



Case Study

application | Subgrade Stabilization
location | Chapel Hill, NC
product | Mirafi® HP370

job owner | Orange Water and Sewer Authority (OWASA)
contractor | Mellott 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

OWASA contracted Mellott Construction to rehabilitate a section of their sewer line. Upon starting the project, Mellott, along with the inspector onsite, realized the soils in the adjacent easement would not be able to support the construction loads. The slip lining operation used to rehab the sewer line required a heavy duty water truck loaded with boiling water to have access through the easement. The wheel loads of the truck approached 60,000lbs.



The Mirafi® HP370 permanently stabilized easement supports the heavy water trucks and operational equipment.

THE DESIGN

It was determined that the White Store soil type (clay loam) had a very weak CBR and perched water table made it difficult for even light weight vehicles passage. Due to these

parameters, it was determined that a high strength geosynthetic would be a better solution than the geogrid also discussed. The MIRASPEC design software determined that

the Mirafi® HP370 with .305m (1ft) of Chapel Hill ground fill could be used in lieu of undercutting in excess of .46m (1.5ft) and replacing with good fill.



Mirafi® HP370 is installed after the road is graded.



By using a geotextile, costs were minimized by using the existing ground fill.

THE CONSTRUCTION

The local Mirafi® distributor was quickly able to deliver the required materials to the site and the contractor installed the high strength fabric and placed the readily available fill to keep the project on schedule. In addition, it eliminated the cost and logistics of removing, trucking and disposing of the poor soils.

THE PERFORMANCE

Upon completion, the section allowed easy access for the water trucks throughout the entire slip lining construction process. In addition, OWASA was left with a permanently stabilized easement allowing better access for their maintenance crews long-term.



Construction loads will now be properly supported with a geotextile-reinforced road.



This project required a high strength geotextile due to the weak soils and perched water table.

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