



A traditional segmental retaining wall requires significant excavation, but the Anchorplex™ retaining wall system uses structural backfill and requires less excavation.

LOCATION

Sinocom Development Project
KING OF PRUSSIA, PENNSYLVANIA

PRODUCT

Anchorplex™ retaining
wall system, incorporating
Vertica® wall units

MANUFACTURER

EP Henry
Woodbury, New Jersey

WALL DESIGNER

Bart Shippee
Shippee Engineering, Inc.
Doylestown, Pennsylvania

WALL CONTRACTOR

Pickering Valley Landscape, Inc.
Glenmoore, Pennsylvania

WALL AREA

2,100 square feet

THE CHALLENGE

A site plan for a new parking lot next to a hillside included a design for a 10-foot high retaining wall with a 2:1 slope on top of the wall. With a scant 12 feet of space between the proposed retaining wall and the adjacent property line, there wasn't enough room for a conventional wall built with geosynthetic reinforcement.

THE SOLUTION

The civil engineer working on the project contacted Bart Shippee, P.E., to discuss alternatives. Shippee recommended the Anchorplex™ retaining wall system because it requires little excavation and is designed to meet the engineering requirements of structural wall designs.

The Anchorplex™ system is a retaining wall built with Anchor™ products and structural backfill placed immediately behind the block. The unique system doesn't require a large geosynthetic-reinforced stabilized earth zone behind the wall face, which means significantly less room is needed for excavation.

The solution was good news for the customer, a manufacturing company that had just expanded its warehouse and office park in densely populated King of Prussia, Pennsylvania, and needed additional parking space. The footprint for the parking lot was so tight that parked cars nearly touched the retaining wall.



The completed wall before work on the parking lot began. The property behind the wall, which belongs to another owner, was undisturbed because little excavation was needed.



Even with a small space and close property line, the parking lot was expanded due to the use of the Anchorplex™ retaining wall system.

“Designing and installing this Anchorplex™ retaining wall in a tight site is really the new reality of commercial development,” said Shippee, principal of Shippee Engineering. “Using a traditional segmental retaining wall system designed with grid doesn’t always work because the grid and necessary excavation push into the neighbor’s property. We kept the entire construction operation contained in the customer’s property using the Anchorplex™ system.”

Since the Anchorplex™ system can be installed with any Anchor™ product, Shippee recommended the Anchor™ Vertica® retaining wall system with a 2-degree batter, which also helped contain any possible encroachment on the neighboring lot.

While the property owner was thrilled with the engineering solution that let the parking lot be built, the best news came with the budget. A big-block system using 6,800-pound blocks was bid with a hefty price estimate. The Anchorplex™ system built with the Vertica® product was bid and came in at about 77 percent of the big-block estimate. For the 2,100-square foot job, the savings were more than \$10 per square foot.

THE RESULT

Segmental retaining walls continue to be cost-effective and efficient choices for commercial development. New features and enhancements like the Anchorplex™ system offer superior engineering performance with new efficiencies and benefits that save space and money for the customer, as is the case in King of Prussia, Pennsylvania.

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