Basel, Roche Construction 02 (Roche Tower 2)

SHORT DESCRIPTION

The joint venture for Roche Construction 02, consisting of the Foundation Engineering business unit of Implenia Switzerland Ltd. and BAUER Schweiz AG, was instructed by Hofmann – La Roche in 2016 to construct the excavation pit and the foundations for what will eventually be the tallest building in Switzerland, measuring in at 205 metres high. With a 75% share of the total order volume, Implenia took responsibility for technical direction of the joint venture.

THE PROJECT

For the excavation pit, which had an overall depth of around 20 metres, an overlapping pile wall with a diameter of 1,200 mm was planned. It was only necessary to construct this wall from ground level in the southern section. On the other three sides, the pile wall was only constructed from an excavation height of approx. 10 m below ground level. Up until this level, the excavation pit was secured by an anchored retaining wall in the east and anchored underpinning in the north/east, both of which had been constructed in advance by the joint venture. In the western section, it was possible to use the existing basement of the neighbouring building.

SERVICES IN DETAIL

- Excavation of the foundation pit: 55,000 m^3
- Overlapping pile wall: 206 bored piles DN 1,200 to 28 m
- Foundations: 104 bored piles DN 1,500 to 40 m, empty drill holes 10 m
- Retaining wall: 29 supporting drill holes DN 700 mm to 23 m
- Strand anchors: 137 temporary anchors with 7 strands to 30 m
- Filtering wells: 4 vertical wells DN 1200/400 mm to 18 m, 8 horizontal wells DN 178/125 to 8 m
- Infill: 2,500 m^2 pile wall coating with shotcrete up to 40 cm thick, 800 m^2 underpinning / retaining wall infill

CHALLENGES

Complex logistics due to lack of space in and around the excavation pit (no access ramp). Excavation with long-reach excavator on platform, concrete pouring with two construction cranes, disassembly and removal of the rotary drilling equipment with truck-mounted crane after completion of the construction work.
Geology: lower terrace deposits with pressing ground water around the drill holes for the anchors.

FACTS

Location	Grenzacherstrasse 183, Basel , Switzerland
Status	completed
Construction volume (value of our services)	20 M CHF
Start of construction	October 2016
Completion	May 2018
Building owner	Fa. Hofmann – La Roche AG
Contracting entity	Fa. Hofmann – La Roche AG
Project designer	Gruner AG
Construction management	Gruner AG / omniCon Gesellschaft für innovatives Bauern mbH
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SERVICES

Special Foundations