

the contractor compared to kitty litter in texture. The aggregate was graded flat and covered with more fabric, performing largely the same way soil would under the grader.

On the Geofoam side, first a sand leveling course was put down to produce a flat surface. The Geofoam blocks were laid in by hand with no specialized equipment or skilled labor involved. Two men easily moved blocks as large as 8 by 4 feet, weighing less than 100 pounds. The majority of the blocks required no modification, but workers were able to quickly customize blocks to fill in around the superstructure using a hand-held hotwire cutter. With the Geofoam stacked and wrapped in fabric just like the aggregate side, there were two ready-to-pave embankments made from very different materials. Special sensors had been placed beneath both types of fill to allow TxDOT to closely monitor each material's settlement post construction.

The next step was to lay the road down. The road plan called for a crushed limestone base subgrade, covered with a hot asphalt mix and topped with 10-inch concrete paving. An initial concern that the Geofoam side would be soft under the equipment was quickly allayed, as the Geofoam provided a solid surface as the base was pushed out with a dozer. On the aggregate side, the fill was softer under the equipment and took longer to surface. The contractor decided to use a lightweight truss screed bridge paver on the aggregate side rather than a traditional concrete paver to put in the final topping, to avoid damaging the embankments with heavy construction equipment.

More than five years since the original embankments were built, data suggests both alternative fills have performed adequately. On the lightweight aggregate side, the fill settled slightly more than was initially expected but was still within TxDOT's acceptable tolerances. On the



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Geofoam side, there was a quick initial settlement and then no further movement at all, performing better than expected. The department has been satisfied with the work and the lack of return maintenance since the rehabilitation was completed in 2012. ■



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