



Wal-Mart Construction Project Lehigh County, PA



SITUATION

Wal-Mart chose a difficult north-facing site for a new store on the side of a steep forest/meadow area along SR 443 in Lehigh County, Pennsylvania. The engineering team was tasked with designing the Erosion & Sediment Control Plan that would meet the PA DEP Title 25, Chapter 102 Erosion & Sediment Control and NPDES Storm Water Discharge Rules and Regulations. The project involved cutting into a steep slope and moving 550,000 cubic yards of soil to create the new store pad, parking area, and access driveway.

SOLUTION

The cut and fill operation resulted in terraced 2:1 (H: V) slopes above the store pad and similar slopes below the site. The steepness of the slopes required the installation of erosion control blankets to stabilize the newly created cuts and fills and to enhance the rapid establishment of vegetation. The engineer chose a single-net accelerated degradable straw blanket for the project. One million square yards of East Coast Erosion Blankets ECS-1D Temporary Single Net Straw Rolled Erosion Control Product with a functional longevity of 45-90 days was installed on the slopes.

RESULT

The blankets were installed in the early to mid-spring and by mid-summer the slopes were fully vegetated and not experiencing any erosion problems. By mid-summer, the photodegradable polypropylene netting was extremely brittle and experiencing degradation, as designed.

PRODUCT PROFILES

- ECS-1D

PRODUCT FEATURES

Steep Slope
Photo Degradable





SITUATION

The USDA, Natural Resources Conservation Service (NRCS) Bloomsburg Technical Office was contacted to assess a 1,020 foot waterway on the Ray Levan crop and poultry farm located along SR 42 in Columbia County, PA that was experiencing severe channel erosion. The established waterway was not previously provided with a channel liner. Four cross-slope diversion terraces and an upslope non-porous drag-strip drained into the eroded waterway.

SOLUTION

The property owner agreed to redefine the eroded waterway into a 20-foot wide parabolic channel. The waterway was designed to safely convey a 10-year design storm from a 30-acre watershed with a flow of 110 cubic feet/second and velocities ranging from 6 to 11 feet/second.

The waterway was regraded to the designed dimensions and topsoil was placed in the channel, fertilized and seeded. The owner chose two types of East Coast Erosion Blankets Turf Reinforcement Mats (TRMs) for channel liners. ECSC-3 Triple Net Straw/Coconut Turf Reinforcement Mats (TRMs) were installed in the lower 450-foot reach of the waterway. ECP-2 Double Net Polypropylene TRMs were installed in the upper 570-foot reach of the waterway. Shorter lengths of the ECP-2 TRMs were installed at the outlets of the four diversion terraces to safely convey flows into the waterway. ECS-1D Temporary Single Net Straw erosion control blankets were installed on both side slopes parallel to the TRMs for the entire length of the waterway. A total of 2,800 square yards of rolled erosion products were installed on the project.

RESULT

Erosion problems were resolved and use of the TRM allowed the installation of a channel with reasonable dimensions without the need to go to a much more costly rock lined channel. The waterway vegetation was fully established at 30 days (bottom right photo).

PRODUCT PROFILES

- ECSC-3
- ECP-2
- ECS-1D

PRODUCT FEATURES

Permanent
Waterway Sustainability
Photodegradable
UV Stabilized
Turf Reinforcement

