TriAx®

CASE STUDY

WEST LINCOLNWAY IMPROVEMENT PROJECT
CHEYENNE, WYOMING

Application: The Wyoming Department of Transportation (WYDOT) used TriAx® Geogrid as part of a value-engineered solution on West Lincolnway between Westland Road and Otto Road. The $10 million project involved rebuilding four lanes and adding a turn lane and a landscaped median.

The Challenge: The original design specified a 9-in. Portland Cement Concrete (PCC) surface supported by a 4-in. layer of reworked aggregate over 12 in. of blended subbase. The large volume of overexcavation complicated the short construction season and created a 25-in. elevation change next to the existing lanes of traffic.

Tensar® TriAx® Geogrid enabled a major reduction in the volume of imported granular fill.

Site Conditions: The subgrade included aged clay soils with very low shear strength. These soils are commonly found throughout the state.

Alternative Solution: Compensating for the lower resistance value of the clay would have required overexcavating up to 16 in. of soft soils and installing large amounts of base and subbase material.

The Solution: After consulting with Tensar International, SEMA Construction, Inc., the general contractor, was confident that the soft soils could be bridged with TriAx Geogrid. The geogrid design allowed SEMA to complete the project with just 6 in. of reworked aggregate and 9 in. of Portland cement concrete. Changing to this profile reduced overexcavation, removal costs and materials requirements. It also significantly improved safety for the general public.

WYDOT District 1 resident engineer Don Fuller reported that the switch to TriAx Geogrid reduced project costs by $148,738. “There was a huge time savings with the value-engineered design,” he said.

PROJECT HIGHLIGHTS

Project:
West Lincolnway Improvement Project

Location:
West Lincolnway between Westland Road and Otto Road, Cheyenne, WY

Installation:
Summer 2009

Product:
Tensar® TriAx® Geogrid

Quantity:
63,000 square yards

Owner/Developer:
Wyoming Department of Transportation (WYDOT)

Design Engineer:
WYDOT, Engineering Division

General Contractor:
SEMA Construction Inc.

Materials Supplier:
CONTECH Construction Products, Inc.

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CASESTUDY

SEMA implemented the design by excavating the roadway and leveling and rolling the subgrade. They covered the subgrade longitudinally with the TriAx Geogrid. To achieve optimal reinforcement, each section of geogrid was overlapped 18 in. They then completed the project by placing the 6 in. of reworked aggregate base and the 9 in. of Portland cement concrete.

"WYDOT wanted the work done quickly and safely," says Josh Clyne of SEMA Construction. "Tensar® TriAx Geogrid gave us a way to meet both those goals and reduce costs."

The TriAx® Advantage: More owners are selecting Tensar TriAx Geogrid to:

- Simplify and speed construction while increasing the performance of pavement structures.
- Reduce aggregate fill thickness.
- Decrease labor and equipment requirements.
- Reduce overexcavation and removal requirements.
- Enable construction to proceed even in difficult working conditions.

TriAx Geogrid more evenly distributes load pressures.

Additional Information and Services:

Tensar International, 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 TriAx® Geogrid or any Tensar System, call **800-TENSAR-1**, e-mail **info@tensarcorp.com** or visit **www.tensar-international.com.**

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