CHANCE®

UNDERPINNING ANCHORING REPORT

A CASE HISTORY

Project:
Rembrandt Terrace
Dallas, TX

Underpinning Contractor:
Hargrave & Hargrave
Wiley, TX

Structural Engineer:
R.M.I. Structures
Dallas, TX

Job Description:
This home is a three-story brick with approximate loads expected in excess of 3000 lb. per linear ft. This home was constructed on a creek bank in North Dallas. The lay of the land was such that water drained toward the creek and under and around the home. A French drain was installed to assist in water removal, but the home had experienced both settlement and upheaval causing extensive damage to the structure.

The Plan of Repair called for 50 anchors to be installed around the structure on the grade beam. Soil borings demonstrated tan calcareous w/limy pebbles at 5'; tan and gray shaly clay at 10'; gray shale from 20' to termination at 27'. Concrete piles 12" in diameter belled to twice the diameter extending a minimum of 20' were required around the perimeter of the home. Upon lift, the interior of the home began to "dish". Lift was terminated while the problem of the interior not moving was considered. An attempt to lift the interior using concrete blocks and hydraulic jacks proved ineffective.

Repair:
It was decided to use the Chance HELICAL PIER® Foundation Systems anchors on the interior grade beam. A 10" helix on a 7' shaft was installed using extension material to a depth of 20' to attain a bearing capacity of 25 Kips. The shaft of the anchor would then be encased by a sonotube with a foot-bracket encased in high strength concrete. This would provide the lift platform to use to raise the interior of the home in conjunction with the lift on the exterior grade beam. The lift was effected to 9" as indicated in the bottom photo.

A class "c" fly ash slurry was pressure injected to consolidate loose soil and to fill voids between the bottom of the slab and the soil beneath that was created by the lifting process.