



Fitness Center Chicago Suburb Oak Brook



Ground Improvement – Pre-drilled vibratory stone columns & vibratory concrete columns

PROJECT OVERVIEW

For this job, we completed ground improvement for a future fitness center in the suburbs of Chicago Illinois. CNC Foundations is an industry leader in ground improvement techniques. We provide design-build services for different general contractors and developers. On this site, we are installed vibratory stone columns and vibratory concrete columns.

REQUIREMENTS AND CHALLENGES

We utilized a bottom feed vibratory stone column method because of the granular soils that were highly collapsible on this site. Vibratory stone columns can be installed in two different ways.

- Top Feed – the stone is tipped from the surface.
- Bottom Feed – the stone travels to the bottom of the flat via displacement pipe and the pile is built from the bottom up on certain parts of this particular site.

On this site, there were granulars that were compacted fairly stiff at the surface. The solution was to pre-bore the upper 10 feet of these particular piles.

SOLUTION AND RESULTS

Also on this jobsite were peat and organic soils. Peats and organics will break down over time, thus causing potential settlement in the future. On this building, we also utilized vibratory concrete columns that created a rigid element through those peat and organic layers that will mitigate any potential concerns for settlement in the future.

Vibratory concrete columns are where concrete is pumped from a ready mistrust or batch plant through a displacement pile from the top of the vibratory fly down to the bottom of the vibratory probe. The concrete is then pumped at the base of the pile and it's built-in lifts from the bottom of the pile all the way to the surface.

Project Details

CNC Foundations installed pre-drilled vibratory stone columns and vibratory concrete columns for a fitness center in the Chicago suburb of Oak Brook, IL.

