

# BRIDGE STRENGTHENING WORKS FOR BRIDGES 3109, 3178 & 3179



**VALUE** \$1M

**YEAR** 2016

**DURATION** 2 months

**CLIENT** ACT Government

**REFEREE** David Field (Northrop)

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## SUMMARY

Bridge culverts 3109, 3178 and 3179 are situated on a dual carriageway section of the Monaro Highway in Hume, ACT. The highway spans from Victoria to ACT, forming a vital link in the road freight network and serving as a main access route to the Snowy Mountains.

The existing box culvert structures were strengthened using precast panels installed on grout bed strips over the culvert deck, transferring vehicle loading to the vertical wall members. Works were undertaken during lane closures outside of peak weekday traffic periods, restricting the construction window to 69 hours at each location. Crews worked tirelessly on rotation through the day and night, completing construction at each bridge 12 hours ahead of schedule.

Traffic management and crane lifting were particularly complex elements of the project. Restricted work areas and the mass of the precast panels required a large crane to be mobilised on site, and positioned within a fine tolerance to vehicle traffic. The process was managed by computer modelling crane lifting operations and developing a detailed work method statement to direct on site personnel. The works were completed without any safety, environmental or quality non-conformances.

## PROJECT FEATURES

Bridge strengthening to SM1600

Complex TTM design and management

Restricted construction timeframe

Restricted working areas

Critical staged constructions

Weekend and nightworks

Shift working and detailed shift handover management

FRP precast concrete panel

Panel configuration and jointing redesign

High early strength grouting

Crane lift study

Crane lifting safety management

## AWARDS

2017 MBA Awards – Finalist  
2017 CCF Awards – Finalist