PROJECT PROFILE

California SR 91/I-710 Freeway Interchange

Fire Damage Assessment | Long Beach, CA

A tanker truck reportedly carrying 8,000 gallons of ethanol crashed and caught fire at the interchange connector from eastbound State Route (SR) 91 to northbound Interstate 710, under the westbound lanes of SR-91 in Long Beach, California. The fire caused damage to the underside of the SR-91 overpass. Through an existing contract with Flatiron Construction Corporation, the California Department of Transportation (Caltrans) retained WJE to evaluate the damage and to recommend possible repair methods and techniques.

CLIENT

California Department of Transportation

BACKGROUND

SR-91 is a major east-west freeway located in Southern California, serving several regions of the greater Los Angeles metropolitan area. The SR-91 overpass is a large reinforced concrete box girder bridge that was built in the early 1970s.

SOLUTION

Mobilizing members from WJE's Los Angeles, San Francisco, Austin, and Northbrook offices to respond to the emergency, a team of six engineers was working on site within twelve hours of receiving the request for assistance. WJE engineers performed a variety of physical and nondestructive tests on the overpass, including visual observation, acoustic impact testing, petrographic studies, compressive strength testing of concrete cores, and tensile strength testing of reinforcing steel to assess the damage caused by the fire exposure.

Only ten days after receiving the assignment, the team completed all testing and provided Caltrans with conclusions regarding the condition of the concrete and recommendations for the repair or replacement of the concrete where necessary. The team concluded that the accident at the interchange connector caused moderate structural damage to the bridge supporting the westbound lanes of SR-91. The worst damage occurred to the north face and railing of that bridge, which sustained significant spalling and heat damage to the concrete.

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS