

KV. TABELLEN SOLLENTUNA

Stockholm, Sweden

- Keller installed over 5420m² sheet piles (VL 603, 604), 2000m beams and struts (HEB300).
- Jet-Grouting 1430m² Ø1m columns and 105pcs to seal and support sheet pile box.
- Drilled piles (filter wells) for pumping groundwater.
- In-house Keller design. Deepest excavation >8m.



The project

Sollentuna municipality decided to change storm- and wastewater pipes through a park before they remodelled the park.

Keller provided design and execution of a retaining structure to enable safe excavation and seal the pit from groundwater inflow.

The project was divided into different areas/sections consisting of the main work canalization, a large deep excavation pit for a sand trap and two deep excavations for connecting wells.

The challenge

The main work canalization the sand trap went smooth – Keller’s solution with sheet piles and Jet Grouting worked very well.

Our client didn’t have any problem with the excavation or groundwater inflow. However, the biggest challenge was to execute the retaining structures and provide safe excavation for the connection wells. Several large diameter pipes, up to Ø2000, prevented a homogeneous water sealed retaining structure from being possible to execute, leaving Keller with limited options.

The solution

The pit for the sand trap and the main works canalization was designed with VL603 sheet piles profile. The canalization was supported by one level of struts and the jet grouting.

Due to the high strength of the sealing jet grouting it also functions as a support level – hence 8m sheets could be used for a 5m excavation. The deepest pit around the sand trap was supported by 3 levels of struts and jet grouting as sealing between sheet toe and bedrock to prevent hydraulic up-lift.

For the retaining structure around the connecting wells, a stiffer profile, VL604 was used since only one support level was feasible in combination with ground water lowering.

Welding of plates and additional beams was installed in the areas where sheets could not be driven due to obstacles such as existing pipes.

Project facts

Owner(s)

Sollentuna Municipality

Keller business unit(s)

Keller Grundläggning AB

Main contractor(s)

SH Bygg AB

Solutions

Excavation support

Markets

Infrastructure

Techniques

Sheet piles

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