PM DESIGN | GROUP
Engineering Solutions

MULTIPURPOSE + EVACUATION CENTRE
RICHMONDPARK, TUMUT NSW

DRAWING INDEX

TENDER
NOT TO BE USED FOR CONSTRUCTION PURPOSES

REV:	REVISION DESCRIPTION:	DRN:	CHK:	DATE:
P1	PRELIMINARY	E.V.	G.C.	21.02.25
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		DATE:
DRAWN:	E.V.	21.02.25
DESIGNED:	G.C.	21.02.25
CHECKED:	G.C.	21.02.25
APPROVED:	J.L.	21.02.25

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CLIENT:
FACILITY DESIGN GROUP
Architecture & Construction

PROJECT:
MULTIPURPOSE + EVACUATION CENTRE
RICHMONDPARK, TUMUT NSW

DISCIPLINE:
STRUCTURAL

DRAWING TITLE:
COVER SHEET & DRAWING INDEX

PROJECT No.:	DRAWING No:	REV:
19372	S01	T3

GENERAL

G1 THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT.

ALL DISCREPANCIES SHALL BE REFERRED TO THE SUPERINTENDENT FOR DECISION BEFORE PROCEEDING WITH THE WORK.

G2 ALL DIMENSIONS ARE IN MILLIMETRES UNLESS STATED OTHERWISE. ALL LEVELS ARE EXPRESSED IN METRES.

G3 ALL DIMENSIONS RELEVANT TO SETTING OUT AND OFF-SITE WORK SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION AND FABRICATION IS COMMENCED. THE ENGINEER'S DRAWINGS (INCLUSIVE OF ELECTRONIC COPIES) SHALL NOT BE SCALED.

G4 WORKMANSHIP AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE RELEVANT CURRENT STANDARDS AUSTRALIA CODES INCLUDING ALL AMENDMENTS, AND THE LOCAL STATUTORY AUTHORITIES, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

G5 ALL PROPRIETARY PRODUCTS SHALL BE SUPPLIED AND INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

G6 SUBSTITUTION OF NOMINATED PRODUCTS AND MATERIALS SHALL ONLY OCCUR IF APPROVED BY PM DESIGN; NO SUBSTITUTIONS SHALL BE MADE OR SIZES OF STRUCTURAL MEMBERS VARIED WITHOUT OBTAINING THE APPROVAL OF THE ENGINEER. THE APPROVAL OF A SUBSTITUTION FROM THE ENGINEER SHALL NOT BE AN AUTHORISATION FOR AN EXTRA. ANY EXTRA INVOLVED SHALL BE TAKEN UP WITH THE SUPERINTENDENT BEFORE THE WORK COMMENCES.

G7 THE CONTRACTOR SHALL ALLOW IN HIS TENDER FOR APPROVED SUBSTITUTIONS DUE TO NON AVAILABILITY OF NOMINATED ITEMS.

G8 ALL INFORMATION INCLUDED IN THE STRUCTURAL ENGINEERING DOCUMENTATION IS FOR THE FINAL IN PLACE CONDITION OF THE STRUCTURE AND IS EXCLUSIVE OF TEMPORARY WORKS. THE BUILDER IS RESPONSIBLE FOR ALL TEMPORARY WORKS AND THE ASSOCIATED COSTS. THE BUILDER SHALL ENGAGE A TEMPORARY WORKS ENGINEER WHO SHALL BE RESPONSIBLE FOR THE DESIGN, DOCUMENTATION, CERTIFICATION AND SITE SUPERVISION OF ALL NECESSARY TEMPORARY WORKS. THE BUILDER/TEMPORARY WORKS ENGINEER SHALL ENSURE THAT DURING CONSTRUCTION, THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND THAT NO PART SHALL BE OVERSTRESSED. THE BUILDER SHALL PROVIDE ALL TEMPORARY BRACING AND PROPPING AS NECESSARY, INCLUDING TEMPORARY SUPPORT FOR EXCAVATIONS.

G9 ALL COSTS INCURRED BY THE ENGINEER FOR ASSESSMENT OR APPROVAL OF SUBSTITUTED MEMBERS, ALTERNATIVE BUILDING SOLUTIONS OR TEMPORARY PROPPING WORKS SHALL BE BORNE BY THE BUILDER.

G10 ALL PROPS AND FORMWORK FOR BEAMS AND SLABS SHALL BE REMOVED BEFORE CONSTRUCTION OF ANY MASONRY WALLS OR PARTITIONS ON THE FLOOR.

G11 ALL NON LOAD BEARING WALLS SHALL BE KEPT CLEAR OF THE UNDERSIDE OF SLABS AND BEAMS BY 20 mm UNLESS OTHERWISE SHOWN.

G12 NO HOLES, RECESSES OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.

G13 THE BUILDER IS TO ENSURE THAT ALL MATERIALS ARE PROTECTED IN ACCORDANCE WITH THE PROJECT REQUIREMENTS, INCLUDING COMPLIANCE WITH THE BCA.
THESE INCLUDE BUT ARE NOT LIMITED TO:
- FIRE RATINGS
- TERMITE PROTECTION
- DURABILITY

THE BUILDER IS TO PROVIDE PROTECTION OR TREATMENT TO MATERIALS TO SATISFY THE ABOVE REQUIREMENTS.

G14 THE FOLLOWING ABBREVIATIONS USED IN THESE DRAWINGS ARE:

T	TOP	B	BOTTOM
BW	BOTH WAYS	CTS	CENTRES
EF	EACH FACE	EW	EACH WAY
FF	FAR FACE	NF	NEAR FACE
FW	FILLET WELD	PL	PLATE
CFW	CONTINUOUS FILLET WELD		
UNO	UNLESS NOTED OTHERWISE		

G15 THE PROJECT BUILDING SURVEYOR IS TO UNDERTAKE ALL MANDATORY SITE INSPECTIONS IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING CODE OF AUSTRALIA. ANY SITE INSPECTIONS UNDERTAKEN BY THE ENGINEER (PM DESIGN) ARE IN ADDITION TO THE BUILDING SURVEYOR'S INSPECTIONS AND ARE FOR THE PURPOSE OF PERIODICALLY REVIEWING CONSTRUCTION WORKS TO ENSURE COMPLIANCE BY THE BUILDER WITH THE ENGINEER'S DESIGN INTENT AND NOT FOR THE COMPLIANCE WITH THE CERTIFICATION REQUIREMENTS OF THE BUILDING SURVEYOR.

G16 IT IS THE TENDERER'S / PRINCIPAL CONTRACTOR'S RESPONSIBILITY TO ENSURE ALL SUB-CONTRACTORS HAVE READ THIS DRAWING SHEET IN CONJUNCTION WITH ALL OTHER STRUCTURAL AND PROJECT DOCUMENTATION. THE TENDERER / PRINCIPAL CONTRACTOR SHALL ENSURE THAT SUB-CONTRACTORS ARE ISSUED ALL STRUCTURAL AND ALL OTHER PROJECT CONSULTANTS DRAWINGS.

SAFETY IN DESIGN AND CONSTRUCTION:

1. ALL CONSTRUCTION WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY WORKPLACE HEALTH AND SAFETY LEGISLATION.
2. CONSTRUCTION ACTIVITY CAN BE HAZARDOUS AND POTENTIAL SAFETY HAZARDS CONSIDERED BY THE DESIGNERS TO HAVE A HIGHER RISK THAN NORMAL CONSTRUCTION ACTIVITY ARE IDENTIFIED WITH APPROPRIATE NOTES IN THE DOCUMENTATION.
3. DESIGNERS GENERALLY HAVE A LOWER LEVEL OF APPRECIATION OF THE SAFETY RISKS AND HAZARDS INVOLVED IN CONSTRUCTION COMPARED TO THAT OF A COMPETENT BUILDER / CONTRACTOR AND THEREFORE ALL THE SAFETY RISKS AND HAZARDS APPLICABLE TO THIS PROJECT MAY NOT BE IDENTIFIED.
4. IT IS ESSENTIAL THAT PRIOR TO COMMENCEMENT OF CONSTRUCTION AN ADEQUATE SAFETY PLAN IS PREPARED BY THE BUILDER / CONTRACTOR FOR THE WORKS IN COMPLIANCE WITH STATUTORY REQUIREMENTS. THE SAFETY PLAN SHALL INCLUDE APPROPRIATE WORK METHOD STATEMENTS FOR ALL RISK ACTIVITIES. THE STRUCTURAL ENGINEER IS AVAILABLE TO BE CONSULTED IN REGARDS TO THE SAFETY PLANS.
5. PRIOR TO ANY ERECTION OF STRUCTURAL ELEMENTS THE CONTRACTOR SHALL HAVE COMPLETED A RISK ASSESSMENT OF ALL CONSTRUCTION PROCEDURES AND ENSURED THAT WHERE POSSIBLE, ALL RISKS HAVE BEEN ELIMINATED AND WHERE NOT POSSIBLE THEIR SAFETY PLAN HAS ADDRESSED THOSE ISSUES AND IT HAS BEEN FORMULATED AND DOCUMENTED FOR STRICT ADHERENCE DURING THE CONSTRUCTION WORKS.
6. PRIOR TO FABRICATION OF STEELWORK THE CONTRACTOR SHALL AGREE WITH THE ENGINEER ON AREAS OF RISK WHICH HAVE BEEN ADDRESSED BY THE DESIGN WHERE POSSIBLE AND AGREE ON SUITABLE CONSTRUCTION PROCEDURES WHERE AREAS OF RISK STILL EXIST.
7. PRIOR TO THE USE OF THE PROJECT AS DESIGNED, THE OWNER SHALL HAVE COMPLETED A RISK ASSESSMENT OF ALL WORK PRACTICES AND ENSURED THAT WHERE POSSIBLE ALL RISKS HAVE BEEN ELIMINATED AND WHERE NOT POSSIBLE THEIR SAFETY PLAN HAS ADDRESSED THOSE ISSUES AND IT HAS BEEN FORMULATED AND DOCUMENTED FOR STRICT ADHERENCE AFTER COMMISSIONING.

DESIGN LOADINGS

DL1 THE STRUCTURAL WORK SHOWN ON THESE DRAWINGS HAS BEEN DESIGNED FOR THE FOLLOWING LOADS:

SUPERIMPOSED DEAD LOADS (SDL)

AREA	SUPERIMPOSED DEAD LOAD kN/m²
ROOF SHEETING	0.12 kPa AND 0.4 kPa WITH CEILING
ROOF	0.12 kPa FOR SOLAR PANELS
ROOF MOUNTED UNIT	345 kg MAXIMUM FOR EACH UNIT

LIVE LOADS

AREA	LIVE LOAD kN/m²
SLABS ON GROUND	10 kPa

WIND LOADS

REGION	TERRAIN CATEGORY	IMPORTANCE LEVEL
A1	3	NE-2.0, ALL OTHERS -3

EARTHQUAKE LOADS

DESIGN CATEGORY	HAZARD FACTOR	SITE SUB-SOIL CLASS
EDC1	0.09	Ce - SHALLOW SOIL SITE

DL2 THE ROOF STRUCTURE HAS BEEN DESIGNED FOR NORMAL ROOF LOADS AND DOES NOT ALLOW FOR ANY ADDITIONAL LOADS SUCH AS HOISTS, MONORAILS AND MECHANICAL EQUIPMENT UNLESS SUCH ITEMS ARE SHOWN ON DRAWINGS

DL3 ROOF ACCESS EQUIPMENT
REFER TO THE ARCHITECTURAL AND ROOF SAFETY EQUIPMENT CONSULTANT'S DRAWINGS FOR ALL ROOF ACCESS LOCATIONS, LADDERS, WALKWAYS, SAFETY ANCHOR AND FITTING SPECIFICATIONS.
ALL FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS, INSTRUCTIONS AND DETAILS.
ALL ACCESS LADDERS, HANDRAILS, WALKWAYS, ANCHOR POINTS SHALL COMPLY WITH LOCAL WORKCARE AND OCCUPATIONAL HEALTH AND SAFETY DIVISION CODES OF PRACTICE AND CURRENT AUSTRALIAN CODES OF PRACTICE FOR SAFETY REQUIREMENTS. ALL SAFETY ACCESS EQUIPMENT SHALL BE INSPECTED AND CERTIFIED BY THE RELEVANT AUTHORITIES AT THE COMPLETION OF THE INSTALLATION TO ENSURE COMPLIANCE WITH THESE REQUIREMENTS.
SIGNAGE SHALL BE PROMINENTLY DISPLAYED REGARDING ACCESS RESTRICTIONS TO INDUCTED PERSONNEL ONLY. LOAD CAPACITIES OF ANCHOR POINTS AND NUMBER OF PERSONNEL PER ANCHOR LOCATION SHALL ALSO BE DISPLAYED PROMINENTLY, REFER TO THE ARCHITECTURAL DRAWINGS FOR DETAILS.
ANCHOR POINTS ARE NOT SHOWN ON THESE STRUCTURAL DRAWINGS AND THEY DO NOT FORM PART OF THIS DOCUMENTATION.
THE STRUCTURAL ENGINEERS SHALL BE INFORMED OF ALL LOADING REQUIREMENTS TO STRUCTURAL ELEMENTS BY THE SELECTED ROOF SAFETY EQUIPMENT CONSULTANT IN ORDER TO CONFIRM STRUCTURAL ADEQUACY OF THOSE ELEMENTS REQUIRED TO SUPPORT IMPOSED ANCHOR POINT LOADS.

FOOTINGS

F1 HIGH LEVEL FOOTINGS SHALL BE FOUNDED IN UNDISTURBED EXTREMLY WEATHERED SILTY CLAY OF VERY STIFF CONSISTENCY THROUGHOUT WITH AN ALLOWABLE BEARING PRESSURE OF NOT LESS THAN:

FOOTING TYPE	ALLOWABLE BEARING PRESSURE
STRIP FOOTINGS	200 kPa
RAFT SLAB BEAMS	200 kPa

F2 FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
PREPARED BY: INLAND GEOTECHNICAL
REPORT NUMBER: REPORT REFERENCE 93 AND 367
DATED: 24 OCTOBER 2024 AND 9 APRIL 2025

F3 THE MINIMUM DEPTHS TO UNDERSIDE OF ALL FOOTINGS BELOW NATURAL SURFACE INTO EXTREMELY SILTY SANDY CLAY SHALL BE:

FOOTING TYPE	MIN. FOUNDING DEPTH (mm)
STRIP FOOTINGS	600 + BLINDING
PAD FOOTING	600 + BLINDING

F4 THE DEPTHS TO UNDERSIDE OF ALL FOOTINGS ARE PROVISIONAL ONLY. AFTER EXCAVATION APPROVAL SHALL BE OBTAINED FROM THE ENGINEER AND GEOTECHNICAL CONSULTANT FOR THE LEVELS WHICH MAY BE VARIED IF NECESSARY, PRIOR TO FURTHER WORK.

F5 THE BASE OF ALL FOOTINGS SHALL BE CLEANED OUT OF ALL LOOSE AND DISTURBED MATERIAL PRIOR TO PLACING CONCRETE. CARE SHALL BE TAKEN TO PREVENT LOOSE SURFACE MATERIAL FALLING INTO THE EXCAVATION.

F6 THE FOUNDATION EXCAVATIONS SHALL BE KEPT FREE OF WATER AT ALL TIMES, BY BAILING AND PUMPING IF NECESSARY, PARTICULARLY PRIOR TO CONCRETING. CONCRETE SHALL NOT BE PLACED IN WATER.

F7 CONCRETE SHALL BE PLACED AS SOON AS POSSIBLE AFTER EXCAVATION AND APPROVAL HAS BEEN GIVEN BY THE ENGINEER AND GEOTECHNICAL CONSULTANT.

F8 REINFORCEMENT IN THE STRIP FOOTINGS SHALL BE LAPPED FULL WIDTH AT INTERSECTIONS AND CORNERS. SPLICES SHALL BE 500 mm MINIMUM.

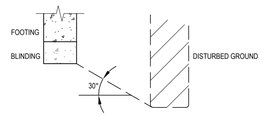
F9 OVER EXCAVATION MAY BE FILLED TO THE UNDERSIDE OF FOOTINGS AS DEFINED ON THE DRAWINGS WITH 15 MPa BLINDING CONCRETE.

F10 STRIP FOOTINGS SHALL HAVE TOP AND BOTTOM LAYERS OF REINFORCEMENT SEPARATED BY R10 STIRRUPS AT 900 MAXIMUM CENTRES.

F11 THE COST OF FILLING EXCESS DEPTHS AND WIDTHS OF FOOTINGS WITH CONCRETE OVER AND ABOVE THE DIMENSIONS SPECIFIED SHALL BE BORNE BY THE CONTRACTOR.

F12 THE SITE IS CLASSIFIED AS CLASS IN ACCORDANCE WITH AS2870.1 THE DESIGN OF THE FOOTINGS IS CLASSIFIED AS CLASS 'P' IN ACCORDANCE WITH AS2870.1

F13 UNLESS NOTED OTHERWISE, WHEREVER A NEW FOOTING IS LOCATED CLOSE TO AN EXCAVATION, BATTER, EXISTING FOOTING, EXISTING SERVICE OR NEW SERVICE WHICH IS DEEPER THAN THE NEW FOOTING EXCAVATION THE EXCAVATION FOR THE NEW FOOTING SHALL BE DEEPENED AND BACKFILLED WITH BLINDING CONCRETE AS INDICATED BELOW.



F14 THE GEOTECHNICAL ENGINEER IS TO INSPECT FOUNDATION SUBGRADES TO ENSURE COMPLIANCE WITH THE GEOTECHNICAL RECOMMENDATIONS USED FOR DESIGN. THE GEOTECHNICAL ENGINEER IS TO BE DIRECTLY ENGAGED BY THE BUILDER, AT THE BUILDERS EXPENSE.

LONG TERM FOUNDATION PERFORMANCE

FP1 ARCHITECTS, BUILDERS AND CLIENTS MUST ENSURE CLOSE ATTENTION IS GIVEN SITE DRAINAGE. CRACKED BRICKWORK AND/OR STRUCTURAL DAMAGE MAY OCCUR AS A RESULT OF SETTLEMENT OF THE FOOTING SYSTEM. THE CAN BE CAUSED BY MOISTURE DIFFERENTIAL IN CLAY SOILS FORM EXCESSIVE BUILD UP OF WATER UNDER THE FOOTINGS.

FP2 THE LONG TERM PERFORMANCE OF FOUNDATIONS TO PROVIDE A SERVICEABLE STRUCTURE WILL BE GREATLY ENHANCED BY FOLLOWING ALL RECOMMENDATIONS AND SUPPLEMENTARY NOTES IN THE GEOTECHNICAL INVESTIGATION REPORT AND THE FOLLOWING POINTS:
- ALL SURFACE AND ROOF WATER IS TO BE DIRECTED WELL AWAY FROM ALL STRUCTURES.
- AGRICULTURAL DRAINS MAY BE REQUIRED TO DIVERT THE FLOW OF PERCHED WATER AROUND THE SITE STRUCTURES ON SLOPING SITES WHERE PERMEABLE SILTY CLAYS AND SANDS OVERLY IMPERMEABLE CLAYS. SUCH DRAINS SHALL PENETRATE THE IMPERMEABLE CLAY BY APPROXIMATELY 200mm.
- ENSURE ALL STRUCTURES ARE ARTICULATED TO ALLOW FLEXIBILITY IN RESPONSE TO FOOTING MOVEMENTS THAT MAY OCCUR. REFER TO THE ARCHITECTURAL DRAWINGS, MASONRY GENERAL NOTES AND THE CEMENT AND CONCRETE ASSOCIATION OF AUSTRALIA; CONSTRUCTION NOTE TN16 TITLED "ARTICULATED WALLING" 1992 FOR MORE INFORMATION ON ARTICULATION.
- LOCATING SERVICE TRENCHES AWAY FROM BUILDINGS ON REACTIVE CLAYS YOU ELIMINATE POTENTIAL MOVEMENT THAT CAN BE CAUSED BY SURFACE TRENCH UNDULATION.
- ALL SERVICE TRENCHES SHALL BE PROPERLY BACKFILLED WITH THE EXCAVATED SOILS AND COMPACTED AT THE OPTIMUM MOISTURE CONTENT TO ENSURE THAT SUB-SURFACE UNDULATION DOES NOT OCCUR.
- ALL DRAINAGE, SEWER AND WATER SUPPLY PIPE, AS WELL AS GUTTERS AND DOWN PIPES SHOULD BE PERIODICALLY CHECKED FOR LEAKAGE
- PROVIDE SURFACE AND SUB-SURFACE DRAINAGE TO THE HIGH SIDE OF THE BUILDING WORKS.

SLAB ON GROUND

SG1 THE AREA ON WHICH THE SLAB IS TO BE SITUATED SHALL BE STRIPPED OF ALL ORGANIC MATTER WHICH SHALL BE REMOVED FROM SITE. THIS INCLUDES TREE STUMPS AND LARGE ROOTS.

SG2 SUB BASE TO SLABS ON GROUND TO BE PREPARED BY REMOVING TOPSOIL AND DELETERIOUS MATERIAL AND ROLLING WITH A VIBRATING ROLLER TO DETECT SOFT AREAS WHICH SHALL THEN BE REMOVED.

SG3 THE SUBGRADE IS TO BE APPROVED FOR MODULUS SUB-GRADE REACTION OF K = 22.1kPa/mm OR CBR VALUE OF 2.5% (MINIMUM) IN ACCORDANCE WITH GEOTECHNICAL REPORT.

ANY IMPORTED FILL SHOULD BE PLACED IN UNIFORM LAYERS OF AND COMPACTED TO 98% SDD, REFER TO SOIL REPORT NOTE ON RE-USE OF ONSITE MATERIAL.
AND REFER TO EARTHWORKS NOTES IN THE GEOTECH REPORT REFERENCE 397 FOR SUBGRADE PREPARATION

SG4 AREAS ADJACENT TO SLAB AREA SHALL BE GRADED AND DRAINED TO PREVENT COLLECTION OF SURFACE WATER.

SG5 PROVIDE 0.2mm MINIMUM POLYTHENE MEMBRANE TO UNDERSIDE OF ENTIRE SLAB ON 50mm OF PACKING SAND COMPACTED TO 98% OF MAXIMUM DRY DENSITY DEFINED BY AS1289 E2.1 AND E4.1. POLYTHENE SHALL BE LAPPED 300mm AND TAPED AT ALL JOINTS AWAY FROM DIRECTIONS OF POUR AND BE SEALED AROUND ALL PIPES AND DUCTS PENETRATING THE MEMBRANE. MEMBRANE SHALL EXTEND TO EXTERNAL GROUND LEVEL ON ALL SIDES OF BUILDING.

SG6 BAR CHAIRS TO HAVE INTERNAL BASE PLATE SUPPORT AND BE SECURELY TIED TO REINFORCEMENT.

SG7 CONCRETE SHALL BE COMPACTED WITH SUITABLE VIBRATOR DURING PLACEMENT.

SG8 SLAB SHALL BE CURED FOR A MINIMUM OF 7 DAYS AFTER POURING IN ACCORDANCE WITH THE METHODS GIVEN IN THE PROJECT SPECIFICATION.

SG9 SLAB REINFORCEMENT SHALL BE LAPPED SO THAT THE FIRST TRANSVERSE WIRE ON THE LAPPING SHEET OVERLAPS 25mm WITH THE SECOND TRANSVERSE WIRE ON THE LAPPED SHEET.

SG10 PROVIDE 3-N12 x 2000 LONG TOP AT ALL SLAB RE-ENTRANT CORNERS. WHERE MESH REINFORCEMENT IS LOCATED IN THE TOP OF THE SLAB TIE BARS TO THE UNDERSIDE OF MESH REINFORCEMENT.

SG11 NO MASONRY SHALL BE CONSTRUCTED ON SLAB FOR 14 DAYS MINIMUM AFTER POURING.

SG12 ALL JUNCTIONS OF DRAINAGE AND SEWERAGE PIPES CONNECTED TO BUILDING SHALL BE FLEXIBLE SO AS TO ALLOW FOR RELATIVE VERTICAL MOVEMENT.

CONCRETE TESTING

CT1 CONCRETE TESTING SHALL BE IN ACCORDANCE WITH AS 1012. PROJECT REGISTRATION AND EACH TEST REPORTS SUBMISSION SHALL BE IN ACCORDANCE WITH AS 1379 CLAUSE 6.4.3.

CT2 THE CONTRACTOR SHALL SAMPLE THE CONCRETE ON SITE AT THE POINT OF DISCHARGE FROM THE AGITATOR, IDENTIFYING THE LOCATION OF THE CONCRETE AND REFERENCE TO THE STRUCTURAL ELEMENT SHOWN ON THE STRUCTURAL DRAWINGS (E.G. COLUMN 72 LEVEL 3, WALL 20 LEVEL 6).

CT3 THE CONTRACTOR SHALL CARRY OUT TESTING AND ASSESSMENT OF CONCRETE AND CONCRETE MATERIALS USING AN ORGANISATION REGISTERED WITH THE NATIONAL ASSOCIATION OF TESTING AUTHORITIES AUSTRALIA (NATA).

CT4 MAXIMUM PERMISSIBLE DRYING SHRINKAGE MEASURED AS A PERCENTAGE CHANGE AFTER 56 DAYS (TEST TO AS 1012.13) IS TO BE A STRAIN OF 650x10-6. EARLY AGE SHRINKAGE PREDICTION MUST BE CARRIED OUT ON EACH SAMPLE AT 7 DAYS. THE AVERAGE STAIN OF 3 SAMPLES AND MUST BE ISSUED TO THE SUPERINTENDENT WITHIN 10 CALENDAR DAYS OF THE CONCRETE POUR DATE.

CT5 2 SPECIMENS ARE REQUIRED FROM EACH SAMPLE; FOR THE 7 DAY AND THE 28 DAY CHARACTERISTIC COMPRESSIVE STRENGTH TESTS, SAMPLING EVENLY THROUGHOUT THE POUR. SAMPLING FREQUENCY AS PER THE FOLLOWING TABLE:

NUMBER OF BATCHES FOR EACH TYPE AND GRADE OF CONCRETE PER DAY	MINIMUM NUMBER OF SAMPLES
1	1
2 TO 5	2
6 TO 10	3
11 TO 20	4
EACH ADDITIONAL 10	1 ADDITIONAL

CT6 SPECIMEN SIZE: 200 X 100 MM DIAMETER.

CT7 FOR ACCEPTANCE, THE AVERAGE STRENGTH OF THE SAMPLES REPRESENTING AN ELEMENT SHALL BE NOT LESS THAN THE SPECIFIED STRENGTH, AND WITHIN THE MAXIMUM SPECIFIED STANDARD DEVIATION.

CT8 THE CONTRACTOR SHALL CARRY OUT SLUMP TESTS ON AT LEAST ONE SAMPLE FROM EACH BATCH BEFORE PLACING CONCRETE FROM THAT BATCH IN THE WORK. TAKE SAMPLES FROM POINT OF DISCHARGE ON SITE.

CT9 THE CONTRACTOR SHALL REVIEW ALL TEST RECORDS AND NOTIFY THE SUPERINTENDENTS REPRESENTATIVE OF TESTS THAT DO NOT MEET EARLY AGE STRENGTH, REQUIREMENTS AS SOON AS THEY ARE KNOWN. ONLY SUBMIT A COPY OF TEST REPORTS THAT DO NOT MEET THE REQUIREMENTS. THE CONTRACTOR SHALL HAVE ON SITE AN UP TO DATE FILE OF TEST RECORDS THAT CAN BE VIEWED AT ANY TIME BY THE SUPERINTENDENT OR THEIR REPRESENTATIVES.

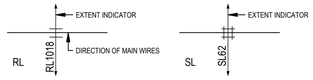
REINFORCEMENT

R1 STEEL REINFORCEMENT SHALL BE TO AS/NZS 4671.

R2 REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY SHOWN IN TRUE PROJECTION. REFER TO NOTES AND SCHEDULE FOR SPECIFIC REINFORCING REQUIREMENTS.

R3 REINFORCEMENT IS DENOTED BY A SYMBOL IN ACCORDANCE WITH AS 4671 FOR BARS AND MESH. REINFORCEMENT NOTATION:

R	DENOTES 250R STRUCTURAL GRADE ROUNDS TO AS 4671
N	DENOTES 500N 'NORMAL' DEFORMED BARS TO AS 4671
	DENOTES 'LOW DUCTILITY' WIRE MESH TO AS 4671
RL & SL	RECTANGULAR MESH (RL) SQUARE MESH (SL)) SHOWN THUS ON PLANS



R4 THE NUMBER FOLLOWING THE REINFORCEMENT NOTATION REPRESENTS THE NOMINAL BAR DIAMETER IN mm OR THE MESH REFERENCE NUMBER.
LAPPING REINFORCEMENT:

BAR SIZE:	TOP BARS
OTHER BARS	300mm OR MORE BELOW CONCRETE

BAR SIZE	ALL BARS
N12	500
N16	700
N20	900
N24	1200
N28	1600
N32	1700
N36	2100

R5 BAR NOTATION GIVES THE FOLLOWING NOTATION IN THIS ORDER:
No. OF BARS; GRADE SYMBOL; BAR SIZE; BAR SPACING (IF REQUIRED);
PLACING INFORMATION CODE E.G. '20 N16-120 BTM'.
(THE BAR MARK IS GIVEN BEFORE OR AFTER THE NOTATION AS SPACE PERMITS)

R6 MESH NOTATION GIVES THE FOLLOWING NOTATION IN THIS ORDER:
'SL' SYMBOL; MESH REFERENCE NUMBER; PLACING INFORMATION CODE; E.G. 'SL82 TOP'.

R7 TRENCH MESH NOTATION GIVES THE FOLLOWING NOTATION IN THIS ORDER:
No. OF BARS; GRADE SYMBOL; BAR SIZE; 'TM' SYMBOL. E.G. '3-L12 TM',
ALTERNATIVELY 'L12 TM 3-WIRES'.

R8 REFER TO BEAM AND COLUMN ELEVATIONS FOR SPLICE LOCATIONS.
WHERE A SPLICE LOCATION IS NOT SHOWN, PROVIDE LAP SUFFICIENT TO DEVELOP THE FULL STRENGTH OF THE REINFORCEMENT (REFER TO LAP LENGTH SCHEDULE).
LAPS TO MESH SHALL BE TWO TRANSVERSE WIRES PLUS AN ADDITIONAL 25 mm.

R9 STRIP FOOTING AND GROUND BEAM REINFORCEMENT TO BE CONTINUOUS THROUGH PADS AND EXTEND FULLY THROUGH BEAM INTERSECTIONS.

R10 UNLESS NOTED OTHERWISE, THE FOLLOWING ABBREVIATIONS APPLY TO THE LOCATION OF REINFORCEMENT:

EW	EACH WAY
EF	EACH FACE
NF	NEAR FACE
INTF	INTERNAL FACE
EXTF	EXTERNAL FACE
B OR BTM	BOTTOM FACE
T OR TOP	TOP FACE
HORIZ	HORIZONTAL
VERT	VERTICAL

R11 REINFORCEMENT SHALL NOT BE WELDED OR HEATED ON SITE, WITHOUT APPROVAL FROM THIS OFFICE. BARS GREATER THAN 16 mm DIA. SHALL NOT BE BENT ON SITE.

R12 SLAB REINFORCING SHALL NOT BE DISPLACED MORE THAN A QUARTER OF THE SPECIFIED SPACING TO AVOID SMALL DUCTS OR HOLES WITHOUT APPROVAL FROM THIS OFFICE.
MINIMUM SPACING OF LIGATURES SHALL BE MAINTAINED AT ALL TIMES.

R13 REINFORCEMENT SHALL BE SECURELY FIXED IN POSITION TO PREVENT DISPLACEMENT DURING CONCRETE POUR. REINFORCING IS TO BE SUPPORTED ON NON METALLIC BAR CHAIRS OR SIMILAR APPROVED SUPPORTS AT 1000 mm MIN. CENTRES U.N.O. METALLIC FIXING SHALL NOT BE USED ON EXTERNAL FACES.

R14 TOP REINFORCEMENT IN BAND BEAMS TO BE SUPPORTED ON N12 SUPPORT LIGS AT 900 CRS U.N.O.

R15 GROUND BEAM AND STRIP FOOTING REINFORCEMENT TO BE SUPPORTED ON R10 LIGS AT 900 CRS OR SIMILAR APPROVED.

R16 SPECIAL CARE SHALL BE TAKEN DURING THE POUR TO PREVENT OVERLOADING OF CHAIRS BY BARROWS, PLANKS OR PUMP SUPPORT ETC.

R17 TIE WIRE SHALL NOT BE NAILED TO THE FORMS.
REINFORCING BARS SHALL NOT BE USED TO KEEP FORMS APART, A THROUGH TIE SYSTEM SHALL BE USED TO MAINTAIN FORMS IN CORRECT POSITION.

R18 PROVIDE 2 N12 BARS x 1500 LONG, TOP REINFORCEMENT DIAGONALLY ACROSS EACH INTERNAL OR RE-ENTRANT CORNER OR VOIDS TO SLAB.

R19 WHERE IT IS NECESSARY TO CUT WIRE OF REINFORCEMENT MESH AROUND PLUMBING FIXTURES ETC, ONE EQUIVALENT SIZE BAR x 1500 LONG SHALL BE PLACED IN PARALLEL FOR EACH TRUNCATED WIRE.

R20 WHERE EPOXY GROUT IS SPECIFIED TO DEFORMED BAR DOWELS, THE GROUT SHALL BE 'RAMSET CHEMSET REINFORCEMENT 502' OR APPROVED EQUIVALENT

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SHEET SIZE: A1

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CLIENT: FACILITY DESIGN GROUP Architecture & Construction

PROJECT: MULTIPURPOSE + EVACUATION CENTRE
RICHMONDPARK, TUMUT NSW

DISCIPLINE: **STRUCTURAL**

DRAWING TITLE: GENERAL NOTES - SHEET 1

PROJECT No.: 19372 | DRAWING No: S02 | REV: T3

CONCRETE

C1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600. CONCRETE SHALL HAVE THE FOLLOWING CHARACTERISTIC PROPERTIES U.N.O :

ELEMENT	SLUMP	MAX. AGGREGATE SIZE (DENSE Wt)	F'c MPa (28 DAYS)
BLINDING	100	20	15
FOOTINGS	75	20	25
PRECAST PANELS	60	20	40
RAFT & INFILL SLAB	75	20	32

MAXIMUM SHRINKAGE AT 56 DAYS SHALL BE 650 MICROSTRAIN EXCEPT FOR BLINDING AND FOOTINGS

C2 CONCRETE SIZES DO NOT INCLUDE FINISHES. BEAM DEPTHS ARE WRITTEN FIRST AND INCLUDE SLAB THICKNESS.

C3 NO HOLES, RECESSES, CHASES, EMBEDMENTS OR ADDITIVES OTHER THAN SHOWN ON THE STRUCTURAL DRAWINGS WITHOUT ENGINEER'S APPROVAL.

C4 UNLESS NOTED OTHERWISE EXPOSED CONCRETE EDGES ARE TO BE CHAMFERED BY USING REID EXTRUDED FILLET SECTIONS OR SIMILAR APPROVED FIXED TO THE FORMWORK PRIOR TO POURING CONCRETE.

C5 LOCATIONS OF CONSTRUCTION JOINTS AS PER DRAWINGS OR TO THE ENGINEER'S APPROVAL.

C6 ALL FORMWORK CONSTRUCTED AND SUPPORTED AS PER AS3610 AND AS3610.1 EXPOSED CONCRETE POURED AGAINST CLASS 2 FORMWORK AS PER AS3610.1 (U.N.O.). CAMBER SLABS AND BEAMS 2mm FOR EVERY 1m SPAN UNLESS NOTED OTHERWISE. THE CONTRACTOR IS TO PROVIDE FORMWORK COMPUTATIONS WHERE REQUIRED BY THE B.C.A.

C7 SLURRY USED TO LUBRICATE CONCRETE PUMP PIPES SHALL NOT BE PUMPED INTO ANY STRUCTURAL MEMBERS.

C8 ALL CONCRETE SHALL BE MECHANICALLY VIBRATED AND NO WATER ADDED DURING PLACEMENT. PROTECT ALL SURFACES FROM WIND AND CURE 7 DAYS WITH MOISTURE RETAINING MEMBRANE OR WATER SATURATION. NOTE CODE REQUIREMENTS WHERE AIR TEMPERATURE IS OUTSIDE RANGE 5° TO 32° C.

C9 REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY IN TRUE PROJECTION AND IS DENOTED BY THE FOLLOWING SYMBOLS:
R - R250N HOT ROLLED PLAIN ROUND BAR TO AS/NZS4671 (TYP.)
N - D500N HOT ROLLED DEFORMED BARS TO AS/NZS4671
SL & RL - LOW DUCTILITY CLASS L HARD DRAWN WELDED WIRE REINFORCING FABRIC TO AS/NZS4671. MAIN WIRE NEAREST FACE OF CONCRETE
U.N.O. CLASS L DEFORMED BARS MUST NOT BE SUBSTITUTED WITHOUT THE ENGINEERS APPROVAL.

C10 WELDING OR HEATING OF REINFORCEMENT SHALL NOT BE PERMITTED WITHOUT THE ENGINEER'S APPROVAL.

C11 SPLICES IN REINFORCEMENT SHALL ONLY BE IN POSITION AS SHOWN ON THE DRAWINGS OR APPROVED BY THE ENGINEER. SPLICES IN BARS TO BE AS PER THE REINFORCEMENT BAR LAPS TABLE OR AS SHOWN ON THE DRAWINGS. SPLICES IN FABRIC TO BE TWO TRANSVERSE BARS PLUS 25mm. HOOKS AND COGS WHERE INDICATED AS PER AS3600 SECTION 13.1 UNLESS NOTED OTHERWISE.

C12 ALL REINFORCEMENT SHALL BE HELD RIGIDLY IN POSITION BEFORE AND DURING CONCRETE PLACEMENT. UNLESS NOTED OTHERWISE PROVIDE N12 BARS AT 300 CTS TYING (SECONDARY) REINFORCEMENT TO HOLD THE DOCUMENTED REINFORCEMENT IN PLACE. REINFORCEMENT IS TO BE SECURELY TIED WITH 1.25mm BLACK ANNEALED WIRE WITH ADDED SUPPORT BARS OR APPROVED PLASTIC TIPPED CHAIRS AS NECESSARY SUCH THAT IT REMAINS IN POSITION.

C13 CLEAR COVER AS FOLLOWS U.N.O. TO BE MAINTAINED AT ALL TIMES:

ELEMENT	FORMWORK	EXPOSED TO GROUND WATER & WEATHER	AGGRESSIVE CONDITIONS
PAD FOOTINGS	-	65	75
SLAB ON GROUND	30 TOP	-	-
STRIP FOOTINGS	-	50	65

MINIMUM COVER TO VERTICAL REINFORCEMENT AND TENDONS FOR STRUCTURAL ADEQUACY OF WALLS:

FIRE RESISTANT PERIOD (min)	COVER TO REINFORCEMENT	COVER TO TENDONS
60	25	30
90	35	30
120	40	30
180	45	35
240	50	45

CONDUITS SHALL NOT BE PLACED WITHIN CONCRETE COVER.

C14 REFER AS3610 TABLE 5.4.1 RE STRIPPING TIMES FOR BACK PROPPING. MASONRY AND MATERIALS SHALL NOT BE STACKED OR LAID ON SLABS UNTIL ALL PROPS ARE REMOVED AND FULL STRENGTH ATTAINED.

C15 CHEMICAL ADDITIVES INCLUDING CALCIUM CHLORIDE SHALL NOT BE USED WITHOUT PRIOR APPROVAL OF THE ENGINEER.

C16 PLACE 3-N12 BARS x 2000mm LONG TOP IN SLABS ON GROUND DIAGONALLY ACROSS ALL RE-ENTRANT CORNERS. PLACE 3-N12 x 2000 LONG IN TOP AND BOTTOM OF SUSPENDED SLABS AND IN EACH FACE OF WALLS DIAGONALLY ACROSS ALL RE-ENTRANT CORNERS INCLUDING DUCT OPENINGS.

C17 ALL FERULES SHALL BE ZINC PLATED AND SHALL HAVE N12 x 350 LONG HAIRPINS THROUGH BASE OF FERRULE CAST IN PLATES AND PANEL CONNECTION STEELWORK SHALL BE SAND BLASTED TO CLASS 2.5 FINISH AND HOT DIPPED GALVANISED. NO SUCH FITTING SHALL BE CUT OR MODIFIED ON SITE WITHOUT THE PRIOR APPROVAL OF THE ENGINEER. ALL EXPOSED FITTINGS ON FACES OF PANELS SHALL BE HOT DIP GALVANISED UNLESS NOTED OTHERWISE.

C18 THE CONTRACTOR SHALL ARRANGE FOR THE ENGINEER TO INSPECT THE REINFORCEMENT AND OBTAIN HIS APPROVAL PRIOR TO POURING CONCRETE. (MINIMUM 48 HRS. NOTICE REQUIRED).

STEELWORK

ST1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS4100. UNLESS NOTED OTHERWISE ALL STEEL SHALL AS A MINIMUM BE IN ACCORDANCE WITH:
AS/NZS3679 GRADE 300+ FOR ROLLED SECTIONS
AS1163 GRADE 350 FOR RHS/SHS SECTIONS
AS1163 GRADE 350 FOR CHS SECTIONS
AS/NZS3679 GRADE 350 FOR ALL HIGH STRENGTH STEEL

ST2 THE ERECTION CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY BRACING NECESSARY TO STABILISE THE STRUCTURE DURING ERECTION AND LEAVE IN PLACE UNTIL PERMANENT BRACING ELEMENTS ARE CONSTRUCTED.

ST3 SHOP DETAIL DRAWINGS SHALL BE SUBMITTED IN HARD COPY FORMAT TO THE ENGINEER A MINIMUM OF 14 DAYS PRIOR TO THE SCHEDULED FABRICATION DATE. REVIEW OF SAME SHALL BE OBTAINED BEFORE COMMENCING FABRICATION. REVIEW WILL NOT COVER LAYOUT DIMENSIONS. ONLY ONE SET OF SHOP DRAWINGS WILL BE RETURNED.

ST4 PRECAMBER TO STRUCTURAL STEEL HORIZONTAL MEMBERS, BEAMS, LINTELS, TRUSSES, PORTALS ETC. TO BE 5mm FOR EVERY 2000mm SPAN UNLESS OTHERWISE NOTED.

ST5 FOR DETAILS OF APPLIED FINISHES TO ALL STEELWORK REFER TO ARCHITECTS DRAWINGS AND SPECIFICATION.

ST6 FILLET WELDS SHALL BE AT LEAST 6mm FILLET CONTINUOUS FOR THE FULL CONTACT OF THE MEMBER UNLESS NOTED OTHERWISE. ALL BUTT WELDS SHALL BE FULL STRENGTH COMPLETE PENETRATION WELDS. ELECTRODES SHALL COMPLY WITH AS1554 (BE49XX UNLESS NOTED OTHERWISE). ALL WELDS SHALL BE CATEGORY SP (STRUCTURAL PURPOSE) IN ACCORDANCE WITH AS/NZS1554 UNLESS NOTED OTHERWISE AND WELDING SHALL BE PERFORMED BY EXPERIENCED OPERATORS.

ST7 THE FABRICATION AND ERECTION OF THE STRUCTURAL STEELWORK SHALL BE SUPERVISED BY AN APPROVED INDEPENDENT WELDING INSPECTION SERVICE TO ENSURE THAT ALL REQUIREMENTS OF THE DESIGN ARE SATISFIED. THE COST OF THE SUPERVISION IS TO BE INCLUDED IN THE STEEL CONTRACTOR'S SCOPE.

ST8 BOLTS ARE DESIGNATED ON THE DRAWINGS BY THE NUMBER, DIAMETER, GRADE AND TIGHTENING PROCEDURE IN ACCORDANCE WITH ASI BOLTING PROCEDURES (STANDARDISED STRUCTURAL CONNECTIONS). ALL BOLTS SHALL BE COMMERCIAL GRADE TO AS 1111 OR HIGH TENSILE TO AS1252.
COMMERCIAL GRADE BOLTS.....4.6/S
HIGH TENSILE BOLTS SNUG TIGHT.....8.8/S
HIGH TENSILE BOLTS BEARING CONNECTION, FULLY TENSIONED...8.8/TB
HIGH TENSILE BOLTS FRICTION CONNECTION, FULLY TENSIONED...8.8/TF
REFER TO AS 4100 FOR THE PREPARATION OF THE MEMBER CONTACT SURFACES OF BEARING AND FRICTION CONNECTIONS. BOLTS SHALL BE TENSIONED IN A CONTROLLED MANNER TO THE REQUIREMENTS OF AS4100.
WHERE FULLY TENSIONED BOLTS ARE REQUIRED LOAD INDICATING WASHERS ARE TO BE USED. ALL BOLTS HOLES SHALL BE 2mm LARGER THAN THE NOMINATED BOLT DIAMETER UNLESS NOTED OTHERWISE.

ST9 UNLESS NOTED OTHERWISE WELDS SHALL BE 6mm CONTINUOUS FILLET. BOLTS SHALL BE M20 8.8/S, MINIMUM 2 BOLTS PER CONNECTION, CLEATS AND GUSSETS 10mm THICK. ALL WELDS TO BE CLASS SP.

ST10 PURLIN CLEATS SHALL BE 8mm PLATES, 6 CFW & 2 M12 4.6/S BOLTS UNLESS NOTED OTHERWISE.

ST11 ALL STEELWORK BELOW GROUND SHALL BE WRAPPED WITH SL62 REINFORCEMENT AND ENCASED IN 90mm MINIMUM THICK CONCRETE ALL AROUND. REINFORCEMENT SHALL BE PLACED 25mm CLEAR OF STEEL. CONCRETE ENCASING SHALL PROVIDE 50mm MINIMUM COVER TO REINFORCEMENT.

ST12 BASE PLATE GROUT FOR STEELWORK SHALL BE 'AFTEK XL GROUT 100' AND SHALL HAVE A MINIMUM 28 DAY CHARACTERISTIC STRENGTH OF 30MPa. THE CONSISTENCY SHALL BE SUCH THAT IT CAN BE RAM PACKED TIGHT TO PROVIDE UNIFORM BEARING UNDER THE ENTIRE SURFACE OF THE STEELWORK. GROUT BETWEEN NEW STEELWORK AND EXISTING SLABS SHALL BE APPROVED NON-SHRINK GROUT. EDGES SHALL BE TROWELLED TO A SMOOTH FINISH WHERE EXPOSED.

ST13 WELDED CLEATS SHALL BE PROVIDED BY THE FABRICATOR FOR CONNECTION OF TIMBERWORK. USE 6mm CLEATS AND 2-M12 4.6/S BOLTS OR M12 4.6/S BOLTS @ 800mm CTS, UNLESS NOTED OTHERWISE.

ST14 CLEATS, BRACKETS AND DRILLINGS FOR ARCHITECTURAL FIXINGS SHALL BE PROVIDED BY THE FABRICATOR.

ST15 THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIXING OF MASONRY TIES TO STRUCTURAL STEEL SECTIONS. SEE NOTES REGARDING BRICKWORK AND BLOCKWORK.

ST16 SHELF ANGLES, LINTELS AND ALL BOLT FIXINGS TO EXTERNAL WALLS SHALL BE HOT DIPPED GALVANISED.

ST17 THE ENDS OF ALL TUBULAR MEMBERS SHALL BE SEALED WITH NOMINAL THICKNESS PLATES AND CONTINUOUS FILLET WELD UNLESS NOTED OTHERWISE.

ST18 UNLESS OTHERWISE SPECIFIED ALL STEELWORK SHALL HAVE ONE SHOP COAT OF ZINC PHOSPHATE PRIMER TO AS/NZS2312. MEMBERS TO BE ENCASED IN CONCRETE, GALVANISED, FIRE SPRAYED OR 8.8/TF BOLTED CONNECTIONS SHALL NOT BE PAINTED IN THESE AREAS. TOUCH UP AFTER ERECTION AS NECESSARY. ALL PAINTING SHALL BE DONE ON CLEAN DRY SURFACES FREE FROM RUST, SCALE AND GREASE. ALL DAMAGED PAINTWORK, NUTS, BOLTS AND WASHERS AND CLEAN SITE WELDS SHALL RECEIVE ONE SITE COAT OF ZINC PHOSPHATE PRIMER. PAINT COLOUR TO ARCHITECT'S SPECIFICATION.

ST19 ALL EXTERNAL STEELWORK IS TO BE HOT DIP GALVANISED. GALVANISED MEMBERS SHALL CONFORM TO AS1214 AND AS/NZS4680. PREPARATION AND PRE-TREATMENT OF SURFACES SHALL BE IN ACCORDANCE WITH AS1627. ANY DAMAGED GALVANISED SURFACE SHALL RECEIVE ONE SITE COAT OF APPROVED ZINC EPOXY PAINT.

ST20 THE PROTECTIVE STEELWORK FINISHES GIVEN ABOVE ARE TO BE PROVIDED AS A MINIMUM FOR NORMAL APPLICATIONS UNLESS OTHERWISE SPECIFIED. IN ALL INSTANCES THE ADOPTED FINISHES ARE TO BE CAREFULLY SELECTED AND APPLIED TO PROVIDE APPROPRIATE CORROSION PROTECTION TO SUIT THE EXPECTED ENVIRONMENT AND INTENDED USE OF THE STRUCTURE. THE DETAILS OF THE SELECTED FINISHES ARE TO BE PROVIDED TO THE ARCHITECT AND/OR RELEVANT BUILDING SURVEYOR FOR REVIEW PRIOR TO APPLICATION.

PRECAST CONCRETE

GENERAL

PC1 ALL PRECAST CONCRETE SHALL COMPLY WITH THE PROJECT SPECIFICATION, AS3600 CONCRETE STRUCTURES CODE, AS3850 TILT UP CONCRETE CONSTRUCTION AND VICTORIAN WORKCOVER AUTHORITIES "PRECAST AND TILT-UP CONCRETE FOR BUILDINGS".

PC2 FOR LOCATIONS AND DIMENSIONS AND FINISHES OF PRECAST PANELS REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.

PC3 INTERNAL FACES OF PANELS SHALL BE FINISHED SMOOTH FOR PAINTING. EXTERNAL SURFACES SHALL HAVE SELECTED FINISH - REFER TO SPECIFICATION. UNLESS NOTED OTHERWISE ALL PANEL EDGES ARE TO BE CHAMFERED BY USING REID EXTRUDED FILLET SECTIONS OR SIMILAR APPROVED.

PC4 THE PANELS HAVE BEEN DESIGNED FOR THE FINAL IN PLACE CONDITION. THE PRECAST MANUFACTURER IS RESPONSIBLE FOR PROVIDING ADDITIONAL REINFORCEMENT, STRONG BACKS, PROPS ETC., THAT MAY BE REQUIRED TO ACCOUNT FOR STRESSES DUE TO REMOVAL FROM FORMS, HANDLING, LIFTING, TRANSPORTATION AND ERECTION. ANY SUCH EXTRA MATERIALS OR OTHER HANDLING REQUIREMENTS SHALL BE ALLOWED FOR IN THE TENDER.
THE PRECAST SUB CONTRACTOR IS RESPONSIBLE FOR THE DESIGN DOCUMENTATION AND CERTIFICATION OF ALL PANEL TRANSPORTATION AND PROPPING.

PC5 PROVIDE ALL HOLES, REBATES, DUMMY JOINTS, BAFFLES, DRIPS, SEALS, CLEATS, FIXING FERRULES, ETC. AS REQUIRED BY THE ARCHITECTURAL DRAWINGS IN ADDITION TO THOSE SHOWN ON THE STRUCTURAL DRAWINGS.

PANEL DOCUMENTATION

PC6 IN ADDITION THE BUILDER SHALL SUBMIT TO THE ENGINEER FOR REVIEW, 2 SETS OF SHOP DRAWINGS IN HARD COPY FORMAT A MINIMUM OF 14 DAYS PRIOR TO THE SCHEDULED POURING DATE. SHOP DRAWINGS SHALL COMPLY WITH AS3850 AND SHOW PANEL DIMENSIONS, REINFORCEMENT, THE SIZE, LOCATION AND DETAILS OF ALL PROPPING AND LIFTING INSERTS AND ALL OTHER CAST IN ITEMS. REVIEWED SHOP DRAWINGS SHALL BE OBTAINED FROM THE ENGINEER PRIOR TO COMMENCEMENT OF PANEL MANUFACTURE.

PANEL REINFORCEMENT

PC7 REFER TO DRAWINGS FOR REINFORCEMENT REQUIRED FOR IN PLACE CONDITION.

PC8 REINFORCEMENT IN CONCRETE PANELS SHALL BE INSPECTED BY THE CLIENT'S REPRESENTATIVE PRIOR TO POURING.

PC9 WHERE POSSIBLE FABRIC IN PANELS SHALL BE OF ONE SHEET.

PC10 BAR CHAIRS USED TO SUPPORT REINFORCEMENT PANELS ARE TO BE NON-METALLIC.

PC11 CONCRETE COVER TO REINFORCEMENT ON EXPOSED FACE 25mm AT REBATES UNLESS NOTED OTHERWISE.
CONCRETE COVER ON INTERNAL FACE 25mm.
TOLERANCE +5mm, -0mm UNLESS NOTED OTHERWISE.

PC12 EACH FABRIC WIRE CUT TO ALLOW PLACEMENT OF FITMENTS SHALL BE REPLACED WITH 1 N12 BAR LAPPING 450mm EACH END WITH MESH WIRES.

CAST IN ITEMS

PC13 LIFTING FIXINGS - THE BUILDER SHALL SUPPLY AND FIT LIFTING FIXINGS AS REQUIRED. THESE SHALL TAKE THE FORM OF CAST IN CABLES OR FERRULES. THEY SHALL NOT BE LOCATED IN THE FACE WHICH IS EXPOSED TO VIEW IN THE FINAL CONDITION AND AFTER USE SHALL BE PROTECTED TO AVOID CORROSION AND STAINING.

PC14 ALL FITMENTS AND CAST IN FIXINGS WHICH WILL BE EXPOSED TO THE WEATHER AFTER CONSTRUCTION SHALL BE HOT DIP GALVANISED IN ACCORDANCE WITH AS1214 AND AS/NZS4680 UNLESS SHOWN OTHERWISE. TOP SURFACE LIFTING INSERTS LEFT FINALLY EXPOSED SHALL BE STAINLESS STEEL.
NO INSERTS OTHER THAN THOSE AS SPECIFIED ON ARCHITECT'S DRAWINGS AND APPROVED SHOP DRAWINGS SHALL BE SHOT FIRED, OR DRILLED INTO THE UNITS WITHOUT APPROVAL OF THE SUPERINTENDENT.

PC15 ALL FERRULES SHALL BE ZINC PLATED AND SHALL HAVE N12 x 350 LONG HAIRPINS THROUGH BASE OF FERRULE. CAST IN PLATES AND PANEL CONNECTION STEELWORK SHALL BE SAND BLASTED TO CLASS 2.5 FINISH AND HOT DIPPED GALVANISED. NO SUCH FITTING SHALL BE CUT OR MODIFIED ON SITE WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
ALL EXPOSED FITTINGS ON FACES OF PANELS SHALL BE HOT DIP GALVANISED UNLESS NOTED OTHERWISE.

PC16 PROVIDE FIRE RETARDANT COATINGS TO EXPOSED PRECAST CONNECTIONS AS REQUIRED BY THE RELEVANT BUILDING SURVEYOR AND FIRE ISOLATION REQUIREMENTS.

HANDLING AND ERECTION

PC17 IF CRANES ARE TO BE LOCATED ON SLAB DURING ERECTION, DETAILS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO POURING GROUND FLOOR SLAB. PRIOR TO LIFTING OF ANY WALL PANELS THE MANUFACTURER OR CONTRACTOR SHALL PROVIDE TO THE ENGINEER ALL RELEVANT CRANE WHEEL AND OUTRIGGER LOADING TO BE APPLIED ON THE FLOOR SLAB AND SHALL PROVIDE LOAD SPREADING AS DIRECTED BY THE ENGINEER.

PC18 LEVEL AND POSITION PANELS IN THEIR FINAL POSITION USING PATENTED PLASTIC SHIMS AND 20mm THICK CONTINUOUS GROUT BED.

PC19 APPLY STIFF NON-SHRINK GROUT TO ALL HORIZONTAL JOINTS AND FERRULE HOLES AS REQUIRED.

PC20 GROUT TO BE USED SHALL BE NON SHRINK, NON-STAINING, HAVE A 28 DAY CHARACTERISTIC STRENGTH OF 40 MPa. DETAILS OF THE PROPOSED GROUT USED SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

PC21 ALL SEALANTS SHALL BE AS SPECIFIED BY THE ARCHITECT.

PC22 ALL PANELS TO ACHIEVE CONCRETE GRADE 25MPa MINIMUM AT TIME OF LIFTING. REFER ALSO TO NOTE PC4.

TENDER
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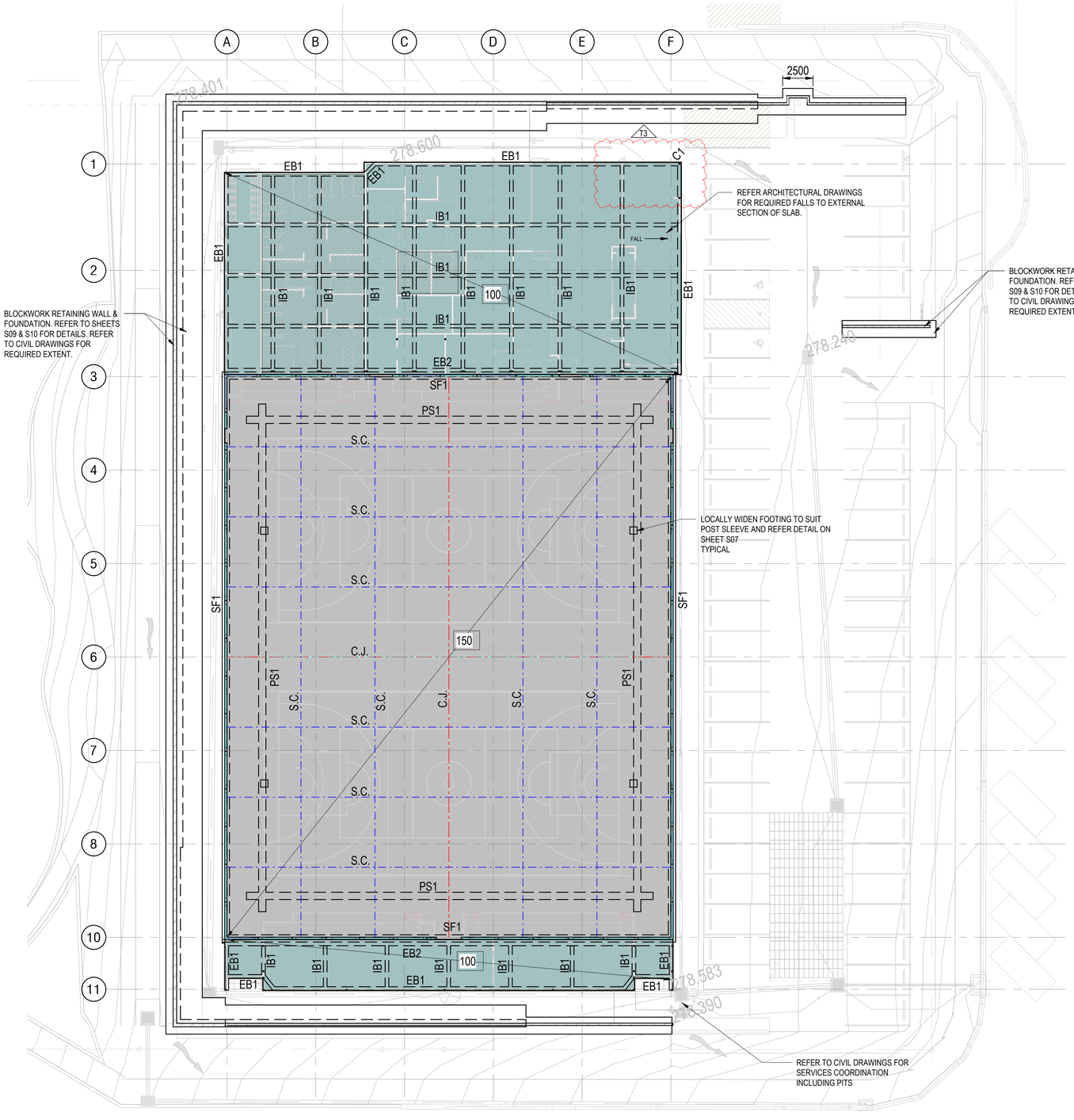
DRAWING TITLE:
GENERAL NOTES - SHEET 2

PROJECT No.: 19372 | DRAWING No: S03 | REV: T3



GROUND FLOOR SLAB AND FOOTING PLAN

SCALE: 1 : 200

LEGEND

- S.C. — DENOTES SAW CUT JOINT (S.C.) (REFER TO TYPICAL DETAILS ON SHEET S06)
- C.J. — DENOTES CONSTRUCTION JOINT (C.J.) (REFER TO TYPICAL DETAILS ON SHEET S06)
- DENOTES STEEL COLUMN OVER
- DENOTES 150 SLAB ON GROUND SL92 MESH TOP, N32 CONCRETE 0.2mm THICK VAPOUR BARRIER, 50mm SAND BED OVER PREPARED SUBGRADE/CONTROLLED FILL.

150 — ALLOW FOR 300x300 EDGE THICKENING AT THRESHOLDS. ALLOW FOR S.J's AT 6.0m MAX CTS IN EACH DIRECTION SAW CUT AND CONSTRUCTION JOINT LAYOUT IS NOT TO BE ALTERED WITHOUT WRITTEN PERMISSION FROM THE DESIGN ENGINEER. CHAIING OF STEEL MESH IS TO BE PROVIDED AT 800mm MAX CTS IN BOTH DIRECTIONS. CHAIRS TO RUN IN A STRAIGHT LINE IN BOTH DIRECTIONS.

REFER TO ARCHITECTS DRAWINGS FOR SLAB EXTENT AND REQUIRED SURFACE FINISHES, FALLS AND SETDOWNS. PROVIDE APPROVED BOND BREAKER AROUND THE PERIMETER OF THE SLAB WHERE ABUTTING PRECASE PANELS (TYPICAL).

100 — DENOTES 100 THICK RAFT SLAB ON GROUND SL92 MESH TOP, N32 CONCRETE 0.2mm THICK VAPOUR BARRIER, 50mm SAND BED OVER PREPARED SUBGRADE/CONTROLLED FILL.

- DENOTES 180 THICK PRECAST PANEL ELEMENT UNDER / OVER GRADE N40 CONCRETE SL92 MESH EACH FACE WITH N12 PERIMETER BARS EACH FACE ADDITIONAL 4-N16 VERTICAL BARS EACH FACE AT PRIMARY STEEL CONNECTIONS.
- DENOTES SETDOWN FOR WET AREAS (50mm MAX.) REFER TO ARCHITECTURAL DRAWINGS FOR EXACT EXTENT AND LOCATIONS REFER S08 FOR STRUCTURAL DETAILS.
- DENOTES BLOCKWORK RETAINING WALL REFER TO SHEET S09&10 FOR DETAILS. REFER TO CIVIL DRAWINGS FOR REQUIRED EXTENT.

LAPPING REINFORCEMENT (50) (50)

MESH

FOOTING MEMBER SCHEDULE

MARK	WIDTH	REINFORCEMENT	DEPTH
EB1	300	3-L12TM BOTTOM	600 + BLINDING
EB2	300	3-L12TM BOTTOM	975 + BLINDING
IB1	300	3-L12TM TOP AND BOTTOM	600 + BLINDING
PS1	PANEL PROP FOOTING. LOCATION INDICATIVE ONLY. DESIGN AND CERTIFIED BY TEMPORARY WORKS ENGINEER.		
SF1	600	6-L12TM TOP AND BOTTOM	600 + BLINDING

INFILL SLAB SUBGRADE:

AS RECOMENDED IN THE GEOTECHNICAL REPORT REFERANCE 397, BASED ON THE PROPOSED SITE CUT, THE RISK OF DIFFERENTIAL SETTLEMENT EXSITS AND TO PREVENT THIS SETTLEMENT, USE OF A TRANSITION LAYER OF A DENSELY GRADED ENGINEERING FILL TO REDUCE THE STIFFNESS CONTRACT BETWEEN THE RESIDUAL CLAY MATERIALS AND WEATHERED ROCK.

THE SUBGRADE IS TO BE APPROVED FOR MODULUS SUB-GRADE REACTION OF K=22.1 kPa/mm OR CBR VALUE OF 2.5% (MINIMUM) IN ACCORDANCE WITH GEOTECHNICAL REPORT.
ANY IMPORTED FILL SHOULD BE PLACED IN UNIFORM LAYERS OF AND COMPACTED TO 98% SDD. REFER TO SOIL REPORT NOTE ON RE-USE OF ONSITE MATERIAL. AND REFER TO EARTHWORKS NOTES IN THE GEOTECH REPORT REFERENCE 397 SUBGRADE PREPARATION

NOTE:

MIN DEPTH IS BASED ON APPROX. AVARAGE DEPTH TO APPROVED FOUNDING MATERIAL
BELOW EXISTING SURFACE LEVELAT TIME OF TESTING. DEPTHS MAY VARY.
ALLOWANCE FOR ANY PROPOSED FILL DEPTHS NEED TO BE ADDED TO MIN DEPTHS WHEN CALCULATING BLINDING CONCRETE VOLUMES.
15MPa BLINDING CONCRETE UNDER ALL FOOTINGS TO ACHIEVE REQUIRED FOUNDING DEPTH ON SITE.

APPROVED FOUNDATION MATERIAL

APPROVED FOUNDATION MATERIAL IS THE EXTERMELY WEATHERED SILTY SANDY CLAY LOCATED AT VARYING DEPTHS
(TYPICALLY AROUND 400-1000mm BELOW SURFACE LEVEL AT TESTING TIME
WITH AN ALLOWABLE BEARING PRESSURE OF 200 kPa FOR FOOTINGS.)

NOTE - UNDERGROUND SERVICES:

FOUNDATIONS SHALL BE DEEPENED WHERE ADJACENT TO BOTH PROPOSED OR EXISTING UNDERGROUND SERVICES.
THE ANGLE OF REPOSE FROM THE UNDERSIDE OF FOOTINGS IS TO CROSS 300mm BENEATH THE UNDERSIDE OF SERVICE TRENCHES.
REFER TO TYPICAL DETAILS ON DRAWING S07.
LOCATIONS AND EXTENTS OF UNDERGROUND SERVICE PIPES AND PITS ARE INDICATIVELY ONLY.(IF SHOWN)
REFER TO THE RELEVENT CONSULTANTS DRAWINGS FOR EXACT LOCATIONS, EXTENTS AND DETAILS.

NOTE - EXTERNAL LEVELS:

TOP OF FOOTINGS TO BE AT THE MINIMUM DEPTHS BELOW FLOOR LEVEL AS INDICATED ON DETAILS (TYPICALLY 300mm) AS WELL AS BELOW EXTERNAL PAVEMENT LEVELS. REFER TO CIVIL DRAWINGS FOR ALL LEVELS EXTERNAL TO BUILDING & COORDINATE FOOTING HEIGHTS AS REQUIRED.

NOTE - CONTOURS:

CONTOURS IF SHOWN ON PLAN ARE INDICATIVE OF THE NATURAL SURFACE PROFILE PRIOR TO ANY SITE DEVELOPMENT.
THE PRE-DEVELOPMENT CONTOURS ARE SHOWN TO DEMONSTRATE THE VARYING DEPTHS OF FOOTINGS.

IMPORTANT NOTE:

BUILDER TO ENSURE NO PART OF PROPOSED STRUCTURE EXTENDS OVER THE PROPERTY BOUNDARY LINE

TENDER
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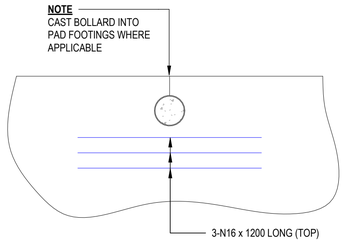
DISCIPLINE: **STRUCTURAL**

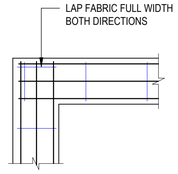
NORTH

DRAWING TITLE:
GROUND FLOOR SLAB AND FOOTING PLAN

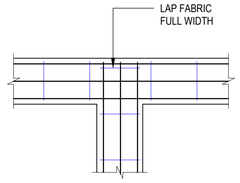
PROJECT No.: 19372 | DRAWING No: S05 | REV: T3



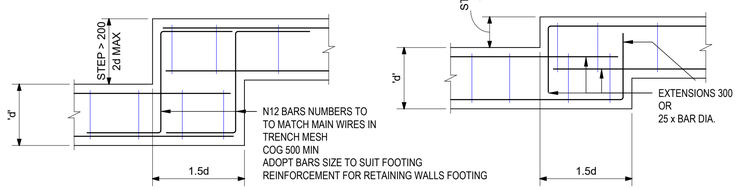
TYPICAL BOLLARD PLAN VIEW
N.T.S



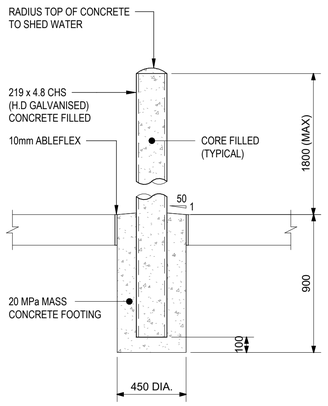
TYPICAL FOOTING CORNER DETAIL
N.T.S



TYPICAL FOOTING INTERSECTION DETAIL
N.T.S

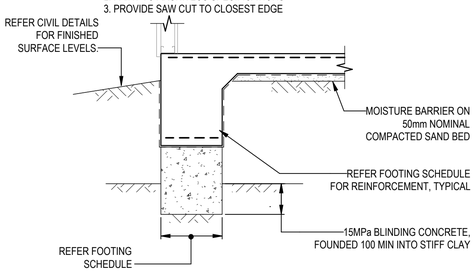


TYPICAL STEP IN FOOTING DETAILS (IF REQUIRED)
N.T.S

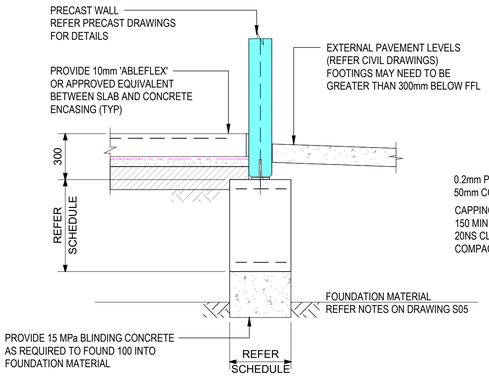


TYPICAL BOLLARD DETAIL (WHERE APPLICABLE)
N.T.S

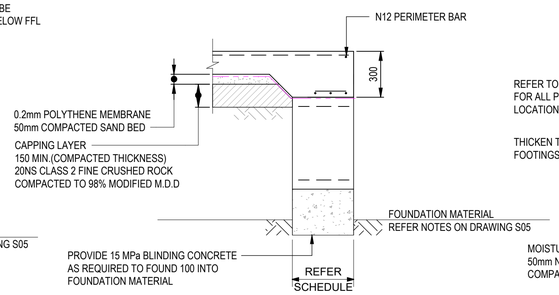
FINISH NOTES
1. EXPOSED CONCRETE - STEEL TROWEL
2. PAINT TO ARCHITECS SPECIFICATIONS
3. PROVIDE SAW CUT TO CLOSEST EDGE



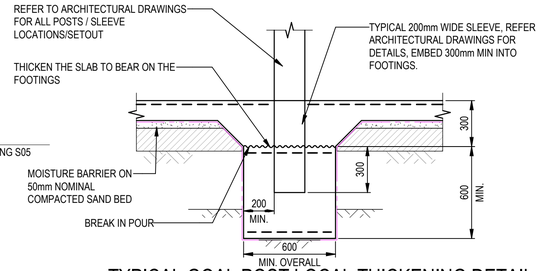
TYPICAL EDGE BEAM (EB1) DETAIL
SCALE: N.T.S.



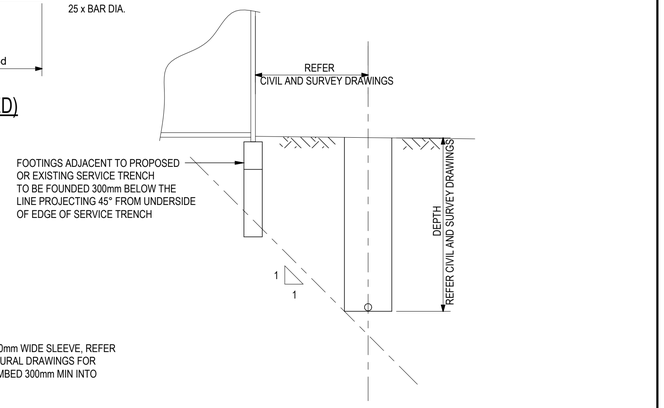
TYPICAL STRIP FOOTING DETAIL (SF1)
N.T.S



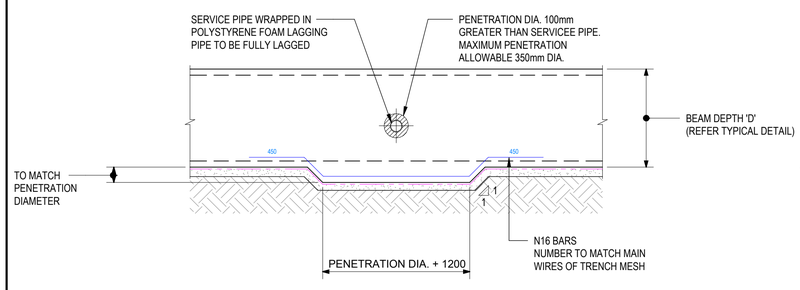
TYPICAL SF1 DETAIL AT DOOR TRACK LOCATIONS
N.T.S



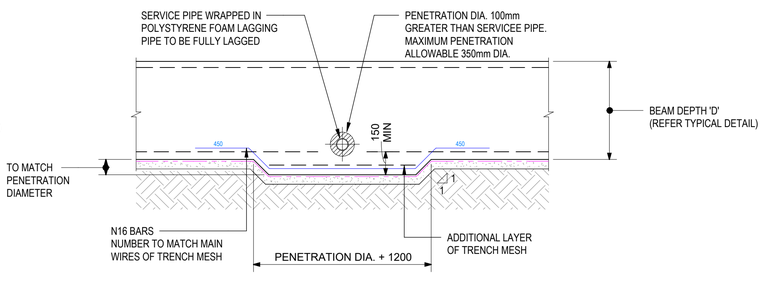
TYPICAL GOAL POST LOCAL THICKENING DETAIL
SCALE: N.T.S.



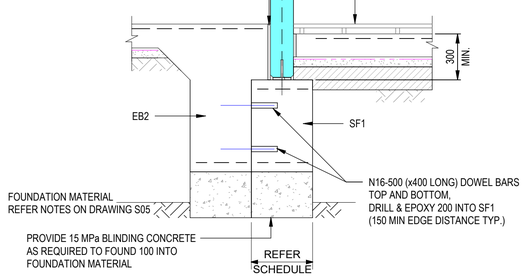
TYPICAL FOOTING ADJACENT TO PROPOSED AND EXISTING SERVICES TRENCH DETAIL
N.T.S



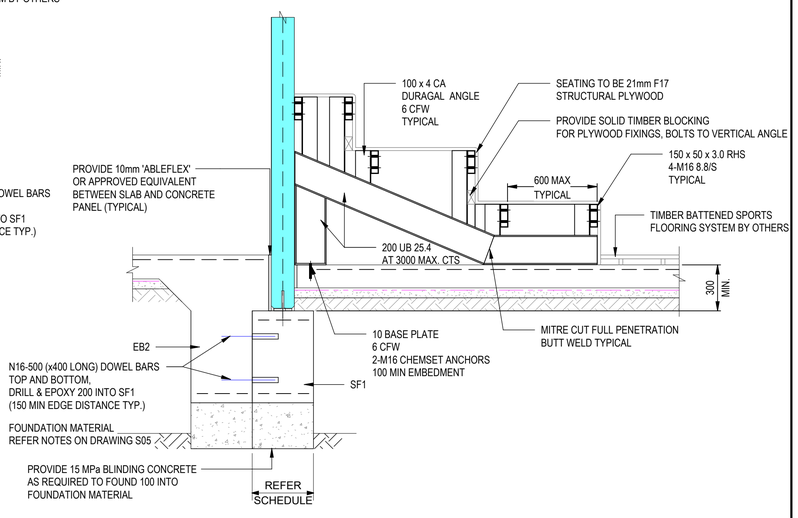
SERVICE PENETRATION WITHIN MIDDLE THIRD OF STRIP
N.T.S



SERVICE PENETRATION THROUGH LOWER SECTION OF STRIP
N.T.S



TYPICAL JUNCTION WHERE EB2 MEETS SF1
N.T.S



TYPICAL TIERED SEATING FRAMING DETAIL
N.T.S

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REV:	REVISION DESCRIPTION:	DRN:	CHK:	DATE:
P1	PRELIMINARY	E.V.	G.C.	21.02.25
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T2	TENDER	E.V.	G.C.	02.06.25
T3	TENDER	E.V.	G.C.	02.07.25

		DATE:
DRAWN:	E.V.	21.02.25
DESIGNED:	G.C.	21.02.25
CHECKED:	G.C.	21.02.25
APPROVED:	J.L.	21.02.25

SHEET SIZE: A1

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Architecture & Construction

PROJECT:
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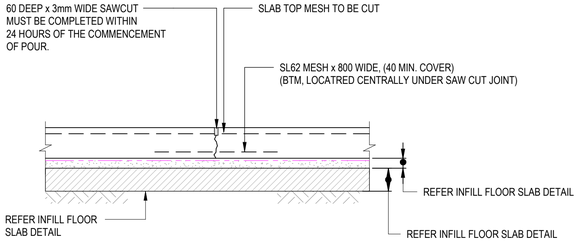
RICHMONDPARK, TUMUT NSW

DISCIPLINE:
STRUCTURAL

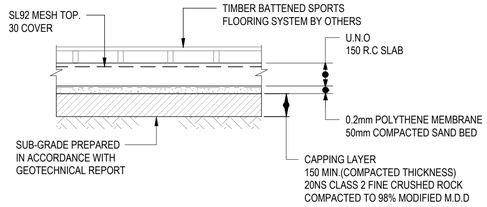
DRAWING TITLE:
FOOTING & SLAB DETAILS - SHEET 1

PROJECT No.:	DRAWING No:	REV:
19372	S07	T3



TYPICAL SAW CUT JOINT DETAIL (S.C)

N.T.S

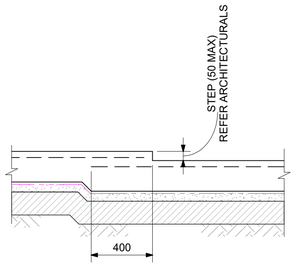


TYPICAL INFILL FLOOR SLAB DETAIL

N.T.S

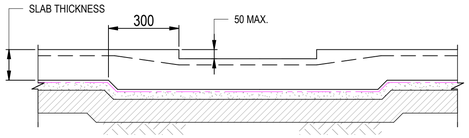
NOTE:

GRADE N32 CONCRETE
F'cf AT 90 DAYS= 5.0 MPa MIN
MICRO STRAIN 650 MAX AT 56 DAYS



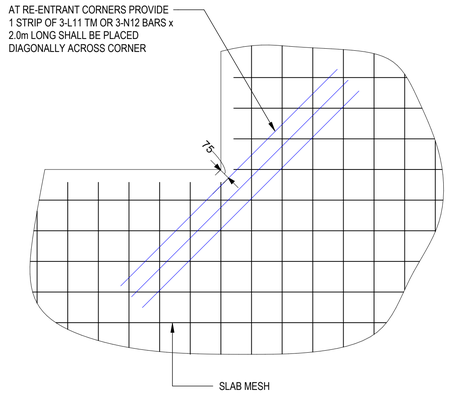
TYPICAL INFILL SLAB SETDOWN DETAIL

N.T.S



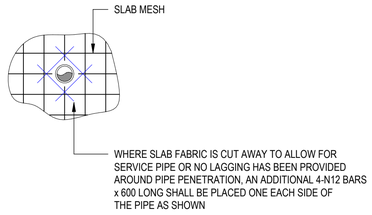
TYPICAL RAFT SLAB RECESS DETAIL

N.T.S



TYPICAL RE-ENTRANT CORNER REINFORCEMENT DETAIL

N.T.S



TYPICAL FLEXIBLE PIPE PENETRATION VERTICALLY THROUGH SLAB DETAIL

N.T.S

TENDER

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CHECKED:	G.C.	21.02.25
APPROVED:	J.L.	21.02.25

SHEET SIZE: A1

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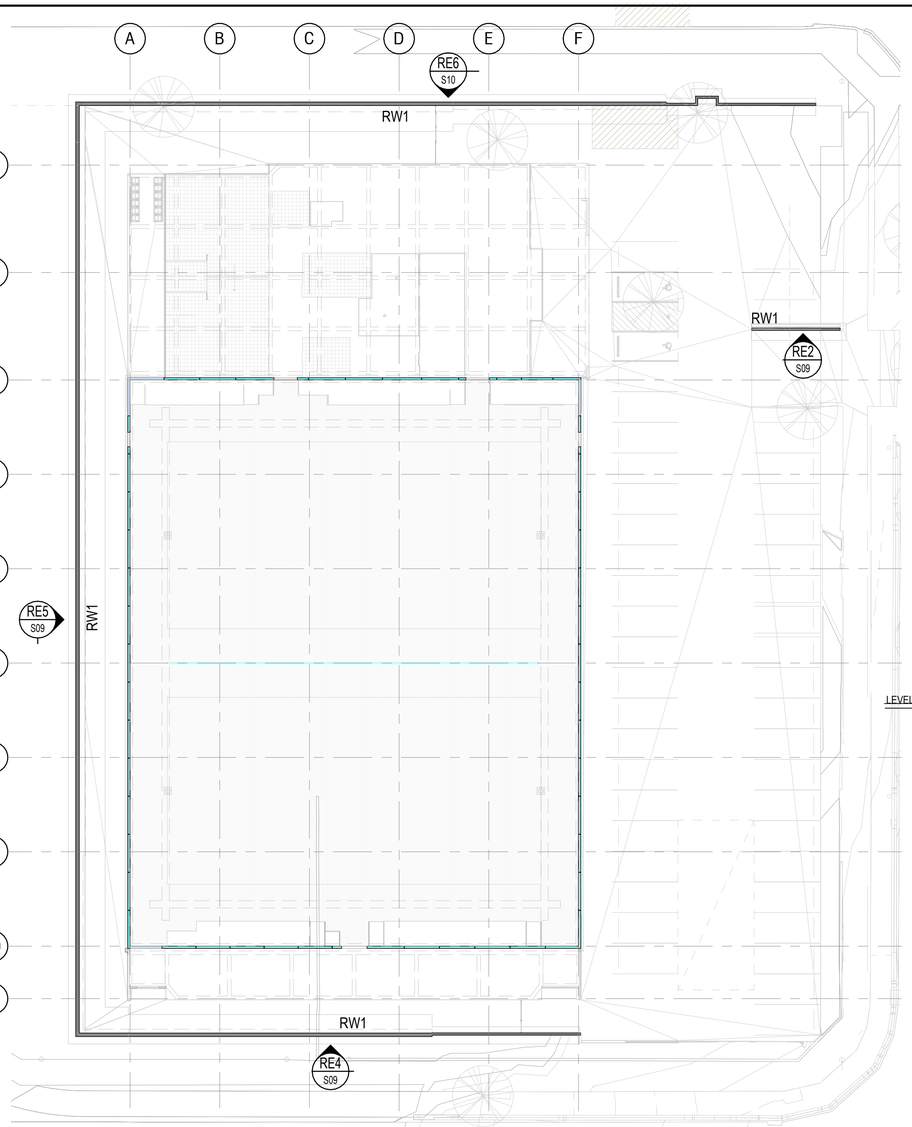
PROJECT:
MULTIPURPOSE + EVACUATION CENTRE
RICHMONDPARK, TUMUT NSW

DISCIPLINE: **STRUCTURAL**

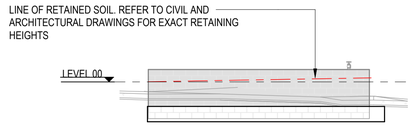
DRAWING TITLE:
FOOTING & SLAB DETAILS - SHEET 2

PROJECT No.: 19372 | DRAWING No: S08 | REV: T3



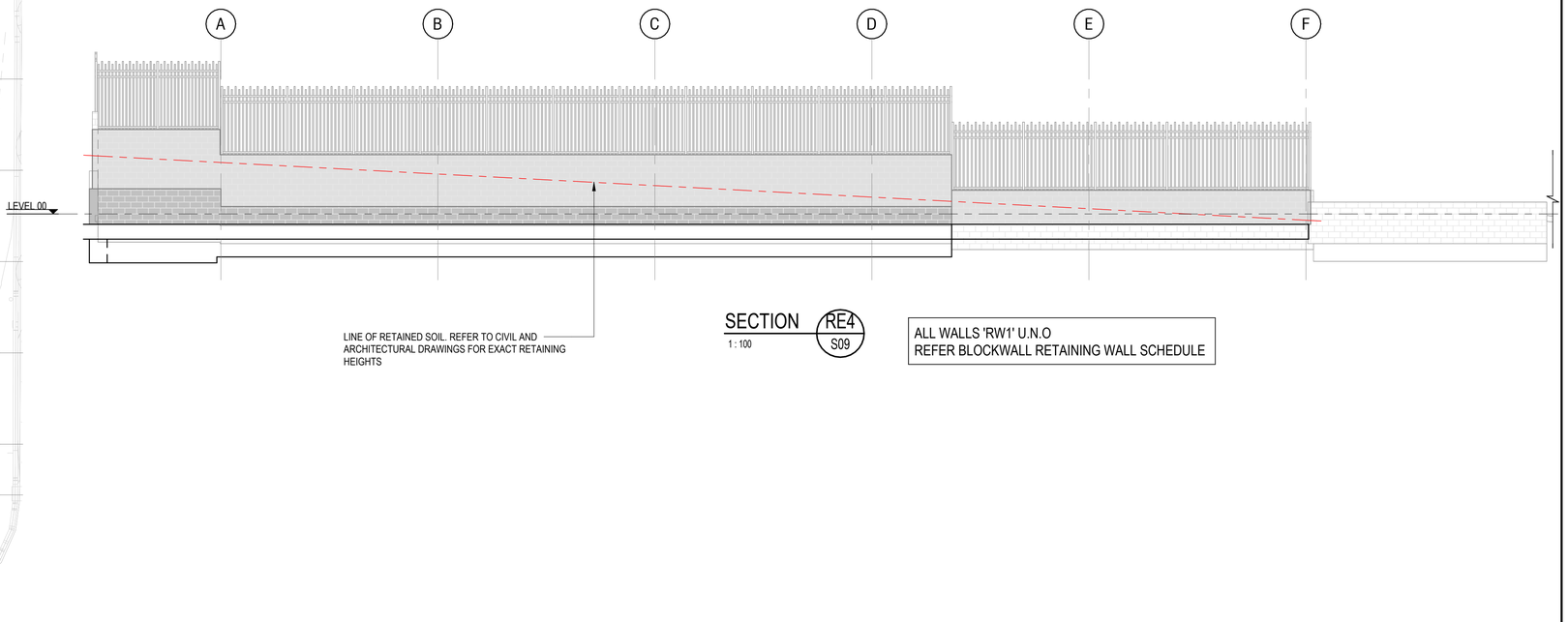
RETAINING WALL KEY PLAN

SCALE:1 : 250



SECTION RE2 S09

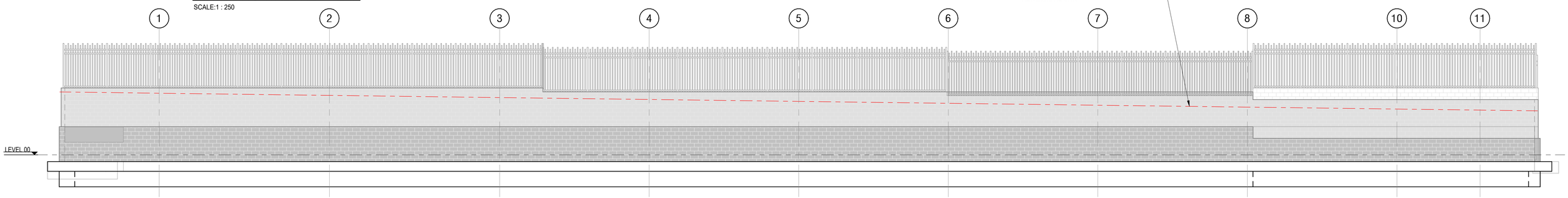
1 : 100



SECTION RE4 S09

1 : 100

ALL WALLS 'RW1' U.N.O
REFER BLOCKWALL RETAINING WALL SCHEDULE



SECTION RE5 S09

1 : 100

ALL WALLS 'RW1' U.N.O
REFER BLOCKWALL RETAINING WALL SCHEDULE

TENDER

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APPROVED:	J.L.	21.02.25

SHEET SIZE: A1

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PROJECT:
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RICHMONDPARK, TUMUT NSW

DISCIPLINE: **STRUCTURAL**

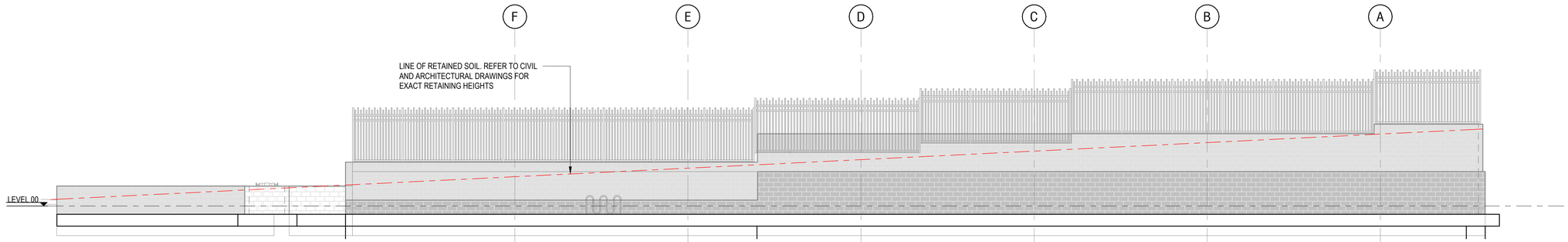
NORTH

DRAWING TITLE:
RETAINING WALL ELEVATIONS AND DETAILS - SHEET 1

PROJECT No.: 19372

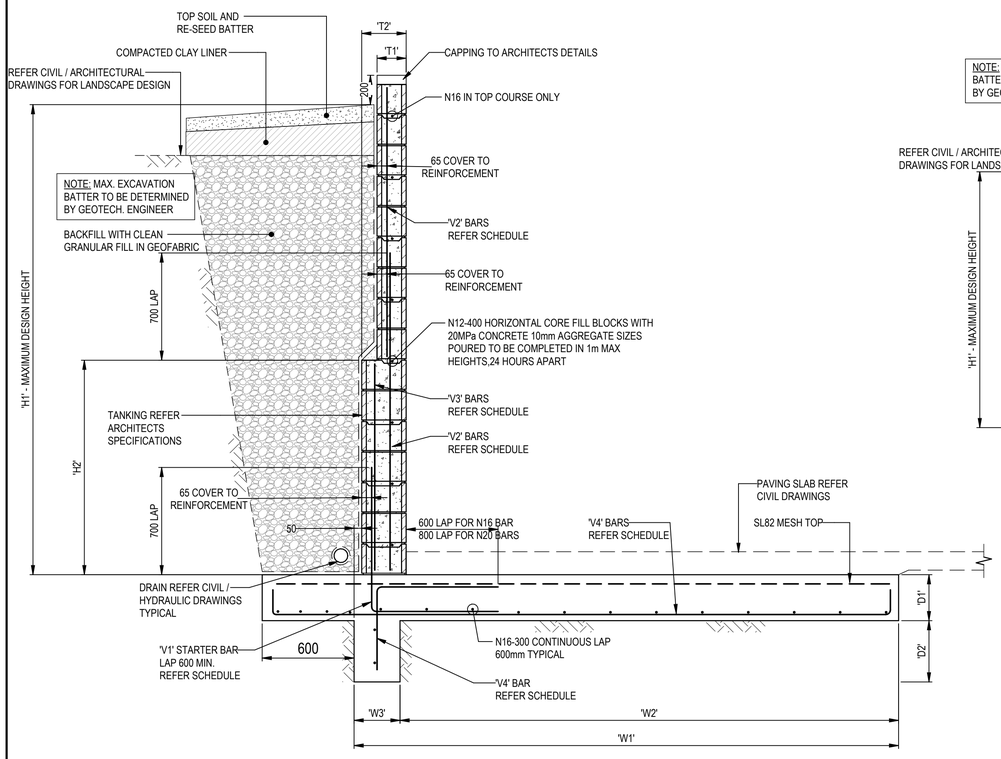
DRAWING No: S09

REV: T3



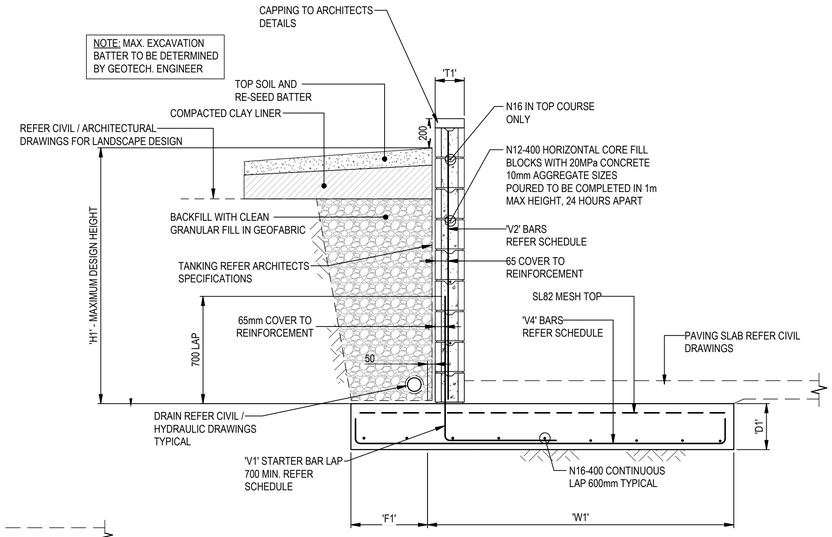
SECTION RE6 / S09
1 : 100

ALL WALLS 'RW1' U.N.O
REFER BLOCKWALL RETAINING WALL SCHEDULE



BLOCKWORK RETAINING WALL - RW1 (1801-3600)

NOTES:
1. PROVIDE TANKING BEHIND RETAINING WALL REFER. ARCHITECTURAL AND LANDSCAPE ARCHITECTS DRAWINGS.
2. REFER CIVIL/ARCHITECTURAL AND LANDCAPE ARCHITECTURAL DRAWINGS FOR RETAINING WALL LOCATIONS AND EXTENT.
3. REFER GEOTECHNICAL ENGINEER REPORT.
4. REFER GENERAL NOTES.
5. FOOTING CONCRETE STRENGTH = 32MPa



BLOCKWORK RETAINING WALL - RW1 (1600 MAX HEIGHT)

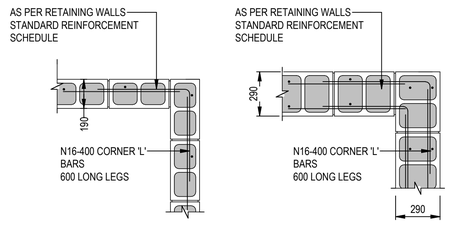
NOTES:
1. PROVIDE TANKING BEHIND RETAINING WALL REFER. ARCHITECTURAL AND LANDSCAPE ARCHITECTS DRAWINGS.
2. REFER CIVIL/ARCHITECTURAL AND LANDCAPE ARCHITECTURAL DRAWINGS FOR RETAINING WALL LOCATIONS AND EXTENT.
3. REFER GEOTECHNICAL ENGINEER REPORT.
4. REFER GENERAL NOTES.
5. FOOTING CONCRETE STRENGTH = 32MPa

BLOCKWORK RETAINING WALL SCHEDULE (LEVEL BACKFILL)

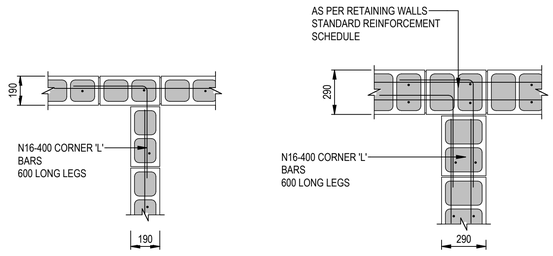
- MAXIMUM BACKFILL SLOPE = 0 DEGREES
- LIVE LOAD VERTICAL SURCHARGE = 5 kPa
- FOUNDATION CHARACTERISTIC FRICTION ANGLE = 20 DEGREES REFER TO GEOTECHNICAL REPORT FOR ALL OTHER PARAMETERS

WALL					FOOTING						REINFORCEMENT BARS & SPACING			
HEIGHT			THICKNESS		DEPTH		WIDTH							
'H1'	'H2'		'T1'	'T2'	'D1'	'D2'	'W1'	'W2'	'W3'	'F1'	'V1'	'V2'	'V3'	'V4'
600			190	-	500	-	600	-	-	300	N16-400 GALV.	N16-400	-	N16-400
800			190	-	500	-	800	-	-	300	N16-400 GALV.	N16-400	-	N16-400
1000			190	-	500	-	1000	-	-	300	N16-400 GALV.	N16-400	-	N16-400
1200			190	-	500	-	1000	-	-	400	N16-400 GALV.	N16-400	-	N16-400
1400			190	-	500	-	1000	-	-	400	N16-400 GALV.	N16-400	-	N16-400
1600			190	-	500	-	1000	-	-	600	N16-400 GALV.	N16-400	-	N16-400
1800			190	-	500	400	1800	-	-	600	N16-400 GALV.	N16-400	-	N16-400
2000	200		190	290	500	600	1800	1200	600	600	N16-200 GALV.	N16-400	N16-200	N16-200
2200	400		190	290	500	600	1800	1200	600	600	N16-200 GALV.	N16-400	N16-200	N16-200
2400	600		190	290	500	600	1800	1200	600	600	N16-200 GALV.	N16-400	N16-200	N16-200
2600	800		190	290	500	600	2200	1600	600	600	N16-200 GALV.	N16-400	N16-200	N16-200
2800	1000		190	290	500	800	2200	1600	600	600	N16-200 GALV.	N16-400	N16-200	N16-200
3000	1200		190	290	500	800	2400	1800	600	600	N20-200 GALV.	N16-400	N20-200	N20-200
3200	1400		190	290	500	800	2400	1600	800	600	N20-200 GALV.	N16-400	N20-200	N20-200
3400	1600		190	290	500	800	2400	1600	800	600	N20-200 GALV.	N16-400	N20-200	N20-200
3600	1800		190	290	500	800	2400	1600	800	600	N20-200 GALV.	N16-400	N20-200	N20-200

NOTE: ALL DIMENSIONS IN MILLIMETRES (mm)



BLOCK CORNER DETAIL



BLOCK JUNCTION DETAIL

TENDER
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SHEET SIZE: A1

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PROJECT:
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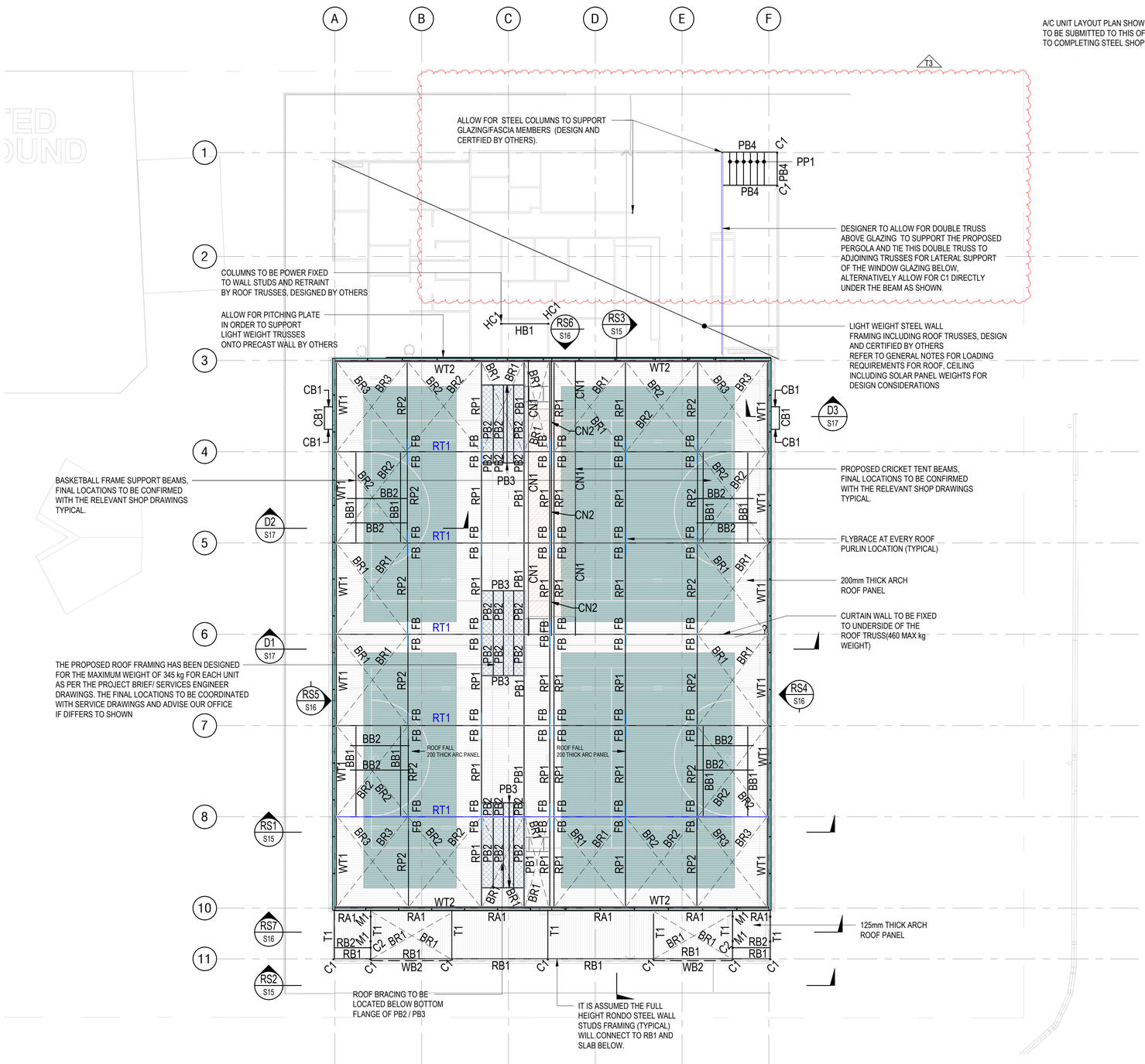
RICHMONDPARK, TUMUT NSW

DISCIPLINE:
STRUCTURAL

DRAWING TITLE:
RETAINING WALL ELEVATIONS AND DETAILS - SHEET 2

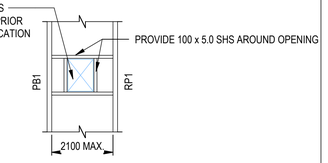
PROJECT No.: 19372
DRAWING No: S10
REV: T3



ROOF FRAMING PLAN

SCALE: 1 : 200

A/C UNIT LAYOUT PLAN SHOWING SIZE AND LOADS TO BE SUBMITTED TO THIS OFFICE FOR REVIEW PRIOR TO COMPLETING STEEL SHOP DRAWINGS / FABRICATION



TYPICAL TRIMMING PURLINS AT MECHANICAL UNITS \ ROOF PENETRATIONS (500kg MAX)

NTS

LEGEND

(U)	DENOTES STRUCTURE UNDER
RT1	DENOTES ROOF TRUSS RT1 REFER TO SCHEDULE FOR SIZES
	DENOTES 180 THICK PRECAST PANEL ELEMENT UNDER / OVER GRADE N40 CONCRETE SL92 MESH EACH FACE WITH N12 PERIMETER BARS EACH FACE ADDITIONAL 4-N16 VERTICAL BARS WHERE ROOF MEMBERS SUPPORT.
	DENOTES AREA OF SOLAR PANEL INSTALLATION ZONE. THE ENTIRE BUILDING HAS BEEN DESIGNED TO SUPPORT SOLAR WEIGHTS AS SHOWN ON THESE PLANS. SOLAR PANELS ARE TO SIT FLAT/PAARALLEL TO ROOF PITCH FINAL LOCATIONS TO BE COORDINATED WITH OTHER SERVICES AND ADVISE OUR OFFICE IF EXTENT AND/OR LOCATIONS OF SOLAR PANELS CHANGE FROM THE SHOWN
	DENOTES PROPOSED CONFORM PLATFORM BY OTHERS THE EXACT WEIGHT OF THE UNITS TO BE PROVIDED TO OUR OFFICE AND ARCHITECT TO LAISON WITH ROOF SHEETING MANUFACTURER TO CHECK IS ADDITIONAL FRAMING REQUIRED BETWEEN PB1's. ALLOW FOR C15019 C PURLINS AT 600 CTS AT THIS STAGE. FINAL DESIGN OF PB1 / ADDITIONAL FRAMING TBC UNTIL WEIGHTS ARE CONFIRM.

ROOF FRAMING SCHEDULE

MARK	SIZE	COMMENTS
BB1	150 UC 30.0	BASKETBALL FRAME SUPPORT BEAM
BB2	150UC23.4	BASKETBALL FRAME SUPPORT BEAM
BR1	16 ROD	FULLY TENSIONED ROOF CROSS BRACING
BR2	20 ROD	FULLY TENSIONED ROOF CROSS BRACING
BR3	24 ROD	FULLY TENSIONED ROOF CROSS BRACING
CB1	150x100x6.0 RHS	CANOPY BEAM
CN1	150UC23.4	CRICKET TENT SUPPORT BEAM
CN2	150UC23.4	CRICKET TENT SUPPORT BEAM
FB	75x75x6EA	
HB1	150UB18.0 OR150(V) x 100 x 6.0 RHS	HOIST SUPPORT BEAM
PB1	250(V)x150x5.0 RHS	
PB2	125x125x5.0SHS	SUPPORT BEAMS AT 900 CTS MAX.
PB3	125x125x5.0SHS	
PB4	100x50x4.0 RHS	
PP1	75x50x3.0RHS	SHOWN AS PER ARCHITECTURAL DRAWINGS
RA1	150x100x10UA	
RB1	200x200x6.0SHS	
RB2	89x89x5.0SHS	
RP1	250(V)x150x5 RHS	ROOF PURLINS
RP2	250(V)x150x5.0 RHS	ROOF PURLINS
T1	89x89x6.0SHS	COMPRESSION STRUT TIE
WB2	2 / 30 x 1.0 GI STRAPS	STRAP BRACING TO WALL MANUFACTURER SPECIFICATIONS
WT1	250(H)x150x5.0 RHS	WALL TIE, FLYBRACE 1/3 POINTS.
WT2	200(H)x100x5.0 RHS	WALL TIE, FLYBRACE MID-SPAN

T3

COLUMN SCHEDULE

MARK	SIZE	COMMENTS
C1	89x89x6.0SHS	
C2	89x89x6.0SHS	
HC1	89x89x6.0SHS	
M1	89x89x6.0SHS	

ROOF TRUSS (RT1) SCHEDULE

MARK	SIZE	COMMENTS
RT1B	200x200x9.0SHS	BOTTOM CHORD
RT1D	75x75x5.0SHS	DIAGONAL
RT1T	200x200x9.0SHS	TOP CHORD

NOTE:

1. ALL EXPOSED STEELWORK TO BE HOT DIPPED GALVANISED.
2. REFER ARCHITECTURAL DRAWINGS FOR ROOF EXPANSION JOINT LOCATIONS.
3. ROOF BRACING TO BE LOCATED AS CENTRAL TO TRUSS TOP CHORD AS POSSIBLE, BUT NOT CLOSER THAN 125mm BELOW TOP RAFTER.

TENDER

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T3	TENDER	E.V.	G.C.	02.07.25

		DATE:
DRAWN:	E.V.	21.02.25
DESIGNED:	G.C.	21.02.25
CHECKED:	G.C.	21.02.25
APPROVED:	J.L.	21.02.25

SHEET SIZE: A1

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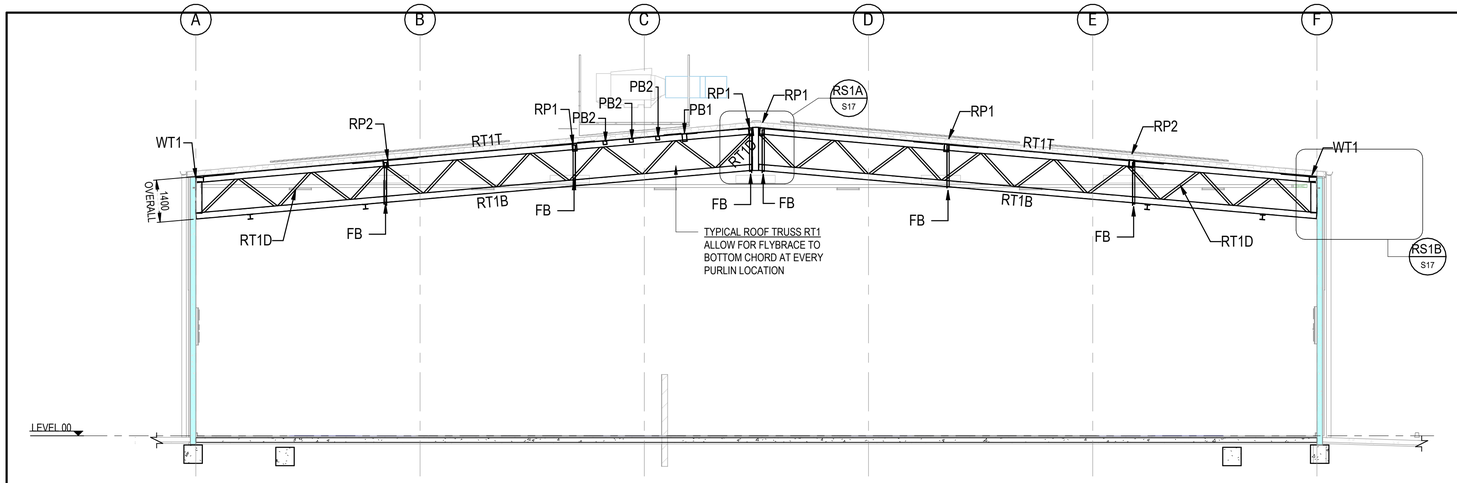
DISCIPLINE: **STRUCTURAL**

NORTH

DRAWING TITLE:
ROOF FRAMING PLAN

PROJECT No.:	DRAWING No:	REV:
19372	S11	T3



SECTION RS1 / S11
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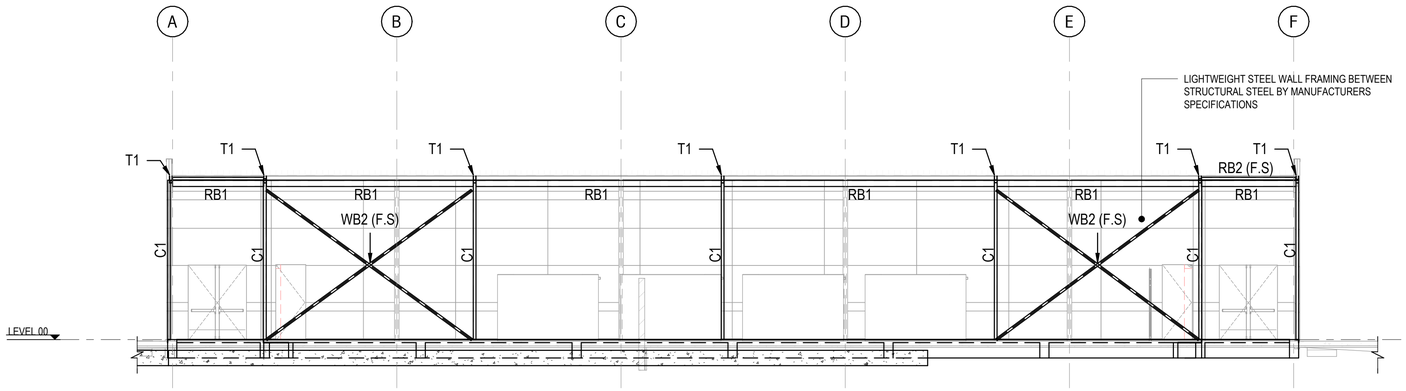

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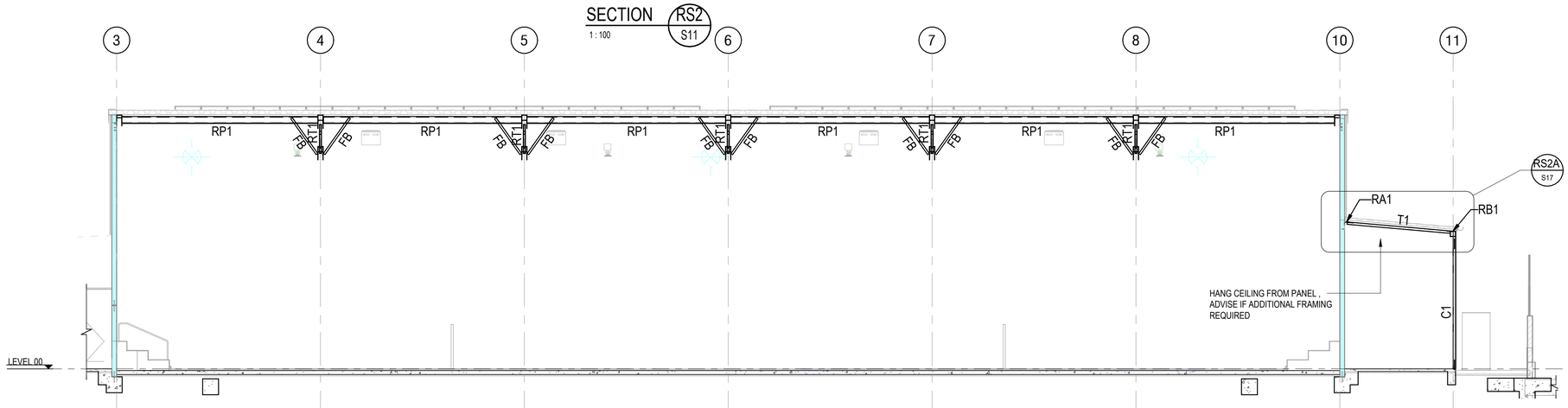

SECTION RS3 / S11
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SHEET SIZE: A1

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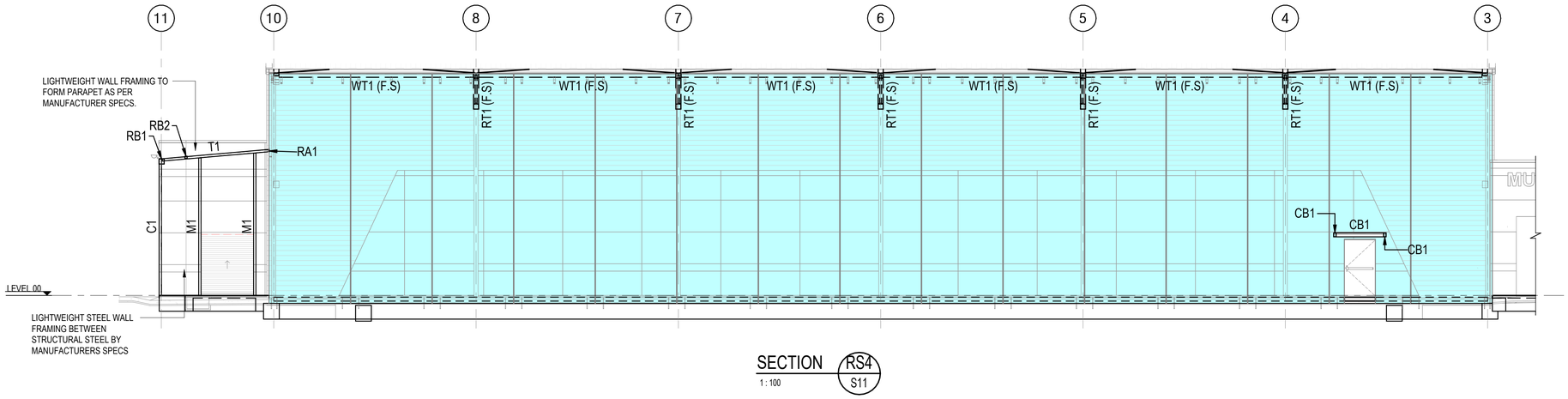
DRAWING TITLE:
SECTIONS - SHEET 1

PROJECT No.: 19372
DRAWING No: S15
REV: T3



SECTION RS4 S11
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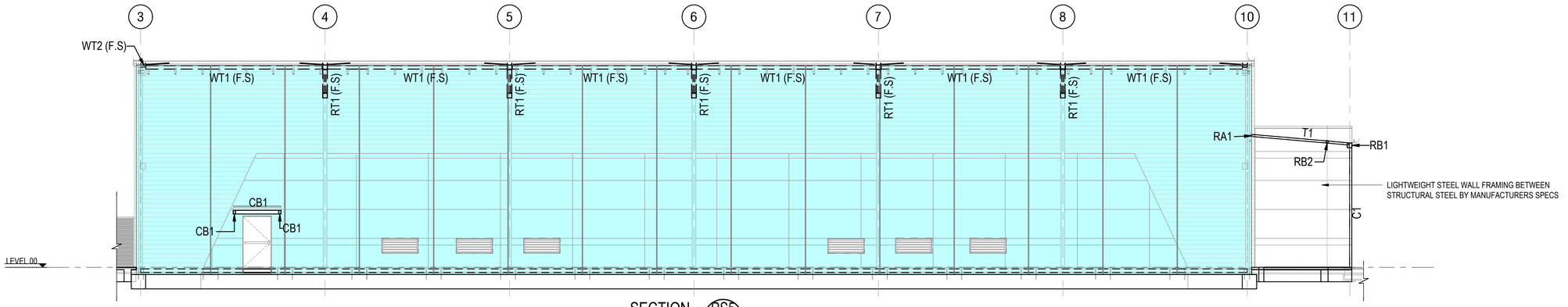

SECTION RS5 S11
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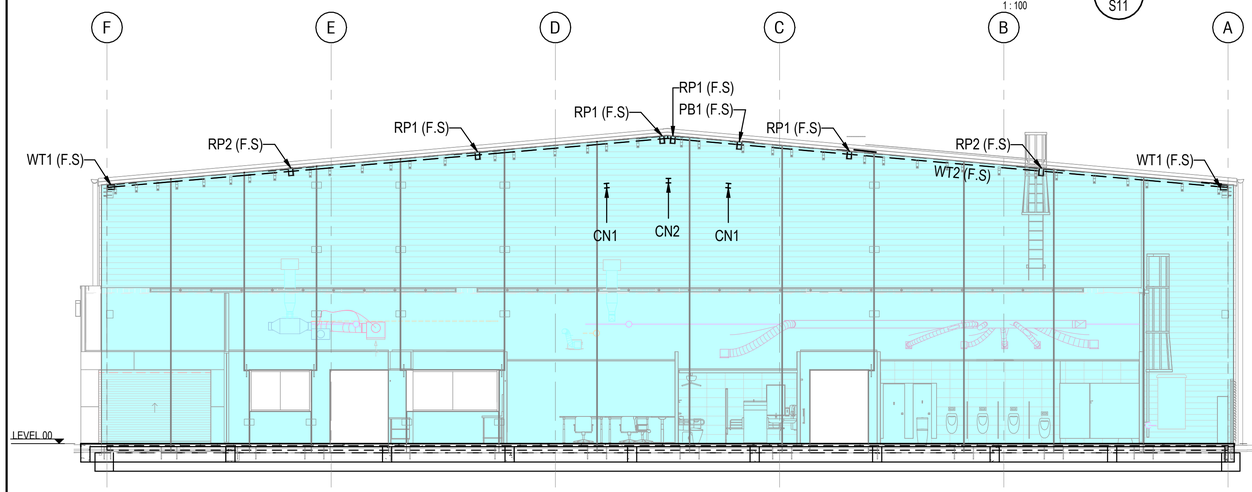

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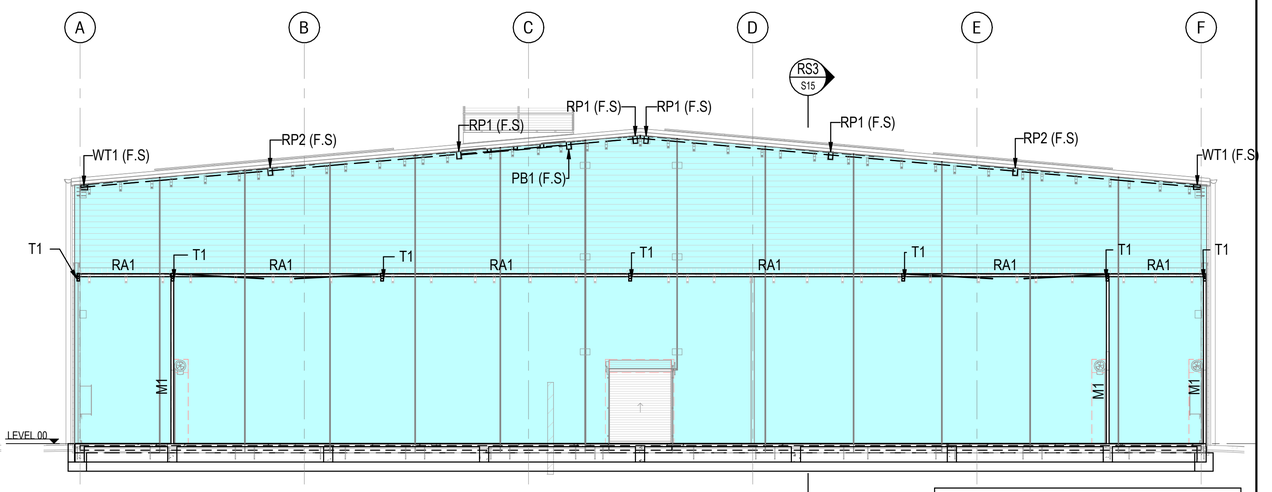

SECTION RS7 S11
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P1	PRELIMINARY	E.V.	G.C.	21.02.25
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SHEET SIZE: A1

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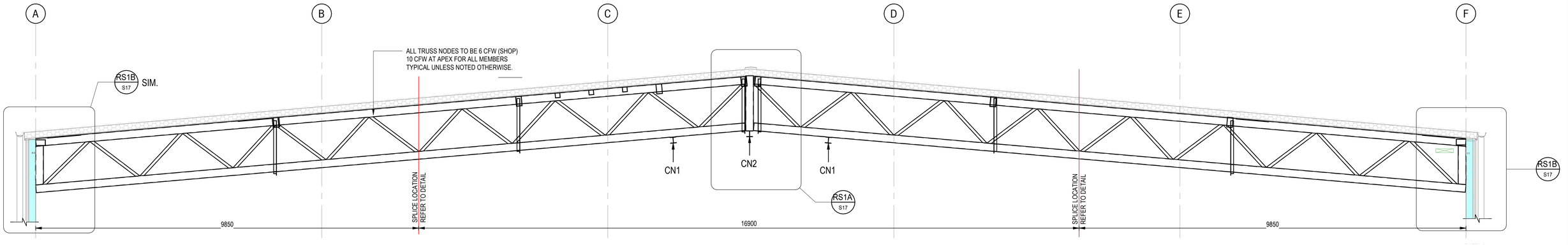
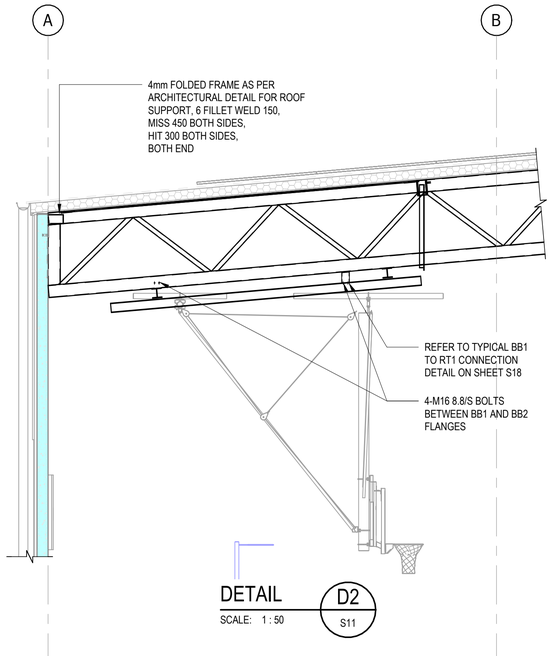
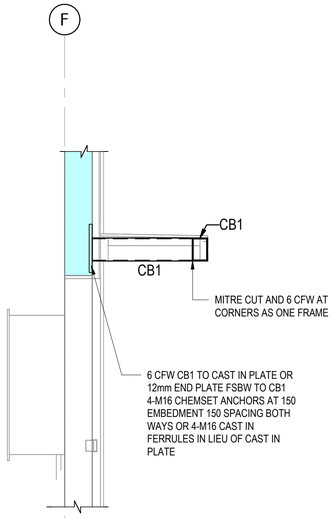
DRAWING TITLE:
SECTIONS - SHEET 2

PROJECT No.:	DRAWING No:	REV:
19372	S16	T3



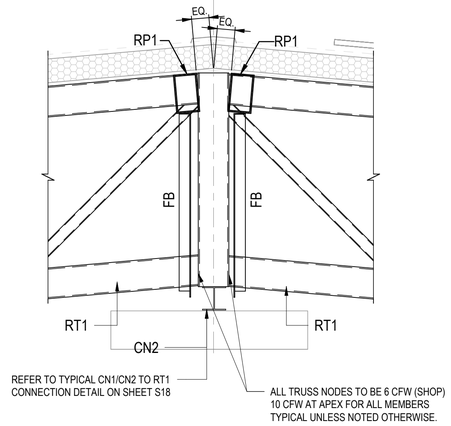


DETAIL D2
SCALE: 1 : 50 S11



SECTION D3
1 : 20 S11

DETAIL D1
SCALE: 1 : 50 S11



SECTION RS1A
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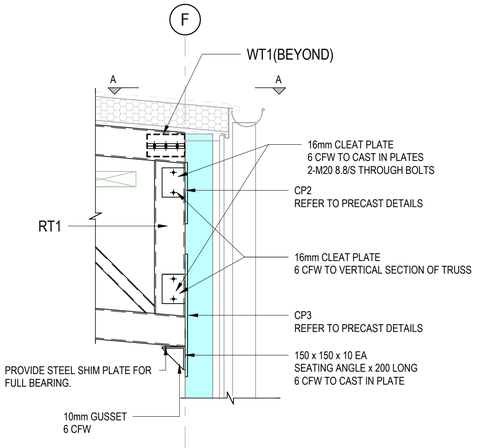

SECTION RS1B
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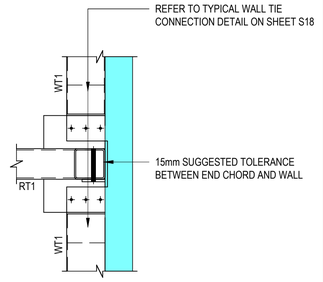
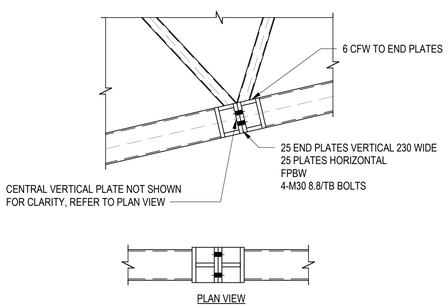


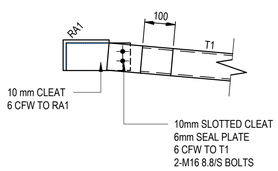
VIEW A-A



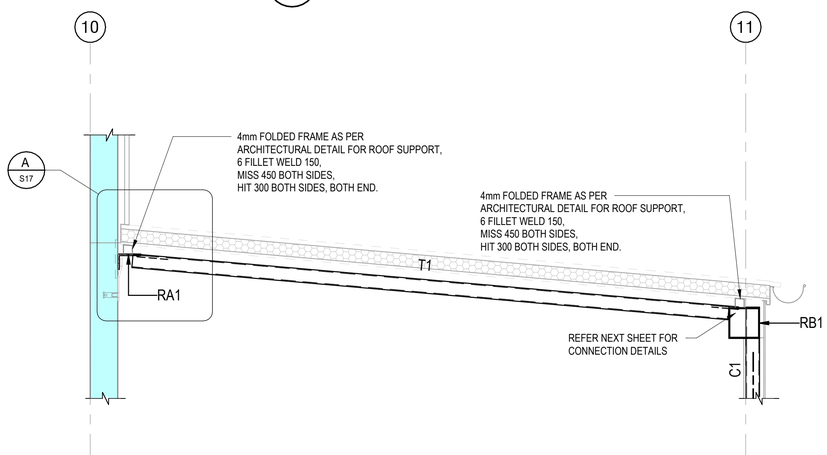
PLAN VIEW

TYPICAL TRUSS SPLICE DETAIL - SP

N.T.S



SECTION A
1 : 10 S17



SECTION RS2A
1 : 20 S15

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DESIGNED:	G.C.	21.02.25
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SHEET SIZE: A1

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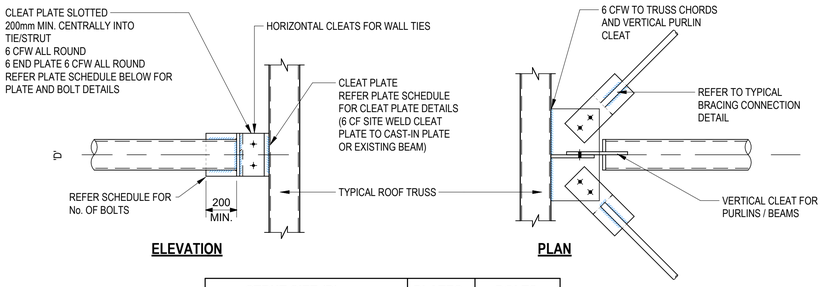
DRAWING TITLE:
FRAMING DETAILS - SHEET 1

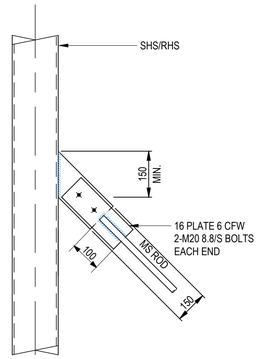
PROJECT No.: 19372
DRAWING No: S17
REV: T3

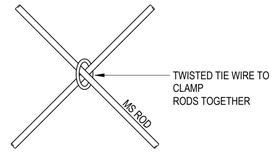


STRUT SIZE (D)		PLATES	BOLTS
75 SHS	75 RHS	10 PLATES	2-M16 8.8/S
90 SHS	100 RHS	10 PLATES	2-M20 8.8/S
100 SHS	125RHS	10 PLATES	2-M20 8.8/S
125 SHS	127 RHS	10 PLATES	2-M20 8.8/S
150 SHS	150 RHS	16 PLATES	3-M20 8.8/S
200/250 SHS	200/250 RHS	16 PLATES	3-M24 8.8/S

TYPICAL WALL TIES / STRUT DETAILS U.N.O.

SCALE: 1 : 20

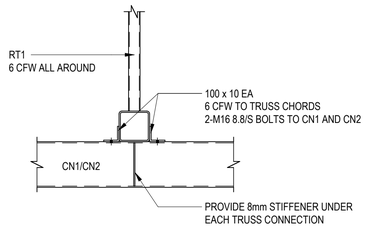




ROD BRACING
(WALL & ROOF BRACING)

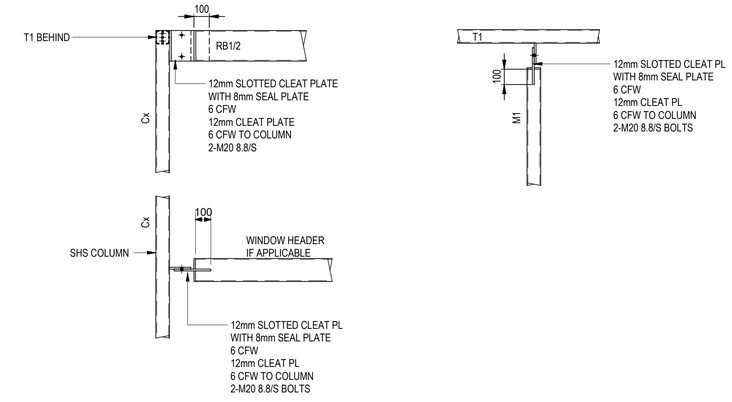
TYPICAL BRACING DETAILS

SCALE: 1 : 20



TYPICAL CN1/CN2 TO RT1 CONNECTION DETAIL

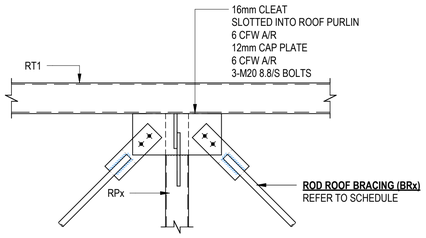
N.T.S

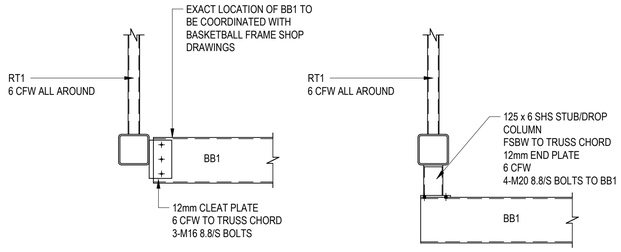


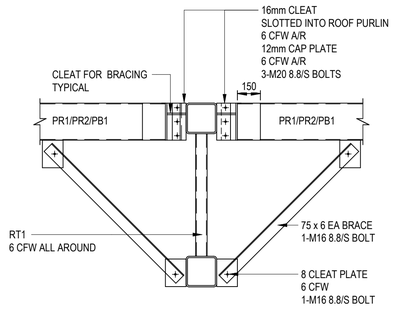
TYPICAL RHS / SHS / CHS HEADER / TIE TO COLUMN DETAIL

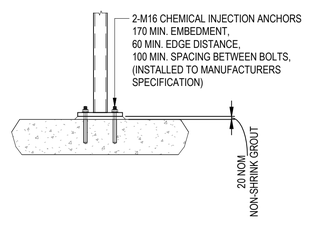
N.T.S

STOREROOM FRAMING ONLY

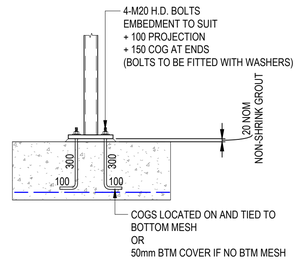








ELEVATION



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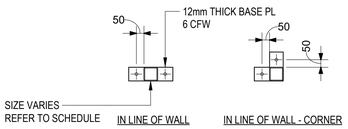
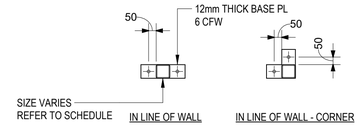


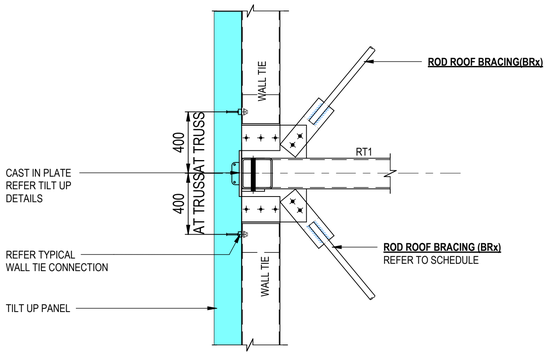
PLAN



PLAN

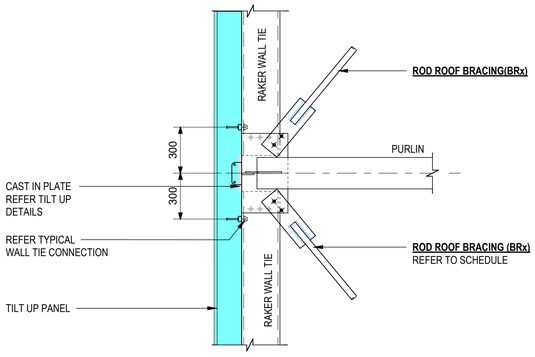
TYPICAL ANGLE ROOF BRACING AND TIE TO TRUSS DETAIL

N.T.S



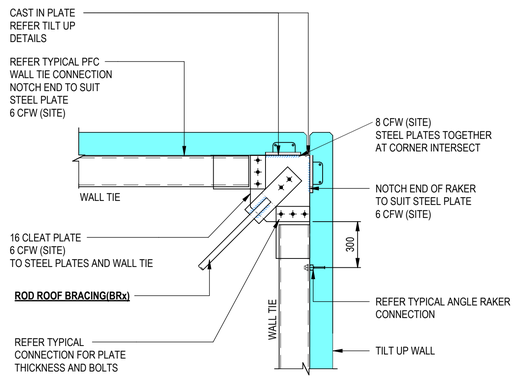
TYPICAL BB1 TO RT1 CONNECTION DETAIL

N.T.S



TYPICAL (FLYBRACE (FB1) DETAIL

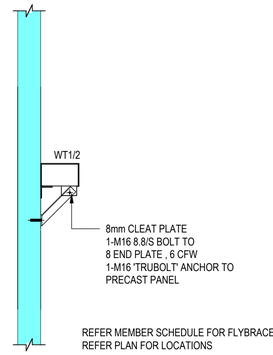
N.T.S



PLAN

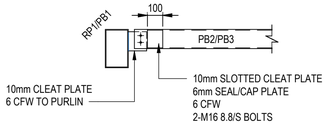
TYPICAL COLUMN BASE PLATE DETAIL - M1

N.T.S



TYPICAL COLUMN BASE PLATE DETAIL - C1 / C2

N.T.S



PB2/PB3 TO PR1/PB1 DETAIL

NTS

TYPICAL TRUSS \ WALL TIE \ BRACING TO TILT UP PANEL DETAIL

NTS

TYPICAL PURLIN \ RAKER \ BRACING TO TILT UP PANEL DETAIL

NTS

TYPICAL BRACED CORNER CONNECTION

NTS

TYPICAL FLY BRACE DETAIL AT WALL TIE LOCATION

NTS

TENDER

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SHEET SIZE: A1

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DISCIPLINE:
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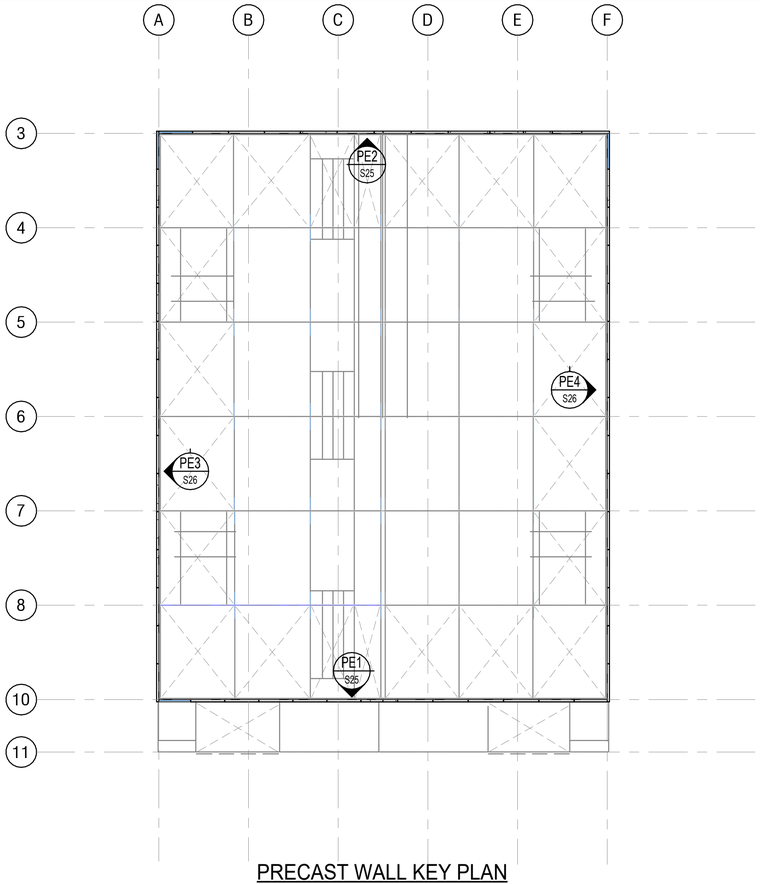
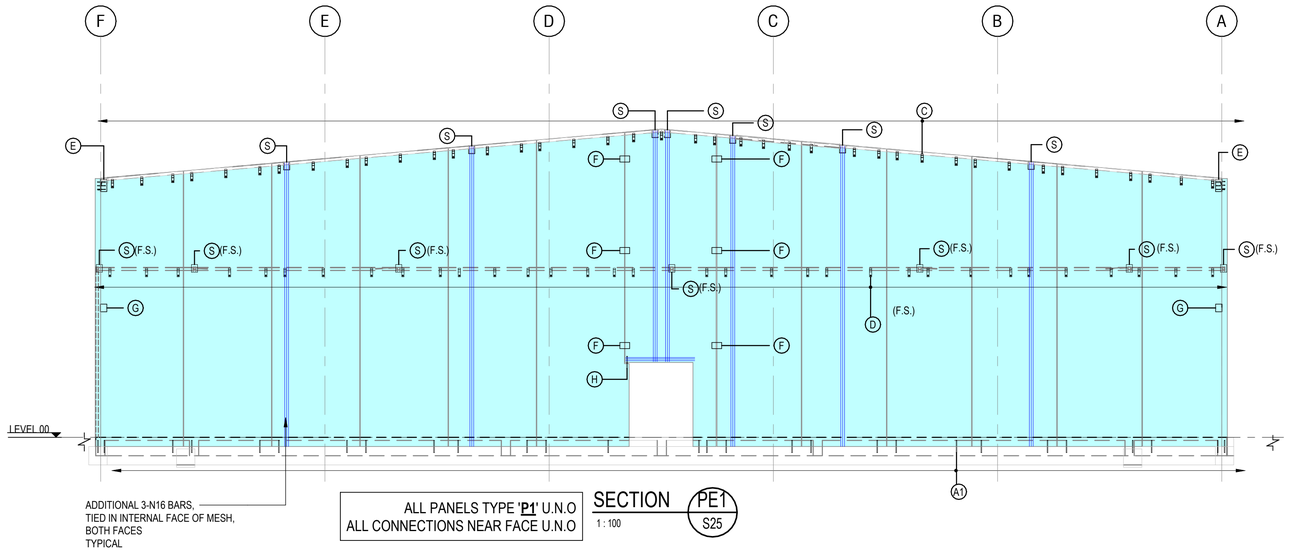
DRAWING TITLE:
FRAMING DETAILS - SHEET 2

PROJECT No.: 19372
DRAWING No: S18
REV: T3



PRECAST WALL KEY PLAN

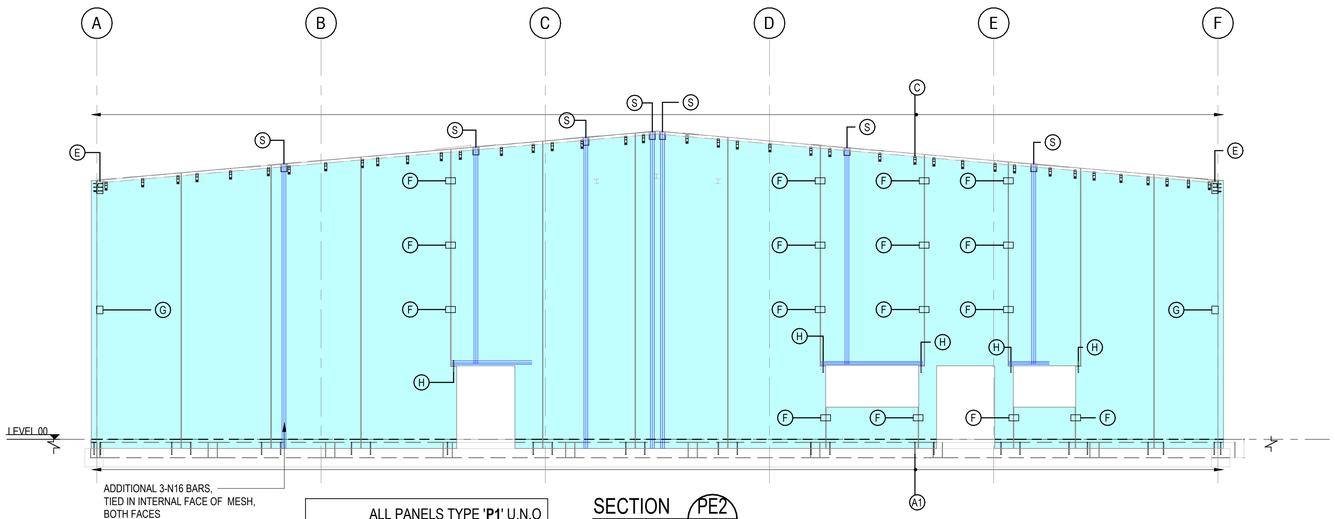
SCALE:1 : 250



ALL PANELS TYPE '**P1**' U.N.O
ALL CONNECTIONS NEAR FACE U.N.O

SECTION PE1 / S25

1 : 100



ALL PANELS TYPE '**P1**' U.N.O
ALL CONNECTIONS NEAR FACE U.N.O

SECTION PE2 / S25

1 : 100

NOTES:

1. CONCRETE F'c TO BE: 25 (MPa) AT LIFTING
   40 (MPa) AT 28 DAYS
2. MAXIMUM LOAD PER LIFTING INSERT NOT TO EXCEED 5 TONNES (DESIGNED BY OTHERS)
3. LIFTING DESIGN BY OTHERS
4. ALL BARS THAT ARE TO BE WELDED TO CAST-IN PLATES, WHICH MAY PROTRUDE BEYOND CONCRETE PANEL EDGE ARE TO BE BENT INTO PANEL AND NOT CUT.
5. ALL DOWELL POCKETS TO BE GROUTED AFTER INSTALLATION OF DOWELLS AND AFTER PANELS HAVE BEEN ERECTED.
6. WHERE PANELS SIT ON FOOTINGS OR SLAB PROVIDE COMPRESSED FC SHIMS OR SWIFTSHIMS UNDER ALL PANELS. GROUT BETWEEN PANELS AND SLAB OR FOOTING WITH NON-SHRINK GROUT FOR FULL LENGTH OF PANELS.
7. PANELS ARE DESIGNED FOR IN-SERVICE CONDITION ONLY. PANEL CONTRACTOR TO PROVIDE ADDITIONAL REINFORCEMENT AND 'STRONGBACKS' AT ALL LEG PANELS FOR ERECTION PURPOSES.
8. FINISHED SURFACE LEVELS (F.S.L.) SHOWN ON ELEVATIONS ARE INDICATIVE ONLY. REFER CIVIL DRGS. FOR ALL EXTERNAL LEVELS.
9. TOP OF FOOTINGS TO BE AT THE MINIMUM DEPTHS BELOW FLOOR LEVEL AS INDICATED (TYPICALLY 300mm) AS WELL AS BELOW EXTERNAL PAVEMENT LEVELS.
   REFER TO CIVIL DRAWINGS FOR ALL LEVELS EXTERNAL TO THE WAREHOUSE AND CO-ORDINATE FOOTING HEIGHTS AS REQUIRED.
10. REFER ARCHITECTURAL DRAWINGS FOR REQUIRED PANEL JOINT SETOUT (MAX 3.3m CTS)
11. REFER PRECAST ELEVATIONS FOR ADDITIONAL LOCALISED REINFORCEMENT

TENDER

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T1	TENDER	E.V.	G.C.	30.04.25
T2	TENDER	E.V.	G.C.	02.06.25
T3	TENDER	E.V.	G.C.	02.07.25

		DATE:
DRAWN:	E.V.	21.02.25
DESIGNED:	G.C.	21.02.25
CHECKED:	G.C.	21.02.25
APPROVED:	J.L.	21.02.25

SHEET SIZE: A1

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PROJECT:
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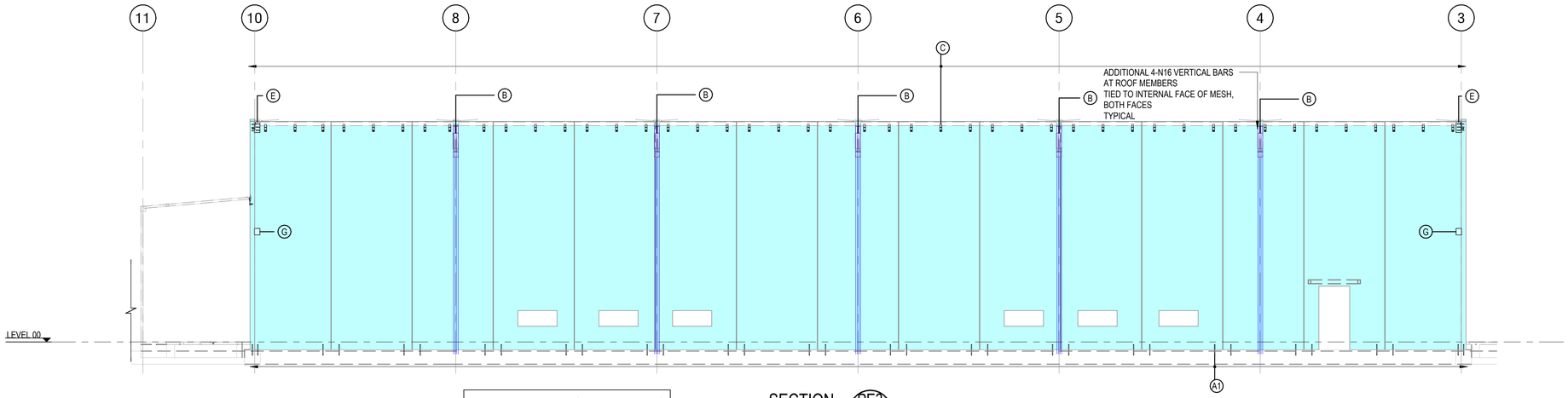
RICHMONDPARK, TUMUT NSW

DISCIPLINE: **STRUCTURAL**

NORTH

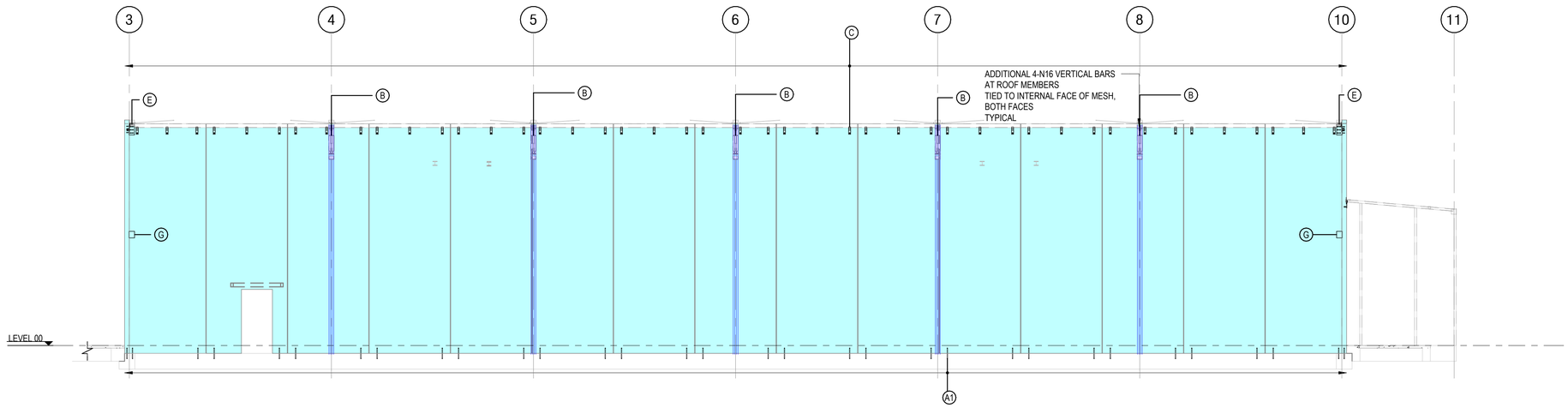
DRAWING TITLE:
PRECAST ELEVATIONS - SHEET 1

PROJECT No.:	DRAWING No:	REV:
19372	S25	T3



ALL PANELS TYPE '**P1**' U.N.O
ALL CONNECTIONS NEAR FACE U.N.O

SECTION PE3 / S25
1 : 100



ALL PANELS TYPE '**P1**' U.N.O
ALL CONNECTIONS NEAR FACE U.N.O

SECTION PE4 / S25
1 : 100

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SHEET SIZE: A1

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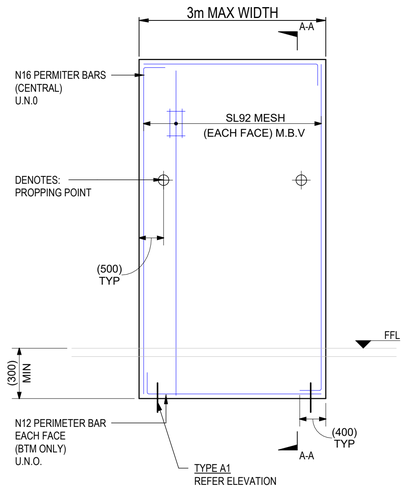
RICHMONDPARK, TUMUT NSW

DISCIPLINE:
STRUCTURAL

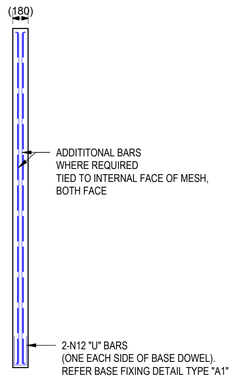
DRAWING TITLE:
PRECAST ELEVATIONS - SHEET 2

PROJECT No.: 19372
DRAWING No: S26
REV: T3



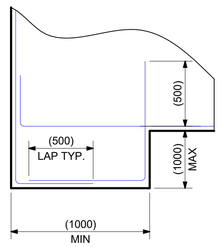
TYPICAL PRECAST PANEL DETAIL - P1

N.T.S



SECTION A-A

N.T.S



TYPICAL STEP IN PANEL DETAIL

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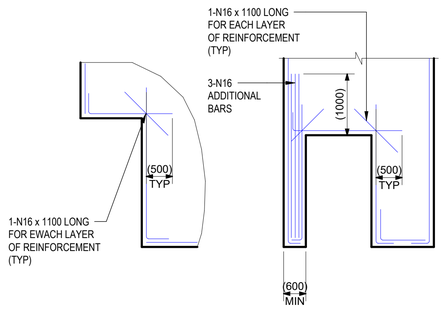
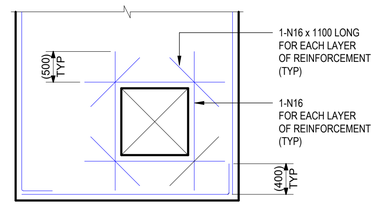


TYPICALDOOR TRIMMER DETAIL



TYPICAL WALL PENETRATION DETAIL

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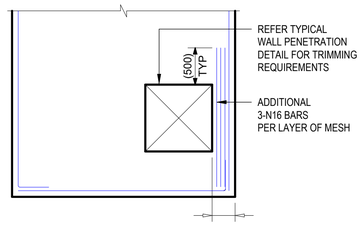
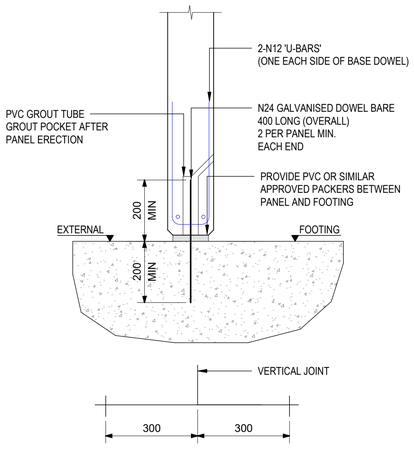


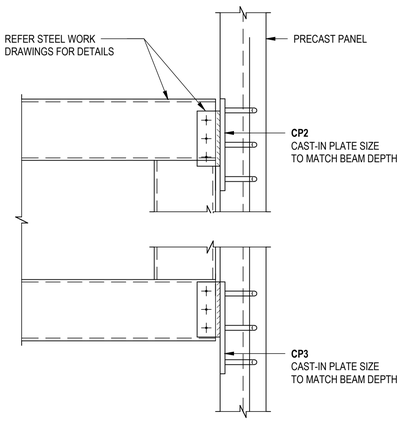
TYPICAL WALL OPENING DETAIL

N.T.S



TYPICAL FIXING DETAIL (A1)

N.T.S



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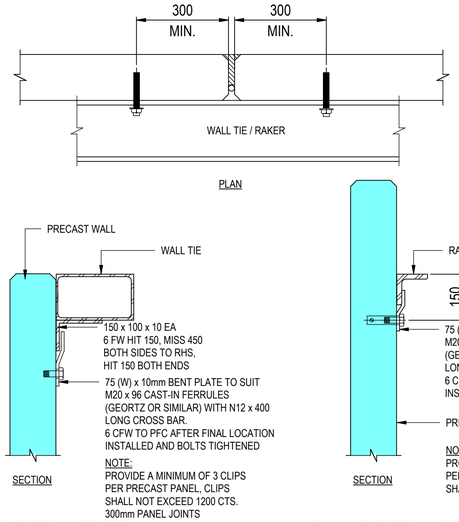

FIXING DETAIL TYPE 'C'

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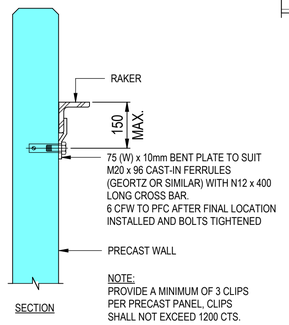

FIXING DETAIL TYPE 'D'

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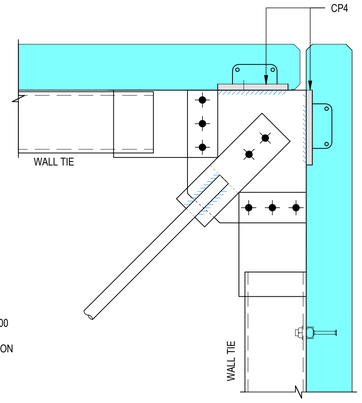
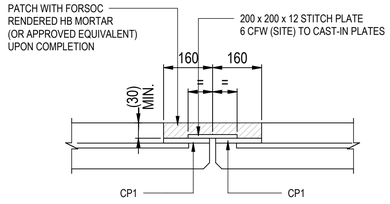


FIXING DETAIL TYPE 'E'(PLAN VIEW)

N.T.S



TYPICAL FIXING DETAIL (F)

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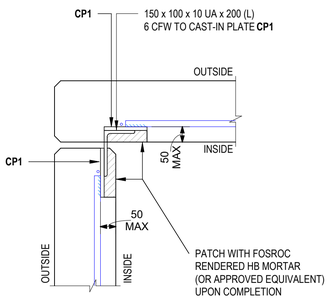

TYPICAL FIXING DETAIL (G)

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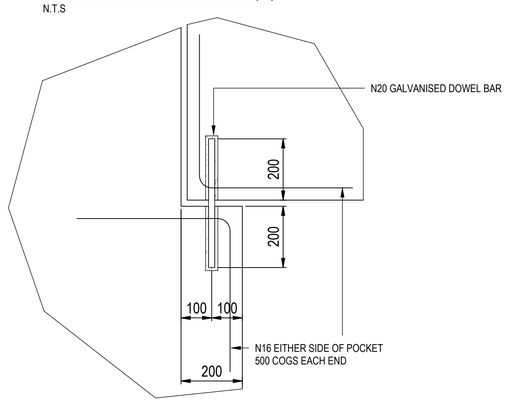

TYPICAL FIXING DETAIL (H)

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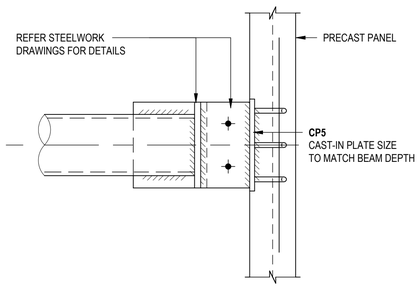

TYPICAL FIXING DETAILS (S)

N.T.S

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SHEET SIZE: A1

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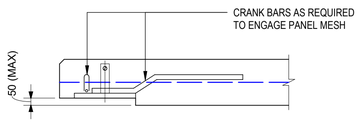
DISCIPLINE:
STRUCTURAL

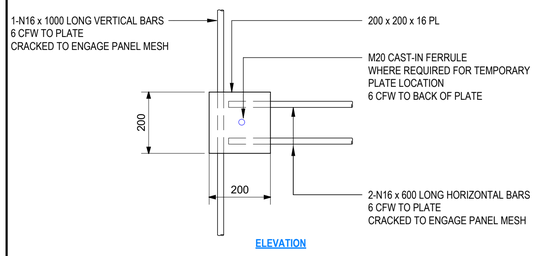
DRAWING TITLE:
PRECAST DETAILS - SHEET 1

PROJECT No.:	DRAWING No:	REV:
19372	S30	T3

CAST-IN PLATE SCHEDULE				
MARK	PLATE DEPTH 'D'	MATERIAL 'M1 x M2'	TOTAL 'U-BARS'	'U-BAR' LENGTH
CP2	450	300 x 16 FLAT	4-N16 (F.S.B.W)	140
CP3	800	300 x 16 FLAT	4-N16 (F.S.B.W)	140
CP5	250	150 x 16 FLAT	2-N16 (F.S.B.W)	140



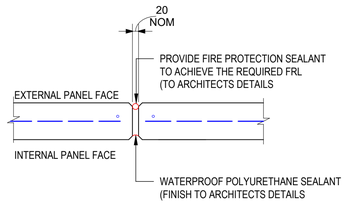
PLAN



ELEVATION

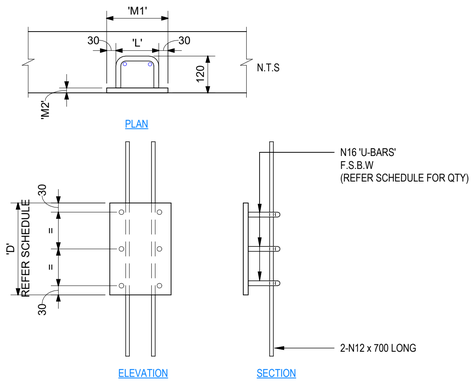
TYPICAL CAST-IN PLATE DETAIL (CP1)

N.T.S



TYPICAL PANEL VERTICAL JOINT

N.T.S



TYPICAL CAST-IN PLATE DETAIL (CPX)

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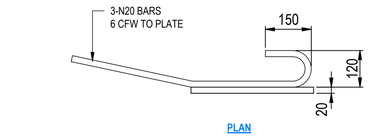
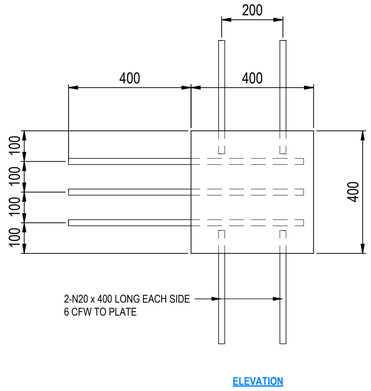


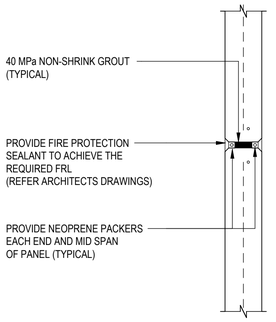
PLAN



ELEVATION

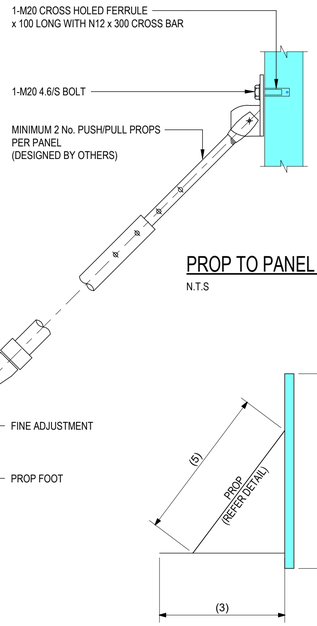
TYPICAL CAST-IN PLATE DETAIL (CP4)

N.T.S



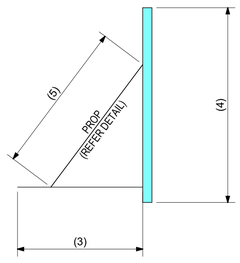
TYPICAL HORIZONTAL JOINT DETAIL

N.T.S



PROP TO PANEL DETAIL

N.T.S



PROP BASE DETAIL

N.T.S

TYPICAL PROP ANGLE DETAIL

N.T.S

NOTE:

ANY ALTERNATIVE PROP BASE CONNECTION TO FOOTINGS ARE TO BE SUBMITTED TO AND APPROVED BY THIS OFFICE PRIOR TO COMMENCING PANEL ERECTION

IMPORTANT NOTE:

PRIOR TO REMOVAL OF PANEL PROPS
ALL ROOF STEELWORK MUST BE FULLY INSTALLED AND ALL WELDED CONNECTIONS COMPLETED TO THE SATISFACTION OF THE ENGINEER

TENDER

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DRAWING TITLE: PRECAST DETAILS - SHEET 2

PROJECT No.: 19372 | DRAWING No: S31 | REV: T3