



# BRIDGES

## THARWA BRIDGE RESTORATION

### Jet Grouting and Rock Anchors

AUSTRALIA



#### Owner

ACT Procurement Solutions

#### Engineer

Aurecon

#### General contractor

Guideline ACT

#### Period of works

October 2009-February 2010

#### Main figures

##### Jet grouting

installation of 185 reinforced columns

##### Anchors

40 rock anchors with a diameter of 185mm



### Project description

Tharwa Bridge is the crossing of Tharwa Road and the Murrumbidgee River at Tharwa and is located approximately 30km from Canberra, ACT. The Tharwa Bridge was opened for use in 1895 and is heritage listed. It is the oldest standing bridge in the ACT. It was built using the new style Allan Truss method and is the oldest surviving Allan Truss bridge in Australia. Due to the historical importance of the bridge the project generated a lot of public interest.

### Ground conditions

Throughout the project the ground conditions turned out to be particularly challenging. Some of the layers in the ground turned out to be class four sandstone overlaying softer material. On one of the piers the diameter of 1200mm could only be obtained with the use of strong pre-cutting parameters to loosen the material prior to the jetting process.

Furthermore the environmental restrictions in such a sensitive area and occasional fire bans or floods due to the weather conditions were providing an additional challenge to the works.

### Solution

Menard was awarded the project in August 2009 as a specialist geotechnical contractor to carry out the Jet Grouting and Rock Anchor installation.

The broad scope of the Jet Grouting works included the installation of 185 reinforced columns with a diameter of 1200mm. The columns were installed in a continuous matrix around the base of the existing pier footings (Pier 5 - 9) down to sound rock to prevent scouring during future major flood events.

Furthermore the installation of 40 Rock Anchors with a diameter of 185mm and a 50mm Freyssibar® was required to supply additional stability to the bridge.



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