BRIDGE & HIGHWAY FABRICATION

San Francisco - Oakland Bay Bridge

Caltrans and WBA link up for iconic bridge

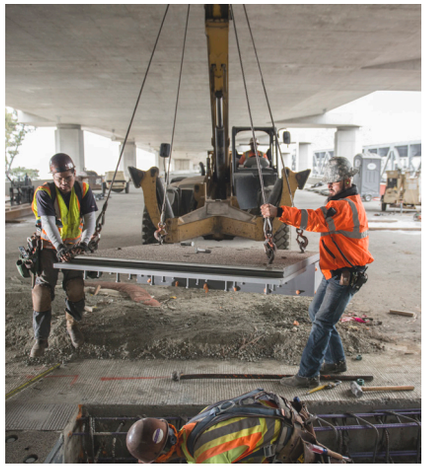
In 2003, plans were initiated to design and construct a new bridge to replace the entire eastern section of Interstate 80 that connects San Francisco to Oakland. In planning for the replacement of the Bay Bridge expansion joints, the California Transportation Commission tapped into their own experience in utilizing a floating plate design that withstood significant seismic movement in other parts of the state. For the Bay Bridge, they would apply these principles on a much larger scale.

Due to Watson Bowman Acme's over 65 years of experience designing and constructing bridge expansion joints, and a longstanding relationship with Caltrans, WBA was called upon to support Caltrans in designing innovative, custom seismic plate joints that would safely handle all movements during various seismic event protocols.

WBA PRODUCTS USED

Wabo® MDM Transflex
Molded Rubber Segmental System

Wabo®Crete II
Elastomeric concrete



COMPLETION

2013

San Francisco, CA

OWNER

- California Department of Transportation (Caltrans), District 4 Toll Bridge Program

CONSTRUCTION TEAM

- ????

STATS

- Bridge Type: Self-Anchored Suspension
- Length:
- Height: 526 ft (160 m)
- Average Daily Traffic: 260,000 vehicles

PROJECT STATISTICS

- **The seismic plate joint systems span 47 inch (1.2 meter) openings in the bridge deck and are able to accommodate 24” (+/- 12”) of movement**

Custom design for a landmark structure

Working for approximately 18 months, the Caltrans and WBA partnership devised a seismic joint design that fulfilled Caltrans critical needs.

The Caltrans Seismic Joint Type II design for this project consists of a modified Wabo®Transflex molded rubber segmental expansion joint - dubbed "Wabo® MDM Transflex" (Multi-Directional Movement) - that is anchored to the bridge deck on one end and pinned to a deck plate that spans across the joint opening on the other end. The Wabo® MDM Transflex molded rubber panels and a portion of the deck plate rest on an embedded structural steel support plate.

The joint design allows full access from the underside, permitting safer and faster access for maintenance inspections and component replacement, if needed.

WBA fabricated the structural steel plate portions of the Caltrans design and supplied the Wabo® MDM Transflex 2400 panels. Wabo®Crete II elastomeric concrete header was installed adjacent to the Wabo® MDM Transflex 2400 system.

The bridge opened to traffic on Labor Day weekend, 2013, and has earned many accolades, often mentioned alongside the Golden Gate Bridge as an iconic structure of the SF Bay area.

Caltrans supervises testing of WBA-supplied expansion joint designs

View atop the bridge during construction