



BILL OF MATERIALS (FOR ONE EXTENSION) DESCRIPTION QTY. UNIT 20 13'-0' 3" I.D. Galvanized Steel Pipe 2@ 6'-4'' 3" Galv Pipe Caps EACH 8 EACH 1/4" Galv. Stl. Plate (9" Nominal) 4 1/2"x4"x14" Galv. Steel Plate EACH 4 5%"x9" Galv. Steel Bolts EACH 4 Expansion Bolts 1/2"0 EACH 8

GENERAL NOTES:

Slope flow line of the extension at the same rate as the flow line of the box.

Bolts, Nuts, and Washers shall be in accordance with Article 710.11 of the standard specification and shall be galvanized.

The contract unit price "Each" for Grated Culvert Extension No. 1 & 2 shall be of precast construction. It shall also include the Class SI Concrete for the Collar, Galvinized Pipe, Bolts, Nuts, Washers, Steel Plates and Reinforcement Bars. Collar shall be constructed according to District Standard 33.1

Steel pipes shall conform to A.S.T.M. A-53 (Type E or S) Grade B, Schedule 40, and shall be galvanized conforming to A.S.T.M. A-120. Contrator shall field verify pipe length.

Steel Plates shall conform to AASHTO M-183 and shall be galvanized conforming to AASHTO M-111.

SEE PLAN AND PROFILE SHEET FOR MORE INFORMATION SEE CULVERT LOCATION PLANS FOR MORE INFORMATION SEE CULVERT STAGING PLANS FOR MORE INFORMATION

Grated Culvert End Section shall be precast. If contractor elects to use cast-in place grated culvert extension, reinforcement bars shall be designed by contractor. The materials, fabrication, and construction of grated culvert extension are subject to approval be the engineer.

Expansion bolts shall conform to AASHTO M270M Grade 250 (M270 Grade 36)

GRATED CULVERT EXTENSION NO.1 & 2