Erosion Mats
Channel (1053)
Non-Channel (1052)
Erosion Mat

CLASS I
SHORT TERM
ORGANIC

TYPE A
SHEAR 1.0
SLOPES UP TO 2 1/2:1

TYPE B
SHEAR 1.5
SLOPES UP TO 2:1
LIGHT DUTY
CHANNEL LINER

CLASS I, URBAN
FOR USE IN URBAN
AND RESIDENTIAL
AREAS

URBAN, TYPE A
SLOPES UP TO 4:1
BIODEGRADABLE NETTING

CLASS II
LONG TERM
ORGANIC

TYPE A
JUTE
FOR SOD REINFORCEMENT

TYPE B
SHEAR 2.0
SLOPES UP TO 2:1
MEDIUM DUTY CHANNEL LINER
SYNTHEtic NETTING ALLOWED

TYPE C
SHEAR 2.0
SLOPES UP TO 2:1
MEDIUM DUTY CHANNEL LINER
100% ORGANIC FIBER
REQUIRED

URBAN, TYPE B
SLOPES UP TO 2 1/2:1
SHEAR 1.0
BIODEGRADABLE NETTING

CLASS III
PERMANENT
SYNTHETIC

TYPE A
SHEAR 2.0
ECRM MAT
SLOPES UP TO 2:1
CHANNEL LINER

TYPE B
SHEAR 2.0
TRM MAT
SLOPES UP TO 2:1
CHANNEL LINER

TYPE C
SHEAR 3.5
TRM MAT
SLOPES UP TO 2:1
HEAVY DUTY
CHANNEL LINER

TYPE D
SHEAR 5.0
TRM MAT
SLOPES UP TO 1:1
HEAVY DUTY
CHANNEL LINER
After 2 Weeks
After 4 Weeks
Wood Fiber
Coconut Fiber
Why Use Urban Mat?
Approved Biodegradable Staples Required

Entrenchment Required Next To Live Traffic Lanes or Airport Runways & Taxiways
Sensitive Areas – no net or bio net
Ditch Checks (1062)
Wrong
Wrong
Manufactured Ditch Checks
Filter Bag Ditch Checks
Potential Liability Issues?
Culvert Pipe Ditch Check
Rock Ditch Check
Sand Bag Ditch Check
Filter Bag Ditch Check

Removals?
Cut / Fill Transition
Heavy Riprap???
Is there too much Fines in the Riprap?
Is there too much Fines in the Riprap?

The solution:

• A spec revision that defines fines as any in-place riprap that is less than one inch in size . . .

• And limits the acceptable amount of those fines
Is there too much Fines in the Riprap?

Allowable depth of fines based upon new 2%/1-inch size limits

For Example:

Depth of Heavy Riprap

24”

Allowable Average Depth of Fines = ½ inch

Geotextile Fabric

See the C&M Manual Addition handout
Grouted Riprap
Working Near Waterways
WORKING NEAR WATERWAYS
STSP 107-070

“Erosion Control, Structures”

- Requires Permanent Erosion Control Measures To Be Placed To Q2 Within 7 Days of Starting Bridge Superstructure
Turbidity Barrier (1069)
Silt Curtain (1070)
Silt Screen
Articulated Concrete Blocks
(ACB’s)
Articulated Concrete Blocks
Land Application of Polymers (1050)
Erosion Control
Product Acceptability Lists
for
Multi-Modal Applications
PAL

www.dot.wisconsin.gov/business/engrserv/pal.htm
Product Acceptability List (PAL)

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

- All products ranked by performance
Wet Application
Most Common and economical
on Large Sites
Dry Application

- Suitable for small sites
- Must be diluted with lime
- More expensive on large sites
- Dust may be a concern with workers
Summer test site
Vegetation established before test was conclusive
Fall Test Site
WisDOT PAL Requirements

- WisDNR Toxicity Testing and Use Restriction
- Small Scale Performance Test
- Large Scale Performance Test (application must be in November with monitoring until vegetation establishes)
Most Recent Test Site
control section (no polymer)
Treated section
87% Reduction in Rilling
(lower 10 feet)
WisDOT Experience

- Polymers are about 80% as effective as erosion mats on slopes
- Not recommended for channel protection
- Effectiveness increases with the use of mulch
- Cost is approximately 10% the cost of erosion mat
- Must be monitored for application rates
Two WisDNR Standards Apply

- (Code 1050) Erosion Control, Land Application of Anionic Polyacrylamide Require product approval on WisDOT PAL
- (Code 1051) Interim Sediment Control, Water Application of Polymers Presently no WisDOT PAL category
Good Late Season Solution
Vegetative Enhancement

8 months later

WITHOUT

(sparse & short)

WITH

(thicker & taller)