

PROJECT PROFILE

PRODUCT

Landmark[®]
retaining wall system

WALL DESIGN ENGINEER

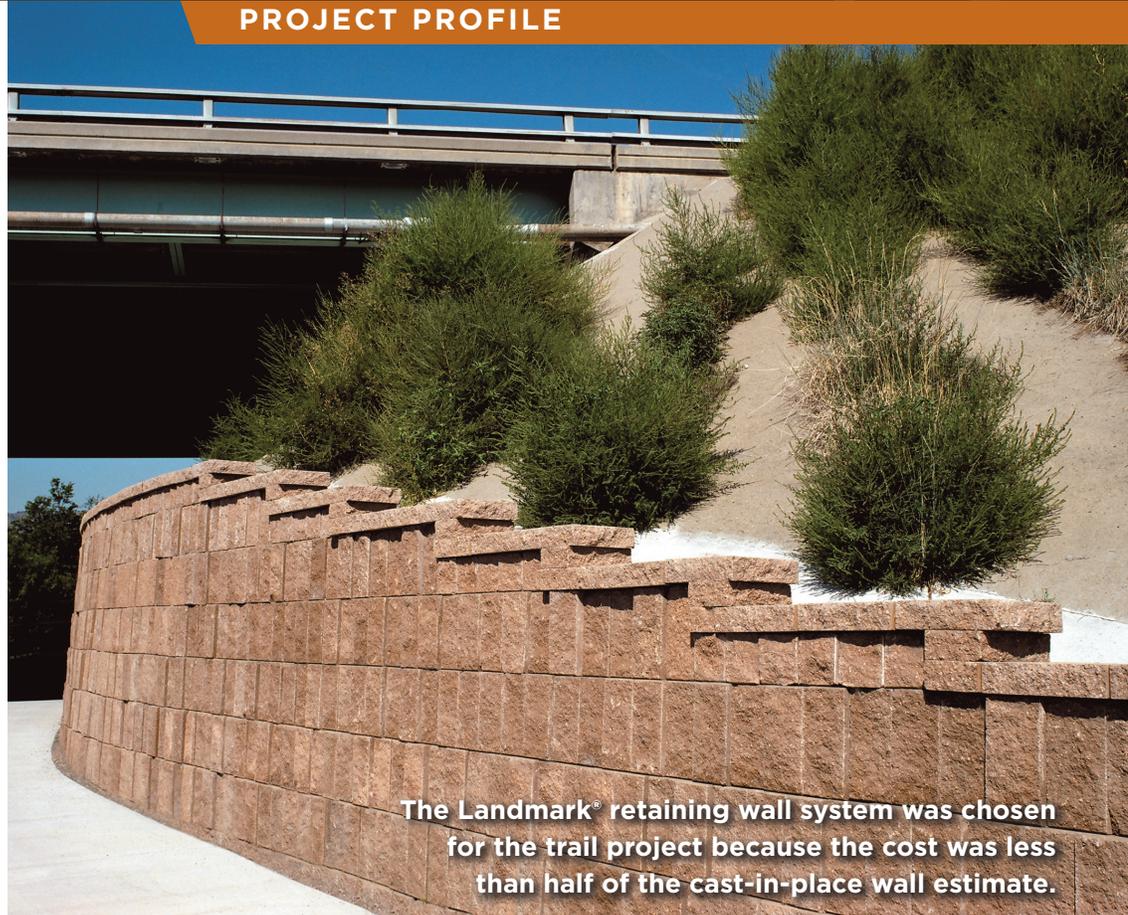
Soil Reinforcement Design, Inc.
Woodstock, Georgia

SITE CONTRACTOR

Concrete Express
Denver, Colorado

WALL DIMENSIONS

72,000 square feet
Height varied, up to 25 feet
Various walls along a nearly
five-mile-long trail



The Landmark[®] retaining wall system was chosen for the trail project because the cost was less than half of the cast-in-place wall estimate.

Clear Creek Trail JEFFERSON COUNTY, COLORADO

THE CHALLENGE

For more than 30 years, providing access to the natural environment through the Open Spaces program has been a commitment in Jefferson County, Colorado. During that time, a comprehensive Trails 2000 plan was developed to connect thousands of acres of Open Spaces land. But, the plan to complete the Clear Creek Trail was delayed in the mid-1990s because the cost of using traditional cast-in-place concrete retaining walls was too high.

Another challenge was the length of the project. While the trail is run by Jefferson County, the project crossed state highways, crossed railroad tracks and ran through an area owned by a local foundation. Each entity needed to approve the project design, materials and costs.

THE SOLUTION

After the trail project sat on the shelf for years, it was revived, and segmental retaining walls were proposed as an alternative to cast-in-place walls. The Landmark[®] retaining wall system was chosen, in part, because the cost was less than half that of the cast-in-place wall estimate.

One of the design hurdles was the need to build retaining walls near highways where there was no room for cuts to install geosynthetic reinforcement. The Landmark system and its unique direct anchorage system made it possible to install the product using manta rays, eliminating the need for extensive excavation. In fact, the contractor said the direct anchorage system was more economical to use in almost all of the cut applications. In the end, nearly 30

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

PROJECT PROFILE

percent of the project was installed using direct anchorage. The contractor explained that this system also made it possible to install walls without closing adjacent roadways—another important consideration.

Preserving the natural environment is one of the reasons Open Spaces exists. Building segmental retaining walls without disturbing trees and vegetation was a key consideration as the project was designed. Controlling graffiti was another consideration. The rough texture and irregular stagger of the Landmark® retaining wall system is not an ideal surface for graffiti and has deterred that nuisance. To date, the trail has remained graffiti-free.

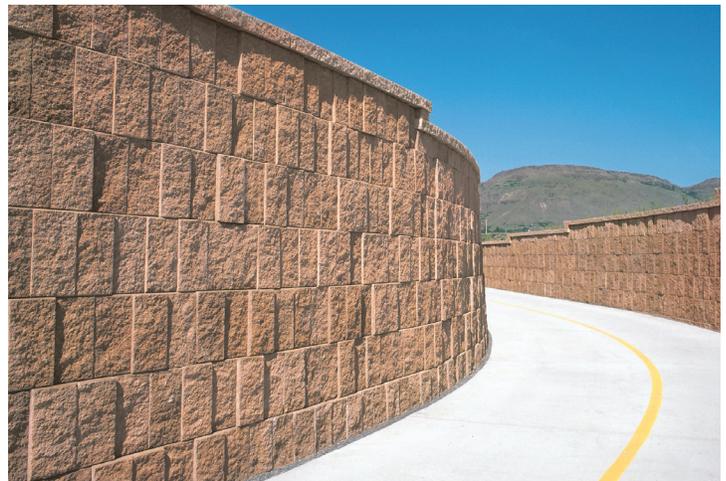
As for the four entities signing off on the project, the county led the way, working with the railroad to secure their approval. The county also received a quick approval for the Landmark system from the Colorado Department of Transportation. And, the foundation approved the project based on the look of the product. The buff color and rough texture blend with the surrounding landscape. After the initial period of learning how to install a new system, the contractor said the Landmark system worked well and that they were satisfied with this cost-effective product.

THE RESULT

Jefferson County has an attractive, affordable addition to the 179-mile trail program they supervise, providing increased access to the Open Spaces where the mountains and plains meet. Using the Landmark system, the trail was built across a wide range of sites without disturbing trees and vegetation or closing adjacent roadways.



Nearly 30 percent of the project was installed using direct anchorage, which made it possible to install the Landmark® retaining wall system without closing adjacent roadways.



The buff colors blend into the surrounding landscape.

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.

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