BMP 50.00. Compost Blanket

DESIGN CONSIDERATIONS

Objectives

Compost Blankets are applied to the soil surface to control erosion and retain sediment. When properly applied the compost forms a blanket that completely covers the ground surface. The resulting blanket prevents erosion by facilitating infiltration and reducing the rate of rill erosion. Quality compost can promote vegetation establishment and enhance soil structure.

Description

Compost Blankets are a layer of composted material loosely applied to the soil surface by blower trucks or mechanical / hand spreading.

Compost Blankets are uniformly applied to a specified depth - typically 1 to 3 inches. Standard details call for 2-inch blankets, with research showing benefits as thin as 1-inch; however, controlling a 1-inch application is difficult in the field. Too much compost can cause long term challenges for vegetation establishment

Compost can vary from fine to coarse in its gradation. Compost is also specified as a soil amendment, where a uniform blanket is applied as specified and then mixed with the soil by disking or tilling the layer into the soil.

Applicability

Compost Blankets can be used to reduce erosion and assist in vegetation establishment where availability of quality topsoil for revegetation is limited and site access to an available compost source is practical.

- Compost can be placed on any soil surface; however, the interface must provide sufficient friction to prevent the blanket from slumping when saturated. The steeper the application, the rougher the subgrade should be.
- Climate conditions will affect gradation selection: wetter climates will require coarser compost than drier locations.
- Site locations exposed to high winds will require a coarser compost and/or tackifier to prevent wind erosion.
- Compost Blankets are not applicable for locations with concentrated flow.

Application methods must be considered in the selection of Compost Blankets. Trucking, spreading, blower truck access, and availability of compost meeting specifications all must be taken into consideration when specifying compost blankets.

The compost must comply with the processes, testing, and standards specified by the U.S. Composting Council Testing Methods for the Examination of Compost and Composting (TMECC) and Standard Specification Section 750 Compost. An independent Seal of Testing Assurance (STA) Program certified laboratory shall perform the analyses.

Selection Considerations

- Compost Blankets should be considered where existing soils lack organic material and vegetation will be difficult to establish for final long term stabilization.
- Steeper slopes require a coarser compost to resist slumping.
- Compost Blankets are not generally used on slopes greater than 2:1 and should not be used on slopes steeper than 1:1. They may be used on slopes between 2:1 and 1:1 if cellular confinement systems are used in conjunction with the Compost Blanket.
- Site location and access should be planned to make compost delivery feasible. The compost can be distributed manually by using hand tools, or by mechanical means such as bulldozer or pneumatic spreader.
- Because compost must have laboratory certifications, the designer should determine if compost complying with specifications is available for use on the project.

Design

Designers must consider the type and gradation of compost available to a project area to determine if the use of a Compost Blanket is feasible.

- Fine gradation compost will not be appropriate for steep slopes in a wet climate area without the addition of mechanical incorporation techniques or additional coarse material amendments.
- Very coarse compost should be avoided on slopes that will be landscaped as it will make planting and vegetation establishment more difficult.
- Thicker and/or coarser Compost Blankets are recommended for areas with higher annual precipitation or rainfall intensity.
- Specify that the Compost Blanket is to extend at least 3 feet over the shoulder / crown of the slope to prevent run-off from flowing under the blanket. Alternately, designers may consider diversion berms or ditches to direct surface flows around the blanket installation.
- Designers must also specify that the surface will be prepared with Surface Roughening (drawing BMP-24.00). A rough subgrade will reduce the potential for the blanket to slough when saturated. Subgrade soil with high silt or clay content may require more aggressive surface roughening. The greater the silt and clay content the higher the potential of a slippery surface under the Compost Blanket. On granular soils, standard trackwalking techniques may be adequate depending on the slope steepness.

Relationship to Other Erosion and Sediment Control Measures

Compost Blankets can be used as a stand-alone soil stabilization measure during periods when seed germination is not possible. The compost can further benefit vegetation establishment during the growing period. Seeding techniques must still be specified when using Compost Blankets. Some blower trucks may be able to incorporate seed into the compost during application. If hydraulic seeding techniques will be used over the Compost Blanket, the mulch selection guidelines found in Hydraulic Erosion Control Products (BMP 51) must be followed.

Common Failures or Misuses

- Selection of or allowing inappropriate compost gradation or substandard feedstock can create maintenance problems, problems with vegetation establishment, and may be detrimental to water quality.
- Too much compost can cause long term challenges for vegetation establishment.
- Weed seeds and undesired elements may be introduced and require eradication or removal.
- Slumping of the Compost Blanket due to improper surface preparation lacking roughness, friction elements, or scarification.
- Slumping due to water retention of fine grained compost materials on steep slopes.
- Placement in areas of concentrated flows.

SPECIFICATIONS

Standard Specification

- 650 Compost Blanket
- 750 Compost

Drawing

- BMP-30.00 Surface Roughening