

Miller Compost Erosion Control Fact Sheet



The use of organic soil blends and woody materials to control erosion and establish vegetation has been studied extensively. In an attempt to create new opportunities for compost blends and with new application technology, a great deal of study has gone into the use of compost based material for use of erosion control for storm water ponds and highway projects.

A number of studies have been performed by several Departments of Transportation in the U.S. and Canada that looked at feasibility studies that showed overwhelming that compost based erosion control tended to out perform traditional methods of controlling erosion and the establishment of permanent vegetated cover by a sizeable margin. Since that time, many have developed specifications for compost utilization in controlling erosion along highways and storm water management projects

There are many cost benefits to using such erosion control products. First, it helps close the recycling loop for waste management. The second is compost adds back to the soil what was lost during construction activities. Thirdly, compost acts a prefilter for non source pollution. Fourthly, compost allows for a more sustainable vegetative management and attracts wildlife. Finally compost is very economical choice for erosion control and storm water management projects.



One of The greatest challenges facing municipalities is the explosion of new housing. For many municipalities, the cost of storm water management infrastructure along with declining watershed inventory will see more water shortages along with costly waste water & clean water treatment systems.



Compost based erosion control products can greatly help at resolving many water quality issues. By creating increased organic matter in or on the erosion prone soil, compost will create a suitable environment for microorganisms. These microbes will help reduce non-source pollution, stabilize disturbed soil, increase water table inventories, reduce downstream contamination all for a very affordable price.



Water quality protection starts at the construction site. Poor erosion control can have far reaching affects on both humans and wildlife. Safeguarding water supplies is important to all stakeholders in the community.

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- The properties of a well-balanced erosion control medium will balance the attributes of providing superior physical slope stabilization in the short term and optimum germination medium for quick vegetation cover, both of which are key for successful erosion control of disturbed soil.
- Physical slope stabilization is achieved through the **bonded fiber matrix** of compost which naturally resists the tendency for downward soil movement. A cushioning effect absorbs the kinetic energy of rainfall, thus preventing the movement of soil particles and decreases the potential for rills to form and for sheet erosion to begin.
- Many concerns that prompt erosion control is the control of sediment, pollutants, and structural failure of slopes. Plant establishment helps to further eliminate any further sedimentation that may occur and provide a more natural setting.
- Several application methods of compost blends for erosion control exist and have their own unique niche based on site location, engineering requirements, and economic cost. It is possible through some methods to inject the seed mixture right into the blend either before or during the application process. This method proves most beneficial as a one step process and seems to be the most effective for quick vegetation establishment erosion control method. A compost blend can also be applied on its own simply as the short term erosion control method, which can later be seeded for increased vegetation establishment with traditional methods of hydro-seeding alone, for example.
- Because of our activities, erosion control solutions must provide a more balanced natural approach to soil stabilization. This can be achieved with great success by reintroducing the natural biological system at very economical rate both to the road building industry as we as to the environment as a whole.
- Another benefit of using compost blends in erosion control is that compost inherently has quality plant nutrients that are released slowly over long period of time. This allows for consistent nutrient levels to be present during plant growth during the establishment period. This allows a natural way of providing nutrients for plant uptake without the need for chemical fertilizers, thus reducing any potential degradation of the water system due to chemical pollution. Compost has the ability to break down hydrocarbon and other chemical pollutants, bond heavy metals, and convert excess soluble fertilizers before they have a chance to enter into protected waterways and sensitive wildlife habitat areas.
- The use of recycled organic materials for applications such as erosion control, serve to further environmental initiatives both from a landfill diversion program, as well as the clean water strategy movement. When the local government body or agency can utilize recycled materials to solve environmental problems such as soil erosion prevention of silt ration of natural waterways all stakeholders benefit.. Compost has made paramount strides in closing the organic diversion loop and protecting the environment all at once.
- The rich microbiological ecosystem that is created when compost is applied to disturbed soil will infuse and replenish the soils natural micro flora and micro fauna that is required by vegetation to grow and also improve soil structure, namely humus which helps bind freshly disturbed soil particles and aid in the creation of larger soil aggregation, thus reducing soil erosion.
- Compost also reintroduces organic matter to a very impoverish soil left behind due to construction activities. Having increased organic matter on the slope helps cushion rainfall, by slowing down the kinetic energy of water run off.
- Erosion is a part of nature's normal processes. Without human activity erosion would be balanced with rebuilding of soils through the natural process of soil formation. Because of our activities with soil through urban development, clear cutting, and use of chemicals, all of which destroy the protective layer of vegetation on top of the soil. The only increases the need for viable soil erosion control. Methods that employ more natural erosion control material such as compost.
- Erosion control will only be achieved 100% when the site can be returned into its natural state. This means vegetation must be successfully grown and restoration of the subsoil into a more favorable soil for plant growth and overall plant health.
- Compost mimics a natural process that we can motivate Mother Nature to do her part. We are able to compress hundreds of years of soil building into a few short weeks with the introduction of organic matter, reintroduction of beneficial soil microbes, and plant nutrients that stimulates an immediate growth of vegetation necessary to protect slopes, and provide the essential soil builders critical to long-term ecological development of slope stabilization projects.