

# Bridges for the Danish Road Directorate

Concrete casting of two bridges for construction of motorway



**AARSLEFF**

Aarsleff has constructed two bridges for the Danish Road Directorate as part of the construction of the expressway from Holbæk to Vig on West Sealand. When we constructed the bridges, we had to take into account that one bridge crosses a canal and that the other one crosses a protected moor.

## Two-span bridge

The project comprised concrete casting of a two-span bridge and a three-span bridge with prestressed reinforcement. The two-span bridge with a cross section of 1.8 metres crosses a moor. In addition, the middle column of this bridge is placed in the middle of the moor. The largest cast deck contained approx. 1,300 cubic metres of concrete which we cast in one single casting operation. The narrow access conditions at the moor meant that the casting had to be carried out from one casting front, and therefore our concrete crew spent approx. 30 hours on casting the bridge deck.

## Three-span bridge

The three-span bridge crosses a canal, and the client required that the canal flow area was maintained during the construction period. To meet this requirement, we supported the entire bridge scaffold across the canal in three lines of piles driven into the canal. Every line of piles only took up approx. 30 centimetres of the flow area, and along the cliff, we drove sheet piles and subsequently, we established a superstructure to support the bridge scaffold. Both bridges are approx. 80 metres long and nearly 20 metres wide.

## Across canal and moor

The soft and wet subsoil was a challenge and complicated the piling of scaffolds for the two bridges as well as obstructed the access to the working area. We piled the scaffolds for both bridges on wooden piles which we drove down into sustainable subsoil. Even though, it was a challenging job, we carried out the job to the satisfaction of the client.





**AARSLEFF**



#### Data

- 27,000 m<sup>3</sup> of earthwork
- 265 tons of secondary reinforcement
- 3,300 m of prestressed reinforcement
- 2,800 m<sup>3</sup> of concrete
- 2,845 m<sup>2</sup> of waterproof membranes
- 2,985 m<sup>2</sup> of bridge decking
- 385 m of bridge crash barrier

- 250 m of drainage pipe
- 810 m of piles
- 930 m<sup>2</sup> of sheet piles.

**Client:**  
The Danish Road Directorate

**Type of contract**  
Main contract

**Contractor**  
Aarsleff

**Construction period**  
December 2010-December 2011

**Contract price**  
DKK 28.3 million.

**Contact**  
Per Aarsleff A/S  
Construction  
Estimation & Tender  
kalkulation@arsleff.com  
Tel +45 8744 2222

ANLÆG-167UK-rev.2 11/2016