

Case Study

Indiana Veterans' Home Slope Repair, Lafayette, IN

Issues

- Steep Slope
- Previous failed revegetation attempts
- Placing topsoil a safety concern.
- Native seed mix
- No fertilizer used



Problem

In the spring of 2011, officials at the Indiana Veterans Home in Lafayette, IN decided to repair a severe slope failure that had occurred on the property. The failure left them with a severe 1.8: 1 slope to repair.

Revegetating with native plants can be highly effective when two key components are recognized: their need for lower nitrogen in the soils to inhibit unwanted weed growth and their need for increased soil microbial activity.

Solution

The engineering firm of Lawson Fischer contacted D2 Land and Water Resources for suggestions on how to vegetate and stabilize the site. The slopes were so severe that there were safety concerns with placing and keeping topsoil on the slope. In the place of using topsoil on the project, D2 Land and Water recommended utilizing Biotic Earth Black, a Biotic Soil Amendment (BSA), applied at a rate of 4,000 lbs. per acre, as well as Earthbound Scientific at a rate of 175 lbs.



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In June of 2011 Biotic Earth Black was applied over the existing subsoil. A native seed mix was mixed and applied at the same time as the Biotic Earth, thus allowing for a one step process. The contractor then covered the material with a permanent turf reinforcement mat (TRM) with a coconut fiber component- useful in regulating temperature and moisture for the seed. The TRM provided immediate protection from the erosive forces that could affect the slope, and the Biotic Earth Black provided the organic material, beneficial bacteria, and soil mycorrhizae the plants needed to thrive on the site. The TRM was anchored to the slope using 3' lengths of rebar.

Results

By the fall of 2011, the native plants, which normally can take up to three years to fully establish, had begun to fill in and stabilize the slope. Germination rates of the various plants were observed to be higher than what was normally expected using that native seed mix. Since the fall of 2012, the site is fully covered in dense vegetation, which combined with the TRM, protects the slope from the threat of erosion and slope failure.

This project also shows that in areas where topsoil is not practical a soil amending approach utilizing a Biotic Soil Amendment such as Biotic Earth is a successful solution.



Latest picture of site from 2015.



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