

YEPPON BRIDGE REPAIR PROJECT

PROJECT SUMMARY

Client: Livingstone Shire Council

Location: Yeppoon

Duration: 2 Months

Value: \$ 400,000

Major Challenges Overcome:

- Tides
- Environment / wildlife
- Water flow



Shoal Creek Bridge at Low Tide – showing some damages

The Project

Three road bridges owned by the Livingstone Shire Council required various concrete repairs and treatments due to onset of corrosion, abrasion, undermining and cracking attributed to alkali-silica reaction or similar. The three Bridge as follows:

Shoal Creek Bridge is a two lane carriageway with a footpath. It is a seven span, 12m wide, 67.5m long bridge comprised of 16 pre-stressed deck units (per span) transversely stressed, supported on concrete reinforced abutments and blade piers. The piers and headstocks suffered from severe degradation, resulting in a loss of the bridges structural integrity.

Fig Tree Creek Bridge is a two lane carriageway with footpath. It's a three span, 12.5m wide, 36m long bridge, comprised of 19 pre-stressed deck units (per span) transversely stressed, supported on concrete reinforced abutments and piers consisting of precast concrete driven piles. The bridge had a prevalence of longitudinal cracking

along the underside of the pre-stressed deck units and in other components.

Henry Beak (Ross Creek) Bridge has two lane carriageway and footpath. It's an eight span, 11.5m wide, 91.2m long bridge, comprised of 15 pre-stressed deck units (per span) transversely stressed. The bridge superstructure is supported on eight precast concrete driven piles. There was significant spalling in Pier 7 and Pile 5 that required replacement of reinforcement and concrete repairs.

Program

The bridge repair works commenced on the 4th June 2015 and was substantially completed on 26th July 2015.

Additional investigations in the utility service duct on the bridge deck was completed on 30th September 2015.

Project Scope

The project included the following concrete repairs:

- to the piers, headstock and deck units,
- batter wall and causeway slab,
- waterproofing the bridge structure.

Completed Works

The following work was successfully carried out:

Shoal Creek Bridge:

1. Concrete Repairs (Spalling Nosing Repairs and Abrasion Damage) – 133 m²
2. Repair to Damage Batter Protection and Causeway Weir Slab – 11 m³
3. Waterproof the piers, underside of deck spans and headstocks with a Chloride Inhibitor. – 1220 m²



Pier Nosing Repairs

Fig Tree Creek Bridge

1. Crack Repairs to pile jackets – Approx. 20m
2. Waterproof the piers, underside of deck spans and headstocks with a Chloride Inhibitor. – 470 m²
3. Sampling and Testing for ASR in the deck units

Henry Beak (Ross Creek) Bridge

1. Concrete Repairs (Spalling) – 1.5m²
2. Repairs to damage batter protection wall – 12 m³



Repaired Batter Wall

Suzy and John Watson's

Spectator

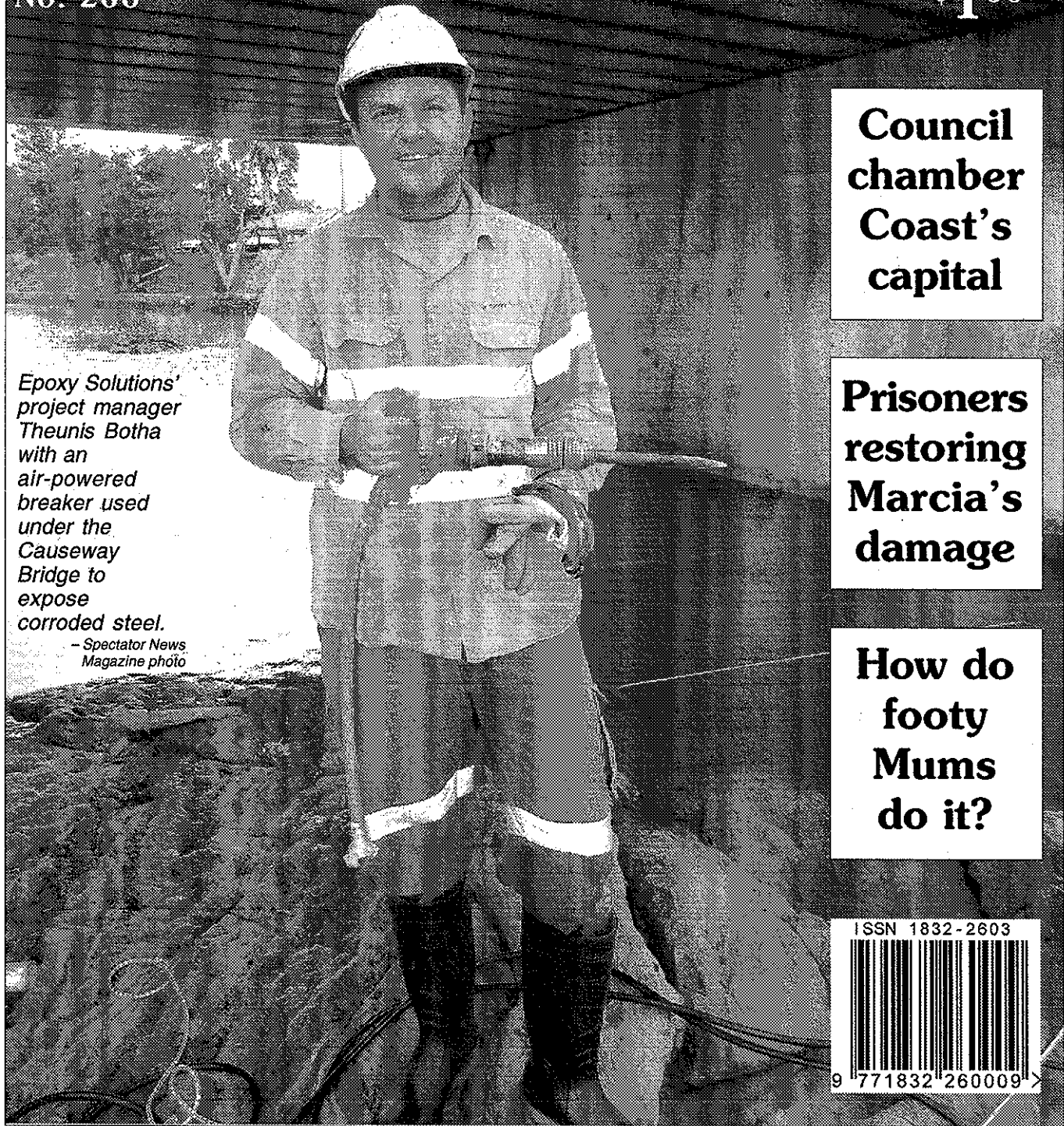
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\$1.00



Epoxy Solutions' project manager Theunis Botha with an air-powered breaker used under the Causeway Bridge to expose corroded steel.

— Spectator News Magazine photo

Council chamber Coast's capital

Prisoners restoring Marcia's damage

How do footy Mums do it?



\$400,000 tender for bridge maintenance

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