



Florida Department of Transportation

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M E M O R A N D U M

DATE: July 20, 2023

TO: Will Watts, Dan Hurtado, Stefanie Maxwell, Tim Lattner, Patrick Overton, Larry Ringers, Arthur Berger, Michael Shepard, Sue Zheng, Rhonda Taylor, Will Potter, Rudy Powell, Lance Grace, Scott Arnold, Rick Jenkins, Derwood Sheppard

CC: Daniel Strickland, State Specifications Engineer; Ananth Prasad, FTBA

FROM: Darla Hunsicker, Specifications Development Coordinator

SUBJECT: Proposed Specification: 5140000 Geosynthetic for Drainage Applications (new title).

Attached for your review and comments is a copy of the subject proposed Specification.

The changes are proposed by Dino Jameson to update Division II language for geosynthetic material usage and application.

The proposed changes are also associated with Standard Plans Indices 102-110, 400-010, 400-011, 425-001, 430-001, 430-012, 440-001, 443-001, 446-001, 455-400, 455-440, and 524-001 located at the following link: <https://www.fdot.gov/design/standardplans/irr/Internal-Review-Current>.

Please review and offer your comments within ten business days so that we may continue with the review process.

Attachment

GEOSYNTHETIC FOR DRAINAGE APPLICATIONS FILTER FABRIC
(GEOTEXTILE)
(REV 6-1-23)

SECTION 514 is deleted and the following substituted:

514-1 Description.

This Section specifies the construction requirements for geosynthetics used in drainage, slope protection, and material separation applications. Install a filter fabric.

514-2 Material.

Meet the filter fabric requirements as specified in Use geosynthetic materials meeting the requirements of Section 985 and listed on the Approved Product List (APL). Ensure the geosynthetic materials received at the job site are in unopened shipping packages and the packages are clearly labeled with the manufacturer's name, product name, style number, roll dimension and LOT number, otherwise, the Engineer will reject the material. Store geosynthetic materials in accordance with the manufacturer's instructions ensuring to protect the geosynthetic material from physical damage, debris, and temperatures greater than 140° F. Prevent mud, fluid concrete, asphalt, or other deleterious materials from coming in contact with the geosynthetic materials that could impact the performance of the geosynthetic material. Replace geosynthetic materials with defects, tears, punctures, flaws, deterioration, or other damage at no additional cost to the Department.

514-3 Construction Methods.

514-3.1 Geosynthetic Materials for Drainage ApplicationsGeneral: Select a geosynthetic material meeting the appropriate application as specified in 985-3. Place and install the geosynthetic material at the proper elevation, location and orientation ~~filter fabric (fabric) in the manner and locations~~ as shown in the Contract Documents Plans, and in accordance with the manufacturer's instructions directions, and as specified in these Specifications. Place the geosynthetic material fabric on areas with a uniform slope that are reasonably smooth, free from mounds, windrows, and any debris or projections which might damage the geosynthetic material fabric.

~~Loosely lay the material. Do not stretch the material. Replace or repair any fabric damaged or displaced before or during placement of overlying layers to the satisfaction of the Engineer and at no expense to the Department.~~

~~When overlapping is necessary, the Contractor may sew the seams to reduce overlaps as specified in 985-2.63.~~

After placement of the geosynthetic material, Schedule work so that covering the fabric with the specified material does not exceed the manufacturer's recommendations for exposure to ultraviolet light or five days, whichever is less. If the exposure time is the Engineer determines the exposure time was exceeded, the Contractor shall remove and replace the geosynthetic material fabric at no expense to the Department.

514-3.2 Subsurface Drainage Applications: When indicated in the Plans, place the geosynthetic material fabric with the long dimension parallel to the trench. Place and install the geosynthetic material fabric to provide a minimum 12-inch overlap for each joint or in

accordance with the manufacturer's recommendation, whichever is greater. Do not drop ~~the coarse aggregate filter materials~~ from heights greater than 3 feet.

~~514-3.3 Stabilization and Reinforcement: Overlap adjacent strips of fabric a minimum of 36 inches.~~

514-3.34 Riprap Revetment System Applications~~Filter:~~ Overlap adjacent strips of geosynthetic material fabric at a minimum of 24 inches and in accordance with the manufacturer's recommendations, whichever is greater. ~~A, and anchor the geosynthetic them materials~~ with securing pins ~~(as recommended by the manufacturer)~~ inserted through both strips of geosynthetic material fabric along a line through the midpoint of the overlap and to the extent necessary to prevent movement displacement of the geosynthetic material fabric .

~~Place the geosynthetic material fabric~~ so that the upstream (upper) strip of geosynthetic material fabric overlaps the downstream (lower) strip.

~~Stagger vertical laps a minimum of 5 feet. Use full rolls of geosynthetic material fabric whenever possible in order to reduce the number of vertical laps.~~

~~Do not drop bedding stone or riprap from heights greater than 3 feet onto the geosynthetic material fabric.~~

514-3.4 Repairs: Replace geosynthetic material damaged during or after installation at no cost to the Department. Repair geosynthetics damaged during or after installation only after the manufacturer establishes that the intended use and stability is not affected and after obtaining the Engineer's approval. Make such repairs as follows:

Remove materials placed within the damaged geosynthetic area plus an additional 4 feet in all directions beyond the limits of the damage. Place a patch consisting of the same material as the geosynthetic material over the damaged area in accordance with the manufacturer's recommendation. Overlap the undamaged geosynthetic material with the patch at a minimum of 3 feet in all directions. Place backfill material on the geosynthetic material in accordance with the Contract Documents after repairs have been completed.

For repairs of Geosynthetic material placed on slopes adjacent to water, place geosynthetic material so that the upstream (upper) strip of geosynthetic material overlaps the downstream (lower) strip.

514-4 Basis of Payment. Acceptance Criteria.

~~No separate payment will be made for the work specified in this Section. The cost of furnishing, placing, and sewing or overlapping the fabric will be included in the Contract price for the items to which it is incidental.~~

Submit to the Engineer the product label with the manufacturer's name, product name, style number, roll dimension and LOT number at least fourteen days prior to placement. In addition, provide two 8-inch by 10-inch samples of geosynthetic materials for product identification to the Engineer. The acceptance of the geosynthetic material is subject to the approval of the State Materials Office (SMO).

514-5 Basis of Payment.

No separate payment will be made for the work specified in this Section. The cost of furnishing, placing, and sewing or overlapping the fabric will be included in the Contract price for the items to which it is incidental.