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	ESSEX	NORTHAMPTON	HAMPTON	PORTSMOUTH
LANCASTER	ACCOMACK	MIDDLESEX	STAFFORD	NEWPORT NEWS	
MATTHEWS	SPOTSYLVANIA	YORK	KING GEORGE	NORFOLK	
GLOUCESTER	NORTHUMBERLAND	RICHMOND		ALEXANDRIA	
				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.

SPECIFICATION REFERENCE

302
232

ALLOWABLE PIPE CRITERIA FOR CULVERTS AND STORM SEWERS

VIRGINIA DEPARTMENT OF TRANSPORTATION

REV. 9/06

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