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Heritage values retained in timber

Einbumpin Lagoon Covered Bridge - Sandgate, Qld.

Thick timber members are a feature of Sandgate's new covered bridge, and were deliberately used to capture the spirit of a past era.

by David Kiefer

Sandgate, on Brisbane's north-side foreshore, is a haven of timber buildings of prewar and inter-war construction - from homes to schools, churches and the scout hall.

A flood of new owners is taking over and spending serious money on renovating the old buildings in heritage style. Any new public construction at odds with this movement would obviously not be welcome.

Against this background, Brisbane City Council engaged James Pierce to design a new bridge over Einbumpin Lagoon, just off the Sandgate's main street. He recognised the need to design sympathetically.

"We used timber because they wanted it to have a colonial feel," he said.

"The old buildings in Sandgate are built of timber. Lots of the old foreshore structures were built of timber because steel rusts. The bridge isn't right on the foreshore, but the salt air blows in.

"There were also old timber bathing sheds at Brighton and Sandgate. We looked at some of the older photos to pick up on their design elements (for the bridge).

"We've used lots of chunky bits of timber, reflecting the older structures. Back when they were built, we tended to use larger sections because the bigger timber was more available."

The new bridge is a replacement for an existing wooden structure which was beyond repair.

Local councillor Denise Herbert said the old bridge, spanning a lagoon which attracts wildlife to the suburban centre, was an important component of the area's lifestyle.

"So many people stop on that bridge, particularly children, to watch the wildlife," she said.

"We did look at a simple replacement (a laminated timber truss bridge of a 20-metre span), but we decided that people needed somewhere to stop and look out; platforms to stand on.

"Then we thought 'Wouldn't it be great to have a covered bridge, with seating, where people can take their time'."

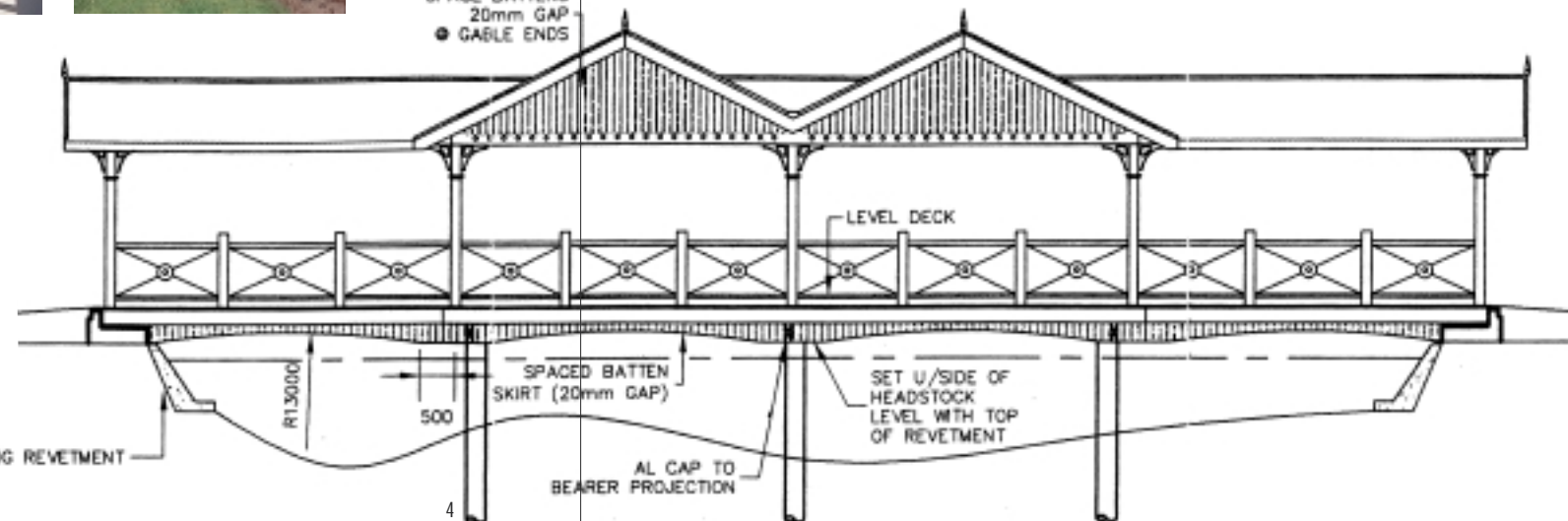
The 'bridge' design elements match those of a new rotunda - the area's third - on one of the lagoon banks. The rotunda, in turn, matches another rotunda several hundred metres away in Memorial Park, itself modelled on an older structure in Moora Park, on the seafront headland in adjoining Shorncliffe. All make popular settings for weddings and picnickers.

Given the physical and social environment, and its unprotected public positioning, James specified spotted gum for the new bridge.



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SPACE BATTENS
20mm GAP
● GABLE ENDS



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"I specified spotted gum (*Corymbia citriodora*) for its durability. It resists attacks by vandals, and offers the best holding power for decking screws," he said.

Because of the density of the timber, the carpenter had to pre-drill and countersink holes for the normally self-tapping stainless steel decking screws. To reduce the time on this task, he used a single-flute twist drill with a countersink attached to it.

While spotted gum is the predominant timber, there are some sections of ironbark and, possibly, tallowwood. The piles are Koppers double-treated (CCA and creosote) hardwood.

There are also some laminated beams containing round holes at regular intervals.

"Well, it's definitely not borers," James said. "It's a design element picking up on some of the detailing on some of the older houses in the area. It's something we found in the old photos we looked at."

Constrained by having to use the existing piles as much as possible, and the physical boundaries imposed by the lagoon, James admits to having to "cheat" a little with the design.

"The only compromise is in the bracing. Because of the limited space we had to work in, with the water around it, we had to use steel braces at the top (of the posts), rather than the bottom, to provide lateral bracing," he said.

"But that's the only thing contrary to the way it would have been built in the 1920s and '30s, when most of the buildings around here were built."



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The result is a very distinctive structure which, although unusual, is not at all out of place in its surroundings.

"It's probably the first timber covered bridge in Australia," James said.

"Covered bridges are more usual in Austria and Germany where the roof is used to shed snow, and in the eastern parts of the United States - New Hampshire, Pennsylvania and so on.

"Putting a roof on it makes it last longer because the structure is out of the weather. In Austria and Germany it's also a place for people to shelter if they get caught out in a snow storm.

"In the Australian environment, it will allow people to shelter from the sun.

"It gives a nice focus for the centre of Sandgate, and it really doesn't add that much expense."

Because of the roof, James estimates the structure will only get wet about 20 percent of the time, which will add to its longevity.

Cr Herbert said the bridge was completed in time for this year's local festival, held in the lagoon parklands. It played a central role, mainly because the event was deluged by rain.

"I've never seen so many people on a bridge," she said.

However, the bridge is expected to play a more formal role in next year's event, being decorated in banners and possible hosting some festival events. **ATD**



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* James Pierce trades as James Pierce and Associates, consulting engineers civil and construction, from his business address in Norman Park, Queensland. Telephone (07) 3899 2085.

1. Extra platform space makes the bridge an ideal meeting place.
2. Existing Memorial Park Rotunda which is close by
3. The covered bridge spanning the lagoon.
4. Working drawing of bridge by James Pierce.
5. Looking through the new rotunda towards the bridge.
6. Close up of footing detail of ramp connecting to new rotunda.

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