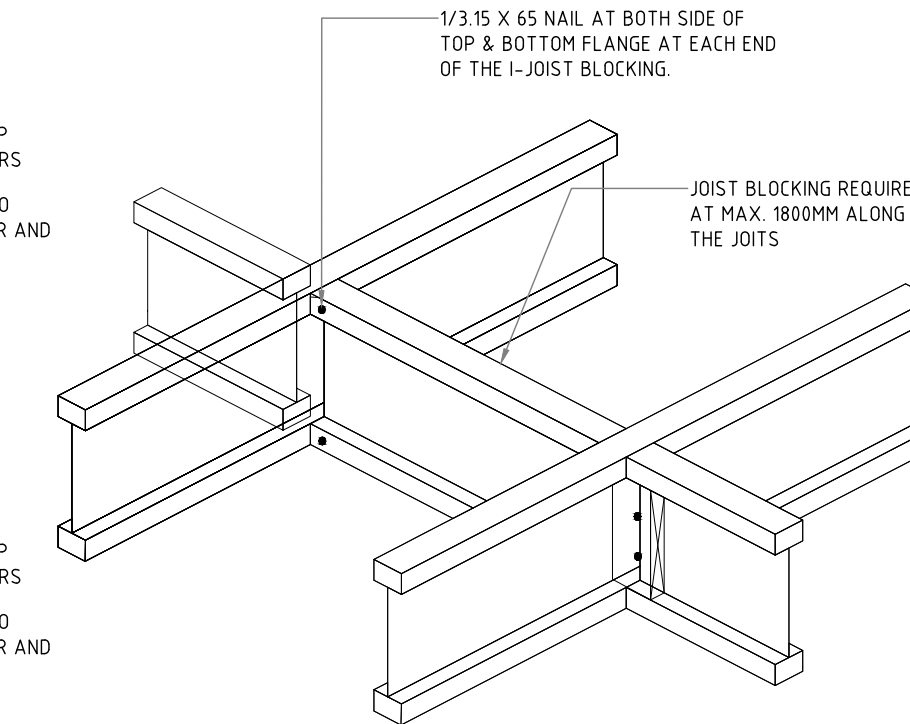


Maximum roof area supported (m2)								
Joist Spacing (mm)	300	400	450	600	300	400	450	600
Joist Span (mm)	Sheet roof				Tile roof			
3500	21.7	15.0	12.8	8.2	9.6	6.7	5.7	3.6
4000	21.1	14.5	12.3	6.9	9.4	6.4	5.5	3.1
4500	20.5	13.9	11.7	5.7	9.1	6.2	5.2	2.5
5000	20.0	13.4	10.4	4.4	8.9	5.9	4.6	2.0
5500	19.4	12.1	9.1	3.2	8.6	5.4	4.1	1.4

xxBased upon worst case of 40mm flange width (conservative for wider flange joists)

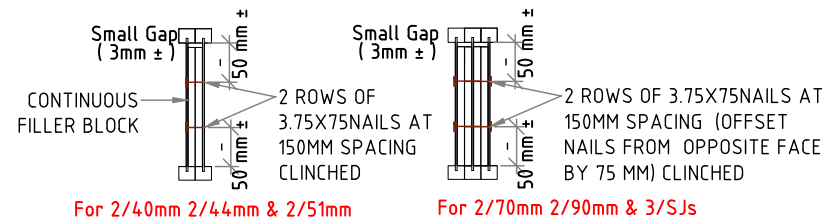
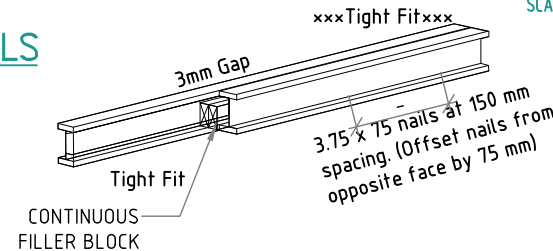
JOIST SUPPORT OFFSET LOAD BEARING WALLS

SCALE: NTS



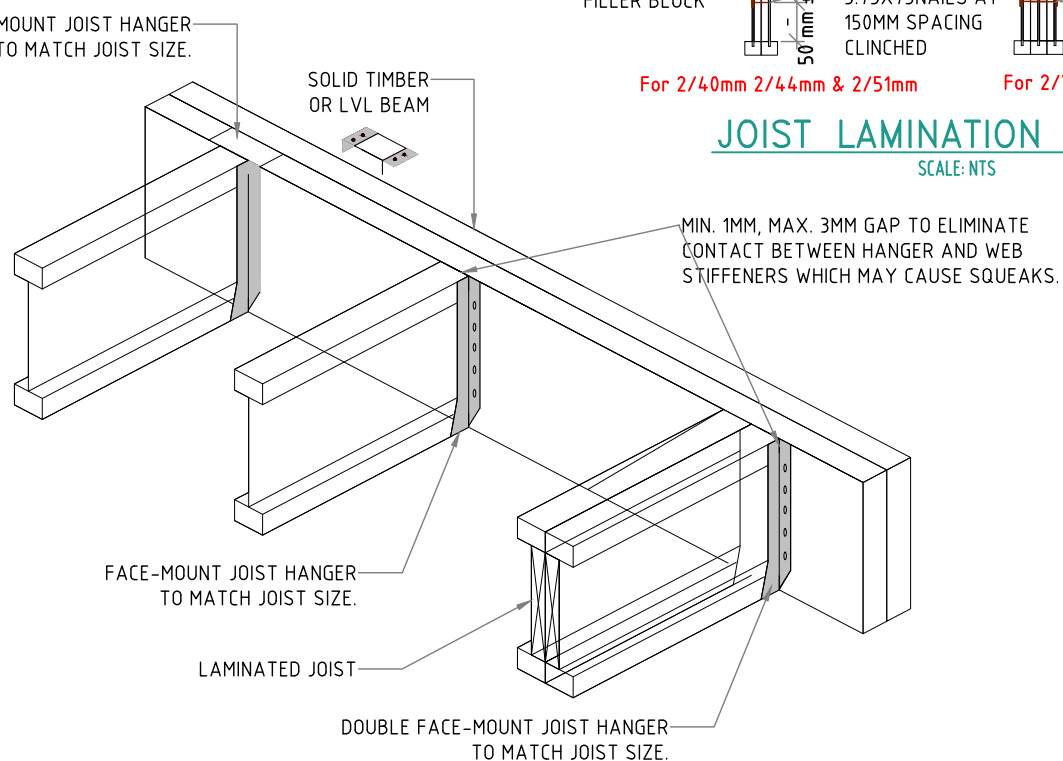
INTERMEDIATE BLOCKING DETAILS

SCALE: NTS



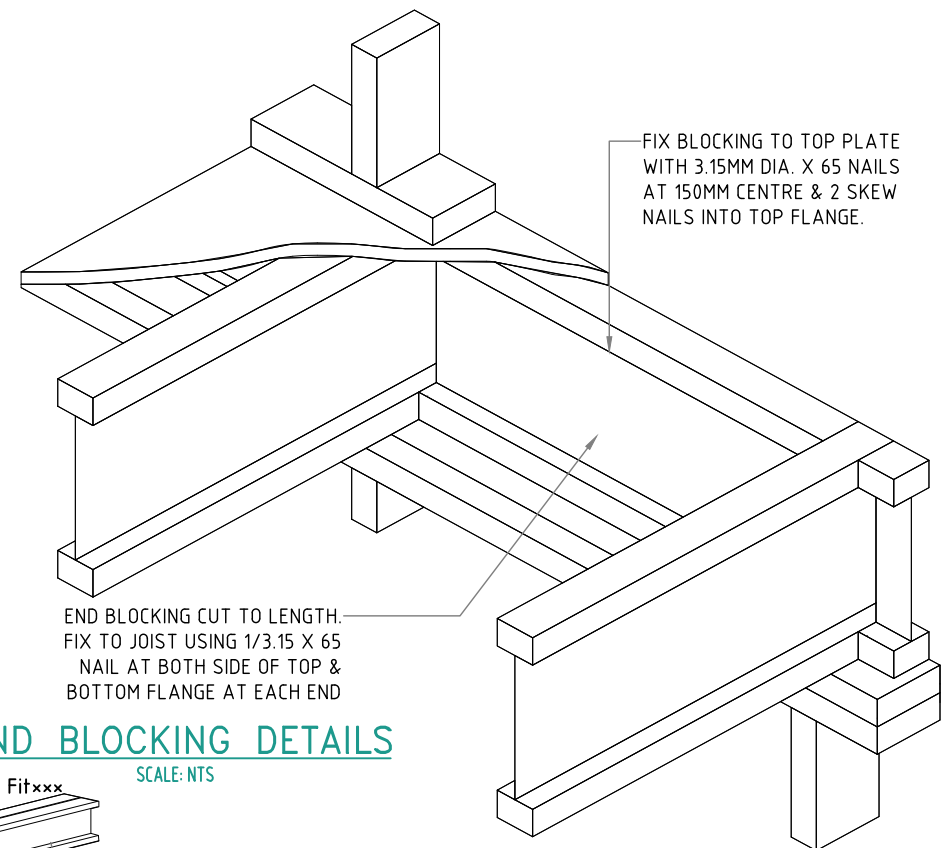
JOIST LAMINATION DETAILS

SCALE: NTS



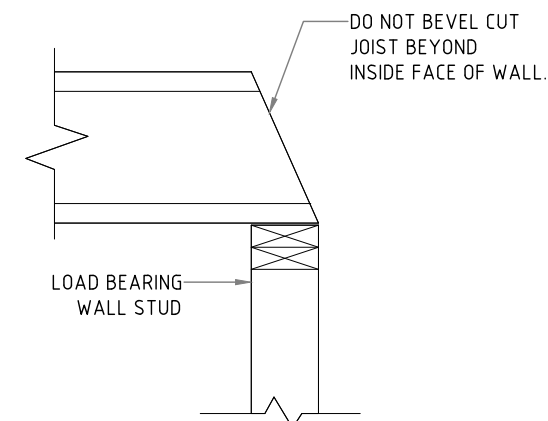
FLOOR JOIST TO SOLID/LVL TIMBER BEAM

SCALE: NTS



END BLOCKING DETAILS


SCALE: NTS



NOTE:
SMART JOIST BLOCKING OR TIMBER X - BRACING REQUIRED AT BEARING FOR LATERAL SUPPORT.

BEVEL CUT DETAILS

SCALE: NTS

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01	ISSUED FOR CC SUBMISSION	19/02/2025	LT	ET
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			REVISION 02	
			TOTAL SHEET 15	
DRAWING TITLE: TYPICAL HYJOIST CONNECTION				
LGA: CANTERBURY BANKSTOWN COUNCIL			CLIENT: TERRY VU	
PROJECT ADDRESS: 11 MERRIS STREET, KINGSGROVE, NSW 2208				



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0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL

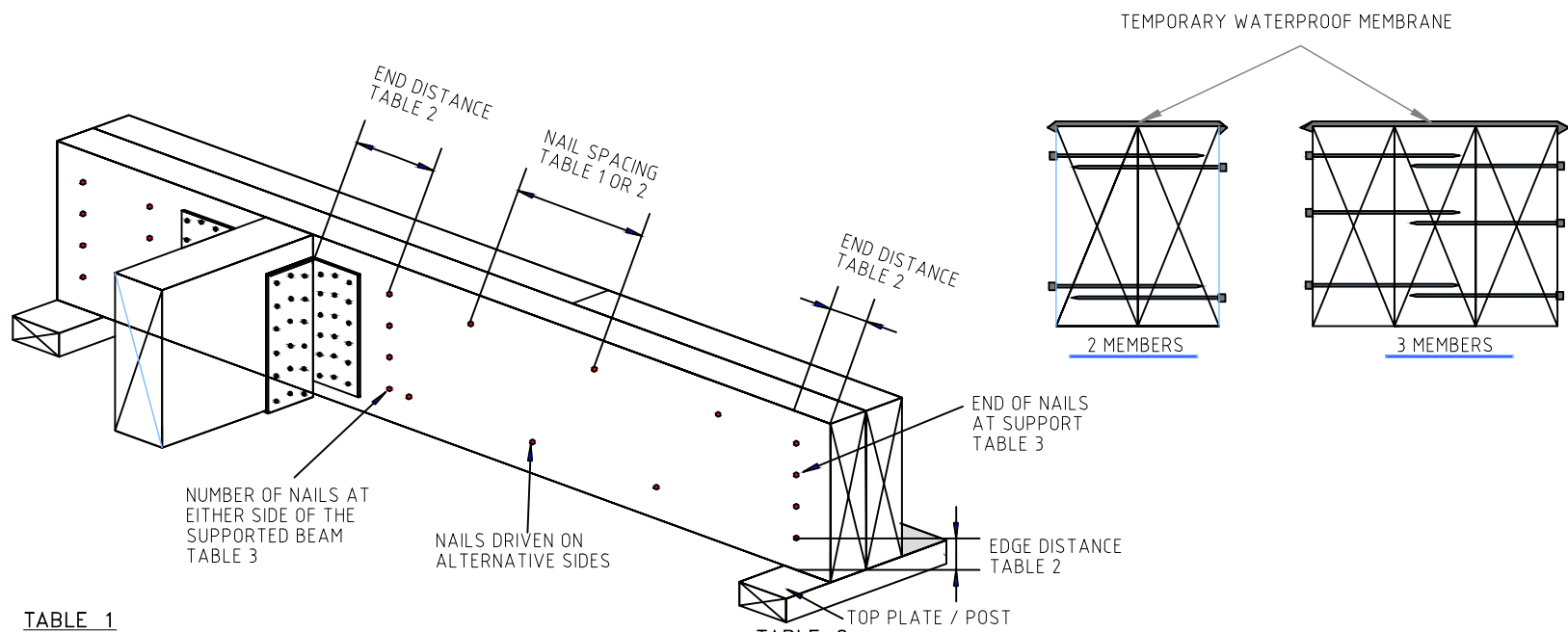


TABLE 1

TOP LOADED BEAM			
SECTION WIDTH	NAIL SIZE & LENGTH	NO. OF NAIL ROWS BOTH SIDES	NAIL SPACING
2/35mm	3.75 X 75mm	2 OR 3	300mm
3/35mm or 2/42mm	3.75 X 90mm	2 OR 3	300mm
3/42mm OR 2/58mm	3.75 X 100mm	2 OR 3	300mm
3/58mm or 2/65mm OR 3/65mm	NOT SUITABLE REFER TO THE BOLT LAMINATION DETAIL		

xBEAM DEPTH IN EXCESS OF 300mm : 3 ROWS OF NAILS AT 300mm CRS

TABLE 4

BEAM DEPTH (mm)	MIN. NUMBER OF NAILS REQUIRED	
	AT SUPPORT	AT EITHER SIDE OF THE SUPPORTING BEAM
90 TO 150	3	3
160 TO 300	5	6
>300	6	8

TABLE 2

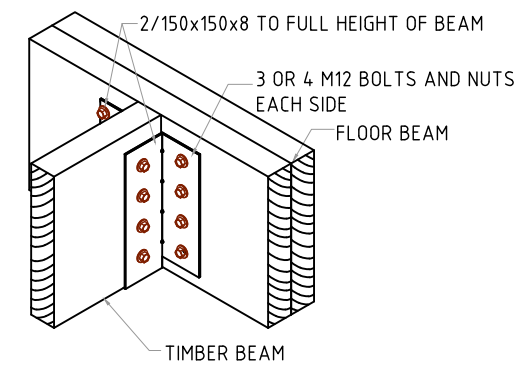
SIDE LOADED BEAM				
SECTION WIDTH	NAIL SIZE & LENGTH	NO. OF NAIL ROWS BOTH SIDES	NAIL SPACING	MAX. FLOOR JOIST SPAN SUPPORTED BY OUTER MEMBERxx
2/35mm	3.75 X 75mm	2	300mm	2300mm
2/35mm or 3/35mm	3.75 X 75mm	3	300mm	3400mm
2/42mm	3.75 X 90mm	2	300mm	2400mm
2/42mm or 3/42mm	3.75 X 90mm	3	300mm	3600mm
2/58mm or 3/58mm	3.75 X 100mm	3	200mm	4000mm
2/65mm or 3/65mm	3.75 X 100mm	3	200mm	2900mm
2/65mm or 3/65mm	3.75 X 100mm	3	100mm	5400mm

TABLE 3

NAIL SIZE	MIN. EDGE DISTANCE	MIN. END DISTANCE	MIN. DISTANCE BETWEEN NAILS (ACROSS THE GRAIN)
3.75mm	30mm	80mm	20mm

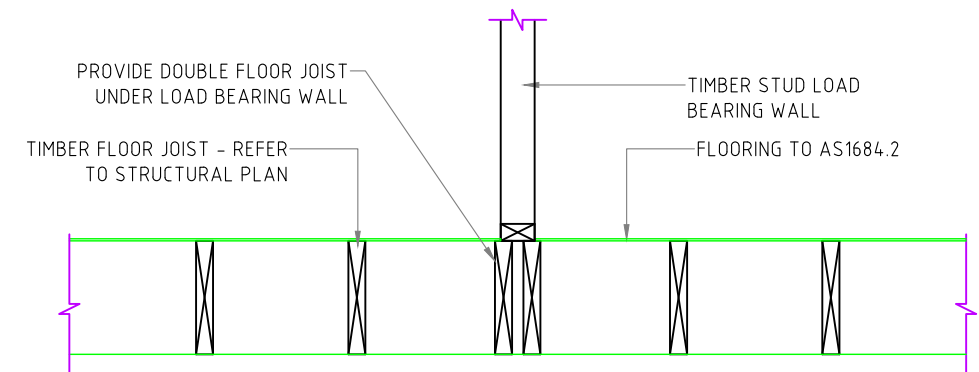
MULTIPLE MEMBER OF SMARTLVL

NTS
NAIL LAMINATING DETAIL



TIMBER BEAM CONNECTION


SCALE: 1:10



TYPICAL SECTION THROUGH LOAD BEARING WALL

SCALE: NTS

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	REVISION 02
	TOTAL SHEET 15
DRAWING TITLE: MULTIPLE MEMBER OF SMARTLVL	
LGA: CANTERBURY BANKSTOWN COUNCIL	CLIENT: TERRY VU
PROJECT ADDRESS: 11 MERRIS STREET, KINGSGROVE, NSW 2208	


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JOINT		MINIMUM FIXING FOR EACH JOINT
WALL FRAMING		
PLATES TO STUDS		PLATES UP TO 38 MM THICK – 2/75 X 3.05 MM NAILS THROUGH PLATE; PLATES 38 TO 50 MM THICK – 2/90 X 3.05 MM NAILS THROUGH PLATE; OR 2/75 X 3.05 MM NAILS SKEWED THROUGH STUD INTO PLATE
NOGGINGS TO STUDS		2/75 X 3.05 MM NAIL SKEWED OR THROUGH NAILED
TIMBER BRACES TO STUDS OR PLATES		2/50 X 2.8 MM DIA. NAILS AT EACH JOINT
LINTEL TO JAMB STUD		2/75 X 3.05 MM DIA. NAILS AT EACH JOINT
BOTTOM PLATES TO JOISTS	NON-LOAD BEARING AND NON-BRACING WALLS	2/2.8 MM DIA. NAILS AT MAX. 600 MM CENTRES
	LOAD BEARING, INCLUDING WALLS WITH TYPE A BRACES	PLATES UP TO 38 MM THICK – 2/75 X 3.05 MM NAILS AT MAX. 600 MM CENTRES PLATES 38 TO 50 MM THICK – 2/90 X 3.05 MM NAILS AT MAX. 600 MM CENTRES
	WALLS WITH TYPE B BRACES	SEE TABLE 8.3
BOTTOM PLATES TO CONCRETE SLAB, INCLUDING WALLS WITH TYPE A BRACES		ONE 75 MM MASONRY NAIL (HAND DRIVEN AT SLAB EDGE), SCREW OR BOLT AT NOT MORE THAN 1200 MM CENTRES
BOTTOM PLATES TO CONCRETE SLABS FOR WALLS WITH TYPE B BRACES		SEE TABLE 8.3
RIBBON PLATE TO TOP PLATE		REFER NOTES TO SPAN TABLES IN APPENDIX A, AND CLAUSE 2.5 AND CLAUSE 9.2.8
MULTIPLE STUDS		1/75 MM NAIL AT MAX. 600 MM CENTRES
POSTS TO BEARERS OR JOISTS		1/M12 OR 2/M10 BOLTS (UNLESS OTHERWISE SPECIFIED)
ROOF FRAMING		
ROOF TRUSSES TO TOP PLATES	STANDARD TRUSSES	SEE CLAUSE 1.11; OR ONE FRAMING ANCHOR WITH THREE NAILS TO EACH LEG; OR 1/30 × 0.8 MM G.I. STRAP OVER TRUSS WITH STRAP ENDS FIXED TO PLATE WITH 3/2.8MM DIA. NAILS PLUS 2/75 MM SKEW NAILS
	GIRDER TRUSSES	IN ACCORDANCE WITH TABLES 9.5, 9.6, OR 9.7
RAFTERS TO TOP PLATES – COUPLED ROOFS		2/75 MM SKEW NAILS PLUS, WHERE ADJOINING A CEILING JOIST OF (A) 38 MM THICK – 2/75 MM NAILS; OR (B) 50 MM THICK – 2/90 MM NAILS, FIXING JOIST TO RAFTER
RAFTERS TO TOP PLATES – NON-COUPLED ROOFS		2/75 MM SKEW NAILS
RAFTER TO RIDGE		2/75 MM SKEW NAILS
CEILING JOISTS TO TOP PLATES		2/75 MM SKEW NAILS
CEILING JOISTS TO RAFTERS		IN COUPLED ROOF CONSTRUCTION, , 1/75 HAND-DRIVEN NAIL OR 2/75 × 3.05 MM MACHINE–DRIVEN NAILS
COLLAR TIES TO RAFTERS		1/M10 BOLT FOR TIES OVER 4.2 M OR 3/75 MM NAILS FOR TIES UP TO 4.2 M LONG
VERANDAH, RIDGE, INTERMEDIATE BEAMS TO POST		1/M12 OR 2/M10 BOLTS (UNLESS OTHERWISE SPECIFIED FOR TIE-DOWN)

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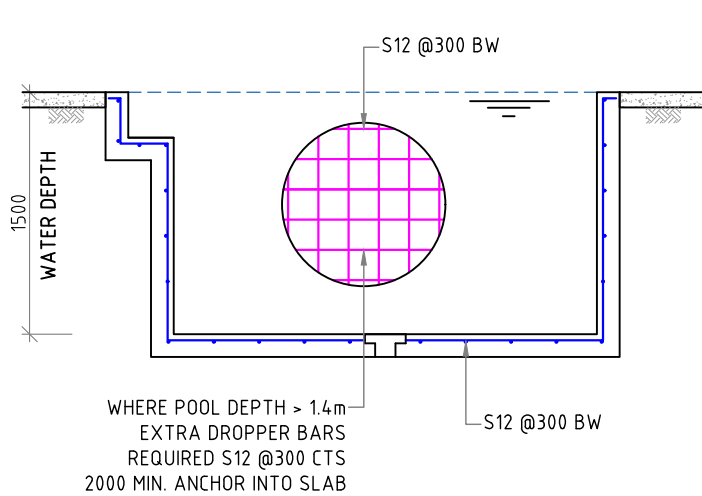
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	REVISION 02
	TOTAL SHEET 15

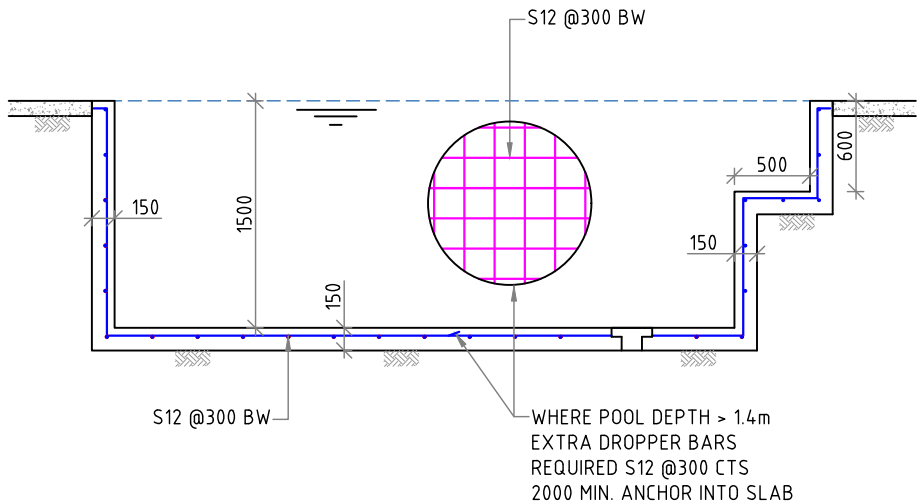
DRAWING TITLE: TIMBER FRAME FIXING DETAILS	
LGA: CANTERBURY BANKSTOWN COUNCIL	CLIENT: TERRY VU
PROJECT ADDRESS: 11 MERRIS STREET, KINGSGROVE, NSW 2208	

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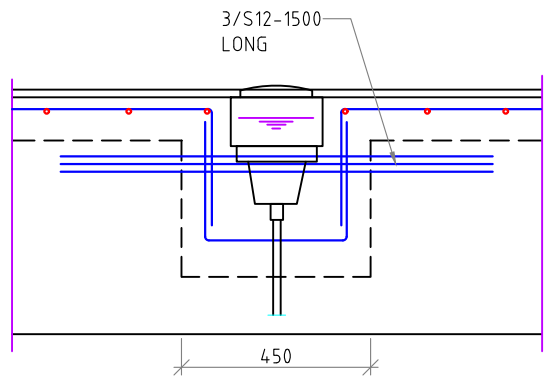
0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL



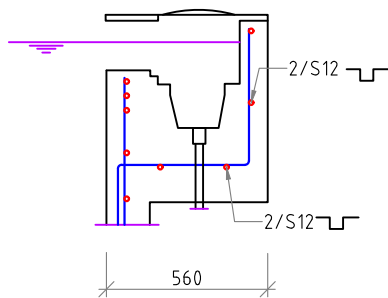
DEEP END SECTION
SCALE: 1:50



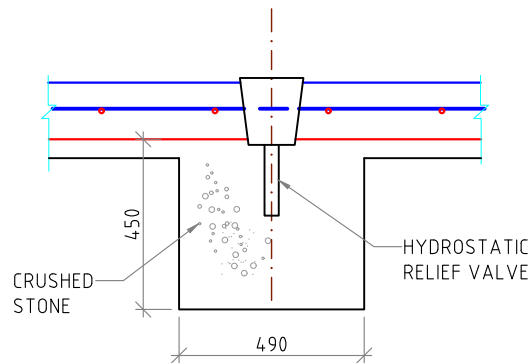
LONGITUDINAL SECTION
SCALE: 1:50




SKIMMER DETAIL (ELEVATION)
NOT TO SCALE



SKIMMER DETAIL (SECTION)
NOT TO SCALE



MAIN DRAIN DETAIL
NOT TO SCALE

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		REVISION 02		
		TOTAL SHEET 15		
DRAWING TITLE: SWIMMING POOL DETAILS				
LGA: CANTERBURY BANKSTOWN COUNCIL		CLIENT: TERRY VU		
PROJECT ADDRESS: 11 MERRIS STREET, KINGSGROVE, NSW 2208				

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