



Wholesale Store



Wholesale Store – Installing Stone Columns

PROJECT OVERVIEW

A 143,000 square foot retail warehouse for a wholesale store was proposed at a large retail center. The building is a concrete masonry unit, approximately 30 feet high, supported by conventional spread footings. The Geotechnical investigation found the soil to be unsuitable for spread footing construction. The soils were found to be an existing fill with cobbles, old foundations, and voids from 1 to 9 feet in depth, clay from approximately 9 to 25 feet, and then clayey sand down to 45 feet.

REQUIREMENTS AND CHALLENGES

The Geotechnical Engineering firm recommended one of the following: removing and replacing the soil with compacted fill, preloading the site, augur cast piles, or Vibratory Stone Columns. The City of East Peoria found that partnering with CNC Foundations to install Vibratory Stone Columns was the most cost efficient and time savings solution to improve the building pad.

Because of the unsuitable existing fill throughout the project site, CNC Foundations was asked to support the strip footings, columns footings and slabs with Vibratory Stone Columns to keep the total settlement to less than 1 inch.

SOLUTION AND RESULTS

CNC Foundations installed over 1,700 stone columns throughout the job site. The depths of the VSC's ranged from 10 feet deep to support the slabs, to 29 feet deep to support the column footings. Because of the loose sands and fill, CNC Foundations used the bottom feed method for a majority of the job site.

Multiple load tests up to 1.5 percent of the design load were performed and validated CNC Foundations's design. CNC Foundations finished the project on time and on budget.

Project Details

SECTOR

Wholesale Store, Retail Warehouse

LOCATION

East Peoria, Illinois

APPLICATION(S)

Vibratory Stone Columns
Strip Footings
Column Footings
Slab Footings

