

SMARTDITCH STORMWATER TREATMENT SYSTEM REDUCES TURBIDITY

Problem

In many parts of the United States, more and more municipalities and drainage districts are requiring stormwater to be treated prior to discharge off of construction sites and into natural waterways. Typically, regulators are concerned with large quantities of sediment being suspended in the runoff as it leaves the job site. SmartDitch can now be used in conjunction with site-specific Polyacrylamides for Erosion Control and Stormwater Clarification.

Solution

The SmartDitch HDPE Channel System can be used to introduce site-specific polymers to turbid waters in a manner to facilitate mixing and reaction between the polymer and suspended particles. This collection of flocculated particulate will greatly reduce turbidity in stormwater.

The set up of the system is relatively easy. A series of 24" Semi -Circular SmartDitch sections are set up and lined with jute or similar material. The sections can be installed in the ground or can be used above ground on saddles available from Penda Corporation. Checks are placed along the length of the sections, forcing the water to flow over and around them. The checks can be as simple as concrete blocks, sand bags or HPDE checks that fit between the corrugations available from SmartDitch. Floc Logs are secured along the sections, allowing water to mix with the site-specific polymer blend and begin reacting with the suspended sediment.

The sections of Smart- Ditch overlap at the corrugations and are secured in place with self tapping screws. An EPDM gasket provides a water tight joint minimizing any leaks that may occur.

The floc logs are typically placed in a series one after another. The number of floc logs to be used is determined by the flow rate of the water and the length of the system is determined by the reaction time required for the polymer. The larger particulates that form during treatment adhere to the surface provided by the jute matting.

The layout of the system on site should be such that only turbid water is entering the system. The turbidity limit of the water flowing into the system must not exceed the reaction limits of the polymers. If the sediment load is larger than the limit, a settling system may need to be installed to encourage primary settling prior to treatment. Use of the SmartDitch channel sections in conjunction with polymers has shown to greatly reduce sediment discharge from job sites.

Benefits

- ◆ The sections can be setup in or above ground
- ◆ The sections can be reused if desired
- ◆ There is no significant maintenance to the SmartDitch sections themselves
- ◆ The system is quick to setup and cost effective
- ◆ The jute matting and floc logs are easily maintained on site as needed



SmartDitch is set up to demonstrate the treatment system.

SmartDitch is manufactured in the USA. It is a safe, economical, long-lasting, and environmentally sound irrigation channel lining solution. For more information on the SmartDitch and the MegaDitch HDPE Channel Lining Systems contact:



866.576.2783 SMARTDITCH.COM



SmartDitch is set up to demonstrate The Treatment System.



As the water flows over and around the floc logs, the polymers mix with the water and form particulates that adhere to the jute matting.



In this demonstration, water loaded with silty clay is allowed to flow into the system.



A water sample collected at the outlet of the system shows that the silty clay has been removed from the flow.