Society Hill Apartments

Jersey City, New Jersey

Keller's alternate vibro concrete column proposal alleviated concerns regarding contaminated groundwater percolating up through the originally proposed timber pile foundations into the clean fill below the housing units.

The project

A 30-building condominium complex was to be built on a site formerly occupied by an aircraft engine plant. Ground conditions consisted of 18 ft of uncontrolled sandy fill overlying 13 ft of compressible organics with medium dense sands beneath.

The challenge

The site was contaminated from previous aircraft manufacturing activities. The original foundation system recommendation called for 30-ton driven timber piles; however, there was concern that contaminated groundwater might percolate up through the timber piles into the clean fill material below the housing units.

The solution

The owner’s engineer contacted Keller for a viable alternate foundation system that would alleviate the environmental concerns. Keller proposed vibro concrete columns to provide adequate capacity without the possibility of upward movement of the contaminant via the timber piles. Keller installed the vibro concrete column foundation system with a load transfer platform for the initial 11 of 30 buildings. The vibrator was advanced to the bearing stratum of medium dense sands at a depth of 25 to 30 ft and 4,000 psi concrete pumped to construct a 24-in.-diameter base bulb and top bulb for the 18-in.-diameter shafts. Following installation, the vibro concrete columns were allowed to cure before placement of the load transfer platform. Over 2,500 vibro concrete columns were installed, totaling 70,000 linear ft.

Project facts

Owner(s)
K. Hovnanian Companies Northeast, Inc.

Keller business unit(s)
Keller

Main contractor(s)
N/A

Engineer(s)
Melick-Tully and Associates, P.C.
Heller & Johnsen

Solutions
Ground improvement

Markets
Residential

Techniques
Vibro concrete columns

Email address
info@keller-na.com

Phone number
1 (800) 456-6548