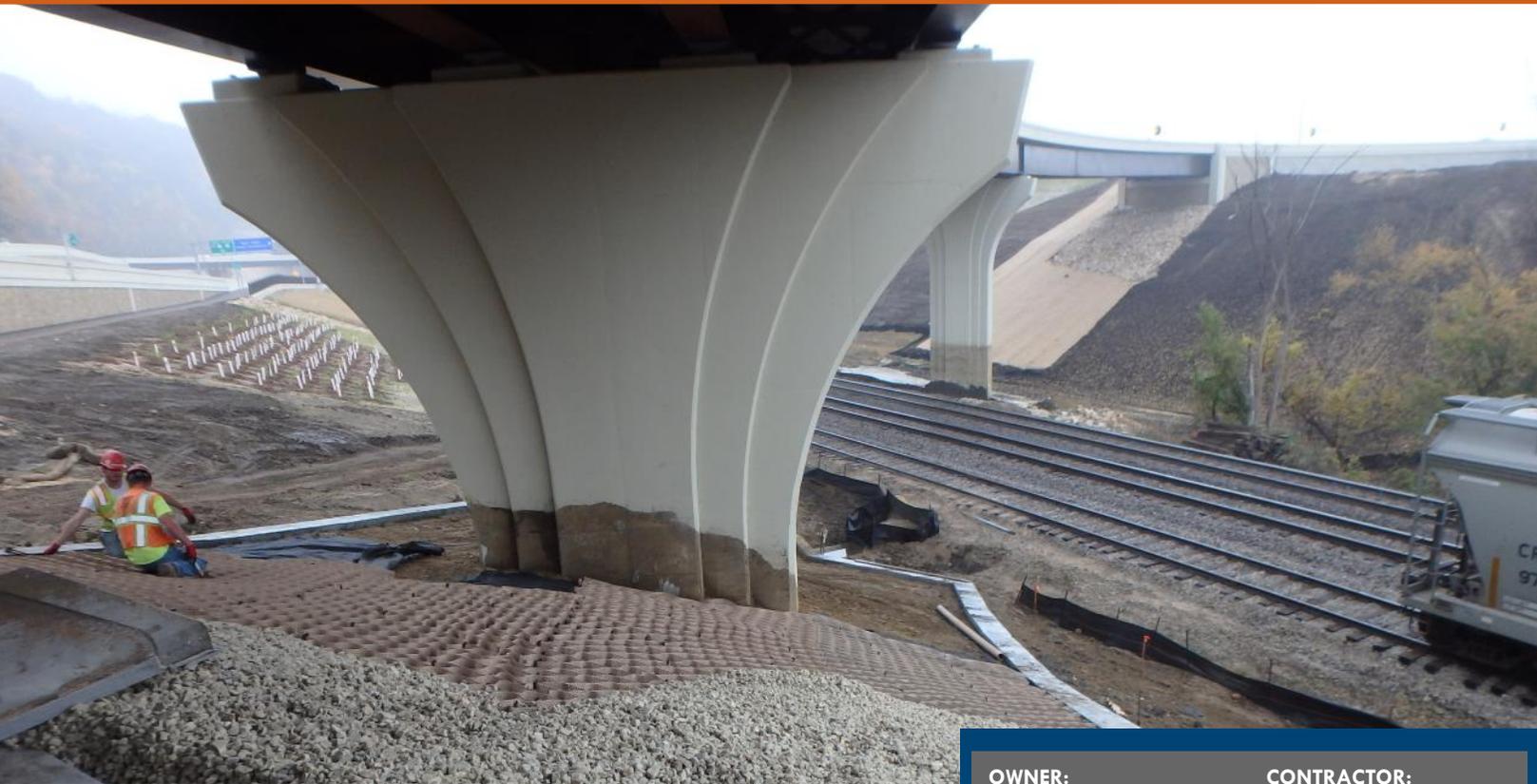


GEOWEB®

SLOPE STABILIZATION SYSTEM Structurally Sound Bridge Embankments



STABILIZE A HIGHWAY INTERCHANGE BRIDGE ABUTMENT USING GEOWEB® GEOCELL TECHNOLOGY

LOCATION: I-90 Bridge, La Crosse, WI to La Crescent, MN

The I-90 Bridge over the Mississippi River between La Crosse, WI and La Crescent, MN is a heavily used commuter route as well as being part of the longest Interstate Highway (I-90) from coast-to-coast—providing important commercial and defense infrastructure for the entire nation.

In 2013, the bridge, a 2,490 foot, four lane structure with narrow shoulders, was nearly 50 years old and due for replacement. SRF Consultants from Minneapolis, MN led a team of 10 sub-consultants for the complete reconstruction of the roadway approaches, three miles of retaining walls and seven inland bridges. The goal of the project was to provide a new, structurally sound, I-90 river crossing bridge that meets current structural and geometric standards on an important regional river crossing, and to provide a reconstructed interchange that improves traffic safety, capacity and access on and between Highway 61/14 and I-90.

An additional design requirement was that great effort be made to ensure that the resulting bridge and interchange fit naturally into the beautiful surroundings created by the bluff and river environment.

**Source: SRF Consulting Website*

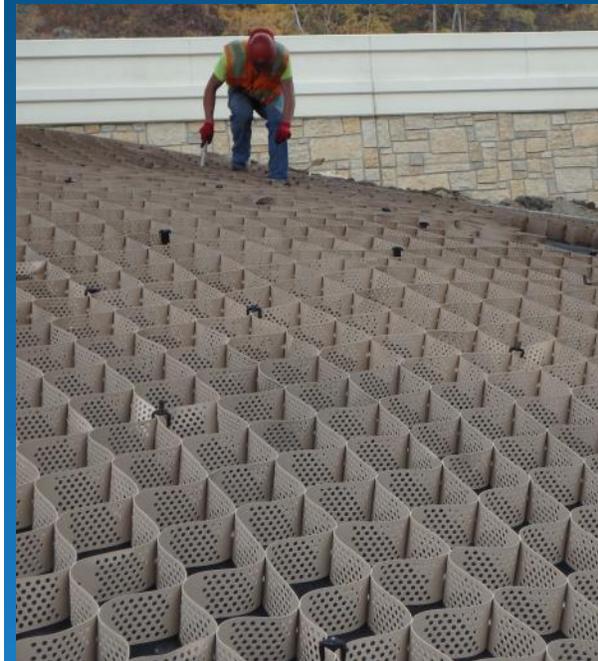
OWNER:
Minnesota DOT
Wisconsin DOT

CONTRACTOR:
Ames Construction
Burnsville, MN

PROJECT ENGINEER:
SRF Consulting Group
Minneapolis, MN

MATERIAL SUPPLIER:
ASDCO Division of the
Jamar Company
Arden Hills, MN

**Request a FREE
Project Evaluation**



DESIGN SOLUTION: GEOWEB® SLOPE PROTECTION SYSTEM

The GEOWEB® Soil Stabilization System was incorporated into the design to address both structural and aesthetic design requirements. **The GEOWEB Systems' 3D structure is designed to confine and stabilize topsoil and aggregate on steep slopes.** The confined infill remains stable, and is minimally affected by surface runoff. On this project, the GEOWEB System, installed by General Contractor Ames Construction, Minneapolis, MN, was used in two different applications:

- 47,000 square feet of custom-made, tan GW30V4 sections (4" deep, mid-size cell) were placed over a Mirafi® 140N non-woven geotextile and filled with aggregate on slopes varying between 2H:1V and 1.5H:1V, up to 45 feet vertically, under bridges. Vegetation was not an option in these locations due to the lack of exposure to sunlight and moisture. The tan geocell panels more closely matched the color of the local aggregate for better visual aesthetics.
- 106,000 square feet of standard black GW30V6 sections (6" deep, mid-size cell) were filled with topsoil, covered with an erosion control blanket (ECB), and vegetated on slopes varying between 2.5H:1V and 3.5H:1V, up to 48 feet vertically, around the bridge abutments.

In both applications, the GEOWEB cellular confinement sections were anchored to the slope using 18" ATRA® Anchors (1/2" diameter rebar with an ATRA Stake Clip affixed to the top). The anchor pattern varied depending on slope angle, slope length, GEOWEB section depth and infill. Presto Geosystems' engineering department provided calculations and anchor spacing recommendations for each of 11 different application areas.

This 3-year long construction project was completed in the Fall of 2016.

GEOWEB® System with Aggregate Infill



GEOWEB® System with Topsoil Infill



GEOWEB® System with ECB cover



Learn more about
GEOWEB Slope Protection

