Oak Park Conservancy District
Stormwater Best Management Practices (BMPs)
Erosion Prevention Practices (EPPs)

EPP-09

Activity: Nets and Mats

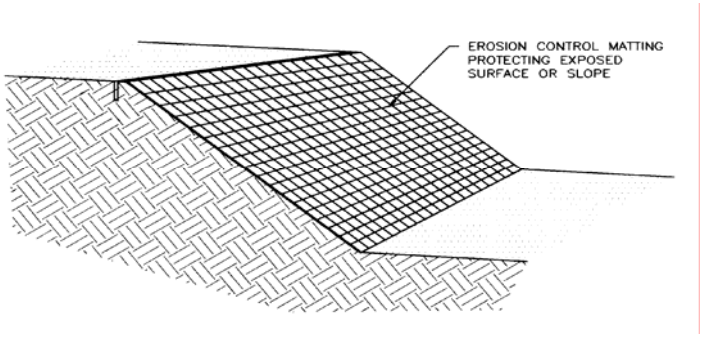
PLANNING CONSIDERATIONS:

Design Life:
1 yr

Acreage Needed:
None

Estimated Unit Cost:
Avg: $2/ ft (20 ft Roll)
Range: $5/ft (20 ft Roll)

Monthly Maintenance:
60% of Installation



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Target Pollutants

Significant ♦ Partial ◈ Low or Unknown ♢

Sediment ♦ Heavy Metals ♢ Nutrients ♢ Oxygen Demanding Substances ♢ Toxic Materials ♢
Oil& Grease ♢ Bacteria & Viruses ♢ Floatable Materials ♢ Construction Waste ♢

Description

The security measures ensured by jute mesh, excelsior matting, erosion control fabric and other matting materials help to prevent and reduce erosion on preceding shaped and seeded swales, channels and slopes. The implementation of this BMP will create a significant reduction in sediment.

Suitable Applications

Matting, such as erosion control matting, can be applied to several areas that require actions against attrition. Matting aids in effectively protecting areas such as steep slopes and ditches where design flow may exceed 3.5 feet per second and areas with potential high soil erosion.

Approach

Areas that are to receive erosion control matting should be prepared to the specification of the Engineer prior to any initial matting. The area is to be shaped, fertilized, and seeded. A smooth surface free of depressions and eroded areas is required.

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Erosion control matting may apply to many different soil types; therefore there are several different matting controls in existence that are applicable for the eroding area. There are a few matting controls that are commonly used, however it is recommended that erosion control products should always be installed with the manufacture's instructions.

A few of the commonly known matting controls are as follows:

Erosion Control Fabrics

- Matting should be unrolled in the direction of flow with edges and ends butted snugly against each other. Anchor ditches should be required on the upgrade side of the fabric when directed by the Engineer. When unrolled, the netting should be on top and fibers should be in contact with the soil.

- Staples should be driven vertically into the ground, anchoring the mat firmly to the soil, and driven flush with the surface of the mat. Slopes flatter than 4:1 (H:V) should be stapled no more than 5 feet (1.5 m) apart on all edges and 1 foot (0.3 m) apart at all joints and ends. On all slopes steeper than 4:1 (H:V) and in all ditches, three staggered rows of staples should be spaced 2.5 to 3 feet (0.76 to 0.91 m) apart. Additionally, all joints and ends should be spaced not more than 6 inches (15.2 cm) apart. The spacing of staples may be modified to fit the conditions as directed by the Engineer.

Jute Mesh

- When jute mesh is to be used, the upslope end should be in a trench at least 6 inches (15.2 cm) deep with the soil firmly tamped against it and unrolled in the direction of the water flow. It should be anchored around the edges as well. The matting should not be stretched but should be spread evenly and smoothly so that it is in close contact with the ground at all points.

- Successive strips of matting should overlap at least 6 inches (15.2 cm) at the ends, with the upgrade strip on top. Parallel strips of matting should overlap at least 4 inches (10.2 cm).

- Check slots should be spaced not more than 50 feet (15.2 m) from an end slot or another check slot. Check slots should be placed with a tight fold of matting anchored at least 6 inches (15.2 cm) vertically into the ground and tamped firmly.

- After the matting is stapled into place, it should then be pressed into the ground with a light lawn roller or by similar means.

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Staples

- Staples should be No. 11 gauge new steel wire formed into a "U" shape. Staples should be 6 to 10 inches (15.2 to 25.4 cm) long, with the longer staples used on loose, unstable soils. Staples should be spaced not more than 4 feet (1.2 m) apart in three rows for each strip, with one row along each edge and one row alternately spaced in the center. On overlapping edges of parallel strips, staples should be spaced not more than 2 feet (0.61 m) apart. All anchor, junction, and check slot staples should be spaced not more than 6 inches (15.2 cm) apart.

Maintenance

- Inspect erosion control matting after rainfall events to check for movement of topsoil, mulch or erosion. Continue checking until vegetation is firmly established.
- Repair or replace netting that has been washed out, broken, eroded, and/or needing surface repair, reseeding, resoding, remulching or topsoil replacement.

Inspection Checklist

- ❑ Channel grades are adequately managing runoff velocity.
- ❑ Staples are appropriately spaced to avoid loss of seed, topsoil and mulch to stormwater runoff and winds.
- ❑ Nets are adequately covered or anchored to prevent erosion, washout, and poor plant establishment.