Erosion Control Products (ECP)
Technical Committee
Meeting Minutes

Working Session # 12

Thursday, June 12th, 2025 8:00AM – 9:30AM

1) **8:00AM-8:05AM: Call to Order and Introduction**
2) **8:05AM-8:15AM: Technical Committee Updates / DataMine (Vince Glick, AASHTO)**
   - Data releases remain on track. If a state encounters access issues, they should reach out to Vince. Vince is currently managing data distribution in the absence of a technical committee chairman.
   - AASHTO acknowledges ongoing lab capacity challenges. A memo is available for industry representatives to share with their customers—contact Vince for access.
   - AASHTO is actively exploring opportunities to expand capacity to prevent future limitations. (Future Work Plan Revisions for TC Review)
   - AASHTO seeks an enthusiastic state DOT member to fill the vacant technical committee chairman role. This position is highly valued and presents a key leadership opportunity. Interested candidates or nominations should contact Vince Glick vglick@aashto.org for further details.
   - DataMine Updates
     - Invoice Category Filtering: Assists with navigating through your invoices
     - Invoice Contact Management: This tool allows invoices to be accessible to each manufacturer's accounting department. Under "Preferences", select "Invoice Contacts". Select facility location and enter the contact

information for the individual needing access to the invoices. This person will not need to register in DataMine. He/She will only be accessing invoices. There is no limitation on the number of people to include for each facility location.

- eApp Existing Documents: Manufacturers now have access to documents previously submitted for other products and select these documents to add to your application when submitting a new product application.
- Content Management Tool: Module enhancements will be completed in a much more timely and easier manner.

3) **8:15AM-8:35AM: Lab Evaluation Updates (TRI)**

*Reference Appended Slides

- TN Mentioned they are utilizing the ECP program to maintain their state's QPL
- Industry asked if any small scale tests were run. Jay shared the data from the small scale testing.

4) **8:35AM-8:45AM: Industry Updates (Diane Smith, ECTC)**

*Reference Appended Slides

- ACTION ITEM: Circulate the user guide through the ballot system for technical committee review

5) **8:45AM-9:10AM: Industry Presentation 1 (Chad Lipscomb, Western Green)**

*Reference Appended Slides

- Single replicate testing is an option in the ECP testing program.

6) **9:10AM-9:30AM: Open Discussion**

- ACTION ITEM: Assemble a Work Plan Task Force, composed of members from the Technical Committee, COMP TS 4g, and Lab, will follow a structured review schedule to ensure EC TC feedback is incorporated during each review round. No items were brought to the table.
  - A key objective of the work plan revisions is to introduce contingencies for vegetated testing, helping to mitigate evaluation bottlenecks.

RECP Regulation - Merging Perspectives

C. M. Lipscomb

AASHTO PEAS ECP Meeting

Hartford, CT 6/12/2025

WESTERN GREEN

How Do We Classify It?

WESTERN GREEN

- Modern Era of Rolled Erosion Control Products
  - > 30 Years of Testing and Use
  - > 20 Years of AASHTO Centralized Testing
  - Countless Projects and Numerous Applications

- Challenges and Opportunities
  - Material Properties
  - Bench Scale Testing
  - Full Scale Testing

- Least Expensive Materials Possible
  - Everything is Intended to Degrade
  - Weakest Netting / Stitching Materials Available
  - Filling Material is Agricultural Waste Product
  - Each Roll Practically Independent
- Testing Born from Geotextile Background
  - Small Samples Representative of Production
  - Physical Properties Representative of Performance

- Least Expensive Materials Possible
  - Everything is Intended to Degrade
  - Weakest Netting / Stitching Materials Available
  - Filling Material is Agricultural Waste Product
  - Each Roll Practically Independent
- Testing Born from Geotextile Background
  - ~~Small Samples Representative of Production~~
  - ~~Physical Properties Representative of Performance~~

Unique Challenges – High Variability

WESTERN GREEN

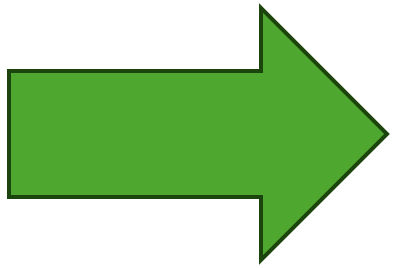
Rapid Degradable Net	Straw				Single Net / Double Net
Regular Degradable Net	Straw / Straw / Coconut / Coconut				Single Net / Double Net
Natural Net	Straw / Straw / Coconut / Coconut				Double Net

Standard Recipes

WESTERN GREEN

Nominal

- Straw Matrix
- Net on Top
- Stitched on 2” Centers
- 8 oz/SY Mass
- Tensile Strength
  - 100 x 60 MD x TD lb/ft
- 0.28” Thick
- 85% Coverage



Consistent

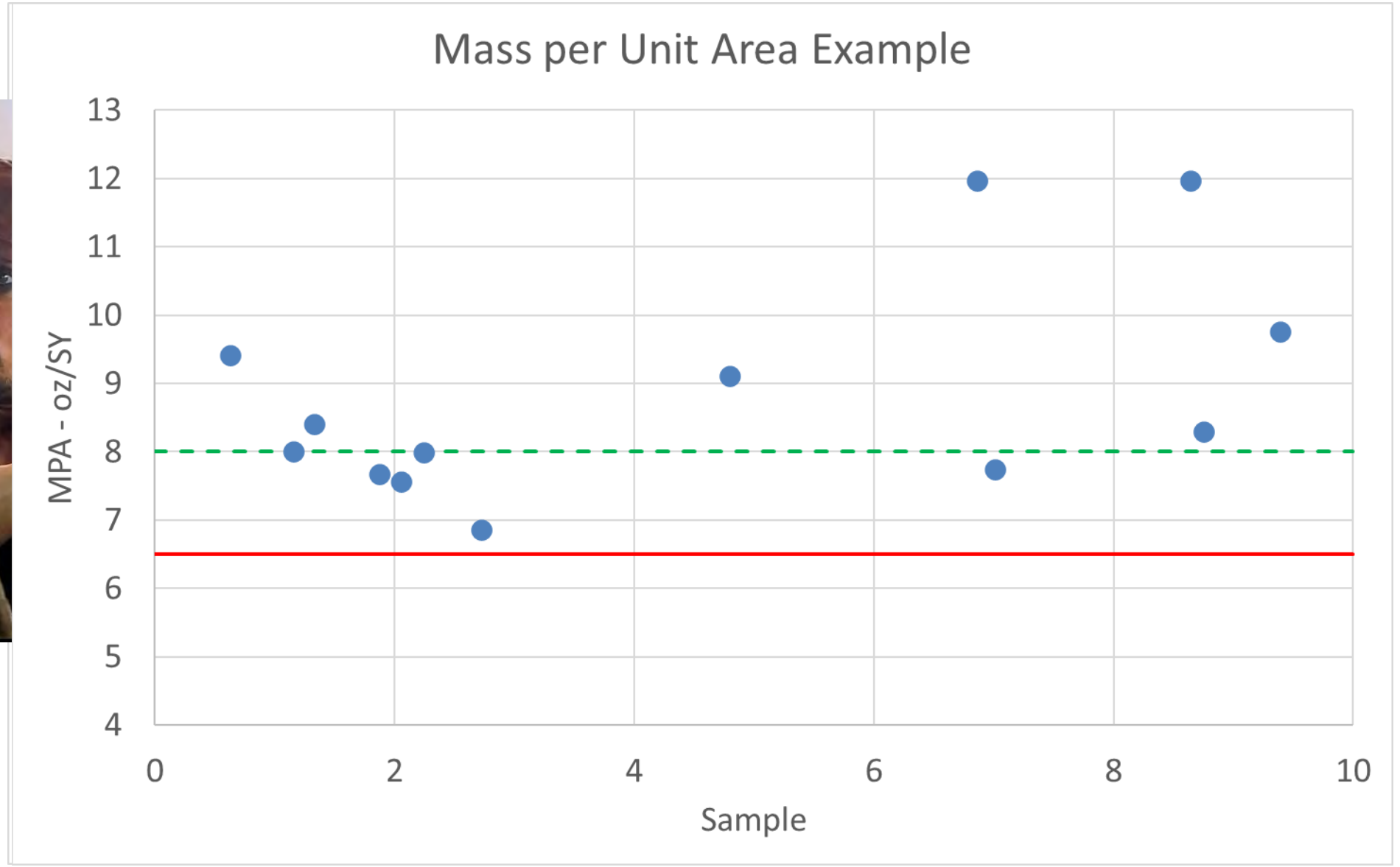
- Up to 12 Months of Useful Service
- 1.6 – 1.8 psf Permissible Shear Stress
- 5.0 – 6.0 ft/s Permissible Velocity
- 95 – 98% Reduction in Sediment Yield in Rainfall Conditions
- Acceptable Vegetation Establishment

- Develop and deploy a set of requirements that brings in material that conforms to the recipe within acceptable limits.

Property	Unit	Recipe	Ave	Range (13 Tests)
Matrix	N/A	Straw		
Net	N/A	Top		
Stitching Width	Inches	2”		
Mass per Unit Area	oz/SY	8.0	8.8	6.9 – 12.0
Tensile Strength (MD)	lb / in	100	105	64 – 131
Tensile Strength (TD)	lb / in	60	63	41 – 85
Thickness	In	0.28	0.30	0.19 – 0.50
Coverage	% Covered	85	86	69 - 94

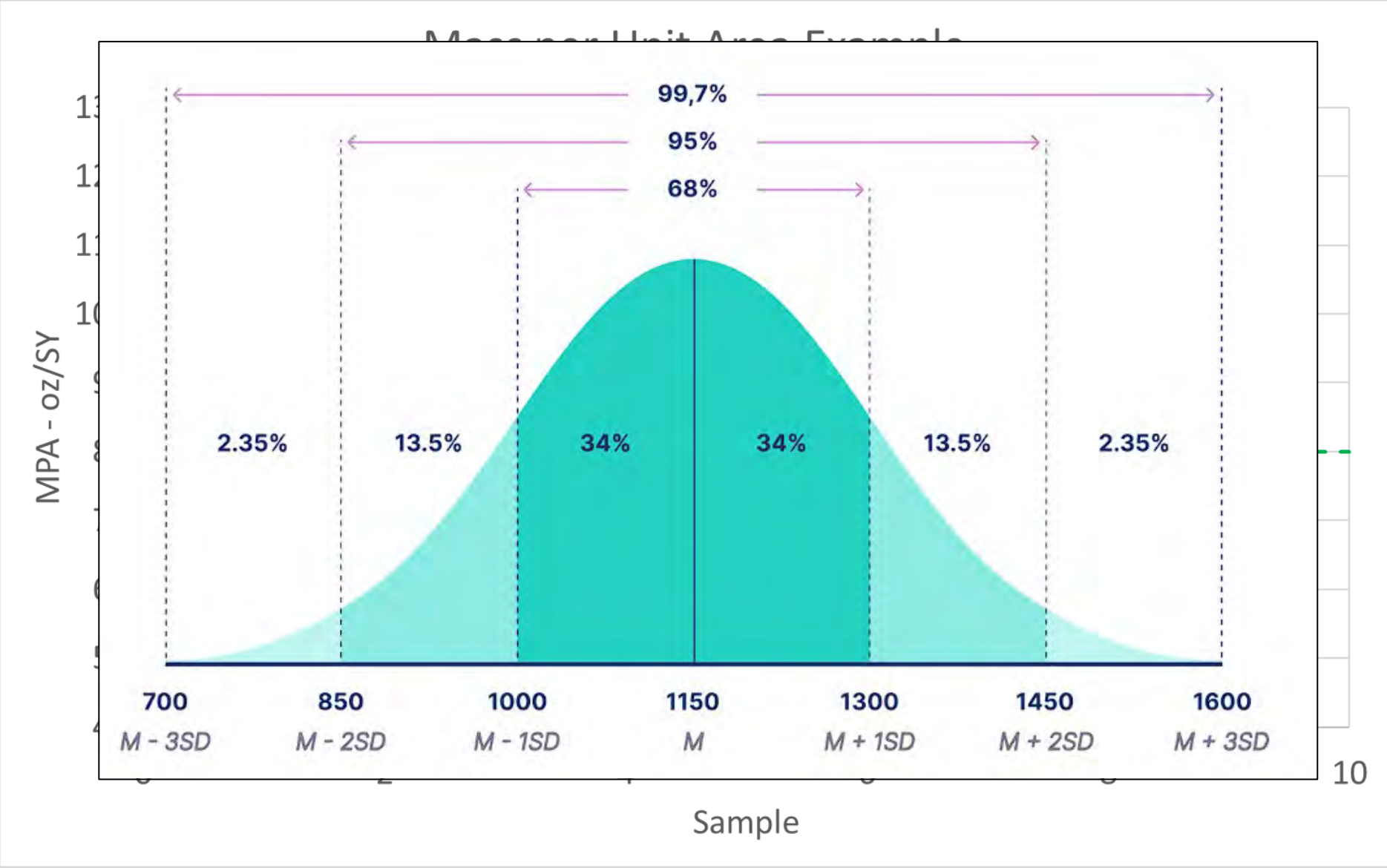
One Example Recipe (+/-)

WESTERN GREEN



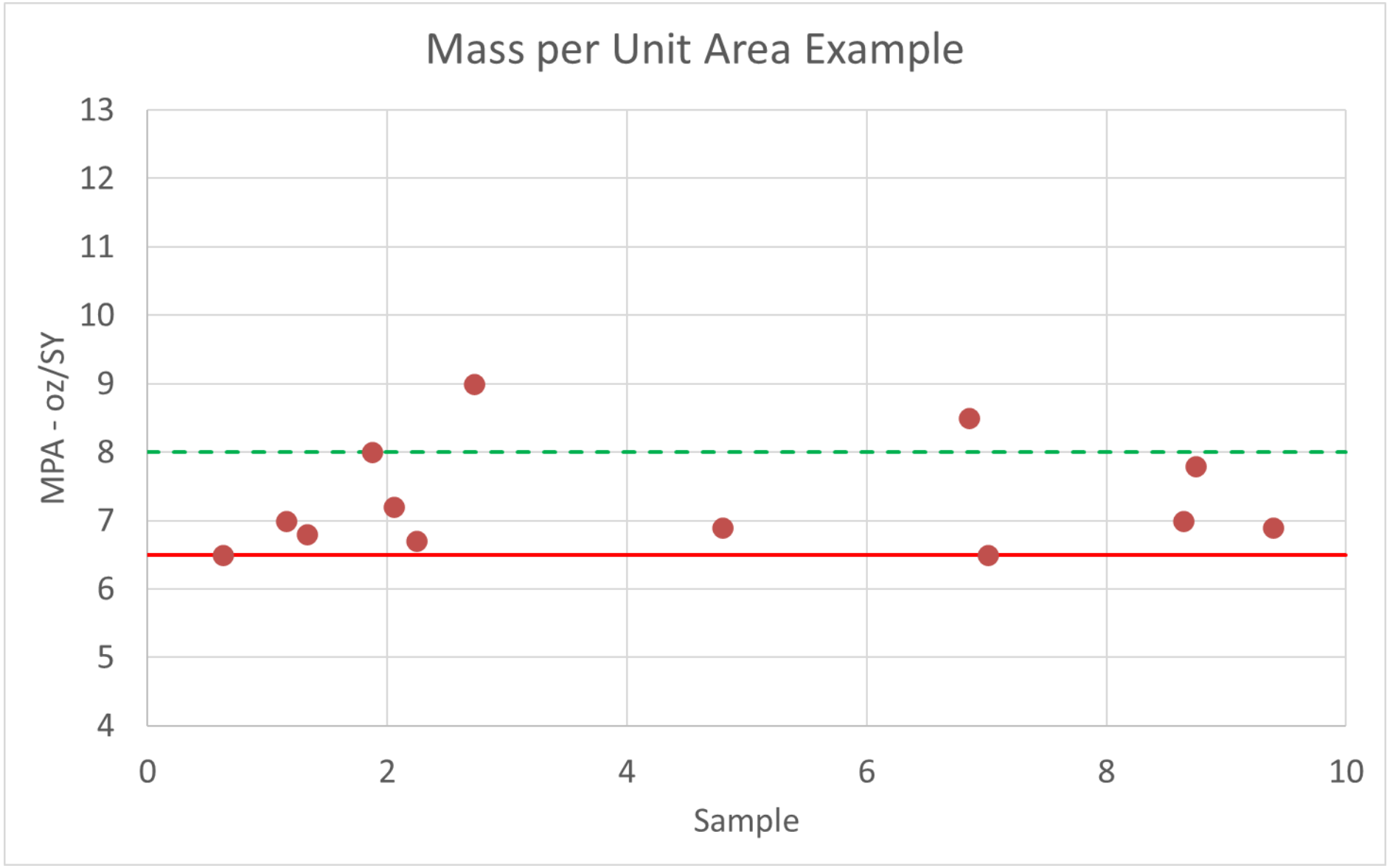
One Example Recipe (+/-)

WESTERN GREEN



- ASTM D6475 Variability Approximately 25%
- Same Roll, Same Operator, Same Lab

One Example Recipe (+/-)



One Example Recipe (+/-)

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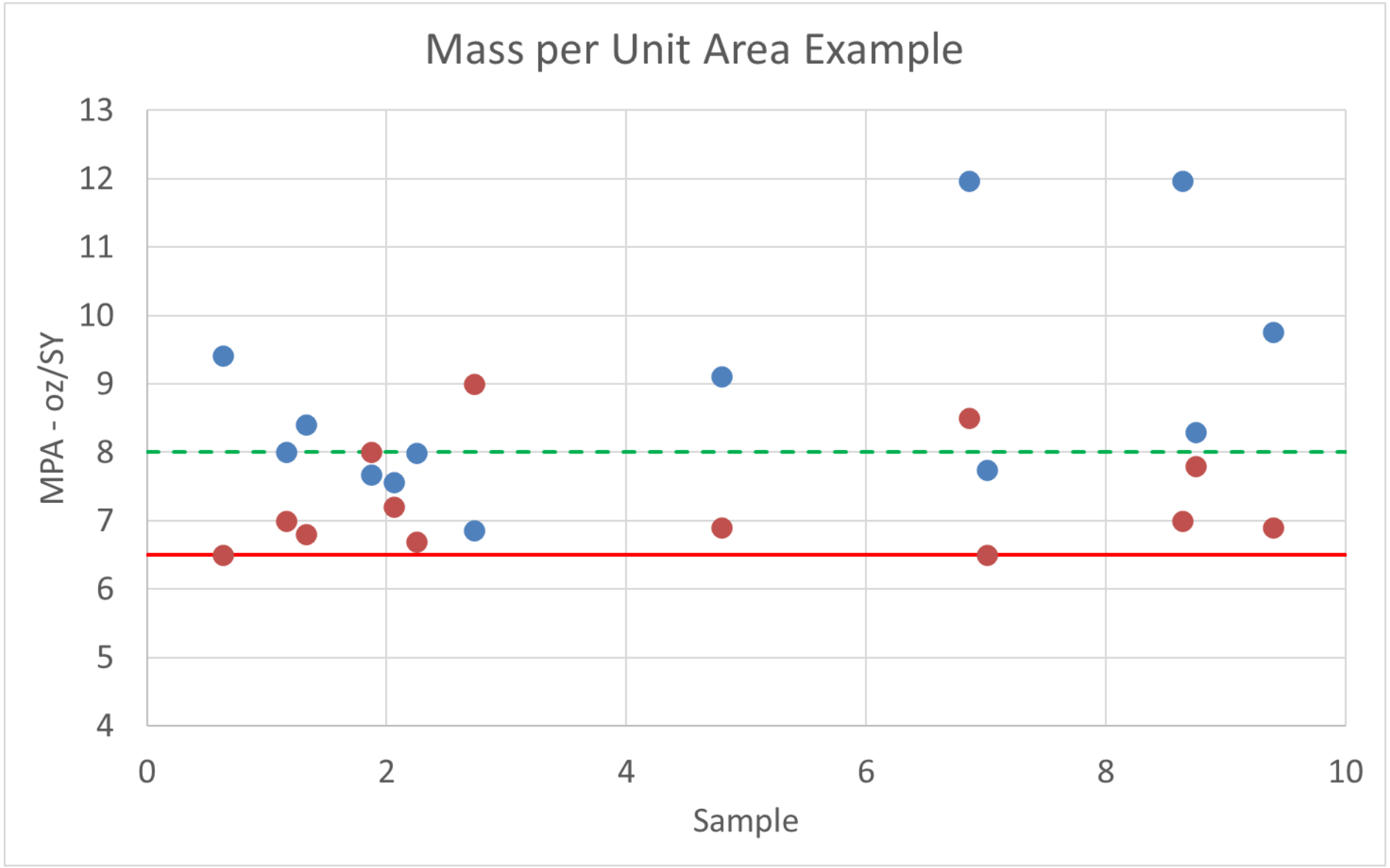
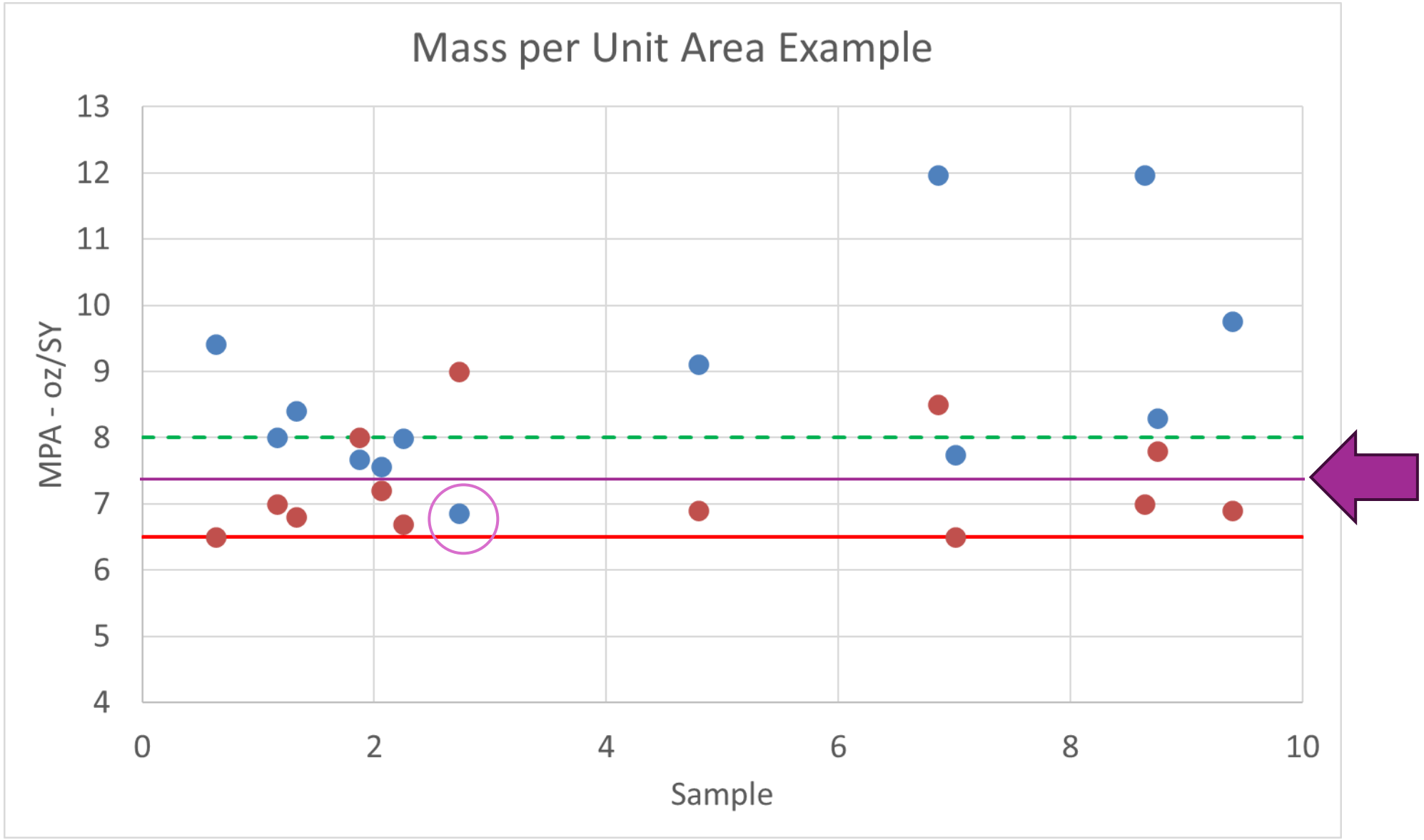


One Example Recipe (+/-)

WESTERN GREEN



One Example Recipe (+/-)

WESTERN GREEN

In Production

MENU

APPROVED PRODUCT LIST

SEARCH INFORMATION:

IMPORTANT NOTICE

Approved products contained within MAPLE meet department specifications but not necessarily IM 107 (MAPLE serves federally funded and non-federally funded projects). **On federally funded contracts, c products with Build America, Buy America Preference, and paperwork to help assure compliance**

TIPS

MAPLE may be searched by navigating to the "Material names", "IMs", or "Producers" tab and selecting ing to the "Brands" tab, entering text into the search field, and then clicking the show results button.

Material Names | IMs | Producers

Material Name: EROSION CONTROL, TURF REINFORCEMENT MAT TYPE 1 View Report

Include historical data from date: to date:

Brand Name	Approved	Company Name	Material Iten
C-350	02/11/2021	North American Green	EROSION CONTROL, TURF REINFC
Curlex Enforcer	04/24/2014	American Excelsior Co.	EROSION CONTROL, TURF REINFC
Excel PP5-8	04/24/2014	Western Excelsior	EROSION CONTROL, TURF REINFC
Futerra 7020	04/15/2025	Profile Products LLC	EROSION CONTROL, TURF REINFC
P300-LW	02/11/2021	North American Green	EROSION CONTROL, TURF REINFC
Recyclex TRM-V	05/25/2022	American Excelsior Co.	EROSION CONTROL, TURF REINFC
			CONTROL, TURF REINFC
			CONTROL, TURF REINFC
			CONTROL, TURF REINFC
TRINET Coconut	07/08/2021	American Excelsior Co.	EROSION CONTROL, TURF REINFC

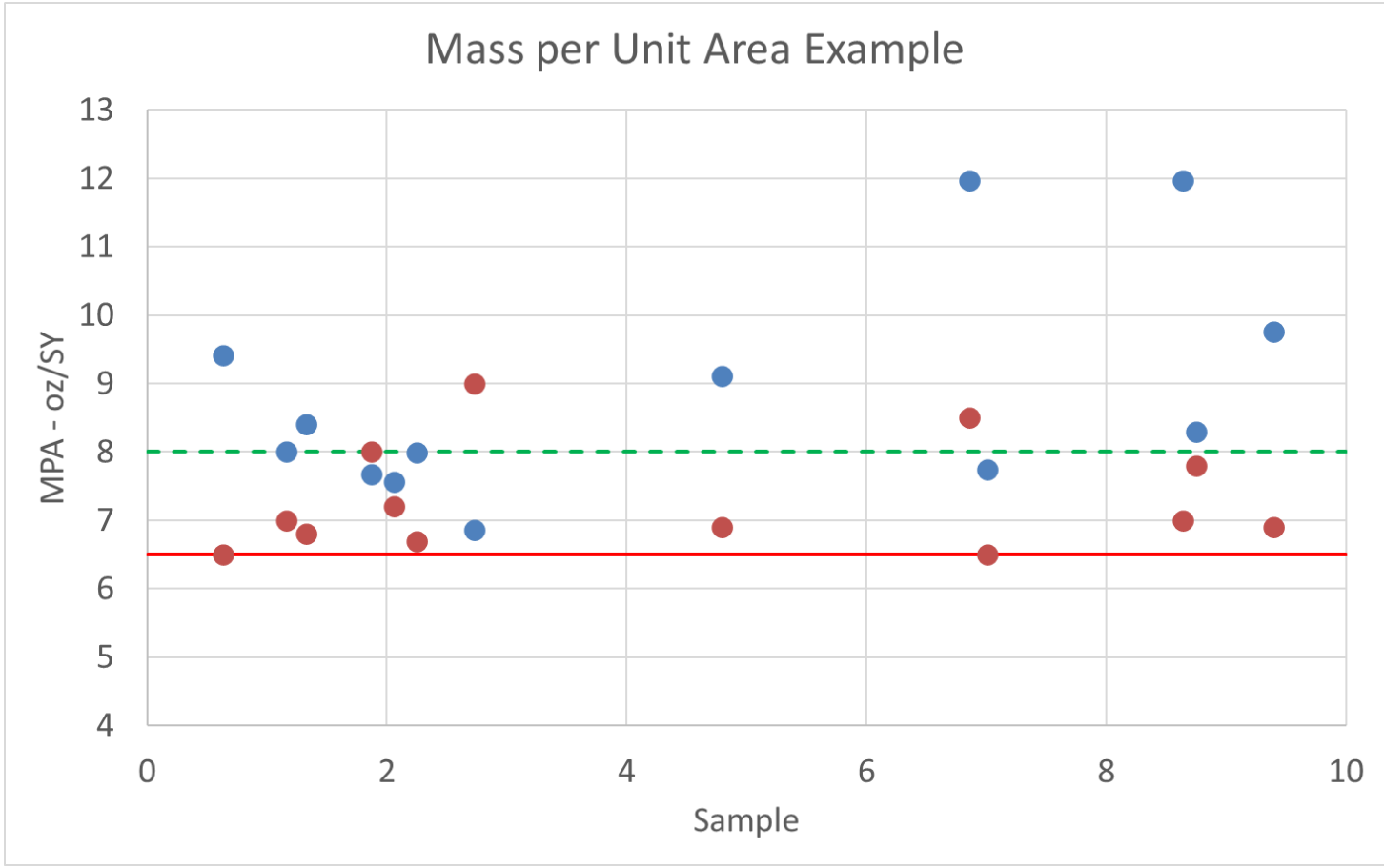
On the List

On the Jobsite

Perspective

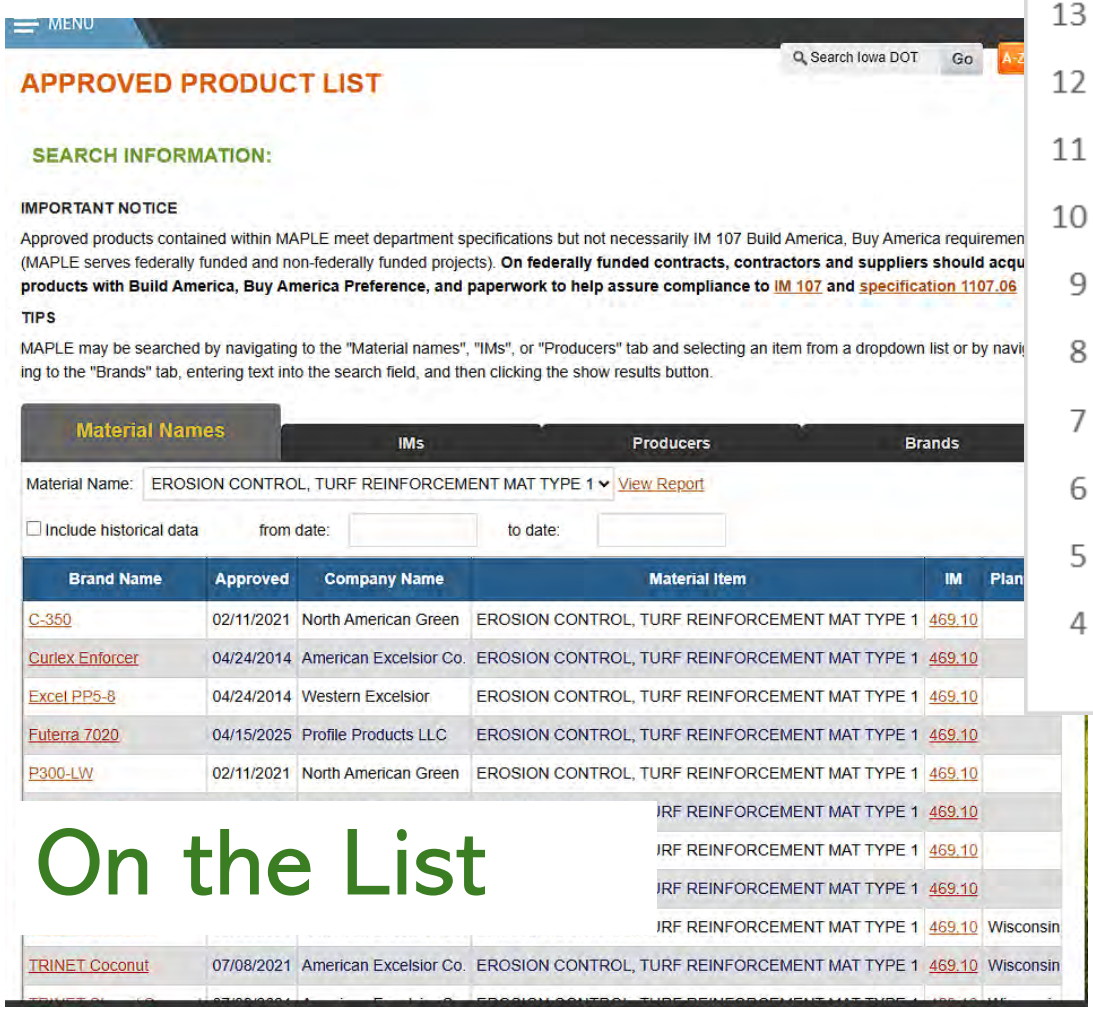
WESTERN GREEN

In Production

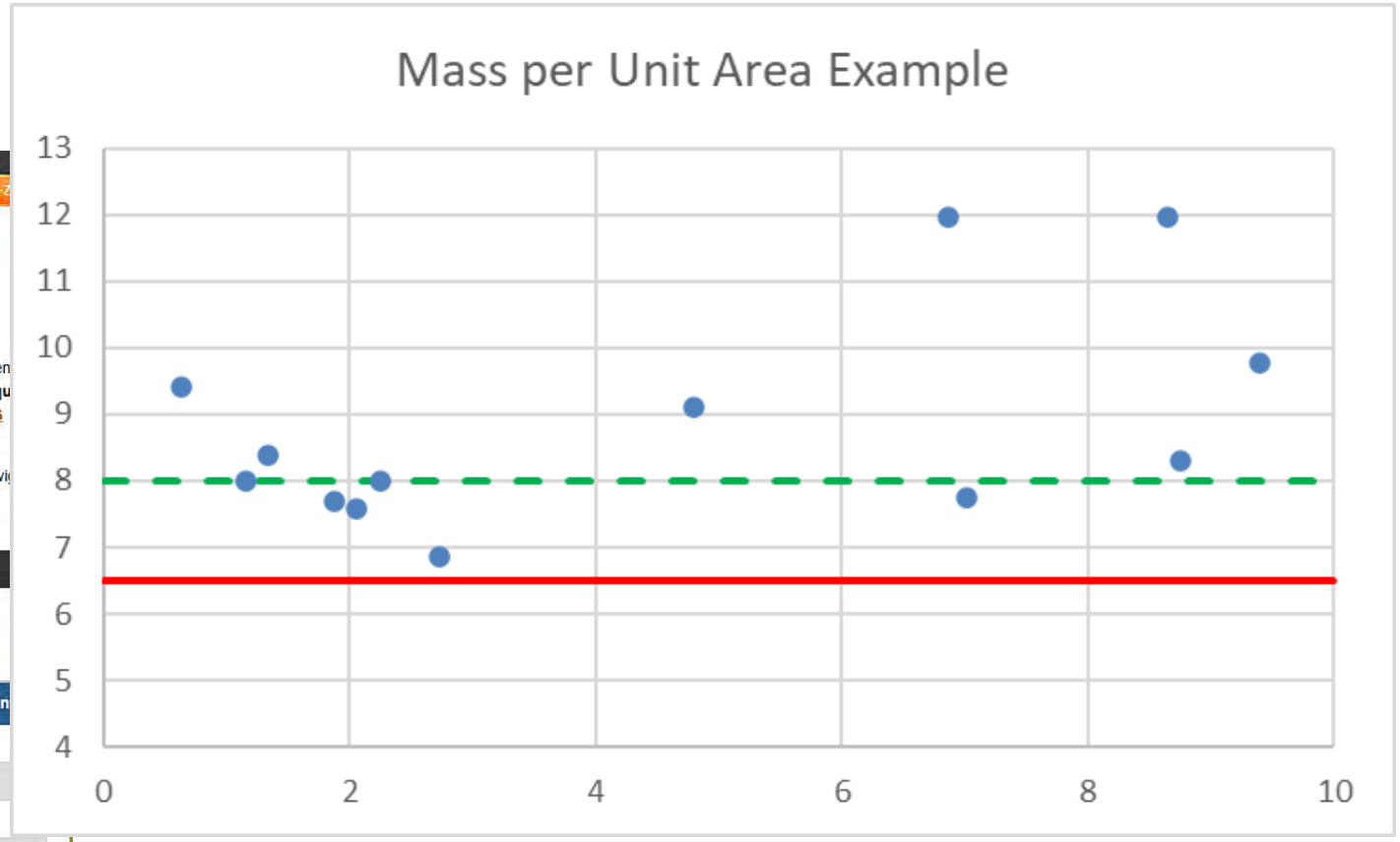


In Production

This Never Happens



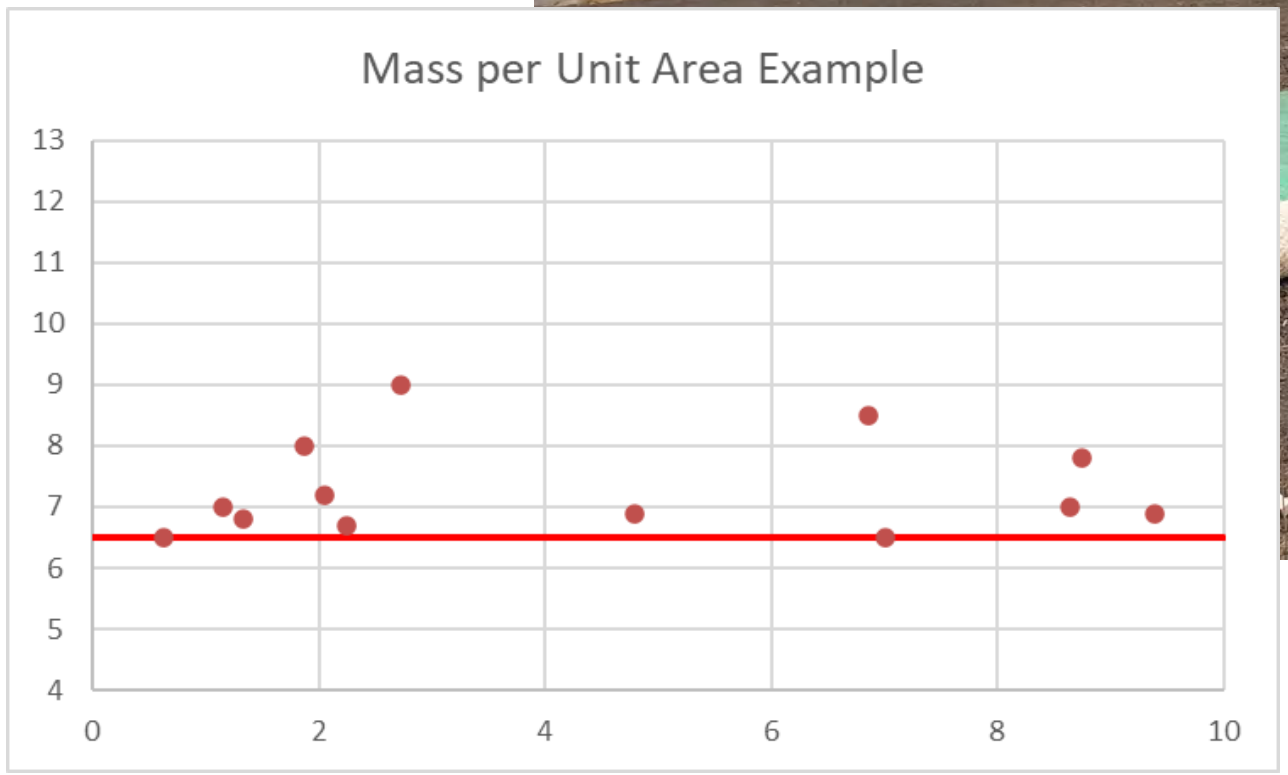
On the List



This Definitely Happens

What Do We Need to Know

WESTERN GREEN



On the Jobsite

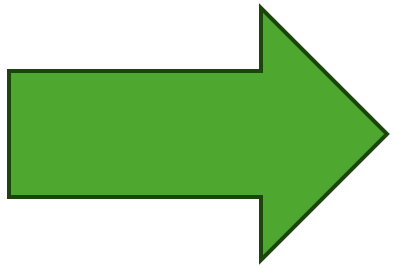
Perspective

WESTERN GREEN

This Never Happens

Nominal

- Straw Matrix
- Net on Top
- Stitched on 2” Centers
- 8 oz/SY Mass
- Tensile Strength
  - 100 x 60 MD x TD lb/ft
- 0.28” Thick
- 85% Coverage



Requirements

- Straw Matrix
- Net on Top
- Stitched on 2” Centers
- 7.8 – 8.2 oz/SY Mass
- Tensile Strength
  - 90 - 110 MD lb/ft
  - 50 - 70 TD lb/ft
- 0.25” – 0.30” Thick
- 80% - 90% Coverage

Requirements

- Straw Matrix
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MATERIAL PROPERTY DATA SHEET

WESTERN GREEN

EroNet™ S75®

Short Term • Single Net • Straw Matrix • Erosion Control Blanket

DESCRIPTION

S75 temporary Erosion Control Blanket is composed of a 100% weed free agricultural straw matrix mechanically (stitch) bonded on two-inch centers to a single synthetic, photodegradable net. The net is secured to the top of the RECP to restrain the straw matrix once installed. S75 blanket is intended for use in applications requiring erosion protection for a period up to twelve months. The material is fully degradable. The net and thread are photodegradable and the fiber matrix is biodegradable. Actual field longevity is dependent on soil and climatic conditions.

Each roll of S75 is made in the USA and manufactured under Western Green’s Quality Assurance Program to ensure a continuous distribution of fibers and consistent thickness.

Material Content		
Matrix	Straw	
Netting	Lightweight, Synthetic Regular Degradable	Single Net (Green)
Thread	Synthetic, Regular Degradable	

Standard Roll Sizes				
Width	8 ft	(2.4 m)	16 ft	(4.9 m)
Length	112 ft	(34.1 m)	563 ft	(171.0 m)
Weight ± 10%	50 lb	(22.7 kg)	500 lb	(227.0 kg)
Area	100 sy	(83.6 m²)	1000 SY	(836.0 m²)

Material available in custom roll sizes

Approvals & Classification	
Classification	FHWA: Type 2.C / ECTC: Type 2.C
TTI Approvals	Class 1 Type A, B
NTPEP Number	ECP-2020-01-18

Index Property	Test Method	Typical	
Thickness	ASTM D6525	0.28 in	(7 mm)
Mass/Unit Area	ASTM D6566	8.0 oz/sy	(275 g/m²)
Tensile Strength – MD	ASTM D6818	110 lbs/ft	(1.6 kN/m)
Tensile Strength – TD	ASTM D6818	60 lbs/ft	(0.9 kN/m)
Elongation - MD	ASTM D6818	50%	
Elongation – TD	ASTM D6818	30%	
Density/Specific Gravity	D792	N/A	
Light Penetration	ASTM D6567	15%	
Biomass Improvement	ASTM D7322	375%	
Water Absorption	ASTM D1117	400%	

Design Parameters		
Property	Unvegetated	Vegetated[3]
RUSLE C Factor[2]	0.02	N/A
Slope Maximum Gradient[1]	2.5H:1V	N/A
Permissible Shear Stress[1]	1.6 psf (75 Pa)	N/A
Permissible Velocity[1]	5.0 fps (1.5 m/s)	N/A

Manning’s n Roughness (HEC-15)		
n_{min}	n_{ave}	n_{max}
0.040	0.030	0.030

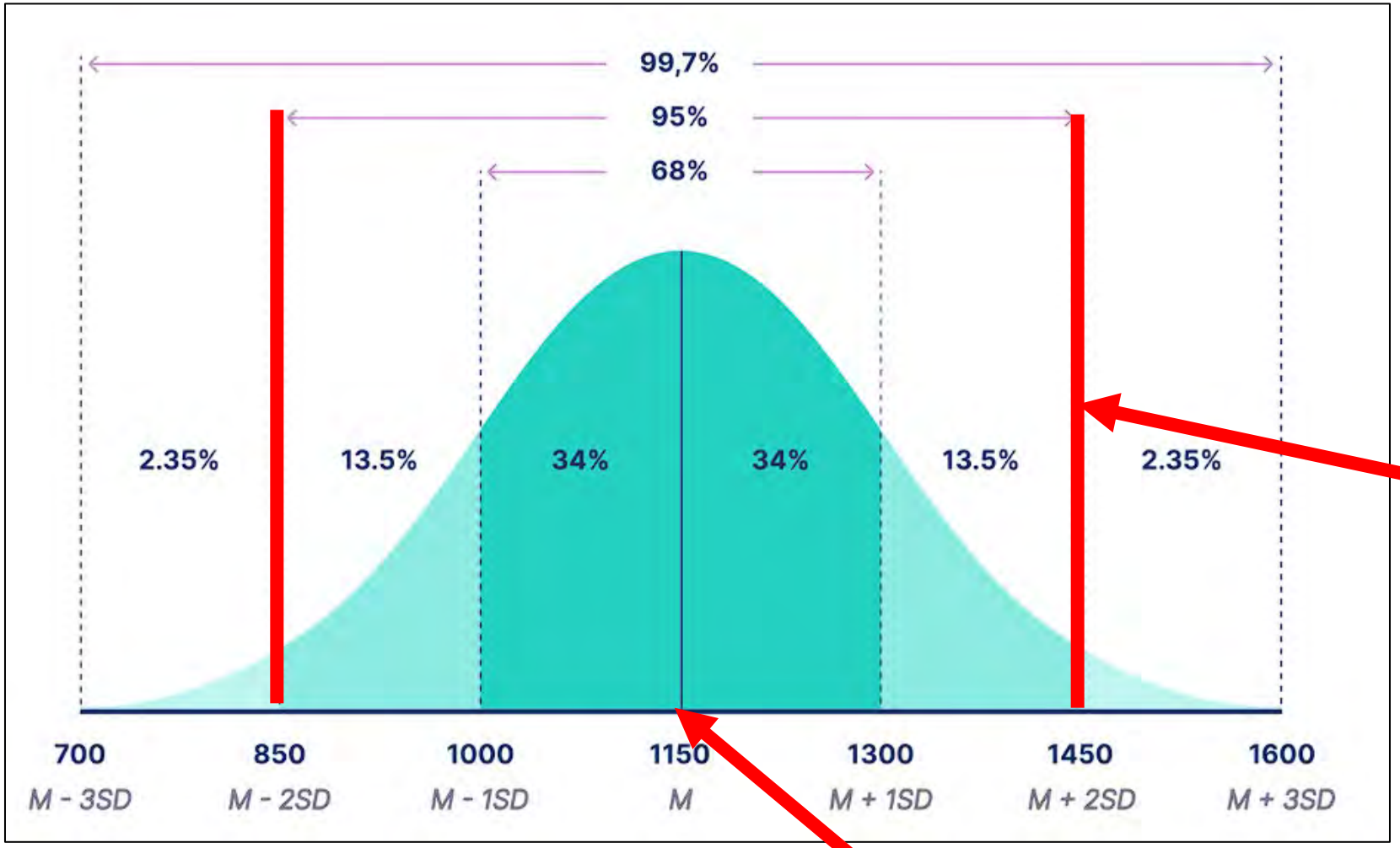
1 Maximum Gradient is recommendation for typical installations.
2 Hydraulic Thresholds compliance with ASTM D6460/D6460 full-permissible for typical applications.
3 Vegetated values dependent on established stand of vegetation.

NORTH AMERICAN GREEN

Rev. 4.2023
Scan for additional and updated product information, or click here.

Western Green • 4609 E. Boonville-New Harmony Rd.
Evansville, IN 47725 • (800) 772-2040

westerngreen.com



NTPEP

October 2020

AASHTO NTPEP
Rolled Erosion Control Product (RECP)
Test Report

Manufacturer:	North American Green, Inc.	Plant Name:	Macon Facility
Corporate Address:	5401 St. Wendel - Cynthia Road	Plant Address:	3240 Avondale Mill Road
City/State/Zip:	Newburgh, IN 47630	City/State/Zip:	Macon, GA 31216
Corporate Contact:	Brad Dameron	Plant Contact:	Howard Davidson
Phone:	812-437-9407	Phone:	478-788-7798
Fax:		Fax:	
E-mail:	bdameron@nagreen.com	E-mail:	hdavidson@westernexcelsior.com
NTPEP / Log Number:	ECP-2020-01-018		
Product Identification:	S75		
Description:	Single net straw temporary erosion control blanket		
Netting:	Photodegradable polypropylene top net with 0.5 inch square openings		
Matrix/Fill:	100% Straw fiber		
	Degradable thread @ 1.5 in. transverse stitch		

Test Method - Description	Parameter	Test Result			Mfrs' Published Values (Typical)
ASTM D 6475 - Mass per Unit Area	Index Test	9.11	oz/sq yd		9.76
ASTM D 6818 – Ultimate Tensile Strength / Strain - MD	Index Test	8.2	lb/in @ %	23.8	10.2 @ 36.1
- XD		5.4	lb/in @ %	23.2	6.6 @ 26.8
ASTM D 6525 – Thickness	Index Test	275	mils		500
ASTM D 6567 - Light Penetration	Index Test	6.5	%		6.0
ASTM D 1117 & ECTC-TASC 00197 - Water Absorption	Index Test	519	%		301
ASTM D 7101 - Determination of Unvegetated RECP Ability to Protect Soil From Rain Splash and Associated Runoff Under Bench-Scale Conditions	50 mm (2 in.) / hr for 30 min.	Soil Loss Ratio* =		29.98	n/a
	100 mm (4 in.) / hr for 30 min.	Soil Loss Ratio* =		29.79	n/a
	150 mm (6 in.) / hr for 30 min.	Soil Loss Ratio* =		33.51	n/a
ASTM D 7207 - Determination of Unvegetated RECP Ability to Protect Soil from Hydraulically-Induced Shear Stresses Under Bench-Scale Conditions	Shear: 1.03 psf for 30 min.	Soil Loss =	64.9	g	n/a
	Shear: 1.82 psf for 30 min.	Soil Loss =	460.1	g	
	Shear: 2.51 psf for 30 min.	Soil Loss =	871.6	g	
	Soil loss curve intercept =	1.94	psf @ ½-in soil loss		
ASTM D 7322 - Determination of Temporary Degradable RECP Performance in Encouraging Seed Germination and Plant Growth	Top soil; Fescue (Kentucky 31); 21 day incubation; 27±2° & approximately 45±5% RH	% of Average Control = 472%			301
		% of Concurrent Control = 748%			

* Soil Loss Ratio = Soil Loss Bare Soil / Soil Loss with RECP = 1 / C-Factor (Note: soil loss is based on regression analysis)

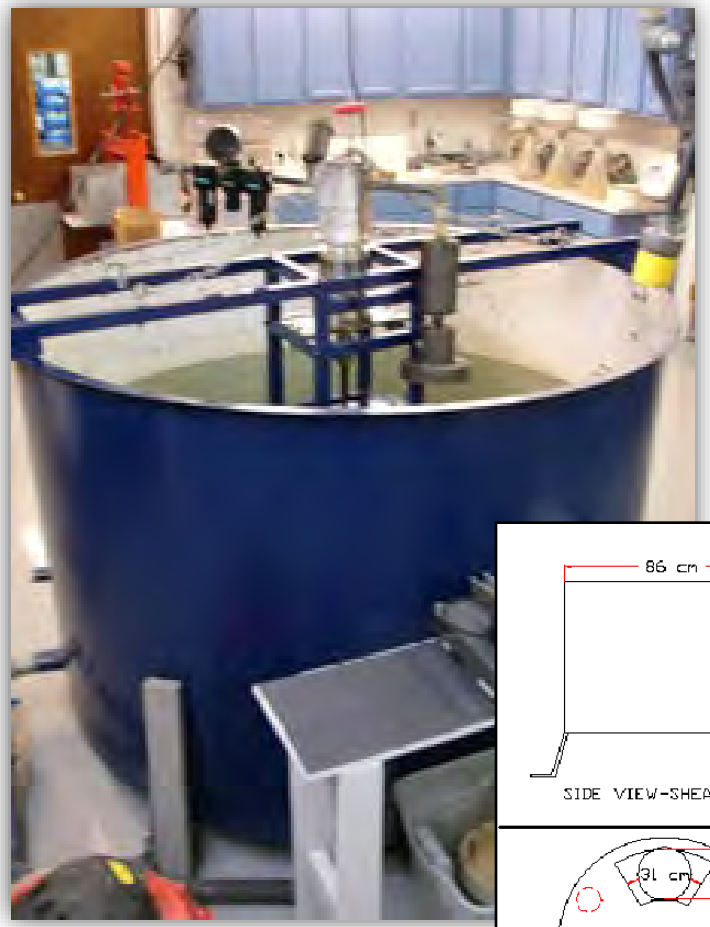
- **Test Value Within +/- 25% of Claimed Value**

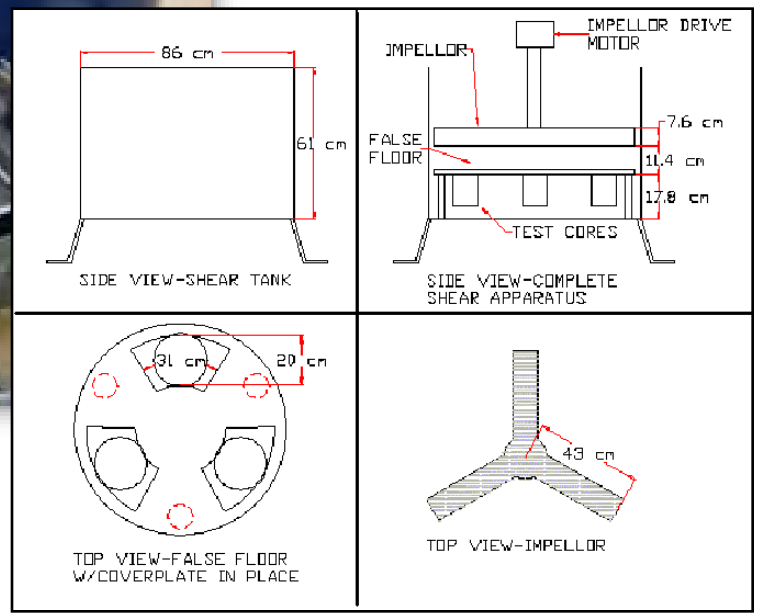
Future Vision - Verification

WESTERN GREEN

- Easiest Way to Deal with Intrinsic High Variability
- Maintain Current Values and Thresholds – Minimize Disruption and Confusion
- Simple and Concise Evaluation of Product for Listing and Cyclical Examination
- Likely Maintain Higher Levels of Quality
- Account for Too High and Too Low
- Testing and Precision Improves Over Time

- Values based on weight of soil displaced, shear stress determined by calibrated load cell
- Protected and control plots run similarly and
- Required as part of NTPEP Cyclical Program
- Typically overstate product performance 15% – 80%

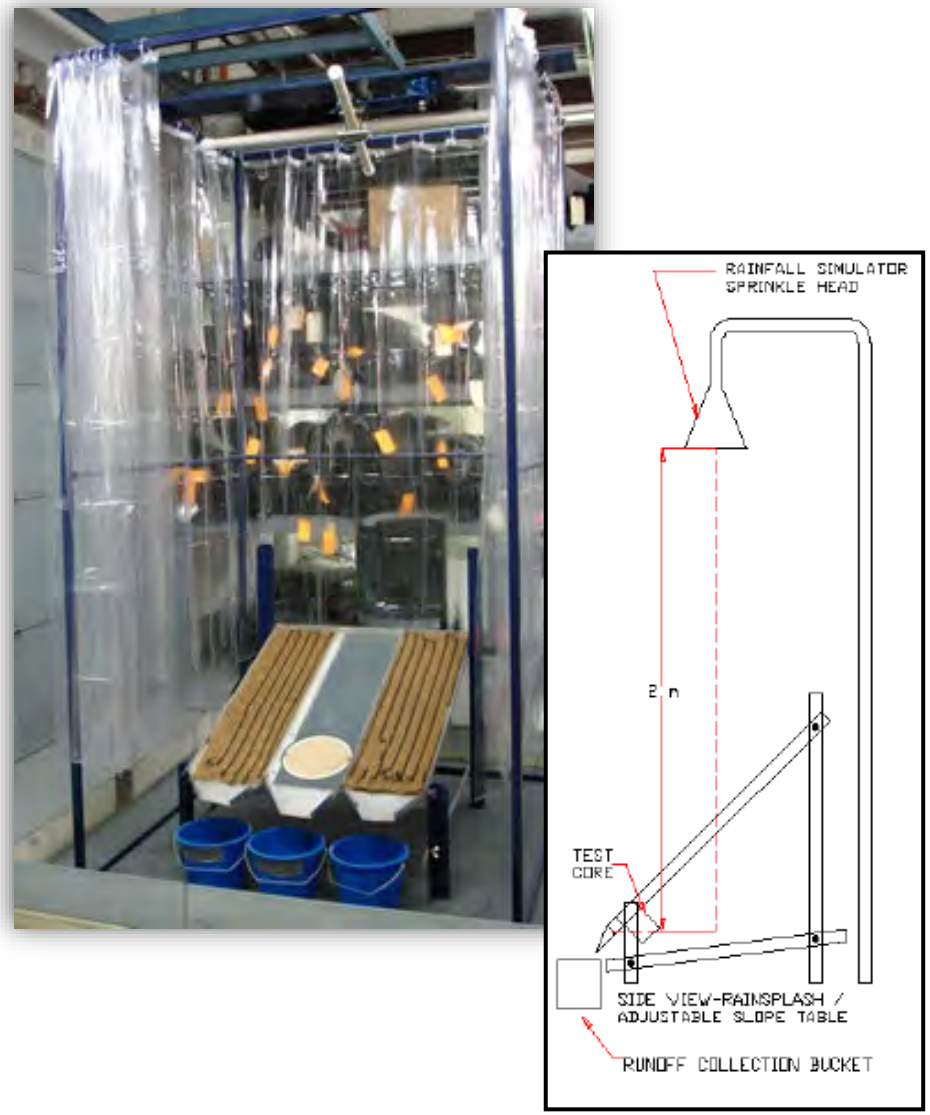




Bench Scale Channel – ASTM D7207

WESTERN GREEN

- Values based on weight of soil displaced, protected ratioed to control plot
- Protected and control plots run similarly and
- Required as part of NTPEP Cyclical Program
- Typically understate product performance 3 x – 10 x



Bench Scale Rainfall – ASTM D7101

WESTERN GREEN

- Channel and Rainfall methods shown to be **NOT RELATED** to the performance (utility) of a product by NCHRP

National Cooperative Highway Research Program Project 20-07 (162) Report

Prepared for:
National Cooperative Highway Research Program
(NCHRP)

July 2005

Colorado State University
Department of Civil Engineering
Fort Collins, CO 80523

Colorado State University

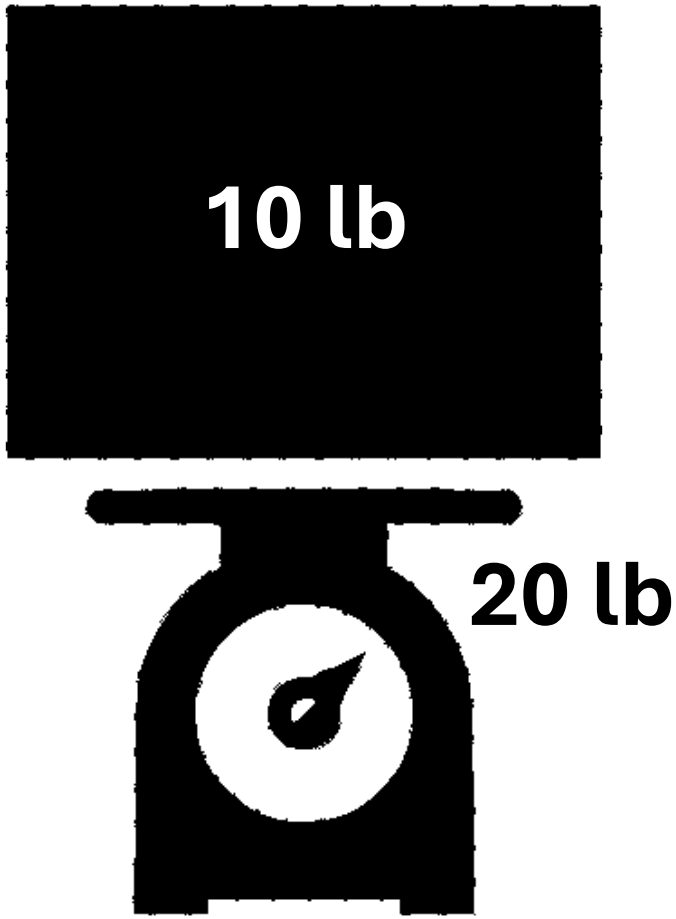
8.3 RECOMMENDATIONS

The available channelized and rainfall data utilized for analysis in this study indicated an absence of correlation between bench and prototype scale protocol critical shear stress and soil loss ratio based upon comparison of products and statistical analyses conducted.

Bench Scale Testing History

WESTERN GREEN

- Channel and Rainfall methods shown to be **NOT RELATED** to the performance (utility) of a product by NCHRP
- Channel and Rainfall methods **NOT REPEATABLE** by independent laboratory



Bench Scale Testing History

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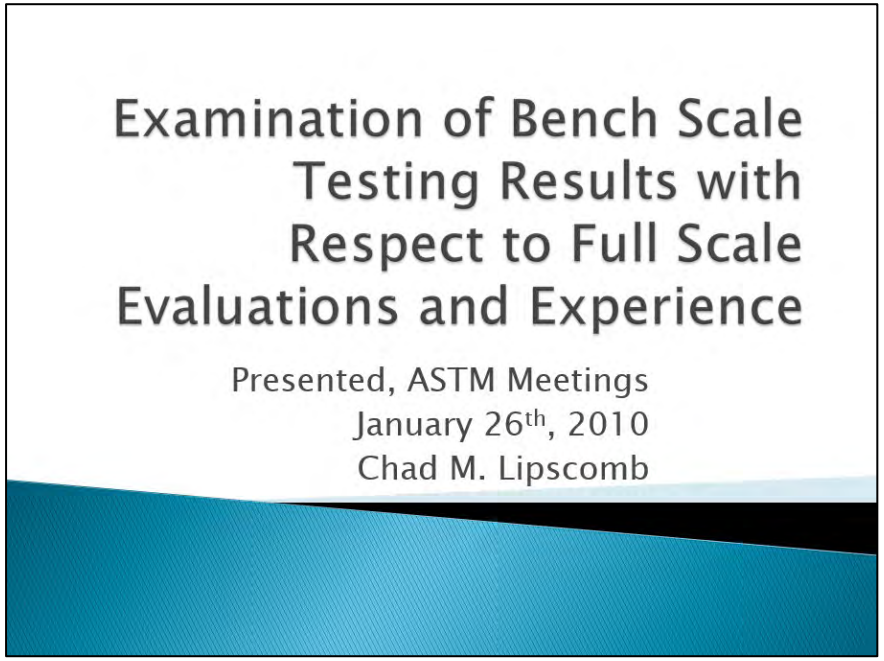
- Channel and Rainfall methods shown to be **NOT RELATED** to the performance (utility) of a product by NCHRP
- Channel and Rainfall methods **NOT REPEATABLE** by independent laboratory
- Channel and Rainfall methods shown to be **NOT RELATED** to the performance (utility) of a product by ASTM study



Bench Scale Testing History

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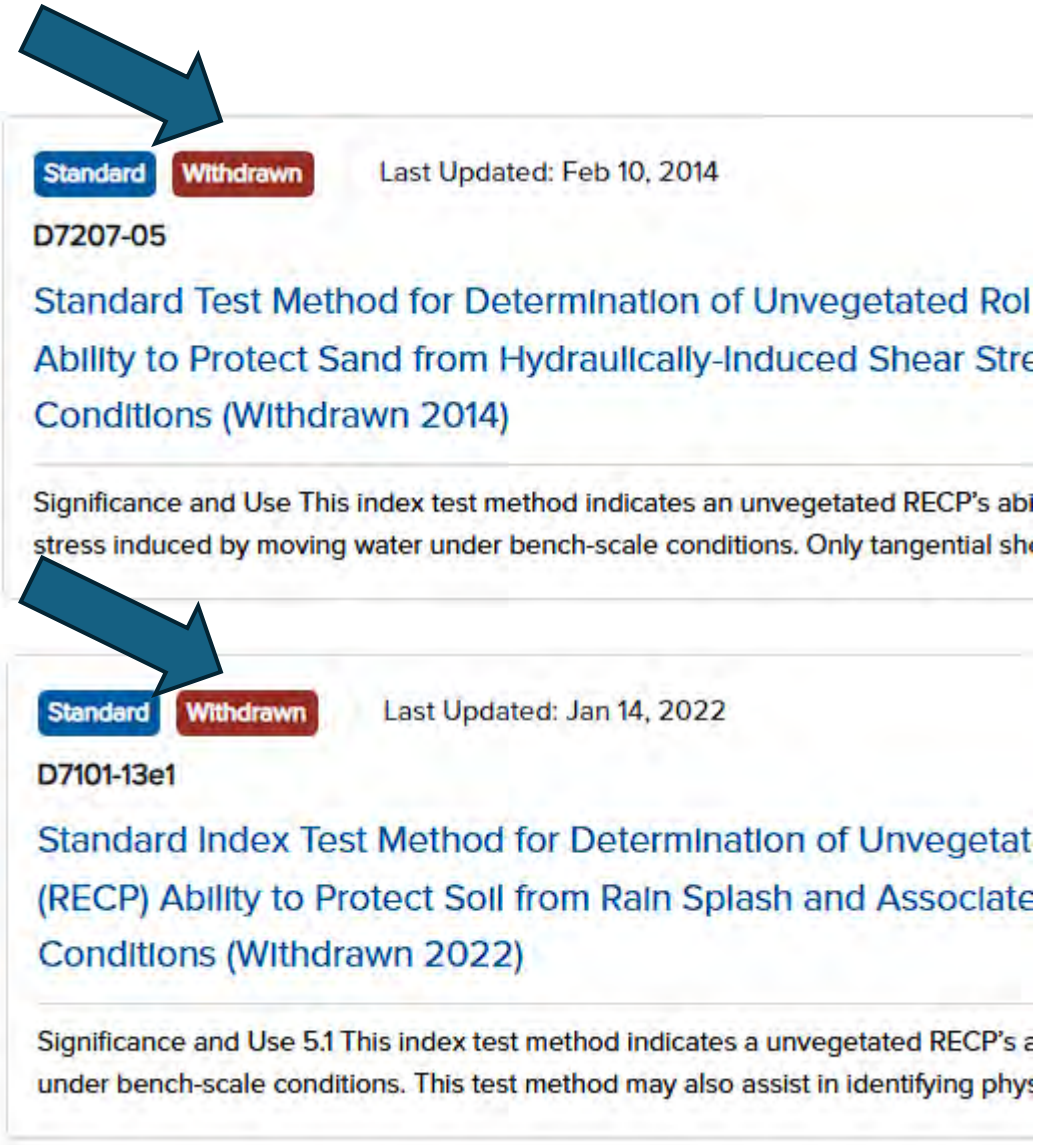
- Abandoned by ASTM (allowed to expire and no longer be an active standard)



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- Only 1 state (DOT) as a requirement

Bench Scale Testing History

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- Abandoned by ASTM (allowed to expire and no longer be an active standard)
- Only 1 state (DOT) as a requirement
- FHWA Design Methods Explicitly Dis-Allow

Bench Scale Testing History

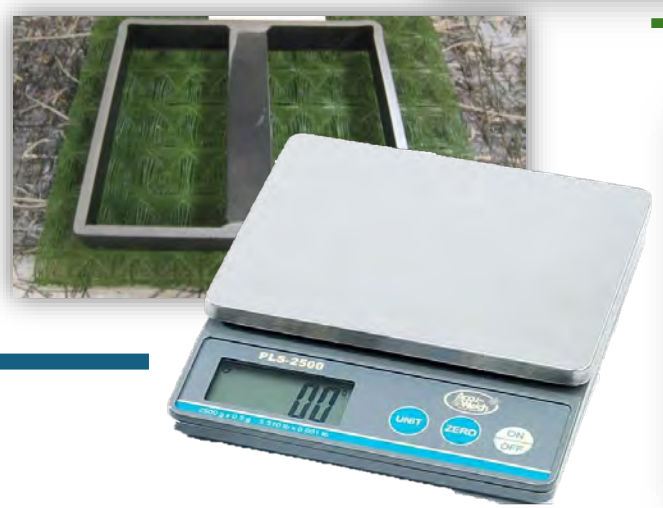
WESTERN GREEN

Tensile

Coverage

Rainfall

Mass



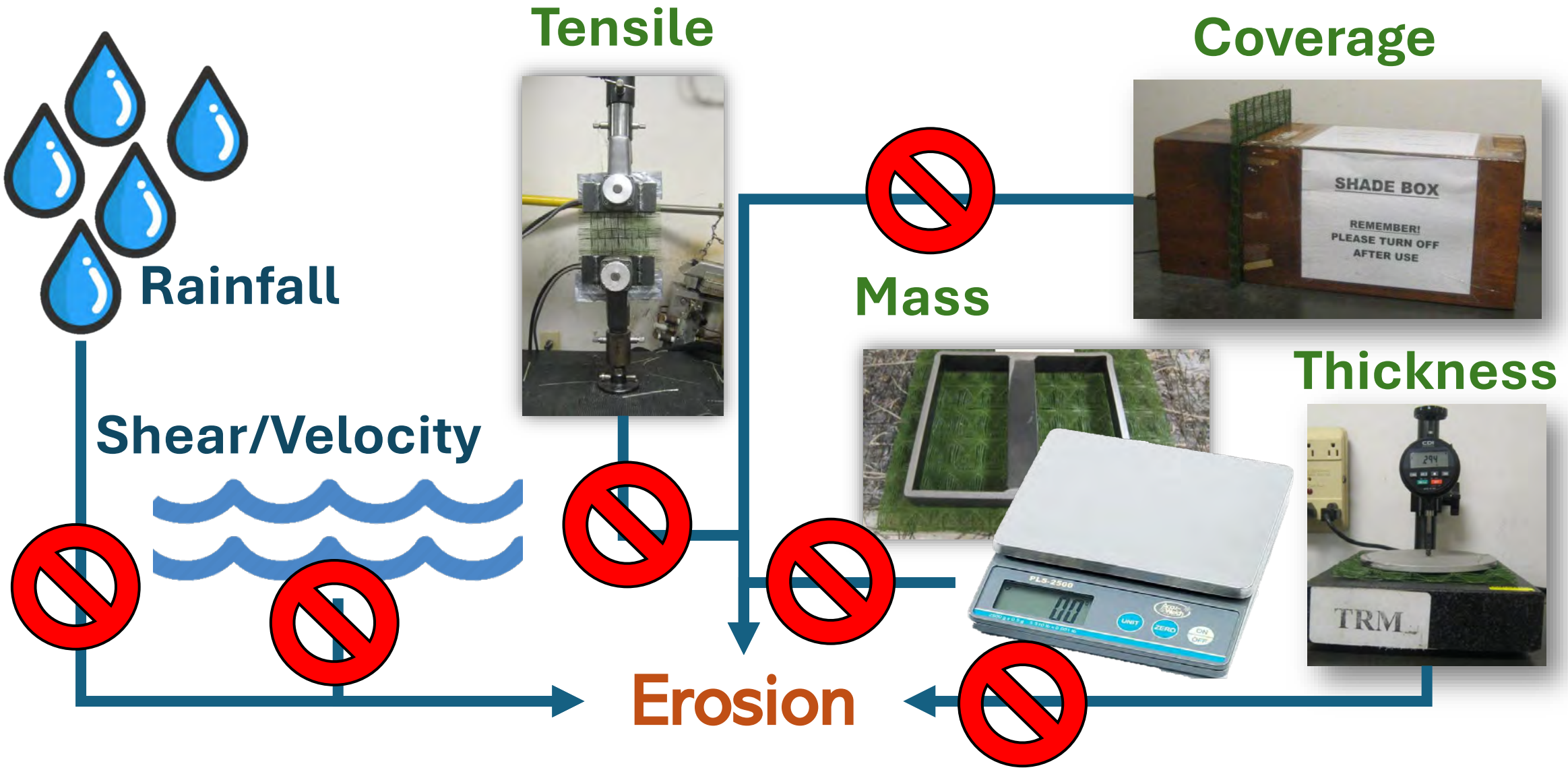
Shear/Velocity

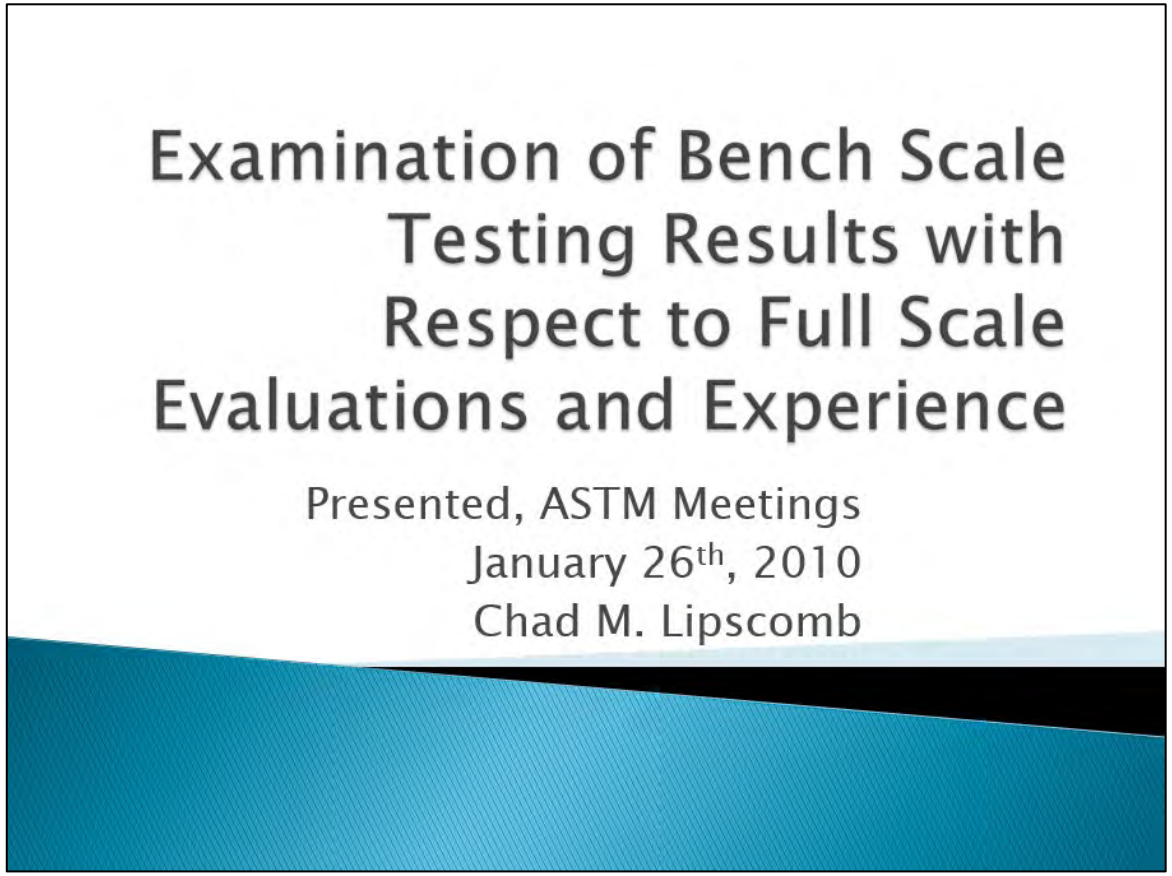
Thickness

Erosion

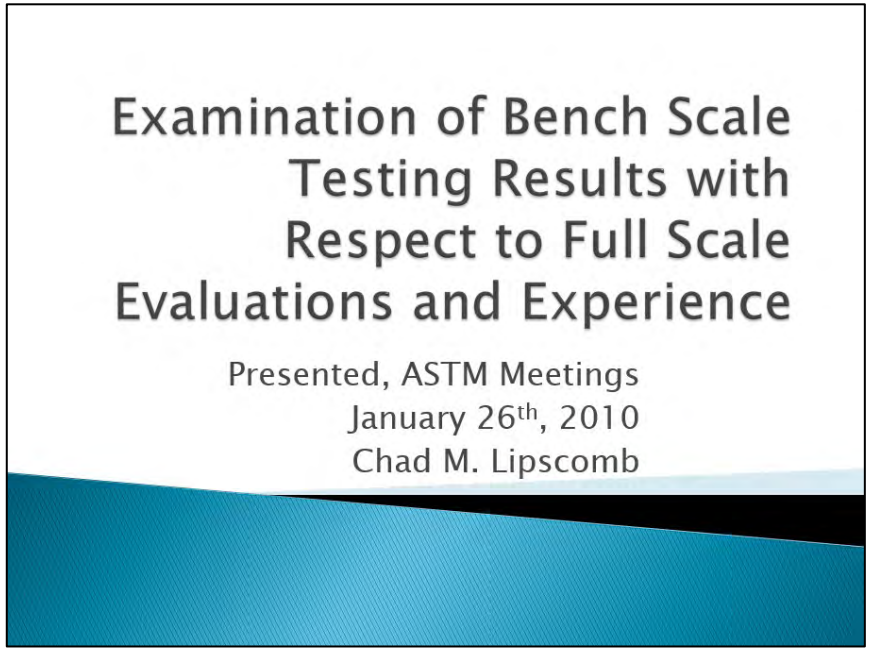
NCHRP Evaluation – Full Scale

WESTERN GREEN


Tensile
Coverage
Rainfall
Mass
SHADE BOX
REMEMBER!
PLEASE TURN OFF
AFTER USE
Shear/Velocity
Thickness
TRM
Erosion



- Similar Analysis to NCHRP Study
- More Robust Dataset
- Included Rank Analysis
- Similar Conclusion
- Started Task Group Efforts to Discontinue Standards
- Additionally, Accepted and Presented IECA 2012



Bench Scale SSR	Product Number	Soil Type		Full Scale SSR	Product Number	Soil Type
29.9	10	Sand		41.4	8	Loam
26.4	3	Sand		38.6	2	Loam
22.5	5	Sand		38.6	3	Loam
22.1	12	Sand		38.6	13	Loam
21.3	8	Sand		35.7	5	Loam
21.3	13	Sand		30.0	1	Loam
20.9	9	Sand		30.0	9	Loam
20.5	1	Sand		30.0	11	Loam
19.8	2	Sand		30.0	14	Loam
19.6	7	Sand		28.6	10	Loam
18.7	14	Sand		24.3	6	Loam
17.8	4	Sand		21.4	4	Loam
15.4	11	Sand		21.4	12	Loam
14.7	6	Sand		20.0	7	Loam

ASTM Study Summary

WESTERN GREEN

- **Cannot**
  - Estimate Performance
  - Provide Useful Product Comparison
  - Determine if a Product Has Changed (No More than Physical Properties)
  - Qualify a Product for Classification

- Alternative
  - Single replicate Performance Testing used as a cyclic evaluation in lieu of Bench Scale Evaluation

			Bench-Scale Tests								
Soil Loss Ratio[c,d]	ASTM D7101	Minimum, Unitless	4.0	5.0	7.0	8.0	10.0	5.0	7.0	8.0	10.0
Permissible Shear Stress[c]	ASTM D7207	Minimum, psf (Pa)	1.00 (47.9)	1.25 (59.9)	1.5 (71.8)	1.75 (83.8)	2.00 (95.8)	1.25 (59.9)	1.50 (71.8)	1.75 (83.8)	2.00 (95.8)

[c] Bench-scale testing for Soil Loss Ratio (ASTM D7101) and Permissible Shear Stress (ASTM D7207) is optional, as large-scale testing for C-Factor (ASTM D6459) and Permissible Shear Stress (ASTM D6460) is required. However, the purchasing agency may require periodic bench-scale testing to verify and support the large-scale test values. If bench-scale testing is required by the purchasing agency, the values listed in this table shall be used for review and acceptance.

[d] "Soil Loss Ratio" = Soil Loss (Bare Soil) / Soil Loss (with RECP) = 1 / Bench-Scale C-Factor, where soil loss is based on regression analysis.

However, the purchasing agency may require periodic bench-scale testing to verify and support the large-scale test values.

Bench Scale Testing Allowance

WESTERN GREEN

- Expand Single Repetition Testing to Replace Bench Scale Testing
- Develop Quality Assurance Single Repetition Testing:
  - Single Rainfall Event
  - Single Discharge
- Address Vegetated TRM Testing Issues
  - Testing Capacity Issues (Time)
  - Testing Capacity Issues (Maximum Flow)

Full Scale Testing

WESTERN GREEN

Questions and Commentary

WESTERN GREEN

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Erosion Control Technology Council

Industry Update for AASHTO

Presented By:
Diane Smith
Executive Director

Driving Innovation | Advancing Standards | Leading Voice of the Industry

About ECTC

We are a council of the top industry stakeholders, manufacturers, component suppliers, material distributors and test laboratories dedicated to expanding knowledge and implementation of Erosion and Sediment Control Technologies and protecting valuable water resources.

Who We Service

ECTC Assists Agencies, Engineers, Designers, Contractors and others in the proper application, installation and specification of erosion and sediment control technologies while establishing guidelines for product quality and performance. ECTC is dedicated to facilitating innovation in product development and marketing and the dissemination of information and technologies to the public.

Industry Activities

AASHTO

- Presented Update at Comp4 Meeting in August 2024
- Attended Quarterly Virtual Meetings
- Assisted with Comp4 RECP Specification
- Updated Guidance Document
- Annual Meeting at AASHTO Headquarters with PEAS

Industry Activities

GMA *(Geosynthetic Materials Association)*

- Signed MOU
- Participate in Lobby Days – Washington, DC (2/year)
  - *Guest Speaker: Joung Lee, Deputy Director – Chief Policy Officer, AASHTO*
- Participate in Erosion Control Task Group
- Attended Geotechnical Frontier Conference

IECA *(International Erosion Control Association)*

- Recently Signed MOU
- Attended and Exhibited at Annual & Local Conferences
- Participate in Specification Committee

ECTC Action Items

- Updated TRM, HECP and RECP (in-progress) Specifications
- Publish Articles and White Papers
- Toolbox with CAD drawings, Specifications, Installation guides, and Product Selection Tool
- Training via Presentations

- Toolbox available at www.erosioncouncil.org
- Installation Videos available at Youtube channel @erosioncontroltechcouncil

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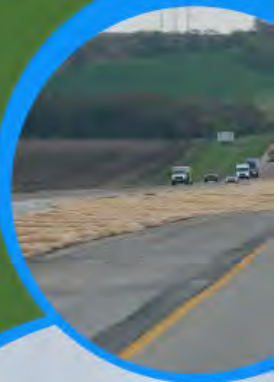

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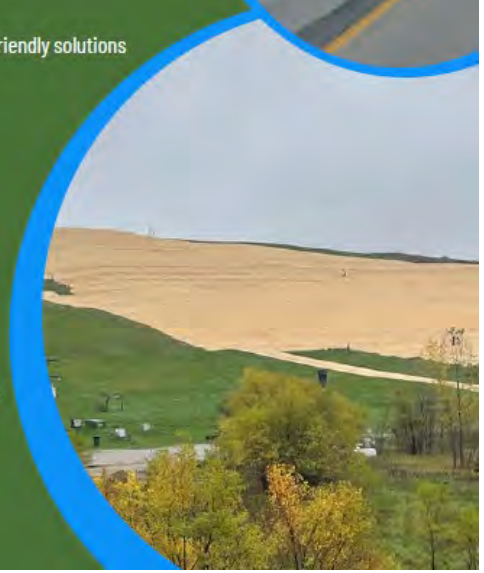

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AASHTO PRODUCT EVALUATION & AUDIT SOLUTIONS

Technical Committee
Erosion Control Products (ECP)

Technical Committee Meeting

Working Session # 12

Thursday, June 12th, 2025 08:00AM – 09:30AM

AASHTO PRODUCT EVALUATION & AUDIT SOLUTIONS

Summary of the ECP Audit /Evaluation Program

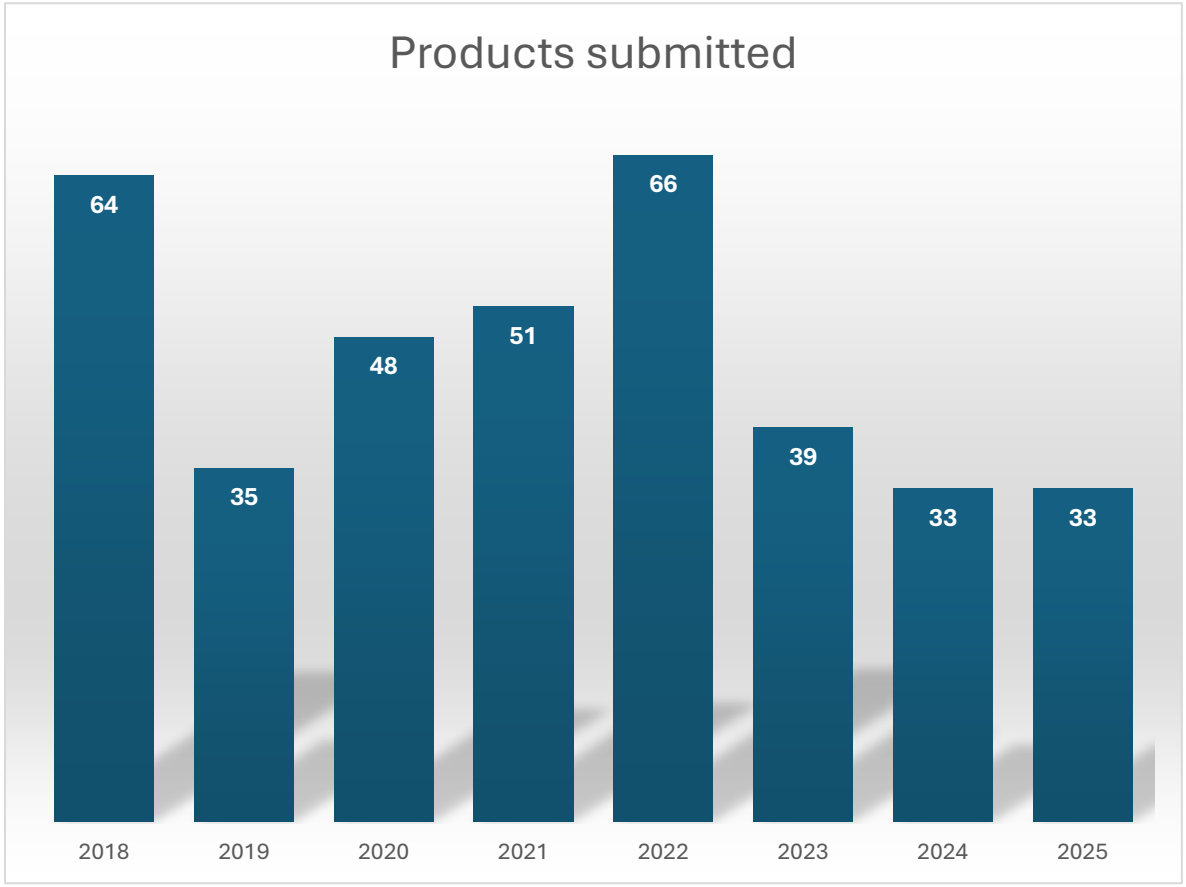
- **Primary Goals:**
  - **Cost effective product evaluation for state transportation departments.**
  - **Eliminate duplicate testing & auditing**

- **Accomplishments in the past year:**
  - **Submittals open to RECPs, SRDs, and HECPs →** Work Plan for Evaluation of Erosion Control Products (ECP) and Sediment Retention Devices (SRD) [ECP_SRD-23-01]

- **Coordination with AASHTO COMP TS-4g to develop Temporary RECP Specification**

AASHTO PRODUCT EVALUATION & AUDIT SOLUTIONS

Summary of the ECP Audit /Evaluation Program



AASHTO PRODUCT EVALUATION & AUDIT SOLUTIONS

Summary of the ECP Audit /Evaluation Program

- **28 State DOTs are Participating – no overall change since 2023**
  - **15 State DOT's require – increase of 3 since 2023**
  - **13 State DOT's allow in lieu of other – decrease of 3 since 2023**
- **28 Products evaluated in 2025 as of June 1, 2025**

AASHTO PRODUCT EVALUATION & AUDIT SOLUTIONS

Update on Evaluations: June 1, 2024 – May 31, 2025

- **Status of Evaluations**
  - **ECP/SRD/HECP Virtual Sampling:**
    - Began March 2023
    - 42 Unique Events
    - ~100 products sampled
    - Reduced time from submission to receipt at laboratory
    - Reduced costs and burden on member states
    - Improved AASHTO/client/lab communications.

AASHTO PRODUCT EVALUATION & AUDIT SOLUTIONS

Update on Evaluations: June 1, 2024 – May 31, 2025

- **Invoice / Payment**
  - Must be received before testing can proceed.
- **Testing**
  - All 2022 submittals are completed
  - 2023 large scale testing submittals will be completed by the end of 2024
  - Large scale vegetated channel is occupied until Fall 2025
- **Results Review & Release**

AASHTO PRODUCT EVALUATION & AUDIT SOLUTIONS

Update on Evaluations: June 1, 2024 – May 31, 2025

- **SRD Submittals**
  - No submittals over time period covered.

- **HECP Submittals**
  - Cycle 1 2025 – Six HECP products sampled for large scale slope evaluation
  - Does not appear that manufacturers are enrolling in cyclic HECP evaluations. Adoption at state level needed.

Coordination with AASHTO COMP TS-4g to develop Temporary RECP Specification

- **TS-4g: Geosynthetics and Erosion Control Products**

Chair: Wansoo Kim, VDOT

Vice-Chair: Scott Hidden, NCDOT

Coordination with AASHTO COMP TS-4g to develop Temporary RECP Specification

- **TS-4g: Geosynthetics and Erosion Control Products**

Standard Specification for

Temporary Rolled Erosion Control Product Specification for Highway Applications

AASHTO Designation: M xxx-yy

Table 1 – Erosion Control Blanket Requirements

Property	Test Method	Units	Class 1 - Natural Biodegradable					Class 2 - Synthetic Photodegradable			
			1A0 Netless	1A1 Sgl Net	1A2 Dbl Net	1B2 Dbl Net	1C2 Dbl Net	2A1 Sgl Net	2A2 Dbl Net	2B2 Dbl Net	2C2 Dbl Net
Typ. Functional Longevity[a]	n/a	Months	3-12	3-12	3-12	12-24	24-36	3-12	3-12	12-24	24-36
Index Tests											
Mass per Unit Area	ASTM D6475	Minimum, oz/sy (gm/m^2)	9.0 (305)	7.0 (237)	7.0 (237)	7.0 (237)	7.0 (237)	6.5 (220)	6.5 (220)	7.0 (237)	7.0 (237)
Light Penetration	ASTM D6567	Maximum, %	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
Tensile Strength (MD)[b]	ASTM D6818	Minimum, lbf/in (N/m)	8.0 (1401)	4.0 (701)	7.0 (1226)	9.0 (1576)	11.0 (1926)	4.0 (701)	7.0 (1226)	9.0 (1576)	11.0 (1926)
Tensile Strength (CD)[b]	ASTM D6818	Minimum, lbf/in (N/m)	1.0 (175)	2.0 (350)	3.0 (525)	5.0 (876)	7.0 (1226)	2.0 (350)	3.0 (525)	5.0 (876)	7.0 (1226)
Bench-Scale Tests											
Soil Loss Ratio[c,d]	ASTM D7101	Minimum, Unitless	4.0	5.0	7.0	8.0	10.0	5.0	7.0	8.0	10.0
Permissible Shear Stress[c]	ASTM D7207	Minimum, psf (Pa)	1.00 (47.9)	1.25 (59.9)	1.5 (71.8)	1.75 (83.8)	2.00 (95.8)	1.25 (59.9)	1.50 (71.8)	1.75 (83.8)	2.00 (95.8)
Increased Biomass[e]	ASTM D7322	Minimum, %	100	100	100	100	100	100	100	100	100
Large-Scale Tests											
C-Factor	ASTM D6459	Minimum, Unitless	0.08	0.08	0.05	0.03	0.02	0.08	0.05	0.03	0.02
Permissible Shear stress[f]	ASTM D6460	Minimum, psf (Pa)	1.25 (59.9)	1.50 (71.8)	1.75 (83.8)	2.00 (95.8)	2.25 (107.7)	1.50 (71.8)	1.75 (83.8)	2.00 (95.8)	2.25 (107.7)

Table 1 – Notes

[a] For guidance only. Typical functional longevity is generally based on Section 713.17 and Table 713-3 of the *Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects* [Ref. FHWA FP-24]. Actual functional longevity may vary based on site and climate conditions.

[b] MD- Machine Direction; CD- Cross-Machine Direction.

[c] Bench-scale testing for Soil Loss Ratio (ASTM D7101) and Permissible Shear Stress (ASTM D7207) is optional, as large-scale testing for C-Factor (ASTM D6459) and Permissible Shear Stress (ASTM D6460) is required. However, the purchasing agency may require periodic bench-scale testing to verify and support the large-scale test values. If bench-scale testing is required by the purchasing agency, the values listed in this table shall be used for review and acceptance.

[d] "Soil Loss Ratio" = Soil Loss Bare Soil / Soil Loss with RECP = 1 / Bench-Scale C-Factor, where soil loss is based on regression analysis.

[e] "Increased Biomass" = [Biomass of RECP-protected / Biomass of Unprotected] × 100.

[f] Permissible shear stress, unvegetated for less than a ½ inch of soil loss may be calculated from equation fitted to the data for ASTM D6460 test results as needed at the discretion of the engineer.

Physical Properties of RECPs	RECP Type	Functional Longevity	ASTM D6475 Mass per Unit Area (oz/yd^2)	ASTM D6818 Ultimate Tensile Strength MD (lbf/in)	ASTM D6818 Ultimate Tensile Strength XD (lbf/in)	ASTM D6567 Light Pene-tration (%)	ASTM D7101 Soil Loss Ratio[a] (Unitless)	ASTM D7207 Permis-sible Shear (lbf/ft^2)	ASTM D7322 Increased Biomass[b] (%)	ASTM D6459 C-Factor (Unitless)		ASTM D6460 Permissible Shear (lbf/ft^2)	
Class 1 - Natural Biodegradable	1A0 Netless	3-12 mos	9.0	8.0	1.0	35.0	5.0	1.50	150		0.080		1.50
	0NX-bio	Avg of 6	11.4	12.6	1.1	22.6	14.51	1.8	380	Avg of 1	0.034	Avg of 1	2.02
		Min-Max	10.2	9.9	0.8 (3)	27.7	8.64	1.7	237	Max	0.034	Min	2.02
	1A1 Sgl Net	3-12 mos	7.0	4.0	2.0	35.0	5.0	1.50	150		0.080		1.50
	1NS-bio	Avg of 31	8.0	12.1	8.6	16.4	11.87	1.7	316	Avg of 10	0.047	Avg of 6	1.97
		Min/Max	6.09 (7)	8.7	5.3	29.0	4.84 (1)	1.2 (3)	138	Max	0.098 (1)	Min	1.52
	1NX-bio	Avg of 7	9.9	14.0	8.4	29.7	11.23	2.3	409	Avg of 1	0.045	Avg of 1	2.39
		Min-Max	8.8	8.6	5.1	37 (1)	7.33	1.7	212	Max	0.045	Min	2.39
	1A2 Dbl Net	3-12 mos	7.0	7.0	3.0	35.0	7.0	1.75	150		0.050		1.75
	2NS-bio	Avg of 50	8.6	19.2	14.2	14.2	19.63	2.1	304	Avg of 12	0.028	Avg of 9	2.39
		Min/Max	6.6 (3)	13.5	9.1	29.5	8.65	1.2 (6)	131 (1)	Max	0.064 (1)	Min	2.02
	2NX-bio	Avg of 20	13.1	22.4	14.5	20.7	17.66	2.9	392	Avg of 3	0.012	Avg of 6	3.17
		Min-Max	8.4	16.1	10.0	32.3	11.07	1.1 (1)	179	Max	0.026	Min	2.42
	1B2 Dbl Net	12-24 mos	7.0	9.0	5.0	35.0	8.0	2.00	150		0.030		2.00
	2NSC-bio	Avg of 44	8.9	20.0	14.3	13.1	22.97	2.5	351	Avg of 10	0.015	Avg of 6	2.53
		Min-Max	6.4 (1)	10.8	7.3	27.1	10.26	1.7 (4)	134	Max	0.030	Min	2.20
	1C2 Dbl Net	24-36 mos	7.0	11.0	7.0	35.0	10.0	2.25	150		0.020		2.25
	2NC-bio	Avg of 39	8.8	20.3	14.2	17.9	21.74	2.7	388	Avg of 5	0.007	Avg of 5	2.53

Physical Properties of RECPs	RECP Type	Functional Longevity	ASTM D6475 Mass per Unit Area (oz/yd^2)	ASTM D6818 Ultimate Tensile Strength MD (lbf/in)	ASTM D6818 Ultimate Tensile Strength XD (lbf/in)	ASTM D6567 Light Pene-tration (%)	ASTM D7101 Soil Loss Ratio[a] (Unitless)	ASTM D7207 Permis-sible Shear (lbf/ft^2)	ASTM D7322 Increased Biomass[b] (%)	ASTM D6459 C-Factor (Unitless)		ASTM D6460 Permissible Shear (lbf/ft^2)	
Class 2 - Synthetic Photodegradable	2A1 Sgl Net	3-12 mos	7.0	4.0	2.0	35.0	5.0	1.50	150	0.080		1.50	
	1NS	Avg of 62	7.3	8.3	4.3	16.9	11.47	1.8	295	Avg of 13	0.030	Avg of 6	1.89
		Min/Max	4.9 (29)	4.4	2.6	34.8	4.5 (1)	0.9 (6)	102 (5)	Max	0.069	Min	1.60
	1NX	Avg of 24	8.6	8.5	3.7	33.2	9.90	2.2	368	Avg of 3	0.034	Avg of 2	2.12
		Min-Max	5.8 (2)	5.1	1.8 (1)	52.7 (10)	3.43 (1)	1.6	136 (1)	Max	0.038	Min	2.05
	2A2 Dbl Net	3-12 mos	7.0	7.0	3.0	35.0	7.0	1.75	150	0.050		1.75	
	2NS	Avg of 60	7.4	12.8	7.4	15.3	13.40	2.0	314	Avg of 13	0.023	Avg of 9	2.33
		Min/Max	5.9 (21)	8.2	4.3	26.5	5.23 (2)	1.1 (11)	113 (5)	Max	0.038	Min	2.00
	2NX	Avg of 28	9.6	12.9	6.8	31.4	10.63	2.5	307	Avg of 3	0.016	Avg of 4	2.45
		Min-Max	5.8 (2)	8.2	3.3	45.5 (12)	5.45 (3)	1.2 (1)	158	Max	0.027	Min	2.30
	2B2 Dbl Net	12-24 mos	7.0	9.0	5.0	35.0	8.0	2.00	150	0.030		2.00	
	2NSC	Avg of 43	7.9	17.7	10.9	15.7	16.32	2.4	336	Avg of 8	0.026	Avg of 7	2.32
		Min/Max	4.8 (14)	13.2	7.5	29.7	7.89 (1)	2.0	156	Max	0.040 (2)	Min	2.10
	2NXX	Avg of 13	14.1	20.3	13.8	19.3	15.87	2.9	417	Avg of 1	0.028	Avg of 2	2.41
		Min-Max	12.0	10.1	3.5 (3)	28.7	7.29 (1)	1.2 (1)	182	Max	0.028	Min	2.20
	2C2 Dbl Net	24-36 mos	7.0	11.0	7.0	35.0	10.0	2.25	150	0.020		2.25	
	2NC	Avg of 47	8.5	26.9	15.1	18.0	26.19	2.8	344	Avg of 6	0.011	Avg of 9	2.45

Table 2 – Open Weave Textile (OWT) Requirements

Property	Test Method	Units	Class OWT	
			Type A	Type C
Typ. Functional Longevity[a]	n/a	Months	3-12	24-36
Index Tests				
Mass per Unit Area	ASTM D6475	Minimum, oz/sy (gm/m^2)	10 (339)	18 (610)
Light Penetration	ASTM D6567	Maximum, %	65	50
Tensile Strength (MD)[b]	ASTM D6818	Minimum, lbf/in (N/m)	65 (11383)	80 (14010)
Tensile Strength (CD)[b]	ASTM D6818	Minimum, lbf/in (N/m)	60 (10508)	70 (12259)
Bench-Scale Tests				
Soil Loss Ratio[c,d]	ASTM D7101	Minimum, Unitless	3.0	8.0
Permissible Shear Stress[c]	ASTM D7207	Minimum, psf (Pa)	1.0 (47.9)	2.0 (95.8)
Increased Biomass[e]	ASTM D7322	Minimum, %	100	100
Large-Scale Tests				
C-Factor	ASTM D6459	Minimum, Unitless	-	-
Permissible Shear stress[f]	ASTM D6460	Minimum, psf (Pa)	-	-

Table 2 – Notes

[a] For guidance only. Typical functional longevity is generally based on Section 713.17 and Table 713-3 of the *Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects* [Ref. FHWA FP-24]. Actual functional longevity may vary based on site and climate conditions.

[b] MD- Machine Direction; CD- Cross-Machine Direction.

[c] "Soil Loss Ratio" = Soil Loss Bare Soil / Soil Loss with RECP = 1 / Bench-Scale C-Factor, where soil loss is based on regression analysis.

[d] "Increased Biomass" = [Biomass of RECP-protected / Biomass of Unprotected] × 100.

[e] Permissible shear stress, unvegetated for less than a ½ inch of soil loss may be calculated from equation fitted to the data for ASTM D6460 test results as needed at the discretion of the engineer.

[f] *At present, there is insufficient data available to establish the required properties. These will be updated once sufficient data becomes available.*

Physical Properties of RECPs	RECP Type	Functional Longevity	ASTM D6475	ASTM D6818	ASTM D6818	ASTM D6567	ASTM D7101	ASTM D7207	ASTM D7322	ASTM D6459		ASTM D6460	
			Mass per Unit Area	Ultimate Tensile Strength MD	Ultimate Tensile Strength XD	Light Pene-tration	Soil Loss Ratio[a]	Permis-sible Shear	Increased Biomass[b]	C-Factor		Permissible Shear	
			(oz/yd^2)	(lbf/in)	(lbf/in)	(%)	(Unitless)	(lbf/ft^2)	(%)	(Unitless)		(lbf/ft^2)	
OWT	OWT-A	3-12 mos	10.0	80.0	60.0	50.0	3.0	1.00	150	n/a		n/a	
	OWT-C	24-36 mos	18.0	65.0	70.0	30.0	8.0	2.00	150	n/a		n/a	
	OWT Type C	Avg of 6	21.1	122.3	77.7	26.2	11.17	2.4	206	Avg of 4	0.090	Avg of 3	2.16
		Min-Max	17.7 (1)	69.0	62.7 (1)	31.4 (1)	9.51	1.7 (1)	187	Max	0.100	Min	0.85 (1)

UPDATE: Functional Longevity (TRI Environmental) - SC

- Functional longevity combines the results of durability and performance testing to establish *Performance vs. Time*.

  - Since TRMs are typically formulated for extended exposures with minimal degradation, durability testing to verify minimal degradation may be sufficient.

  - ECBs, relying on components that degrade at different rates and under differing mechanisms, should have both

    Test 1. Degradation vs. Time

    Test 2. Performance vs. Amount of material established through testing.

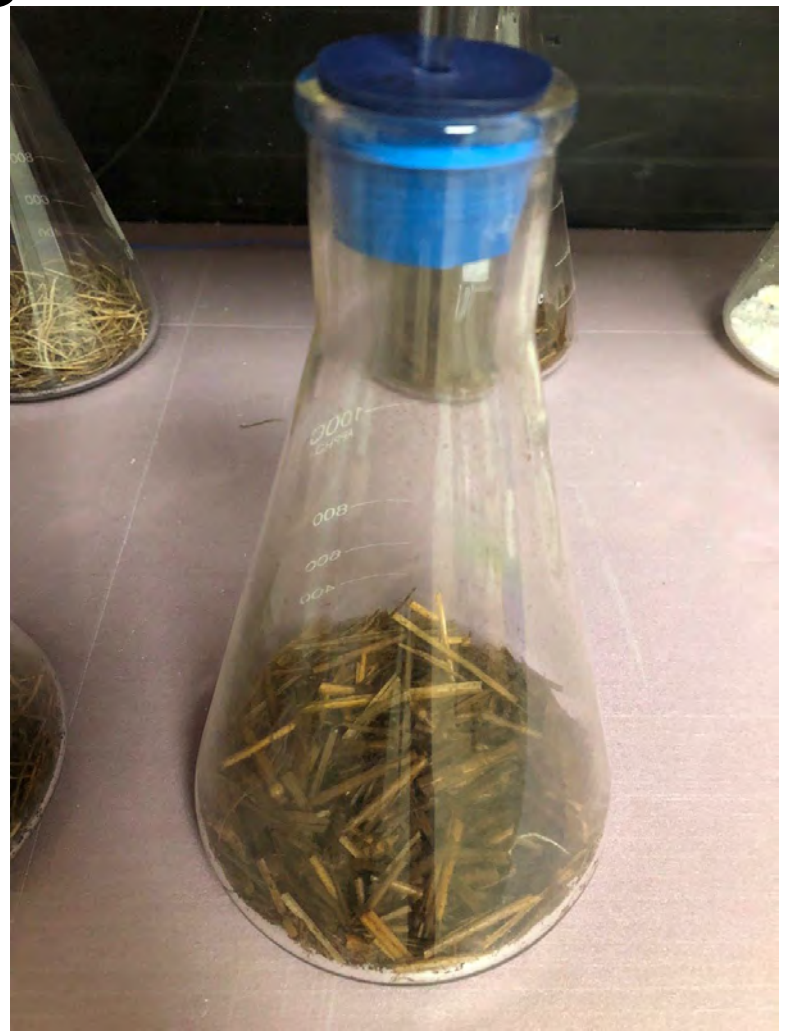
AASHTO PRODUCT EVALUATION & AUDIT SOLUTIONS

UPDATE: Biodegradation Testing

Straw (0 days)

Straw

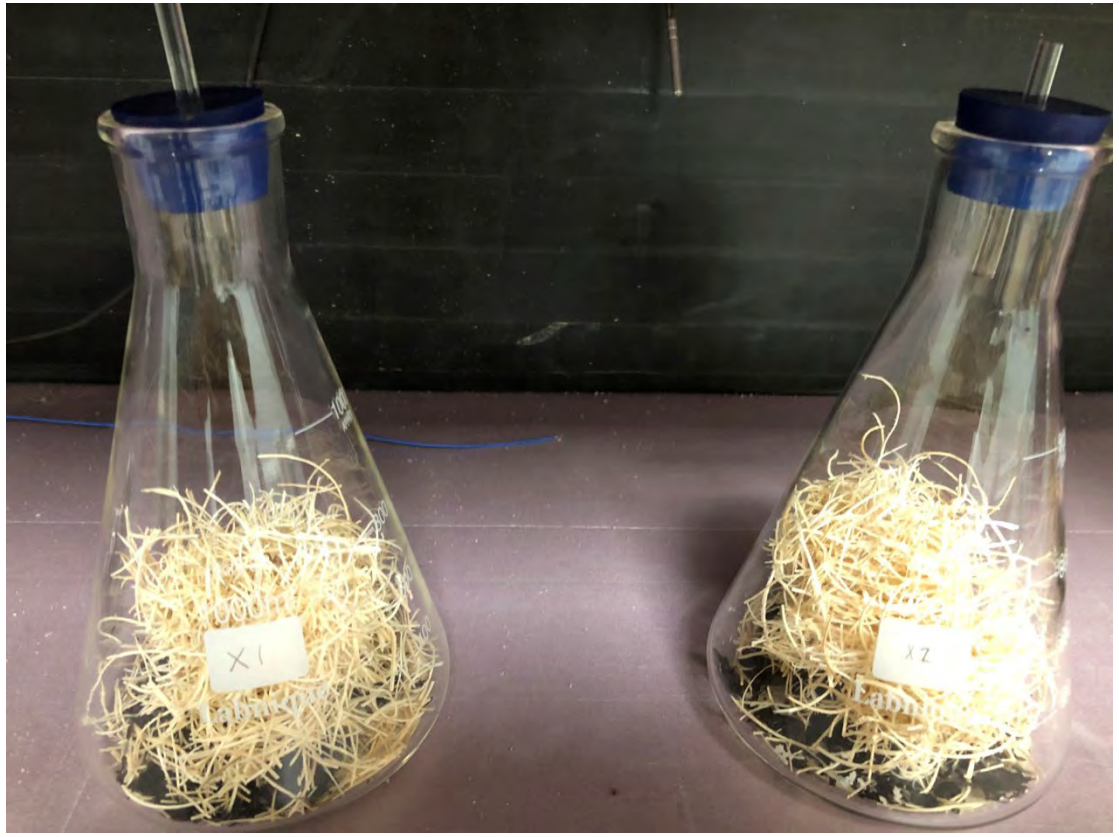
(320 days)



AASHTO PRODUCT EVALUATION & AUDIT SOLUTIONS

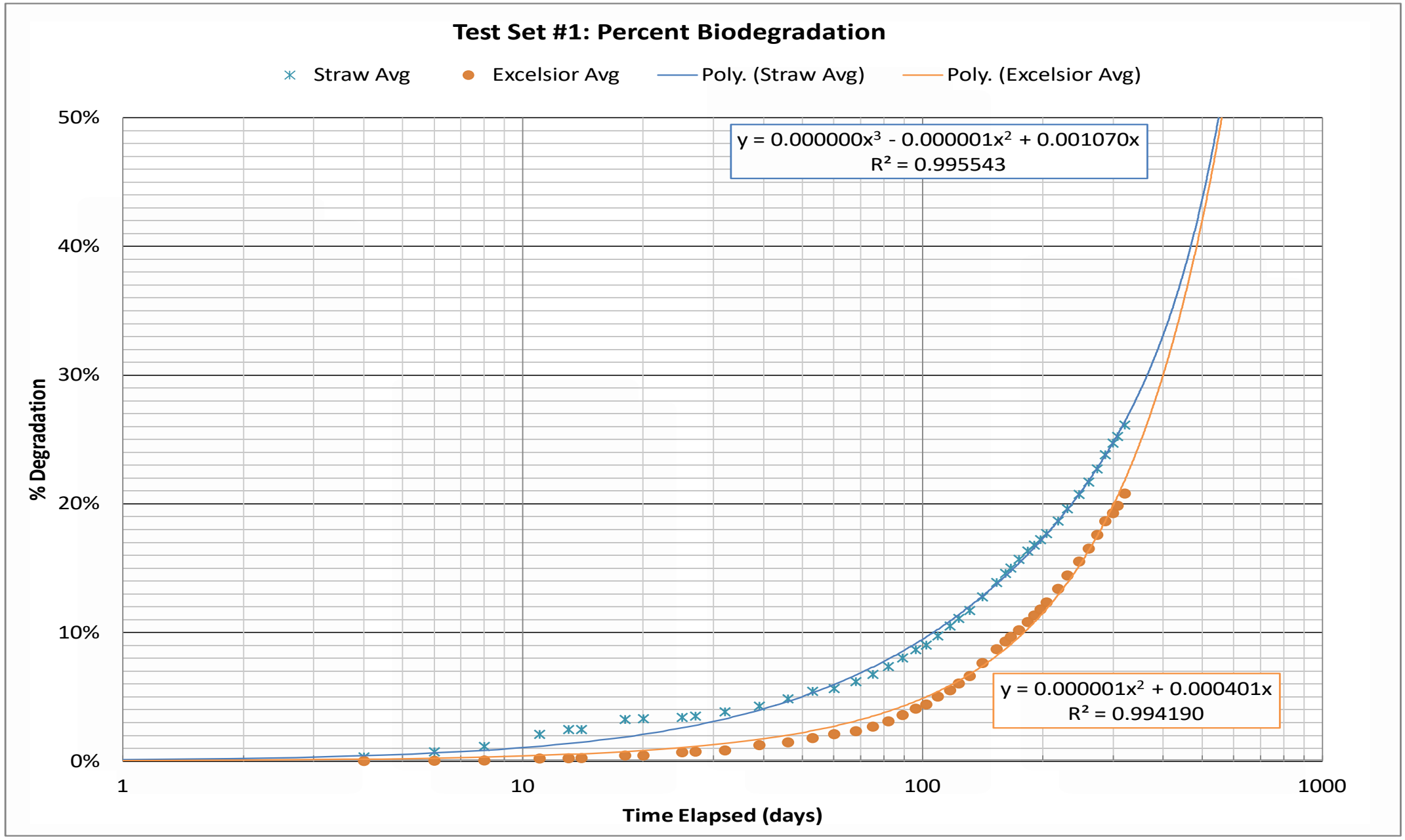
UPDATE: Biodegradation Testing

Excelsior (0 days)



Excelsior (320 days)

UPDATE: Biodegradation Testing



AASHTO PRODUCT EVALUATION & AUDIT SOLUTIONS

Questions/Discussion

Working Session #12

Erosion Control Products (ECP)

Attendance

June 12, 2025

First Name	Last Name	Employer
Chad	Lipscomb	Western Green
Michael	Dickey	WisDOT
William	Real	W L Real Consulting
Diane	Smith	Ectc
Sarah	Smith	FL DOT
Keith	Harris	Solmax
Randy	Massingill	Cherokee Manufacturing
Scott	Bickford	Mainedot
Steve	Esposito	New Jersey Turnpike Authority
Scott	Nussbaum	Utah Department of Transportation
Laura	Fernwood	Vermont aot
David	Young	Tennessee Department of Transportation
Martin	Dassi	TxDOT
Eghe	Igiehon	ACPA
Carla	Principe	WisDOT
Scott	Wutzke	NDDOT
Daniel	Huggins	Ladotd
Jay	Sprague	TRI Environmental
Todd	Bennett	MoDOT
Willie	Johnson	MoDOT
Steven	Ingram	ALDOT
Yong	Zeng	NJDOT
Lauren	Deem	Profile Products
Jacob	Bottoms	Ferguson Waterworks
Danny	Lane	Tennessee dot
Eric	Frempong	Maryland State Highway Administration
Hemantkumar	Shah	New Jersey Department of Transportation
Brandi	Mitchell	KYTC
Pravat	Karki	TxDOT
Earnest	Colvin	ALDOT
Cynthia	Pearson	Ardot
Guohua	Lian	Gdot
Brenda	Waters	PennDOT