The Nevada Department of Transportation (NDOT) and Granite Construction Company recently used expanded polystyrene (EPS) geofoam in place of sheet pile walls to expedite construction and protect wildlife during construction of an animal under-crossing on U.S. Highway 50 in Nevada.

Life magazine once described this stretch of rural highway as the "The Loneliest Road in America." Not anymore. Rapid population growth in Carson City and other western Nevada towns required widening the two-lane highway to four lanes in 2012. As part of the project, NDOT built an under-crossing culvert for wild mustangs to safely get across the highway to their water source. Vehicle and horse collisions have historically been a major safety issue on U.S. 50. In 2011, more than 30 vehicle-horse crashes occurred during a 50-day period.

To avoid closing the highway, Granite Construction built a temporary wall for the culvert adjacent to the existing two-lane road. Once the culvert was completed, they switched traffic onto two additional lanes built over it, and then excavated the existing highway to expand the culvert.

Instead of using traditional, temporary sheet pile walls with tiebacks during the culvert construction, Granite installed EPS geofoam blocks from Insulfoam to carry the highway traffic. The team saved approximately three to four weeks during construction using geofoam. The factory-cut EPS blocks reduced installation time and are designed to be left in place as part of the finished road grade, allowing the busy highway to remain open during construction.

"The InsulFoam geofoam provided a time and cost savings to the owner," said Brian Roll, Nevada Region Construction Manager for Granite Construction. "We saved approximately $20,000 without sacrificing quality, ultimately resulting in a more efficient operation."

InsulFoam GF (EPS geofoam) geo-synthetic fill is a closed-cell EPS foam that is about 100 times lighter than soil, yet is durable and offers high load-bearing capacities. Uses include soft soil remediation, slope stabilization, structural void fill, and engineered applications. The material does not typically require surcharging, preloading, or staging often necessary with other fills. It resists moisture, freeze-thaw damage, insects, mold, and decomposition so is well suited for construction applications.
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Progressive Engineering

- Virtual design and construction of transportation projects
- Evolution of earth retention systems
- Excavation support in an urban environment
- Membrane technology for water/wastewater treatment
- ABCs of prefab bridge elements

Editor's Comment

- Privatizing state DOT civil engineering services
- Coastal concerns
- Narrowing the 'infrastructure gap'
- Show me the money
- Recognizing 'Rising Stars'

Upcoming Events

- ARTBA National Convention
  Date: September 8, 2013 - September 10, 2013
  Location: Milwaukee

- IHEEP 2013
  Date: September 8, 2013 - September 11, 2013
  Location: Overland Park Kan

- Dam Safety 2013
  Date: September 8, 2013 - September 12, 2013
  Location: Providence RI

- Marketing in Today's World
  Date: September 8, 2013 - September 12, 2013
  Location: Los Angeles California

- WaterReuse Symposium
  Date: September 15, 2013 - September 18, 2013
  Location: Denver

Events

- The Zweig Letter Hot Firm Conference
- The Principals Academy
- Wasteccon
- GIS-Pro 2013
- WaterReuse Symposium