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Acrow's Detour Bridge Used on Major Highway Construction Project in Tampa, Florida

Traffic impacts mitigated during I-75 widening and renovations

As part of a project to widen an 11.4 mile (18.3 km) section of I-75 in Tampa, the bridge over Bruce B. Downs Boulevard was slated for replacement. A detour bridge was determined necessary for the success of the project in this heavily-traveled section of the Interstate, the major link between the Southeast and the Great Lakes.

A 320-foot-long (97.54m) three-span Acrow bridge was selected for the project and purchased by the Florida Department of Transportation (FDOT) to provide for the passage of northbound traffic during the construction of the new permanent bridge.

FDOT began using Acrow bridges in 1979, and has accumulated an inventory of more than 8,000 feet (2,438.4m) of temporary bridging, including Acrow panel bridging in both 300 and 700XS series.

FDOT has successfully utilized their inventory for planned detours and emergency response. Projects have included the installation of 3,400 feet (1,026.3m) of bridging to quickly restore the I-10 bridge over Pensacola Bay after Hurricane Ivan in 2004 knocked off multiple spans, and a detour to ensure efficiency and work zone safety during another I-75 rehabilitation project in Sarasota.

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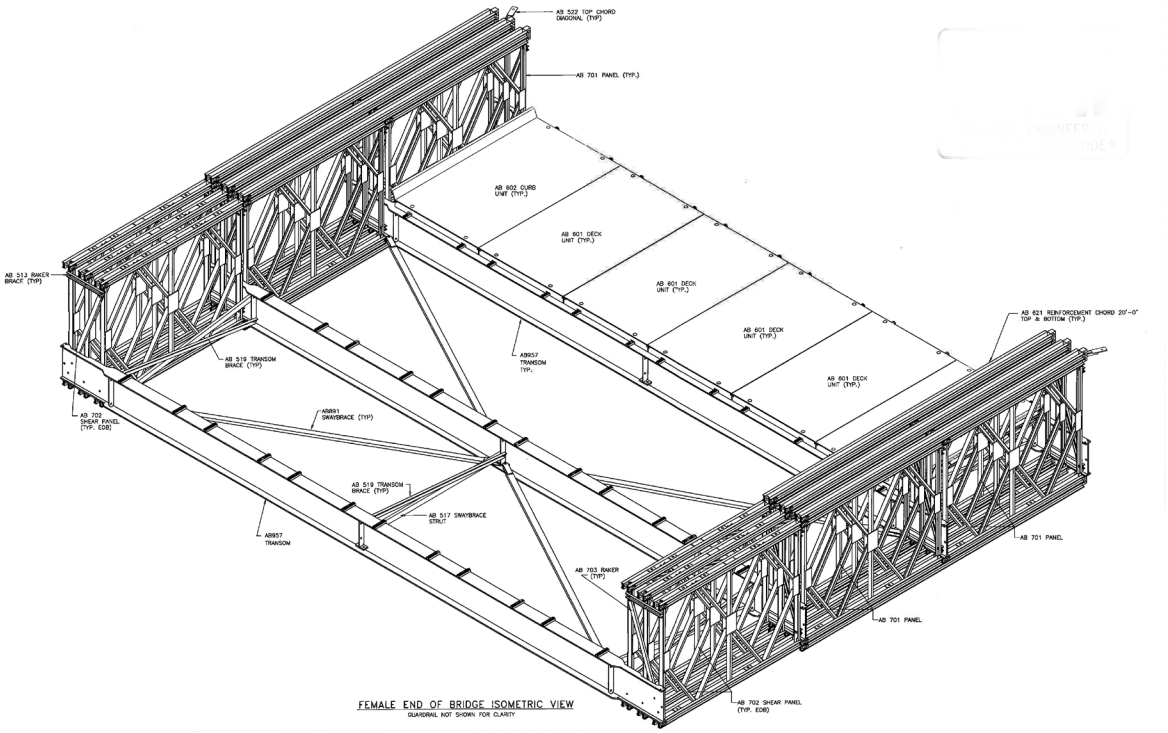

Specifications

Bridge length:

Acrow supplied 320′ (97.54m) of bridging in three continuous spans. The span arrangement was 120′ (36.58m) — 110′ (33.53m) — 90′ (27.43m).

Roadway width:

The Acrow bridge has a 36′ (11m) wide roadway between the guide rails which provided two northbound, 12′ (3.67m) travel lanes and shoulders of 4′ (1.22m) and 8′ (2.44m).

Guide rails:

A test level 4 (TL4) guide rail system was supplied by Acrow for the bridge.

Deck surface:

Contract documents required an asphalt overlay to provide a slight super-elevation to the roadway surface of the bridge. Additionally, due to the high traffic volume, a membrane was first applied to the steel deck to assist in adhesion of the asphalt overlay to the steel deck.

Bridge erection method:

Full cantilever launch

Design load:

The bridge was designed in accordance with AASHTO LRFD bridge design specifications second edition to HL93 vehicular and cycles for traffic in excess of 75,000 ADT.

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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