

**SECTION 8 - SPECIAL CONDITIONS
TO THE WATER STANDARD SPECIFICATIONS**

**SECTION 8 - SPECIAL CONDITIONS
TO THE STANDARD SPECIFICATIONS**

2-01 DUCTILE IRON PIPE

2-01.04 POLYETHYLENE PROTECTIVE WRAPPING

Polyethylene protective wrapping ("Polywrap") shall conform to the requirements of ANSI/AWWA C105/A21.5 and be eight (8) mil thick tubing of virgin polyethylene (Dupont Alathon, U.S. 1. Petrothene resin, or approved equal) or four (4) mil thick high-density, cross-laminated (HDCL) polyethylene. The color shall be (a) natural (where exposure to sunlight will be less than 48 hours); or (b) black, containing 2.0 to 2.5% well dispersed carbon black with stabilizers (where exposure to sunlight may be up to 10 days). Tubing shall be taped and secured with general purpose polyethylene tape, 2 inches wide and 10 mils thick (Scotchrap No. 50, Plicoflex No. 340, Protecto Wrap No. 200, Polyken No. 900, or approved equal).

Polyethylene protective wrapping (Polywrap) for ductile iron pipe shall be furnished and installed on all buried water lines, except where water lines are within a steel casing pipe, in accordance with the requirements of AWWA C105, Section 2-01.04 of these specifications, and as specified herein. Polywrap shall be installed so as to prevent any section of the pipe, fittings, valves, services, or appurtenances from contacting the soil.

The 'polywrap' shall be taped to provide a snug fit along the pipe. Minimum tubing size shall allow for an overlap of 12 inches; i.e., flat tube width in inches = $(3.14 \times \text{Diameter}) + 12$ inches. An additional 3 layer wrap of polyethylene shall be made at all tapping locations a minimum of 12 inches in width. Openings for service taps, blowoffs, or similar appurtenances shall be cut in the 'polywrap' during backfilling of the trench. Corporation stops and copper service lines shall

SECTION 8 - SPECIAL CONDITIONS TO THE WATER STANDARD SPECIFICATIONS

be wrapped with polyethylene protective wrapping for a minimum clear distance of 3 feet from the water main.

Any punctures, tears or other damage shall be patched with polyethylene wrap and tape in accordance with the requirements of AWWA C105 and manufacturer's instructions. Rocks or other material that could damage the wrapping shall not be included in the backfill.

Polyethylene protective wrapping shall be utilized unless the project's geotechnical report demonstrates that the soil is non-corrosive.

2-02 SPECIAL APPLICATIONS USING POLYVINYL CHLORIDE PIPE

2-02.01 GENERAL

At the sole discretion of the SBMWD, polyvinyl chloride (PVC) pipe material for distribution main may be required in areas of highly corrosive soil. PVC Pipe shall be Pressure Class 200 (DR 14), unless otherwise specified, conforming to the requirements of AWWA Standard C900-latest revision "Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 inch Through 12 inch, for Water Distribution". PVC Pipe for pipes larger than twelve-inch (12") shall not be allowed. All PVC Pipe shall be colored white.

2-02.02 PIPE JOINTS

PVC pipe shall be furnished in twenty-foot (20') nominal laying lengths and have bell-end push-on joints employing a single elastomeric gasket in accordance with AWWA Standard C900.

2-02.03 PIPE SERVICES AND APPURTENANCES

All service saddles, sleeves, fittings, restraining devices, and other appurtenances used on PVC Pipe shall be approved by the Utility prior to use.

SECTION 8 - SPECIAL CONDITIONS TO THE WATER STANDARD SPECIFICATIONS

3-06 LAYING OF PVC PIPE WATER MAIN

Installations of pipe, bends, and fittings shall be in accordance with Section 2-09 for ductile iron bends and fittings, and AWWA C605 "Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water" and the pipe manufacturer's installation manual. PVC bends and fittings are not allowed. The Uni-Bell Handbook of PVC Pipe-Design and Construction shall be used for details of pipe installation practice except as follows and where noted otherwise on plans. Longitudinal bending of pipe sections is prohibited. Any directional change shall be accomplished through manufacturer approved 1° deflection of push on joints, 5° deflection with Certainteed - couplings, or ductile iron bends capable of withstanding 250 psi loads. A number 14-gauge, solid, soft drawn insulated copper tracer wire is required for PVC pipe installation. The tracer wire shall be wrapped around the pipe at 10-foot intervals and brought up inside each valve can to within 6 inches of the valve cover.

Service saddles are required for all corporation stops 2-inch diameter and less.

Point load set screws in retainer glands and flanges are prohibited, whereas those devices with pads or full circle are acceptable.

Water mains shall be installed to provide a 10-foot minimum separation between the outside wall of the water main and the outside wall of any sanitary sewer.

Every precaution shall be taken to prevent foreign material from entering the pipe while it is being placed in the trench. If the pipe-laying crew cannot put the pipe into the trench and in place without getting soil into it, the Engineer may require that before lowering the pipe into the trench, a temporary plug be placed over each end and left there until the connection is to be made to the adjacent pipe. During laying operations, no debris, tools, clothing or other materials shall be left in the pipe.

At times when pipe laying is not in progress, the open ends of pipe shall be closed by watertight plug or other means

**SECTION 8 - SPECIAL CONDITIONS
TO THE WATER STANDARD SPECIFICATIONS**

approved by the Engineer. This provision shall apply during the lunch-hour breaks as well as overnight. If water is in the trench, the seal shall remain in place until the trench is pumped completely dry.

The cutting of pipe for inserting tees, fittings or closure pieces shall be done in a neat workmanlike manner without damage to the pipe and so as to leave a smooth end at right angles to the axis of the pipe. The beveled end of any PVC pipe shall be cut off before the pipe is inserted into a mechanical joint bend or fitting. No pipe shall be laid in water or when, in the opinion of the Engineer, trench conditions are unsuitable.