



Yale Steam Laundry Condominiums

Washington, D. C.

A project with significant design and installation challenges was no match for the Geopier GP3® system, as production was successfully completed during periods of record rainfall

Description: Construction of a 12-story, 133-unit condominium tower with a footprint of 169,000 sq. ft. on the site of the former Yale Steam Laundry Plant. Column loads range from 40 to 1,300 kips. Shear wall loads range from 740 to 2,900 kips.

Subsurface Conditions: Soil conditions consisted of medium dense to dense sand, clayey sand and very stiff clay and silt. Groundwater was encountered at approximately 11 to 19 feet below ground surface.

Geopier Solution: This project presented significant design challenges in the fact that the building site was in close proximity to existing structures, access during excavation was very limited, and excessive rain fall during the construction process nearly halted production. The geotechnical engineer recommended the Geopier GP3® system as the optimal choice to support the structure while also effectively limiting total and differential settlement to less than the allowable 1.0 inch and 0.5 inch, respectively. Driven piles and drilled shafts were not feasible due to the proximity of adjacent structures and Rammed



Aggregate Pier® (RAP) elements would be less costly than the 80-foot long drilled shafts that would have been required. Despite the challenges presented, the installation team was able to install a total of 375 RAP elements in 19 days. A modulus test taken during production revealed less than 0.49 inches of deflection at 100% of the design stress of 19,818 psf.

PROJECT TEAM

Owner:

GIBG YL Partners, LLC

Geotechnical Engineer:

Mactec Eng. & Consulting, Inc.

Structural Engineer:

Holbert Apple Associates, Inc.

General Contractor:

Clark Construction Group, LLC

Geopier Installer:

GeoConstructors, Inc.

Geopier Designer:

GeoStructures, Inc.