



## Acrow's Modular Steel Truss System Enables Renovation of Historic Covered Bridge in Québec

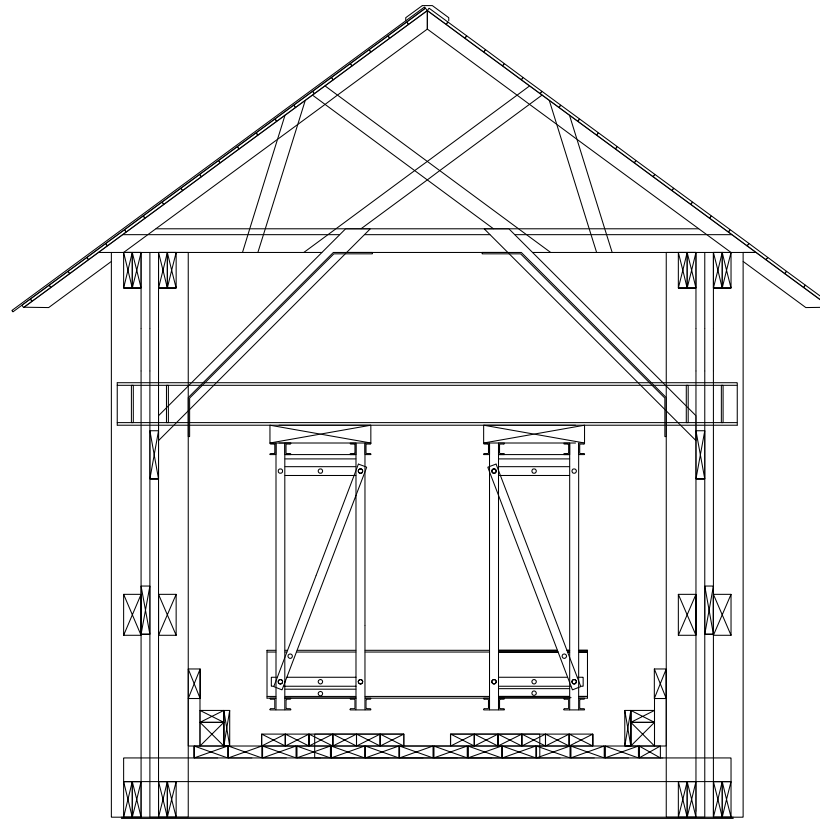
The repair of the 120-year-old Marchand Bridge benefitted from the support of six temporary structures

The Félix-Gabriel-Marchand Bridge in Western Québec was built to span the Coulonge River in 1898 and is the province's longest sole-surviving covered road bridge, and among the longest in the world. Notable for its unique combination of Town lattice and Queen post trusses, it is a mainstay of the region's tourism industry. Despite ongoing repairs, the bridge was closed for safety reasons in May 2014 after a structural evaluation found that the structure was sinking.

Rehabilitation work, started in January 2018, involved strengthening the bridge, replacing the roof and deteriorated supports, and realigning it both vertically and horizontally. Six Acrow structures, 80 feet (24.38m) each, were installed to lift the bridge and provide support during the renovation.

Because of the bridge's poor state, installation posed a problem as launching rollers were prohibited on the existing floor of the structure. Instead, the floor was opened at the five piles and steel supports installed to receive the rollers. A cable was used to pull the complete structure to the full length of 480 feet (146.3m).

Once the structure was completely launched, pins were removed every 80 feet (24.38m) to create the six spans. Acrow's DS structure is 9 feet (2.74m) wide, narrower than the existing bridge, to allow 3 feet (914mm) of access for workers on either side.



## Specifications

### Bridge length:

Six structures 80' (24.38m)  
each for an overall length of  
480' (146.3m)

### Roadway width:

9' (2.74m)

### Design load:

Covered bridge + snow load  
+ work platform

### Standard Acrow bridge finish:

- All major components galvanized to AASHTO M111-ASTM A123
- All bolts are hot-dip galvanized
- All pins are electrogalvanized

### Standard Acrow bridge specification:

- (A) Panel chords, diagonals, verticals, reinforcing chords, rakers to AASHTO M223 GD 65
- (B) Raker braces, transoms, top chord braces, swaybraces, transom braces, diagonal chord braces, decking to AASHTO M223 GD 50
- (C) Panel pins to ASTM A 193 GD B7
- (D) Bolts to AASHTO M164M - A325