

# GreenField Report

July 2013

## “We cannot possibly meet these regulations.” Really?

Is this going to be the position of the construction industry in light of the new pressing clean water act provisions requiring tighter controls on pollutants? Permit holders have often used this argument, but luckily, each time, someone has been in the audience saying, “We can meet them if we use these tools.” In reviewing what tools those are, most are related to passive filtration of water, more masterplanned systems, and watersheds looking at the footprint and what tools can be used to mimic its pre-development hydrology. The bottom line is that Low Impact Development is now here to stay.

For progressive cities like Atlanta, which recently passed a law (yes, a LAW—the first of its kind in the U.S.) that any new development must meet minimum criteria for what is considered to be “Low Impact”. What tools will be used to pass this stringent test? I hear crickets. Then I hear proponents of Filtrexx saying, “We can meet them by using one of about 25 tools in the Filtrexx® toolbox.” All locally sourced, bio-based, carbon negative, and all compost-based BMPs. The bigger question is, *How will developers meet these new laws WITHOUT USING Filtrexx?* I think our time has come to help leverage this great new legislation, make it the shining example of the future, and promote Filtrexx® tools that have been green for over 15 years.

GroSoxx® help use vegetation where needed for permanent applications. GardenSoxx® work with urban footprints to actually produce food and reduce pollution—even on parking lots (which also reduces the heat island effect). Filtrexx® GreenGabions™ offer structural containment in coastal and riparian areas for re-use of dredge soils with minimal movement, and maximum containment of the (almost always) polluted dredge. The new Trinity Wall System™ uses a common wire wall system combined with a unique tie back and GroSoxx® fascia. What tools are you missing? WE NEED TO KNOW to add to our already well-rounded toolbox.

## The bigger question is, *How will developers meet these new laws WITHOUT USING Filtrexx?*

More importantly if you do NOT use something from the Filtrexx® toolbox to meet the upcoming stormwater regulations, what are you using to get in- and stay in compliance? We want to know. What BMPs exist out there that offer a better value than what we provide in our Design Manual? It is only recently that folks have actually started to think about using our design manual from cradle to grave—that is, from

start to finish—on the job site. There are a few areas that Filtrexx does not cover, but we have allied companies that we work with, in most cases, to solve those issues. It is not all about sediment control, and our designs have 25 other ways to help you stay in compliance. Complete design specifications are available in *The Sustainable Site: The design manual for green infrastructure and low impact development*. Order a copy today from [www.foresterpress.com/](http://www.foresterpress.com/).

Now that everyone is trying to get into compliance, we have another new twist: ***In Compliance With Nature™—biodegradable DuraSoxx®***. Yep, we have figured out how to make the same tough sock product out of cotton and it is better than burlap. Recent tests

from California show that it lasts just as long, and so it has been approved as equal. So for all the folks who did NOT want to use our technology because of the plastic in our standard DuraSoxx® mesh, now you can use biodegradable DuraSoxx®. It is the strongest biodegradable mesh on the market and now available on pallets by special order. Just contact your local distributor.

— Rod Tyler  
CEO, Filtrexx International



A rain garden installed 10-15-08, and the same garden less than a year later. The GardenSoxx® used on the perimeter were planted with cabbage and other edibles.

Detention, retention, filtration, removal, adsorption, absorption, infiltration, and percolation all are premises of design within the Filtrexx® toolbox. We can use horizontal water flow, vertical water flow, water into a culvert box, gabion, or other structure as a filter, or simply use the footprint of a site with specially engineered soil that acts like a sponge. Removing heavy metals, nutrients, bacteria, and hydrocarbons are easier now with EnviroSoxx® properly placed into post-construction designs.



## Project Profiles

### The Performance and Versatility of Filtrexx® SiltSoxx™

Wellford, SC

Landfills face many environmental challenges. Aside from having to mitigate groundwater contamination from the trash itself, these massive, sloped sites have serious challenges with regard to sediment and pollutants in their stormwater runoff.

Waste Management operates the Palmetto Landfill, a 196 acre facility in Spartanburg County, South Carolina. The facility receives non-hazardous solid wastes and is a permitted RCRA Subtitle D facility. Rainfall flows down the broad, sloped sides of the landfill to the paved scale house area, and then into an inlet, which empties directly into the drainage system. Not surprisingly, this surface flow contributes a lot of fine sediment to their runoff.



SiltSoxx™ were installed around the existing coir rolls.

The facility had installed coir rolls around their inlets to reduce the amount of fine sediment leaving their site, but the lightweight device required a frame in order to stay in place. Waste Management Environmental Protection Manager Jason McRee saw first-hand the sediment trapping capability of Filtrexx® SiltSoxx™ and decided to try them at his facility around the existing coir inlet protection devices. This weighted BMP is useful on concrete and asphalt because it does not need to be trenched or staked.

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They also created a sediment trap at the outfall site in an effort to further treat the runoff prior to it leaving the site. The sediment trap was constructed according to the Filtrexx® Sediment Trap specification and consisted of a 3-foot high pyramid of 12-inch diameter Filtrexx® SiltSoxx™. A geotextile was placed on the ground at the outfall and backfilled with rip rap.

Prior to constructing the sediment trap, they had been using silt fence, but it was often undermined due to its low flow through rate. Filtrexx® SiltSoxx™ offer a higher flow thru rate, increasing the performance in this application. In addition to the sediment trap at the outfall area, a double row of 12-inch SiltSoxx™ was installed at the property edge as a perimeter control.

“We like these SiltSoxx™,” said McRee. “It’s nice to be able to cut and customize the continuous length pallet to use as needed. I also like that we can get them from our local Ferguson Waterworks in Anderson whenever I need them.”

Waste Management has deployed their Filtrexx® SiltSoxx™ for check dams, runoff diversion, and many other applications. Check dams using 8-inch and 12-inch product were utilized on the site to slow velocity of channeled flow as well as further reduce the sediment load offsite. Filtrexx® SiltSoxx™ were also used at the facility as a sediment barrier along the scale house for added protection.

Waste Management is in the process of reviewing Filtrexx® Runoff Diversion application to be utilized on landfill sites as a vegetated diversion device on slopes in lieu of traditional earthen berms. The Filtrexx® Runoff Diversion application allows for a quickly stabilized berm to divert runoff to designated slope drains and conveyance channels, reducing the risk of slope failures. The vegetation that is achieved in the Filtrexx® Runoff Diversion product offers a long term vegetated berm for ongoing stabilization and success.

### Protecting our National Forests with Filtrexx® SiltSoxx™

Stuarts Draft, VA

The Coles Run Dam in the Blue Ridge Mountains is undergoing a major renovation in order to meet requirements of Virginia’s Dam Safety Act. The reservoir was slowly drained so that the dam could be worked on and will remain emptied for the duration of the project.

Schnabel Engineering of West Chester, PA, having seen the performance capabilities of Filtrexx® SiltSoxx™ from their work in the Marcellus Shale region, specified Filtrexx® SiltSoxx™ for use in sediment control around the entire project. The U.S. Forest Service also pushed for the specification, noting that the use of compost filter socks would allow job site work without impairing waterways in the George Washington and Jefferson National Forests.

JK Enterprises, in Warrenton, VA installed Filtrexx® SiltSoxx™ for perimeter control around roadways to the dam, and for added protection between the job site areas and nearby streams.



### Lynchburg Grows in GardenSoxx®

Lynchburg, VA

Blue Ridge Organics (BRO), in Madison Heights, VA manufactures Super Compost, a super-premium brand compost. They also fill GardenSoxx® with Super Compost and sell them throughout the Southeast.

BRO wanted to get involved in the community. They also knew that demonstration gardens have proven to be a successful marketing tactic. Lynchburg Grows is a local farm that employs people with physical or mental disabilities, and receives hundreds of visitors each year.

One of several high tunnels on the farm is operated by St. John Episcopal Church in Lynchburg, who donates all of its produce to local food charities. They had been using a low-quality municipal compost. BRO donated two pallets of GardenSoxx® with Super Compost that were used to plant cabbages and tomatoes. “It went gang busters,” said Dwayne Coleman, co-owner of BRO. “The cabbages were huge, and the stems on the tomatoes were nice and thick. . . They couldn’t have been happier.”



### Many Muni Uses for Filtrexx® SiltSoxx™

Charlotte, NC

The City of Charlotte has been experimenting with the use of Filtrexx® SiltSoxx™ within their municipal operations. “Our municipal permit includes a ‘good housekeeping’ program to minimize stormwater pollution from our facilities and operations. New products are continually being developed and I like to evaluate different BMPs to see what works,” said Craig Miller, Senior Water Quality Specialist for Charlotte Mecklenburg Stormwater Services.

The City has been evaluating the use of Filtrexx® SiltSoxx™ for pavement cleaning. “We pressure wash and it dislodges a lot of pollutants. We lay the Soxx™ in a series of hooks,” said Miller. They have also experimented with Filtrexx® SiltSoxx™ when cutting pavement to install pipes and electrical conduit. “Saw cutting creates a slurry runoff, and we are trying to minimize how much enters storm drains.” “I really like the versatility of the SiltSoxx™,” says Miller.





### Filtrexx® DitchChexx™ Replace Rock Check Dams

Manassas, VA

Sargent Corporation recently replaced rock check dams with Filtrexx® DitchChexx™ to control sediment at the Manassas Airport project in Northern Virginia.

Filtrexx® DitchChexx™ are rapidly gaining popularity among contractors. Their weight, with composted Filtrexx® FilterMedia™ inside, offers a lighter-weight alternative to cumbersome rock check dams. They have a far better flow through rate than straw wattle or coir rolls, and contractors and municipalities like the way they stay in place. Per the contractor on site, “The Ditch-Chexx™ worked better than the rock check dam that was originally proposed. Installation and clean up after construction was also much easier.”

Filtrexx® DitchChexx™ are ten feet long and are available in 8” and 12” diameters. Sediment is held inside and behind the product. If flow increases, three Filtrexx® DitchChexx™ can be stacked in a pyramid fashion to increase capacity.



### Pond rehabilitation with GroSoxx®

Charlotte, NC

Charlotte Latin School is a premier private school in North Carolina, serving 1400 students in grades K-12. The 122-acre campus features a large pond that had become so overgrown it was unusable by the staff and student families. The school’s administration wanted to revitalize this natural asset, giving it a park-like feeling and making it accessible for fishing, picnics, and other recreational activities.

Eco-FX, Inc. was hired to clear the overgrown vegetation, create mulched areas for recreation, and stabilize the banks of the pond in a manner that was aesthetically pleasing. They chose Filtrexx® Bank Stabilization application, which uses GroSoxx® and/or geogrid to provide structural protection, control erosion, and establish vegetation in one simple system. The GroSoxx® were vegetated with *Eragrostis curvula*, commonly known as Weeping Lovegrass. It produces an extensive root system that makes it useful for erosion control.



### GardenSoxx® Give New Meaning to “Homework”

Wright City, MO

Jennifer Hunt is the librarian for Wright City Elementary School. She grew up on a farm in Central Illinois and has always had a love for the soil. During the spring semester of the 2013 school year, Hunt was determined to create a raised bed garden to get her elementary school students introduced to gardening. Filtrexx donated 50 GardenSoxx® and a copy of *A Garden For Every Child*, a gardening curriculum developed by the Filtrexx Foundation in partnership with The National Gardening Association and the U.S. Composting Council. Each student planted two plants.

“GardenSoxx® were perfect for this exercise,” said Ms. Hunt. “Not only were they introduced to gardening, compost, vegetables, and the science behind growing food, but at the end of the school year the students took the projects home to see the whole gardening exercise through to the harvest.”



## States Adopt a More Sustainable Approach to Stormwater Management

Evolving U.S. Environmental Protection Agency (EPA) regulations such as the National Pollutant Discharge Elimination System (NPDES) permit program and Effluent Limitation Guidelines (ELGs) have prompted States to re-examine their Erosion Control Manuals. Currently most states are revising their manuals to include higher performing, more sustainable practices for stormwater management.

The New York State Department of Transportation followed suit, approving the use of Filtrexx® SiltSoxx™ for sediment control, inlet protection, and filter berms on departmental projects. Vermont DOT followed suite, approving compost filter socks for perimeter control, inlet protection, check dam, and slope interruption and giving it preference over other BMPs for areas where staking is difficult or not an option. Also granting approval recently were the DOTs from California, Florida, Maine, Massachusetts, New Hampshire, Pennsylvania, Rhode Island, Tennessee, and West Virginia; as well as the Department of Environment in Delaware, Florida, Maryland, North Carolina, and Pennsylvania.

Compost-based BMPs present a higher performing option for managing stormwater, as compared to silt fence or other sediment control barriers. The compost FilterMedia™ is locally sourced. Land disturbance and waste are minimal. Most importantly they are very effective at removing sediment and harmful pollutants prior to stormwater entering our sewer systems and waterways.

In many cases, the shift toward more sustainable BMPs is being led at the regional or municipal level. In San Diego where urban pollutants have been particularly problematic, they are using a watershed approach that applies to MS4 permit holders across a watershed that spans three counties. It gives local governments greater choice on how to combat pollution, but also makes them more accountable.

“This is a preview of the trends that will be occurring across the country in the years ahead,” said Dr. Craig Kolodge, Filtrexx Western Region Representative. “Typically California leads the nation in tough environmental laws. Filtrexx is poised to offer cost-effective solutions to meet these new challenges.”

The City of Atlanta recently updated its Post-Development Stormwater Management Ordinance to promote the use of Green Infrastructure on new and redevelopment projects in the City. Green infrastructure uses vegetation and soil to manage rainwater where it falls. By mimicking the natural hydrology of a site, through infiltrating stormwater runoff into the ground, evapotranspiration (uptake of water by plants) in landscaped areas, or capturing and reusing rainwater, green infrastructure provides not only stormwater management, but also flood mitigation, air quality management, and much more.

“We’re seeing an increase in the use of Filtrexx® SiltSoxx™ for improving post-construction water quality,” said Dr. Britt Faucette, Director of Research for Filtrexx International. “Post-construction water quality is under increased scrutiny nationwide, particularly among industrial and MS4 stormwater permit-holders. In many cases these permit holders face increased compliance challenges because they need to control for a variety of pollutants, and these pollutants are typically not visible to the human eye—unlike sedimentation on a construction site. Our technology provides a high performance, easy to use, and low cost option for these permit-holders.”

## Longevity of Biodegradable Cotton DuraSoxx® Rivals Burlap

Caltrans, California’s Department of Transportation, recently installed our new cotton DuraSoxx®—a 100% biodegradable product—alongside burlap wrapped compost socks on a project in Monterey County to test the longevity of the two biodegradable products. During the six month experiment, the cotton DuraSoxx® received approximately ten inches of rain. The conclusion was that there is no difference in the longevity of the cotton DuraSoxx® compared with burlap under typical California storm season conditions.

After 6 months in the field, both the cotton DuraSoxx® and the burlap had begun to deteriorate where they were in contact with the soil. But when cut open (inset) the cotton mesh could still be easily separated from the compost.

Consequently, Caltrans changed their online recommendation to reflect that the cotton DuraSoxx® are comparable to burlap in their longevity. They differ, however, in that cotton DuraSoxx® are made in the USA while burlap is imported. Cotton DuraSoxx® can also be produced in about half the time it takes to fill burlap. Also according to the blower truck operator that installed both products, “the cotton Soxx™ are much easier to install and handle much better.”

Contact your local Filtrexx® Certified™ distributor for pricing and availability of cotton DuraSoxx®.



Cotton DuraSoxx® cut open after six months in the field.

## Filtrexx in the News

### **Pay Dirt: Composting in Maryland to reduce waste, create jobs, & protect the Bay**

This report by the Institute for Local Self Reliance points out that Filtrexx supports over 100 Filtrexx® Certified™ businesses. <http://goo.gl/x9yH2>

### **Erosion Control, June 2013**

**The Magic is in the Mix** features the many ways that Filtrexx® SiltSoxx™ were used on a hydroseeding project. **New Angles in Sediment Control** also highlights Filtrexx® DitchChexx™ in a multi-BMP approach. Also be sure the check out the **Product Showcase** featuring Filtrexx® GreenGabion™ for applications where water flow and intense hydraulic pressures may undermine vegetation growth. <http://goo.gl/DQUHK>

### **Land & Water, March/April 2013**

**Restoration and Biodiversity Enhancement** profiles the use of Filtrexx® GreenGabions™ on the New Cut Canal and Urban Ecology Park in Warrington, UK. <http://goo.gl/ya4B3>

### **Stormwater Solutions, March/April 2013**

**Bridge Construction Benefits from Vegetation** features a case study on GroSoxx® for bank stabilization. <http://goo.gl/nDTVD>

### **Edible Cleveland, Spring 2013**

**Edible Notable** introduces Northeast Ohio’s foodies to GardenSoxx®. <http://goo.gl/vDHx2>

### **In the Garden with Andre Viette, January 9, 2013**

Regional radio host and gardening expert Andre Viette talks with Blue Ridge Organics, a Virginia-based manufacturer of GardenSoxx® about the benefits of GardenSoxx® with their Super Compost. <http://goo.gl/1B1sb>

