MARCH 2014 MEETING

Wednesday, March 12, 2014 (4.0 PDH)

TECHNICAL PROGRAM

Roadway Design Workshop: Tensar Geogrid Design Methodologies for Today's Applications
Speakers:

Keith C. Brooks, P.E., Petrochemical Business Development Manager for Tensar International Corporation.
Derek Wiatrek, P.E. Region Manager for http://www.tensarcorp.com/

Keith C. Brooks, P.E. *is a Petrochemical Business Development Manager for Tensar International Corporation based in Cypress, TX. He is a 1998 Civil Engineering graduate from Oklahoma State University and is a licensed professional engineer in the state of Texas. He joined Tensar in April 2010 as a Regional Manager in Portland, OR and has held several positions with Tensar including assignments in Portland, OR, Dallas, TX, and now Cypress, TX. Prior to joining Tensar, he served in multiple capacities for Contech Construction Products including roles as Strategic Market Director for Mining, Sales Manager, and Tensar Specialist. In his current role, he works with petrochemical owners, engineers, and contractors to provide cost saving solutions to the petrochemical and supporting industries.*

Derek Wiatrek, P.E. *is a Region Manager for Tensar International Corporation, based in Driftwood, TX. He is a 1999 Civil Engineering graduate of Texas A&M University and is a licensed professional engineer in the state of Texas. He joined Tensar International in December of 2012 as a regional sales manager in Driftwood, TX. Prior to working for Tensar, he held a brief role at Oldcastle as a commercial hardscapes consultant and worked for Contech Engineered Solutions for 12 years holding roles of regional sales engineer and project consultant. Mr. Wiatrek is currently responsible for Tensar's geosynthetic business, which includes TriAx® Geogrid and biaxial (BX) geogrid products, as well as GlasGrid® fiberglass reinforcement products, in central Texas and the Houston/Beaumont area.*

PRESENTATION SUMMARY

To an audience of approximately 55 attendees, Engineers from Tensar presented information on the use of geogrid products and systems. The geogrid product applications are used to stabilize soils and increase soil strength. A number of applications were discussed including unpaved laydown yards, heavy haul roads, crane pads, and railway roadbeds. The speakers noted that Texas is the largest market for geogrid using approximately 85 million square yards of product.
Keith Brooks, P.E. noted that as energy needs evolve in the United States, engineers, owners and contractors are investing heavily in the Gulf States region by expanding current facilities and building new sites. Often times, these energy build outs are located in outlying areas with very poor soil conditions. Designing around these poor soils can be a costly part of any project. Mr. Brooks noted that Tensar has long been an innovator in offering cost saving solutions for both traditional and non-traditional applications. Keith stated that millions of dollars have been saved on laydown yards, heavy haul roads, crane pads, and rail lines by utilizing Tensar geogrids on these industrial sites.

Keith described a number of geogrids product types including uniaxial, biaxial, and triaxial. The Tensar triaxial product (Triax™) is the most commonly specified product. Triax™ is manufactured from the extremely stable material polypropylene. The triaxial material is the most efficient product for use with soft soils. The use of geogrids in pavement construction is most commonly defined by the Corps of Engineers document "Use of Geogrids in Pavement Construction-USACE ETL 1110-1-189". Additional discussion centered on the Giroud-Han design method for geosynthetic-reinforced unpaved roads. Several examples illustrating the cost benefits of geogrid were provided based on existing Tensar projects.

Derek Wiatrek provided information about the use of geogrid for very heavy traffic loads on soft soils. Data was presented for railway beds, haul yards, tank yards and farms, and a 150 ton capacity wheeled shuttle craft used at an oil and gas component manufacturing facility. Several other examples were presented including a train yard at the port of Los Angeles, a rail bed , a tank yard, a haul road for the mining industry, and a crane pad. A common reference for many of the geogrid requirements are taken from the Westergaard analysis method, reference Naval Facilities Engineering Command, Soil Mechanics Design Manual NAVFAC DM7.01.

The speakers noted that Tensar provides design and technical support to clients on all Tensar projects. The speakers concluded by discussing design methodologies for each of the applications referenced and provided guidance on how to incorporate geogrids into designs in order to reduce costs and provide value to clients.

PAST PRESENTATIONS (click here)