ITEM 01605.2404 M - PREFABRICATED COMPOSITE EDGE DRAIN (MODIFIED)

DESCRIPTION:

This work shall consist of furnishing and installing an approved prefabricated composite edge drain (PCED), including outlet pipe and fittings at the location(s) shown on the Contract Documents or as directed by the Engineer, in writing, prior to performing the work. This shall also include the excavation and backfilling of the trench.

Prior to installation, the Contractor shall furnish the Engineer with copies of the manufacturer's literature with details and installation requirements for the PCED. In addition, the Contractor shall provide information on the type of trenching equipment to be used and the proposed procedure for installation of the PCED and outlets.

The Contractor shall have a manufacturer's representative experienced in the installation of PCED present on the project during the start-up of installation of the PCED and until such time as trouble free installation is achieved to the satisfaction of the Engineer.

MATERIALS:

1. General

   The PCED shall be flexible rectangular hollow mat consisting of a polymeric supporting core bonded to or tightly wrapped in a geotextile envelope. PCED shall be resistant to deterioration from salts, road oils, fuels and other deleterious substances encountered in this type of application.

2. Basis of Acceptance

   a. The product is listed in the current NYSDOT Approved List of Geosynthetics for Highway Construction as a Prefabricated Geocomposite Edge Drain.

   b. Evaluation for approval may be obtained by submitting the following to the New York State Department of Transportation - Geotechnical Engineering Bureau:

      (1). A 17 square meter sample of the geotextile, if not included on the NYSDOT Approved List - Underdrain Category.

      (2). A 1.5 square meter sample of the PCED.

      Evaluation of a PCED, which will require a minimum of four months, will be made in accordance with procedural directives of the Geotechnical Engineering Bureau.

   c. Outlet Pipe and Fittings. The outlet pipe shall be smooth interior corrugated polyethylene with fittings meeting the requirements of Subsection 706-12, Smooth Interior Corrugated Polyethylene pipe, of the Standard Specifications.

CONSTRUCTION DETAILS:

A trench shall be excavated immediately adjacent to the highway pavement edge or as

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otherwise shown in the Contract Documents or as directed by the Engineer to the limits shown on the Contract Documents. Care shall be taken to assure the PCED is placed in an upright vertical position without bending, sagging or crimping. The trenching, PCED placement and first lift of backfill and compaction operations shall be done in one continuous operation. The trench shall then be backfilled in two or more lifts with material meeting the requirements of Subsection 703-02, Size 1A and each lift shall be compacted to the satisfaction of the Engineer by a plate or vibratory compactor equipped with an approved projection fin or shoe. Other vibratory compaction systems may be used as approved by the Engineer. The surplus excavated material shall be removed from the work area and disposed of as required in Section 203-3.08, Disposal of Surplus Excavated Materials. For any given PCED run outlets shall be installed during the same work day, if possible, but not later than 48 hours after PCED placement. The outlet trench shall not be backfilled until the installation of the fitting and connection to the outlet pipe is inspected and approved by the Engineer.

The PCED shall include all fittings and materials necessary to make splices and connections of the PCED to outlet piping as required. All fittings and materials must be designed and installed in such a way as to preclude soil intrusion into the PCED or outlet piping. Splices required in the PCED shall be installed prior to placement of the PCED. Fittings shall be provided that allow for outletting and which provides continuous PCED in a sag area; i.e., a tee; and for outletting the individual run length segments as shown in the Contract Documents or as directed by the Engineer. In cases where the PCED is terminated without an outlet, a fitting must be provided to preclude soil intrusion into the end of the PCED. Splices and connections in the PCED shall be done in a workmanlike manner in accordance with the manufacturer's recommendations to ensure continuity of the PCED.

During all periods of shipment and storage the PCED shall be kept wrapped and protected from direct exposure to sunlight, mud, dirt and debris. Any portion of the PCED damaged by the Contractor's operation shall be repaired or replaced by the Contractor to the satisfaction of the Engineer. Payment will not be made for repairing or replacing the damaged portions.

All portions of the trench, which are overcut in length to facilitate the operation of the trench cutting equipment, shall be backfilled and compacted in accordance with the same requirements as for the trench containing the installed PCED.

Repairs to an existing pavement of damage caused by the PCED installation shall be made at the Contractor's expense, in a manner satisfactory to the Engineer. Payment will not be made for repairing the damaged pavement.

METHOD OF MEASUREMENT:

The quantity of the PCED shall be the number of linear meters of PCED and outlet pipe satisfactorily installed computed from the payment lines indicated in the Contract Documents or from payment lines established in writing by the Engineer.

BASIS OF PAYMENT:

The unit price per linear meter for this item shall include the cost of furnishing all labor, equipment and material necessary to complete the work, including excavation, installation, outlet pipe and fittings, backfilling with crushed stone backfill material and compaction. Payment will not be made for repairs.