



AWARD
RECIPIENT



Replacement of the collapsed bridge with a 105-foot, single-span precast structure

I-10 TEX WASH BRIDGE EMERGENCY REPLACEMENT PROJECT

Riverside County, California

On July 19, 2015, the Tex Wash Bridge on Interstate 10 (I10) in Riverside County, CA, collapsed during an intense rainstorm event, causing havoc on a crucial link between California and Arizona. But thanks to precast concrete and an accelerated bridge construction (ABC) strategy, engineers were able to replace the bridge and get it fully operational in just a matter of weeks.

Following the collapse, the California Department of Transportation (Caltrans) quickly agreed that an ABC design was the best way to replace the collapsed bridge with a 105-ft, single-span structure as quickly as possible. The new bridge accommodates two lanes of traffic with an

additional 5ft-wide shoulder and standard barrier rails.

The \$5 million, Interstate 10 Emergency Bridge Replacement-Tex Wash Bridge project required the complete demolition of the existing eastbound bridge, replacement of rock slope protection in the channel below, and rebuilding the bridge in an accelerated fashion.

"They've worked at lightning speed out there because they wanted it open as soon as possible," said Tyeisha Prunty, public information officer for Caltrans District 8 in San Bernardino. "We're very proud of the work, which was done to specification."

DESIGN & CONSTRUCTION TEAM

Owner

California Dept. of Transportation

General Contractor

Granite Construction Company, Indio, CA

Design Engineer

CALTRANS, Diamond Bar, CA.

Oldcastle Infrastructure Product(S)

Precast Concrete Bridge Components:

- (2) Precast Abutments
- (4) Wing Walls
- (10) Prestressed Box Girders

Precaster

Oldcastle Infrastructure - Perris, CA.

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**Precast/Prestressed
Concrete Institute- 2016
Design Award**

**HONORABLE MENTION
Bridge with Main Span from
76-149 feet**

THE DESIGN

Caltrans designed the bridge superstructure as a modular precast concrete system using precast concrete bridge superstructure elements, making it possible to install the prefabricated bridge units over two weekends.

For the bridge replacement, Granite Construction contracted Oldcastle Infrastructure to manufacture two precast concrete bridge abutments, cast in four segments, measuring 6-foot by 6-foot by 20-foot long, four precast concrete wing walls measuring 18.5-foot by 1-foot by 9-foot tall and ten prestressed box girders measuring 4-foot by 3.5-foot by 105-foot long at the precast firm's Perris, Calif. plant.

As a team, Caltrans, Granite Construction, and Oldcastle Infrastructure worked around the clock to ensure the emergency bridge replacement stayed on schedule. The result, Caltrans rebuilt the bridge under budget and earlier than their required deadline. The rebuilt eastbound Tex Wash Bridge on Interstate 10 fully reopened to traffic just over two months after beginning construction.

PRECAST SOLUTION

Speed was of the essence for this emergency project, and designers took advantage of the many benefits of precast concrete to meet the rapid delivery goals. Using precast concrete girders eliminated the need for temporary false-work, which accelerated girder placement and limited the environmental impact on the channel area. Precast concrete segmental abutment and wingwall elements were used to accommodate a staggered construction schedule. In addition, an adjacent precast concrete girder arrangement meant the project did not require deck forms, which further shortened the timeline.

During construction, precast concrete girder, abutment, and wingwall elements were fabricated concurrently in a precast plant while cast in piles were placed at the bridge site. After the site was prepared, precast concrete elements were transported to the site from the plant 130 miles away.

The close collaborative working environment on the project, and relentless focus on accelerated delivery, enabled the team to reopen the bridge for traffic just 67 days after the original bridge collapsed.



**Only 2 Months to Rebuild
Interstate 10 Tex Wash Bridge
After Collapse**

About Oldcastle Infrastructure

Oldcastle Infrastructure, A CRH Company, is the leading provider of building materials, products and services for infrastructure projects to several market sectors nationwide, including: Building Structures, Communications, Energy, Transportation and Water.

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