



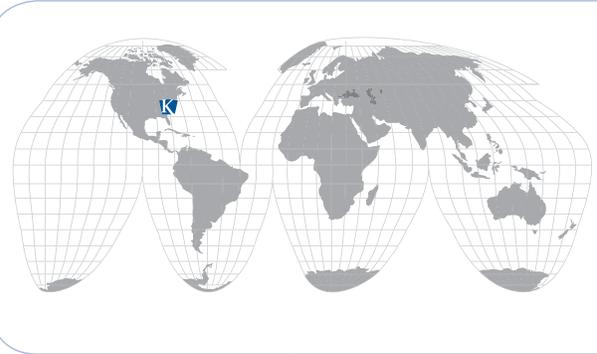
Port Chester Marina Redevelopment

Port Chester, New York

A textured Keystone Compac retaining wall was the answer to many of the major challenges presented as part of the Village of Port Chester's \$100 million redevelopment project. Keystone helped this New York town enlarge their small waterfront area, maximizing space and creating open areas for retail and entertainment attractions.

One major problem stood in the way of expansion – there was no usable land immediately available for development. The marina boundaries created by the Byram River and existing commercial and residential buildings of the Port Chester downtown district made it impossible to simply expand outward. A long and steep hillside was the only area available, but the slope made the land unsuitable for building.

In order to create usable land, the hillside would have to be cut away. It became clear that a retaining wall was necessary. The textured Keystone Compac wall provided the ultimate solution for the site challenges while offering a natural stone look and feel. The Keystone Compac wall was also less expensive than a poured-in-place wall and more durable than a timber wall.



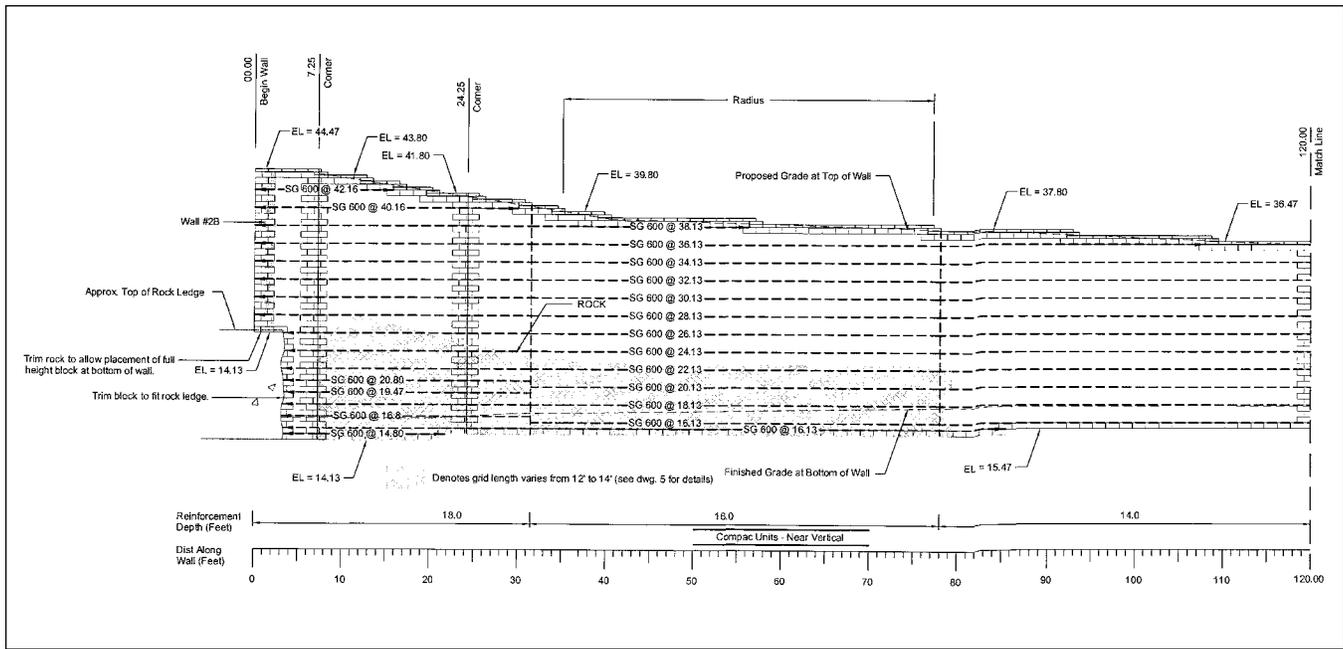
Project:	<i>Port Chester Marina Redevelopment</i>
Location:	<i>Port Chester, New York</i>
Keystone Product:	<i>Keystone Compac Unit</i>
Licensed Manufacturer:	<i>Anchor Concrete Products Inc. Manasquan, New Jersey</i>
Total Wall Area:	<i>17,000 sq.ft. (approx.)</i>
General Contractor:	<i>Pillari Bros., Inc. Howell, New Jersey</i>
Engineers:	<i>Langan Engineering Elmwood Park, NJ</i> <i>Keystone Engineering Minneapolis, MN</i>
Architect/Designer:	<i>Juan Montoya Design Corp. New York, NY</i>



CASE STUDY



CASE STUDY



Retaining wall cross section.

“This project took months of design consideration before construction could begin,” notes Joe Pillari of the project’s installation contractor and landscape architecture firm, Pillari Bros., Inc., of Howell, NJ. “Once cut-away began on the hillside, we were presented with a variety of less-than-perfect soil conditions and issues.” In most areas along the cut, upper profiles of orange-brown sand covered underlying layers of severely weathered rock and a bedrock of gray schist or gray gneiss heavy with fractures and soil seams. However, in some portions of the cut, crews encountered less weathered ground, necessitating that blasting be performed. “In a nutshell, we were working with highly variable and unstable soils, and the Keystone Compac retaining wall design was really put to the test here,” said Pillari.

According to a staff engineer at Keystone Engineering in Minneapolis, MN, the final design maximized the structural competency of the rock immediately behind the wall and this minimized the amount of geogrid and reinforced soil required to build the wall.

Because of existing buildings already on the small marina site, the project provided a number of space challenges for the installation phase of the planned retaining wall. Large work crews and heavy equipment were not feasible at the site, so it was important that the near-vertical retaining wall be easy to install within a cramped and restrictive work area. “The Keystone Compac units were easy to handle and their pinning method made alignment even easier as we worked in this tight area,” said Pillari. “The Keystone Compac wall really stood up to the many tests we had on this project and it passed in every circumstance with flying colors.”

Supplied by Anchor Concrete Products, of Manasquan, NJ, the textured Keystone Compac wall units matched the early-American charm of the area. Their strength and structural capacity allowed the heavy-load bearing wall to reach heights up to 30 feet.

For continuity throughout the entire marina site, Keystone units were also used to create parking lot transition areas, a plaza area with retail kiosks, and access points to the waterfront docks. The Port Chester Marina project clearly shows that Keystone walls provide solutions to difficult site conditions while adding aesthetic appeal. Keystone systems are engineered for performance, as well as visual appeal, making them perfect for any commercial, governmental and residential application. They are the preferred choice of Pillari Bros., Inc., as well as architects, engineers, contractors, and homeowners world-wide.

For more information on Keystone Compac units or other innovative Keystone products, please visit www.keystonewalls.com or call 800-747-8971.