

CORRUGATED PIPE LINER

**\*\*From South Burlington-Colchester IM CULV(23)**

- xx. DESCRIPTION. This work shall consist of lining an existing culvert(s) (pipe(s)) at the location(s) indicated in the Plans and as directed by the Engineer.

The work under this Section shall be performed in accordance with these provisions, the Plans, and Section 601 of the Standard Specifications.

- xx. MATERIALS.

(a) Pipe Liner.

(1) Corrugated Aluminum Alloy Pipe (CAAP) Liner. Corrugated Aluminum Alloy Pipe (CAAP) Liner shall be 2.6 mm (10 gauge) with 75 mm x 25 mm (3 inch x 1 inch) corrugations and meet the requirements of Section 601.

(2) High Density Polyethylene (HDPE) Liner. High Density Polyethylene (HDPE) Liner shall meet the requirements of Subsection 710.03.

(b) Rubber Gaskets. Rubber gaskets at pipe liner joints shall meet the requirements of Subsection 707.11.

(c) Caulking Compound. Caulking compound meeting the requirements of Subsection 707.13 shall be used as necessary to provide adequate grout seal on the pipe liner.

(d) Mortar. Mortar used to fill the annular space between the existing culvert and pipe liner shall meet the requirements of Subsection 707.03.

The minimum 28-day compressive strength shall be 1380 kPa (200 lb/in<sup>2</sup>) and the maximum unit weight shall be 17.3 kN/m<sup>3</sup> (110 lb/ft<sup>3</sup>). A foaming agent or other modification to the mix design may be required to achieve this unit weight. Alternative mix designs shall be submitted for approval.

- xx. HYDRAULIC CAPACITY. The pipe liner shall have a minimum diameter as shown on the Plans. The hydraulic cross section shall be maintained as large as possible.

- xx. SUBMITTALS. Prior to installing the pipe liner, the Contractor shall submit a work plan that will include necessary forming details, method of placement, and methods of maintaining the location of the liner during installation operations.

The work plan shall also include the actual methods to be employed to repair and/or fill existing voids outside of the annular space, including materials and sequencing to be employed. The Contractor may submit for approval alternative materials to those shown in the Contract Documents for repair of voids.

The work plan shall be approved by the Engineer prior to commencing with the work.

xx. INSTALLATION.

- (a) Temporary Relocation of Stream. Temporary relocation of stream, when required, shall be performed in accordance with the requirements of TEMPORARY RELOCATION OF STREAM of Section 900.
- (b) Internal Debris and Obstructions. The Contractor shall remove all internal debris and obstructions from the existing pipe, and perform any necessary repairs to existing pipe conditions that would interfere with the installation of the pipe liner, in accordance with the manufacturer's recommendations and as directed by the Engineer.
- (c) Setting Liner. The Contractor shall be responsible for all measures required for positioning the pipe liner inside the existing pipe, including resisting flotation forces encountered during placement.
- (d) Dewatering. The Contractor shall dewater the culvert prior to applying mortar to the annular space between the existing culvert and pipe liner.

xx. METHOD OF MEASUREMENT. The quantity of Special Provision (Corrugated Pipe Liner) of the type and size specified to be measured for payment will be the number of meters (linear feet) installed in the complete and accepted work.

xx. BASIS OF PAYMENT. The accepted quantity of Special Provision (Corrugated Pipe Liner) of the type and size specified will be paid for at the Contract unit price per meter (linear foot). Payment will be full compensation for furnishing, transporting, handling, and placing the materials specified; for cleaning and repairing the existing pipe prior to pipe liner installation; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

When designated in the Contract Documents for a specific location, payment for work associated with access and staging or temporary relocation of stream will be made under Contract items 900.645 Special Provision (Temporary Access Road and Staging Areas, Culvert) and 900.645 Special Provision (Temporary Relocation of Stream), respectively.

When not designated in the Contract Documents for a specific location, payment for work associated with access and staging or temporary relocation of stream will be included in the unit price bid for Contract item 900.640 Special Provision (Aluminum Pipe Liner).

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.640 Special Provision (Corrugated Pipe Liner, CAAP)(X mm)(X")(Existing X mm (X") Pipe)	Meter (Linear Foot)
900.640 Special Provision (Corrugated Pipe Liner,	Meter

HDPE)(X mm)(X")(Existing X mm (X") Pipe) (Linear Foot)