

Choctaw Point Container Terminal

Mobile, AL

Wick Drains

To improve the weak soil conditions at a port container terminal, Menard installed 94,000 Wick Drains, totaling nearly 4.3 million linear feet.



Installing Wick Drains near the port terminal bulkhead

Owner: Alabama State Port Authority
General Contractor: Phillips & Jordan, Inc.
Owner's Engineer: Volkert & Associates, Inc.
Owner's Geotechnical Engineer: Geotechnical Engineering Testing, Inc.
Owner's Geotechnical Design Engineer: Synergy Earth Systems, LLC
Ground Improvement Contractor: DGI-Menard (Menard)

Project Summary

DGI-Menard (Menard) completed one of its largest Prefabricated Vertical Drain (Wick Drain) projects, at the Alabama State Port Authority's Choctaw Point Container Terminal in Mobile, AL. The state-of-the-art container handling center terminal combines a deep-water container terminal with a container handling intermodal yard and a distribution facility capable of being serviced by five Class I railroads. To improve the weak soils at the site, a land reclamation and site stabilization project was undertaken. A sand fill, up to 25 feet thick, was placed within a driven sheet pile wall containment structure. Because the weight of the sand fill and the proposed surface loads would cause significant long-term settlement due to the consolidation of the underlying soft clays, DGI-Menard (Menard) implemented ground improvement using Wick Drains.

Ground Conditions

The project site was underlain with a layer of highly compressible, very soft marine clay that had in-situ shear strengths ranging from 65 to 125 psf. This layer varied from approximately 17 feet to 33 feet in thickness across the site. Settlement was estimated to range from 2 feet to as much as 10 feet across the site under final grade loading.

Ground Improvement Solution

Menard installed the Wick Drains through the sand fill and the underlying strata, which consisted of silty sands, clayey sands and thick soft clay layers. The Wick Drains served to reduce the amount of time required for the consolidation settlement to occur and also accelerate the strength gain of the clays as they were undergoing consolidation. More than 94,000 drains were installed, for a total of nearly 4.3 million linear feet. The use of Wick Drains resulted in significant project cost savings.



DGI-MENARD, Inc.
Ground Improvement Specialists
Sustainable Technology

412-257-2750 • www.dgi-menard.com