GENERAL CONCRETE AND STEEL NOTES

a. SETTING OUT AND GENERAL:

1. CONSTRUCTION DRAWINGS SHOULD BE READ IN CONJUNCTION WITH ARCHITECTS' DRAWINGS. DISCREPANCIES ARE TO BE REPORTED IMMEDIATELY TO THE ARCHITECT OR ENGINEER.
2. ALL DIMENSIONS AND HEIGHTS ARE TO BE CHECKED ON SITE BEFORE WORK IS PUT IN HAND.
3. THIS DRAWING MUST NOT BE USED TO SCALE OFF. USE ONLY WRITTEN DIMENSIONS. CONTACT THE ENGINEER WHERE CLARITY IS SOUGHT.
4. FOR SETTING OUT DATA, SETTING OUT POINTS AND DATUM LEVELS REFER TO SURVEY INFORMATION.
5. STRUCTURA/CIVIL WORK IS TO CARRIED OUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE RELEVANT S.A.B.S SPECIFICATIONS OF SANS 2001.
6. CONSULT RELEVANT ARCHITECT'S, MECHANICAL, ELECTRICAL & PLUMBING DRAWINGS AND DETAILS AS RELEVANT FOR DRAINAGE, STORMWATER OUTLETS, RAIN WATER DOWN PIPES AND HOLES AND SLEEVES FOR THESE SERVICES. NO HOLES ARE TO BE CORED WITHOUT ENGINEERS WRITTEN APPROVAL.

b. FOUNDATIONS & SITE WORKS

1. ALL FOUNDATION EXCAVATIONS TO BE INSPECTED AND APPROVED IN WRITING BY THE ENGINEER BEFORE CONCRETE IS CAST.
2. FOUNDATIONS TO BE CAST TO A DEPTH OF 150mm.
3. EXCAVATIONS SHALL BE KEPT FREE OF WATER.
4. TOP SOIL CONTAINING GRASS ROOTS SHALL BE STRIPPED AND REMOVED FROM AREA ON WHICH FOUNDATION/ SLAB IS TO BE CAST. LOOSE OR DISTURBED GROUND SHALL BE COMPACTED TO ENGINEER'S APPROVAL.
5. ANY OVER EXCAVATIONS ARE TO BE MADE GOOD WITH 10MPa CONCRETE AT THE CONTRACTOR'S EXPENSE.
6. BACKFILLING OVER COLUMN BASES OR STRIP FOOTINGS SHALL BE DONE WITH AN APPROVED BACKFILL MATERIAL COMPACTED IN LAYERS IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
7. ALL EARTHWORKS ARE TO BE DONE IN ACCORDANCE WITH S.A.B.S 1200 SPECIFICATIONS.
8. ALL FOUNDATIONS TO BE BUILT ON FIRM IN-SITU SOIL OR ENGINEERED FILL AS SPECIFIED ON THE CONSTRUCTION DRAWINGS.
9. ALLOWABLE BEARING PRESSURE TO BE 150kPa.
10. A 50mm THICK LAYER OF 10MPa BLINDING IS TO BE CAST UNDER ALL REINFORCED CONCRETE FOUNDATION ELEMENTS (ie REINFORCED BASES, STRIP FOOTINGS, GROUND BEAMS)
11. SITE DRAINAGE AND PLUMBING PRECAUTIONS SHOULD BE ADOPTED TO AVOID PONDING OR DAMP CONDITIONS AROUND THE FOUNDATION. THE SITE SHALL BE SLOPED SO THAT NO WATER PONDS AGAINST THE BUILDING AND THE GROUND IMMEDIATELY AROUND THE BUILDING SHALL FALL AWAY AT 1:50 FOR AT LEAST 1.5m AWAY FROM THE BUILDING EDGE.
12. PLANTING OF LARGE SHRUBS AND TREES IN CLOSE PROXIMITY TO THE FOUNDATION STRUCTURE IS PROHIBITED.

c. CONCRETE

1. ALL CONCRETE WORK TO BE CARRIED OUT IN ACCORDANCE WITH SABS 1200 G (LATEST ADDITION).
2. CONCRETE CHARACTERISTIC 28 DAY STRENGTH:

BLINDING :	10MPa
FOUNDATION:	25MPa
SURFACE BEDS:	30MPa
APRON SLAB:	25MPa
SUSPENDED SLAB/ BEAMS:	30MPa
STIFFENED RAFT FOUNDATION:	30MPa
COLUMNS:	30MPa
CHAMBER / BUND FLOOR OR WALLS:	35MPa

3. CONCRETE MIX DESIGNS FOR ALL GRADES OF CONCRETE TO BE GIVEN TO ENGINEER FOR PERUSAL AND COMMENT. CONCRETE MIX DESIGNS FOR SURFACE BEDS TO HAVE MINIMUM BLEED CHARACTERISTICS.
4. NOMINAL CONCRETE AGGREGATE SIZE = 19mm.
5. ALL CONCRETE TO BE ADEQUATELY CURED BY KEEPING SURFACES CONTINUOUSLY DAMP FOR AT LEAST 5 DAYS AFTER CASTING OR OR BY APPLYING A CURING COMPOUND WHICH MUST FIRST BE APPROVED BY THE ENGINEER.
6. ALL CONCRETE TO BE CONSTRUCTED TO THE S.A.B.S 1200G PERMISSIBLE DEVIATION DEGREE OF ACCURACY CLASS II UNLESS SPECIFIED OTHERWISE.
7. CONCRETE CUBE TEST RESULTS TO BE SUBMITTED TIMEOUSLY TO THE ENGINEER FOR PERUSAL, RECORDS AND COMMENT AND APPROVAL.
8. CONCRETE FINISHES, UNLESS OTHERWISE NOTED:

COLUMNS AND WALLS:	OFF SHUTTER
SURFACE BED : TOP :	POWER FLOAT
SOFFIT OF BEAMS AND SLABS:	OFF SHUTTER
SUSPENDED SLAB: TOP:	WOOD FLOAT

9. COMPACTION DENSITY TESTS RESULTS FOR LAYERWORKS BENEATH SURFACE BED TO BE SUBMITTED TO ENGINEER FOR APPROVAL BEFORE LAYING DPC.

d. REINFORCEMENT

1. ALL REINFORCEMENT TO CONFORM TO THE REQUIREMENTS OF SANS 920 AND SANS 1024.
2. ALL REINFORCEMENT CUTTING AND BENDING TO BE DONE IN ACCORDANCE WITH SANS 282
3. CHARACTERISTIC STRENGTH:

MILD STEEL:	250N/mm2
HIGH YIELD STEEL:	450N/mm2

4. ALL REINFORCEMENT TO BE CHECKED AND APPROVED BY ENGINEER BEFORE ANY CONCRETE IS CAST. 48 HOURS WRITTEN NOTICE TO BE GIVEN TO ENGINEER BEFORE TIME OF INSPECTION.
5. LAP LENGTH TO REINFORCING TO BE MINIMUM 50 x SMALLER BAR DIAMETER, UNLESS OTHERWISE NOTED.
6. MINIMUM LAP LENGTH TO MESH REINFORCEMENT TO BE 600mm UNLESS OTHERWISE NOTED.
7. THE CONTRACTOR MUST TAKE PARTICULAR CARE TO ENSURE THAT THE SPECIFIED COVER TO ALL REINFORCEMENT HAS BEEN ATTAINED THROUGHOUT BEFORE THE ENGINEER IS CALLED TO SITE.
8. COVER TO REINFORCEMENT UNLESS NOTED OTHERWISE:

FOUNDATION :	50mm
SLABS:	30mm
COLUMNS:	40mm

9. CONTRACTOR IS TO CONDUCT HIS OWN INSPECTION OF REINFORCEMENT BEFORE CALLING THE ENGINEER FOR INSPECTION.

e. BRICKWORK CONSTRUCTION

1. MINIMUM STRENGTH FOR ALL LOAD-BEARING BRICKWORK (SANS 1215) TO BE 14MPa. MINIMUM MORTAR STRENGTH TO BE CLASS 1 (SANS 0164).
2. ALL BRICKWORK SHALL BE BUILT IN ACCORDANCE WITH THE ARCHITECTS DRAWINGS, PROJECT SPECIFICATIONS AND SANS 2001-CM1.
3. BRICKFORCE TO BE PROVIDED AT EVERY THIRD (3rd) COURSE IN ALL SUPERSTRUCTURE WALLS WITH ADDITIONAL LAYERS PROVIDED AS FOLLOWS:
   - AT EVERY BRICK COURSE BELOW DPC LEVEL.
   - AT EVERY BRICK COURSE ABOVE OPENINGS (DOORS, WINDOWS etc). THE BRICKFORCE TO EXTEND 600mm BEYOND OPENINGS.
5. ALL REINFORCEMENT INCLUDING BRICKFORCE TO BE DISCONTINUOUS AT ARTICULATION / MOVEMENT JOINTS IN BRICKWORK.
6. BRICK COMPRESSIVE TEST RESULTS TO BE SUBMITTED TIMOUSLY TO THE ENGINEER FOR APPROVAL BEFORE WORK IS PUT IN HAND.
4. BRICK PANEL WALLS TO BE ANCHORED TO RC COLUMNS WITH GALVANISED HOOP IRON ANCHORS (50 mm2 CROSS SECTION), FIXED TWICE TO THE COLUMN EVERY 3rd COURSE AND BUILT AT LEAST 400 mm INTO BRICKWORK. PROVIDE 10 mm JOINTEX BETWEEN BRICKWORK AND COLUMN.
5. PROVIDE A 10 mm SOFT JOINT (JOINTEX) BETWEEN THE TOP OF ALL NON-LOADBEARING BRICK PANEL WALLS AND THE SOFFIT OF CONCRETE STRUCTURE OVER.
6. PROVIDE A SKIMMED MORTAR FINISH AND TWO LAYERS OF 250 MICRON DPC AS A SLIP JOINT TO THE TOPS OF ALL LOADBEARING BRICK WALLS PRIOR TO CASTING OF SLAB.
7. WALLS BUILT ON SUSPENDED RC SLABS/BEAMS: ALL TEMPORARY PROPS TO HAVE BEEN REMOVED PRIOR TO COMMENCEMENT OF BRICKWORK. PROVIDE DPC LAYER AS BOND BREAKER BETWEEN SLAB AND FIRST COURSE OF BRICKWORK. PROVIDE GALVANISED BRICKFORCE TO THE BOTTOM THREE COURSES AND EVERY THIRD COURSE THEREAFTER. PRE LOAD THE FLOOR SLAB WITH BRICKS PRIOR TO BUILDING THE WALL.
8. TIMBER MEMBERS BUILT INTO BRICKWORK TO BE GIVEN TWO COATS OF DURAM 195 OR SIMILAR AND WRAPPED IN PLASTIC.

f. STEELWORK

1. CONTRACTOR TO MEASURE DIMENSIONS ON SITE BEFORE FABRICATING STEEL WORK. ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE SUBMITTING FABRICATION/SHOP DRAWINGS.
2. ALL SHOP DRAWINGS ARE TO BE PREPARED BY THE STRUCTURAL STEEL CONTRACTOR AND SUBMITTED TIMEOUSLY TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION. APPROVAL PROCESS WILL TAKE A MINIMUM OF 5 WORKING DAYS.
3. MATERIALS SPECIFIED ON SHOP DRAWINGS MUST CORRESPOND WITH MATERIALS STATED ON ENGINEER'S DRAWINGS AND APPLICABLE SPECIFICATIONS.
4. ALL STRUCTURAL STEELWORK SHALL BE IN ACCORDANCE WITH SABS 1200H AND SANS 2001 - CS1 WHERE APPLICABLE.
5. HOT ROLLED SECTIONS SHALL BE GRADE S355JR TO SANS 1431 OR EN 10025-2
6. GAS AND PLASMA CUTTING IS PERMITTED PROVIDED THAT THE FINISHED CUT EDGES ARE STRAIGHT AND DRESSED WITH AN ANGLE GRINDER TO PRODUCE A SMOOTH SURFACE.
7. NO BOLT HOLES MAY BE FLAME CUT INTO MEMBERS.
8. NO SITE DRILLING OF BOLT HOLES WILL BE ALLOWED.
9. ALL BOLT HOLES ARE TO BE PUNCHED OR DRILLED 2mm LARGER THAN THE BOLT DIAMETER.
10. ALL WELDS ARE TO BE DESIGNED TO GIVE FULL MEMBER STRENGTH.
24. WELDING TO BE IN ACCORDANCE WITH SABS 044 & & ANSI/AWS D11.
25. ALL WELDS ARE TO BE 6mm CONTINUOUS FILLET WELDS UNLESS OTHERWISE NOTED.
26. ALL WELDS TO BE CERTIFIED BY FABRICATOR. NO SITE WELDING IS PERMITTED.
27. WELDS SHALL BE CRACK TESTED USING DIE INDICATORS OR ANY OTHER CERTIFIED TEST METHOD APPROVED BY THE ENGINEER.
28. DETAILS OF WELD PROCEDURES, CONSUMABLES AND CERTIFICATES TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
29. ALL GUSSET PLATES ARE TO BE MIN. 6mm THICK UNLESS OTHERWISE STATED.
30. WELDED END PLATES TO BE USED IN END CONNECTIONS WHERE POSSIBLE :
   - 6 THK PLATE FOR ALL BEAMS AND STEEL COLUMNS UNLESS OTHERWISE STATED
18. ALL BOLTED CONNECTIONS ARE TO BE DESIGNED TO SANS 10162.
19. ALL BOLTS TO BE STAINLESS STEEL GRADE 8.8 U.N.O.
20. STIFFENERS TO BE PROVIDED AT ALL POINTS OF CONCENTRATED LOADS.
21. WHERE NO LOAD IS INDICATED THE CONNECTION IS TO BE DESIGNED FOR A LOAD OF 50kN
22. ALL CUTOUTS AND NOTCHES TO HAVE A CORNER RADIUS IN ACCORDANCE WITH S.A. STEEL CONSTRUCTION HANDBOOK
23. STRUCTURAL FABRICATOR TO SUPPLY SUITABLE PACKS UNDER COLUMN BASE PLATES FOR SITE LEVELING OF COLUMNS PRIOR TO GROUTING
24. THE STEELWORK DETAILER IS TO ENSURE THAT ALL AREAS THAT MAY TRAP WATER HAVE ADEQUATE DRAINAGE.
25. ALL HOLDING DOWN BOLTS TO BE MINIMUM M10 STAINLESS STEEL GRADE 304L TO ASTM A240.
26. ALL BOLTS TO RECEIVE WASHERS WITH MATERIAL OF WASHER TO MATCH MATERIAL OF BOLT.
27. DURING CONSTRUCTION EXPOSED PORTIONS OF THE HOLDING DOWN BOLTS ARE TO BE PROTECTED WITH TECTILE GREASE AND WRAPPED IN DENSO BANDAGE (OR EQUIVALENT) TO A DEPTH OF 30mm BELOW THE CONCRETE SURFACE.
28. COLD FORMED STEEL SECTIONS TO HAVE A MINIMUM YIELD STRENGTH OF 200 MPa AND A MINIMUM THICKNESS OF 2mm.
29. PROVIDE 60MPa NON-SHRINK GROUT BELOW ALL BASE PLATES.
30. ALL FIXINGS TO ROOF STEELWORK TO BE APPROVED BY THE ENGINEER.
31. ALL TRUSS MEMBERS TO BE WELDED ALL ROUND.
32. CONNECTIONS TO PURLIN FOR MECHANICAL AND ELECTRICAL SUPPORTS WILL ONLY BE MADE BY BOLTING TO THE WEB OF THE PURLIN MAXIMUM LOAD 25kg.
33. ALL MECHANICAL AND ELECTRICAL SUPPORTS ON TRUSSES TO BE AT NODE POINTS.
34. SURFACE PREPARATION OF STRUCTURAL STEELWORK (SANS 1200HC)
   - CLEANING BY HAND OR POWER TOOLS (CORROSION PROTECTION OF STRUCTURAL STEELWORK - S.A.B.S 1200 HC -1988 PROVISION OF SUB CLAUSE 5.4.3.2).
   - NOTWITHSTANDING THE PROVISION OF SUB CLAUSE 5.4.3.2, ALL STEEL SHALL BE PREPARED BY THOROUGH SCRAPING AND WIRE BRUSHING, MACHINE BRUSHING, GRINDING, E.T.C, TO GRADE 5.3 OF SWEDISH SIS 055900 - 1967. THE TREATMENT MUST REMOVE LOOSE MILL SCALE, RUST AND FOREIGN MATTER.
   - FINALLY, THE SURFACE MUST BE CLEANED WITH A VACUUM CLEANER, CLEAN DRY COMPRESSED AIR OR CLEAN BRUSH. AFTER REMOVAL OF DUST, THE SURFACE MUST HAVE A PRONOUNCED METALLIC APPEARANCE.
35. SURFACE PROTECTION AS PER SPECIFICATION.
20. ALL PURLINS TO BE CONTINUOUS OVER 2 BAYS AND STAGGERED AT LEAST DOUBLE SPAN - UNLESS OTHERWISE STATED.
21. ALL RUNNERS AND BRACING TO BE FULLY FIXED IN POSITION BEFORE SHEETING COMMENCES.
22. ALL STRUCTURAL STEEL BELOW GROUND LEVEL, CAST INTO CONCRETE OR BUILT INTO BRICKWORK, SHALL BE PAINTED WITH TWO PRO-STRUCT 632, APPLIED AS PER MANUFACTURES SPECIFICATION BEFORE BACKFILLING.
23. ALL SHEETING. FLASHING, AND MATTERS PERTAINING TO ROOF SHEETING TO ARCHITECTS DETAIL.
24. FABRICATOR TO SUPPLY TEMPORARY BRACING AS REQUIRED FOR SAFE TRANSPORTATION & ERECTION

FOR TENDER

REV.	DATE	DESCRIPTION	BY
TD	30/03/2021	ISSUED FOR TENDER	NEM

REVISIONS

CONSULTANT:
ADi (PTY)LTD
BLOCK A 26 VICTORIA LINK
ROUTE 21 CORPORATE PARK, IRENE,
CENTURION,
0062, PRETORIA
T: 086 167 6646 E: adi@adiengineering.co.za W: www.adiengineering.co.za

CLIENT :
TOURISM KWAZULU NATAL

South Africa KWAZULU-NATAL
Zulu Kingdom. Exceptional

PROJECT:
NELSON MANDELA CAPTURE SITE

PROJECT STATUS:

APPROVED
THE MASTER HELD AT ADI ENGINEERING BEARS THE ORIGINAL SIGNITURE OF APPROVAL
SACAP NO:

SIGNATURE: NAME: DATE:

DRAWING TITLE:
GENERAL CONCRETE AND STEEL NOTES

DRAWING UNITS: MILLIMETER

DATE	SCALE	DESIGNED BY
24/04/2019	AS SHOWN	T.MATAMBO

CHECKED BY	DRAWN BY	APPROVED BY
T.NEZANDONYI	N.MAHULA	T.MATAMBO

DRAWING NO	REV
P.1808-200-S-000	TD

File Path