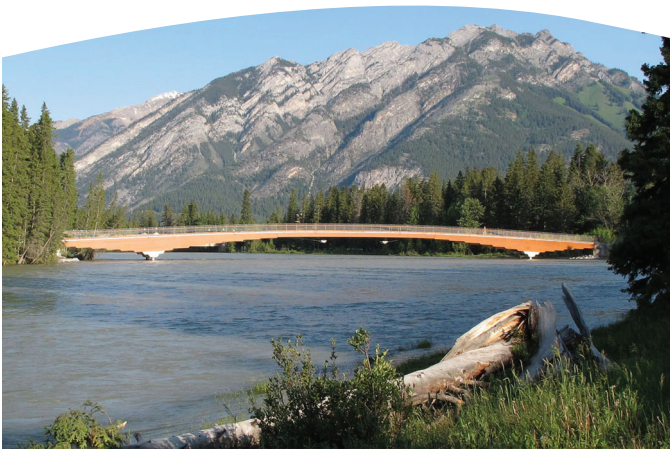




2014 AWARDS FOR ENGINEERING EXCELLENCE

Award of Merit

Bow River Pedestrian Bridge and Utility Crossing



Consultants

Fast + Epp

Owner

Town of Banff

Client

StructureCraft Builders Inc.

Category

Transportation & Bridges

Given the highly visible and historically significant location, the Town of Banff was careful about the form the foot-bridge would take, the views it would create both from its deck and from surrounding vistas, the materials it would be made of, and the connection it would make with local trails. Driving the agenda, however, was a more pressing concern that existing sanitary pipes installed underneath the river some fifty years earlier might fail, spilling raw sewage into the pristine Bow River. So the bridge also needed to carry new pipes, creating an important dual use for the new crossing.

In late 2011, the Town of Banff created a design-build competition attracting a number of respondents; choosing a winner who addressed the constraints, with a cost fitting within the budget. The final design features an 80 metre clear span, one of the longest timber bridges of its kind. With a relatively slender 4 metre width, this creates the primary design challenge for the bridge: its dynamic behaviour. Not uncommon with long span footbridges, the primary vertical and lateral frequencies fall directly in the range of susceptibility to pedestrian excitation. To sufficiently damp the response, several damping systems were investigated, with the final system comprising of two custom-designed tuned mass dampers suspended visually with cables beneath the bridge.

For more information, please contact:

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