1-05

Filtrexx Ditch Chexx™ - Overview

Description

Ditch Chexx™ are made from a composted material (Filter Media™) contained in a mesh tube of various diameters for varying situations and directional flows. Filtrexx Ditch Chexx™ are used for filtering channel flow of sediment-laden waters generated from construction activities during storm events. Ditch Chexx™ help to slow water flow, create a ponding, settling and filtering effect of settleable solids contained in stormwater runoff. Compost used in Filtrexx Ditch Chexx™ may also have the ability to chemically bind various chemicals contained in runoff.

Conditions where practice applies

Ditch Chexx™ can be used in place of traditional methods of ditch erosion and sediment control tools, including straw bales, silt fence, amongst other methods. Filtrexx Ditch Chexx™ can be used in small open channels where it is necessary to slow down the velocity of the stormwater prior to leaving the ditch area. Applications include temporary runoff channels, swales, and other areas that may be used as an integrated approach to overall erosion and sediment control plans for the project.

Design Criteria

Design limits - Filtrexx Ditch Chexx™ are not reliable as the only form of erosion and sediment control for an entire project. Filtrexx Ditch Chexx™ are normally 12” or 18” in

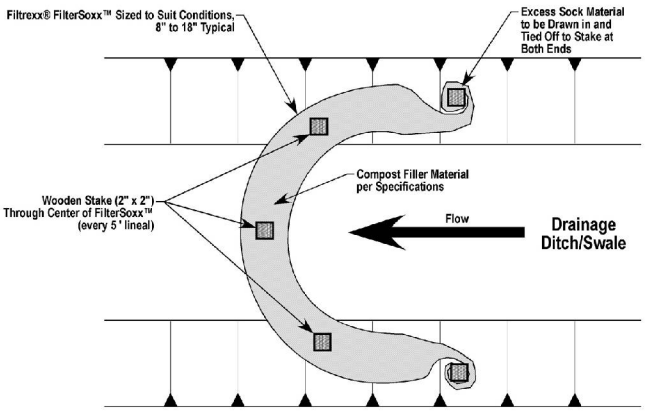
diameter and are limited in the amount of water they can treat due to limited height and width across the channel. Filtrexx Ditch Chexx™ should be used in combination with other tools as an integrated approach.

Spacing – see specifications. In general, Filtrexx Ditch Chexx™ should be installed every 20-75 feet, depending on the slope and amount of water requiring treatment. In areas of high rainfall, closer spacing is required. In dryer areas, larger spacing between FilterSoxx™ and smaller diameters may be sufficient.

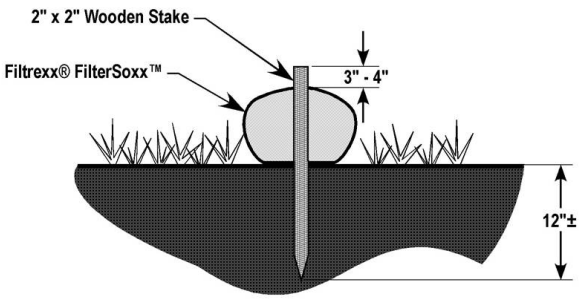
Orientation – In general, the Filtrexx Ditch Chexx™ should be installed with the ends of the materials forming a "U"-shaped figure towards incoming channeled water, so as to create a ponding effect. In the event water runs over the FilterSoxx™ in severe storm events, the water should run over the center of the FilterSoxx™, not around the ends.

Staking – Minimally, the ends and center of the Filtrexx Ditch Chexx™ should be staked to hold the product in place. Under severe flow situations and longer installations, more stakes may be required at an interval of every 5 feet.

Filtrexx® DitchChexx™



Notes:
1. All material to meet Filtrexx® specifications.
2. Compost material to be dispersed on site, as determined by Engineer.



Filtrexx® FilterSoxx™ Section

Planning considerations

Filtrexx Ditch Chexx™ are able to achieve a large 'footprint' of ground contact when installed properly. Filtrexx Ditch Chexx™ should be pressed into place to achieve a maximum contact with the ground surface. If ground contact is a concern, consider using the Filtrexx Flap system which allows more ground contact and energy dissipation.

Filtrexx Ditch Chexx™ can also be installed on frozen ground, concrete or hard surface. On hard surfaces, if staking is not possible, the use of concrete blocks is suggested as a weight to place behind the Soxx™ for additional support.

Specifications for Using Filtrexx Ditch Chexx™

Section ____: Filtrexx Ditch Chexx™ Installation and Maintenance

1.0 Description:

This work shall consist of furnishing, installing, maintaining and dispersing of a water permeable compost filter sock (Filtrexx Ditch Chexx™) to contain soil erosion and sediment by removing soil particles from water moving off site into adjacent waterways or storm water drainage systems. Filtrexx Ditch Chexx™ will be used as a form of channel protection during the construction process and may be removed or dispersed once final vegetation establishment guidelines have been met.

2.0 Compost Products used to fill Filtrexx Ditch Chexx™

1. Composted product: Compost (Filter Media™) used for Filtrexx Ditch Chexx™ shall be weed free and derived from a well-decomposed source of organic matter. The compost shall be produced using an aerobic composting process meeting CFR 503 regulations, including time and temperature data indicating effective weed seed, pathogen and insect larvae kill. The compost shall be free of any refuse, contaminants or other materials toxic to plant growth. Non-composted products will not be accepted. Test methods for the items below should follow USCC TMECC guidelines for laboratory procedures:

A. PH – 5.0-8.0 in accordance with TMECC 04.11-A, "Electrometric pH Determinations for Compost"

B. Particle size – 99% passing a 2" sieve and a minimum of 70% greater than the 3/8" sieve, in accordance with TMECC 02.02-B, "Sample Sieving for Aggregate Size Classification". (In the field, the product commonly requested is between ½" and 2" particle size.)

C. Moisture content of less than 60% in accordance with standardized test methods for moisture determination.

D. Material shall be relatively free (<1% by dry weight) of inert or foreign man made materials.

E. A sample shall be submitted to the engineer for approval prior to being used and must comply with all local, state and federal regulations.

F. Compost product shall be an approved Filtrexx FilterMedia™, as determined by testing procedures outlined by Filtrexx International, LLC. A copy of an approved report shall be kept on file.

3.0 Construction and installation of Filtrexx Ditch Chexx™:

1. Filtrexx Ditch Chexx™ will be used as a form of drainage channel protection and sediment removal on construction sites, which require protection against sediment-laden water.

2. Filtrexx Ditch Chexx™ will be placed at locations indicated on plans as directed by the Engineer.

3. Installation of Filtrexx Ditch Chexx™ will ensure that the Ditch Chexx™ exceed the normal drainage area by at least 4 feet on the upslope of both banks. The Ditch Chexx™ will be anchored to the soil using stakes where required.

4. Standard sizes of Ditch Chexx™ for normal protection should be 12" diameter. In severe flow situations, the Engineer may recommend larger Ditch Chexx™ of 18" or 24". Ditch Chexx™ can be stacked one on top of the other, if additional height is required.

5. Ditch Chexx™ shall be constructed of a continuous, tubular, 3/8" knitted mesh material and filled with a compost product that passes the criteria listed in section 2.

6. If the Ditch Chexx™ become clogged with debris and sediment, they shall be maintained so as to assure a proper drainage and water flow into the drainage channel.

8. For areas where Ditch Chexx™ are to be left as a permanent part of the landscape, Ditch Chexx™ may be seeded during time of manufacture to create a 'living' Ditch Chexx™. For seeding options, the Engineer shall specify seed type and seeding rate.

4.0 Maintenance:

1. The contractor shall maintain Filtrexx Ditch Chexx™ in a functional condition at all times and it shall be routinely inspected.

2. Where the Ditch Chexx™ requires repair, it will be routinely repaired.

3. The contractor shall remove sediments collected at the base of the Ditch Chexx™ when they reach 1/3 of the exposed height of the Ditch Chexx™, or as directed by the Engineer. Alternatively, another Ditch Chexx™ may be installed behind the first, slightly upslope, to minimize soil disturbance activities.

4. The Ditch Chexx™ will be dispersed on site when no longer required, as determined by the Engineer. The netting material will be disposed of in normal trash containers or removed by the Contractor.

5. For projects requiring Ditch Chexx™ to be left in place, no removal of compost or netting is required.

5.0 Method of measurement:

Bid items shall show measurement as each size diameter of 'Filtrexx Ditch Chexx™' per linear foot, installed, as specified by the Engineer.

6.0 Performance:

1. Contractor is responsible for establishing a working erosion control system and may, with approval of the Engineer, work outside the minimum construction requirements as needed.
2. Where the Ditch Chexx™ deteriorates or fails, it will be repaired or replaced with a more effective alternative.
3. Contractor is required to be a Certified Filtrexx Installer as determined by Filtrexx International, LLC (440-926-8041 or visit website at Filtrexx.com). Certification shall be considered current if appropriate identification is shown during time of bid or at time of application.

7.0 Application guidelines:

1. Filtrexx Ditch Chexx™ shall either be made on site or delivered to the jobsite using Filtrexx FilterSoxx™ materials in 5 mil continuous, tubular, HDPE 3/8" knitted mesh netting material, filled with compost passing the above specifications for compost products as outlined in section 2.0.

2. Filtrexx FilterSoxx™ netting materials are available only from Filtrexx International, LLC and are the only Certified mesh materials accepted in creating Filtrexx products on site or as delivered to the job site.

8.0Available Vendors

Filtrexx Ditch Chexx™ may be purchased from the following Certified Filtrexx Installers:
(see website for current listing)

Filtrexx International, LLC
35481 Grafton Eastern
Grafton, OH 44044
440-926-8041
440-926-4021 (fax)
www.filtrexx.com
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