The Lake House on Canandaigua

UNITED STATES

Canandaigua, NY

Owner
L,R, R M NY, LLC

Engineer
Foundation Design, PC

General contractor
LeChase Construction

Dates of work
April 2019 May 2019

Main figures

Controlled Modulus Columns
954 EA.

Description

In Canandaigua, NY, the hottest spot in town is The Lake House on Canandaigua. The four-story, 124-room boutique hotel features an event center, an outdoor pool, a destination spa and wellness center, casual dining options and a signature restaurant, The Sand Bar. The sprawling resort has earned glowing reviews from Travel & Leisure (No. 1 resort hotel in New York State) and Conde Nast Traveler (Best New Hotels in the World in 2021). It has been featured in publications from coast to coast, including Philadelphia Magazine, which described it as, “A culinary wonderland,” and Cleveland Magazine, which dubbed it, “A Diamond on the Finger Lakes.”

Prior to completion in 2020, the venue underwent a complete overhaul. Formerly known as the “Inn on the Lake,” it was torn down after 50 years to make way for nearly $50 million in updates and improvements. Because the new facility would be reconstructed on a site with poor soils and high ground water, Menard USA was contracted to address the concerns by installing Controlled Modulus Column (CMC)® rigid inclusions.

Ground conditions

Fill material was present at the surface and overlied topsoil/peat and then glacial deposits. At approximately 15 ft below grade was a silty clay with n-values in the 15 to 30 range. A soft to very soft clay was present below a depth of 25 ft and overlied a dense glacial till at 55 ft.

Solution

Helical Piers were originally proposed to terminate in the upper stiff clay formation from 15-20 ft below grade. Pile tests, however, determined that the Helical Piers did not provide adequate support and would need to be extended to the dense glacial till layer at 55 ft below grade. This prompted the owner and engineer on the project to propose CMCs as an alternative form of foundation support. CMCs would provide considerable savings, given the cost of installing concrete (CMCs) to an average depth of 55 feet is more economical than installing steel helical piers to the same depth.

A challenge Menard faced was high ground water, which made it difficult to achieve compaction of the Load Transfer Platform (LTP). The LTP is a compacted stone layer that acts as a cushion between the top of the CMCs and the foundations. To overcome this concern, Menard’s design team innovatively incorporated flowable fill to allow for LTP placement to overcome the high groundwater table.

The design provided less than 1-in of post-construction settlement with less than a ½-in of differential settlement, meeting the Engineer’s performance criteria for the building. Menard installed 954 CMCS to an average depth of 52 ft and maximum depth of 62 ft. Menard’s ground improvement solution of CMCs supported the construction of a four-story hotel that has emerged as one of the premier destinations in the US.