



OUR EXTRA STRENGTH PIPES  
ARE EXTREMELY RESISTANT.

**HOWEVER, SOME-  
TIMES, YOU JUST  
HAVE TO DIG DEEPER.**



The city of Augsburg installed  
traditional vitrified clay pipes

**THE NATURAL MATERIALS,  
DURABILITY AND PROFITABILITY  
ARE HIGHLY APPRECIATED**

### VITRIFIED CLAY SEWER AT A DEPTH OF 10 M

The city of Augsburg carries out the development of the project area called “Innovation Park” in multiple phases. A combined system is used for the drainage of the industrial zone. It is the urban drainage company of the city of Augsburg<sup>3)</sup> that takes care of the planning, tendering and construction management of the sewer constructions.

Traditional vitrified clay pipes are used by the city of Augsburg, because the natural material clay and its durability are highly appreciated, as well as its associated profitability.

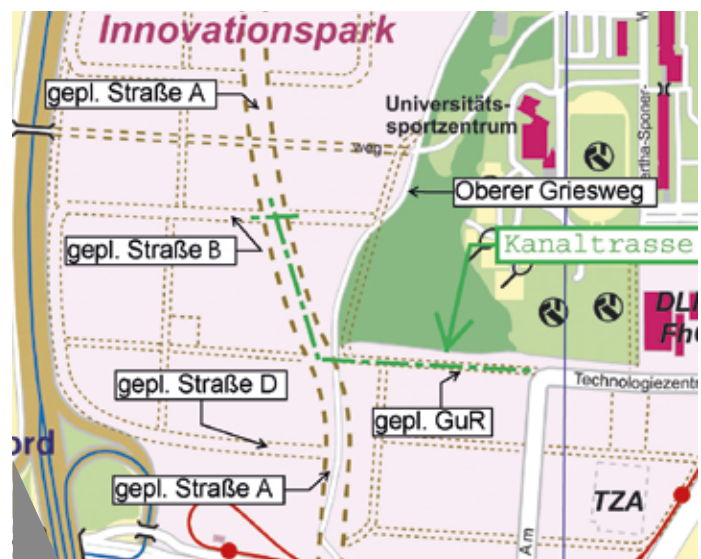
Thanks to the online static calculator in the Infopool, the construction company Carl Heuchel GmbH & Co. KG could calculate the mechanical strength of the pipes (see next page). The outcome: our vitrified clay pipes are perfectly resistant to the static load that arises at a depth of 10 m. The complete construction is checked one last time, whereas the equipment, machinery and shoring are checked in terms of their resistance at a rather unusual depth of 10 m. Timing was perfect, so that the construction project could start on time. Firstly, about 150 m of concrete channels were installed as an oval profile 1200\*1800 with invert coating. Secondly, vitrified clay pipes were installed with a 15 cm concrete casing and bedding: around 310 m in DN 600, 20 m in DN 400 and 20 m in DN 300. In order to achieve the installation depth of 10 m, the construction was carried out in two phases: first, 3 m of soil were excavated in advance, afterwards the remaining 7 m were hedged with a special shoring.

### 100 % LOWER THAN USUAL

The installation was continuously carried out against the flow direction, and the installation depth and soil conditions required special adaptations in terms of equipment, shoring and trench security. The building lot is divided into a higher and lower area, including 4 layers of soil: soil fillings – top layers – quaternary gravel sands – tertiary sands.

### COMPETENT WHILE CONSTRUCTING

Thanks to the careful approach and the experience of the construction company – and the urban drainage company of the city of Augsburg – the construction process went smoothly, and a long-term and cost-effective use of the project can be guaranteed because of the material vitrified clay. ○



During the second phase, the pipeline route installation started at a manhole near the street “Am Technologiezentrum”, crossed a foot and cycle path and continued going westwards. The pipeline route, starting from street A – the main development road – goes north until the intersection area near street B is reached. This implied an extension of the installed storage sewer, as well as a conversion of the other sewer channels to nominal sizes DN 300, DN 400 and DN 600.

<sup>3)</sup> Stadtentwässerung Augsburg (SEA)