

**ITEM NO. 647S
MULCH BERM**

647S.1 Description

A Mulch Berm consists of wood mulch, wood chips, or other organic material. It is used to intercept, settle, and filter sheet flow and pond runoff. Mulch berms provide an environmentally sensitive and cost-effective alternative to sediment fences.

647S.2 Submittals

The submittal requirements for this specification item shall include the following:

A. Mulch Material

1. A small sample of mulch material proposed to be used on the site will be provided to the engineer.
2. Provide a designated project stockpile of mulch for sampling and testing at the producer's site.
3. A copy of the lab analysis, performed by an STA-certified lab, verifying that the mulch material meets the requirements of Table 1.

Table 1		
Item	Requirement	Reference Specification
Particle Size	less than or equal to 5 inches in length with 95% passing a 2-inch screen and less than 30% passing a 1-inch screen	TXDOT Special Specification 1011, Mulch Filter Berm.
pH	5.5 – 8.5	TMECC 04. 11-A, "1.5 Slurry pH"
Organic Matter Content	25%, dry weight basis	TMECC 05.07-A, "Loss-On-Ignition Organic Matter Method"

647S.3 Materials

- A. Mulching material can be manufactured on or off the project site and may consist of:
1. Shredded bark
 2. Stump grindings
 3. Composted bark

- B. The mulch shall have the following composition:
 - 1. Untreated wood chips shall be less than or equal to 5 inches in length with 95% passing a 2-inch screen and less than 30% passing a 1-inch screen (TXDOT Special Specification 1011, Mulch Filter Berm).
 - 2. Large portions of silts, clays, or fine sands are not acceptable.
 - 3. The pH of the mulch shall be between 5.5 and 8.5.
 - 4. The organic matter content shall be greater than or equal to 25% on a dry weight basis.
- C. Mulch material must be free of refuse, physical contaminants, and material toxic to plant growth. It is not acceptable for the mulch material to contain ground construction debris, biosolids, manure, or recyclable material.
- D. Prior to placement, a representative sample of the mulching material must be tested and certified by the project engineer or his/her designee and accepted by the city inspector.

647S.4 Installation

- A. Mulch Berms should be a minimum 24 inches high and 36 inches wide.
- B. Install mulch berms per Figure 1.4.5.J in the City of Austin Environmental Criteria Manual.
- C. Mulch berms should be used at the base of slopes no steeper than 2:1 and should not exceed the maximum spacing criteria provided in the following table.

Slope	Spacing Interval (ft)	Max. Drainage Area (sf) per 100ft of Berm
100:1 to 50:1 (1-2%)	100	10,000
50:1 to 30:1 (2-3.3%)	75	7,500
30:1 to 25:1 (3.3-4%)	65	6,500
25:1 to 20:1 (4-5%)	50	4,800
20:1 to 10:1 (5-10%)	25	2,600
10:1 to 5:1 (10-20%)	15	1,300
5:1 to 2:1 (20-50%)	10	1,000

- D. Place mulch berms at a 5 ft or greater distance away from the toe of the slopes to maximize space available for sediment deposition.
- E. When placed on level contours, sheet flow of water should be perpendicular to the mulch berm at impact and unconcentrated.
- F. In order to prevent water flowing around the ends of the mulch berms, point the ends of the berms up slope.

- G. In order to prevent water from flowing between the gaps at adjacent ends of mulch berms, overlap the ends of adjacent mulch berms a minimum of 12 inches.
- H. 4.5 G (Silt Fence)
- I. For steeper slopes, an additional mulch berm can be constructed on the top of the slope and within the slope area as determined by specific field conditions. Multiple mulch berms are recommended on steeper slopes.
- J. Do not use mulch berms in areas of concentrated flow as they are intended to control sheet flow only.

647S.5 Inspection and Maintenance

- A. Inspect mulch berms after installation for gaps under the mulch berms and for gaps between the joints of adjacent ends of mulch berms. Contractor shall repair gaps such that no water flows under or around berm.
- B. Inspect every seven days and within 24 hours of a rainfall event of 0.5 inches or greater. Replace and repair mulch berms as necessary.
- C. Sediment retained by the mulch berms shall be removed when it has reached one third of the exposed height of the mulch berms.
- D. Mulch berms can be vegetated or un-vegetated. Vegetated mulch berms can be left in place. The vegetation will grow in the slope, further anchoring the berm.

647S.6 Payment

The work performed and the materials furnished as prescribed by this item shall be paid for by the linear foot of mulch berm installed.

Payment will be made under:

Pay Item No. 647S:	Mulch Berm	Per Lineal Foot.
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END

SPECIFIC CROSS REFERENCE MATERIALS
Specification Item No. 647S, "Mulch Berm"

City of Austin Environmental Criteria Manual

Designation	Description
1.4.5.J	Mulch Berm
1.4.5.G	Silt Fence

City of Austin Standard Details

Designation	Description
647S-1	Mulch Berm