

GENERAL NOTES

1. READ THE STRUCTURAL DRAWINGS IN CONJUNCTION WITH ALL OTHER PERTINENT CONTRACT DOCUMENTS.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED. THE CONTRACTOR SHALL VERIFY DIMENSIONS BEFORE CONSTRUCTION AND REPORT DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. DO NOT SCALE DRAWINGS.
3. THE DESIGN AND CONSTRUCTION AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE NATIONAL BUILDING CODE OF CANADA 1995 AND REFERENCED STANDARDS THEREIN.
4. REFER TO THE ARCHITECTURAL, PROCESS, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS AND DIMENSIONS OF OPENINGS, SLEEVES AND OTHER BUILDING COMPONENTS NOT SHOWN ON THE STRUCTURAL DRAWINGS. REPORT DISCREPANCIES TO THE OWNER BEFORE PROCEEDING WITH THE WORK.
5. CONTRACTOR TO CONFIRM WITH EQUIPMENT SUPPLIERS DIMENSIONS AND ALL OTHER CRITICAL DETAILS PRIOR TO CONSTRUCTION. REPORT DISCREPANCIES AND OBTAIN APPROVAL PRIOR TO PROCEEDING WITH CONSTRUCTION.
6. DRAWINGS SHOW COMPLETED STRUCTURES ONLY. PROVIDE TEMPORARY BRACING FOR CONSTRUCTION LOADING CONDITIONS AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN LOADS.
7. CONSTRUCTION METHODS REQUIRED TEMPORARY SHORING OR BRACING SHALL BE SUBMITTED TO THE CONSULTANT FOR REVIEW. THE CONTRACTOR SHALL RETAIN A PROFESSIONAL ENGINEER REGISTERED IN THE NORTHWEST TERRITORIES, NUNAVUT, TO PERFORM AND TAKE RESPONSIBILITY FOR ANY SHORING OR OTHER DESIGNS REQUIRED TO COMPLETE THE CONSTRUCTION.
8. VERIFY LOCATION OF UNDERGROUND SERVICES AND BE RESPONSIBLE FOR DISRUPTIONS.

DESIGN LOADS

1. DEAD LOADS: STRUCTURE SELF WEIGHT PLUS:
 - SUPERIMPOSED DEAD LOAD ROOF FLOORS 1.0 kPa
 - FLOORS 1.0 kPa
2. LIVE LOADS:
 - (1) GROUND SNOW LOAD $= S_g = 2.7 \text{ kPa}$
 $S_f = 0.2 \text{ kPa}$ MODIFY FOR AS 100-1995, MODIFY AS PER NBC 1995
 - (2) WIND LOAD $q(1.30) = 0.69 \text{ kPa}$ AS PER NBC 1995
 $q(1.100) = 0.84 \text{ kPa}$ ZV + V = 0.05
 - (3) SEISMIC $2A = 1.0$
 - (4) CLARIFIER BLDG ELECTRICAL ROOM 3.6 kPa
 DAY TANK FLOOR 4.8 kPa
 WASH DOWN TANK IN-FILL 4.8 kPa
 CLARIFIER BLDG WALKWAY 7.2 kPa
 SLAB OVER AERATION TANKS 7.2 kPa
 CLARIFIER BLDG LOWER LEVELS 8.8 kPa

EXCAVATION & BACKFILL

1. EXCAVATE TO LINES AND LEVELS NECESSARY TO PROPERLY COMPLETE THE WORK. MINIMUM SIDE SLOPES OF TEMPORARY EXCAVATIONS SHALL NOT EXCEED 1 TO 1, OR AS RECOMMENDED IN THE GEOTECHNICAL REPORT. CONTROL EXCAVATION TO EXPOSE MATERIAL OF EXCAVATION DOES NOT SORTEN DUE TO EXCESS MOISTURE.
2. ROCK EXCAVATION: SEE SPECIFICATION SECTION 02316
3. DO NOT PLACE BACKFILL AGAINST WALLS RETAINING SOIL UNTIL THE FLOOR CONSTRUCTION IS COMPLETE. PROVIDE TEMPORARY SHORING TO PERMITTER WALLS PRIOR TO SLAB PLACEMENT.
4. WHERE BACKFILL IS REQUIRED ON BOTH SIDES OF A WALL OR STRUCTURE, PLACE SIMULTANEOUSLY ON EACH SIDE.
5. DO NOT PLACE BACKFILL ON FROZEN GROUND, NOR USE FROZEN MATERIAL.
6. DO NOT ALLOW COMPLETED WORK TO BE DAMAGED FROM FREEZING CONDITIONS
7. BACKFILL MATERIAL:
 1. UNDER INTERIOR GRADE SUPPORTED SLABS: USE TYPE 1 GRAVEL COMPACTED TO 98% SPD WITH LAYERS NOT EXCEEDING 150mm.
 2. UNDER INTERIOR AND EXTERIOR STRUCTURAL SLABS: USE NATIVE EXCAVATED MATERIALS, OR EXCAVATED ROCK TO WITHIN 250mm OF U/S SLAB. COMPACT TO 98% SPD WITH LAYERS NOT EXCEEDING 300mm. FILL NEXT 150mm WITH TYPE 1 FILL COMPACTED TO 98% SPD. USE 100mm VOID FORM AND PLYWOOD FOR REMAINING 100mm.
 3. UNDER EXTERIOR GRADES SUPPORTED SLABS: USE NATIVE EXCAVATED MATERIALS OR EXCAVATED ROCK TO WITHIN 250mm OF U/S SLAB AND COMPACT TO 98% SPD IN LAYERS NOT EXCEEDING 150mm. USE TYPE 1 FILL FOR REMAINING 500mm. COMPACT TO 98% SPD IN LAYERS NOT EXCEEDING 150mm.
 4. UNDER PIPE BEDS: FILL BOTTOM WITH CLEAN COARSE SAND TO WITHIN 300mm OF SURFACE. COMPACT TO 98% SPD WITH LAYERS NOT EXCEEDING 150mm. USE TYPE 1 FILL FOR TOP 300mm. COMPACT TO 98% SPD IN LAYERS NOT EXCEEDING 150mm.
 5. UTILIZE EXCAVATED GRANULAR MATERIAL FOR BACKFILL ONLY WHEN APPROVED BY THE OWNER.

FOUNDATION

1. ALL FOUNDATION CONSTRUCTION TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS GIVEN IN ENGINEERING REPORT - "GEOTECHNICAL INVESTIGATION PROPOSED ADDITION TO WASTE WATER TREATMENT PLANT, QALUIT NUNAVUT" TROW ASSOCIATES INC. REPORT: 0702000718A, DATED JULY 22, 2004
2. PILE FOUNDATION NOTES:
 1. DESIGN END BEARING - 10 MPa - 2000 INTO BEDROCK
 2. PILE INSTALLATION TO BE SUPERVISED BY PILING REGISTERED IN NUNAVUT
 3. DRILL OVERSIZE HOLE AT LEAST 50mm DIAMETER LARGER THAN PILE DIAMETER
 4. COMPLETELY CLEAN OUT THE BASE OF ALL HOLES
 5. IMMEDIATELY AFTER CLEANING, FILL HOLE WITH FAST SETTING ARCTIC GROUT (Sika ARCTIC 100 OR EQUIV.)
 6. INSTALL PIPE PILE OPEN ENDED. VIBRATE PILE INTO GROUT. ENSURE PILE IS SEATED ON BEDROCK
 7. FILL ANNUAL SPACE WITH A SAND SLURRY AFTER GROUT HAS SET. FINES CONTENT OF THE SAND SHALL NOT EXCEED 12% AND THE MAXIMUM PARTICLE SIZE SHALL BE 25mm. DRILL BITTINGS ARE NOT SUITABLE FOR THIS PURPOSE. SAND SLURRY SHALL BE WITH FRESH POTABLE WATER
 8. ALL PILES TO BE REINFORCED AS SHOWN ON PLAN. REINFORCING STEEL TO Q3012-M77 GRADE 500 FOR TIES. GRADE 500 FOR 10M AND LARGER BARS. LAP SPLICES 26 BAR DIAMETERS OR 450mm, WHICHEVER IS GREATER.
 9. ENSURE ALL LOOSE MATERIAL AND WATER IS THOROUGHLY REMOVED FROM PILE EXCAVATIONS PRIOR TO PLACING REINFORCEMENT AND CONCRETE. CONCRETING OPERATIONS TO PROCEED WITHIN 3 HOURS OF EXCAVATION OR IMMEDIATELY IF GROUNDWATER EXISTS. CASTING OF ALL PILES SHALL BE CONTINUOUS. CONSTRUCTION JOINTS IN PILE SHAFTS SHALL NOT BE ALLOWED. VIBRATE CONCRETE IN UPPER 3000mm OF SHAFT.
 10. PROVIDE CASING AT ALL TIMES ON SITE AND USE IF REQUIRED DUE TO WATER OR SLOUGHING SOILS.
 11. WRAP ALL PILE PROJECTIONS WITH TWO LAYERS OF 6 MIL POLY PRIOR TO BACKFILLING.
 12. PLACE REINFORCEMENT BEFORE PLACING CONCRETE. DOWELS MAY BE PLACED IMMEDIATELY FOLLOWING CONCRETE PLACEMENT IF CONCRETE IS PROPERLY CONSOLIDATED AROUND EACH DOWEL.
 13. PILING CONTRACTOR SHALL KEEP AN ACCURATE RECORD OF DEPTHS OF PILES, EXCAVATED SOILS PENETRATED, WATER SEEPAGE AND OTHER PERTINENT CONDITIONS. REPORT ANY ABNORMAL CONDITIONS TO THE OWNER.
3. FOOTING FOUNDATIONS:
 1. DESIGN ALLOW BEARING PRESSURE 480 kPa
 2. FOOTINGS TO BEAR ON SCARIFIED BEDROCK OR ON MAX 300mm GRAVEL FILL ABOVE BEDROCK

CONCRETE

1. PROVIDE CONCRETE AND PERFORM WORK TO CSA CAN3-A23.1(M90). THE CONTRACTOR SHALL HAVE A COPY OF THIS STANDARD ON SITE AT ALL TIMES.
2. TEST CONCRETE IN ACCORDANCE WITH CSA CAN3-A23.2-M90.
3. CONCRETE REQUIREMENTS:

TYPE	LOCATION	28 DAY STRENGTH (MPa)	CEMENT TYPE	AGGREG. MAX. (mm)	SUMP (mm)	TOTAL AIR (%)
1.	INTERIOR CONCRETE	30	10	25	80±20	NOM
2.	EXTERIOR CONCRETE	30	10	25	80±20	6-8%
4. SPECIFIED SLUMPS ARE PRIOR TO THE ADDITION OF ANY APPROVED PLASTICIZING ADMIXTURE. WHEN CONCRETE IS PLACED BY PUMPING, THE LISTED SLUMPS SHALL BE AT DISCHARGE.
5. ALL CONCRETE SHALL BE NORMAL WEIGHT 2400 KG/M3 UNLESS NOTED.
6. ALL CONCRETE USED FOR WATER OR SEWAGE CONTAINMENT TO CONTAIN STRENGTHENING/WATER RETAINING ENHANCEMENT ADMIXTURE SEE SPECIFICATIONS
7. CONSTRUCTION JOINTS: KEVED AND DOWELED AS DIRECTED BY ENGINEER UNLESS DETAILED ON DRAWINGS. SUBMIT PROPOSED DETAIL AND LOCATION OF ALL CONSTRUCTION JOINTS NOT SHOWN ON DRAWINGS, TO OWNER FOR APPROVAL.
8. CONTROL JOINTS FOR SLAB ON GRADE: SAW CUT CONTROL JOINTS AS PER CSA CAN3-A23.1 LOCATIONS AS PER DRAWINGS OR MAXIMUM 4500mm ON CENTER. CLEAN AND FILL WITH SEALANT.
9. PROVIDE RECESSES IN THE TOP OF FOUNDATION WALLS AND GRADE BEAMS AT ALL DOOR OPENINGS, TO ALLOW SLAB-ON-GRADE TO CONTINUE OVER.
10. PROVIDE 20mm CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
11. VERIFY SIZE AND LOCATION OF ALL MECHANICAL OPENINGS, CABS, EQUIPMENT PADS WITH MECHANICAL DRAWINGS AND MECHANICAL CONTRACTOR. (MAJOR OPENINGS NOT SHOWN TO BE VERIFIED WITH ENGINEER).
12. CONCRETE COVER TO REINFORCING STEEL:

ITEM	COVERAGE (mm)
CLARIFIER TANK WALLS	50
CLARIFIER TANK BASE SLAB TOP	40
CLARIFIER TANK BASE SLAB BOTTOM	50
HEADWORKS CHANNELS AND WRRES	40
OTHER INTERIOR SLABS, BEAMS, WALLS	40
EXTERIOR SLABS, BEAMS	50
CONCRETE AGAINST EARTH	75

CONCRETE ACCESSORIES

1. NON-FERROUS GROUT: PRE-MIXED, NON SHRINK, MASTER BUILDERS 713, STERNSON M-BED, CPD NON SHRINK GROUT, STEEL GROUT, MINIMUM 35 MPa COMPRESSIVE STRENGTH, OR EPOXY GROUT STERNSON TALTROUT.
2. EXPANSION ANCHORS: OF DIAMETER & PENETRATION SHOWN. SHEAR AND TENSION CAPACITIES ARE BASED ON HILTI HYT80 + HIT-HAS SUPER HARDWARE. SUBMIT ANCHOR LOAD RESISTANCE DATA FROM INDEPENDENT TESTING FIRM FOR REVIEW BY ENGINEER MIN 2 WEEKS PRIOR TO INTENDED USE.
3. EPOXY ANCHORS: OF DIAMETER & PENETRATION SHOWN. SHEAR AND TENSION CAPACITIES ARE BASED ON HILTI HYT80 + HIT-HAS SUPER HARDWARE. SUBMIT ANCHOR LOAD RESISTANCE DATA FROM INDEPENDENT TESTING FIRM FOR REVIEW BY ENGINEER MIN 2 WEEKS PRIOR TO INTENDED USE.
4. EPOXY BONDING AGENTS: TWO COMPONENT, WATER BASED, EPOXY RESIN / CEMENT BONDING AGENT
5. ACRYLIC BONDING AGENT: CPD ACRYLIC CONCRETE ADHESIVE, THERMOSETS ACRYL 60, STERNSON DURABOND C, EPOXY FLEX-CON 710, MIXED WITH CEMENT AS RECOMMENDED BY MANUFACTURER.
6. ASPHALT FIBREBOARD: ASPHALT SATURATED FIBRE BOARD CONFORMING TO ASTM D1751
7. VINYL FOAM ROADS: CLOSED CELL VINYL FOAM ROADS AS REQUIRED BY DRAWING DETAILS. 90% RECOVERY AFTER 50% COMPRESSION @ 380 kPa PRESSURE.
8. PIPE WATER STOPS: ONE COMPONENT, HYDROPHILIC POLYURETHANE BASED EXTRUDABLE SELLING PROFILE WATER STOP FOR CONSTRUCTION JOINTS.
9. PVC WATER STOPS: HIGH STRENGTH POLY VINYL CHLORIDE WATER STOP C/W PREWELED JOINTS TO RESIST FLUID PRESSURES INDICATED.
10. VAPOUR BARRIER: 0.25mm CLEAR, OR BLACK, POLYETHYLENE FILM, UN-REINFORCED, WITH SELF-ADHESIVE POLYETHYLENE TAPE FOR JOINTS, SUITABLE FOR BELOW GRADE USE. LAP JOINTS & REPAIRS MIN 300mm.
11. VOID FORM: 100 THICK EXPANDED OR EXTRUDED POLYSTYRENE. TOP SHEET TO BE 12mm THICK PLYWOOD. COVER AND WRAP EDGES WITH 6 mil POLY.
12. HYDRAULIC CEMENT GROUT: FAST SETTING, NON SHRINK, HIGH STRENGTH, NON SOLUBLE, CRYSTALLINE HYDRAULIC CEMENT COMPOUND (XYPEX ADMIX APPROVED ALTERNATE)
13. CRYSTALLINE CEMENT SLURRY: NON SOLUBLE CRYSTALLINE CEMENTITIOUS COMPOUND (XYPEX CONCENTRATE AOR APPROVED ALTERNATE)
14. SEALANTS:
 1. POLYURETHANE SEALANT (HORIZONTAL JOINT): WITHSTAND A MAXIMUM OF 25% JOINT MOVEMENT SIKAFLEX 12-SL, PCF 6006, VULKEM 45.
 2. POLYURETHANE SEALANT (VERTICAL JOINT): WITHSTAND A MAXIMUM OF 25% JOINT MOVEMENT SIKAFLEX 16, PCF 270, VULKEM 116
 3. INTERIOR SAW CUT JOINT OR CONTROL JOINT SEALANT: CATALYST CURED EPOXY RUBBER, STERNSON LOOPEX, SEALTIGHT BONDPLEX, CONCRETE CHEMICALS 903B FLEXIBLE SEALANT, ALIAD COATINGS AC-1210 FLEXIBLE EPOXY SEALANT. PRIMERS: AS SUPPLIED BY SEALANT BY SEALANT MANUFACTURERS
15. ADMIXTURES:
 1. AIR ENTRAINMENT: CONFORMING TO CSA CAN 3-A266.1
 2. CHEMICAL: CONFORMING TO CAN 3-A266.2
 3. POZZOLANIC MINERAL: CONFORMING TO CAN/CSA-A23.5
 4. WATER SEALING ADMIXTURE: WATER BASED, HIGH POLYMER DISPERSION SPECIFICALLY DESIGNED TO FORTIFY PORTLAND CEMENT COMPOSITIONS, ENHANCE WATER RESISTANCE CHARACTERISTICS AND REDUCE CONCRETE SHRINKAGE (XYPEX ADMIX OR APPROVED ALTERNATE)

1. AIR ENTRAINMENT: CONFORMING TO CSA CAN 3-A266.1
2. CHEMICAL: CONFORMING TO CAN 3-A266.2
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CONCRETE REINFORCEMENT

1. DEFORMED BARS CONFORMING TO CSA CAN312M GRADE 400. TIES AND STIRRUPS TO CSA Q3012M GRADE 400.
2. WELDABLE REINFORCING BARS SHALL CONFORM TO CSA Q3016 GRADE 400. WELDING OF REINFORCING SHALL CONFORM TO CSA W18.
3. REINFORCING WORK SHALL BE IN ACCORDANCE WITH CSA CAN3-A23.1 AND CSA CAN3-A23.3.
4. REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST EDITION OF THE A/CI DETAILING MANUAL OR THE REINFORCING STEEL INSTITUTE OF CANADA DETAILING MANUAL.
5. REINFORCING TO BE CONTINUOUS UNLESS NOTED. LAP TOP BARS AT MIDSPAN, BOTTOM BARS AT SUPPORTS. MINIMUM LAP FOR 10M BARS SHALL BE 450 mm. LAP FOR OTHER BARS TO BE CLASS B TENSION SPLICES. WHERE REINFORCEMENT LAPS ARE REQUIRED IN ADJACENT BARS, STAGGER LAPS MINIMUM 1200mm. LAPS NOTED OTHERWISE.
6. CHAIR SLAB REINFORCING NOT FURTHER THAN 1.0 METRE IN EITHER DIRECTION. SUFFICIENT SUPPORT BARS, CHAIRS, AND CARRIERS AS NECESSARY.
7. DOWELS AND ANCHOR BOLTS SHALL BE SECURED IN POSITION BY MEANS OF TEMPLATES BEFORE CONCRETE IS POURED.
8. 90° HOOKS AND 180° HOOKS WHERE SHOWN SHALL BE DETAILED AS STANDARD HOOKS UNLESS NOTED OTHERWISE.
9. MINIMUM REINFORCING AROUND OPENINGS LARGER THAN 300mm: 1-15mm EACH SIDE AND EACH FACE OF OPENING. EXTERIOR 600mm PAST CORNERS.
10. PROVIDE DOWELS FROM CONCRETE BEAMS OR WALLS TO MATCH BLOCK REINFORCING.
11. UNLESS OTHERWISE NOTED, ALL DOWELS TO PROJECT A MINIMUM OF 40 BAR DIAMETERS INTO SLAB OR WALL FROM FACE OF SUPPORT.
12. SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION.

STRUCTURAL METAL FRAMING

1. FABRICATE AND ERECT STRUCTURAL STEEL TO CSA CAN3-16.1-LATEST EDITION.
2. PROVIDE STRUCTURAL STEEL TO CSA CAN3-16.1-LATEST EDITION WITH THE FOLLOWING GRADES:

WIDE FLANGE BEAMS, CHANNELS AND ANGLES	350 W
HSS SECTIONS (CLASS 1) <td>300 W</td>	300 W
STRUCTURAL BARS AND PLATES <td>300 W</td>	300 W
MISCELLANEOUS STEEL <td>300 W</td>	300 W

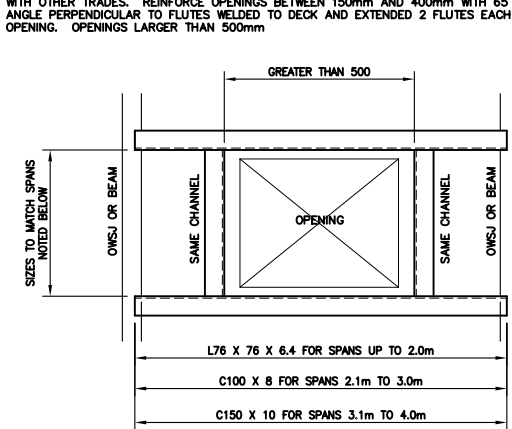
 ANCHOR BOLTS: TO ASTM A325
3. FABRICATOR TO BE CERTIFIED AS A DIVISION 1 OR 2 COMPANY UNDER CSA W47.1. SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION.
4. DIMENSIONS SHOWN ARE TO CENTER LINES OF SECTIONS AND TO BACK OF CHANNELS OR ANGLES. ELEVATIONS SHOWN ARE TO TOP OF STEEL U/L.
5. WELD TO CSA W50-MB5 BY FABRICATORS QUALIFIED TO CSA W47.1-83.
6. FIELD WELDING AND FIELD MODIFICATION OF STRUCTURAL STEEL SHALL NOT BE ALLOWED WITHOUT PRIOR REVIEW AND APPROVAL BY THE ENGINEER.
7. TEMPORARY BRACING DURING CONSTRUCTION TO BE DESIGNED BY CONTRACTOR. DIRECTION BRACING SHALL BE REMOVED ONLY AFTER PERMANENT FLOOR DIAPHRAGMS, ROOF DIAPHRAGMS, SHEAR WALLS AND PERMANENT BRACING ARE COMPLETED.
8. CONNECTIONS NOT DETAILED ON THE STRUCTURAL DRAWINGS SHALL BE DESIGNED AND DETAILED BY THE STEEL FABRICATOR. FACTORED (UNFACTORED) LOADS FOR THESE CONNECTIONS ARE SHOWN ON THE DRAWINGS. MOMENT IS DENOTED M IN K-N-M. TENSION IS DENOTED T, COMPRESSION IS DENOTED C. OTHERWISE LOADS ARE SHEAR LOADS. LOADS IN KN OR LBS INDICATED EACH END. IF THE END REACTION IS NOT SHOWN, CONNECT FOR THE ALLOWABLE UDL ASSUMING FULL SUPPORT OF THE COMPRESSION FLANGE.
 1. BOLTS - A325 MOD (MIN) MINIMUM 2 BOLTS PER CONNECTION. BRACING OR MEMBERS SUBJECT TO STRESS REVERSAL SHALL BE FRICION TYPE. (MASH CONTACT SURFACES BEFORE PAINTING).
 2. MINIMUM WELDS FOR CONNECTIONS SHALL BE 5mm FILLET WELD AND WHERE EXPOSED IN FINISHED BUILDING WELD SHALL BE GROUND SMOOTH.
9. PROVIDE BOLT HOLES IN STRUCTURAL STEEL WHERE SHOWN AND WHERE REQUIRED FOR THE ATTACHMENT OF BOLTED BLOCKING OR FASTENINGS BY OTHER TRADES.
10. PROVIDE STIFFENERS/BEARING PLATES ON BOTH SIDES OF W-SHAPE AND ON ONE SIDE OF C-SHAPE BEAMS AT ALL LOCATIONS WHERE CONCENTRATED LOADS OCCUR (ECCOLONG CHMS) SEATS) AND AT BEARING SUPPORTS. EACH STIFFENER SHALL EQUAL HALF THE BEAM WIDTH, BE FULL HEIGHT BETWEEN FLANGES, AND HAVE A MINIMUM THICKNESS OF 8mm BUT SHALL NOT BE THINNER THAN THE WEB OF THE BEAM.
11. PROVIDE CLOSURE PLATES AT ALL OPEN ENDS OF ALL HSS MEMBERS AND SEAL WELD. PLATE THICKNESS TO EQUAL WALL THICKNESS OF HSS MEMBER.
12. FRAME ALL OPENINGS IN ROOF AND FLOOR DECK, ROUND AND RECTANGULAR, THAT ARE LARGER THAN 400mm. COORDINATE WITH CONTRACT DOCUMENTS. FRAME BACK TO STRUCTURE AS PER TYPICAL ROOF OPENING FRAMING DETAIL.
13. GROUT UNDER BEARING PLATES INSTALLED IN ACCORDANCE WITH SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATION.
14. CLEAN ALL STEEL PRIOR TO PAINTING TO SSPC SURFACE PREPARATION SPECIFICATION NO. 7 "BUSH-OFF BLAST CLEANING" EXCEPT STRUCTURAL STEEL MEMBERS WHICH ARE EXPOSED IN THE COMPLETED STRUCTURE IN WHICH CASE CLEANING SHALL CONFORM TO SSPC SURFACE PREPARATION SPECIFICATION NO. 6 "COMMERCIAL BLAST CLEANING".

METAL JOISTS

1. DESIGN AND FABRICATE OPEN WEB STEEL JOISTS TO CSA CAN3-S16.1 (LATEST EDITION) FOR DESIGN DETAILS, AND LOADING SHOWN ON THE DRAWINGS. REFER TO MECHANICAL DRAWINGS FOR HEIGHT AND LOCATION OF EQUIPMENT AND CONFORM WITH MECHANICAL CONTRACTOR. DESIGN AND SUPPLY STEEL FRAMING FOR EQUIPMENT SUPPORT.
2. SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS SHALL SHOW ALL MECHANICAL AND ELECTRICAL CONCENTRATED DESIGN LOADS, BRACING AND ACCESSORIES. SHOP DRAWINGS SHALL BE SEALED BY A QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE NORTHWEST TERRITORIES, NUNAVUT.
3. CAMBER REQUIREMENTS AND DEFLECTION LIMITATIONS TO CSA S16.1 UNLESS NOTED ON DRAWINGS.
4. PROVIDE PERMANENT BRIDGING FOR ALL JOISTS IN ACCORDANCE WITH CSA CAN3-S16.1-LATEST EDITION).
5. STEEL JOIST SUPPLIER TO COORDINATE OWNERS WEB CONFIGURATION AND BRIDGING TYPE AND LOCATIONS WITH MECHANICAL CONTRACTOR TO ENSURE FITMENT OF ALL DUCT AND PIPE RUNS.
6. CLEANING PREPARATION AND PAINTING SHALL CONFORM TO STRUCTURAL STEEL REQUIREMENTS.
7. PROVIDE TEMPORARY BRACING AS REQUIRED DURING CONSTRUCTION.

METAL DECK

1. DESIGN, FABRICATE AND INSTALL STEEL DECK TO CSA S136-(LATEST EDITION) AND THE CANADIAN SHEET STEEL BUILDING INSTITUTE STANDARDS.
2. ROOF DECKING PROFILE: 38mm DEEP MINIMUM 0.76mm (22 GA) ZINC COATED STEEL CONFORMING TO ASTM A446.
3. FLOOR DECKING PROFILE: (38mm) (76mm) (0.76) (0.91) ZINC COATED CONFORMING TO ASTM A446-PROVIDE DEFORMED FLOOR DECKING FOR CONCRETE FLOORS WHERE SPECIFIED ON THE DRAWINGS.
4. ZINC COATING TO ASTM A525 275 G/L MPE COAT GALVANIZING IS NOT ACCEPTABLE.
5. INSTALL DECKING CONTINUOUS OVER MINIMUM THREE SPANS EXCEPT WHERE OTHERWISE APPROVED. MINIMUM BEARING EQUAL TO DECK DEPTH, LAP JOINTS 75mm AT STRUCTURAL SUPPORTS.
6. WELD DECK TO SUPPORTING STEEL WITH 6mm DIAMETER FUSION WELDS USING WELD WASHERS WHERE NECESSARY. SIDE LAPS FASTENED BY BUTT WELDING, CLIPPING, TRANSVERSE WELDS. LONGITUDINAL WELDS AND TRANSVERSE WELDS REQUIREMENTS AS PER DRAWINGS. TRANSVERSE WELDING - 4 TRANSVERSE WELDS PER SUPPORT (300 O.C. MAX) LONGITUDINAL WELDS - 600 O.C. MAXIMUM BUTT WELDING - 600 O.C.
7. PAINT ALL WELDS WITH GALVCON.
8. SUBMIT SHOP DRAWINGS SHOWING ALL DETAILS, MATERIAL SPECIFICATIONS AND DESIGN LOADS.
9. CUT OPENINGS IN THE DECKING WHERE INDICATED ON THE DRAWINGS AND IN COOPERATION WITH OTHER TRADES. REINFORCE OPENINGS BETWEEN 150mm AND 400mm WITH 65 x 65 x 5 ANGLE PERPENDICULAR TO FLUTES WELDED TO DECK AND EXTENDED 2 FLUTES EACH SIDE OF OPENING. OPENINGS LARGER THAN 500mm



OPENINGS UP TO 150mm DO NOT REQUIRE REINFORCING.

OPENINGS LARGER THAN 150mm BUT LESS THAN 500mm ARE TO BE REINFORCED WITH LBS X 65 X 5 PERPENDICULAR TO FLUTES WELDED TO DECK AND EXTENDED 2 FLUTES EACH SIDE OF OPENING.

FOR OPENINGS LARGER THAN 500mm REINFORCE OPENING AS SHOWN ABOVE.

FOUNDATION SCHEDULE									
STEEL PILE ALTERNATIVE					CONCRETE PIER AND FOOTING OPTION				
TYPE	MINIMUM HOLE DIA.	PILE GROUP	CSA Q40.21-04 GRADE 50W, CLASS C	ASTM A33 Fy= 255 MPa	SOCKET LENGTH	FOOTING	FOOTING REINFORCING	CONCRETE	PIER REINFORCING
P1	190	--	HSS 141 X 6.4	DN125 STD	2000	700 X 700 X 300	3-15M EACH WAY BOT	600 DIA.	10-20M VERT. 10M TIES @ 300
P2	190	--	HSS 141 X 6.4	DN125 STD	2000	700 X 700 X 300	3-15M EACH WAY BOT	600 DIA.	10-20M VERT. 10M TIES @ 300
P3	218	GROUP 2	HSS 168 X 6.4	DN150 STD	2000	900 X 900 X 300	4-15M EACH WAY BOT	600 DIA.	10-20M VERT. 10M TIES @ 300
P4	269	GROUP 2	HSS 219 X 6.4	DN200 STD	2000	1100 X 1100 X 450	4-20M EACH WAY BOT	600 DIA.	10-20M VERT. 10M TIES @ 300
P5	323	GROUP 3	HSS 273 X 8.0	DN250 STD	2000	1300 X 1300 X 500	5-20M EACH WAY BOT	600 DIA.	10-20M VERT. 10M TIES @ 300

NOTE:

1. SEE DRAWING S1.02 FOR TYPICAL FOUNDATION DETAILS
2. LENGTH OF PILE OR PIERS VARY. TO BE CONFIRMED ON SITE.

PILE/PILECAP CUT-OFF ELEVATION SCHEDULE	
NO.	CUT OFF ELEV.
1	7.600
2	7.650
3	5.921
4	5.556 *
5	5.674 *
6	5.842 *
7	4.417 *
8	7.400

* CLARIFIER BASE SLAB SLOPE MAY VARY WITH DIFFERENT MANUFACTURERS. CONTRACTOR TO CONFIRM CLARIFIER BASE SLOPE PRIOR TO FABRICATION.

PROPERTIES PRIOR TO ANY PILES BEING CUT. ADJUST AS REQUIRED

AA CENTER OF PILE SHOWN ON FOUNDATION PLAN

BB 600mm OR 3 TIMES DIAMETER OF DRILLED HOLE, WHICHEVER IS GREATER

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