

Section 02632 Downspout StormBasin Filter

Project Name _____

Location _____

Contract Number _____

PART 1.00 SCOPE

1.1 General Description

This specification describes a post developed filtration device that treats for suspended solids, oils and grease, dissolved and particulate phosphorus, bacteria, and heavy metals and is installed on new or existing downspouts draining from building rooftops, parking garages, bridges, docks, etc.

Downspouts selected for treatment are identified on the drainage and grading plans.

1.2 Submittals

The contractor and/or engineer of record shall be provided with typical details or site specific top drawings of the downspout filter device and, when specified, utilize these drawings for approval. Drawings shall be annotated to indicate overall physical dimensions (WXLXH), weights, materials, and design assumptions.

PART 2.00 PRODUCTS

2.1 General Configuration:

This technology is a post developed stormwater treatment system. The DownSpout StormBasin Filter provides effective filtration of pollutants and debris typical of urban runoff, while utilizing the existing or new piping infrastructure.

The device shall provide for isolation of trapped pollutants, including debris, sediments, floatable trash and hydrocarbons from bypass flow in order to minimize suspension during peak flows.

Water suspended pollutants such as oils and grease, pathogens, heavy metals and nutrients shall be treated by a radial downflow cartridge system that uses a filter medium designed to be non-leaching, non-biodegradable and safe for outdoor use.

2.2 Flow Capacity:

The cartridge specified shall effectively filter the water quality flow rates from a frequently occurring rainfall event and shall provide at least one mode of bypass. Under normal functioning conditions, a single cartridge shall be able to handle flow rates up to 0.25 cfs at 6 inches of driving head as documented through hydraulic testing of a clean cartridge.

High flows that exceed the treatment capacity of the filter cartridge, either clean or during the normal course of service, must be able to escape through overflow ports that are provided at the top of the insert.

Performance Parameter	StormBasin Model 10080-1-000
Cartridge Flow Rate	120 gpm (0.25 cfs)
Primary Bypass Flow Rate	848 gpm (1.89 cfs)

2.3 Performance Characteristics and Testing

The filtration device shall have been tested by the manufacturer in the field and the in laboratory in order to demonstrate pollutant removal efficiency at flow rates at or near the cartridges filtration capacity. Manufacturer may be required to submit test data to the engineer of record or agency indicating the proposed device has been shown to achieve removal rates within the ranges specified in the table below.

Performance Parameter	Percent Removal Range
Sediment removal Based on U.S. Silica OK 110	at least 80 %
Hydrocarbons, Oils and Grease	at least 80 %
Total Phosphorus	40 to 60%
Nitrogen Compounds	30 to 50 %
Bacteria	50 to 70%
Heavy Metals	40 to 60%

2.4 Support Plate

The support plate for the cartridges shall be composed of Aluminum Alloy Type 5052-H32 and be secured to the housing structure with CRES 300 pop rivets. A below water line grade sealant shall be applied to the pop rivets inside and out.

2.5 Housing Structure:

The housing structure shall be a white or black HDPE basin provided by FABCO Industries. The drainage pipe stubs shall be manufactured from PVC pipe stock and plumbed to provide a watertight connection with the basin.

2.6 Frame or Mounting Stand

Optional, to be determined.

2.7 Clearance

A minimum 2 ft clearance around two sides of the unit (if up against a corner wall) shall be provided to allow for maintenance access. Unobstructed access on the top of the unit should be allowed for maintenance access at all times.

2.8 Delivery, Storage and Handling

All materials shall be protected during loading, transportation and unloading, in accordance with the manufacturer's recommendations.

2.9 Manufacturer

The manufacturer of said system shall have been regularly engaged in the engineering design and production of systems for physical treatment of stormwater runoff for a minimum of 8-years. The Downspout StormBasin Filter shall be supplied by FABCO Industries, Inc., 66 Central Avenue, Farmingdale, NY 11735, phone 631.393.6024 or an approved Distributor\Representative of the product.

PART 3.00 INSTALLATION and MAINTENANCE

The DownSpout StormBasin Filter should be installed on a level surface and be protected from vehicle and pedestrian traffic using bollard posts, signage, fencing, etc. Care should be taken to prevent debris, sediment and foreign debris from entering the unit during construction. Pre-cleaning of the structure may be required per the construction supervisor or Engineer.

Maintenance: Typically the unit is serviceable from the floor\ground level or a 5 ft step ladder, and therefore maintenance does not require confined space entry into the structure. A shop vac is all that is needed to clean debris from the unit and the filter cartridges are designed to be easily removed and replaced by hand or using a cartridge removal tool. Use only FABCO replaceable parts.

END OF SECTION