PROJECT REPORT

Ingolstadt
Stormwater reservoir

Data and facts

Company	PORR Spezialtiefbau GmbH
Type	Turnkey construction pits, Sealing slabs
Runtime	07.2021 - 08.2022
Principal	Ingolstädter Kommunalbetriebe AöR

Project report online

www.porr.de

Protecting the Danube from excessive pollution loads

The Ingolstädter Kommunalbetriebe AöR already operates a pumping station for the southern part of Ingolstadt at the Franziskanerwasser, an old tributary of the Danube located in a forest biotope. Whenever heavy rainfall proved too much for the sewer capacities, the surplus mixed water was discharged into the Danube. As these heavy rain events have been occurring more frequently in recent years, the decision was made to build an underground reservoir for mechanical stormwater treatment using sedimentation. The flow velocity in the 45m x 33m reinforced concrete structure with three chambers and a capacity of 3,600m^3 is reduced to such an extent that sufficient quantities of the pollutants can be deposited on the ground. The purified water is then either discharged into the sewer system or, in the event of persistent heavy rainfall, directly into the Danube. The new stormwater reservoir has been designed to connect with the existing sewers and is located 7m to 10m below the ground.

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Pipes channel the biotope water through the construction pit

As the structure is being built in a biotope in the immediate vicinity of the Danube River and crosses the Franziskanerwasser, the project has to overcome a number of hurdles, and fulfil certain requirements under nature conservation law. For one thing, the team had to contend with a difficult subsoil of Danube gravel and fine sand. A construction site road was specially built for the removal of the 15,000m^3 of excavated material. The construction pit shoring consists of around 3,800m^2 of reinforced bored pile wall and 1,200m^2 of sheet pile wall shoring. The shoring walls are secured by 3,000m of temporary grouted anchors. The high groundwater level means that the base has to be sealed using the jet-grouting method. The Franziskanerwasser is channelled through the wall of the excavation pit via pipes during the construction work. After the structure is completed, the stored topsoil will be replaced up to a height of 4m and the area will be renaturalised as a floodplain forest. The new drainage channel passes underneath the water.

Impressions

Image notes

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Stormwater reservoir, Ingolstadt

The new stormwater reservoir protects the Danube from excessive pollution loads.

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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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