



Scott Air Force Base, Illinois



Ground Improvement – Aggregate Piers & Vibro Concrete Columns

PROJECT OVERVIEW

A new, six-story, 169,000 square foot Visiting Quarters was planned for Scott Air Force Base in St. Clair County, Illinois.

Column loads on the order ranged from 450 – 580 kips. In at least one instance, multiple columns were to be combined into a single footing to provide a total vertical load of approximately 1150 kips.

Existing undocumented fill was encountered to depths ranging 2.5 feet to 8 feet below existing grade in some borings. Additionally, a high plastic clay with layers of silt/organic silt at depths ranging from 3.5 feet to 22 feet below grade.

REQUIREMENTS AND CHALLENGES

A maximum total settlement of 1 inch and a maximum differential settlement of a ½ inch.

SOLUTION AND RESULTS

Because of the challenging soil conditions, a combination of Vibratory Stone Columns and Vibratory Concrete Columns were used to meet the design criteria. The Vibratory Concrete Columns were necessary due to the soft layers of silt and saturated organic silt layers.

CNC Foundations' design worked exactly as expected. The columns passed all testing and we completed their work early.

Project Details

SECTOR

Government Facility

LOCATION

Scott Air Force Base,
Illinois

APPLICATION(S)

Aggregate Piers / VSCs
and Vibro Concrete Piers /
VCCs for Ground
Improvement

