SECTION 730

THERMOPLASTIC CULVERT PIPE

730.1 Description. This work shall consist of providing thermoplastic pipe of the diameter designated, placed and backfilled as specified in the contract documents or as directed by the engineer. Pipe shall be in accordance with Section 724.

730.1.1 If the contract specifies thermoplastic pipe or if the contract specifies culvert pipe by group and the contractor elects to furnish thermoplastic pipe, the allowable overfill height shall be in accordance with the plans, unless specified otherwise. Minimum cover will be measured as shown on the plans.

730.1.2 When Group A pipe is specified and the contractor elects to furnish polyethylene or steel reinforced polyethylene pipe, the pipe diameter shall be 24 inches or less. If the contractor elects to use corrugated PVC pipe for Group A the pipe diameter shall be 36 inches or less.

730.2 Material. All material shall be in accordance with Division 1000, Material Details, and specifically as follows:

Item	Section
Metallic-Coated Steel End Sections	1020
Precast Concrete Flared End Sections	1032
Corrugated Polyethylene Culvert Pipe	1047
Steel Reinforced Polyethylene Culvert Pipe	1047
Polypropylene Culvert Pipe	1041
Corrugated PVC Culvert Pipe	1028

730.3 Construction Requirements.

730.3.1 Handling. All pipe shall be handled to avoid damage. Damaged pipe will be unacceptable and shall be repaired or replaced at the contractor's expense to the satisfaction of the engineer.

730.3.2 Laying.

730.3.2.1 Flexible pipe shall be laid as shown on the plans, with bell ends upstream and with the spigot end entered the full length into the adjacent section of pipe. Any pipe that is not in true alignment or that shows any undue settlement after laying shall be taken up and relaid at the contractor's expense. Camber shall be built into the pipe structure to allow for settlement from fill loads if shown on the plans or directed by the engineer.

730.3.2.2 Joints shall be soiltight and shall be installed such that the connection of pipe sections will form a continuous line free from appreciable irregularities in the flow line. Field joints may be corrugated bands, double bell couplings, bell and spigot pipe ends with a rubber o-ring gasket in accordance with ASTM F 477, or an alternative connection approved by the engineer. All joints shall comply with the soiltight joint performance criteria of AASHTO PP-63.

730.4 Installation, Bedding and Backfill. Thermoplastic pipe installation, bedding and backfill shall be installed in accordance with AASHTO LRFD Bridge Construction Specifications Section 30 and as shown on the plans and specifications. When conflicts occur between AASHTO Section 30 and the plans and specifications the plans and specifications shall apply.

730.4.1 Bedding and Backfill Material. Bedding and backfill material shall meet the requirements of AASHTO M145, A-1, A-2-4, A-2-5 or A-3. Bedding material shall have a maximum particle size of 1.25 inches. Backfill shall be free of organic material, stones larger than 1.5 in or frozen lumps. Moisture content shall be in the range of optimum content to permit thorough compaction. For pipes with corrugated exterior backfill gradations shall have particle size that will permit filling of the corrugations. Flowable backfill, such as low strength mortar may also be used providing flotation resistance and adequate void fill coverage.

730.4.2 Foundation and Bedding Construction. A stable and uniform bedding shall be provided for the pipe and an protruding features of the drainage structure. The middle of the bedding equal to one-third the pipe outside diameter should be loosely placed, while the remainder shall be compacted to a minimum 90 percent of maximum density based upon standard procter test. A minimum of 4.0 in of bedding shall be provided prior to placement of the pipe unless otherwise specified. When rock or unyielding material is present in the trench bottom a 6.0 in minimum bedding shall be provided. If soft or unstable material is encountered the material shall be removed to a minimum depth of 10 inches below the bottom of the pipe and replaced with suitable granular material. Payment for any unsuitable material will be made per Sec. 206.

730.4.3 Backfill Construction. Structural backfill shall be placed and compacted in layers not exceeding a loose lift thickness of 8.0 in and brought up evenly and simultaneously on both sides of the pipe to an elevation not less than 1.0 ft. above the top of the pipe. Structural backfill shall be worked into the haunch area and compacted by hand. All backfill shall be compacted to a minimum 90 percent standard density based upon standard Procter test. Special compaction means may be necessary in the haunch area. Ponding or jetting structural backfill to achieve compaction shall not be permitted without the permission of the Engineer.

730.5 Skewed Ends. A pipe end may be cut to a maximum angle of 10 degrees to provide a skewed end.