



SPECIFICATION SECTION: _____ **Date:** _____

STORM WATER TREATMENT – STORMEXX® CLEAN CATCH BASIN INSERTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the Inserts for use at existing storm water catch basins in roadways, parking lots and paved areas of the housing development and other areas as indicated on the plans and specifications. The Inserts are for the capture and removal of sediment and hydrocarbons from storm water run-off.
 - 1. Retrofit existing Catch Basins where indicated on plans with the Catch Basin Inserts. Provide Size and Type as required.
 - 2. Provide and install the Catch Basin Inserts where indicated on drawings.
 - 3. Provide and install the Catch Basin Inserts in other Drain grates and Catch Basins where indicated on drawings.

1.2 DEFINITIONS

- A. SS: Stainless Steel, type 304
- B. HDPE: High-density polyethylene plastic.
- C. PE: Polyethylene plastic.
- D. PP: Polypropylene plastic.

Inserts shall include pre-manufactured HDPE housing, SS support system, filter cartridge, water deflector and leaf pre-strainer at inlet. Inserts shall be in accordance with the following requirements including other sizes and shapes necessary to accommodate non-standard catch basins including shallow depth units or where shown.

1.3 SUBMITTALS

- A. Product Data: For each type of Catch Basin Insert (INSERTS) indicated, include materials of fabrication, dimensions, rated capacities, operating characteristics and general service requirements. Prior to bidding or use, manufacturer or INSERTS supplier shall provide design criteria information for effective use in this application.



- B. Shop Drawings: For each Type and size of Catch Basin requiring an Insert:
 - 1. Basin and grate or opening size include Manufacturers suggested INSERT Type.
- C. Record Drawings Submittal: Upon completion of project provide an AutoCAD drawing showing all Inserts installed at Catch Basin #s on a copy of site plan provided. Provide closest house address number or identification number, if applicable.

1.4 PROJECT CONDITIONS

- A. Interruption of Existing Storm Drain Systems: Do not interrupt services to facilities occupied by City or others unless permitted under the following conditions:
 - 1. Obtain Encroachment Permit, if required by client, prior to providing any installation or on site.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Manufacturers: Subject to compliance with requirements, provide products in accordance with the performance specifications in this section.

Provide Manufacturer name, address and contact information.

- 2.2 INSERTS shall be specifically designed for treating storm water and the capture of sediment, hydrocarbons and other contaminants. INSERTS shall include all components and trim for a complete installation at each Type catch basin as indicated on drawings. Each Insert shall include a replaceable filter / absorber cartridge with filter media having a combined total volume of approximately 1,200 cubic inches of filter media and other features as indicated on the Manufacturer's data sheets including the following components:



- A. Filter Media. Shall meet Filter Media specifications as designated by the manufacturer that target specific pollutants such as sediment, hydrocarbons, heavy metals, nutrients or bacteria.

- B. Catch Basin Insert (INSERTS) Features and Characteristics include:
 - 1. Filter Cartridge Size: Nominal 10" in diameter by 18' high with center perforated HDPE tube. Storm water flows through media horizontally or longer on a downward path through the filter/absorber cartridge before exiting the perforated tube. The cartridge shall slip over a perforated internal drain tube that exits through the bottom of the housing. The cartridge shall contain approximately 1,200 cubic inches of various absorbent material arranged primarily in layers as noted above. The outer surface of the cartridge shall be covered with a poly strainer fabric. Cartridge shall be easily removable for replacement. Drain tube with perforations may extend above filter/absorber portion to allow a minimum flow rate to deter standing water if unit becomes plugged or blinded.

 - 2. Nominal Flow Rate: 15-40 GPM, through clean filter/absorber cartridge. Unit features a large overflow opening area and space between housing, deflector and catch basin that allows for high overflow rates with minimum restriction during storm conditions. Overflow capable of passing several hundred GPM

 - 3. Nominal Flow Rate with Pre-Strainer: Where leaves and other surface material are anticipated, a pre-strainer can be used. Flow restriction can occur when pre-strainer is restricted or plugged.

 - 4. Housing: HDPE solid housing suitable for full height sediment containment and shall be nominal 15 gallons retention size. Smaller size capacity may be used on shallow catch basins. A perforated tube shall be incorporated within the housing to allow the filter/absorber cartridge to slip on for easy replacement. A locking screw-on-cap keeps cartridge in place during use. Use modified or shorter housing (with less storage, flow and filtration) where depth of catch basin is shallow or to suit basin.

 - 5. Deflector: Each INSERT shall be fitted with a custom deflector that directs incoming water from the grate inlet to the housing. Materials include HDPE or poly sheet and or Type 304 SS sheet and frame.



- C. Catch Basin INSERT Capacity and Characteristics: (For Standard 10x18 size.)
 - 1. Housing and frame material: HDPE and or stainless steel.
 - 2. Number of filter cartridges: One.
 - 3. Storage Capacity: Nominal 15 gallons.
 - 4. Outlet Drain Pipe Size: 2”.
 - 5. Volume of filter materials: Approximately 1,200 cubic inches total.
 - 6. Installation Position: Vertical with air gap above housing for overflow.
 - 7. Special frame size may be used with two housings for a greater flow rate.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install Catch Basin INSERT in accordance with manufacturers installation instructions where indicated on plans.
- B. Install SS supports to suit each Type 1, 3 or other type Catch Basin as required and set top of housing at proper level to maintain overflow feature. Modify supports to suit each actual frame size and type. Remove excess non-structural concrete at frame rim that interferes with catch basin frame.
- C. Install water deflectors at inlet of each catch basin to suit each Type and size Catch Basin in order to deflect incoming water into unit housing. Coordinate with grate type and inlet opening size.

END OF SECTION 02086

3.2 SERVICE AND MAINTENANCE (ADD ALTERNATE No. 1)

- A. Add Alternate to proposal: Provide costs for one (1) year of Service and Maintenance for all installed Inserts. Includes separate costs for filter replacement.
- B. Service and Maintenance Plan Includes periodic inspection and or cleaning of all pre-strainers and grate areas at least every 90 days including sediment removal from housing and filter replacement when necessary. Additional drive through inspections during leaf fall and after storm events is suggested. Depending on local environmental conditions, nearby building construction and other factors, the owner and service provider may need to develop site specific service and maintenance as required for each site.
- C. Quarterly Service Schedule: Minimum general service requirements.



Fall or early winter: (One Inspection) Inspect, clean pre-strainers, remove sediment in housing as required, dispose of sediment, replace cartridge, replace or repair damaged components, and clean grate area.

Note: Owner shall provide for street sweeping and general roadway and parking lot cleaning and notify service provider of any additional service needs

D. Notes and Condition:

Obtain Encroachment Permit from City or client prior to providing any Installation or service work on site if requested.

Contractor shall visit site and verify each catch basin insert for size and Type including rectangular grates and side inlet types prior to providing a proposal. Allow for variation and other conditions that may require special construction.

Coordinate installation of Inserts in new construction areas where Building Contractors provide construction strainers and sediment barriers over grates.

Service and maintenance work shall substantially follow the City Standards or manufacturers recommendation for Maintenance and Service of Catch Basins.

Standard Catch Basin INSERT cleaning for street and parking lot applications: Clean and dispose of all collected leaves, grass, sediment, gravel, debris, hydrocarbons and other collected material along with filter cartridges and place in trash containers on site for trash pick-up and disposal service by others in pre-approved landfills. Note: For industrial sites and other applications where chemicals or other contaminants require incineration or other forms of disposal, owner shall arrange for disposal in an approved manner and pay all disposal costs involved. Follow all applicable codes and local regulations.

END OF SECTION

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