AUSTRALIAN WAR MEMORIAL AWM REDEVELOPMENT PROJECT POPPY'S CARPARK EXTENSION STRUCTURAL 0269-AFC

STRUCTURA	STRUCTURAL DRAWING LIST							
PROJECT	DRG NO.							
No.	SHEET	DRAWING TITLE						
2. STRUCTURAL		·						
0269-AFC	S-001	STRUCTURAL DRAWING INDEX						
0269-AFC	S-002	STRUCTURAL NOTES SHEET 1						
0269-AFC	S-003	STRUCTURAL NOTES SHEET 2						
0269-AFC	S-004	STRUCTURAL NOTES SHEET 3						
0269-AFC	S-101	FOOTING KEY PLAN						
0269-AFC	S-102	FOOTING PLAN ZONE 1						
0269-AFC	S-103	FOOTING PLAN ZONE 2						
0269-AFC	S-104	LEVEL 1 GENERAL ARRANGEMENT PLAN						
0269-AFC	S-105	LEVEL 1 GENERAL ARRANGEMENT PLAN ZONE 1						
0269-AFC	S-106	LEVEL 1 GENERAL ARRANGEMENT PLAN ZONE 2						
0269-AFC	S-107	LEVEL 2 - CONCRETE PLAN						
0269-AFC	S-108	LEVEL 2 - WEARING SLAB GENERAL ARRANGEMENT PLAN						
0269-AFC	S-201	LEVEL 2 - DESIGN LOAD CASES FOR PT SLAB						
0269-AFC	S-301	BUILDING SECTIONS - SHEET 1						
0269-AFC	S-302	BUILDING SECTIONS - SHEET 2						
0269-AFC	S-501	CONCRETE DETAILS SHEET 1						
0269-AFC	S-502	CONCRETE DETAILS SHEET 2						
0269-AFC	S-503	CONCRETE DETAILS SHEET 3						
0269-AFC	S-504	CONCRETE DETAILS SHEET 4						
0269-AFC	S-505	CONCRETE DETAILS SHEET 5						
0269-AFC	S-506	CONCRETE DETAILS SHEET 6						
0269-AFC	S-507	CONCRETE DETAILS SHEET 7						
0269-AFC	S-508	CONCRETE DETAILS SHEET 8						
0269-AFC	S-510	TYPICAL MASONRY BLOCKWORK DETAILS						
0269-AFC	S-520	PRECAST PANEL DETAILS						
0269-AFC	S-601	STEEL DETAILS SHEET 1						
0269-AFC	S-602	STEEL DETAILS SHEET 2						
0269-AFC	S-603	STEEL DETAILS SHEET 3						

ISSUE	DESCRIPTION	DWG STATUS	DATE	ISSUE	DESCRIPTION	DWG STATUS	DATE	
А	APPROVED FOR CONSTRUCTION	AFC	10.10.19					
								(X)
								Rich
								LIMES
								ONEAL
								AVENUE





SITE NORTH AUSTRALIAN WAR MEMORIAL 20 TRELOAR CRESCENT CAMPBELL ACT 2612

> **BLOCK 3 SECTION 39** CAMPBELL ACT

ALL DIMENSIONS ARE IN MILLIMETRES LEVELS ARE IN METRES DO NOT SCALE OFF DRAWING USE FIGURED DIMENSIONS ONLY

CHECK DIMENSIONS ON SITE SCALEBAR:

NOTES:

AUSTRALIAN ABBREVIATIONS: INFORMATION ONLY - (UNCONTROLLED) CONTROLLED ISSUE P PRELIMINARY

CONSULTANT GHD CANBERRA LEVEL 7, 16 MARCUS CLARKE STREE CANBERRA ACT 2601 AUSTRALIA GPO BOX 1877 CANBERRA ACT 2601 T: 61 2 6113 3200 F: 61 2 6113 3299 E: cbrmail@ghd.com W: www.ghdwoodh WAR MEMORIAL DRAWING NO. 23-16682-S-001

> PROJECT AWM REDEVELOPMENT PROJEC POPPY'S CARPARK EXTENSION

GHD	DRAWING TITLE STRUCTUR		G INDEX		
	DRAWN M. CRUZ	CHECKED B. REMEDIOS	APPROVED F. EDIBAM	SCALE	SIZE
nead.com	DATE 04.10.19	DATE 04.10.19	DATE 04.10.19		=
			RUCTION	10 10 1	-
т	DISCIPLINE			10.10.1	
-	STRUCTUR	RAL			
	DRAWING NO.			F	REVISION
	AWM-0269-	AFC-S-001			А

GENERAL

1. READ THESE NOTES IN CONJUNCTION WITH ARCHITECTURAL AND OTHER ENGINEERING DRAWINGS AND SPECIFICATIONS, AND WITH SUCH OTHER WRITTEN INSTRUCTIONS ISSUED. REFER TO ARCHITECTURAL DRAWINGS FOR SETTING OUT AND DETAIL DIMENSIONS. IN CASE OF DISCREPANCY, PRECEDENCE IS GIVEN TO DRAWINGS, THEN NOTES, THEN SPECIFICATION. 2. CARRY OUT WORK IN A SAFE MANNER IN ACCORDANCE WITH APPLICABLE LEGISLATION, STATUTORY REGULATIONS, BY-LAWS OR RULES. CONTRACTOR

IS RESPONSIBLE FOR OCCUPATIONAL HEALTH AND SAFETY OF SITE PERSONNEL AND GENERAL PUBLIC IN ACCORDANCE WITH ALL CURRENT WORK HEALTH AND SAFETY ACTS, LEGISLATIVE REQUIREMENTS, ASSOCIATED REGULATIONS AND CODES OF PRACTICE, INDUSTRIAL AGREEMENTS AND ACCEPTED INDUSTRY PRACTICE

3. REFER DISCREPANCIES TO SUPERINTENDENT BEFORE PROCEEDING WITH WORK. 4. SUBMIT DETAILS OF PROPOSED CHANGES TO SCOPE, WORK METHODS OR MATERIALS etc FOR APPROVAL BEFORE PROCEEDING. APPROVAL DOES NOT

AUTHORISE A VARIATION TO THE CONTRACT. 5. CHECK STRUCTURAL DRAWINGS AGAINST ARCHITECTURAL, MECHANICAL, ELECTRICAL SERVICES AND OTHER DRAWINGS FOR REQUIREMENTS FOR

- PENETRATIONS, CONDUITS, DUCTS, PIPES, etc. 6. NOMINATION OF PROPRIETARY ITEMS DOES NOT INDICATE EXCLUSIVE PREFERENCE, BUT INDICATES REQUIRED PROPERTIES OF ITEM. SIMILAR ALTERNATIVES HAVING REQUIRED PROPERTIES MAY BE OFFERED FOR APPROVAL. APPROVAL DOES NOT AUTHORISE A VARIATION TO THE CONTRACT. INSTALL PROPRIETARY ITEMS IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS. OBTAIN NECESSARY PERMITS AND APPROVALS FROM RELEVANT AUTHORITIES BEFORE COMMENCING WORK ON SITE. NOTIFY RELEVANT SERVICE
- AUTHORITIES BEFORE COMMENCING WORK ON SITE 8. GIVE TWO WORKING DAYS' (48 HOURS) NOTICE SO THAT INSPECTION MAY BE MADE OF CRITICAL STAGES OF WORK. 9. INSPECTIONS AND REVIEWS UNDERTAKEN BY SUPERINTENDENT OR OTHERS DO NOT RELIEVE CONTRACTOR OF RESPONSIBILITY FOR COMPLIANCE
- WITH DRAWINGS AND SPECIFICATIONS 10. DO NOT OBTAIN DIMENSIONS BY SCALING FROM DRAWINGS.

11. DIMENSIONS ARE IN MILLIMETRES, LEVELS ARE IN METRES UNO, CHAINAGES ARE IN METRES UNO. 12. DATUM FOR LEVELS IS AHD (AUSTRALIAN HEIGHT DATUM). CO-ORDINATES ARE TO MGA94 (MAP GRID OF AUSTRALIA) AMG (AUSTRALIAN MAP GRID). 13. HAVE SURVEY AND SETTING OUT UNDERTAKEN BY A REGISTERED SURVEYOR.

- 14. VERIFY ON SITE SETTING OUT DIMENSIONS AND EXISTING MEMBER SIZES SHOWN ON DRAWINGS BEFORE SHOP DRAWINGS, CONSTRUCTION AND FABRICATION IS COMMENCED. EXISTING STRUCTURES SHOWN ON DRAWINGS ARE IN APPROXIMATE LOCATIONS ONLY. 15. USE STANDARD BOLT PATTERNS etc. THROUGHOUT THE WORKS TO AVOID CONFUSION OR AMBIGUITY.
- 16. TAKE CARE OF HAZARDS ASSOCIATED WITH BURIED, CONCEALED OR OVERHEAD SERVICES. TAKE PRECAUTIONS AND WORKMANSHIP UNDERTAKE EXPLORATION TO ESTABLISH LOCATION OF AND PROTECT EXISTING SERVICES AT SITE. SERVICES SHOWN ON DRAWINGS ARE IN APPROXIMATE LOCATIONS ONLY. SERVICES OTHER THAN THOSE SHOWN MAY EXIST ON SITE. MARK LOCATIONS OF SERVICES CLEARLY ON SITE, AND ON AS-BUILT DRAWINGS. HAND EXCAVATE WITHIN ONE METRE OF IN-GROUND SERVICES. 17. DISPOSE OF SURPLUS MATERIAL OFF SITE IN ACCORDANCE WITH LOCAL AUTHORITY WASTE REGULATIONS.
- 18. IMPLEMENT SOIL AND WATER MANAGEMENT PROCEDURES TO AVOID EROSION, CONTAMINATION AND SEDIMENTATION OF SITE, SURROUNDING AREAS AND DRAINAGE SYSTEMS 19. WORKMANSHIP AND MATERIALS TO COMPLY WITH REQUIREMENTS OF AUSTRALIAN STANDARDS, NATIONAL CONSTRUCTION CODE (NCC) AND BY-LAWS AND ORDINANCES OF RELEVANT BUILDING AUTHORITIES. ALL STANDARDS REFERRED TO ARE THOSE CURRENT (AS AMENDED) AT COMMENCEMENT OF
- CONTRACT 20. OBTAIN REQUIREMENTS FOR SERVICES, ADJOINING ELEMENTS etc TO BE EMBEDDED IN, FIXED TO OR SUPPORTED ON WORK AND PROVIDE FOR REQUIRED FIXINGS. PROVIDE FOR TEMPORARY SUPPORT OF ADJOINING ELEMENTS DURING CONSTRUCTION. DRAWINGS DO NOT SHOW DETAILS OF
- ALL FIXTURES, INSERTS, SLEEVES, RECESSES OR OPENINGS etc REQUIRED. 21. PROTECT EXISTING STRUCTURES FROM DAMAGE OR CRACKING. MAKE GOOD ANY DAMAGE TO EXISTING ELEMENTS AT COMPLETION OF WORKS. 22. WHERE NEW WORK ABUTS EXISTING. PROVIDE SMOOTH TRANSITION FREE OF ABRUPT CHANGES.
- 23. NEATLY CUT BACK CONCRETE TO BE REMOVED TO A CLEAN TRUE FACE USING A DIAMOND SAW. 24. HAVE TESTING PERFORMED BY AN INDEPENDENT NATA (NATIONAL ASSOCIATION OF TESTING AUTHORITIES) ACCREDITED AUTHORITY, AND PROVIDE TEST REPORTS TO SUPERINTENDENT
- 25. SEPARATE METALS FROM INCOMPATIBLE MATERIALS (eg STAINLESS STEEL, GALVANIZED STEEL, UNGALVANIZED STEEL AND TREATED TIMBER etc) BY CONCEALED LAYERS OF SUITABLE INERT MATERIALS OF SUITABLE THICKNESSES. USE PLASTIC SLEEVES AND WASHERS FOR BOLTS, etc. 26. EXTERNAL ELEMENTS ARE THOSE EXPOSED TO WEATHER. RAIN AND WATER PENETRATION IN FINAL WORKS.
- 27. SUPPLY RELEVANT NOTES, DRAWINGS AND SPECIFICATIONS etc TO SUB-CONTRACTORS. 28. UNO=UNLESS NOTED OTHERWISE, SLS=SERVICEABILITY LIMIT STATE, ULS=ULTIMATE LIMIT STATE, NSL=NATURAL SURFACE LEVEL, FSL=FINISHED SURFACE LEVEL.
- 29. SUPERINTENDENT=SUPERINTENDENT NOMINATED IN CONTRACT. 30. BUILD, FABRICATE AND PROCURE ONLY FROM DRAWINGS 'ISSUED FOR CONSTRUCTION'.
- 31. KEEP ON SITE A COMPLETE SET OF CONTRACT DOCUMENTS (INCLUDING DRAWINGS AND SPECIFICATIONS) AND SITE INSTRUCTIONS.
- 32. THESE DRAWINGS DO NOT DETAIL TEMPORARY WORKS. CONSTRUCTION METHODS AND TEMPORARY WORKS ARE RESPONSIBILITY OF THE
- CONTRACTOR 33. PROVIDE SCAFFOLDING, BARRIERS, FALL RESTRAINT, HAND-MID RAILS AND TOE BOARDS FOR WORK AT HEIGHT. ERECT ACCESS STAIRS AT EARLIEST OPPORTUNITY TO REDUCE OPEN SHAFT HAZARDS AND FACILITATE ACCESS. MAINTAIN SAFETY MESH AND BARRIERS TO ALL OPENINGS AND ELEVATED EDGES.
- 34. MAINTAIN STRUCTURE IN A STABLE CONDITION DURING CONSTRUCTION AND PROVIDE TEMPORARY BRACING AND/OR SUPPORT AS REQUIRED. SHOW TEMPORARY MEMBERS ON SHOP DRAWINGS. PROVIDE SPREADERS AT LOADS AND/OR LIFTING POINTS WHERE REQUIRED. ENSURE NO PART IS OVERSTRESSED. DO NOT PLACE OR STORE BUILDING MATERIALS ON, SUPPORT FORMWORK OR PROP FROM STRUCTURAL MEMBERS WITHOUT SUPERINTENDENT'S APPROVAL. PROVIDE CALCULATIONS BY SUITABLY QUALIFIED STRUCTURAL ENGINEER TO PROVE ADEQUACY OF STRUCTURE FOR PROPOSED CONSTRUCTION SEQUENCE, METHODS AND LOADS INCLUDING PROPPING, CRANE LIFTS etc.
- 35. PROVIDE TEMPORARY BRACING WHERE REQUIRED FOR STRUCTURAL ELEMENTS OR FRAMES STABILIZED BY MASONRY, PRECAST CONCRETE OR OTHER ELEMENTS CONSTRUCTED AFTER ERECTION OF THE STRUCTURAL ELEMENT OR FRAME, AND SHOW ON SHOP DRAWINGS.

- DESIGN ASSUMPTIONS 36. ALL STRUCTURES TO HAVE A DESIGN WORKING LIFE OF 50 YEARS 37. STRUCTURAL WORK HAS BEEN DESIGNED FOR FOLLOWING LOADS: PERMANENT DEAD LOAD OF STRUCTURE AS SHOWN ON DRAWINGS SUPERIMPOSED PERMANENT LOAD: 3 kPa - 125mm WEARING SLAP • LIVE LOADS TO AS/NZS1170.1: 35 kPa - 1.5mOF FILL + 5 kPa LIVE LOAD SERVICES LOAD: 0.5 kPa IMPOSED "SURCHARGE" LOAD ON GROUND 10 kPa COMPACTION LOADS: 10 kPa SOIL DENSITY: 18 kN/m3
- ACTIVE LATERAL EARTH PRESSURE COEFFICIENT ka: 0.4 FOR XM ROCK. 0.36 FOR HW ROCK. 0.33 FOR ENGINEERED FILL AT REST LATERAL EARTH PRESSURE COEFFICIENT ko: 0.5 FOR XM AND HW ROCK AND FOR ENGINEERED FILL
- BUILDING DESIGN WORKING LIFE
- BUILDING IMPORTANCE LEVEL WIND LOADS TO AS/NZS1170.2:
- REGION
- AVERAGE RECURRENCE INTERVAL, R 500 years ULTIMATE REGIONAL WIND SPEED VR (3 sec GUST) 45 m/s
- SERVICEABILITY REGIONAL WIND SPEED V25 (3 sec) 37 m/s DIRECTIONAL MULTIPLIER
- TERRAIN CATEGORY
- DESIGN BUILDING HEIGHT AS PER BUILDING ELEVATION, 5 m max. TERRAIN/HEIGHT MULTIPLIER (Mz,cat) 1.0
- SHIELDING MULTIPLIER (Ms)
- TOPOGRAPHIC MULTIPLIER (Mt)
- EARTHQUAKE LOADS TO AS1170.4: ANNUAL PROBABILITY OF EXCEEDANCE 1/500
- PROBABILITY FACTOR, (kp)
- HAZARD FACTOR (Z) 0.08 SITE SUB-SOIL CLASS
- EARTHQUAKE DESIGN CATEGORY (EDC) 4 metres
- STRUCTURE HEIGHT, (hn) NUMBER OF STOREYS
- STRUCTURE DUCTILITY FACTOR (m) 2 STRUCTURAL PERFORMANCE FACTOR, (SP) 0.77

38. FOR ELEMENTS FIXED TO OR CONSTRUCTED UP TO UNDERSIDE OF SUSPENDED SLABS AND BEAMS, ALLOW FOR DEFLECTIONS OF 0.4% SPAN.

39. STRUCTURAL ELEMENTS HAVE BEEN DESIGNED FOR FOLLOWING FIRE RESISTANCE LEVELS (EXPRESSED IN MINUTES):

ELEMENT	FIRE RESISTENCE PERIOD STRUCTURAL ADEQUACY / INTEGRITY / INSULATION
COLUMNS	90 / 90 / 90
FLOOR	90 / 90 / 90

40. RECORD AD OPTED CHANGES TO WORKING DRAWINGS AND SHOP DRAWINGS. ON COMPLETION OF WORKS SUBMIT A FULL SET OF "AS CONSTRUCTED" DRAWINGS. 41. PREPARE WORKSHOP DRAWINGS, CALCULATIONS etc FOR PREFABRICATED COMPONENTS, INCLUDING STRUCTURAL STEELWORK, LIGHTWEIGHT STEELWORK, PRECAST CONCRETE, PRESTRESSING, FABRICATED TIMBER FRAMES etc AND SUBMIT ELECTRONIC PDF'S OR THREE PAPER COPIES OF EACH FOR SUPERINTENDENT'S REVIEW OF GENERAL COMPLIANCE WITH DESIGN CONCEPT. DO NOT COMMENCE FABRICATION UNTIL SHOP DRAWINGS AND CALCULATIONS HAVE BEEN REVIEWED. ALLOW 14 DAYS FOR SUPERINTENDENT'S REVIEW. SUPERINTENDENT'S REVIEW OF SHOP DRAWINGS AND CALCULATIONS IS OF GENERAL CONFORMANCE WITH DESIGN CONCEPT AND GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS ONLY, AND DOES NOT INCLUDE CHECKING OF DIMENSIONS. SUPERINTENDENT'S REVIEW DOES NOT INCLUDE CHECKING OF DIMENSIONS AND CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING QUANTITIES AND DIMENSIONS. SELECTING FABRICATION PROCEDURES AND CONSTRUCTION TECHNIQUES, AND PERFORMING WORK IN A SAFE MANNER. CORRECTIONS OR COMMENTS MADE ON SHOP DRAWINGS AND CALCULATIONS DO NOT RELIEVE CONTRACTOR FROM RESPONSIBILITY FOR COMPLIANCE WITH REQUIREMENTS OF CONTRACT DRAWINGS AND SPECIFICATION.

SAFETY IN DESIGN

- 2. CONSTRUCT BUILDING ELEMENTS THAT CONTRIBUTE TO SAFETY, SUCH AS HANDRAILS AND TOE BOARDS, FALL ARREST SYSTEMS, ACCESS STAIRS, etc AS EARLY AS POSSIBI F PROVIDE SAFETY BARRIERS AT EDGES OF OPENINGS AND ELEVATED AREAS.
- 4. REVIEW ADEQUACY OF WORKING SPACE AVAILABLE FOR CONSTRUCTION ACTIVITIES. ENSURE SEPARATION OF PLANT AND PERSONNEL ON SITE, INCLUDING MOVEMENTS OF BOTH 5. LOCATE LIFTING SLEW AND LAY DOWN AREAS AWAY FROM REGULAR CONSTRUCTION TRAFFIC.
- 6. PROVIDE PROTECTION TO PERSONNEL FROM PLANT AND EQUIPMENT, INCLUDING POST-TENSIONED GROUND ANCHOR INSTALLATION WORKS
- PROTECTION OF ELECTRICAL OVERHEAD WIRING SYSTEMS DURING CONSTRUCTION.
- 8. WRITTEN RISK ASSESSMENTS ARE ADVISED FOR ACCESS TO OPEN EXCAVATIONS. 9. PROVIDE ACCESS AND EGRESS TO EXCAVATIONS APPROPRIATE IN CASE OF INUNDATION, COLLAPSE OR ENGULFMENT.
- PRESENT 11. SEEK ADVICE FROM SUITABLY QUALIFIED GEOTECHNICAL OR STRUCTURAL ENGINEER PRIOR TO OPERATION OF HEAVY SURFACE PLANT AND EQUIPMENT OR STOCKPILING MATERIAL NEAR OPEN EXCAVATIONS OR EXISTING RETAINING STRUCTURES.
- STRUCTURAL ENGINEER.
- 13. SEEK ADVICE FROM SUITABLY QUALIFIED STRUCTURAL ENGINEER BEFORE LAYING SERVICES BELOW EXISTING FOOTING LEVELS.
- PARTIALLY COMPLETED STRUCTURAL ELEMENTS. STRUCTURES
- 16. SEEK ADVICE FROM SUITABLY QUALIFIED STRUCTURAL ENGINEER BEFORE CORING, CHASING, CUTTING OR REMOVAL OF EXISTING CONCRETE AND REINFORCEMENT. EQUIPMENT IS TO BE ATTACHED.
- 18. INSTRUCT SERVICES CONTRACTORS UNDER NO CIRCUMSTANCES CAN STRUCTURAL MEMBERS BE CUT, NOTCHED OR DRILLED TO ACCOMMODATE NEW SERVICES. 19. ESTABLISH LOCATIONS OF LIVE EMBEDDED SERVICES BEFORE CUTTING THROUGH SLABS, etc.
- BY SUITABLY QUALIFIED STRUCTURAL ENGINEER PRIOR TO ERECTION
- 21. DO NOT CUT OR UNBOLT ANY STRUCTURAL MEMBERS WITHOUT SEEKING REVIEW BY SUITABLY QUALIFIED STRUCTURAL ENGINEER. TO LIFTING AND INSTALLATION.
- 23. MINIMIZE SITE BASED TREATMENTS (eg WELDING, CUTTING, SPRAY PAINTING, GRIT BLASTING, etc). PROVIDE ADEQUATE PROTECTION, SCREENING AND VENTILATION TO MINIMIZE HAZARDS TO PERSONNEL IF SITE BASED TREATMENT IS UNAVOIDABLE.
- OF RISKS. PROVIDE ADEQUATE SIGNAGE TO TEMPORARY AND PERMANENT CONFINED SPACES TO AS2865.
- PFRMITS"
- CONSTRUCTION OR REPAIR ACCESS
- SECTION LOSS OR EXTENSIVE CORROSION FLAKING PRESENT BEFORE PROCEEDING WITH WORK.
- . REPORT LOOSE OR MISSING BOLTS etc IN CONNECTIONS ENCOUNTERED DURING DAY TO DAY OPERATIONS 32. REMOVE MATERIAL FROM STORAGE STRUCTURES BEFORE UNDERTAKING MAINTENANCE WORK

DEMOLITION

- 1. DEMOLITION WORK TO BE TO AS2601. TAKE PRECAUTIONS NECESSARY FOR PROTECTION OF PERSONS AND PROPERTY.
- DEMOLITION PERMIT/SCAFFOLD PERMIT OBTAINED. STATEMENT
- 6. HAVE ADJACENT STRUCTURES REVIEWED BY SUITABLY QUALIFIED STRUCTURAL ENGINEER TO ASSESS IMPACT OF PROPOSED DEMOLITION WORK
- AUSTRALIA.
- 8. DO NOT BUILD UP MATERIAL AGAINST MASONRY OR OTHER WALLS OR RETAINING WALLS. 9. NOTIFY OWNERS AND OCCUPANTS OF ADJOINING PROPERTIES OF PROPOSED DEMOLITION WORKS, INCLUDING DETAILS AND TIMING OF WORKS.
- 10. DO NOT USE EXPLOSIVES
- FUMES, LIQUIDS, GASES, INFECTION, FIRE, EXPLOSION, RADIATION OR OTHER HAZARDS, ETC.
- BEEN USED FOR STORAGE OF ABOVE. 13. GIVE NOTICE FOR INSPECTION AT THE FOLLOWING STAGES:
 - ADJOINING STRUCTURES BEFORE COMMENCEMENT OF DEMOLITION. BEFORE DISCONNECTION OR DIVERSION OF SERVICES.
 - TREES SPECIFIED TO BE RETAINED BEFORE COMMENCEMENT OF DEMOLITION. UNDERGROUND STRUCTURES AFTER DEMOLITION OF WORK ABOVE SUCH STRUCTURE.
 - EXCAVATION REMAINING AFTER REMOVAL OF UNDERGROUND WORK. SITE AFTER REMOVAL OF DEMOLISHED MATERIALS.
- SERVICES AFTER RECONNECTION OR DIVERSION. 14. REMOVE FROM SITE ALL DEMOLISHED MATERIALS NOT REQUIRED IN FINAL WORKS.
- DELIVERABLES
- 15. SUBMIT NAMES AND CONTACT DETAILS OF PROPOSED DEMOLITION SUBCONTRACTORS. TEMPORARY BATTERS, AIR QUALITY AND POLLUTION CONTROL MEASURES.
- TO COMMENCEMENT OF DEMOLITION.

ISSUE	DESCRIPTION	DWG STATUS	DATE	ISSUE	DESCRIPTION	DWG STATUS	DATE	
А	APPROVED FOR CONSTRUCTION	AFC	10.10.19					TRUE NORTH
-								
								Fin -
								LIMEO
								-STONE
								AVENIJE
-								× /
								LUCATION OF WORKS

1. THE SAFETY RISK MITIGATION ITEMS BELOW ARE BASED ON GHD'S DESIGN OFFICE EXPERIENCE AND DO NOT NECESSARILY ACCOUNT FOR ALL CONSTRUCTION, OPERATION. MAINTENANCE AND DEMOLITION SAFETY RISKS. BASED ON INFORMATION AVAILABLE WHEN THIS DRAWING WAS MADE. IN ITS CAPACITY AS DESIGNER ONLY, GHD HAS TRIED TO IDENTIFY SAFETY RISKS PERTAINING TO CONSTRUCTION, OPERATION, MAINTENANCE AND DEMOLITION PHASES OF THE ASSET. INCLUSION (OR NOT) OF ANY ITEM DOES NOT REDUCE OR LIMIT OBLIGATIONS OF CONSTRUCTOR, USER, MAINTAINER AND DEMOLISHER TO UNDERTAKE APPROPRIATE RISK MANAGEMENT ACTIVITIES TO REDUCE RISK AND IS NOT AN ADMISSION BY GHD THAT INCLUSION OF ANY ITEM IS DESIGNER'S RESPONSIBILITY.

7. ENSURE ISOLATION SAFE SYSTEMS OF WORK OR PROTECTIVE MEASURES ARE INSTALLED BEFORE WORKING NEAR LIVE ELECTRICAL INFRASTRUCTURE. PROVIDE

10. LOCATE STOCKPILES AND HEAVY EQUIPMENT INCLUDING CRANES AWAY FROM BURIED SERVICES AND BUILDING BOUNDARIES WHERE ADJACENT BASEMENTS ARE

12. DO NOT STOCKPILE MATERIALS BEHIND OR EXCAVATE IN FRONT OF EXISTING RETAINING WALLS UNTIL WALL STABILITY HAS BEEN REVIEWED BY SUITABLY QUALIFIED

14. HAVE LOAD CAPACITY OF STRUCTURES VERIFIED BY SUITABLY QUALIFIED STRUCTURAL ENGINEER BEFORE LOADING OR STORING MATERIALS ON EXISTING OR

15. SEEK ADVICE FROM SUITABLY QUALIFIED STRUCTURAL ENGINEER IF PLANNING CRANE LIFTS OR HOIST INSTALLATION ON PARTIALLY ERECTED OR SUSPENDED

17. HAVE SUITABLY QUALIFIED STRUCTURAL ENGINEER UNDERTAKE STRUCTURAL CHECK OF EXISTING CONCRETE, MASONRY AND STUD WALLS WHERE FIXINGS OR

20. DEVELOP STEELWORK / PRECAST / TILT UP INSTALLATION SAFE WORK METHOD STATEMENT TO ELIMINATE AND MINIMISE INSTALLATION RISKS, AND HAVE REVIEWED

22. PROVIDE BUCKLING STABILITY TO LONG SPAN BEAMS, TRUSSES etc DURING ERECTION. IF UNSURE, CHECK WITH SUITABLY QUALIFIED STRUCTURAL ENGINEER PRIOR

24. TRY TO AVOID WORKING IN CONFINED SPACES. IF CONFINED SPACES WORK CAN'T BE AVOIDED, PROVIDE SAFE WORK METHOD STATEMENT ADDRESSING MITIGATION 25. AVOID HOT WORKS ON SITE PARTICULARLY IN TIMBER FRAMED STRUCTURES. HOT WORKS TO COMPLY WITH CLIENT PROCEDURES FOR APPLICABLE "HOT WORKS

26. SOME SITES IN AUSTRALIA AND EXTENSIVE REGIONS OF SE ASIA CONTAIN UNEXPLODED ORDNANCE (UXO) IN THE GROUND. UNDERTAKE DESKTOP REVIEWS FOR THE LIKELIHOOD OF UXOS BEFORE COMMENCING ANY GROUND INVESTIGATION OR EXCAVATION IN THESE AREAS. SHOULD EVIDENCE INDICATE POTENTIAL UXO PRESENCE DO NOT COMMENCE GROUND WORKS UNTIL ENGAGING A SPECIALIST CONSULTANT WHO CAN HELP DEFINE ANY FUTURE CLEARANCE TASKS. 27. DETERMINE APPROPRIATE METHOD OF PAINT REMOVAL AND DISPOSAL BEFORE STRIPPING PAINT, PARTICULARLY ON HISTORIC STRUCTURES. COATINGS CONTAINING COAL TAR EPOXIES, BITUMENS AND ASPHALTS, ZINC CHROMATE AND LEAD PRESENT A HEALTH RISK. PROVIDE SCREENING TO PUBLIC AND ENVIRONMENT FOR PAINT REMOVAL AND CLEANING OPERATIONS. USE ENVIRONMENTALLY APPROPRIATE RESTORATION METHODS DURING MAINTENANCE AND REPAIR WORK.

28. MAKE WORK AREAS SAFE WHERE STRUCTURAL ELEMENTS ARE DAMAGED, CRACKED OR HAVE SUFFERED SIGNIFICANT SECTION LOSS BEFORE ALLOWING GENERAL 29. REPORT SIGNIFICANT SECTION LOSS OR CORROSION FLAKING BEFORE STARTING PAINTING OR REPAIRS. CONSULT SUITABLY QUALIFIED STRUCTURAL ENGINEER IF 30. DEVELOP AND IMPLEMENT RISK MITIGATION STRATEGIES BEFORE ALLOWING ACCESS OVER SUSPENDED CLADDING FINISHES THAT MAY BECOME BRITTLE OVER TIME.

2. OBTAIN NECESSARY PERMITS AND APPROVALS FROM RELEVANT AUTHORITIES BEFORE COMMENCING WORK ON SITE. DO NOT COMMENCE DEMOLITION WORK BEFORE 3. SEEK ADVICE FROM SUITABLY QUALIFIED STRUCTURAL ENGINEER TO ESTABLISH CRITICAL STABILITY ELEMENTS AND ASSIST DEVELOPMENT OF DEMOLITION METHOD

4. MAKE ALLOWANCE FOR CONDITION OF STRUCTURAL AND OTHER ELEMENTS (eg WALL TIES), INCLUDING LOSS OF CAPACITY DUE TO DETERIORATION OR AGE. 5. CONSIDER PROVIDING LOCAL EMERGENCY SERVICES WITH COPY OF DEMOLITION METHOD STATEMENT BEFORE COMMENCING WORK.

7. PROVIDE TEMPORARY SUPPORT TO ADJOINING STRUCTURES BY SHORING, UNDERPINNING, PROPPING OR AS REQUIRED DESIGNED BY A SUITABLY QUALIFIED CHARTERED ENGINEER REGISTERED WITH BUILDING PRACTITIONERS BOARD OF VICTORIA (RBP). REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND (RPEQ). CERTIFYING STRUCTURAL ENGINEER (BUILDING PRACTITIONERS BOARD) NORTHERN TERRITORY, OR NATIONAL ENGINEERING REGISTER (NER) OF ENGINEERS

11. USE DEMOLITION METHODS TO MINIMISE INTERFERENCE WITH AND PROTECT OCCUPANTS AND THEIR ACTIVITIES, INCLUDING FROM NOISE, NOXIOUS EFFECTS OF DUST, 12. ADVISE SUPERINTENDENT IMMEDIATELY IF HAZARDOUS MATERIALS ARE FOUND ON SITE, INCLUDING ASBESTOS, FLAMMABLE OR EXPLOSIVE LIQUIDS OR GASES, TOXIC,

TRELOAR CRESCENT

ON COMPLETION OF DEMOLITION GIVE NOT LESS THAN SEVEN WORKING DAYS NOTICE SO ADJOINING STRUCTURES CAN BE INSPECTED.

16. SUBMIT ELECTRONIC PDF'S OR THREE PAPER COPIES OF PROPOSED DEMOLITION METHOD STATEMENT AT LEAST 14 DAYS PRIOR TO DEMOLITION WORK. DO NOT PROCEED WITH DEMOLITION UNTIL WRITTEN APPROVAL ISSUED. METHOD STATEMENT TO INCLUDE PROPOSED SEQUENCE OF WORKS, TIMES FOR DISCONNECTION AND RECONNECTION OF SERVICES, SITE SECURITY, HOT WORKS, SPLINTERS AND EXPOSED ELEMENTS, DEBRIS, TRANSPORT AND DISPOSAL, ACCESS EQUIPMENT

17. HAVE CHARTERED STRUCTURAL ENGINEER REVIEW PROPOSED DEMOLITION LOADS THAT MAY AFFECT STRUCTURES AND SUBMIT REPORT TO SUPERINTENDENT PRIOR

INFECTED OR CONTAMINATED MATERIALS, RADIATION OR RADIOACTIVE MATERIALS, NOXIOUS OR EXPLOSIVE CHEMICALS, TANKS OR OTHER CONTAINERS THAT HAVE

EARTHWORKS. FOUNDATIONS AND FOOTINGS

- EARTHWORKS TO BE TO AS3798 AND AS2870.
- 2. REMOVE TOPSOIL, MATERIAL CONTAINING GRASS ROOTS OR OTHER ORGANIC MATTER, RUBBLE AND / OR DEBRIS AND ALL UNSUITABLE MATERIAL BELOW FOUNDATIONS AND WHERE SHOWN ON DRAWINGS.
- 3. STOCKPILE SUITABLE TOPSOIL FOR RE-USE TO 1500 mm MAXIMUM HEIGHT. 4. DO NOT STOCKPILE MATERIAL AGAINST RETAINING WALLS, BUILDINGS, FENCES OR TREES etc. DO NOT OBSTRUCT THE FREE FLOW OF WATER
- 5. SITE IS CLASSIFIED AS CLASS S TO AS2870.
- 6. REFER TO GEOTECHNICAL INVESTIGATION REPORT No. 23-SO1-2138191141 PREPARED BY GHD PTY. LTD. DATED JULY 2019 NOTIFY SUPERINTENDENT IF CONDITIONS ENCOUNTERED DIFFER FROM THOSE DESCRIBED IN THE REPORT AND SEEK DIRECTIONS.
- 7. NOTIFY SUPERINTENDENT IF GROUND WATER ENCOUNTERED. 8. DESIGN IS BASED ON DATA FROM DISCRETE LOCATIONS AS RECORDED IN GEOTECHNICAL INVESTIGATION REPORT. SUBSURFACE CONDITIONS SHOWN ON DRAWINGS IS INFERRED FROM DATA IN GEOTECHNICAL INVESTIGATION REPORT AND IS GIVEN AS A GUIDE ONLY. ACTUAL GROUND CONDITIONS MAY VARY FROM THOSE SHOWN.
- 9. PROVIDE TEMPORARY SUPPORT TO FACES OF EXCAVATIONS AS REQUIRED.
- 10. HAVE SAFETY OF PROPOSED EXCAVATIONS INCLUDING ANY TEMPORARY WORKS ASSESSED BY SUITABLY QUALIFIED GEOTECHNICAL / STRUCTURAL ENGINEER.
- 11. GENERAL FILL TO BE WELL GRADED MATERIAL, INORGANIC, LESS THAN 0.5% SULPHUR, MAXIMUM PARTICLE SIZE 75 mm, PLASTICITY INDEX < 55%12. SELECTED FILL MATERIAL SHALL COMPLY WITH THE FOLLOWING:
 - INORGANIC, LESS THAN 0.5% SULPHUR
 - MAXIMUM PARTICLE SIZE 75 mm PROPORTION PASSING 0.075 mm SIEVE: 25% MAXIMUM
 - PLASTICITY INDEX: >2%, <15%
- PROPORTION EXCEEDING PARTICLE SIZE OF 50 mm: 75% MINIMUM 13. PLACE FILL MATERIAL UNDER BUILDINGS AND OTHER FOOTINGS IN LAYERS NOT EXCEEDING 150 mm THICK AND COMPACT TO AT
- LEAST 95% MAXIMUM DRY DENSITY (STANDARD COMPACTION) TO AS1289. 14. ADJUST MOISTURE CONTENT OF FILL AT TIME OF COMPACTION WITHIN THE RANGE OF 85-115% OF OPTIMUM MOISTURE CONTENT
- DETERMINED BY AS1289 TO ACHIEVE REQUIRED DENSITY. 15. SAMPLE AND TEST COMPACTION AS PER SPECIFICATION.
- FOUNDATIONS
- 16. FOUNDATION LEVELS SHOWN ARE CONTRACT LEVELS. FINAL LEVELS TO BE AS DIRECTED BY SUPERINTENDENT. 17. HARDCORE (BASE) SHALL BE APPROVED WELL GRADED NATURAL GRAVEL OR CRUSHED ROCK (MAX, SIZE 40mm0) SPREAD AND COMPACTED TO 98% MAXIMUM DRY DENSITY DETERMINED BY TEST AS-1289-E2.1 OR 80% MINIMUM DENSITY INDEX FOR COHESIONLESS SOILS.
- 18. "CONTROLLED FILL" IS: SAND FILL UP TO 800 mm DEEP, WELL COMPACTED IN LAYERS < 300 mm THICK BY VIBRATING PLATE OR VIBRATING ROLLER, OR NON-SAND FILL UP TO 400 mm DEEP, WELL COMPACTED IN LAYERS <150 mm THICK BY MECHANICAL ROLLER (CLAY FILL TO BE MOIST DURING COMPACTION), OR OTHER MATERIAL PLACED AND COMPACTED IN ACCORDANCE WITH SPECIFICATION
- 19. "ROLLED FILL" IS: SAND FILL UP TO 600 mm DEEP COMPACTED IN LAYERS < 300 mm THICK, OR NON-SAND FILL UP TO 300 mm DEEP COMPACTED IN LAYERS < 150 mm THICK (CLAY FILL TO BE MOIST DURING COMPACTION). 20. AVOID OVER EXCAVATION. BACKFILL OVER EXCAVATION WITH GRADE N7 BLINDING CONCRETE
- 21. KEEP EXCAVATIONS FREE OF WATER. PROVIDE ADEQUATE DRAINAGE TO ENSURE FORMATION IS NOT AFFECTED BY MOISTURE. PREVENT FOUNDATION DRYING OUT DUE TO EXPOSURE. PLACE BLINDING, FOOTINGS, PILES AND BACKFILL AS SOON AS PRACTICABLE AFTER EXCAVATION
- 22 ENSURE EXCAVATIONS ARE STABLE AND PROTECT SURROUNDING PROPERTY AND SERVICES FROM ADVERSE FEFECTS OF GROUND WORKS. PROVIDE TEMPORARY WORKS AS REQUIRED. PROVIDE SHORING CERTIFIED BY SUITABLY QUALIFIED STRUCTURAL ENGINEER TO ALL DEEP EXCAVATIONS WHERE REQUIRED.
- 23. DO NOT UNDERMINE EXISTING FOOTINGS. 24. DEEPEN FOOTINGS BY THICKENING BLINDING CONCRETE AS REQUIRED NEAR EXISTING SERVICE TRENCHES (EVEN IF BACKFILLED), EXCAVATIONS, BATTERS etc, SO INFLUENCE LINE (AT 30° TO HORIZONTAL) FROM FOOTING IS BELOW ADJACENT EXCAVATION. 25. PROVIDE SAFETY MESH AND OTHER PROTECTION TO PREVENT EXPOSURE OF PERSONNEL TO EXCAVATIONS DURING FOUNDATION
- CONSTRUCTION 26. USE SUITABLE CONSTRUCTION TECHNIQUES AND EQUIPMENT FOR BACKFILLING ADJACENT TO STRUCTURES TO PREVENT OVERSTRESS AND DAMAGE. PROVIDE SUPPORT TO RETAINING WALLS IF CONSTRUCTION METHODS IMPOSE COMPACTION LOADS GREATER THAN ALLOWED (SEE DESIGN LOADS IN GENERAL NOTES). BACKFILL EVENLY TO AVOID DIFFERENTIAL SOIL PRESSURES ON STRUCTURES. BACKFILL AGAINST RETAINING WALLS ONLY AFTER SPECIFIED CONCRETE STRENGTH IS ACHIEVED, AND
- PERMANENT SUPPORT INSTALLED WHERE APPLICABLE 27. BACKFILL FOR RETAINING WALLS TO BE FREE DRAINING GRANULAR MATERIAL. PROVIDE DRAINAGE BEHIND RETAINING WALLS COMPRISING CONTINUOUS SLOTTED DRAIN WITH GRANULAR SURROUND, OR NYLEX "COREDRAIN" CONNECTED TO RETICULATED
- STORMWATER DRAINAGE SYSTEM. PROVIDE 50 mm DIAMETER WEEPHOLES AT 1500 MAXIMUM CENTRES AT BASE OF WALL. 28. SLOPE SERVICES TRENCHES AWAY FROM BUILDING. BED SERVICES ON COMPACTED MATERIAL COMPATIBLE WITH NATURAL MATERIAL ON SITE. BACKFILL TOP 300 mm OF TRENCHES WITH HAND COMPACTED CLAY WITHIN 1500 mm OF BUILDING. WHERE SERVICES PASS THROUGH MIDDLE THIRD OF FOOTING, SLEEVE SERVICES OR PROVIDE 40 mm THICK CLOSED-CELL POLYETHYLENE
- I AGGING 29. FOR SITES CLASSIFIED M OR GREATER REACTIVITY; WHERE SERVICES PASS UNDER FOOTINGS BACKFILL TRENCHES WITH HAND COMPACTED CLAY OR BLINDING CONCRETE FOR 1500 mm EACH SIDE OF FOOTING AGAINST CLEAN, DRY, UNDISTURBED NATURAL
- MATERIAL. BACKFILL TRENCHES WITH HAND COMPACTED CLAY WITHIN 1500 mm OF BUILDING. PROVIDE FLEXIBLE JOINTS IN STORMWATER AND WASTEWATER SERVICES AT EXTERIOR OF BUILDING 30. FOLLOWING CONSTRUCTION, FOUNDATION MAINTENANCE TO BE IN ACCORDANCE WITH CSIRO BUILDING TECHNOLOGY FILE 18 "FOUNDATION MAINTENANCE AND FOOTING PERFORMANCE: A HOMEOWNER'S GUIDE", INCLUDING CONSTRAINTS ON TREE
- I OCATIONS
- 31. FOOTINGS HAVE BEEN DESIGNED FOR AN ULTIMATE END BEARING PRESSURE OF 6500 KPa IN UNDISTURBED NATURAL ROCK. PILES HAVE BEEN DESIGNED ASSUMING AN ULTIMATE END BEARING PRESSURE OF 6500 kPa. GEOTECHNICAL REDUCTION FACTOR OF 0.5 HAS BEEN ADOPTED IN DESIGN.
- 32. CONSTRUCT FOOTINGS FOUNDED IN SPECIFIED MATERIALS (AS ABOVE, AND IN GEOTECHNICAL REPORT). REMOVE SOFTENED OR LOOSE MATERIAL AND MATERIAL THAT DOES NOT ACHIEVE THESE PRESSURES. ENSURE FORMATION IS CLEAN AND LEVEL. PROVIDE FORMWORK WHERE SIDES OF EXCAVATIONS NOT STABLE UNO
- 33. PROOF ROLL FORMATION WITH HEAVY DUTY ROLLER. 34. OBTAIN APPROVAL OF FOUNDATION MATERIAL FOR THE DESIGN PRESSURES FROM SUITABLY QUALIFIED GEOTECHNICAL
- ENGINEER/SUPERINTENDENT/BUILDING AUTHORITY BEFORE FIXING REINFORCEMENT OR PLACING CONCRETE. 35. SLAB PANELS TO BE FOUNDED ON UNDISTURBED NATURAL SOIL WITH ALLOWABLE BEARING CAPACITY OF NOT LESS THAN 100 kPa. REMOVE ANY SOFT SPOTS AND REPLACE WITH COMPACTED CRUSHED ROCK. WHERE SLAB PANELS AND INTERNAL BEAMS ARE
- FOUNDED ON CONTROLLED FILL, CONTROLLED FILL MUST CONTINUE AT LEAST ONE METRE PAST BUILDING. 36. LOCATE FOOTINGS CENTRALLY UNDER WALLS AND COLUMNS UNO.
- 37. PROVIDE 0.2 mm HIGH IMPACT RESISTANT VIRGIN POLYETHYLENE FILM DAMP PROOF MEMBRANE TO AS2870 ON 50 mm SAND BLINDING WHERE SHOWN ON DRAWINGS. LAP 200 mm AND SEAL DAMP PROOF MEMBRANES, TAPE AT PENETRATIONS, etc TO ENSURE A COMPLETE VAPOUR BARRIER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS2870. PREVENT PUNCTURING OR DAMAGE BY PLACING A PLASTIC PLATE UNDER REINFORCEMENT SUPPORTS.
- 38. TOP OF CONCRETE SLAB TO BE AT LEAST 150 mm ABOVE ADJACENT GROUND LEVELS. 39. SLOPE GROUND SURROUNDING BUILDING SO WATER WILL DRAIN AWAY FROM BUILDING TO SUITABLE DISCHARGE POINTS WITHOUT PONDING. WHERE ACHIEVED BY FILLING. FILL TO BE LESS PERMEABLE THAN UNDERLYING MATERIAL.
- 40 INSPECTION MAY BE MADE OF THE FOLLOWING' SETTING OUT. PILES AND PILING MATERIAL AFTER DELIVERY TO THE SITE AND BEFORE INSTALLATION, REINFORCEMENT CAGES AFTER ASSEMBLY AND BEFORE INSTALLATION, EXCAVATED SHAFTS, INCLUDING CASINGS AND SOCKETS BEFORE PLACING REINFORCEMENT, REINFORCEMENT IN EXCAVATED SHAFTS BEFORE CONCRETING AND CONCRETING OF PILES.
- 41. FOR BORED PILES USE TEMPORARY CASING TO SUPPORT LOOSE OR WEAK MATERIAL AS REQUIRED. 42. EXCAVATE PILE SOCKETS TO ENSURE SURFACES ARE FREE OF DEBRIS, CRUSHED ROCK AND SMEARED MATERIAL. USE CLEANING BUCKETS AND SIDE CLEANING TOOLS SUITABLE FOR THE PILE DIAMETER.
- 43. ENSURE SIDE WALLS OF PILE SOCKETS ARE FREE OF SOIL AND CRUSHED ROCK OVER AT LEAST 80% OF SIDE WALL AREA. 44. ENSURE BASE OF PILE SOCKETS ARE FREE OF DEBRIS, SOFT MATERIAL etc. EXPOSE NATURAL ROCK OVER AT LEAST 80% OF SOCKET BASE. PREVENT LOOSE MATERIAL FALLING INTO HOLE.
- 45. SOCKET INSPECTIONS ARE TO BE UNDERTAKEN BY SUITABLY QUALIFIED GEOTECHNICAL ENGINEER TO VERIFY SOCKET IS FOUNDED WHOLLY WITHIN CLASS OF ROCK SPECIFIED, MATERIAL UNDERLYING SOCKET BASE IS EQUIVALENT OR BETTER THAN
- ASSUMED BY DESIGN, SOCKET DIMENSIONS ARE AS SPECIFIED, SIDE WALL AND BASE CLEANLINESS IS AS SPECIFIED. 46. PILE SOCKET LENGTH/DEPTH MEASURED FROM BASE OF EXCAVATION. NO OVER EXCAVATION OF SOCKETED PILES IS PERMITTED.

PROJECT

47. WHERE PILE CUT OFF LEVEL IS ABOVE ADJACENT GROUND, FORM PILE ABOVE GROUND LEVEL. 48. PILES TO PROJECT INTO 50 mm INTO ABUTMENT/PILECAP UNO.

- CONSULTANT SITE NORTH | AUSTRALIAN WAR MEMORIAL

GHD CANBERRA LEVEL 7, 16 MARCUS CLARKE STREE CANBERRA ACT 2601 AUSTRALIA GPO BOX 1877 CANBERRA ACT 2601 T: 61 2 6113 3200 F: 61 2 6113 3299 AUSTRALIAN E: cbrmail@ghd.com W: www.ghdwoodh WAR MEMORIAL DRAWING NO. 23-16682-S-002

> AWM REDEVELOPMENT PROJEC POPPY'S CARPARK EXTENSION



ABBREVIATIONS: INFORMATION ONLY - (UNCONTROLLED) C CONTROLLED ISSUE P PRELIMINARY

ALL DIMENSIONS ARE IN MILLIMETRES LEVELS ARE IN METRES DO NOT SCALE OFF DRAWING USE FIGURED DIMENSIONS ONLY CHECK DIMENSIONS ON SITE

20 TRELOAR CRESCENT

CAMPBELL ACT 2612

BLOCK 3 SECTION 39

CAMPBELL ACT

NOTES:

SCALEBAR:

GHD	DRAWING TITLE STRUCTUR	AL NOTES S	HEET 1			
	DRAWN M. CRUZ	CHECKED B. REMEDIOS	APPROVED F. EDIBAM	SCALE 1:1	SIZE	
ead com	DATE 04.10.19	DATE 04.10.19	DATE 04.10.19	1		
eau.com	STATUS		•	REVISION DAT	Ë	
	APPROVED FOR CONSTRUCTION 10.10.1					
Г	DISCIPLINE			•		
	STRUCTUR	AL				
	DRAWING NO.				REVISION	
	AWM-0269-	AFC-S-002			А	

60. UNDERPINS TO BE FOUNDED ON UNDISTURBED NATURAL MATERIAL WITH ALLOWABLE BEARING CAPACITY OF AT
LEAST 300 kPa.
61. AFTER EXCAVATION AND BEFORE CONCRETING, DETERMINE THE IN-SITU COMPACTION REQUIRED AT THE PIN
FOUNDING DEPTH. OBTAIN APPROVAL OF PROPOSED COMPACTION WORK FROM SUPERINTENDENT. NOTE; USE OF
CERTAIN COMPACTION TECHNIQUES MAY CAUSE SETTLEMENT OF ADJACENT BUILDINGS.
62. FILL VOIDS BEHIND UNDERPINNING AS CONCRETE IS PLACED.

49. PEG POSITION OF EACH PILE AND ESTABLISH GRID OF RECOVERY PEGS TO ENABLE SETTING OUT TO BE CHECKED.

52. PILE SETTING OUT DIMENSIONS ARE TO CENTRELINE OF PILE AT UNDERSIDE OF PILECAP. TOLERANCE ON POSITION

50. PILE LEVELS SHOWN ARE CONTRACT LEVELS. FINAL LEVELS TO BE AS REQUIRED TO ACHIEVE SPECIFIED PILE

53. SURVEY AS CONSTRUCTED PILE POSITIONS, GROUND LEVEL AT TIME OF PILE INSTALLATION AND PILE CUT-OFF

54. LENGTH AND HEIGHT OF PINS SHOWN IS APPROXIMATE AND FOR TENDERING PURPOSES ONLY. POSITION OF

55. OBTAIN APPROVALS FROM ADJACENT OWNER AND LOCAL AUTHORITY BEFORE COMMENCING UNDERPINNING.

56. BEFORE EXCAVATING INSTALL DATUMS AND RECORD DAILY ALL HORIZONTAL AND VERTICAL MOVEMENT DURING THE

58. PROVIDE TEMPORARY SUPPORT TO EXISTING STRUCTURE AND FOOTING BEING UNDERPINNED AS REQUIRED TO

59. EXCAVATE EACH PIN CAREFULLY IN TURN WITHOUT OVER EXCAVATING. SHORE UP ANY OVER-EXCAVATION INTO

NEXT PIN, AS DIRECTED BY SUPERINTENDENT. PINS TO BE 1200 mm MAXIMUM WIDE. DO NOT EXPOSE EXISTING

LEVELS. AND SUBMIT RECORDS OF SUCH TO SUPERINTENDENT WITHIN ONE WEEK OF COMPLETION OF PILING.

51. IF DAMAGE IS CAUSED TO ADJOINING PROPERTY, STOP PILING OPERATIONS AND ADVISE SUPERINTENDENT.

OF PILES ± 50 mm. MAXIMUM DEVIATION OF PILE FROM SPECIFIED INCLINATION 1 in 50.

UNDERPINNING WORKS. DATUM LOCATIONS TO BE AGREED WITH SUPERINTENDENT.

CAPACITY. DO NOT FOUND PILES HIGHER THAN LEVELS SHOWN.

ADJACENT BUILDING FOOTINGS SHOWN IS ASSUMED. CONFIRM ON SITE.

57. PINS TO BE EXCAVATED AND CONCRETED THE SAME WORKING DAY

FOOTING FOR MORE THAN WIDTH OF SECTION BEING UNDERPINNED.

63. RAM GROUT INTO POSITION WITHOUT VOIDS.

PREVENT MOVEMENT AND/OR DAMAGE.

PILING DELIVERABLES

- 64. UNDERPINNING SEQUENCE: • FOLLOW THE NUMBERED SEQUENCE AS SHOWN ON DRAWINGS.
 - FOR SIMILAR NUMBERED PINS, DIG SETS TO LEVELS AND DIMENSIONS SHOWN, FORM UP AND FIX
 - REINFORCEMENT CONCRETE SIMILAR NUMBERED PINS AND SECTION OF STRIP FOOTINGS. PROVIDE REINFORCEMENT LAPS FOR STRIP FOOTINGS AS SHOWN. COMPACT CONCRETE AND FILL ALL VOIDS BEHIND UNDERPINNING AS
 - CONCRETE IS PLACED. • PLACE CONCRETE TO WITHIN 100 mm OF UNDERSIDE OF FOOTING TO BE SUPPORTED.
 - GROUT BETWEEN FOOTING AND UNDERPINNING USING AN APPROVED EXPANDING GROUT SUCH AS 'CONBEX B' OR SIMILAR MIXED TO A RAMMABLE CONSISTENCY BEFORE NEXT SEQUENCE OF UNDERPINNING
 - IS EXCAVATED
 - DO NOT EXCAVATE NEXT PIN SEQUENCE UNTIL 2 DAYS AFTER CONCRETING. • REPEAT FOR ALL NUMBER SEQUENCES.

CONCRETE

- CONCRETE MIX WORKMANSHIP AND MATERIALS TO COMPLY WITH AS3600, AS2870, AS3610, AS1379, AS1478, AS3582, AS3799, AS2758.1, AS5100.5 AND AS3972. FOR LIQUID RETAINING STRUCTURES ALSO COMPLY WITH AS3735. WET CONCRETE TO BE UNIFORM, HOMOGENEOUS, COHESIVE AND ABLE TO WORK READILY INTO CORNERS AND AROUND REINFORCEMENT COMPLETELY FILLING FORMWORK WITHOUT SEGREGATION, EXCESS FREE WATER ON
- SURFACE, LOSS OF MATERIAL OR CONTAMINATION. CONCRETE TO HAVE GOOD DIMENSIONAL STABILITY AND ABLE TO RESIST PLASTIC SETTLEMENT CRACKING. THERMAL CRACKING AND SHRINKAGE CRACKING.
- FINISHED CONCRETE TO BE A DURABLE, DENSE, HOMOGENEOUS MASS COMPLETELY FILLING FORMWORK, EMBEDDING REINFORCEMENT AND TENDONS, AND FREE OF STONE POCKETS OR HONEYCOMBS, OF UNIFORM
- COLOUR AND TEXTURE, WITH LOW PERMEABILITY AND ADEQUATE BUT NOT EXCESSIVE STRENGTH FOR GRADE. . CONCRETE BLEED TO BE LESS THAN 3% FOR FLOOR AND ROOF SLABS, LESS THAN 2% FOR WALLS.
- AIR ENTRAINMENT IS NOT PERMITTED UNLESS APPROVED IN WRITING BY SUPERINTENDENT. . REVIEW LOCATION OF EMBEDDED ITEMS TO MINIMIZE POSSIBLE ZONES OF POOR COMPACTION THAT MAY
- COMPROMISE STRUCTURAL INTEGRITY. EXTERNALLY EXPOSED CONCRETE TO BE CLASSIFICATION B1 UNO.

3. QUALITY OF CONCRETE ELEMENTS TO BE AS FOLLOWS:

STRUCTURAL ELEMENT	BLINDING	GROUND SLAB	SUSPENDED SLAB	COLUMNS/FOOTING/ WEARING SLAB
EXPOSURE CLASSIFICATION	B1	A1		A2
STRENGTH GRADE (MPa)	N7	N32		N40
MINIMUM DENSITY (kg/m ³)	-	2350		2350
MAX AGGREGATE SIZE (mm)	-	20	~	20
MAXIMUM / PEAK INSITU CONCRETE TEMPERATURE	-	65°C	SIGNER	65°C
CEMENT TYPE	GB	GP	PT DES	
MINIMUM CEMENTITIOUS CONTENT (kg/m ³)	100	270	TOR's	270
MAXIMUM WATER/CEMENTITIOUS RATIO	-	0.5	NTRAC	0.5
MAX. 56 DAY DRYING SHRINKAGE (MICROSTRAIN)	-	650	BY COI	650
REQUIRED ADDITIVES		SUPERPLASTICISER		SUPERPLASTICISER
PROJECT ASSESSMENT REQUIRED		YES		YES

GRANULATED BLAST FURNACE SLAG (GGBFS OR SLAG) COMPLYING WITH AS3582. 10. RHEOLOGY, WORKABILITY AND SLUMP TO BE AS REQUIRED FOR PLACEMENT (eg PUMPING, CHUTE etc), COMPACTION

- AND FINISHING. USE SUPERPLASTICISERS AND HIGH RANGE WATER REDUCERS TO AS1478 TO ACHIEVE ADEQUATE WORKABILITY.
- 1. MAXIMUM SULPHATE CONTENT OF CONCRETE TO BE LESS THAN 5% BY MASS OF ACID SOLUBLE SO3 AS A PERCENTAGE OF CEMENTITIOUS MATERIAL
- 12. TOTAL REACTIVE ALKALI CONTENT IN CONCRETE TO BE LESS THAN 2.8 kg/m3 Na2Oe (EQUIVALENT).
- 13. USE CEMENTITIOUS MATERIALS LESS THAN SIX MONTHS OLD. USE BAGGED CEMENT IN ORDER OF RECEIPT. 14. FOR GENERAL BLENDED CEMENT (GB) CONTAINING ORDINARY PORTLAND CEMENT PLUS AT LEAST 5% SUPPLEMENTARY CEMENTITIOUS MATERIALS:
- SILICA FUME TO BE LESS THAN 10%, OR • FLYASH TO BE LESS THAN 25% OR
- GROUND GRANULATED BLAST FURNACE SLAG TO BE LESS THAN 40%.
- FOR DOUBLE BLENDED CEMENT TOTAL SUPPLEMENTARY CEMENTITIOUS MATERIAL MUST BE LESS THAN SMALLER OF PERCENTAGES GIVEN ABOVE FOR CONSTITUENTS INCLUDED.
- FOR TRIPLE BLENDED CEMENT TOTAL SUPPLEMENTARY CEMENTITIOUS MATERIAL MUST BE LESS THAN 40%. 5. TEST FINE AND COARSE AGGREGATES FOR POTENTIAL AGGREGATE ALKALI REACTIVITY (AAR) USING CSIRO ACCELERATED MORTAR BAR TEST (REFER SAA HANDBOOK HB-69 APPENDIX B3.2). ALTERNATIVELY USE ASTM C1293 CONCRETE PRISM TEST. PETROGRAPHIC TESTING CAN PROVIDE ADDITIONAL AGGREGATE AAR RISK INFORMATION.
- TESTS MUST USE SAME CEMENT TYPE AS PROPOSED IN THE WORKS. 16. ADMIXTURES TO COMPLY WITH AS1478. ADMIXTURES MUST NOT REDUCE STRENGTH OF CONCRETE BELOW SPECIFIED VALUE. ADMIXTURES MUST NOT CONTAIN CALCIUM CHLORIDE USE ADMIXTURES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. CONCRETE ADMIXTURES SHALL NOT ENHANCE CORROSION OF REINFORCEMENT, NOR BE DETRIMENTAL TO CONCRETE OR STEEL DURING EXPECTED LIFE OF STRUCTURE. DO NOT USE CHEMICAL ADMIXTURES OR OTHER MATERIALS WITHOUT SUPERINTENDENT'S WRITTEN APPROVAL.
- 7. MAXIMUM ACID SOLUBLE CHLORIDE ION CONTENT IS 0.4 kg/m3 OF CONCRETE. DO NOT USE STRONGLY IONIZED SALTS. 18. DO NOT ADD WATER TO CONCRETE AFTER TRUCK HAS LEFT BATCHING PLANT.
- 19. MIX CONCRETE TO ENSURE UNIFORM DISTRIBUTION OF CONSTITUENTS.
- 20. SPRAYED CONCRETE TO COMPLY WITH CONCRETE INSTITUTE OF AUSTRALIA'S REFERENCE SPECIFICATION (REFER APPENDIX A OF "RECOMMENDED PRACTICE SPRAYED CONCRETE").
- <u>CONCRETE TESTING</u> 1. TEST SLUMP OF EACH BATCH OF CONCRETE DELIVERED BEFORE PLACING CONCRETE FROM THAT DELIVERY. SLUMP MEASURED TO BE NO GREATER THAN TARGET SLUMP WITHIN TOLERANCES GIVEN IN AS1379 CLAUSE 5.2.3. CONCRETE OUTSIDE SLUMP TOLERANCE LIMITS IS LIABLE TO REJECTION.
- 22. REGISTER PROJECT FOR DISSEMINATION OF CONCRETE PRODUCTION ASSESSMENT INFORMATION. MANUFACTURER TO CARRY OUT PRODUCTION ASSESSMENT OF CONCRETE FOR COMPLIANCE WITH REQUIREMENTS OF AS1379. 23. CARRY OUT PROJECT ASSESSMENT OF CONCRETE TO AS1379 CLAUSE 6.4 AND 6.5. TAKE SAMPLES AT PROJECT SITE AT POINT OF DISCHARGE FROM AGITATOR. SPREAD SAMPLING EVENLY THROUGH POUR. SAMPLE CONCRETE FOR PROJECT ASSESSMENT CONCURRENTLY WITH EACH SAMPLE TAKEN FOR PRODUCTION ASSESSMENT AT PROJECT SITE. FOR EACH CONCRETE DESIGN MIX TAKE ONE SAMPLE FROM EACH 25 CUBIC METRES OF CONCRETE DELIVERED
- PER DAY, NOT LESS THAN FIVE SAMPLES TOTAL FOR EACH MIX DESIGN. EACH SAMPLE TO COMPRISE FOUR CYLINDERS: TEST TWO AT 7 DAYS AND TWO AT 28 DAYS. NOTIFY SUPERINTENDENT WITHIN 2 WORKING DAYS IF 7 DAY CONCRETE TEST RESULTS INDICATE 28 DAY STRENGTHS ARE LIKELY TO BE BELOW SPECIFIED STRENGTH. 24. FOR TYPE LH CEMENT EACH SAMPLE TO COMPRISE FOUR CYLINDERS: TEST ONE AT 7 DAYS AND TWO AT 28 DAS AND ONE AT 56 DAYS
- 25. CARRY OUT DRYING SHRINKAGE TESTING TO AS1012.13. FOR EACH CONCRETE DESIGN MIX TAKE ONE SAMPLE EVERY THREE MONTHS, OR FOR EVERY 1000 m3 OF CONCRETE PLACED, A MINIMUM OF ONE SAMPLE. EACH SAMPLE TO COMPRISE THREE SPECIMENS. SAMPLE CONCRETE AT PROJECT SITE, DIRECTLY FROM DELIVERY VEHICLE. BASE ASSESSMENT ON AVERAGE OF THREE TEST RESULTS. 26. CONCRETE SAMPLING AND TESTING TO BE BY AN APPROVED INDEPENDENT NATA REGISTERED LABORATORY.
- RESPONSIBILITY FOR DESIGN, CERTIFICATION, CONSTRUCTION AND PERFORMANCE OF FORMWORK AND FALSEWORK LIES WITH CONTRACTOR
- 28. FORMWORK TO BE DESIGNED BY A SUITABLY QUALIFIED CHARTERED ENGINEER REGISTERED WITH BUILDING PRACTITIONERS BOARD OF VICTORIA (RBP), REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND (RPEQ), CERTIFYING STRUCTURAL ENGINEER (BUILDING PRACTITIONERS BOARD) NORTHERN TERRITORY, OR NATIONAL ENGINEERING REGISTER (NER) OF ENGINEERS AUSTRALIA TO AS3610, AND INDEPENDENTLY CERTIFIED BY A CHARTERED ENGINEER EXPERIENCED IN FORMWORK DESIGN AND REGISTERED WITH BUILDING PRACTITIONERS BOARD OF VICTORIA (RBP), REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND (RPEQ), CERTIFYING STRUCTURAL ENGINEER (BUILDING PRACTITIONERS BOARD) NORTHERN TERRITORY, OR NATIONAL ENGINEERING REGISTER (NER) OF ENGINEERS AUSTRALIA. PROVIDE COPY OF DESIGN CALCULATIONS AND CERTIFICATION TO SUPERINTENDENT. DESIGN FORMWORK TO ACCOMMODATE DIMENSIONAL CHANGES AND MOVEMENTS RESULTING FROM IMPOSED ACTIONS, CONCRETE SHRINKAGE AND CREEP, TEMPERATURE CHANGES, PRESTRESSING FORCES,
- 29. PROVIDE BEAMS WITH AN UPWARDS PRECAMBER AS SHOWN ON DRAWINGS. 30. DO NOT SUPPORT OR RESTRAIN FORMWORK ON PERMANENT WORKS WITHOUT SUPERINTENDENT'S WRITTEN
- APPROVAL 31. CONSTRUCT FORMWORK TO COMPLY WITH AS3610 AND CLAUSE 17.6 OF AS3600 WHERE THIS IS MORE STRINGENT SO CONCRETE WILL HAVE DIMENSIONS, SHAPE, LOCATION AND FINISH SPECIFIED.
- 32. PROVIDE OPENINGS OR REMOVABLE PANELS IN FORMWORK FOR INSPECTION AND CLEANING 33. APPLY RELEASE AGENT COMPATIBLE WITH CONTACT SURFACES TO INTERIOR OF FORMWORK (EXCEPT WHERE CONCRETE IS TO RECEIVE AN APPLIED FINISH FOR WHICH THERE IS NO COMPATIBLE RELEASE AGENT). WHERE NECESSARY CLEAN REINFORCEMENT TO REMOVE TRACES OF RELEASE AGENT.

- 34. SEAL JOINTS BETWEEN FORMWORK PANELS, AND TO HARDENED CONCRETE WITH A FLEXIBLE RUBBER S FORMWORK TO GIVE A REGULAR ARRANGEMENT OF PANELS, JOINTS, BOLT HOLES AND SIMILAR VISIBLE SURFACE
- 35. DO NOT USE FORMWORK HARDWARE THAT FORMS A COMPLETE HOLE THROUGH CONCRETE ELEMENTS. REINFORCEMENT TO SUPPORT FORMWORK.
- 36. PROVIDE HOLES IN REBATE FORMERS, etc, AS REQUIRED TO PREVENT AIR ENTRAPMENT. 37. CARDBOARD VOID FORMER: USE VOID FORMER THAT WILL NOT DEFLECT DURING CONCRETE PLACING AI DURING SETTING PERIOD, BUT WILL COLLAPSE RESULTING IN LOSS OF LOAD CARRYING CAPACITY NOT M AFTER FLOODING WITH WATER. KEEP VOID FORMERS DRY UNTIL CONCRETE IS PLACED.
- 38. DO NOT STRIP FORMWORK PRIOR TO 36 HOURS AFTER PLACEMENT. 39. DO NOT STRIP FORMWORK UNTIL CONCRETE IS HARDENED SUFFICIENTLY TO WITHSTAND MOVEMENT ANI
- WITHOUT DAMAGE. MINIMUM STRIPPING TIMES TO BE AS PER AS3610 TABLE 5.4.1. 40. STRIP FORMWORK TO AS3600 CLAUSE 17.6. REMOVE FORM TIE BOLTS WITHOUT DAMAGING CONCRETE. LEFT IN CONCRETE MUST NOT INTRUDE INTO COVER CONCRETE. FLUSH FILL HOLES USING PRE-MIXED N CEMENTITIOUS REPAIR MORTAR MATCHING CONCRETE SURFACE COLOUR, STRENGTH AND DURABILITY
- PLACING OF CONCRETE 41. CONSTRUCTION TOLERANCES TO BE TO AS3610.
- 42. FORMWORK, REINFORCEMENT AND COVER, DOWELS, WATERSTOPS, CAST-IN ITEMS etc TO BE INSPECTED SUITABLY QUALIFIED GEOTECHNICAL ENGINEER /SUPERINTENDENT/BUILDING SURVEYOR BEFORE CONC
- 43. REMOVE FREE WATER, DUST AND DEBRIS, STAINS etc FROM FORMS, EXCAVATIONS etc BEFORE PLACING CONDITIONS DAMPEN FORMWORK AND/OR SUB-GRADE BEFORE PLACING CONCRETE. 44. INSTALL 0.2 mm HIGH IMPACT RESISTANT VIRGIN POLYETHYLENE FILM DAMP PROOF MEMBRANE TO AS283
- RETAIN WATER IN FRESH CONCRETE. 45. PLACE CONCRETE IN LAYERS LESS THAN 300 mm THICK FOR FIRST LAYER AND 75% OF IMMERSION VIBRA SUBSEQUENT LAYERS, AND VIBRATE EACH LAYER BEFORE PLACING NEXT.
- 46. ELAPSED TIME BETWEEN WETTING OF MIX AND DISCHARGE OF CONCRETE AT SITE MUST BE AS SHORT A MUST NOT EXCEED LIMITS GIVEN WITHOUT SUPERINTENDENT'S PRIOR WRITTEN CONSENT: CONCRETE TEMPERATURE AT TIME OF DISCHARGE (°C) : MAXIMUM ELAPSED TIME (HOURS)
- 10-24°C : 2 HOURS 24-27°C : 1 HOUR 30 MINUTES
- 27-30°C : 1 HOUR 30-32°C : 45 MINUTES
- 47. ELAPSED TIME LIMITS MAY BE VARIED IF TRIALS DEMONSTRATE USE OF SET RETARDERS (TYPE Re OR WE PROVIDE ADEQUATE RETENTION OF WORKABILITY FOR LONGER PERIODS AT REQUIRED TEMPERATURE. APPLY, RETEMPERING BEYOND MAXIMUM ALLOWED DISCHARGE TIME USING WATER OR ADMIXTURES IS
- 48. USE PLACEMENT METHODS THAT WILL MINIMISE PLASTIC SETTLEMENT AND SHRINKAGE CRACKING. LIMI FALL BY USE OF CHUTES, etc. KEEP CHUTES VERTICAL, FULL AND IMMERSED IN CONCRETE. PLACE CONC BLEND SUCCEEDING LAYERS BY COMPACTION. MAINTAIN CONCRETE EDGE IN A PLASTIC STATE. PROPE CONCRETE USING MECHANICAL VIBRATORS (AND HAND METHODS IF REQUIRED) TO REMOVE AIR BUBBLE COMPACTION WITHOUT SEGREGATION OF CONCRETE. TAKE CARE TO AVOID CONTACT BETWEEN VIBRAT HARDENED CONCRETE, FORMWORK OR REINFORCEMENT, DO NOT USE VIBRATORS TO MOVE CONCRETE
- 49. DO NOT DISTURB CONCRETE ONCE INITIAL SET OCURRED. 50. OBTAIN SUPERINTENDENT'S WRITTEN APPROVAL OF PLACEMENT METHODS FOR CONCRETE ELEMENTS mm HEIGHT
- 51. KEEP ON SITE A LOG BOOK RECORDING EACH PLACEMENT OF CONCRETE INCLUDING DATE, CLIMATIC CO OF WORK, SPECIFIED GRADE AND SOURCE OF CONCRETE, DELIVERY DOCKET DATA, METHODS OF PLACE COMPACTION, PROJECT ASSESSMENT CARRIED OUT, SLUMP MEASUREMENTS, VOLUME AND OTHER NOT/
- 52. IN COLD WEATHER MAINTAIN TEMPERATURE OF FRESHLY MIXED CONCRETE WITHIN LIMITS SHOWN BELO TEMPERATURE IS AIR TEMPERATURE AT TIME OF MIXING, OR PREDICTED OR LIKELY AIR TEMPERATURE D HOURS. BEFORE AND WHILE PLACING CONCRETE MAINTAIN TEMPERATURE OF FORMWORK AND REINFO NOT USE CALCIUM CHLORIDE TO ACCELERATE SETTING TIME. DO NOT USE SALTS, CHEMICALS OR OTHER LOWER THE FREEZING POINT OF CONCRETE. DO NOT ALLOW FROZEN MATERIALS TO ENTER MIXER. EVAL INSULATION OF CONCRETE SURFACES. DO NOT USE HIGH ALUMINA CEMENT.
- 53. KEEP FORMS, MATERIALS, EQUIPMENT IN CONTACT WITH CONCRETE FREE OF FROST AND ICE. HEAT CON (OTHER THAN CEMENT) TO MINIMUM TEMPERATURE NECESSARY TO ENSURE TEMPERATURE OF PLACED (LIMITS SPECIFIED. MAXIMUM WATER TEMPERATURE: 60°C WHEN PLACED IN MIXER OUTDOOR AIR TEMPERATURE : TEMPERATURE OF CONCRETE
- > 5°C : 10°C MIN 32°C MAX < 5°C : 18°C MIN - 32°C MAX
- 54. IN HOT WEATHER PREVENT PREMATURE STIFFENING OF FRESH CONCRETE; REDUCE WATER ABSORPTIO LOSSES. MIX. TRANSPORT, PLACE AND COMPACT CONCRETE AS QUICKLY AS POSSIBLE. DURING PLACEM OF CONCRETE MUST NOT EXCEED TEMPERATURES BELOW: CONCRETE ELEMENT : TEMPERATURE LIMIT
- UNREINFORCED CONCRETE IN SECTIONS ≥1 METRE EACH DIMENSION 27°C CONCRETE fc ≥ 40 MPa IN SECTIONS ≥ 500mm THICKNESS 27°C CONCRETE IN FOOTINGS, BEAMS, COLUMNS, WALLS AND SLABS $f_C \leq 32$ MPA 32°C ELSEWHERE
- DO NOT MIX CONCRETE WHEN SURROUNDING OUTDOOR SHADE TEMPERATURE ≥ 38°C. MAINTAIN TEMPERATURE OF FORMWORK AND REINFORCEMENT AT ≤ 32°C BEFORE AND DURING PLACING REINFORCEMENT AND FORMWORK AS REQUIRED. MAINTAIN SPECIFIED TEMPERATURE OF PLACED CONC
- PLACING CONCRETE WHEN AMBIENT TEMPERATURE IS LOW (AT NIGHT) • COOL CONCRETE USING LIQUID NITROGEN INJECTION BEFORE PLACING, OR COVER CONTAINER IN WHICH CONCRETE IS TRANSPORTED TO FORMS OR
- SHADING AND SPRAYING COARSE AGGREGATE USING COLD WATER, OR
- USE CHILLED MIXING WATER 55. FOR CONCRETE ELEMENTS GREATER THAN 500 mm THICK THAT MAY EXCEED THE MAXIMUM PEAK TEMPI MAXIMUM TEMPERATURE DIFFERENTIAL, OR ARE LIQUID RETAINING OR LIQUID EXCLUDING: UNDERTAKE AGE THERMAL / RESTRAINT AND SHRINKAGE CRACK RISK ASSESSMENT (ie WILL CRACKS FORM AND WHA TO SUPERINTENDENT FOR APPROVAL AT LEAST FOUR WEEKS PRIOR TO DELIVERY OF CONCRETE. ASSE FOR: CEMENT TYPE AND CONTENT, METHOD OF CONSTRUCTION, ELEMENT TYPE (PILE CAP, PIER, BEAM, RESTRAINT BY PRIOR CAST CONCRETE, CONCRETE SHRINKAGE AND STRAIN, REINFORCEMENT RATIOS, SPACING, CONCRETE THICKNESS, WIDTH AND LENGTH, TEMPERATURE OF ADJACENT CONCRETE, ENVIR CONDITIONS, TIME OF YEAR, TIME OF DAY, CONCRETE CASTING TEMPERATURE, CONCRETE SURFACE INS STRIPPING TIME, AND ALL OTHER MATTERS INFLUENCING CONCRETE TEMPERATURE AND RESTRAINT
- 56. PROTECT FRESH CONCRETE FROM PREMATURE DRYING PARTICULARLY IN HOT, WINDY OR DRY (LOW H EXCESSIVELY HOT OR COLD TEMPERATURES, RAIN, etc. PROVIDE WIND BREAKS. MAINTAIN CONCRETE A CONSTANT TEMPERATURE WITH MINIMUM MOISTURE LOSS FOR CURING PERIOD.
- 57. FOR CONCRETE WITH WATER:CEMENT RATIO LESS THAN 0.5, IN HOT, WINDY OR DRY (LOW HUMIDITY) COI EXPOSED SURFACES OF FRESH CONCRETE WITH FOG SPRAY APPLICATION OF ALIPHATIC ALCOHOL RET/ AFTER PLACEMENT TO REDUCE RISK OF PLASTIC SHRINKAGE CRACKING. IN SEVERE CLIMATIC CONDITIO REVIBRATING CONCRETE BEFORE IT REACHES INITIAL SET.
- 58. COMMENCE CURING OF CONCRETE TO AS3600 AS SOON AS POSSIBLE AFTER PLACING AND FINISHING OR WITHIN ONE HOUR. ENSURE EXPOSED SURFACES ARE NOT STAINED. ACCEPTABLE METHODS OF CURING • RETENTION OF FORMWORK PONDING OR CONTINUOUS SPRINKLING WITH WATER (MOIST CURING)
- AN IMPERMEABLE MEMBRANE (USE CLEAR, WHITE OR LIGHT COLOURED PLASTIC IN HOT CONDITIONS) S EDGES
- AN ABSORPTIVE COVER KEPT CONTINUOUSLY WET AND COVERED BY IMPERMEABLE MEMBRANE STEAM CURING
- AN APPROVED CURING COMPOUND. PROVIDE: EFFICIENCY INDEX
- CERTIFIED TEST RESULTS FOR WATER RETENTION TO AS3799 APPENDIX B
- EVIDENCE THAT AN ACCEPTABLE FINAL SURFACE COLOUR WILL BE OBTAINED • EVIDENCE OF COMPATIBILITY WITH CONCRETE AND APPLIED FINISHES (IF ANY)
- METHODS OF OBTAINING REQUIRED ADHESION FOR TOPPINGS, RENDER etc.
- UNIFORM CONTINUOUS FLEXIBLE COATING WITHOUT VISIBLE BREAKS OR PINHOLES, WHICH REMAINS AT LEAST THE CURING PERIOD AFTER APPLICATION.
- 59. DO NOT USE WAX-BASED OR CHLORINATED RUBBER-BASED CURING COMPOUNDS ON SURFACES FORMIN APPLIED FINISHES, CONCRETE TOPPINGS AND CEMENT BASED RENDER. 60. CURE CONTINUOUSLY UNTIL NUMBER OF DAYS DURING WHICH AIR TEMPERATURE IS ABOVE 10°C TOTAL • 3 DAYS FOR EXPOSURES CLASSIFICATION A1 AND A2
- 7 DAYS FOR EXPOSURE CLASSIFICATION B1, B2 AND C. 61. PREVENT RAPID DRYING OUT AT END OF CURING PERIOD.
- 62. FINISH CONCRETE SURFACES TO AS3610 AND AS SHOWN BELOW:
- FORMED SURFACES: • EXPOSED SURFACES - CLASS 2
- HIDDEN SURFACES CLASS 3 FINISHES AS LAID:
- EXPOSED SURFACES STEEL TROWEL UNO
- HIDDEN SURFACES WOOD FLOAT 63. STEEL TROWEL FINISH: AFTER MACHINE FLOATING, USE POWER TROWELS TO PRODUCE SMOOTH SURFA DEFECTS. WHEN SURFACE HAS HARDENED SUFFICIENTLY, USE STEEL HAND TROWELS TO PRODUCE FIN. FINISH FREE OF TROWEL MARKS, OF UNIFORM IN TEXTURE AND APPEARANCE, MAXIMUM DEVIATION FRO
- IS LESS THAN 3 mm.
- USE A FLEXIBLE TILE GROUT AND WEAK TILE MORTAR.
- INTEGRAL WITH THEM. SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES OR BLINDING.
- 66. PROVIDE EXPOSED EDGES AND RE-ENTRANT CORNERS WITH 45 DEGREES x 25 mm CHAMFERS OR FILLETS UNO 67. PROVIDE AN UPWARDS PRECAMBER AS SHOWN ON DRAWINGS

ISSUE	DESCRIPTION	DWG STATUS	DATE	ISSUE	DESCRIPTION	DWG STATUS	DATE	
А	APPROVED FOR CONSTRUCTION	AFC	10.10.19					
								LIMEON
								ONEAL
								- AVENUE
	<u> </u>							

			REINFORCEMENT
STRIP. SET OUT ELEMENTS IN FORMED . DO NOT USE	68. DO NOT MAKE HOLES, PENETRATIONS, RECESSES, CHASES, NOR EMBED PIPES (STRUCTURAL DRAWINGS) WITHOUT APPROVAL OF SUPERINTENDENT. DO NOT F COVER CONCRETE. LOCATE CONDUITS, PIPES etc ONLY IN MIDDLE THIRD OF SLA REINFORCEMENT LAYERS, AND SPACED AT 3 x DIAMETER CENTRES MINIMUM. D	OTHER THAN THOSE SHOWN ON PLACE CONDUITS, PIPES etc WITHIN AB OR BEAM DEPTH AND BETWEEN O NOT CUT REINFORCEMENT AT	 SYMBOLS ON DRAWINGS FOR GRADE AND TYPE OF REINFORCEMENT ARE AS FOLLOWS: R: STRUCTURAL GRADE 250 PLAIN ROUND BAR TO AS/NZS4671 N: HOT ROLLED GRADE 500 DEFORMED (RIBBED) BAR DUCTILITY CLASS N TO AS/NZS4671 L: HOT ROLLED GRADE 500 DEFORMED BAR DUCTILITY CLASS L TO AS/NZS4671
	PENETRATIONS WITHOUT APPROVAL 69. PROVIDE DRIP GROOVES IN SOFFIT OF BEAMS AND SLABS AT EXTERNAL PERIME	TER OF STRUCTURES. ENSURE	 SL: HARD DRAWN WIRE GRADE 500 SQUARE MESH DUCTILITY CLASS L TO AS/NZS4671 RL: HARD DRAWN WIRE GRADE 500 RECTANGULAR MESH DUCTILITY CLASS L TO AS/NZS4671
ND COMPACTION OR IORE THAN 48 HOURS	COVER TO REINFORCEMENT IS ACHIEVED. 70. REMOVE PROPS AND FORMWORK FOR BEAMS AND SLABS AND ENSURE CONCRE STRENGTH BEFORE CONSTRUCTING WALLS OR PLACING OTHER PERMANENT LC	ETE HAS GAINED ADEQUATE DADING ON WORK.	 TM: HARD DRAWN STEEL GRADE 500 TRENCH MESH DUCTILITY CLASS L TO AS/NZS4671 W: GRADE 500 STEEL REINFORCING WIRE TO AS/NZS4671 MANUFACTURERS AND PROCESSORS OF STEEL REINFORCING AND PRE-STRESSING MATERIALS MUST H
ND FORM REMOVAL	71. WHERE CONCRETE BEARS ON LOAD BEARING MASONRY AND BRICKWORK, TROV LAYER OF MORTAR AND SEPARATE CONCRETE THERE FROM WITH TWO LAYERS	VEL SMOOTH AND FLAT A 5 mm THICK OF "SUPER ALCOR".	CERTIFICATE OF APPROVAL ISSUED BY ACRS (AUSTRALASIAN CERTIFICATION AUTHORITY FOR REINFOF STRUCTURAL STEELS). PROVIDE ACRS CERTIFICATION OF COMPLIANCE WITH AS/NZS4671, PRODUCT T/
	JOINTS 72 FORM CONSTRUCTION JOINTS AND LISE ONLY WHERE SHOWN OR WHERE APPRO		SUPPORTING DOCUMENTATION FOR ALL REINFORCEMENT. PROVIDE CERTIFICATION OF COMPLIANCE V FOR ALL PRESTRESSING TENDONS. 3 PROVIDE DOCUMENTATION TO SHOW THAT REINFORCEMENT SUDDUER AND MULL COMPLIES WITH AS/N
AND ADEQUATE BOND.	CONSTRUCTION JOINTS IN SLABS TO BE VERTICAL, STRAIGHT AND TRUE. TO AC ENTIRE SURFACE IS CLEAN. FREE OF LAITANCE AND BLEMISHES. AND INTENTION	HIEVE ADEQUATE BOND ENSURE	 FROMDE DECOMENTATION TO SHOW THAT REINFORCEMENT SOFFLICK AND MILE COMPETES WITT AS/N. REINFORCEMENT MUST HAVE UNIQUE MARKS TO IDENTIFY SUPPLIER. DO NOT USE LOW DUCTILITY REINFORCEMENT (GRADE L) UNO.
	AMPLITUDE OF NOT LESS THAN 5 mm WITH COARSE AGGREGATE EXPOSED. PRI MASTER BUILDERS' "CONCRESIVE 2525" (IN ACCORDANCE WITH MANUFACTURER	ME EXISTING CONCRETE WITH 3'S RECOMMENDATIONS) AND PLACE	 USE MESH SUPPLIED IN FLAT SHEETS UNLESS APPROVED OTHERWISE. REINFORCEMENT TO BE CLEAN, FREE OF LOOSE MILL SCALE, RUST, OIL, GREASE, MUD OR OTHER MATE
O AND APPROVED BY RETE IS PLACED.	ADJACENT FRESH CONCRETE WITHIN 30 MINUTES OF PRIMING. DAMPEN EXISTIN ADJACENT FRESH CONCRETE. COAT EXISTING CONCRETE WITH NEAT CEMENT S	IG CONCRETE PRIOR TO PLACING SLURRY PRIOR TO PLACING	REDUCE BOND BETWEEN REINFORCEMENT AND CONCRETE. 8. SUBMIT PROPOSAL FOR CUTTING OR DISPLACING REINFORCEMENT. CLEAN AND PROTECT EXPOSED AND PROTECT EXPOSE
CONCRETE. IN HOT	ADJACENT FRESH CONCRETE. 73. IF CONSTRUCTION JOINTS PROPOSED OTHER THAN WHERE SHOWN, PROVIDE PI SUPERINTENDENT'S APPROVAL PRIOR TO CONSTRUCTION	ROPOSED LOCATIONS FOR	9. DESIGNATION OF REINFORCEMENT BARS IS AS SHOWN:
ATOR LENGTH FOR	 PROVIDE JOINTING MATERIALS COMPATIBLE WHEN USED TOGETHER, AND NON-S LOCATIONS. 	STAINING TO CONCRETE IN VISIBLE	 • 17: DENOTES No OF BARS AND TYPE IN GROUP • N: DENOTES BAR GRADE AND DUCTILITY CLASS
AS POSSIBLE, AND	75. PROVIDE DETAILS OF CONSTRUCTION JOINTS FOR SUPERINTENDENT'S APPROV. 76. INSTALL WATERSTOPS ONTO SMOOTH CONCRETE SURFACE. DO NOT SCABBLE	AL PRIOR TO CONSTRUCTION. CONCRETE BENEATH WATERSTOPS.	 • 20: DENOTES NOMINAL BAR DIAMETER IN mm • 350: DENOTES SPACING IN mm
	77. SUBMIT PROPOSALS FOR CUTTING OR CORING HARDENED CONCRETE OR SAW (TIMING AND SEQUENCE.		EF: DENOTES LOCATION 10. TO MINIMIZE TRIP HAZARDS CONSIDER MAXIMUM REINFORCEMENT BAR SPACING FOR TRAFFICABLE AR CANTING CONCEPTS OF 202 mm. ALTERNATIVELY PROVIDE CLAR ADDITIONAL JE MAIN DEINFORCEMENT
	78. SAW CUT CRACK CONTROL JOINTS AS SOON AFTER CASTING AS PRACTICABLE T JOINT EDGES, AND WITHIN 16 HOURS OF CASTING TO PREVENT THERMAL AND/O IMMEDIATELY AFTER SAW CUTTING FLUSH OUT JOINTS TO REMOVE SAWING RES	O AVOID SPALLING OR RAVELLING OF R SHRINKAGE CRACKING OF SLAB. NDUE AND INSERT A TEMPORARY	GREATER THAN 200 mm. 11 FOLLOWING ABBREVIATIONS APPLY TO LOCATION OF REINFORCEMENT:
RRe TO AS1478)	FOAMED PLASTIC BEAD TO KEEP JOINT CLEAN PRIOR TO FILLING OR SEALING. P LOADS FOR AT LEAST ONE WEEK AFTER CUTTING.	ROTECT SAW CUTS FROM WHEEL	EW: EACH WAY FF: FAR FACE BB: BOTTOM BOTTOM (LAID FIRST) EF: EACH FACE B: BOTTOM TT: TOP TOP (LAID LAST)
SLUMP LIMITS ŚTILL NOT ALLOWED.	79. DO NOT INSTALL SEALANTS IF EXPECTED MAXIMUM DAILY TEMPERATURE EXCEP RECESSES ARE CLEAN AND DRY PRIOR TO INSTALLING FILLERS OR SEALANTS, A	EDS 30 DEGREES C. ENSURE ND PREPARE IN ACCORDANCE WITH	NF: NEAR FACE T: TOP C OR CP: CENTRALLY PLACED 12. PROVIDE STANDARD COGS AND HOOKS TO AS3600. TERMINATE ENDS OF COLUMN AND BEAM LIGATURE
IT VERTICAL FREE CRETE IN LAYERS AND	MANUFACTURER'S RECOMMENDATIONS. TOLERANCE ON SEALANT WIDTHS +5, -	0 mm.	LEAST 135 DEGREES. PROVIDE FIRST LIGATURE WITHIN 50 mm OF FACE OF SUPPORT. 13. COG HALF OF SLAB BOTTOM REINFORCEMENT AT EDGES TO ACHIEVE ANCHORAGE.
ES AND GIVE MAXIMUM	80. COVER IS CLEAR DISTANCE BETWEEN ANY REINFORCEMENT (INCLUDING LIGATU SURFACE OF STRUCTURAL CONCRETE	JRES, TIE WIRE etc) AND OUTSIDE	14. PROVIDE ONE CONTINUOUS BAR PARALLEL TO (WITHIN 75 mm OF) CONCRETE EDGES, INCLUDING CONS UNO. 15. PROVIDE N12 DIAGONAL TRIMMER BARS BY 1000 mm LONG AT EACH LAYER OF REINFORCEMENT AT RE-
E ALONG FORMS.	 81. COVER MUST NOT BE LESS THAN SPECIFIED. PROVIDE MINIMUM CLEAR COVER BELOW, EXCEPT WHERE SPECIFIED OTHERWISE 	TO REINFORCEMENT AS SHOWN	CORNERS, OPENINGS, SERVICE PENETRATIONS etc UNO. 16. PROVIDE N12-300 DISTRIBUTION BARS LAPPED 500 WHERE NONE SHOWN ON DRAWINGS.
GREATER THAN 1500	LOCATION	COVER (mm)	17. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND IS NOT NECESSARILY IN TRUE PROJECTIO REINFORCEMENT OUT AT EQUAL CENTRES IF SPACING IS NOT NOMINATED.
ONDITIONS, PORTION EMENT AND	BORED PIERS/PILES	75	 CAP STARTER BARS AND OTHER REINFORCEMENT TO REDUCE RISK OF IMPALEMENT AND LACERATION ENSURE ALL LAID REINFORCING BARS ARE RESTRAINED BEFORE STOPPING WORK TO PREVENT BARS F
OURING NEXT 48		30	20. REINFORCEMENT TO BE SUPPLIED TO SITE PRE-BENT TO REQUIRED SHAPES. REINFORCEMENT CAGES FABRICATED OFF-SITE AS FAR AS PRACTICABLE
RCEMENT AT > 5 C. DO R MATERIAL IN MIX TO	ON MEMBRANE		21. SECURE REINFORCEMENT IN POSITION AGAINST DISPLACEMENT AND MAINTAIN SPECIFIED CLEAR CONC REINFORCEMENT (INCLUDING FITMENTS) BY APPROVED CHAIRS, SPACERS, LIGATURES OR TIES AT 800 I
LUATE THE NEED FOR	FOOTINGS, UNDERSIDE SLABS ON GROUND, etc CAST AGAINST FORMWORK OR BLINDING	40	CENTRES EACH WAY UNO. PROVIDE ADEQUATE SUPPORT TO PREVENT DISPLACEMENT OF REINFORCE WORKMEN OR EQUIPMENT DURING CONCRETE PLACEMENT.
OCRETE MATERIALS	BEAMS, SLABS - EXTERIOR	40	22. SECURELY THE REINFORCEMENT WITH WIRE THES. TURN ENDS OF THE WIRES INTO CONCRETE, CLEAR O 23. THE BUNDLED BARS TOGETHER SO THEY ARE IN CLOSEST POSSIBLE CONTACT WITH 2.5 mm DIAMETER V LESS THAN 24 TIMES DIAMETER OF SMALLEST BAR IN BUNDLE
	TOP OF SLAB - INTERIOR	20	24. FOR BEAMS, TIE STIRRUPS TO BARS IN EACH CORNER OF EACH STIRRUP. FIX OTHER LONGITUDINAL BAI 1000 MAXIMUM CENTRES.
ON AND VAPORATION	COLUMNS - INTERIOR	30	25. FOR EXTERNAL OR CORROSIVE APPLICATIONS USE HOT DIP GALVANIZED TIE WIRES 26. SUPPORT REINFORCEMENT ON PROPRIETARY CONCRETE, METAL OR PLASTIC SUPPORTS ADEQUATE T
MENT TEMPERATURE	WALLS - EXTERIOR	40	CONSTRUCTION AND TRAFFIC LOADS AND MAINTAIN DURABILITY OF FINISHED CONCRETE STRUCTURE. SURFACES WITH B2 EXPOSURE CLASSIFICATION OR GREATER, ONLY USE PROPRIETARY HIGH STRENGT
	ELSEWHERE	50	27. ENSURE REINFORCEMENT CAGES ARE ELECTRICALLY CONTINUOUS UNO. 28. DO NOT PLACE OR MOVE REINFORCEMENT DURING OR AFTER CONCRETE PLACEMENT.
	82. PROVIDE 50 mm BLINDING CONCRETE UNDER STRUCTURAL REINFORCED CONCE	RETE CAST ON GROUND UNO.	29. ENSURE EMBEDDED ITEMS (INSERTS, THREADED SOCKETS, FERRULES, BOLTS, DISSIMILAR METAL ITEM CONCRETE OR EXPOSED TO AIR ARE NOT IN CONTACT WITH REINFORCEMENT. PROVIDE ISOLATION BE
	<u>DURABILITY & PROTECTIVE COATINGS</u> 83. APPLY TWO COATS OF DECORATIVE / ANTI-CARBONATION COATING TO ALL EXPC ACCORDANCE WITH MANUEACTUREP'S REQUIREMENTS TO ACHIEVE UNIFORM C	OSED CONCRETE SURFACES IN	METALS, AND BETWEEN REINFORCEMENT AND EXPOSED ITEMS. 30. OBTAIN SUPERINTENDENT'S APPROVAL OF INSERTS, FIXINGS AND OTHER ITEMS EMBEDDED IN COVER (31. DO NOT WELD REINFORCEMENT, CAST IN ITEMS of UNITED STORED UND
SKETE BT.	CONSISTENT OVERALL APPEARANCE. COATING TO SATISFY THE FOLLOWING: • EQUIVALENT AIR LAYER THICKNESS (R) OF 150 m		 32. SPLICE REINFORCEMENT ONLY AT LOCATIONS SHOWN ON DRAWINGS OR AS APPROVED BY SUPERINTE LAPS WHERE POSSIBLE. LAPPED SPLICE LENGTHS TO COMPLY WITH AS3600. CLEAR SPACING BETWEE
	EQUIVALENT THICKNESS OF CONCRETE (SC) OF 450 mm CO2 DIFFUSION COEFFICIENT OF 2 x 10-7 cm²/s		BE LESS THAN THREE TIMES BAR DIAMETER. WHERE BAR SIZES VARY USE LAPPED SPLICE LENGTH FOR DIAMETER.
ERATURE, OR	WATER VAPOUR EQUIVALENT AIR LAYER THICKNESS OF LESS THAN 4 m WATER ACRYLIC BASED, SOLVENT FREE DOM FILM THICKNESS OF AT LEAST 450 mm		33. LAPPED SPLICE LENGTHS FOR HORIZONTAL BARS WITH MORE THAN 300 mm CONCRETE CAST BELOW T SPACED AT ≥ 150 mm CENTRES TO COMPLY WITH THE FOLLOWING UNO:
A CONCRETE EARLY AT WIDTH), AND SUBMIT	 DRY FILM THICKNESS OF AT LEAST 150 µm COLOUR TO VICROADS APPROVAL PREPARE SUBFACES TO SECTION 686.06 OF VICROADS STANDARD SPECIFICATION 		COVER fc N12 N16 N20 N24 N28 N32
FLOOR, ROOF etc), BAR DIAMETER AND	BRIDGEWORKS. 84. APPLY ANTI-GRAFFITI COATING TO ALL EXPOSED CONCRETE SURFACES IN ACC	ORDANCE WITH MANUFACTURER'S	≥ 25 ≥ 20 770 1150 1570
ONMENTAL SULATION, FORMWORK	REQUIREMENTS, SYSTEM PSL1 OF AS/NZS2312 TABLE 6.3 USING AN EPOXY PRIM AND RECOMMENDED FOR APPLICATION OVER CONCRETE BY THE MANUFACTUR	ER CONFORMING WITH AS/NZS3750.9 ER.	$\geq 40 \geq 25 630 980 1350 1740 - -$ $\geq 40 \geq 32 510 770 1100 1440 1810 2220$
IUMIDITY) CONDITIONS,	85. SUBMIT DETAILS OF ALL PROPOSED CONCRETE COATINGS TO SUPERINTENDEN	T FOR REVIEW.	≥ 50 ≥ 40 460 630 890 1200 1530 1890
NDITIONS SPRAY	86. SUBMIT NAMES AND CONTACT DETAILS OF PROPOSED CONCRETE SUBCONTRAC 87. AT LEAST ONE WEEK PRIOR TO CONCRETE PLACEMENT SUBMIT DETAILS OF PRO	CTORS. DPOSED READY MIXED CONCRETE	DO NOT INTERPOLATE INTERMEDIATE VALUES OF SPLICE LENGTHS. LAPPED SPLICE LENGTHS FOR BARS IN COLUMNS REFER TO DETAILS OR SUPERINTENDENT.
ARDANT IMMEDIATELY	SUPPLIER, NAME OF CONCRETE DELIVERY SUPERVISOR, LOCATION OF BATCHIN METHOD OF CONCRETE TEMPERATURE CONTROL, MIXING, HANDLING, TRANSPO	G PLANT, CONCRETE MIX DESIGNS, RT, PUMPING, PLACEMENT,	EPOXY COATED BARS, BARS IN LIGHTWEIGHT CONCRETE AND SLIP FORMED CONCRETE WILL REQUIRE LENGTHS. REFER TO AS3600 OR SUPERINTENDENT
R STRIPPING, AND	COMPACTION, FINISHING, PROTECTION AND CURING, SEQUENCE AND TIMES FOR JOINT LOCATIONS AT LEAST ONE WEEK PRIOR TO DELIVERY OF CONCRETE FOR	R CONCRETE POURS, CONSTRUCTION SUPERINTENDENT'S APPROVAL.	34. LAPPED SPLICE LENGTHS FOR VERTICAL BARS (AND HORIZONTAL BARS WITH LESS THAN 300 mm CONC THE BAR) AND SPACED AT ≥ 150 mm CENTRES TO COMPLY WITH THE FOLLOWING UNO:
G INCLUDE:	GRADINGS AND SATURATED SURFACE-DRY DENSITIES, ADDITIVES AND ADMIXTU	INSTITUENTS, AGGREGATE IRES, MAXIMUM WATER CONTENT AND IRENGTH (fc) AND TARGET DRYING	COVER fc N12 N16 N20 N24 N28 N32
SEALED AROUND	SHRINKAGE. 88. PROVIDE DOCUMENTARY EVIDENCE OF PREVIOUS PERFORMANCE AND RELEVAL	NT TEST RESULTS OF MIX DESIGN	≥ 25 ≥ 20 590 890 1210
	TARGETS, INCLUDING 3, 7 AND 28 DAY COMPRESSIVE STRENGTHS, CHARACTERI DRYING SHRINKAGE, LIMITS OF SOLUBLE SALTS AND ALKALI AGGREGATE REACT	STIC STRENGTH, TEMPERATURE RISE, IVITY etc, BEING CERTIFIED TEST	$ \ge 40 \ge 25 490 750 1040 1340 - - - - - - - - - $
	 RESULTS MADE ON AT LEAST TWO SEPARATE SAMPLES FROM A NATA REGISTER ON CONCRETE OF SAME MIX DESIGN (IN RESPECT OF ALL DETAILS TO BE NOMII MADE LINDER PRODUCTION CONDITIONS IN SIMILAR PLANT WITHIN LAST SIX MON 	RED LABORATORY EITHER: NATED ABOVE) OF SIMILAR GRADE	$\geq 50 \geq 40 350 480 690 920 1180 1450$
	ON PRELIMINARY TESTS FROM LABORATORY OR PLANT TRIALS OF PROPOSED 89. USE READY MIXED CONCRETE MIXED BY BATCH PRODUCTION PROCESS DELIVED	MIX. RED IN AGITATING TRUCKS. FOR	DO NOT INTERPOLATE INTERMEDIATE VALUES OF SPLICE LENGTHS. LAPPED SPLICE LENGTHS FOR BARS IN COLUMNS REFER TO DETAILS OR SUPERINTENDENT.
S UNBROKEN FOR	EACH BATCH SUPPLY A DOCKET LISTING INFORMATION REQUIRED BY AS1379 CL • SERIAL NUMBER OF IDENTIFICATION CERTIFICATES OF EACH BATCH	AUSE 1.7.3 AND FOLLOWING:	EPOXY COATED BARS, BARS IN LIGHTWEIGHT CONCRETE AND SLIP FORMED CONCRETE WILL REQUIRE LENGTHS. REFER TO AS3600 OR SUPERINTENDENT.
NG SUBSTRATES TO	TIME OF BATCHING NAME OF CONCRETE DELIVERY SUPERVISOR ELEMENT FOR WHICH CONCRETE WAS OPPERED AND WHERE IT WAS DIACED.		35. REINFORCEMENT SPLICES IN TENSION MEMBERS MUST BE WELDED OR MECHANICAL SPLICES. 36. ENSURE REINFORCEMENT COUPLERS PROVIDE FULL TENSION CAPACITY OF REINFORCEMENT.
S:	• ELEMENT FOR WHICH CONCRETE WAS ORDERED AND WHERE IT WAS PLACED • METHOD OF PLACEMENT AND CLIMATIC CONDITIONS DURING POUR • PROJECT ASSESSMENT CARRIED OUT		37. LAY MESH REINFORCEMENT SO THAT MINIMUM COVER IS TO MAIN WIRES UND. 38. PROVIDE MINIMUM MESH LAPS TO CROSS WIRES OF REINFORCING MESH, SO TWO OUTERMOST WIRES OF AD IACENT SHEET BY AT LEAST 25 mm. THUS:
	TOTAL AMOUNT OF WATER REQUIRED BY MIX DESIGN ADMIXTURES TYPE AND QUANTITY		RECTANGULAR MESHES 225 END LAP 125 SIDE LAP SQUARE MESHES SL102 TO SL42 225 END LAP 225 SIDE LAP
	• TOTAL AMOUNT OF WATER ADDED AT PLANT • TOTAL FREE WATER IN CONCRETE, INCLUDING THAT ADDED AT SLUMP STAND.		SL81125 END LAP125 SIDE LAPTRENCH MESH500 END LAPN/A
	SUPERINTENDENT MAY NOT REQUIRE CONCRETE TRIAL MIX TESTS SUBJECT TO RESULTS.		USE LAP LENGTHS BASED ON LARGEST WIRE SPACING. DO NOT LAP MORE THAN THREE SHEETS AT AN 39. ALTERNATIVELY USE N12 SPLICE BARS TO LAP ADJACENT SHEETS OF MESH, SPACING OF SPLICE BARS
	90. SUBMIT DETAILS OF ALL PROPOSED CONCRETE COATINGS TO SUPERINTENDEN 91. PROVIDE RECORD OF SLUMP TESTING TO SUPERINTENDENT. REFER CONCRETE 92. FORWARD CONCRETE PRODUCTION ASSESSMENT INFORMATION TO SUPERINTE	I FOR REVIEW. E TESTING NOTES. INDENT AS PER AS1370 CLAUSE 6 4	SPACING OF BARS IN MESH, SPLICE BARS TO OVERLAP MESH BY 750 mm MINIMUM UNO. 40. SPLICE TRENCH MESH BY A LAP OF 750 mm MINIMUM UNO. AT T- AND L-INTERSECTIONS, CONTINUE TRE WIDTH OF INTERSECTION AT L-INTERSECTIONS PROVIDE AN M121, BAR TO LAP 750 mm WITH OUTSIDE F
ACES FREE OF VAL CONSOLIDATED	WHEN PRODUCTION ASSESSMENT IS UNDERTAKEN. REFER CONCRETE TESTING 93. FORWARD CONCRETE PROJECT ASSESSMENT INFORMATION TO SUPERINTENDE	NOTES. ENT AS PER AS1379 CLAUSE 6.3 WHEN	41. DO NOT WELD REINFORCEMENT UNLESS SHOWN ON DRAWINGS OR OTHERWISE APPROVED BY SUPERI ALLOWED, WELDING OF REINFORCEMENT (INCLUDING TACK-WELDING FOR FIXING PURPOSES) TO COMP
M 3 m STRAIGHT EDGE	PROJECT ASSESSMENT IS UNDERTAKEN. REFER CONCRETE TESTING NOTES. 94. REPORT DRYING SHRINKAGE TESTING RESULTS TO SUPERINTENDENT. REFER C	ONCRETE TESTING NOTES.	AND AS/NZS1554.3. DO NOT WELD REINFORCEMENT WITHIN 75 mm OF A SECTION THAT HAS BEEN BENT AND N32 BARS, 125 mm FOR N36 BARS).

- 64. INSTALL BRITTLE FINISHES (eg TILES etc), JOINT FILLERS AND SEALANTS A MINIMUM OF 2 MONTHS AFTER CASTING CONCRETE. 95. PROVIDE CONCRETE TEST RESULTS TO SUPERINTENDENT PROMPTLY, WITHIN SEVEN DAYS OF TESTING.
- 96. SUBMIT DETAILS OF PROPOSED COATINGS AND RELEVANT TEST CERTIFICATES FOR SUPERINTENDENT'S REVIEW 28 65. BEAM SIZES ARE DESIGNATED DEPTH (INCLUDING SLAB. IF ANY) X WIDTH. PLACE CONCRETE IN SLABS AT SAME TIME AS BEAMS DAYS PRIOR TO APPLICATION. TESTING TO BE BASED ON KLOPFER CRITERIA FOR ANTI-CARBONATION COATINGS AND FICK'S LAW OF DIFFUSION



SITE NORTH | AUSTRALIAN WAR MEMORIAL 20 TRELOAR CRESCENT CAMPBELL ACT 2612 **BLOCK 3 SECTION 39** CAMPBELL ACT

ALL DIMENSIONS ARE IN MILLIMETRES LEVELS ARE IN METRES DO NOT SCALE OFF DRAWING LISE FIGURED DIMENSIONS ONLY CHECK DIMENSIONS ON SITE

SCALEBAR:

WAR MEMORIAL DRAWING NO. 23-16682-S-003 ABBREVIATIONS: INFORMATION ONLY - (UNCONTROLLED) C CONTROLLED ISSUE P PRELIMINARY

CONSULTANT GHD CANBERRA LEVEL 7, 16 MARCUS CLARKE STREET CANBERRA ACT 2601 AUSTRALIA GPO BOX 1877 CANBERRA ACT 2601 T: 61 2 6113 3200 F: 61 2 6113 3299 AUSTRALIAN | E: cbrmail@ghd.com W: www.ghdwoodhea

 The control state Add Add multiples of backet Add multiples of ba	PROVAL. ↓ T REE OF JNTAIN ALIGNMENT RALLEL TO E EMENT OF ST BE
Learners back mart under the supervent to the care back mart the supervent to the care back mart under supervent to the care back mart to the care back mart to the care back mart to the care back marks and the care bac	E LL HOLE FIRST (EASED,) HOLE. 3 UNO. 3 UNO. RMINING OR THIS AD OF 175 / TRAIGHT DENTIFY TO BE Y INGRESS
COVER IC N12 N16 N20 N24 N28 N32 ≥ 25 ≥ 20 770 1150 1570 - - - ≥ 40 ≥ 25 630 980 1350 1740 - - ≥ 40 ≥ 32 510 770 1100 1440 1810 2220 ≥ 50 ≥ 40 460 630 890 1200 1530 1890 DO NOT INTERPOLATE INTERMEDIATE VALUES OF SPLICE LENGTHS. LAPPED SPLICE LENGTHS FOR BARS IN COLUMNS REFER TO DETAILS OR SUPERINTENDENT. 100 1440 1810 2220 20 NOT INTERPOLATE INTERMEDIATE VALUES OF SPLICE LENGTHS. LAPPED SPLICE LENGTHS FOR BARS IN COLUMNS REFER TO DETAILS OR SUPERINTENDENT. 20 SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS; REFER GENERAL-DELIVERABLES NOTES. DESIGN CALCULATION/SHOP DRAWINGS TO SHOW: MARKING PLAN, ARRANGEMENT OF MEMBERS, LOCATION OF MEMBERS, AND PROCEDURES, ASSUMED, LOADING PARAMETERS ASSUMED, MATERIAL PROPERTIES AND DESIGN STRESSING FORCES, STAGES AND PROCEDURES, ASSUMED LOSSES FOR SHRINKAGE, CREEP, RELAXATION AND DRAW-IN, EXPECTED DEFORMATION ANCHORAGE DETAILS etc. 21. PROVIDE CERTIFICATION OF COMPLIANCE WITH AS/NZS4672.1 FOR ALL PRESTRESSING TENDONS. 20 NOT INTERPOLATE INTERMEDIATE VALUES OF SPLICE LENGTHS. LAPPED SPLICE LENGTHS FOR BARS IN COLUMNS REFER TO DETAILS OR SUPERINTENDENT. 23	ITION OF CONCRETE ING STAGE. DONS TO WITH 6 mm TH WELL I LOCATION /ITHIN SOLATING ED WITH ND DESIGN
EPOXY COATED BARS, BARS IN LIGHTWEIGHT CONCRETE AND SLIP FORMED CONCRETE WILL REQUIRE LONGER SPLICE LENGTHS. REFER TO AS3600 OR SUPERINTENDENT	Aembers in 24 Member, And .Mations, R
Leven The field of the form o	
DO NOT INTERPOLATE INTERMEDIATE VALUES OF SPLICE LENGTHS LAPPED SPLICE LENGTHS FOR ARS IN COLUMNS REFERS TO DETAILS OR SUPERINTENDENT. EPOXY COATED BARS, BARS IN LICHTWEIGHT CONCRETE AND SLIP FORMED CONCRETE WILL REQUIRE LONGER SPLICE LENGTHS, REFERT DO ASS80 OF SUPERINTENDENT. REINFORCEMENT SPLICES IN TENSION MEMBERS MUST BE WELDED OR MECHANICAL SPLICES. ENSURE REINFORCEMENT COUPLES PROVIDE FULL TENSION CAPACITY OF REINFORCEMENT. LAY MESH REINFORCEMENT SO THAT MINIMUM COVER IS TO MAIN WIRES UNO. PROVIDE MINIMUM MESH LAPS TO CROSS WIRES OF REINFORCEMENT. LAY MESH REINFORCEMENT SO THAT MINIMUM COVER IS TO MAIN WIRES UNO. PROVIDE MINIMUM MESH LAPS TO CROSS WIRES OF REINFORCEM MENT. SUBJER ENFORCEMENT SO THAT MINIMUM COVER IS TO MAIN WIRES UNO. OVERLAP TWO UTENNOST WIRES FOR JOLES OF ADJACENT SHEET BY AT LEAST 25 mm, THUS RECTANOULER MESHES ZAS END LAP 125 SIDE LAP SUBJER ENFORCEMENT SO UTENNOST WIRES OF ADJACENT SHEET BY AT LEAST 25 mm, THUS RECTANOULER MESHES 200 NLARGEST WIRE SPACING. DO NOT LAP MORE THAN THREE SHEETS AT ANY ONE POINT. ALTERNATIVEL USE NITY SPLICE BARS TO LAP AND LAPS TO SUBJE LAP SUBJER ENFORCEMENT USE NITY SPLICE BARS TO ADJACENT SHEET BY AT AND UN POINT. ALTERNATIVEL USE NITY SPLICE BARS TO ADJACENT SHEET SO THAN THREE SHEETS AT ANY ONE POINT. ALTERNATIVEL USE NITY SPLICE BARS TO ADJACENT SHEET SO THAN THREE SHEETS AT ANY ONE POINT. ALTERNATIVEL USE NITY SPLICE BARS TO ADJACENT SHEET ST AT ANY ONE POINT. ALTERNATIVEL USE NITY SPLICE BARS TO ADJACENT SHEET ST AT ANY ONE POINT. ALTERNATIVEL USE NITY SPLICE BARS TO ADJACENT SHEET ST AT ANY ONE POINT. ALTERNATIVEL WES NITY SPLICE BARS TO ADJACENT SHEET ST AT ANY ONE POINT. ALTERNATIVEL WES NITY SPLICE BARS TO ADJACENT SHEET ST AT ANY ONE POINT. ALTERNATIVEL WES NITY SPLICE BARS TO ADJACENT SHEET ST AT ANY ONE POINT. ALTERNATIVEL WES NITY SPLICE BARS TO ADJACENT SHEET ST AT ANY ONE POINT. ALTERNATIVEL WES NITY SPLICE BARS TO ADJACENT SHEET ST AT ANY ONE POINT. ALTERNATIVEL WES NITY SPLICE BARS TO ADJACENT SHET SPLICE SO MESHING SHE SPLICE BARS TO	
BARS BY QUENCHING. CONSULTANT GHD CANBERRA LEVEL 7, 16 MARCUS CLARKE STREET CANBERRA ACT 2601 AUSTRALIA GPO BOX 1877 CANBERRA ACT 2601 T: 61 2 6113 3200 F: 61 2 6113 3299 E: cbrmail@ghd.com W: www.ghdwoodhead.com DRAWING NO. 23-16682-S-003 PROJECT AWM REDEVELOPMENT PROJECT POPPY'S CARPARK EXTENSION DISCIPLINE STRUCTURAL DISCIPLINE AWM-0269-AFC-S-003	SIZE A1 ^{TE} 19 REVISION A

43. USE ONLY N12 QUENCHED AND SELF-TEMPERED REINFORCEMENT FOR PULLOUT BARS OR BARS TO BE BENT ON SITE

(eg TEMPCORE BY ONESTEEL). DO NOT USE MICROALLOY REINFORCEMENT FOR PULLOUT BARS AND BARS TO BE BENT ON SITE. CAST IN PULLOUT BARS WITH BEND CLEAR OF CONCRETE. USE PROPRIETARY POWERED BENDING

TOOLS WITH PIN DIAMETERS TO AS3600 AT AMBIENT TEMPERATURE FOR SITE BENDING OF PULLOUT BARS. USING A

SINGLE SMOOTH BENDING ACTION. DO NOT USE IMPACT BLOWS OR HAMMER BARS, OR BEND BARS USING A PIPE.

TAKE CARE TO MINIMISE SURFACE DAMAGE, AND INSPECT REBENT BARS FOR CRACKS. REPORT CRACKS TO

SUPERINTENDENT

<u>STEEL</u>

- 1. WORKMANSHIP AND MATERIALS TO COMPLY WITH AS4100, AS/NZS4600, AS/NZS1554 AND AS4673 FOR STAINLESS STEEL. 2. PROVIDE STEEL IN ACCORDANCE WITH:
 - AS1163 GRADE C350 OR C450 FOR RECTANGULAR AND SQUARE HOLLOW SECTIONS. AS1163 GRADE C250 OR C350 FOR CIRCULAR HOLLOW SECTIONS, AS NOTED ON DRAWINGS
 - AS1397 GRADE G450 FOR PURLINS AND GIRTS, AS1443 COLD-FINISHED BARS,
 - AS/NZS1594 GRADE 250 HOT-ROLLED STEEL FLAT PRODUCTS,
 - AS/NZS3678 FOR PLATES AND FLOOR PLATE,
 - AS/NZS3679 PART 2, GRADE 300 FOR WELDED BEAMS AND WELDED COLUMNS, AS/NZS3679 PART 1 GRADE 300 OR BHP GRADE 300 PLUS FOR UNIVERSAL BEAMS, UNIVERSAL COLUMNS, PARALLEL FLANGE CHANNELS, ANGLES, FLATS, BARS AND RODS
- OTHERWISE TO COMPLY WITH AS/NZS3678 OR AS/NZS3679 GRADE 250 UNO. 3. MANUFACTURERS AND PROCESSORS OF STRUCTURAL STEEL MUST HOLD A VALID CERTIFICATE OF APPROVAL ISSUED BY ACRS (AUSTRALASIAN CERTIFICATION AUTHORITY FOR REINFORCING AND STRUCTURAL STEELS). PROVIDE ACRS CERTIFICATION OF COMPLIANCE WITH RELEVANT STANDARDS, PRODUCT TAGS AND SUPPORTING DOCUMENTATION FOR ALL STRUCTURAL
- STEEL WORK 4. MARK STEEL GRADES ON STRUCTURAL MEMBERS IN NON-CRITICAL AREAS. USE IDENTIFICATION MARKS COMPATIBLE WITH AND
- VISIBLE THROUGH PAINT SYSTEM. 5. ENSURE METAL DECKING, FLOOR PLATE AND FLOOR GRATING SECURELY FIXED IN POSITION BEFORE ALLOWING GENERAL
- CONSTRUCTION ACCESS. . PROVIDE 3 mm CAP PLATES SEAL WELDED TO HOLLOW SECTIONS UNO.
- CARRY OUT ERECTION OF STEELWORK IN ACCORDANCE WITH AS3828 GUIDELINES FOR THE ERECTION OF BUILDING STEEL WORK
- 8. PROTECT STEELWORK FROM DAMAGE DURING HANDLING, TRANSPORT, STORAGE AND ERECTION. SUBMIT PROPOSED METHOD TO REPAIR DAMAGE FOR APPROVAL. PROTECT STEELWORK STORED ON SITE FROM CORROSION OR DETERIORATION OF COATINGS
- 9. PLUMB COLUMNS WITH METAL PACKERS OR SHIMS. 10. SEQUENCE ERECTION WORKS TO AVOID PINCH POINTS AND SITE CONGESTION.
- 11. INSTALL BEAMS WITH NATURAL CAMBER UPWARD. PROVIDE BEAMS WITH AN UPWARDS PRECAMBER AS SHOWN ON DRAWINGS. 12. WHERE STEEL BEARS ON LOAD BEARING MASONRY AND BRICKWORK, PROVIDE 150 mm MINIMUM BEARING ON 20 mm NOMINAL THICK LEVELLING GROUT UNO.
- 13. PROVIDE STEEL MEMBERS MADE FROM WHOLE LENGTHS WHEREVER POSSIBLE. SEEK APPROVAL TO MAKE LENGTHS UP OF SECTIONS JOINED BY COMPLETE PENETRATION FULL STRENGTH BUTT WELDS GROUND FLUSH WHERE REQUIRED. WHERE
- PROPOSED, SHOW JOINTS ON SHOP DRAWINGS. ENSURE MEMBERS ARE CONCENTRIC AT CONNECTIONS (GRAVITY- OR GAUGE-LINES TO INTERSECT) UNO. ACCURATELY PRE-FORM PARTS TO AVOID FORCE AND/OR RESTRAINT DURING JOINING. 14. DRILL HOLES FULL SIZE OR REAM TO FULL SIZE AFTER SUB-DRILLING OR SUB-PUNCHING. SUB-DRILLED OR SUB-PUNCHED HOLES TO BE AT LEAST 3 mm UNDERSIZE. "OXY" OR FLAME CUTTING OF HOLES IS NOT PERMITTED. BOLT HOLE SIZE TO BE:
- BOLT DIAMETER PLUS 2 mm FOR STEEL TO STEEL CONNECTIONS, BOLT DIAMETER PLUS 4 mm FOR STEEL TO CONCRETE CONNECTIONS.
- BOLT DIAMETER PLUS 4 mm FOR HOLDING DOWN BOLTS UP TO M20,
- BOLT DIAMETER PLUS 6 mm FOR HOLDING DOWN BOLTS M24 OR LARGER.
- 15. DEVELOP WELD PROCEDURES TO SUIT JOINT DETAILS AND SHOW ON SHOP DRAWINGS. USE PREQUALIFIED WELD PROCEDURES AND CONSUMABLES TO AS/NZS1554.1 CLAUSE 4.3 OR DEVELOP QUALIFICATION OF WELD PROCEDURE AND CONSUMABLES BY TESTING TO AS/NZS1554.1 CLAUSE 4.2. LIST APPLICABLE PARAMETERS ON WELDING PROCEDURE QUALIFICATION RECORD AND MAKE RECORD AVAILABLE FOR INSPECTION.
- 16. WELDING TO BE UNDERTAKEN BY SUITABLY QUALIFIED EXPERIENCED WELDER UNDER SUPERVISION OF QUALIFIED WELDING SUPERVISOR.
- 17. CARRY OUT WELDING TO AS/NZS1554: ALL INTERFACES BETWEEN STEEL SECTIONS TO BE CONNECTED WITH 6 mm CONTINUOUS FILLET WELDS ALL ROUND, BOTH SIDES UNO. WELDS TO BE SHOP WELDED UNO,
- WELDS TO BE CATEGORY SP,
- BUTT WELDS TO BE FULL (COMPLETE) PENETRATION UNO, ELECTRODES TO BE LOW CARBON WITH TENSILE STRENGTH OF fuw=490 MPa, PRE-APPROVED TO AS/NZS1554, eg CLASSIFICATION B-E49XX.
- 18. EXTENT OF WELD INSPECTION/TESTING TO BE:
- VISUAL SCANNING: 100% OF WELDS. VISUAL EXAMINATION: 100% OF BUTT WELDS IN TENSION MEMBERS AND 50% OF OTHER WELDS.
- RADIOGRAPHIC OR ULTRASONIC: 10% OF BUTT WELDS IN TENSION MEMBERS AND 5% OF OTHER WELDS.
- 19. GRIND WELDS SMOOTH AND FLUSH WITH PARENT METAL WHERE NOMINATED ON DRAWINGS. GRIND ONLY IN LONGITUDINAL DIRECTION OF MEMBER. 20. REPAIR FAULTY WELDS AND DEFECTS REVEALED BY WELD INSPECTION/TESTING AND REPEAT THE EXAMINATION.
- 21. WELDS TO BE INSPECTED BY INDEPENDENT NATA ACCREDITED QUALIFIED WELDING INSPECTOR TO AS2214. PROVIDE WELDING INSPECTOR'S REPORT TO SUPERINTENDENT. 22. WELDING SYMBOLS ARE TO AS1101.3. "CFW" INDICATES CONTINUOUS FILLET WELD. "FSBW" INDICATES FULL STRENGTH BUTT
- WELD WHICH IS EQUIVALENT TO CPBW. "CPBW" INDICATES COMPLETE PENETRATION BUTT WELD.
- 23. M16 AND LARGER BOLTS TO BE HIGH STRENGTH STRUCTURAL BOLTS, 8.8/S PROCEDURE AND M12 SIZE BOLTS SHALL BE COMMERCIAL BOLTS, 4.6/S PROCEDURE UNO.
- 24. FOR BOLTS MANUFACTURED OUTSIDE AUSTRALIA, PROVIDE LOCAL INDEPENDENT NATA-ACCREDITED LABORATORY
- COMPLIANCE CERTIFICATE BASED ON APPROPRIATE TESTING AND VERIFICATION. 25. USE BOLTS WITH THREADS IN COMPLIANCE WITH AS1275. BOLTS OF STRENGTH GRADE 4.6 TO BE COMMERCIAL GRADE BOLTS TO AS1111 AND 1112. BOLTS OF STRENGTH GRADE 8.8 TO BE HIGH STRENGTH STRUCTURAL BOLTS, NUTS AND WASHERS TO AS/NZS1252. MECHANICAL PROPERTIES OF BOLTS, NUTS, SCREWS AND STUDS TO COMPLY WITH AS /NZS4291. WASHERS TO
- COMPLY WITH AS1237. TIGHTENING PROCEDURES TO COMPLY WITH AS4100: S SNUG TIGHT.
- TB BEARING MODE JOINT, BOLTS FULLY TENSIONED.
- TF FRICTION MODE JOINT, BOLTS FULL TENSIONED. (CONTACT SURFACES OF FRICTION CONNECTIONS TO BE UNCOATED AND FREE OF MILL SCALE. 26. BOLT TYPE AND TIGHTENING PROCEDURE ARE DESIGNATED: NUMBER, SIZE STRENGTH GRADE/TIGHTENING PROCEDURES.
- eg. 4-M24 8.8/TB = 4 OFF 24 DIAMETER METRIC HIGH STRENGTH STRUCTURAL BOLTS FULLY TENSIONED IN BEARING MODE. 27. USE BOLT LENGTHS SO THAT PROJECTION BEYOND NUT IS AT LEAST TWO THREADS, AND NOT MORE THAN 10 mm. 28. PROVIDE A COLOUR FLASH AT LOCATIONS OF TF AND TB BOLTS. DEGREASE AND LIGHTLY OIL TF AND TB BOLTS PRIOR TO
- INSTALLATION. TENSION TF AND TB BOLTS USING PART-TURN METHOD (OR TAMPER PROOF LOAD INDICATING WASHERS FOR TF BOLTS) TO AS4100, DO NOT USE CALIBRATED TORQUE WRENCHES, PROVIDE WITNESS MARKS ON BOLT AND NUT, PROVIDE A HARDENED WASHER UNDER BOLT HEAD OR NUT, WHICHEVER IS ROTATED. DO NOT REUSE TB OR TF BOLTS ONCE TENSIONED. 29. SLIP FACTOR ASSUMED FOR FRICTION TYPE BOLTS = 0.35. TREAT CONTACT SURFACES BY WIRE BRUSHING OR LIGHT BLASTING TO CLASS 3 (SURFACE PROFILE 35 TO 65 MICRONS) AS REQUIRED TO ACHIEVE ASSUMED SLIP FACTOR.
- 30. USE BOLTS, SCREWS, NUTS AND WASHERS HOT DIP GALVANIZED BY MANUFACTURER TO AS1214. TAP GALVANIZED NUTS 0.4 mm OVERSIZE TO SUIT GALVANIZED THREADS TO AS1214 AND OIL FOR PROTECTION. INSTALL WASHERS UNDER BOLT HEAD OR NUT. WHICHEVER PART IS ROTATED. LISE HARDENED OR PLATE WASHERS LINDER BOTH HEAD AND NUT FOR OVERSIZED AND SLOTTED HOLES TO AS4100. USE TAPERED WASHERS AS REQUIRED UNDER NON-ROTATING PART
- 31. SLOTTED HOLES TO BE 2.5 x BOLT DIAMETER LONG UNO. BOLTS TO BE SET CENTRAL IN SLOT UNO. USE 8 mm PLATE WASHERS UNDER BOLT HEAD AND NUT TO COMPLETELY COVER HOLE.
- 32. STEEL CONNECTION DETAILS TO BE IN ACCORDANCE WITH AS4100 AND AUSTRALIAN STEEL INSTITUTE (ASI) STRUCTURAL STEEL CONNECTION SERIES OF MANUALS AND GUIDES UNO. 33. MAKE BOLTED STRUCTURAL CONNECTIONS WITH 10 mm THICK CLEAT PLATES AND 2 M16 8.8/S BOLTS UNO. USE M12 4.6/S BOLTS FOR PURLINS UP TO 250 DEEP UNO. STIFFENERS. PURLIN AND GIRT CLEATS AND FLY BRACE CLEATS TO BE 8 mm THICK UNO.
- ROD BRACING TO HAVE TURNBUCKLES WITH FULL CAPACITY OF ROD UNO.
- 34. PROVIDE CLEATS AND DRILL HOLES NECESSARY FOR FIXING OTHER ELEMENTS TO STEELWORK. SHOW ON SHOP DRAWINGS. 35. PROVIDE RADIUSED CORNERS ON EXPOSED CLEATS TO REDUCE RISK OF IMPALEMENT AND LACERATIONS.
- 36. PROVIDE BOLTED CLEAT CONNECTIONS TO SITE WELDED CONNECTIONS CAPABLE OF BEING LOADED BEFORE OR WHILE CONNECTIONS ARE WELDED TOGETHER.
- 37. CROP INTERNAL CORNERS OF CLEATS AND STIFFENERS, etc TO FACILITATE DRAINAGE. PROVIDE DRAINAGE HOLES TO PREVENT WATER PONDING ON STRUCTURAL ELEMENTS DURING CONSTRUCTION. SHOW PROPOSED HOLES ON SHOP DRAWINGS. 38. CLEARLY MARK CONNECTIONS SUBJECT TO VIBRATION. USE LOCK NUTS FOR BOLTS SUBJECT TO VIBRATION.
- BASEPLATES AND HOLDING DOWN BOLTS
- 39. HOLDING DOWN BOLTS TO BE GRADE 4.6 UNO. SUPPLY HOLDING DOWN BOLTS WITH TWO CLASS 5 HEXAGONAL HEAD NUTS AND EXTRA LARGE HARDENED OR 4 mm PLATE WASHER. HOT DIP GALVANIZE HOLDING DOWN BOLTS, NUTS AND WASHERS TO AS1214. TIE HOLDING DOWN BOLT GROUPS RIGIDLY TOGETHER PRIOR TO INSTALLATION (eg. TACK WELD WITH 10 mm DIAMETER REINFORCING BAR TO FORM A RIGID CAGE) TO ENSURE CORRECT BOLT LOCATIONS, AND SET OUT USING A 3 mm MILD STEEL TEMPLATE SUPPLIED BY STEELWORK FABRICATOR. PROVIDE 4 N12 LIGATURES TO FIX HOLDING DOWN BOLT CAGE SECURELY TO SLAB/FOOTING REINFORCEMENT.
- 40. GROUT BASE PLATES, HOLDING-DOWN BOLTS, REBATES etc BEFORE LOADING COLUMNS OR ERECTING WALLS. USE APPROVED HIGH-STRENGTH (40MPa AT 7 DAYS) NON-SHRINK PRE-MIXED RAMMED GROUT. GROUT THICKNESS 15 mm MINIMUM, 40 mm MAXIMUM UNO. CHAMFER GROUT EDGES AT 45 DEGREES UNO. DO NOT LOAD GROUT UNTIL FULL STRENGTH ACHIEVED.

ISSUE	DESCRIPTION	DWG STATUS	DATE	ISSUE	DESCRIPTION	DWG STATUS	DATE	
А	APPROVED FOR CONSTRUCTION	AFC	10.10.19					INDENORITI
								LINES
								"STONE
								"" AVENI III
								.0E
								HATCHED AREA INDICATES

- DURABILITY & PROTECTIVE COATINGS
- WALKWAYS AND HANDRAILS, etc TO AS1657. 42. PRIME CONCRETE ENCASED STEELWORK IN ACCORDANCE WITH SPECIFICATION AND WRAP WITH FGW 41 MESH WITH 20 mm MINIMUM COVER. ENCASEMENT TO BE 50 mm MINIMUM. THICKNESS OF ENCASEMENT FOR FIRE PROTECTION TO BE AS DETAILED. PROVIDE 75 mm ENCASEMENT FOR STEEL IN GROUND. WHERE PAINTED STEELWORK IS PARTLY ENCASED IN
- CONCRETE EXTEND WHOLE PAINT SYSTEM 50 mm INTO CONCRETE. 43. AFTER COMPLETION OF FABRICATION, PREPARATION FOR SURFACE TREATMENT TO BE: ROUND OFF ROUGH WELDS, SHARP EDGES (2 mm RADIUS) etc. SURFACE TO BE FREE OF WELDING SPATTER, SLAG, UNDERCUTS, VISIBLE PORES PITS AND CRATERS, VISIBLE SLIVERS, ROLL-OVERS, LAMINATIONS, ROLLED-IN EXTRANEOUS MATTER, GROOVES (RADIUS OF GOUGES TO BE LESS THAN 4 mm), INDENTATIONS, ROLL MARKS, BURRS, ARISES, CRACKS, etc. PREPARE WELDS, EDGES AND OTHER AREAS WITH SURFACE IMPERFECTIONS TO ISO 8501-3 PREPARATION GRADE P3.
- CLASS SA 2¹/₂ WITH SURFACE PROFILE 40 TO 70 MICRONS OR AS SPECIFIED BY COATINGS MANUFACTURER FOR THE SERVICE CONDITIONS. ASSESS ABRASIVE BLAST CLEANED SURFACE TO AS1627.9 AND SURFACE PROFILE TO AS3894.5. FOR SMALL AREAS WHERE ABRASIVE BLAST CLEANING IS NOT POSSIBLE OBTAIN APPROVAL FROM SUPERVISOR TO USE POWER TOOL CLEANING TO AS1627.2 CLASS ST 3/PST 3 AS DEFINED IN ISO 8501.1 FOR STEEL CLEANED TO A METALLIC FINISH WITH MINIMUM 25 MICRON SURFACE PROFILE. REMOVE DUST BY BRUSHING OR VACUUM CLEANING. 45. APPLY PROTECTIVE COATINGS AS SOON AS PRACTICABLE AFTER PREPARATION, WITHIN FOUR HOURS AND BEFORE FLASH
- RUST OR RUST BLOOM APPEARS. APPLICATION OF PROTECTIVE COATINGS TO COMPLY WITH MANUFACTURER'S RECOMMENDATIONS. 46. UNLESS NOTED OTHERWISE ON DRAWINGS OR IN SPECIFICATION, SURFACE TREATMENT OF STEELWORK FOR ATMOSPHERIC
- OF AS/NZS2312 TABLE 6.3 IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. REPORT QA RECORDS IN A FORMAT SIMILAR TO AS3894 PARTS 10 TO 14. NON-SPECIFIED COLOURS WILL BE SELECTED BY SUPERINTENDENT. 47. COATING REPAIRS: REINSTATE COATING TO DAMAGED AREAS TO PROTECTIVE COATINGS SPECIFICATION. FIELD WELD REPAIRS: DO NOT WELD THROUGH EXISTING GALVANISING OR COATINGS. REMOVE WELD SPLATTER, RESIDUAL FLUX etc BY CHIPPING, GRINDING OR ABRASIVE BLAST CLEANING. GRIND FLUSH ROUGH WELD BEADS. PREPARE SURFACE FOR PAINTING AS PER COATING SPECIFICATION. REMOVE RUST, LOOSE AND BURNT PAINT AND SUFFICIENT SOUND COATING SO
- REINSTATE COATING AS PER PROTECTIVE COATINGS SPECIFICATION. 48. WHERE NOMINATED AS GALVANIZED ON DRAWINGS, STEELWORK IS TO BE HOT DIPPED GALVANIZED TO AS/NZS4680 AND AS 1214 FOR FASTENERS. THICKNESS OF GALVANIZED COATINGS TO AS/NZS4680. ZINC IN GALVANISING BATH TO BE NOT LESS THAN 98% PURE. BATH TEMPERATURE, TIME OF IMMERSION AND WITHDRAWAL SPEED TO BE AS REQUIRED TO ACHIEVE SPECIFIED COATING THICKNESS AND FINISH. ZINC COATING TO BE CONTINUOUS, ADHERENT, FREE FROM LUMPS, SPIKES, DAGS, RUNS, BLISTERS, ROUGHNESS, GRITTY AREAS, UNCOATED SPOTS, ACID AND BLACK SPOTS, DROSS, FLUX AND OTHER
- IMPERFECTIONS. 49. BUTT WELD END PLATES ON HOLLOW SECTIONS TO BE HOT DIPPED GALVANIZED IN LIEU OF FILLET WELD TO AVOID RISK OF CREVICE CORROSION. DO NOT USE A BACKING PLATE. 50. PASSIVATE GALVANIZED STEEL TO BE IN CONTACT WITH CONCRETE BY DIPPING IN 0.2% SODIUM DICHROMATE SOLUTION.
- 51. STRAIGHTEN MEMBERS DISTORTED DURING FABRICATION AND/OR GALVANISING PROCESS USING AN APPROVED METHOD. 52. ANNEAL COLD WORKED ITEMS TO 650°C PRIOR TO GALVANISING. 53. REPAIR DAMAGE TO GALVANIZED COATING TO AS/NZS 4680 SECTION 8 - REPAIR AFTER GALVANIZING. USE ORGANIC TWO-PACK
- ZINC RICH EPOXY COATING COMPLYING WITH AS/NZS 3750.9 APPLIED IN TWO COATS EACH 50 MICRON, MINIMUM TOTAL DRY FILM THICKNESS 100 MICRONS. DO NOT USE SPRAY CANS OF "COLD GALV" OR ZINC ALLOY SOLDER "STICKS". SURFACE PREPARATION OF EXPOSED BARE STEEL TO BE ABRASIVE BLAST CLEANED TO AS 1627.4, CLASS 2½ (PREFERRED) OR POWER TOOL CLEANED TO AS 1627.2 CLASS ST 3. LIGHTLY SWEEP BLAST GALVANIZED SURFACES. 54. PROVIDE DRILLED VENT/DRAIN HOLES AT TOP AND BOTTOM EXTREMITIES FOR HOLLOW SECTIONS TO BE HOT DIPPED
- GALVANIZED. PROVIDE RUBBER SEALS OR PLUG WELD VENT/DRAIN HOLES THAT REMAIN EXPOSED. REPAIR DAMAGE TO GALVANIZING 55. PROVIDE DRILLED SUSPENSION HOLES IN END PLATES, ETC FOR ITEMS TO BE HOT DIPPED GALVANIZED. 56. PRIOR TO DIPPING ADVISE SUPERINTENDENT OF ANY DESIGN FEATURES THAT MAY LEAD TO DIFFICULTIES DURING
- GAI VANISING AND SUBMIT DETAILS FOR IMPROVEMENT 57. DO NOT PAINT GALVANIZED STEELWORK UNLESS SPECIFIED ON THE ENGINEERING DRAWINGS. PREPARE GALVANIZED SURFACES TO BE PAINTED AS PER AS/NZS4680 APPENDIX I AND APPLY PAINT IN THE WORKSHOP. COATING MANUFACTURER TO PROVIDE A 10 YEAR WARRANTY OF COATING SYSTEM.
- 58. PROTECTIVE COATINGS ARE TO BE SHOP APPLIED AND CURED IN WORKSHOP IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS APPROVED OTHERWISE IN WRITING BY SUPERINTENDENT. PROTECTIVE COATINGS ARE TO BE SMOOTH, UNIFORM AND WITHOUT RUNS, BEADS, PINHOLES, SURFACE CRAZING OR OTHER IMPERFECTIONS. 59. PROTECT COATINGS FROM DAMAGE AND DETERIORATION DURING HANDLING, TRANSPORT, STORAGE AND ERECTION. REPAIR
- DAMAGE TO PROTECTIVE COATINGS TO REINSTATE INTEGRITY OF NOMINATED COATING IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS AND SPECIFICATION. EDGES OF PATCH REPAIRS TO BE FEATHERED. 60. REFER SPECIFICATION FOR DECORATIVE COATINGS. 61. HOT DIP GALVANIZE FLOOR GRATING AND SUPPLY WITH EDGE TRIMMING BARS ALL ROUND UNO. SECURE GRATINGS TO
- STEELWORK WITH A PROPRIETARY CLAMPING SYSTEM INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- 62. SUBMIT NAMES AND CONTACT DETAILS OF PROPOSED FABRICATION AND INSTALLATION SUBCONTRACTORS. 63. SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS; REFER GENERAL-DELIVERABLES NOTES. SHOP DRAWINGS AND DESIGN CALCULATIONS TO SHOW: ARRANGEMENT OF MEMBERS, MARKING PLAN, MEMBER SCHEDULE, LOCATION AND ORIENTATION OF MEMBERS IN BUILDING, REQUIRED CAMBER (WHERE APPLICABLE), RELEVANT DETAILS OF EACH ASSEMBLY, COMPONENT AND CONNECTION, DIMENSIONS OF ITEMS, LOADING PARAMETERS AND BRACING LENGTHS ASSUMED IN DESIGN, DESIGN STRESSES, STRENGTH OF MATERIALS, SIZE OF EACH MEMBER, TOLERANCES ON MEMBER SIZES, JOINT DETAILS, TRIMMERS, NOGGINGS etc, LIFTING POINTS, METHOD OF FIXING AND BRACING, DESIGN DEFLECTION, METHOD OF FABRICATION, SIZE AND SPECIFICATION OF CLEATS, BOLTS, SCREWS, WELDS, WELD CATEGORIES AND BOLTING CATEGORIES, WELD PROCEDURES (INCLUDING POST WELD HEAT TREATMENT), SURFACE PREPARATION METHODS AND PROTECTIVE COATING SYSTEM, VENT/DRAIN HOLES FOR HOT DIP GALVANISING, PROPOSED JOINTS IN MEMBERS, TEMPORARY MEMBERS, BRACES AND FIXINGS, LOCATION OF FALL ARREST CONNECTIONS, FIXINGS FOR ADJOINING BUILDING ELEMENTS, BASE PLATE DETAILS, FIXINGS FOR PURLINS, GIRTS, LOCATION OF AND PREPARATION FOR SITE WELDS AND BRACING, METHOD OF HANDLING, TEMPORARY WORKS, ASSEMBLY, TRANSPORT AND
- ERECTION (INCLUDING TEMPORARY BRACING IF REQUIRED), PRECAMBER, etc. 64. PROVIDE DOCUMENTARY EVIDENCE (INCLUDING TEST RESULTS) OF COMPLIANCE WITH RELEVANT AUSTRALIAN STANDARDS ISSUED BY MANUFACTURER FOR ALL STEELWORK AND EACH BATCH OF FASTENERS USED. EVIDENCE MUST PROVIDE CLEAR VERIFICATION THAT PRODUCT MEETS RELEVANT AUSTRALIAN STANDARDS AND BE WRITTEN IN ENGLISH ALPHANUMERIC CHARACTERS, EVIDENCE TO INCLUDE: NAMES AND ADDRESSES OF MANUFACTURER, SUPPLIER AND TESTING AUTHORITY: TEST CERTIFICATE NUMBER AND DATE WITH PAGE NUMBER ON EACH PAGE: PRODUCT TESTING SPECIFICATION AND GRADE OF STEEL; PRODUCT DESIGNATION AND RELEVANT DIMENSIONS; PRODUCT STEEL MAKING PROCESS; LENGTH, BUNDLE, PACK OR UNIQUE IDENTIFIER TO WHICH CERTIFICATE APPLIES; HEAT NUMBER (FROM CASTING); MECHANICAL PROPERTIES FROM TENSILE TEST (ALL VALUES CITED IN AS/NZS STANDARD); WHETHER EACH MEASURED MECHANICAL PROPERTY COMPLIES WITH AS/NZS STANDARD: CHEMICAL ANALYSIS RESULTS AND TYPE OF ANALYSIS UNDERTAKEN: CUSTOMER PURCHASE ORDER TO MATCH BATCH NUMBER; ANY OTHER SYSTEM REFERENCE NUMBERS AND SIGNATURE OF AUTHENTICITY.

44. SURFACE PREPARATION: REMOVE OIL, GREASE AND OTHER CONTAMINANTS TO AS1627.1. ABRASIVE BLAST CLEAN TO AS1627.4

CORROSION PROTECTION TO BE HOT DIP GALVANISED. APPLY PROTECTIVE COATINGS AS PER APPROVED SYSTEM/SYSTEMS

PAINT EDGE IS FEATHERED AND SMOOTH. STRIPE COAT ALL WELDS, EDGES AND ROUGH SURFACES USING A BRUSH.

- 1. MASONRY WORK TO BE TO AS3700 AND AS/NZS4455. 2. CONSTRUCT MASONRY COMPLETE WITH BED JOINT REINFORCEMENT, FLEXIBLE MASONRY ANCHORS, WALL TIES, FIXING STRAPS etc TO AS/NZS2699. USE ONLY R4 GRADE 316 OR 316L STAINLESS STEEL, OR R3 HOT DIP GALVANIZED TO AS/NZS4680 WITH MINIMUM COATING MASS OF 470 g/m2 EACH FACE
- 3. ENSURE WALLS WHICH RELY ON FLOORS FOR STABILITY ATTAIN SUFFICIENT STRENGTH BEFORE NEXT LEVEL IS COMMENCED. 4. USE GRADE 20 CONCRETE BLOCKS ie MINIMUM CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH (Cu)= 20 MPa TO AS/NZS4455 UNO AND OF DIMENSIONAL CATEGORY DW4 TO AS/NZS4455.
- 5. USE SOLID BRICKS WITH MINIMUM CHARACTERISTIC COMPRESSIVE STRENGTH OF 30 MPa AND DIMENSIONAL CATEGORY DW1 TO AS/NZS4455 AND AS/NZS4456. DO NOT LAY CLAY BRICKS UNTIL THEY HAVE BEEN OUT OF KILN FOR AT LEAST 14 DAYS.
- 6. COLOUR AND TEXTURE OF MASONRY UNITS TO BE WITHIN AN AGREED RANGE. MASONRY UNITS TO BE RESISTANT TO SALT ATTACK. MAXIMUM PERMEABILITY OF MASONRY UNITS TO BE 2 mm/minute. EFFLORESCENCE POTENTIAL OF MASONRY UNITS TO BE NIL OR SLIGHT. CHARACTERISTIC LATERAL MODULUS OF RUPTURE OF MASONRY UNITS TO BE 0.8 MPa.
- 7. FOR CONCRETE BLOCKWORK AND UNREINFORCED BRICKWORK USE CLASS M3 MORTAR MADE WITH 1 PART CEMENT: 5 PARTS SAND AND A METHYL CELLULOSE WATER THICKENER (eg: `DYNEX' AS PRODUCED BY A.V. SYNTEC) TO AS3700. FOR REINFORCED BRICKWORK AND OTHER MASONRY IN INDUSTRIAL ENVIRONMENTS USE CLASS M4 MORTAR MADE WITH 1 PART CEMENT, 0 TO 0.25 PARTS LIME AND 3 PARTS SAND, OR 1 PART CEMENT AND 4 PARTS SAND PLUS A METHYL CELLULOSE WATER THICKENER (eg: 'DYNEX' AS PRODUCED BY A.V. SYNTEC) TO AS3700. SUBMIT DETAILS OF PROPOSED ADDITIVES FOR SUPERINTENDENT'S WRITTEN APPROVAL. USE WHITE CEMENT TO AS3972 TYPE GP OR GB, WITH IRON SALTS NOT EXCEEDING 1%. USE WELL GRADED CLEAN SAND WITH LOW CLAY CONTENT (MAXIMUM 10% PASSING THE 75 MICRON SIEVE) AND FREE FROM EFFLORESCING SALTS, ORGANIC MATTER AND OTHER IMPURITIES. USE HYDRATED BUILDING LIME TO AS1672.1 COLOUR AND TEXTURE OF FACE OR POINTING MORTAR TO MATCH APPROVED SAMPLE. USE APPROVED REFRACTORY MORTAR FOR REFRACTORY BRICKWORK, AS RECOMMENDED BY MANUFACTURER.
- 8. DO NOT CHASE HOLLOW BLOCKWORK. DO NOT CHASE MASONRY WITHOUT PRIOR APPROVAL. 9. ENSURE THAT PERPENDS AND BEDS ARE COMPLETELY FILLED WITH MORTAR. LAY FROGGED MASONRY UNITS FROG UP, EXCEPT LAY TOP COURSE FROG DOWN.
- 10. MORTAR BED JOINTS AND PERPENDS TO BE FULLY BEDDED, AND 10 mm MAXIMUM 11. BED JOINTS AND PERPENDS IN CONCRETE BLOCKWORK MAY HAVE SHALLOW TOOLING. DO NOT RAKE OUT JOINTS UNLESS REQUIRED
- BY SPECIFICATION. WORK FACE JOINTS WITH A JOINTING TOOL TO A DENSE SMOOTH SURFACE. 12. SET OUT MASONRY TO MAINTAIN SPECIFIED ROD AND BOND WITH BED JOINTS AND VERTICAL JOINTS OF UNIFORM WIDTH AND WITH MINIMUM CUTTING OF MASONRY UNITS. USE STRETCHER BOND GENERALLY IN SINGLE LEAF CONSTRUCTION. KEEP PERPENDS IN ALTERNATE COURSES VERTICALLY ALIGNED. DISTRIBUTE APPROVED COLOUR RANGE OF FACE UNITS EVENLY THROUGHOUT FACE WORK TO PREVENT COLOUR CONCENTRATIONS AND BANDING. SELECT MASONRY UNITS FOR UNIFORM WIDTH AND DOUBLE-FACE QUALITIES IN SINGLE LEAF MASONRY WITH FACE WORK BOTH SIDES.
- 13. WALLS TO BE BONDED AT INTERSECTIONS UNO.
- 14. CLEAN MASONRY PROGRESSIVELY AS WORK PROCEEDS. CLEAN FACE WORK TO REMOVE MORTAR SMEARS, STAINS, DISCOLOURATION. etc. USE CAVITY BATTEN (AND LIFT PROGRESSIVELY) TO KEEP CAVITIES CLEAR OF MORTAR FINS, DROPPINGS, etc. 15. USE "HEAVY DUTY" RIGID WALL TIES TO AS/NZS2699 eg. "MFA ANCHOR-TIES" (FOR CAVITY BETWEEN 90 AND 140 mm) OR "MFA POSI-TIES" (FOR CAVITY LESS THAN 90 mm) AS PRODUCED BY BRUNSWICK SALES PTY LTD. TIES TO BE EMBEDDED 50 mm MINIMUM INTO MORTAR JOINTS. ENSURE 15 mm MINIMUM MORTAR COVER TO EXPOSED FACES. IN HOLLOW BLOCK WORK INSTALL TIES IN LINE WITH
- PERPENDS/BLOCK WEBS, AND PROVIDE MORTAR BEDDING FULL WIDTH OF BLOCK. INSTALL WALL TIES AT SPACING NOT MORE THAN 600 mm CENTRES IN EACH DIRECTION UNO. ADJACENT TO LATERAL SUPPORTS AND CONTROL JOINTS AND AROUND OPENINGS IN MASONRY AND AT TOPS OF UNRESTRAINED WALLS, SPACING OF WALL TIES TO BE NOT MORE THAN 300 mm AVERAGE AND 400 mm MAXIMUM AND LOCATED WITHIN 300 mm OF THAT LINE OF SUPPORT, etc. FIX TIES TO MANUFACTURER'S RECOMMENDATIONS. ONLY USE TIES WITH ROUNDED EXTERNAL CORNERS. 16. CONTROL JOINTS TO BE 20 mm WIDE WITH 25 mm DIAMETER CLOSED CELL POLYETHYLENE FOAM BACKING ROD AND APPROVED
- POLYSULPHIDE SEALANT AT EXTERNAL FACE UNO. FINISH SEALANT IN LINE WITH MORTAR JOINTS. TOLERANCE ON WIDTH +5, -0 mm. REINFORCEMENT TO BE DISCONTINUOUS AT CONTROL JOINTS. PROVIDE JOINTS IN WALL FINISHES AT CONTROL JOINTS IN MASONRY. PLACE POLYSTYRENE IN VERTICAL JOINTS DURING CONSTRUCTION TO ENSURE THAT MORTAR DROPPINGS AND OTHER HARD MATERIALS DO NOT FALL INTO OR REMAIN IN CONTROL JOINTS. REMOVE POLYSTYRENE AT COMPLETION.
- 17. INSTALL CONTROL JOINTS IN MASONRY AT 6 METRES MAXIMUM CENTRES (3 METRES MAXIMUM FROM CORNERS, AND AS SHOWN ON DRAWINGS 18. SOLIDLY BED MASONRY SILLS AND THRESHOLDS AND LAY THEM SO THAT TOP SURFACES DRAIN AWAY FROM BUILDING. SET OUT SO
- THAT NO UNIT IS CUT LESS THAN ³/₄ OF FULL WIDTH. 19. WHEN BUILDING IN STEEL DOOR FRAMES etc, FILL BACKS OF JAMBS AND HEADS SOLID WITH MORTAR AS WORK PROCEEDS. 20. BUILD DAMP-PROOF COURSES TO AS/NZS2904 INTO FOLLOWING LOCATIONS WHERE APPLICABLE:
- WALLS ADJOINING INFILL FLOOR SLABS ON MEMBRANES: IN COURSE ABOVE UNDERSIDE OF SLAB IN INTERNAL WALLS AND INNER LEAVES OF CAVITY WALLS. PROJECT 40 mm AND DRESS DOWN OVER MEMBRANE TURNED UP AGAINST WALLS. • CAVITY WALLS BUILT OFF SLABS ON GROUND: IN BOTTOM COURSE OF OUTER LEAF, CONTINUOUS ACROSS CAVITY AND UP INNER FACE, TURNED 30 mm INTO FIRST COURSE OF INNER LEAF ABOVE SLAB. • INTERNAL WALLS BUILT OFF SLABS ON GROUND: IN FIRST COURSE ABOVE FLOOR LEVEL.
- PAINTED EXTERNAL WALLS: IN SECOND COURSE ABOVE GROUND LEVEL IN OUTER LEAF.
- 21. BUILD FLASHINGS AND WEATHERINGS TO AS/NZS2904 INTO FOLLOWING LOCATIONS WHERE APPLICABLE: • UNDER SILLS: 50 mm INTO FIRST JOINT BELOW SILL, EXTENDING UP ACROSS CAVITY AND UNDER SILL.
- OVER LINTELS TO OPENINGS: FULL WIDTH OF OUTER LEAF IMMEDIATELY ABOVE LINTEL, CONTINUOUS ACROSS CAVITY, 50 mm INTO INNER LEAF. TWO COURSES ABOVE. • OVER ROOFS: FULL WIDTH OF EXTERNAL MASONRY, STEPPED TO ROOF SLOPE. TURN DOWN NOT LESS THAN 50 mm OVER BASE
- FLASHING. TURN UP WITHIN CAVITY, SLOPING INWARD ACROSS CAVITY AND FIXED TO OR BUILT INTO INNER LEAF AT LEAST 75 mm ABOVE • AT ABUTMENTS WITH STRUCTURAL FRAMES OR SUPPORTS: VERTICAL FLASHING IN CAVITY FROM 150 mm WIDE MATERIAL, WEDGED
- AND GROUTED INTO A GROOVE IN FRAME OPPOSITE CAVITY. • AT STILES WHERE CAVITIES ARE CLOSED: FULL HEIGHT FLASHING EXTENDING 75 mm BEYOND CLOSURE INTO CAVITY, INTERLEAVED WITH SILL AND HEAD FLASHING AT EACH END. FIX TO FRAME STILES.
- 22. PROVIDE WEEP HOLES IN THE FORM OF OPEN PERPENDS TO EXTERNAL LEAVES OF CAVITY WALLS IN COURSE ABOVE DAMP-PROOF COURSES, FLASHINGS AND CAVITY FILL, AND AT BOTTOMS OF UNFILLED CAVITIES. SPACING 750 mm MAXIMUM CENTRES. 23. KEEP NON-LOAD BEARING WALLS CLEAR OF UNDERSIDES SLABS AND BEAMS BY 20 mm. FILL GAP WITH APPROVED COMPRESSIBLE
- MATERIAL. DO NOT LAY MASONRY ON CONCRETE BEAMS OR SLABS UNTIL AFTER FORMWORK HAS BEEN REMOVED AND CONCRETE HAS GAINED ADEQUATE STRENGTH.
- 24. FILL CORES OF HOLLOW BLOCKWORK WHERE CAST IN ITEMS, TIES TO STRUCTURAL FRAMING OR MASONRY ANCHORS ARE TO BE LOCATED, OR USE SOLID BLOCKS 25. HAVE SUITABLY QUALIFIED STRUCTURAL ENGINEER UNDERTAKE STRUCTURAL CHECK OF MASONRY WALLS WHERE FIXINGS,
- EQUIPMENT OR ACCESS PLATFORMS ARE TO BE ATTACHED.
- 6. PROTECT FRESHLY LAID MORTAR FROM RAIN, etc.
- <u>REINFORCED MASONRY</u> 27. FOR REINFORCED MASONRY USE "HEAVILY GALVANIZED" BED JOINT REINFORCEMENT AT 600 mm MAXIMUM CENTRES, COMMENCING 200 mm MAXIMUM ABOVE BASE LEVEL AND LOCATED ABOVE AND BELOW OPENINGS. TERMINATE BED JOINT REINFORCEMENT 200 mm FROM EDGES OF WALL PANELS AND CONTROL JOINTS etc. LAP BED JOINT REINFORCEMENT BY 450 mm. LOCATE WALL TIES IN UNREINFORCED COURSES/BED JOINTS
- 28. USE CONCRETE GROUT FOR FILLING CORES WITH:
- MINIMUM fc = 20 MPa TO AS3600. MINIMUM CEMENT CONTENT = 300 kg/m3.
- MAXIMUM AGGREGATE SIZE = 10 mm. WET CORES BEFORE GROUTING.
- 29. FOR REINFORCED MASONRY FILL ALL REINFORCED CORES AND BOND BEAMS USING CONCRETE WITH fc = 20 MPa TO AS3600, SLUMP =
- 80 +/-15 mm TO AS1012.3 UNO 30. USE 2N16 CONTINUOUS BARS FOR BOND BEAMS UNO. LAP 600 UNO.
- 31. FOR REINFORCED BLOCKWORK PROVIDE N16 BAR ADJACENT TO WALL ENDS, OPENINGS, CONTROL JOINTS AND AT 1200 mm MAX CENTRES UNO. LOCATE REINFORCEMENT CENTRALLY IN CORES UNO.
- 32. CARRY OUT PROJECT ASSESSMENT OF CONCRETE AND GROUT TO AS3600. 33. PROVIDE 15 mm MINIMUM COVER TO REINFORCEMENT TO AS3700 CLAUSE 6.8 FROM INSIDE FACE AND BASE OF BLOCKS. AND 50 mm MINIMUM COVER INCLUDING BLOCK THICKNESS. MAINTAIN COVER BY USE OF "KNOCK-OUT" BLOCKS AND SPACERS AT INTERSECTIONS OF VERTICAL AND HORIZONTAL BARS, eg BLOCK AID BAR CHAIRS BY ONESTEEL OR BY OTHER APPROVED MEANS. SET OUT STARTER
- BARS USING A TEMPLATE 34. REMOVE MORTAR DROPPINGS FROM BOTTOM OF CORES BY USE OF CLEANOUT BLOCKS BEFORE PLACING CONCRETE AND AT
- HORIZONTAL BREAKS IN CONSTRUCTION. REMOVE MORTAR FINS PROTRUDING FROM JOINTS BEFORE PLACING CONCRETE. 35. DO NOT PROCEED WITH BLOCKWORK CONSTRUCTION MORE THAN SIX COURSES OR 1500 mm AHEAD OF CONCRETE PLACEMENT.
- PLACE CONCRETE INFILL IN LIFTS NOT EXCEEDING 400 mm. 36. STOP CONCRETE 50 mm BELOW TOP OF BLOCKS TO PROVIDE KEY FOR FOLLOWING CONCRETE. ENSURE PROPER COMPACTION OF CONCRETE BY "RODDING" OR OTHER APPROVED MEANS.
- 37. FORWARD CONCRETE AND GROUT PROJECT ASSESSMENT INFORMATION TO SUPERINTENDENT AS PER AS1379 CLAUSE 6.3 WHEN PROJECT ASSESSMENT IS UNDERTAKEN



SITE NORTH AUSTRALIAN WAR MEMORIAL 20 TRELOAR CRESCENT CAMPBELL ACT 2612

> BLOCK 3 SECTION 39 CAMPBELL ACT

ALL DIMENSIONS ARE IN MILLIMETRES LEVELS ARE IN METRES DO NOT SCALE OFF DRAWING LISE FIGURED DIMENSIONS ONLY

CHECK DIMENSIONS ON SITE SCALEBAR:

NOTES:



INFORMATION ONLY - (UNCONTROLLED)

C CONTROLLED ISSUE

P PRELIMINARY

GHD CANBERRA LEVEL 7, 16 MARCUS CLARKE STREE CANBERRA ACT 2601 AUSTRALIA GPO BOX 1877 CANBERRA ACT 2601 T: 61 2 6113 3200 F: 61 2 6113 3299 E: cbrmail@ghd.com W: www.ghdwoodh WAR MEMORIAL DRAWING NO. 23-16682-S-004 PROJECT

CONSULTANT

AWM REDEVELOPMENT PROJEC POPPY'S CARPARK EXTENSION

PRECAST CONCRETE

1. COMPLY WITH REQUIREMENTS OF AS3850 PREFABRICATED CONCRETE ELEMENTS CODE, NATIONAL CONSTRUCTION CODE (NCC). CONCRETE NOTES AND SPECIFICATION.

. PRECAST CONCRETE UNITS HAVE BEEN DESIGNED FOR INSTALLED CONDITIONS ONLY. 3. PRECAST UNITS AND CONNECTIONS HAVE NOT BEEN DESIGNED FOR VEHICLE IMPACT.

4. PRECAST UNITS TO BE SUPPLIED BY A SPECIALIST SUB-CONTRACTOR.

5. SUPPLIER TO DESIGN PRECAST CONCRETE UNITS, PROPS, CONNECTIONS, FIXING DETAILS AND JOINTS etc TO PROVIDE SATISFACTORY PERFORMANCE FOR STABILITY, FIRE RESISTANCE (WHERE REQUIRED AS NOTED IN

DRAWINGS), SERVICEABILITY AND STRENGTH REQUIREMENTS DURING MANUFACTURE, STRIPPING, HANDLING LIFTING, STACKING, TRANSPORT, ERECTION AND INSTALLATION OPERATIONS. PROVIDE TEMPORARY PROPPING AND ADDITIONAL REINFORCEMENT AS REQUIRED.

6. USE FORMWORK BOND BREAKERS AND STRONG BACKS AS REQUIRED.

7. DO NOT USE VENEERED CONSTRUCTION UNO. 8. DO NOT APPLY ACID TREATMENTS TO PRECAST CONCRETE SURFACES UNO.

9. LOCATE CONNECTIONS TO FACILITATE CONCRETE PLACEMENT, EASE OF ACCESS DURING INSTALLATION AND FINAL AESTHETICS. 10. USE CAST IN FERRULES FOR STRUCTURAL FIXINGS, NOT MECHANICAL OR CHEMICAL ANCHORS.

11. DO NOT USE REBARS OR STRESSING TENDONS AS LIFTING LOOPS. DO NOT USE FIXINGS FOR LIFTING. USE PROPRIETARY LIFTING INSERTS WITH PUBLISHED LOAD RATINGS. LIFT OR SUPPORT PRECAST UNITS ONLY AT SPECIFIED POINTS. LOCATE LIFTING POINTS TO SUIT CENTRE OF GRAVITY OF UNIT. 12. PROVIDE THIN-WALLED GALVANIZED GROUT TUBES FOR TIE BARS AS SHOWN ON DRAWINGS.

13. SUBMIT NAME, CONTACT DETAILS AND CREDENTIALS OF PROPOSED MANUFACTURER OF PRECAST UNITS. 14. PROVIDE TEMPORARY BRACING TO AS3850 AND AS/NZS1170.2 AS REQUIRED TO ENSURE STABILITY DURING CONSTRUCTION. IN PARTICULAR ENSURE STABILITY OF SUPER TEE'S PRIOR TO AND DURING CASTING OF DECK

15. DO NOT PLACE LIFTING ATTACHMENTS, HOLES, OTHER TEMPORARY FIXINGS etc ON VISIBLE FACES OF UNITS. 16. ENSURE THAT PRECAST UNITS REMAIN UNCRACKED AND UNDAMAGED DURING MANUFACTURE, HANDLING, ERECTION AND INSTALLATION OPERATIONS. PROVIDE PROTECTION TO AVOID CRUSHING AND/OR CHAFING. PROTECT UNITS FROM STAINING, DISCOLOURATION AND OTHER DAMAGE.

17. HOT DIP GALVANIZE CAST IN STEELWORK INCLUDING LIFTING INSERTS, FERRULES, DOWEL BARS, ANGLE CLEATS, BOLTS, NUTS WASHERS AND PACKERS etc. MINIMUM GALVANIZED COATING THICKNESS 600 g/m2. 18. PROVIDE FERRULES WITH FULL CAPACITY OF BOLT. PROVIDE 10 mm CROSS BARS IN FERRULES. FERRULES TO ACCOMMODATE M20 BOLTS UNO.

19. RECESS FERRULES TO REMAIN EXPOSED BY 30 mm INTO CONCRETE. APPLY BONDING AGENT AND GROUT UP RECESS WITH 40 MPa NON-SHRINK GROUT. 20. USE RIGID FORMWORK AND INTENSE COMPACTION, SUCH AS VIBRATING TABLES OR FORM VIBRATORS, TO AS3600. 21. PRECAST UNIT TOLERANCES TO BE TO AS3600 EXCEPT WHERE VARIED BY SPECIFICATION.

22. CAST UNITS WITH OUTER FACE OFF FORM. 23. FINISH SURFACE OF PRECAST UNITS IN ACCORDANCE WITH SPECIFICATION.

24. PROVIDE 15 mm x 45 DEGREES CHAMFERS OR FILLETS AT EDGES AND CORNERS OF PRECAST UNITS. 25. EACH UNIT TO HAVE LEGIBLE MARKING (HIDDEN IN COMPLETED STRUCTURE) INCLUDING UNIT THICKNESS, REINFORCING SIZES AND SPACING, NUMBER OF STRANDS AND STRAND DIAMETER. CONCRETE COVER, DATE OF CASTING, CORRECT ORIENTATION OF UNIT AND WEIGHT, POSITION FOR TEMPORARY BEARING DURING STORAGE etc. 26. SET ASIDE DAMAGED UNITS (CRACKED, SPALLED, INADEQUATE COVER) FOR INSPECTION BY SUPERINTENDENT. REPAIR OR RE-CAST AS INSTRUCTED.

27. ALLOW FOR DEPARTMENT OF LABOUR OR OTHER REQUIREMENTS GOVERNING HANDLING, LIFTING, ROTATION OR TRANSPORT OF PRECAST UNITS 28. WHERE PRECAST UNITS ARE TO BE SUPPORTED BY CONCRETE MEMBERS, DO NOT ERECT UNITS UNTIL 28 DAY

STRENGTH HAS BEEN ACHIEVED. 29. USE 20 mm THICK HIGH-STRENGTH PVC OR FIBROUS CEMENT SHEET LEVELLING PADS x 150 mm LONG (MIN) AND PLACE CENTRAL UNDER WALL PANEL AND 300 mm FROM ENDS OF PRECAST UNITS. CHECK WITH SUITABLY QUALIFIED STRUCTURAL ENGINEER BEFORE USING ADDITIONAL SUPPORT POINTS. USE TWO LEVELLING PADS FOR EACH UNIT. DO NOT USE STEEL LEVELLING PADS. USE PACKERS OF SUITABLE THICKNESS SUCH THAT NOT MORE THAN THREE PACKERS ARE REQUIRED. PACKERS CAN REMAIN IN PLACE IF PROVIDED WITH 50 mm GROUT COVER UNO. 30. PROVIDE COMPONENTS, MATERIALS, FASTENERS, BRACES, STRONGBACKS, SHIMS, JOINTING STRIPS, SEALANTS, FLASHING, GROUT AND MORTAR, BEARING PADS AND STRIPS, TIES, DOWELS, CLIPS, FIXINGS etc AS REQUIRED. 31. RECESS LIFTING INSERTS, REMOVE TEMPORARY ATTACHMENTS AFTER ERECTION, MAKE GOOD AND SEAL.

32. SEAL GAPS BEFORE GROUTING. USE NON-SHRINK NON-STAINING GROUT WITH 28 DAY CHARACTERISTIC STRENGTH OF 40 MPa. SUBMIT DETAILS FOR APPROVAL 33. JOINTS BETWEEN UNITS TO BE AS SPECIFIED ON DRAWINGS. TOLERANCE ON WIDTH +5, -0 mm. PROVIDE JOINTS IN WALL FINISHES AT JOINTS BETWEEN UNITS UNO. PLACE POLYSTYRENE IN JOINTS DURING CONSTRUCTION TO

ENSURE HARD MATERIALS AND OTHER DEBRIS DOES NOT FALL INTO OR REMAIN IN JOINTS. REMOVE POLYSTYRENE PRIOR TO FILLING JOINTS, OR AT COMPLETION. MAINTAIN JOINTS FOR UNIFORM PLACEMENT OF SEALANTS. 34. PROTECT, CLEAN AND MAINTAIN PERMANENT BEARINGS DURING CONSTRUCTION. 35. CAST SUPER TEES AND OTHER PRESTRESSED BEAMS UPRIGHT, HORIZONTAL AND IN ONE SINGLE POUR. KEEP TOP SURFACE UPPERMOST. SUPPORT AT SPECIFIED BEARING LOCATION. ENSURE VOID FORMER IS SECURELY FIXED,

AND CONCRETE BELOW VOID FORMER IS PROPERLY COMPACTED. SCABBLE OR BROOM FINISH (TRANSVERSELY) TOP SURFACE. ROUGHEN TOP SURFACE BY GREEN CUTTING TO 3 mm AMPLITUDE WITHOUT LOOSENING COARSE AGGREGATE. LENGTH SPECIFIED IS REQUIRED LENGTH AFTER RELEASE OF TENDONS - MAKE ALLOWANCE FOR ELASTIC SHORTENING AT TRANSFER. AFTER TRANSFER CUT TENDONS FLUSH WITH END, CLEAN EXPOSED ENDS AND SEAL WITH 6 mm APPROVED EPOXY.

36. SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS (PREPARED BY A SUITABLY QUALIFIED CHARTERED ENGINEER REGISTERED WITH NATIONAL ENGINEERING REGISTER (NER) OF ENGINEERS AUSTRALIA); REFER GENERAL-DELIVERABLES NOTES. DRAWINGS TO SHOW PROPOSED DETAILS FOR DESIGN, MANUFACTURE, ASSEMBLY TRANSPORT AND INSTALLATION OF PRECAST CONCRETE ELEMENTS, INCLUDING FOLLOWING: INFORMATION SPECIFIED IN AS3850.2 CLAUSE 2.10 AND APPENDIX A, PROJECT TITLE AND MANUFACTURER'S NAME, MARKING PLANS AND ELEVATIONS WITH BUILDING GRID AND FLOORS LOCATING EACH UNIT, SHAPE AND PROFILE DRAWINGS INCLUDING WEIGHT OF UNITS, REINFORCEMENT AND TENDON DETAILS INCLUDING LOCATIONS, SIZES, MATERIALS, DUCTILITY AND STRESS GRADES, CAST IN ITEMS INCLUDING LOCATIONS, SIZES, DETAILS, MATERIALS, CORROSION PROTECTION AND GRADE OF FERRULES, PLATES, CUT-OUTS AND OPENINGS, ANCHORS, LIFTING DEVICES, PLUGS FOR SEALING RECESSES etc, CAULKING, MASTICS, BAFFLES, WATERPROOFING, ACOUSTIC INSULATION AND FIRE PROOFING, CAST IN SERVICES, EQUIPMENT AND METHODS OF HANDLING, LIFTING, TRANSPORT INCLUDING LOCATION OF LIFTING POINTS, MAXIMUM LOADS ON LIFTING AND BRACING POINTS, EVIDENCE OF LOAD CAPACITY OF LIFTING AND BRACING INSERTS AND ATTACHMENTS IN FORM OF TEST REPORTS OR CALCULATIONS. CONCRETE MIX DESIGN. FORMWORK TYPE, SURFACE FINISH CLASS AND SURFACE TREATMENT, CURING AND PROTECTION METHODS, IDENTIFICATION MARKS, EQUIPMENT AND METHODS FOR HANDLING, TRANSPORT AND INSTALLATION, ERECTION AND INSTALLATION CONDITIONS

37. SUBMIT DETAILS OF PROPOSED METHODS TO ACHIEVE SELECTED COLOUR INCLUDING TYPE AND COLOUR OF CEMENT, SAND, AGGREGATES AND COLOURING OXIDE PIGMENTS AND STAINS. 38. SUBMIT SAFE WORK METHOD STATEMENT SPECIFIC TO PROJECT FOR MANUFACTURE AND INSTALLATION OF UNITS. CARRY OUT WORK ONLY UNDER WIND AND TEMPERATURE CONDITIONS CONSISTENT WITH SAFE WORK METHOD STATEMENT AND STRUCTURAL CAPABILITY OF UNIT.

DRAWING TITLE

GHD	STRUCTURAL NOTES SHEET 3									
	DRAWN	CHECKED	APPROVED	SCALE	SIZE					
		B. REIMEDIOS	F. EDIDAW	1:1	A1					
ead com	DATE 04.10.19	DATE 04.10.19	DATE 04.10.19							
oud.com	STATUS REVISION DA									
	APPROVED	FOR CONST	FRUCTION	10.10.1	19					
Г	DISCIPLINE									
	STRUCTUR	AL								
	DRAWING NO.									
	AWM-0269-	AWM-0269-AFC-S-004								



			0 2000 400 SCALE 1:20	00 6000 8000 0 AT ORIGINAL SIZE	10000mm		
GHD	DRAWING TITLE FOOTING K	EY PLAN					
	DRAWN	CHECKED	APPROVED	SCALE	SIZE		
		B. REIVIEDIUS		As indicated	A1		
ad.com	STATUS	REVISION DATE					
	APPROVED	FOR CONS	TRUCTION	10.10.19	9		
	DISCIPLINE						
	STRUCTUR						
	DRAWING NO.	RE	VISION				
	AWM-0269-	AWM-0269-AFC-S-101					

3.6m 15-N28 FOUNDED ON MW ROCK 1600 kPa 3.8m 2.1m 2.0m 1600 kPa 10-N20 FOUNDED ON MW ROCK FOUNDED ON HW ROCK 2.1m 4.9m 450 kPa 10-N20 FOUNDED ON HW ROCK 5.0m 7.8m 450 kPa 12-N28 4.5m 450 kPa 12-N24 FOUNDED ON HW ROCK 6.6m

10-N20

450 kPa

4.0m

5.5m

MARK	PILE DIAMETER
BP1	1350
BP2	900

		DET	1550		
		BP2	900		
		RETAIN	NG WALL PIE	R5	
		MIN	MIN		
	MAY	SOCKET			
	IVIAA.	SOUREI	ULTIWATE		
२	RETAINED	INTO ROCK	LATERAL		
TER	HEIGHT (H)	(L)	CAPACITY	REINFORCEMENT	COMMENTS
	0.0	0.0	400010	45 100	

FOOTING SCHEDULE									
MARK	DEPTH	LENGTH	WIDTH	REMARKS					
PF1	850	1400	1400						
PF2	650	1400	1400						
PF3	300	800	800						

W	DENOTES HIGHLY WEATHERED ROCK
1W	DENOTES MODERATELY WEATHERED ROCK
W	DENOTES SLIGHTLY WEATHERED ROCK
L590	DENOTES ESTIMATED
	TOP LEVEL OF THE ROCK PROFILE
Р	DENOTES BORED PIER
.O.S.	DENOTES CONFIRM ON SITE

DENOTES APPROXIMATE LOCATIONS OF GEOTECHNICAL INVESTIGATION BORE HOLES

FOUNDED ON HW ROCK

2. FOR CONCRETE DETAILS REFER DRG. S-501-S-508.

LEGENDS:

1. FOR GENERAL NOTES REFER DRG No. S-002 TO S-004.

NOTES:





			5
		RW1	-6
<u>V - RL 586.8</u> <u>V - RL C.O.S.</u>			-7
RW4	RW2	1800	1500
	NOTES: 1. FOR GENERAL NOTES REFER DRG 2. FOR CONCRETE DETAILS REFER D	6 No. S-002 TO DRG. S-501-S-5	S-004. 08.
	0 1000 20 SCALE 1:10	00 3000 40	00 5000 mm
r ead.com	FOOTING PLAN ZONE 2 DRAWN CHECKED APPROVED M. CRUZ B. REMEDIOS F. EDIBAM DATE 04.10.19 DATE 04.10.19 STATUS APPROVED FOR CONSTRUCTION DISCIPLINE STRUCTURAL	SCALE As indicate REVISION DA 10.10.	size d A1 re 19
	DRAWING NO. AWM-0269-AFC-S-103		REVISION A

(D1)

 $+\mathcal{O}-$

(C1)



NOTES:

- 1. BASEMENT SLAB TO BE 120mm GROUND SLAB REINFORCED WITH SL82 MESH, 30 TOP COVER ON VAPOUR BARRIER ON 50mm SAND BLINDING ON 100mm HARDCORE. FINISH TO MATCH EXISTING.
- 2. PLANTROOM SLAB TO BE 150mm GROUND SLAB REINFORCED WITH SL82 MESH, 30 TOP COVER ON VAPOUR BARRIER ON 50mm SAND BLINDING ON 100mm HARDCORE. FINISH TO MATCH EXISTING.

3. SAWN JOINTS AT 8.6 m MAX. CRS, KEYED JOINTS AT 24m MAX. CRS.

4. XYPEX TO BE ADDED TO ALL GROUND SLABS.

ISSUE	DESCRIPTION	DWG STATUS	DATE	ISSUE	DESCRIPTION	DWG STATUS	DATE	
Α	APPROVED FOR CONSTRUCTION	AFC	10.10.19					TRUE NORTH
								(X)
								R
								LIMEST
								ONEAL
								VENUE



LEGEND

1. FOR GENERAL NOTES REFER DRG No. S-002 TO S-004. 2. FOR CONCRETE DETAILS REFER DRG. S-501-S-508.

IJ - DENOTES ISOLATION JOINT SJ - DENOTES SAWN CUT JOINT EJ - DENOTES EXPANSION JOINT







$\frac{1}{2}$						
	— – — (1)					
$\frac{3}{3}$	2					
$\frac{1}{2} = -\frac{4}{2}$ $\frac{1}{2}$	3					
$\frac{1}{1000} = -\frac{1}{1000}$ $\frac{1}{1000} = -\frac{1}{1000}$ $\frac{1}{1000} = -\frac{1}{1000}$ $\frac{1}{10000} = -\frac{1}{100000}$ $\frac{1}{10000000000000000000000000000000000$	— – – (4)					
$\frac{1}{2} =6$						
ad.com	м —————————6					
Ad.com	— – – (7)					
Ad.com						
ad.com DRAWING TITLE LEVEL 2 - CONCRETE PLAN DRAWING TITLE DRAWING TITLE LEVEL 2 - CONCRETE PLAN DRAWING TITLE DRAWING TITLE						
ad.com $ \begin{array}{c} \text{DRAWING TITLE} \\ \text{LEVEL 2 - CONCRETE PLAN} \\ \hline \begin{array}{c} \text{DRAWN} \\ \text{M. CRUZ} \\ \hline \begin{array}{c} \text{DRAWN} \\ \text{M. CRUZ} \\ \hline \begin{array}{c} \text{OHECKED} \\ \text{B. REMEDIOS} \\ \hline \begin{array}{c} \text{APPROVED} \\ \text{F. EDIBAM} \\ \hline \begin{array}{c} \text{As indicated} \\ \text{As indicated} \\ \hline \begin{array}{c} \text{All} \\ \hline \begin{array}{c} \text{All} \\ \text{All} \\ \hline \end{array} \\ \hline \begin{array}{c} \text{As indicated} \\ \hline \begin{array}{c} \text{All} \\ \hline \end{array} \\ \hline \begin{array}{c} \text{SIZE} \\ \text{As indicated} \\ \hline \end{array} \\ \hline \begin{array}{c} \text{All} \\ \hline \end{array} \\ \hline \begin{array}{c} \text{REVISION DATE} \\ \hline \end{array} \\ \hline \begin{array}{c} \text{DRAWING NO.} \\ \hline \end{array} \\ \hline \end{array} \\ \hline \end{array} $				0 2000 40	100 6000 8000	0 10000mm ZE
As indicated A1 M. CRUZ B. REMEDIOS F. EDIBAM As indicated A1 DATE 04.10.19 DATE 04.10.19 DATE 04.10.19 A1 STATUS REVISION DATE REVISION DATE 10.10.19 DISCIPLINE DISCIPLINE DRAWING NO. REVISION REVISION A A	GHD	DRAWING TITLE LEVEL 2 - C	CHECKED	APPROVED	SCALE	SIZE
APPROVED FOR CONSTRUCTION 10.10.19 DISCIPLINE STRUCTURAL DRAWING NO. AVAILAD 00000 A ECO 0.407	ad.com	M. CRUZ DATE 04.10.19 STATUS	B. REMEDIOS DATE 04.10.19	F. EDIBAM DATE 04.10.19	As indicated	A1
STRUCTURAL DRAWING NO. A VALUE A COCCO A COCO A COC) FOR CONST	FRUCTION	10.10.1	9
		STRUCTUR	RAL			
			AEC-S 107		F	



NOTE:

1. 125mm WEARING SLAB REINFORCED WITH SL82 MESH, 30 TOP COVER ON WATERPROOFING MEMBRANE. BROOM FINISH.

2. REFER TO S-501 FOR DETAILS OF CONCRETE JOINTS

3. PROVIDE 2-N16x1200 LONG TO ALL RE-ENTRANT CORNERS, REFER TO S-104 FOR TRIMMER BARS DETAILS.

4. XYPEX TO BE ADDED TO WEARING SLAB

ISSUE	DESCRIPTION	DWG	DATE	ISSUE	DESCRIPTION	DWG	DATE	LOCATION PLAN
Δ	APPROVED FOR CONSTRUCTION	AFC	10 10 19			31A103		TRUE NORTH
			10.10.10					
								Linn
								INTESTONIC
								I AVENU
								I I I I I I I I I I I I I I I I I I I
								HATCHED AREA INDICATES
								LOCATION OF WORKS



		DE KE IT 12	- J - J 20 - J	DENOTES DOWELLED E DENOTES KEY JOINT DENOTES SLAB INTERN DENOTES THICKNESS C	XPANSION JOINT AL THICKENING IF THE SLAB	
1 2						
3						
5						
6						
7						
				0 2000 40	00 6000 8000	10000mm
GHD	DRAWING TITLE LEVEL 2 - V ARRANGE DRAWN	WEARING MENT PLA	SL/ N		- SCALE	SIZE
ead.com	M. CRUZ	B. REMED		F. EDIBAM	As indicated	A1
Т		RAL			10.10.18	,
	DRAWING NO. AWM-0269)-AFC-S-10	8		RE	VISION A

LEGEND

IJ - DENOTES ISOLATION JOINT

SJ - DENOTES SAWN CUT JOINT EJ - DENOTES EXPANSION JOINT

	NOTE:								
	1. FOR TENDER PURPOSES ONLY: ALLOW FOR POST-TENSIONED BANDED SL 280 mm THICK SLAB INTERNAL SPAN	AB							
	350 mm THICK SLAB END SPAN 2400x600mm BAND BEAM AT GRID LINES DEPTH VARIES TO MEET THE 2.5m HEIGHT	CLEARANO	E IN THE BASEME	NT					
	REO RATE - 110 kg/m ³ PT RATE - 16 kg/m ²								
	2. CONTRACTOR TO ENGAGE SPECIALIST SU TO DESIGN THE POST TENSIONED LEVEL 2	B-CONTRA 2 SLAB FOR	CTOR THE FOLLOWING	LOADINGS	3:				
	LOAD CASE 1: LANDSCAPE DEAD LOAD - SELFWEIGHT + MEMBRANI SUPERIMPOSED DEAD LOAD - 125mm W LIVE LOAD - 5 kPa	E WEIGHT EARING SL	AB + 1.5m OF FILL						
	LOAD CASE 2: MAINTENANCE VEHICLE DEAD LOAD - SELFWEIGHT + MEMBRANI SUPERIMPOSED DEAD LOAD - 125mm W LIVE LOAD - 5 kPa + 26t GVM	E WEIGHT EARING SL	AB + 0.5m OF PAVI	EMENT					
	LOAD CASE 3: 2 STOREY BUILDING DEAD LOAD - SELFWEIGHT + MEMBRANI SUPERIMPOSED DEAD LOAD - 125mm W	E WEIGHT EARING SL							
	3. COLUMNS AND FOOTINGS ARE DESIGNED F IF THE OVERALL WEIGHT OF THE BANDED ABOVE, SEEK FURTHER STRUCTURAL ADV	For the LC Slab IS GF 'ICE.	DADINGS DESCRIE REATER THAN WH/	ED ABOVE	WED				
	4. MAXIMUM ALLOWED COLUMN MOMENTS (S MAJOR MI	ERVICE) AT NOR	CONNECTION TO	SLAB BEA	MS ARE:	W/			
	DEAD LOAD 220 kN-m 35 LIVE LOAD 50 kN-m 10 SOIL LOAD 410 kN-m 65	kN-m kN-m kN-m				12	5mm WEARING S	SLAB	
	COLUMNS ARE "PINNED" AT FOOTING LEVE	=L.							
								1500 mn FOR LAI	
								N OF FILL	
					an terd an end term and term	A			TEL MEL MEL MEL MEL
			-						
								~	
)/)////////////////////////////////////		
	LOAD C/	ASE 1	<u>- 1.5m Ol</u>	F FILL	<u>+ 5 kPa LIVE</u>	LOAD			
ISSUE		DWG STATUS	DATE	E 1 : 20 ISSUE	DESCRIPTION		DWG STATUS	DATE	LOCATION PLAN TRUE NORTH TR
			10.10.18						
									LIMESTONE .
									HATCHED AREA INDICATES
		1							







X		
S-504		
¦=]]	
	0 1000 2000 3000 SCALE 1:100 AT ORIGINAL	4000 5000 mm
GHD	DRAWING TITLE BUILDING SECTIONS - SHEET 2	
ead.com	DRAWN M. CRUZCHECKED B. REMEDIOSAPPROVED F. EDIBAMSCALE 1 : 100DATE04.10.19DATE04.10.19	SIZE A1
-	APPROVED FOR CONSTRUCTION 10.10	0. 19
	STRUCTURAL DRAWING NO.	REVISION
	AWM-0269-AFC-S-302	A

7

D S-302









JMN REINFORCEMENT DRG S-503		
STARTER BARS		
-200 BOTTOM BARS TH WAYS		
SS CONCRETE DOWN TO ROCK WITH MINIMUM IMATE END BEARING ACITY OF 6500 kPa		
<u>ETAIL</u>		
300 Fi Wi RE	IRIEBEAM BARRIER XED IN ACCORDANCE ITH MANUFACTURER'S ECOMMENDATIONS 12-300 U-BARS	
	MEMBRANE N12-150 HORIZONTAL BARS E.F. N16-150 VERTICAL BARS E.F. N16-150 STARTER BARS E.F. CRUSHED ROCK 300mm WIDE AROUND AG DRAIN 50mmø WEEP HOLE SSD (SUB SOIL DRAIN)	REFER TO CIVIL DRAWINGS
		 N12-150 TRANSVERSE TOP & BOTTOM BARS N16-150 LONGITUDINAL TOP & BOTTOM BARS MASS CONCRETE DOWN TO THE SAME LEVEL AS UNDERSIDE OF THE ADJACENT FOOTING
RETAIN	IING WALL 4	 FOUNDED ON EW ROCK MINIMUM 900 kPa ULTIMATE END BEARING CAPACITY TYP.
T GHD	ECTION ALE 1:20 DRAWING TITLE CONCRETE DETAILS	0 200 400 600 800 1000 mm SCALE 1:20 AT ORIGINAL SIZE
lead.com	DRAWN M. CRUZ DATE 04.10.19 STATUS APPROVED FOR CON	APPROVED F. EDIBAM DATE 04.10.19 SCALE 1 : 20 A1 A1 REVISION DATE 10 10 10
T	DISCIPLINE STRUCTURAL DRAWING NO. AWM-0269-AFC-S-504	REVISION A



	(T)	
FER TO DETAIL 1 S-507 FOR DETAILS		
	REFER TO TYPICAL DOWEL JOINT DETAILS	
AR	EXISTING SLAB	
к	LEVEL 1_+510mm RL 586.610 m	
K WALL		
EINFORCEMENT		
600		
	0 200 400 600 SCALE 1:20 AT ORIGIN	800 1000 mm
	DRAWING TITLE CONCRETE DETAILS SHEET 5	
GHD	DRAWN CHECKED APPROVED SCALE	SIZE
lead.com	INI. CINO2 D. REIVIEDIOS F. EDIBAMI 1:20 DATE 04.10.19 DATE 04.10.19 DATE 04.10.19 REVISION STATUS REVISION REVISION REVISION	DATE A1
Τ	APPROVED FOR CONSTRUCTION 10.1	0.19
-	STRUCTURAL DRAWING NO.	REVISION
	AWM-0269-AFC-S-505	A



			0 200 40	00 600 800) 1000 mm
			SCALE 1:20) AT ORIGINAL SI	ZE
GHD	DRAWING TITLE CONCRETE	E DETAILS SH	HEET 6		
	DRAWN M. CRUZ	CHECKED B. REMEDIOS	APPROVED F. EDIBAM	SCALE As indicated	SIZE
ead com	DATE 04.10.19	DATE 04.10.19	DATE 04.10.19		AT
	STATUS			REVISION DATE	
	APPROVED	FOR CONS	TRUCTION	10.10.1	19
	DISCIPLINE			I	
	STRUCTUR	AL			
	DRAWING NO.				REVISION
	AWM-0269-	AFC-S-506			А
	1				

S ANCONI SHEAR AT 600 r HILTI-HY 150mm M	SDOUGDOUT SDOUGDOUT SDOUGDOUT STERE TO ARCHITECTURAL DRAWINGS SEER CONNECTOR ANY 2100 UBARS EACH SIDE OF SHEAR CONNECTOR 4 ANY 2100 UBARS EACH SIDE OF SHEAR CONNECTOR TYPE 20 AT CONSTRUCTION 120 AT CONSTRU	
GHD	DRAWN M. CRUZCHECKED B. REMEDIOSAPPROVED F. EDIBAMSCALE 1 : 20DATE04.10.19DATE 04.10.191 : 20	SIZE A1
eaa.com	STATUS REVISION DATA APPROVED FOR CONSTRUCTION 10.10.	^{TE} 19
	DISCIPLINE STRUCTURAL DRAWING NO.	REVISION
	AWM-0269-AFC-S-507	A

CONTROL JOINT DETAIL (TYPE 1) SCALE 1:10

TEE INTERSECTION DETAIL SCALE 1:10

CONSULTANT

GHD CANBERRA

BOTTOM BAR/S CRANKED UP TO SUIT KNOCK-OUT BLOCK BEFORE COGGED DOWN INTO CORE

AR/S COGGED INTO CORE		N10 FITM	ENTS AT	- 200 C	RS

LINTEL DETAIL (900 - 2400 OPENING) SCALE 1:10

BLOCKWALL

CLIENT

CONTROL JOINT

HALF BLOCK

CONTROL JOINT DETAIL (TYPE 2)

SCALE 1:10

- RAKE JOINT AND FILL WITH APPROVED JOINT SEALANT

CONTROL JOINT BLOCK

BLOCKWALL

			0 200 40	00 600 80 AT ORIGINAL S	0 1000 mm					
GHD	DRAWING TITLE TYPICAL M	ASONRY BLC	DCKWORK D	ETAILS						
	DRAWN M. CRUZ	CHECKED B. REMEDIOS	APPROVED F. EDIBAM	SCALE	SIZE					
ead com	DATE 04.10.19	DATE 04.10.19	DATE 04.10.19							
cau.com	STATUS	STATUS								
	APPROVED	FOR CONST	TRUCTION	10.10.1	19					
Г	DISCIPLINE									
	STRUCTUR	AL								
	DRAWING NO.				REVISION					
	AWM-0269-	AFC-S-510			А					
	1			I						

CORNER INTERSECTION DETAIL SCALE 1:10

ISSUE	DESCRIPTION	DWG STATUS	DATE	ISSUE	DESCRIPTION	DWG STATUS	DATE	
Α	APPROVED FOR CONSTRUCTION	AFC	10.10.19					TRUE NORTH
								Line
								- MESTONIE
								AVENU
								.o£
								LUCATION OF WORKS

TYPICAL PANEL FRONT ELEVATION

SCALE 1:20

900

SCALE 1:20

			0 100 20	00 300 40	0 500 mm
			0 200 40 SCALE 1:20	00 600 80	0 1000 mm IZE
GHD	DRAWING TITLE PRECAST F	PANEL DETA	ILS		
	DRAWN B. MOLINA	CHECKED B. REMEDIOS	APPROVED F. EDIBAM	SCALE	SIZE
and com	DATE 04.10.19	DATE 04.10.19	DATE 04.10.19	As indicated	A1
	STATUS	REVISION DATE			
	APPROVED	FOR CONS	TRUCTION	10.10.	19
F	DISCIPLINE				
	STRUCTUR	AL			
	DRAWING NO.				REVISION
	AWM-0269-	AFC-S-520			А
	<u> </u>				

TYPICAL PANEL REAR ELEVATION

1. PANEL ELEVATIONS ARE ALL SCHEMATIC. FOR REINFORCEMENT

2. ALL PANELS BELOW GROUND LEVEL TO BE BITUMEN COATED

3. REFER TO GENERAL NOTES FOR PRECAST REQUIREMENTS.

AND CONNECTION INFORMATION ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS,

PENETRATIONS, REBATES ETC.

(TO EARTH FACE).

NOTE:

				1														1		1								Y		<u>D</u>							_
		ь. 		4.																	4					2 a 							LEV	<u>EL 2</u>	<u>38</u> (Omm	
									. 44			4								a.													RL 5	90.6	20 m	1	
											DRA		NG		LE												S S S S	50 CAL 200	E 1::	100 5 400 20	AT (150 DRIG	2 INAL 5 INAL 5	00 SIZE 00 SIZE	250) mm 0 mm	
T	ead	d.c		m		G					DRA DAT		M 04.7 S	. C	_ I 2RI 19	JZ	 CH	ECK TE	ED B. F 04.1	SF REN	1ED 9	105		Z APP DAT	ROV E 0	/ED F. 4.10	ED	IBA	M	S / R	CAL As REVI	_E indi SIOI	cate	ed TE	SIZE A	E \1	
APPROVED FOR CONSTRUCTION 10.10.19 T DISCIPLINE STRUCTURAL DRAWING NO. AWM-0269-AFC-S-602												19 RE	visic A	DN																							

TYPICAL BASEPLATE DETAIL

TYPICAL POST ELEVATION

ISSUE	DESCRIPTION	DWG STATUS	DATE	ISSUE	DESCRIPTION	DWG STATUS	DATE	
Α	APPROVED FOR CONSTRUCTION	AFC	10.10.19					
-								
								LIMEO
								- STONE AN
								AVENUE
		_						

BASE PLATE INSTALLATION DETAIL

CLIENT

			0 50 10 SCALE 1:5	00 150 20 AT ORIGINAL S	0 250 mm	
GHD	DRAWING TITLE STEEL DETAILS SHEET 3					
	DRAWN M. CRUZ	CHECKED B. REMEDIOS	APPROVED F. EDIBAM	SCALE	SIZE	
and com	DATE 04.10.19	DATE 04.10.19	DATE 04.10.19		AI	
cau.com	STATUS	REVISION DATE				
	APPROVED FOR CONSTRUCTION 10				19	
Г	DISCIPLINE					
	STRUCTUR	RUCTURAL				
	DRAWING NO.				REVISION	
	AWM-0269-AFC-S-603				А	