

SELECTION GUIDELINE FOR CULVERT, SLOPE, AND UNDERDRAIN PIPE

| PIPE TYPE | INSTALLATION TYPE | | | | | | | | | |
|--|---|------------------------------|--------------------------------|---------------------------------------|----------------|---|----------------|------------|-----------------------|-----------------------|
| | STORM DRAIN | | | | | | | SIDE DRAIN | PERMANENT SLOPE DRAIN | PERFORATED UNDERDRAIN |
| | TRAVEL BEARING (Inside Roadbed) | | | | | NON-TRAVEL BEARING (Outside Roadbed) | | | | |
| | GRADE $\leq 10\%$ | | | | GRADE > 10% | INTERSTATE | NON-INTERSTATE | | | |
| | ADT < 1500 | ADT ≥ 1500 < 5000 | ADT ≥ 5000 < 15,000 | ADT $\geq 15,000$ & Interstates | | | | | | |
| Concrete Pipes Section 843 | | | | | | | | | | |
| Reinforced Concrete AASHTO M 170 | YES | YES | YES | YES | NO | YES | YES | YES | NO | NO |
| Steel Pipes Section 844 | Note: See Table 1 for Site Condition Restrictions | | | | | | | | | |
| CORRUGATED STEEL ALUMINUM COATED (TYPE 2) AASHTO M 36 | YES | YES | NO | NO | NO | NO | YES | YES | YES | YES |
| CORRUGATED STEEL PLAIN ZINC COATED AASHTO M 36 | NO | NO | NO | NO | NO | NO | NO | YES | YES | YES |
| POLYMER COATED STEEL AASHTO M 245 | YES | YES | NO | NO | YES | NO | YES | YES | YES | NO |
| Aluminum Alloy Pipes Section 840 | Note: See Table 1 for Site Condition Restrictions | | | | | | | | | |
| CORRUGATED ALUMINUM AASHTO M 196 | YES | YES | NO | NO | NO | NO | YES | YES | YES | YES |
| Thermoplastic Pipes Section 845 | | | | | | | | | | |
| CORRUGATED HDPE AASHTO M 252 | NO | NO | NO | NO | NO | NO | NO | NO | NO | YES |
| CORRUGATED SMOOTH LINED HDPE AASHTO M 294 TYPE "S" | YES | YES | YES | NO | YES | NO | YES | YES | YES | YES |
| CORRUGATED SMOOTH LINED POLYPROPYLENE AASHTO M 330 | YES | YES | YES | NO | YES | NO | YES | YES | YES | YES |
| PVC CORRUGATED SMOOTH INTERIOR ASTM F 949 | YES | YES | YES | NO | YES | NO | YES | YES | YES | YES |
| PVC PROFILE WALL AASHTO M 304 | YES | YES | YES | NO | YES | NO | YES | YES | YES | YES |

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| TABLE 1 SITE CONDITION RESTRICTIONS FOR METAL PIPE | | | |
|---|---|----------------|--|
| PIPE TYPE | ALLOWABLE pH RANGE (SOIL OR WATER) | | ALLOWABLE RESISTIVITY RANGE (Ohms-cm) |
| | MINIMUM | MAXIMUM | MINIMUM |
| Steel Pipes Section 844 | | | |
| CORRUGATED STEEL ALUMINUM COATED (TYPE 2) AASHTO M 36 | 4.5 | 5.0 | 5,000 |
| CORRUGATED STEEL PLAIN ZINC COATED AASHTO M 36 | 5.0 | 9.0 | 1,500 |
| CORRUGATED STEEL PLAIN ZINC COATED AASHTO M 36 | 6.0 | 10.5 | 8,000 |
| POLYMER COATED STEEL AASHTO M 245 | 4.0 | 9.0 | 750 |
| Aluminum Alloy Pipes Section 840 | | | |
| CORRUGATED ALUMINUM AASHTO M 196 | 4.5 | 9.0 | 1,500 |
| Note: If environmental conditions fall outside the specified requirements listed above, the Office of Materials and Testing will make recommendations concerning allowable high performance corrosion protection systems. | | | |

- Structural, installation, fill height and backfill requirements of storm drain pipe will be in accordance with Georgia Standard 1030-D or 1030-P and the Standard Specifications.
- Procedure for designating pipe culvert materials according to the Standard Specifications:
 - A. Regardless of funding on all projects where a soil survey is not made, the Office of Materials and Testing will furnish, upon request, a recommendation of allowable materials.
 - B. The Summary, Detailed Estimate, and Proposal will include the item in accordance with Georgia Standard 1030-D or 1030-P using a non-specifying nomenclature.
 - C. Allowable pipe materials for the project will be noted on the Plan Summary Sheet.
 - D. Other acceptable pipe materials and/or high performance corrosion protection systems will be noted on the Plan Summary Sheet.
 - E. If steel structural plate for pipe, pipe arches, and arches are required on a project, the materials and coating requirements will be noted on the Plan Summary Sheet.

Definitions:

Roadbed – The graded portion of a highway within top and side slopes, prepared as a foundation for the pavement structure and shoulder. (Section 101.51)

Side Drain – All driveway pipes (commercial, non-commercial, residential, utility, farm, logging, and mining.)