Housing

Wellington Place Apartments

UNITED STATES

Syracuse, NY

Owner
Gilbane Development Company

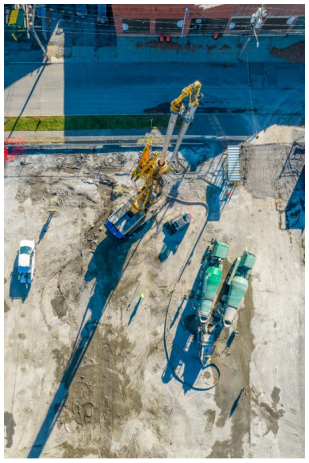
Engineer
Jensen BRV Engineering, PLLC

General contractor
Taylor the Builders

Dates of work
December 2021 January 2022

Main figures

Controlled Modulus Columns
400 EA.



Description

Conveniently located near the Syracuse University campus, the proposed 193-unit Wellington Place Apartments would feature a 159-space underground parking garage, along with surface-level indoor and outdoor amenity spaces that would include a gym, a café, study lounges, outdoor fitness spaces, bean toss areas, grills and more. A rooftop terrace is a highlight of this 6-story, U-shaped, luxury student apartment building. Total estimated cost is $50 million.

Wellington place, formerly a gravel parking lot, is located on the southeast corner of East Fayette Street and Forman Avenue in downtown Syracuse, just blocks from the university,

Due to the nature of the soils/fill on site, Menard USA was contracted to provide ground improvement – the selected technique was Controlled Modulus Column (CMC)® rigid inclusions.

Ground conditions

The soils at the site contained approximately four ins of asphalt and gravel pavement underlain by up to 9 ft of old fill comprising sand, gravel, silt, and miscellaneous construction debris. Beneath the old fill, lenses of soft silt, clay, and sand was discovered to depths of approximately 58 ft below grade. CMCs terminated in a dense glacial till between 53-69 ft below the working grade. The groundwater table was approximately 8 to 12 ft below the working surface.

Solution

The heavy column loads and high groundwater table were unfavorable to support the proposed building. The soft soils exhibited poor bearing characteristics and required signified dewatering. After discussions with the design team, it was determined that CMCs offered a sound technical solution while providing significant cost savings over deep foundations. Menard installed 400 CMCs to a maximum depth of 65 ft from working grade. Column loads ranged from 50 to 435 kips. Continuous strip footing loads ranged from 3 to 11 kips/ft. The design required that the footings be sized to provide 4 ksf bearing capacity.

A Load Transfer Platform (LTP), typically composed of compacted angular gravel, is designed to transfer the load from the footings into the CMCs. For this project the LTP consisted of 3 ins of NYSDOT Type 2 subbase and 3 ins of 1,000 psi flowable fill. Crushed drainage stone was placed to 1.5 ft in one lift surrounding the upper portion of the CMCs to provide adequate water drainage. Project challenges included deep CMC cutoffs. Menard was contracted to provide cutoffs up to 4 ft below the working surface. To accommodate this task, Menard provided a hydraulic cut-off capable of reaching depths up to 12 ft below the working platform. Menard successfully performed a load test applying 81 kips with approximately 0.6 ins of deflection, meeting the performance criteria of the building.

To support a 193-unit student luxury apartment complex in Syracuse, Menard successfully installed 400 CMCs.