

DONOVAN

ASSOCIATES

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STRUCTURAL ENGINEERING DETAILS

LOT 1

74 SOLDIERS AVENUE

FRESHWATER

STRUCTURAL DRAWING SCHEDULE			
DRAWING No.	DRAWING TITLE	DRAWING REVISION	DOCUMENT ISSUE
S1.000	GENERAL & SITE NOTES	A	2
S1.001	CONCRETE & STRUCTURAL STEEL NOTES	A	2
S1.002	TYPICAL WAFFLE RAFT DETAILS	A	2
S2.000	GROUND FLOOR SLAB PLAN	B	2
S2.001	B.O.A. / SITE PLAN	A	2
S3.000	EDGE BEAM (EB) & STIFFENED BEAM (SB) DETAILS	A	2
S3.001	INTERNAL STEP BEAM (IB) DETAILS	A	2
S3.002	DEEPENED BEAM (DEB) DETAILS	A	2
S3.003	RAINWATER TANK & ACU SLAB DETAILS	B	2
S3.004	SEWER DETAILS	A	2
S3.005	SEWER DETAILS	A	2

GENERAL

- A1.

THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL, OTHER CONSULTANTS' DRAWINGS, SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ALL DISCREPANCIES SHALL BE REFERRED TO THE ARCHITECT/BUILDER AND BE RESOLVED BEFORE WORK PROCEEDS.
- A2.

ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT S.A.I GLOBAL CODES AND WITH THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES AS THEY RELATED SPECIFICALLY TO STRUCTURE, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- A3.

ALL WORK SHALL BE CARRIED OUT IN COMPLIANCE WITH THE REQUIREMENTS OF WORK COVER AND THE OH&S ACT.
- A4.

ALL DIMENSIONS SHOWN AND/OR RELEVANT TO SETTING OUT AND OFF-SITE WORK SHALL BE VERIFIED BY THE ARCHITECT/BUILDER BEFORE CONSTRUCTION AND FABRICATION IS COMMENCED. ENGINEER'S DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS.
- A5.

DURING CONSTRUCTION THE BUILDER SHALL MAINTAIN SAFE AND STABLE THE STRUCTURE AND NEIGHBOURING STRUCTURES. NO PART SHALL BE OVERSTRESSED. TEMPORARY BRACING SHALL BE PROVIDED BY THE BUILDER TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.
- A6.

UNLESS NOTED OTHERWISE, ALL LEVELS ARE EXPRESSED IN METERS AND ALL DIMENSIONS ARE IN MILLIMETERS.
- A7.

THE APPROVAL OF A SUBSTITUTION SHALL BE SOUGHT FROM THE ENGINEER. SUCH SUBSTITUTION SHALL NOT BE AN AUTHORIZATION FOR A VARIATION TO THE CONTRACT. ANY VARIATIONS INVOLVED MUST BE TAKEN UP WITH THE BUILDER/ARCHITECT BEFORE THE WORK COMMENCES.
- A8.

THE SECTIONS & DETAILS ON THESE DRAWINGS ARE INTENDED TO GIVE THE STRUCTURAL SPECIFICATIONS ONLY. ARCHITECTURAL SECTIONS & DETAILS ON THESE DRAWINGS ARE ILLUSTRATIVE ONLY.
- A9.

ABBREVIATIONS USED:

ALT

BTM

CTS

C/S

DIA

FGL

GALV

MAX

MIN

NSOP

U.N.O

U/S

ALTERNATIVE

BOTTOM

CENTRES

BRICK / BLOCK COURSE

DIAMETER

FINISHED GROUND LINE

HOT DIP GALVANISED

MAXIMUM

MINIMUM

NOT SHOWN ON PLAN

UNLESS NOTED OTHERWISE

UNDERSIDE

SITE CLASSIFICATION

- T1.

THE SITE HAS BEEN CLASSIFIED WITH THE PROVISIONS OF AS2870 (RESIDENTIAL SLABS AND FOOTING CODE)

THE DOCUMENTS HAVE BEEN PREPARED USING THE ABOVE CODE, HOWEVER THE SOIL TYPE AND SITE CONDITIONS WILL BE CHECKED BY THIS FIRM PRIOR TO THE PLACEMENT OF CONCRETE.
- SITE CLASSIFICATION:

A
- SOIL CLASSIFICATION:

A
- CLASSIFIED BY:

STS GEOTECHNICS PTY LTD
- REPORT No:

23/0783
- DATED:

APRIL 5, 2023
- A1.

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

INSPECTIONS

- D1.

THESE DOCUMENTS ARE SIGNED SUBJECT TO CERTIFICATE OF INSPECTION BEING ISSUED BY THIS FIRM. ALL PIERS, SLAB & FOOTING REINFORCEMENT SHALL BE INSPECTED BY THE ENGINEER PRIOR TO THE POURING OF CONCRETE. GIVE 24 HRS NOTICE TO THE ENGINEER.
- D2.

THE PURPOSE OF THE STRUCTURAL INSPECTIONS IS TO VERIFY THAT THE BUILDER HAS COMPLIED WITH THE STRUCTURAL REQUIREMENTS OF THE CONTRACT DOCUMENTATION, NOT TO BE THE FIRST CHECK OF A SUBCONTRACTOR'S INTERPRETATION OF THESE REQUIREMENTS. SHOULD THE WORK CLEARLY BE UNSATISFACTORY AT THE TIME THE INSPECTION IS ARRANGED, THE VISIT AND SUBSEQUENT 'ABORTIVE' INSPECTION VISITS (INCLUDING ASSOCIATED TRAVEL AND OFFICE TIME) WILL BE CHARGED TO THE BUILDER.

SITE PREPARATION & EXCAVATION

- E1.

STRIP TOPSOIL AND VEGETATION 100mm MIN DEPTH AND STOCKPILE.
- E2.

THE SITE IS TO BE BENCHED BY CUT AND FILL TO DESIRED LEVELS. ALL EXCAVATION AND BACKFILL SHALL BE CARRIED OUT NEATLY TO THE LINES, LEVELS AND GRADES SPECIFIED BY THE BUILDER/ARCHITECT.
- E3.

FILL IS TO BE PLACED IN 150mm MAX LAYERS AND THOROUGHLY COMPACTED USING AN EXCAVATOR. UNLESS THIS FILL IS COMPACTED IN ACCORDANCE WITH CLAUSE 6.4.2 OF AS2870, IT IS NOT ADEQUATE TO PROVIDE LONG TERM STRUCTURAL SUPPORT TO THE SLAB/FOOTING SYSTEM AND THEREFORE, PIERS MUST BE INSTALLED. ALTERNATIVELY THE FILL CAN BE PLACED, TESTED AND CERTIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER AS "CONTROLLED FILL" AS DEFINED IN AS3798. THIS IS THEN DEEMED TO BE ADEQUATE TO SUPPORT THE SLAB/FOOTING SYSTEM.
- E4.

THE FILL IS TO EXTEND PAST THE EDGE OF THE HOUSE BY AT LEAST 1m AND SHALL BE BATTERED OFF AT NOT STEEPER THAN TWO HORIZONTALLY TO ONE VERTICALLY OR RETAINED BY A SUITABLE STRUCTURE PROVIDED BY THE OWNER OR BUILDER AS SOON AS POSSIBLE.
- E5.

THE FINISHED LEVELS SHALL ALLOW FOR THE MAIN SLAB LEVEL TO BE AT LEAST 300mm 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 1m AWAY FROM THE SLAB IS CONSIDERED ADEQUATE. SUBSOIL DRAINS (AGRICULTURAL DRAINS) ARE CONSIDERED DESIRABLE BUT SHOULD NOT BE LOCATED DIRECTLY ADJACENT TO THE FOOTINGS.
- E7.

TRENCH EXCAVATIONS FOR SERVICES OR AGRICULTURAL DRAINS PARALLEL TO THE EDGE OF THE SLAB SHALL BE IN ACCORDANCE OF THE BORED PIER NOTES. THE BASE OF THE SERVICE TRENCH SHALL BE SLOPED AWAY FROM THE BUILDING & BACKFILLED IN ACCORDANCE WITH AS2870.
- E8.

FOR ALL FILLED AREAS IN BUILDING PLATFORM, INTERNAL BEAMS SHALL BE PIERED AT 2400 MAX CTS. AT RIB INTERSECTIONS.
- E9.

SURFACE DRAINAGE SHALL BE DESIGNED & CONSTRUCTED TO AVOID WATER PONDING AGAINST OR NEAR THE FOOTING. DURING CONSTRUCTION, WATER RUN-OFF SHALL BE COLLECTED & CHanneLED AWAY FROM THE BUILDING.
- E10.

THE MINIMUM HEIGHT OF THE SLAB ABOVE LANDSCAPING, PAVING OR F.G.L. SHALL BE 150mm. WHERE ADJOINING PAVED AREAS SLOPE AWAY FROM THE BUILDING, THIS HEIGHT MAY BE REDUCED TO 50mm.
- E11.

TEMPORARY EXCAVATIONS IN THE AREA OF THE FOOTING SHALL BE CARRIED OUT ONLY WHERE ADEQUATE SUPPORT FOR THE FOOTING SYSTEM IS MAINTAINED SUCH AS PIERING BENEATH THE EXPECTED EXCAVATION LEVEL OR UNDERPINNING.
- E12.

PERMANENT EXCAVATIONS OF ANY VERTICAL OR NEAR VERTICAL STRUCTURE WITHIN 2m OF THE BUILDING & DEEPER THAN 0.6m IN MATERIAL OTHER THAN ROCK SHALL BE ADEQUATELY RETAINED OR BATTERED.
- E13.

IT IS THE RESPONSIBILITY OF THE OWNER TO ENSURE THE SITE IS PROPERLY MAINTAINED. APPENDIX B OF AS2870 PROVIDES INFORMATION AND GUIDANCE ON THE MAINTENANCE OF FOUNDATION SITE CONDITIONS. SUBJECT TO ADOPTION OF THESE RECOMMENDATIONS THE BUILDING MAY EXPERIENCE MINOR DAMAGE BUT OF A SEVERITY NOT EXCEEDING THE LEVELS DEFINED IN APPENDIX C OF AS2870.

BORED PIERS

- F1.

IF PIER LOCATIONS ARE NOT SHOWN ON THE PLAN, THEN ALL EDGE BEAMS, INTERNAL BEAMS AND OTHER LOAD BEARING AREAS THAT DO NOT BEAR ON FIRM NATURAL GROUND AS NOTED IN "FOOTING AND SLAB NOTES" NOTE F1 ARE TO BE PIERED IN ACCORDANCE WITH THE FOLLOWING PIERING SCHEDULE:
- F2.

IT SHOULD BE NOTED THAT IF ANY OF THE FOOTING BEAMS ENCOUNTER ROCK OR SHALE, THEN ALL FOOTING BEAMS AND LOAD BEARING SPINE BEAMS SHALL BE PIERED TO ROCK OR SHALE.
- F3.

PIERING TO STRATA OTHER THAN ROCK OR SHALE MAY BE DELETED FROM THE CUT AREA OF THE BUILDING PLATFORM IF AUTHORIZED BY THE ENGINEER.
- F4.

ALL PIERS ARE TO BE CLEAN AND DE-WATERED PRIOR TO PLACEMENT OF CONCRETE.
- F5.

WHERE A SERVICE TRENCH OR AGRICULTURAL DRAIN IS PARALLEL TO THE EDGE OF A SLAB, WHETHER THE SLAB BE IN EXCAVATED OR FILLED AREA, THEN PIERING TO SUPPORT THE SLAB BESIDE THE SERVICE TRENCH IS ONLY REQUIRED IF THE SERVICE LINE IS BELOW A LINE OF INFLUENCE DRAWN AS INDICATED BELOW IN Z.O.I DIAGRAM:
- G1.

STEEL SCREW PILES SHALL COMPLY WITH AS2159 - PILING DESIGN AND INSTALLATION.
- G2.

THE SCREW PILES ARE TO BE DESIGNED FOR BOTH THE LOADS AS SHOWN ON THE DRAWINGS, AND ANY LOADS DUE TO INSTALLATIONS.
- G3.

SCREW PILE DESIGN CALCULATIONS, SHOWING DESIGN LOADS FROM BOTH INSTALLATION AND FINAL LOADS, ARE TO BE CERTIFIED BY A CHARTERED STRUCTURAL OR GEOTECHNICAL ENGINEER COMPETENT IN SCREW PILE DESIGN. THESE CALCULATIONS ARE TO BE SUBMITTED TO THE STRUCTURAL OR GEOTECHNICAL ENGINEER FOR REVIEW. THIS REVIEW SHALL NOT RELIEVE THE PILING CONTRACTOR FROM ANY OBLIGATIONS AND THE PILING CONTRACTOR SHALL REMAIN COMPLETELY LIABLE FOR THE PILE WORKS. THE CONTRACTOR IS TO ALLOW FOR ANY COST AND THE TIME IMPLICATIONS FOR THIS REVIEW.
- G4.

AT THE COMPLETION OF THE PILE WORKS, THE PILING CONTRACTOR IS TO ISSUE CERTIFICATION BY A CHARTERED STRUCTURAL ENGINEER THAT THE INSTALLED PILES ARE SATISFACTORY TO CARRY THE DESIGN LOADS AS SHOWN ON THE DRAWINGS FOR THE SPECIFIED DESIGN LIFE OF 50 YEARS.
- G5.

CORROSION ALLOWANCE FOR STEEL PILES IS TO APPLY TO ALL STEEL SURFACES IN CONTACT WITH SOIL OR ATMOSPHERE FOR A DESIGN LIFE OF 50 YEARS. ANY SURFACE COATINGS APPLIED TO THE PILE SHALL BE IGNORED WHEN CALCULATING CORROSION ALLOWANCE.
- G6.

INSTALLATION TORQUES ARE TO BE MONITORED AND RECORDED TO RECONCILE EXPECTED GEOTECHNICAL CONDITIONS WITH THOSE ACTUALLY ENCOUNTERED DURING INSTALLATIONS. THE PILING CONTRACTOR IS TO ALLOW IN THE DESIGN FOR ANY FORCES ON THE SCREW PILE ARISING OUT OF INSTALLATION OF THE SCREW PILE.
- G7.

SCREW PILES ARE TO BE FOUNDED AT A DEPTH WHERE SUITABLE TO SATISFY STRUCTURAL DESIGN INTENT. ALL PILES TO BEAR ON SIMILAR FOUNDATION STRATA.
- G8.

PERMISSIBLE POSITION DEVIATION FOR A PILE AT CUT-OFF LEVEL SHALL BE +/- 75MM IN PLAN POSITION FROM THAT SHOWN ON THE DRAWINGS AND WITHIN 4% OF THE SPECIFIED INCLINATION FOR PILES RAKED UP TO 1 IN 5, AND 7% FOR PILES
- G9.

RAKED MORE THAN 1 IN 5. THE PILE AND ITS CONNECTION TO THE FOOTING MUST BE DESIGNED FOR THESE CONSTRUCTION TOLERANCES AND ANY ECCENTRICITIES AS A RESULT. THE STRUCTURAL ENGINEER IS TO BE NOTIFIED OF ANY SCREW PILES WHICH DO NOT SATISFY THE ABOVE CRITERIA, FOR ANY POSSIBLE FOOTING RECTIFICATION DESIGN. THE CONTRACTOR SHALL PAY FOR ANY COST FOR THIS REASSESSMENT, REDESIGN AND CONSTRUCTION.
- G10.

WHERE A SERVICE TRENCH OR AGRICULTURAL DRAIN IS PARALLEL TO THE EDGE OF A SLAB, WHETHER THE SLAB BE IN EXCAVATED OR FILLED AREA, THEN PIERING TO SUPPORT THE SLAB BESIDE THE SERVICE TRENCH IS ONLY REQUIRED IF THE SERVICE LINE IS BELOW A LINE OF INFLUENCE DRAWN AT 30° FOR SAND & 45° FOR CLAY TO THE HORIZONTAL FROM THE BOTTOM EDGE OF THE FOOTING/PIER.
- G11.

THESE NOTES ARE INTENDED AS A GUIDE. THERE IS ALWAYS A POSSIBILITY OF SITE CONDITIONS REQUIRING VARIATIONS TO THESE PROCEDURES. IN SUCH CASES, THE ENGINEER MUST BE CONSULTED.

FOOTING AND SLAB NOTES

- H1.

BORED PIERS / FOOTINGS / BEAMS ...ETC ARE TO BE FOUNDED ONTO NATURAL BEARING MATERIAL HAVING A MINIMUM SAFE BEARING CAPACITY AS PER THE PIERING SPECIFICATION TABLE U.N.O. BEFORE ANY CONCRETE IS PLACED, THE SAFE BEARING CAPACITY SHALL BE VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER.
- H2.

THE FOOTING SYSTEM SPECIFIED ON THESE DRAWINGS WILL MEET THE PERFORMANCE REQUIREMENTS SET OUT IN CLAUSE 1.3 OF AS2870 (RESIDENTIAL SLABS AND FOOTINGS CODE). THE FOOTING SYSTEM INTENDED TO ACHIEVE ACCEPTABLE PROBABILITIES OF SERVICEABILITY AND SAFETY OF THE BUILDING DURING ITS DESIGN LIFE.
- H3.

THE FOOTING DETAILS SHOWN ARE FOR THE SITE CLASSIFICATION STIPULATED. WHILST EVERY CARE HAS BEEN TAKEN TO VERIFY THAT THE INFORMATION SHOWN IS CORRECT, DONOVAN ASSOCIATES TAKE NO RESPONSIBILITY FOR VARIATIONS WHICH MAY OCCUR DUE TO VARIATIONS IN SITE CONDITIONS.
- H4.

A DAMP PROOFING MEMBRANE MUST BE PLACED BENEATH THE SLAB SO THAT THE BOTTOM OF THE SLAB IS ENTIRELY UNDERLAID & TERMINATES AT GROUND LEVEL.. THE DAMP PROOFING MEMBRANE SHALL BE 0.2mm NOMINAL THICKNESS POLYTHENE FILM AND OF HIGH IMPACT RESISTANCE. LAPPING SHALL BE 200mm MIN AT JOINTS & TAPED OR SEALED AT PLUMBING PENETRATIONS WITH CONTINUOUS CLOSE FITTING SLEAVE OR MADE CONTINUOUS WITH THE VAPOUR BARRIER BY TAPING & MADE WATERPROOF.
- H5.

PIPE PENETRATIONS IN THE EDGE AND SPINE BEAMS ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE DETAILS.
- H6.

SUBTERRANEAN TERMITE PROTECTION IS TO BE PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF AS3660.1
- H7.

SITE MAINTENANCE IS THE RESPONSIBILITY OF THE HOME OWNER. ALL RECOMMENDATIONS OUTLINED IN THE FOLLOWING SHOULD BE CARRIED OUT IN FULL:

(a).

CSIRO BOOKLET "FOUNDATION MAINTENANCE AND FOOTING PERFORMANCE: A HOMEOWNERS GUIDE".

(b).

AS2870 APPENDIX 'B' FOUNDATION PERFORMANCE & MAINTENANCE.
- H8.

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

MASONRY

- M1.

MASONRY, MORTAR & BUILT IN MASONRY COMPONENTS SHALL COMPLY WITH AS3700 & AS4773
- M2.

THE SLAB IS DESIGNED FOR ARTICULATION REQUIREMENTS. ARTICULATION JOINTS SHALL BE CARRIED OUT IN ACCORDANCE WITH AS4773 & CEMENT & AGGREGATES AUSTRALIA BOOKLET TN61.

PIERING SPECIFICATION TABLE						
BEARING STRATA	MIN DESIGN BEARING CAPACITY (kPa)	PIER Ø (mm)	SINGLE STOREY MAX PIER SPACING		DOUBLE STOREY MAX PIER SPACING	
			BORED PIER (mm)	800x300mm BUCKET PIER	BORED PIER (mm)	800x300mm BUCKET PIER
SAND	100	600	1800	1800	1200 OR CONTINUOUS EDGE BEAM	
CONTROLLED CLAY FILL	150	400	1600	1800	1600	1800
STIFF NATURAL CLAY	250	400	2100	N/S	1600	N/S
SHALE / ROCK	600	300 *	3000	N/S	2400	N/S
* DENOTES: Ø400 PIER IF DEPTH >2.5m N/S DENOTES: NOT SUITABLE						

DRAWN	DATE	AMENDMENT	REV	CLIENT:	FOR:	DRAWN:	APPROVED BY:	TITLE:	ISSUE:
					MS. MARGARET JUNE KAYE & MR. ROHAN ANTHONY SMITH	RN		GENERAL & SITE NOTES	2
						DATE: 26/06/2023			
						SCALE: DONT			
						CHECKED: JD			
					SITE ADDRESS: LOT 1 74 SOLDIERS AVENUE FRESHWATER	HOUSE TYPE: LIDO 31			
						CLIENT REF: 652201			
RN	26/06/2023	ISSUED FOR CONSTRUCTION	A	<div><div>MOJO</div><div>homes</div></div>	<div><div>DONOVAN</div><div>ASSOCIATES</div><div>REGISTERED SURVEYORS AND CIVIL/STRUCTURAL ENGINEERS 15 PARKES ST, PARRAMATTA, NSW, 2120 W: www.donovanassociates.com.au T: 02 9806 3010</div></div>		<div><div></div><div>J. DONOVAN, M.I.E. Aust. C.P.Eng.</div></div>	<div>PROJECT CODE: E331632</div> <div>DRAWING No. S1.000</div>	REV. A

CONCRETE NOTES

- J1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- J2. EXPOSURE CLASSIFICATIONS FOR THIS PROJECT ARE:
INTERNAL WORK: A1
EXTERNAL WORK: B1
- J3. UNLESS NOTED OTHERWISE:
MAXIMUM AGGREGATE SIZE SHALL BE 20mm.
SLUMP DURING PLACING SHALL BE 80mm.
NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING.
- J4. CONCRETE SHALL COMPLY WITH NOTE C3 AND THE CONCRETE SPECIFICATION TABLE
- J5. DESIGN COVER TO THE REINFORCEMENT SHALL BE:
40mm TO UNPROTECTED GROUND
40mm TO EXTERNAL EXPOSURE
30mm TO THE MEMBRANE IN CONTACT WITH THE GROUND
20mm TO THE INTERNAL SURFACE.
THE SLAB FABRIC SHALL BE PLACED TOWARDS THE TOP OF THE SLAB WITHIN THE ZONE DEFINED BY THESE LIMITS.
- J6. ALL CONCRETE CONSTRUCTION TO BE COMPACTED WITH A MECHANICAL VIBRATOR.
- J7. THE CONCRETE SLAB SHALL BE CURED USING AN APPROVED COMMERCIAL CURING COMPOUND AND IN ACCORDANCE WITH CLAUSE 19.1.5 OF AS3600-2001. CURING OF THE CONCRETE SHALL START IMMEDIATELY AFTER FINISHING.
- J8. CONDUITS, PIPES, ETC SHALL ONLY BE LOCATED IN THE MIDDLE ONE THIRD OF SLAB DEPTH AND SPACED AT NOT LESS THAN 3 TIMES THE DIAMETER.
- J9. CONCRETE SIZES SHOWN DO NOT INCLUDE THICKNESS OF APPLIED FINISHES. CONCRETE SURFACES SHALL BE CAST TO BE WITHIN 5mm OF THE (STRUCTURAL) LEVELS GIVEN OR INFERRED ON THE ARCHITECTURAL DRAWINGS.
- J10. FOR 'H' & 'E' CLASS SITES - ALL PENETRATIONS THROUGH FOOTINGS AND EDGE BEAMS SHALL BE SLEEVED TO ALLOW MINIMUM MOVEMENTS OF 20mm FOR 'H' CLASS AND 40mm FOR 'E' CLASS AS PER AS2870-1996, CLAUSE 5.5.4(A).

REINFORCEMENT FIXING NOTES

- K1. ALL REINFORCING BAR AND FABRIC SHALL BE DESIGNATED AS SHOWN IN THE REINFORCEMENT SPECIFICATION TABLE AND SHALL COMPLY WITH THE APPROPRIATE CODES AS NOTED BELOW:
- K2. IF SLAB FABRIC IS USED IT IS TO BE LAPPED ONE FULL SQUARE PLUS 25mm AT SPLICES AS SHOWN IN THE DIAGRAM BELOW AND PLACED ON CHAIRS AT 1m CTS BOTH WAYS TO GIVE 20mm CLEAR TOP COVER IN SHELTERED LOCATIONS AND 40mm CLEAR TOP COVER TO VERANDAHS.
- K3. FOOTING BEAMS AND RIB REINFORCEMENT TO HAVE 40mm CLEAR COVER ALL-ROUND.
- K4. BAR REINFORCEMENT IS TO BE TIED BENEATH THE FABRIC IF USED OR OTHERWISE PLACED ON CHAIRS AND LAPPED AS PER THE BAR SPLICE TABLE.
- K5. WHERE FABRIC IS CUT TO PERMIT PIPE PENETRATION OF PIPES A 600x600 PIECE OF FABRIC IS TO BE SPLICED OVER THE PENETRATION.
- K6. REINFORCING BARS SHALL HAVE A LAP LENGTH AT SPLICES NOT LESS THAN 500mm. AT 'T' AND 'L' INTERSECTIONS, THE BARS SHALL CONTINUE ACROSS THE FULL WIDTH OF THE INTERSECTION.
AT 'L' INTERSECTIONS (REFER LAPPING DETAIL AT 'T' AND 'L' INTERSECTIONS):
(OPTION 1) THE OUTER BAR SHALL BE BENT AND CONTINUED 500mm AT CORNERS
(OPTION 2) AN ADDITIONAL BAR 500mm LONG ON EACH LEG SHALL BE PROVIDED AT CORNERS
- K7. REINFORCEMENT & VOID FORMERS SHALL BE FIXED INTO POSITION PRIOR TO POURING CONCRETE BY MEANS OF PROPRIETARY SPACERS, BAR CHAIRS & LIGATURES TO ACHIEVE THE REQUIRED REINFORCEMENT POSITION & COVER.
- K8. ALL FOOTING TRENCHES & BEAMS SHALL BE CLEANED & DEWATERED PRIOR TO THE PLACEMENT OF CONCRETE. CONCRETE IN TRENCHES & BEAMS SHALL BE MECHANICALLY VIBRATED

SHRINKAGE CRACKING CONTROL

- L1. CONCRETE PLACING, VIBRATING AND CURING MUST BE CARRIED OUT IN ACCORDANCE WITH AS3600.
- L2. WATER IS NOT TO BE ADDED TO THE CONCRETE ON SITE AS TO INCREASE THE SLUMP ABOVE THAT SPECIFIED.
- L3. IT IS RECOMMENDED THAT AN APPROVED CURING COMPOUND BE APPLIED TO THE SLAB IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
- L4. CAUTION SHOULD BE EXERCISED WHEN APPLYING BRITTLE FINISHES, SUCH AS CERAMIC TILES TO THE FLOOR SLAB. AN ISOLATING MORTAR BED OR AN APPROVED FLEXIBLE ADHESIVE SYSTEM IS RECOMMENDED.
- L5. THE OWNER'S ATTENTION SHALL BE DRAWN TO APPENDIX 'A' - "PERFORMANCE REQUIREMENTS AND FOUNDATION MAINTENANCE" OF AS2870 AND CSIRO PUBLICATION "GUIDE TO HOME OWNERS ON FOUNDATION MAINTENANCE AND FOOTING PERFORMANCE".
- L6. AT RE-ENTRANT CORNERS, ONE STRIP OF 3-L11 T.M. OR 3-N12 BARS 2m LONG SHALL BE PLACED ACROSS THE DIRECTION OF POTENTIAL CRACKING.

CONCRETE SPECIFICATION TABLE			
ELEMENT	CEMENT TYPE	F'c AS 3600 (MPa)	MIN CEMENT CONTENT PER m³ (kg)
PIERS	GP / GB	20	250
STRIP FOOTINGS	GP / GB	20	250
SLAB ON GROUND	GP / GB	25	250
SUSPENDED SLAB	-	-	-

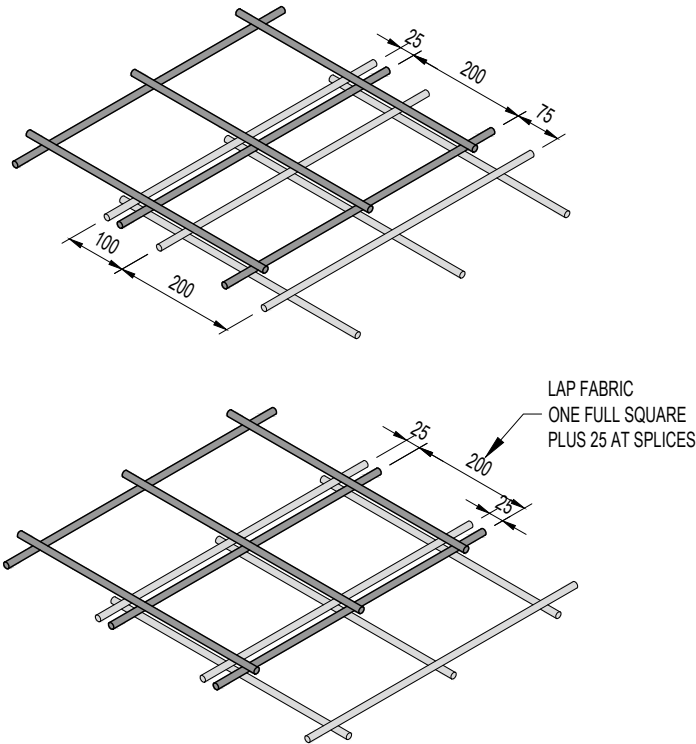
BAR SPLICE TABLE						
BAR SIZE	N12	N16	N20	N24	N28	N32
SPLICE LENGTH (mm)	400	600	800	1200	1350	1650

REINFORCEMENT SPECIFICATION TABLE	
SYMBOL	TYPE
R	STRUCTURAL GRADE ROUND BARS TO AS4671 (230 MPa)
S	STRUCTURAL GRADE DEFORMED BARS TO AS4671 (230 MPa)
N	TEMPCORE DEFORMED BARS TO AS4671 (500 MPa)
RL/SL	FABRIC TO AS4671 (500 MPa)
TM	TRENCH MESH TO AS4671 (500 MPa)
NOTE: THE NUMBER FOLLOWING THE SYMBOL IS THE BAR DIAMETER IN MILLIMETERS	

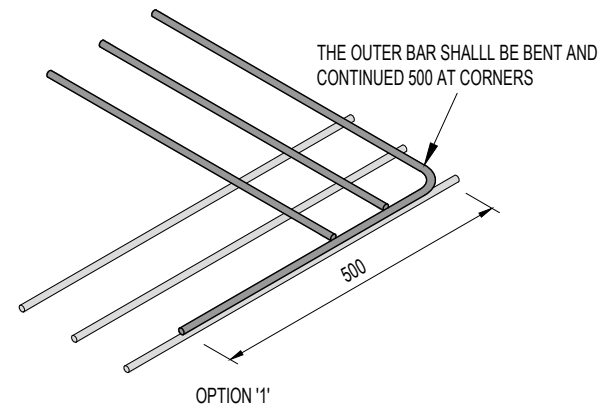
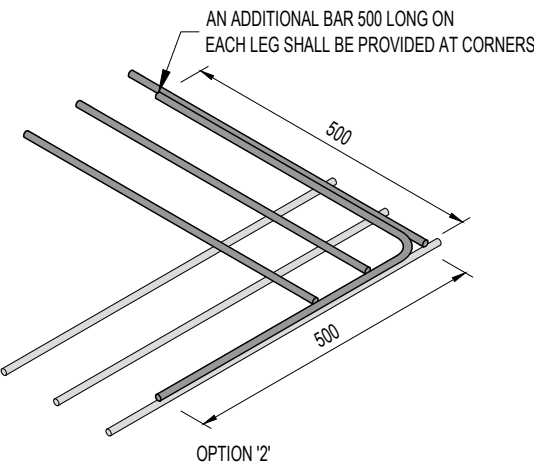
RESIDENTIAL STRUCTURAL STEEL WORK

- S1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS1112, AS1163, AS1554, AS4100 AND THE A.C.S.E. STRUCTURAL STEEL FABRICATION AND ERECTION SPECIFICATIONS EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- S2. IT IS THE BUILDER'S RESPONSIBILITY TO ENSURE THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION. ADEQUATE TEMPORARY BRACING SHALL BE PROVIDED WHERE NECESSARY AND AS DIRECTED BY THE SUPERVISING ENGINEER.
- S3. THREE (3) COPIES OF WORKSHOP FABRICATION DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AT LEAST 7 DAYS PRIOR TO COMMENCEMENT OF FABRICATION.
- S4. ABBREVIATIONS USED ARE AS FOLLOWS:
UB - UNIVERSAL BEAM
UC - UNIVERSAL COLUMN
PFC - PARALLEL FLANGE CHANNEL
EA - ROLLED STEEL EQUAL ANGLE
UA - ROLLED STEEL UNEQUAL ANGLE
RHS - RECTANGULAR HOLLOW SECTION
SHS - SQUARE HOLLOW SECTION
BW - BUTT WELD
CFW - CONTINUOUS FILLET WELD
- S5. BOLT DESIGNATION:
BOLT TYPE DESCRIPTION
• 4.6/S COMMERCIAL BOLTS OF GRADE 4.6 TO AS1111 SNUG TIGHTENED.
• 8.8/S HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS1252 SNUG TIGHTENED.
• 8.8/TB HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS1252 FULLY TENSIONED TO AS4100 AS A BEARING JOINT.
• 8.8/TF HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS1252 FULLY TENSIONED TO AS4100 AS A FRICTION JOINT WITH FACING SURFACES LEFT UNCOATED.
- S6. TB AND TF BOLTS SHALL BE INSTALLED USING APPROVED LOAD INDICATING WASHERS, OR PART-TURN METHOD IN ACCORDANCE WITH SECTION 15 OF AS4100.
- S7. UNLESS NOTED OTHERWISE:
• ALL GUSSET PLATE SHALL BE 10mm
• ALL BOLTS SHALL BE M16 GRADE 8.8/S. NO CONNECTION SHALL HAVE LESS THAN 2 BOLTS.
• ALL BOLTS AND WASHERS SHALL BE GALVANISED.
• ALL WELDS SHALL BE 6MM CONTINUOUS FILLET TYPE GP USING E41XX ELECTRODES. BUTT WELDS SHALL BE COMPLETE PENETRATION WELDS TO AS1554.1.
- S8. THE STEEL FABRICATOR SHALL PROVIDE ALL CLEATS AND DRILL ALL HOLES NECESSARY FOR FIXING STEEL TO STEEL AND TIMBER TO STEEL WHETHER OR NOT DETAILED ON THE DRAWINGS.
- S9. ALL COLUMNS AND BEAMS SHOWN ON THE DRAWINGS FOR TIMBER FRAMED BUILDINGS SHALL BE Laterally RESTRAINED BY THE BUILDING FRAME AT EACH SUPPORT LOCATION THROUGH POSITIVE SCREW FIXING OF WALL STUDS TO THE COLUMNS AND EITHER JOISTS OR NOGGINGS TO THE BEAMS.
- S10. ALL COLUMNS AND BEAMS SHOWN ON THE DRAWINGS FOR FULL BRICK BUILDINGS SHALL BE Laterally RESTRAINED BY THE BRICKWORK AT EACH SUPPORT THROUGH POSITIVE FIXING OF WALL TIES TO THE COLUMNS AND EITHER JOISTS OR NOGGINGS TO THE BEAMS. NO ADDITIONAL RESTRAINT IS REQUIRED WHERE A BEAM DIRECTLY SUPPORTS A CONCRETE FLOOR SLAB.
- S11. SUBSTITUTION FOR STEEL SECTIONS SHOWN ON THE DRAWINGS SHALL NOT BE MADE WITHOUT THE APPROVAL OF THE ENGINEER.
- S12. STUDS ABUTTING COLUMNS SHALL BE GUN FIXED AT 300 MAX CTS. COLUMN FACES ABUTTING BRICKWORK SHALL HAVE APPROVED FRAME TIES GUN FIXED AT 3 COURSE CENTERS FOR BUILDING INTO BED JOINTS UNLESS NOTED OTHERWISE ON THE DRAWING.
- S13. STRUCTURAL STEELWORK NOT ENCASED IN CONCRETE SHALL HAVE THE FOLLOWING SURFACE TREATMENT:




ELEMENT	SURFACE CLEANING TO AS1627 PART 4	COATINGS
ALL INTERNAL STEELWORK	CLASS 1 BLAST	GREY ZINC PHOSPHATE PRIMER TO 70UM / R.O.Z.P. - 1 COAT
ALL EXTERNAL STEELWORK OR IN CONTACT WITH EXTERNAL WALLS/CAVITIES	CLASS 2.5 BLAST	GREY INORGANIC ZINC SILICATE TO 90UM OR HOT DIP GALVANIZED TO AS/NZS 4680

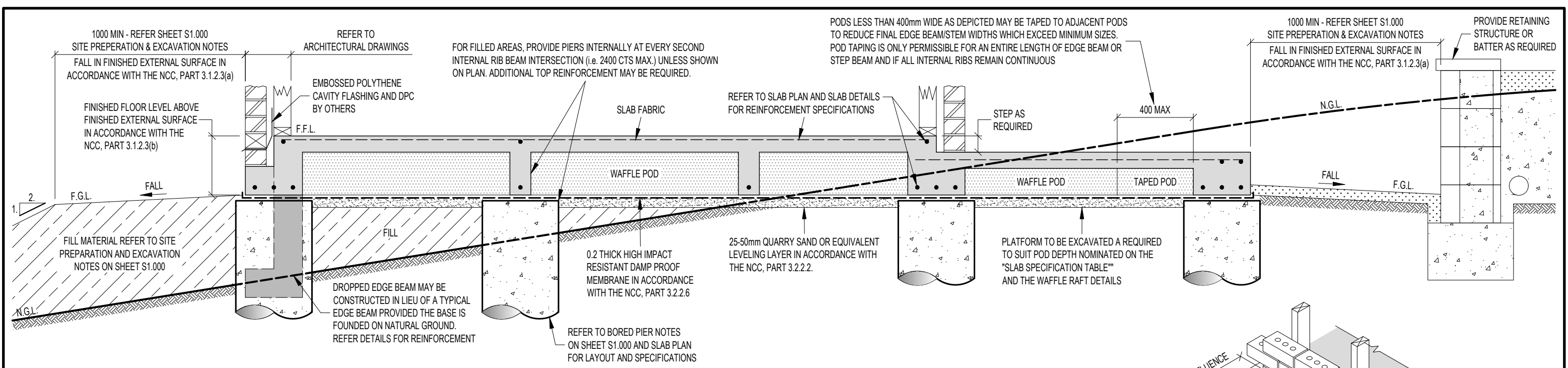


TYPICAL FABRIC LAP DETAIL



TYPICAL LAP DETAIL AT 'L' AND 'T' INTERSECTIONS

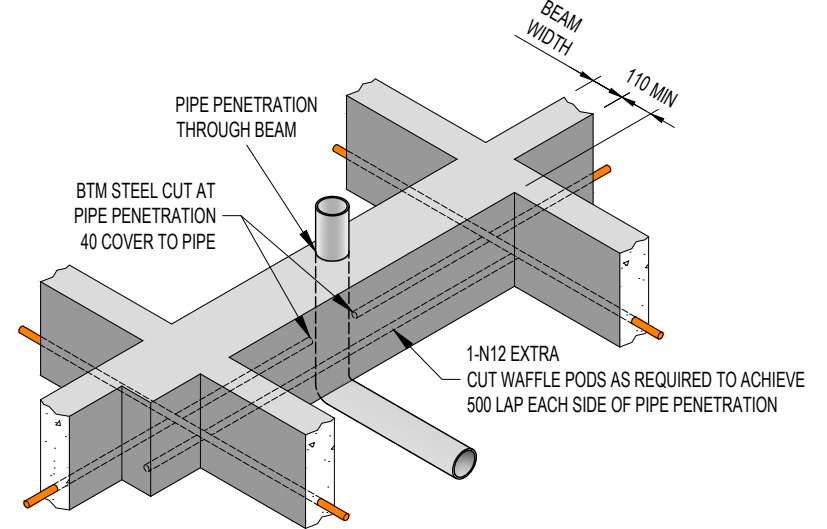
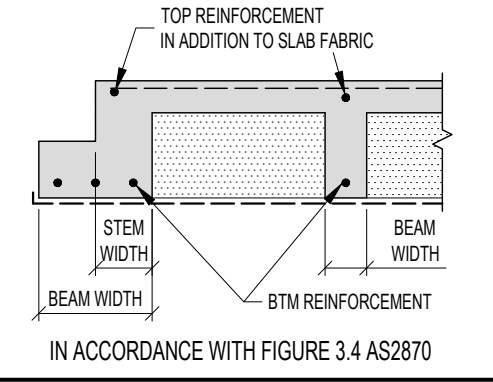
DRAWN	DATE	AMENDMENT	REV	CLIENT:	FOR:	DRAWN:	APPROVED BY:	TITLE:	ISSUE:	
					MS. MARGARET JUNE KAYE & MR. ROHAN ANTHONY SMITH			CONCRETE & STRUCTURAL STEEL NOTES	2	
RN	26/06/2023	ISSUED FOR CONSTRUCTION	A		SITE ADDRESS: LOT 1 74 SOLDIERS AVENUE FRESHWATER	CHECKED: JD	J. DONOVAN, M.I.E. Aust. C.P.Eng.	PROJECT CODE: E331632 DRAWING No. S1.001	REV. A	
						HOUSE TYPE: LIDO 31				
						CLIENT REF: 652201				



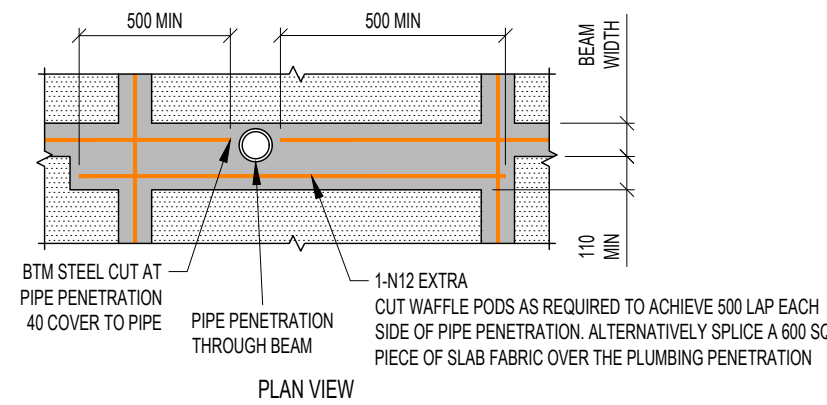
TYPICAL WAFFLE RAFT SLAB SECTION IN CUT/FILL
REFER TO SLAB PLAN AND SLAB DETAILS FOR REINFORCEMENT SPECIFICATIONS

BEAM REINFORCEMENT REQUIREMENTS

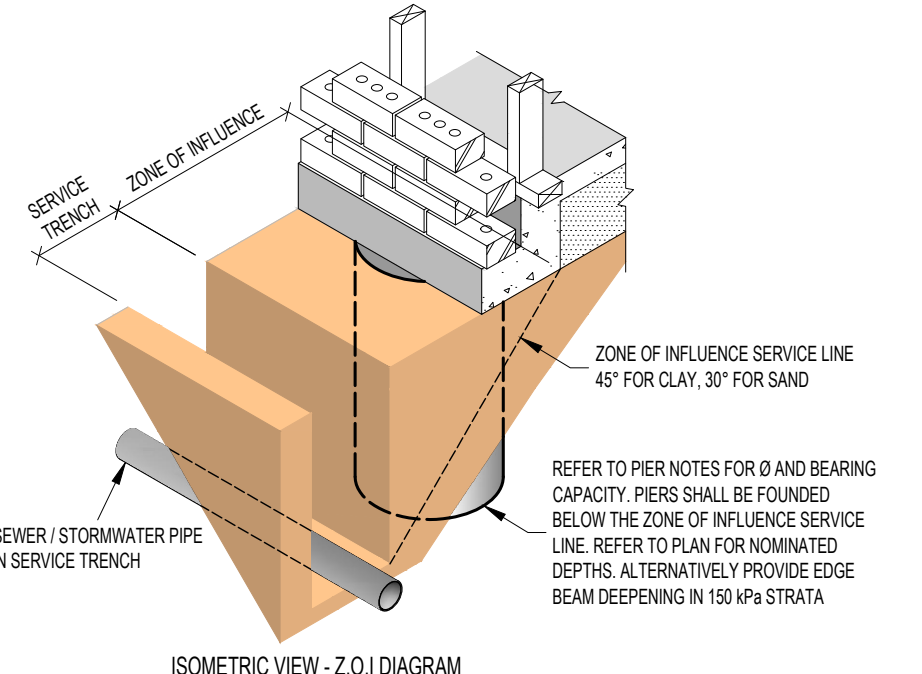
STEM WIDTH	TOP REINFORCEMENT	BEAM WIDTH	BTM REINFORCEMENT
151 TO 220	1-N12	300 TO 330	3-N12
221 TO 330	2-N12	331 TO 440	4-N12
331 TO 440	3-N12	441 TO 550	5-N12
441 TO 550	4-N12	551 TO 660	6-N12
551 TO 660	5-N12		



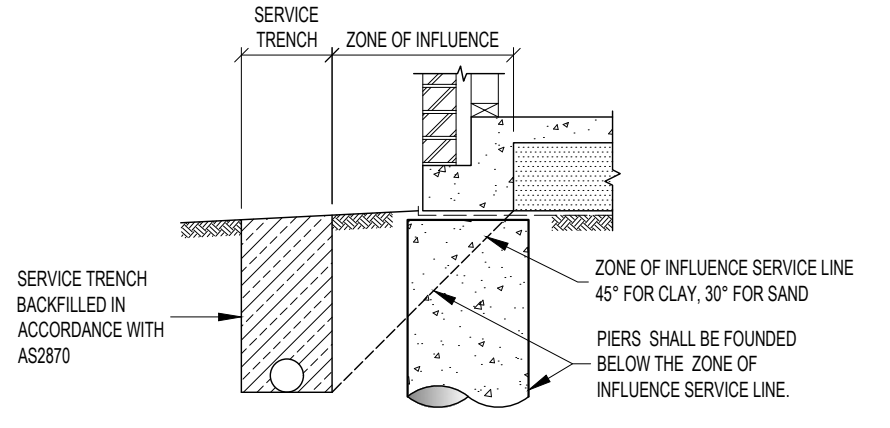
ISOMETRIC VIEW - WAFFLE PODS & SLAB NOT SHOWN FOR CLARITY



PIPE PENETRATION THROUGH RIB BEAM DETAIL



ISOMETRIC VIEW - Z.O.I. DIAGRAM



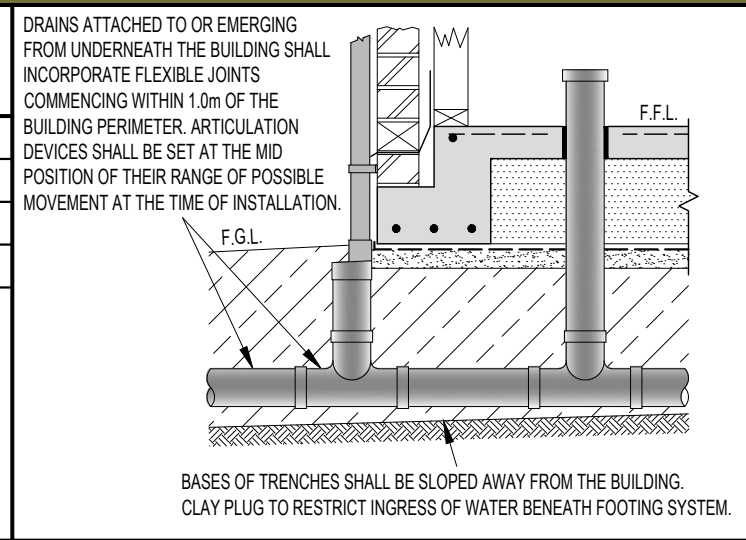
FOR CONSTRUCTION NEXT TO OR OVER PROPOSED SERVICES EASEMENT. FINAL EXTENT OF ZONE OF INFLUENCE SHALL BE DETERMINED BY ENGINEER PRIOR TO CONSTRUCTION OF THE FLOOR SLAB. DETAILS SHALL BE PROVIDED BY THIS FIRM FOLLOWING RECEIPT OF SEWER PEG DETAILS.

Z.O.I. DETAIL

REQUIREMENTS FOR PLUMBING ARTICULATION

SITE CLASSIFICATION	MINIMUM MOVEMENT ALLOWANCE IN ANY DIRECTION (mm)
A, S, M	NOT REQUIRED
H1	60
H2	75
E	150

- PLUMBING & DRAINAGE NOTES
- ALL PLUMBING AND DRAINAGE SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF AS/NZS 3500 AND AS 2870.
 - PRIOR TO COMMENCEMENT OF WORK, THE SITE CLASSIFICATION IN ACCORDANCE WITH AS2870 SHALL BE PROVIDED TO THE PLUMBER THE DETAILS DEPICTED ARE THE MINIMUM REQUIREMENTS FOR REACTIVE SITES.
 - DRAINAGE SHOULD BE LOCATED EXTERNAL TO THE BUILDING WHEREVER PRACTICABLE.



DRAWN: RN	DATE: 26/06/2023	SCALE: DONT	CHECKED: JD	HOUSE TYPE: LIDO 31	CLIENT REF: 652201	APPROVED BY: J. DONOVAN, M.I.E. Aust. C.P.Eng.	TITLE: TYPICAL WAFFLE RAFT DETAILS	PROJECT CODE: E331632	DRAWING No. S1.002	ISSUE: 2	REV: A
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FOR: MS. MARGARET JUNE KAYE & MR. ROHAN ANTHONY SMITH

SITE ADDRESS: LOT 1 74 SOLDIERS AVENUE FRESHWATER

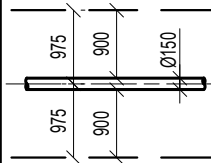
CLIENT: MOJO homes

DONOVAN ASSOCIATES

REGISTERED SURVEYORS AND CIVIL/STRUCTURAL ENGINEERS
15 PARKES ST, PARRAMATTA, NSW, 2120 W: www.donovanassociates.com.au T: 02 9806 3010

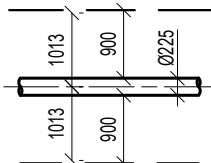
A3 THESE DESIGNS, PLANS, SPECIFICATIONS & COPYRIGHT THEREIN ARE THE PROPERTY OF DONOVAN ASSOCIATES AND MUST NOT BE USED, REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE WRITTEN PERMISSION OF DONOVAN ASSOCIATES

LEGEND N.T.S. ALL FIGURES IN mm U.N.O.



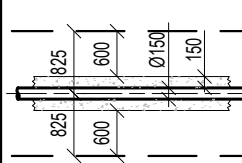
SEWER LINE WITH 900mm
OFFSET CLEARANCE LINE
FROM THE EDGE OF PIPE

LEGEND N.T.S. ALL FIGURES IN mm U.N.O.



SEWER LINE WITH 900mm
OFFSET CLEARANCE LINE
FROM THE EDGE OF PIPE

LEGEND N.T.S. ALL FIGURES IN mm U.N.O.

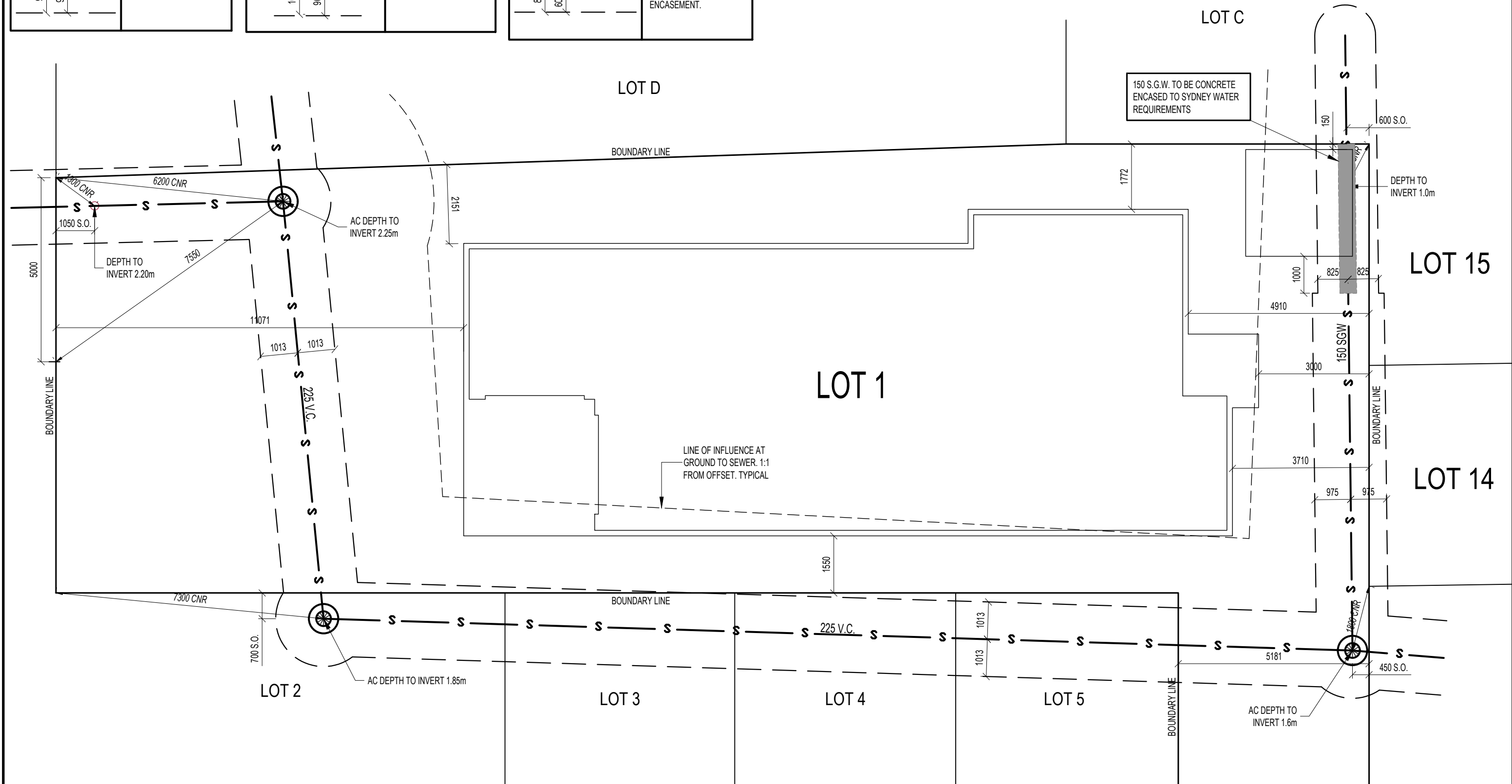




ENCASED SEWER LINE
WITH 600mm OFFSET
CLEARANCE LINE FROM
THE EDGE OF CONCRETE
ENCASEMENT.

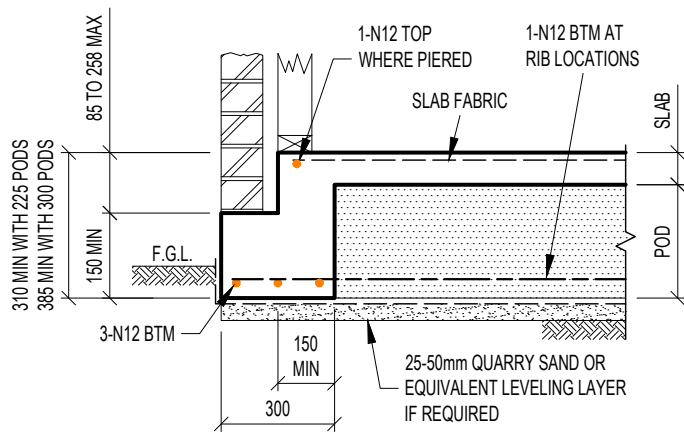
SEWER NOTE:

SEWER POSITION IS BASED ON SYDNEY WATER DRAWING
CASE No. 165087WW, DATED 31.07.20, SUPPLIED BY
CHAMPION HOMES.

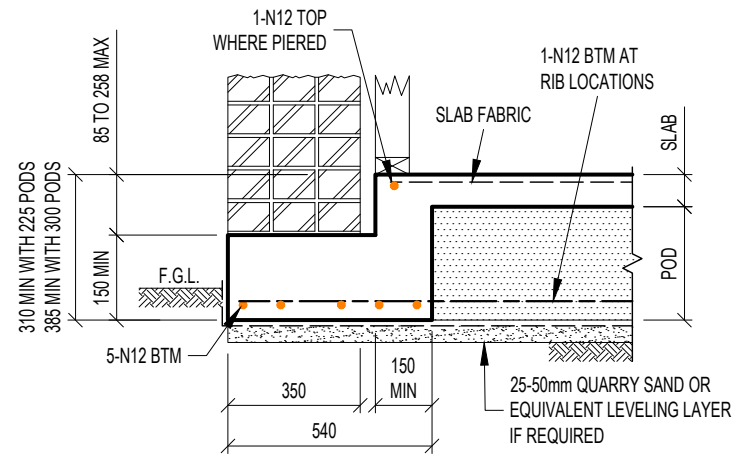
** BUILDING BOUNDARY SETBACKS ARE BASED ON ARCHITECTURAL DRAWING.



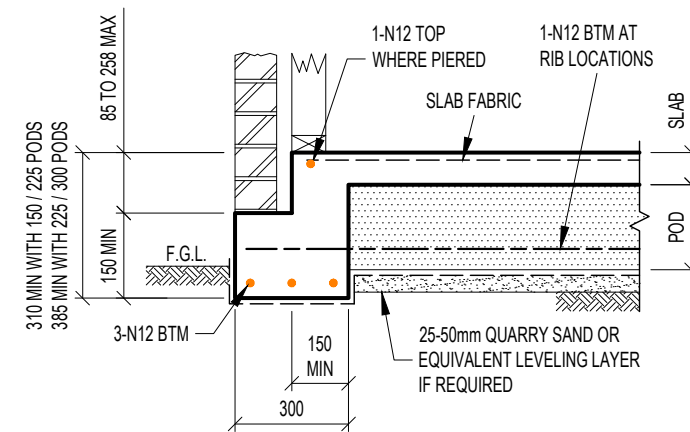
DRAWN	DATE	AMENDMENT	REV	CLIENT:	  DONOVAN ASSOCIATES REGISTERED SURVEYORS AND CIVIL/STRUCTURAL ENGINEERS 15 PARKES ST, PARRAMATTA, NSW, 2120 W: www.donovanassociates.com.au T: 02 9806 3010	FOR:	MS. MARGARET JUNE KAYE & MR. ROHAN ANTHONY SMITH	DRAWN:	RN	APPROVED BY:	 J. DONOVAN, M.I.E. Aust. C.P.Eng.	TITLE:	B.O.A. / SITE PLAN	ISSUE:	2		
							SITE ADDRESS:	LOT 1 74 SOLDIERS AVENUE FRESHWATER	DATE:	26/06/2023							
									SCALE:	A3 @ 1:100							
									CHECKED:	JD							
N.PATEL	26/07/2023	SEWER ADDED	A					HOUSE TYPE:	LIDO 31			PROJECT CODE:	DRAWING No.	REV.			
RN	26/06/2023							CLIENT REF:	652201			E331632	S2.001	A			



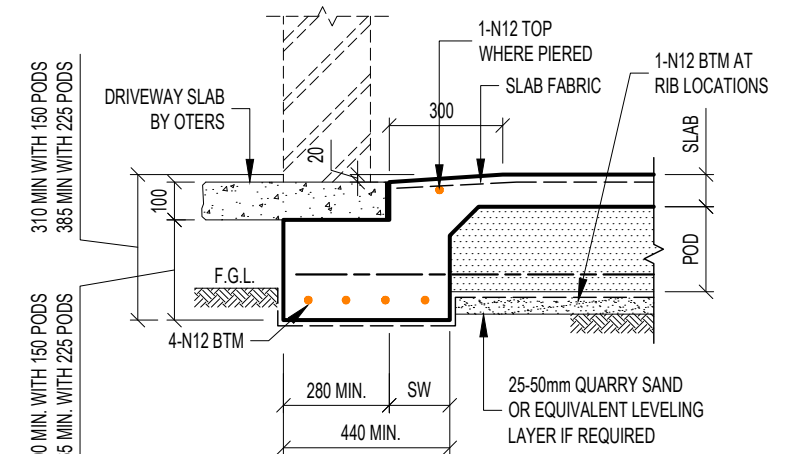
EDGE BEAM DETAIL 'EB1'



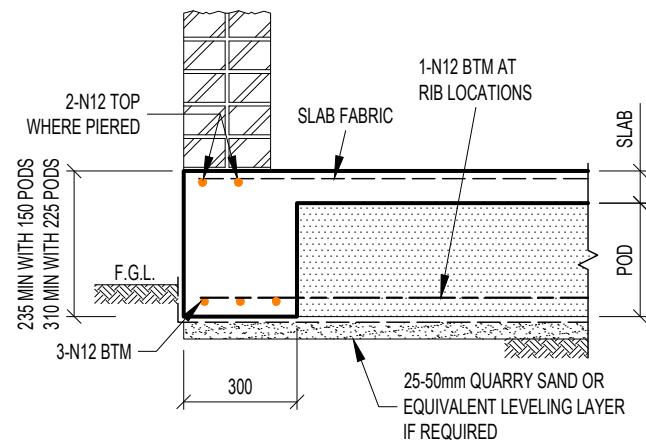
EDGE BEAM DETAIL 'EB2'



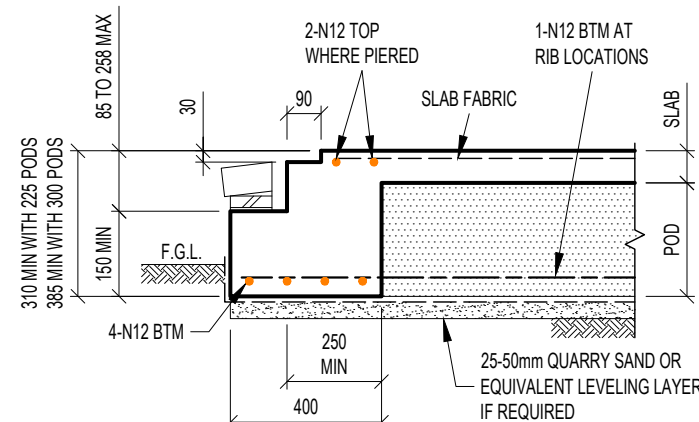
EDGE BEAM DETAIL 'EB3'



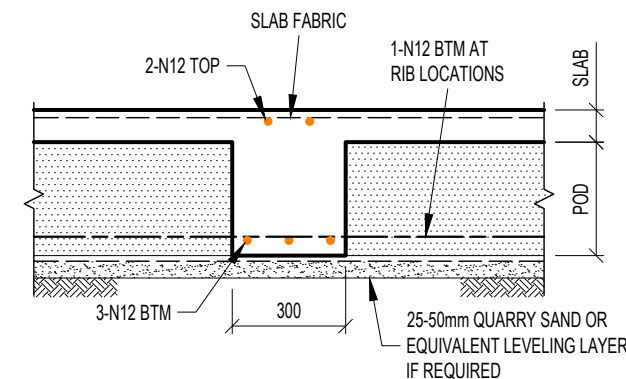
GARAGE EDGE BEAM DETAIL 'EB4'



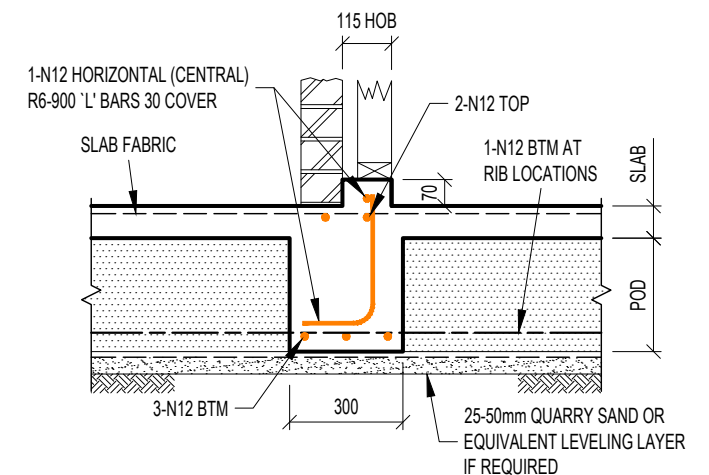
EDGE BEAM DETAIL 'EB5'



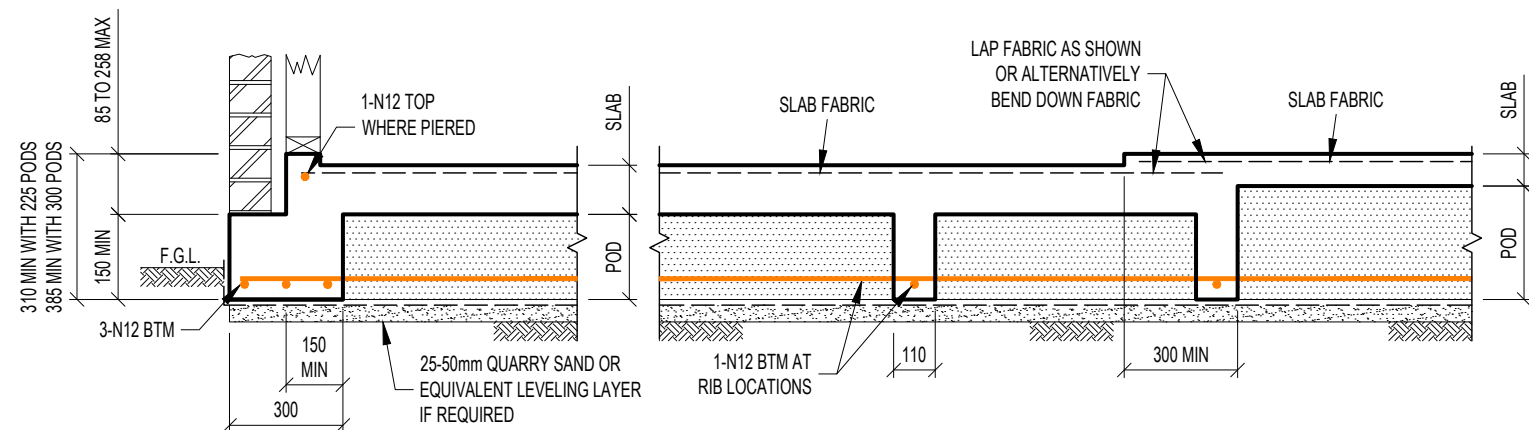
EDGE BEAM DETAIL 'EB6'



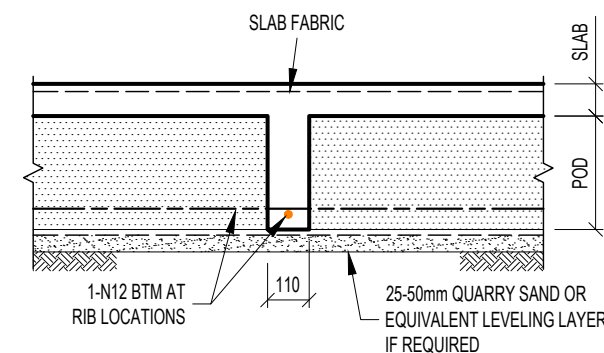
INTERNAL BEAM DETAIL 'SB1'



INTERNAL BEAM DETAIL 'SB2'

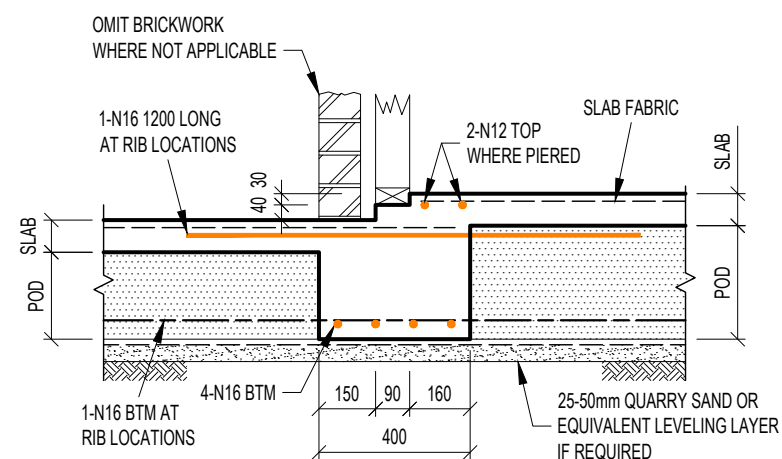
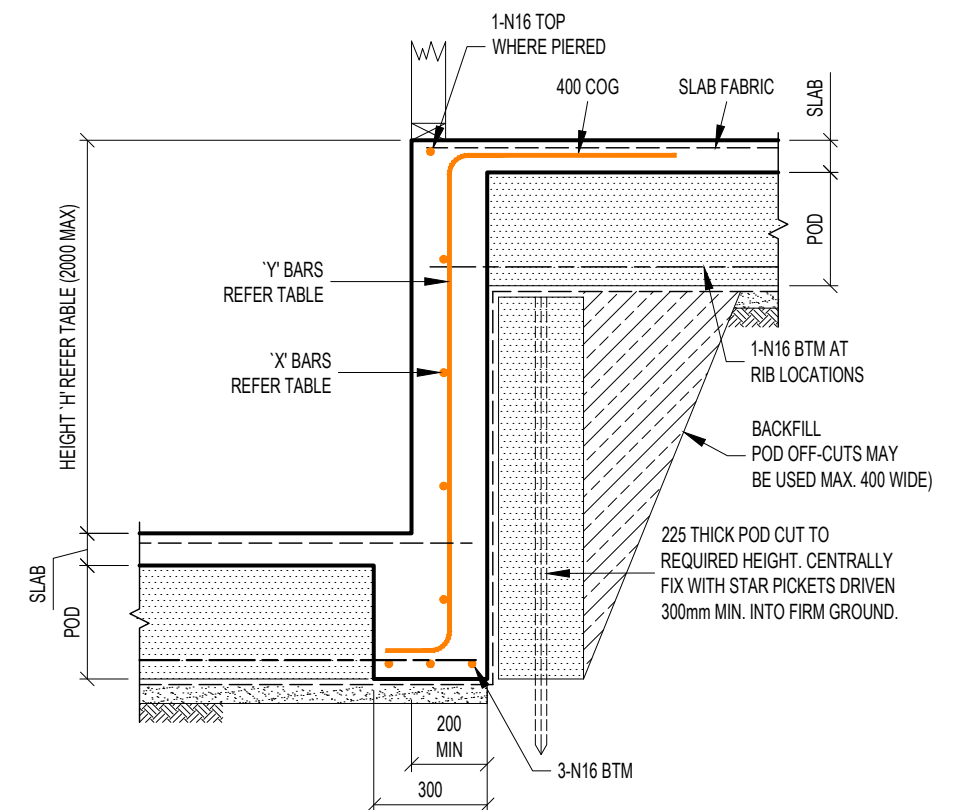
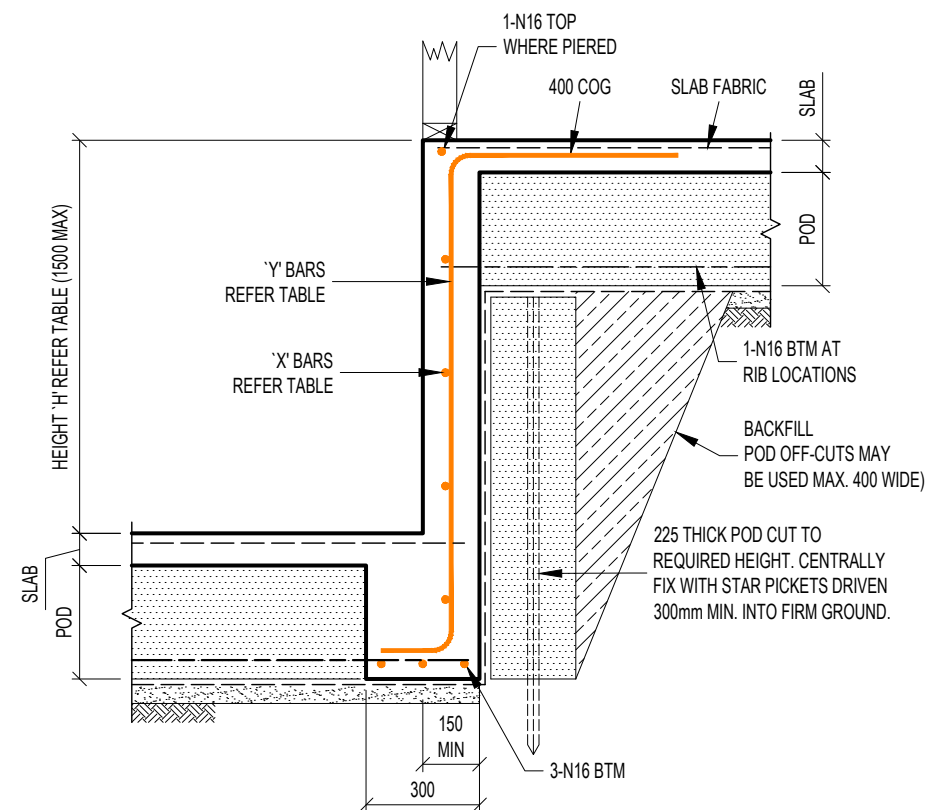
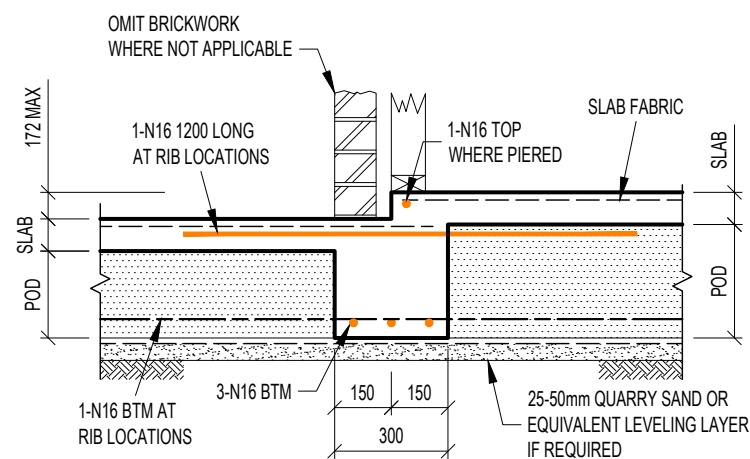


TYPICAL WET AREA SETDOWN AREA



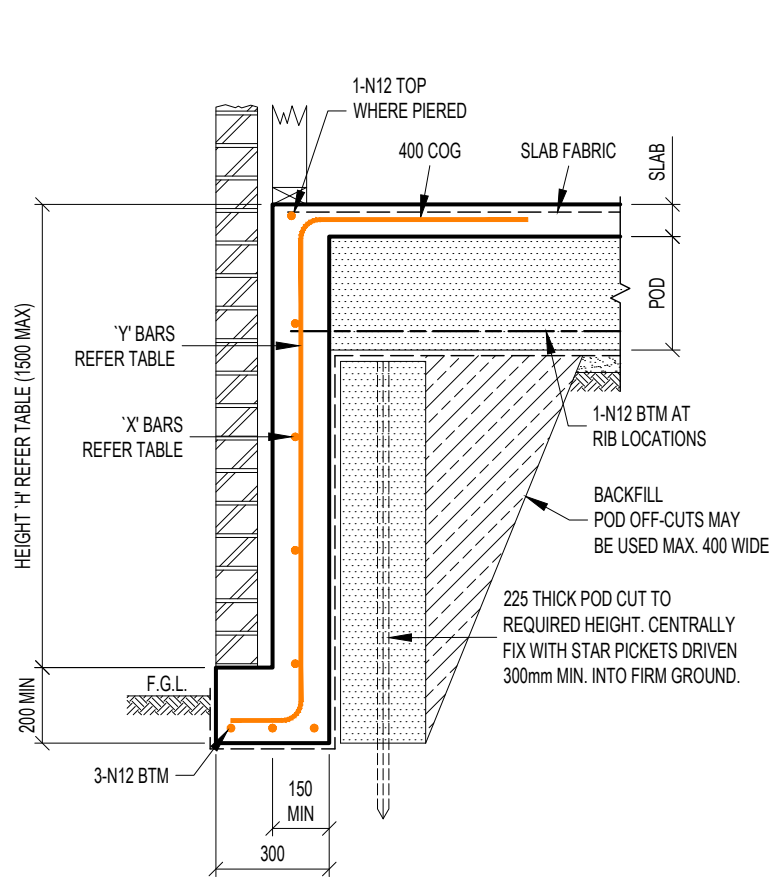
TYPICAL INTERNAL RIB BEAM DETAIL

DRAWN	DATE	AMENDMENT	REV	CLIENT	FOR	DRAWN	APPROVED BY	TITLE	ISSUE
RN	26/06/2023	ISSUED FOR CONSTRUCTION	A	MOJO homes	MS. MARGARET JUNE KAYE & MR. ROHAN ANTHONY SMITH	RN	J. DONOVAN, M.I.E. Aust. C.P.Eng.	EDGE BEAM (EB) & STIFFENED BEAM (SB) DETAILS	2
					SITE ADDRESS: LOT 1 74 SOLDIERS AVENUE FRESHWATER	DATE: 26/06/2023		PROJECT CODE: E331632	REV. A
						SCALE: A3 @ 1:20		DRAWING No. S3.000	
						CHECKED: JD			
						HOUSE TYPE: LIDO 31			
						CLIENT REF: 652201			

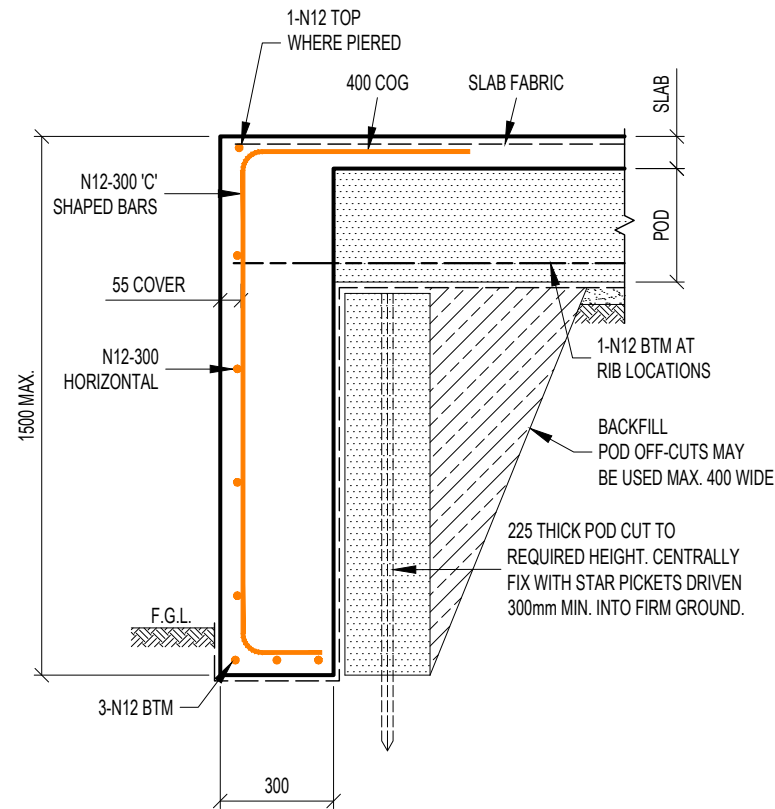


DEEPEENED STEP BEAM REINFORCEMENT TABLE		
HEIGHT 'H'	'X' BARS	'Y' BARS
UP TO 172	NIL	NIL
172 TO 430	NIL	R10-400 CENTRAL
430 TO 600	N12-400	N12-400 CENTRAL
600 TO 1500	N12-300	N12-300 CENTRAL
1500 TO 2000	N12-300	N12-200 CENTRAL OR N16-300 CENTRAL

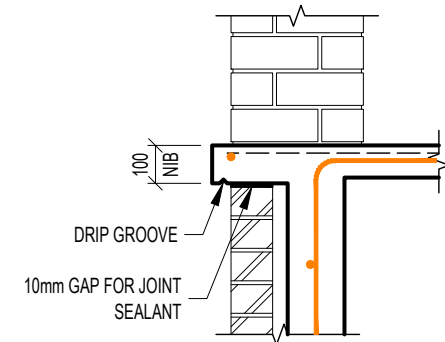
DRAWN			DATE	AMENDMENT	REV	CLIENT:	FOR:	DRAWN:	APPROVED BY:	TITLE:	ISSUE:	
							MS. MARGARET JUNE KAYE & MR. ROHAN ANTHONY SMITH	RN		INTERNAL STEP BEAM (IB) DETAILS	2	
					DATE:			26/06/2023				
					SCALE:			A3 @ 1:20				
					CHECKED:			JD				
					HOUSE TYPE:			LIDO 31				
RN			26/06/2023	ISSUED FOR CONSTRUCTION	A		SITE ADDRESS: LOT 1 74 SOLDIERS AVENUE FRESHWATER	CLIENT REF: 652201	J. DONOVAN, M.I.E. Aust. C.P.Eng.	PROJECT CODE: E331632	DRAWING No. S3.001	REV. A



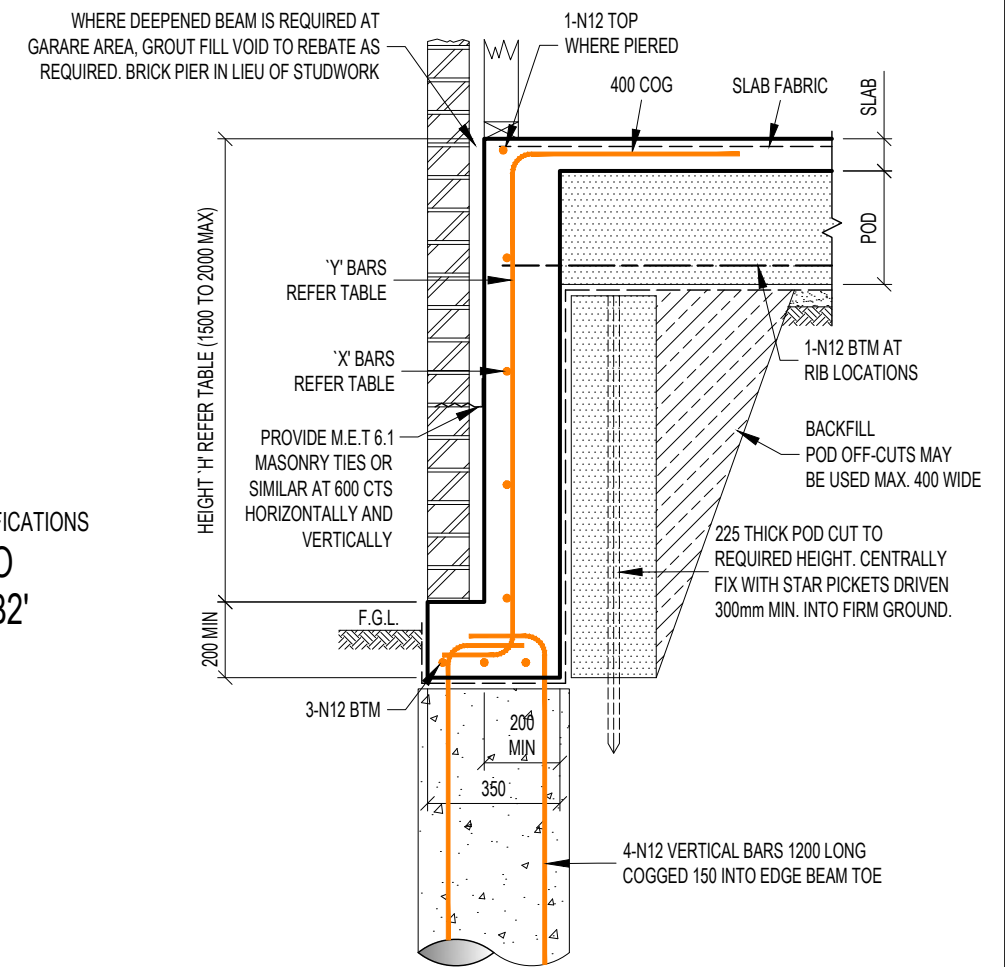
DEEP EDGE BEAM DETAIL 'DEB1'
1500 MAX



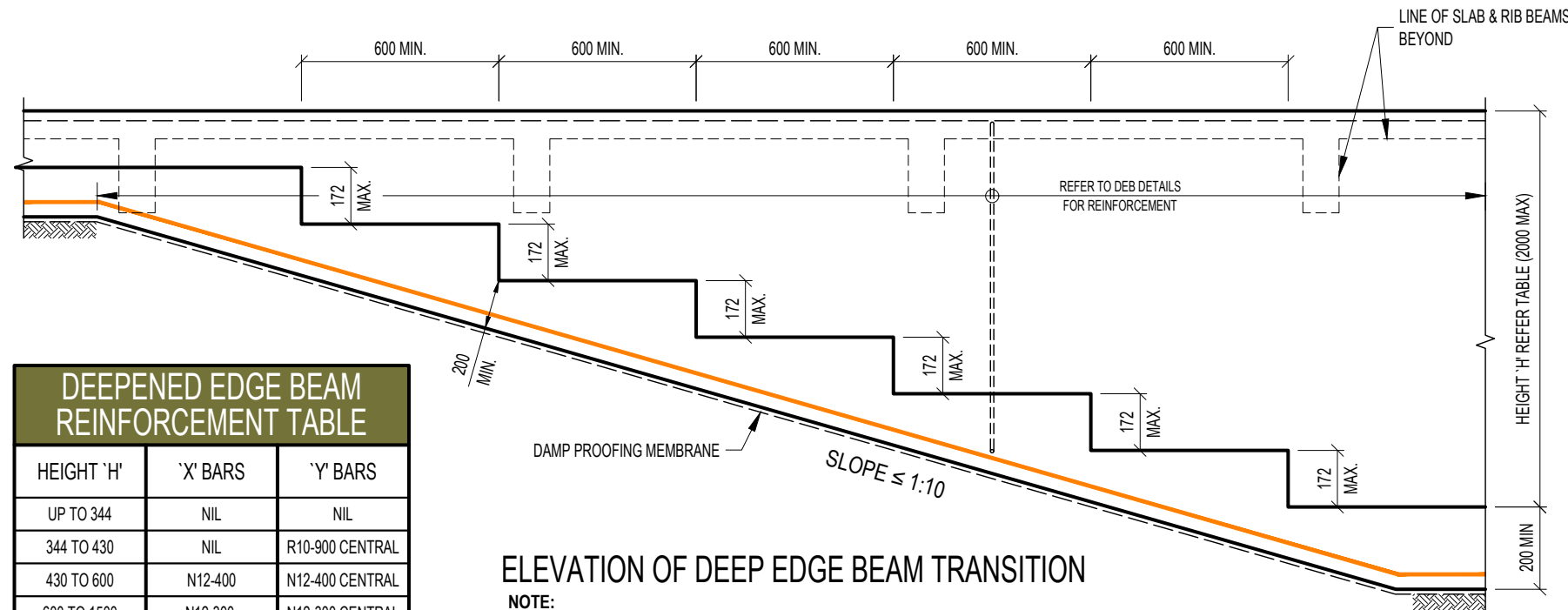
DEEP PATIO EDGE BEAM DETAIL 'DEB2'



REFER 'DEB1' FOR REINFORCEMENT SPECIFICATIONS
ALTERNATE DEEP PATIO
EDGE BEAM DETAIL 'DEB2'



DEEP EDGE BEAM DETAIL 'DEB3'
1500 TO 2000 MAX

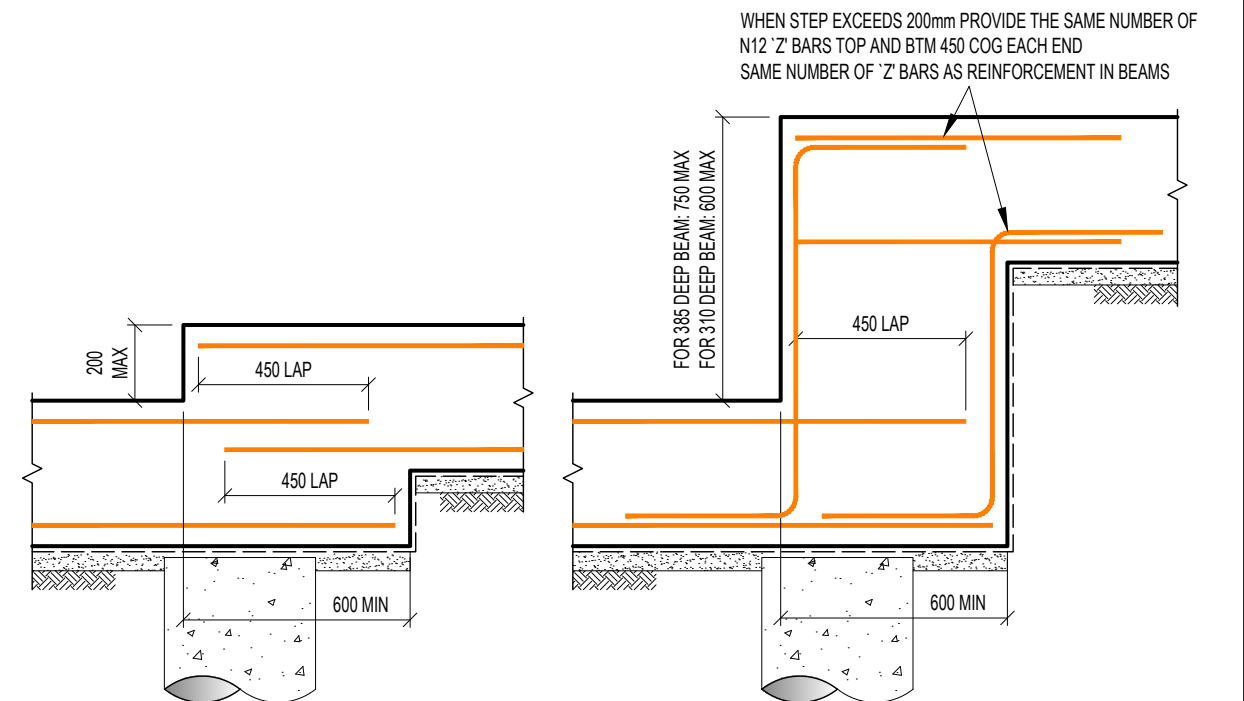


ELEVATION OF DEEP EDGE BEAM TRANSITION

DEEPENED EDGE BEAM REINFORCEMENT TABLE		
HEIGHT 'H'	'X' BARS	'Y' BARS
UP TO 344	NIL	NIL
344 TO 430	NIL	R10-900 CENTRAL
430 TO 600	N12-400	N12-400 CENTRAL
600 TO 1500	N12-300	N12-300 CENTRAL
1500 TO 2000	N12-300	N12-200 CENTRAL OR N16-300 CENTRAL

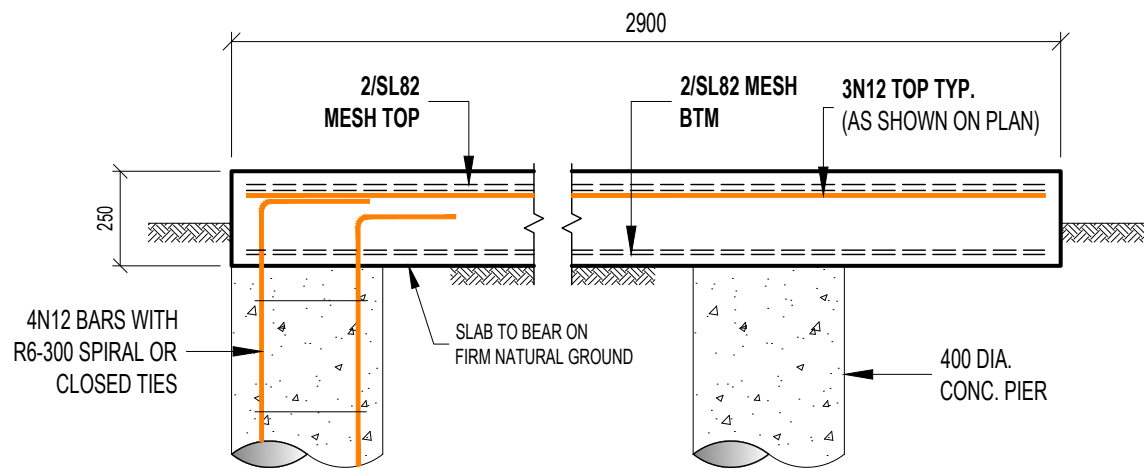
NOTE:

- HORIZONTAL N12 CROSS BARS NOT SHOWN FOR CLARITY.
- HORIZONTAL BARS TO CONTINUE AROUND CORNERS.
- 500mm LONG 'L' BARS CAN BE USED IF REQUIRED AT CORNERS.

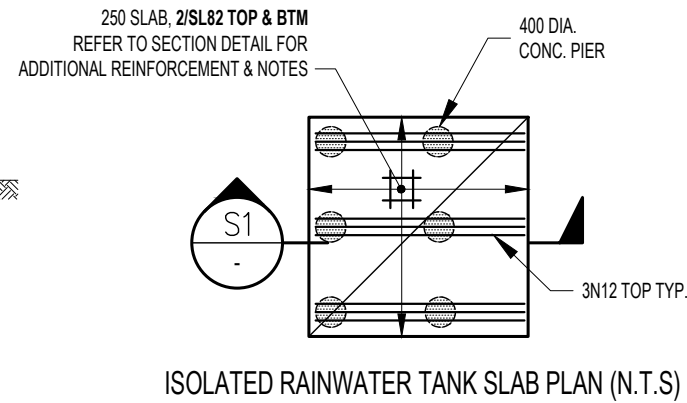


ELEVATION OF PERIMETER BEAM AT STEPS IN SLAB

DRAWN: RN	DATE: 26/06/2023	SCALE: A3 @ 1:20	CHECKED: JD	HOUSE TYPE: LIDO 31	CLIENT REF: 652201	APPROVED BY: J. DONOVAN, M.I.E. Aust. C.P.Eng.	TITLE: DEEPENED BEAM (DEB) DETAILS	PROJECT CODE: E331632	DRAWING No. S3.002	ISSUE: 2
FOR: MS. MARGARET JUNE KAYE & MR. ROHAN ANTHONY SMITH	SITE ADDRESS: LOT 1 74 SOLDIERS AVENUE FRESHWATER	REGISTERED SURVEYORS AND CIVIL/STRUCTURAL ENGINEERS 15 PARKES ST, PARRAMATTA, NSW, 2120 W: www.donovanassociates.com.au T: 02 9806 3010	CLIENT: MOJO homes	ISSUED FOR CONSTRUCTION	REV: A					



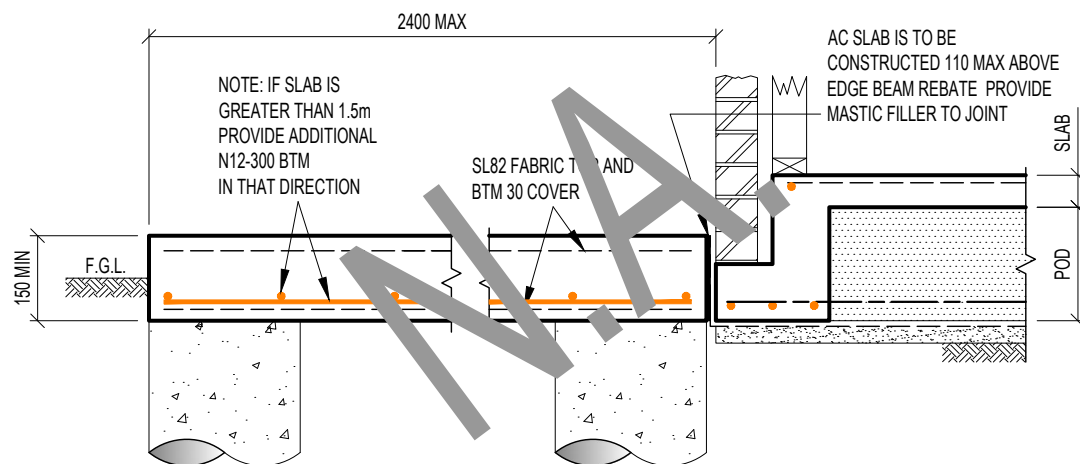
SECTION 1 - ISOLATED RAINWATER TANK SLAB



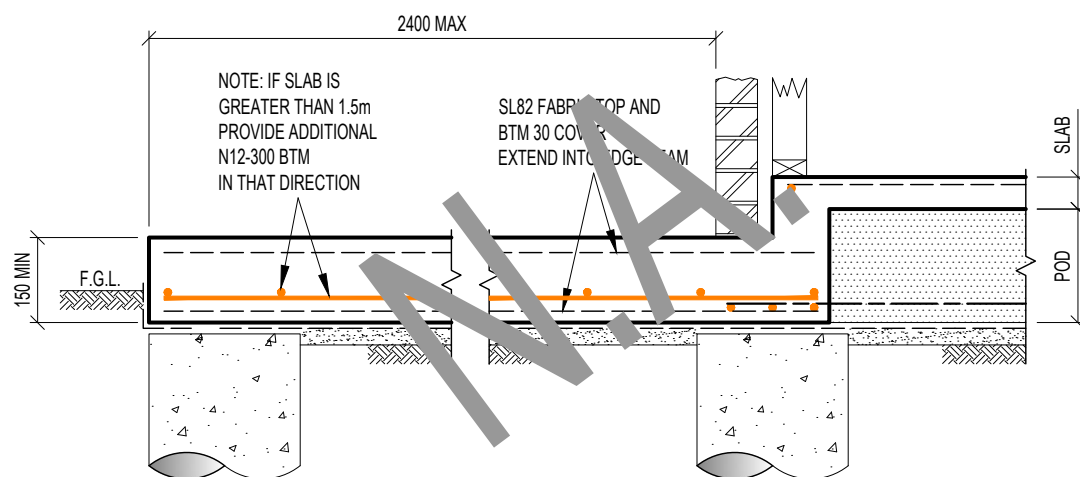
ISOLATED RAINWATER TANK SLAB PLAN (N.T.S)

RAINWATER TANK NOTES

1. FOR SLAB SPECIFICATIONS AND POD SIZES REFER TO SLAB PLAN
2. EDGE AND INTERNAL BEAM WIDTHS NOMINATED ARE MINIMUM ONLY. IF THESE WIDTHS ARE EXCEEDED ADDITIONAL REINFORCEMENT SHALL BE REQUIRED IN ACCORDANCE WITH CLAUSE 3.4.3 - AS2870. REFER TO 'TOTAL REINFORCEMENT REQUIREMENTS' TABLE ON S1.002
3. IF SLAB IS GREATER THAN 2400mm IN ONE DIRECTION, PROVIDE ADDITIONAL PIERS SUCH THAT SPACING DOES NOT EXCEED THE MAXIMUM 2400mm. IF SLAB EXCEEDS THE LIMITATIONS SPECIFIED ABOVE, CONTACT THE ENGINEER IMMEDIATELY.
4. RAINWATER TANK NOT SHOWN ON SLAB PLAN - REFER TO ARCHITECTURAL DRAWINGS FOR SLAB LOCATION AND SIZE.

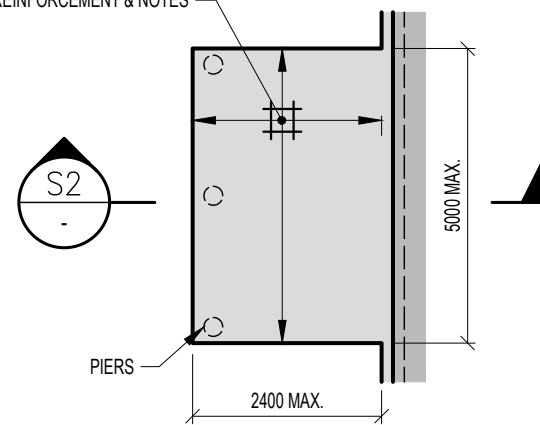


SECTION 1 - ISOLATED RAINWATER TANK SLAB WHEN ABUTTING RESIDENCE



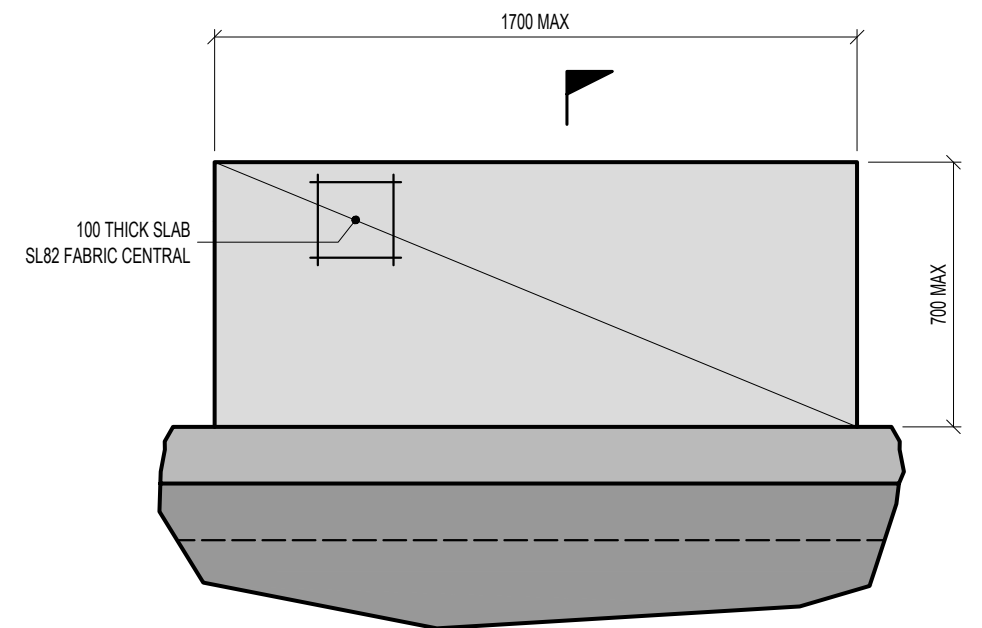
SECTION 2 - RAINWATER TANK SLAB PART OF MAIN SLAB

150 MIN. SLAB, SL82 TOP & BTM
REFER TO SECTION DETAIL FOR
ADDITIONAL REINFORCEMENT & NOTES

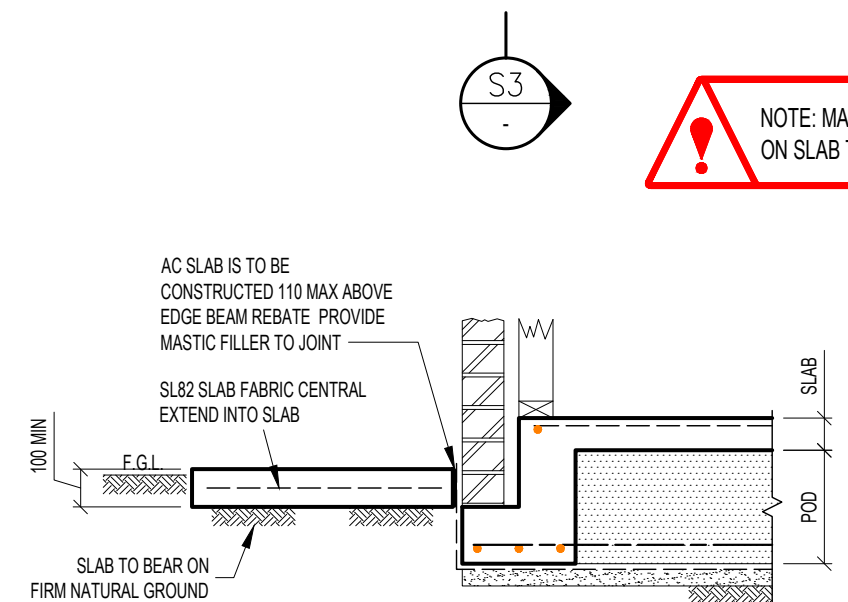


RAINWATER TANK SLAB PLAN (N.T.S)

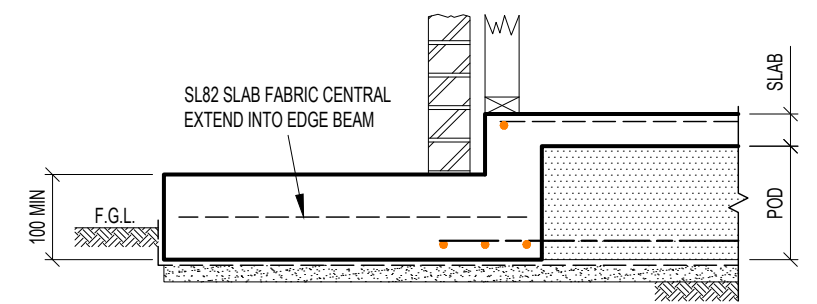
RAINWATER TANK SLAB PLAN AND DETAILS



NOTE: MAXIMUM LOAD
ON SLAB TO BE 200KG



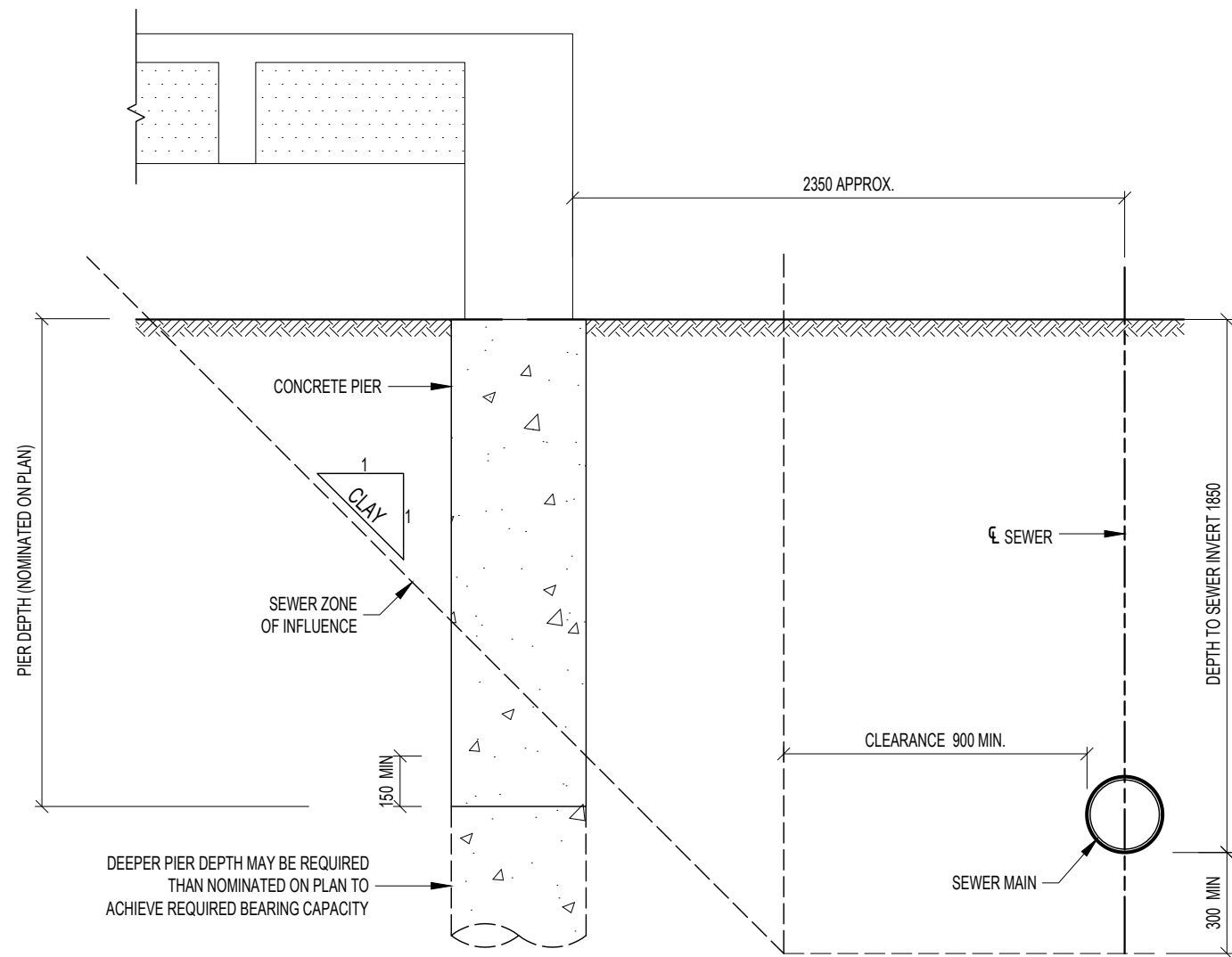
SECTION 3 - ISOLATED AIR CONDITIONING SLAB



SECTION 3 - AIR CONDITIONING SLAB PART OF MAIN SLAB

AIR CONDITIONING SLAB PLAN AND DETAILS

DRAWN	DATE	AMENDMENT	REV	CLIENT	FOR	DRAWN	DATE	APPROVED BY	TITLE	ISSUE
N.PATEL	25/08/2023	REVISED PWT PAD DETAIL	B	MOJO homes	MS. MARGARET JUNE KAYE & MR. ROHAN ANTHONY SMITH	RN	26/06/2023		RAINWATER TANK & ACU SLAB DETAILS	2
RN	26/06/2023	ISSUED FOR CONSTRUCTION	A							
 REGISTERED SURVEYORS AND CIVIL/STRUCTURAL ENGINEERS 15 PARKES ST, PARRAMATTA, NSW, 2120 W: www.donovanassociates.com.au T: 02 9806 3010					SITE ADDRESS: LOT 1 74 SOLDIERS AVENUE FRESHWATER					
					CLIENT REF: 652201					
					PROJECT CODE: E331632 DRAWING No. S3.003					REV. B



SEWER ADJACENT TO SLAB DETAIL

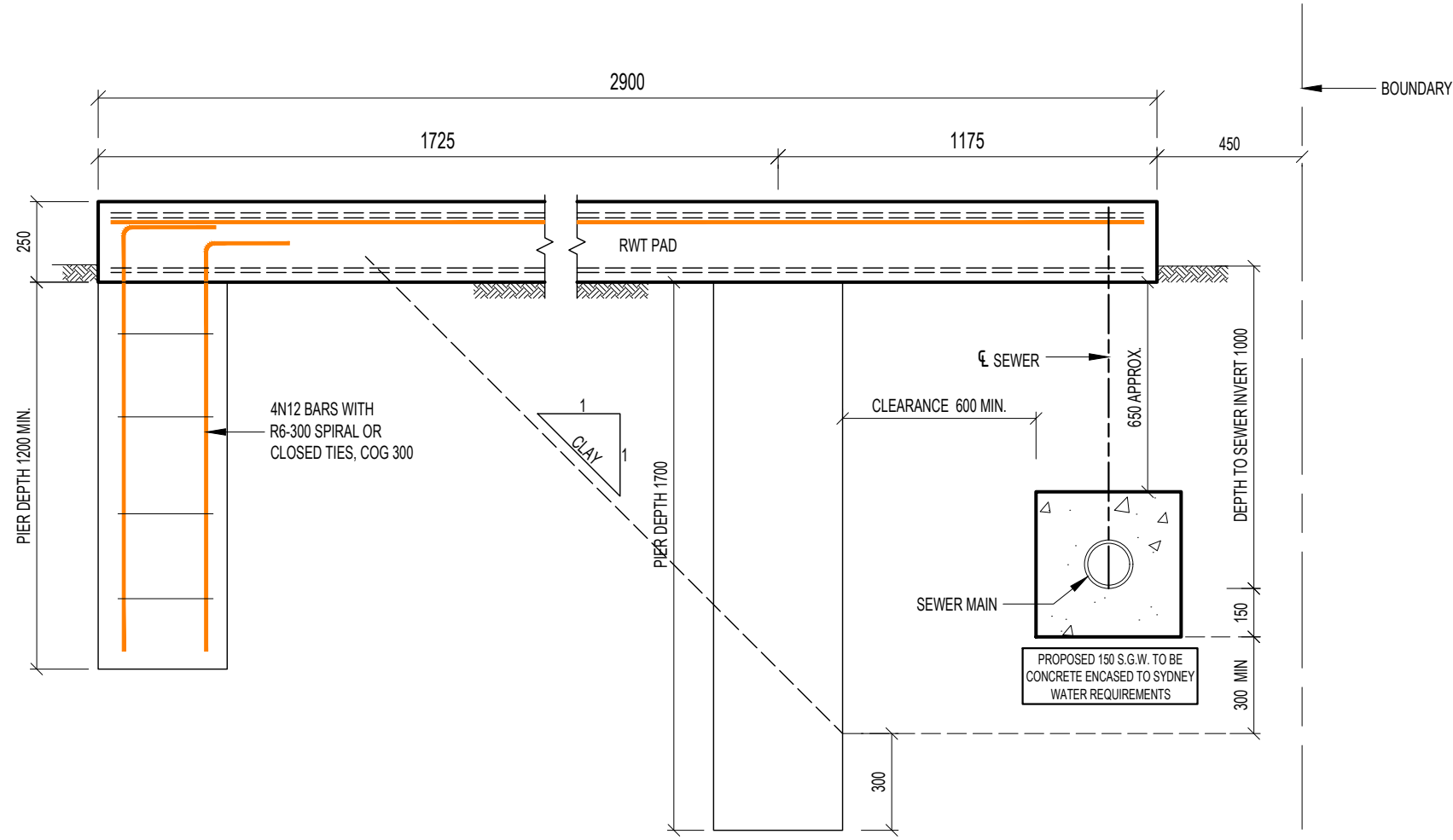
SECTION

SCALE 1:20

1

S2.000

DRAWN	DATE	AMENDMENT	REV	CLIENT:	FOR:	DRAWN:	APPROVED BY:	TITLE:	ISSUE:
				<div>MOJOhomes</div>	MS. MARGARET JUNE KAYE & MR. ROHAN ANTHONY SMITH	RN		SEWER DETAILS	2
						DATE: 26/06/2023			
						SCALE: A3 @ 1:20			
						CHECKED: JD			
N.PATEL	25/08/2023	SEWER BAS/BOS	A	<div>DONOVAN ASSOCIATES REGISTERED SURVEYORS AND CIVIL/STRUCTURAL ENGINEERS 15 PARKES ST, PARRAMATTA, NSW, 2120 W: www.donovanassociates.com.au T: 02 9806 3010</div>	SITE ADDRESS: LOT 1 74 SOLDIERS AVENUE FRESHWATER	HOUSE TYPE: LIDO 31	J. DONOVAN, M.I.E. Aust. C.P.Eng.	PROJECT CODE: E331632 DRAWING No. S3.004	REV. A
RN	26/06/2023					CLIENT REF: 652201			



SECTION

SCALE 1:20

2

S2.000

SEWER PIER REINFORCEMENT NOTE:
THE FOLLOWING REINFORCEMENT IN PIERS IS REQUIRED FOR THE FULL HEIGHT OF THE PIER:

- 2.5m < PIER DEPTH ≤ 4.5m: 4N12 BARS WITH R6-300 SPIRAL OR CLOSED TIES.
- 4.5m < PIER DEPTH ≤ 6.0m: 4N16 BARS WITH R10-300 SPIRAL.

DRAWN	DATE	AMENDMENT	REV	CLIENT:	FOR:	DRAWN:	APPROVED BY:	TITLE:	ISSUE:		
					MS. MARGARET JUNE KAYE & MR. ROHAN ANTHONY SMITH	DATE:	RN	SEWER DETAILS	2		
						26/06/2023					
						A3 @ 1:20					
				 REGISTERED SURVEYORS AND CIVIL/STRUCTURAL ENGINEERS 15 PARKES ST, PARRAMATTA, NSW, 2120 W: www.donovanassociates.com.au T: 02 9806 3010	SITE ADDRESS:	CHECKED:	JD	PROJECT CODE:	DRAWING No.	REV.	
N.PATEL	25/08/2023	SEWER BAS/BOS	A		LOT 1	HOUSE TYPE:	LIDO 31	J. DONOVAN, M.I.E. Aust. C.P.Eng.	E331632	S3.005	A
RN	26/06/2023				74 SOLDIERS AVENUE FRESHWATER	CLIENT REF:	652201				