FocalPoint BioFiltration Facilitates Retrofit Solution for Clogged Bioretention Application

*Reduced Infrastructure Cost * Reduced Overall Maintenance Cost *
The original bioretention area was designed to acquire a LEED® Silver Certification, and included a standard media bioswales that fed an underground water harvesting system.
Within six months of the completion of the bioswales, high organic content in the soils had clogged the geotextile separation fabric, drastically reducing flow and backing water up into the parking lot, an unacceptable condition.

Rather than rebuild the entire bioswale project, a 70 sq ft FocalPoint Biofiltration System was installed at the bioswale low spot.
FOCALPOINT BIOFILTRATION SYSTEM PROFILE

3” Layer of Shredded Hardwood Mulch:
Pre-treatment mechanism.
Removal and Replacement of Mulch Represents the Bulk of System Maintenance!

6” Bridging Stone & Separation Layer:
Clog-Proof Clean Stone & Micro-Mesh Replace Traditional Geotextile Layer
No geotextile = no clogging

18” High Performance Media:
Flows at 100” Per Hour, Resistant to Clogging

Pollutant Removal:
TSS = 91%
Nitrogen = 48%
Phosphorus = 66%

High Performance Underdrain:
9.45” Modular Tank, or “Flat Pipe” w/95% Open Surface
Collects Water Efficiently.
Optional 2” Low-Profile Panel Addresses Shallow Applications.
Expand into Modular Tanks for Larger Storage Needs.
Rather than completely remove and reconstruct the bioswales, the FocalPoint Biofiltration System was presented as an alternative design.

1. FocalPoint BioFiltration System install begins with modular storage placed below FocalPoint footprint

2. FocalPoint bridging mesh is placed on top and sides of storage modules.

The FocalPoint Biofiltration System alternative design would not only solve the problem definitively, but save thousands of dollars in redesign and construction.
Original bioswales were under-drained into harvest storage area

Then 6” of 1/4” – 3/8” washed pea gravel was placed on top of FocalPoint Bringing Mesh
The (optional) gabion basket border for the system is placed adjacent to the FocalPoint footprint now up to the top of the pea-gravel in the system profile.

15” x 18” Gabion Baskets installed, filled with fill dirt to grade; at grade, place 1.5” – 3” washed rock is placed into baskets and they are closed.
Filterra soils placed on top of pea gravel layer.

Completed project will provide Rain Water Harvesting.

High Performance, clog proof FocalPoint media is then placed on top of pea gravel separation layer.
Completed FocalPoint BioFiltration footprint:
The FocalPoint was able to meet the needs at 70SF what the traditional bioswale unsuccessfully attempted to do in 1200 SF.

With a simple retrofit of the two swales, placing the FocalPoint at the lowest elevation in each, the drainage problem was solved with a simple, quick, cost-effective retrofit.
Ponding area will provide attenuation for large peak volume during storm event.

FocalPoint footprint provides high efficiency treatment for storm events.
Quality Assurance/Quality Control (QA/QC):

- All Components of the FocalPoint System were sold as a bundle to provide raw material quality control.
- Included Media Certification
- Performance Guarantee backed with In-Situ Testing at Time of Install and One Year Later!

In-situ hydraulic testing at completion of install
ACF’s Engineering team can provide project specific support or you can access the tools below:

- Specifications
- Calculator
- CAD Details
- Flow Rate & Pollutant Removal Documentation
- Media Certification
- Installation & Maintenance Manuals
- Performance Guarantee
- And More!