Industry

Goya Foods Warehouse

Jersey City, NJ

UNITED STATES

Owner
Goya Foods

Engineer
Langan Engineering & Environmental Services

General contractor
RC Andersen, LLC

Dates of work
2012/07 2013/04

Main figures

Controlled Modulus Columns (CMC)™
11400 EA.

Description

The Goya Foods warehouse and headquarters is a 615,000 sq-ft facility in Jersey City, NJ. The cutting-edge manufacturing, production and distribution facility is built on a 40-acre former brownfield site that sustained flooding following Hurricane Sandy.

To improve the ground, support the high surface loads, and minimize future settlements, Menard implemented a design-build ground improvement solution using Controlled Modulus Column (CMC)™ rigid inclusions.

Ground conditions

The facility was built on a landfill with a highly diverse soil profile containing varying amounts of waste. The upper layers of soil consisted of miscellaneous fill and debris over soft organic silt and peat underlain by a varve silt, clay and glacial till. CMC rigid inclusions were installed to depths of 10 to 60 ft before embedment in glacial till.

Solution

Menard proposed CMC rigid inclusions to support the entire facility and to improve the soft soils allowing for spread footings and slab-on-grade construction. This ground improvement technique was critical to minimize contaminated soil removal at the site.

CMC rigid inclusions are a preferred alternative for ground improvement at brownfield sites because they are installed using a specially designed auger that displaces the soil laterally, with very minimal spoils created.

The Menard solution consisted of the design and installation of thousands of CMC rigid inclusion elements to keep total and differential settlement within project tolerances. The slab loads were designed with an allowable bearing pressure of 1,100 psf, with footings designed at 5,000 psf. A large-scale area load test and four single-element load tests were performed to confirm critical components of the design.

Following schedule delays due to flooding from Hurricane Sandy, Menard used four rigs working simultaneously. Ultimately, the project was completed a month ahead of schedule.

In summary, for the construction of a 615,000 sq-ft warehouse and headquarters facility on a former landfill, Menard installed CMC rigid inclusions to improve the poor soil and support spread footings and slab-on-grade construction.