



UNITED STATES

Secaucus Riverside Secaucus, NJ



Owner
Woodmont Properties/Secaucus Construction, LLC

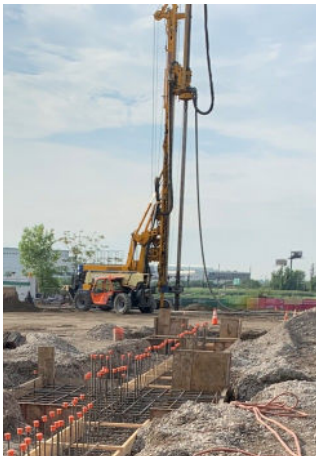
Engineer
Minno Wasko Architects and Planners

General contractor
Secaucus Construction, LLC/Woodmont Properties

Dates of work
June 2020 July 2020

Main figures

Controlled Modulus Columns
1,212 EA.



Description

At the site of a former cement plant along the Hackensack River, a 116-unit multi-family development was proposed in Secaucus, NJ. The planned four-story complex would feature one- and two-bedroom apartments; a three-story parking garage; a club room with billiards and gaming; amenity spaces with a fitness center, a playground and several outdoor courtyards with river views.

The 1.52-acre property is located across the river from American Dream and the Meadowlands Sports Complex, and sits on a residential cul-de-sac with a pocket park. Twenty percent of the units would be reserved for low- and moderate-income households.

Due to the compressible nature of the soils at the site, Menard USA was contracted to support the residential building and parking garage, exterior amenity areas and utility lines. The selected ground improvement technique was Controlled Modulus Column (CMC)[®] rigid inclusions.

Ground conditions

The upper fill zone consisted of obstructions such as old concrete foundations. Below the fill zone were peat and organic soils underlain by clays, silts and sands. Also, because the site is adjacent to the Hackensack River, the water table fluctuated based on tide changes.

Solution

Menard provided an economical and time-saving solution (compared to deep foundations) with CMCs. Menard's solution included 1,212 CMCs installed to an average depth of 48.5 ft and a maximum depth of 56 ft. The design provided for 1 in of post-construction settlement with less than a 1/2-in of differential settlement between footings, meeting the performance criteria of the new building. Building column loads ranged from 4 to 918 kips, while bearing pressures of up to 4 ksf was required for the footings.

The CMCs eliminated the need for handling and removing large amounts of spoils generally created through other ground improvement methods.

The site presented challenges such as an overhead electrical line, a water table that elevated during high tide, an insufficient working platform in some areas, and the presence of other contractors that created congested working conditions. Notwithstanding these potential issues, Menard expertly navigated through all challenges while supporting a new residential complex, parking garage, amenity area and utility lines in Secaucus.

