# *MacLean Civil Products Teams with Premium Technical Services and Foundation Stabilizers, Inc. to Install (1076) MVP Helical Piles for a Large Project in Brooklyn, NY*

MPS Civil Products

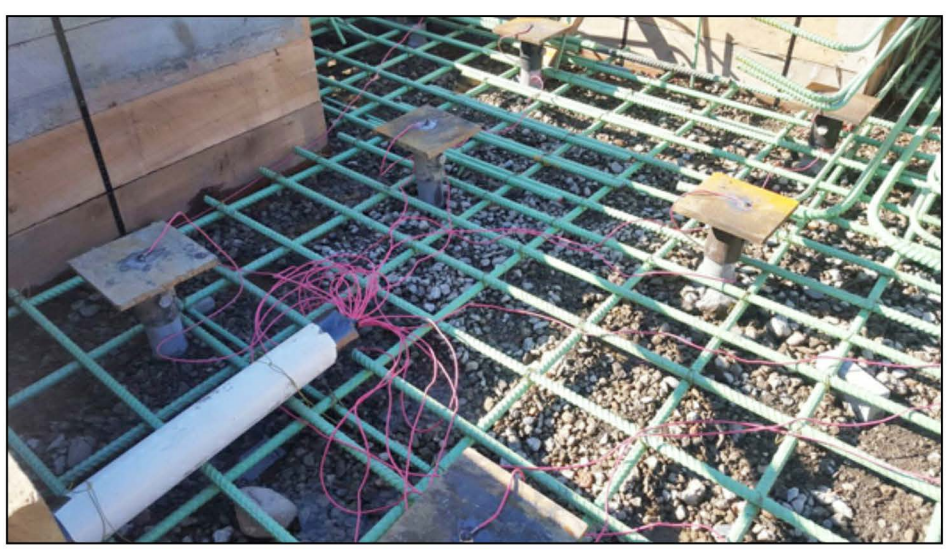
**MacLean Power Systems**
**Civil Products Group**
481 Munn Road, Suite 300
Fort Mill, SC 29715
800-325-5360
www.macleandixie.com

| | |
|---|---|
| **Project Name & Location:** | Kristal Auto Mall - Brooklyn, NY |
| **Project Date:** | January - May 2016 |
| **Project Type:** | Deep Foundations & Tiebacks for Multi-Story Structure & Retaining Wall |
| **Helical Pile Installation Contractor:**<br>**Geotechnical Engineer:**<br>**Helical Pile Distributor:** | Foundation Stabilizers, Inc. - www.foundationstabilizers.com<br>Petracca Design & Engineering - www.tompetracca.com<br>Premium Technical Services - www.premiumtechnical.com |
| **Helical Pile Specifications:** | P35H 3.50" x 3.00" Wall MVP Grouted Helical Piles with 10",12",14",14",14" Helix Bearing Plates, (53) Tons Ultimate Capacity, Galvanized, 8" Grout Column for Upper 18 ft. |
| **Soils & Embedment Depth:** | Sand and Clay Average Pile Embedment 28-35 ft. |
| **Project Timeline:** | Multiple Mobilizations January - May |
| **Helical Pile Manufacturer:** | MacLean Power Systems - Civil Products Group - Fort Mill, SC |

The Kristal Auto Mall site is a former Marina in Brooklyn where the plans called for a multistory structure to be placed on low consistency soils that encounter tidal influence. Foundation plans developed by Petracca Design & Engineering included (850) deep foundation grouted compression piles, (86) battered grouted compression piles (140) retaining wall non-grouted tension piles.

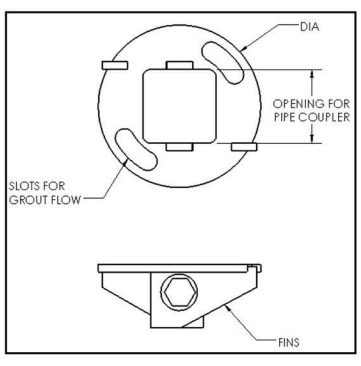
MacLean Civil Products Group (MCP) supplied (1076) model P35H 3.50" O.D. X 0.30" wall MVP helical piles with 10",12",14" helix bearing plates on the lead sections plus extensions with (2) 14" helix bearing plates. In addition, 8" displacement cutter plates were attached to the upper 18 feet of each pile to create a grout column for added lateral support and corrosion protection. The (86) battered piles were installed 27 to 40 degrees from vertical.

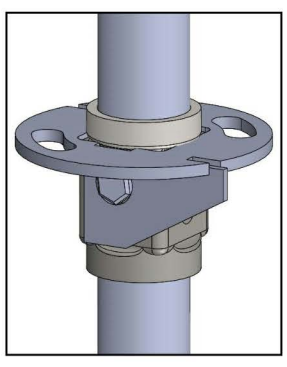
Foundation Stabilizers Inc. installed a total of 1,076 piles to complete the foundation pile work. Soil testing indicated that this particular site was susceptible to increased corrosion due to the high resistivity values found in the soil combined with the tidal action of Jamaica Bay. Helical piles are often protected with a hot-dip galvanized zinc coating in aggressive soils to achieve the needed service life. In isolated cases further corrosion protection is needed. Due to soil conditions for this project cathodic protection was used to protect the steel by minimizing the rate of corrosion with a sacrificial anode. This solution offered cost effective corrosion protection prolonging the service life of the helical piles.



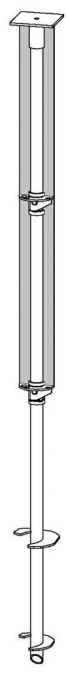
The project required several mobilizations over its duration with the final phase of the project, a large retaining wall with (140) tieback anchors, was completed in May.

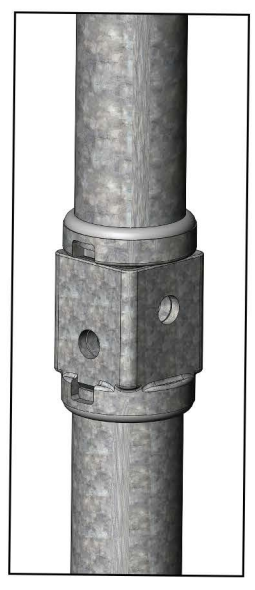
"MCP offers proven and high quality helical piles that have been evaluated by the AC358 helical pile acceptance criteria as documented in the (ICC-ES) ESR-3032 report. Additionally MCP offers our patented (US 8,777,520 B2) square on square coupler system which increases pile performance and reduces installation time. To create a cost effective grouted helical pipe pile, the installer can easily connect our MVP cutter plates to our square on square connection", said MCP engineer Jordan Middleton.



Cutter Plate for Grouted Round Shaft or Round Corner Square Bar Helical Piles





Patented Square-On-Square Coupler System

MPS Civil Products