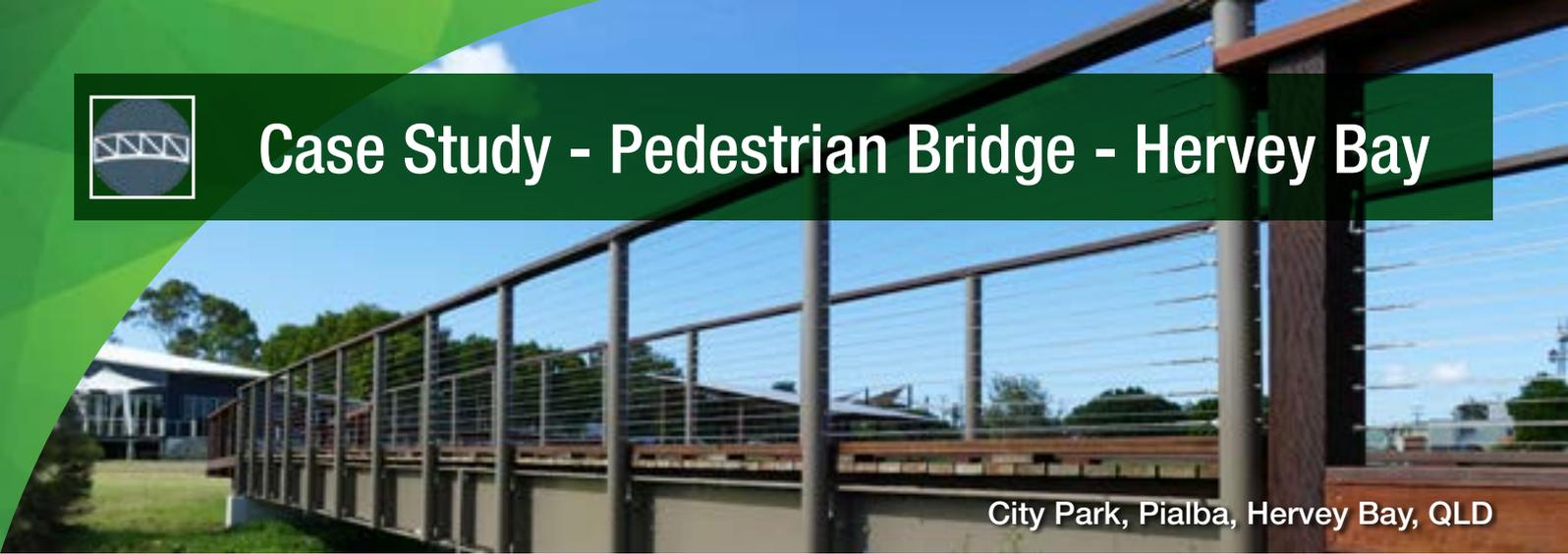




Case Study - Pedestrian Bridge - Hervey Bay



City Park, Pialba, Hervey Bay, QLD

Overview

Customer: Fraser Coast Regional Council
Product: K1103 Condamine (I-Beam) Pedestrian Bridge
Ref No: 29232



The growing seaside township of Hervey Bay is considered the commercial hub within the jurisdiction of the Queensland's Fraser Coast Regional Council.

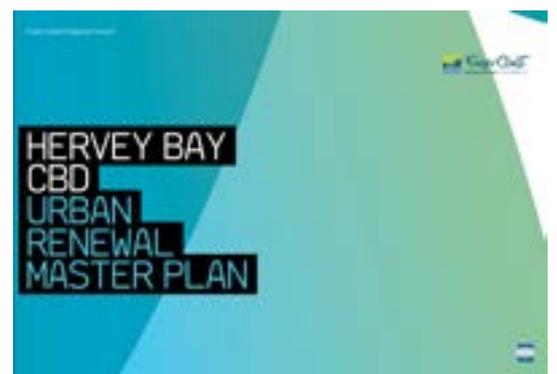
The Hervey Bay CBD Urban Renewal Master Plan was enacted to facilitate the continual growth and improvement of Pialba (regarded as Hervey Bay's CBD), a critical factor for the ongoing prosperity and growth of the region. The council project for City Park in Pialba sought to "activate" the area, giving greater accessibility to important venues.

The Link Mobility Corridor is a 6.2 km pathway from the Hervey Bay Botanical Gardens to the CBD. This too would benefit from the project.

City Park is west of the main CBD and east of the Hervey Bay State High School. The Hervey Bay Community Centre is on one side of the park with the Hervey Bay Regional Gallery on the other.

Before the Pedestrian Bridge was built, the Council moved a Shelter (previously built and installed by Landmark Products) to the northern side of the lake to be in front of the Hervey Bay Community Centre. The bridge would allow quick access between the two buildings. The overall project also included the installation of a sound stage.

"The works will enable more events to be staged in the parkland as well as catering for school visits to the Fraser Cultural Centre and Discover Sphere", Events and Recreational Portfolio Councillor Darren Everard said at the time.





Design to manufacturing to installation, Landmark Products delivers total project solutions.



Design

The bridge was built over the stormwater detention basin at the park. Council provided flood information for the park and surrounding streets (Charles Street and Main Street) and the subsequent design of the bridge accounted for potential issues relating to flow, velocity and scour and to ensure that the bridge did not negatively impact on the function of the flood basin.

Flood information, including flow calculations, from the Council was used for design checks of the bridge. Relevant design standards were applied to address site issues. Site soil testing was also undertaken by a contractor and considered.

It was determined that the volume of existing free area under the bridge structure was a critical component to achieving the Q10 flows under the bridge and it was modelled with existing terrain, with no excavation and no fill needed under the bridge.

The Landmark design team developed the plan for a Condomine (I-Beam) bridge, 22 metres long with a 2 metre clear width (see table for specifications).

Product Details

| Product Details | |
|-----------------------------------|---|
| Product | K1103 Condomine Steel I-Beam Pedestrian Bridge (Modified) |
| Dimensions/ specifications | 22m x 2m clear width, designed to 5 kPa loads and 2.0m/sec flood loads |
| Materials | Hot-dipped galvanised exposed steel teams, bearers, bracing and baluster posts; LOSP treated, pine timber joists and plates, ACQ treated hardwood cap rails and kick rails, ACQ treated, select hardwood timber decking |
| Finishes | HDG beams, bearers, bracing and baluster posts - 2Pac (Jasper); joists and plates (Walnut Stain), cap rails and kick rails (standard stain) |
| Fixings | Landmark stainless-steel anti-vandal fasting system for baluster posts, stainless steel fixings (except for 8.8 structural bolts) |
| Engineering | Kit form and delivered flat packed, engineer certified, building application drawings, abutment design and setout plan and installation instructions. |



Manufacturing

All components of the bridge, from beams to decking, were gathered together at the Landmark factory and flat-packed, before being delivered on-site to Hervey Bay.

Installation

Landmark project managed all aspects of the installation including safety fence hire, supply and installation of screw piles, pouring the concrete abutments, hire of crane to help assemble and lift the bridge into position, and leaving the site clean and tidy. The six pre-fabricated steel beams, together with all components of the bridge designed for a live load of 5 kPa and flood load of 2m/sec, were delivered on-site.

Once the two spans were assembled with the hardwood decking, they were lifted in place on the abutments by crane and fixed into place. The remaining decking, hot-dipped galvanised beams posts, stainless steel wire balustrade and hardwood cap-rails was fixed, and the approaches at both ends were built by the council afterwards.

Comments

This City Park development is of fundamental importance in the progress of this sized regional city, and a timely upgrade for the old retention basin. For decades it will be the central recreation and cultural precinct providing the growing local population with a place of identity. By 2036 Hervey Bay's population is predicted to increase to over 102,621 (currently around 60,000). The planned Sports Park at nearby Nikenbah, when developed quite a few years into the future, will complement the Pialba City Park.

