

Case Study

Line 2E Terra Nova Case Study: Terra Nova, ON

Issues

- Extreme slopes
- Highly erodible sandy soil with a small amount of clay
- Rapid vegetation establishment due to steepness



Steep slope embankment composed of sandy with no organic matter, September 2010.

Problem

With extreme cut inclines (1:1 and steeper), the Line 2E Road project, near Terra Nova, in Southern Ontario, was quite challenging. They needed to widen the road without a large amount of excavation. Slopes up to seventy feet in height required soil removal to be stabilized and vegetated promptly.



Top: Biotic Soil Amendment installation.

Left: Biotic Soil Amendment installed on-site.



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Solution

The placement of erosion control blankets was not an option on this very steep cut. Having installers walk on the slopes would only create more damage to the fragile soil.

Dol Hydroseeding proposed a two-step approach. The first step was to apply Biotic Earth to add the organic amendment directly to the soil. Verdyol Biotic Earth contains organic materials, mycorrhizae, growth stimulants and micronutrients to help vegetation establish in highly porous soil. Along with the BSA, standard seed specification was mixed along with a 15-18-15 fertilizer. As a second step, a Bonded Fiber Matrix (BFM) was applied over the top at a rate of 4,483Kgs/Ha (4,000lbs per acre).

Because of the extreme slopes and high potential for erosion, the contractor added a second layer of BFM to the hill for added protection from erosion.

This two-step approach was necessary given the same sandy material and the steep slopes. Erosion Control Blankets were not feasible in this situation because of the steep conditions and loose material.

Results

Within four weeks, the vegetation was dense enough to take over the job of erosion protection. If you notice, the rock-lined channel is not full of sediment at the toe of the slope.

The project was seeded in late September/October 2010 and did not have much time to fully mature; nevertheless, initial results were impressive. Much of the area is entirely vegetated, and on near vertical areas, the Biotic Earth/BFM combination has held up very well.



Successful vegetation achieved in four weeks. October 2010.

