

College Uses VERSA-LOK to Convert Unusable Valley to Drill Field Complex

When the Virginia Military Institute (VMI) wanted to convert an unusable valley on its Lexington, VA, campus to a drill field and shooting range complex, it turned to VERSA-LOK Retaining Wall Systems.

The solution? A 34-foot-tall segmental retaining wall over a quarter-mile long used to create a 6-acre level field.

The \$17 million complex comprises three drill fields measuring about 1,200 ft. by 200 ft. each. In addition, there is an obstacle course and baffled firing range with 30 positions. Besides the large wall, there are several smaller decorative walls on the site.



Nearly 50,000 s.f. of VERSA-LOK's Weathered Square Foot in a Granite Blend color was used on the project—all of it done in a single production run to ensure consistency in color, strength and texture.

"It was vastly less expensive to build than a poured concrete retaining wall," says Lt. Col. Keith Jarvis, deputy director of construction for VMI. "We chose the type and the weathered look of the stone because it matched existing stone on site and gave us a rustic fieldstone look."

The site presented some challenges. The top of a hill had to be leveled off and over 100,000 yards of fill brought in to backfill the wall. Some rock had to be blasted out also.

Geogrid soil reinforcement in lengths of about 22 feet was laid behind the wall on every other course, with 2-inch-minus crushed rock used on top of the grid layers. Ken Tucker, hardscape sales territory manager for Chandler Concrete in Christiansburg, VA, says their special process for manufacturing Weathered Square Foot minimized production problems.

"We beefed up our Square Foot unit by filling in the voided area between the back 'ears' of the units with solid material," he explains. "Experienced operators knowing the consistent tumbler rotation speed required, coupled with the modified Square Foot units and thicker face shells, helped us to achieve a consistent result," Tucker explains.

The wall features 45-degree recesses, or "bump-outs," for added visual interest. Special solid corner blocks made by Chandler for Square Foot walls enabled them to keep the corners straight and true even at heights to 34 feet.

The project was completed in Spring 2011.

Location:
Lexington, VA

Owner:
Virginia Military Institute

Designer:
Landplan Engineering, Lawrence, KS

Contractor:
General: Branch & Associates, Inc.,
Roanoke, VA. Wall Subcontractor:
Eckhart Construction Services, Inc., Ft. Mill, SC

Manufacturer:
Chandler Concrete Products

Solution:
Square Foot, Granite Blend

Square feet:
49640sq. ft.



versa-lok.com