



Owner: CCH Lamar Partners I, LP
General Contractor: Azteca Enterprises, Inc. | Bill Percy (469) 337-2378
EOR: Jaster-Quintanilla Dallas, LLP | John Hoenig (214) 752-9098
Completion Date: August 2011 | Ultimate Pile Capacity: 100 kips

PROJECT SUMMARY

Historic NYLO Hotel Elevator Foundations

Project Description: Developer Mathews Holdings Southwest had a vision for the building located at 1325 S. Lamar, Dallas, Texas. Originally constructed in 1910, it was home to the Dallas Coffin Company through the late 1950's. It was later home to the administrative staff of Sears and Roebuck. After sitting empty for several years, Mr. Jack Mathews purchased the building in 1997 and set upon his dream of turning the classic historical building into a unique boutique hotel located just on the south side of downtown Dallas. Although the building was structurally sound, it contained no elevators; and since the original construction provided a suspended concrete slab with crawlspace, no equipment could be taken inside on the first floor to aid in elevator foundation construction.

Subsurface Conditions: The geo-technical report showed loose to medium dense sand to a depth of $\pm 9'$ below grade. The medium dense sands extended to the limestone formation at $\pm 18'$ below grade. The grey limestone was extremely hard with blow counts of $\pm 100/1'$.

Design Details: Targeting the extremely hard layer located 18' below grade, Power Lift chose a pile configuration utilizing a single 12" x 3/4" grade 50 helical disc and due to lateral load requirements, a 4 1/2" O.D. x .438" wall thickness pile shaft. The design provided for a 50 kip service load and a factor of safety of 2:1. A pile load test was performed per ASTM D-1143. The load test revealed that at an ultimate load of 100 kips, the pile moved a mere 1/4". Loading was increased in an attempt to identify ultimate failure. At



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a load of 180 kips, the test was terminated due to pile/frame rotation. At a load of 180 kips, the pile moved a maximum of 5/8", well below the 1.2" allowed by ICC AC 358 Section 4.4.1.1.

Since the first floor slab could not support equipment, it was necessary to excavate beneath the structure to the elevator locations. Due to limited head room, the piles were manufactured in 5' sections. Each pile was installed to the design torque of 25,000 fl/lb insuring each pile developed the required capacity. The work was completed in three days, allowing the general contractor to proceed with elevator foundation construction without negative impact to the construction schedule.

