Open-trench rehabilitation of a sewer with SIMONA® PE 100 Ovoid Pipes

Over a length of 1.3 km an ovoid sewer was rehabilitated as part of external services development for Göttingen University Medical Centre. It also included a construction stage in which the ovoid sewer was renewed by the open-trench method over a length of 100 m. To be able to ensure that the system remains permanently watertight and to achieve a high pipelaying rate, they opted for the SIMONA® PE Ovoid Piping System.
**SIMONA® PE 100 Ovoid Pipes**
with light-coloured inner layer for camera inspection

**Initial situation**
To avoid pollution of the groundwater by leaking sanitary sewage pipes, the city of Göttingen has been using polyethylene sewer pipes since the middle of the 1990s, without exception. As part of an external services development project at Göttingen University Medical Centre it therefore also became necessary to rehabilitate the connected sewer that had become antiquated.

**Task**
Alongside the customer-specific requirements for the piping system, the SIMONA® PE Ovoid Pipes had to not only have excellent hydraulic properties but also meet the following specifications:
- Customised component length
- High flow velocity
- Corrosion-resistant, crack-resistant and abrasion-resistant
- Low risk of incrustation
- Easy handling when laying
- Simple joining with external saddles

**Solution**
With SIMONA® PE 100 Ovoid Pipes it is possible to make absolutely watertight, root-proof, permanently bonded and axial-restraint connections by welding. For sewer rehabilitation in Göttingen a grey PE 100 ovoid pipe was used in dimensions 770 mm (width) and 1,187 mm (height), with a wall thickness of 34 mm, which is produced on the basis of DIN 4263. On account of the light-coloured inside surface of the ovoid pipe it is easier to assess the condition of the sewer in future maintenance work. For open-cut pipelaying the SIMONA® Ovoid Pipe modules are normally produced with a base, which prevents them from tipping over and later assists compaction. Standard module lengths are between 0.7 m and 2.5 m. To make it easier to weld the modules no base was fitted in production and the modules (2.5 m each) were welded to one another in twos. The welding bead inside was removed and the ovoid pipe train was delivered to the construction site in one piece. As a result, the pipelaying rate at the construction site was increased. Afterwards the trench was filled with liquefied soil. Owing to an absolutely waterproof welded joint without root penetration and excellent discharge characteristics with flushing and self-cleaning effects, the special shape and material combination of the SIMONA® PE 100 Ovoid Pipes proved to be the perfect solution for Göttingen Waste Disposal Services.

**Further information**

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