



Case Study

application Subgrade Stabilization
location Ontario, CA (Substation – Meer #4)
product Mirafi® RS580i

job owner Southern California Edison
engineer Southern California Edison
contractor Laird Construction
installed March, 2011

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

At the Southern California Edison Substation in Ontario California, the site soil conditions were very poor and stability became an issue. Since large utility vehicles drive over these areas frequently, they had to address the subgrade stability issue. Laird Construction had used TenCate Mirafi® RS580i* woven geosynthetic on another project earlier in the year where the soil conditions were similar. Thus, they decided to submit Mirafi® RS580i to the Southern California Edison Engineering Department for approval to use to stabilize the soft soils.

THE DESIGN

Mirafi® RS580i high strength woven geosynthetic was accepted by the Engineer's at Southern California Edison as the solution to the poor soil conditions.

The double weave technology provides high biaxial tensile strength along with excellent characteristics of separation, filtration and lateral confinement. These four design properties are necessary in developing subgrade stabilization.

THE INSTALLATION

One layer of Mirafi® RS580i was placed directly on the poor subgrade with a 1 foot overlap in the middle. 8" to 10" of base aggregate material was then placed on top of the geosynthetic. The base aggregate was spread evenly across Mirafi® RS580i with the use of bulldozers. Compaction of the material resulted in stable soil conditions and was ready for road and parking lot construction using asphalt material.



Dozers begin to place the aggregate material on top of Mirafi® RS580i.



Aggregate is placed on Mirafi® RS580i and is ready to be spread evenly in preparation for compaction.

THE PERFORMANCE

The use of the new Mirafi® RS580i woven geosynthetic provided strength to the poor subgrade conditions allowing support for heavy loaded utility vehicles.

TenCate Mirafi® RS580i provides:

- Superior tensile strength for subgrade support
- Separation of the pumping soils from the aggregate base
- Filtration of the water from the pumping soils
- Lateral confinement of the stone section

The result is a completed roadway that provides stability for the heavy utility vehicles that Southern California Edison uses on a daily basis.

***Patent Pending**



Mirafi® RS580i is rolled out across the poor subgrade before the base aggregate is added.

TenCate™ Geosynthetics North America assumes no liability for the accuracy or completeness of this information or for the ultimate use by the purchaser. TenCate™ Geosynthetics North America disclaims any and all express, implied, or statutory standards, warranties or guarantees, including without limitation any implied warranty as to merchantability or fitness for a particular purpose or arising from a course of dealing or usage of trade as to any equipment, materials, or information furnished herewith. This document should not be construed as engineering advice.

Mirafi® is a registered trademark of Nicolon Corporation.

© 2010 TenCate Geosynthetics North America