

The Problem

A new automotive manufacturing facility covering approximately one million square feet was being constructed in Southern Ontario. In one of the buildings, large process pits approximately 20 ft. (6 m) deep, were being constructed. Design loads for the finished floor slab necessitated additional horizontal support for the process pit walls.

A layer of very stiff to hard silty clay existed approximately 8 ft. (2.4 m) below ground surface. Above and below this layer the soils were firm to stiff. It was critical to install the Helical Anchors into the very stiff to hard silty clay layer to achieve the required tension load needed for each anchor to support the walls.

The Solution

Chance[®] Tie Back Anchors were determined to be the most economical solution. The helical anchor size selected for the tiebacks was a four helix configuration Type SS-175. All anchors were installed into the native soil layer at angles varying from 5° to 15° from the horizontal. Installation torque was monitored to ensure anchor capacity. Each anchor was designed to achieve a working load of 32.5 Kips(114 Kn)..



All the helical anchors were pre-loaded to 30 to 40% of the design load prior to backfilling and the pit walls were monitored for movement. After backfilling was completed the anchors were pre-loaded to approximately 80% design working load. Substantial savings, versatility, and reliability of the **Chance[®] Tie Back Anchor** system was realized over other methods.