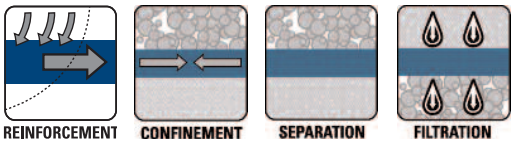
TENCATE Mirafi®



Case Study

application	Subgrade Stabilization & Reinforcement	job owner	M.A. Patout & Son Ltd.
location	Patoutville, LA	engineer	Duck Construction
product	Mirafi® RS580*i*	contractor	Duck Construction
		date of installation	March 2013

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

M.A. Patout & Son, Ltd., also known as "Enterprise Factory", is located in Patoutville, Louisiana, approximately six miles southwest of Jeanerette, Louisiana. M.A. Patout & Son, Ltd. is the oldest sugar company in the United States still owned and operated by the original family – Patout. It was founded in 1825.

The Enterprise Factory facility has the capacity to process 22,000 tons of sugar cane each day and 2,100,000 tons of sugar cane for the season. During the Fall harvest, the facility runs 24 hours a day for 90 days. Approximately 800 to 900 sugar cane transport trucks per day enter the facility along a two lane haul road.

The existing roadway consists of multiple layers of concrete totalling 20 inches. The concrete road has settled and cracked over the years, requiring layer over layer of concrete patching. The roadway finally failed and the owners decided to completely repair the worst section of the roadway. They turned to Duck Construction to assist with an economical long lasting solution for their roadway. Ultimately, Duck Construction and M.A. Patout & Son, Ltd. decided to utilize the high performance TenCate Mirafi® RS580i* woven geosynthetic to stabilize the subgrade in conjunction with base course aggregate. A test section of this combination was installed in March of 2013.

THE DESIGN

A suitable roadway in and out of the Enterprise Factory was vital for the efficiency of the facility. The fully loaded trucks entering the facility weigh approximately 100,000 lbs and 50,000 lbs when they are empty. These are extremely high loads for a roadway to endure. The existing concrete roadway is about 24 inches thick. The removal of this section required an equivalent replacement thickness to maintain the same elevations. Duck Construction determined from experience that utilizing a concrete pavement section underlain with an aggregate base course and a geosynthetic would adequately provide a viable solution.

After working with TenCate engineers for assistance on the design, Duck Construction and M.A. Patout & Son, Ltd. decided to construct a test section with the high performance Mirafi® RS580i and 12 inches of compacted No. 57 stone aggregate overlain with 12 inches of reinforced concrete.

Compaction of the subgrade prior to the placement of Mirafi® RS580i geosynthetics.

THE CONSTRUCTION

Late spring is the slow time of the year at the Enterprise Factory, therefore there is minimal traffic on the entrance road. This allowed Duck Construction to come in and make repairs without much disruption to the Factory's daily operations. Initially, the contractor removed the existing pavements in the 300 feet long test section area. The test section was approximately 12 feet wide. The subgrade was compacted to 95 percent maximum dry density. TenCate Mirafi® RS580i was placed on the compacted subgrade and the edges of the product were placed up the side walls of the excavation. Approximately 12 inches of the No. 57 was placed and compacted directly on top of the geosynthetic. The contractor then placed 12 inches of reinforced concrete on top of the No. 57 stone.

THE PERFORMANCE

The owner and contractor were extremely satisfied with the construction of the roadway utilizing Mirafi® RS580i for reinforcing the pavement section. The evaluation process will take some time to determine the long term, high volume traffic conditions impacting the roadway's performance. The pavement showed no signs of distress at the end of the 2013 Fall harvest.

Installation of Mirafi® RS580i completed.

The finished concrete driveway test section reinforced with Mirafi® RS580i.

*Patent Pending

1113

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