

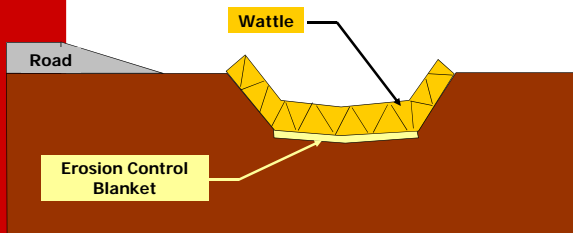
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Keys to Making PAM Work for You

- Match PAM to your soil or suspended sediment and water chemistry.
- Reduce sediment load prior to PAM treatment.
- Keep the PAM logs moist.
- Create high flow onto PAM.
- Create high mixing (turbulence) after PAM.
- Allow for settling post-treatment.

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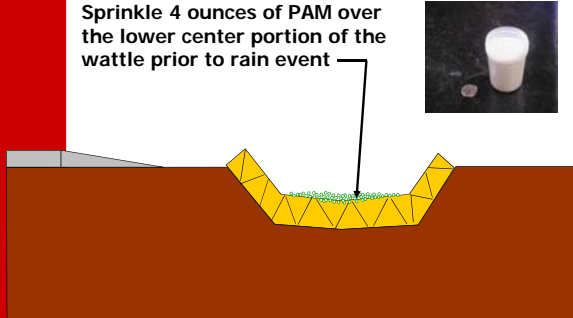
Wattle Installation Guide



The Basics: Simply fit the wattle across the ditch with some erosion control blanket beneath it.

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Sprinkle 4 ounces of PAM over the lower center portion of the wattle prior to rain event



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Typical Installation Materials



Metal sod staples and mallet



24" long wooden stakes



Erosion control blanket



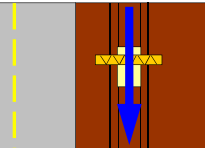
wattle



Close up of the mesh

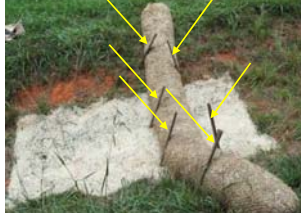
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Installation Guide



Place erosion control matting as splash pad


- ~ 1/3 upslope and under wattle with remaining 2/3 down slope
- Staple edges and interior at 1 ft spacing; staple interior of matting in offset rows




- Place wooden stakes to secure wattle to ground contour and to prevent from dislodging in large/intense rain events
- 4 wooden stakes on down slope side; angle upslope
- 2 wooden stakes on upslope side; angle down slope


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Installation Guide




Is there a gap at the upturned edge of the wattle?





Weave wire staples through mesh at an angle to the wattle-space every 1 ft.

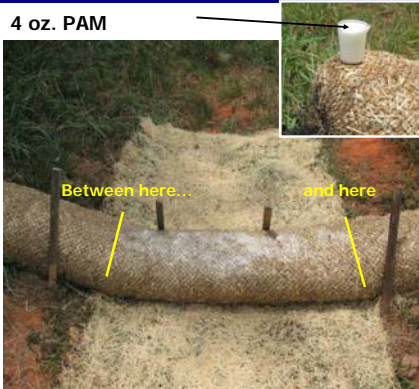


Fill gaps with excess fabric

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4 oz. PAM


Sprinkle 4 oz. of PAM on the lower front, back, and center portion of the wattle where water is flowing.



Between here... and here

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Case Study



Condition	Turbidity (NTUs)
DOT Standard	8,010
Exp. BMPs + PAM	62
Exp. BMPs only	376

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2009 History Note

EPA's Effluent Limitations

- 280 NTU limit for construction site water quality discharges
- WQ monitoring req'd for sites disturbing over 20 Ac; then 10 Ac
- EPA "stayed" the proposed rule in 2009 and withdrew in 2014


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Wattles with PAM



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Installation Guide



Temporary Rock Silt Check Type A
with Excelsior/Coir Matting and PAM

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Materials Needed


Coir Fiber Matting	Excelsior Matting
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4 oz. Polyacrylamide

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Wrap Installation



- Coir or Excelsior matting may be used
- Place matting on the sediment control stone
- Cut matting to the desired length

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Wrap Installation



- Anchor matting at top and bottom with rip rap

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PAM Application



- Sprinkle 4 oz. of PAM on the top, lower portion of matting section
- Re-apply after a 0.5" rain event, if needed.






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NTU Data

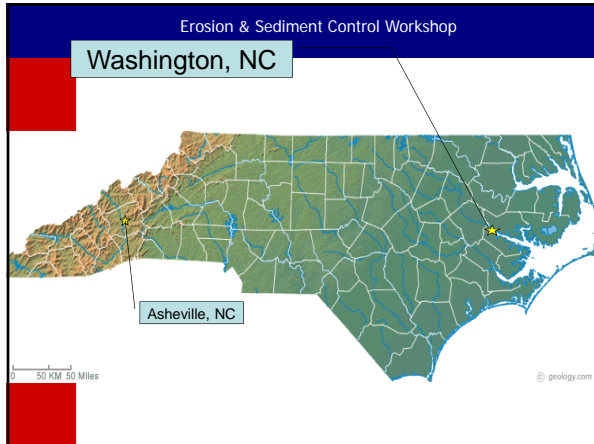
- Baffled basin with no wattle/PAM – 327 NTU
- Baffled basin with wattle/PAM – 58 NTU

Stream Data

- Upstream 8.2 NTU
- Downstream 6.4 NTU
- 1.5" rainfall from March 13-16

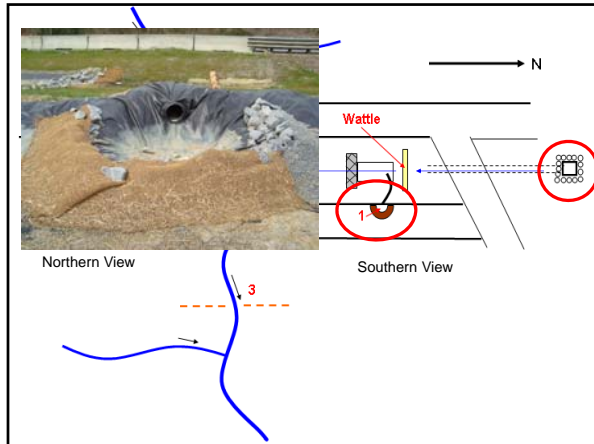


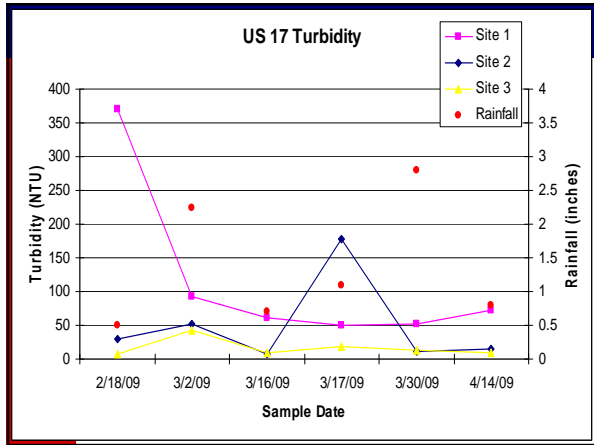
A photograph showing a stream with a wattle structure made of straw bales. The water is flowing through the structure.

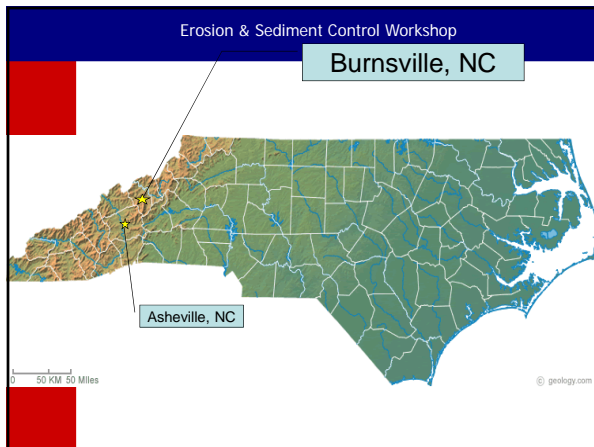












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US 19, Burnsville, NC

- 20 miles north of Asheville, NC
- Trout waters
 - 10 NTUs
- 4 oz. PAM Application



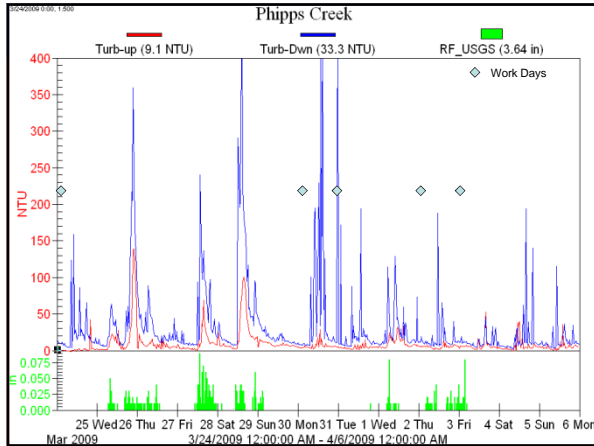
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Phipps Creek



© Fendicut Environmental, Inc.



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Cost Comparison

	Engineer Estimate	Contractor Bid Price
• Silt Check A	\$378	\$323
• Silt Check B	\$85	\$71
• Wattle with PAM	\$28	\$81

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Summary

- Studies indicate that FCD and PAM are superior to rock measures to reduce turbidity.
- Studies indicate that wrapped rock measures perform superior to rock alone to reduce turbidity

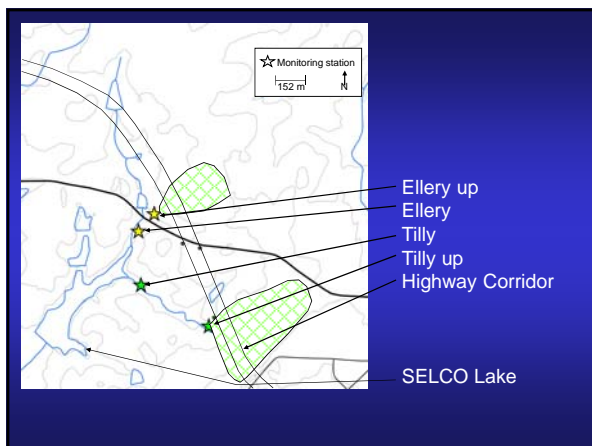
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Questions

- What are the important factors when selecting PAM for use on construction projects?
- What is the PAM application rate on FCD's and how often should it be applied?
- What are good materials for wrapped rock dams?

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- What are the important factors when selecting PAM for use on construction projects?
 - anionic or neutral; match soil to PAM; don't use at discharge point; good mixing
- What is the PAM application rate on FCD's and how often should it be applied?
 - 4 oz (2+1+1); after each 0.5 rain in 24hr period
- What are good materials for wrapped rock dams?
 - Coir fiber netting and excelsior matting

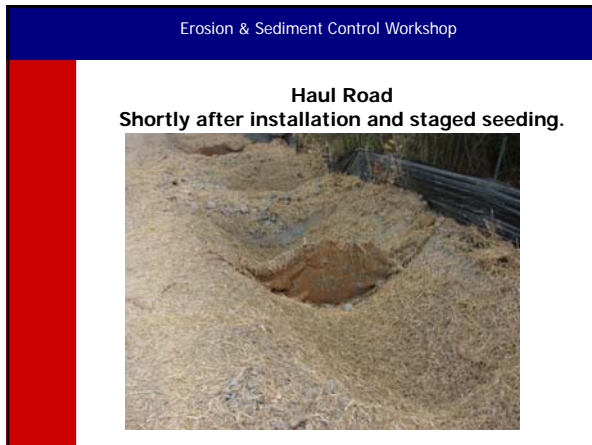


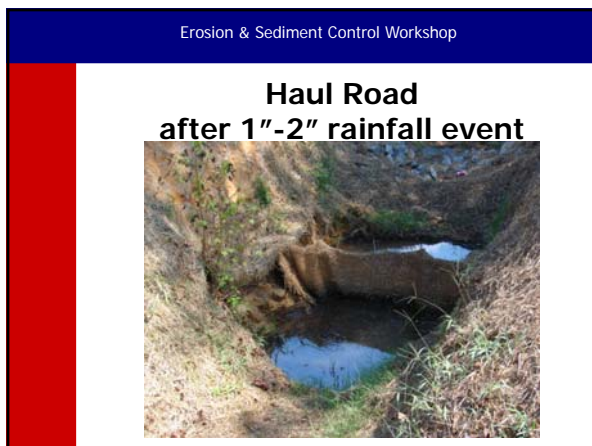
Ellery Monitoring Stations						
End	Dur. yr	Rain in	TSS mg/L	Turb ntu	TSS Ton/ac-yr	Highway T/ac-yr
Up						
8/20/04	0.5	17.4	36	29	0.04	0.0
11/14/07	3.3	111	2495	1583	4.72	18.0
3/9/08	0.3	8.8	209	126	0.59	2.0
Down						
8/20/04	0.5	17.4	172	140	0.20	0.0
11/14/07	3.2	111	563	466	1.20	7.1
3/9/08	0.3	8.8	67	70	0.11	0.3











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Soil Waste Site Outlet



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Baffles



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Questions

- How do baffles work when installed in pits/silt basins?
- What is the desired height?
- How should they be spaced in a basin?

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Summary

- Many BMP options available
- Match BMP to site conditions
- Analyze each system for cost and effectiveness
- Requires a skilled technician to manage systems

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Questions

