



Sector:
Government Facility

Location:
Scott Air Force
Base, IL

Date:
2016

Application(s):
Aggregate Piers / VSCs and
Vibro Concrete Piers / VCCs

PROJECT CASE STUDY AGGREGATE PIERS & VIBRO CONCRETE PIERS



 AGGREGATE PIERS / VSCs

 MICROPILES

 EARTH SHORING

 GROUND IMPROVEMENT

 DEEP FOUNDATIONS

 GROUTING

Description

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 & Challenges

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

Solution

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.

Results

Helitech's design worked exactly as expected. The columns passed all testing and Helitech completed their work early.

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