

Ekerød Felt 2

Fredrikstad, Norway

Keller installed 1400 pcs of vertical drains with a total length of 12 000 m.
The drains were installed with Keller own drilling rig specially adapted to the method.



The project

A new housing area was to be established in Fredrikstad in an area with varying soil conditions, varying depths to bedrock and soft/sensitive clay in the ground.

Different ground improvement methods to avoid future settlements were considered, but vertical drains were the chosen solution.

The challenge

The main challenges of the project were the ground conditions and the production platform for the 40 ton drilling rig.

This was solved efficiently with long rows of wooden mats to track the rig on.

The solution

The solution to prevent future settlements was to install vertical drains in the ground in a pre-defined pattern.

Vertical drains or also known as wick drains are used to shorten the dissipation path of the excess pore water and to accelerate the consolidation process to a few months instead of many years. The drains consists of a plastic core, which can lead the water, surrounded by a filter cloth.

The drains were installed to the bedrock and a layer of sand was put on top. On top of the sand layer, a thick layer of heavy soil/rocks will be placed for about 6 months.

The extra load combined with the drains will drain the excess pore water from the ground, out in the sand layer and away. This will lead to the ground being consolidated.

It is estimated that the ground in the area will consolidate about 50-60 cm over the course of 6 months.

Project facts

Owner(s)

Fosby Anlegg AS

Keller business unit(s)

Keller Geoteknikk AS
Keller Grundläggning AB

Main contractor(s)

Keller Geoteknikk AS

Engineer(s)

Hans Kristian Holmen
hans.kristian.holmen@fosby.no

Solutions

Mine stabilisation/void filling

Markets

Commercial

Techniques

Wick / PVDs / band drains

Email address

info.no@keller.com

Phone number

+47 239 67120