



March 13, 2024

Algonquin team supports MTQ in redeploying their two Modular Bolted Truss Bridges on Autoroute 40

This project was a different one for the Algonquin team. We were contracted by the Ministère des Transports du Québec (MTQ) to provide site assistance and certification for the re-deployment of their two Algonquin Modular Bolted Truss Bridge Systems as temporary detour bridges on Autoroute 40. The bridges were located a few hundred metres from each other in Quebec City, one over the Saint-Charles River and the other over Boulevard Masson.



Cantilever launch of Modular Bolted Truss Bridge over Saint-Charles River

Project at a glance:

Project Name: Temporary Detour Bridges, Highway 40

Locations: Saint-Charles River and Boulevard Masson, Quebec City

Owner: Ministère des Transports du Québec (MTQ)

Contractor: Hamel Construction

Sector: Transportation

Application: Temporary Detour Bridges

Product: Algonquin Modular Bolted Truss Bridge Systems

Saint-Charles Bridge Dimensions: Span 67.5 m, Width 7.35 m, TL-4 parapet

Masson Bridge Dimensions: Spans 67.5 m, Width 8.0 m, TL-4 parapet

Installation Time: Three months

In each case, these bridges were installed as temporary detour bridges between the existing permanent bridges, while those bridges are being demolished and rebuilt. We had originally sold these bridges to MTQ years earlier so they could inventory them for use as temporary detours or emergency replacements. One of them was used at Berthierville in 2015.

As it had been at Berthierville, the Saint-Charles bridge was assembled adjacent to the site and cantilever launched across the river on rollers with a special launch nose assembly. This launch method saves the need for a high-capacity crane.

Masson bridge was field assembled over the roadway

A good portion of the Boulevard Masson bridge was installed during night road closures of the Boulevard, using a crane to place the large truss sections on the abutments and centre pier. Then the cross members were installed by workers on boom lifts.

We were responsible for ensuring that all parts (bolts, nuts, washers, etc.) were in place and as per the IFC drawings. The IFCs provided by MTQ for these projects required some remedial work, so we also helped with that.

Since our scope was site assistance, our main challenge was providing a steady presence on-site during critical site operations. Good planning, as well as our trusted relationship with the contractor, Hamel Construction, and MTQ allowed us to decide when it would be most beneficial for us to be on-site.

Our on-site representative facilitated ongoing communication between Hamel and Algonquin's engineering team to ensure the optimum methods were used. We were also asked to provide bi-annual inspections on these bridges for the next two years.

Heavy-duty Algonquin Modular Bolted Truss System

For heavier-duty applications, Algonquin Modular Bolted Truss Bridges use innovative 2.25 m long panels that are bolted to top and bottom chord members to form pre-cambered side trusses that carry the applied loads and counter dead load deflection.



Night installation of Modular Bolted Truss Bridge at Boulevard Masson

Algonquin Bridge

121 Gerald Parkway
Thorndale, ON NOM 2P0
1-226-213-4707
algonquinbridge.com

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