Residential

Case Study

Helical and Push Piers

Project: Coyle Residence
Location: Sayreville, NJ
Date: June 2009

Problem:

The Coyle home is a ranch-style home built in the 1960's. The three bedroom ranch and one car garage were built on very poor soil conditions. Settlement of 16 inches was observed in the right rear corner of the house, and settlement of more than 4 inches was observed on the north side of the garage. Cracking in drywall, doors and windows that would not open and close, and uneven surfaces were encountered throughout the home. Due to the severe settlement, the homeowner was seeking to replace the foundation to bring the home to a level position. However, foundation replacement alone would not be enough as the homeowner wanted assurance that settlement would not occur again with their new foundation.

Solution:

Quality 1st Basement Systems, working with the homeowner's mason, recommended twenty-eight (28) new construction helical piers and eight (8) retrofit push piers to effectively transfer the weight of the home and garage to deep, suitable soils. The house was raised off its original foundation and the footing and foundation wall were removed. Quality 1st Basement Systems then installed the new construction helical piers along the house perimeter to depths of 36 feet. The tops of the helical piers were cast into the new footing/grade beam. To stabilize the sunken footing on the garage wall, eight (8) push piers were hydraulically driven to suitable soils. Quality 1st Basement Systems lifted the garage wall approximately 4" towards a level position. Installation of the new construction helical piers and retrofit push piers were completed within 7 days, despite tight access, difficult working conditions and unforeseen construction delays.

House lifted and original foundation removed

New construcftion helical piers installed

Rebar placed and footing ready for concrete

Rebar placed and footing ready for concrete

Project Summary

Installing Contractor: Quality 1st Basement Systems, NJ

Quality 1st Project Supervisor: Bob Cherry

Engineering: Rod Simon, Simon Engineering

Products installed: (28) Foundation Supportworks™ Model 288 Helical Piers and (8) Foundation Supportworks™ Model 288 Push Piers