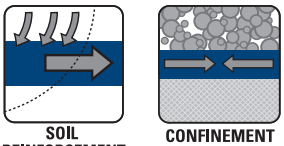
TENCATE Mirafi®



Case Study

application	Base Reinforcement	job owner	Wisconsin DOT
location	Hwy 67 & 28- Theresa Station, WI	engineer	Gremmer & Associates
product	Mirafi® BXG11 Geogrid	contractor	Mann Brothers

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

The reconstruction of State Highway Trunk 28 presented considerable problems prior to construction. Forty percent of the existing road was constructed over marshland in a protected wildlife preserve. After reviewing soil borings taken at the site, it was determined that an existing corduroy road was buried 6 to 8 feet below the failing road. The Wisconsin Department of Transportation recommended the wooden log road not be disturbed. Thus, traditional methods of construction could not be used to improve the poor subgrade. The project engineer decided the use of Mirafi® BXG11 was required to reinforce the soft subgrade and provide a solid platform on which to construct the new road.

THE DESIGN

The road was designed with Mirafi® BXG11 geogrid and a 34.25 inch pavement section. The final grade was raised one foot to allow for construction over the existing subgrade. The Mirafi® BXG11 was placed on top of the existing subgrade. Sixteen inches of breaker rock was placed and compacted over the Mirafi® BXG11 followed by 12in of crushed aggregate. The road was finished with 6.25in of asphalt.

THE CONSTRUCTION

The existing pavement was removed and prepared free of obstructions and debris to eliminate damage during installation. The Mirafi® BXG11 was rolled out in three sections. The edges were overlapped to allow for full coverage of the roadway and full closure of the joints. The larger breaker material was then

37,000 SY of Mirafi® BXG11 was required to reinforce the soft subgrade.

The completed highway. The project engineer saved $100,000 by using Mirafi® BXG11 on this roadway design.

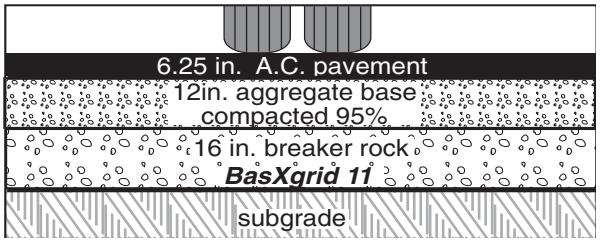
followed by a foot of crushed aggregate compacted to 95%. The last 6.25in of A.C. pavement capped off the newly constructed geosynthetic reinforced base course.

THE PERFORMANCE

Initially, Mirafi® BXG11 geogrid was only to be used under the marsh section of the roadway. After looking at the roadway design, the project engineer saw a potential savings of over $100,000 by utilizing Mirafi® BXG11 on the entire section of roadway. The DOT approved the recommendation, and over 37,000 SY of Mirafi® BXG11 was utilized on the approximately one mile of reconstruction. Not only did the use of Mirafi® BXG11 save money, but also saved considerable time during construction compared to traditional construction methods. The project engineer was extremely pleased with the performance of Mirafi® BXG11 and will use the geogrid again for soft subgrade conditions.

Sixteen inches of breaker rock was placed and compacted over the Mirafi® BXG11 followed by 12in of crushed aggregate.

The Mirafi® BXG11 geogrid was rolled out in three sections.



Cross section of base reinforcement

03.10

365 South Holland Drive
Pendergrass, GA 30567
Tel 800 685 9990
Tel 706 693 2226
Fax 706 693 4400
www.mirafi.com

ISO 9001
FM 61026

materials that make a difference