DRAWING REGISTER	
SHEET TITLE	ISSUE A
S00 - DRAWING REGISTER	Y
S01 - SLAB PLAN	Y
S02 - SLAB DETAILS	Y
N1 - NOTES	Y
N2 - NOTES 2	Y
N3 - NOTES 3	Y
HOW TO READ YOUR DRAWINGS	Y
UPDATED THIS ISSUE	Y
INCLUDED THIS ISSUE (NO CHANGE)	-
DELETED	X

REV	DATE	REVISION DESCRIPTION	REV BY	CHCKD
A	16.09.19	PRELIMINARY ISSUE	AF	BC

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(By appointment)

CLIENT:
RICHMOND RACE CLUB

PROPOSED ADDITIONS & ALTERATIONS AT
312 LONDONDERRY RD
LONDONDERRY NSW

DRAWING REGISTER

DESIGNED: B. Cross
DRAWN: A. Fitzgerald
SCALE: AS SHOWN @ A3
PLOT DATE: 16/09/2019
DRAWING NO: 192589 - S00

APPROVED FOR CONSTRUCTION WHEN SIGNED:

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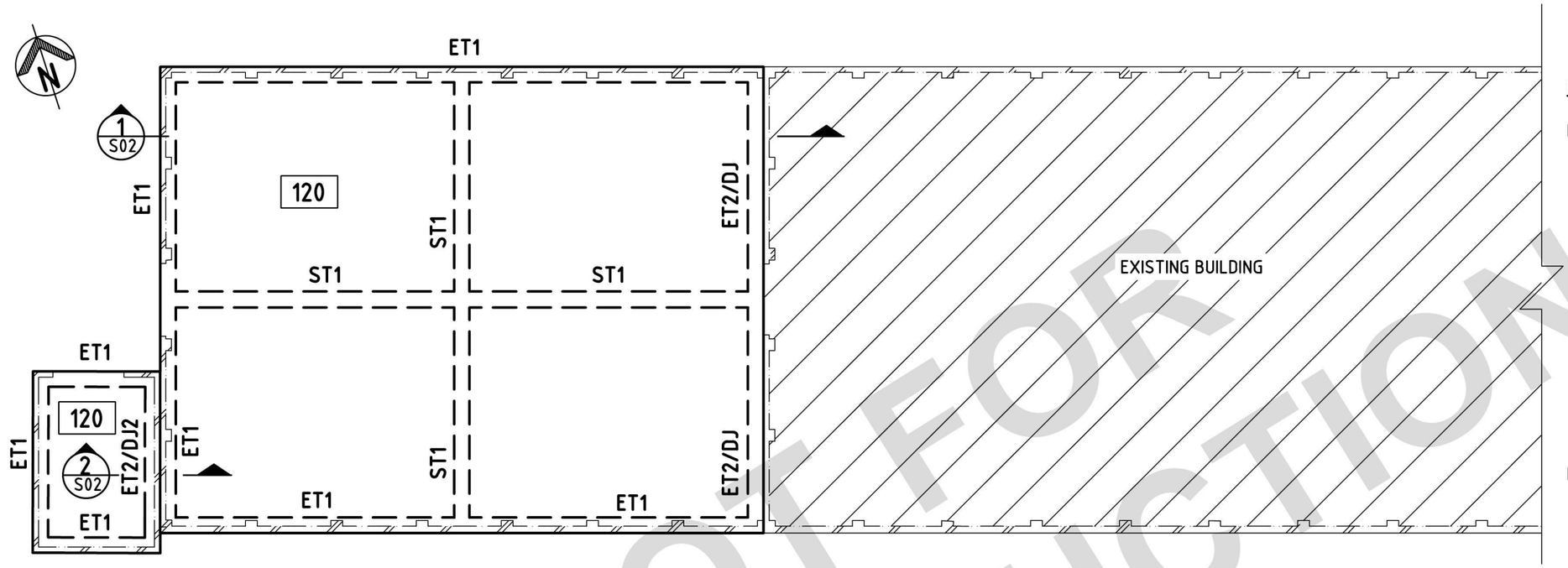
Chris Coppard
MIE Aust. CP Eng. NER
APPROVAL DATE:



SLAB PLAN

SCALE 1:100

- ALL SLABS TO BE 120mm THICK UNLESS SPECIFIED BY "###" ON PLAN OR U.N.O.
- SLABS ON FILL TO BE 150 THICK.
- ALL SLABS TO BE REINFORCED WITH SL82 MESH WITH 30mm TOP COVER UNLESS OTHERWISE SPECIFIED.
- SL82 MESH WITH 30mm BOTTOM COVER REQUIRED OVER FILLED AREAS.
- ALL SLABS WITH TILED OR POLISHED SURFACES OVER TO BE REINFORCED WITH SL92 MESH.
- ALL SLABS TO BE PLACED ON 0.2mm POLYETHYLENE MEMBRANE OVER 50mm LEVELLING SAND.
- SLAB CONCRETE = N25 GRADE U.N.O.
- POLISHED SLAB CONCRETE = N32 GRADE.

SOIL CLASS TO BE CONFIRMED BY GEOTECHNICAL ENGINEER. AMENDMENTS TO BEAM DEPTH AND ADDITIONAL SLAB BEAMS MAY BE REQUIRED.

ASSUMED ARTICULATED MASONRY OVER. THE BUILDER IS TO REFER TO TECHNICAL NOTE 61 (TN61) FROM CMAA FOR GUIDANCE ON THE REQUIRED SPACING OF ARTICULATION JOINTS IN MASONRY PER THE SITE CLASSIFICATION ON SHEET N1. CONTACT ENGINEER IF WALLS ARE TO BE FULL MASONRY, ADDITIONAL SLAB BEAM DEPTH MAY BE REQUIRED.

CONCRETE SCHEDULE

P1 – PIER 1 (IF REQUIRED)
300 ϕ PIERS AT 1800 C/C UNDER FOOTING TO SOUND UNIFORM NATURAL GROUND WITH A MINIMUM ALLOWABLE BEARING CAPACITY OF 150kPa.

WHERE PIERS REQUIRED, ALL CORNERS & INTERSECTIONS OF FOOTING TO BE PIERED.

IF ANY PART OF FOOTING SYSTEM BEARS ON ROCK ENTIRE SYSTEM IS TO BE PIERED TO OR FOUNDED ON ROCK.

ET1 – SLAB EDGE THICKENING 1
625 D x 300 W
REINFORCED WITH 2 N12 BARS TOP AND 3 WIRE L11TM BOTTOM WITH R6 TIES AT 900 MAXIMUM CENTRES.

ET2 – SLAB EDGE THICKENING 2
200 D x 200 MIN W

ST1 – SLAB THICKENING 1
625 D x 300 W
REINFORCED WITH 2 N12 BARS TOP AND 3 WIRE L11TM BOTTOM WITH R6 TIES AT 900 MAXIMUM CENTRES.

DJ – DOWEL JOINT 1
PER SECTION 1, S02.

DJ2 – DOWEL JOINT 2
PER SECTION 2, S02.

DO NOT SCALE DRAWINGS, USE FIGURED DIMENSIONS ONLY.

ASK US IF YOU ARE IN DOUBT. IT IS YOUR RESPONSIBILITY.

IF ASCENT CONSULTING ENGINEERS HAS NOT BEEN ENGAGED TO CARRY OUT STRUCTURAL INSPECTIONS, NO CERTIFICATE WILL BE ISSUED.

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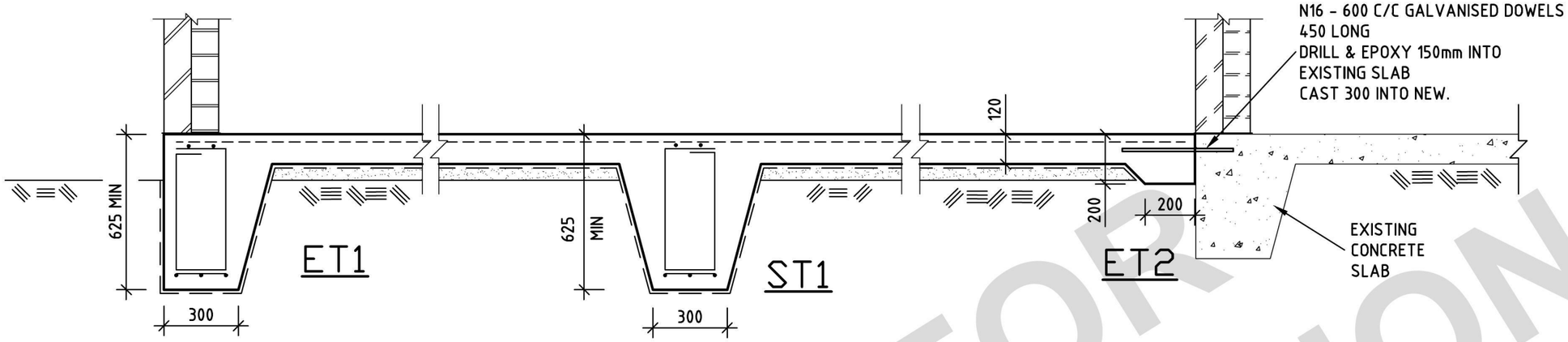
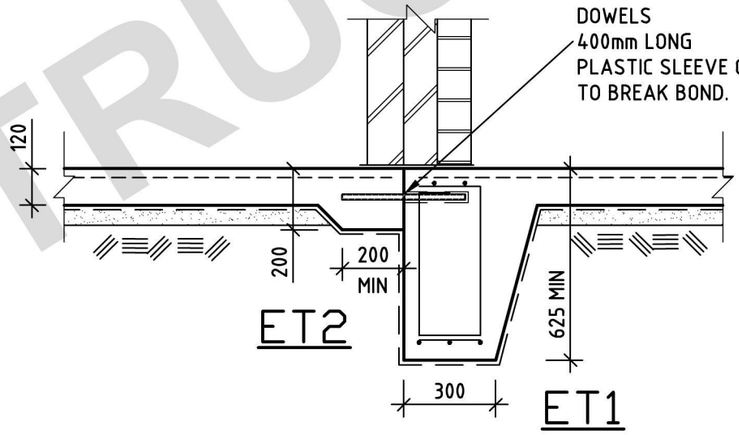


SECTION 1 / S02
SCALE 1:20

TERMITE PROTECTION TO BE PLACED IN JOINTS, TO OTHER'S DETAILS. TYPICAL.

NOTE:
ALL DOWELS ARE TO BE INSTALLED PERPENDICULAR TO THE JOINT SURFACE IN BOTH THE VERTICAL AND HORIZONTAL PLANES TO ALLOW SUFFICIENT LATERAL MOVEMENT OF THE DOWELS.



SECTION 2 / S02
SCALE 1:20

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APPROVAL DATE:

GENERAL:

1. THESE DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS AND SPECIFICATION. REFER ANY DISCREPANCIES TO THE ARCHITECT OR ENGINEER BEFORE PROCEEDING WITH WORK. AT ALL TIMES, DETAILS PRESENTED ON THE DRAWINGS TAKE PRECEDENCE OVER THE GENERAL NOTES.
2. DO NOT OBTAIN DIMENSIONS BY SCALING THE STRUCTURAL DRAWINGS. ALL SETOUT DIMENSIONS TO BE VERIFIED BY THE BUILDER.
3. ALL WORKMANSHIP AND MATERIALS TO COMPLY WITH THE REQUIREMENTS OF CURRENT SAA CODES AND WITH THE BUILDING CODE OF AUSTRALIA.
4. PROVIDE ANY TEMPORARY BRACING NECESSARY TO ENSURE STRUCTURE IS MAINTAINED IN A STABLE CONDITION DURING ERECTION AND CONSTRUCTION AND THAT NO PART IS OVERLOADED.
5. THE STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH AS/NZS1170:2002 PARTS 1,2 AND 4 FOR DEAD AND LIVE LOADS, WIND LOADS AND EARTHQUAKE LOADS AS APPLICABLE.
6. IF ANY STRUCTURAL ELEMENT DISPLAYS DIFFICULTY WITH RESPECT TO CONSTRUCTABILITY, THE MATTER SHALL BE REFERRED TO THE SUPERINTENDENT FOR RESOLUTION BEFORE PROCEEDING WITH THE WORK.
7. THE CONTRACTOR SHALL PREPARE DRAWINGS FOR THE CONTRACTOR'S WORKS PRIOR TO THE CONSTRUCTION OF ALL CONCRETE WALLS AND FLOORS THESE DRAWINGS ARE TO BE SUBMITTED IN TIME FOR USE AND SCHEDULING OF REINFORCEMENT INCLUDING POST TENSIONING. THE DRAWINGS ARE TO BE REVIEWED BY THE ENGINEER AND ARCHITECT.
8. ALL INSPECTIONS REQUIRE A MINIMUM OF 48 HOURS PRIOR NOTICE.

FOUNDATION NOTES:

1. FOUNDING MATERIAL EXPECTED TO BE ENCOUNTERED IS MODERATELY REACTIVE CLAY, EQUIVALENT TO CLASS "M" IN ACCORDANCE WITH AS 2870.
2. FOOTINGS TO BE FOUNDING ON NATURAL GROUND WITH AN ALLOWABLE UNIFORM BEARING CAPACITY OF 150kPa MINIMUM
3. ALL TOPSOIL AND ORGANIC MATTER SHALL BE REMOVED PRIOR TO PLACING ANY FILL, GRAVEL OR SAND.
4. FILL BENEATH SLABS AND BEHIND RETAINING WALLS TO BE COMPACTED IN 150mm LAYERS TO 98% STANDARD COMPACTION, WITHOUT CAUSING DAMAGE TO CONCRETE OR MASONRY.
5. IF REQUIRED, FOOTINGS ARE TO BE PIERED (300mm DIAMETER) AT 1.8m. MAXIMUM CENTRES TO ENSURE UNIFORM BEARING MATERIAL.
6. TERMITE PROTECTION TO BE PROVIDED BY BUILDER AND IS TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF AUSTRALIAN STANDARD AS3660.1–1995 AND TO COUNCIL'S REQUIREMENTS.

RETAINING WALLS:

1. OTHER THAN CANTILEVER WALLS, RETAINING WALLS MUST NOT BE BACKFILLED UNTIL FLOOR SUPPORTS TOP & BOTTOM ARE COMPLETED.
2. RETAINING WALLS MUST BE INSTALLED WITH ADEQUATE DRAINAGE AND FREE DRAINING BACKFILL BEHIND WALLS.
3. FOR CONCRETE BLOCK RETAINING WALLS, THE FIRST COURSE IS TO COMPRISE TYPE 20.96 CLEAN–OUT BLOCKS.

MASONRY:

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3700.
2. MASONRY WALL TIES SHALL BE IN ACCORDANCE WITH AS2699.
3. MASONRY UNITS SHALL BE IN ACCORDANCE WITH AS4455.
4. SELECTION OF MASONRY UNITS AND MORTAR SHALL BE AS FOLLOWS, U.N.O.

MASONRY CLASSIFICATION	EXPOSURE TO AS3700	MIN. UNCONFINED COMPRESSIVE STRENGTH f'uc (MPa)	MORTAR CLASSIFICATION TO AS3700
BRICKWORK	NOT SEVERE	15	M3
	SEVERE	15	M4
NON LOAD BEARING	SEVERE	10	M3
BLOCKWORK	NOT SEVERE	10	M3
LOAD BEARING	SEVERE	10	M4
BLOCKWORK SOLID	NOT SEVERE	10	M3
LOAD BEARING	SEVERE	12	M4
BLOCKWORK UNREINFORCED	NOT SEVERE	12	M3
REINFORCED	SEVERE	15	M4
BLOCKWORK	NOT SEVERE	15	M4

5. MORTAR CLASSIFIED AS M3 TO BE 1: 1: 6, CEMENT: LIME:SAND
6. MORTAR CLASSIFIED AS M4 TO BE 1: 0.25: 3, CEMENT: LIME:SAND.
7. ALL BRICKWORK TO BE SOLID U.N.O. LOAD BEARING BRICKWORK SHALL BE LAID FROGS UP, EXCEPT THE TOP COURSE WHICH SHALL BE LAID FROGS DOWN. THE TOP TWO COURSES OF BRICKS SHALL BE LAID WITH BRICK REINFORCEMENT IN THE JOINTS.
8. MEDIUM DUTY BRICK TIES SHALL BE PROVIDED AT 450 MAXIMUM CENTRES HORIZONTALLY AND 350 MAXIMUM CENTRES VERTICALLY, TIES AT 300 CENTRES ADJACENT TO OPENINGS AND CONTROL JOINTS. MASONRY WALLS ABUTTING TO COLUMNS SHALL BE TIED USING GALVANISED STEEL STRAPS AT 350 MAXIMUM CENTRES AND ARE TO BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. GENERALLY ALL TYING BONDING AND FIXING IS TO COMPLY WITH AS3700.
9. ALL MASONRY SUPPORTING OR SUPPORTED BY CONCRETE FLOORS WITHIN THE VICINITY OF CONTROL JOINTS SHALL ALSO HAVE VERTICAL CONTROL JOINTS INSTALLED.
10. ALL MASONRY WORK SUPPORTING BEAMS AND SLABS REQUIRE A PRE - GREASED GALVANISED STEEL SLIP JOINT BETWEEN THE TOP SURFACE OF MASONRY AND THE SOFFIT OF THE BEAM OR SLAB.
11. NO CONSTRUCTION OF ANY MASONRY WALL IS PERMITTED UNTIL THE SUPPORTING SUSPENDED CONCRETE SLAB OR BEAM HAS REACHED ADEQUATE STRENGTH AND ALL PROPPING IS REMOVED.
12. UNDER NO CIRCUMSTANCES ARE ANY VOIDS OR RECESSES ALLOWED IN ANY LOAD BEARING MASONRY WITHOUT THE APPROVAL OF THE ENGINEER.
13. VERTICAL CONTROL JOINTS TO BE INSTALLED AT 6m MAXIMUM SPACINGS, AND AT 5m MAXIMUM SPACINGS FROM CORNERS. POSITIONS TO BE CONFIRMED BY BUILDER / ARCHITECT. JOINTS ARE TO BE SEALED WITH AN APPROVED SEALANT.
14. ALL NON LOAD BEARING WALLS ARE TO BE SEPARATED FROM CONCRETE WORKS USING A 20mm POLYETHYLENE STRIP, TIED TO THE SLAB USING APPROPRIATE ANCHORS INSTALLED TO THE MANUFACTURER'S SPECIFICATION.

STRUCTURAL STEELWORK:

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS4100, AS 1534 AND AS1554 U.N.O.
2. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CARRYING OUT THE WORKS IN ACCORDANCE TO THE STRUCTURAL DETAILS AND THIS SPECIFICATION. THE CONTRACTOR SHALL SUPPLY, DESIGN, ERECT AND DISMANTLE ALL TEMPORARY WORKS AND SHALL PROVIDE ALL NECESSARY EQUIPMENT.
3. ALL STEELWORK SHALL BE TEMPORARILY BRACED BY THE CONTRACTOR DURING ERECTION TO PROTECT AGAINST WIND, AND ALL ERECTION STRESSES AND LOADING CONDITIONS INCLUDING THOSE DUE TO EQUIPMENT. AT ALL TIMES THE CONTRACTOR SHALL ENSURE THAT ALL MEMBERS CAN BE PLACED IN POSITION WITHOUT DISTORTION. IF THIS REQUIRES VARIATIONS TO THE CONTRACT DRAWINGS, THEY SHALL BE SUBMITTED FOR APPROVAL BY THE ENGINEER.
4. THE FABRICATION AND ERECTION OF THE STEELWORK SHALL BE SUPERVISED BY A QUALIFIED PERSON TO ENSURE THAT THE WORKS ARE COMPLETED AS SPECIFIED.
5. THE CONTRACTOR WILL CO-ORDINATE AND ENSURE THAT ALL FIXINGS BETWEEN STEELWORK CONNECTIONS AND OTHER BUILDING ELEMENTS ARE INSTALLED AS PER THE ENGINEERS DETAILS & REQUIREMENTS.
6. WORKSHOP DRAWINGS SHALL BE SUBMITTED TO ALLOW AT LEAST 7 WORKING DAYS FOR REVIEW. THE REVIEW WILL GRANT PERMISSION TO PROCEED WITH MEMBER SIZES AND STRUCTURAL CONNECTIONS. ALL DIMENSIONS ARE TO BE CONFIRMED BY THE CONTRACTOR.
7. ALL SHOP DRAWINGS ARE TO BE DRAWN IN ACCORDANCE TO AS1100 AND IN A STANDARD ENGINEERING DRAWING MANNER. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT ALL INFORMATION REQUIRED FOR THE PREPARATION OF SHOP DRAWINGS IS AVAILABLE PRIOR TO COMMENCEMENT OF THE SHOP DRAWINGS.
8. UNLESS NOTED OTHERWISE THE GRADES OF STEEL WILL BE AS FOLLOWS:

- UB, UC, PFC, ANGLES - BHP - 300PLUS
- CHS - 350 GRADE
- RHS, SHS - 350 GRADE
- PURLIN SECTIONS - 450 GRADE

9. SPLICE LOCATIONS ARE ONLY TO BE SITUATED AS DETAILED ON THE STRUCTURAL DRAWINGS, UNLESS WRITTEN APPROVAL IS GRANTED FROM THE ENGINEER.
10. DURING THE ERECTION STAGE, NO STEEL MEMBER OR CONNECTION SHALL BE CUT, WELDED, DRILLED OR BURNT WITHOUT WRITTEN APPROVAL.
11. WHERE SITE WELDING IS CALLED UP ON THE STRUCTURAL DRAWINGS, THE WORK WILL BE DONE BY AN EXPERIENCED WELDER SKILLED IN THIS TYPE OF WORK AND UNDER THE SUPERVISION OF THE WELDING SUPERVISOR.
12. ALL WELDING SHALL BE IN STRICT ACCORDANCE TO AS1554, AS4100 AND AS1538 (FOR COLD FORMED STEEL).
13. ALL WELDS SHALL BE S.P AND A MINIMUM OF 6mm FILLET WELDS USING E48XX ELECTRODES, UNLESS NOTED OTHERWISE ON THE DRAWINGS. ALL BUTT WELDS TO BE COMPLETE PENETRATION TO AS1554.1.
14. WELD INSPECTIONS SHALL BE CARRIED OUT AS FOLLOWS:

- VISUAL - 100% OF ALL WELDS
- NON DESTRUCTIVE TESTING (NDT) SUCH AS ULTRASONIC OR RADIOGRAPHIC TESTING (TO AS1554.1, AS2177.1, AS2207) - 10% OF ALL BUTT WELDS PRIOR TO THE STEELWORK LEAVING THE WORKSHOP.
- NDT TEST CERTIFICATES MAY BE REQUIRED BY ASCENT & IF SO, WILL BE REQUIRED FOR STRUCTURAL CERTIFICATION.

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MIE Aust. CP Eng. NER
APPROVAL DATE:

STRUCTURAL STEELWORK (CONTINUED):

15. ALL WELDS ARE TO BE NEATLY FINISHED AND ANY SLAG AND EXCESS MATERIAL IS TO BE REMOVED.
16. BEFORE WELDING, ALL SURFACES ARE TO BE CLEANED OF DIRT, GREASE, RUST AND TO BE DRY.
17. ALL BOLTING TO BE SUPPLIED BEARING LENGTHS SUCH THAT NO THREADED PORTION CROSSES THE INTERFACE OF THE CONNECTIONS JOINED.
18. ALL MATING HOLES SHALL MACH IN SUCH A WAY THAT NO BOLT REQUIRES TO BE DRIVEN.
19. ALL BOLTS REQUIRE WASHERS UNDER THE BOLT HEAD AND NUT. TAPER WASHERS SHALL BE PROVIDED WHERE THE BOLT HEAD OR NUT IS NOT PERPENDICULAR TO THE CENTRE LINE OF THE BOLT AND OR PARALLEL TO THE SURFACE OF INSTALLATION.
20. ALL BOLTS SHALL BE M20 GRADE 8.8/S TO AS1111 AND SHALL BE SNUG TIGHT TO AS4100 UNLESS NOTED OTHERWISE.
21. BOLTS DESIGNATED HIGH STRENGTH GRADE 8.8/S SHALL BE IN ACCORDANCE WITH AS1252.
22. HIGH STRENGTH FRICTION BOLTS DESIGNATED GRADE 8.8/TF SHALL BE IN ACCORDANCE WITH AS1252.
23. HIGH STRENGTH BEARING BOLTS DESIGNATED GRADE 8.8/TB SHALL BE IN ACCORDANCE WITH AS1252.
24. ALL BOLTS INCLUDING HOLDING DOWN BOLTS SHALL BE HOT DIP GALVANISED UNLESS NOTED OTHERWISE.
25. NO CONNECTION SHALL HAVE LESS THAN 2 BOLTS, AND BOLT HOLES TO BE A MAXIMUM OF 2mm LARGER THAN THE BOLT DIAMETER.
26. TB AND TF BOLTS ARE TO BE INSTALLED IN ACCORDANCE TO AS4100 SECTION 15 USING EITHER THE DIRECT TENSION METHOD OR THE PART TURN INDICATOR METHOD.
27. ALL BOLTS AND WASHERS ARE TO BE HOT DIP GALVANISED U.N.O.
28. ALL ANCHORS ARE TO BE INSTALLED TO THE MANUFACTURERS SPECIFICATION.
29. SURFACES BETWEEN FRICTION TYPE GRIPS USING TF BOLTS ARE TO BE LEFT UNCOATED, UNLESS NOTED OTHERWISE.
30. ALL PURLINS ARE TO BE INSTALLED TO THE MANUFACTURER'S SPECIFICATION AND RECOMMENDATION UNLESS NOTED OTHERWISE ON THE DRAWINGS.
31. ALL PURLIN CLEAT PLATES ARE TO BE A MINIMUM THICKNESS OF 8mm AND TO BE 75mm LONG U.N.O. ON PLANS.
32. PROVIDE A 50x50x3 EA, SPANNING BETWEEN PURLINS TO SUPPORT ANY SHEETING WHERE PENETRATIONS OCCUR.
33. ALL STEELWORK TO BE PROTECTIVELY COATED TO BUILDING CODE OF AUSTRALIA REQUIREMENTS, AS2312 OR AS4680 & OTHER'S DETAILS.

TIMBER:

1. ALL MATERIALS AND WORKMANSHIP TO BE IN ACCORDANCE WITH AS1720.1 AND AS1720.2
2. ALL TIMBER SHALL BE STRUCTURALLY SOUND, FREE FROM INSECT ATTACK AND TO BE IN ACCORDANCE WITH AS1748, AS1749 AND AS2858.
3. UNLESS NOTED OTHERWISE ALL TIMBERS SHALL HAVE A MINIMUM ENGINEERING STRESS GRADE AS FOLLOWS:

- SOFTWOOD - F7
- HARDWOOD - F14

4. EXTERNAL TIMBER TO BE HARDWOOD WITH A NATURAL MINIMUM DURABILITY OF CLASS 2 IN ACCORDANCE WITH AS1720.2, OR A PRESERVATIVE TREATED PINE OF AN EQUIVALENT DURABILITY.
5. PROTECTION IS TO BE PROVIDED IMMEDIATELY AFTER GRADING AND SHALL BE MAINTAINED UNTIL THE WORK IS HANDED OVER.
6. ALL TIMBER IS TO BE PROTECTED FROM ANY ADVERSE EFFECTS DUE TO WEATHER CONDITIONS AND DAMAGE FROM ANY CONTAMINATION THAT COULD AFFECT THE APPEARANCE AND/OR STRENGTH OF THE TIMBER.
7. WHERE ANY SECTION IS DAMAGED OR NOT AVAILABLE, THE BUILDER MUST USE AN EQUIVALENT SECTION WITH WRITTEN APPROVAL FROM THE ENGINEER AND THE ARCHITECT.
8. ANY ARCHITECTURAL MEMBER THAT IS CONSIDERED SUSPECT IN THE OPINION OF THE ARCHITECT SHALL BE REQUIRED TO BE PROOF TESTED IN ACCORDANCE TO AS1720.1. THE COST OF SUCH TESTING WILL BE BORNE BY THE CONTRACTOR IF THE MATERIAL IS PROVEN DEFECTIVE.
9. ALL BOLTS SHALL BE M16 GRADE 4.6/S UNO. WASHERS SHALL BE PROVIDED IN ACCORDANCE WITH AS1720.1. ALL BOLTS AND WASHERS SHALL BE GALVANISED. BOLT HOLES TO BE DRILLED IN ACCORDANCE TO AS1720.1.
10. FASTENINGS SUCH AS NAILS, STRAPS, FIXING HOOKS, SCREWS AND BOLTS SHALL BE MADE OF STEEL, AND TO BE IN ACCORDANCE WITH AS1250, AS1111 AS1112 AND AS4100. ALL FASTENINGS IN CONTACT WITH MORTAR OR EXPOSED TO THE WEATHER SHALL BE GALVANISED IN ACCORDANCE TO AS1214 U.N.O.
11. ALL DIMENSIONS ASSUME NO NOTCHING.
12. ALL TOLERANCES IMPOSED ON FINISHED TIMBER TO BE IN ACCORDANCE WITH AS2082, AS3519, AS2858, AS1748.
13. CERTIFICATION SHALL BE PROVIDED REGARDING PRESERVATION TREATMENT, METHOD OF GRADING, STRESS GRADE, SEASONED OR NOT AND THE APPLICABLE STANDARD.
14. ALL JOINTS INCLUDING NOTCHES ARE TO BE A MINIMUM 100mm AWAY FROM LOOSE KNOTS, GUM VEINS, SLOPING GRAIN AND OTHER SIGNIFICANT DEFECTS.
15. ALL PREFABRICATED TRUSSES SHALL SATISFY A LONG TERM DEFLECTION UNDER DEAD LOADS OF SPAN/600, AND SHALL BE DETERMINED IN ACCORDANCE WITH AS/NZS 1170.2, USED APPROPRIATELY FOR THE LOCATION UNLESS DESIGNED & CERTIFIED BY OTHERS.
16. THE MINIMUM THICKNESS OF TRUSS CHORD MEMBERS IS NOT TO BE LESS THAN 45mm UNLESS DESIGNED AND CERTIFIED BY OTHERS.
17. FASTENINGS UNLESS NOTED OTHERWISE SHALL BE IN ACCORDANCE WITH AS1684.2 AND RELEVANT MANUFACTURER'S DETAILS UNLESS NOTED OTHERWISE. WHERE BEYOND THE SCOPE OF AS1684 CONTACT ENGINEER.
18. THE TRUSS DESIGNER AND OR MANUFACTURER SHALL PROVIDE ALL DETAILS OF PLATES AND CLEATS FOR FIXING THE ROOF TRUSS TO THE SUPPORT STRUCTURE. ALSO, CERTIFICATION SHALL BE PROVIDED REGARDING THE DESIGN AND FABRICATION OF THE TRUSSES.
19. SHOP DRAWINGS SHALL BE SUBMITTED FOR THE TRUSSES AND ARE TO BE APPROVED IN ACCORDANCE TO THE SPECIFICATION. SHOP DRAWINGS SHALL ADDRESS MEMBER SIZES, CONNECTIONS, TIMBER SPECIES, STRESS GRADE, STRENGTH GROUP, DESIGN LOADS AND ANY PRECAMBERS.
20. ALL PREFABRICATED TRUSSES ARE TO BE PRECAMBERED 5mm MINIMUM AND NOT GREATER THAN THE DEAD LOAD.
21. TRUSS INSTALLATION SHALL BE IN ACCORDANCE TO AS4440.
22. LAMINATED BEAMS SHALL BE DESIGNED AND INSTALLED TO THE MANUFACTURER'S DETAILS.
23. LAMINATED VENEERED LUMBER SHALL BE DESIGNED AND INSTALLED TO THE MANUFACTURER'S DETAILS.
24. THE ERECTION SHALL BE CARRIED OUT BY A QUALIFIED AND EXPERIENCED PERSON.
25. DURING THE CONSTRUCTION AND ERECTION PROCESS, NO MEMBER OR CONNECTION SHALL BE OVERSTRESSED.

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CONCRETE:

1. WORKMANSHIP AND MATERIALS TO COMPLY WITH AS3600 AND ASSOCIATED AUSTRALIAN STANDARDS.
2. CONCRETE TO BE IN ACCORDANCE WITH AS3600 AND THE FOLLOWING TABLE UNLESS NOTED OTHERWISE ON DETAILED DRAWINGS.

ELEMENT UNDER CONSIDERATION	SLUMP (mm)	MAXIMUM AGG. SIZE (mm)	CEMENT TYPE	CONCRETE STRENGTH (MPa)	CONCRETE CLASSIFICATION
PIERS AND FOOTINGS	80 - 100	20	GP	20	NORMAL
COLUMNS	80 - 100	20	GP	32	NORMAL
SLAB ON GROUND	100	20	GP	25	NORMAL
SUSPENDED SLABS	100	20	GP	32	NORMAL
TOPPING SLABS					
a. BURNISHED	100	20	GP	40	NORMAL
b. POLISHED	100	20	GP	32	NORMAL
c. COLOURED	100	20	GP	32	SPECIAL
RETAINING WALLS	230	10	GP	20	NORMAL
MISCELLANEOUS	100	20	GP	32	NORMAL
NOTE: CONCRETE ADMIXTURES ARE NOT TO CONTAIN ANY CHLORIDES					

3. SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
4. NO PENETRATIONS OR REBATES SHALL BE PERMITTED IN ANY CONCRETE ELEMENT WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER OR UNLESS NOTED ON THE STRUCTURAL DRAWINGS.
5. SERVICE PIPES SHALL BE LOCATED THROUGH THE MIDDLE THIRD OF THE SLAB DEPTH AND SHALL BE SPACED AT A MINIMUM OF 3.5 DIAMETERS.
6. PROVIDE 10mm EXPANSION JOINTING BETWEEN ABUTTING VERTICAL BRICK AND CONCRETE INTERFACES.
7. DO NOT PLACE CONDUITS, PIPES, ETC. IN CONCRETE COVER.
8. ALL CONCRETE TO BE COMPACTED BY A MECHANICAL VIBRATOR. THE VIBRATOR SHALL NOT BE USED TO SPREAD THE CONCRETE. THE COMPLETED POUR MUST COMPLETELY FILL ALL FORMWORK, ENSURE ALL REINFORCEMENT IS ADEQUATELY COVERED AND NO SEGREGATION OCCURS.
9. ALL CONSTRUCTION JOINTS ARE TO BE APPROVED BY THE ENGINEER AND REQUIRE A WELL SCABBLED SURFACE BETWEEN CONCRETE INTERFACE.
10. ALL REINFORCEMENT TO BE SUPPORTED ON BAR CHAIRS SPACED AT EVERY 4TH BAR OR WIRE IN BOTH DIRECTIONS. BARS TO BE TIED AT ALTERNATIVE INTERSECTIONS. INTERNAL AREA CHAIRS MAY BE PLASTIC OR STEEL. EXTERNAL AREA CHAIRS ARE TO BE PLASTIC. UNDER NO CIRCUMSTANCES ARE OTHER MATERIALS TO BE USED, WITHOUT THE CONSENT FROM THE ENGINEER. ALL CHAIRS ARE REQUIRED TO BE MADE SPECIFICALLY FOR THE PURPOSE OF PROPPING REINFORCEMENT.
11. ONLY STRUCTURAL ELEMENTS SHOWN ON THE DRAWING SHALL BEAR ONTO ABUTTING STRUCTURAL ELEMENTS. ALL OTHER NON STRUCTURAL AND BUILDING ELEMENTS REQUIRE 20mm CLEAR DISTANCE FROM THE SOFFIT OF THE STRUCTURE.
12. CURE CONCRETE BY KEEPING CONSTANTLY DAMP FOR A PERIOD OF 7 DAYS AND IMPLEMENT IMMEDIATELY AFTER THE CONCRETE IS POURED. CURING MUST COMPLY WITH AS3799 IF CHEMICAL SPRAYS ARE TO BE USED. ALTERNATIVE METHODS MAY BE UTILISED, WITH THE APPROVAL OF THE ENGINEER.
13. SLAB PROPPING MUST BE LEFT IN PLACE UNTIL SUFFICIENT STRENGTH HAS BEEN ACHIEVED TO SUPPORT THE SLAB SELF WEIGHT AND ANY MASONRY OR PARTITION WALLS. UNDER NO CIRCUMSTANCES ARE ANY CONCRETE ELEMENTS TO BE OVER STRESSED DUE TO CONSTRUCTION LOADS.

14. THE FOLLOWING CONCRETE COVER SHALL BE PROVIDED TO ALL REINFORCEMENT FOR DURABILITY AND FIRE RESISTANCE OF 2HRS (MAX) UNLESS NOTED OTHERWISE ON THE DRAWINGS. FOR FURTHER FIRE PROTECTION REQUIREMENTS CONSULT THE ENGINEER.

ELEMENT UNDER CONSIDERATION	CAST AGAINST GROUND + MEMBRANE	EXPOSED	NOT EXPOSED	CONCRETE STRENGTH (MPa)
PIERS, FOOTINGS AND OTHER FOUNDATIONS	50	-	-	20
COLUMNS	-	35	35	32
SLAB ON GROUND	30 TOP 30 BTM.	30 TOP	-	25
SUSPENDED SLABS	-	30 TOP 30 BTM.	20 TOP 30 BTM.	32
LIFT/STAIR SHAFT WALLS	-	40	40	32
RETAINING WALLS	60	60	60	20
MISCELLANEOUS	×	×	×	32
NOTE: CONFIRM WITH ENGINEER				

15. ALL SPLICE LOCATIONS TO BE SITUATED AS PER THE STRUCTURAL DRAWINGS. ALL LAPS SHALL BE IN ACCORDANCE WITH AS3600 AND THE FOLLOWING TABLE:

BAR DIAMETER FOR 500MPa BARS	MINIMUM LAP LENGTH (mm)
N12	500
N16	650
N20	825
N24	1200
N28	1650
N32	2130

16. PULLOUT BARS OR OTHER WHICH ARE SHOWN ON THE STRUCTURAL DRAWINGS THAT REQUIRE TO BE BENT OR RE - BENT ON SITE ARE TO BE PRIMARILY N12'S U.N.O. THE BARS SHALL BE QUENCHED AND SELF TEMPERED. UNDER NO CIRCUMSTANCES ARE THE PULLOUT BARS TO BE COMPRISED OF MICROALLOY. BARS ARE TO BE REBENT USING TOOLS THAT MAINTAIN THE PIN DIAMETERS IN AS3600 USING A SINGLE SMOOTH BENDING ACTION. NO HEATING AND BENDING OF THE BARS IS PERMITTED IN ANY INSTANCE. BARS ARE TO BE CAST IN WITH THE BEND CLEAR OF THE CONCRETE SURFACE. ANY GALVANISED BARS ARE NOT TO BE REBENT DUE TO THE POTENTIAL HYDROGEN EMBRITTLEMENT.
17. WELDING OF ANY REINFORCEMENT IS NOT PERMITTED WITHOUT THE PERMISSION OF THE ENGINEER.
18. REINFORCEMENT COUPLERS ARE NOT TO BE USED WITHOUT WRITTEN CONSENT FROM THE ENGINEER.
19. ALL REINFORCEMENT SHOWN ON THE STRUCTURAL DRAWINGS IS INDICATIVE AND NOT ALWAYS A TRUE REPRESENTATION OF THE ACTUAL PROJECTION.
20. ALL CONCRETE SLABS AND BEAMS SHALL BE PROVIDED WITH A POSITIVE UPWARD PRE - CAMBER AS SPECIFIED BELOW:

- BEAMS - 1mm PER 1m SPAN
- SLABS - 2mm PER 1m SPAN

UNDER NO CIRCUMSTANCES ARE NEGATIVE CAMBERS ALLOWED. ALL CAMBERING METHODS ARE TO BE AGREED WITH THE ENGINEER.
21. SPLICE LENGTH FOR TRENCH MESH SHALL BE 500mm MINIMUM. TRENCH MESH IN BEAMS SHALL BE OVERLAPPED BY THE WIDTH OF THE FABRIC AT T&L INTERSECTIONS.
22. ONE FULL PANEL OF FABRIC SHALL LAP SLAB FABRIC SO THAT THE OUTERMOST TRANSVERSE WIRES OF ONE SHEET OVERLAP THE OUTERMOST TRANSVERSE WIRES OF THE SHEET BEING LAPPED.
23. ALL TRENCH MESH AND FABRIC IS TO BE FULLY LAPPED AT SPLICES AND INTERSECTIONS WITH AT LEAST ONE WHOLE UNCUT WIRE PANEL AS SHOWN.

REV	DATE	REVISION DESCRIPTION	REV BY	CHCKD
A	16.09.19	PRELIMINARY ISSUE	AF	BC

ASCENT CONSULTING ENGINEERS
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CLIENT: RICHMOND RACE CLUB

PROPOSED ADDITIONS & ALTERATIONS AT 312 LONDONDERRY RD LONDONDERRY NSW

NOTES 3

DESIGNED: B. Cross
DRAWN: A. Fitzgerald
SCALE: AS SHOWN @ A3
PLOT DATE: 16/09/2019
DRAWING NO: 192589 - N3

APPROVED FOR CONSTRUCTION WHEN SIGNED:

.....
Chris Coppard
MIE Aust. CP Eng. NER
APPROVAL DATE:

HOW TO READ YOUR DRAWINGS

THIS SHEET IS DESIGNED TO PROVIDE ADDITIONAL INFORMATION AND CLARIFY SYMBOLS IN OUR DRAWINGS.
FOR MORE INFORMATION ON BUILDING TERMINOLOGY/TECHNIQUES REFER TO A BUILDING MANUAL SUCH AS "THE AUSTRALIAN HOUSE BUILDING MANUAL", CONTACT YOUR LOCAL BUILDER, OR CHECK ONLINE.
ASK US IF YOU ARE STILL IN DOUBT. IT IS YOUR RESPONSIBILITY.

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TERMINOLOGY

TYPICAL – IS USED TO MEAN THAT THE CONNECTION/REINFORCEMENT DETAIL SPECIFIED IS TO BE USED IN ALL AREAS WHERE THE SAME DETAIL APPLIES.

FOR EXAMPLE: IF A STEEL COLUMN TO FOOTING CONNECTION IS SPECIFIED, WITH 'TYPICAL' AFTER IT, THEN ALL PLACES WHERE THAT TYPE OF COLUMN BEARS ONTO A FOOTING THE SAME CONNECTION DETAIL SHOULD BE USED.

C/C – MEANS CENTRE TO CENTRE. IT IS THE DISTANCE BETWEEN THE CENTRE OF MEMBERS SUCH AS RAFTERS/JOISTS WHICH ARE REPEATED PARALLEL TO EACH OTHER.

AS1684 – AS### NUMBERED FILES ARE REFERRING TO AUSTRALIAN STANDARDS, AS1684 IS THE AUSTRALIAN TIMBER FRAMING CODE.

LINES

SOLID LINE SHOWS AN OUTLINE OF A WALL/STRUCTURE OR SHOWS A STEP IN THE TOP SURFACE OF THE FLOOR LEVEL.

DOTTED LINE MEANS A WALL/STRUCTURE THAT IS ABOVE/ IN FOREGROUND e.g. IF LOOKING AT A FIRST FLOOR LEVEL PLAN A DOTTED WALL WILL BE A FIRST FLOOR WALL.

DASHED LINE MEANS A WALL/STRUCTURE THAT IS BELOW/ BEYOND e.g. IF LOOKING AT A FIRST FLOOR LEVEL A DASHED WALL WILL BE A GROUND FLOOR WALL, OR IN THE CASE OF A SLAB IT WILL SHOW WHERE THERE ARE THICKENINGS UNDER SLAB.

LINE THICKNESS – THE THICKNESS OF THE LINES INDICATES THE TYPE OF MATERIAL DESCRIBED

CONCRETE LINE

MESH

MEMBRANE

SAND HATCH

CONCRETE HATCH

BRICK HATCH / EXISTING BRICK HATCH

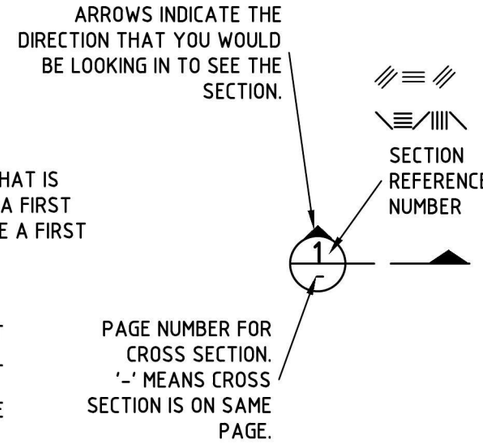
BLOCKWORK WALL HATCH

TIMBER FRAMING LINE

STEEL LINE

GENERAL BUILDING OUTLINE

REVISION CLOUD – INDICATES WHERE A DETAIL HAS BEEN UPDATED IN THE CURRENT ISSUE.



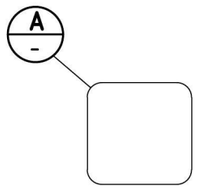
SYMBOLS

DENOTES SOUND UNIFORM NATURAL GROUND

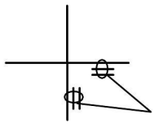
DENOTES ROCK

CROSS SECTION MARKER – THIS SHOWS THERE IS A CROSS SECTION WHICH GIVES MORE DETAIL. IF A SECTION NUMBER APPEARS MORE THAN ONCE WITH 'SIM' ON BOTTOM LINE, THEN THE CROSS SECTION APPLIES HERE TOO.

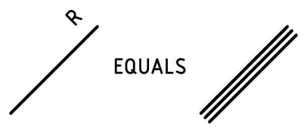
CROSS SECTION TITLE – GIVES NUMBER OF SECTION (TOP) AND ON WHICH PAGE THE CORRESPONDING SECTION MARKER APPEARS (BOTTOM NUMBER). WHERE THERE IS 'ALT' ON BOTTOM ROW, THIS IS AN ALTERNATE/VARIATION OF THE MAIN DETAIL THAT IS TO BE USED IN CERTAIN CONDITIONS (LISTED BELOW THE TITLE). WHERE 'SIM' ON BOTTOM ROW, THIS SHOWS THAT THE SECTION WILL LOOK SIMILAR (ESSENTIALLY THE SAME) AS THE ORIGINAL SECTION MARKER WITH THAT NUMBER.



THIS TYPE OF SECTION MARKER INDICATES THAT THERE IS A ZOOM IN OF THE DETAIL IN THE SHAPE. THE REFERENCE LETTER AND PAGE NUMBER ARE AS DESCRIBED FOR THE CROSS SECTION MARKER ABOVE.

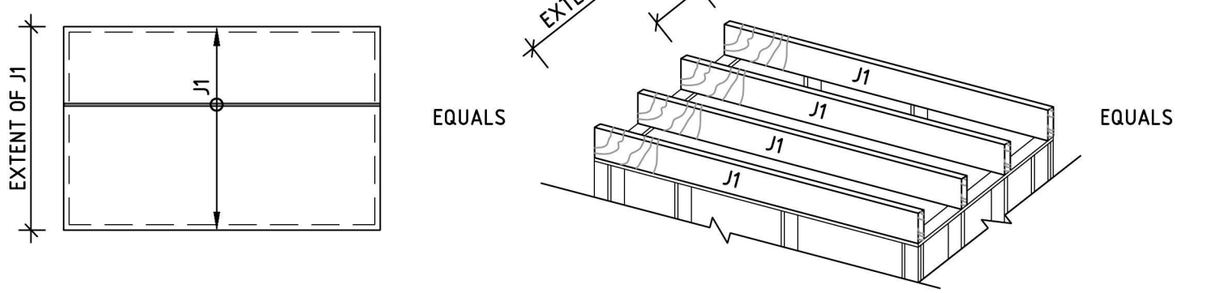


DENOTES THAT THERE ARE MULTIPLE MEMBERS SHOWN BY THE NUMBER OF BARS (IN THIS CASE 3). ALL MEMBERS ARE TO EXTEND TO THE LENGTH SPECIFIED IN ANY ADJACENT TEXT OR THAT SHOWN FOR THE LONGEST MEMBERS IN THE DRAWING.



THE REENTRANT TRIMMER BARS ARE SHOWN WITH THE SYMBOL ON THE RIGHT. AS DESCRIBED IN THE CONCRETE SCHEDULE THE SINGLE LINE REPRESENTS 3 TRIMMER BARS.

THIS SYMBOL SHOWS THAT THE SECTION/PLAN CONTINUES, BUT THE FULL EXTENDED DETAIL IS NOT BEING SHOWN.



THE DOUBLE ARROW MEANS THAT THE STRUCTURAL MEMBERS ARE REPEATED FOR THE WHOLE WIDTH OF THE PLAN. OFTEN USED FOR CLARITY WHEN PLANS ARE BUSY.