



## Case Study

**application** Reinforced Soil Slope & Armored Revetment  
**location** East Lyme, CT  
**product** Mirafi® FW404 & FW700

**job owner** Town of East Lyme  
**engineer** CTE Engineers  
**contractor** Baier Construction

TenCate develops and produces materials that function to increase performance, reduce costs and deliver measurable results by working with our customers to provide advanced solutions.

### THE CHALLENGE

Connect two public beaches separated by armored slopes with an elevated pedestrian and bike path. The trail must also provide protection for a high speed rail line from the severe wave action of the Atlantic Ocean. Construction had to be accomplished without disrupting the rail line and minimal environmental impact due to the area's fish, clam, and lobster natural habitat.

### THE DESIGN

Several of the original design options such as poured in place concrete and large concrete block exceeded the town's budget.

CTE Engineers designed an economical alternative utilizing Mirafi® FW404 into a wrapped face wall which was then protected by Mirafi® FW700 and large armor stone. When completed, the final lift would be topped with 8" of aggregate and then 2" of stabilized stone dust to provide a smooth wearing surface. The face of the structure was then protected from wave attack by a layer of Mirafi® FW700 and approximately 6' of large heavy rip rap.

### THE CONSTRUCTION

The contractor was limited in access to the site due to the rail line as well as the tide schedule and occasional storm activity. Using on-site material, the contractor was able to place the first layers of Mirafi® FW404, compact, place Mirafi® FW700 and place rip rap. They continued the sequence until they were out of the water. This sequence continued for the duration of the project.



Viewing area for Long Island Sound.



Placing armor stone to protect the Mirafi® FW404 MSE wall.

**THE PERFORMANCE**

The innovative design, which allowed for utilizing onsite material, saved a considerable amount of time and brought the project in under budget. Not long after the completion of the project the path withstood a major hurricane. The integrity of the design and construction was not compromised, only a small area of armor stone was dislodged and was easily replaced.

Both the engineer and the town are extremely happy with the outcome of project. The innovative design saved time, was under budget and withstood the forces of nature.



Above: Completed project.

Below: Placing armor stone.



Below: Offshore view during construction.



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