



## North Valley Landfill Erosion Control and Site Stabilization



***A combination of three solutions will help Logan City avoid a repeat of unplanned offsite stormwater release.***

### LOCATION:

*Logan City, Utah*

### PRODUCTS:

*NAG C350 Turf Reinforcement Mats (TRMs)*

*EnviroGrid EGA30 geocell (aka geoweb)*

*Nilex MulchMax FiberMatrix HP Hydromulch*

### PROJECT PARTNERS:

*Owner and Consultant*

*Logan City*

*Contractor*

*Storm Water Solutions (Subcontractor)*

*Whitaker Construction*

*Completion Date:*

*November 2017*

Logan City, Utah, opened a new lined landfill that suffered damage from extreme rainfalls in the spring of 2017. Nilex was asked to work with the City's engineering team to present design options that would prevent this event from reoccurring and provide improvements to the site's overall stormwater management.

### Challenge

Landfills are a vital part of municipal operations that require careful planning and ongoing monitoring. Logan City's landfill is adjacent to farmland that was impacted by an overflow of soils during intense spring rainfall. This overflow event drew public attention. The public scrutiny intensified the need for site repair and stormwater infrastructure planning that could resist large storm events in the future.

### Solution

City organizers initially requested designs for two types of solution: Mat-based and EnviroGrid-based. After consideration of all site factors, and a desire to enhance soil stability through revegetation, a combination of three products was chosen: High Performance MulchMax hydromulch, sprayed on slopes, TRMs, and EnviroGrid geocell. This combination allowed the City to immediately stabilize the soil on the banks around the stormwater storage area and channels. The strength and flexibility of EnviroGrid also meant that this stabilization could be achieved using native fill, a considerable cost savings. The TRMs can withstand heavy stormwater flows and are proven to work well with MulchMax.

# North Valley Landfill Erosion Control and Site Stabilization



## Installation

The North Valley site is extensive, and with three solutions to implement, it took three weeks for the crew of five to complete installation. The first step was hydromulch, applied at a rate of 4,000 lbs/acre (approximately 4,483 kg/ha), over five acres (2 ha). Next, TRMs were laid and anchored with pins, covering 6,000 yd<sup>2</sup> (approximately 5,000 m<sup>2</sup>). The crew discovered that stronger anchors would better suit the hard soils and the heavy native fill planned for the EnviroGrid geocell, so they used bent rebar in place of stakes. Once complete, 20,000 ft<sup>2</sup> (1,858 m<sup>2</sup>) of EnviroGrid was installed. Only a skidsteer and hydroseeder were required, also keeping project costs down, compared to jobs with extensive fill or heavy fill such as rip rap.

## Results

Logan City officials benefitted from a well-armored hybrid solution that was cost-effective and reliably installed, and will be strong enough to withstand long-term site use, regardless of stormwater runoff levels.

The City further benefitted from an aesthetically-pleasing design that will build confidence in users and local residents. This confidence will help reduce or eliminate the concerns raised during the spring's unusual events

## The Nilex Advantage

Nilex is committed to unearthing better results. Whether it's for a civil, resource or environmental project, we offer the latest engineered and technically-superior materials and techniques to save our customers time and money, minimize the need to move or remove earth, and reduce the need for granular materials.

With 40 years' experience, a long-standing commitment to the environment and highly qualified staff, Nilex delivers the products and technologies that give clients an economic advantage with environmental benefit.

