

S5.01 Storm Water Quality Unit Product Specification

Scope

This specification describes 36- through 60-inch (900 to 1500 mm) Storm Water Quality Units for use in on-site point source storm water treatment applications.

Requirements

Storm Water Quality Units shall have a smooth interior and annular exterior corrugations meeting the requirements of ASTM F2737.

The unit shall have at least three containment zones, each zone separated from the next by use of a weir or baffle plate

Weir and baffle plates shall be welded at all interfaces between the plate and water quality unit. First weir plate shall incorporate a saw tooth design and shall be reinforced with stiffeners positioned horizontally on the downstream side of the plate to be retained.

Storm Water Quality Units shall provide adequate clean-out and inspection access.

Joint Performance

Connections for the bypass line and the unit shall utilize the same joint quality as specified for the main storm sewer pipe. Couplers for the bypass line may be either split couplers, in-line bell couplers, snap couplers, bell-bell couplers, or welded bell couplers.

Material Properties

Material for pipe and fittings used to produce Storm Water Quality Units shall be high density polyethylene conforming with the minimum requirements of cell classification 424420C for 4- through 10-inch (100 to 250 mm) diameters, and 435400C for 12- through 60-inch (300 to 1500mm) diameters as defined and described in the latest version of ASTM D3350. The pipe material shall be evaluated using the notched constant ligament-stress (NCLS) test as specified in Sections 9.5 and 5.1 of AASHTO M294 and ASTM F2306, respectively. All smooth baffle and weir plates shall be high density polyethylene.

Build America, Buy America (BABA)

Storm Water Quality Unit, manufactured in accordance with AASHTO M294 or ASTM F2306, complies with the requirements in the Build America, Buy America (BABA) Act

Installation

Installation shall be in accordance with the ADS recommended installation guidelines, utilizing a class I (ASTM D2321) structural backfill material or flowable fill (CLSM –Controlled Low Strength Material). Contact your local ADS representative or visit www.adspipe.com for the latest installation instructions.

Performance

Water Quality Units shall remove a minimum of 80% of the first flush total suspended solids (TSS) based on flow rates and corresponding sieve sizes shown in Table 1. Water Quality units shall be installed “offline” to prevent re-suspension of solids in high flow situations. Offline installation shall be constructed utilizing an ADS By-Pass structure. Flow through the unit shall be controlled by an orifice fabricated on the outlet end of the structure.

Storm Water Quality Unit Dimensions and Specifications (based on mathematical calculations)

I.D in (mm)	Inlet Size in (mm)	Outlet Size in (mm)	Length ft (m)	Treated Flow Rate cfs (cms)	Sediment Volume ft ³ (m ³)	Floatables Volume ft ³ (m ³)	Sieve Size
36 (900)	10 (254)	10 (254)	20 (6.1)	1.50 (0.04)	65 (1.8)	30 (0.8)	140
	10 (254)	10 (254)	40 (12.2)	2.38 (0.07)	137 (3.9)	63 (1.8)	140
	10 (254)	10 (254)	20 (6.1)	0.70 (0.002)	65 (1.8)	30 (0.8)	200
	10 (254)	10 (254)	40 (12.2)	1.60 (0.05)	137 (3.9)	63 (1.8)	200
42 (1050)	12 (305)	12 (305)	20 (6.1)	1.73 (0.05)	83 (2.4)	38 (1.1)	140
	12 (305)	12 (305)	40 (12.2)	3.66 (0.10)	175 (5.0)	81 (2.3)	140
	12 (305)	12 (305)	20 (6.1)	0.86 (0.02)	83 (2.4)	38 (1.1)	200
	12 (305)	12 (305)	40 (12.2)	1.83 (0.05)	175 (5.0)	81 (2.3)	200
48 (1200)	12 (305)	12 (305)	20 (6.1)	2.26 (0.06)	116 (3.3)	55 (1.6)	140
	12 (305)	12 (305)	40 (12.2)	3.94 (0.11)	245 (6.9)	115 (3.3)	140
	12 (305)	12 (305)	20 (6.1)	1.13 (0.03)	116 (3.3)	55 (1.6)	200
	12 (305)	12 (305)	40 (12.2)	2.39 (0.07)	245 (6.9)	115 (3.3)	200
60 (1500)	15 (381)	15 (381)	20 (6.1)	2.95 (0.08)	183 (5.2)	87 (2.5)	140
	15 (381)	15 (381)	40 (12.2)	6.23 (0.17)	385 (10.9)	184 (5.2)	140
	15 (381)	15 (381)	20 (6.1)	1.47 (0.04)	183 (5.2)	87 (2.5)	200
	15 (381)	15 (381)	40 (12.2)	3.12 (0.09)	385 (10.9)	184 (5.2)	200

Storm Water Quality Unit

(Unit configuration & availability subject to change without notice. Product detail may differ slightly from actual product appearance.)

