

A CASE HISTORY

Project: University of Pennsylvania White Training Center basement reconstruction Philadelphia, PA	Structural Engineer: Joseph B. Callaghan, Inc. Philadelphia, PA	General Contractor: John S. McQuade Co. Philadelphia, PA	Foundation Contractor: D'Angelo Bros., Inc. Philadelphia, PA
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Job Description:

Replace existing bi-level basement slab and retaining walls with pile supported structural slab on grade and wall footings.

Unconsolidated and eroding soil were the major factors causing structural damage to the food-preparation and mechanical areas in the basement.

Specified Solution:

Install 30 piles with a 40-kip working load per pile. The Chance HELICAL PIER[®] Foundation Systems screw anchor was among four pile options listed in the Specifications.

Repair:

D'Angelo Bros., Inc. was selected as the pile contractor using Chance SS200 screw anchors. Each pile consisted of a lead section with three helices (6-, 8-, and 10-inch diameters) and 15 vertical feet of extension to reach the required decomposed mica schist bearing stratum. Torque ranging from 8,000 to 10,000 ft.-lb. was achieved during this installation using a 10,000 ft.-lb. drive head hung off a mini excavator that fit through the 44"-wide door opening and under the 7-foot ceiling. The drive head was powered by a hydraulic power unit stationed outside the building and engaged by hand-held remote.

Pile installation was completed in five working days, six days ahead of the general contractor's schedule.

