Eidselva bridge

Ulefoss, Norway

KEY ACHIEVEMENTS

Installation of large diameter Ø1016 mm steel casing piles up to 35 meters deep.
Execution of steel core piles up to 60 meters deep using double-head system.
Pile concrete casting with strict quality control to ensure bedrock contact.
Verified core drilling samples showing excellent pile-to-bedrock bonding.
Full environmental compliance in a high-sensitivity zone along Eidselva River.

The project

Keller was contracted to execute the deep foundation works for the 4-axis bridge in Telemark, Norway. The project involved a combination of technical and logistical challenges related to drilling, casting and core sampling of deep piles in both soft marine layers and hard bedrock zones. The scope included 16x Ø1016 mm steel casing piles drilled to 35m depth on Axis 2 and 3 and 20x Ø273 steel core piles drilled up to 60m deep on Axis 1 and 4.

The challenge

- Hard bedrock layers significantly increased drilling time and equipment wear.
- Marine sand densified during pauses in drilling, causing friction and tool entrapment.
- Tight working area with crane, excavator, large drilling rig, and support equipment in parallel operation.
- Strict environmental rules required controlled backflow and clean waste handling.

The solution

- RC drilling parameters optimized through real-time adaptation to rock and soil conditions, improving productivity and reducing wear.
- Ejector pipe system designed on-site for effective flushing of piles.
- Close coordination with client ensured efficient transports on site and rapid backflow material handling.

Project facts

Owner(s)
Telemark fylkeskommune

Keller business unit(s)
Keller Geoteknikk

Main contractor(s)
Hovden Hytteservice AS

Engineer(s)
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Solutions
Heavy foundations

Markets
Infrastructure

Techniques
Micropiles
Bored piles / drilled shafts

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