



THE PURPOSE OF THIS AMENDMENT IS TO GIVE EFFECT TO THE FOLLOWING:

Revisions to the Specification document entitled: 2023-03-22 - PRO2287 Specification

**** AMENDMENT #2 - REVISED DRAWINGS AND SPECIFICATION – 2023/04/06 ****

Revisions to the Specifications:

Section 33 42 13 – Pipe Culverts

Add:

- 1.2.4. Government of Newfoundland and Labrador’s Department of Infrastructure and Work’s Highway Specifications Book – Division 4

Remove:

Part 2 – Products

Replace:

Part 2 – Products

2.0 General

- .1 Products listed within this section – aluminized type II corrugated steel pipe, corrugated aluminum pipe, HDPE pipe, SRPE pipe, poly-laminated aluminized type II corrugated steel pipe, couplers, nuts and bolts and all other related material for construction shall conform to the requirements of the most recent revisions of applicable standards – CSA, ASTM, AASHTO and any other specification.

2.1 Corrugated Steel Pipe

- .1 All pipes shall be gasketed.
- .2 Aluminized type II corrugated steel pipe, couplers, nuts and bolts shall conform to the most recent revisions of the following specifications: AASHTO M274 and M36, ASTM A819 and A760 and CSA G401. Wall thickness: 2.8mm.



2.2 Corrugated HDPE Pipe

- .1 All corrugated HDPE pipes shall have watertight joints.
- .2 Pipe shall be smooth lined – entire length.
- .3 HDPE pipe and accessories shall conform to CAN/CSA B182.8.
- .4 Culvert design shall be in accordance with the latest edition of CAN/CSA B182.8 for the worst-case loading of either 0.7m of fill or finished grade plus 1.0m of fill. Live loading shall conform to CAN/CSA S6-06.
- .5 For existing small diameter culverts (600mm dia. or less), remove and reinstall as directed by the Departmental Representative in the field to ensure positive drainage or relocated ditches.

2.3 Corrugate Aluminum Pipe

- .1 All materials shall conform to ASTM B746 except that of bolts and nuts.
- .2 Bolts and nuts shall be galvanized and conform to the latest edition of CAN3 -G401-M81.
- .3 Special care is to be taken when installing and backfilling aluminum pipe. Contractor shall be required to replace any pipe that is damaged or deformed from transportation, handling and/or from installation.

2.4 Steel Reinforced Polyethylene (SRPE)

- .1 Pipe shall be smooth lined – entire length.
- .2 Culvert and accessories shall conform to CAN/CSA B182.14 and ASTM F2562/F2562M-15.
- .3 Joints shall be welded – electrofusion couplers or extruded welded couplers. Welded joints shall be watertight and shall be pressure testable welded sleeves at each weld – 30 psi (207 KPa).

2.5 Poly-Laminated Corrugated Steel Pipe

- .1 All pipes shall be gasketed.
- .2 Aluminized type II corrugated steel pipe, couplers, nuts and bolts shall conform to the most recent revisions of the following specifications: AASHTO M274 and M36, ASTM A819 and A760 and CSA G401. Wall thickness: 2.8mm.
- .3 Physical properties of the polymer coating shall conform to:
 - .1 Color: Black
 - .2 Film Thickness, mm (minimum): ASTM D 1005
 - .3 Yield Tensile Strength (N/mm²): ASTM D 882
 - .4 Ultimate Tensile Strength (N/mm²): ASTM D 882
 - .5 Ultimate Elongation (%): ASTM D 882
 - .6 2% Secant Modulus (N/mm²): ASTM D 882
 - .7 Elmendorf Tear Strength (g): ASTM D 1922



2.6 End Treatments

- .1 Rip rap: to Section 31 37 00 – Rip Rap, and as indicated on drawings.

2.7 Granular Bedding

- .1 Placement of granular bedding shall be paid for as Granular Subbase and placement of backfill material shall be paid for as Rock Borrow to the following requirements:
 - .1 Section 31 23 10 – Excavating, Trenching and Backfilling.
 - .2 Section 32 11 19 – Granular Sub-base.

2.8 Intermediate Rocks for Fish Passage

- .1 Sound, rounded rocks measuring 400mm – 600mm in longest dimension, or as otherwise requested by Departmental Representative.

ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED