PROJECT REPORT

16th construction stage, Berlin
A100, lot 6

Data and facts

Company	PORR GmbH & Co. KGaA, PORR Spezialtiefbau GmbH
Type	Rail and road tunnels
Runtime	05.2021 - 12.2023
Principal	Autobahn GmbH of the German Federal Government, Northeast branch

Project report online

www.porr.de

Reducing through traffic in south-east Berlin

New infrastructure in south-east Berlin

The route runs through an urban environment characterised by dense development, existing transport infrastructure and challenging ground conditions. The road trough was constructed at a low elevation and forms a central section of the new transport link. The project was carried out by teams specialising in structural engineering and special civil engineering. Construction pits, foundations and engineering structures were coordinated and implemented in stages.

Trough construction under groundwater conditions

Large sections of the road trough lie below Berlin's groundwater level. Extensive special civil engineering was therefore required to create the construction pits. The construction pits were constructed with horizontal underwater concrete bases. Around 9,800 m³ of diaphragm walls, with wall thicknesses of up to 1.40 m and heights of up to 30 m, were used for enclosure and stabilisation. These were supplemented by around 7,100 m of grouted anchors as well as 10,300 m of tension piles. In addition to the specialist civil engineering works, the project involved the excavation and removal of more than 80,000 m³ of soil.

Bridge construction over the Ringbahn

A striking feature of the project is the crossing structure over the Berlin Ringbahn at Treptower Park. The bridge was constructed as an oblique integral structure with a crossing angle of 35 gon. The structure's foundations consist of diaphragm walls 1.40 m thick and up to 26.5 m deep. The individual reinforcement cages weighed up to 55 t. Around 2,200 m³ of concrete was used to construct the load-bearing structure.

Work amidst the city, railways and traffic

The construction work took place in the immediate vicinity of existing road, rail and utility infrastructure. The construction processes therefore had to be continuously coordinated with the requirements of the inner-city traffic environment and the existing infrastructure. For work in the vicinity of the railway, personnel, procedures and equipment pre-qualified for operations within the railway network were deployed. The work was carried out whilst taking into account the operational conditions of the Ringbahn. The foundation for the new A100 transport structures was thus laid amidst road traffic, the railway line and the subsoil.

Digital project management

Digital methods such as Building Information Modelling (BIM) as well as lean management approaches were used for planning and project management. The digital models facilitated coordination between the various trades and construction phases and served as the basis for planning and execution within this complex inner-city project.

A key phase of the project was completed in May 2022 with the construction of the diaphragm walls for the bridge structure's foundations. The concreting of the structure, requiring a total of 2,200 m³ of concrete, took place within 24 hours at the end of July, following a preparatory phase lasting around seven weeks.

Impressions

Image notes

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BAB100: a demanding civil engineering project

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Do you have questions about the project or would you like to learn more? Feel free to contact us for further information.

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