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Acrow's Modular Steel Bridges Help Restore Transportation Infrastructure in Northeast Italy

Permanent and temporary installations are reconnecting communities impacted by extreme weather event

In October 2018, Northeast Italy was hit by devastating winds from the Mediterranean storm Vaia, causing extensive damage to forests, structures and transportation infrastructure. In the province of Belluno, roads and bridges in the municipality of Comelico Superiore were damaged or destroyed, cutting off access to numerous rural settlements, including the hamlet of Sopalù.

Given the remote location and with a limited footprint for construction, an Acrow 700XS® modular steel panel bridge was considered an ideal solution to quickly, safely and economically restore connectivity for the residents of Sopalù. To maintain traffic during construction of the new bridge, a second Acrow bridge was installed to provide temporary access at the site.

The Acrow bridge chosen for the permanent application is 30.48 meters long with a 4.2-meter-wide carriageway, featuring a guide rail system and an anti-skid epoxy aggregate deck surface. It was installed in just a few hours using the crane-assisted cantilever launch method, despite the limited space available.

The temporary structure at the site is an Acrow Beam Bridge consisting of two segments with a total length of 13.7 meters and width of 3.67 meters with side guide rail barriers. Originally rented for this project, it has since been purchased to permanently replace another nearby structure damaged by the same storm.

The project owner was the Municipality of Comelico Superiore, supported by consultants Studio API and Studio FMP on both projects. Contractor Cadore Asfalti S.r.l. constructed the substructures, the road approaches, and installed the bridge under the supervision of Acrow's field service representatives from the US and Italy. Acrow provided technical assistance throughout the project, from logistics to assembly and installation, through to the final bridge inspection required for the issuance of the Bridge Compliance Certificate.

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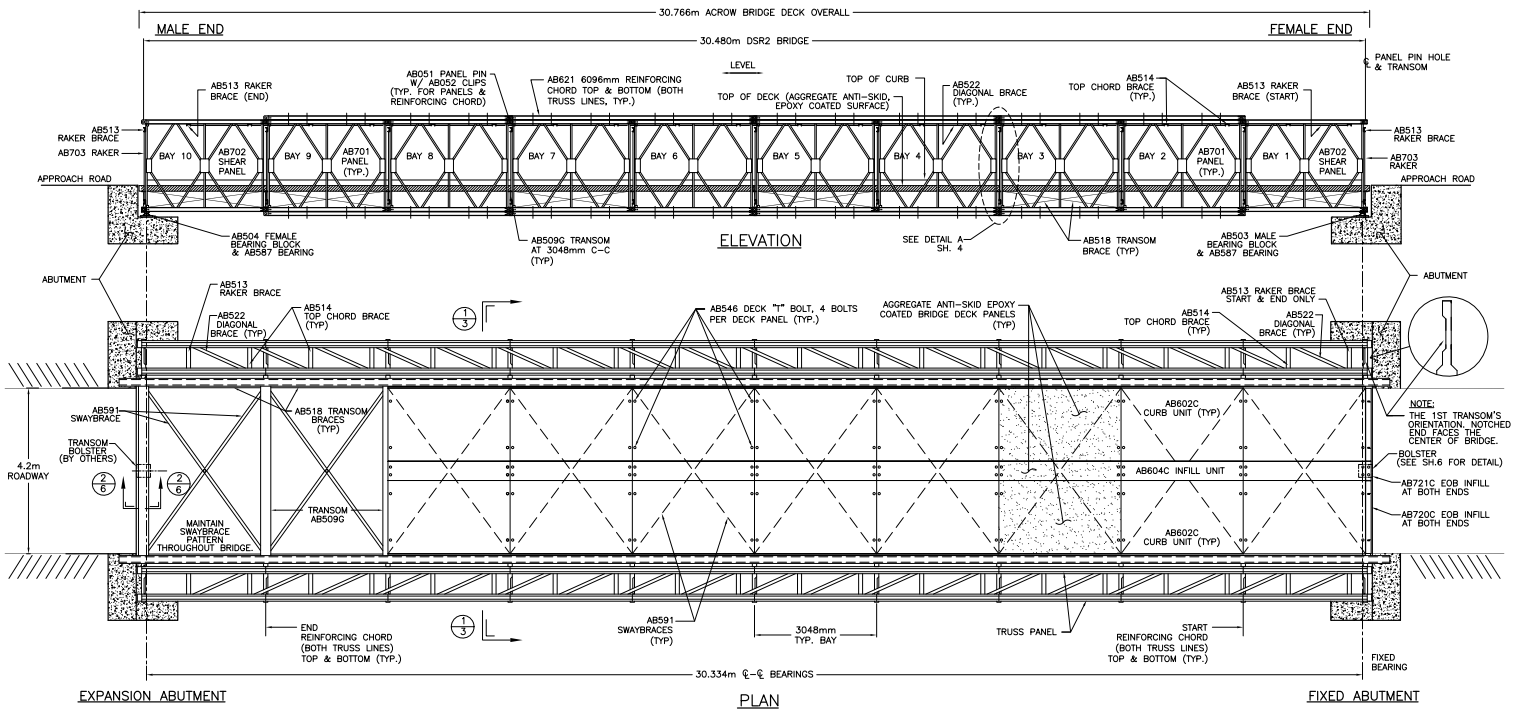

Specifications

Bridge length:

Permanent bridge: 30.48m (100′)
Temporary beam bridge: 13.7m (45′)

Roadway width:

Permanent bridge: 4.2m (13.78′)
Temporary beam bridge: 3.67m (12′)

Deck surface:

Permanent bridge: epoxy aggregate
Temporary beam bridge: epoxy aggregate

Bridge erection method:

Permanent bridge: crane-assisted launch
Temporary beam bridge: crane lift-in

Design load:

Permanent bridge: 44mt truck using the Eurocode with Italian Annex

Temporary beam bridge: 36mt Liebherr 1060 Crane using the Eurocode with Italian Annex

Standard Acrow Bridge finish:

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

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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