The New Erosion and Sediment Control Technical Standards

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Erosion Control is Preventing Soil Dislodgment in the First Place

Sediment Control is Stopping it’s Movement After it is Dislodged
The Importance of Planning
Erosion Control
Product Acceptability Lists
for
Multi-Modal Applications
PAL

www.dot.wisconsin.gov/business/engrserv/pal.htm
New WisDNR Standards Require PAL Approved Products For All NR-216 Permitted Construction

- Effective 2005 construction season
- Covers **ALL** sites over 1 acre
Product Acceptability List (PAL)

- Erosion Mats
- Tackifiers
- Soil Stabilizers
- Inlet Protection
- ‘FF’ Fabrics
- Temporary Ditch Checks
- In-Stream Sediment Traps
- Articulated Concrete Block Systems (ACB’s)

- All products ranked by performance
Devices Required On All Grading Projects (WisDOT FDM 10-10-1)

1. Temporary Seed
2. Permanent Seed
3. Fertilizer
4. Mulch
5. Erosion Mat
6. Temporary Ditch Checks (Erosion Bales)
7. Silt Fence
8. Mobilizations, Erosion Control
9. Mobilizations, Emergency Erosion Control
10. Soil Stabilizer, Type B (Polyacrylamide)
Benefits of PAL

- Ease of design
- Uniform performance within categories
- Toxicity testing where warranted
- Increased competition from suppliers
- Lower costs for clients / agencies
### CHANNEL EROSION CONTROL MATRIX

**Concentrated Flow Application**

<table>
<thead>
<tr>
<th>TYPE OF EROSION CONTROL DEVICE</th>
<th>DITCH GRADE</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt; 1%</td>
<td>2% - 4%</td>
</tr>
<tr>
<td>Permanent seed with temporary seed and mulch</td>
<td>0.6</td>
<td></td>
</tr>
<tr>
<td>Sod ditch checks with seed and mulch</td>
<td>N/A</td>
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</tr>
<tr>
<td>Temporary ditch checks (hay bales or approved manufactured alternatives listed in WisDOT PAL)</td>
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<tr>
<td>Sod ditch liner</td>
<td>1</td>
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<tr>
<td>Double netted light duty (WisDOT Class I Type B) erosion mat</td>
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<td></td>
</tr>
<tr>
<td>Sod reinforced with a double netted jute (WisDOT Class II Type A) erosion mat</td>
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<tr>
<td>Stone or rock ditch checks</td>
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<tr>
<td>Medium duty coconut erosion mat (WisDOT Class II Type B or C)</td>
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</tr>
<tr>
<td>Heavy duty synthetic (Class III Type A or B) erosion/turf reinforcement mat</td>
<td>2</td>
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</tr>
<tr>
<td>Heavy duty synthetic turf reinforcement (WisDOT Class III Type C) mat</td>
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<tr>
<td>Riprap ditch checks</td>
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<tr>
<td>Heavy duty synthetic turf reinforcement (Class III Type D) mat</td>
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<td></td>
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<tr>
<td>Riprap</td>
<td>4</td>
<td></td>
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<tr>
<td>Medium riprap</td>
<td>5</td>
<td></td>
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<tr>
<td>Heavy riprap</td>
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Riprap measures apply to all ditch types. Use of these measures requires engineering judgement and design.
Learn More
- Runoff Home
- What is Runoff?
- Contacts & Staff
- Administrative Rules
- Links
- Outreach
- Publications
- Rain Gardens
- Announcements

Storm Water
- About
- Industrial Info
- Industrial Permits & Forms
- Construction Info
- Construction Permits & Forms
- Permit Data
- Post-Construction Workshop
- Presentations
- Enforcement
- Technical Standards Manuals
- Municipal Info
- NR 151 Revisions
- Publications & Forms
- FAQs
- Contacts
- Links

Financial Assistance

Storm Water Management Technical Standards

Storm Water Construction and Post-Construction Technical Standards are documents that specify the minimum requirements needed to plan, design, install and maintain a wide array of conservation practices aimed at preserving the land and water resources of Wisconsin. They are based on current research, field experience, the best available technology, and are a primary component to many federal, state and local conservation programs.

The Department, in accordance with ch. NR 151, Wis. Adm. Code, has approved the technical standards listed below. The Department recommends that these technical standards be used for erosion/sediment control or storm water management as they have been determined to be adequate and effective in implementing the performance standards of subch. III or IV of ch. NR 151, Wis. Adm. Code.

Construction Site Erosion & Sediment Control

Post-Construction Site Storm Water Management

or via http://runoffinfo.uwex.edu or
http://dnr.wi.gov/org/water/permits/
### Construction Site Erosion & Sediment Control

<table>
<thead>
<tr>
<th>STANDARD</th>
<th>Number</th>
<th>File Size (KB)</th>
<th>Effective Date</th>
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<tr>
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<td>142</td>
<td>08/05</td>
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<td>De-watering</td>
<td>1061</td>
<td></td>
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<tr>
<td>Ditch Checks</td>
<td>1062</td>
<td>498</td>
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<td>Figure 2</td>
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<td>1066</td>
<td>157</td>
<td>02/04</td>
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<td>Dust Control</td>
<td>1068</td>
<td>126</td>
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<td>Sediment Trap</td>
<td>1063</td>
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### Post-Construction Storm Water Management

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* in Zip file
Channel Erosion Mat
(1053)

Wisconsin Department of Natural Resources
Conservation Practice Standard

I. Definition

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

II. Purpose

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

III. Conditions Where Practice Applies

This standard applies where runoff channelizes in intermittent flow and vegetation is to be established. Some products may have limited applicability in projects adjacent to navigable

V. Criteria

This section establishes the minimum standards for design, installation and performance requirements. To complete the shear calculations, a 2 year, 24 hour storm event shall be used to calculate depth of flows for an ECRM. For sizing a TRM, use the depth of flow corresponding to the maximum design capacity of the channel.

Only mats listed in the Wisconsin Department of Transportation (WisDOT) Erosion Control Product Acceptability List (PAL) will be accepted for use in this standard.

To differentiate applications WisDOT organizes erosion mats into three classes of mats, which are further broken down into various Types.

A. Class I: A short-term duration (minimum of 6 months), light duty, organic ECRM with plastic or biodegradable netting.

1. Type A – Only suitable for slope
Seeding (1059)
Mulching (1058)
Seed and Temporary Seed with Mulch
Temporary Seed
The Most Cost Effective BMP
After 2 Weeks
After 4 Weeks
Inlet Protection (1060)
Inlet Protection
Inlet Protection
Wrong Way
Right Way
Improper Type C Inlet
Protection (Silt Fence Fabric)
Proper Type C Inlet Protection
INLET PROTECTION, TYPE D
(WITH CURB BOX)
CAN BE INSTALLED IN ANY INLET TYPE WITHOUT A CURB BOX

INLET PROTECTION, TYPE E
(WITH CURB BOX)
CAN BE INSTALLED IN ANY INLET TYPE WITH A CURB BOX

INSTALLATION NOTES

TYPE B

1. Do not install inlet protection type B in areas where the top of the inlet shall be raised from the bottom of the box to a level with the deck. This requires a higher level of maintenance than other types and may cause problems with water collection and drainage. In cases where a higher level of maintenance is required, consider installing a higher level of protection such as type C or D.

2. The inlet protection type B shall be installed in the area where the deck meets the edge of the curb. The inlet protection type B shall be installed at a height of 4" from the bottom of the curb.

3. The inlet protection type B shall be installed in areas where the deck meets the edge of the curb. The inlet protection type B shall be installed at a height of 4" from the bottom of the curb.

4. The inlet protection type B shall be installed in areas where the deck meets the edge of the curb. The inlet protection type B shall be installed at a height of 4" from the bottom of the curb.

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