Industry

FedEx Freight Distribution Center

UNITED STATES

North Arlington, NJ

Owner
FedEx Ground

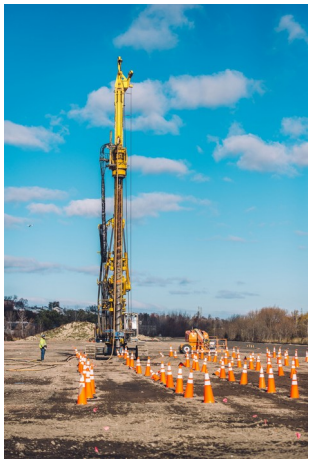
Engineer
Langan Engineering

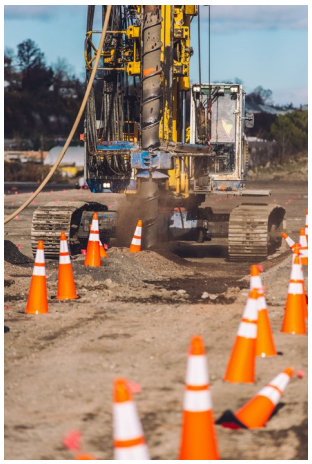
General contractor
RC Andersen, LLC

Dates of work
2016/11 2017/01

Main figures

Controlled Modulus Columns (CMC)®
2022 EA.





Description

The new FedEx Freight facility located in North Arlington, NJ, is composed of an 115,000 sq-ft warehouse, 26,000 sq-ft maintenance facility, 1,800 sq-ft fuel island, and 100 sq-ft guardhouse. To control settlement and support the footings and slab of the new facility, Menard proposed a ground improvement solution of Controlled Modulus Column (CMC)® rigid inclusions.

Ground conditions

The soil is characterized by an urban fill at the surface that ranges in depth from 4 to 16 ft, which is underlain by thin layers of peat and clay starting from 15 to 18 ft and going as deep as 20 to 24 ft. These layers are underlain by a denser sand layer with traces of silt and clay.

Solution

The presence of an existing foundation within the site's footprint required Menard to predrill the upper dense fill to penetrate the obstructions before CMC rigid inclusion installation could begin. Menard's design was a cost-effective alternative to piles or a structural slab. Other alternatives would have required more excavation, more time, and possibly a longer schedule as Menard crews were able to work through the winter months and inclement weather conditions.

A total of 2,022 CMC rigid inclusions were installed to maximum depths of 38 ft.