

Granaria - buildings in Quarter II on Granary Island

Gdańsk

In the prestigious, historic centre of Gdańsk on Granary Island, it was necessary to perform a comprehensive excavations support, underpinning historical walls and founding new buildings in difficult logistic and ground conditions.



The project

As part of the comprehensive development programme for Granary Island, which combines the historical heritage with the needs of a modern city, Keller was commissioned by two investors (UMB and ImmoBel) to carry out geotechnical works on the joint investment of the Granaria hotel and apartment complex.

The challenge

During the construction of Granaria, Keller faced many challenges. One construction project involved work for two investors based on two contracts, which required unusual coordination and management and good cooperation from all parties. The transport and work logistics at the end of the island were very difficult. The technical and execution aspects had to take into account the presence of the historic walls and the neighbouring DEO granary and avoid collisions with the anchoring elements of the quays bordering the Granaria facilities on three sides. Difficult geotechnical conditions, including high water levels and the presence of organic soil in the subsoil, were also a design and construction challenge.

The solution

The excavation for two underground storeys was made with the use of diaphragm walls and the floor-slab method. A Soilcrete filter screen was used at the bottom of the excavation located about 6 m below the groundwater table. Temporary pillars of the ceiling served as anchoring elements preventing water displacement.

Due to the old walls limiting access for large drilling rigs necessary for CFA piles, the type of piles in this area was changed to micro-injection piles made with smaller equipment located between the historic walls.

In places where old foundations and other obstacles were left in the ground and between the existing anchors of the wharf preventing CFA piles from being made, it proved to be a good solution to use piles drilled with a continuous auger in a VDW type pipe casing.

Project facts

Owner(s)

Dane projektu Inwestor Granaria Development Gdańsk
Bis
UBM Hotel Granary

Keller business unit(s)

Keller Polska

Main contractor(s)

UBM Hotel Granary

Solutions

Excavation support
Heavy foundations
Seepage control

Markets

Residential

Techniques

Diaphragm walls/barrettes
CFA piles (auger cast)
Micropiles
Jet grouting (Soilcrete®)