



Key Achievements

- Hayward Baker, Inc. (HBI) completed work in restricted access conditions safely and on time in a busy petrochemical facility.
- Work shifts were performed during separate mobilizations spread out across multiple months during non-peak plant hours.

The project

The client added a new sump area and needed to support the new concrete sump floor. Along with the new addition, the client also required deep foundation support of new pipe bridges and supports, and retrofitting existing supports (concrete bell piers) with new helical piles in the main corridor of the facility. The subsurface soils generally consisted of lean-to fat clays in loose to medium soils 20 to 30 ft deep.

The challenge

Construction of the sump required earth retention to protect adjacent plant facilities. The system consisted of internally-braced sheet piles designed and installed by HBI. The elevation of the floor was located about 24 ft below existing grade, which was to be excavated. The concrete sump floor was to be poured prior to helical pile installation. Due to difficult access constraints, the installation method was limited to working from existing grade. Also, an existing clarifier tank adjacent to the new sump limited HBI's access around the sump. The location of all new and retrofit pipe support locations were located along a busy corridor within the plant, limiting the helical pile section, drive motor, and excavator sizes.

The solution

A combination of helical piles and sheet piles allowed for construction of the sump. The project team worked with the general contractor and engineers to provide an alternate solution that met the original design load requirements.

Application

Deep Foundations
Earth Retention & Shoring

Technique

Helical Piles
Sheet Piles

Market sector

Industrial & Manufacturing

Owner

Confidential

Main contractor

Bayou City Industrial
Contractors

Engineer

Hayward Baker, Inc.
Cyntech

Keller business unit (s)

Hayward Baker, Inc.
Cyntech