

Case Study

application | Base Reinforcement
location | State of Maine
product | Mirafi® RS580i (30,000sy)

engineer
contractor
date of installation

Gartley & Dorsky
Pike Industries
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

Approximately 6 acres of parking lots for a commercial office complex in Maine needed to be rebuilt. The existing parking areas to be rebuilt were in poor condition due to a high moisture content in the subgrade soils and years of frost heaving from extensive freeze thaw conditions during the severe Maine winters.

The additional challenge was to minimize the amount of over excavation of the base course which would reduce overall construction time without sacrificing structural stability and also finish construction before the harsh winter weather set in.

THE DESIGN

After borings were completed, it was determined that a high strength structure would need to be added to help support the wheel loads. The design called for the existing asphalt surface to be removed and recycled as well as 6" to 8" of the compromised structural base course to be removed. TenCate Mirafi® RS580i* woven geotextile was to be placed on top of the remaining base course to add a higher tensile modulus and provide confinement of the base course layer. Mirafi® RS580i would also reduce pore water pressure in the base course by providing superior water flow both vertically and laterally through the fabric.



Recycling asphalt wearing surface.



Preparation of subgrade for Mirafi® RS580i placement.

THE CONSTRUCTION

Mirafi® RS580i construction began in October 2010 and finished in November 2010. Mirafi® RS580i was installed with a minimum 24" overlap between adjacent rolls and a minimum 40" overlap at roll ends. Because of its high tensile modulus in the cross machine direction, Mirafi® RS580i was rolled out parallel to the travel lanes. The finished base was then proof rolled and paved.

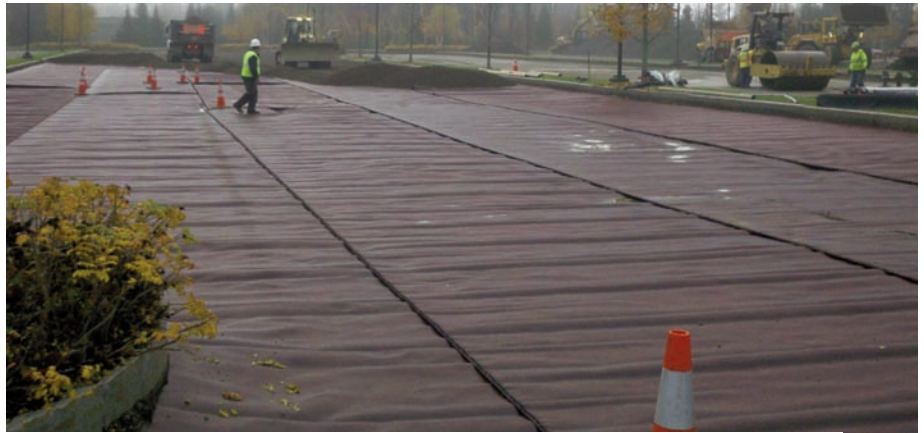
THE PERFORMANCE

Mirafi® RS580i has performed very well by reinforcing and stabilizing the base course, especially during several heavy rain events prior to paving. Mirafi® RS580i has provided high reinforcement strength, filtration, separation and base course confinement which has provided better load distribution in the parking areas. These benefits will lead to an extended service life for the parking area pavement.

The owner's Construction Manager and the General Contractor were very satisfied with Mirafi® RS580i. The innovative, double layer geotextile has performed as expected. The project was completed in budget and within the construction time schedule.



Base material being end dumped and spread on Mirafi® RS580i.



Installation of Mirafi® RS580i on soft soils in the parking area.



Installation of Mirafi® RS580i on soft soils in the parking area.

*Patent pending

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