Roads

TH 371 Pequot Lake

UNITED STATES

Nisswa and Pequot Lakes, MN

Owner
Minnesota Department of Transportation

Engineer
Minnesota Department of Transportation

General contractor
The Mathiowetz Construction Company

Dates of work
2016/05 2016/06

Main figures

Wick drains
469000 LF

Description

TH 371 is an arterial highway in central Minnesota that links the northern lakes region to the central part of the state. To accommodate increased traffic, the Minnesota Department of Transportation (MN DOT) decided to widen much of the highway from two to four lanes.

Existing wetlands surrounding TH 371 between the towns of Nisswa and Pequot Lakes, MN resulted in highly compressible soils unsuitable to support the new lanes. The client was also concerned about large amounts of primary settlement which would occur under the weight of the new lanes and anticipated increased traffic.

After being awarded the Prime contract with MN DOT, the general contractor contacted Menard to install Wick Drains to accelerate the consolidation process.

Ground conditions

The site soils consisted of up to 25 ft of saturated organics, overlaying saturated granular soil.

Solution

Menard installed Wick Drains through the organic material, extending roughly 5 ft into the granular layer. The Wick Drains served to facilitate the drainage of water from the site's soft, saturated soils to induce consolidation and increase soil strength.

The general contractor constructed the working pad by placing a layer of sand over a layer of wood chips harvested from trees that were cleared from the site. Menard was initially concerned that the Wick Drain installation rig would have trouble penetrating the wood chips, however the rig was able to penetrate the wood chip layer with little to no additional resistance.

A total of more than 469,000 LF of Wick Drains were installed to maximum depths of 36 ft.