

I-22 (Corridor-X) Birmingham to Memphis

In Erosion Control

In late 2003, construction was underway for the new I-22 (Corridor-X) at Cherry Avenue in Birmingham, Alabama. Between the “grade, drainage and paving” and the “base and pave” contracts, measures to control erosion had to be taken. The side slopes and medians needed to be stabilized and vegetated. The typical solution to control erosion on the roadbed area would have been covering all 49 acres with a layer of #410 modified stone 3-4 inches deep. This would cost hundreds of thousands of dollars. Both the Alabama DOT and W.S. Newell, Inc. (General Contractor) had successfully used Applied Polymer Systems’ PAM (polyacrylamide) product to prevent erosion on other projects.

Disturbed road bed treated with APS 740 Silt Stop powder



Little or no visible erosion after 740 Silt Stop powder application

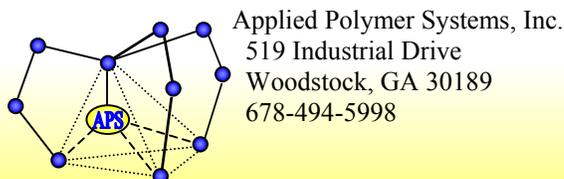
The Alabama DOT approved the use of PAM (polyacrylamide) as a measure for controlling erosion (Spec #672). In November 2003, Skip Ragsdale, owner of Sunshine Supplies, Inc., was contacted to see if there was a way to use only PAM for controlling erosion. Skip, a distributor for Applied Polymer Systems, Inc. products, recommended the use of APS 740 Silt Stop powder. The roadbed would require 500 pounds of APS 740 at a cost of \$3,500.00. In late November, W.S. Newell contracted with Parker Grassing Co. of Opelika, AL to apply PAM. Parker Grassing used a HydroSeeder to spray all 49 acres of the roadbed with a mixture of APS 740 Silt Stop powder and water to stabilize the exposed soil and prevent erosion. This spray application would have to last until the paving of the road began.

In May 2004, six months after the application of APS 740 Silt Stop powder to the roadbed, a company called APAC - Alabama was awarded the contract for paving. After only one application of APS 740 Silt Stop powder, the roadbed showed no significant signs of erosion and required no additional labor for repairs. In total, ALDOT and W.S. Newell experienced savings of approximately \$450,000.00 from using APS 740 Silt Stop powder.

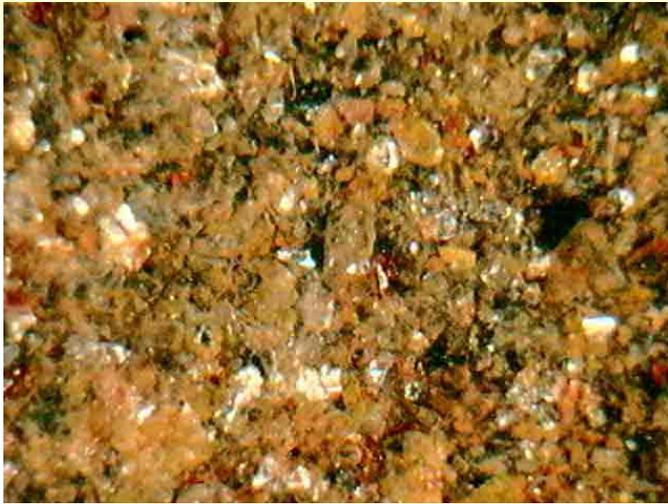


The new road bed lay erosion free for 6 month using APS 740 Silt Stop powder

For Technical Information or questions please contact:



How It Works



During rain events soil particles become dislodged when the clays within the soil begin to wash out. Once the clay is washed out, erosive water flow will erode the layer of soil particulate.

To the left is a microscopic view of soil without APS 740 added.



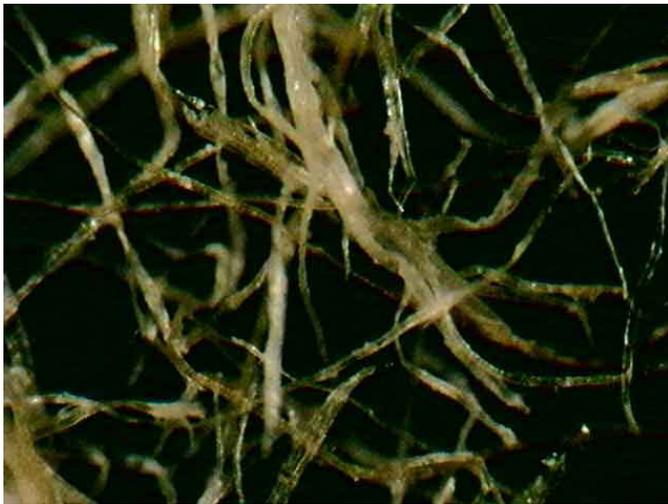
After the APS 740 is added to the soil, the clay particles become bound to the APS 740. The larger particles stay bound to the APS 740, which creates a matrix or web.

To the right is a microscopic view of the same soil after the APS 740 is added.



Wood fibers or straw is used to provide a surface area for the soil matrix or web to attach.

To the left is a microscopic view of fibers that the conjoined soil and APS 740 will stick to.



Once attached the soil matrix or web becomes bound onto the fibers of the wood or straw. This results in a very strong mass that will resist erosive forces.

To the right is a microscopic view of the same fibers after the APS 740 laden soil becomes affixed to it.

