Challenge

The choice of geosynthetic had to be a liner material which could withstand the extreme cold winter months as well as exhibit the high performance of the material when subjected to warm summer temperatures. Site of the challenge was an area to construct a range of stormwater ponds with the North American leader in geosynthetic solutions to meet the challenges of the project. The GCL was the solution to be deployed by the general contractor with ease.

Solution

The engineer, Stantec, and two contractors (at two separate locations along the road widening project), Metric & Graham Brothers, selected a Geosynthetic Clay Liner (Bentofix) made locally in Barrie, Ontario to meet the challenges of the project. Soil conditions during construction showed no signs of suitable clay. A GCL requires no deployment experience nor does it require any type of welding equipment as required by plastic membranes.

Special Note

The cover soil used over the GCL was the same soil removed during the hole cavity construction of the pond.
Bentofix SWM Pond Liner

- GCLs require no deployment experience.
- Deployment rates range from 2,000 sqm per day to 10,000 sqm per day depending on the size and shape of a pond.
- Construction of compacted clay liners (CCLs) tend to be an energy intensive procedure involving heavy equipment creating extensive fuel combustion air emissions.

Bentofix Lined SWM Pond December 2010, a duck’s paradise.

Bentofix deployment proceeding with ease.

One foot cover soil being placed over the GCL.

Nailed batten bar strips GCL-Concrete connection.

455 Homer Avenue
Toronto, Ontario · M8W 4W9
Telephone (416) 674-0363
Fax (416) 674-1159

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