

## **SECTION 3110 - SOLID WALL PVC GRAVITY SEWER PIPE**

### **PART 1 - GENERAL**

#### **1.1 SCOPE OF WORK:**

Provide all labor, materials, equipment and services required for furnishing and installing all piping and appurtenances specified herein.

#### **1.2 RELATED WORK SPECIFIED ELSEWHERE:**

- A. Trench Excavation: Section 3720
- B. Bedding and Backfill: Section 3730

### **PART 2 - PRODUCTS**

#### **2.1 SOLID WALL POLYVINYL CHLORIDE (PVC) NON-PRESSURE PIPE:**

- A. Solid wall PVC sewer pipe through 15" diameter shall be ASTM D3034. Solid wall PVC sewer pipe 18" diameter and larger shall be ASTM F679, Type I. Both types of solid wall PVC sewer pipe shall have ASTM D 3212 integral bell and spigot rubber gasketed joints. Pipe shall be SDR 35 for depths to 16 feet. SDR 26 pipe shall be installed at depths greater than 16 feet. Gasketed fittings shall conform to the same specifications and be supplied with the pipe. No sewer shall exceed 25 feet in depth without the approval of the ENGINEER. Depths are referenced from the top of the pipe.
- B. All pipe shall be suitable for use as a gravity sewer conduit. Provisions must be made for contraction and expansion at each joint with a rubber ring. The bell shall consist of an integral wall section with a solid cross section rubber ring factory assembled, securely locked in place to prevent displacement. Pipe shall be supplied in lengths ten feet or greater. All pipe spigots shall have a "Home" mark to facilitate joint closure.
- C. A manufacturer's certificate that the PVC material and pipe was manufactured and tested in accordance with the appropriate ASTM specification shall be furnished to the ENGINEER prior to installation of the pipe.
- D. Pipe intended to be straight shall have a maximum deviation from straightness of 1/16 inch per linear foot when measured in accordance with ASTM D2122.
- E. All pipe and fittings will be inspected by the ENGINEER or his authorized representative immediately prior to installation and all rejected pieces must be completely removed from the project. Pipe acceptable to the ENGINEER shall be substituted for rejected pieces at the CONTRACTOR's expense. No repaired pipe or fittings will be allowed; undamaged lengths of straight pipe may be salvaged by neatly sawing off the damaged portion of the pipe.
- F. Pipe must be delivered to the job site by means which will adequately support it and not subject it to undue stresses. In particular, the load shall be so supported that the bottom rows of pipe are not damaged by crushing. Pipe shall be unloaded carefully and strung or stored as close to the final point of placement as a practical. Pipe must not be exposed to the direct rays of the sun for an extended period of time. If pipe is not to be installed shortly after delivery to the job site, it must be stored in shaded location and strung as needed.
- G. All PVC pipe shall be tested for deflection after backfilling is completed, as described in Section 3820, and air tested for leakage, as described in Section 3810.

## **2.2 PIPE JOINTS:**

PVC sewer pipe joints shall be elastomerically gasketed conforming to ASTM D3212 integral bell and spigot type. The CONTRACTOR shall furnish evidence of satisfactory performance of the joint for previous installations.

- A. Testing of PVC sewer pipe joints, when so directed by the ENGINEER, shall be ASTM D3212 for gasketed joints, with modification as specified below. All equipment necessary to conduct the pipe joint test shall be provided by the CONTRACTOR.
- B. Test Specimens - The ENGINEER or his authorized representative may initially and periodically select random sewer pipe for test purposes. The tests shall be performed on not less than two specimens and not more than 1 percent of the total pipe length of each size and joint type required for the project.

### **PART 3 - BASIS OF PAYMENT**

Payment for PVC gravity sewer lines of the different sizes at the various depths of cut will be made at the Contract unit price per linear foot in place, which price will include compensation for furnishing pipe, all trenching (including rock excavation), bedding, laying, jointing, testing, backfilling, surface restoration (except pavement replacement) connections to new manholes, and all plugs as required. The depth of cut to be paid for shall be measured from the existing ground surface at the top of the trench to the invert of the sewer line. The quantity of sewer to be paid for shall be the length of pipe measured along the centerline of the completed pipeline without deducting the length of branches, fittings and manhole inverts. Connections of existing sewers to new sewers will be incidental to this pay item.

END OF SECTION