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)	
SLABS ON GROUND	EXTERNAL (NO MEMBRANE)	32	650 um	TOP 20	BTM 25
	INTERNAL (WITH MEMBRANE)	32		TOP 20	BTM 25
STRIP FOOTINGS		25	700 um	20	
PAD FOOTINGS		32	700 um	20	
SUSPENDED SLABS	EXTERNAL	40	700 um	TOP 25	BTM 20
BEAMS		40	700 um	20	
COLUMNS	EXTERNAL	40	700 um	30	
STAIRS	EXTERNAL	40	700 um	30	

MAXIMUM AGGREGATE SIZE = 20mm U.N.O.
SLUMP DURING PLACING = 80mm ±10mm
EXPOSURE CLASSIFICATION = [A1] (INTERNAL CONCRETE ELEMENTS)
= [B1] (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^3
- 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.
- PERCENTAGE OF ENTRAPPED AIR TO BE AS FOLLOWS:
FOR AGGREGATE 10mm-20mm NORMAL SIZE 8-4% IN ACCORDANCE WITH AS3600 AND AS1012.4 (SUBMIT TEST RESULTS) FOR ALPINE OR SUB-ALPINE AREAS.

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
- RETAINING WALLS	5 EARTH FACE
- RETAINING WALLS	2 EXPOSED FACE
- COLUMNS	2
- LIFT WALLS	2
- BEAMS & SLABS	2
- STAIRS	2
- GRANO TREATED SURFACES	2

C7. SURFACE FINISHES :
- COLUMNS & WALLS — OFF FORM
- FLOOR SLABS (U.N.O.) — MACHINE FLOAT
- SLABS TO BE TILED — WOOD FLOAT
- STAIRS — STEEL TROWEL

C8. COMPACT ALL CONCRETE, INCLUDING FOOTINGS AND SLABS USING MECHANICAL VIBRATORS.

C9. 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.

C10. 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.

C11. ALL PENETRATIONS TO HAVE 2-N16 TRIMMER BARS TOP AND BOTTOM TO EACH FACE. U.N.O. EXTEND TRIMMERS 600 BEYOND PENETRATION.

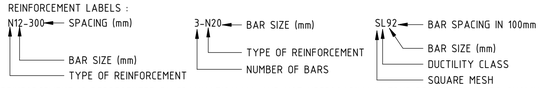
C12. SETDOWNS OR FALLS IN FLOOR SURFACES ARE NOT PERMITTED UNLESS SHOWN ON DRAWINGS. MAINTAIN MINIMUM SLAB THICKNESS SHOWN ON PLAN WHERE FALLS OCCUR.

C13. 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.

REINFORCEMENT LABELS :



C14. 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.

C15. USE ONLY PLASTIC OR CONCRETE CHAIRS AT EXTERNAL SURFACES.

C16. 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

C17. 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.

C18. LAPS IN MESH SHALL BE IN ACCORDANCE WITH AS3600-2009 SECTION 13.

C19. WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED BY NORTHROP CONSULTING ENGINEERS.

CONCRETE CONTINUED...

C20. 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.

C21. ALL REINFORCEMENT, ANCHOR BOLTS AND OTHER CONCRETE INSERTS SHALL BE WELL SECURED IN POSITION AND INSPECTED BY NORTHROP CONSULTING ENGINEERS PRIOR TO PLACING CONCRETE.

C22. HOLD DOWN BOLTS SHALL BE HOT DIPPED GALVANISED.

C23. 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 PREPAINTED MEMBERS. PROVIDE STAINLESS STEEL BOLTS FOR ALL EXTERNAL CONDITIONS, OR WHERE EXPOSED TO THE WEATHER.

C24. ALL CONCRETE MIXES SHALL BE DESIGNED BY A RECOGNISED TESTING LAB AND SUBMITTED FOR REVIEW BY NORTHROP CONSULTING ENGINEERS.

C25. ALL COMPRESSIVE STRENGTH TEST REPORTS SHALL BE SUBMITTED TO NORTHROP CONSULTING ENGINEERS FOR REVIEW.

C26. PROJECT CONTROL TESTING SHALL BE CARRIED OUT ON ALL CONCRETE IN ACCORDANCE WITH AS1379-2007. TEST CYLINDERS ARE TO BE KEPT ON SITE.

C27. 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.

C28. FOR ELAPSED TIME BETWEEN THE WETTING OF THE MIX AND THE DISCHARGE OF THE MIX, REFER TO CONCRETE - ELAPSED DELIVERY TIMES NOTE.

CONCRETE MATERIALS

CM1. CARRY OUT ALL CONCRETE WORK IN ACCORDANCE WITH AS3600-2009 AND NATSPEC CONCRETE STANDARDS.

CM2. PORTLAND CEMENT :
- STANDARD - TO AS3972-1997

CM3. BLENDED CEMENTS :
- STANDARD - TO AS3972-1997
- REQUIREMENT - USE ONLY WHEN SPECIFIED.

CM4. FLY ASH :
- STANDARD - TO AS3582.1-1998 "FINE GRADE" ONLY.
- REQUIREMENT - ONLY WHEN SPECIFIED. ALTERNATIVE MIX DESIGN WITH FLY ASH WILL BE CONSIDERED, PROVIDED THE CEMENTITIOUS MATERIAL MEETS THE PERFORMANCE REQUIREMENT OF THE CEMENT TYPE SPECIFIED.

CM5. SILICA FUME :
- STANDARD - TO AS3972-1997
- REQUIREMENT - ONLY WHEN SPECIFIED. ALTERNATIVE MIX DESIGN WITH SILICA FUME WILL BE CONSIDERED, PROVIDED THE CEMENTITIOUS MATERIAL MEETS THE PERFORMANCE REQUIREMENT OF THE CEMENT TYPE SPECIFIED.

CM6. AGGREGATE :
- STANDARD - TO AS2758.1-1998
- FINE AGGREGATE - DENSE, NATURALLY OCCURRING SAND OR ROCK, CRUSHED OR UNCRUSHED, AND EITHER SINGLE SOURCED OR BLENDED, CONFORMING TO GRADING REQUIREMENTS OF 'TABLE 3', UNCRUSHED FINE AGGREGATE OF AS2758.1-1998.
- COARSE AGGREGATE - CLEAN, HARD, DURABLE PARTICLES OF DENSE, NATURALLY OCCURRING GRAVEL OR ROCK, CRUSHED OR UNCRUSHED, AND EITHER SINGLE SOURCED OR BLENDED, CONFORMING TO GRADING REQUIREMENTS OF 'TABLE 1', 20mm GRADED AGGREGATE OF AS2758.1-1998.
- PARTICLE DENSITY - TO AS2758.1-1998 CLAUSE 8.1, MINIMUM 2100 kg/m^3
- BULK DENSITY - TO AS2758.1-1998 CLAUSE 8.3, MINIMUM 2100 kg/m^3
- WATER ABSORPTION - TO AS2758.1-1998 CLAUSE 8.3, MAXIMUM 2.5%
- DURABILITY - TO AS2758.1-1998 CLAUSE 10 CONCRETE EXPOSURE CLASSIFICATION-"SEVERE".
- ALKALI REACTIVITY - TEST FOR ALKALI REACTIVE MATERIALS TO AS2758.1 CLAUSE 14.3. SEPARATE TESTING REQUIRED ON EACH SINGLE SOURCED AGGREGATE.
- PARTICLE SHAPE - TO AS2758.1 CLAUSE 9.3 AND THE PROPORTION OF MISSHAPEN PARTICLES USING A 2:1. RATIO IS NOT TO EXCEED 35% WHEN DETERMINED IN ACCORDANCE WITH AS 1141.14-2007.
- 40% OF COURSE AGGREGATE, OR 25% OF FINE AGGREGATE TO BE RECYCLED CONCRETE AGGREGATE OR EQUIVALENT IN ACCORDANCE WITH GREENSTAR REPORT. RECYCLED AGGREGATE TO BE CLASS 1 RCA (IN ACCORDANCE WITH HB155-2002). CONCRETE SUPPLIER SHALL ENSURE THAT MIX ACHIEVES ALL STRENGTH AND SHRINKAGE TARGETS SPECIFIED IN CONCRETE NOTES.

CM7. WATER :
- SPECIAL CLASS CONCRETE - FROM A TOWN POTABLE WATER SUPPLY.
- NORMAL CLASS CONCRETE - RECYCLED WATER ACCEPTED.

CM8. CHEMICAL ADMIXTURES :
- TO AS 1478. USE IN ACCORDANCE WITH AS 1478 AND MANUFACTURER'S DIRECTIONS. ADMIXTURES CONTAINING CHLORIDES OR NITRATES PROHIBITED.

CONCRETE TESTING

CT1. REQUIREMENT :
- PRODUCTION ASSESSMENT - TESTING CARRIED OUT BY THE BATCHING PLANT.
- PROJECT ASSESSMENT - TESTING OF SAMPLES TAKEN ON SITE AT DISCHARGE POINT.

CT2. PROVIDE EVIDENCE OF PRODUCTION ASSESSMENT TO AS1379-2007 PRIOR TO POURING.

CT3. CONCRETE SHRINKAGE AND CONCRETE FOR SLABS (UP TO 110mm THICK) ON GROUND, TO BE VERIFIED BY PRODUCTION ASSESSMENT.

CT4. CARRY OUT PROJECT ASSESSMENT FOR REMAINDER OF CONCRETE AS FOLLOWS :

- SUPPLY OF CONCRETE SHALL BE FROM A CONCRETE BATCHING PLANT THAT CARRIES OUT PRODUCTION ASSESSMENT FOR THE GRADES OF CONCRETE SPECIFIED FOR THIS PROJECT.
- CONCRETE SHALL BE SUPPLIED AND TESTED IN ACCORDANCE WITH AS1379-2007 AND AS1012.
- THE ORGANISATION(S) RESPONSIBLE FOR SAMPLING AND TESTING OF CONCRETE TO HAVE RELEVANT 'NATA' LABORATORY REGISTRATION, BE INDEPENDENT, AND USE TRAINED, COMPETENT PERSONNEL FOR THE TAKING OF SAMPLES AND SPECIMENS AND THE PREPARATION OF MATERIALS AND WORK FOR TESTING.
- SLUMP AT TIME OF POURING TO BE WITHIN THE PERMISSIBLE TOLERANCE IN AS1379-2007 FOR NOMINAL SLUMP SPECIFIED.
- AT LEAST 1 SAMPLE FOR EVERY 50m^3 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 30m^3, AND 1 FOR POURS OF LESS THAN 10m^3, 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.

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°C, 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. IF THE CONCRETE TEMPERATURE AT THE TIME OF DISCHARGE IS NOT ≥ 5°C, CONCRETE SHALL BE REJECTED. IF AIR TEMPERATURE IS ≤ 10°C, (FOR ≥ A 12 HOUR PERIOD) SUBMIT "COLD WEATHER CONCRETING PROCEDURES" FOR APPROVAL.

CHEMICAL ANCHORS

CA01. UNLESS NOTED OTHERWISE, CHEMICAL ANCHORS SPECIFIED IN THESE DRAWINGS REFER TO HILTI HIT-HY 200 + HIT-V CHEMICAL INJECTION ANCHORS.

CA02. ALTERNATIVE CHEMICAL ANCHORS MAY BE SUBSTITUTED WITH PRIOR PERMISSION FROM THE SUPERINTENDENT.

CA03. MINIMUM EDGE DISTANCE AND SPACING SETOUT OF THE ANCHORS ARE SPECIFIED ON THESE DRAWINGS. IF THE INSTALLED DISTANCES ARE LESS THAN THAT SPECIFIED NOTIFY THE SUPERINTENDENT FOR INSTRUCTION.

CA04. CHEMICAL ANCHORS ARE TO BE STIRCTLY INSTALLED TO MANUFACTURERS INSTALLATION PROCEDURE.

CA05. DIAMETER OF HOLES TO MANUFACTURES SPECIFICATION FOR NOMINATED BOLT/BAR DIAMETER. DRILL HOLES USING A ROTARY PERCUSSION DRILL. DO NOT CORE DRILL HOLES.

CA06. CLEAN AND DEGREASE BOLT/BARS PRIOR INSTALLATION.

CA07. ENSURE CHEMICAL IS ALLOWED TO FULLY CURE IN ACCORDANCE WITH MANUFACTURE'S DETAILS PRIOR TO LOADING BOLTS/BARS.

CONCRETE MASONRY

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 15MPa 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 AS3700-2001.

CM4. GROUT FILL FOR BLOCKWORK:
- COMPRESSIVE STRENGTH = N20MPa
- MAXIMUM AGGREGATE SIZE = 10mm
- SLUMP = 225mm
- MINIMUM PORTLAND CEMENT CONTENT = 300kg/am^3
- 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 CRTS
CLASS AM - 5m MAX CRTS (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 12.0m 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/m^2 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 UNREINFORCED OR NON-LOAD BEARING REINFORCED MASONRY WALLS ON SUSPENDED CONCRETE SLABS UNTIL SLAB HAS BEEN STRIPPED AND DE-PROPPED.

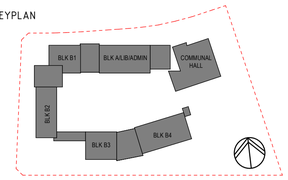
CM20. ALL LINTELS SUPPORTING BLOCKWORK ARE TO BE HOT DIP GALVANISED WITH MINIMUM COATING MASS OF 300g/m^2.
PROVIDE 1 LINTEL TO EACH WALL LEAF. DO NOT CUT ON SITE. KEEP LINTELS 6mm CLEAR OF DOOR HEADS AND WINDOW FRAMES. PACK MORTAR BETWEEN THE ANGLE UPSTAND AND SUPPORT MASONRY UNITS.
MINIMUM BEARING EACH END OF LINTELS:
- SPANS 0mm to 1800mm = 200mm BEARING EACH END.
- SPANS 1801mm to 3000mm = 400mm BEARING EACH END.

PROPPING OF LINTELS:
TO PREVENT DEFLECTION OR EXCESSIVE ROTATION, TEMPORARILY PROP PROPRIETARY COLD-FORMED LINTELS UNTIL THE MASONRY REACHES ITS REQUIRED STRENGTH. MINIMUM PROPPING PERIOD IS TO BE 7 DAYS.

FOR CONSTRUCTION

VERIFIER: PHIL O'HARA
JOB MANAGER: RORY DALE
DESIGNED: BRENDAN BLAKE
DRAWN: LIAM McKEOUGH

KEYPLAN



REV	DESCRIPTION	ISS'D	VER'D	APP'D	DATE
1	ISSUED FOR INFORMATION	L.M		R.D	18.04.19
A	ISSUED FOR DDR	L.M		R.D	14.06.19
B	REVISED FOR DDR SUBMISSION	L.M		R.D	21.06.19
C	PROGRESS ISSUE	L.M		R.D	05.07.19
D	FINAL COORDINATION ISSUE	L.M		R.D	12.07.19
E	ISSUED FOR CONSTRUCTION	L.M	P.O'H	R.D	17.07.19

CLIENT
RICHARD CROOKES CONSTRUCTIONS

ARCHITECT
GROUPGSA

NSW GOVERNMENT Education

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DRAWING TITLE
STRUCTURAL DRAWING SPECIFICATION NOTES - SHEET 2

JOB NUMBER	DRAWING NUMBER	REVISION
S182535-01	S01.2	E
	DRAWING SHEET SIZE = A1	