

RobinsonBridges

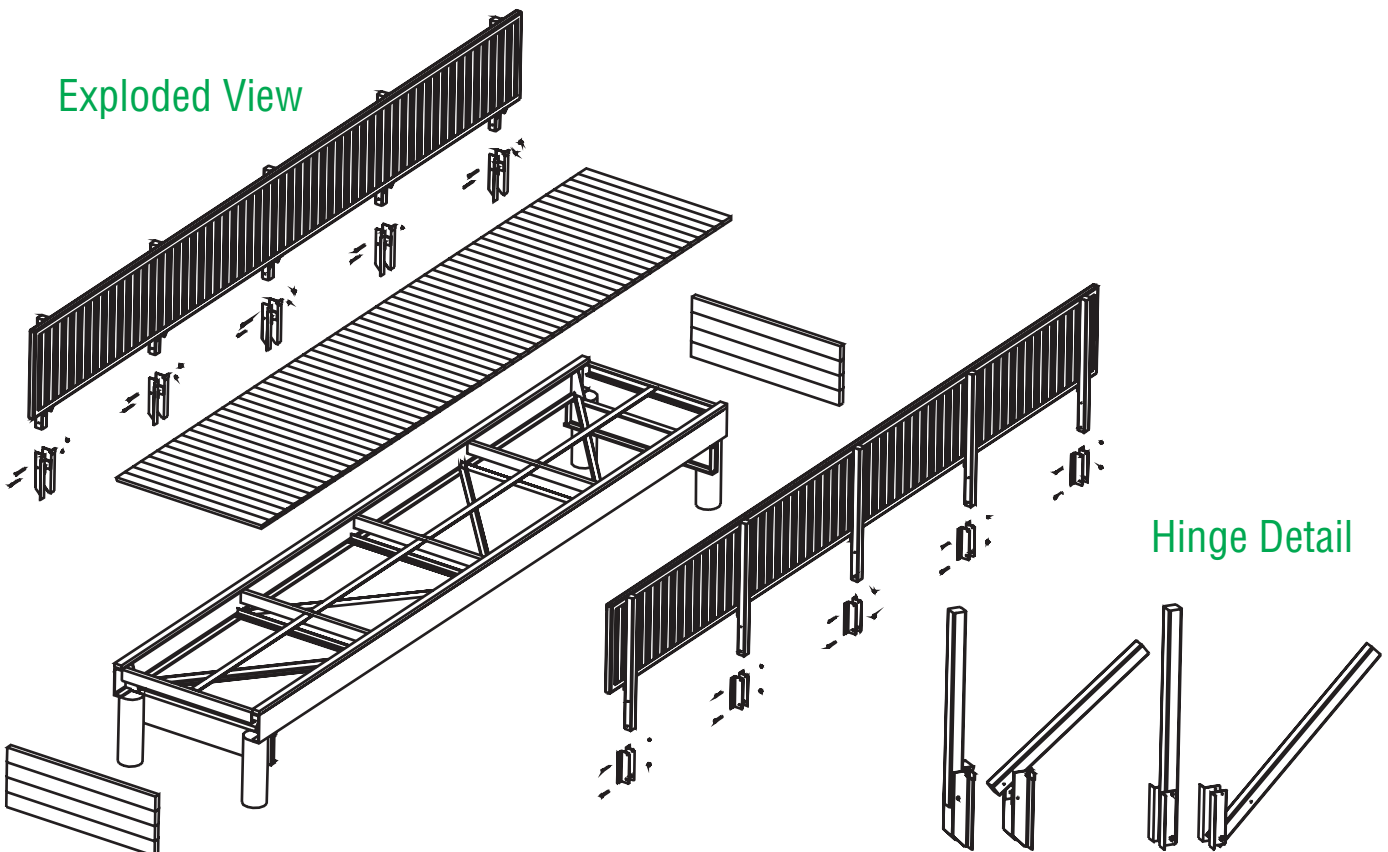
Pedestrian bridges with frangible handrails

- Patented certified design • Sustainable materials • Attractive low maintenance
- AS5100 compliant • 30 years experience park & bikeway construction • Supply & installation

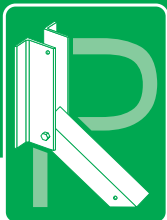


Coolana Street Bridge

Exploded View



Hinge Detail



The design

The Robinson Bridge is a patented small bridge with frangible handrails to cross over waterways, or for use as a small jetty. It may be a pedestrian or cyclist bridge, but is not limited to those applications.

The current Australian Standard Bridge Design Code requires a barrier height for bridges of 1300mm where cyclists may use a pedestrian way. The code also requires vertical balusters at 130mm spacing.

In the case of flooding where bridges are located over a stream or spillway the height and close spacing specified, together with debris built up against the barrier can cause significant impediment to stream flow and cause upstream afflux, or levels to be higher than normal. The damming effect can result in flooding problems in built up urban areas. Significant lateral loads may result in damage to the bridge including being washed away from its footings.

The Robinson bridge design is that of an improved bridge with a collapsible hinge to

- affix one or more handrail sections to the bridge
- include a destructible component adapted to collapse the attached handrail section on encountering a sideways force
- fail under significant debris or log impact loadings, whether handrail section supported is upstream or downstream of the flow of water.
- collapse and retain handrail in a direction away from the force
- restore the handrail section to its original upright position by replacing destroyed sheared bolt and any other damaged components
- provide robust yet aesthetically pleasing construction and low maintenance issues

Specifications

Spans

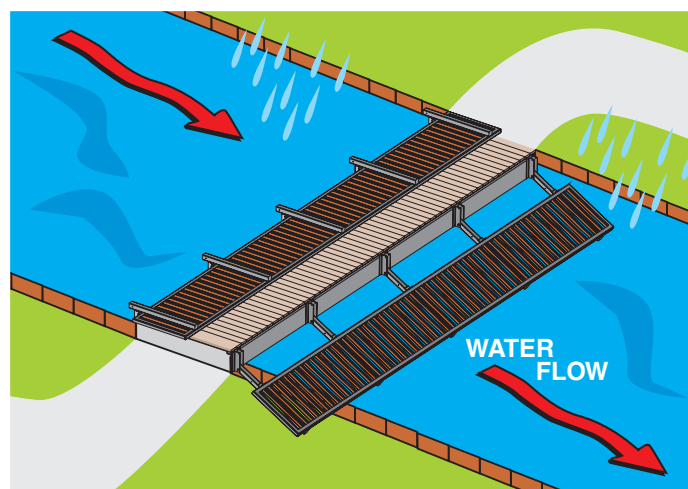
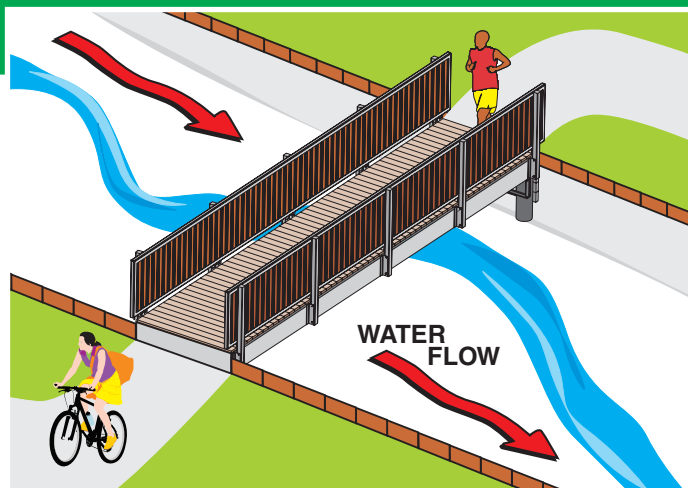
- Nominal Module lengths – 7.5metre, 10 metre and 12 metre Spans. Design allows for multiple modules of these sizes.

Load

- Bike ways and pedestrian bridges up to 2 metres clear width.
- The Bridge has been designed for a distributed deck live load of 5.0kPa, and an Isolated point load of 20kN (2 tonnes).
- Designed for access by light maintenance vehicles.

Flow Rates

- Designed for flow rates up to 2m per second
- Shear bolts are designed to shear under significant debris or log impact.



Fabrication

- Handrails conform with geometric requirements pedestrian & bicycle path requirements Bridge Design Code AS5100 (1300mm height – 130mm spacing)
- Saddle, pivot arm and pin members are fabricated from hot dipped Galvanised steel and attached to outer bridge beams
- F27 Kiln dried hardwood Deck. Timber balusters are attached to longitudinal rails. Handrail posts are bolted into the saddles of the hinges.

The “green” bridge

Robinson Bridges are committed to a sustainable environment. Great care has been taken to ensure the hardwood timber used in the decking is obtained only from sustainable forests. Whether sourced locally or imported, the source of the timber is assured.

There is no CCA treated timber used.



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Certified Engineer Designs by NJA Consulting Engineers
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Call to discuss your site/design needs

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