

PROJECT PROFILE

PRODUCT

Landmark retaining wall system

MANUFACTURER

Allied Concrete Products
Richmond, Virginia

WALL DESIGNER

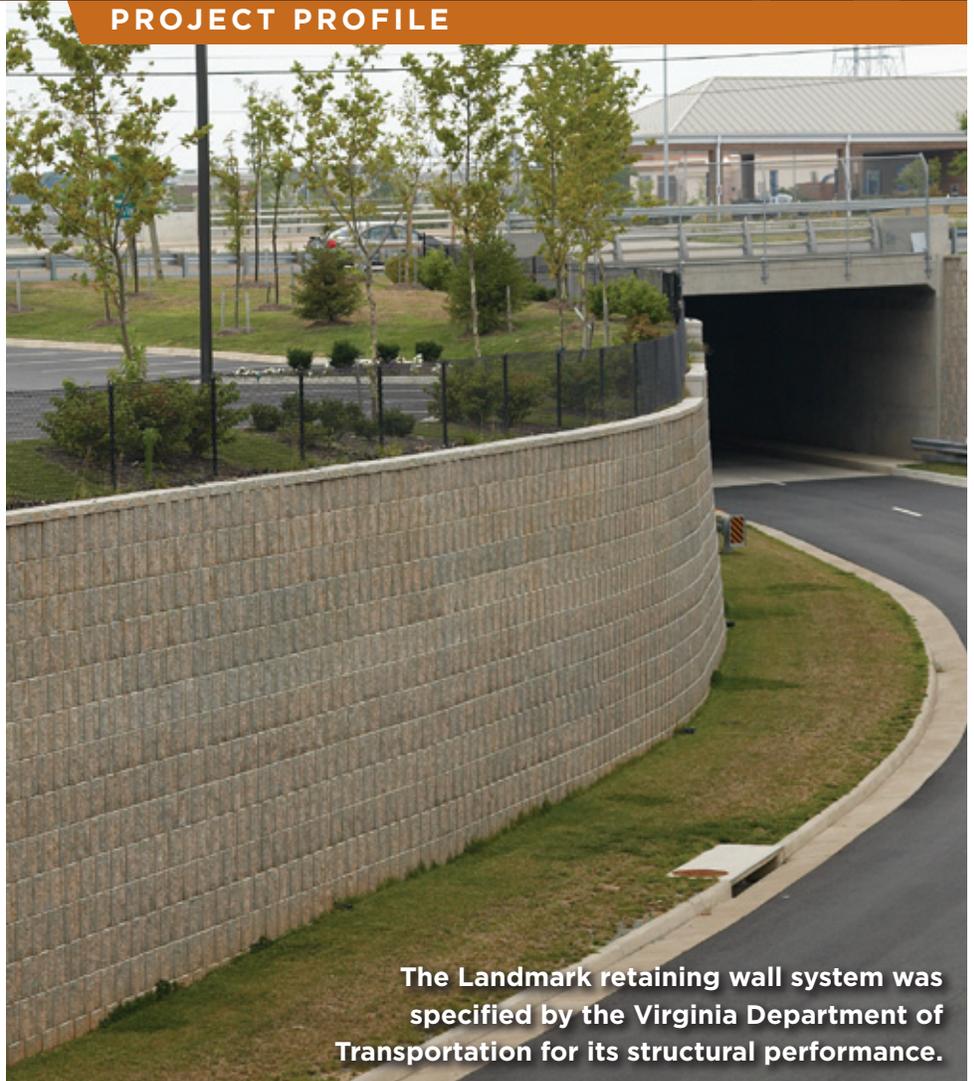
Harry M. Moore
Timmons Group, Richmond, Virginia

WALL CONTRACTOR

Landscape Solutions
Williamsburg, Virginia

WALL DIMENSIONS

2,000 square feet, 400 feet in length;
heights peaked at 20 feet



The Landmark retaining wall system was specified by the Virginia Department of Transportation for its structural performance.

Celebrate Virginia Parkway FREDERICKSBURG, VIRGINIA

THE CHALLENGE

Construction of a shopping center off U.S. Highway 17 near Fredericksburg, Virginia, required a new highway entrance and exit. A key challenge was finding a mechanically stabilized earth system to support the ramps that was cost-effective and evaluated by HITEC, the Highway Innovative Technology Evaluation Center, which is a key criterion of the Virginia Department of Transportation.

THE SOLUTION

The Landmark retaining wall system was chosen because it has undergone the rigorous HITEC evaluation and it offered

the developer and designer cost savings, fresh aesthetics and easy installation while providing the high structural performance associated with large panel walls that are commonly used in transportation projects.

The Landmark system was the first segmental retaining wall system in the world to undergo the HITEC evaluation. It gives high performance in extreme loading conditions because the system provides a mechanical connection of the reinforcement material to the block for maximum reinforcement design strength.

EVALUATED BY HITEC IN THE UNITED STATES, RTA IN AUSTRALIA AND BBA IN THE UNITED KINGDOM.

PROJECT PROFILE



Extensive testing and an evaluation by HITEC prove the Landmark retaining wall system is well-suited for tall, load-bearing walls.

For the Celebrate Virginia Parkway, the Landmark system proved economical, too. The block's mechanical connection system allowed designer Harry Moore, P.E., to maximize the soil reinforcement's design strength at the connection, which reduced the layers and overall quantity of reinforcement, while still providing the engineering performance necessary for these walls to serve as bridge abutments and to support the parking lot of a fast-food restaurant. Further cost savings were realized through the reduction of fill material and labor; the shape of the Landmark block doesn't require core fill within or between the units.

Using the Landmark system also provided installation and aesthetic benefits. The segmental units are easy to



The wall is a critical element of the highway and ramp, but it's also an aesthetically pleasing complement to the development.

handle and were installed by hand. The Landmark lockbar, made from an engineered polymer, was installed into a channel to secure the reinforcement and to provide the mechanical connection of the reinforcement to the block. The finished wall is visually appealing, with a unique 'in and out staggered' appearance and a color that blends with the surrounding environment. The 400-foot-long wall hugs the roadway with a gentle curve that was easily installed due to the design of the block.

THE RESULT

The impressive Celebrate Virginia Parkway is a complementary addition to the modern, upscale shopping area and provides unparalleled engineering performance. Extensive testing for overturning, shear resistance, mechanical connection and connection strength has been conducted on the system, and the results demonstrate that the Landmark system is well-suited for tall, load-bearing transportation applications like these walls.

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HITEC-EVALUATED

For high performance under extreme loading conditions, the Landmark retaining wall system is a cost-effective option evaluated by HITEC. The Landmark system features a unique mechanical connection, which allows the system to generate extremely high connection values, independent of blocks above the connection. Developed specifically to meet the high standards of the transportation industry, the performance features of the Landmark system make cost-effective design solutions possible using either the American Association of State Highway and Transportation Officials (AASHTO) or the National Concrete Masonry Association (NCMA) design methodology.