

CASE STUDY

8.625" HELICAL PIPE PILES FOR THE GLENMARK AT TUCKAHOE NEW YORK

SPECIFICATIONS:

All (304) Helical Pipe Piles were non-galv
8.625" diameter with a .408 W.T. All the helix bearing plates were 18" and 22" diameter with a .75" thickness. All piles were installed to minimum 60 ton compression design load using a 70,000 ft/lbs drive motor.

SOILS + EMBEDMENT DEPTH:

Organic fill over dense sandy soils with N values average of 20 BPF were encountered at approximately 25ft. Pile embedment depths varied from 20-75ft. due to varying soil conditions and bedrock depth.

TIME FRAME:

Two months with multiple mobilizations.



8.625" HELICAL PIPE PILES GREATLY IMPROVED PRODUCTION TIME, RESULTING IN SIGNIFICANT COST SAVINGS



OVERVIEW:

Driven piles were used elsewhere on this site but due to vibration concerns and the close proximity to existing structures, torque down driven pipe piles were specified for this phase of the project. IDEAL proposed large diameter Helical Pipe Piles as an alternative that offered improved production and cost savings. Scobbo Foundation Systems executed load and performance tests per engineering specifications and Helical Pipe Piles were approved for the project with a safety factor of 2 for the design load of 60 tons per pile .

CHALLENGE:

The biggest installation challenges Scobbo faced were the excessive debris in the fill and the varying soil conditions throughout the site. Ash, asphalt, brick, concrete, coal, and wood were documented from 1' 6" to 14' 6" below the existing ground surface. Pile installation depths were anywhere from 20 to 75 feet due to the varying depths of fill, ground water levels, and depth to bedrock. The site-specific torque correlation provided through the install of Helical Pipe Piles played an integral role in substantiating individual capacities.

SOLUTION:

Large diameter Helical Pipe Piles passed all performance and load tests to 60 tons design load and were approved as they were less expensive and faster to install. The (304) piles were installed over four mobilizations in spite of several snow storms and severely cold weather, which once again demonstrates the versatility of Helical Pipe Piles.