

Watermanagement



References

River Krems flood protection for the town of Krems

Task Description

In recent decades the River Krems has risen over its banks and caused catastrophic flood damage within the town of Krems. The Project required the provision of a flood protection system that on the one hand should provide protection against recurrent flooding, and on the other hand, must neither visually nor physically separate the eponymous river from the city. The use of temporary demountable flood protection systems was not possible due to potentially very rapidly increasing flood waters. The ecology and the multi-functionality of watercourses in urban areas were also an essential part of the project in addition to the flood protection system.

The flood protection system, with a length of 6,200 km, is located in a densely built-up urban area. The transport system and existing infrastructure within Krems, the limited space availability, as well as the diverse demands placed on urban rivers posed particular challenges for the design and construction.

Solution

The flood protection was achieved primarily by means of river construction measures as optimisation of river bed slope and adjustment of flow affecting cross section respectively mean water channel to meet hydraulic, environmental and urban requirements. With the development of the river shores by an architecturally designed waterfront with direct access to the river, a new recreation area in the centre of Krems was created.

Other system components:

- Rehabilitation and an increase in the existing river walls and embankments

- Underpinning and ground sealing using mixed in-situ walls and jet grouting
- Construction of flood protection walls
- New construction of three bridges and three footbridges
- Demolition of two weirs and construction of new fish passes
- Renaturalisation of manmade channel beds and the creation of riparian areas
- Adaptation of existing transport and service infrastructure

Services

- 2-Dimensional Outflow Modelling
- Designation of Zones at Risk
- Sensitivity testing
- Detailed Design and Submission for Planning Approval
- Application for Project Funding
- Invitations to Tender & Procurement
- Project Management
- Site Supervision in accordance with construction site co-ordination law (BauKG)
- Residual Risk Analysis
- O&M Manual and Emergency Planning

Key Facts

- client: city of Krems an der Donau
- project funding: provided by the Austrian Government and the county of Lower Austria Government
- total costs: € 34,000,000
- project period: Total project completion planned for 2018
- contact person: Jörg Handhofer, MSc

