

PVC-U

Wastewater treatment on eco-friendly constructed wetland

Testimonial: RBS wave GmbH planning agency



High resistance to
environmental influences and
a long mechanical service life

Pilot project by RBS wave GmbH planning agency at the Knittlingen water treatment plant

When drinking water is softened using low pressure reverse osmosis or nanofiltration, it is also necessary to ensure that the phosphate-containing wastewater produced during the process is disposed of in compliance with the applicable directives. The RBS wave planning agency is exploring the possibility, as an alternative solution, of degrading the phosphate load on a constructed wetland at the Knittlingen water treatment plant situated in the Enz district. For the installations, the instrumentation and control technology included, elements of the PVC-U system from GF Piping Systems are being used in the inflow and outflow area and also for the charging facility.

Background to the project

The RBS wave planning agency aims its energy technology, water and infrastructure services mainly at suppliers, municipal utilities, local communities and water associations in Baden-Württemberg and the state's neighboring regions. One of the challenges customers face is that without a wastewater treatment method to reliably respect the limit values, the permit required under water law for discharge into water bodies may not always be granted. At the test location in Knittlingen, the wastewater concentrate from the low pressure reverse osmosis plant has so far been treated in a water-covered trench.

Chosen technical solution

As part of a scientific investigation into alternative ways of dealing with the wastewater, the concentrate was treated on a wetland. The advantage is that the concentrate can be made to resemble a natural substance and is easily incorporated into the environment. Those in charge are equipping the pilot installation with PVC-U pipes and fittings from GF Piping Systems. In addition to some 30 meters of piping, threaded connections, reducers, T-elbows and diaphragm valves, plus two 546 PVC-U ball valves and two PVDF/PVC-U variable area floatmeters, are also being used.

Accomplished improvements

The synthetic material employed offers a convincingly high resistance to environmental influences and a long mechanical service life. It also allows the system to be modified at short notice. And thanks to the bonded joints, all elements of the PVC-U system were able to be assembled quickly and easily.



Those in charge are equipping the pilot installation with resilient and durable PVC-U pipes and fittings from GF Piping Systems.



The charging facility comprises multiple pipes laid approx. 40 cm apart and uniformly perforated in order to distribute the wastewater on the surface of the wetland.

Customer benefits

- Long mechanical service life and hence a high resistance to environmental influences
- Quick and easy assembly thanks to bonded joints
- System easily modified at short notice

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