

# Verdigre Slides Reinforced Slope Case Study



The Midwest's Most Trusted Site Solutions Provider

Project: Verdigre East & South Slides

Location: Verdigre, Nebraska

Application/Solution: Using Geogrids to repair Slope Failure

Market Sector: Transportation

Salesperson: Lynn Ewoldt

Owner: Nebraska Department of Roads (NDOR)

Engineer: NDOR

Contractor: A & R Construction

Installed: June 2013

case study



case study

## Challenge

The NDOR has been dealing with repairing slide areas in northeast Nebraska since the 1960's. In this area of the state, there are many different soil layers on top of one another. When these layers become saturated, due to years of rain events or natural springs, they act as a slip plane and start to slide. It is these slide areas that become dangerous to traffic and need to get taken care of immediately.

## Solutions

A mechanically stabilized earth design was chosen to repair the Verdigre slides. First, soil borings are collected and lab tests are performed. The data from the tests are then input into a slope stability software program called GSTABL7. This program can offer different scenarios to determine the appropriate strengths, lengths, and number of layers of geogrid that will be needed on a given area. The NDOR will also design a subsurface drainage system that will keep the soils from being saturated. "One of the biggest challenges of our slide repairs is to determine what type of fill to use when reconstructing the highway slopes," states Matthew Samuelson, P.E. District Design Engineer for the NDOR in District 3. "Most of the time we reuse the existing material (dried out or mixed with other materials) since most of the soil types in this area of Nebraska is not ideal for backfill in the slide areas."

## Results

A & R Construction out of Plainview, NE won the bid on the project. They chose to use the Miragrid 3XT, supplied by ASP Enterprises. The Miragrid XT uniaxial geogrids are high performance woven polyester and polymer coated geogrids used for soil reinforcement. With over 135,000 SY needed, ASP also offered the contractor a storage trailer on site to keep the geogrid under lock and key. Other materials were delivered to the site as needed by ASP. The job went as scheduled and was completed by the fall of 2013. The Verdigre Slides are performing very well along with other slides in the area. Some of the worst ones require routine maintenance but the NDOR's geogrid design in Verdigre is a proven site solution.



1 Photo Verdigre east slide pre repair.



2 East slide construction.



3 No overlapping of geogrid required.



## Products

Manufacturers included in solutions and product:

Product: Miragrid 3XT  
Manufacturer: TC Mirafi

Product: 140N Filter Fabric  
Manufacturer: TC Mirafi

Product: 4" Single Wall Underdrain Pipe  
Manufacturer: Advanced Drainage Systems

Product: S150 Straw Blanket, P300 Turf Reinforcement Mat  
Manufacturer: Advanced North American Green



4 Verdigre east post repair.



5 Trailer supplied for onsite storage.



7 Highway restored to original condition.



6 Saturated soils cause slope failure.

## Company Information

ASP Enterprises, Inc. and Quick Supply Co. For more than three decades, A.S.P. Enterprises and Quick Supply Co. has served the erosion control industry with integrity and expertise. We provide engineers and landscape contractors the exceptional value for their money and have grown to become the Midwest's full-line distributor of erosion-control, geosynthetics, storm water management products, wall block, landscape pavers, and drainage products.

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