

# SUNKEN TREASURE

A pedestrian bridge – proudly adorned with sculptural ribs made from XLERPLATE® steel and TRU-SPEC® steel – is an evocative landmark in this rejuvenating coastal city. Words **Rob Gillam** Photography **Jackie Chan**

Having recently undergone extensive redevelopment, the roughly one-kilometre stretch of foreshore at Koombana Bay is a lovely place to be. The area has a darker past, though, with many early mariners cruelled by the bay’s north-west gale that has trapped a known 15 sailing ships in its shallows – the last being wrecked in 1923. These shipwrecks were one of the inspirations Phil Gresley of Gresley Abas drew from, for the bridge design.

“Our brief was to better-connect the new foreshore with a 5-metre wide pedestrian bridge that spans over the inlet,” says Gresley. “We wanted to create a landmark but it was important to give it meaning, not just do something fancy. We wanted to draw from the knowledge of the site and connect back to that.

“This is such an important place for the Elaap Wadandi (Saltwater) people. Conversely, there are these historical elements of whaling, bones and emerging hulls of wrecked ships. The bridge also references storms and projects a visual effect onto its white ribs via a programmable lighting system.

“The bridge can be interpreted in many different ways, but it is all related to its place and that generated the design idea,” Gresley says.

Charged with overseeing the wider foreshore development, engineers Cardno worked with the architects to refine the structural system for the bridge’s arching ribs made from XLERPLATE® steel

in AS/NZS 3678-250 grade and TRU-SPEC® steel coil plate in AS/NZS 1594-HA250 grade – predominantly in 12mm and 8mm thicknesses.

Cardno’s senior principal, Geoff Pereira, says the rib design went through a series of design evolutions before arriving at a cross-section which was both structurally efficient and also simple to fabricate. “An open angle’s shape is rigid, but able to twist easily – much like the shape of a flat plate or perhaps a ruler on your desk,” Pereira says. “We required a closed section, or tube section, which is rigid and also ‘torsionally’ stiff.

“Working collaboratively with Gresley Abas, our teams conceived a rib cross-section which comprised two folded angle sections that were nested toe-to-toe. The shape developed was structurally efficient whilst also being efficient to manufacture using traditional fabrication methods. Interestingly, the final shape echoed that which nature has evolved for a whale rib.”

Cardno then asked local steel fabricators, Hotweld, to work up a full-sized prototype as proof of concept and to confirm the proposed fabrication methods and the suitability of the final shape, and finishes. The prototype also contractually represented the quality to be achieved during manufacture of the remaining ribs.”

Hotweld director Rick Cassagrande says collaborating on the prototype was a welcome

challenge. “The prototype was a bit finicky, but we’re not scared of jobs like that,” he says. “It was about interpreting the drawings and getting the detail right, then making sure we could make it work by rolling and pressing the XLERPLATE® steel correctly.

“Then it was about getting it how we wanted it, visually, because in this case it had to perform visually as well as structurally. We had to take extra care to get the aesthetic that the architect wanted and we think the final effect is rather nice.”

Both architect and engineer take great pride in the way locals have embraced the project. “To have people appreciate the projects you’re involved in is pretty neat and this one is well regarded by the community – everyone talks about it,” says Cardno’s Pereira.

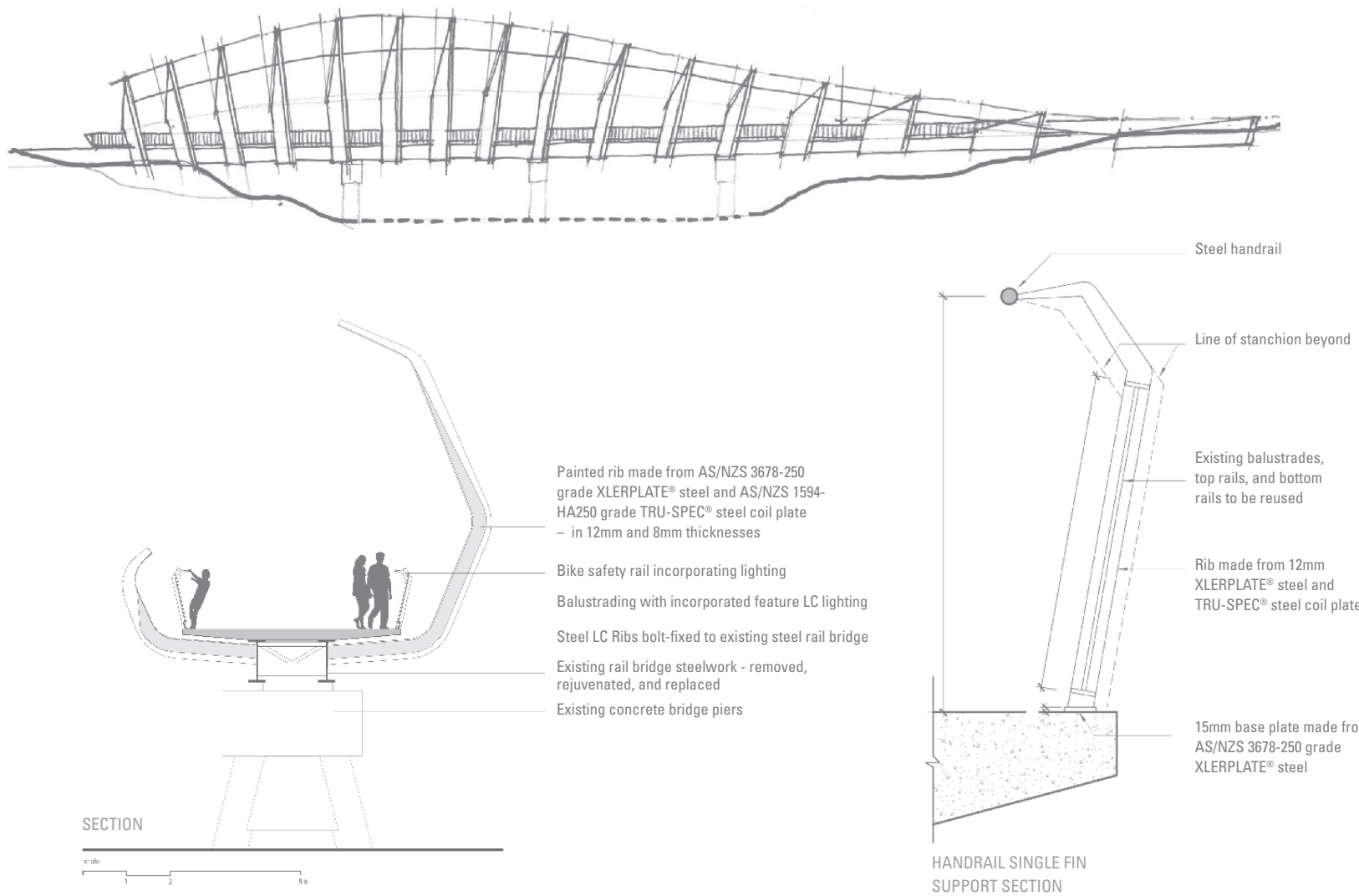
“The city is trying hard to create something special to draw people in. Everyone heads to our Margaret River wine country and the roads run around Bunbury so people skirt around it, but as a result of the bridge I’ve gained a greater appreciation of the city. It has renewed my interest in the area and I have taken my family back a few times to enjoy it.”

Phil Gresley agrees: “The community reaction has been wonderful. I get to regularly visit Bunbury and it’s great to engage with the bridge in action. I’m really proud of our work but I think the community also exude a certain pride about it.

“Bunbury is going through a wonderful contemporary transformation. It has some pretty sophisticated public art and provides a high level of amenity for residents and visitors.

“I see the bridge as sculptural but as an architect I don’t consider it art. It’s a landmark structure and a piece of interpretation. It embeds the place into its design, intertwining Indigenous and European narratives and the steel helps achieve that.” **SP**

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**PROJECT** Koombana Bay Foreshore Pedestrian Bridge **CLIENT** City of Bunbury **ARCHITECT** Gresley Abas **PROJECT TEAM** Philip Gresley, Greg James, Ryan Deyonker  
**INTERPRETATION** Apparatus **PRINCIPAL STEEL COMPONENTS** Sculptural ribs made from XLERPLATE® steel in AS/NZS 3678-250 grade and TRU-SPEC® steel coil plate in AS/NZS 1594-HA250 grade – predominantly in 12mm and 8mm thicknesses **BUILDER** Ertech **STEEL FABRICATOR** Hotweld **STRUCTURAL & CIVIL ENGINEER** Cardno  
**LANDSCAPE ARCHITECTS** Cardno **PROJECT TIMEFRAME** August 2016 – December 2017 **AWARDS** 2019 Australian Institute of Architects Western Australia Chapter Awards – Urban Design. 2019 Australian Coastal Award – Annual Achievement. Parks & Leisure Australia Awards for Excellence – Park of the Year **TOTAL PROJECT COST** \$12 million