JCI Bridge Group Installs (225) Helical Tieback Anchors to Secure 1000 Ft. New Sheet Pile Wall in Michigan City, IN

Fall 2014

JCI Bridge Group, Inc.
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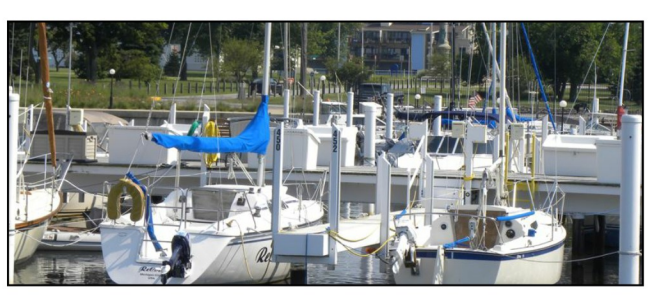

Project Name & Location:	Trail Creek Marina Shoreline Improvements, Michigan City, IN
Project Date:	Fall 2014
Project Type:	Anchors for Sheet Pile Wall
Helical Pile Installation Contractor: **Helical Design Engineer:**	**JCI Bridge Group, La Porte, IN** **Anchor Engineering, Inc. Denver, CO**
Helical Piles Specifications:	(225) 2.375" dia. x 0.254" Wall Round Shaft Helical Piles with 10"-12"-14"-16" Helix Bearing Plates, Galvanized; Design Load 30-34 kips
Soils & Embedment Depth:	Sand with Some Clay. 50 ft. to 100 ft. Embedment Depth
Project Timeline:	(2) Months; Completed in November, 2014
Helical Pile Manufacturer:	Viking Helical Anchors - Eden Prairie, MN

Project Overview

In 2014 JCI Bridge Group was contracted by the Michigan City Port Authority to install a new sheet pile wall as part of a major renovation and improvement project for the Trail Marina Shoreline. The soft soils and high water table meant that the helical tieback anchors would reach competent bearing soil at depths ranging from 50' to 100'. A total of 18,300 feet of helical tieback anchors were installed on the project.

The project consisted of installing 1000 lft of new sheet pile seawall with 35' to 43' long sheet piling. The sheet pile wall was tied back with helical anchors spaced at 4.75 feet for a total of 225 helical anchors. The anchors required a capacity of 30 and 34 kips depending on the wall configuration. The helical anchors ranged in length from approximately 50 feet to 110 feet long with a total length of 18,300 ft. driven for the project. A (4) flight configuration was used with diameters of 10", 12", 14", and 16". A whaler was placed behind the sheet pile wall to connect the helical anchors to the sheet piling.

A trench was excavated behind the wall so both the 5' and 7' leads and extensions with helix bearing plates could be installed. All other extensions were 10' long and were installed through a six inch diameter hole that was cut in the sheet piling.

Two load tests were performed on the helical anchors to verify capacity. The two piles were tested by JCI to 200% of the design capacity. All of the anchors were then tensioned to 100% and tied off to the whaler.

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About JCI Bridge Group, Inc.

JCI Bridge Group, Inc. is a Heavy/Highway Construction Company based in LaPorte, Indiana and was established in 2005. JCI Bridge Group, Inc. specializes in the construction of bridges; from small county culvert replacement projects, to single span county bridge replacements, to multi-million dollar new bridge construction projects. This includes roadway or railroad bridges over rivers and streams, over other highways or roadways and over railroads. JCI has also constructed several pedestrian bridges. JCI typically performs work in the northern third of the state of Indiana and have performed some work in southern Michigan. To complement the bridge construction, they also subcontract other types of work including driven piling, sheet piling, helical pier installation, bridge jacking, structural concrete and concrete flat work.