Diamond Pro Stone Cut® and Highland Stone®

PROJECT PROFILE

This cost-effective land bridge met the aesthetic needs of the developer.

LOCATION
Armistead Point Golf Community
WILLIAMSBURG, VIRGINIA

PRODUCT
Diamond Pro Stone Cut® and Highland Stone® retaining wall systems

MANUFACTURER
Allied Concrete Products
Richmond, Virginia

WALL CONTRACTOR
Force Construction
Millersville, Maryland

WALL INSTALLER
Easton Block Retaining Walls
Skippack, Pennsylvania

WALL DESIGN ENGINEER
Engineering Consulting Services, LTD
Richmond, Virginia

FOUNDATION DESIGN ENGINEER
The Collin Group
Bethesda, Maryland

WALL DIMENSIONS
18,000 square feet

THE CHALLENGE

The Armistead Point Golf Community is an exclusive, gated golf course community in historic Williamsburg, Virginia. The owner sought to develop the site, located along the James River, while maintaining the historic charm of Williamsburg. The property was divided by a large creek and underlain by a deep peat deposit. Excavating the peat was deemed too costly. In order to adjoin the divided properties and access the property along the James River, a steel bridge was originally proposed to cross the creek.There were two problems with this proposed solution: The first was a steel shortage that resulted in higher than anticipated steel costs and a longer than anticipated delivery time. Secondly, a steel bridge would not have offered an aesthetic appearance complementing the historic charm of Williamsburg.

THE SOLUTION

Allied Concrete Products presented the owner with an option to build a land bridge constructed with back-to-back segmental retaining walls using Highland Stone® and Diamond Pro Stone Cut® retaining wall systems. This option provided a solution that was cost-effective, was structurally sound and met the aesthetic needs of the owner. In order to provide foundation support for the land bridge and retaining walls, a load-transfer platform was incorporated into the project. The load-transfer platform consisted of auger-cast piles driven through the deep peat deposit and a platform consisting of geosynthetic-reinforced gravel to bridge the piles. The twin walls, each measuring 240 feet long and 15 feet high accommodated a storm water drainpipe running perpendicular to the wall at its base along with a 250-psf traffic live load at its crest.

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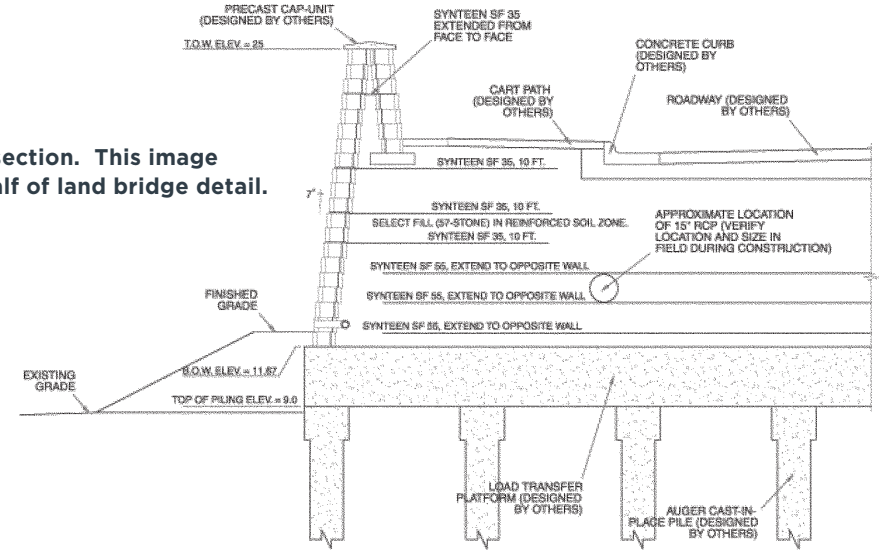
The blended, earth tone colors and unique, rustic appearance let to other applications on the project such as pillars and the entrance sign on the property.

The land bridge utilizing Diamond Pro Stone Cut® and Highland Stone® retaining wall systems, combined with the load-transfer platform, offered 50 percent cost savings.

THE RESULT

The land bridge solution using Diamond Pro Stone Cut® and Highland Stone® wall blocks, combined with the load-transfer platform offered a 50-percent cost savings as compared to the proposed steel bridge. The blended, earth tone colors and unique, rustic appearance led to other applications on the project such as pillars and the entrance sign on the property. The Anchor™ products provided proven structural performance while capturing the historic and natural beauty of Williamsburg.



Typical wall section. This image represents half of land bridge detail.

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AD23-003 01/23