

**STANDARD SPECIFICATIONS FOR
CONSTRUCTING UTILITY SEWER FACILITIES**

DIVISION III - CONSTRUCTION SPECIFICATIONS

**SECTION 7
GENERAL SPECIFICATIONS FOR ENCASEMENT PIPE**

7.01 SCOPE

These specifications shall govern the encasement pipe requirements for water mains, sanitary sewers, and gas mains.

7.02 GENERAL

Encasement pipe shall conform to AASHTO Standards and Alabama Department of Transportation standards where placed under highways and to AREA 1-5-B where placed under railroads. Except where noted on the plans, encasement pipe shall be installed by a dry boring method in which the casing pipe is placed simultaneously with the boring action.

The Contractor shall inspect the roadway or track directly above the Work before, during, and after the placing of the encasement for settlement. If settlement occurs, the Contractor shall, at no additional expense to the Owner, bring the roadway surface to its original grade by means approved by the State Highway Department or realign the track to its proper grade by means approved by the railway owner.

7.03 MATERIAL

- A. Welded Steel Encasement Pipe shall be of the size and wall thickness shown on the plans and shall conform to ASTM Designation A252, Grade 2 and the Alabama Department of Transportation standard specifications. The pipe shall be coated on the outside only with a coal tar primer coat followed by a single application of hot coal-tar enamel 3/32 inches thick \pm 1/32 inches and a bonded 15 pound composition felt wrap or approved equal. At the option of the Contractor, uncoated pipe may be used subject to approval of the State Highway Department or railway company provided the wall thickness is at least 0.063 inch greater than shown on the plans or in the proposal.
- B. Encasement Spacers: Encasement pipe spacers and their accessories shall be used to maintain separation of the encasement pipe and the carrier. The installation and spacing from center to center of encasement spacers shall be in accordance with the manufacturer's requirements. Spacers shall be stainless steel, PVC or PE.
- C. Encasement End Seals: Encasement end seals shall be 1/8 inch synthetic rubber, stainless steel sipper or closer, pressure molded to the rubber and a rubber protective strip attached to the seal under the zipper. Seals shall be secured to encasement using 1/2 inch stainless steel "Band-It" clips or thumbscrew banding clips with a polyethylene strip placed under each clip. a telescopic fold shall be placed in the seal before banding to assure proper flexibility between the carrier pipe and the casing.

- D. Encasement Vents: Encasement vents shall be installed with a gas main is installed as a carrier pipe. Vent piping shall be 2-inch standard weight API-5L Grade B in accordance with ANSI B36.10 and B36.19. Each encasement shall be provided with two vents. Each vent shall be installed no more than 1 foot from end of encasement. Low end of encasement shall have the vent attached to the underside of the encasement at its centerline. High side of encasement shall have the vent installed at the top of the encasement at its centerline. Vent lines shall slope upwards away from encasement and shall be routed with a minimum of turns or offsets. A minimum of 24 inches of cover shall be maintained above all buried vent lines. Vent lines shall be routed to within 1 foot of property or right-of-way lines. Vents shall terminate with a vertical stack extending 4 feet above ground including a 180 degree return elbow with an approved insect screen attached.

Exterior of vent pipe shall be cleaned and primed with one coat of rust inhibiting primer by BLP Mobile Paints, RUS-KIL 10-10, or Engineer/Owner approved equal. The upper 16 inches of exposed vent stack shall receive two finish coats of yellow alkyd resin enamel by BLP Mobile Paints, RUS-KIL 10-72, or Engineer/Owner approve equal. Remainder of exposed vent stack shall receive two finish coast of aluminum, alkyd resin enamel by BLP Mobile Paints, RUS-KIL 10-26, or equal.

7.04 FILLING ENCASEMENT

If approved by Daphne Utilities and other entities with authority/permitting regarding this matter and prior to construction, the Contractor may elect to fill the pipe with sand to at least 90 percent of the full encasement pipe diameter in lieu of encasement spacers and end seals. The sand shall be placed by flooding, pumping, or other approved methods. In no case will blocking between the encasement pipe and the carrier pipe be permitted. The Contract shall not permit the encasement pipe to fill with water after the carrier pipe is installed and prior to placing of sand fill, except at his own risk. If the carrier pipe is displaced by floatation, it shall be reinstalled to line and grade at the Contractor's expense. The ends of the encasement pipe shall be sealed with open-joint concrete block or brick masonry.

END OF SECTION