D. STRUCTURAL STEEL WORK

D1 COMPLY WITH ADIBC, AISC AND REFERENCED CODES THEREIN.

D2 ALL STRUCTURAL STEEL WORK SHALL BE CORROSION PROTECTED AND FIRE PROTECTED IN ACCORDANCE WITH THE SPECIFICATION.

D3 ALL SECTIONS USED SHALL BE OF ROLLED STEEL SECTIONS FROM A SOURCE APPROVED BY THE CONSULTANT. BUILT UP SECTIONS OR FABRICATED SECTIONS SHALL NOT BE USED UNLESS ADVISED BY THE CONSULTANT.
ALL STRUCTURAL STEEL WORK SHALL BE IN ACCORDANCE WITH AISC.
GRADE S275 (PREVIOUSLY GRADE 43)
SHALL BE PROVIDED EXCEPT WHERE NOTED OTHERWISE.
THE PARTICULAR QUALITY GRADE FOR EACH ELEMENT SHALL BE AS FOLLOWS:
S275JR FOR MATERIAL OF THICKNESS < 20mm.
S265JO FOR MATERIAL OF THICKNESS ≥20mm, <40mm.
S245J2G3 FOR MATERIAL OF THICKNESS ≥40mm, <90mm.
S275JOH FOR HOLLOW SECTIONS <40mm.

D4 STEEL BOLTS AND NUTS SHALL COMPLY WITH THE REQUIREMENTS OF AISC.

D5 ALL STEEL WORK MOMENT CONNECTIONS INCLUDING SPLICES SHOULD BE DESIGNED AND DETAILED BY CONTRACTOR USING HSFG BOLTS IN ACCORDANCE WITH AISC. HIGH STRENGTH FRICTION GRIP BOLTS, NUTS AND WASHERS SHALL COMPLY WITH THE REQUIREMENTS OF AISC.

D6 WHERE MOMENT CONNECTIONS ARE CALLED FOR BUT FORCES ARE NOT INDICATED, DESIGN CONNECTIONS FOR FULL MOMENT CAPACITY OF THE SMALLER MEMBER JOINED.

D7 UNLESS OTHERWISE SHOWN ALL GUSSET PLATES SHALL BE 10mm THICK AND ALL END PLATES SHALL BE 8mm THICK. ALL FILLET WELDS SHALL BE A MINIMUM 6mm LEG LENGTH AND ALL BUTT WELDS SHALL BE FULL PENETRATION. TESTING OF WELDS SHALL BE IN ACCORDANCE WITH THE SPECIFICATION. WELD SYMBOLS ARE TO AWS D1.1. ALL WELDS SHALL BE FULL PROFILE, U.N.O.

D8 FOR COMPOSITE DECKING FLANGES IN CONTACT WITH DECKING SHALL NOT BE PAINTED BEFORE FIXING OF SHEAR STUDS.

D9 PROVIDE MINIMUM LENGTH BEARING OF 200mm FOR ALL STEEL BEAMS BEARING ON MASONRY AND CONCRETE AND A MINIMUM OF 100mm ON STRUCTURAL STEEL, UNLESS OTHERWISE NOTED OR SHOWN.

D10 CENTRE BEARING PLATES UNDER BEAMS UNLESS OTHERWISE NOTED OR SHOWN.

D11 BEARING PLATE DIMENSION GIVEN FIRST INDICATES SIDE PARALLEL TO BEAM WEB.

D12 NO STRUCTURAL STEEL SHALL BE CUT IN THE FIELD UNLESS REVIEWED AND APPROVED BY THE CONSULTANT.

D13 WHERE COLUMNS ARE STABILISED BY WALLS PROVIDE TIES AS DETAILED ON THE DRAWINGS. PROVIDE TEMPORARY BRACING UNTIL WALLS ARE BUILT TIGHTLY TO COLUMNS.

D14 ALL WELDS EXPOSED TO VIEW SHALL BE GROUND SMOOTH.

D15 SPLICES SHALL BE DESIGNED TO DEVELOP THE FULL TENSION CAPACITY OF THE MEMBER AT THE POINT OF THE SPLICE UNLESS OTHERWISE NOTED OR DETAILED. NO SPLICES SHALL BE MADE UNLESS SHOWN ON THE DRAWINGS AND REVIEWED AND APPROVED BY THE CONSULTANT.

D16 PROVIDE WELDED STIFFENER PLATES OF MINIMUM 10mm UNO ON BOTH SIDES OF THE WEB OF BEAMS AT POINTS OF CONCENTRATED LOAD INCLUDING BEAMS SUPPORTING COLUMNS OR RUNNING OVER TOPS OF COLUMNS.

D17 CONNECT ALL COLUMNS TO THE BASE PLATES FOR THE LARGER OF THE FOLLOWING FORCES IN ADDITION TO OTHER FORCES SHOWN:
A) AT BRACING FOR THE HORIZONTAL COMPONENTS FROM THE BRACING.
B) FOR 3% OF THE FACTORED VERTICAL COLUMN LOAD APPLIED HORIZONTALLY.

D18 SHAPE AND SIZE OF GUSSET PLATES SHALL CLEAR ARCHITECTURAL FINISHES, STRUCTURAL DECKING, MECHANICAL DUCTS, PIPES AND ELEVATOR SHAFTS.

D19 THE ENDS OF ALL TUBULAR MEMBERS ARE TO BE SEALED WITH 6mm THICK PLATES AND CONTINUOUS FILLET WELDS UNLESS NOTED OTHERWISE.

D20 MAINTAIN TEMPORARY BRACING UNTIL SUFFICIENT ELEMENTS OF THE LATERAL LOAD RESISTING SYSTEM ARE CONSTRUCTED INCLUDING STEEL DECK AND GRATING OR OTHER ELEMENTS.

D21 PROVIDE PRE CAMBER TO BEAMS AND GIRDERS AS SHOWN ON THE PLANS. PRE CAMBERS SHOWN ARE FOR ERECTED IN PLACE CONDITION OF MEMBERS BEFORE INSTALLATION OF STEEL DECK OR GRATING.

D22 UNLESS NOTED OTHERWISE INSTALL 75x75x8mm ANGLE SEATS TO PROVIDE SUPPORT FOR STEEL DECK OR GRATING AT CONNECTIONS, COLUMNS OR OTHER IRREGULARITIES.

D23 DETAILED STRUCTURAL STEEL SHOP DRAWINGS, CONNECTION DETAILS AND CALCULATIONS SHALL BE PREPARED BY THE CONTRACTOR IN ACCORDANCE WITH AISC AND RELEVANT SCI PUBLICATIONS AND SUBMITTED AS DEFINED IN THE CONTRACT. FABRICATION OR INSTALLATION SHALL NOT COMMENCE UNTIL REVIEWED AND ACCEPTED. REVIEW OF THESE DRAWINGS DOES NOT ALLEVIATE THE CONTRACTOR'S RESPONSIBILITIES. COORDINATE THE INPUT OF ALL TRADES ON THE SHOP DRAWINGS.

D24 PROTECTIVE COATING FOR STRUCTURAL STEEL SHALL BE AS PER SPECIFICATIONS.

E. FORMWORK

E1 FORMWORK SHALL COMPLY WITH ACI 318.

E2 BUILD FORMWORK TO SPECIFIED STANDARDS AND FROM CIVIL DRAWINGS. PROVIDE FOR BUILT-IN FIXINGS, REBATES, FLASHINGS, TIES & MECHANICAL, ELECTRICAL AND PLUMBING SERVICES ETC..

E3 CONTRACTOR SHALL SUBMIT PROPOSALS FOR FORMWORK INCLUDING FORMWORK SYSTEMS AND DETAILS INCLUDING CALCULATIONS AT THE COMMENCEMENT OF THE PROJECT.

E4 WHERE NOT EXPOSED IN THE FINAL STRUCTURE, FORMWORK SHALL BE CONSTRUCTED TO PREVENT BLEEDING DURING POURING OF CONCRETE AND TO TOLERANCES COMPATIBLE WITH APPLIED FINISHES & DETAILS.

E5 WHERE EXPOSED IN THE FINAL STRUCTURE, FORMWORK SHALL BE CONSTRUCTED TO PROVIDE THE SPECIFIED FINISH AS NOTED IN CONCRETE GENERAL NOTES.

E6 STRIPPING OF FORMWORK SHALL COMPLY WITH THE SPECIFICATION.

E7 PROVIDE BACKPROPPING FOR THE EXTENT AND CAPACITY AS RESOLVED WITH THE CONSULTANT TO SUIT CONCRETE STRENGTH, STRIPPING TIMES AND SUBSEQUENT CONSTRUCTION ACTIVITIES.

F. EARTH WORKS

F1 CARRY OUT BULK EARTHWORKS TO THE LEVELS SHOWN ON THE DRAWINGS.

F2 ALL LEVELS ARE SHOWN IN ABU DHABI PORT DATUM.

F3 REMOVE FROM SITE ALL DELETERIOUS MATERIALS ENCOUNTERED DURING BULK EARTHWORKS.

F4 REMOVE FROM SITE ALL EXCAVATED MATERIAL NOT REQUIRED IN THE COMPLETED WORKS.

F5 WHERE PERIMETERS OF BULK EXCAVATIONS ARE NOT CONTAINED BY RETENTION SYSTEMS, MAINTAIN A NOMINAL SLOPE OF 1.5 HORIZONTAL TO 1 VERTICAL TO ENSURE THE STABILITY OF THE EMBANKMENT.

F6 PRIOR TO THE CONSTRUCTION OF THE SLABS ON GRADE, ALL EARTHWORKS SHALL BE COMPACTED TO 95% MODIFIED MAXIMUM DRY DENSITY FOR A DEPTH OF 1m BELOW THE UNDERSIDE OF THE SLAB REFER SPECIFICATIONS FOR COMPACTION DETAILS.

F7 EARTH WORKS SHALL COMPLY AS PER SPECIFICATIONS AND AS PER RECOMMENDATIONS PROVIDED BY APPROVED SOIL INVESTIGATION REPORT.

F8 BACKFILL MATERIAL PROPERTIES SHALL BE AS FOLLOWS :
- ANGLE OF INTERNAL FRICTION = 30°
- AT- REST EARTH PRESSURE COEFFICIENT, ko = 0.50
- ACTIVE EARTH PRESSURE COEFFICIENT, ka = 0.33
- PASSIVE EARTH PRESSURE COEFFICIENT, kp = 3.0
- FRICTION COEFFICIENT, μ = 0.577

IF THE ABOVE PROPERTIES ARE NOT ACHIEVED ON SITE, THE CONSULTANT SHOULD VERIFY THE DESIGN BASED ON THE ACTUAL SOIL PROPERTIES.

G. BLOCKWORK NOTES

G1. ALL CONCRETE BLOCKS SHALL BE AS PER ASTM C129 FOR NON-LOAD BEARING CONCRETE MASONRY UNITS.

G2. MORTAR SHALL BE AS PER ASTM C270.

G3. ALL EMBEDDED ITEMS SHALL BE GALVANISED STEEL

G4. FOR LOCATION AND DETAILS OF MOVEMENT JOINTS, REFER TO THE CIVIL DRAWINGS AND THE SPECIFICATION.

G5. HOLES AND CHASES IN MASONRY WALLS SHALL COMPLY WITH BS5628 AND SHALL NOT BE CARRIED OUT WITHOUT THE ENGINEER'S REVIEW.

G6. ALL RETURNS SHALL BE FULLY BONDED.

G7. LINTELS ARE TO BE PROVIDED IN ACCORDANCE WITH THE SPECIFICATION & STANDARD DETAILS ON DWG.

G8. FOR EXTERNAL BLOCK WALLS, BED JOINT REINFORCEMENT SHALL BE PROVIDED EVERY TWO COURSE.

NOTES:

REFERENCE DRAWINGS AND DOCUMENTS

No.	REVISIONS	APP'D	DATE

CLIENT

TITLE
STANDARD DRAWINGS
STORM WATER WORKS

DRAWING TITLE
STRUCTURAL
STANDARD NOTES
SHEET 2

DRAWN	-	SCALE	NTS
CHECKED	-	DATE	-
APPROVED	-	SIZE	A1
PROJECT No.	-	DWG. No.	1004