



**SPECIAL PROVISIONS  
FOR  
SCOUR PROTECTION**

**Johnson County  
NHSN-218-4(43)--2R-52**

**Effective Date  
August 21, 2018**

**THE STANDARD SPECIFICATIONS, SERIES 2015, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.**

**150432a.01 DESCRIPTION.**

Work includes furnishing materials, labor, and equipment for the fabrication and construction of scour protection in accordance with these specifications and the plans.

**150432a.02 MATERIALS.**

**A. Geotextile Containers.**

**1. Filter Fabric.**

Filter fabric for fabrication of geotextile containers shall be pervious nonwoven sheet, consisting of long-chain synthetic polymers composed of at least 85% by weight polyolefins, polyesters, or polyamides. Sheets shall be formed into a stable network such that filaments or yarns retain their relative position to each other. Sheets shall be inert to chemicals commonly encountered in natural water, the soil conditions encountered at the site, and UV stabilized. The edges of sheets shall be selvedged or otherwise finished to prevent outer filaments or yarns from pulling away from the sheet.

**2. Physical Properties.**

Conformance of filter fabric shall be in accordance with ASTM D 4759. Filter fabric shall be sampled in accordance with ASTM D 4354 and tested to verify the following minimum physical properties and requirements.

**Table 150432a.02-1: Filter Fabric**

<b>Physical Properties</b>	<b>Unit</b>	<b>Test Method</b>	<b>Measure</b>
Apparent Opening Size	U.S. Sieve	ASTM D 4751	No. 100
Grab Tensile Strength	lb	ASTM D 4632	380

Tensile Elongation	%	ASTM D 4632	50 (max.)
Burst Strength (Mullen)	psi	ASTM D 3786	740
CBR Puncture Strength	lb	ASTM D 6241	1000
Trapezoidal Tear Strength	lb	ASTM D 4533	140
Ultraviolet Resistance (500 Hours)	%	ASTM D 4355	70

**3. Acceptable Products.**

- a. The following products may be used for geotextile filter fabric:
- US Fabrics – US 380NW
  - Ten Cate Nicolon - Mirafi 1160N
  - Propex Geotextile Systems - Geotex 1701
- b. Listing of specific manufacturer's products shall not be construed as product approval without certified tests. Actual physical properties of the products furnished must conform to the minimum physical properties specified under Article 150432a.02, A, 2. In addition to the minimum physical properties listed, other properties (such as fabric weight and weave type) shall be considered by the manufacturer in providing a product that is appropriate for the actual container sizes and weight when full, native subgrade material, method of installation, and method of stone placement for the proper functioning of the filter.

**4. Certified Test Reports.**

Submit manufacturer's certified test results to the Engineer showing actual test values of the filter fabric physical properties.

**5. Sewn Seams.**

Submit details for sewn seams. Details shall address, but not be limited to, thread type, thread tension (sewing device), stitch density and type, overlap, and number of rows and type of chainstitch. Also submit laboratory test reports evaluating the load-transfer capability of the proposed seams in accordance with ASTM D 4884.

**B. Fill Material.**

Fill material for geotextile containers shall be cover aggregate conforming to Gradations No. 19, 20, or 21 in the Aggregate Gradation Table of the Standard Specifications.

**150432a.03 CONSTRUCTION.**

**A. Surveying.**

Prior to commencing construction of the scour protection, provide Engineer a written plan for construction surveying to ensure that dimensions of the scour protection comply with the drawings and that actual thicknesses, dimensions, and limits of the in-place scour protection are accurately documented.

**B. Subgrade Preparation.**

Prepare the surface to receive the geotextile containers by locating and removing obstructions or debris at the streambed within the scour protection footprint.

**C. Geotextile Containers.**

**1. General.**

Fill the geotextile containers and place at the locations indicated on the plans.

**2. Protection.**

Sequence work so that geotextile containers are not exposed to direct sunlight more than 7 days prior to being placed and fully covered by Class C Revetment Stone. During periods of shipment and storage, protect geotextile fabric from direct sunlight, ultra-violet rays, and high temperatures and in accordance with any other instructions of the manufacturer. During shipment and storage, protect geotextile containers and unpackaged rolls and/or sheets with temporary opaque coverings.

**150432a.04 METHOD OF MEASUREMENT.**

Geotextile Containers will be measured by the cubic yard to the nearest cubic yard. Only material placed according to the contract documents will be measured.

**150432a.05 BASIS OF PAYMENT.**

Payment for Geotextile Containers will be at the contract unit price per cubic yard and will be full compensation for all work, including furnishing and placing the filter fabric and cover aggregate fill material, preparing the streambed and for furnishing all equipment, tools and labor necessary to complete the work according to the contract documents.