



Hawk's Prairie Park and Ride

Lacey, Washington

APPLICATION: With current park and ride facilities operating beyond capacity, Intercity Transit decided to make effective use of public land by developing a new park and ride facility atop a retired landfill.

THE CHALLENGE: A feasibility study conducted in 2008 confirmed that differential settlement would continue as waste materials further decomposed. Therefore, soil stabilization and pavement reinforcement were critical elements of the project.

SITE CONDITIONS: Landfill surface heights ranged from 25 ft to 40 ft. Also an aged and outdated methane gas collection system was in place so temporary modifications were made to the collection system and to the existing landfill cover before preloading the site with 148,000 tons of fill.



Tensor® TriAx® Geogrid was installed to help resolve soil stabilization challenges over the capped landfill.

THE SOLUTION: The project was completed in two phases. Phase I (2009 - 2011) included site preparation, gas collection and subsurface compaction.

“We completed the preload in two phases,” said KPFF’s Bob Holcomb, P.E., Project Engineer and Project Manager. “One-half of the clean fill material was placed and allowed to settle for six months. The remaining half was then placed and allowed to settle for the same amount of time.”

Once compaction was complete, Phase II began in 2012 with the layered construction using a geogrid-stabilized subgrade.

KPFF’s Holcomb explained that a liner and fill had been placed when the landfill was closed nearly 25 years ago; now, “We had to maintain a 6 in. layer of fill between the original liner and the new geogrid as a cushion layer for the liner.” Completed in four phases to accommodate the most efficient movement of materials around the site, the geogrid installation was a “straight forward job,” Chris Hansen, Project Manager for Scarsella Brothers said. John Jaggi, Scarsella Project Superintendent, had never worked with the product before, but stated, “on the second lift, it took my worries away. From beginning to end, installation was a smooth ride, without any wave action. It’s easier to pin and secure than a solid (geotextile) material.

“I was thoroughly impressed – it was rock-solid how the layers linked together, like walking on a gravel pit floor,” Jaggi added.

PROJECT HIGHLIGHTS

Project:

Hawk's Prairie Park & Ride Lot

Location:

Lacey, Washington

Installation:

Phase I: 2009– 2011
Phase II: 2012

Product/System:

Tensor® TX140 Geogrid
GlasGrid® 8501TF

Owner/Developer:

Thurston County, Washington

Design Engineer:

KPFF Consulting Engineers
Tacoma Geotechnical Engineering

General Contractor:

Scarsella Brothers, Inc.

Materials Supplier:

ACF West, Inc.

KPFF's Holcomb had a similar observation, noting that "once the TriAx® Geogrid went down, it was solid – the vibrations ended." Holcomb further explained that in areas supporting commuter lanes and parking, a single layer of TriAx Geogrid was installed. A 12 in. layer of fill was placed next, followed by a geomembrane liner, an additional 30 in. of fill and paving. The paving featured 4 in. of crushed surfacing topped with 3 in. of asphalt.

The areas supporting bus traffic were constructed differently: 12 in. of fill were placed over the existing liner, followed by the geomembrane. Within the final 60 in. of fill, two layers of TriAx Geogrid, spaced 16 in. apart, were installed. Paving included a 3 in. layer of asphalt, reinforced with the GlasGrid® System and topped with 3 in. of surface asphalt. While concrete is typically used in bus lanes and turnarounds, asphalt was specified for the entire project due to its flexibility in the event of differential settlement. Like the TriAx Geogrid, the GlasGrid System product was sourced through the Fife, Washington office of ACF West, Tensar's regional distributor.

A Scarsella crew of five installed the GlasGrid System with its pre-applied tack film. "I was skeptical," Jaggi commented, "but it tacked right down. It was easy to work with, and we didn't have one spot that didn't tack. On the second roll, it was as if the crew had been working with it forever." The crew completed the installation in about five hours.

SUCCESSFUL RESULTS: After five years of planning and development, the Hawk's Prairie facility opened in January 2013. The lot increases the South Puget Sound region's park-and-ride capacity by more than 75%; helps to relieve a heavily congested segment of Interstate 5; and makes effective and sustainable use of public land.



GlasGrid TF with pre-installed tack film was installed in the bus and traffic areas to reinforce the pavement.

In May 2013, the American Public Works Association chose the Hawks Prairie Park & Ride facility as Washington State's Project of the Year in the \$5- to 25-million transportation category.

Criteria included construction management, safety performance, community relations, environmental vigilance and more.

ADDITIONAL INFORMATION AND SERVICES:

Tensar, the leader in geosynthetic soil stabilization and pavement reinforcement, offers a variety of solutions for foundation and roadway applications. Backed by the most thorough quality assurance practices, our products and technologies are at the forefront of the industry. Our support services include site evaluation, design consulting and site assistance.

For innovative solutions to your site work challenges, rely on the experience, resources and expertise that have set the industry standard for three decades.

For more information on the Spectra System, GlasGrid System or other Tensar Systems, call 800-TENSAR-1, email info@tensarcorp.com or visit www.tensarcorp.com.

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