ITEM 603.34010006 - CORRUGATED STRUCTURAL STEEL PLATE ARCH

DESCRIPTION
Under this work, the contractor shall furnish and place Corrugated Structural Steel Plate Arch structure of the dimensions and thickness shown on the plans and in the itemized proposal.

MATERIALS
Materials shall meet the requirements specified in the following sub-sections:

707-09 Corrugated Structural Steel Plate for Pipe, Pipe Arches and Underpasses
707-20 Anchor Bolts for Corrugated Culverts

CONSTRUCTION DETAILS
A. Excavation: The requirements specified in section 206, “Trench, Culvert and Structure Excavation” that apply to culverts and storm drains shall govern, except as modified on the plans, the standard sheets or as directed by the Engineer.

B. Installing Plate Arch:
1. Handling and Assembly: The Steel Plate Arch shall be handled and assembled in accordance with the manufacturer's instructions, except as modified on the plans or by the Engineer's written order.

2. Corrugated Structural Steel Plate Arch: The plates for the corrugated steel plate arch shall be assembled to form the plate cross sections as defined by the pipe manufacturer and as shown on the plans.

C. Backfilling Steel Plate Arch: The type of material and payment lines to be used in backfilling shall be in conformance with the details for structural plate pipe arch shown on the appropriate Standard Sheet, or as noted on the plans, or as ordered by the Engineer.

Paragraph 203-3.15, Fill and Backfilling at Structures, Culverts, Pipes, Conduits and Direct Burial Cables shall apply with the following addition. Backfill material shall be placed and compacted in equal lifts simultaneously on both sides of the structural steel plate arch starting at the mid-length of the arch and working simultaneously toward both ends to prevent deformation of the arch.

Special care shall be exercised in placing and compacting material immediately adjacent to the arch in order to prevent misalignment. In addition, the contractor shall load the top of the arch with suitable material during backfill operations as required to prevent peaking of the arch section.

D. Damaged Steel Plate Arch and Repair: The requirements of paragraph 603.3.04A shall apply.

E. Field Strutting of Structural Steel Plate Arch: Paragraph 603-3.05 Field Strutting of
Corrugated Structural Steel Plate shall apply with the following addition. The contractor shall provide bracing to afford added protection for intermediate segments or at the incomplete end of the Structural Steel Plate Arch, as necessary or as ordered by the Engineer.

F. **Joints:** The requirements of paragraph 603-3.06B shall apply.

**METHOD OF MEASUREMENT:**
The Corrugated Steel Plate Arch shall be measured in linear feet along the top centerline. Top centerline lengths will be designated on the plans or by the Engineer in multiples of 2 feet.

**BASIS OF PAYMENT:**
Paragraph 603-5.01 shall apply with the addition of the following:

The cost for the anchor bolts and the bracing shall be included in the unit price bid for the respective pipe item.

The cost of the abutment footing construction; i.e. concrete, reinforcing steel, excavation, etc. will be paid for under their appropriate items.