

# SWPPP Cut Sheet: Filtrex<sup>®</sup> Level Spreader

## Runoff Control Technology

### PURPOSE & DESCRIPTION

Filtrex<sup>®</sup> Level spreaders are a tubular device used to **convert small volumes of concentrated flow into sheet flow** prior to discharge into stabilized vegetated areas. Level spreaders can be custom seeded at the time of installation to allow vegetation growth throughout the Level spreader to increase stability, water filtration, and wildlife habitat. Level spreaders are typically used as part of an engineered *level spreader system*.

### APPLICATION

Level spreaders are typically installed at the outlet of a storm culvert, discharge pipe, runoff diversion structure, conveyance channel/ditch, or sediment control structure. The Level spreaders are designed to accept concentrated flows originating from these areas and converting it into sheet flow through even dispersion over a level gradient and across a wider area. This process slows the velocity and dissipates the energy of the storm flow thereby reducing its erosive potential and increasing its infiltration potential. If properly designed, this will decrease storm water discharge volumes, peak flow rate, velocity, and pollutant loading to receiving water bodies.

### INSTALLATION

1. Level spreaders used for storm water flow control shall meet Filtrex<sup>®</sup> FilterSoxx<sup>™</sup> Material Specifications and use Filtrex<sup>®</sup> GrowingMedia<sup>™</sup>.
2. Contractor is required to be a Filtrex<sup>®</sup> Certified<sup>™</sup> Installer as determined by Filtrex<sup>®</sup> International, LLC (440-926-2607 or visit website at

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<sup>®</sup> Certified<sup>™</sup> Installer Seal.

3. Level spreaders will be placed at locations indicated on plans as directed by the Engineer.
4. Level spreaders shall be installed to be PERFECTLY LEVEL.
5. Level spreaders shall be installed in conjunction with a forebay, channel, and stable and vegetated discharge area.
6. Level spreaders shall lead concentrated flow *from* a constructed forebay and channel system *to* stabilized vegetated areas.
7. Turf reinforcement mats, erosion control blankets, or rip rap may required to stabilize soil and vegetation where flow passes from the Level spreader.
8. Stakes shall be installed through the middle of the Level spreader on 10 ft (3m) centers, using 2 in (50mm) by 2 in (50mm) by 3 ft (1m) wooden stakes.
9. Staking depth for sand and silt loam soils shall be 12 in (300mm), and 8 in (200mm) for clay soils.
10. The Level spreader is to be seeded at time of installation for establishment of permanent vegetation. The Engineer will specify seed requirements.
11. Loose GrowingMedia<sup>™</sup> used for vegetated area/ buffer zone may also be seeded. The Engineer will specify seed requirements.



## **INSPECTION AND MAINTENANCE**

Routine inspection should be conducted within 24 hrs of a runoff event or as designated by the regulating authority. Level spreaders should be regularly inspected to make sure they maintain their shape and are adequately converting concentrated flows to sheet flow. If ponding becomes excessive sediment or debris removal may be necessary, or the forebay may need to be redesigned to allow for greater water volume capture from catchment area. If undermining of Level spreader occurs, backfilling or reinstallation may be required. If erosion occurs after leaving the Level spreader, erosion control blankets, turf reinforcement mats, rip rap, or longer Level spreader may be required.

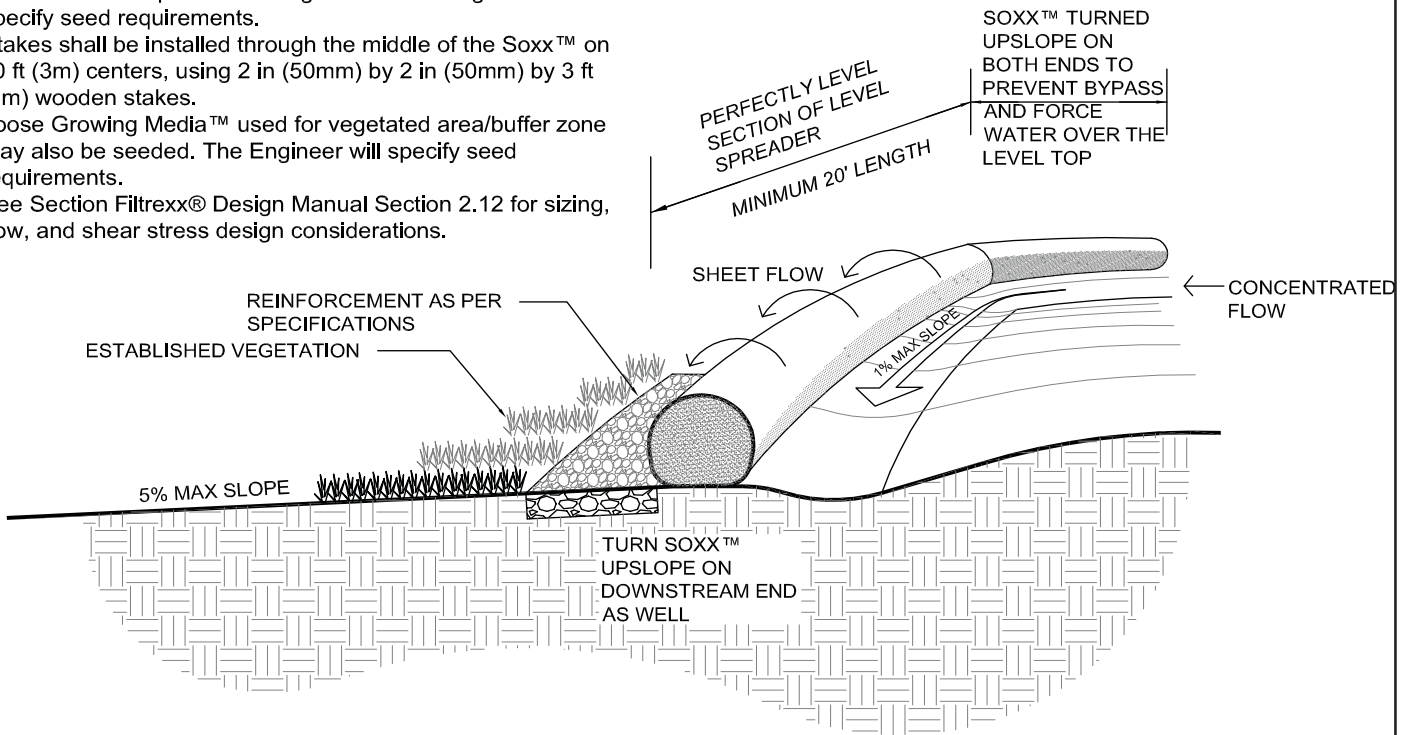
1. The Contractor shall maintain the Level spreader in a functional condition at all times and it shall be routinely inspected.
2. If the Level spreader has been damaged, it shall be repaired, or replaced if beyond repair.
3. The Contractor shall remove sediment and debris around Level spreader and within the forebay when accumulation has reached 1/2 of the effective height of the Soxx™ or when 1/3 of forebay volume capacity has been displaced.
4. If erosion has occurred in the vegetated zone, erosion control blankets, turf reinforcement mats, regrading, and revegetation may be necessary.
5. Vegetation zone may be regularly mowed to maintain low and dense growing vegetation.



**Figure 12.1.** Engineering Design Drawing for Level Spreader.

**NOTES**

1. Soxx™ used for storm water flow control shall meet Filtrexx® Soxx™ Material Specifications and use Filtrexx® GrowingMedia™.
2. Contractor is required to be a Filtrexx® Certified Installer™ as determined by Filtrexx International®.
3. The Soxx™ is to be seeded at time of installation for establishment of permanent vegetation. The Engineer will specify seed requirements.
4. Stakes shall be installed through the middle of the Soxx™ on 10 ft (3m) centers, using 2 in (50mm) by 2 in (50mm) by 3 ft (1m) wooden stakes.
5. Loose Growing Media™ used for vegetated area/buffer zone may also be seeded. The Engineer will specify seed requirements.
6. See Section Filtrexx® Design Manual Section 2.12 for sizing, flow, and shear stress design considerations.



**FILTREXX® LEVEL SPREADER**

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