# Large-scale renovation for the housing association AAB

Main contract for renewal of sewer system and paving for the housing association

# AAB in Ballerup



A worn-out sewer system and years of increased rainfall due to climate change meant that the housing association AAB in Ballerup decided to implement a large-scale renewal of its sewer system and paving. In the period from May 2016 to August 2018, Per Aarsleff A/S carried out a main contract comprising renewal of wastewater and stormwater sewers as well as stormwater clearance in the housing association which consists of 944 leases in 19 apartment blocks in a 215,000-m<sup>2</sup> area.

### In-house production

Both the stormwater pipes and wastewater pipes were renewed using CIPP lining while the apartments were in use. Moreover, the project comprised replacement and installation of new flagstone paving and base course for streets, paths and parking areas. And new green spaces were established around the 19 blocks of flats. Out of consideration for the residents of the 944 leases and their daily lives, we started working on the centrally located blocks and continued further out. To reduce the execution period, the work was divided into three areas each with several teams, and common work roads were established.

We delivered much of the work in in-house production. CIPP linings plus installation of manholes and pipes, using excavation, were delivered in a close collaboration between the Aarsleff divisions Pipe Technologies and Construction, and the paving and landscaping work were delivered by Aarsleff's sister company Petri & Haugsted AS.

### The solution is local drainage of stormwater

Our recreational solutions are based on the challenges caused by the climate change in the past years, especially the increased rainfall. For this reason, we carried out extensive reconstruction of the existing stormwater clearance to create a so-called "local drainage of stormwater" solution that leads all rainwater to new reinfiltration beds in the new green spaces. The new green spaces involved planting of 1,500 plants, bushes and





ground covers as well as 50,000 m<sup>2</sup> of grass areas.

The design of our recreational solutions was one of the competitive parameters of the tender. The client had allocated a fixed amount, and as the tenderer, we had to comply with as many requirements and expectations as possible, preferably all of them, for a total solution. Our offered solutions complied with the financial framework and were in line with the client's expectations for a total solution.

### Data

- 13,000 lm of CIPP Lining for wastewater and stormwater
- 100 berms
- 15,000 m<sup>2</sup> of paving
- 25,000 lm of retaining wall
- 20,000 m<sup>3</sup> earthwork for paving, reservoirs and noise barriers
- 300 trees
- 300 floor drain pipes
- 250 lm of sewer pipeline excavated
- + 50,000  $\rm m^2$  of grass areas

- 27 side stringers, a total of 600 m<sup>3</sup> of concrete
- 1,500 lm of line drainage
- 4,700 bushes

**Client** Houssing association Boligforeningen AAB,

afdeling 54 – Hedeparken

**Contractor** Per Aarsleff A/S

Collaboration partner

Petri & Haugsted AS **Type of contract** Main contract

Consulting engineer/ Architect Gaihede A/S

Construction period May 2016-August 2018

**Contract value** DKK 61 million

### Contact

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ANLÆG-263-UK-rev.10 8/2020

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