

| TABLE A1 - ALLOWABLE TYPE OF STORM SEWER PIPE FOR ROADWAYS THAT ARE CONSTRUCTED, FUNDED OR WILL ULTIMATELY BE MAINTAINED BY VDOT | | | |
|---|-----------|---|------------------------------|
| FUNCTIONAL CLASSIFICATION OF ROADS SYSTEM UNDER WHICH PIPE IS TO BE INSTALLED | | | |
| HIGHER FUNCTIONAL CLASS - HFC RURAL PRINCIPAL ARTERIAL, URBAN PRINCIPAL ARTERIAL, RURAL MINOR ARTERIAL, URBAN MINOR ARTERIAL, RURAL COLLECTOR ROADS, URBAN COLLECTOR STREETS, SUBDIVISION STREETS WITH AN ADT GREATER THAN 4000 | | LOWER FUNCTIONAL CLASS - LFC RURAL LOCAL ROADS, URBAN LOCAL STREETS, SUBDIVISION STREETS WITH AN ADT LESS THAN OR EQUAL TO 4000 | |
| ALLOWABLE PIPE CULVERTS NOTES 1 & 2 | STATEWIDE | STATEWIDE EXCEPT LOCATIONS SHOWN IN TABLE B | LOCATION SHOWN IN TABLE B |
| CONCRETE | ✓ | ✓ | ✓ |
| CORRUGATED STEEL ALUMINUM COATED TYPE 2 FULLY CONCRETE LINED | | ✓ | |
| NOTE 3 | | | |
| ALUMINUM COATED TYPE 2 STEEL SPIRAL RIB | | ✓ | |
| NOTE 3 | | | |
| POLYMER COATED (10/10) CORRUGATED STEEL SPIRAL RIB | | ✓ | ✓ |
| NOTE 3 | | | |
| POLYMER COATED (10/10) CORRUGATED STEEL DOUBLE WALL (SMOOTH INTERIOR) | | ✓ | ✓ |
| NOTE 3 | | | |
| ALUMINUM SPIRAL RIB | | ✓ | ✓ |
| NOTE 3 | | | |
| POLYVINYLCHLORIDE (PVC) RIBBED PIPE (SMOOTH INTERIOR) | | ✓ | ✓ |
| POLYETHYLENE (PE) CORRUGATED TYPE S | | ✓ | ✓ |

| TABLE B EXCEPTIONS TO STATEWIDE APPLICATIONS | | | |
|--|--|--|--------------|
| COUNTIES (INCLUDING TOWNS) | | CITIES | |
| ARLINGTON - EAST OF AND INCLUDING RTES. 95 & 395 | SURRY - EAST OF AND INCLUDING RTE. 10 | SUFFOLK - EAST OF AND INCLUDING RTE. 32 | |
| FAIRFAX - EAST OF AND INCLUDING RTES. 95 & 395 | ISLE OF WIGHT - EAST OF AND INCLUDING RTE. 10 | CHESAPEAKE | WILLIAMSBURG |
| PRINCE WILLIAM - EAST OF AND INCLUDING RTES. 95 & 395 | | VIRGINIA BEACH | POQUOSON |
| WESTMORELAND | JAMES CITY | HAMPTON | PORTSMOUTH |
| LANCASTER | ACCOMACK | NEWPORT NEWS | |
| MATTHEWS | SPOTSYLVANIA | NORFOLK | |
| GLOUCESTER | NORTHUMBERLAND | ALEXANDRIA | |
| | RICHMOND | FREDERICKSBURG | |

| TABLE C | | | | | |
|--|---------------------------------------|------|-----------------------------------|-------|--|
| PIPE TYPE | ALLOWABLE pH RANGE (SEE NOTE 6) | | ALLOWABLE RESISTIVITY RANGE | | ALLOWABLE VELOCITY (FPS) (SEE NOTE 5) |
| | MIN. | MAX. | MIN. | MAX. | MAXIMUM |
| ALUMINUM COATED TYPE 2 CORRUGATED STEEL | 5.0 | 9.0 | 1500 | - | 5 |
| GALVANIZED STEEL STRUCTURAL PLATE WITH CONCRETE INVERT | 6.0 | 9.0 | 2000 | 10000 | 15 |
| GALVANIZED STEEL STRUCTURAL PLATE | 6.0 | 9.0 | 2000 | 7000 | 5 |
| POLYMER COATED (10/10) CORRUGATED STEEL | 4.0 | 9.0 | 750 | - | 15 |
| UNCOATED GALVANIZED CORRUGATED STEEL | 6.0 | 10.0 | 2000 | 7000 | 5 |
| CORRUGATED ALUMINUM ALLOY | 4.0 | 9.0 | 500 | - | 5 |
| CORRUGATED ALUMINUM ALLOY STRUCTURAL PLATE | 4.0 | 9.0 | 500 | - | 5 |
| ALUMINUM SPIRAL RIB | 4.0 | 9.0 | 500 | - | 5 |
| ALUMINUM COATED TYPE 2 SPIRAL RIB | 5.0 | 9.0 | 1500 | - | 5 |
| CORRUGATED STEEL ALUMINUM COATED TYPE 2 FULLY CONCRETE LINED | 5.0 | 9.0 | 1500 | - | 15 |
| POLYMER COATED CORRUGATED STEEL SPIRAL RIB | 4.0 | 9.0 | 750 | - | 15 |
| POLYMER COATED CORRUGATED STEEL DOUBLE WALL | 4.0 | 9.0 | 750 | - | 15 |

NOTES:

1. ALLOWABLE TYPES OF PIPES FOR A SPECIFIC AREA ARE TO CONFORM TO THE CRITERIA SHOWN IN TABLES A, A1, B, AND C. ANY DEVIATION MUST BE APPROVED BY THE STATE LOCATION AND DESIGN ENGINEER AND THE DISTRICT MATERIALS ENGINEER.
2. SEE HEIGHT OF COVER TABLES FOR MINIMUM AND MAXIMUM COVER LIMITATIONS FOR EACH TYPE OF PIPE.
3. SEE TABLE C FOR MINIMUM AND MAXIMUM pH, RESISTIVITY, AND VELOCITY LIMITATIONS FOR METAL PIPES.
4. USE ONLY UNDER ENTRANCES WHERE THE PIPE SIZE IS LESS THAN OR EQUAL TO 30" DIAMETER (OR EQUIVALENT) AND THE HEIGHT OF COVER IS LESS THAN OR EQUAL TO 15' AND AS AN OUTLET PIPE FOR STANDARD DI-13 SHOULDER SLOT INLETS.
5. ALLOWABLE VELOCITY WHERE ABRASIVE BEDLOAD IS PRESENT OR ANTICIPATED. MAXIMUM VELOCITY BASED ON 10 YEAR DESIGN DISCHARGE (Q).
6. pH VALUES APPLY TO BOTH THE SOIL AND WATER.

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| SPECIFICATION REFERENCE |
| 302 232 |

ALLOWABLE PIPE CRITERIA FOR CULVERTS AND STORM SEWERS