Reference

# Stadtbahnlinie U81, Los 1, Rohbau Hochtrasse







## SHORT DESCRIPTION

Construction of a new rail line to connect the airport in two sections/lots. New construction of civil engineering structures (ramp structures, an elevated trough section, bridge near access gate 1) including the associated foundation work and the construction of an arched steel bridge using the incremental launching method.

## THE PROJECT

The U-Bahn line 81 (1st section) 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 has a lenth of 1.9 km and 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 1 includes several civil engineering works (ramp structures, an elevated trough section, a bridge near access Gate 1) plus the associated groundwork and the construction of an arched steel bridge using the incremental launch method. It also includes extensive track construction and overhead cabling, as well as the erection of noise abatement walls. 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

- Ramps to bridge "Lilienthalstraße": length approx. 120 m;
- Steel bridge "Nordstern" with truss above, length approx. 480 m, span max. 84 m
- Dam construction Length approx. 180 m
- Bridge "Gate 1" (4-span, prestressed concrete superstructure) Length approx. 100 m

- Track construction work including track laying and points for the U79 track length approx. 900 m (single track)
- Substructure Tracks Length approx. 320 m (2 tracks)
- Demolition / new construction of roads
- Overhead line works, length 900 m (single track)
- Earthworks
- Road demolition/new construction: 6,500/15,000 $m^2$
- Excavation: 36,000 $m^3$

## CHALLENGES

Pushing the arch bridge over the existing and operating junction of the A44, B8 and U79 motorways. The tram service of the U79 tram line, which runs alongside the new bridge route of the U81, must be maintained during the various construction phases. The construction of support pillars and the relocation of the flyover must take place while traffic continues to flow.

## FACTS

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| **Location** | Flughafenstraße , Düsseldorf , Germany |
| **Status** | Under construction |
| **Construction volume (value of our services)** | 22 M EUR |
| **Start of construction** | June 2020 |
| **Completion** | December 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