Implenia

Reference

Stadtbahn line U81, lot 2, shell construction of tunnel



SHORT DESCRIPTION

Construction of a new railway line to connect the airport in two sections/lots. Construction of ramp, trough section, tunnel and train station (underground station) Düsseldorf Airport as cut-and-cover construction.

THE PROJECT

The U-Bahn line 81 will connect Düsseldorf's main railway station with its airport and exhibition grounds. Part of the first section of the route to the north of the city will use the existing tracks from Freiligrathplatz northwards. The new route will branch off from this line, crossing over the Nordstern junction and continuing on towards the airport, where an underground station is planned at the terminal. In addition to the improved connection to the airport and exhibition grounds, the U81 will help reduce traffic in the centre of Düsseldorf. Lot 2 (shell construction of tunnel) involves the creation of a construction pit using back anchored diaphragm walls, excavation work (partially underwater) and cut-and-cover construction of a ramp and a train station. On both lots, the job also includes traffic management and safety throughout all phases of construction and interim stages, as well as road construction and dewatering work.

SERVICES IN DETAIL

- Shell of tunnel ramp/trough: length approx. 170 m;
- Shell of main tunnel: length approx. 210 m / cross section 10 m x 7 m
- Station shell: length approx. 180 m; cross-section 19 m x 12 m
- Diaphragm walls, underwater concrete, micropiles, Berlin shoring
- Excavation and disposal

- Dewatering
- Above ground track bed: Length approx. 300 m (for 2 tracks);
- road demolition and new construction
- Diaphragm walls: 22,000 m^2
- Road demolition/new construction: 10,000/15,000 m^2
- Excavation: 100,000 m^3

CHALLENGES

Since the U81 construction site is directly next to Düsseldorf Airport, another requirement is that construction work does not affect air traffic or the operation of the airport.

FACTS

Location	Flughafenstrasse , Düsseldorf , Germany
Status	Under construction
Construction volume (value of our services)	23 M EUR
Start of construction	May 2020
Completion	November 2022
Contracting entity	Landeshauptstadt Düsseldorf, Amt für Verkehrsmanagement
Project management	Frank Gardemeier (Kfm.)
Architect	Grassl
ARGE	✓

SERVICES

- Civil engineering
- Concrete construction
- Urban transport infrastructure
- Rail transport infrastructure
- Structural engineering
- Infrastructure