

VIRGINIA DEPARTMENT OF TRANSPORTATION

LOCATION AND DESIGN DIVISION

INSTRUCTIONAL AND INFORMATIONAL MEMORANDUM

GENERAL SUBJECT: SOIL STABILIZATION MAT	NUMBER: IIM-LD-166.4
SPECIFIC SUBJECT: STANDARD EC-3	DATE: DECEMBER 1, 2005
	SUPERSEDES: IIM-LD-166.3
DIVISION ADMINISTRATOR APPROVAL: Mohammad Mirshahi, P.E. State L&D Engineer Approved: December 1, 2005	

Changes are shaded.

CURRENT REVISION

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- Updated for current Division Administrator Approval.
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EFFECTIVE DATE

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- These instructions are effective on all projects scheduled for the August 1996 advertisement and all subsequent projects.
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POLICY

Ditches

- Geotextile materials designated as Standard EC-3 (Type A and B) Soil Stabilization Mat are used for protective linings in ditches.
- Standard EC-3 Soil Stabilization Mat is intended to be used as a protective ditch lining material to be applied when the design velocity exceeds the allowable velocity for Standard EC-2 (i.e., jute mesh).

- When the design velocity exceeds the allowable velocity for Standard EC-3, a paved (or riprap) lining will be required.

Slopes

- The Standard EC-3 (Type C) Soil Stabilization Mat may be used as a protective slope lining for dry cut or fill slopes and wet cut slopes to stabilize the slope on which vegetation is being established. (See Road and Bridge Standards)

TYPES AND APPLICATION

Ditches

- Type A is to be employed where the design (2 year) velocity in the ditch is within the range of 1.2 to 2.1 meters per second (m.p.s.) (4 to 7 f.p.s.)
- Type B is to be employed where the design velocity is within the range of 2.1 to 3.0 m.p.s. (7 to 10 f.p.s.)
- A Manning's "n" value of 0.05 should be used with Standard EC-3.
- Typically, the use of Standard EC-3 Type A should begin at the point where flow velocity exceeds 1.2 m.p.s. (4 f.p.s.) (velocity is assumed to be for flow in an EC-2 lined channel) and continue changing to EC-3, Type B at the appropriate point, until the design velocity exceeds 3.0 m.p.s. (10 f.p.s.) or until such point as the use of a ditch lining can be discontinued.
- Experience has shown that the installation of this material is particularly critical. It must be installed in strict accordance with the standard drawings and manufacturer's specifications.
- It is requested that Standard EC-3 (Type A and B) installations be monitored very closely to determine the validity of the present design criteria. It is recommended that the District Drainage Engineer, in cooperation with appropriate District Environmental and/or maintenance personnel, visit these installations, particularly after significant or intense rainfall events, and prepare a report of their observations which would then be submitted to the Central Office Hydraulics Section on a regular basis until further notice.

PAY ITEMS AND SUMMRIZATION

The following items are to be summarized, when applicable, in the Erosion & Sediment Control Summary:

<u>ITEM</u>	<u>UNIT</u>	<u>ITEM CODE</u>
Soil Stabilization Mat EC-3, Type A	m ² (S.Y.)	27325
Soil Stabilization Mat EC-3, Type B	m ² (S.Y.)	27326
Soil Stabilization Mat EC-3, Type C	m ² (S.Y.)	27327