



## I-87 NEW YORK STATE THRUWAY WIDENING PROJECT HARRIMAN, NEW YORK

**Application:** The New York State Thruway Authority (NYSTA) used the Spectra® Roadway Improvement System, a mechanically stabilized layer incorporating TriAx™ Geogrid, to create an unyielding and stable platform over several hundred feet of weak soils on this widening project.

**The Challenge:** Yonkers Contracting discovered extensive problematic subgrade soils both after the initial geotechnical investigation had been completed and during construction. To meet compaction specifications, they asked staff at Boswell Engineering to recommend a remediation

strategy. During this process, Boswell consulted with Patrick Keenan, Sales Engineer for CONTECH Construction Products, Inc., who suggested using geogrid as a faster, more affordable option for bridging areas with weak subgrade.

**Site Conditions:** The subgrade consisted of saturated silty soils with very low shear strength. "We dug test holes and couldn't find a bottom where soil conditions were better," says Boswell Engineering chief of field operations Fred Staz.

**Alternative Solutions:** Overexcavation and replacement would have required removing a 36- to 40-foot wide section down to 10 to 12 feet and for several hundred feet along the alignment. Temporary shoring would also have been needed to safeguard nearby lanes. Tom Whelahan, Yonkers project manager, estimates the alternative solution would have been approximately 70 percent more expensive given the depth of the soft soils.

**The Solution:** The project consisted of the Spectra System with one layer of Tensar TriAx Geogrid. The system solution allowed the contractor to bridge the saturated soils by placing the TriAx Geogrid directly on the in-situ subgrade.

"TriAx Geogrid is comprised of triangular apertures which forms a unique hexagonal shape that yields



*Tensar® TriAx™ Geogrid delivered a fast and affordable option to overexcavation and replacement.*

### PROJECT HIGHLIGHTS

**Project:**

Structural Section Enhancement

**Location:**

Interstate 87 Toll Plaza  
Harriman, New York

**Installation:**

April 2009

**Product/System:**

Spectra® Roadway Improvement System  
Incorporating Tensar® TriAx Geogrid

**Quantity:**

5,000 sq yds of TriAx Geogrid

**Owner/Developer:**

New York State Thruway Authority (NYSTA)

**Design Engineer:**

Boswell Engineering

**General Contractor:**

Yonkers Contracting Company Inc.

**Materials Supplier:**

CONTECH Construction Products, Inc.



## UNPAVED APPLICATION

CASE STUDY

a better 360 degree load distribution,” says Tensar International Corporation Regional Manager David Lipomi. “These properties provide superior base confinement and support in wet soil conditions.”

The project design called for removing 43 in. of saturated soils, covering the subgrade with TriAx Geogrid and then installing 18 in. of select granular fill, 12 in. of subbase, 4 in. of permeable base and 10 in. of asphalt concrete overlay. The Spectra System with TriAx Geogrid option saved on overexcavation costs by about 65 percent.

“With this system you get a platform for construction as soon as the geogrid is covered with rock,” says Staz. “Before using the geogrid, there was a lot of pumping in areas with equipment traffic. After it started going in though, we saw that everything was working like it was supposed to.”

**The Spectra System Advantage:** More owners are selecting the Spectra System to:

- Simplify and speed construction
- Reduce aggregate fill thickness
- Decrease labor and equipment requirements
- Reduce undercut, overexcavation and removal requirements
- Enable construction to proceed even in difficult working conditions.



*The Spectra® System using TriAx Geogrid provided a stable platform over weak soils.*

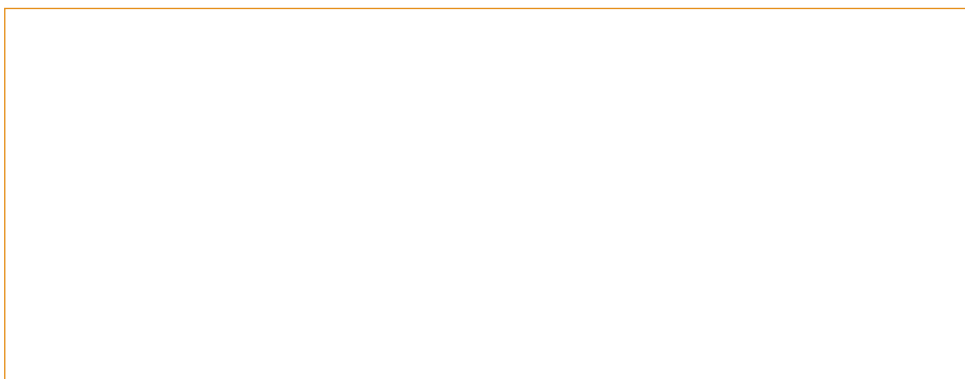
### **Additional Information and Services:**

Tensar International Corporation, the leader in geosynthetic soil reinforcement, offers systems for improving structures such as roadways, railyards, construction platforms and parking lots. Our products and technologies, backed by the most thorough quality assurance practices, are at the forefront of the industry. Highly adaptable, cost-effective and installation-friendly, they provide exceptional, long-term performance under the most demanding conditions. Our support services include site evaluation, design consulting and site construction assistance.

For innovative solutions to your engineering challenges, rely on the experience, resources and expertise that have set the industry standard for more than two decades.

For more information on the Spectra Roadway Improvement System or other Tensar Systems, call **800-TENSAR-1**, e-mail [info@tensarcorp.com](mailto:info@tensarcorp.com) or visit [www.tensar-international.com](http://www.tensar-international.com).

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