

# infocus

WINTER 2023



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## A Message from **Stuart Crole**

Welcome to the Winter 2023 edition of Fortec's InFocus magazine, showcasing some of our latest projects and company news.

The last six months has been a very successful period for Fortec with the securing of a number of significant bridge projects on both the east and west coasts of Australia.

Fortec have continued to grow our capacity both in personnel and equipment and with a very strong order book we are looking forward to a busy period for at least the next 12 months.

With the increase in our national prequalification to B3/R2/F150 we now have the opportunity to take on larger bridge projects.

We hope you enjoy reading about Fortec's existing and upcoming projects in this edition of InFocus.

Stuart Crole  
Managing Director

## National Prequalification Upgrade / Demolition Licence

### WHAT'S NEW?

Fortec has received an upgrade to the National Prequalification Scheme to B3, R2 and F150 which will enable Fortec to pursue larger bridge construction opportunities.

National Prequalification System for Civil (Road and Bridge) Construction Contracts	
<b>CERTIFICATE OF PREQUALIFICATION</b>	
Assessing Authority	Main Roads Western Australia
Entity	<b>Fortec Australia Pty Ltd</b>
ABN/ACN	77 603 299 958 / 603 299 958
Address	14 Boulder Road MALAGA WA 6090



Fortec has secured a Demolition Licence Restricted Class 2 for Bridge Structures under 10m high. This will enable Fortec to self perform the demolition of bridge refurbishment work under the MRWA Structures panel.

<https://www.fortecaustralia.com.au>

## Bridge Maintenance

# McFarland Bridge Remediation

Fortec was contracted to complete the remediation works to the existing McFarland bridge located in Grandchester, Queensland.

The McFarland bridge is located in Grandchester, QLD (approximately a 30 minute drive west of Ipswich). The bridge is 24 metres long and spans over 3 headstocks.

The contracted works included:

- Traffic management;
- Removal of existing timber barriers and replacement with new steel barriers;
- Supply and install W beam to bridge approaches including end treatments;
- Crack injection to abutments and headstocks, and
- Application of anti-carbonation and crack bridging coatings to abutments and headstocks.

To complete the works Fortec was required to design and construct temporary scaffold to allow access to the side of the bridge and the headstocks. Temporary traffic control and lane closures were put in place during working hours to allow for the completion of the works. This is the first bridge maintenance project completed by Fortec for the Ipswich City Council.



Overview of McFarland bridge with traffic management.



New bridge guardrail installation.

## Bridge 4016 Arthur River Maintenance

Fortec was engaged by MRWA in May 2022 to conduct extensive improvement works to Bridge 4016 over the Arthur River.

The bridge is a 52 metre long, 8 span timber structure at 8.8 metres wide, with gravel decking and a bitumen sealing.

The scope of works included:

- Bridge deck and approach slab demolition;
- Construction of a new concrete bridge deck and approach slabs at 9.6m wide, with Bondek substructure;
- Concrete sheeting and pile pots to wing walls;
- Replacement of abutment full caps;
- Full timber bridge repair and maintenance schedule;
- Earthworks to widen the existing embankments to accommodate road widenings to match the new bridge width, and
- Installation of 253 linear metres of guard rail to bridge and road widenings.

Highlights of the project included keeping one lane open at all times and only requiring two concrete pours for the bridge deck.



50T props supporting bridge stringers during strengthening work.

## FEATURED PROJECT

# Halls Creek to Kununurra Bridges

### Media Release

Safety improvements are coming for road and freight users in the eastern Kimberley thanks to three bridge upgrades for the Great Northern Highway between Halls Creek and Kununurra.

A contract has been awarded to Fortec Australia Pty Ltd for the delivery of the upgrades.

Three existing single-lane bridges will be replaced with dual-lane bridges over Arthur Creek, Frog Hollow Creek and Tickalara Creek on the Great Northern Highway. The existing single-lane bridges at Arthur Creek, Frog Hollow Creek and Tickalara Creek present considerable safety hazards to motorists. From 2017 to 2021, 44 crashes were recorded within the project area.

The upgrades will result in the removal of three of the remaining 13 single-lane bridges in the Kimberley, significantly reducing the risk of crashes at each location.

The \$33 million works are jointly funded by the Australian and State Governments under an 80:20 funding split. Construction commenced in June 2023.

The project will complement the New Fitzroy River Bridge project, which will see a new two-lane bridge over the Fitzroy River constructed, after the existing bridge was critically damaged from flooding generated by ex-Tropical Cyclone Ellie.

Quotes attributable to Federal Minister for Infrastructure, Transport, Regional Development and Local Government Catherine King:

“This is great news for the people of these communities who depend on reliable and safe travel and freight transport links between and beyond these localities.

“Projects like this are important to not only assist employment and businesses in the communities these bridges connect, but also to provide better infrastructure and safer roads lasting long into the future.

“The Australian Government is pleased to be co-funding these much-needed bridge replacements, effectively reducing safety hazards and streamlining passenger travel and freight transport links between these essential communities.”

Quotes attributable to WA Transport Minister Rita Saffioti:

“The long-awaited bridge improvements on Great Northern Highway in the eastern Kimberley are becoming a reality with a contract awarded to construct three bridges over Arthur Creek, Frog Hollow Creek and Tickalara Creek.

“The project will support the continued growth of the Western Australian economy by improving the efficiency, safety and reliability of Great Northern Highway between Port of Broome and Port of Wyndham.

“It will also support regional economic development by encouraging the continued development of the regional tourism industry through improved travel times, travel experience and reliability.”



## Geotechnical

# Tonkin Gap - Great Eastern Highway Permanent Active Hollow Bar Anchors

Fortec was contracted by Tonkin Gap Alliance to carry out the design, installation and stressing of permanent hollow bar anchors in existing bridge abutments to enable widening of the Great Eastern Highway.

Fortec was an integral part of the planning, design and delivery team to tailor a compliant 100 year permanent solution within live traffic conditions and variable ground conditions.

Due to the restricted access and live traffic conditions, the project was completed using Fortec's specialist hollow bar drilling rig with proven versatility and manoeuvrability of this functional tight access specialised equipment.

All works were undertaken under live highway traffic conditions with no incidents or disruption to the public.

Fortec's scope of works included:

- Permanent anchor design, quality compliance and specification development for the hollow bar active anchors;
- Supply, installation and stressing of active permanent anchors including capping and sealing;
- Compliance quality testing and reporting, and
- Long term monitoring and compliance load testing as required for Bridge Structures and the MRWA.

Highlights included:

- Scope of works performed in a low head room environment and adjacent to live public traffic;
- 52No Permanent Hollow Bar anchors – Nom 15m long, and
- Compliant with TGA and MRWA specifications.



Load testing with movement monitoring.



Capped and completed ground anchors.

Drilling for ground anchors under existing bridge.



## Geotechnical

# Delta Corp Permanent Active Anchors

Fortec was engaged by Delta Corporation to carry out the supply, installation, stressing and testing of 16 No 1000kN WL active permanent hold down anchors.

The permanent anchors were required to hold down a 92 metre long restressing bed for major bridge precast girder forms.

Fortec's works were completed along the surface of the bridge girder concrete tub/form with specialist tight access plant and equipment without disruption to precast production schedules while maintaining a safe and functional work environment.

Fortec's scope of works included:

- Early design and contractor involvement to provide optimised design, construction and access solutions;
- Supply, drilling, installation and stressing of 16 No permanent high grade stress bar DCP ground anchors, and
- Supply and installation of pressure grouted ground stabilisation for ground improvement via a grout packer for anchor drilling.

Highlights of the project included:

- 16 No Permanent Active Anchors were carried out efficiently and remained LTI and NCR free;
- The project was completed on time and to the client's satisfaction, and
- The works were completed safely with no disruption to the client's operating business.



Installation of the DCP anchor.



Load testing and stressing.



Ground anchor installation by crane.

[▶ <https://www.fortecaustralia.com.au/?s=Permanent+Anchors>](https://www.fortecaustralia.com.au/?s=Permanent+Anchors)

## Post Tensioning

# Medlog Facility Post Tensioning

Fortec has recently completed works at the new Medlog Facility at the Port of Brisbane.

Works included the design and installation of post tensioning to various external Hardstand Slabs at the new facility.

The works included:

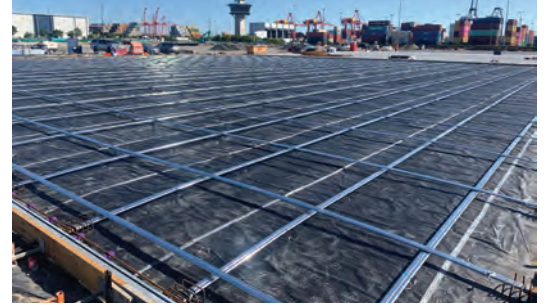
- 22,000m<sup>2</sup> of Empty Stack Container Hardstand;
- 3,900m<sup>2</sup> of Modified Container Hardstand, and
- 14,000m<sup>2</sup> of Heavy Duty Container Hardstand.

Site works commenced in early May 2022 and were completed over two stages, with completion Jan 2023.

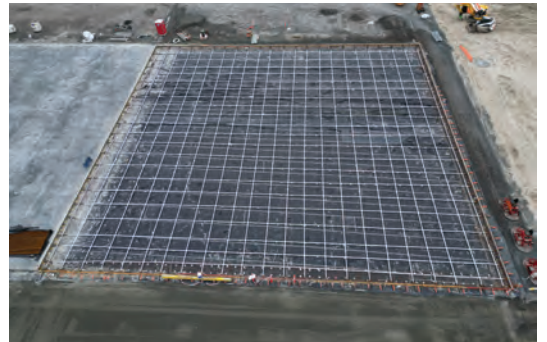
Once the facility is fully operational, it will be one of the world's most automated container parks, incorporating high-end technology to deliver world-class standards in terms of operation and safety.

This project is also one of the first Heavy Duty Post Tensioned Pavements to be constructed at the newly developed zone within the Port of Brisbane.

[▶ https://www.fortecaustralia.com.au/?s=Post+Tensioning](https://www.fortecaustralia.com.au/?s=Post+Tensioning)



Slab on ground PT.



Slab ready for concreting.

## Design & Construction

# Dungog Council Bridges

Fortec has recently secured works for the construction of five single span bridges for Dungog Council as part of the “Fixing Country Bridges” scheme.

Fortec recently obtained the B2 bridge prequalification reciprocal approvals in both NSW and QLD which gave us the opportunity to tender and secure our first bridge replacement project in NSW.

A number of different schemes were assessed during the tender phase, with Fortec deciding on the Inquick system for the works due to the remoteness of the site. The modular nature of the Inquick system will allow better control over both quality and program to ensure the project is delivered on budget and on time.

The works include:

- Demolition of existing bridge structures,
- Design and construction of new bridge structures including bored pile foundations, abutments, wingwalls and bridge deck, and
- Utilisation of the Inquick Modular Bridge system for the abutment and bridge deck.

Site works commenced in early March 2023 with current programming having the five bridges complete towards the end of the year.

[▶ https://www.fortecaustralia.com.au/?s=Bridges](https://www.fortecaustralia.com.au/?s=Bridges)



Earthworks starting for the construction of the first bridge.



Featured photo: Smoking Ceremony at the start of the Halls Creek to Kununurra Bridges Project.

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