

# Iredell Memorial Hospital Employee Parking Garage

Statesville, NC



**Project Description:** Tolerances of less than  $\frac{1}{2}$  inch of differential settlement for adjacent exterior columns were necessary to minimize the potential for cracking of the brick veneer for a new 4 story employee parking deck at Iredell Memorial hospital in Statesville, NC. The subsurface conditions at the site consisted of clayey silts with blow counts ranging from N=9 to 15 bpf at the foundation level which were too soft to meet the settlement criteria using standard spread footings. Alternatives including driven H-piles, auger cast piles and Geopier supported footings were explored. H-piles were eliminated due to concerns over noise and vibration near the hospital. Geopier elements were found to meet the noise and vibration requirements and saved time and money when compared to the auger cast piles. A total of 318 Geopier elements were used to support standard spread footings designed for 8000 psf. Geopier lengths ranged from 9 to 12 feet long. Column loads for the project ranged from 240 to 915 kips, with interior strip footings with loads up to 50 kips per lineal foot. The Geopier installation was successfully completed in October 2000.

## THE GEOPIER ADVANTAGE

- Geopier elements controlled differential settlement of adjacent footings to close tolerances
- Geopier Installation met the vibration and noise requirements for the Hospital ER
- Geopier Foundations saved time and money compared to auger cast piles

**General Contractor:** Whelchel & Associates, Inc., Charlotte, NC

**Architect:** McCulloch-England Associates Architects, Inc., Charlotte, NC

**Structural Engineer:** Laurene & Rickher, P.C., Charlotte, NC

**Geotechnical Engineer:** S&ME, Inc., Charlotte, NC