Neubau Grundwasserfassung Oberi Au









SHORT DESCRIPTION

Wasserverbund Region Bern AG (WVRB AG) had a new groundwater well built in Uttigen, including the intake structure. For this purpose, a siphon line (DN 800 mm) was also built between the new intake and the existing unification structure. In addition, two pre-warning points were set up to measure the water quality.

THE PROJECT

The first step was the construction of the access slope and the drilling subgrade. This was followed by the construction of the well shaft. This was done by means of overlapping bored pile walls, a total of 24 piles (DN 900 mm) with a single length of 15.0-18.0 m. Since the groundwater table is only just below the surface of the terrain, the piles were installed almost entirely in the groundwater once the drilling plan had been completed. After excavation of the well shaft by means of a cable excavator, it was sealed against the bottom with underwater concrete so that the removal and construction of the horizontal filter strings (12 pcs., each 35.0 m long) could take place in dry conditions.

This was followed by the concreting of the bottom slab inside the well shaft. The casing structure itself was built in several stages as a round, conventional concrete structure. Above this, the construction of a circular structure made of cast-in-place concrete, consisting of a basement and a first floor, was carried out. For this purpose, it was necessary to excavate

the excavation pit and remove the piles down to the bottom slab. Simultaneously with the forming, reinforcing and concreting of the walls and slabs (in stages), the siphon and service lines were laid until they were inserted into the structure. A working scaffold was used for the concrete work.

This was followed by backfilling and terrain backfilling. In order to be able to feed the captured groundwater into the WVRB AG network, it was necessary to construct a 205.0 m long connecting pipeline between the new intake and the existing unification structure. This pipeline was designed as a so-called siphon pipeline (water flow without permanent pumping). The gradient was only 3 per mille. For the two forewarning points, the KSR lines were laid and two distribution boxes with cable basements were constructed. Finally, the entire area was restored to its original condition.

SERVICES IN DETAIL

- Special civil engineering
- Pipeline construction
- Concrete construction
- Pavement construction
- Surrounding works

CHALLENGES

- Work in sensitive area worthy of protection
- Construction area in groundwater protection zone 1 (buildings / wells) and 2 (siphon pipeline)
- Construction work in groundwater
- In-situ concrete construction white tank
- Round shuttering (casing construction)
- Coordination with third-party contractors (pipe fitters, interior work, dismantling of ammunition depots)
- Training by the KAMIR command because of possible unexploded ordnance in the construction perimeter

FURTHER INFORMATION

Execution as ARGE

ARGE Horibrunnen Uttigen c/o Implenia Switzerland Ltd, Construction Switzerland CH-3665 Wattenwil

FACTS

Location	Uttigen , Switzerland
Status	completed
Construction volume (value of our services)	2.7 M CHF
Start of construction	August 2021
Completion	May 2023
Building owner	Wasserverbund Region Bern AG
Civil engineer	Diggelmann + Partner AG

SERVICES

- Special Foundations
- Civil engineering
- Infrastructure

https://implenia.com/en/references/detail/ref/neubau-grundwasserfassung-oberi-au/

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