



# Gannon's Narrows Causeway Bridge Rehabilitation

<p><b>OWNER</b></p> <p><b>CONTRACTOR</b></p> <p><b>LOCATION</b></p>	<p>County of Peterborough</p> <p>Clearwater Structures</p> <p>Buckhorn and Pigeon Lakes, Ennismore, ON</p>
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The Trent Severn Waterway is a national historic site that first opened in 1922. Connecting Georgian Bay and Lake Ontario, it is home to recreational boating and paddling enthusiasts alike. Midway along its length, boaters pass through the shallow waters of Gannon's Narrows, connecting Buckhorn and Pigeon Lakes. The Gannon's Narrows Bridge carries County Road 6 over the waterway providing easy access between the City of Peterborough and the northern Kawartha Lakes region.

## The Challenge

The Gannon's Narrows Causeway bridge required extensive rehabilitation, including upgrades to its structural frame, gussets, and bearing piers. With the busy tourist season ahead, the project owner wished to keep disruption to both road and waterway users to a minimum. The majority of pier repairs were located underwater and therefore needed to be carried out by experienced divers. This added a new level of complexity to the project, therefore, ease of handling and assembly was a priority for material selection and design.



### PRODUCT DETAILS

4.0m diameter Hot Dipped Galvanized Multi Plate Caissons



## The Solution

Armtec's engineering team recommended a 4m diameter heavy galvanized 6.0mm thick Multi Plate ring structure to serve as pier caissons and stay-in-place forms to repair the bridge's foundation.

Underwater divers first repaired the bridge's steel footing piles before leveling and preparing the riverbed for the Multi Plate forms. Pre-assembled Multi Plate rings were lowered from the bridge deck to the river bottom, where divers guided each partial ring into place before completing underwater bolting and assembly.

After the rings were fully assembled and set in place, the 4.6m tall Multi Plate structures were filled with tremie concrete. Once hardened, they provided vital protection to the bridge footing piles. Divers completed the installation, guiding the placement of heavy granite riprap around the base of the Multi Plate caissons for added scour protection.



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