



1. GENERAL

- THE NUMBER AND LOCATION OF CULVERTS SHOWN ON THE DRAWINGS SHALL BE SUBJECT TO FIELD REVIEW BY THE ENGINEER. RELOCATE CULVERTS AND PROVIDE ADDITIONAL CULVERTS NOT SHOWN ON THE DRAWINGS WHEN AREAS REQUIRING A CULVERT ARE IDENTIFIED DURING CONSTRUCTION.
- WHEREAS CULVERT POSITION, ORIENTATION, ELEVATION, AND GRADE SHOWN ON THE DRAWINGS IS BASED ON LIMITED TOPOGRAPHIC SURVEY, THESE SHALL BE SUBJECT TO FIELD REVIEW AND REFINEMENT BY THE ENGINEER TO ACCOMMODATE EXACT SITE CONDITIONS.
- MINIMIZE IMPEDIMENT TO ROAD TRAFFIC RESULTING FROM CULVERT INSTALLATION.
- UNLOAD, HANDLE AND STORE MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS TO PREVENT DAMAGE TO THE GALVANIZED COATING AND THE PIPE.
- EARTHWORKS SHALL GENERALLY BE IN ACCORDANCE WITH DRAWINGS 2111, 2121, 2122 AND 2221. WHERE THERE IS A DIFFERENCE BETWEEN THIS AND OTHER DRAWINGS WITH RESPECT TO CULVERTS, THIS DRAWING SHALL GOVERN.

2. SUBMITTALS

- SUBMIT THE FOLLOWING IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS AND SCHEDULE:
 - CSP CULVERT AND ANCILLARY PARTS SPECIFICATIONS AND PRODUCT DATA SHEETS FOR PRODUCT(S) TO BE USED
 - REDLINE DRAWING MARKUPS OF SITE PLANS INDICATING CULVERT SIZE, LENGTH, ELEVATION, GRADE, AND QUANTITY PLACED BY LOCATION.
 - DO NOT PROCEED WITH WORK ASSOCIATED WITH A SUBMITTAL UNTIL REVIEWED BY THE ENGINEER.
 - SUBMITTAL REVIEW BY THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR FROM THE FULL RESPONSIBILITY OF THE WORK.

3. PRODUCTS

- PIPE SHALL BE GALVANIZED, HELICAL CORRUGATED LOCK SEAM PIPE IN ACCORDANCE WITH CSA G401 WITH ANNULAR CORRUGATION RE-ROLLED ENDS TO SUIT COUPLERS AND HAVE A MINIMUM GALVANIZING ZINC COATING OF 610 G/M².
- PIPE CORRUGATIONS AND WALL THICKNESS SHALL BE AS FOLLOWS, UNLESS SPECIFIED OTHERWISE ON THE DRAWINGS:

DIAMETER	WALL THICKNESS	CORRUGATION
500 - 900 mm	2.0 mm	68 X 13 mm
1000 - 1800 mm	3.5 mm	68 X 13 mm
2000 - 3600 mm	3.5 mm	125 X 25 mm
- CSP COUPLERS SHALL BE GALVANIZED ANNULAR CORRUGATED TYPE WITH MINIMUM THICKNESS TO MATCH THE PIPE AND RUBBER GASKETS TO ASTM D1056. DIMPLED CONNECTOR BANDS SHALL NOT BE USED.

4. INSTALLATION

- WHERE PIPES ARE INSTALLED UNDER FILL SECTIONS, PLACE FILL TO A MINIMUM ELEVATION OF 300 MM ABOVE THE TOP OF THE PIPE, THEN EXCAVATE THE REQUIRED TRENCH FOR THE PIPE.
- COMPACT THE BASE OF THE EXCAVATION OR SUBGRADE TO PROVIDE A FIRM FOUNDATION OF UNIFORM DENSITY FOR THE ENTIRE LENGTH OF THE PIPE.
- SECURELY JOIN PIPE SECTIONS USING COUPLERS AND GASKETS INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- DO NOT COMMENCE BACKFILLING OPERATIONS UNTIL THE INSTALLED PIPES HAVE BEEN INSPECTED BY THE ENGINEER.
- BED EACH PIPE AND COMPACT FILL UNDER THE HAUNCHES TO PREVENT SETTLEMENT, DEFLECTION, AND PREFERENTIAL SEEPAGE PATHS. BACKFILL MATERIAL SHALL FILL ALL CORRUGATIONS. PLACE FILL MATERIAL IN LIFTS NOT EXCEEDING 150 MM IN THICKNESS. COMPACT EACH LIFT USING PNEUMATIC OR MECHANICAL HAND TAMPING EQUIPMENT AS REQUIRED TO ACHIEVE THE SPECIFIED DENSITY. ROCKS LARGER THAN 80 MM SHALL NOT BE PLACED WITHIN 600 MM OF PIPES. BRING FILL LAYERS UP SIMULTANEOUSLY AND EVENLY ON BOTH SIDES OF THE PIPES.
- THE PIPES SHALL HAVE A VERTICAL DEFLECTION LESS THAN 5% ONCE BACKFILLING HAS BEEN COMPLETED TO ITS FINAL ELEVATION. AT NO TIME SHALL THE VERTICAL DEFLECTION EXCEED 10%.

- PREVENT DAMAGE TO THE GALVANIZED COATING. DO NOT PERMIT COMPACTION EQUIPMENT TO COME INTO DIRECT CONTACT WITH THE PIPES. REPAIR DAMAGED GALVANIZED SURFACES WITH ZINC-RICH PAINT. POWER TOOL CLEAN SURFACES TO BE REPAIRED TO A BRIGHT METAL APPEARANCE AND APPLY MULTIPLE COATS OF THE ZINC-RICH PAINT IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. DRY FILM THICKNESS SHALL BE 50 MICRONS, OR AS STIPULATED BY THE PAINT MANUFACTURER, WHICHEVER IS GREATER.
- CULVERT LENGTH SHALL BE SUCH THAT CULVERT END PROTRUDES PAST THE FINISHED FILL NO GREATER THAN 200 mm.

FOR CONSTRUCTION

NUNAVUT NUKKISAUTIT CORPORATION	
ANURIQUJUAK NUKKISAUTIT PROJECT	
CIVIL - ROADS	PROJECT NUMBER 1096-003
DRAINAGE WORKS	ADD NUMBER 4.3.015
PLAN, SECTIONS AND SPECS	DRAWING NUMBER 2222

