

CHANCE®

UNDERPINNING ANCHORING REPORT

A CASE HISTORY

Project: Elevated Residence Mandeville, LA	Geotechnical Engineer: Gore Engineering, Inc. Metairie, LA	Structural Engineer: Engineering Services, Inc. Slidell, LA	Anchor Contractor: Cornerstone Foundation Repair Covington, LA
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Job Description:

The structure was an Acadian style two-story residence with the first floor 11 ft. above the groundline. The soil was a very soft clay to a depth of 18 ft. with N values of 1 to 4. A stiff clay was encountered at the 25 ft. depth. The structure had experienced a differential settlement of 5½ inches from May 1995 through January 1996. Head room clearance was 10 ft.

Foundation Plan of Repair:

A 3-ft.-wide trench was excavated along each row of timber pilings. The timber pilings were notched at approximately 2 ft. below grade to accept two channels (C12 x 20). Notches were placed in the timber pilings so that after the lift, the channels would be level with the upper floor. The 45-ft.-long continuous channels were bolted to each timber pile with three 7/8-inch throughbolts.

Chance HELICAL PIER® Foundation Systems anchors were installed between the timber pilings. Each anchor had a 1½-inch square round-cornered steel shaft with four helices of 10, 12, 14 and 14-inch diameters. The installation unit was a Bobcat 853H equipped with a 12,500 ft.-lb. Eskridge drive motor and an ESI DP1 in-line torque indicator. Installed depths of the anchors varied from 20 to 30 ft. along the pile row farther from the river



and from 50 to 55 ft. along the pile row closer to the river. All anchors were installed to 5,300 ft.-lb. of torque.

A pile cap area was excavated at a depth of 20 inches below the bottom of the continuous channels. The pile cap consisted of a reinforced channel assembly with a pipe sleeve for connection



to each anchor. This assembly was embedded in approximately 8 inches of grout in the haunch area.

The Lift:

Two hydraulic jacks were symmetrically positioned on either side of the anchors. The lift load consisted of two parts: The structure's dead load with furnishings plus the adhesion forces along the timber pilings. The structure was releveled to within a ¼-in. tolerance. The maximum lift was 5½ in. on the center two rows of timber piling.



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NOTE: Because Hubbell has a policy of continuous product improvement, we reserve the right to change design and specifications without notice.

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