CONTECH®
ENGINEERED SOLUTIONS
A QUIKRETE® COMPANY

Filterra®
High Performance Bioretention

The experts you need to solve your stormwater challenges

Contech is the leader in stormwater solutions, helping engineers, contractors and owners with infrastructure and land development projects throughout North America.

With our responsive team of stormwater experts, local regulatory expertise and flexible solutions, Contech is the trusted partner you can count on for stormwater management solutions.

Your Contech Team

STORMWATER CONSULTANT

It's my job to recommend the best solution to meet permitting requirements.

STORMWATER DESIGN ENGINEER

I work with consultants to design the best approved solution to meet your project's needs.

REGULATORY MANAGER

I understand the local stormwater regulations and what solutions will be approved.

SALES ENGINEER

I make sure our solutions meet the needs of the contractor during construction.

Contech is your partner in stormwater management solutions

Low Impact Development in a Small Footprint – Filterra®

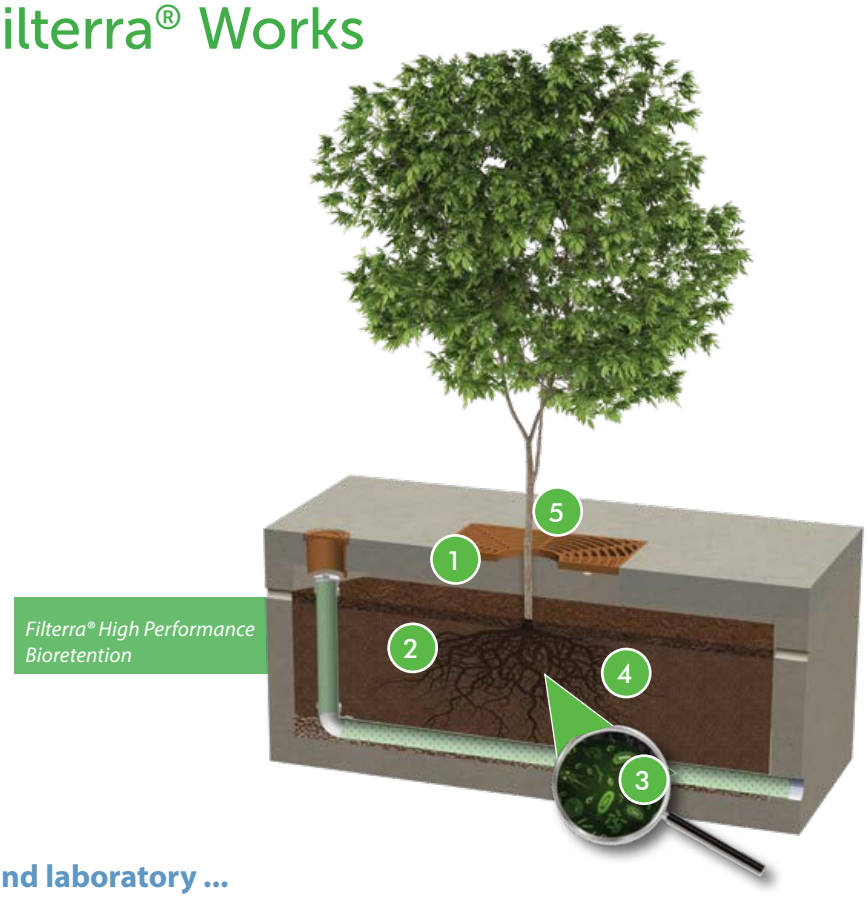
Filterra is an engineered high-performance bioretention system. While it operates similar to traditional bioretention, its high flow media allows for a reduction in footprint of up to 95% versus traditional bioretention practices. Filterra provides a Low Impact Development (LID) solution for tight, highly developed sites such as urban development projects, commercial parking lots, residential streets, and streetscapes. Its small footprint also reduces installation and life cycle costs versus traditional bioretention. Filterra can be configured in many different ways to enhance site aesthetics, integrate with other LID practices, or increase runoff reduction through infiltration below or downstream of the system.

At the Manchester Stormwater Park seen above, the Filterra systems surrounding the central courtyard allowed for the creation of a community space with parking, sidewalks, and benches in a quaint downtown area. A traditional bioretention system treating the same drainage area would have occupied the entire park area leaving no room for these amenities.

filterra®
Bioretention Systems

filterra® Bioscape®

How the Filterra® Works



Tested in the field and laboratory ...

1. Stormwater enters the Filterra through a pipe, curb inlet, or sheet flow and ponds over the pretreatment mulch layer, capturing heavy sediment and debris. Organics and microorganisms within the mulch trap and degrade metals and hydrocarbons. The mulch also provides water retention for the system's vegetation.

2. Stormwater flows through engineered Filterra media which filters fine pollutants and nutrients. Organic material in the media removes dissolved metals and acts as a food source for root-zone microorganisms. Treated water exits through an underdrain pipe or infiltrates (if designed accordingly).

3. Rootzone microorganisms digest and transform pollutants by incorporating them into their own biomass or converting them into forms easily absorbed by plants.

4. Plant roots, where applicable, absorb stormwater and pollutants that were transformed by microorganisms. This can help with regenerating the media's pollutant removal capacity. The roots grow, provide a hospitable environment for the rootzone microorganisms and penetrate the media, helping to maintain hydraulic conductivity.

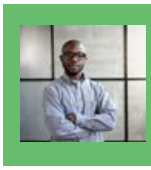
5. The plant trunk and foliage utilize nutrients such as Nitrogen and Phosphorus for plant health, sequester heavy metals into the biomass, and provide evapotranspiration of residual water within the system.

Biological processes within plants and microorganisms in the soil are vital to the long term performance of bioretention systems.

Using nature to facilitate Stormwater Management

Filterra® Features and Benefits

FEATURE	BENEFITS
High biofiltration media flow rate (up to 324"/hr+)	Greatly reduced footprint versus traditional bioretention and LID solutions
Filterra system is packaged, including all components necessary for system performance	Quality control for easy, fast and successful installation
Quick and easy maintenance	Low lifecycle costs
Variety of configurations and aesthetic options	Integrates easily into any site or landscape plan
Natural stormwater management processes featuring organics and vegetation	Meets Low Impact Development requirements and ensures long-term performance



The Filterra system can be configured with many different aesthetic options

Select Filterra® Approvals

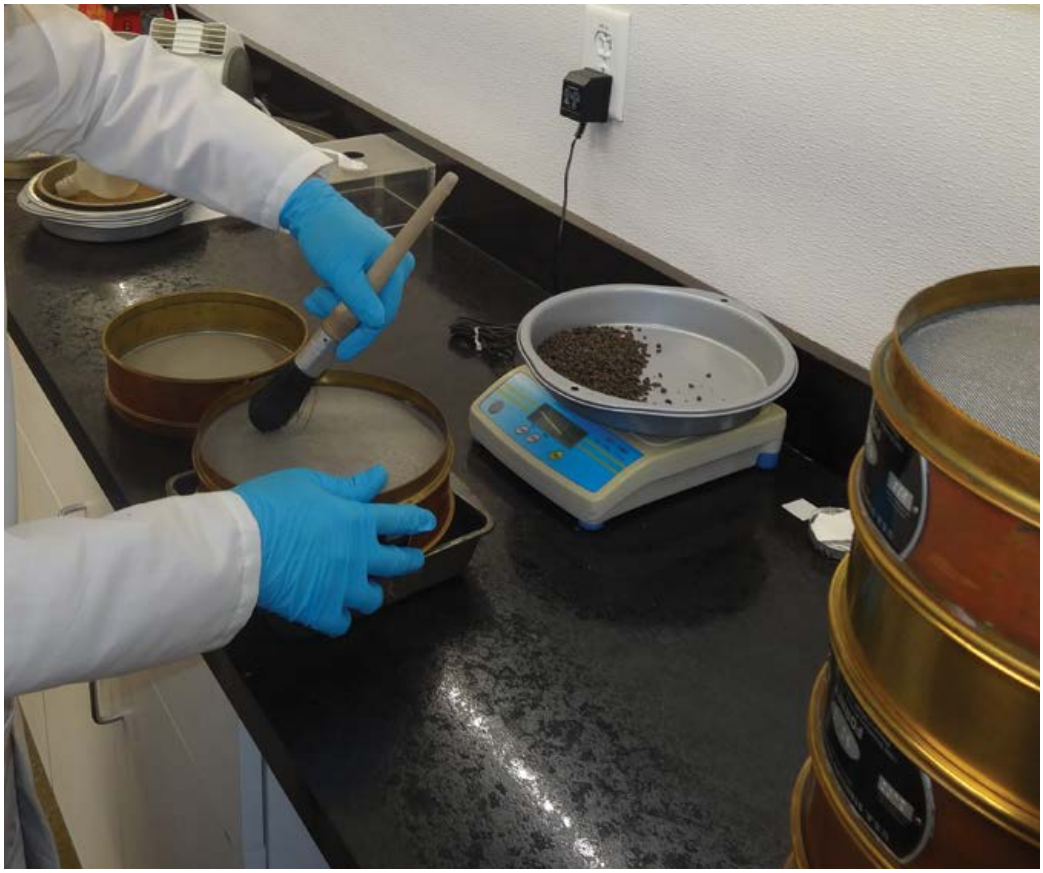
Filterra is approved through numerous local, state and federal verification programs, including:

- New Jersey Department of Environmental Protection (NJ DEP)
- Washington Department of Ecology (GULD) – Basic, Enhanced, Phosphorus, and Oil
- Maryland Department of the Environment - Environmental Site Design (ESD)
- Texas Commission on Environmental Quality (TCEQ)
- Virginia Department of Environmental Quality (VA DEQ)
- Maine Department of Environmental Protection (ME DEP)
- Atlanta, GA Regional Commission
- Los Angeles County, CA - Alternate to Attachment H
- City of Portland, Oregon Bureau of Environmental Services
- North Carolina Department of Environmental Quality (NC DEQ)

Filterra® Performance Testing Results

APPLICATION TIPS

- The Filterra system has been tested under industry standard protocols and has proven its pollutant removal performance and system longevity.
- Contech invests significant resources in media blending calibration and product testing to ensure our media meets our strict performance specifications every time.
- Keep regulators and owners happy by selecting a product with predictable and proven maintenance longevity.



POLLUTANT OF CONCERN	MEDIAN REMOVAL EFFICIENCY	MEDIAN EFFLUENT CONCENTRATION (MG/L)
Total Suspended Solids (TSS)	87%[1]	8.0[2]
Total Phosphorus - TAPE (TP)	80%	0.05
Total Nitrogen (TN)	34%	0.33
Total Copper (TCu)	79%	0.011
Total Dissolved Copper	56%	0.007
Total Zinc (TZn)	70%	0.04
Total Dissolved Zinc	66%	0.02
Hydrocarbons[3]	87%	0.71

Each batch of Filterra® media has been extensively tested to ensure consistent performance every time.

Source: Contech (TAPE) 2024

1. 2024 TAPE Results for influent concentrations 100-200 mg/L

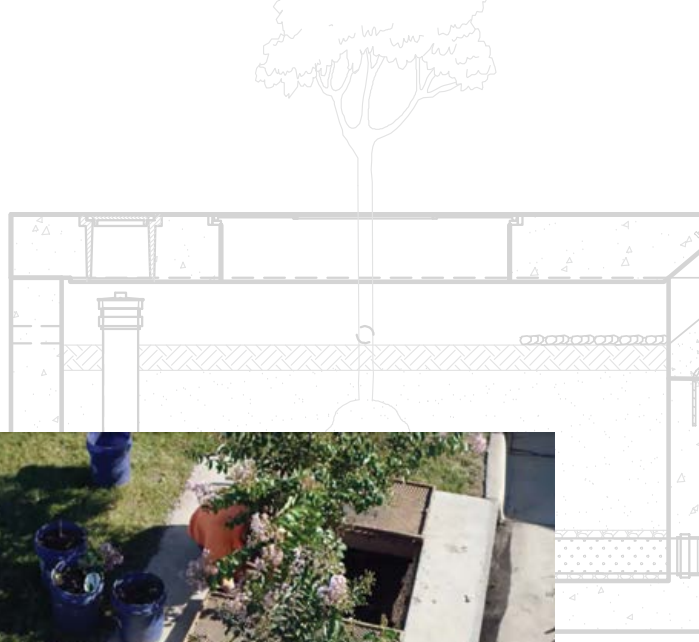
2. 2024 TAPE Results for influent concentrations <100 mg/L

3. Source: Herrera (TAPE) 2009

Note: Some jurisdictions recognize different removal rates. Contact your Contech Stormwater Consultant for performance expectations.

Field tested and performance verified

Filterra® Maintenance



Activation and vegetation, where applicable, selection guidance is included with every system.

With proper routine maintenance, the engineered media within the Filterra system should last as long as traditional bioretention media installed in a similar configuration.

Maintenance is low-cost, low-tech and simple:

- Remove trash, sediment, and mulch
- Replace with a fresh 3" layer of mulch
- No confined space entry when vegetation specified
- Easily performed by landscape contractor or facilities maintenance provider

Filterra offers high performance bioretention for advanced pollutant removal with easy maintenance.

Watch the Filterra Maintenance video at www.ContechES.com/filterra

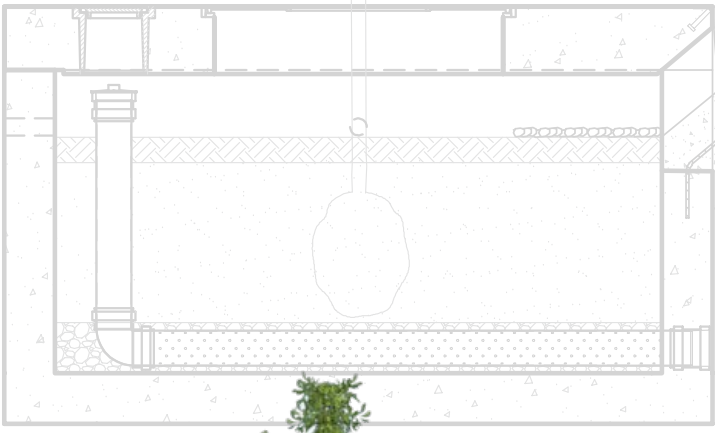
Plant health evaluation and pruning is important to encourage growth.

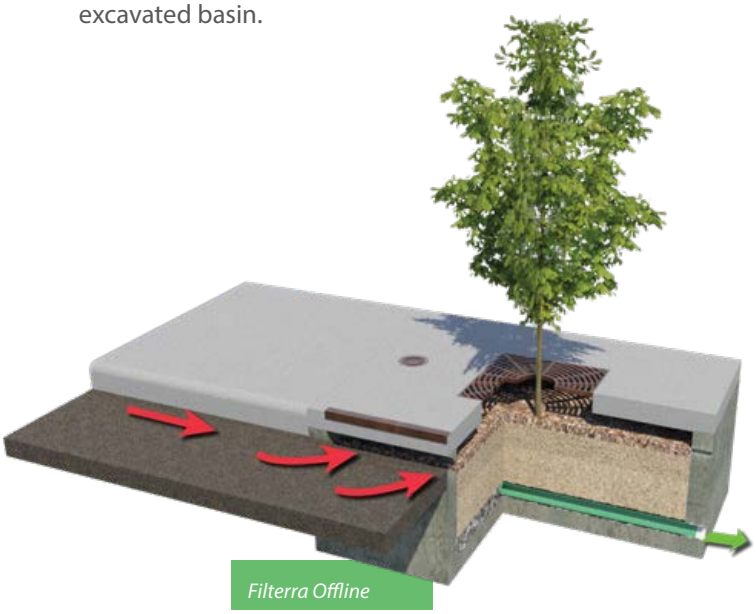
All stormwater treatment systems require maintenance for effective operation.

Filterra® Configurations

Multiple system configurations integrate with site hydraulic design and layout ...

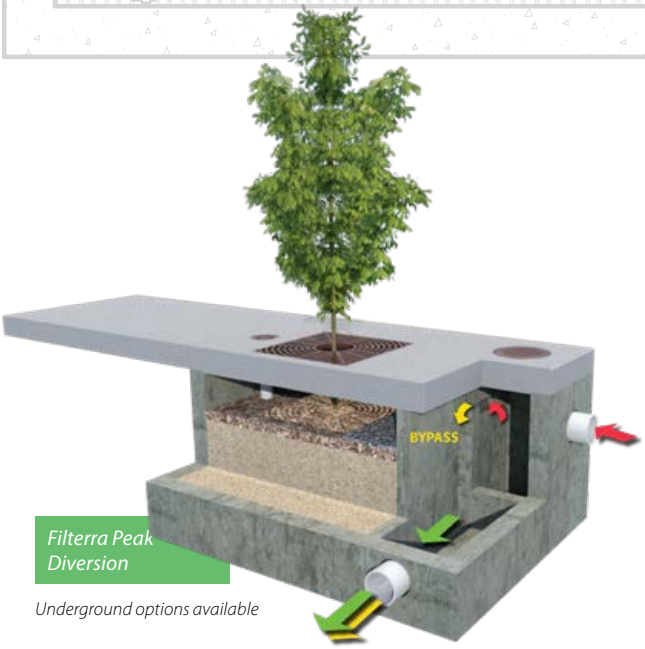
The Filterra is available in a variety of precast configurations as well as Filterra Bioscape, which can be installed directly into an excavated basin.





Filterra Offline

Bypass via downstream catch basin.
Underground options available

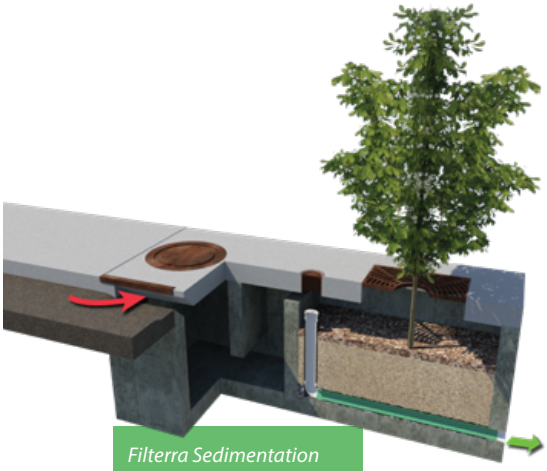


Filterra Peak Diversion

Underground options available

Filterra Internal Bypass Curb

Underground options available



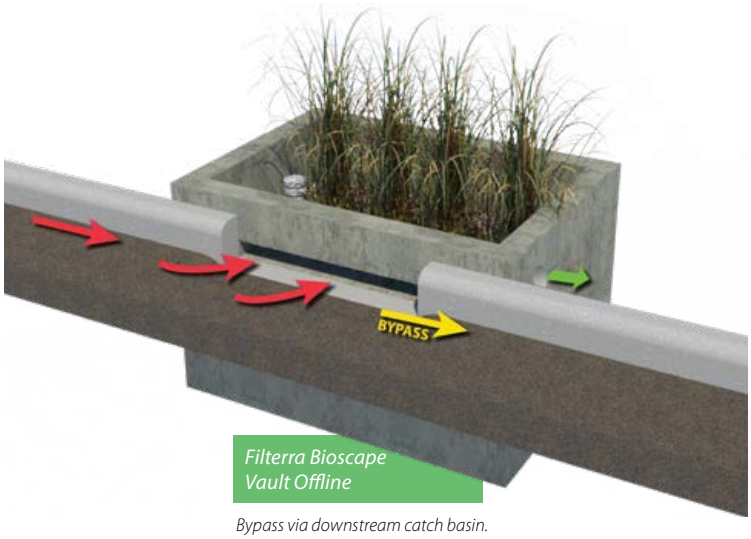
Filterra Sedimentation Chamber (Maryland Only)

Bypass via downstream catch basin.

**Additional configurations available, including offline - pipe, peak diversion - grate, and internal bypass curb-chamber.*

Multiple configurations allow for easy site integration

Filterra® Bioscape® Configurations



Filterra Bioscape Vault Offline

Bypass via downstream catch basin.

Filterra Bioscape Vault Basin

Bypass via upstream structure.
Multiple inlet options.

Filterra Bioscape

Bypass via upstream structure.
Multiple inlet options.

**Additional configurations available, including bioscape vault offline pipe.*

Filterra® Aesthetic Options

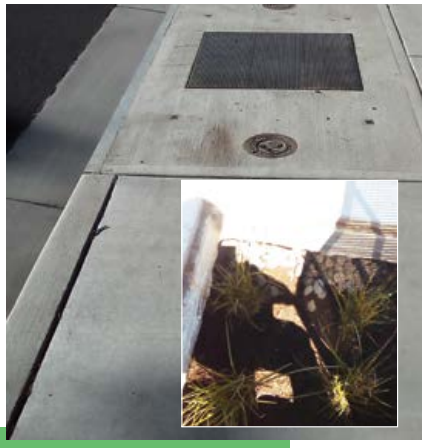
Multiple aesthetic options to enhance the appearance and integrate with landscaping ...

Standard Tree Grate

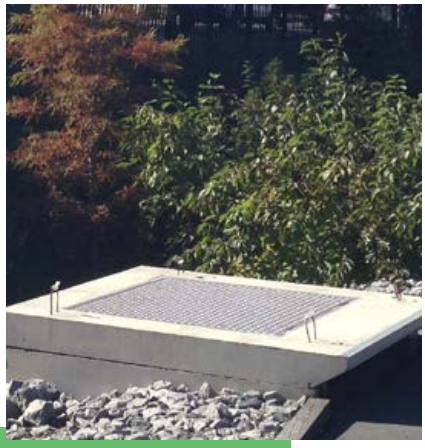
Recessed Top Slab

Open Top Planter - Filterra Bioscape

Street Tree



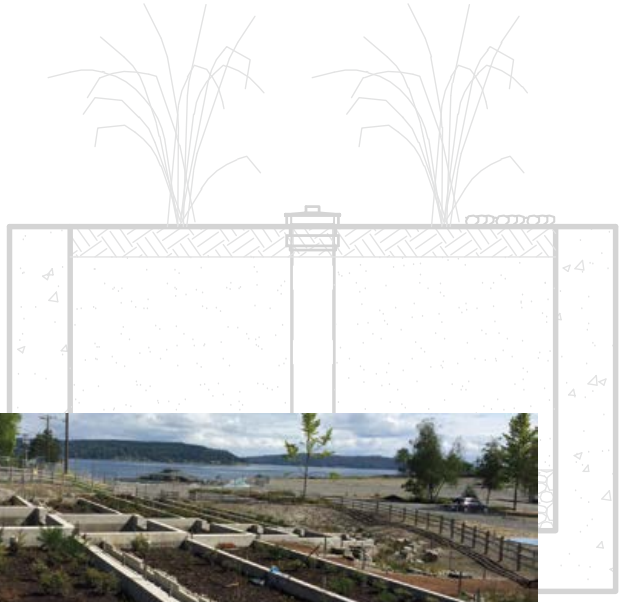
Full Grate with Grasses



Underground

An aesthetic solution to meet your bioretention needs

Filterra® Bioscape®



Large-scale Filterra that can be customized to your site ...

- Ideal for Filterra systems greater than 300 square feet
- Design with or without containment structure
- Incorporate infiltration directly below the system, where required
- Combine with upstream storage or downstream infiltration
- Use as an alternative to larger regional traditional bioretention systems
- Easily add pretreatment Hydrodynamic Separator for large-scale or heavy pollutant loading applications

A partner you can rely on

STORMWATER SOLUTIONS

PIPE SOLUTIONS

STRUCTURES SOLUTIONS

Few companies offer the wide range of high-quality stormwater resources you can find with us — state-of-the-art products, decades of expertise, and all the maintenance support you need to operate your system cost-effectively.

THE CONTECH WAY

Contech® Engineered Solutions provides innovative, cost-effective site solutions to engineers, contractors, and developers on projects across North America. Our portfolio includes bridges, drainage, erosion control, retaining wall, sanitary sewer and stormwater management products.

TAKE THE NEXT STEP

For more information: www.ContechES.com

CONTECH® ENGINEERED SOLUTIONS
A QUIKRETE® COMPANY

Get social with us:

800-338-1122 | www.ContechES.com