

Reservoir at Vibby Wastewater Treatment Plant in Aarhus

Establishment of round equalisation basin in Aarhus



AARSLEFF

In the period between 2009 and 2011, Aarsleff carried out an equalisation basin in Aarhus with a capacity of 16,000 cubic metres. We have previously established square-shaped basins, but this basin was constructed as a round structure with a large depth.

Construction disciplines

The work comprised sheet piling and concrete work, installation of precast concrete units as well as instrumentation and layout. We also excavated 20,000 cubic metres of soil for the 16,000-square-metre-large round basin with a diameter of 54 metres and a depth of 9 metres.

Sheet piling without inconvenience to residents

In addition, we drove 2,350 square metres of sheet piles and constructed the round construction pit which we braced temporarily by means of three concrete circles cast in situ as well as 63 precast columns and 69 beams. To keep the noise nuisance to the residents in the nearby housing areas at a

minimum, we erected a noise barrier consisting of containers while the sheet piling was carried out.

Additional work

Our work also comprised design of structure and hydraulics as well as instrumentation within the areas electricity, pumps and programming. Aarsleff's subsidiary Wicotec carried out pumps and pipe installations and Wicotec's subsidiary Danklima carried out the ventilation work.

A round basin takes up more place than a square-shaped one. However, the construction of the round basin is cheaper as the static system in a circular construction allows us to brace with insitu cast concrete beams instead of using drilled anchors. For large depths as in this case, precast elements cannot be used as is often seen for small round basins.



Data

- 20,000 m³ of excavation
- 2,350 m²/168 m of sheet piles
- 3 braced insitu concrete circles
- 250 tons of reinforcement
- 2,700 m³ of concrete
- 69 precast concrete beams
- 63 precast concrete columns
- 20 m DN1400 concrete feeder pipe
- 90 m DN500 HDPE discharge pipelines
- 6 10" 45 kW discharging pumps
- Control board

- Electrical work
- Controlling and programming
- Plumbing works
- Reinstatement and gardening work.

Client

Aarhus Vand A/S

Type of contract

Partnering

Contractor

Aarsleff, Construction and Piling

Consultant

Ingeniørfirmaet Viggo Madsen A/S
Orbicon A/S

Construction period

September 2009-June 2011

Contract price

DKK 39.1 million

Contact

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