KANSAS DEPARTMENT OF TRANSPORTATION

TEMPORARY EROSION CONTROL MANUAL

SECTION 3 GEOTEXTILES

Version	Version Date	Notes
1	9/12/2023	

Kansas Department of Transportation

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GEOTEXTILES

Purpose and Operation

Geotextiles are flexible, porous, woven or nonwoven fabrics that can be used for erosion and sediment control purposes on construction sites. Geotextiles protect steeps slopes, soil stockpiles, and other areas where mulching or other timely installation of the permanent slope protection is impractical. Geotextiles can also be used in combination with other BMPs (i.e., rock stabilization, riprap culvert protection, sediment basins, etc.) to minimize erosion, scouring, and washout.

To view KDOTs Standard Specifications for all geosynthetics click the attached link. This link provides more information about requirements of geotextiles as well as tables with minimum roll values: Section 1710 – Geosynthetics.

Design

Material Specification

- To view a list of geotextile fabrics approved by KDOT for stabilization click the following link and find products that are approved for Subgrade Stabilization: List of Prequalified Geotextile Fabrics.
- Staples or similar devices shall be used to secure the geotextiles to the ground to achieve uniform contact with the surface. Method of securing the fabric will need to be approved by the Engineer or Designer.

Placement

- Geotextiles shall be placed over temporary slopes, soil stockpiles, or other areas where stabilization on a site is needed during construction.
- Geotextiles can be placed in conjunction with other BMPs to minimize erosion, scouring, and washout.

Installation

Proper Installation Method

- It is recommended that the geotextile be installed where vegetative cover such as grass or weeds are not in place to provide support during construction.
- Install geotextiles in areas that are free of rills, rocks, clods, or other debris. The geotextile should be placed flat against the soil surface with no wrinkles or folds.
- Once placed in their designated area, secure the geotextile to the ground using staples or another device that is specified by the Engineer or Designer.

List of common placement/installation mistakes to avoid

- Do not place the geotextile in a spot where it can lead to the fabric to be easily ripped. For example, these areas can include high traffic areas, places where construction equipment will be used, or areas where there are debris or rocks on the soil surface.

Inspection/Maintenance

Geotextile products should be inspected at least once within every 7-day inspection monitoring period. The following is a general list of questions that should be addressed during each inspection:

- Is the geotextile ripped or damaged?

This is due to the fabric being torn or impacted by some sort of outside source. Repair or replace the section of damaged geotextile as per the manufacturer recommendations.

- Is the geotextile loose?

This is due to missing or damaged staples or other devices. Replace or add additional staples or other devices to secure loose fabric in place.

- Does the geotextile exhibit signs of "tenting" or is stormwater flowing under the geotextile?

Verify that there is uniform contact with the soil surface (tenting is unacceptable), all seams and splices are secure, and all anchors are driven flush with the soil surface.

- Are there signs of erosion or washout under or adjacent to the geotextile?

If erosion, washouts, or undermining are visible under the geotextile, the geotextile should be reinstalled after damage to the soil surface is repaired. Consider implementing additional BMPs upslope to reduce stormwater velocities and minimize erosion and washout.

Please refer to the project specific SWP2, Contract Documents, and detailed drawings for additional inspection and maintenance criteria.