

GENERAL NOTES

- G1 EACH DRAWING IS PART OF A SET OF CONTRACT DRAWINGS THAT IS INTENDED TO BE REFERRED TO IN FULL. THIS SET OF STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER CONTRACT DRAWINGS AND SPECIFICATIONS, AND WITH ALL WRITTEN INSTRUCTIONS THAT MAY BE ISSUED DURING THE COURSE OF THE CONTRACT.
- G2 COPYRIGHT OF ALL CONTRACT DOCUMENTS PRODUCED BY GANDEN SHALL REMAIN VESTED IN GANDEN UNLESS CONTRACTUALLY RELEASED OR LICENSED. INTELLECTUAL PROPERTY RIGHTS IN DESIGN PRODUCED BY GANDEN SHALL REMAIN VESTED IN GANDEN UNLESS CONTRACTUALLY RELEASED OR LICENSED.
- G3 THE TERM "PROJECT MANAGER" SHALL BE TAKEN AS REFERRING TO THE REPRESENTATIVE OF THE PARTY RESPONSIBLE FOR ADMINISTERING THE DELIVERY OF THE CONTRACT. THE PROJECT MANAGER SHALL BE THE CONDUIT THROUGH WHICH ALL REQUESTS, QUERIES, APPROVAL AND CONTRACTUAL NOTICES ARE DIRECTED AND DELIVERED.
- G4 THE TERM "CONTRACTOR" SHALL BE TAKEN AS REFERRING TO THE PARTY RESPONSIBLE FOR DELIVERING THE WORKS IN ACCORDANCE WITH THE CONTRACTUAL DOCUMENTS. THE TERM CONTRACTOR SHALL ENCOMPASS ALL SUB-CONTRACTORS AND RELATED THIRD PARTIES ENGAGED BY THE CONTRACTOR FOR THE PURPOSES OF DELIVERING THE WORKS.
- G5 THESE DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS. ALL DIMENSIONS ARE IN MILLIMETRES AND ALL LEVELS ARE IN METRES UNLESS NOTED OTHERWISE. VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND FABRICATION.
- G6 ANY DISCREPANCIES OR OMISSIONS ON THE STRUCTURAL DRAWINGS, OR BETWEEN THESE DRAWINGS AND THE SPECIFICATION, THE CURRENT AUSTRALIAN STANDARDS AND CODES, THE BUILDING REGULATIONS, AND RELEVANT STATUTORY REGULATORY AUTHORITIES, SHALL BE REFERRED TO THE PROJECT MANAGER FOR WRITTEN INSTRUCTION PRIOR TO PROCEEDING WITH THE WORK.

HEALTH AND SAFETY IN DESIGN AND CONSTRUCTION

- SDC1 CONSTRUCTION OF THIS PROJECT MUST BE CARRIED OUT UNDER A HEALTH AND SAFETY COORDINATION PLAN. THE CONTRACTOR SHALL DEVELOP, IMPLEMENT AND ADMINISTER A WORKPLACE HEALTH AND SAFETY PROGRAM THAT WILL ENSURE THAT ALL CONSTRUCTION ACTIVITIES ARE COMPLIANT WITH THE REQUIREMENTS OF THE APPROPRIATE STATUTORY WORKPLACE HEALTH AND SAFETY REQUIREMENTS AND ANY OTHER RELEVANT STATUTORY REQUIREMENTS.
- SDC2 THE WORKPLACE HEALTH AND SAFETY PROGRAM MUST BE CO-ORDINATED WITH ADJOINING PROPERTY OWNERS AND ALL RELEVANT PARTIES AS NECESSARY TO ENSURE A SAFE BUILDING ENVIRONMENT AT ALL TIMES.
- SDC3 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO TAKE ALL MEASURES NECESSARY DURING ALL PHASES OF CONSTRUCTION TO ENSURE THE STRUCTURAL STABILITY AND INTEGRITY OF THE INCOMPLETE WORKS. ATTENTION IS DRAWN TO THE NEED TO PROVIDE TEMPORARY SUPPORT TO:
- SOIL AND ROCK DURING EXCAVATION
 - CONCRETE FORMWORK TO FACILITATE CONCRETE PLACEMENT
 - PRECAST CONCRETE ELEMENTS
 - STRUCTURAL STEEL FRAMEWORK
 - CLAY OR CONCRETE MASONRY
 - TIMBER FRAMEWORK
- SDC4 ACTIVITIES REQUIRED TO BE CARRIED OUT DURING THE CONSTRUCTION OF THE WORK WHICH ARE NOT CONSIDERED TO BE NORMAL BUILDING PRACTICE MAY REQUIRE THE ENGAGEMENT OF SPECIALIST SUB-CONTRACTORS. THESE WORKS SHALL REMAIN THE PRIME RESPONSIBILITY OF THE CONTRACTOR, AND MAY INCLUDE:
- UNDERPINNING
 - LIFTING AND PLACEMENT OF HEAVY ELEMENTS
 - CONSTRUCTION IN CONFINED PLACES
 - TEMPORARY SUPPORT OF EXISTING STRUCTURES
 - DEMOLITION OF LOAD BEARING WALLS, COLUMNS, FOOTINGS & SLABS
 - WORK ADJACENT TO PUBLIC/OPERATING FACILITIES
 - USE OF HEAVY EQUIPMENT
 - EXCAVATION IN CONFINED AREA
 - DEMOLITION WORKS
- SDC5 STRUCTURAL DESIGN OF THE WORKS HAS BEEN CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING CODE OF AUSTRALIA AND THE APPROPRIATE AUSTRALIAN CODES AND STANDARDS. TEMPORARY AND/OR PERMANENT DESIGN WORKS THAT ARE THE RESPONSIBILITY OF THE CONTRACTOR SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE SAME REQUIREMENTS.

GENERAL NOTES - CONSTRUCTION

- GC1 THESE DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION UNTIL ISSUED AND NOTATED AS "FOR CONSTRUCTION" DOCUMENTS BY GANDEN.
- GC2 ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT SAA STANDARDS AND CODES, AND THE BY-LAWS, ORDINANCES AND REQUIREMENTS OF THE RELEVANT BUILDING AUTHORITIES EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- GC3 NO CHANGE OR SUBSTITUTION OF ANY ELEMENT SHALL BE MADE WITHOUT THE APPROVAL OF THE PROJECT MANAGER. APPROVAL OF A CHANGE OR SUBSTITUTION MAY BE SOUGHT FROM THE PROJECT MANAGER, AND ALL INFORMATION SHALL BE SUPPLIED TO DEMONSTRATE EQUIVALENCE IN ALL TECHNICAL AND PERFORMANCE PARAMETERS, AND COMPLIANCE WITH ALL REGULATORY REQUIREMENTS. APPROVAL OF A CHANGE OR SUBSTITUTION IS NOT AN AUTHORIZATION FOR A VARIATION. THE CONTRACTOR SHALL MEET ALL COSTS ASSOCIATED WITH THE REVIEW OF A CHANGE OR SUBSTITUTION PROPOSED BY THE CONTRACTOR.
- GC4 ALL PROPRIETARY PRODUCTS SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN REQUIREMENTS AND RECOMMENDATIONS.
- GC5 AT ALL TIMES DURING CONSTRUCTION THE CONTRACTOR SHALL MAINTAIN THE STABILITY AND SAFETY OF THE STRUCTURE. NO PART SHALL BE OVERSTRESSED BY CONSTRUCTION ACTIVITY OR CONTAIN LOCKED-IN STRESSES FROM TEMPORARY CONDITIONS. AT ALL TIMES DURING CONSTRUCTION THE CONTRACTOR SHALL MAINTAIN THE STABILITY, SAFETY AND AMENITY OF NEIGHBOURING PROPERTIES, STREETS AND SERVICES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND PROVISIONS OF ALL TEMPORARY WORKS AND SUPPORT NEEDED TO COMPLETE THE WORKS AND MAINTAIN THE STABILITY, SAFETY AND AMENITY OF THE WORKS AND SURROUNDS DURING CONSTRUCTION.
- GC7 WHERE ADDITIONAL CONSTRUCTION LOADS ARE TO BE IMPOSED ON THE STRUCTURE AND/OR SURROUNDS, THE CONTRACTOR SHALL SUBMIT FULL DETAILS OF THE PROPOSED TEMPORARY SUPPORTS TO THE PROJECT MANAGER FOR REVIEW AND APPROVAL. WHERE SUCH ADDITIONAL CONSTRUCTION LOADS HAVE AN IMPACT ON THE DESIGN OF THE STRUCTURE, THE CONTRACTOR SHALL MEET ALL COSTS ASSOCIATED WITH THE REVIEW AND/OR CHANGE OF THE DESIGN.
- GC8 THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE METHODOLOGY, SEQUENCE, MEANS AND SAFETY OF CONSTRUCTION. ANY PROPOSED VARIATION TO THE CONSTRUCTION SEQUENCE AS SHOWN OR IMPLIED WITHIN THE CONTRACTOR DOCUMENTS SHALL BE SUBMITTED TO THE PROJECT MANAGER FOR REVIEW AND APPROVAL. THE CONTRACTOR SHALL MEET ALL COSTS ASSOCIATED WITH ANY REVIEW AND/OR CHANGE OF THE DESIGN TO SUIT THE CONTRACTOR.
- GC9 ALL DESIGN REQUIRED OF THE CONTRACTOR SHALL BE PERFORMED BY REGISTERED ENGINEERS ACCEPTABLE TO THE AUTHORITIES RELEVANT TO THE LOCATION OF THE WORKS. NO WORKS COVERED BY THESE DESIGNS SHALL COMMENCE PRIOR TO THE PROJECT MANAGER RECEIVING A STATEMENT OF CERTIFIED DESIGN FROM THE REGISTERED ENGINEER(S).
- GC10 ALL VERIFICATION TESTING REQUIRED TO COMPLETE THE WORKS SHALL BE AT THE CONTRACTOR'S EXPENSE.

SITE PREPARATION NOTES

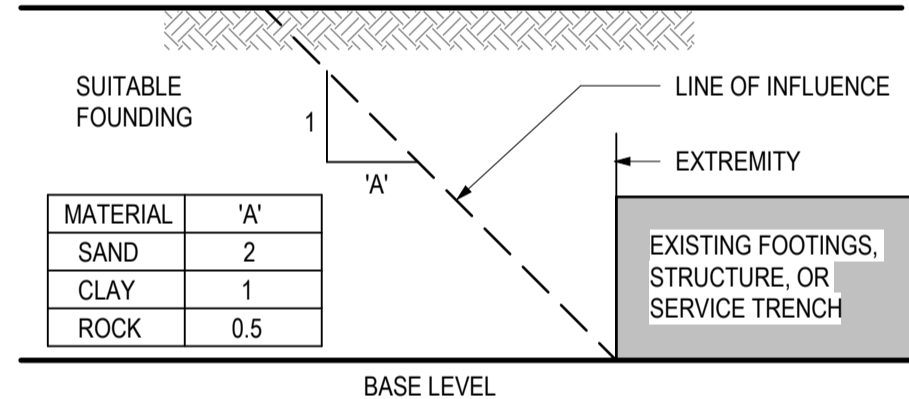
- SP1 LEVEL AND DETAIL SURVEYS WITHIN THE DOCUMENTS ARE IMPORTED FROM INFORMATION PROVIDED BY OTHERS. NO RESPONSIBILITY IS TAKEN FOR THEIR ACCURACY, AND ANY ERRORS OR DISCREPANCIES WITHIN THIS INFORMATION ARE TO BE REFERRED TO THE PROJECT MANAGER FOR RESOLUTION.
- SP2 EXISTING SERVICES SHOWN WITHIN THE DOCUMENTS ARE EXTRACTED FROM RECORD INFORMATION PRODUCED AND/OR PROVIDED BY OTHERS. NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY AND COMPLETENESS OF THE SPECIFICS OF THE UNDERGROUND SERVICES IN THE AREA OF THE PROPOSED WORKS. ANY ERRORS OF DISCREPANCIES WITHIN THIS INFORMATION ARE TO BE REFERRED TO THE PROJECT MANAGER FOR RESOLUTION.
- SP3 THE CONTRACTOR SHALL CONTACT ALL RELEVANT AUTHORITIES FOR DETAILED LOCATIONS OF ALL EXISTING ESSENTIAL SERVICES. ALL SUCH SERVICES WITHIN THE SITE AND IN THE IMMEDIATE SURROUNDS SHALL BE IDENTIFIED PRIOR TO THE COMMENCEMENT OF ANY WORK ON SITE. THE CONTRACTOR HAS THE RESPONSIBILITY TO ENSURE THAT NO SITE WORKS HAVE ANY ADVERSE AFFECT ON EXISTING SERVICES OR STRUCTURE. MANDATORY 'DIAL BEFORE YOU DIG' APPLIES. NO MACHINE EXCAVATION IS TO OCCUR WITHIN 1 METRE OF ANY EXISTING LIVE UNDERGROUND SERVICE. DAMAGE TO ANY LIVE SERVICES RESULTING FROM THE WORKS SHALL BE MADE GOOD AT THE CONTRACTOR'S EXPENSE.
- SP5 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND PROVISION OF ALL TEMPORARY SHORING WORKS AS MAY BE REQUIRED ALONG BOUNDARIES AND ELSEWHERE WITHIN THE SITE. EXISTING GROUND LEVELS EXTERNAL TO THE SITE SHALL BE MAINTAINED. COORDINATE STRUCTURAL EXCAVATION REQUIREMENTS WITH THE SHORING WORKS.
- SP6 EXCAVATE OR FILL THE SITE TO THE LEVELS SHOWN ON THE DRAWINGS. REMOVE ALL UNSUITABLE MATERIAL AND EITHER STORE ON SITE FOR RE-USE, OR DISPOSE OFF-SITE, UNDER THE TERMS OF THE CONTRACT OR AT THE DIRECTION OF THE PROJECT MANAGER.
- SP7 UNO, ALL GENERAL ENGINEERING FILL SHALL BE A SELECT MATERIAL FREE OF ORGANICS WITH A MAXIMUM PARTICLE SIZE OF 75mm, CBR 15 MIN, I_{ss} 1.0% MAX., 2% P<15%, PLACE THE FILL IN THE LAYERS NOT EXCEEDING 200mm UNCOMPACTED THICKNESS AND COMPACT TO 98% SRDD FOR COHESIVE SOILS, OR TO A DENSITY INDEX OF 75% FOR NON-COHESIVE SOILS.
- SP8 THE CONTRACTOR SHALL CARRY OUT ALL FILLING OPERATIONS UNDER LEVEL 1 SUPERVISION IN ACCORDANCE WITH AS 3798.
- SP9 THE CONTRACTOR SHALL SELECT AND ENGAGE A QUALIFIED AND APPROVED GEOTECHNICAL TESTING AUTHORITY (GTA) FOR THE PURPOSES OF VALIDATING SITE CONDITIONS, CONFIRMING SOIL AND FILL PROPERTIES AND ACHIEVING COMPACTION REQUIREMENTS.
- SP10 GENERAL ALLOTMENT FILL, INCLUDING BACKFILL TO BURIED STRUCTURE, SHALL BE A WELL GRADED AND ANGULAR MATERIAL WITH A MAXIMUM PARTICLE SIZE OF 75MM AND P<55%.

GENERAL COMPACTION VALUES

LOCATION	MINIMUM RELATIVE COMPACTION (%)	
	COHESIVE SOILS	NON-COHESIVE SOILS
GENERAL ALLOTMENT FILL, INCLUDING BACKFILL	98% OF STANDARD	70% DENSITY INDEX
LIGHT FLOOR LOADS (RESIDENTIAL)	95% OF STANDARD	97% OF STANDARD OR 65% DENSITY INDEX
HEAVY FLOOR LOADS (COMMERCIAL)	98% OF STANDARD	100% OF STANDARD OR 75% DENSITY INDEX
FOUNDATION SUPPORT	100% OF STANDARD	97% OF STANDARD OR 80% DENSITY INDEX
ROAD EMBANKMENTS >500mm BELOW SUBGRADE	95% OF STANDARD	97% OF STANDARD OR 65% DENSITY INDEX
ROAD EMBANKMENTS <500mm BELOW SUBGRADE	100% OF STANDARD	100% OF STANDARD OR 80% DENSITY INDEX
CONCRETE FLOOR SUB-BASE	N/A	95% OF MODIFIED
ROAD PAVEMENTS - SUB-BASECOURSE	95% OF MODIFIED	95% OF MODIFIED
ROAD PAVEMENTS - BASECOURSE	98% OF MODIFIED	98% OF MODIFIED

FOUNDATION NOTES

- F1 REFER THE FOLLOWING GEOTECHNICAL INVESTIGATION REPORT FOR INFORMATION ON GEOTECHNICAL CONDITIONS ANTICIPATED ON SITE.
- REPORT PREPARED BY: GOLDER ASSOCIATES P/L
- REPORT DATED: 03 SEPTEMBER 2020
- THE REPORT IS FOR INFORMATION ONLY AND MAY NOT BE A COMPREHENSIVE DESCRIPTION OF GROUND CONDITIONS. THE CONTRACTOR SHALL REVIEW THE REPORT AND MAKE AN INDEPENDENT EVALUATION OF ANTICIPATED SITE CONDITIONS AND PARAMETERS. DISCREPANCIES IDENTIFIED BETWEEN EVALUATED PARAMETERS AND DOCUMENTED DESIGN PARAMETERS SHALL BE ADVISED TO THE PROJECT MANAGER.
- F2 THE CONTRACTOR SHALL SELECT AND ENGAGE A QUALIFIED AND APPROVED GEOTECHNICAL TESTING AUTHORITY (GTA) FOR THE PURPOSES OF CONFIRMING SOIL AND FILL PROPERTIES AND VERIFYING FOUNDATION DESIGN PARAMETERS.
- F3 THE SITE HAS BEEN CLASSIFIED AS CLASS: P15 IN ACCORDANCE WITH AS2870. FOOTING EXCAVATIONS SHALL BE CARRIED DOWN TO AT LEAST 200mm INTO UNDISTURBED, UNIFORM FOUNDATION MATERIAL. FOOTINGS HAVE BEEN DESIGNED FOR SAFE ALLOWABLE BEARING PRESSURES AS FOLLOWS:
- STRIP FOOTINGS: 100 kPa
PAD FOOTINGS: 100 kPa
RAFT SLABS: 100 kPa
- THE GTA IS TO VERIFY BEARING PRESSURES AFTER FOOTING EXCAVATION. NO FOOTING IS TO BE CONSTRUCTED UNTIL AN ACCEPTABLE BEARING PRESSURE HAS BEEN VERIFIED. THE CONTRACTOR SHALL REMOVE ALL UNUSED SPILL FROM SITE.
- F4 THE GEOTECHNICAL REPORT HAS SHOWN THE SOIL EXPOSURE CLASSIFICATION TO BE NON-AGGRESSIVE/ MILD/MODERATE/ SEVERE/ VERY SEVERE FOR STRUCTURAL ELEMENTS EMBEDDED WITHIN THE SOIL MASS. THIS DETERMINATION CONSIDERS WHETHER THE ELEMENTS WITHIN THE SOIL WILL BE ABOVE OR BELOW THE GROUNDWATER TABLE. A RATING GREATER THAN MILD SHALL BE REGARDED AS REPRESENTING AN AGGRESSIVE SOIL.
- F5 WHERE SHOWN, FOOTING LEVELS SHALL NOT CHANGE WITHOUT THE APPROVAL OF THE PROJECT MANAGER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FORMWORK AND/OR SHORING TO ENSURE THE SIDES OF THE FOOTING EXCAVATIONS REMAIN STABLE, AND THAT SURROUNDING PROPERTY AND SERVICES ARE UNAFFECTED. THIS SHALL INCLUDE OBTAINING ALL NECESSARY APPROVALS FOR SHORING AND SUPPORT SYSTEMS.
- F6 IF THE DESIGN BEARING PRESSURES HAVE NOT BEEN ACHIEVED AT THE EXPECTED FOUNDING LEVEL, THEN THE FOLLOWING OPTIONS MAY BE AVAILABLE:
- 1) FOOTING EXCAVATION SHALL CONTINUE UNTIL SPECIFIED BEARING PRESSURES ARE ACHIEVED.
 - 2) THE FOOTING IS ENLARGED TO MEET THE ACHIEVABLE BEARING PRESSURES.
- WHERE OVER-EXCAVATION IS UNDERTAKEN, BACKFILL THE ADDITIONAL EXCAVATION WITH WEAK-MIX CONCRETE (MIN 15 MPa) TO THE INTENDED FOUNDING LEVEL. IF THE FOOTING IS TO BE ENLARGED, THE PROJECT MANAGER SHALL BE REQUESTED TO ACTION THE REDESIGN. SUCH ACTION MAY RESULT IN CONSULTANT VARIATION COSTS.
- F7 THE BASES OF ALL FOOTING EXCAVATIONS SHALL BE CLEAN AND FREE FROM ALL SOFT OR LOOSE MATERIAL AND FREE WATER IMMEDIATELY PRIOR TO POURING A BLINDING LAYER OR FOOTING CONCRETE. THE CONTRACTOR IS RESPONSIBLE FOR ALL DEWATERING, AND CONCRETE SHALL NOT BE USED TO DISPLACE WATER.
- F8 IF SPECIFIED, A 50mm BLINDING LAYER OF MIN 15MPa CONCRETE SHALL BE USED BENEATH ALL FOUNDATIONS UNLESS APPROVED OTHERWISE BY THE PROJECT MANAGER. THE BLINDING LAYER SHALL BE INSTALLED SOON AFTER THE FOUNDING MATERIAL HAS BEEN VERIFIED BY THE GTA.
- F9 EXCAVATIONS SHALL EXTEND SUCH THAT FOOTINGS ARE FOUNDED BELOW THE LINE OF INFLUENCE FROM ADJACENT BATTERS, EXISTING FOOTINGS AND STRUCTURES, OR SERVICES. THE LINE OF INFLUENCE SHALL BE A LINE DRAWN UPWARDS FROM THE EXTREMITIES OF THE BASE OF THE ADJACENT ELEMENTS AT AN ANGLE FROM THE HORIZONTAL DETERMINED FROM THE NATURE OF THE GROUND CONDITIONS, AS FOLLOWS:



SLAB ON GRADE NOTES

- SG1 REMOVE ALL VEGETATION, TURF, TOPSOIL AND ALL ORGANIC MATTER TO A MINIMUM DEPTH OF 150mm. STOCKPILE SELECT QUANTITIES OF TOPSOIL FOR FUTURE RE-USE AS REQUIRED.
- SG2 EXCAVATE TO THE REQUIRED FORMATION LEVEL AS REQUIRED, OR TO NATURAL SOILS.
- SG3 PROOF ROLL WITH 6 PASSES OF A 10 TONNE SMOOTH ROLLER. SOFT SPOTS OR DELETERIOUS MATERIAL SHALL BE REMOVED AND REPLACED WITH AN APPROVED GRANULAR FILLING COMPACTED TO 100% OF STANDARD FOR COHESIVE SOILS, OR TO A DENSITY INDEX OF 80% FOR NON-COHESIVE SOILS. CLAY SUBGRADE FORMATION IS TO BE MAINTAINED AT OPTIMUM MOISTURE CONTENT -0,+3.5% PRIOR TO COVERING.
- SG4 IMPORT FILL TO ACHIEVED THE REQUIRED FORMATION LEVEL AS REQUIRED, UNLESS SPECIFIED OTHERWISE. THE ENGINEERING FILL SHALL BE A SELECT MATERIAL FREE OF ORGANICS WITH A MAXIMUM PARTICLE SIZE OF 75mm, CBR15 MIN, I_{ss} 1.0% MAX. PLACE THE FILL IN LAYERS NOT EXCEEDING 200mm UNCOMPACTED THICKNESS AND COMPACT TO 100% OF STANDARD FOR COHESIVE FILL, OR TO A DENSITY INDEX OF 80% FOR NON-COHESIVE FILL. THE MAXIMUM DEPTH OF FILL SHALL BE 800mm UNLESS SPECIFIED OR DOCUMENTED OTHERWISE.
- SG5 THE MOISTURE CONTENT OF THE FILL MATERIAL SHALL BE ADJUSTED DURING COMPACTION AS NECESSARY TO ENSURE THAT THE REQUIRED COMPACTION LEVEL IS ACHIEVED.
- SG6 ALL FILLING OPERATIONS SHALL BE CARRIED OUT UNDER LEVEL 1 SUPERVISION IN ACCORDANCE WITH AS 3798, AND CERTIFIED BY A QUALIFIED GTA.
- SG7 FINISH THE FORMATION PLATFORM TO UNDERSIDE OF SLAB WITH 50mm OF CRUSHER DUST OR, IF SPECIFIED, A 50mm BLINDING LAYER OF MIN 15MPa CONCRETE.
- SG8 PLACE A HIGH IMPACT-RESISTANT POLYETHYLENE MEMBRANE WITH A MINIMUM THICKNESS OF 0.2mm BENEATH THE SLAB ON GRADE. LAP A MINIMUM OF 200mm AT JOINTS, WITH LAPS FACING AWAY FROM THE DIRECTION OF CONCRETE POUR. TAPE FILM AROUND SERVICE FITTINGS PENETRATING THE SLAB. SEAL LAPS AND FITTINGS WITH ADHESIVE TAPE NOT INFERIOR TO DOUBLE SIDED BUTYL ADHESIVE TAPE. PROTECT THE MEMBRANE FROM DAMAGE.
- SG9 GENERAL TOP OF SLAB LEVEL SHALL BE A MINIMUM OF 150mm ABOVE FINAL EXTERNAL GROUND LEVEL. GRADING AND DRAINAGE AWAY FROM THE SLAB SHALL BE PROVIDED TO PREVENT WATER COLLECTING ADJACENT TO THE SLAB.
- SG10 THE SLAB ON GRADE HAS BEEN DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL INVESTIGATION REPORT ADVISED IN FOUNDATION NOTE F1.
- SG11 LOAD BEARING EXTERNAL AND INTERNAL BEAMS, LOAD SUPPORT THICKNESS, AND SLAB PANELS ARE TO BE FOUNDED ON NATURAL SOIL, OR ENGINEERED FILL, WITH AN ALLOWABLE BEARING PRESSURE OF NOT LESS THAN 100kPa.
- SG12 REFER TO CSIRO INFORMATION SHEET BTF 18 "FOUNDATION MAINTENANCE AND FOOTING PERFORMANCE" FOR RECOMMENDATIONS ON MEANS TO LIMIT SLAB IMPACTS FROM SURROUNDING VEGETATION AND WATER RELATED FEATURES.

CONCRETE NOTES

- C1 ALL MATERIALS AND WORKMANSHIP ARE TO COMPLY WITH AS 3600 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- C2 CONCRETE FOR ALL PROJECT ELEMENTS IS TO BE PRODUCED AND SUPPLIED AS READY-MIXED CONCRETE IN ACCORDANCE WITH AS 1379. DELIVERY OF CONCRETE IN NON-AGITATING TRUCKS WILL NOT BE PERMITTED, UNLESS DOCUMENTED OTHERWISE. MINIMUM CONCRETE MIX DESIGN PARAMETERS ARE TO BE AS FOLLOWS, CONFORMING TO A MAXIMUM B1 ATMOSPHERIC EXPOSURE CLASSIFICATION, AND A NON-AGGRESSIVE A2 SOIL CLASSIFICATION.
- | ELEMENT | MIN. GRADE | MAXIMUM AGG. SIZE | PERMISSIBLE SLUMP (mm) | MAXIMUM W/C RATIO | 56 DAY SHRINKAGE TEST RESULT % |
|--------------------|------------|-------------------|------------------------|-------------------|--------------------------------|
| FOUNDATIONS | N32 | 20mm | 85 ± 20 | 0.50 | - |
| SLABS ON GRADE | N32 | 20mm | 85 ± 20 | 0.45 | - |
| SUSPENDED SLABS | N40 | 20mm | 85 ± 20 | 0.45 | - |
| COLUMNS & WALLS | N40 | 20mm | 85 ± 20 | 0.45 | - |
| BLOCKWORK COREFILL | N20 | 10mm | 230 ± 40 | 0.60 | - |
| PILES | N40 | 20mm | 85 ± 20 | 0.50 | - |
- C3 ALL CONCRETE ADMIXTURES WILL REQUIRE THE WRITTEN APPROVAL OF THE PROJECT MANAGER, EXCEPT IN STANDARD CONTROLLED GRADE CONCRETE. ADMIXTURES CONTAINING CALCIUM CHLORIDE WILL NOT BE PERMITTED UNDER ANY CIRCUMSTANCES.
- C4 ALL CONCRETE IN CONTACT WITH AGGRESSIVE SOIL IS TO UTILIZE SULPHATE RESISTING CEMENT WITH A C4 CONTENT LESS THAN 5%.
- C5 CONCRETE ELEMENT SIZES ARE MINIMUM VALUES AND DO NOT INCLUDE APPLIED FINISHES. DEPTHS OF BEAMS ARE GIVEN FIRST AND INCLUDE SLAB THICKNESS. SLABS AND BEAMS SHALL BE CAST TOGETHER UNLESS DOCUMENTED OTHERWISE.
- C6 NO HOLES, CHASES OR EMBEDMENTS OTHER THAN THOSE SHOWN ON THE DRAWINGS ARE TO BE MADE IN CONCRETE ELEMENTS WITHOUT APPROVAL FROM THE PROJECT MANAGER. ALL STEEL EMBEDMENTS ARE TO BE HOT-DIP GALVANIZED UNLESS NOTED OTHERWISE.
- C7 REFER TO CONTRACT DOCUMENTS FOR DETAILS OF CHAMBERS, DRIP GROOVES, REGLETS AND OTHER MINOR CONCRETE SURFACE TREATMENTS. PROVIDE 20mm x 20mm CHAMFERS ON ALL EXTERNAL CORNERS.
- C8 EMBEDDED SERVICE CONDUITS & PIPES SHALL HAVE OUTSIDE DIAMETERS NOT GREATER THAN 1/3 OF THE DEPTH OF THE EMBEDDING CONCRETE ELEMENT. LOCATE CONDUITS & PIPES BETWEEN OPPOSING FACE REINFORCEMENT LAYERS, WITH A MINIMUM COVER OF 50mm AND SPACED AT CENTRES NOT LESS THAN 3 TIMES THE LARGER CONDUIT/ PIPE DIAMETER, AND AT LEAST 50mm CLEAR FROM PARALLEL ALIGNED REINFORCEMENT.
- C9 UNLESS DOCUMENTED OTHERWISE, ALL CONCRETE CAST AGAINST GROUND IS TO BE LAID ON AN APPROVED 0.2mm POLYETHYLENE BARRIER EXCEPT FOR PILE CAPS, GROUND BEAMS AND FOOTINGS.
- C10 ALL CONCRETE IS TO BE SAMPLED, TESTED AND ASSESSED FOR COMPLIANCE WITH THE SPECIFIED PERFORMANCE PARAMETERS IN ACCORDANCE WITH AS 3600 AND THE SPECIFICATION FOR CONCRETE. PROJECT ASSESSMENT IS TO BE UNDERTAKEN.
- C11 THE MAXIMUM FREEFALL OF PLACED CONCRETE IS TO BE 900mm PER 100mm OF THE MINIMUM ELEMENT WIDTH, OR 3 METRES, WHICHEVER IS THE LESSER. THE MAXIMUM LIFT OF ANY SINGLE POUR IS TO BE 3 METRES UNLESS SPECIFICALLY APPROVED OTHERWISE BY THE PROJECT MANAGER.
- C12 ALL CONCRETE IS TO BE COMPACTED USING HIGH FREQUENCY VIBRATORS.
- C13 LOCATE CONSTRUCTION JOINTS WHERE DOCUMENTED, OR AS SPECIFICALLY APPROVED BY THE PROJECT MANAGER. ALL CONSTRUCTION JOINTS ARE TO BE PROPERLY FORMED AND INSTALLED WITH THE SPECIFIED SEALANTS, FILLERS, EXPANSION MATERIALS AND REBATES AS DOCUMENTED. JOINT SURFACES RECEIVING LATER CONCRETE POURS OR GROUT APPLICATION ARE TO BE ROUGHENED PRIOR TO CONCRETE SETTING, OR MECHANICALLY SCABBLED TO ACHIEVE A NOMINAL 6mm AMPLITUDE ROUGHNESS.
- C14 UNFORMED EXPOSED SURFACE FINISHES ARE TO BE CLASS B, WITH A MAXIMUM DEVIATION OF 10mm UNDER A 3m STRAIGHT EDGE FOR AT LEAST 90% OF TEST RESULTS.
- C15 UNLESS OTHERWISE SPECIFIED, ALL CONCRETE SHALL BE CURED. CURING SHALL COMMENCE IMMEDIATELY AFTER INITIAL SET AND SHALL CONTINUE UNTIL THE CONCRETE HAS ATTAINED 75% OF THE 28 DAY COMPRESSIVE STRENGTH TARGET, AND FOR A MINIMUM PERIOD OF 7 DAYS. CURING OF CONCRETE SHALL BE IN ACCORDANCE WITH AS 3600. THE METHOD OF CURING SHALL ENSURE THAT THE SURFACE LAYER OF ALL CONCRETE SURFACES REMAINS PROTECTED FROM MOISTURE LOSS AT ALL TIMES. THE FOLLOWING METHODS MAY BE USED:
- THE NON-REMOVAL OF FORMWORK. THE REMOVAL/ STRIPPING OF FORMWORK BEFORE THE CURING PERIOD HAS ELAPSED SHALL BE ACCOMPANIED BY THE IMMEDIATE APPLICATION OF THE SELECTED CURING MEANS.
 - PONDING OR CONTINUOUS SPRINKLING WITH WATER (MOIST CURING).
 - AN IMPERMEABLE MEMBRANE WITH WATER FLOWING BENEATH IT.
 - THE USE OF CURING COMPOUNDS CONFORMING TO AS 3799, LIQUID MEMBRANE-FORMING CURING COMPOUNDS FOR CONCRETE.
 - AN ABSORPTIVE COVER KEPT CONTINUOUSLY WET.
- C16 CONCRETE COVER REINFORCEMENT: UNLESS SPECIFIED OR APPROVED OTHERWISE:

CONCRETE ELEMENT	COVER (mm)	MAX. EXPOSURE CLASSIFICATION
CAST-IN-SITU PILES	65	MODERATE
FOOTINGS/ SLABS-ON-GRADE IN CONTACT WITH GROUND ‡	50	A2
FOOTINGS/ SLABS-ON-GRADE ON 0.2mm POLYETHYLENE MEMBRANE *	40	A2
SUSPENDED SLABS/ BEAMS & WALLS IN CONTACT WITH GROUND ‡	40	A2
SUSPENDED SLABS/ BEAMS ON 0.2mm POLYETHYLENE MEMBRANE *	30	A2
EXTERNAL (EXPOSED) CONCRETE TOP & BOTTOM SURFACES	40	B1
INTERNAL (PROTECTED) CONCRETE TOP & BOTTOM SURFACES	25	A2
ALL BEAM/ SLAB EDGES	40	B1
EXTERNAL (EXPOSED) COLUMNS	40	B1
INTERNAL (PROTECTED) COLUMNS	40	B1
EXTERNAL (EXPOSED) WALLS	30	B1
INTERNAL (PROTECTED) WALLS	30	B1

‡ - FORMED OR UNFORMED SURFACES * - UNFORMED SURFACES

• SURFACES ARE FORMED OR OFF-FORM UNO

• MAINTAIN SPECIFIED COVER TO REINFORCEMENT AT CHAMFERS, DRIP GROOVES, REGLETS AND OTHER MINOR CONCRETE SURFACE TREATMENTS

REV	DESCRIPTION	DATE	DWN	CP	PG	APP
0	ISSUED FOR CONSTRUCTION	30.05.23				
	REVISIONS					

AS CONSTRUCTED	REV
NAME:	
DATE:	
SIGNATURE:	
RPEQ No.	
FOR CONSTRUCTION	REV
NAME:	P.GILL
DATE:	30.05.23
SIGNATURE:	<i>[Signature]</i>
RPEQ No.	3227