

## E103 Ramstadsletta

Sandvika

- Keller installed about 7800 pcs of Ø800 mm and 2800 pcs of Ø600 lime-cement columns to stabilize the ground in a new building pit in connection to the new E18. There were also stabilization between sheetpiles for new infrastructure.
- Keller executed about 260 m of Ø2m and 265m of Ø1,5m of jet grouting to seal between the sheet piles and the bedrock in the building pit



## The project

Skanska Norge AS have been contracted by Statens Vegvesen to execute the new motorway and tunnel between Strand and Ramstadsletta.. This part of the project is located at Ramstadsletta, where the new motorway and a 1,2 km long tunnel is planned. Before excavating the pit, it was necessary to stabilize the sensitive clay in the ground with lime-cement columns. Since the pit would also be excavated, there was also need to seal the layer between bedrock and sheet piles. This was done with jet grouting of varying dimensions.

## The challenge

The challenge in this project was mainly to achieve a good sealing between sheet piles and bedrock without any missing gaps due to big variations in bedrock level.

## The solution

The solution in the project was to stabilize the whole pit with lime-cement columns with a mixing ratio of 45 kg/m<sup>3</sup>. Most of the lime-cement columns were installed in blocks, with a combination of ribpattern and single piles. All close to each of the sheet piles. All columns were installed down to bedrock. There were installed columns with diameter of both 2m and 1,5m on each side of the sheetpile. The columns were installed according to the sheet pile protocols. This to ensure that there will be no gaps between sheetpile and bedrock.

## Project facts

### Owner(s)

Statens Vegvesen

### Keller business unit(s)

Keller Geoteknikk  
Keller Grundlaggning

### Main contractor(s)

Skanska

### Engineer(s)

Contracting project manager  
Eilev Lilleland  
eilev.lilleland@skanska.no

### Solutions

Bearing capacity / settlement control

### Markets

Infrastructure

### Techniques

Dry soil mixing

### Email address

[info.no@keller.com](mailto:info.no@keller.com)

### Phone number

+47 239 67120