



UNITED STATES

Bayonne Crossing Bayonne, NJ



Bayonne Crossing

Owner
Cameron Bayonne Urban Renewal, LLC

Engineer
Langan Engineering & Environmental Services

General contractor
Cameron Bayonne Urban Renewal, LLC

Dates of work
2009/06 2010/06

Main figures

Controlled Modulus Columns (CMC)TM
4697 EA.



Bayonne Crossing

Description

Bayonne Crossing is a new, 400,000 sq-ft "power" shopping center located in densely populated Bayonne, NJ, on Route 440. The project is anchored by a Lowe's Home Improvement Center.

In order to support the heavy loads of seven of the primary retail structures, including Lowe's, and to reduce the cost and schedule of the project, Menard designed and installed a ground improvement solution using Controlled Modulus Column (CMC)TM rigid inclusions.

Ground conditions

Located on a former storage tank site, the subsurface conditions included significant fill underlain by several layers of silts and organic soil. The material was loose and posed significant risk of settlement after construction.

In addition, there was a subsurface aquatard layer, or Meadow Mat, which Menard was able to penetrate with virtually no vibration and no spoil, eliminating the need to dispose of contaminated soil.

Solution

A large-scale area load test was performed on the Lowe's site to verify the design perimeters for the high surface loads. Hundreds of CMCs were instrumented with strain gauges, piezometers and settlement plates to test the settlement surcharge over time.

With the successful completion of the area load test, Menard used three rigs simultaneously to install the CMCs on a fast-track schedule. The use of CMCs versus traditional piles for deep foundations, saved the client significant time and money on the project.