Bowling Green, Kentucky
Stormwater Best Management Practices (BMPs)
Erosion Prevention Practices (EPPs)

EPP-12

Activity: Geotextiles (G)

PLANNING CONSIDERATIONS:

Design Life:
N/A

Acreage Needed:
None

Estimated Unit Cost:
Low

Monthly Maintenance:
N/A

G

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

Geotextiles are woven or non-woven fabrics, applied between surfaces or materials, to reduce flow velocities, release runoff as sheet flow, remove some sediment from runoff and are likely to create a significant reduction in sediment. Runoff and pollution caused by construction activities can be prevented or reduced with this BMP.

Suitable Applications

- Construction sites desiring stability for disturbed soils.
- Sloppy area where anchoring must take place.
- Slopes steeper than 3:1 (H:V) and/or where erosion hazard is high.
- Slow growing vegetated areas.
- Critical slopes adjacent to sensitive areas (streams, wetlands, etc.).

Approach

Geotextiles provide stabilization, filtration, and separation properties. This BMP may be used when there is a need for separation between two materials or mediums that are likely to otherwise interfere with one another.

- Separating subsoil from aggregate within a subsurface drain.
- Separating subsoil from aggregate placed at the soil surface.
- Stabilization of soil surface during temporary stream diversion.
- Prevent buildup of hydrostatic pressure behind gabions, decorative, or retaining walls.

This BMP does not require design or selection by a professional experienced in geotextile applications. However, if hydrostatic pressure becomes a concern for stability of a retaining wall, then a professional should be consulted.

Geotextiles should be selected based on the standard specifications detailed in AASHTO M288.

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Installation Procedures

Geotextiles should be non-toxic to vegetation, and inert to soil chemicals. The materials selected should meet or exceed requirements of strength, resistance to distortion, permittivity, and resistance to ultraviolet degradation.

Geotextiles should be installed according to the specifications of the manufacturer.

- Site preparation should include removal of rocks, clods, debris greater than 1" and any voids.
- The material should be loosely placed with no wrinkles, folds or distortions.
- The fabric should be in direct contact with the soil.
- Overlap sheets by placing the next consecutive sheet upstream on top of the downstream sheet.
- Fabric my require field joining with stakes or staples.
- Do not dump aggregate onto fabric from height greater than five feet. Aggregate should be placed to prevent damage.
- Damaged section may be repaired by placing a piece that overlaps the damaged area by at least 1 foot.

Maintenance

- Inspection to occur periodically, if any portion of the material is damaged, immediate correction is required.
- Inspections may occur prior to any anticipated wet weather events.
- Inspection to occur after significant rain storms to check for erosion and undermining.
- Repairs to the slope and re-installation should occur as a result of wash-out or breakage.
- Perform maintenance as required by the manufacturer.

Inspection Checklist

- ❑ Site is adequately prepared (grading or shaping, rocks, vegetation and debris removal, etc.).
- ❑ Seeding meets geotextile requirements.
- ❑ Anchoring is established at an acceptable depth.
- ❑ Anchoring trenches are used at the top and bottom of slopes.
- ❑ Trenches start, join and terminate geotextiles placed in channels.
- ❑ Soil filling is even and flat.