

Big Sandy Lake Levee Repair Case Study



The Midwest's Most Trusted
Site Solutions Provider

Project: Clear Creek Levee Improvement

Salesperson: Brian Williams

Location: Big Sandy Lake
North of Ashland, NE

Owner: Lower Platte North Natural
Resources District

Application/Solution:
Shoreline Stabilization

Engineer: USACE Omaha District

Market Sector: Governmental

Contractor: Harding Enterprises

Installed: April 2015-June 2015

case study



case study

Challenge

The 11 mile long levee protects a large area of farmland and residences in the Platte & Elkhorn Rivers' flood plain. Due to wind and wave action on Big Sandy Lake, a mile long section of the levee had developed serious erosion issues leaving nearly vertical eroded banks with some areas exceeding 20' in height. The levee cross section needed to be stabilized to prevent further degradation and its possible failure.

Solutions

A presentation on Flexamat, a tied concrete block erosion mat, was completed for the United States Army Corp of Engineers (USACE) and follow-up discussions lead to it being proposed in lieu of large rock riprap for the lakeside face of the levee. With design assistance from the product's manufacturer, the USACE specified approximately 141,000 sq. ft. of Flexamat as one of two proposed articulating concrete mat bid items. A separate layer of an 11 oz. non-woven filter fabric was called out for to control potential migration of the underlying sandy soils. The USACE also decided on covering/infilling the mat with soil and a single-net straw erosion control mat assuring a rapid and aesthetically pleasant "greening-up" of the site.

Results

After securing the material order, Flexamat, TC Mirafi 1100N and North American Green's S75 were supplied. The site ended up needing 160,000 sq. ft. of concrete mats covering over 1 mile of shoreline and has fully stabilized and vegetated as of late summer 2015. The armored, green and aesthetically pleasing levee is ready for anything the lake can throw at it, boats and skiers included!



1 Here is one example of the eroded, near vertical banks.



2 Flexamat staged for installation.



3 A very strong anchor trench was incorporated in the design.



Big Sandy Lake Levee Repair Case Study continued



Products

Manufacturers included in solutions and product:

Product:
Flexamat
Manufacturer:
Motz Enterprises

Product:
1100N Fabric
Manufacturer:
TenCate Mirafi

Product:
S75 Straw mat
Manufacturer:
North American Green

Product:
BX4100 Geogrid
Manufacturer:
Tensar Corp.



4 Flexamat in the anchor trench and ready to be deployed into the water.



5 Simple equipment can be used to install Flexamat.



6 Here is one way to roll it out.



7 Flexamat is installed quickly.

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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