**SP-150929**
**(New)**

**SPECIAL PROVISIONS**
**FOR**
**EROSION CONTROL SYSTEM**

**Scott County**
**BRF-461-1(9)--38-92**

**Effective Date**
**December 20, 2022**

**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.**

## 150929.01 DESCRIPTION.

**A.** This Special Provision includes designing, furnishing, and installing complete in place factory produced erosion control system. The erosion control system shall consist of concrete mats placed side by side and clamped together to provide one homogenous erosion protection system. The concrete mats shall consist of individual concrete blocks connected to each other by cables. Engineering fabric shall be placed on the subgrade or attached to the base of each concrete mat to provide relief of hydrostatic pressure.

**B.** The concrete mat system shall be one of the following or an approved equivalent:
- Shoreblock BD as produced by ShoreTec, 510 O'Neal Lane, Baton Rouge, LA 70819, 225-408-1444.
- Conlock I available in cabled mattress form as produced by Hydropave Erosion Control Systems, St. Louis/Cape Girardeau, 2720 East Outer Road, Scott City, Missouri 63780, 573-332-8312.
- Armorflex consist of machine compressed cellular concrete blocks of a unique interlocking shape made into mats with filter system. The blocks are cabled longitudinally by polyester cables. Armortec, Central Region, 1955 Stratford Road, Olathe, KS, 66062, 913-768-8232.

## 150929.02 MATERIALS.

**A. Concrete Blocks.**
The concrete mix used shall be Class C concrete as per Section 2403 of the Standard Specifications. The minimum required concrete strength shall be 4000 psi at 28 days. The aggregates shall meet the requirements of Article 2403.02 of the Standard Specifications.

**B. Cables.**
The cables shall be made to eliminate block displacement and shall be UV resistant. The cables

shall not be galvanized.

**C. Engineering Fabric.**
The engineering fabric shall meet the requirements of Article 4196.01, B., 3 of the Standard Specifications. The engineering fabric shall overlap 24 inches to 36 inches. The overlap shall be installed from the downstream end to the upstream end providing a shingle affect, provide an area for the adjoining mats to be placed upon, and prevent undermining of the erosion control system.

**D. Clamps.**
Sufficient stainless steel U-type screw clamps shall be provided to secure loops of adjoining cable concrete mats. The number of loop connections shall be determined by the manufacturer and shall be clearly shown in the shop drawings.

**E. Porous backfill.**
Porous material for backfill shall meet the requirements of Section 4131 of the Standard Specifications.

**F. Seeding.**
Seeding shall meet the requirements of Section 2601 of the Standard Specifications for Special Ditch Control.

**G. Design.**

**1.** The mats of the erosion control system shall be designed to protect against hydraulic velocities of 5.6 feet per second and a discharge flow of 9710 cubic feet per second. The erosion control system shall be designed with a factor of safety of 1.80. Maximum bed slopes, bed width, channel depth, and channel side slopes are provided in the contract documents.

**2.** The manufacturer shall review the information provided in the contract documents and design the required anchoring system. The details for the anchor system shall be compatible with the erosion control system and shall be clearly shown in the shop drawings.

**3.** Shop drawings shall be prepared in accordance with the general requirements of Article 1105.03 of the Standard Specifications.

**150929.03 CONSTRUCTION.**

**A.** The supplier shall provide a technician experienced in the installation of the erosion control system at the start of the installation to advise the Contractor and Engineer in any special techniques needed to assure proper installation.

**B.** Installation shall be as tested in the lab according to Minimizing Embankment Damage During Over-Topping Flows (FHWA Report RD-88-181 prepared by Simons, Li, and Associates, November 1988) or Hydraulic Stability of Articulated Concrete Block Revetment Systems During Over-Topping Flows (FHWA Report 89-199 prepared by Simons, Li, and Associates, July 1989).

**C.** Contour the channel to ensure continuous contact between the erosion control system and subgrade materials. Break up or remove all dirt clods greater than 1 inch diameter from the graded surface prior to installing the cable concrete system.

**D.** When installing mats, the gaps between adjacent mats shall not be greater than 2 inches where possible. Where mats are installed to form acute angles, trim the mats by removing concrete blocks as required. Cover the gap between mats with engineering fabric, meshed with stainless steel cables tied to mats each side of the gap, and fill with Class C concrete.

**E.** Entrench and bury the outside edges of the mat system such that at least two blocks protrude into the ground. Fill the entrenched edges with porous backfill.

**F.** Closed cell concrete blocks shall be provided and installed. After installation of the erosion control system blocks is complete, fill any gaps between the individual concrete blocks above the natural waterline with black dirt and seed. Fill any gaps between the individual concrete blocks below the natural waterline with porous backfill.

**150929.04 METHOD OF MEASUREMENT.**
The work of furnishing and installing the Erosion Control System will be based on the plan quantities and will not be measured.

**150929.05 BASIS OF PAYMENT.**
For the number of square feet of Erosion Control System shown in the plans, the Contractor will be paid the contract unit price per square foot. This payment shall be full compensation for the design and installation of the erosion control system, including the closed cell prefabricated concrete mats, engineering fabric, clamps, anchors, miscellaneous concrete, cabling at corners, gravel fill, dirt fill, and seeding.