

# Reservoir at Carl Blochs Gade in Aarhus

Construction of square-shaped equalization basin in Aarhus



**AARSLEFF**

In the period between 2008 and 2011, Aarsleff constructed an equalisation basin in Aarhus with a capacity of approx. 16,000 cubic metres. The basin was constructed as a square-shaped structure, and Aarsleff's work comprised concrete work and sheet piling, installation of anchors, excavation and installation of precast concrete units.

## Construction and piling disciplines

The 63-metre-long, 30-metre-deep and 9-metre-deep reservoir was constructed in a sheet piled construction pit and anchored with temporary anchors. The temporary anchors were only to function during the construction phase, because sheet piles, concrete slab and deck subsequently keep the walls in place. We cast the base, the walls and the deck insitu, and the deck is supported by columns and beam lamina.

## A minimum of noise and vibration nuisance to residents

The 2,500 square metres of sheet piles were pressed in place by means of a Z Crush Piler to

minimise the noise and vibration nuisance to the nearby residential areas. To protect the base from swelling, we installed 350 20-metre-long vertical GEWI anchors that keep the base deck in place.

## Alternative solution

During the project in Carl Blochs Gade, we chose an alternative solution for drilled horizontal anchors as the sand layer in which the anchors were to be installed, was very wet. The solution was therefore to carry out hydraulic waling until we cast a bearing reinforced levelling layer of concrete.

## Additional work

The project also comprised design of construction and hydraulics as well as instrumentation within electricity, pumps and programming. Aarsleff's subsidiary Wicotec carried out pumps and pipe installations and Wicotec's subsidiary Danklima was responsible for the ventilation work.



#### Data

- 2,500 m<sup>2</sup>/182 m of sheet piles
- 150 strand anchors
- 180 m of hydraulic waling
- 350 vertical GEWI anchors
- 23,500 m<sup>3</sup> of excavation
- 2,400 m<sup>3</sup> of concrete
- 190 tons of reinforcement
- 1.650 m<sup>2</sup> of filigree deck
- 64 precast concrete lamina
- 59 precast concrete columns
- 24 m DN2000 HDPE waste pipeline
- 25 m DN1400 concrete feed line
- 20 m DN600 HDPE discharge pipeline

- 3 10" 45 kW discharging pumps
- 3 90 kW propeller lifting pumps
- Control board
- Electrical work
- Controlling and programming
- Plumbing work
- Reinstatement and gardening.

#### Client

Aarhus Vand A/S

**Type of contract**  
Partnering

#### Contractor

Aarsleff, Construction and Piling

#### Cooperation partners

Wicotec A/S  
Viby-EI A/S  
HydroSystems A/S

#### Construction period

September 2008-June 2011

#### Contract price

DKK 56 million

#### Contact

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