GENERAL NOTES

DRAWINGS

G1 ALL WORK AND MATERIALS TO CONFORM TO THE DRAWINGS, THE SPECIFICATION, AND CURRENT BUILDING CODE OF AUSTRALIA AND AUSTRALIAN STANDARDS.

G2 THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS, THE SPECIFICATION AND ALL OTHER WRITTEN INSTRUCTIONS ISSUED DURING THE CONSTRUCTION.

G3 THE CONTRACTOR SHALL CONFIRM ALL RELEVANT DIMENSIONS BEFORE COMMENCING CONSTRUCTION AND/OR FABRICATION. DO NOT SCALE STRUCTURAL DRAWINGS.

G4 ALL DISCREPANCIES SHALL BE REFERRED TO THE ARCHITECT/ENGINEER FOR RESOLUTION BEFORE PROCEEDING WITH THE WORKS.

G5 ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE. ALL LEVELS ARE EXPRESSED IN METRES.

G6 THE STRUCTURAL DRAWINGS DO NOT SHOW ALL DETAILS OF FIXTURES, INSERTS, SLEEVES, OPENINGS, ETC. REQUIRED BY THE VARIOUS TRADES. ALL SUCH DETAILS, INCLUDING OPENINGS FOR CONSTRUCTION PURPOSES, MUST BE APPROVED BY THE ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.

DESIGN

G7 CONCRETE MEMBER SIZES INDICATED ON PLANS ARE MINIMUM REQUIRED STRUCTURAL SIZES ONLY. THE BUILDER IS RESPONSIBLE FOR ENSURING THAT THESE DRAWINGS ARE READ IN CONJUNCTION WITH ALL OTHER DOCUMENTATION AND WITH REFERENCE TO EXISTING ON-SITE CONDITIONS (E.G. TO DETERMINE THE EXTENT OF DEEPENED EDGE BEAMS OR AMOUNT OF BLINDING CONCRETE REQUIRED).

G8 STRUCTURAL TIMBER AND STEEL MEMBER SIZES MAY BE INCREASED AT THE DISCRETION OF THE BUILDER PROVIDED THAT THE GRADE OF STRUCTURAL MEMBER REMAINS THE SAME AND THAT THE CHANGE DOES NOT RESULT IN A COST VARIATION.

G9 THE APPROVAL OF ANY SUBSTITUTION SHALL BE SOUGHT FROM THE ENGINEER. APPROVAL BY THE ENGINEER OF AN ALTERNATIVE IS NOT AN AUTHORISATION FOR A COST VARIATION. ANY CLAIM FOR A COST VARIATION MUST BE SUBMITTED TO THE RELEVANT PARTIES BEFORE THE WORK COMMENCES.

G10 ALL PROPRIETARY PRODUCTS ARE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. ALTERNATIVE PRODUCTS MAY ONLY BE USED WITH THE APPROVAL OF THE ENGINEER, FOLLOWING SUBMISSION OF EVIDENCE OF EQUIVALENCE.

CONSTRUCTION

G11 THE CONTRACTOR SHALL MAINTAIN THE WORKS IN A SAFE, STABLE CONDITION AND ENSURE THAT NO PART IS OVER-STRESSED DURING CONSTRUCTION.

G12 ALL PROPS AND FORMWORK TO A BEAM OR SLAB SHALL BE REMOVED BEFORE CONSTRUCTING MASONRY WORKS.

G13 ALL NON-LOAD BEARING WALLS SHALL BE CONSTRUCTED 20mm CLEAR OF SLAB AND BEAM SOFFITS UNLESS NOTED OTHERWISE.

G14 NO HOLES, RECESSES OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE WITHOUT THE ENGINEER'S WRITTEN APPROVAL.

G15 THE ENGINEER ACCEPTS NO RESPONSIBILITY FOR THE WORKS CARRIED OUT ON SITE UNLESS INSPECTED AND APPROVED IN WRITING BY THE ENGINEER.

G16 BEFORE STARTING WORK ON SITE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE EXISTING UNDERGROUND SERVICES WILL NOT AFFECT THE WORKS. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR ANY SITE DISCREPANCIES TO THE DRAWINGS. EXISTING LEVELS ARE TO BE VERIFIED ON SITE.

G17 ALL REQUIRED TESTS AND/OR SITE INSPECTIONS ARE TO BE UNDERTAKEN AT THE CONTRACTOR'S EXPENSE.

G18 BUILD, FABRICATE AND PRODUCE ONLY FROM DRAWINGS "ISSUED FOR CONSTRUCTION".

LOADING NOTES

DESIGN LOADS

THE STRUCTURAL WORK ON THESE DRAWINGS HAVE BEEN DESIGNED FOR THE FOLLOWING LIVE LOAD:

NON TRAFFICABLE ROOF	0.25KPa
LIVING AREA	2.00KPa
BALCONIES (NO COMMUNITY ACCESS)	2.00KPa
COMMON AREA/CORRIDOR	4.00KPa

STRUCTURAL ELEMENTS HAVE BEEN DESIGNED TO THE FOLLOWING S.A.A. CODES:

AS 1170.1	DEAD AND LIVE LOADS
AS 1170.2	WIND LOADS
AS 1684	TIMBER FRAMING CODE
AS 1720	NATIONAL TIMBER ENGINEERING CODE
AS 2159	PILING CODE
AS 2870	RESIDENTIAL SLABS AND FOOTINGS
AS 3600	CONCRETE STRUCTURES
AS 3700	MASONRY CODE
AS 4100	STEEL STRUCTURES

FOUNDATION NOTES

GEOTECHNICAL REPORT

F1 PRIOR TO COMMENCING WORK, THE CONTRACTOR IS TO FAMILIARISE THEMSELVES WITH THE CONTENT OF THE SOIL REPORT. ALL RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL REPORT ARE TO BE IMPLEMENTED.

F2 SOIL REPORT DETAILS ARE AS FOLLOWS:
PREPARED BY: SOIL TEST EXPRESS PTY. LTD.
REPORT NO.: 6345
DATED: 08.03.2021

F3 FOOTING DEPTHS SPECIFIED ON THE DRAWINGS ARE MINIMUM DIMENSIONS ONLY. IF NOT SHOWN, REFER TO THE SOIL REPORT FOR THE REQUIRED FOUNDING DEPTH.

F4 THE SITE HAS BEEN CLASSIFIED AS CLASS 'P' IN ACCORDANCE WITH AS2870.

F5 REFER TO THE GEOTECHNICAL REPORT FOR MINIMUM SAFE BEARING CAPACITIES OF THE FOUNDING MATERIAL.

F6 THE CONTRACTOR IS TO ALLOW FOR THE ENGAGEMENT OF THE GEOTECHNICAL ENGINEER TO VERIFY THE SAFE BEARING CAPACITY OF THE FOUNDING MATERIAL PRIOR TO PLACEMENT OF CONCRETE.

EXCAVATION

F7 ALL WORK AND MATERIALS TO COMPLY WITH AS2870.

F8 UNLESS NOTED OTHERWISE, WHEREVER A NEW FOOTING IS LOCATED CLOSE TO AN EXCAVATION, BATTER, EXISTING FOOTING, EXISTING SERVICE LINE OR PROPOSED SERVICE LINE, WHICH IS DEEPER THAN THE NEW FOOTING, THE EXCAVATION FOR THE NEW FOOTING IS TO BE DEEPENED AND BACKFILLLED WITH BLINDING CONCRETE.

F9 OVER-EXCAVATION WITHIN THE INFLUENCE ZONE OF ANY FOOTING AND/OR RETAINING WALL IS NOT ALLOWED WITHOUT THE PRIOR APPROVAL OF THE EXCAVATION SEQUENCE BY THE ENGINEER.

COMPACTED FILL

F10 ALL ORGANIC MATERIAL SHALL BE REMOVED FROM THE AREA BENEATH ANY FOUNDATIONS. THE GROUND SHALL BE PROOF ROLLED WITH A 3-TON ROLLER PRIOR TO PLACING COMPACTED FILL. ANY SOFT SPOTS SHALL BE DUG OUT AND REPLACED WITH COMPACTED CRUSHED ROCK OR 15MPa BLINDING CONCRETE IN ACCORDANCE WITH AS2870 AND AS3798.

F11 UNLESS OTHERWISE SPECIFIED IN THE SOIL REPORT, FILLING USED IN THE CONSTRUCTION OF THE SLAB EXCEPT WHERE THE SLAB IS SUSPENDED SHALL CONSIST OF CONTROLLED FILL OR ROLLED FILL.

F12 CONTROLLED FILL IS MATERIAL THAT HAS BEEN PLACED AND COMPACTED IN LAYERS BY COMPACTION EQUIPMENT WITHIN DEFINED DENSITY REQUIREMENT. CONTROLLED FILL SHALL BE PLACED IN ACCORDANCE WITH AS3798.

F13 ROLLED FILL CONSISTS OF MATERIAL COMPACTED IN LAYERS BY REPEATED ROLLING WITH AN EXCAVATOR. ROLLED FILL SHALL NOT EXCEED 0.6m COMPACTED IN LAYERS NOT MORE THAN 0.3m THICK FOR SAND OR 0.3m COMPACTED IN LAYERS NOT MORE THAN 0.15m THICK FOR OTHER MATERIAL.

F14 THE EXTENT OF CONTROLLED FILL AND ROLLED FILL REQUIRED SHALL BE DETERMINED ON SITE IN ACCORDANCE WITH SECTION 6 OF AS2870 AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

TIMBER

CONSTRUCTION

T1 ALL TIMBER DESIGN, CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH AS1720 AND AS1684. ALL TIMBER FRAMING SHALL BE CONSTRUCTED IN GENERAL ACCORDANCE WITH AS1684.

T2 STRUCTURAL TIMBER AS SHOWN ON DRAWINGS SHALL HAVE A MINIMUIM STRESS GRADE AS SHOWN BELOW UNLESS NOTED OTHERWISE:

F17	KILN DRIED HARDWOOD
F8	UNSEASONED HARDWOOD
F5	SEASONED RADIATA PINE
LVL (F17)	LAMINATED VENEER LUMBER
MGP10	MACHINE GRADE RADIATA PINE
GL17	GLUED LAMINATED TIMBER

T3 TIMBER SIZES NOT CALLED UP SHALL BE IN ACCORDANCE WITH AS1684 OR THE ARCHITECT'S DRAWINGS. ANY DISCREPANCY SHALL BE REFERRED TO THE ARCHITECT.

T4 ALL BOLTED CONNECTIONS SHALL USE WASHERS UNDER ALL BOLT HEADS AND NUTS. SIZES OF WASHERS TO BE IN ACCORDANCE WITH AS1720 AND AS FOLLOWS:

25x25x1.6mm	FOR BOLTS UP TO M6
50x50x3mm	FOR BOLTS UP TO M12
65x65x5mm	FOR BOLTS UP TO M20
75x75x6mm	FOR BOLTS GREATER THAN M20

MINIMUM TIMBER EDGE DISTANCE TO BE 5 x BOLT DIAMETRE. ALL EXTERNAL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIP GALVANISED. NO KNOTS OR DEFECTS SHALL OCCUR WITHIN 150mm OF BOLT GROUP OR CONNECTORS. WHERE POSSIBLE, RE-TIGHTEN BOLTS AFTER 6 WEEKS AND AGAIN AT 12 MONTHS.

T5 MAKE GOOD PRESERVATIVE TREATMENT WHERE CHECKOUTS, HOLES AND CUTS EXPOSE UNTREATED TIMBER.

T7 GLUE-LAMINATED BEAMS SHALL BE MANUFACTURED IN ACCORDANCE WITH AS1328. CAMBER SHALL BE AS NOTED ON THE DRAWINGS OR AS SPECIFIED, AND INSTALLED WITH THE NATURAL HOG UP. BEAMS FOR EXTERNAL USE SHALL BE FABRICATED USING RESORCINOL OR PHENOLIC ADHESIVE.

T8 ALL PROPRIETARY FIXINGS SHALL BE INSTALLED TO DEVELOP THEIR MAXIMUM CAPACITY AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. CONNECTORS USED IN EXPOSED OR AGGRESSIVE ENVIRONMENTS ARE TO BE TREATED WITH AN APPROVED PROTECTIVE COATING.

T9 ALL TIMBER FRAMEWORK SHALL BE ADEQUATELY TIED TO RESIST UPLIFT AND RACKING FORCES IN ACCORDANCE WITH AS1684. ALL MEMBERS BETWEEN THE ROOF AND THE FOUNDATIONS ARE TO BE ADEQUATELY CONNECTED TO EACH OTHER.

T10 METAL FIXINGS SHALL BE COMPATIBLE WITH TIMBER GLUES AND PRESERVATIVE TREATMENTS.

T11 NO PENETRATIONS OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN TIMBER MEMBERS WITHOUT PRIOR APPROVAL OF THE ENGINEER.

T12 NOTCHING OF BEAMS IS NOT PERMITTED UNLESS NOTED OTHERWISE.

T13 PLYWOOD WALL BRACING AND TENSIONED HOOP-IRON CROSS BRACING TO COMPLY WITH AS1684. STUDS ARE NOT TO BE NOTCHED FOR BRACING.

T14 ROOF BRACING SHALL COMPLY WITH AS1684.

T15 RAFTERS OR FLOOR JOISTS BUTTING INTO SIDES OF TIMBER BEAMS ARE TO BE CONNECTED USING 'PRYDA' FRAMING BRACKETS OR 'PRYDA' MULTIGRIPS TO EACH SIDE OF THE MEMBER.

T16 WHERE ROOF LIGHTS OR OTHER INSTALLATIONS PENETRATE THE ROOF FRAMING, TRIM EACH SIDE OF THE OPENING WITH DOUBLE RAFTERS TO MAINTAIN AVERAGE RAFTER SPACING. USE TRIMMER RAFTERS TO ADJACENT SIDES TO TRANSFER LOADS TO CONTINUOUS RAFTERS.

T17 WHERE ISOLATED INTERNAL POSTS ARE SUPPORTED ON A SLAB-ON-GROUND, INVERTED STEEL 'T' BRACKETS ARE TO BE FIXED TO THE SLAB WITH EXPANSION ANCRORS, AND THE POST FIXED TO THE BRACKET WITH 2-M10 COACH BOLTS. PROVIDE FLAT STEEL WASHERS UNDER NUTS.

T18 ALL TIMBER BEAMS AND/OR LINTELS ARE TO BE SUPPORTED AT THEIR ENDS BY 2/90x45 SEASONED MGP10 STUDS SECURELY NAILED TOGETHER, UNLESS NOTED OTHERWISE.

T19 STUDS IN ALL LOAD BEARING STUD WALLS ARE TO BE 90x45 MGP10 KD AT 450 MAX CTS WITH NOGGINGS AT 1300 VERTICAL CENTRES. TOP AND BOTTOM PLATES ARE TO BE 90x45 MGP10 KD. LOAD BEARING WALLS SHALL ONLY BE LOADED AT STUD LOCATIONS OR WITHIN 60mm OF EITHER SIDE OF THE STUD. LOADS SHALL NOT BE APPLIED IN THE CENTRE OF THE TOP PLATE.

T20 STUDS IN NON-LOAD BEARING STUD WALLS ARE TO BE 90x45 MGP10 AT 450 MAX CTS. TOP AND BOTTOM PLATES ARE TO BE 90x45 MGP10.

T21 ALL NON LOAD BEARING STUD WALLS ARE TO BE TIED AT TOP AND BOTTOM INTO FLOORING AND ROOF FRAMING.

T22 FIX STUDS TO CROSS MASONRY OR CONCRETE WALLS WITH M10 MASONRY ANCHORS AT 900 CTS, UNLESS NOTED OTHERWISE.

T23 PROVIDE TIMBER BLOCKING AT 1800 CTS TO ALL TIMBER FLOOR JOISTS, UNLESS NOTED OTHERWISE.

T24 ALL TIMBER ROOF FRAMING IS TO BE SECURELY TIED DOWN. AS A MINIMUM PROVIDE 30 x 1.0mm STRAPS BY 900 LONG AT 1200 MAX CTS, UNLESS NOTED OTHERWISE.

T25 ALL DOUBLE MEMBERS SHALL BE NAIL LAMINATED IN ACCORDANCE WITH TIMBER FRAMING MANUAL AND AS1684.

T26 PROVIDE 20mm MIN CLEARANCE TO UNDERSIDE OF ROOF TRUSSES OR FLOOR JOISTS FOR NON-LOAD BEARING STUD WALLS.

T27 BEAM TO BEAM CONNECTIONS SHALL BE VIA APPROVED GIRDER BRACKETS, UNLESS NOTED OTHERWISE.

TRUSSES

T28 PROPRIETARY ROOF TRUSSES AND SIMILAR ELEMENTS ARE TO BE DESIGNED BY THE TRUSS MANUFACTURER IN ACCORDANCE WITH AS1720 AND OTHER RELEVANT AUSTRALIAN STANDARDS. THIS SHALL INCLUDE ALL SUPPORT CONNECTIONS AND CAMBER OF TRUSSES.

T29 THE ROOF FRAMING PLAN SHOWING THE ROOF TRUSS LAYOUT IS FOR TENDER PURPOSES AND IS INDICATIVE ONLY. THE TRUSS MANUFACTURER SHALL BE RESPONSIBLE FOR THE DETAILED LAYOUT AND DESIGN OF ALL TRUSSES, GIRDER TRUSSES, HIP TRUSSES ETC AND ANY ADDITIONAL SUPPORTS, BEAMS, LINTELS AND THE LIKE REQUIRED BY THE DESIGN.

T30 TRUSSES SHALL BE SPACED AT 900mm MAX CTS FOR METAL DECK ROOFS AND AT 600mm MAX CTS FOR TILED ROOFS.

T31 THE DETAILED ROOF TRUSS DESIGN IS TO BE CONSISTENT WITH SUPPORT LINES AND/OR POINTS SHOWN ON THE DRAWINGS. IF THE TRUSS MANUFACTURER WISHES TO ALTER THE LAYOUT OF THE ROOF TRUSSES AND/OR SUPPORTS THE ENGINEER SHALL BE INFORMED AND APPROVAL GIVEN PRIOR TO ANY DETAIL DESIGN OR CONSTRUCTION OCCURING.

T32 THE TRUSS MANUFACTURER IS TO INDEPENDENTLY CERTIFY THE DESIGN OF THE TRUSSES PRIOR TO SUBMITTING THE DESIGN TO THE ENGINEER FOR REVIEW. CERTIFICATE OF COMPLIANCE AND SUPPORTING CALCULATIONS INCLUDING THE TYPE AND GRADE OF ALL TIMBER MEMBERS, METHOD OF TIE DOWN AND ANTICIPATED DEFLECTION OF THE TRUSSESS (BOTH SHORT AND LONG TERM), SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCING FABRICATION.

T33 THE TRUSS DESIGN IS TO ALLOW FOR ANY PLANT OR OTHER SPECIAL LOADS LOCATED ON THE ROOF OR WITHIN THE ROOF SPACE. REFER TO THE ARCHITECTURAL, BUILDING SERVICES AND STRUCTURAL DRAWINGS FOR DETAILS.

T34 THE TRUSS MANUFACTURER IS RESPONSIBLE FOR ANY ROOF BRACING REQIRED BY THE DESIGN AND FOR STABILITY OF THE STRUCTURE DURING ERECTION.

T35 TRUSSES ARE TO BE FULLY LOADED PRIOR TO CONNECTING THE BOTTOM CHORD TO ANY NON LOAD BEARING WALLS.

PILING NOTE

P1 BORED PILES SHALL BE DESIGNED TO AS 3600 AND AS2159 AND CERTIFIED BY A SPECIALIST CONTRACTOR SUITABLY EXPERIENCED IN THIS FORM OF CONSTRUCTION

P2 THE CONTRACTOR SHALL VISIT THE SITE TO MAKE HIS OWN ASSESSMENT OF THE EXISTING SITE CONDITIONS, AND IN PARTICULAR SHOULD NOTE THE CONFINEMENT OF THE PROPOSED WORK.

P3 VIBRATIONS RESULTING FROM PILE DRILLING MUST BE KEPT TO A MINIMUM. VIBRATIONS THAT IN THE OPINION OF THE SUPERINTENDENT ARE EXCESSIVE WILL REQUIRE PILING OPERATIONS TO STOP AND THE METHOD OF PILING TO BE REVIEWED PRIOR TO PROCEEDING.

P4 BORED PILES SHALL BE DESIGNED TO SATISFY THE FOLLOWING REQUIREMENTS

A. LOAD
AS NOMINATED ON THIS DRAWING IN ADDITION TO EARTH PRESSURES INTERPRETED FROM THE GEOTECHNICAL REPORT (REPORT No. 21946-1/2/3)

B. DEFLECTION LIMIT
FOR TYPICAL APPLICATIONS, THE LATERAL DEFLECTION OF PILES UNDER FULL DESIGN LOADS SHALL NOT EXCEED THE LESSER OF HEIGHT/250 OR 10MM

FOR WALLS WITHIN THE ZONE OF INFLUENCE OF EXISTING STRUCTURES, THE LATERAL DEFLECTION OF PILES UNDER FULL DESIGN LOADS SHALL NOT EXCEEDED THE LESSER OF HEIGHT/500MM OR 5MM

P5 BORED PILES SHALL BE CAPABLE OF SUPPORTING THE FOLLOWING VERTICAL WORKING LOADS

TYPICAL PILES:	100KN
PILES @ BAND BEAMS :	350KN

P6 A SOIL REPORT IS AVAILABLE THROUGH THE SUPERINTENDENT. THIS REPORT IS INTENDED TO GIVE AN INDICATION OF THE SITE CONDITIONS AND SHALL BE USED FOR GUIDANCE ONLY. THE CONTRACTOR IS RESPONSIBLE TO MAKE HIS OWN ASSESSMENT
OF THE SUB SOIL CONDITIONS AND TO DETERMINE THE PILE DEPTH AND NO EXTRA WILL BE ALLOWED FOR CONDITIONS DIFFERENT FROM THOSE SHOWN ON THE BORELOGS.

P7 PROVISION SHALL BE MADE FOR REMOVAL OF ANY WATER BEFORE PLACING CONCRETE.

P8 ACCURATE RECORDS OF PILE DIAMETERS AND LENGTHS, CUT OFF HEIGHTS, STEEL REINFORCEMENT AND CONCRETE STRENGTHS SHALL BE KEPT BY THE CONTRACTOR AND SUBMITTED TO THE SUPERINTENDENT. ALL RECORDS SHALL BE VERIFIED BY THE SUPERINTENDENT'S SITE REPRESENTATIVE.

P9 EACH PILE SHALL BE PLACED IN THE POSITION SHOWN ON THE DRAWINGS, CORRECT TO WITHIN 50MM IN ANY DIRECTION, AND TO WITHIN 1 IN 60 OF THE VERTICAL.

P10 ALL CONCRETE AND REINFORCEMENT SHALL COMPLY WITH AS3600.

P11 UNLESS OTHERWISE APPROVED BY THE SUPERINTENDENT, CONCRETE SHALL BE PLACED THROUGH A PIPE OR TRUNKING SUCH THAT THE FINAL FREE DROP DOES NOT EXCEED THREE METRES.

STRUCTURAL STEEL

GENERAL REQUIREMENTS

S1 ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH AS4100.

S2 ALL STEEL SHALL BE NEW AND FREE FROM WELDS AND BLEMISHES UNLESS APPROVED BY THE ENGINEER.

S3 FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH AS4100 AND SAA/SNZ HB62.

S4 HOT-ROLLED AND WELDED PRODUCTS SHALL BE BHP-300 PLUS AND PLATE SHALL BE GRADE 250 UNLESS NOTED OTHERWISE.

S5 UNLESS SHOWN OTHERWISE ON THE DRAWINGS, ALL CONNECTIONS SHALL BE IN ACCORDANCE WITH THE FOLLOWING MINIMUM REQUIREMENTS:
ALL WELDS SHALL BE 6MM CONTINUOUS FILLET WELDS ALL ROUND.
ALL BOLTS SHALL BE M20 – 8.8/S, WITH A MINUMUM OF 2 BOLTS PER CONNECTION.
PURLIN BOLTS TO BE M12 – 8.8/S WITH A MINIMUM OF 2 BOLTS PER PURLIN END
ALL CLEAT, STIFFENER AND GUSSETT PLATES SHALL BE 10mm THICK

WELDS

S6 ALL WELDING SHALL BE IN ACCORDANCE WITH AS1554.

S7 WELD TYPES ARE DESIGNATED AS FOLLOWS:

CFW	CONTINUOUS FILLET WELD
FPBW	FULL PENETRATION BUTT WELD
PPBW	PARTIAL PENETRATION BUTT WELD

S8 ALL WELDS SHALL BE SP (STRUCTURAL PURPOSE) IN ACCORDANCE WITH AS1554. ALL BUTT WELDS SHALL BE FULL STRENGTH COMPLETE PENETRATION WELDS. ALL ELECTRODES SHALL BE CLASS E48XX UNLESS NOTED OTHERWISE.

S9 WELDING SHALL BE PERFORMED BY AN EXPERIENCED OPERATOR IN ACCORDANCE WITH AS1554 INSPECTED AND CERTIFIED BY QUALIFIED PERSONNEL IN ACCORDANCE WITH AS2214.

BOLTS

S10 ALL HIGH-STRENGTH STRUCTURAL BOLTS SHALL BE M20 GRADE 8.8/S UNLESS NOTED OTHERWISE IN ACCORDANCE WITH AS1252.

S11 HOLDING-DOWN BOLTS SHALL BE M20 GRADE 4.6/S, GALVANISED UNLESS NOTED OTHERWISE.

S12 BOLTS MUST BE OF SUFFICIENT LENGTH TO HAVE AT LEAST ONE FULL THREAD EXPOSED AFTER TIGHTENING.

S13 BOLTS IN OVERSIZED OR SLOTTED HOLES ARE TO HAVE SUITABLE LARGER SIZED WASHERS.

S14 CONNECTIONS NOT SPECIFICALLY DETAILED SHALL BE IN ACCORDANCE WITH THE APPROPRIATE CONNECTION AS DETAILED IN THE AISC STANDARDISED STRUCTURAL CONNECTIONS MANUAL.

S15 BOLT TYPES AND BOLTING PROCEDURE ARE DESIGNATED AS FOLLOWS:

4.6/S	COMMERCIAL BOLTS TO AS1111, SNUG TIGHTENED
8.8/S	HIGH STRENGTH STRUCTURAL BOLTS, NUTS AND HARDENED WASHERS TO AS1252, SNUG TIGHTENED
8.8/TB	HIGH STRENGTH STRUCTURAL BOLTS AS ABOVE, FULLY TENSIONED TO AS1511 IN A BEARING TYPE JOINT
8.8/TF	HIGH STRENGTH STRUCTURAL BOLTS AS ABOVE, FULLY TENSIONED TO AS1511 IN A FRICTION TYPE JOINT

S16 FULLY TENSIONED BOLTS ARE TO BE INITIALLY SNUG TIGHTENED, CONNECTING PLATES ADJUSTED TO FULL CONTACT, THEN TIGHTEN BOLTS TO AN ADDITIONAL HALF TURN IN ACCORDANCE WITH AS4100. ALTERNATIVELY, PROVIDE LOAD INDICATING WASHERS AND INSTALL CONNECTIONS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS4100.

ADDITIONAL FIXINGS

S17 ALL CLEAT PLATES AND STIFFENERS SHALL BE 10mm THICK UNLESS NOTED OTHERWISE.

S18 THE ENDS OF ALL TUBULAR MEMBERS SHALL BE SEALED WITH A 6mm PLATE UNLESS NOTED OTHERWISE.

S19 PURLINS AND GIRTS INCLUDING LATERAL AND BUCKLING RESTRAINING MEMBERS SUCH AS BRIDGING, STRUTS AND TIE RODS SHALL BE IN ACCORDANCE WITH AS/NZS4600, GALVANISED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

S20 NOT ALL SECONDARY STEELWORK IS SHOWN IN STRUCTURAL DRAWINGS. PROVIDE ALL NECESSARY CLEATS AND HOLES REQUIRED TO FIX TIMBER AND OTHER MATERIALS AND FINISHES TO THE STEELWORK.

FABRICATION

S21 BEFORE COMMENCING FABRICATION, COPIES OF THE SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. THIS REVIEW DOES NOT INCLUDE CHECKING OF DIMENSIONS.

S22 CAMBER SHALL BE AS NOTED ON THE DRAWINGS.

S23 UNLESS STATED OTHERWISE ALL STEELWORK SHALL BE PAINTED WITH ONE SHOP COAT OF ZINC PHOSPHATE PRIMER FOLLOWED BY A FINISH COAT OF APPROVED EXTERNAL ENAMEL. PREPARATION TO BE AS PER AS1627. SPRAY PAINTING ON SITE IS NOT PERMITTED.

STEELWORK IN MASONRY WALLS OR OTHERWISE NOT ACCESSBILE FOR FUTURE MAINTENANCE SHALL BE HOT DIP GALVANISED IN ACCORDANCE WITH AS/NZS 4680. STEELWORK WITH SUBSEQUENT FIRE PROTECTION COATING MAY BE LEFT UNPAINTED IF IN ACCORDANCE WITH SUPPLIERS RECOMMENDATIONS.

ALL STEELWORK BELOW FINISHED SURFACE, INCLUDING PRECAST COLUMN BASE PLATES, SHALL HAVE A PROTECTIVE COATING OF SIKAGARD 62 OR SIMILAR APPROVED. THIXOTROPIC EPOXY RESIN APPLIED AFTER INSTALLATION STRICTLY IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

S24 ALL HOT DIP GALVANISED MEMBERS SHALL BE PROVIDED WITH VENT AND DRAINAGE HOLES IN ACCORDANCE WITH THE GALVANISER'S RECOMMENDATIONS AND TO THE ACCEPTANCE OF THE ENGINEER.

S25 GALVANISED STEELWORK THAT IS SITE WELDED OR SUSTAINS ANY OTHER FORM OF SURFACE DAMAGE IS TO BE PREPARED TO AS1627.2 CLASS 3 AND PRIMED WITH 2 COATS OF GALVANITE (MANUFACTURED BY JOTUN) OR APPROVED EQUIVALENT TO MANUFACTURERS SPECIFICATION.

CONSTRUCTION

S26 LINTELS SHALL NOT BE PROPPED DURING LOAD APPLICATION UNLESS NOTED OTHERWISE.

S27 THE CONTRACTOR SHALL PROVIDE AND LEAVE IN PLACE UNTIL PERMANENT BRACING ELEMENTS ARE CONSTRUCTED, SUCH TEMPORARY BRACING AS IS NECESSARY TO ADEQUATELY STABILISE THE STRUCTURE DURING ERECTION.

S28 PROVIDE 150mm MINIMUM END BEARING WITH 20mm NOMINAL LEVELLING GROUT UNLESS NOTED OTHERWISE TO STEELWORK SEATED ON MASONRY. CHARACTERISTIC COMPRESSIVE STRENGTH OF NON-SHRINKAGE GROUT IS 40MPa.

S29 COATINGS DAMAGED DURING TRANSPORT AND ERECTION OR BY WELDING SHALL BE MADE GOOD AFTER BEING WIRE-BRUSHED CLEAN, AND RECOATED AS ABOVE.

S30 REFER TO ARCHITECTURAL DRAWINGS FOR ALL ADDITIONAL PLATES, ANGLES ETC. AS REQUIRED FOR FIXINGS TO INTERNAL PARTITIONS, BLOCKING, WINDOW FRAMES, ARCHITECTURAL FEATURES ETC.

S31 PROVIDE ALL NECESSARY TRIMMING ANGLES AND FIXINGS TO SUPPORT CLDADING AND FLASHINGS AT ROOF OR WALL INTERSECTIONS.

S32 PROVIDE ALL NECESSARY SUBFRAMES AND TRIMMERS FOR MECHANICAL AND ELECTRICAL EQUIPMENT AND ARCHITECTURAL FEATURES.

S33 SUPPORT ROOF BRACING FROM EVERY SECOND PURLIN WITH HOOK BOLTS.

S34 COLUMNS AND MULLIONS SHALL HAVE THEIR BASE PLATES FULLY GROUTED WITH 40 MPa NON-SHRINKAGE GROUT UNLESS NOTED OTHERWISE AFTER PLUMBING AND LEVELLING ON NEOPRENE PACKERS.

S35 STRUCTURAL STEEL TO BE CONCRETE ENCASED SHALL BE WRAPPED WITH SL81 MESH. THE GAP BETWEEN THE STRUCTURAL STEEL AND THE MESH AND THE EXTERNAL COVER TO THE MESH SHALL BE 25mm AND 50mm RESPECTIVELY.

CONCRETE NOTES

CONCRETE

C1 ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600 AND AS2870.

C2 UNLESS NOTED OTHERWISE THE MINIMUM 28 DAY COMPRESSIVE STRENGTH OF CONCRETE FOR VARIOUS ELEMENTS SHALL BE:

ELEMENT	EXPOSURE CLASSIFICATION	COVER (mm)	GRADE (MPa)
BLINDING	-	-	15
FOOTINGS	A2	50	25
WALL & COLUMN	A2	40	40
BORED PILE	A2	60	32
SHOTCRETE WALL	A2	50	32
INTERNAL SLAB	A1	25	40
EXTERNAL SLAB	B1	30	40

C3 CONCRETE IS TO HAVE A MAXIMUM SHRINKAGE STRAIN OF 700 MICROSTRAIN.

C4 CONCRETE SHALL BE CURED BY AN APPROVED METHOD FOR AT LEAST 7 DAYS AFTER PLACEMENT.

C5 CONCRETE SHALL BE COMPACTED USING MECHANICAL VIBRATION. VIBRATION OF FORMS IS NOT ACCEPTABLE AND CONCRETE SHALL NOT BE SPREAD BY VIBRATING.

C6 CONCRETE SECTIONS SHOWN ARE MINIMUM SIZES AND DO NOT INCLUDE FINISHES. SIZES SHALL NOT BE REDUCED IN ANY WAY OR HOLES FORMED OR MADE IN ANY MEMBER WITHOUT THE APPROVAL OF THE ENGINEER.

C7 SLABS AND BEAMS ARE POURED CONCURRENTLY UNLESS NOTED OTHERWISE AND FINISHED WITH A STEEL FLOAT.

C8 CONCRETE TESTING SHALL COMPLY WITH THE REQUIREMENTS OF AS1379 FOR PROJECT ASSESSMENT.

REINFORCEMENT

C9 REINFORCEMENT IS SHOWN DIAGRAMMATICALLY AND NOT IN TRUE PROJECTION.

C10 SYMBOLS ON THE DRAWING FOR REINFORCEMENT ARE AS FOLLOWS:

Y	GRADE 400MPa DEFORMED REINFORCING BARS TO AS1302
N	GRADE 500MPa DEFORMED REINFORCING BARS
R	GRADE 250MPa PLAIN REINFORCING BARS TO AS1302
W	HARD-DRAWN STEEL REINFORCING WIRE, GRADE 500 DUCTILITY CLASS L TO AS4671
TM	HARD-DRAWN STEEL TRENCH MESH, GRADE 500 DUCTILITY CLASS L TO AS4671
RL	RECTANGULAR RIB MESH GRADE 500 DUCTILITY CLASS L TO AS4671
SL	SQUARE RIB MESH GRADE 500 DUCTILITY CLASS L TO AS4671

C11 ALL REINFORCEMENT AND INSERTS SHALL BE SUPPORTED AND HELD IN THE DESIGN LOCATION BY APPROVED BAR CHAIRS, SPACERS OR TIES. BAR CHAIRS SHALL BE PLACED AT MINIMUM 1000 CENTRES IN TWO DIRECTIONS UNLESS NOTED OTHERWISE.

C12 HOOKS AND COGS SHALL COMPLY WITH AS3600 UNLESS OTHERWISE SHOWN ON DRAWINGS.

C13 WELDING AND THREADING OF REINFORCEMENT IS NOT PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.

C14 REINFORCEMENT SHALL BE EVENLY DISTRIBUTED OVER THE WIDTHS SHOWN UNLESS NOTED OTHERWISE.

C15 PROVIDE 2-N12 x 1200 BARS DIAGONALLY ACROSS RE-ENTRANT CORNERS OF SLABS, TIED UNDER THE TOP FABRIC.

C16 AT SLAB EDGES INCLUDING CONSTRUCTION AND OTHER JOINTS, AT LEAST ONE REINFORCING BAR OR FABRIC WIRE SHALL BE LOCATED PARALLEL TO AND WITHIN 75mm OF THE SLAB EDGE.

C17 REINFORCEMENT FABRIC SHALL BE LAPPED SO THAT EACH PAIR OF TRANSVERSE WIRES AT THE EDGE OF ONE SHEET OVERLAPS EACH CORRESPONDING PAIR OF TRANSVERSE WIRES OF THE SHEET BEING LAPPED. REINFORCEMENT SHALL BE SUPPORTED IN POSITION PRIOR TO CONCRETING COMMENCING ON DENSE PRECAST CONCRETE SPACER BLOCKS OR BAR CHAIRS ON GALVANISED STEEL DISHES AT 900mm MAXIMUM CENTRES EACH WAY.

C18 TRENCH MESH SHALL BE LAID CONTINUOUSLY AND SHALL BE SPLICED WHERE NECESSARY WITH A MINIMUM LAP OF 500mm.

C19 TRENCH MESH SHALL BE OVERLAPPED BY WIDTH OF FABRIC AT CORNERS AND INTERSECTIONS. THE ENDS OF TRENCH MESH SHALL TERMINATE WITH A CROSSBAR.

CONSTRUCTION

C20 A 0.2mm POLYTHENE MEMBRANE SHALL BE CONTINUOUS UNDER SLAB AND RIBS LAPPED 200mm MINIMUM WHERE REQUIRED AND TAPE AT ALL SERVICE PENETRATIONS, LAPS AND PUNCTURES. THE MEMBRANE IS TO EXTEND UNDER AND TO THE SIDES OF SLABS, BEAMS AND THICKENINGS.

C21 ALL EXPOSED CONCRETE CORNERS TO HAVE 15mm CHAMFER UNLESS NOTED OTHERWISE.

C22 CONSTRUCTION JOINTS SHALL BE PROPERLY FORMED AND USED ONLY WHERE APPROVED BY THE ENGINEER.

C23 SAWN JOINTS SHALL BE MADE AT A TIME APPROPRIATE TO THE CONCRETE MIX AND CLIMATIC CONDITIONS, GENERALLY BETWEEN 10 AND 20 HOURS OF PLACING THE CONCRETE.

C24 STRIPPING OF FORMS AND REMOVAL OF FORMWORK SHALL TAKE PLACE IN ACCORDANCE WITH PROCEDURE AGREED TO BY THE ENGINEER.

C25 CONCRETE MUST BE SEPARATED FROM SUPPORTING MASONRY WORK BY TWO LAYERS OF A SUITABLE DE-BONDING MEMBRANE.

C26 SURFACES RECEIVING GROUT SHALL BE LEFT ROUGH AND FREE OF LAITANCE.

C27 SUSPENDED SLABS SHALL BE GIVEN AN UPWARD MID-SPAN CAMBER OF 3mm PER 1000mm UNLESS NOTED OTHERWISE. BEAM ORIENTATION SHALL BE AS SHOWN ON DRAWINGS.

C28 SPLICES IN REINFORCEMENT SHALL BE MADE IN THE POSITIONS SHOWN ON THE DRAWINGS OR AS OTHERWISE APPROVED BY THE ENGINEER.

C29 HOLDING-DOWN BOLTS SHALL BE SUPPLIED TO THE CONCRETER FOR CASTING INTO THE CONCRETE. THE APPROVAL OF ANY SUBSTITUTION SHALL BE SOUGHT FROM THE ENGINEER PRIOR TO CONCRETE BEING PLACED.

C30 THE GROUND SURROUND SLABS SHALL HAVE THE SURFACE AT LEAST 150mm LOWER THAN THE SLAB AND BE SLOPED AWAY FROM THE SLAB EDGE SO THAT WATER WILL DISCHARGE TO SUITABLE DRAINAGE POINTS AND NOT FLOOD THE SLAB SURFACE.

C31 HOT WATER HEATING PIPES MAY BE EMBEDDED IN THE SLAB PROVIDED THAT THE SLAB THICKNESS IS INCREASED BY 25mm AND LAID ON ADDITIONAL SL82 MESH.

MASONRY

MATERIALS AND MORTAR

M1 ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3700 AND AS4455

M2 CLAY BRICKS SHALL HAVE A CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF 30MPa UNLESS NOTED OTHERWISE. SOLID CONCRETE BRICKS SHALL HAVE A CHARACTERISTIC UNCONFINED STRENGTH OF 15MPa UNLESS NOTED OTHERWISE.

M3 HOLLOW AND CORED CONCRETE BLOCKS SHALL HAVE A CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF 15MPa UNLESS NOTED OTHERWISE.

M4 MORTAR FOR UNREINFORCED MASONRY SHALL CONSIST OF 1 CEMENT, 1 HYDRATED LIME, 6 WELL GRADED SAND UNLESS REQUIRED OTHERWISE BY AS3700.

M5 MORTAR FOR REINFORCED MASONRY SHALL CONSIST OF 1 CEMENT, 0.25 HYDRATED LIME, 3 WELL GRADED SAND FOR MORTAR TO CLAY. FOR CAVITY GROUT, MORTAR SHALL CONSIST OF 1 CEMENT, 2.5 SAND AND 1.5 10mm AGGREGATE.

M6 ALL MORTAR SHALL BE TYPE "M3", UNLESS IN A SEVERE MARINE ENVIRONMENT WHERE MORTAR TYPE "M4" SHALL BE USED. REFER AS3700 TABLE 12.2. CEMENT SHALL BE TYPE GP PORTLAND CEMENT OR GB BLENDED CEMENT COMPLYING WITH AS3972. LIME SHALL BE HYDRATED BUILDING LIME COMPLYING WITH AS1672.1. WATER THICKENER SHALL BE METHYL CELLULOSE BASED. SAND SHALL BE WELL GRADED AND FREE FROM SALTS, VEGETABLE MATTER AND IMPURITIES AND SHALL NOT CONTAIN MORE THAN 10% OF THE MATERIAL PASSING THE 75 MICRON SIEVE.

CONSTRUCTION

M7 LOAD BEARING MASONRY SHALL HAVE FULL-BED JOINTS UNLESS NOTED OTHERWISE.

M8 MASONRY TIES FOR CAVITY WALLS SHALL BE MEDIUM DUTY GRADE, SPACED AT NOT MORE THAN 600mm CENTRES VERTICALLY AND HORIZONTALLY. TIES FOR VENEER WALLS SHALL BE LIGHT DUTY GRADE SPACED AT NOT MORE THAN 450mm CENTRES VERTICALLY AND HORIZONTALLY. ADDITIONAL TIES SHALL BE PLACED ADJACENT TO LATERAL SUPPORTS, CONTROL JOINTS AND AROUND OPENINGS A SPACING OF NOT MORE THAN 300mm, AND LOCATED NOT MORE THAN 300mm FROM THE LINE OF SUPPORT, CONTROL JOINT OR PERIMETRE OF OPENING. CHARACTERISTIC STRENGTH OF TIES ARE TO BE RATED FOR THE APPROPRIATE CAVITY WIDTH.

M9 MASONRY SHALL BE TIED TO COLUMNS AT 400 MAXIMUM VERTICAL CENTRES.

M10 NEW MASONRY SHALL BE TIED INTO EXISTING USING MEDIUM DUTY TIES AT 400mm MAXIMUM VERTICAL CENTRES ALONG ALL VERTICAL EDGES, AND AT 600 MAXIMUM HORIZONTAL CENTRES UNLESS NOTED OTHERWISE.

M11 MASONRY TIES ARE TO BE GALVANISED TO RATING R2 IN ACCORDANCE WITH AS3700 AND AS2699.

M12 TIES BETWEEN LEAVES OF MSONRY FORMING SOLID WALLS OR ENGAGED PIERS SHALL BE MEDIUM DUTY, AND SPACED AT 400mm MAXIMUM CENTRES IN EACH DIRECTION.

M13 MASONRY LINTELS FOR OPENINGS IN NON-LOAD BEARING WALLS SHALL BE AS FOLLOWS:

UP TO 1000mm WIDE	100x10 HORIZONTAL PLATE
UP TO 2000mm WIDE	90x90x10 EA
UP TO 3000mm WIDE	125x75x10 UA
UP TO 3600mm WIDE	150x100x10 UA

ALL LINTELS TO HAVE A MINIMUM BEARING OF 230mm ON BOTH SIDES. OPENINGS IN EXCESS OF ABOVE TO BE REFERRED TO THE ENGINEER.

M14 ALL CAVITIES BELOW GROUND LEVEL SHALL BE MORTAR OR GROUT FILLED.

M15 VERTICAL CONTROL JOINTS SHALL COMPLY WITH TECHNICAL NOTE No. 61 OF THE CEMENT AND CONCRETE ASSOCIATION OF AUSTRALIA AND SHALL BE LOCATED AS DESCRIBED IN THAT PUBLICATION OR AS SHOWN ON THE DRAWINGS. JOINTS SHALL BE KEPT FREE OF NON-COMPRESSIBLE MATERIAL.

M16 NON-LOAD BEARING WALLS SHALL BE KEPT 20mm CLEAR OF THE UNDERSIDE OF FLOORS AND SHELF ANGLES.

M17 ALL STEELWORK PROJECTING INTO CAVITIES SHALL BE HOT-DIP GALVANISED UNLESS NOTED OTHERWISE. ALL STEEL LINTELS EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANISED UNLESS NOTED OTHERWISE.

M18 AT VERTICAL CONTROL JOINTS PROVIDE MASONRY FLEXIBLE ANCHORS TYPE MFA 3/3 AT 600mm MAXIMUM CENTRES, INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. JOINTS ARE TO BE 20mm WIDE WITH A 25mm DIAMETRE CLOSED-CELL PLOYETHYLENE FOAM BACKING ROD AND POLYSULPHIDE BASE CAULKING SEALANT TO THE EXTERNAL FACE UNLESS NOTED OTHERWISE. IN ADDITION, THE JOINT CONSTRUCTION MUST SATISFY REQUIREMENTS FOR FIRE RATING, SOUND INSULATION AND WATERPROOFING AS SPECIFIED BY THE ARCHITECT. CONTROL JOINTS ARE TO BE AT 6000mm MAXIMUM CENTRES.

M19 WHERE NON-LOAD BEARING WALLS ABUT THE UNDERSIDE OF HORIZONTAL OR RAKING MEMBERS (SLABS, STEEL OR CONCRETE BEAMS) PROVIDE MASONRY FLEXIBLE ANCHORS, TYPE MFA4 TO EVERY THIRD PERPEND, FIXED TO THE STRUCTURAL MEMBER WITH RAMSET 6mm DIAMETRE HEAD-DRIVE PINS OR SIMILAR. PROVIDE 10mm CLOSED-CELL POLYETHYLENE FOAM BACKING RODS BETWEEN THE WALL AND THE MEMBER.

M20 WHERE MASONRY WALLS INTERSECT STRUCTURAL MEMBERS (STEEL OR CONCRETE), PROVIDE MASONRY FLEXIBLE ANCHOR TYPE MFA7 AT 600 MAXIMUM CENTRES EMBEDDED IN THE MASONRY WALL AND FIXED TO THE MEMBER WITH 6mm DIAMETRE HEAD RAMSET DRIVE-PINS. MFA7 TIES SHALL BE 200mm LONG x 500mm TURNDOWN. TIES TO OUTER SKIN SHALL INCORPORATE A DRIP GROOVE.

M21 FOR WALLS WITH A CAVITY WIDTH BETWEEN 80mm TO 140mm PROVIDE MASONRY FLEXIBLE ANCHOR 'ANCHOR-TIES' AT 430mm VERTICAL AND 600mm HORIZONTAL CENTRES.

M22 CONCRETE BEAMS AND SLABS SHALL BE SEPARATED FROM SUPPORTING MASONRY BY 2 LAYERS OF MALTHOID OR SIMILAR APPROVED MEMBRANE ON TOP OF MORTAR LEVELLING SCREED.

M23 THE CONTRACTOR SHALL PROVIDE DETAILS AND PROCEDURES OF NEEDLE AND PROPPING TO OPENINGS IN MASONRY WALLS FOR APPROVAL BEFORE WORK COMMENCES.

M24 WHERE MASONRY WALLS ARE TO BE CONSTRUCTED ON SUSPENDED SLABS, STACK MASONRY UNITS TO BE USED IN THE WALL AS NEAR AS POSSIBLE TO THE FINAL POSITION OF THE WALL. NO UNITS ARE TO BE STACKED ON SUSPENDED CONCRETE WORKS UNTIL ALL PROPS HAVE BEEN REMOVED. THE STACKED LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD AS SET OUT IN THE LOADING NOTES. NO MASONRY UNITS ARE TO BE STACKED ON CANTILEVERED SLABS.

M25 NON-LOAD BEARING AAC BLOCK WALLS TO BE INSTALLED IN ACCORDANCE WITH BLOCK MANUFACTURER'S RECOMMENDATIONS.

DRAWING INDEX

SHEET NUMBER	SHEET NAME	CURRENT REVISION
S01	GENERAL NOTES	0
S02	GROUND FLOOR FRAMING PLAN	0
S03	FIRST FLOOR PLAN	0
S04	ROOF FRAMING PLAN	0
S05	FOUNDATION, FRAMING AND BRACING DETAILS	0
S06	ADDITIONAL SECTIONS AND DETAILS	0
S07	ADDITIONAL SECTIONS AND DETAILS	0

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REV	DESCRIPTION	DATE
A	Preliminary	25.11.20
B	Preliminary	22.01.21
C	Preliminary	02.02.21
D	Preliminary	16.03.21
E	Preliminary	07.06.21
F	Preliminary	17.06.21
G	Preliminary	27.10.21
0	Construction	25.11.21

PROJECT
PROPOSED EXTENSION AND ALTERATION

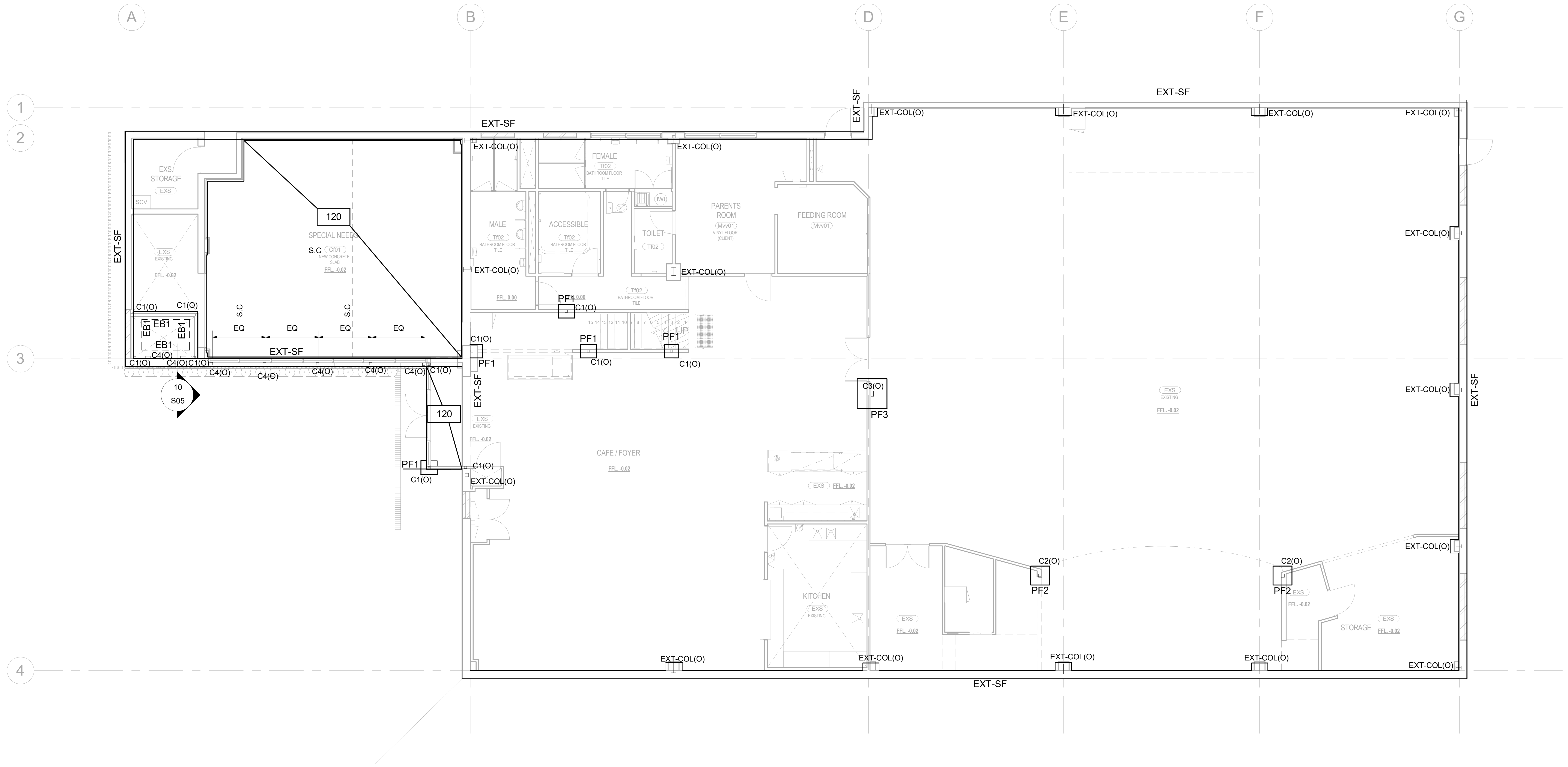
ADDRESS
19 McDONALDS LANE, MULGRAVE

TITLE
GENERAL NOTES

DATE 25.11.21
DESIGNED BON
DRAWN BON
STATUS CONSTRUCTION

190223 - S01

SCALE AT A1
AS INDICATED
REV 0



GROUND FLOOR SLAB PLAN

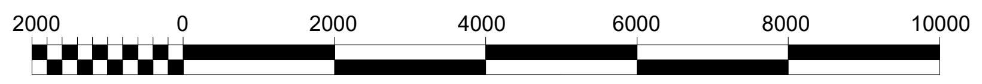
Scale: 1 : 100

CONCRETE CAPPING BEAM AND FOOTING SCHEDULE		
MARK	SIZES	COMMENTS
EB1	300WxMATCH DEPTH OF EXISTING FOOTING	3-L12TM TOP & BOTTOM
EXT-SF	EXISTING STRIP FOOTING	ASSUMED.
PF1	500x500x600D PAD FOOTING	SL82 TOP & BOTTOM.
PF2	700x700x600D PAD FOOTING	SL82 TOP & BOTTOM.
PF3	1100x1100x600D PAD FOOTING	SL82 TOP & BOTTOM.

LEGEND (UNLESS NOTED OTHERWISE ON PLAN)

120	DENOTES 120 THICK SLAB ON GROUND. SL102 TOP, 30 COVER, OVER 50mm THICK SAND BED OVERLAINED BY 0.2mm POLYTHENE MEMBRANE. SLAB EDGE TO BE 300x300. REFER TO DETAILS ON S05.
S.C	DENOTES SAW CUT JOINTS.
STEP	DENOTES STEP IN SUSPENDED SLAB. REFER TO SECTIONS AND DETAILS S07.

NOT FOR CONSTRUCTION



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REV	DESCRIPTION	DATE
A	Preliminary	25.11.20
B	Preliminary	22.01.21
C	Preliminary	02.02.21
D	Preliminary	16.03.21
E	Preliminary	07.06.21
G	Preliminary	27.10.21
Ø	Construction	25.11.21

PROJECT
PROPOSED EXTENSION AND ALTERATION

ADDRESS
19 McDONALDS LANE,
MULGRAVE

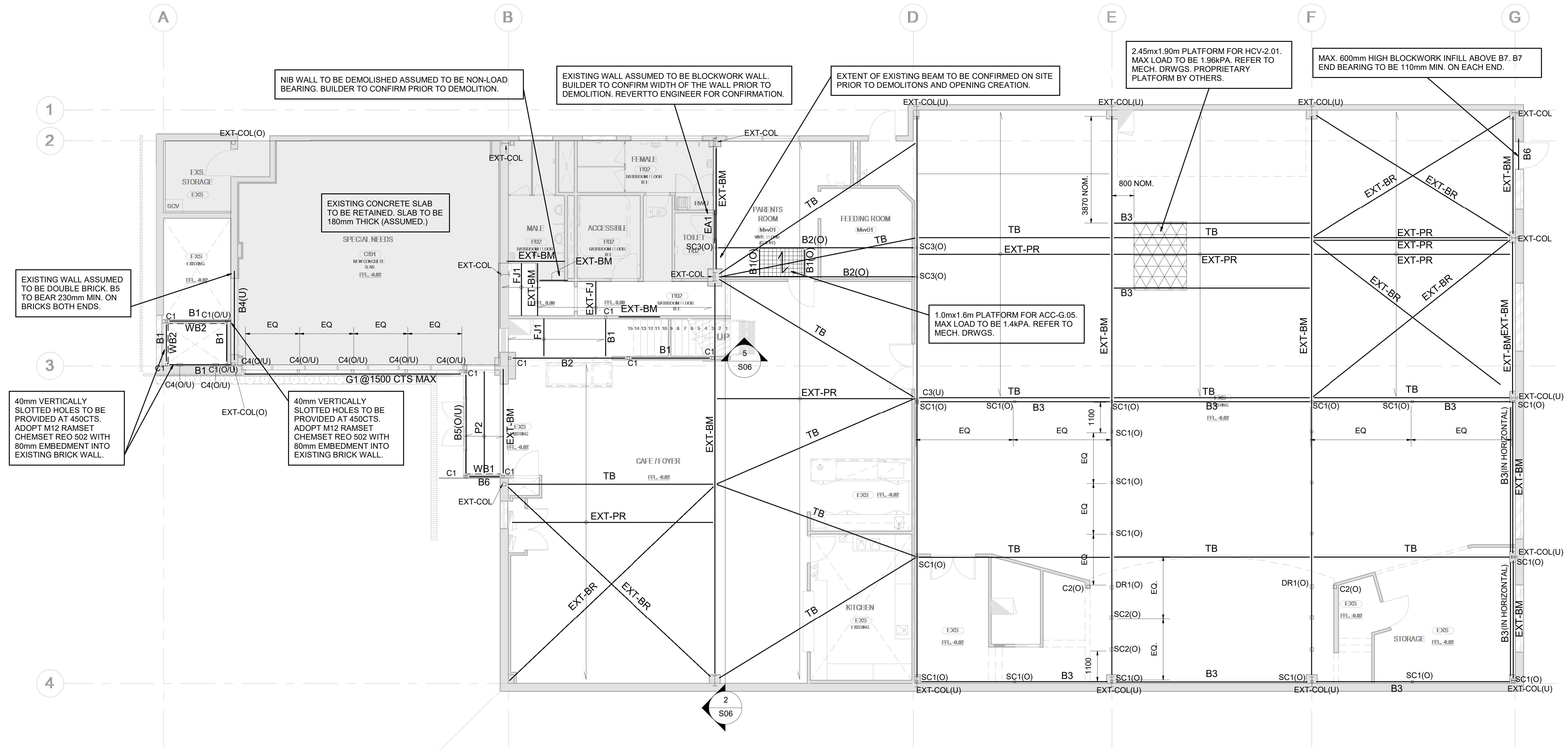
TITLE
GROUND FLOOR FRAMING PLAN

DATE 25.11.21
DESIGNED BON
DRAWN BON
STATUS CONSTRUCTION

190223 - S02

SCALE AT A1
AS INDICATED
REV Ø

NOTES: PRIOR TO DEMOLITION, BUILDER TO CONFIRM ALL SIZES OF BEAMS AND COLUMNS AND TO BE REVERTED BACK TO ENGINEER FOR CONFIRMATION. POSTION OF ALL EXISTING COLUMNS AND BEAMS ARE ASSUMED. WALLS TO BE DEMOLISHED ARE ASSUMED TO BE NON LOAD BEARING (U.N.O.).



NIB WALL TO BE DEMOLISHED ASSUMED TO BE NON-LOAD BEARING. BUILDER TO CONFIRM PRIOR TO DEMOLITION.

EXISTING WALL ASSUMED TO BE BLOCKWORK WALL. BUILDER TO CONFIRM WIDTH OF THE WALL PRIOR TO DEMOLITION. REVERTTO ENGINEER FOR CONFIRMATION.

EXTENT OF EXISTING BEAM TO BE CONFIRMED ON SITE PRIOR TO DEMOLITONS AND OPENING CREATION.

2.45mx1.90m PLATFORM FOR HCV-2.01. MAX LOAD TO BE 1.96kPA. REFER TO MECH. DRWGS. PROPRIETARY PLATFORM BY OTHERS.

MAX. 600mm HIGH BLOCKWORK INFILL ABOVE B7. B7 END BEARING TO BE 110mm MIN. ON EACH END.

EXISTING CONCRETE SLAB TO BE RETAINED. SLAB TO BE 180mm THICK (ASSUMED.)

EXISTING WALL ASSUMED TO BE DOUBLE BRICK. B5 TO BEAR 230mm MIN. ON BRICKS BOTH ENDS.

1.0mx1.6m PLATFORM FOR ACC-G.05. MAX LOAD TO BE 1.4kPA. REFER TO MECH. DRWGS.

40mm VERTICALLY SLOTTED HOLES TO BE PROVIDED AT 450CTS. ADOPT M12 RAMSET CHEMSET REO 502 WITH 80mm EMBEDMENT INTO EXISTING BRICK WALL.

40mm VERTICALLY SLOTTED HOLES TO BE PROVIDED AT 450CTS. ADOPT M12 RAMSET CHEMSET REO 502 WITH 80mm EMBEDMENT INTO EXISTING BRICK WALL.

FIRST FLOOR FRAMING PLAN

Scale: 1 : 100

MEMBER SCHEDULE		
MARK	SECTION	COMMENTS
B1	150PFC	
B2	180PFC	
B3	200PFC	
B4	250PFC	
B5	310UB32	
B6	16mm THICK FLAT PLATE. 240mm WIDE	
B7	150x50x6.0 RHS	
B8	460UB67.1	
B9	200UB30	
C1	89x6.0 SHS (C350)	
C2	125x6.0 SHS (C350	
C3	150x100x6.0 RHS (G350)	
C4	100x4.0 SHS (C350)	
DP	DOUBLE STEEL PURLIN P1	
DR1	125x6.0 CHS (C350)	DROPPER
EA1	100x10 EA	MIN. 150mm END BEARING.
EXT-BM	EXISTING BEAM. (ASSUMED.)	
EXT-BR	EXISTING BRACING. (ASSUMED.)	
EXT-COL	EXISTING COLUMN (ASSUMED)	
EXT-FJ	EXISTING FLOOR JOIST (ASSSUMED)	
EXT-PR	EXISTING PURLIN. (ASSUMED.)	
FB1	100x10 EA	FLYBRACE
FJ1	FLOOR JOIST	AT 450mm MAX CENTRES: ADOPT 200x45 LVL E14 UP YO 2000mm SPAN
G1	STEEL GIRT	C10015 @1500 MAX CENTRES BETWEEN BATTENS
P1	STEEL PURLIN	Z/C25019 PURLIN @ 1200C/C (Lmax=7500) 1 ROW OF BRIDGING @ MIDSPAN.
P2	STEEL PURLIN	Z20019 PURLIN @ 1200C/C (Lmax=6700) 1 ROW OF BRIDGING @ MIDSPAN. 900mm LAPPED.
SC1	89x6.0 SHS (C350)	STUB COLUMN
SC2	125x6.0 SHS (C350)	
SC3	89x6.0 CHS (C350)	STUB COLUMN
TB	152x6 CHS	TIE BEAM.

LEGEND (UNLESS NOTED OTHERWISE ON PLAN)

WB1	DENOTES Ø10 ROD BRACING. REFER TO DETAIL.
WB2	DENOTES SHS BRACING. REFER TO DETAIL.
BR1 ╳	DENOTES 65x5 EA BRACING FOR ROOF PURLINS.
↯	DENOTES DIRECTION OF WEBFORGE C253MPU.
▨	DENOTES PROPRIETARY ROOF STAND BY OTHERS.

NOT FOR CONSTRUCTION

2000 0 2000 4000 6000 8000 10000

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REV	DESCRIPTION	DATE
A	Preliminary	25.11.20
B	Preliminary	22.01.21
C	Preliminary	02.02.21
D	Preliminary	16.03.21
E	Preliminary	07.06.21
F	Preliminary	17.06.21
G	Preliminary	27.10.21
Ø	Construction	25.11.21

PROJECT
PROPOSED EXTENSION AND ALTERATION

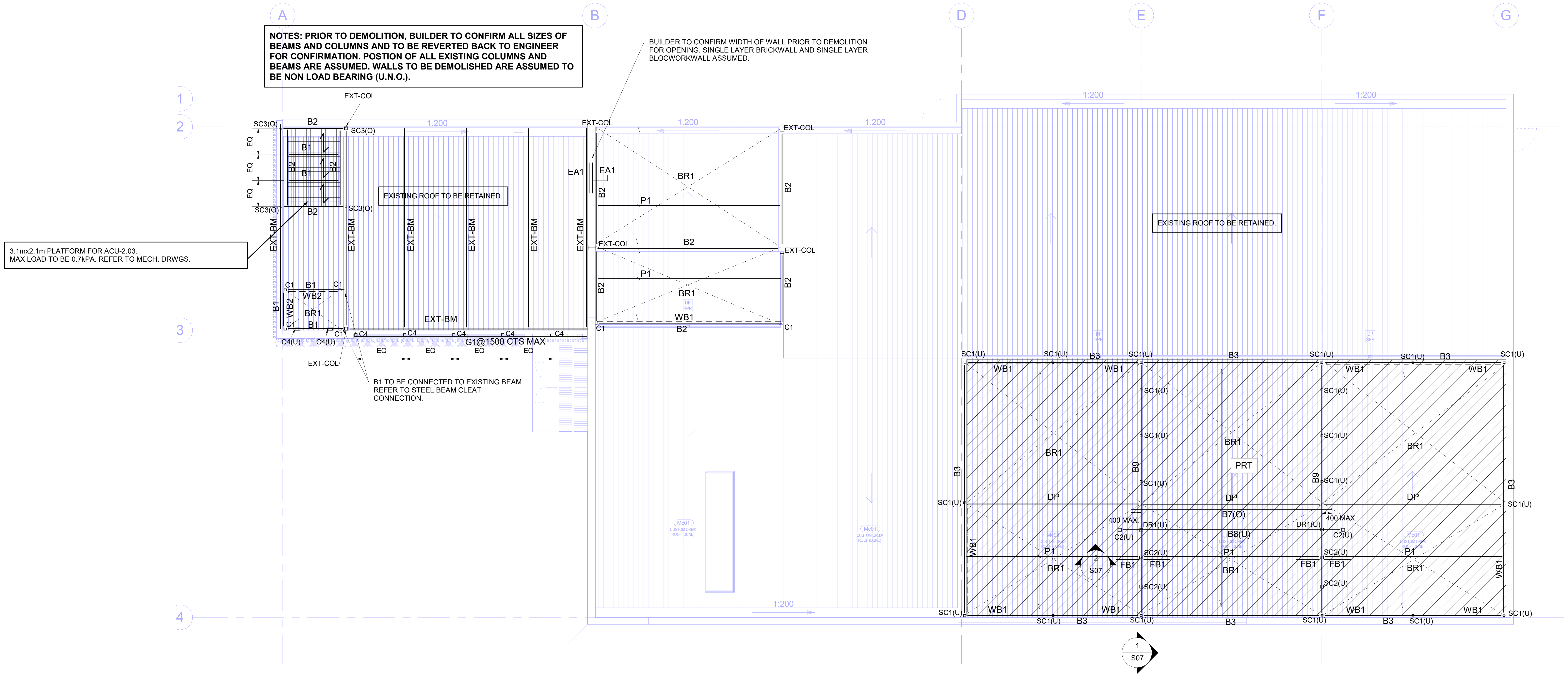
ADDRESS
19 McDONALDS LANE, MULGRAVE

TITLE
FIRST FLOOR PLAN

DATE 25.11.21
DESIGNED BON
DRAWN BON
STATUS CONSTRUCTION

190223 - S03

SCALE AT A1
AS INDICATED
REV Ø



NOTES: PRIOR TO DEMOLITION, BUILDER TO CONFIRM ALL SIZES OF BEAMS AND COLUMNS AND TO BE REVERTED BACK TO ENGINEER FOR CONFIRMATION. POSTION OF ALL EXISTING COLUMNS AND BEAMS ARE ASSUMED. WALLS TO BE DEMOLISHED ARE ASSUMED TO BE NON LOAD BEARING (U.N.O.).

BUILDER TO CONFIRM WIDTH OF WALL PRIOR TO DEMOLITION FOR OPENING. SINGLE LAYER BRICKWALL AND SINGLE LAYER BLOCWORKWALL ASSUMED.

3.1mx2.1m PLATFORM FOR ACU-2.03.
MAX LOAD TO BE 0.7kPA. REFER TO MECH. DRWGS.

EXISTING ROOF TO BE RETAINED.

B1 TO BE CONNECTED TO EXISTING BEAM. REFER TO STEEL BEAM CLEAT CONNECTION.

ROOF FRAMING PLAN

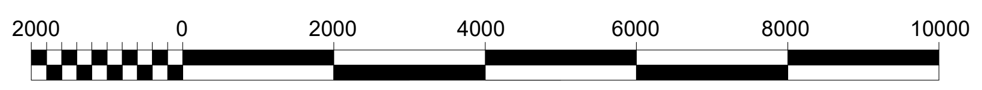
Scale: 1 : 100

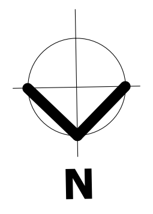
LEGEND	(UNLESS NOTED OTHERWISE ON PLAN)
WB1	DENOTES Ø10 ROD BRACING. REFER TO DETAIL.
WB2	DENOTES SHS BRACING. REFER TO DETAIL.
BR1	DENOTES 65x5 EA BRACING FOR ROOF PURLINS.
↓	DENOTES DIRECTION OF WEBFORGE C253MPU.

MEMBER SCHEDULE

MARK	SECTION	COMMENTS
B1	150PFC	
B2	180PFC	
B3	200PFC	
B4	250PFC	
B5	310UB32	
B6	16mm THICK FLAT PLATE. 240mm WIDE	
B7	150x50x6.0 RHS	
B8	460UB67.1	
B9	200UB30	
C1	89x6.0 SHS (C350)	
C2	125x6.0 SHS (C350	
C3	150x100x6.0 RHS (G350)	
C4	100x4.0 SHS (C350)	
DP	DOUBLE STEEL PURLIN P1	
DR1	125x6.0 CHS (C350)	DROPPER
EA1	100x10 EA	MIN. 150mm END BEARING.
EXT-BM	EXISTING BEAM. (ASSUMED.)	
EXT-BR	EXISTING BRACING. (ASSUMED.)	
EXT-COL	EXISTING COLUMN (ASSUMED)	
EXT-FJ	EXISTING FLOOR JOIST (ASSSUMED)	
EXT-PR	EXISTING PURLIN. (ASSUMED.)	
FB1	100x10 EA	FLYBRACE
FJ1	FLOOR JOIST	AT 450mm MAX CENTRES: ADOPT 200x45 LVL E14 UP YO 2000mm SPAN
G1	STEEL GIRT	C10015 @1500 MAX CENTRES BETWEEN BATTENS
P1	STEEL PURLIN	Z/C25019 PURLIN @ 1200C/C (Lmax=7500) 1 ROW OF BRIDGING @ MIDSPAN.
P2	STEEL PURLIN	Z20019 PURLIN @ 1200C/C (Lmax=6700) 1 ROW OF BRIDGING @ MIDSPAN. 900mm LAPPED.
SC1	89x6.0 SHS (C350)	STUB COLUMN
SC2	125x6.0 SHS (C350)	
SC3	89x6.0 CHS (C350)	STUB COLUMN
TB	152x6 CHS	TIE BEAM.

NOT FOR CONSTRUCTION





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REV	DESCRIPTION	DATE
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B	Preliminary	22.01.21
C	Preliminary	02.02.21
D	Preliminary	16.03.21
E	Preliminary	07.06.21
F	Preliminary	17.06.21
G	Preliminary	27.10.21
Ø	Construction	25.11.21

PROJECT
PROPOSED EXTENSION AND ALTERATION

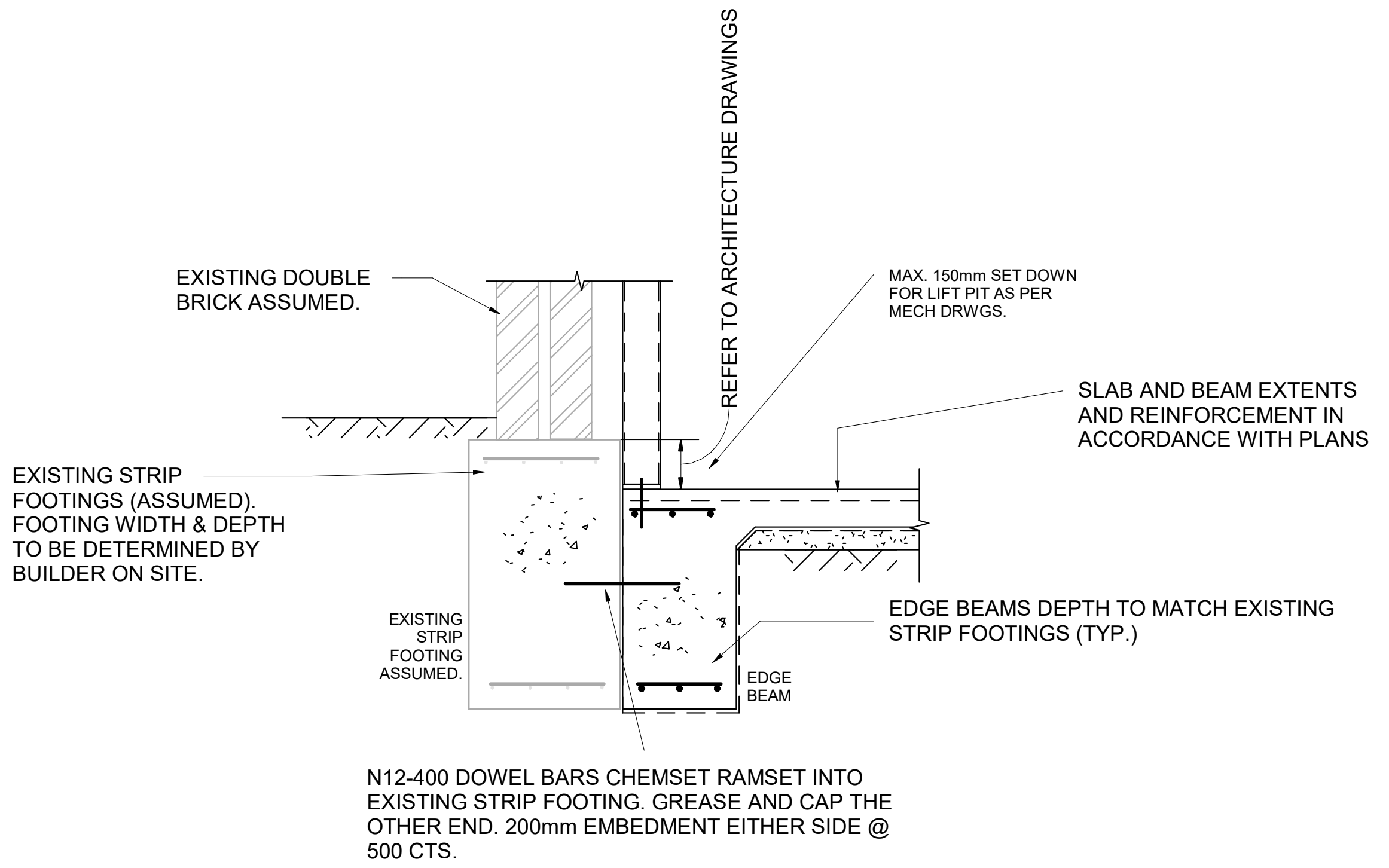
ADDRESS
19 McDONALDS LANE, MULGRAVE

TITLE
ROOF FRAMING PLAN

DATE	25.11.21
DESIGNED	BON
DRAWN	BON
STATUS	CONSTRUCTION

190223 - S04

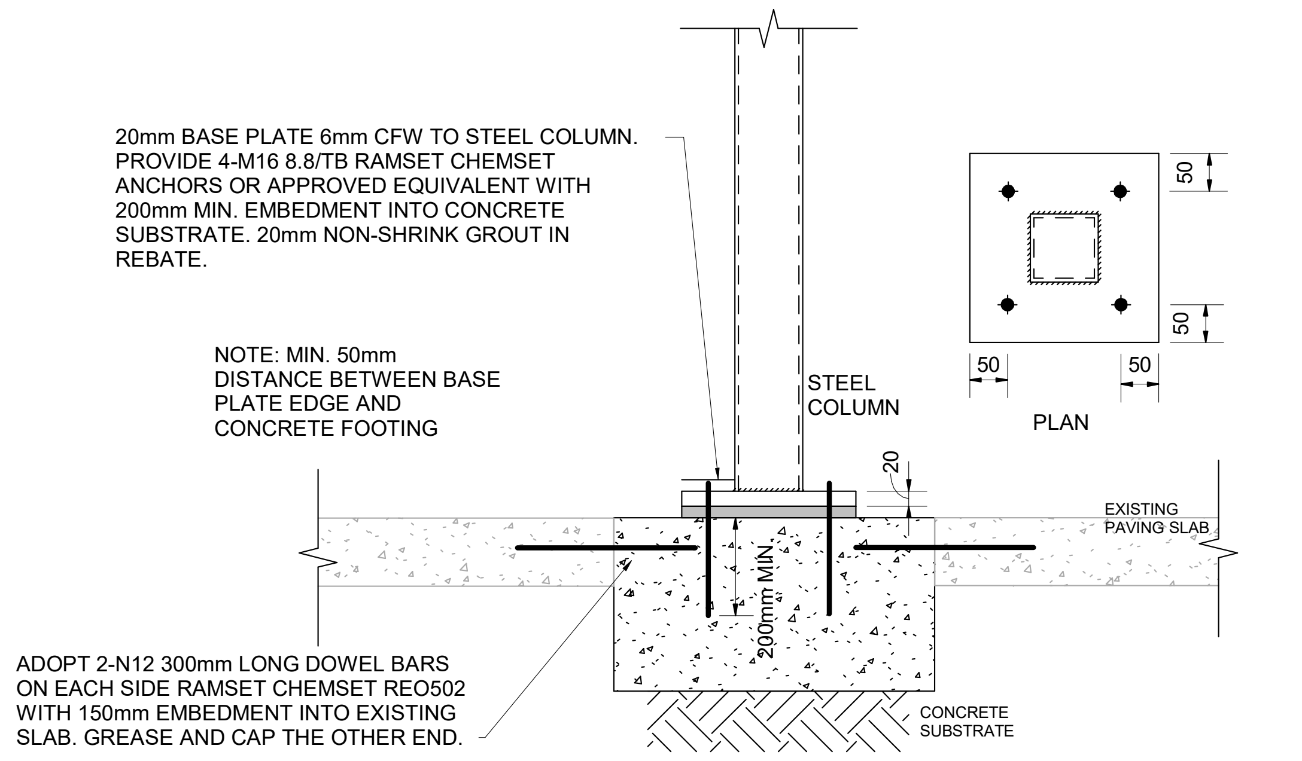
SCALE AT A1
AS INDICATED
REV Ø



10
S02

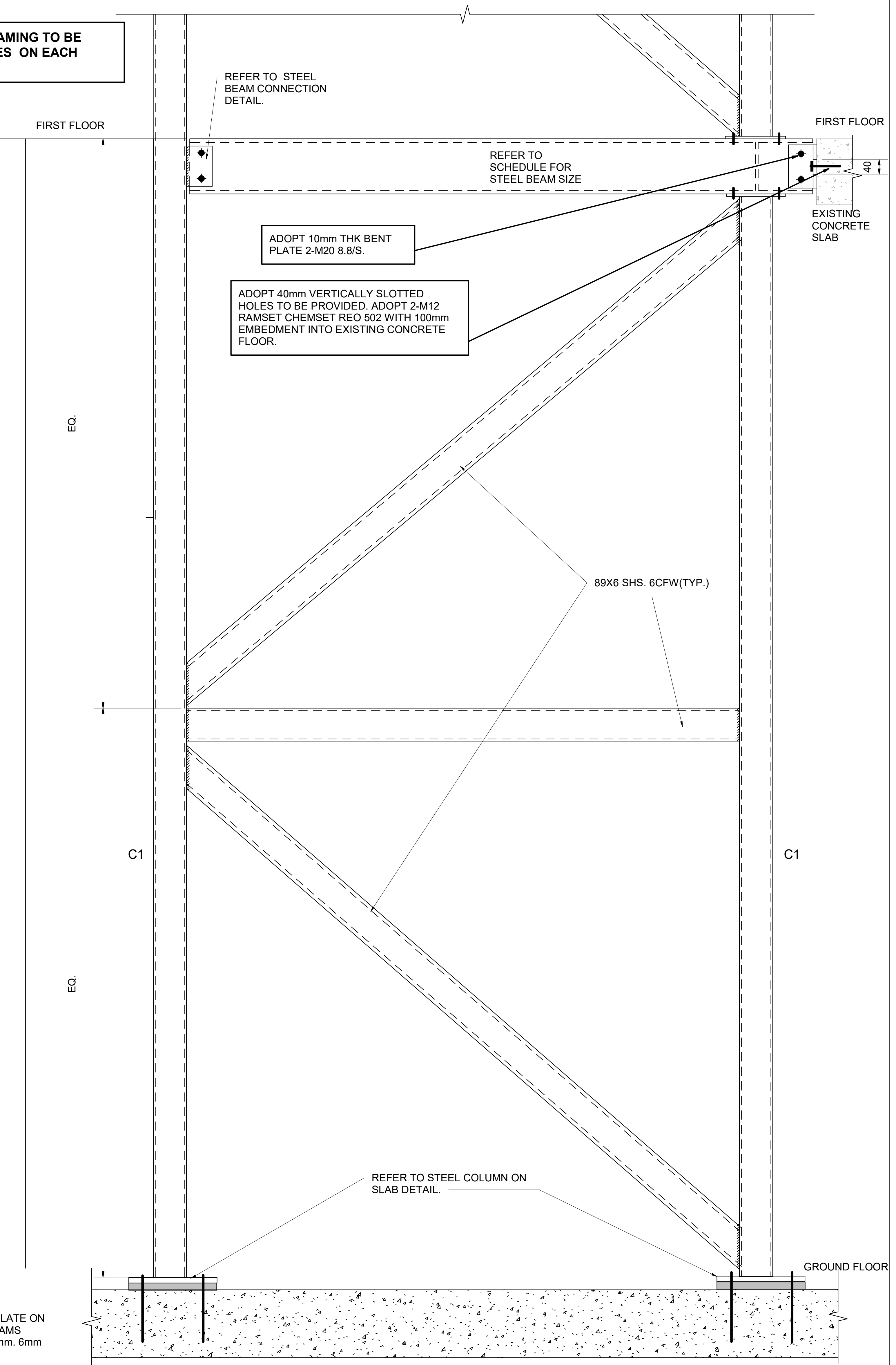
1 Ground Floor - Section 1

Scale: 1 : 20

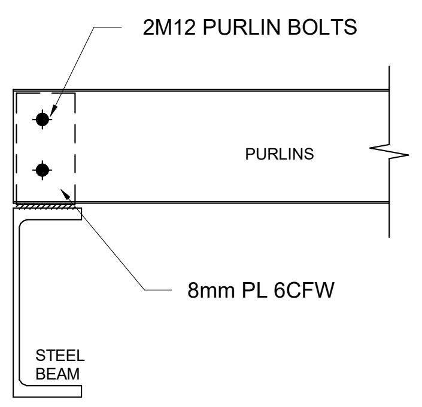


STEEL COLUMN ON PAD FOOTING DETAIL

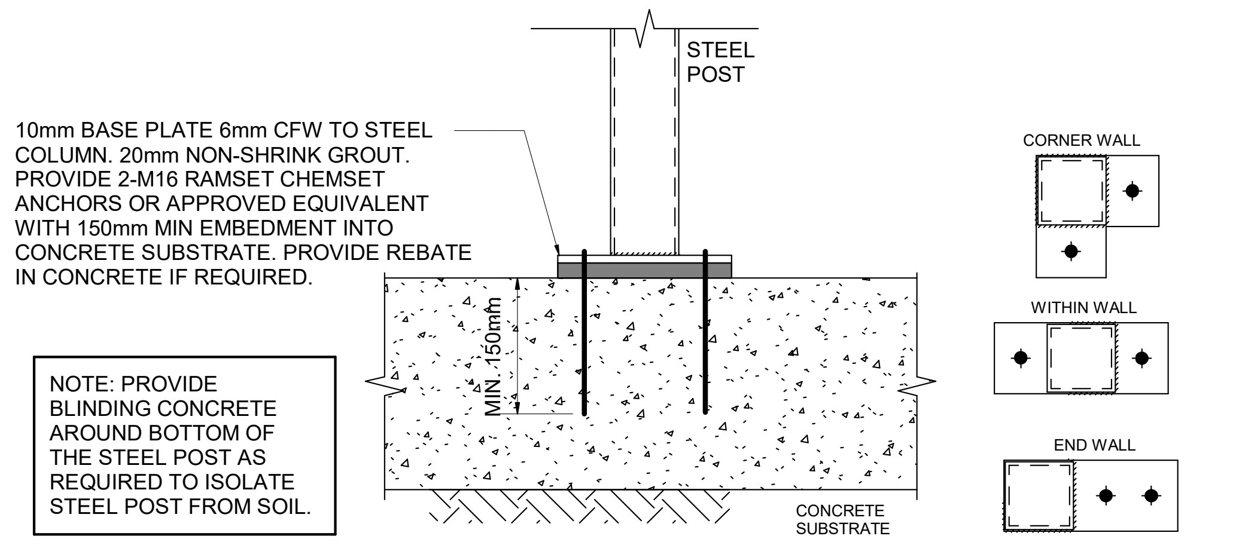
NOTE: LIFT SHAFT FRAMING TO BE BRACED ON TWO SIDES ON EACH FLOOR.



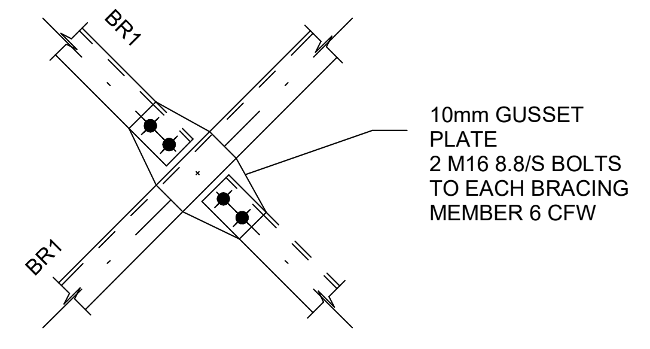
TYPICAL LIFT SHAFT WB2 BRACING DETAIL



PURLIN TO BEAM DETAIL

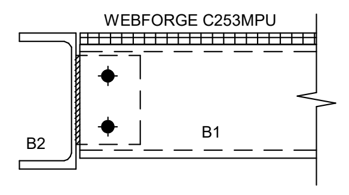


STEEL COLUMN ON EDGE FOOTING DETAIL

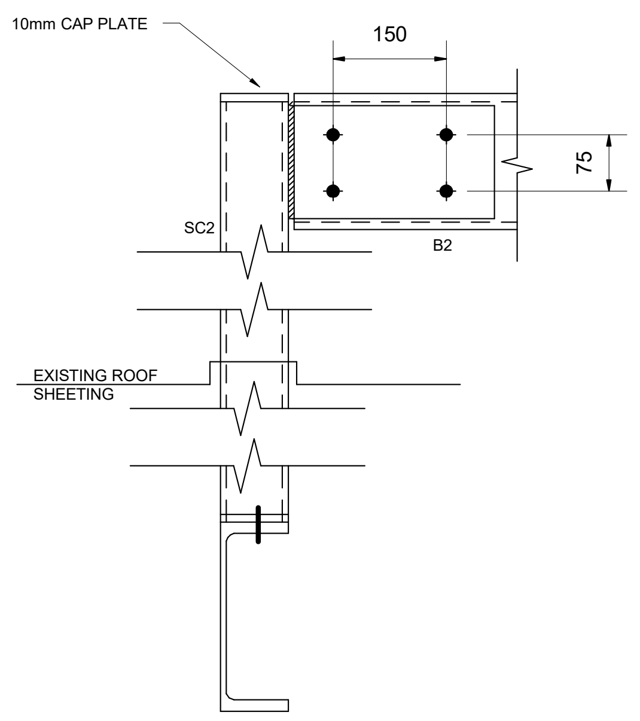


BR1 INTERSECTION DETAIL

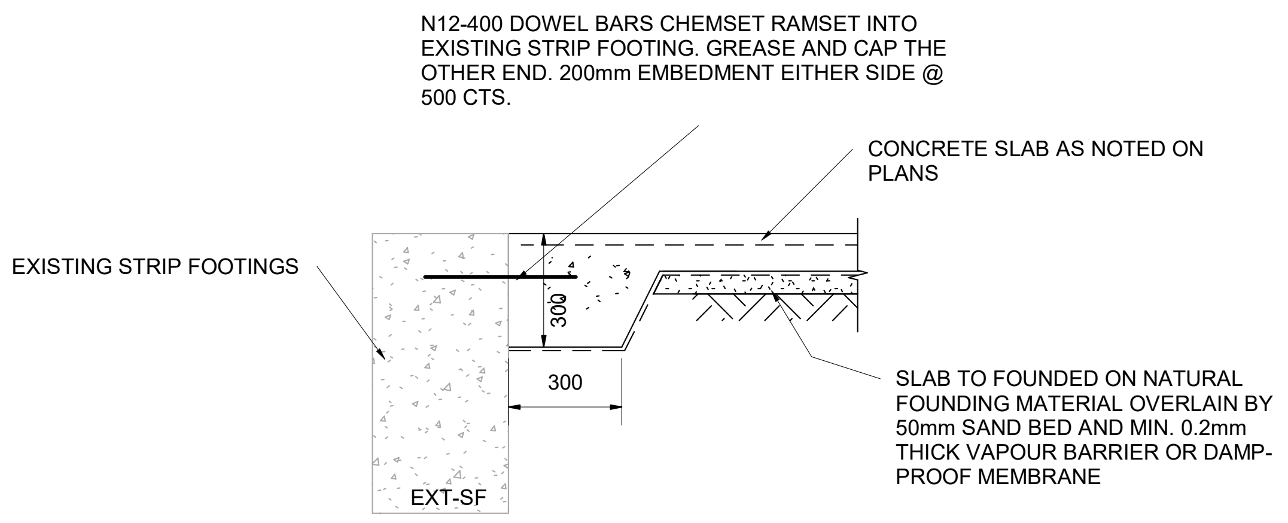
SCALE NTS



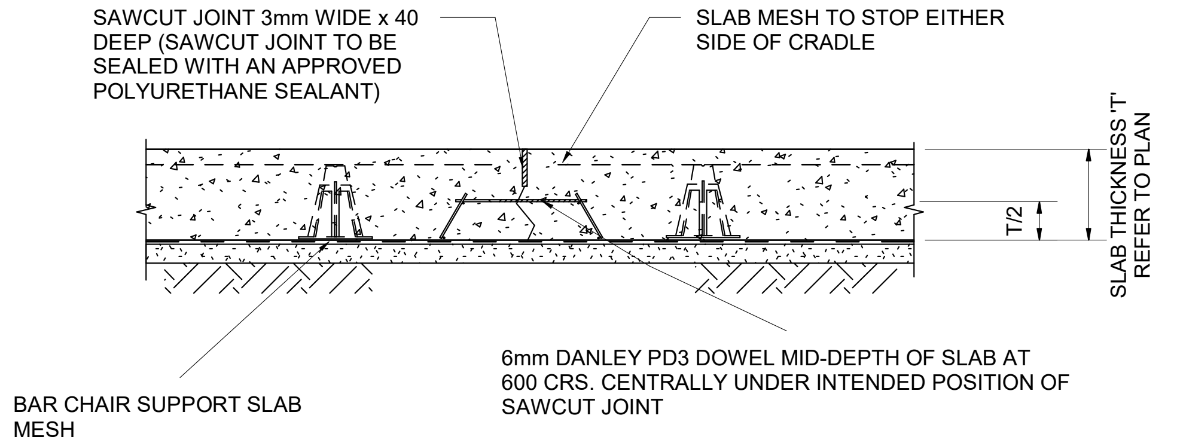
PLANT PLATFORM STEEL BEAM CONNECTION DETAIL



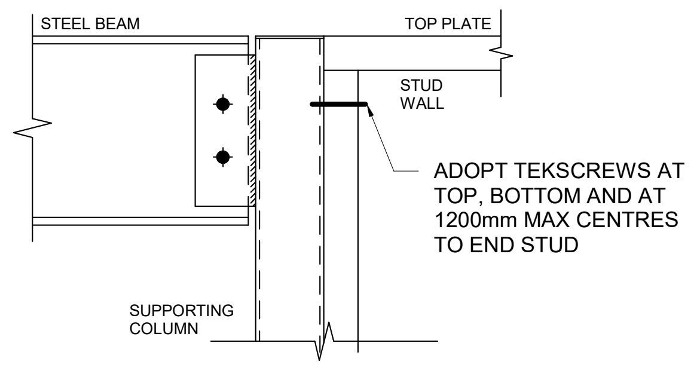
PLANT PLATFORM STEEL BEAM TO SC2 CONNECTION DETAIL



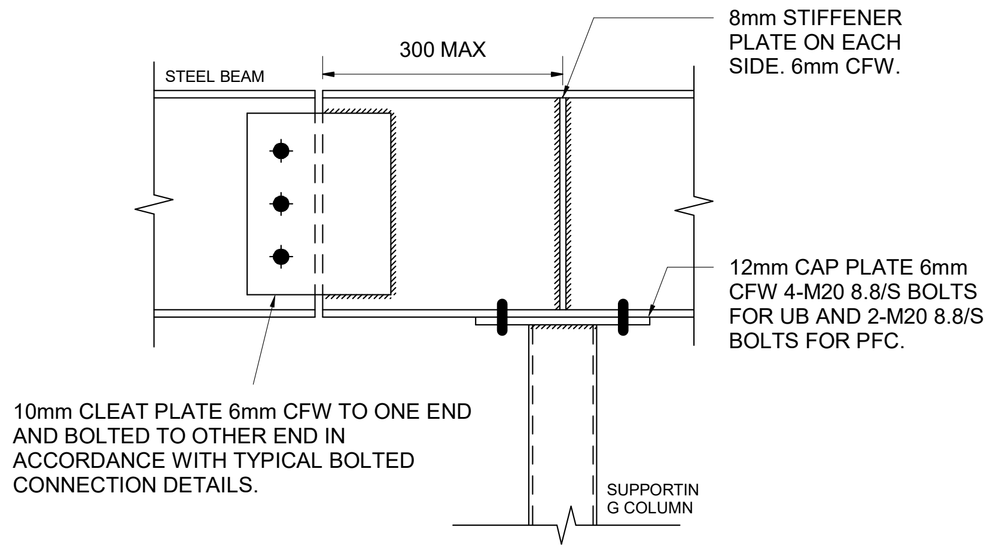
TYPICAL SLAB EDGE DETAILS



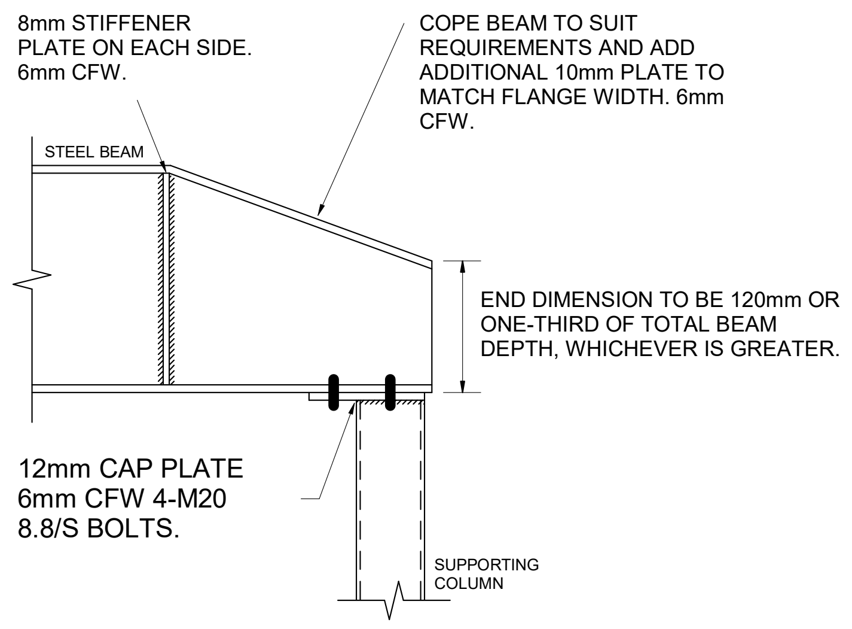
TYPICAL SLAB SAWCUT JOINT (S.C.)



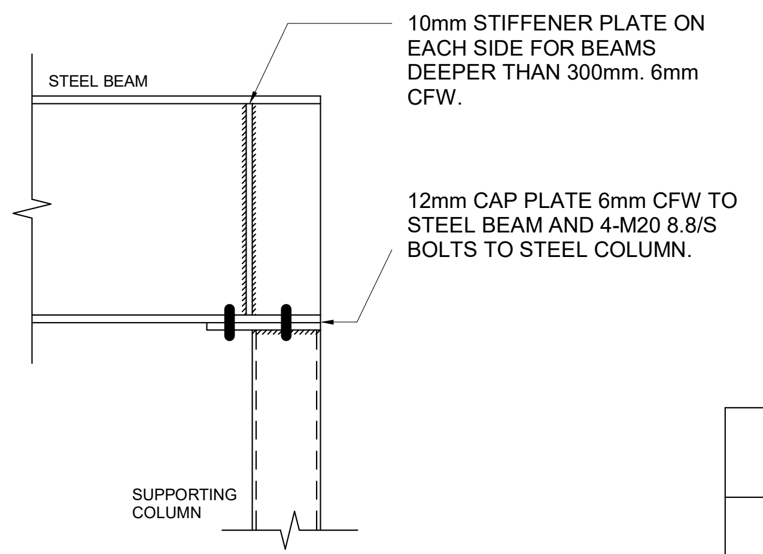
BEAM TO COLUMN



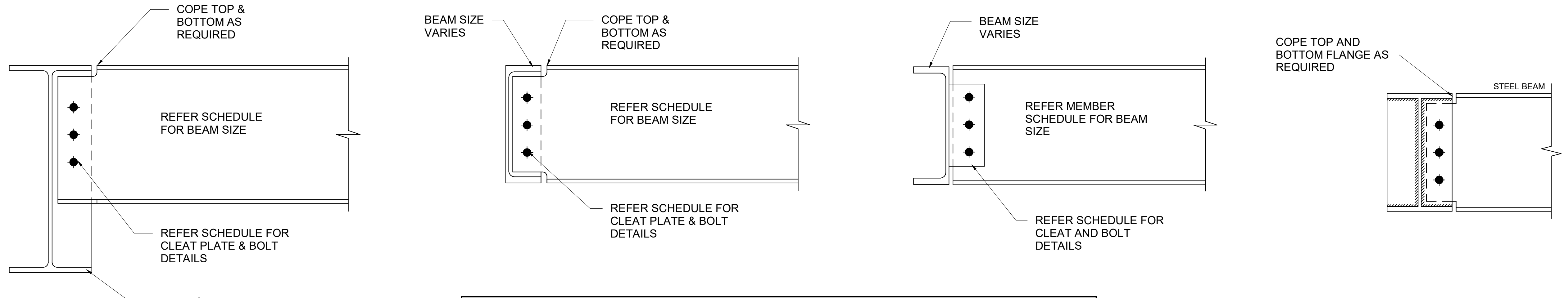
BEAM SPLICE



BEAM COPING



BEAM SUPPORT



NOTE: STANDARD CONNECTION DETAILS TO BE ADOPTED UNLESS NOTED OTHERWISE IN PLANS OR SECTIONS.

STEEL BEAM CONNECTION DETAILS

BEAM CONNECTION SCHEDULE

BEAM SIZE	CLEAT PLATE	BOLTS
75, 100 & 125 TFC	10 PLATE 6 CFW	2 M16 8.8/S
150, 180, 200,230 & 250 PFC	10 PLATE 6 CFW	2 M20 8.8/S
300 & 380 PFC	10 PLATE 6 CFW	3 M20 8.8/S
150 UC	10 PLATE 6 CFW	2 M20 8.8/S
180 UB	10 PLATE 6 CFW	2 M20 8.8/S
200 UB & UC	10 PLATE 6 CFW	2 M20 8.8/S
250 UB & UC	10 PLATE 6 CFW	2 M20 8.8/S
310 UB & UC	10 PLATE 6 CFW	3 M20 8.8/S
360 UB	10 PLATE 6 CFW	3 M20 8.8/S
410 UB	10 PLATE 6 CFW	4 M20 8.8/S
460 UB	10 PLATE 6 CFW	5 M20 8.8/S
530 UB	10 PLATE 6 CFW	6 M20 8.8/S
610 UB	10 PLATE 6 CFW	7 M20 8.8/S

TINGMORE
STRUCTURES

TINGMORE STRUCTURES
03 9005 1177
office@tingmore.com.au

CLIENT
FAITH CHRISTIAN CHURCH

REV	DESCRIPTION	DATE
A	Preliminary	25.11.20
B	Preliminary	22.01.21
C	Preliminary	02.02.21
D	Preliminary	16.03.21
Ø	Construction	25.11.21

PROJECT
PROPOSED EXTENSION AND ALTERATION

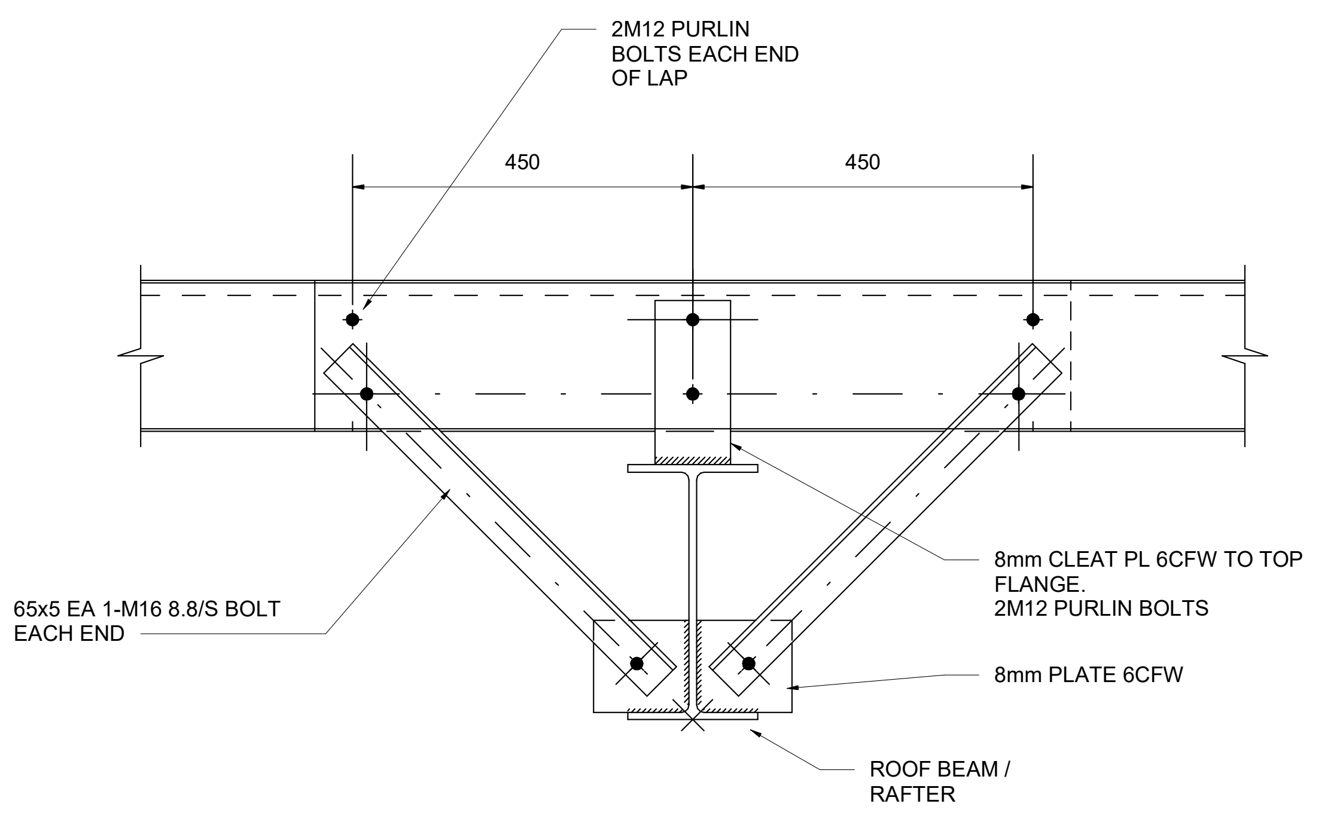
ADDRESS
19 McDONALDS LANE,
MULGRAVE

TITLE
FOUNDATION, FRAMING AND BRACING DETAILS

DATE 25.11.21
DESIGNED BON
DRAWN BON
STATUS CONSTRUCTION

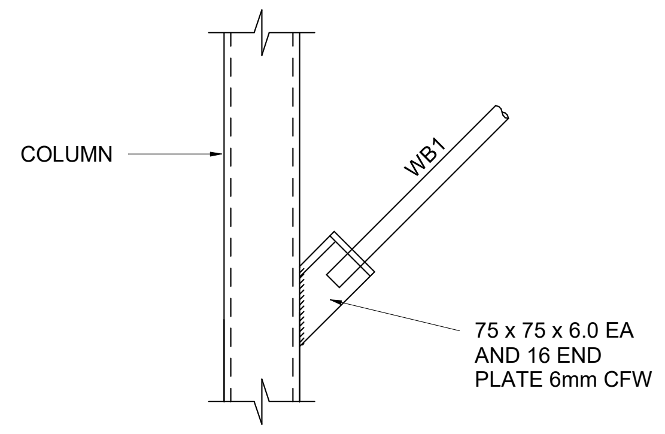
190223 - S05

SCALE AT A1
AS INDICATED
REV Ø

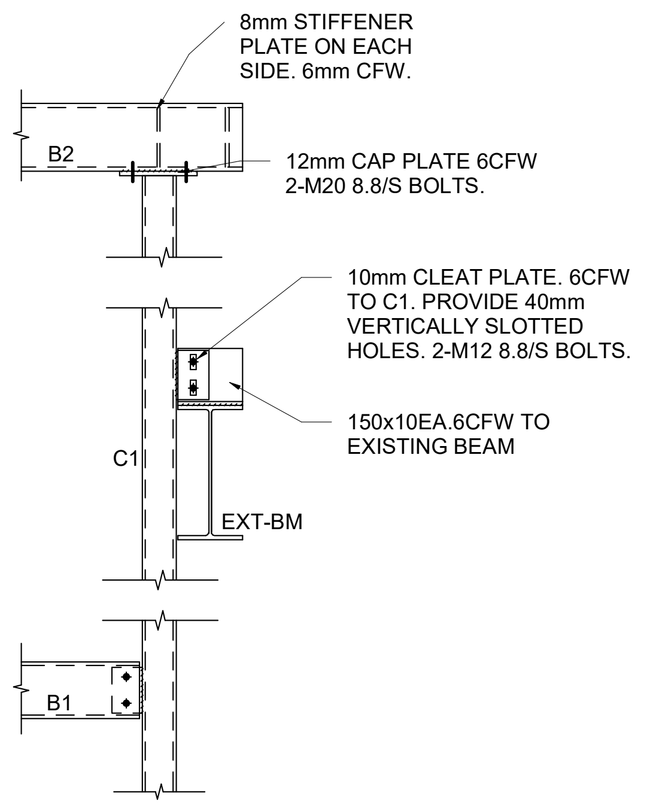


TYPICAL FLYBRACE AND PURLIN LAP DETAIL

SCALE 1:10



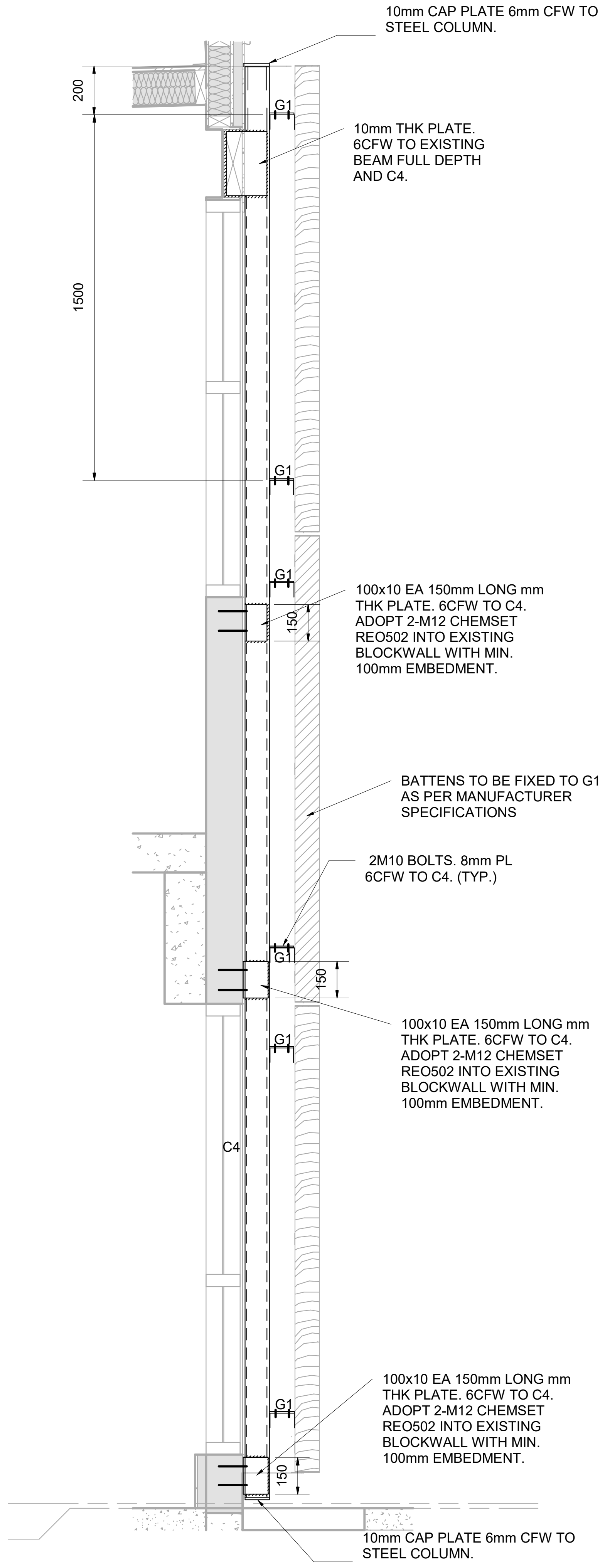
TYPICAL WB1 BRACING DETAIL TYPICAL



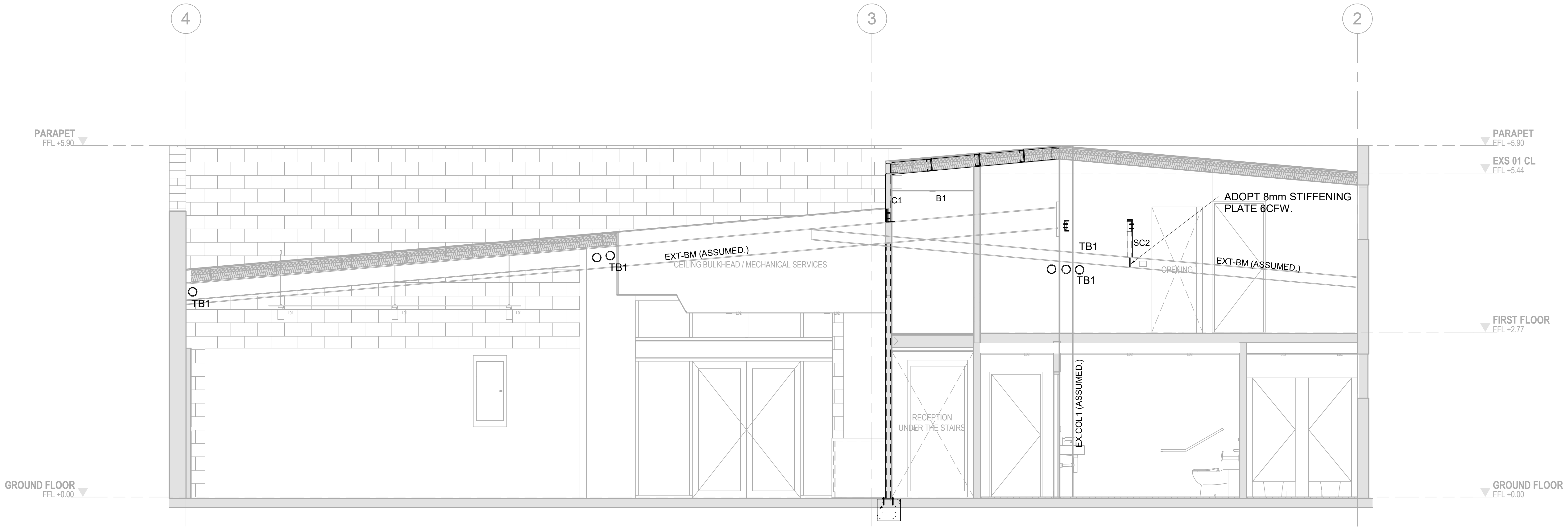
5
S03

2 First Floor - Section 2

Scale: 1 : 20



TYPICAL C4 & G1 CONNECTION DETAIL



2
S03

2 First Floor - Section 1

Scale: 1 : 50

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CHURCH

REV	DESCRIPTION	DATE
A	Preliminary	25.11.20
B	Preliminary	22.01.21
C	Preliminary	02.02.21
D	Preliminary	16.03.21
G	Preliminary	27.10.21
Ø	Construction	25.11.21

PROJECT
PROPOSED EXTENSION
AND ALTERATION

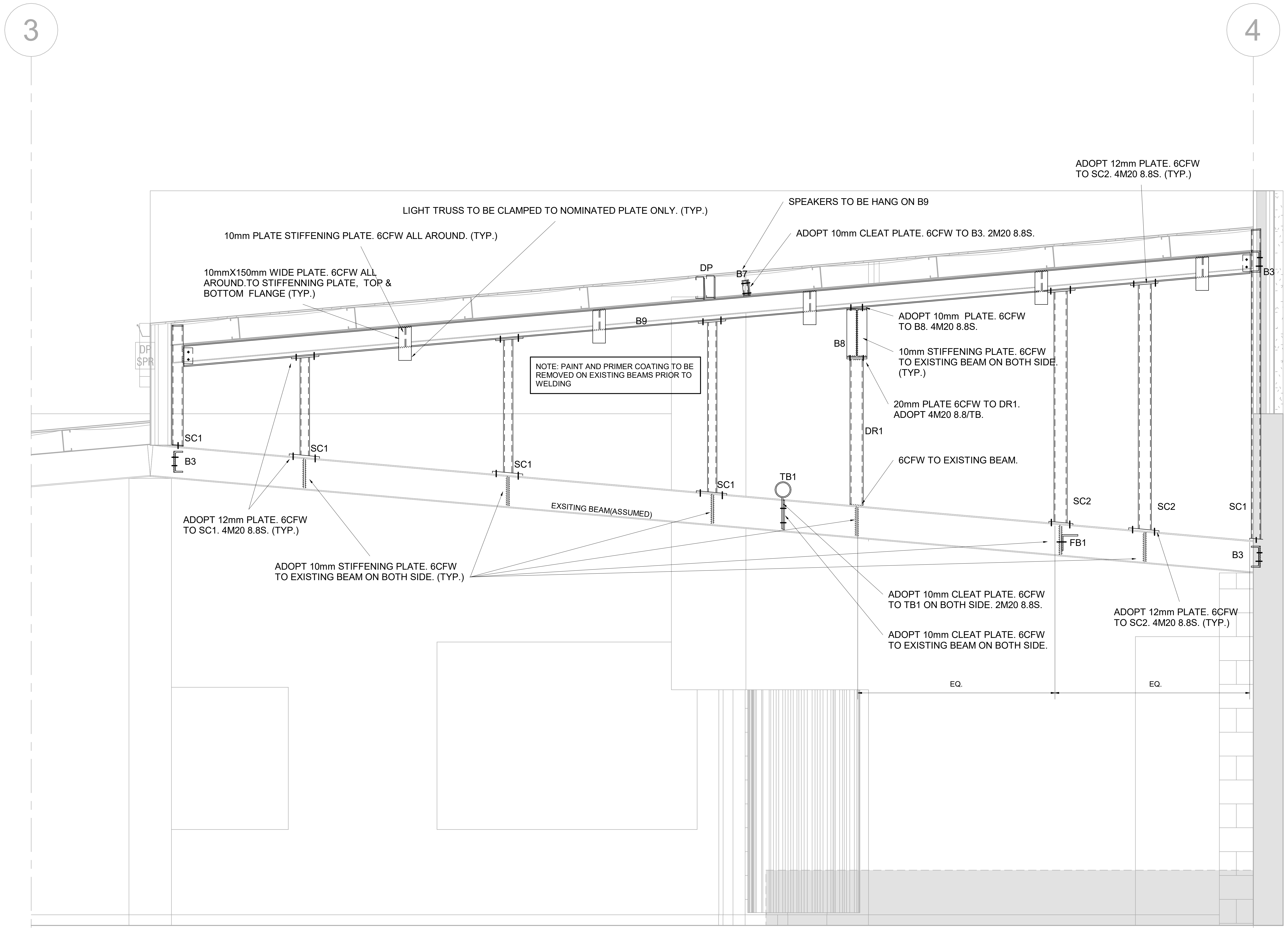
ADDRESS
19 McDONALDS LANE,
MULGRAVE

TITLE
ADDITIONAL SECTIONS
AND DETAILS

DATE 25.11.21
DESIGNED BON
DRAWN BON
STATUS CONSTRUCTION

190223 - S06

SCALE AT A1
AS INDICATED
REV Ø

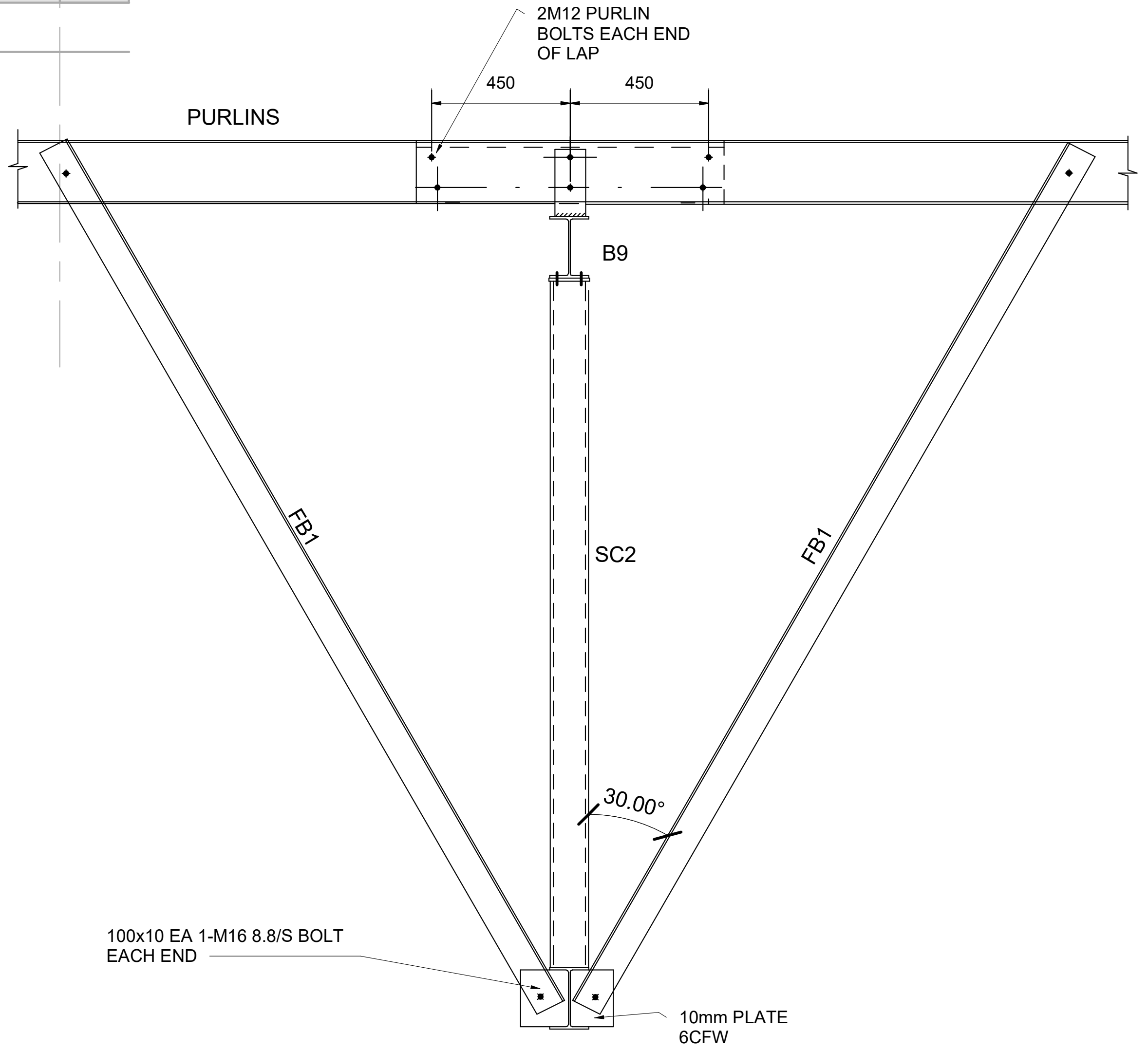


NOTE: PAINT AND PRIMER COATING TO BE REMOVED ON EXISTING BEAMS PRIOR TO WELDING

1
S04

3 Second Floor - Section 1

Scale: 1 : 25



2
S04

3 Second Floor - Section 2

Scale: 1 : 20

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FAITH CHRISTIAN CHURCH

REV	DESCRIPTION	DATE
B	Preliminary	22.01.21
C	Preliminary	02.02.21
D	Preliminary	16.03.21
F	Preliminary	17.06.21
Ø	Construction	25.11.21

PROJECT
PROPOSED EXTENSION AND ALTERATION

ADDRESS
19 McDONALDS LANE,
MULGRAVE

TITLE
ADDITIONAL SECTIONS AND DETAILS

DATE 25.11.21
DESIGNED BON
DRAWN BON
STATUS CONSTRUCTION

190223 - S07

SCALE AT A1
AS INDICATED
REV Ø