

Proposed changes to the erosion mat technical standards (1052 and 1053) are primarily to update formatting rather than content. The current versions of these technical standards reference and list the WisDOT Product Acceptability List (PAL) classes and types for approved erosion mat products. The updated versions only reference the WisDOT PAL to eliminate the redundancy. Other minor changes include adding a minimum staple length to be consistent with WisDOT specifications and a warning regarding the use of erosion matting with plastic netting in wildlife areas.

The Department is soliciting comments from the public on this draft guidance. Once the 21-day notice period is complete, all comments will be considered by the Department. After considering all public comments, revisions may be made to the guidance document and final guidance will be made available to internal and external stakeholders. Comments related to this draft guidance document should be sent to: DNRTechnicalStandards@Wisconsin.gov. **Please indicate in the subject line which technical standard the comments pertain to.**

1 **Wisconsin Department of Natural Resources**
2 **Conservation Practice Standard**
3 **Channel Erosion Mat**
4 **1053**

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7 **DEFINITION**

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9 A protective soil cover made of straw, wood, coconut fiber or other suitable plant residue, or
10 plastic fibers formed into a mat, usually with a plastic or biodegradable mesh on one or both
11 sides. Erosion mats are rolled products available in many varieties and combinations of material
12 and with varying life spans.

13
14 **PURPOSE**

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16 The purpose of this practice is to protect the channel from erosion, or to act as turf reinforcement
17 during or after the establishment of grass or other vegetation in the channel. This practice applies
18 to *Erosion Control Revegetative Mats (ECRM)* and *Turf-Reinforcement Mats (TRM)*.

19
20 **CONDITIONS WHERE PRACTICE APPLIES**

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22 This standard applies where storm runoff drains in channels in intermittent flow and vegetation is
23 to be established. Some products may have limited applicability in projects adjacent to navigable
24 waters.

25
26 Be aware of applicable federal, state, and local laws, rules, regulations, or permit requirements
27 governing the use and placement of erosion mat. This standard does not contain the text of
28 federal, state, or local laws.

29
30 **CRITERIA**

31
32 **Products**

33
34 Use channel erosion mat products identified on the Wisconsin Department of Transportation
35 (WisDOT) Erosion Control Product Acceptability List (PAL).

36
37 **Selection**

38
39 Use WisDOT PAL classes and types to select and specify erosion mat.

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41 Select the appropriate channel erosion mat based on site channel grade and channel length in
42 accordance with the WisDOT Facilities Development Manual (FDM) Channel Erosion Control
43 Matrix.

44
45 Select erosion mat that will last until turf grass or other vegetation becomes densely established.

¹ Words in the standard that are shown in italics are described in the Definitions section. The words are italicized the first time they are used in the text.

48 **Installation**

49

50 Install and anchor erosion mat in accordance with manufacturer's instructions.

51 At time of installation, retain material labels and manufacturer's installation instructions until the
52 site has been stabilized.

53 Use WisDOT approved erosion mat anchoring devices.

54 Use staples that are at least 6 inches long.

55 Install erosion mat with firm to soil.

56 Install ECRMs after topsoil is placed and seeding is complete.

57 Install TRMs in conjunction with placement of topsoil, followed by ECRM installation.

58 **CONSIDERATIONS**

59

60 Some erosion mat products can have detrimental effects on local wildlife. Plastic netting without
61 independent movement of strands can easily entrap small animals moving through the area,
62 leading to dehydration, desiccation, and eventually mortality. Netting that contains biodegradable
63 thread with the "leno" or "gauze" weave (contains strands that can move independently) appear to
64 have the least impact on wildlife.

65

66 **PLANS AND SPECIFICATIONS**

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68 Prepare plans and specifications in accordance with criteria of this standard and describe
69 requirements for applying the practice to achieve its intended use.

70

71 **OPERATION AND MAINTENANCE**

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73 Inspect erosion mat at least weekly and within 24 hours after every precipitation event that
74 produces 0.5 inches of rain or more during a 24-hour period.

75

76 If there are signs of erosion under the mat, install more staples or more anchor trenches. If
77 erosion becomes severe enough to prevent vegetation, remove the section of mat where the
78 damage has occurred. Fill eroded area with topsoil, compact, reseed and replace the section of
79 mat, trenching and overlapping ends per manufacturer's recommendations. Additional staking is
80 recommended at points of repaired erosion.

81

82 If the reinforcing plastic netting has separated from the mat, remove the plastic and replace the
83 mat, if necessary.

84

85 Complete maintenance as soon as possible with consideration to site conditions.

86

87 **REFERENCES**

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89 WisDOT "Erosion Control Product Acceptability List" is available online at:

90

91 <http://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrcs/tools/pal/default.aspx>

92

93

94 **DEFINITIONS**

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96 *Channel Erosion*: The deepening and widening of a channel due to soil loss caused by flowing
97 water.

98

99 *Erosion Control Revegetative Mats (ECRM) (II)*: A blanket like covering laid on top of a prepared
100 seed bed to protect soil and seed from the erosive forces.

101

102 *Turf-Reinforcement Mats (TRM) (II)*: Synthetic permanent mat intended to stabilize soil by acting
103 as reinforcement for vegetation roots. This open weaved, synthetic mat is installed on top of soil
104 and covered with topsoil and seed. As vegetation grows, roots intertwine into the mat and
105 reinforce the surface.

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