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Acrow's Modular Panel Bridge Repurposed for Permanent Application in Elgin County, Ontario

A structure designed and manufactured for a service life of up to 100 years

The collapse of the Imperial Road Bridge in Port Bruce, Ontario, in 2018 brought an immediate end to the only direct route between the north and south sides of the town, resulting in a lengthy detour and increased response times for emergency vehicles. With an immediate need for a temporary solution to restore traffic flow until the replacement of the bridge was complete, Elgin County contracted Acrow to design and supply a single-lane modular steel detour structure. The prefabricated bridge was assembled and installed in six weeks, with the county opting to purchase the structure for reuse on future projects.

As the new bridge construction in Port Bruce neared completion, Elgin County repurposed Acrow's structure for permanent replacement of the structurally deficient Meeks Bridge in the Township of Southwold, some 30 kilometres away. The decision followed the recommendation of the project's engineering consultant, CIMA+, as the preferred alternative over rehabilitation of the 120-year-old bridge.

The modular structure was dismantled, reconfigured and transported to the Meeks Bridge location, and then constructed by Clearwater Structures. The bridge was shortened and widened to 2 lanes for the permanent application, with a complete TL4 highway guard rail system added. Like all Acrow products, Meeks Bridge is designed and manufactured for a service life of 75-100 years with minimal maintenance requirements.

Acrow's versatile modular steel structures are durable infrastructure assets ideal for permanent or temporary applications. Combining a long history of engineering and manufacturing excellence with components that are easily transported and rapidly assembled and disassembled, Acrow offers innovative solutions to the most unique and challenging projects.

Image credit: CIMA+ (London, Ontario), Canada

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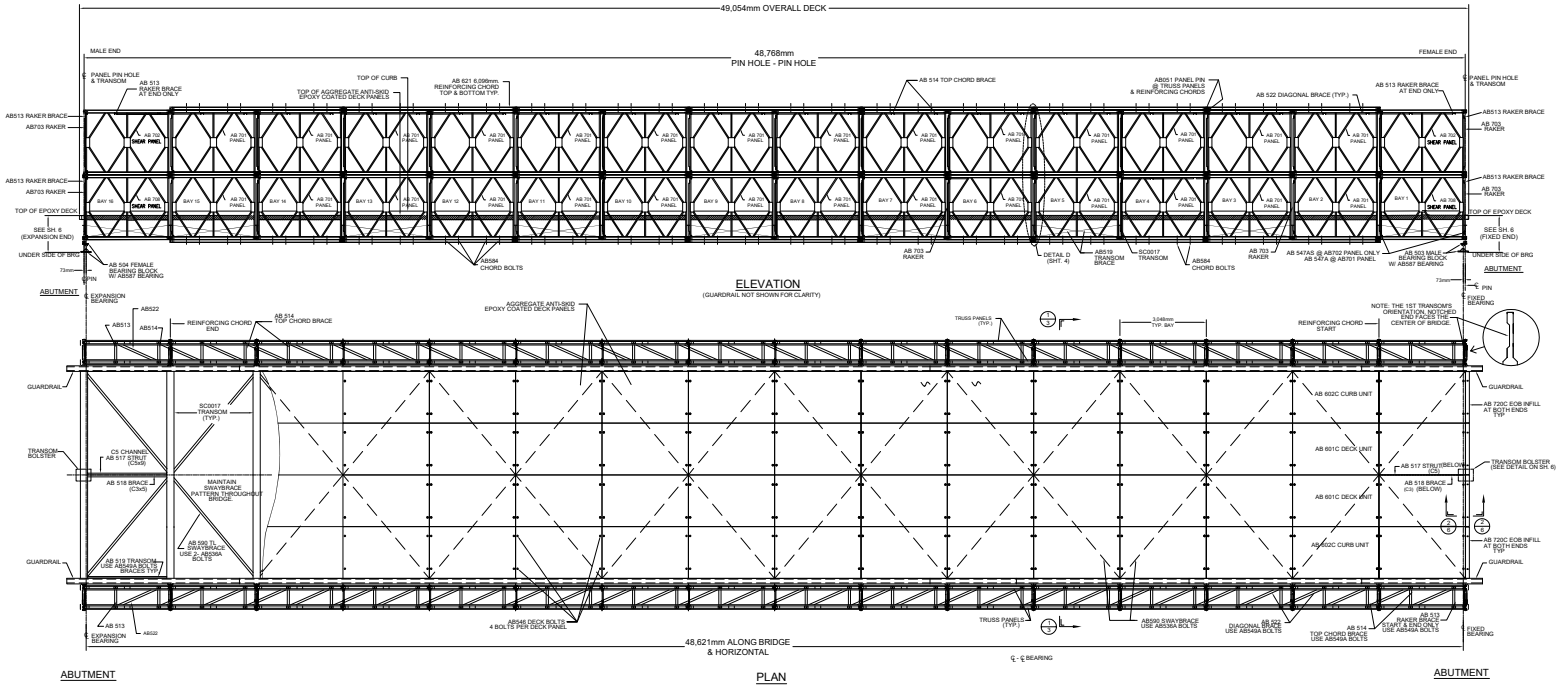

Specifications

Bridge length:

180′ (54.86m) supplied

Roadway width:

18′ (5.5m) then 24′ (7.35m)

Guard rail:

TL4

Deck surface:

Epoxy aggregate

Bridge erection method:

Crane-assisted launch

Design load:

CL-625 ONT compliant with the CHBDC

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

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