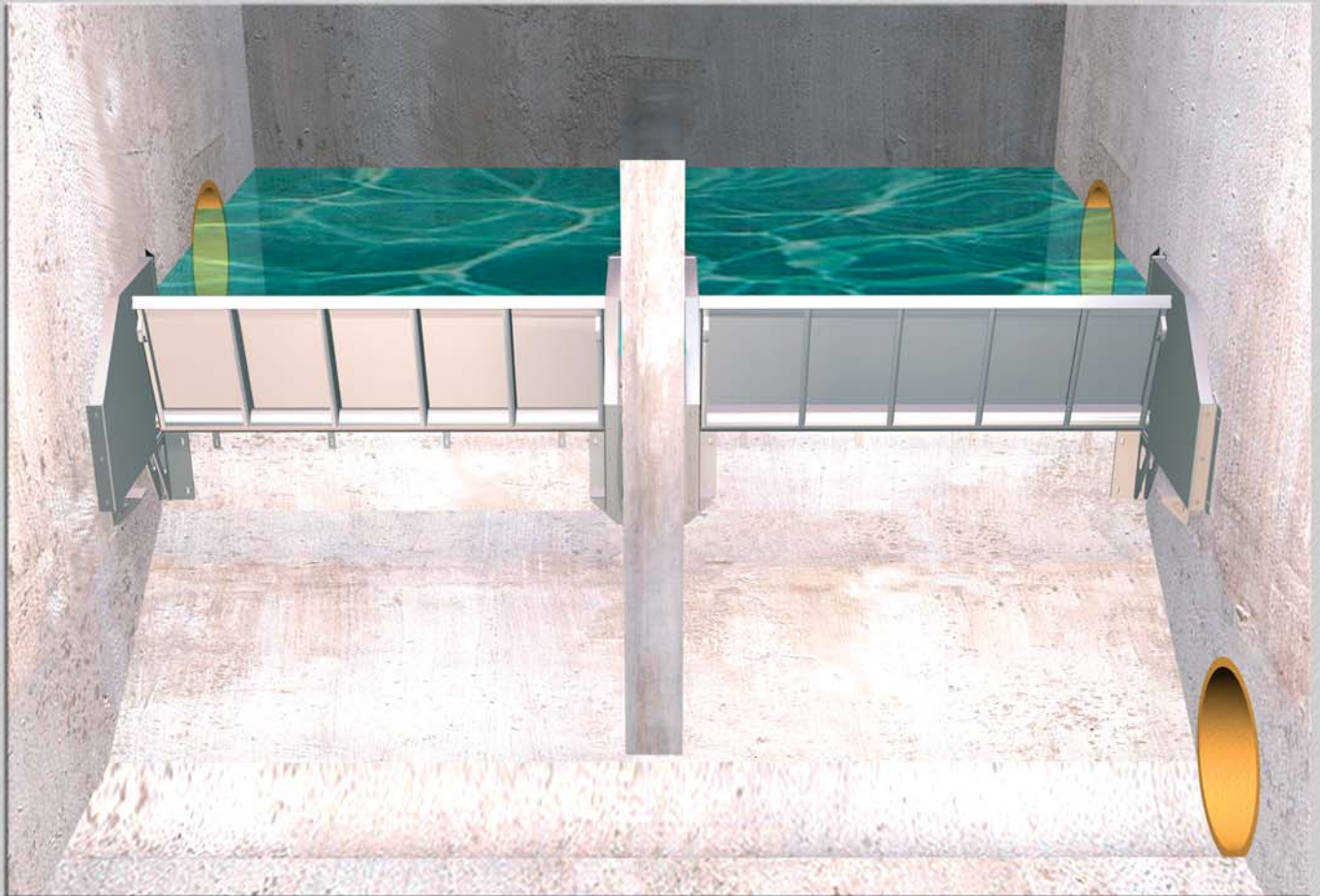




Steinhardt® **HYDROBEND**

Weir Gates

... adjust maximum storage levels
and maximise the storage volume



Weir gates keep the water level constant during discharges in existing canals

The challenge

According to ATV A128 [Wastewater Technology Association], rainwater overflow basins and retaining canals are to be furnished with spillway dams. In the event of strong rainfall they divert excess water into the surrounding bodies of water. The upper edge of the spillway dam is the maximum storage level with which the chargeable storage volume is determined. The overflow height h_0 may not be taken into consideration. During utilisation of the Steinhardt weir gates the overflow height h_0 may be utilised for determination of the chargeable storage volume.

The method

The water level pertaining to the overflow height h_0 is raised through the utilisation of Steinhardt weir gates on the spillway dams. The new maximum storage level is kept constant in the centimetre range without external energy. The Steinhardt weir gates discharge the excess water if more water flows into the dammed basins than is discharged. They adapt to the variable loads.

The solution

HydroBend weir gates are mounted on spillway dams. They are bottom-hinged. If the water level exceeds the maximum storage level, the weir gate lowers. The water is discharged via the upper edge of the gate. The water level then lowers to the maximum storage level. If the water level continues to reduce, the weir gate is raised until the maximum storage level is reached again or the discharge is completed.

The control of the Steinhardt weir gate is affected without external energy by means of counterforce power plants, which are optionally controlled via springs or weights, for instance. The weir gate – which functions with adjustable counterweights via cables and control valves – is raised and lowered in proportion to the water level / water pressure. The control valve, computable for various tasks, is decisive for the exact maintenance of the maximum storage level.

In the event of backpressure, the counterforce power plant can be optionally upgraded, and the reduc-

tion of the overflow quantity can be compensated with retention of the maximum storage level (inquire about details). Alternatively, the weir gate can be provided as a flood protection valve.

In addition to the discharge frequency, the overflow quantity can also be computed by means of an optional rotary valuator. The data can be recorded or transmitted. Please inquire with our Measurement & Control department.

The advantages

- Activated storage volume
- Keeps water level constant
- Reduces discharge frequency
- Protects bodies of water
- Devoid of external energy
- Modular structure
- Reliable operation
- Adjustable water level
- Retrofittable
- Low-maintenance
- Robust stainless steel construction
- Optional backpressure compensation
- Optional backpressure safeguard
- Optional remote effect, angular measurement

The efficiency

- Avoids construction costs
- Retrofittable on spillway dams
- Increases chargeable basin volume
- Toughening of existing discharges

