

# Muiderbrug in Muideren – widening and reinforcement



A1 Motorway, over the Amsterdam - Rhine canal at Muideren (NL)

**Mission: construction design of the metal part of the cable-stayed construction and assembly methods**

Owner  
Rijkswaterstaat

Architect  
Bentham en Crouwel

Cost of the works  
€ 80 M. excl. vat

Studies  
2006 - 2009

Execution  
2008 - 2009

OA



An existing girder bridge carries the motorway across the canal. The bridge needed reinforcement due to increased traffic flow. The project resulting from a competition consisted of supporting and widening the existing bridge by means of two cable-stayed constructions placed symmetrically in relation to the centre point of the bridge.

Each cable-stayed construction comprises a pylon and a compression beam. The concrete pylon tilts both longitudinally and transversally. The metal compression beam runs along the existing bridge deck and is connected to the pylon by three cables at the front and back. To the front of the compression beam is a connecting cross beam welded between the three box girders of the existing bridge and projecting on either side of the deck. The only point of contact between the existing bridge and the cable-stayed constructions is this connecting cross beam. The back of the compression beam is anchored into a massive foundation block by two tie rods.

Bureau Greisch was responsible for the construction design for the cable-stayed construction and the assembly procedure. The tensioning protocol presented a delicate exercise in balancing the pylon, as traffic over the bridge could only be stopped for two nights. The pylon took up a considerable load as soon as the connection with the existing bridge was made.