



## Acrow Bridge Permits Safe Pedestrian Passage During Waterfront Construction in Seattle

Long-term detour solution minimized impacts of Marion Street Bridge replacement

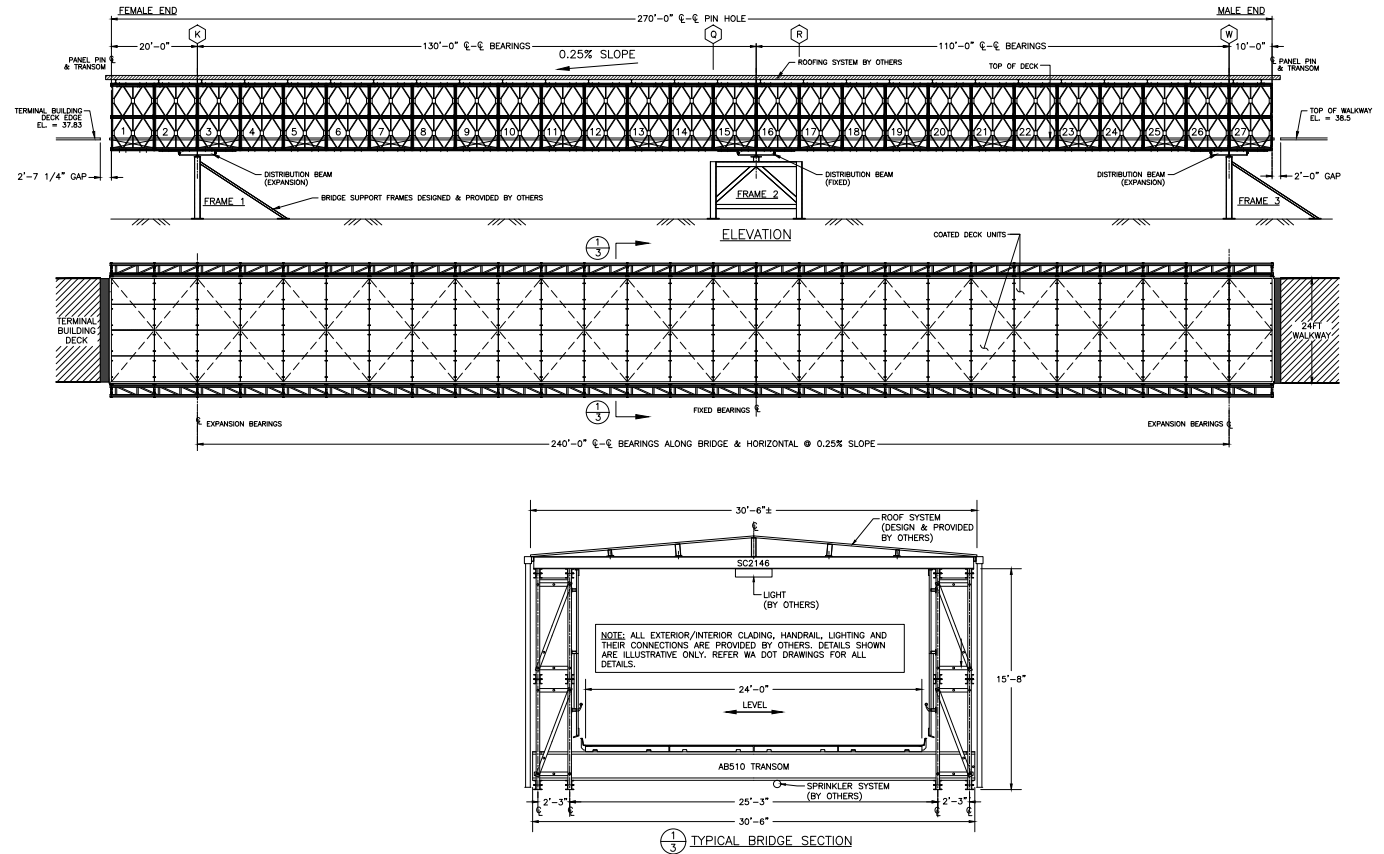
Waterfront Seattle is a multiyear effort to rebuild the city's central waterfront under the direction of the City of Seattle's Office of the Waterfront and Civic Projects. As part of the overall initiative, the Marion Street Pedestrian Bridge, which connects downtown Seattle and Colman Dock, was slated for replacement. Colman Dock is the primary ferry terminal in Seattle and serves nearly five million pedestrian passengers each year, many of whom use the bridge.

Installing a detour bridge for the duration of the replacement project was considered critical to ensuring the safety of pedestrians, who would have needed to cross an active construction zone and multiple lanes of traffic without an alternate structure in place. A durable modular steel bridge from Acrow was selected to provide a safe, reliable and cost-effective solution during the multiyear project.

Acrow's two-span bridge was purchased by the

Washington State Department of Transportation (WSDOT) and delivered to project contractor Hoffman Construction Company. The bridge, 270 feet (82.3m) long with a 24-foot-wide (7.35m) walkway, was designed for pedestrian traffic, with later reuse for a two-lane HL-93 load. The epoxy-coated deck had a fine sand finish to facilitate pedestrian traffic rather than a regular epoxy-coated deck for vehicular traffic. Constructing the detour bridge on the dock meant no heavy point loads - including large cranes - were permitted. Instead, temporary shoring was used to support the structure during installation. The detour bridge was installed in 2019 and remained in use until November 2023, when the new bridge was opened.

After disassembly, the Acrow components were placed in storage by WSDOT for future use as a two-lane, 160-foot-long (48.77m) bridge for emergency applications.



## Specifications

### Bridge length:

2 spans of 150' (45.72m) and 120' (36.58m)

### Walkway width:

24' (7.35m)

### Deck surface:

Epoxy aggregate with a fine sand finish

### Bridge erection method:

Constructed upon temporary shoring

### Design load:

90 PSF Pedestrian Load

### 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