

Marriott Courtyard Hotel Stamford, Connecticut



Description

Eight story, 16,200 square foot hotel with a partial below grade level in an urban environment. Typical loads up to 1408 kips.

Subsurface Conditions

A 4 to 13 ft. thick layer of loose to medium dense sand fill was encountered over a 2 ft. thick layer of medium dense gray silt. Beneath these soils was an underlying Glacial Lake deposit with interlayered dense to very dense sand and gravel. Groundwater was encountered at depths of approximately 21 to 28 ft.

Design Details

Original plans included spread footings designed for 4,000 psf bearing on the Glacial Lake deposits. Excavations required for six footings would undermine the adjacent stone rubble building foundations in the southeast corner of the site. As an alternative to an expensive and time consuming underpinning operation, a *Geopier*® soil reinforcement solution was developed that incorporated a total of ninety three, 80-kip capacity Rammed Aggregate Piers that completely penetrated the fill soils and extended into the underlying foundation bearing stratum. The *Geopier* reinforced fill permitted footings to be constructed at or above the grade of the adjacent building foundations and was designed to limit settlement to less than 1-inch. Work was completed in approximately four days with crews working through a weekend to help the general contractor maintain the construction schedule.

Geopier Licensee: Helical Drilling Inc. - Braintree, MA & GeoConstructors - Leesburg, VA

General Contractor: Haynes Construction Company - Seymour, CT

Owner: Summer Hotel Partners, LLC - Stamford, CT

Developer: F.D. Rich Company - Stamford, CT

Geotechnical Engineer: Heller & Johnsen - Stratford, CT

Structural Engineer: Cagney & Associates - Rockville, MD

Reference: Larry Johnsen & Jon Jagello – Heller & Johnsen – (203) 380-8188

Paul Willis – Haynes Construction Company – (203) 888-9048

Paul Polotaye – FD Rich Company – (203) 359-2900