

# Stormwater Management



Water  
Environment  
Civil Engineering  
Informatics  
Energy  
Architecture

In recent years, the climate change is regularly the reason of the floods and urban flash floods with considerable damage. As a result of these damages, the demands on the material quality of surface drainage into water bodies are increasing. Within the scope of stormwater management, both issues must be combined under practical centralized or decentralized measures.

We develop solutions for the avoidance, discharge, storage, treatment and infiltration of rainwater runoff by modifying the respective goals and by taking into consideration the landscape and the urban planning approaches. The requirement for the measures of structural implementation covers appropriate and innovative verification management. In addition the calculation of surface discharge is handled by the coupled models (1D/2D) that consider the hazards from flooding.

We carry out the integrated assessment of discharges into water bodies in accordance with the BWK M3 / M7 or DWA-M 153. Besides the simplified verification, we can also provide detailed verification management. It often turns out that the expenditure for the detailed verification management is worthwhile since it usually allows a more economical and accurate choice of measures. Additionally, we also offer the implementation of water quality models.

On the basis of preliminary modelling, we plan and set up solutions to prevent the heavy rainfall such as emergency waterways, central / decentralized retention systems and object protection

measures, which we integrate into the respective environment. In separation systems, we plan and set up rainwater retention basins as well as centralized and decentralized infiltration systems. In order to reduce the material water pollution, we rely on sedimentation basins, coalescence separators, rain clarifiers, retention soil filters and filter shafts.

## Services

- Drainage concepts
- Stormwater hazard maps
- Design and implementation of centralized and decentralized systems
- Protective measures from heavy rain
- Stormwater retention
- Stormwater infiltration
- State-of-the-art stormwater treatment (acc. to BWK 3 / M7, DWAM153, etc., e. g. with retention soil filters, rain clarifiers)
- Stormwater utilization, e. g. in connection with local recreation measures

### 1 Construction of a Ground Filter System

Langer Lake

### 2 Utilization of the Stormwater

PHOENIX Lake, Dortmund

### 3 Flow Path Modelling of a Heavy Rainfall Event