

## SECTION 990 PIPE CULVERTS AND DRAINAGE TUBING

### 990.1 REQUIREMENTS

- A. Reinforced Concrete Pipe:** Reinforced concrete pipe shall conform to AASHTO M 170, M 206, and M 207.
- 1. Basis of Acceptance:** The acceptability of the pipe will be determined on the basis of plant load bearing tests, compressive strength of concrete, material tests, and inspection of the complete product.
  - 2. Materials:** Materials shall conform to the requirement of the following sections:
    - a.** Portland cement shall be Type II conforming to Section 750.
    - b.** Water shall conform to Section 790.
    - c.** Fine aggregate shall conform to Section 800.
    - d.** Coarse aggregate shall conform to Section 820 except the gradation requirements shall not apply.
    - e.** Reinforcement shall conform to Section 1010.
    - f.** Air entraining agent shall conform to Section 751.
    - g.** Fly ash shall conform to Section 753
    - h.** Flexible watertight gaskets shall conform to AASHTO M 198 Type A or Type B
  - 3. Concrete:** The concrete in special sections shall have a minimum compressive strength of 4000 psi (28 MPa). The strength shall be determined by test cylinders or by cores.
- B. Corrugated Metal Pipe:** Corrugated metal pipe shall conform to AASHTO M 36 or AASHTO M 196.
- C. Bituminous Coated Corrugated Metal Pipe:** Bituminous coated corrugated metal pipe shall conform to AASHTO M 190, except the pipe shall conform to AASHTO M 36 OR AASHTO M 196 before coating.
- D. Structural Plate Pipe:** Structural plate for pipe shall conform to AASHTO M 167 or AASHTO M 219.
- E. Corrugated Polyethylene Drainage Tubing:** Corrugated polyethylene drainage tubing, couplings, and fittings shall conform to the requirements of AASHTO M 252 except Section 7.4 is modified as follows:

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The length of the individual slots on the 4 inch to 8 inch (100 mm to 200 mm) diameter tubing shall not exceed 12 percent of the tubing inside nominal circumference.

- F. Corrugated Polyethylene Pipe:** Corrugated polyethylene pipe, couplings, and fittings shall conform to the requirements of AASHTO M 294.