



Good Work

All things considered.

Ludwig Pfeiffer Unternehmensgruppe has sites all over the world and is a market leader in construction of underground pipelines and sewers.

As a full service provider, we can also offer all the current methods of renovating underground pipelines and sewer systems.

We use intelligent solutions, the latest technology, the power of innovation and forward-looking concepts to make your projects a success. This is our promise to our clients at home and abroad, and we have been keeping it for decades.

Specific project requirements – whether it's materials or the site environment – always throw up complications for client and contractor. We are proud to accept these challenges and to be able to offer the best work possible in every situation.



#### YOUR GAINS

We are a full service provider and take every aspect of your project into consideration.

We will find the best option for you, whether it is pressure pipe method or renovation by hand.

Regardless of whether your project is international, regional, domestic, large or small scale – we will adapt to your needs.

## Renovation

### Main sewer

Year: 2015

Location: Gera, Thuringia

Project: Renovation Main sewer  
(w 1.80-2.65 m; h 1.30-1.80 m)

#### Problem:

The main sewer runs through the center of Gera, zigzagging along the course of a river and with very different diameters along its length. The many variables meant that a purely machine-based renovation of the leaky brick/natural stone channel was not viable.

#### Our solution:

The existing channel was excavated down to the original bed; a suction excavator made material removal easier and allowed the PFEIFFER team to maintain water flow. Stoneware half-rounds were laid on a concrete base and a C30/37 concrete berm was formed.

Spot repairs were also carried out on the natural stone vaulting.





# Process

## Main sewer

Historic wastewater chambers, canals and other structures often cannot be renovated using just machines. A mineral lining is needed. Mortar is used to seal, reprofile and line masonry and concrete structures.

The structures to be renovated are first cleaned thoroughly with the help of high-pressure granular blasting.

Sealing with a mineral-based system or thermo-setting resins affords long-term protection. Next, careful reprofiling creates a surface suitable for lining and smoothes out irregularities and replaces concrete and brickwork that has crumbled away.

Finally, a continuous layer of mortar is applied to the internal walls of the waste water chamber, canal or other structure by hand or by machine, depending on the project requirements.

### YOUR GAINS

short construction times

quick return to water loading

Installation via manhole cone DN 600

good workability even in hard-to-access structures

long-term protection in household wastewater systems



Manual Renovation

Long-term sewer protection.



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