



Case Study

application Subgrade Stabilization
location Statesville, NC
product Mirafi® RS580i (2,000 sy)

job owner Manheim Auto Auction
engineer Mike Foess
contractor Country Boy Landscaping
date of installation October 2010

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

Manheim Auto Auction had an existing paved area that was deteriorated and needed to be replaced. The area was in a high traffic zone of the facility where all trucks were channeled to cross over.

THE DESIGN

The engineer, when reviewing the subgrade

conditions, realized that additional excavation would need to be done or a stabilization geosynthetic would need to be used. Not knowing the exact structural number needed or CBR of the subgrade, these values were estimated and placed in TenCate's MiraSpec Design Solutions pavement design software. The thickness of the unreinforced pavement section as calculated using AASHTO 1993 flexible pavement design calculations, was 20", or 12" more than the base course thickness required with a firm subgrade (8"). This is approximately what the engineer determined would be needed based on his previous experience in the area.

The MiraSpec software calculations using Mirafi® RS580i* showed a design thickness of 10" would be acceptable, thus saving 10" of undercut and additional aggregate.



Existing subgrade conditions with a soaked CBR less than 2%.



Base material being placed and spread on Mirafi® RS580i.

THE CONSTRUCTION

The installation of Mirafi® RS580i went well. The reduction of undercut and importing of aggregate helped to speed up construction of the flexible pavement system.

THE PERFORMANCE

In saving 10" of undercut and the additional required aggregate, Mirafi® RS580i reduced the cost of stabilizing the soft subgrade in half compared to the unreinforced requirements.



Mirafi® RS580i is cut to reinforce along the existing inlet structure.



Prepared base course installed over Mirafi® RS580i prior to asphalt placement.

*Patent pending



Completed asphalt conditions in February, 2011.

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