



High School Gymnasium



Ground Improvement – Installing Vibratory Stone Columns

PROJECT OVERVIEW

A new gymnasium addition was being constructed on the campus of a high school. As the result of the soft, compressible soils conditions ground improvement was required for support of the gymnasium foundation walls.

REQUIREMENTS AND CHALLENGES

As the result of low density soils falling within the foot print of the proposed structure, this provided concerns and the Engineer of Record specified the ground to be improved along the exterior strip footings.

SOLUTION AND RESULTS

CNC Foundations installed new construction helical piles within 16 feet of the adjacent structure and monitored capacities by recording installation torque values during the pile installations. We conducted a full-scale load test to field verify the vibro stone column (VSC) loads and deflection. We installed VSC's along the exterior wall footings at various depths depending on in-situ soil strengths.

We completed the ground improvements in a couple of days. The tests performed extremely well and deflections were approximately 50% of the maximum deflection tolerances.

Project Details

SECTOR

High School Gymnasium

LOCATION

Onawa, IA

APPLICATION(S)

Vibratory Stone Columns (VSCs) / Aggregate Piers
Helical Piles

