

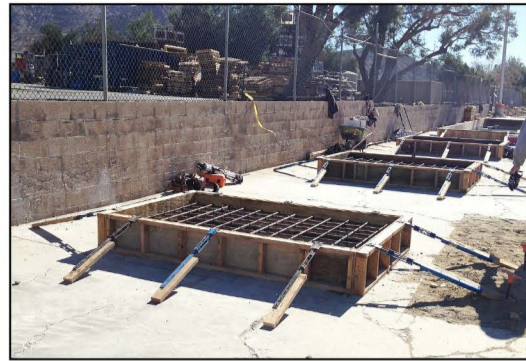


MacLean Civil Products Teams with Construction Services, Inc. to Install (85) Helical Piles for Deep Foundation Support for a Large Kiln in Fontana California



MPS Civil Products

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Project Name & Location:	Deep Foundation for a New Kiln for James Hardie Co. - Irvine, CA
Project Type:	Deep Foundation
Helical Pile Installation Contractor:	Construction Services, Inc. - http://anchorguys.com/
Geotechnical Engineer:	CHJ Consultanta - http://chjconsultants.com/
Structural Engineer:	EJD Engineering, Inc. - http://www.ejdengineering.com/
Helical Pile Distributor:	Advanced Support Technology - http://www.earthscrow.com/
Helical Pile Specifications:	Model D15 2.00" RCS Helical Piles with 8",10",12" Helix Bearing Plates, Dixie 350 Cast Foundation Repair Bracket, Galvanized
Soils & Embedment Depth:	Dense to Very Dense Sands and Gravel; Average Pile Embedment 22 ft.
Project Timeline:	(3) Weeks
Helical Pile Manufacturer:	MacLean Power Systems - Civil Products Group - Fort Mill, SC

James Hardie Company elected to construct a new series of firing kilns in order to facilitate the expansion of their current business of manufacturing fiber-cement siding for the building industry. The Hardie Company, with operations that currently encompass the United States, Australia, New Zealand and the Philippines, pioneered the development of fiber-cement technology and needed to expand its manufacturing capabilities quickly to satisfy the growing demand for their products.

The proposed kilns required a high capacity foundation system to support the extreme weight of the kiln units, as well as the weight of the siding being fired within them. This issue was complicated due to the presence of large gas and water utility lines which would be located directly beneath the new kiln's foundation. The engineers determined that the new concrete pads to support the units must be founded on deep foundation elements installed in a manner would not apply any surcharge of the building onto the utility lines. Additionally, they were concerned with the introduction of vibration and equipment weight during pile installation which might damage the buried high pressure lines.



The engineers concluded that the installation of a high capacity helical pile foundation system would best serve the client's need for simplicity, minimal disruption and vibration, reliability and cost of implementing over convention concrete or driven piles. Construction Services, Inc., President, Mr. Chris Cobb, was retained to implement the proposed helical system. Mr. Cobb and his team successfully completed the code-required ASTM 1143D load test. This provided the engineers with verification that a MacLean Civil Products (MCP), 2.00" RCS helical pile fitted with 8"-10"-12" helices installed to a depth of twenty two (22') would satisfy the engineer's criteria for compressive loading as well as corrosion resistance.

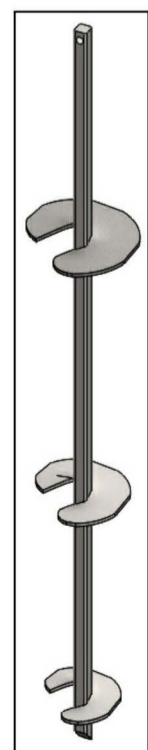


Construction Services, Inc. completed the project by installing Eighty Five (85) 2.00" RCS helical piles manufactured by MCP into the footing excavations using a Gehl CTL 80 High Flow skid Steer fitted with a ProDig 30k drive head.

The Hardie Company elected to retain the Geotechnical Firm of CHJ, Inc. to review the issues and to offer foundation options for consideration. CHJ, Inc. is based in Colton, California and has been in the business of providing construction inspection, materials testing, sampling and consulting services since 1964. Hardie then added the Structural Engineering firm of EJD Engineering to the team to design a deep foundation system to fit their needs. EJD Engineering is based in Chino, California and provides full service Structural Engineering and Architectural Design Services.



MPS Civil Products



2.00" RCS MCP Model D15
Lead Bearing 8"-10"-12" Helix
Extension with Square on
Square Coupler