MAK CABIN, 438 BINGLEBURRA ROAD. SUGARLOAF, NSW 2420

STRUCTURAL DRAWING LIST

SK00.00 - COVER SHEET & DRAWING INDEX
SK00.01 - STRUCTURAL SPECIFICATIONS - SHEET 1
SK00.02 - STRUCTURAL SPECIFICATIONS - SHEET 2
SK01.01 - FOOTING PLAN & DETAILS

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR DA				01.04.25

CLIENT
MELINDA MAK &
PAUL BRADBURY

DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED

ARCHITECT
STUDIO FIND ARCHITECTS

ALL SETOUT TO ARCHITECT'S DRAWINGS, DIMENSIONS TO BE VERIFIED WITH THE ARCHITECT AND ON SITE BEFORE MAKING SHOP DRAWINGS OR COMMENCING WORK.
NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY.

SCALE @ A3

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PROJECT
MAK CABIN
438 BINGLEBURRA ROAD
SUGARLOAF, NSW

DRAWING TITLE
COVER SHEET & DRAWING INDEX

JOB NUMBER
ST243251

DRAWING NUMBER
SK00.00

REVISION
1

DRAWING SHEET SIZE = A3

GENERAL

G1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH SPECIFICATIONS AND OTHER CONSULTANT'S DRAWINGS.

G2. THE WEATHER PROOFING OF THE BUILDING IS THE ARCHITECT'S/BUILDER'S RESPONSIBILITY. THIS INCLUDES (BUT IS NOT LIMITED TO) THE SPECIFICATION AND FIXING DETAILS OF CLADDINGS, SHEETING, FLASHING, MEMBRANES, STEPS, SETDOWNS & RECESSES.

G3. ALL DISCREPANCIES SHALL BE REFERRED TO THE ARCHIETC AND RESOLVED BEFORE PROCEEDING WITH THE WORK.

G4. ALL DIMENSIONS SHOWN SHALL BE VERIFIED BY THE BUILDER ON SITE. THESE STRUCTURAL DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS. THE RL's SHOWN ON THESE DRAWINGS ARE APPROXIMATE AND ARE FOR THE SOLE PURPOSE OF ASSISTING THE STRUCTURAL DOCUMENTATION. THEY ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES. REFER TO ARCHITECTURAL DRAWINGS FOR CONFIRMATION OF ALL RL's, ALL LEVELS ARE IN METRES (m) AND DIMENSIONS ARE IN MILLIMETRES (mm)

G5. ALL WORKMANSHIP, TESTING, MATERIALS AND SUPERVISION ARE TO BE IN ACCORDANCE WITH THESE SPECIFICATIONS, THE WORK HEALTH AND SAFETY ACT 2011. ENFORCED BY THE WORKCOVER AUTHORITY AND CURRENT RELEVANT AUSTRALIAN STANDARDS.

G6. PROPRIETARY ITEMS SPECIFIED SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN RECOMMENDATIONS. DO NOT VARY SPECIFIED PROPRIETARY PRODUCTS WITHOUT WRITTEN APPROVAL FROM THE ENGINEER.

G7. THESE DRAWINGS AND ISSUED WRITTEN INSTRUCTIONS DURING THE COURSE OF THE CONTRACT DEPICT THE COMPLETE STRUCTURE. THEY DO NOT DESCRIBE A WORK METHOD. THE ARRANGEMENT, DESIGN AND INSTALLATION OF TEMPORARY WORKS REMAINS THE RESPONSIBILITY OF THE CONTRACTOR.

G8. THE DETERMINATION OF A SAFE WORK METHOD REMAINS THE RESPONSIBILITY OF THE CONTRACTOR. ANY ELEMENT WHICH POSES AN UNACCEPTABLE LEVEL OF SAFETY RISK TO CONSTRUCT SHALL BE REFERRED TO THE STRUCTURAL ENGINEER. TEMPORARY BRACING AND SUPPORT OF STRUCTURE IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE MAINTAINED DURING ALL STAGES OF CONSTRUCTION.

G9. NOTES ON ANY DRAWING APPLY TO ALL DRAWINGS IN THE SET UNLESS NOTED OTHERWISE

G10. ALL ARCHITECTURAL FITMENTS SUCH AS GLAZING, PARTITIONS, AND CEILINGS ETC. SHOULD ALLOW FOR THE SHORT AND LONG TERM MOVEMENT OF STRUCTURAL ELEMENTS. FOR BEAMS AND SLABS SPANNING LESS THAN 8m AN ALLOWANCE OF AT LEAST 20mm SHOULD BE MADE (CONSULT ENGINEER WHERE SPANS EXCEED 8m).

G11. THE BUILDER SHALL PROVIDE CERTIFICATION ON ANY DESIGN AND CONSTRUCT COMPONENT BY A CHARTERED PROFESSIONAL ENGINEER (NER).

G12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL SERVICES IN THE VICINITY OF THE WORKS. ANY SERVICES SHOWN ARE PROVIDED FOR INFORMATION ONLY. THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL SERVICES PRIOR TO COMMENCING AND SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE CAUSED TO SERVICES, AS WELL AS ANY LOSS INCURRED AS A RESULT OF THE DAMAGE TO ANY SERVICE.

G13. THE STRUCTURAL COMPONENTS DETAILED ON THESE STRUCTURAL DRAWINGS ARE JOB SPECIFIC AND HAVE BEEN DESIGNED IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS AND BUILDING CODE OF AUSTRALIA FOR THE FOLLOWING WIND LOADS, FLOOR USAGE AND EARTHQUAKE LOADS.

WIND LOADS:

- IMPORTANCE LEVEL = 1
- REGION = A3
- ANNUAL PROBABILITY OF EXCEDENCE = 1:500
- REGIONAL WIND SPEED V˜r
  - Ultimate = 61 m/s
  - Service = 39 m/s
- TERRAIN CATEGORY = 2
- TERRAIN MULTIPLIER M˜z,cat = 0.83
- WIND DIRECTION MULTIPLIER M˜d = 1.0
- SHIELDING MULTIPLIER M˜s = 1.0
- TOPOGRAPHIC MULTIPLIER M˜t = 1
- SITE WIND SPEED
  - Ultimate = 50.63 m/s
  - Service = 32.37 m/s

FLOOR LIVE LOADS:

- GENERAL = 1.5kPa
- DECK = 2.5kPa

ROOF LIVE LOADS:

- ROOF = 0.25kPa

EARTHQUAKE LOADS:

- IMPORTANCE LEVEL = 1
- ANNUAL PROBABILITY OF EXCEEDENCE (P)= 1:500
- PROBABILITY FACTOR (kp) = 1.0
- HAZARD FACTOR (Z) = 0.11
- DOMESTIC STRUCTURE? = Y
- SITE SUB-SOIL CLASS = Ce
- EARTHQUAKE DESIGN CATEGORY (EDC) = N/A
- DESIGN REQUIRED = NONE

SNOW LOADS:

G14. THE METHOD OF CONSTRUCTION AND THE MAINTENANCE OF SAFETY DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE BUILDER. IF ANY STRUCTURAL ELEMENT PRESENTS DIFFICULTY IN RESPECT TO SAFETY THE MATTER SHALL BE REFERRED TO NORTHROP CONSULTING ENGINEERS FOR RESOLUTION BEFORE PROCEEDING WITH THE WORK.

G15. NO CHANGES IN ANY STRUCTURAL ELEMENT SHALL BE MADE WITHOUT WRITTEN APPROVAL FROM NORTHROP CONSULTING ENGINEERS. IF THERE IS A DISCREPANCY THEN FOR TENDER PURPOSES ALLOW FOR THE MOST EXPENSIVE OPTION. NORTHROP CONSULTING ENGINEERS SHALL BE CONTACTED TO CONFIRM PRIOR TO CONSTRUCTION.

G16. CONSTRUCTION USING THESE DRAWINGS SHALL NOT COMMENCE UNTIL A CONSTRUCTION CERTIFICATE HAS BEEN ISSUED AND ONLY IF THE DRAWINGS ARE DESIGNATED "ISSUED FOR CONSTRUCTION".

G17. NORTHROP CONSULTING ENGINEERS ACCEPTS NO RESPONSIBILITY FOR ANY WORK NOT INSPECTED OR NOT APPROVED BY NORTHROP CONSULTING ENGINEERS DURING CONSTRUCTION.

G18. DEFLECTION CRITERIA FOR MINE SUBSIDENCE REQUIREMENTS:

CONSTRUCTION PHASE SERVICES - WITNESS POINTS

WP1. OBTAIN NORTHROP CONSULTING ENGINEERS WRITTEN INSTRUCTION AT THE FOLLOWING HOLD POINTS:
- PREPARATION OF FOUNDING MATERIAL, INCLUDING PIER BORE HOLES.
- REINFORCEMENT PRIOR TO PLACEMENT OF CONCRETE or COREFILLING OF BLOCKWORK.
- STEEL AND TIMBER FRAME INSPECTION PRIOR TO SHEETING.

WP2. PROVIDE MINIMUM 48 HOURS NOTICE FOR ANY REQUIRED INSPECTIONS.

TEMPORARY WORKS

TW1. THESE DRAWINGS DEPICT THE "PERMANENT" STRUCTURE, TEMPORARY WORKS REMAIN THE RESPONSIBILITY OF THE CONTRACTOR.

TW2. BUILDER MUST ENGAGE (NER) QUALIFIED STRUCTURAL ENGINEER FOR THE DESIGN OF ALL TEMPORARY WORKS NECESSARY TO SAFELY ERECT THIS STRUCTURE. AS A MINIMUM THE FOLLOWING WORKS REQUIRE ATTENTION;

- TEMPORARY PROPPIING

TW3. BUILDER SHALL CONTACT NORTHROP CONSULTING ENGINEERS IF THEY CONSIDER ANY PART OF THIS STRUCTURE IS UNSAFE TO ERECT

FOUNDATIONS

F1. ASSUMED ALLOWABLE BEARING CAPACITY:
- PAD FOOTINGS = 100kPa
- STRIP FOOTINGS = 100kPa

F2. A GEOTECHNICAL REPORT HAS NOT BEEN CARRIED OUT.

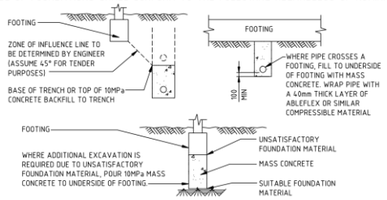
THE FOOTINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH AS2870-2011 FOR CLASS 'M' SITE. A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER TO BE CONTACTED DURING EXCAVATION TO CONFIRM THE SITE CLASSIFICATION.

F3. THE CONTRACTOR SHALL ALLOW TO ENGAGE A QUALIFIED (NER) GEOTECHNICAL ENGINEER TO APPROVE THE FOUNDATION MATERIAL. OBTAIN GEOTECHNICAL ENGINEERS APPROVAL AND SUBMIT CERTIFICATE IN WRITING TO NORTHROP CONSULTING ENGINEERS PRIOR TO CONCRETING FOUNDATIONS.

F4. ENSURE STABILITY OF ADJACENT BUILDINGS AND PATHS IS MAINTAINED DURING ALL STAGES OF CONSTRUCTION.

F5. DO NOT ALLOW EXCAVATED MATERIAL TO BE STOCKPILED WITHIN 1500mm OF FOOTING TRENCHES OR PITS. NO EARTH OR DETRITUS IS TO FALL INTO THE FOOTING TRENCHES BEFORE OR DURING CONCRETE PLACEMENT.

F6. THE UNDERSIDE OF FOUNDATIONS SHALL CONFORM TO THE FOLLOWING REGARDLESS OF NOMINATED LEVELS:



F7. FOOTINGS SHALL BE CENTRALLY LOCATED UNDER WALLS AND COLUMNS UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS.

F8. FOOTINGS SHALL BE EXCAVATED TO THE DETAILED DEPTH AND WIDTH. FOOTINGS SHALL BE INSPECTED AND FILLED WITH CONCRETE AS SOON AS POSSIBLE TO AVOID EITHER SOFTENING OF THE FOUNDATION MATERIAL OR DRYING OUT BY EXPOSURE.

F9. THE BASE OF ALL PIER HOLES SHALL BE FREE OF WATER AND CLEANED OF LOOSE MATERIAL OR DEBRIS PRIOR TO PLACEMENT OF CONCRETE. ALLOW TO PROVIDE TEMPORARY LINERS AS DEEMED NECESSARY.

TRENCH BACKFILL AND UNDERGROUND SERVICES

TB1. ALLOW FOR EXCAVATION IN ALL MATERIALS AS FOUND ON SITE AND AS DETAILED IN GEOTECHNICAL REPORT U.N.O.

TB2. PRIOR TO COMMENCING EXCAVATION VERIFY LEVELS OF ALL EXISTING SERVICES. IF ANY DISCREPANCIES CHECK WITH THE RELEVANT ENGINEER.

TB3. BACKFILL ALL TRENCHES UNDER SLABS, PATHS AND ROADS BELOW SUB-BASE LEVEL WITH ORIGINAL GROUND OR COMPACTED IMPORTED FILL.

TB4. IMPORTED FILL PROPERTIES :
- PASSING 50mm SIEVE - 100%P
- PASSING 75micron SIEVE - LESS THAN 25%P
- PLASTICITY INDEX - LESS THAN 15% BUT MORE THAN 2%

TB5. COMPACT FILL TO 95% MAXIMUM MODIFIED DRY DENSITY EXCEPT LANDSCAPED AREAS WHICH SHALL BE 85% MAXIMUM MODIFIED DRY DENSITY. COMPACT IN LAYERS OF 300mm MAXIMUM LOOSE THICKNESS.

TB6. ALLOW FOR 1 SUCCESSFUL COMPACTION TEST PER 20 METRES LENGTH OF TRENCH IN THE MIDDLE LAYER.

CONCRETE

C1. CARRY OUT ALL CONCRETE WORK IN ACCORDANCE WITH AS3600-2009 AND NATSPEC CONCRETE STANDARDS.

C2. CONCRETE PROPERTIES AND COVER TO REINFORCING :

COVER TO REINFORCEMENT			
ELEMENT	CONCRETE STRENGTH f'c (MPa)	MAXIMUM 56 DAY DRY SHRINKAGE	COVER (mm)
STRIP FOOTINGS	32MPa	1000µm	50
PAD FOOTINGS	32MPa	1000µm	50

MAXIMUM AGGREGATE SIZE = 20mm U.N.O.
SLUMP DURING PLACING = 80mm ±10mm
EXPOSURE CLASSIFICATION = A1 (INTERNAL CONCRETE ELEMENTS)
= B2 (EXTERNAL CONCRETE ELEMENTS)

NO ADMIXTURES SHALL BE USED IN THE CONCRETE MIX UNLESS APPROVED BY NORTHROP CONSULTING ENGINEERS IN WRITING.

C3. CONCRETE PROPERTIES FOR SLABS AND BEAMS SHALL BE VARIED FROM NORMAL CLASS AS FOLLOWS :
- MINIMUM CEMENT CONTENT 250kg/m˜
- MAXIMUM 56 DAY SHRINKAGE STRAIN = AS NOMINATED ABOVE
- PRIOR TO COMMENCEMENT CONCRETE SUPPLIER TO PROVIDE DRYING SHRINKAGE TEST RESULTS FROM PRODUCTION ASSESSMENT AS EVIDENCE THAT SPECIFIED DRYING SHRINKAGE LIMITS CAN BE ACHIEVED USING NORMAL MIX DESIGN.

C4. SUBMIT FOR APPROVAL THE FOLLOWING TO THE ENGINEER :
- CURING PROCEDURE (PVA MEMBRANES NOT PERMITTED)
- STRIPPING AND BACK PROPPING PROCEDURE
- DETAILS AND LOCATION OF CONDUITS AND PENETRATIONS
- CONSTRUCTION JOINT LOCATIONS

C5. FOR TENDER PURPOSES ASSUME MINIMUM STRIPPING TIMES AND EXTENT OF BACK PROPPING AS PER AS3610-1995 SECTION 5.0 AND AS PER GENERAL NOTES FOR FORMWORK AND PROPPING.

C6. FORMWORK FINISH CLASSIFICATION TO AS3610.1-2010 :
ELEMENT CLASS
- INGROUND FOOTINGS 5

SURFACE FINISHES :
- COLUMNS & WALLS - OFF FORM
- FLOOR SLABS (U.N.O.) - MACHINE FLOAT
- SLABS TO BE TILED - WOOD FLOAT
- STAIRS - STEEL TROWEL

C7. COMPACT ALL CONCRETE, INCLUDING FOOTINGS AND SLABS USING MECHANICAL VIBRATORS.

C8. PLACE CONCRETE CONTINUOUSLY BETWEEN CONSTRUCTION JOINTS SHOWN ON PLAN. DO NOT BREAK OR INTERRUPT SUCCESSIVE POURS SUCH THAT COLD JOINTS OCCUR. ANY REVISIONS OR ADDITIONS TO CONSTRUCTION JOINTS SHOWN ON PLAN REQUIRE APPROVAL FROM THE NORTHROP CONSULTING ENGINEERS.

C9. CONCRETE PROFILES :
- BEAM DEPTHS ARE WRITTEN FIRST AND INCLUDE THE SLAB THICKNESS.
- SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
- NO HOLES, CHASES OR EMBEDMENT OF PIPES OTHER THAN SHOWN IN THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR WRITTEN APPROVAL OF NORTHROP CONSULTING ENGINEERS.
- PROVIDE DRIP GROOVES AT ALL EXPOSED EDGES. CHAMFERS, DRIP GROOVES, REGLETS ETC TO ARCHITECT'S DETAILS.

C10. ALL PENETRATIONS TO HAVE 2/N16 TRIMMER BARS TOP AND BOTTOM TO EACH FACE. U.N.O. EXTEND TRIMMERS 600 BEYOND PENETRATION.

C11. SETDOWNS OR FALLS IN FLOOR SURFACES ARE NOT PERMITTED UNLESS SHOWN ON DRAWINGS. MAINTAIN MINIMUM SLAB THICKNESS SHOWN ON PLAN WHERE FALLS OCCUR.

C12. REINFORCEMENT QUALITY AND NOTATION :

REINFORCEMENT NOTATION				
SYMBOL	BAR TYPE	STRENGTH GRADE (MPa)	DUCTILITY CLASS	TO COMPLY WITH AUSTRALIAN STANDARD
S	STRUCTURAL GRADE DEFORMED RIB BAR	250	NORMAL	AS/NZS 4671-2001
N	HOT ROLLED DEFORMED RIB BAR	500	NORMAL	AS/NZS 4671-2001
R	PLAIN ROUND BAR	250	NORMAL	AS/NZS 4671-2001
RL	RECTANGULAR MESH OF DEFORMED RIB BAR	500	LOW	AS/NZS 4671-2001
SL	SQUARE MESH OF DEFORMED RIB BAR	500	LOW	AS/NZS 4671-2001
L-TM	TRENCH MESH	500	LOW	AS/NZS 4671-2001

ALL REINFORCING BARS SHALL BE GRADE D500N TO AS/NZS 4671-2001 AND ALL MESH SHALL BE GRADE 500L TO AS/NZS 4671-2001. UNLESS NOTED OTHERWISE CLASS L REINFORCEMENT SHALL NOT BE USED.

C13. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY, AND NOT NECESSARILY IN TRUE PROJECTION. BARS SHOWN ARE INDICATIVE ONLY AND LENGTHS MAY VARY. BEAM ELEVATIONS TAKE PRECEDENCE OVER SECTIONS. SLAB PLANS TAKE PRECEDENCE OVER SECTIONS. REFER TO SECTIONS FOR EXTRA BARS THAT MAY BE REQUIRED.

C14. USE ONLY PLASTIC OR CONCRETE CHAIRS AT EXTERNAL SURFACES.

C15. SITE BENDING OF REINFORCEMENT BARS SHALL BE DONE WITHOUT HEATING USING A RE-BENDING TOOL. THE BARS SHALL BE RE-BENT AGAINST A FLAT SURFACE OR A PIN WITH A DIAMETER NOT LESS THAN THE MINIMUM PIN SIZE PRESCRIBED IN AS3600-2009.

C16. SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN POSITIONS SHOWN ON THE STRUCTURAL DRAWINGS OR IN POSITIONS OTHERWISE APPROVED IN WRITING BY NORTHROP CONSULTING ENGINEERS. LAPS SHALL NOT BE LESS THAN THE DEVELOPMENT LENGTH FOR EACH BAR AND IN ACCORDANCE WITH AS3600-2009 SECTION 13.

C17. LAPS IN MESH SHALL BE IN ACCORDANCE WITH AS3600-2009 SECTION 13.

C18. WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED BY NORTHROP CONSULTING ENGINEERS.

C19. AT EXTERNALLY EXPOSED SURFACES NO METALLIC ITEMS INCLUDING FORM BOLTS, FORM SPACERS, METALLIC BAR CHAIRS AND TIE-WIRE ARE TO BE PLACED IN THE COVER ZONE.

C20. ALL REINFORCEMENT, ANCHOR BOLTS AND OTHER CONCRETE INSERTS SHALL BE WELL SECURED IN POSITION AND INSPECTED BY NORTHROP CONSULTING ENGINEERS PRIOR TO PLACING CONCRETE.

C21. HOLD DOWN BOLTS SHALL BE HOT DIPPED GALVANISED.

C22. U.N.O., ALL MASONRY ANCHORS INTO CONCRETE SHALL BE RAMSET TRUBOLTS (LONGEST VERSION) OR APPROVED EQUIVALENT. BOLTS SHALL BE GALVANISED WHERE THEY ARE ADJOINING NON FERROUS OR PRE-PAINTED MEMBERS. PROVIDE STAINLESS STEEL BOLTS FOR ALL EXTERNAL CONDITIONS, OR WHERE EXPOSED TO THE WEATHER.

C23. ALL CONCRETE MIXES SHALL BE DESIGNED BY A RECOGNISED TESTING LAB AND SUBMITTED FOR REVIEW BY NORTHROP CONSULTING ENGINEERS.

C24. ALL COMPRESSIVE STRENGTH TEST REPORTS SHALL BE SUBMITTED TO NORTHROP CONSULTING ENGINEERS FOR REVIEW.

C25. PROJECT CONTROL TESTING SHALL BE CARRIED OUT ON ALL CONCRETE IN ACCORDANCE WITH AS1379-2007. TEST CYLINDERS ARE TO BE KEPT ON SITE.

C26. CURING OF ALL CONCRETE IS TO BE ACHIEVED BY KEEPING SURFACES CONTINUOUSLY WET FOR A PERIOD OF 7 DAYS, UNLESS SPECIFIED OTHERWISE. APPROVED SPRAY ON CURING COMPOUNDS THAT COMPLY WITH AS3799-1998 MAY BE USED WHERE FLOOR FINISHES WILL NOT BE AFFECTED. POLYTHENE SHEETING OR WET HESSIAN MAY BE USED TO RETAIN CONCRETE MOISTURE WHERE PROTECTED FROM WIND AND TRAFFIC. CURING IS TO COMMENCE IMMEDIATELY AFTER CONCRETE PLACEMENT.

C27. FOR ELAPSED TIME BETWEEN THE WETTING OF THE MIX AND THE DISCHARGE OF THE MIX, REFER TO CONCRETE - ELAPSED DELIVERY TIMES NOTE.

CONCRETE - ELAPSED DELIVERY TIMES

CE1. ELAPSED TIME BETWEEN THE WETTING OF THE MIX AND THE DISCHARGE OF THE MIX AT THE SITE MUST NOT EXCEED THE CRITERIA IN THE ELAPSED DELIVERY TIMETABLE BELOW

ELAPSED DELIVERY TIME TABLE	
CONCRETE TEMPERATURE AT TIME OF DISCHARGE (°C)	MAXIMUM ELAPSED TIME (HOURS)
< 24	2.00
24 TO 27	1.50
27 TO 30	1.00
30 TO 32	0.75
32 TO 35	0.50

IF THE ELAPSED TIME IS LONGER THAN THE CORRESPONDING TIME IN THE TABLE ABOVE, OR THE TEMPERATURE IS GREATER THAN 35 degrees, EITHER NORTHROP CONSULTING ENGINEERS OR THE CONCRETE MIX DESIGN ENGINEER ARE TO BE CONTACTED TO CONFIRM WHETHER PLACEMENT IS TO PROCEED OR IF THE POUR IS TO BE STOPPED. IF THE POUR IS STOPPED, PRIOR TO ANY FURTHER CONCRETE PLACEMENT NORTHROP CONSULTING ENGINEERS ARE TO BE CONTACTED TO INSPECT THE WORKS AND DETERMINE WHAT, IF ANY, RECTIFICATION WORKS ARE REQUIRED.

- AT LEAST 1 SAMPLE FOR EVERY 50m3˜ SHALL BE TAKEN AT THE SITE, BUT NOT LESS THAN 3 SAMPLES SHALL BE TAKEN PER POUR. FIRST AND LAST BATCH PER DAY TO BE SAMPLED, THE OTHER TAKEN PROGRESSIVELY DURING THE POUR, RECORDING LOCATION IN POUR WHERE SAMPLE WAS TAKEN.
- IT IS PERMISSIBLE TO REDUCE THE NUMBER OF SAMPLES TO 2 FOR POURS OF LESS THAN 30m3˜, AND 1 FOR POURS OF LESS THAN 10m3˜. SAMPLE CONSISTS OF AT LEAST 3 CYLINDERS. ONE CYLINDER SHALL BE TESTED AT 7 DAYS. TWO CYLINDERS SHALL BE TESTED AT 28 DAYS. 7 & 28 DAY TEST RESULTS TO BE SENT IMMEDIATELY TO NORTHROP CONSULTING ENGINEERS.
- AS1379-2007 SHALL NOT APPLY UNLESS THE SAMPLE CONSISTS OF 6 CYLINDERS MIN. AT EACH TEST AGE.
- IF MORE THAN ONE STRENGTH GRADE IS BEING USED IN A POUR, EACH STRENGTH GRADE SHALL BE CONSIDERED A SEPARATE POUR FOR THE PURPOSES OF TESTING.

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DRAWING TITLE
STRUCTURAL SPECIFICATIONS
SHEET 1

JOB NUMBER
ST243251

DRAWING NUMBER
SK00.01

REVISION
1

DRAWING SHEET SIZE = A3

TIMBER - GENERAL

T1. ALL TIMBER DESIGN, MATERIAL AND CONSTRUCTION SHALL COMPLY WITH AS1720, AS1684, AS2082-2007 AND AS2858-2008 AS APPROPRIATE.

T2. UNLESS NOTED OTHERWISE; SOFTWOOD SHALL BE A MINIMUM STRESS GRADE MGP10 (OREGON) OR MGP10/F5 (PINE), STRENGTH GROUP SD5, UNLESS NOTED OTHERWISE HARDWOOD SHALL BE A MINIMUM OF F17 (SEASONED) OR F8 (UNSEASONED). SUBMIT SUPPLIERS CERTIFICATES CONFIRMING STRESS GRADE OF TIMBER MEMBERS IF REQUESTED. ALL TIMBER SHALL BE BRANDED. THE IMPERFECTIONS PERMITTED BY THE GRADING RULES SHALL APPLY TO ERECTED TIMBER. TIMBER WILL BE REJECTED IF IMPERFECTION LIMITS ARE EXCEEDED.

T3. PRESERVATIVE TREATMENT:

- ALL TIMBERS TO HAVE THE NECESSARY PRESERVATIVE TREATMENT APPROPRIATE TO THE SPECIES AND USAGE AS SPECIFIED IN AS1604-2010. ALL TREATED TIMBERS TO HAVE VISIBLE MARKS THAT ARE ABLE TO BE SEEN DURING THE FRAMING INSPECTION.

T4. TERMITE PROTECTION:

- ALL CONSTRUCTION WORK SHOULD BE IN ACCORDANCE WITH AS3660.1-2000 PROTECTION OF BUILDINGS FROM SUBTERRANEAN TERMITES PART 1: NEW BUILDINGS. IF THE REQUIREMENTS IN THIS CODE ARE UNABLE TO BE MET, NORTHROP CONSULTING ENGINEERS RECOMMENDS THE USE OF TERMITE RESISTANT STRUCTURAL TIMBER IN ACCORDANCE WITH AS1604-2010 AS SHOWN BELOW:

T5. TIMBER TREATED IN ACCORDANCE WITH AS1604 SHALL HAVE THE FOLLOWING HAZARD LEVEL:

ENVIRONMENT	CLASS
INTERIOR ABOVE GROUND	HAZARD LEVEL H2
EXTERIOR ABOVE GROUND	HAZARD LEVEL H3
EXTERIOR IN GROUND	HAZARD LEVEL H4 AND H5, AS APPROPRIATE

T6. EXTERNAL TIMBER SHALL BE EITHER DURABILITY CLASS 1 OR 2 HARDWOOD TO AS1720.2-2006 OR IMPREGNATED PINE PRESSURE TREATED TO AS1604 AND RE-DRIED PRIOR TO USE. SUPPLEMENTARY TREATMENT SHALL BE APPLIED TO ALL CUT SURFACES. SUPPLY SUPPORTING DOCUMENTATION REGARDING PRESERVATIVE TREATMENT IF REQUESTED.

T7. UNLESS NOTED OTHERWISE ALL BOLTS IN TIMBER CONSTRUCTION SHALL BE MINIMUM M12. BOLT HOLES TO BE DRILLED TO THE EXACT SIZE. WASHERS UNDER HEADS AND NUTS TO BE AT LEAST 3 TIMES THE BOLT DIAMETER. ALL BOLTED CONNECTIONS SHALL USE WASHERS UNDER HEADS AND NUTS. ALL EXTERNAL BOLTS AND WASHES SHALL BE HOT DIP GALVANISED or GRADE 316 STAINLESS STEEL IF < 1km FROM THE COAST.

T8. UNLESS NOTED OTHERWISE USE:

- M12 4.6/S GALVANISED BOLTS WITH 55mm DIAMETER x 3.0mm GALVANISED WASHERS UNDER HEAD AND NUT
- M12 4.6/S GALVANISED COACH SCREWS WITH 55mm DIAMETER x 3.0mm GALVANISED WASHERS.
- 3.15mm GALVANISED NAILS WITH MINIMUM 35mm EMBEDMENT.
- 14 GAUGE (6.4mm THREAD DIAMETER) GALVANISED, BUGLE HEADED SCREWS WITH MINIMUM 50mm EMBEDMENT.
- 12 GAUGE (5.6mm THREAD DIAMETER) TYPE 17 POINT GALVANISED TIMBER SELF DRILLING SCREWS, MIN 50mm LONG.
- GALVANISED CONNECTOR PLATES COMPLYING WITH AS1649-2001.
- MAINTAIN TIMBER EDGE DISTANCES AS PER AS1720.

T9. TIMBER TOLERANCES ON THE FINISHED WIDTH AND THICKNESS TO BE IN ACCORDANCE WITH AS2082-2007, AS/NZS 1748-2006 & AS3519-2005 AS APPROPRIATE.

- MINIMUM ACTUAL DIMENSIONS FOR TIMBER MEMBERS ARE AS FOLLOWS:

NOMINAL DIMENSION	50	100	150	200	250	>250
MINIMUM ACTUAL	45	90	140	187	235	MINUS 6%P

- HYSPAN AND MGP MEMBERS ARE ACTUAL SIZES

T10. ALL TIMBER JOINTS AND NOTCHES ARE TO BE A 100mm MINIMUM AWAY FROM LOOSE KNOTS, SEVERE SLOPING GRAIN, GUM VEINS OR OTHER DEFECTS.

T11. GLUE LAMINATED TIMBER SHALL BE MANUFACTURED IN ACCORDANCE WITH AS/NZS 1328-1998. MEMBERS FOR EXTERNAL USE SHALL BE FABRICATED USING RESORCINOL OR PHENOLIC ADHESIVE.

T12. CAMBER IN BEAMS OR RAFTERS SHALL BE AS NOTED ON THESE STRUCTURAL DRAWINGS OR BEAMS/RAFTERS SHALL BE INSTALLED WITH NATURAL HOG UP.

T13. ALL PROPRIETARY FIXINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. ALL METAL FIXINGS SHALL BE COMPATIBLE WITH TIMBER GLUES AND PRESERVATIVE TREATMENTS.

T14. NO PENETRATIONS OR NOTCHES OTHER THAN THOSE SHOWN ON THESE STRUCTURAL DRAWINGS SHALL BE MADE IN ANY TIMBER MEMBERS WITHOUT APPROVAL OF NORTHROP CONSULTING ENGINEERS.

T15. ALL TIMBER SHALL BE PROTECTED FROM THE ELEMENTS DURING FABRICATION AND CONSTRUCTION BY THE APPLICATION OF AN APPROVED WATERPROOF TIMBER PRESERVATIVE, PROPOSALS SHALL BE SUBMITTED TO NORTHROP CONSULTING ENGINEERS.

T16. ALL EXPOSED LINES OF BOLTS SHALL BE EVENLY AND EQUALLY SPACED UNLESS NOTED OTHERWISE AND SHALL ALIGN WITH ADJACENT EXPOSED BOLT GROUPS.

T17. ALL ACCESSIBLE BOLTS ARE TO BE RETIGHTENED AND ALL NAILS REDRIVEN AS CLOSE TO COMPLETION OF CONTRACT AS POSSIBLE AND AGAIN AT THE END OF THE DEFECTS LIABILITY PERIOD. ALL OTHER BOLTS SHALL BE TIGHTENED IMMEDIATELY PRIOR TO BEING BUILT-IN.

T18. NORTHROP CONSULTING ENGINEERS SUPPORT THE ENVIRONMENT AND RECOMMEND THE USE OF SUSTAINABLE FOREST TIMBER OR RECYCLED TIMBER.

T19. NON-LOADBEARING TIMBER FRAMED WALLS SHALL FINISH 10mm SHORT OF THE ROOF FRAMING AND SHALL BE LATERALLY RESTRAINED USING 'PRYDA PHL' BRACKETS WITH SLOTTED HOLES @ 1800 CTS MAXIMUM IN ACCORDANCE WITH AS1684.

STEELWORK (More than 50km)

S1. FABRICATE AND ERECT STRUCTURAL STEELWORK IN ACCORDANCE WITH AS4100-1998.

S2. PROVIDE HOLES, CLEATS AND FIXING FOR LIGHT STEEL/TIMBER FRAMING, FINISHES, ETC. SHOWN ON ARCHITECTURAL DRAWINGS.

S3. THESE DRAWINGS HAVE BEEN PREPARED TO INDICATE THE STRUCTURAL INTENT. THE SHOP DETAILER IS TO USE THESE DRAWINGS AS A BASIS FOR DIMENSIONAL COORDINATION WITH OTHER CONSULTANT'S DRAWINGS AND IS TO PREPARE DETAILED SHOP DRAWINGS. WHERE NECESSARY, THE SHOP DETAILER IS TO MAKE ASSUMPTIONS AND SUBMIT TO NORTHROP CONSULTING ENGINEERS FOR RESOLUTION. SHOP DETAILER IS TO ALLOW TO RE-WORK SHOP DRAWINGS AS NECESSARY. FABRICATOR SHALL PREPARE SHOP DRAWINGS AND SUBMIT THEM TO THE BUILDER FOR THEIR APPROVAL. BUILDER SHALL LODGE TWO HARD COPIES OF APPROVED DRAWINGS TO NORTHROP CONSULTING ENGINEERS FOR REVIEW PRIOR TO FABRICATION, (ALLOW 5 WORKING DAYS FOR REVIEW).

S4. TYPICAL STEELWORK CONNECTIONS (UNLESS NOTED OTHERWISE)

- COLUMN BASE PLATES: 10 BASE PLATE, 4/M16 HILTI HIT-HY 200 MAX CHEMICAL INJECTION ANCHORS
- BEAM TO TOP OF COLUMN: CAP PLATE, 2 BOLTS TO CHANNELS, 4 BOLTS TO RHS/CHS/SHS/UB/UC
- BEAM TO SIDE OF COLUMN: FIN PLATE, 2 BOLTS
- BEAM TO SIDE OF BEAM: END OR FIN PLATE, 2 BOLTS
- COLUMNS TO TOP OF BEAM: BASE PLATE, 2 BOLTS TO CHANNELS, 4 BOLTS TO UB/UC SECTIONS
- ALL ROOF & WALL BRACING: CLEAT PLATES, 2 BOLTS
- PURLINS/WALL GIRTS: 8 CLEAT PLATES, 2 PURLIN BOLTS

UNLESS NOTED OTHERWISE, USE:

- 10mm BASE, CAP, GUSSET, FIN AND END PLATES.
- M20 8.8/S BOLTS. (4.6/S GRADE TO BE USED FOR HOLD DOWN BOLTS)
- 6mm CONTINUOUS FILLET WELDS MADE WITH E4818 MILD STEEL ELECTRODES.
- ALL WELDS SP CATEGORY

S5. NO PAINT ON MATING SURFACES WITH TF OR TB BOLTING UNLESS APPROVED BY NORTHROP CONSULTING ENGINEERS.

S6. TF or TB BOLTS TO BE INSTALLED WITH ONE HARDENED WASHER UNDER THE TURNED PART.

S7. TF AND TB BOLTING BY "PART TURN" METHOD WITH LOAD INDICATING WASHERS.

S8. ALL BOLTS, SCREWS, HOLD DOWN BOLTS, MASONRY ANCHORS SHALL BE HOT DIP GALVANISED TO AS1214-1983, AS/NZS 4534-2006, AS/NZS 4680-2006 & AS/NZS 4792-2006. NO CONNECTION SHALL HAVE LESS THAN 2 BOLTS. ALL BOLTS AND WASHERS SHALL BE GALVANISED. ALL HOLES SHALL BE 2mm LARGER THAN THE BOLT DIAMETER UNLESS NOTED OTHERWISE.

S9. MINIMUM YIELD STRESS:

- HOT ROLLED SECTIONS = 300MPa
- SQUARE HOLLOW SECTIONS = 350MPa
- RECTANGULAR HOLLOW SECTIONS = 350MPa
- CIRCULAR HOLLOW SECTION = 250MPa
- HOT ROLLED PLATE = 250MPa

S10. COLD FORMED SECTIONS TO CONFORM WITH:

- AS/NZS 1594-2002, AS/NZS 1595-1998, AS/NZS 4600-2005 AND AS 1397-2001, AS1397, AS/NZS1594 AND AS/NZS1595.
- MINIMUM YIELD STRESSES SECTIONS 450MPa.

S11. SURFACE TREATMENT UNLESS NOTED OTHERWISE:

- PROTECTED FROM WEATHER = AS/NZS 2312-IZS2
- EXPOSED TO WEATHER = AS/NZS 2312-IZS2
- BUILT INTO THE INTERNAL SKIN OF EXTERNAL WALLS = AS/NZS 2312-IZS2

REFER TO PURLIN & GIRTS NOTES FOR SURFACE TREATMENT OF THESE ITEMS

S12. FIX CROSS BRACING TO PURLINS AT 3000 MAX CENTRES WITH M10 BOLTS OR M6 HOOKS. BOLTS ARE TO BE MECHANICALLY FIXED TO PURLINS, WITH HOOKS TO BE LOOPED THROUGH THE WEB OF THE PURLINS AND SECURED USING A NUT TO ENSURE THEY WILL NOT BECOME LOOSE DURING MOVEMENT OF THE ROOF. ALTERNATIVELY, GALVANISED STRAP MAY BE USED TO SECURE THE BRACING. THE STRAP IS TO BE INSTALLED TO LIFT THE BRACE SUCH THAT IT IS PLUMB, WITH THE BRACE SCREW FIXED TO THE WEB OF THE PURLIN AT BOTH ENDS USING 2/12-14 TEKS SCREWS.

S13. ALL BURIED STEELWORK TO BE PAINTED FIRST USING 'EXPOSED TO WEATHER' TREATMENT SYSTEM FOLLOWED BY THE APPLICATION OF A TWO PART EPOXY SUCH AS 'SIKAGUARD-63N' OR APPROVED EQUIVALENT, THEN CONCRETE ENCASE STEELWORK WITH MASS CONCRETE (MINIMUM 75mm COVER TO STEELWORK).

S14. STEELWORK TO BE CONCRETE ENCASED FOR FIRE RATING PURPOSES SHALL BE FREE FROM ALL LOOSE RUST, LOOSE MILL SCALE, DIRT, OIL, GREASE, ETC. AND REINFORCED WITH SL41 FABRIC OR EQUIVALENT BLACK IRON WIRE, 3mm DIA.

S15. BOLT SYMBOLS:

- 4.6/S = GRADE 4.6 BOLT / SNUG TIGHTENED.
- 8.8/S = GRADE 8.8 BOLT / SNUG TIGHTENED.
- 8.8/TF = GRADE 8.8 BOLT / FULLY TENSIONED FRICTION TYPE (USE LOAD INDICATOR WASHERS)
- 8.8/TB = GRADE 8.8 BOLT / FULLY TENSIONED BEARING TYPE (USE LOAD INDICATOR WASHERS)

S16. THE CONTRACTOR SHALL SUPPLY WRITTEN CERTIFICATION TO THE STRUCTURAL ENGINEER PRIOR TO THE ERECTION OF ANY STRUCTURAL STEEL STATING THAT THE BOLTS PROPOSED TO BE USED COMPLY WITH AS/NZS 1252-1996. HIGH STRENGTH BOLTS (8.8) ARE NOT TO BE WELDED.

S17. THE FABRICATION AND ERECTION OF THE STRUCTURAL STEEL WORK SHALL BE SUPERVISED BY A QUALIFIED PERSON EXPERIENCED IN SUCH SUPERVISION, IN ORDER TO ENSURE THAT ALL REQUIREMENTS OF THE DESIGN ARE MET.

S18. ALL MEMBERS SHALL BE SUPPLIED IN SINGLE LENGTHS. SPLICES SHALL ONLY BE PERMITTED IN LOCATIONS SHOWN ON THE STRUCTURAL DRAWINGS.

S19. ALL BUTT WELDS SHALL BE COMPLETE PENETRATION BUTT WELDS CATEGORY SP TO AS1554.1-2004 U.N.O THE EXTENT ON NON-DESTRUCTIVE WELD EXAMINATION SHALL BE AS NOTED BELOW:
- RADIOGRAPHIC OR ULTRASONIC EXAMINATION SHALL BE TO AS/NZS 1554.1-2004, AS 2177-2006 AND AS2207-2007 AS APPROPRIATE.

S20. GROUT ALL STEEL BASES BY DRY PACKING USING GROUT WHICH IS NON-SHRINK AND HAS A MINIMUM COMPRESSIVE STRENGTH AT 7 DAYS OF 40MPa

S21. PROVIDE SEAL PLATES TO THE ENDS OF ALL HOLLOW SECTIONS, WITH 'BREATHER' HOLES IF MEMBERS ARE TO BE HOT DIP GALVANISED.

S22. THESE DRAWINGS MAY NOT IDENTIFY ALL SECONDARY STEELWORK ELEMENTS THAT ARE REQUIRED FOR SUPPORT, FIXING AND FINISHING OF GLAZING, CLADDING AND LINING. THE TENDERER IS RESPONSIBLE FOR THE INCLUSION OF SUCH STEELWORK ELEMENTS TO THE EXTENT REQUIRED ON THE ARCHITECT'S DRAWINGS.

S23. IMPORTED STRUCTURAL STEEL MATERIAL
ALL STRUCTURAL STEELWORK USED ON THIS PROJECT SHALL BE COMPLIANT WITH AS4100, AND IN PARTICULAR:

- CERTIFIED MILL TEST REPORTS, OR TEST CERTIFICATES SHALL BE PROVIDED AS EVIDENCE OF COMPLIANCE WITH THE STANDARDS REFERRED TO IN AS4100. THESE CERTIFICATES SHALL BE SUBMITTED TO NORTHROP CONSULTING ENGINEERS FOR APPROVAL PRIOR TO COMMENCEMENT OF FABRICATION.
- PROVIDE TEST CERTIFICATED FOR COMPLIANCE FOR ALL FASTENERS. THESE CERTIFICATES SHALL BE SUBMITTED TO NORTHROP CONSULTING ENGINEERS FOR APPROVAL PRIOR TO FABRICATION.
- FOR COLD FORMED SECTIONS A "CERTIFICATE OF CONFORMITY TO AS1163-1991" SHALL BE SUBMITTED TO NORTHROP CONSULTING ENGINEERS FOR APPROVAL PRIOR TO FABRICATION.
- CERTIFICATES SHALL ONLY BE ACCEPTED FROM TESTING COMPANIES ACCREDITED BY A TESTING AUTHORITY RECOGNISED IN AUSTRALIA, EG NATA or JAS-ANZ CERTIFIED.
- UNIDENTIFIED STEEL ie. ANY STEEL THAT IS NOT ACCOMPANIED WITH EVIDENCE STATING COMPLIANCE WITH THE REQUIREMENT OF AS4100 SHALL ONLY BE USED STRICTLY IN ACCORDANCE WITH CLAUSE 2.2.3 OF AS4100.

IF MATERIALS SUPPLIED AND INSTALLED ARE SUBSEQUENTLY PROVEN TO BE NON COMPLIANT WITH THE SPECIFIED AUSTRALIAN STANDARDS IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND COST TO UNDERTAKE NATA OR EQUIVALENT CERTIFIED TESTING TO PROVE CONFORMANCE TO THE AUSTRALIAN STANDARDS AND DESIGN SPECIFICATIONS. SIMILARLY ANY RECTIFICATION WORKS THAT MAY SUBSEQUENTLY BE REQUIRED TO SATISFY AUSTRALIAN CODE REQUIREMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

CONCRETE MASONRY (More than 10km)

CM1. MASONRY CONSTRUCTION IS TO CONFORM TO AS3700-2001.

- MORTAR CLASSIFICATION = M3
- DURABILITY CLASSIFICATION OF BUILT IN COMPONENTS = R1
- DURABILITY GRADE OF EXTERNAL MASONRY UNITS = PROTECTED

CM2. THE CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF THE MASONRY UNITS SHALL BE 15 MPa OR GREATER.

CM3. BED UNITS IN FRESHLY PREPARED MORTAR, UNIFORMLY MIXED CEMENT, LIME AND SAND IN THE RATIO OF 1:1:6 or 1:0:5 CONFORMING TO AS 3700-2001.

CM4. GROUT FILL FOR BLOCKWORK:

- COMPRESSIVE STRENGTH = N20MPa
- MAXIMUM AGGREGATE SIZE = 10mm
- SLUMP = 225mm
- MINIMUM PORTLAND CEMENT CONTENT = 300kg/m³
- COMPACT THE GROUT USING A MECHANICAL VIBRATOR AT CONTROL OR CONSTRUCTION JOINTS IN SLABS

CM5. CONTROL JOINTS IN UNREINFORCED WALLS SHALL BE PROVIDED AS FOLLOWS;

CLASS A & S - 5m MAX CTS
CLASS M - 5m MAX CTS (UP TO 4m HIGH WALL), 3.9m MAX CTS (4.0m to 8.5m HIGH WALL)
CLASS H - 4.5m MAX CTS (UP TO 4m HIGH WALL), 3.2m MAX CTS (4.0m to 8.5m HIGH WALL)

- JOINTS TO BE 0.47m MINIMUM FROM CORNERS
- JOINT TO BE 4.5m MAXIMUM FROM CORNERS
- WHERE THE HEIGHT OF THE WALL CHANGES BY MORE THAN 20%, AT THE POSITION OF THE CHANGE
- WHERE THE WALL CHANGES IN THICKNESS
- AT CONTROL OR CONSTRUCTION JOINTS IN SLABS
- AT JUNCTIONS OF WALLS CONSTRUCTED OF DIFFERENT MASONRY MATERIAL

CM6. PROVIDE SLIDING HORIZONTAL TIES ACROSS JOINTS IN UNREINFORCED WALLS EQUIVALENT TO M.E.T 3-3 AT 400 CTS VERTICALLY IN EACH FACE OF THE BLOCKS.

CM7. CONTROL JOINTS IN REINFORCED WALLS SHALL BE PROVIDED AT 16.0m CENTRES, PROVIDE R16-400 (600 LONG) DOWELS, PAINT ONE END WITH BITUMEN & PROVIDED EXPANSION CAP.

CM8. THE BOTTOM COURSE OF ALL REINFORCED BLOCKWORK SHALL CONSIST OF E-SHAPED BLOCKS TO ENABLE CLEANOUT AND TYING OF STEEL.

- FULLY BED FACE SHELLS ONLY.
- CLEAN OUT ALL CORES AFTER EACH DAY'S LAYING.
- ENSURE STARTER BARS ARE CORRECTLY LOCATED IN FOOTINGS.

CM9. MASONRY TIES SHALL BE HOT DIP GALVANISED WITH MINIMUM COATING MASS OF 300g/m² AND MEDIUM DUTY CLASSIFICATION FOR CAVITIES UP TO 60mm WIDE & HEAVY DUTY FOR CAVITIES OVER 60mm WIDE. ANY FACE FIXED TIES SHALL BE FIXED USING A SCREW FIXING AND SHALL NOT BE NAILED.

CM10. THE TOP COURSE OF ALL FREESTANDING HOLLOW BLOCK MASONRY SHALL CONSIST OF SOLID CAPPING BLOCKS.

CM11. SPACING OF MASONRY TIES:

- ADJACENT TO WINDOWS AND RETURN WALLS = 400mm VERTICAL AND HORIZONTAL.
- SOLID MASONRY = 400mm VERTICAL AND HORIZONTAL
- OTHERWISE = 800mm VERTICAL AND HORIZONTAL

CM12. NON-LOADBEARING HOLLOW BLOCK WALLS SHALL FINISH 20mm SHORT OF SLAB SOFFIT AND SHALL BE FASTENED TO THE SOFFIT USING M.E.T - 4 SLIDING TIES OR APPROVED EQUIVALENT AT 400mm CENTRES U.N.O.

CM13. LOADBEARING HOLLOW BLOCK WALLS SHALL BE CAPPED WITH M.E.T. GRAPHITE GREASED SLIP JOINT OVER TOP COURSE OF BLOCKWORK.

CM14. WHERE MASONRY ADJOINS STRUCTURAL STEEL OR PASSES A RETURN WALL ON THE INNER SKIN, INSTALL MEDIUM DUTY TIES @ 400 MAXIMUM CT. SHOT FIX TIES TO STEELWORK.

CM15. MINIMUM COVER TO REINFORCEMENT FROM THE INSIDE FACE OF THE FACE SHELL IS TO BE 25mm.

CM16. NO AIR ENTRAINING AGENTS (BYCOL, ETC.) ARE TO BE USED WITHOUT PRIOR WRITTEN PERMISSION FROM NORTHROP CONSULTING ENGINEERS.

CM17. MATERIALS INCLUDING MORTAR, CONCRETE, GROUT SHALL COMPLY WITH SECTION 10 OF AS3700-2001. MASONRY UNITS SHALL COMPLY WITH AS/NZS 4455.1-2008. WALL TIES SHALL COMPLY WITH AS/NZS 2699.1-2000.

CM18. MASONRY SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 11 OF AS3700-2001.

CM19. DO NOT CONSTRUCT MASONRY WALLS ON SUSPENDED CONCRETE SLABS UNTIL SLAB HAS BEEN STRIPPED AND DEPROPPED.

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1	ISSUED FOR DA				01.04.25

CLIENT
MELINDA MAK &
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SCALE @ A3

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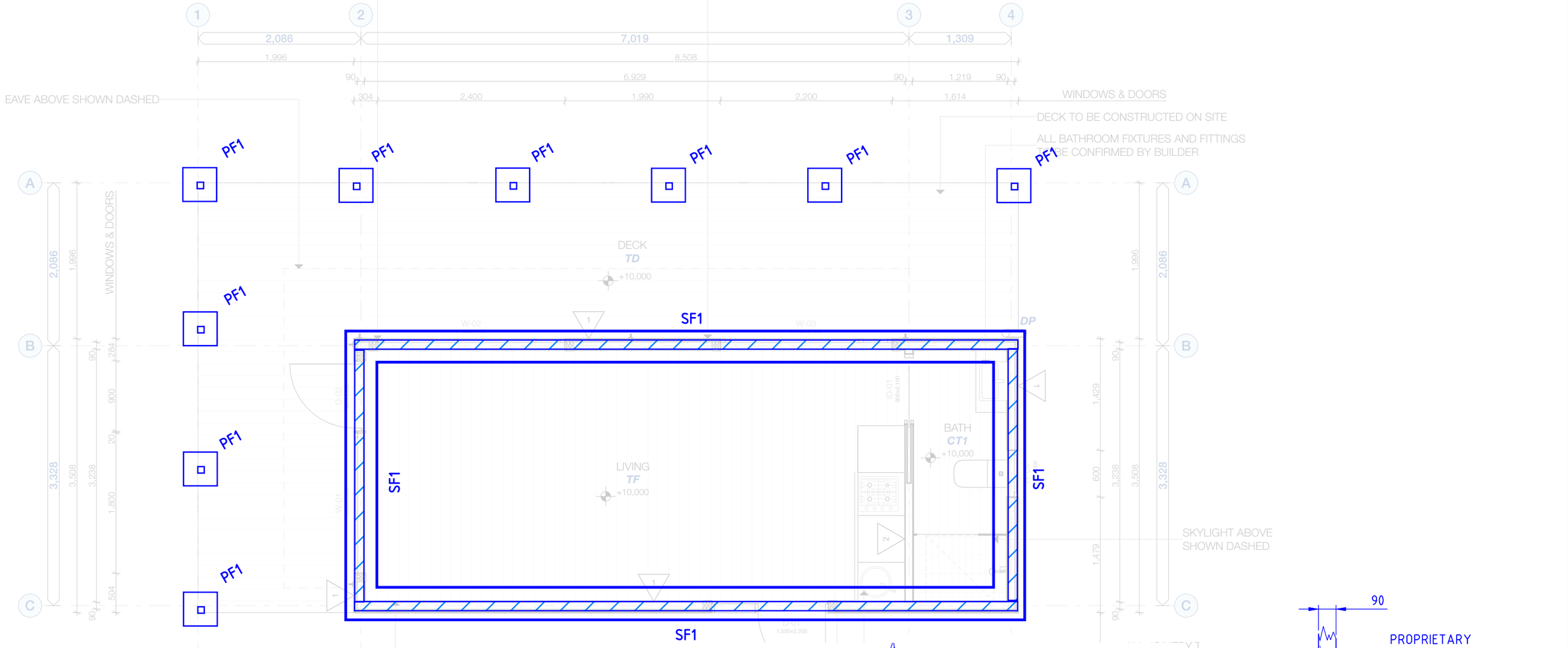
DRAWING TITLE
STRUCTURAL SPECIFICATIONS
SHEET 2

JOB NUMBER
ST243251

DRAWING NUMBER
SK00.02

REVISION
1

DRAWING SHEET SIZE = A3

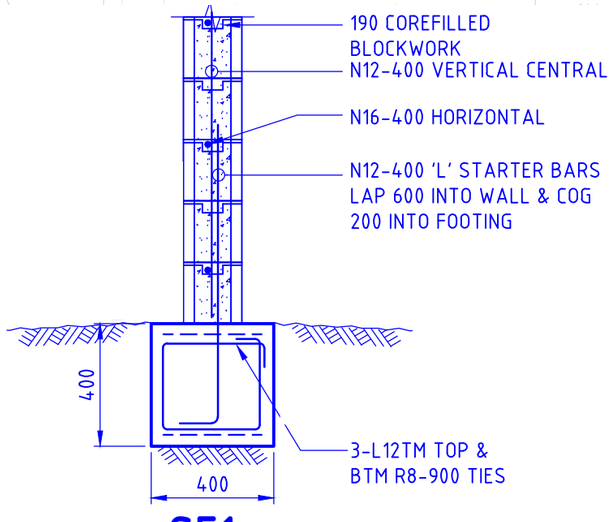


FOOTING PLAN

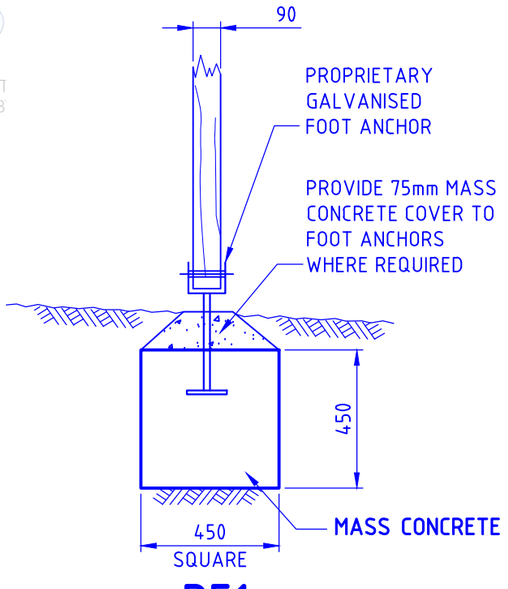
SF1 - DENOTES 400mm WIDE x 400mm DEEP CONCRETE STRIP FOOTING

PF1 - DENOTES 450mm SQUARE x 450mm DEEP CONCRETE PAD FOOTING

DENOTES 190mm CORE-FILLED & REINFORCED BLOCKWORK



SF1



PF1

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DRAWING TITLE
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& DETAILS

JOB NUMBER ST243251
DRAWING NUMBER SK01.01
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