



# SWPPP Cut Sheet

Last Updated: 1-1-08

## Section 2: Storm Water Management – Post Construction

### 2.9 Filtrex LivingWall™ *Vegetated Slope Stabilization Technology*

#### PURPOSE & DESCRIPTION

Filtrex LivingWall™ is a system that allows for the stabilization of eroded or damaged slopes while creating attractive vegetated landscapes without the use of hard materials such as concrete and steel. Through the use of Filtrex FilterSoxx™, the LivingWall™ system provides superior soil retention and erosion protection while providing an optimum environment for vegetation establishment.

#### APPLICATION

Constructing a Filtrex LivingWall™ involves stacking Filtrex FilterSoxx™ on top of one another in a recessed fashion on steep slopes to near vertical situations. When required, a variety of grades of geogrid are seamlessly incorporated into the system giving it added structural support and integrity to meet specific environmental and site requirements. Although the central focus of the LivingWall™ system is to stabilize earth and reduce erosion, the secondary objective is to provide for the establishment and sustainability of vegetation and an aesthetic landscape feature. This goal is evidenced through the design and function of the wall fascia of Filtrex FilterSoxx™ as well as the GrowingMedia™ that fills the wall fascia. The Filtrex LivingWall™ can be used for a wide variety of non-structural applications including:

- Steep Slope Stabilization
- Streambank Stabilization
- Pond bank stabilization
- Slip Repairs
- Culvert Headwalls
- Bridge Abutments
- Dikes/Berm
- Flood Protection

#### INSTALLATION

Filtrex LivingWall™ shall meet Filtrex LivingWall™ Specifications and use Filtrex GrowingMedia™. Contractor is required to be a Filtrex Certified™ Installer as determined by Filtrex International, LLC (440-926-2607 or visit website at [www.filtrex.com](http://www.filtrex.com)). Certification shall be considered current if appropriate identification is shown during time of bid or at time of application (current list can be found at [www.filtrex.com](http://www.filtrex.com)). Look for the Filtrex Certified™ Installer Seal.

**Site Preparation:** Prior to construction of LivingWall™ some preparation of the project area may be necessary. The project area must be clear of rock and debris that could prevent good ground contact or potentially damage the FilterSoxx™. During installation, care should be taken not to disturb excessive areas that will then need to be revegetated. In many cases, the FilterSoxx™ may be installed around existing vegetation and land features which will increase the integrity of the system. It is recommended that an experienced installer be consulted prior to working around questionable terrain.

**Drainage:** Unlike impermeable, hard-faced walls, a drainage zone behind the face of the LivingWall™ may not be required. This is because the FilterSoxx™ fascia is highly permeable. This permeability greatly reduces hydrostatic pressure and facilitates hydration of the GrowingMedia™ and fascia vegetation. Where increased drainage is desired or in high-flow areas, stone may be added in addition to the GrowingMedia™ in the first and/or second FilterSoxx™ course to enhance the movement of interflow, subsurface flow and/or runoff. Additional drainage systems may be installed behind the wall. It is recommended that drainage requirements be addressed by a geotechnical engineer and/or hydrologist on a site-by-site basis.

**Installation of Base Course:** After initial site preparation, construction of the wall may begin. If utilizing a geogrid reinforcement or Filtrex LockDown™ Netting, begin by laying the geogrid or LockDown™ Netting across the base of the wall on contour where the first course of the FilterSoxx™ is to be installed. Place the geogrid or LockDown™ Netting so that it extends sufficiently upslope to be anchored but be sure to leave sufficient material to wrap around the FilterSoxx™ to anchor into the soil above. After a work plan is reached between the blower truck operator and wall installation team, the base course may be installed. The desired seed mix and/or additives should also be installed in the Seed Injection Unit(s) or otherwise premixed with the GrowingMedia™. After the base course of FilterSoxx™ is installed, the LockDown™ Netting may be wrapped around the FilterSoxx™ and stapled with standard sod staples. Where needed, backfill may be placed either pneumatically or with heavy equipment.

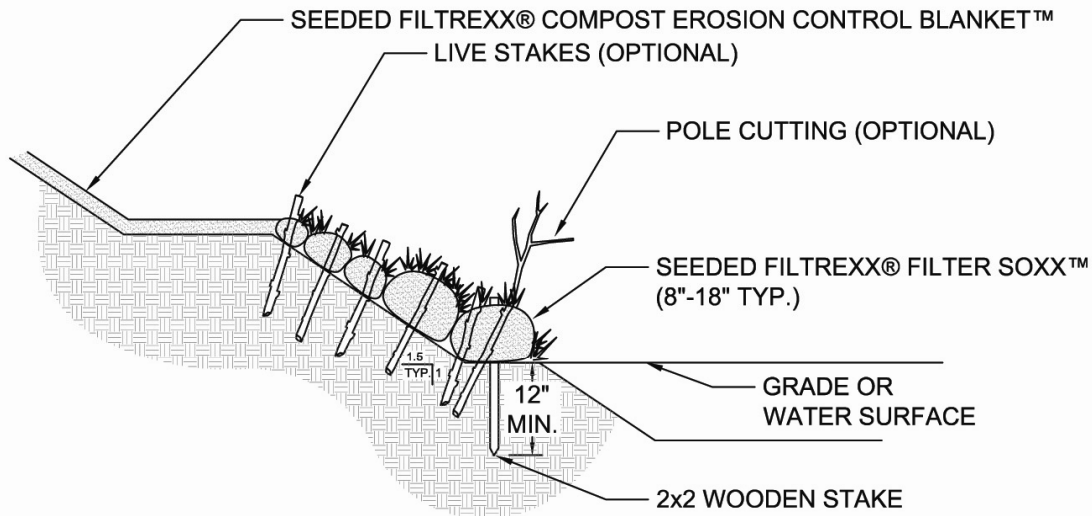
**Installation of Successive Courses:** Successive courses will be set upon previous courses in a batter prescribed by the site engineer (1H:2V Typ). Continue placing FilterSoxx™, and backfill as needed. The weight of successive layers will slightly compact the FilterSoxx™. Walking along the courses of FilterSoxx™ or tamping them will ensure consistent settlement as well.

**Capping:** A number of options exist for capping LivingWall™. In any case, it is important that the geogrid or LockDown™ Netting is sufficiently buried below finished grade. In most cases a single FilterSoxx™ can be placed at the top of the wall and backfilled with topsoil or Filtrex GrowingMedia™. An application of Filtrex Compost Storm Water Blanket™ will connect the system with existing vegetation and help to reduce run-on/runoff volume and velocity flowing to the LivingWall™ system.

#### INSPECTION and MAINTENANCE

Field reviews to ensure seed and/or plant establishment should occur at regular intervals after seeding or planting to assure germination and/or coverage of the wall system. At six months if complete coverage has not occurred it is recommended that reseeded or remedial planting be performed. The LivingWall™ system requires very little maintenance providing appropriate vegetation types are selected and drainage is addressed during the design and build stages. In arid climates or for use during the establishment stages, low volume, low pressure drip tape may be installed as part of the LivingWall™ system to ensure hydration to the vegetation. For specific maintenance requirements in your area please contact Filtrex International, LLC.

**Figure 9.1.** Engineering Design Drawing for Filtrexx LivingWall™



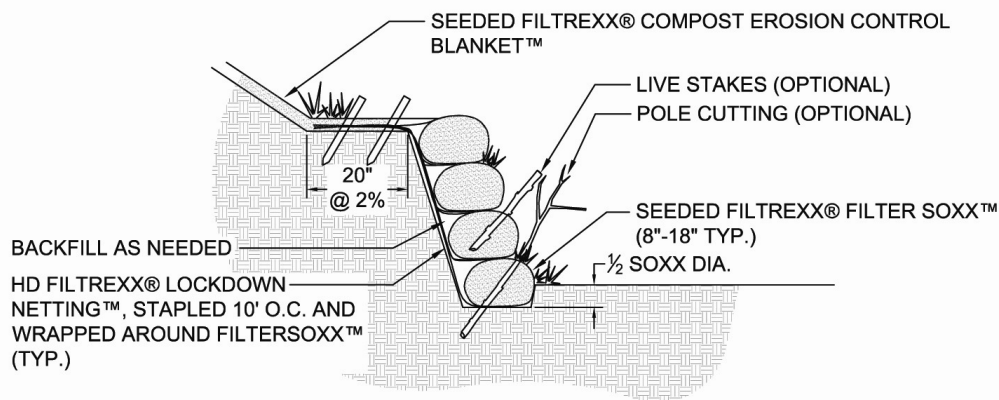
**NOTES:**

1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
2. FILTERSOXX™ FILL TO MEET APPLICATION REQUIREMENTS.
3. ALL FILTERSOXX™ TO BE SEEDED PER LANDSCAPE ARCHITECTS SPECIFICATIONS.

# FILTREXX® LIVING WALL™

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**Figure 9.2.** Engineering Design Drawing for Filtrexx Reinforced LivingWall™



**NOTES:**

1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
2. FILTERSOXX™ FILL TO MEET APPLICATION REQUIREMENTS.
3. ALL FILTERSOXX™ TO BE SEEDED PER LANDSCAPE ARCHITECT'S SPECIFICATIONS.
4. BACKFILL TO BE PLACED PER ENGINEER'S REQUIREMENTS.
5. FILTREXX® LOCKDOWN NETTING™ TO BE WRAPPED AROUND FILTERSOXX™ AND SECURED PER ENGINEER'S SPECIFICATIONS.

# FILTREXX® REINFORCED LIVING WALL™

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