

BLAXLANDS CROSSING BRIDGE

VALUE	\$1.1M
YEAR	2018
DURATION	6 months
CLIENT	Wollondilly/Penrith Shire Council
REFEREE	Mike Nelson
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SUMMARY

Blaxland Crossing Bridge is a five span prestressed concrete bridge spanning the Nepean River in Wallacia, NSW. To increase vehicle loading capacity, a design to extend the bearing supports on new concrete pier headstocks was proposed. Complex submitted an alternative "design and construct" tender for the works, proposing innovative steel brackets in place of in-situ concrete headstocks.

The alternative was accepted by the client and highly commended for its innovative approach and practicality. LIDAR and 3D survey technology was utilised to model the existing bridge and design and fabricate the 2 tonne steel brackets around the existing unique "twisted" blade piers. Access to each pier for installation of the brackets was provided by complex scaffold platforms and walkways, suspended from the existing girders and braced from the piers without any major fixings to the bridge structure. The works also included construction of a temporary DN250 watermain and DN225 sewer main, installed to mitigate against the risk of damage to the permanent services during bridge jacking operations.

PROJECT FEATURES

- Working over water in flood prone waterway downstream from Warragamba Dam
- Bespoke steel headstock bearing support bracket design, fabrication and installation
- 3D survey of existing bridge
- Complex access scaffold
- Hydraulic bridge jacking
- Bearing replacement
- Detailed lift plans & temporary support
- Custom bracket lifting / installation equipment
- Installation and stressing of stress bars
- Construction and commissioning of temporary water and sewer services
- Lane closures and full road closures during jacking operations