SPECIAL SPECIFICATION

1019

Mulch/Compost Filter Berm for Erosion and Sedimentation Control

1. **Description.** This work shall consist of furnishing, installing, maintaining and dispersing (if necessary) a water permeable windrow berm of a compost or mulch to contain soil erosion by removing suspended soil particles from water moving off the site and into adjacent waterways or storm water drainage systems.

2. **Materials.** Filter Berm Mulch or Filter Berm Compost.

   **Filter Berm Mulch.** Where used without seeding or planting, use material derived from weed free bark/wood mulch that conforms to the following:

   a. pH - 5.0 to 8.5.
   b. Particle size - 98 percent passing 25 millimeter sieve, 90 percent passing 19 millimeter sieve and not more than 30 percent passing the nine (9) millimeter sieve. Material shall not exceed 100 millimeters in length.
   c. Moisture content less than 60 percent.
   d. No less than 70 percent organic matter.
   e. Material shall be reasonably free (< 1 percent by dry weight) of man-made foreign matter.
   f. A sample shall be submitted to the Engineer/landscape architect for approval prior to being used and must comply with local city, county or state regulations.

   **Filter Berm Compost.** Where seeding or planting is planned or where biological filtration may be desired, use compost material derived from well decomposed organic matter source, or in combination with filter berm mulch (maximum of 50 percent). The compost material shall be an organic substance produced by the aerobic (biological) decomposition of organic matter. The compost material shall not contain any visible admixture of refuse and other physical contaminants nor any material toxic to plant growth. Composted matter may include, but are not limited to, leaves and yard trimmings, biosolids, food scraps, food processing residues, manure and/or other agricultural residuals, forest residues and bark, and soiled and/or unrecyclable paper. The use of mixed municipal solid waste compost or Class B Biosolids (as defined in 40 CFR part 503) will not be allowed. Compost materials furnished shall meet all applicable Federal (40 CFR part 503 Standards for Class A Biosolids) and Texas Natural Resources Conservation Commission (TNRCC) health and safety regulations (TAC Chapter 332). All compost material supplied shall be processed to meet the time and temperature standards in TAC Chapter 332 Subchapter B Part 23 to control noxious weeds, pathogen and vector attraction.
Filter berm compost shall conform to the following:

a. pH - 5.5 to 8.5.
b. Particle size - 98 percent passing 25 millimeter sieve, 90 percent passing 19 millimeter sieve and not more than 40 percent passing the nine (9) millimeter sieve. Material shall not exceed 100 millimeters in length.
c. Moisture content less than 60 percent.
d. No less than 70 percent organic matter.
e. The compost portion shall be reasonably free (<1 percent by dry weight) of man-made foreign matter.
f. The compost portion shall not resemble the raw material from which it was derived.
g. A sample shall be submitted to the Engineer/landscape architect for approval prior to being used and must comply with local city, county and state regulations.

3. Construction.

a. The erosion control berm shall be placed, uncompacted, in a windrow at locations shown on the plans or as directed by the Engineer.
b. Parallel to the base of the slope, or around the perimeter of other affected areas, construct a 0.30 to 0.46 meter high by 0.76 to 0.91 meter wide berm as shown on the plans. For maximum water filtration ability or for steep slopes, construct a 0.45 to 0.60 meter high trapezoidal berm which is approximately 0.60 to 0.91 meters wide at the top and minimum 1.22 meters wide at the base. In extreme conditions and where specified by the Engineer, a second berm shall be constructed at the top of the slope. (The Engineer shall specify berm requirements).
c. If berm is to be left as a permanent filter or part of the natural landscape, the "compost filter berm" may be seeded during application for permanent vegetation. The Engineer/landscape architect shall specify seed requirements.
d. Do not use filter berms in any runoff channels.

4. Maintenance. The Contractor shall maintain the erosion control filter berm in a functional condition at all times and it shall be routinely inspected. All deficiencies shall be immediately corrected by the Contractor. The Contractor shall make a daily review of the location of the berm in areas where construction activity causes drainage runoff to ensure that the berm is properly located for effectiveness. Where deficiencies exist, additional berm material shall be installed as approved or directed.

Sediment retained by the berm shall be removed by the Contractor once it has reached 1/3 of the exposed height of the berm, or as directed by the Engineer.

The berm shall be dispersed when no longer required, as determined by the Engineer. At the Engineer/landscape architect's discretion, berm material may be left to decompose naturally, or distributed over an adjacent area for additional use as a soil amendment or ground cover.
5. **Performance.**

   a. Place berms on bare ground areas as soon as possible. Mulch/Compost and/or temporary or permanent vegetation shall be applied/established above the filter berms when necessary for additional erosion control.

   b. The work specified in this Section consists of designing, providing, installing and maintaining sedimentation controls as necessary. All existing and foreseeable future conditions that affect the work inside and outside the site limits must be acknowledged as the Contractor's responsibility.

   c. Contractor is responsible for providing effective sediment control measures based on performance, and may, with approval from the Engineer, exceed the minimum construction requirements to establish a working erosion control system.

6. **Measurement.** This Item will be measured by the cubic meter or meter, complete in place.

7. **Payment.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement", will be paid for at the unit price bid for "Filter Berm Mulch" or "Filter Berm Compost". This price shall be full compensation for furnishing all material; placement and grading; and for all tools, equipment, labor and incidentals necessary for the construction and maintenance of the filter berm mulch or filter berm compost.

When the Engineer directs that the filter berm mulch or filter berm compost installation (or portions thereof) be replaced, payment will be made at the unit price bid for "Filter Berm Mulch (Remove and Replace)" or "Filter Berm Compost (Remove and Replace)". This price shall be full compensation for the removal and replacement of the filter berm mulch or filter berm compost, and for all manipulations, labor, tools, equipment and incidentals necessary to complete the work.

The removal of accumulated sediment deposits, as described under Article 4, "Maintenance", will be measured and paid for under the pertinent bid items of the Special Specification, "Earthwork for Erosion Control".

The work performed in the final removal of the filter berm mulch or filter berm compost installation as described under Article 4, "Maintenance", and measured as provided above will be paid for at the unit price bid for "Filter Berm Mulch (Remove)" or "Filter Berm Compost (Remove)". This price shall be full compensation for removing the material from the existing location and properly disposing of it and for all manipulations, labor, tools, equipment and incidentals necessary to complete the work.