

Multi Storey Condominium Underpinning – Toronto, Ontario February to May 1998

The Problem:

- An eleven storey condominium building constructed on dense clay till capping an artesian aquifer
- Four shear walls, two columns, and the parking garage foundation walls on the south-west corner of the structure were undermined
- Limited access in the parking garage and the presence of the artesian aquifer, pile driving and caisson installation were not viable underpinning options



The Solution:

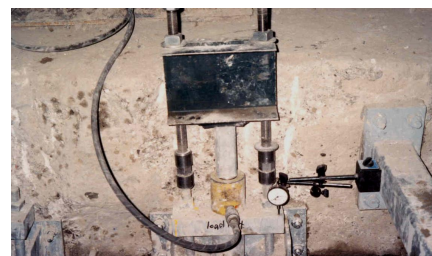
- **Chance® Helical Piers** were determined to be the most viable solution to underpin the structure based on the relative ease of installation in a tight space and the load bearing capabilities of the Chance Helical Piers
- An axial compressive load test was completed on an installed test pier to confirm the capacity of the soil

Product Used: (83) **Chance® Helical Pulldown® Micropiles** with 150 mm (6") diameter using EBS 301 grout

Depth: 10.4 m to 13.4 m (34 to 44 ft)

Loads: 330 KN (75 kips) allowable load
(660 KN ultimate load)

Finishing: Heavy duty foundation repair brackets
All load tested to 130% design load



Geotechnical Engineer: Soil-Mat Engineers and Consultants Limited
Structural Engineer: SPH Engineering
Chance® Helical Pier Installer: EBS Engineering and Construction Limited