



Case Study

application | Drainage and Separation
location | Northern Illinois
product | Mirafi® HP570

job owner | Amcol
engineer | Construction Design Group
contractor | K & L

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

An office building is located in a “natural” office park located in northern Illinois. The parking lot for the office building supports delivery truck traffic. Drainage from the lot had to be treated in bio-swales. Soft soils presented part of the problem. The lot was planned on a slope, where each sub-area had approximately one foot of fall from the adjacent areas.

THE DESIGN

A strong, woven geotextile was required that would allow for both drainage and filtration. The parking lot base was compacted open graded stone.

Mirafi® HP570 was placed with 6” drainage tiles and backfilled with an open-graded

crushed stone. The tiles were terminated into the bio swale to intercept water before dropping to the lower “terrace”.

THE CONSTRUCTION

The parking lot was installed in early Spring in 2008. Landscaping is on-going (finished project photos taken 11/10/2008). A base course layer of 3/4”-1” open graded stone was placed over

Mirafi® HP570. Mirafi® HP570 was overlapped 18” to maintain separation beneath the stone during construction.



Drainage pipes laid during aggregate placement.



Mirafi® HP570 being rolled out with an 18” overlap.

THE PERFORMANCE

The parking lot has been completed and put into use. Traffic loading has included commuter vehicles, as well as construction traffic working on the commercial buildings on site. Long term, the lot will be open to commuter traffic and delivery vehicles. Drainage has been achieved, as well as maintaining LEED requirements for the parking lot.

The engineer selected Mirafi® HP570 for several reasons. Using a high strength geotextile was necessary to reduce differential settlement in areas where pockets of soft soils were encountered and to carry the heavier construction loads. The drainage characteristics of Mirafi® HP570 allowed for the free movement of water from the base course out to the drainage swales. Finally, the separation provided by the geotextile will allow the open graded aggregate to remain free of contamination of the softer sub-soils and continue to drain, as designed.

Though the parking lot has only recently been put into use, all indications are that it should function as designed for many years to come.



Open graded stone being placed over the drain tiles.



Landscaping being installed in, and along the drainage swales.

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 TenCate™ Geosynthetics North America.