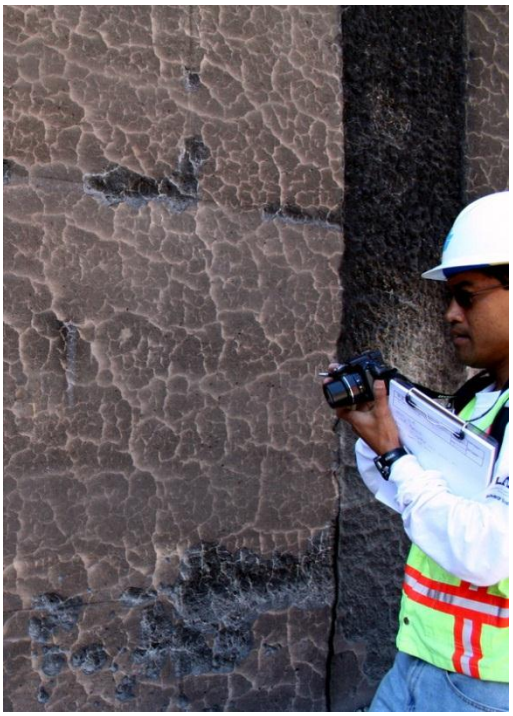
PROJECT PROFILE

I-5 Tunnel Fire

Assessment and Testing of Fire-Damaged Concrete | Newhall, CA



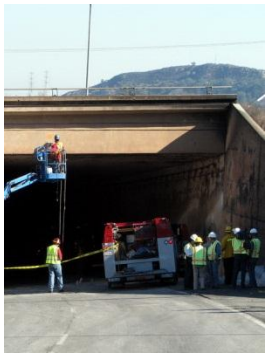
CLIENT

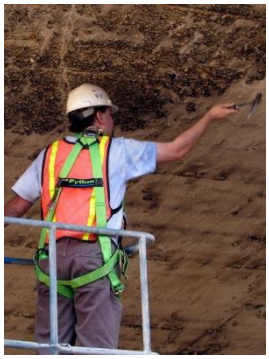
California Department of Transportation

BACKGROUND

Built in stages between the 1950s and the 1980s, I-5 is one of the main highways on the West Coast of the United States, paralleling the Pacific Ocean and serving some of the largest cities of the western part of the country. The structure where the incident occurred features a reinforced concrete substructure and embedded reinforced steel elements.

In October 2007, a crash in a tunnel on I-5 north of Los Angeles turned into a chain-reaction pileup involving several big-rig trucks and passenger cars. The crash in the freeway's southbound tunnel touched off a massive fire that burned for over a day. Concerns arose that the fire had compromised the structural safety of the freeway lanes that ran overhead. Immediately following the incident, the governor declared a state of emergency, and Caltrans retained WJE to assess the fire damage to the concrete elements, including the walls, box girders, and slab.





SOLUTION

WJE engineers performed a variety of physical and nondestructive tests on the overpass concrete, including visual observation, acoustic impact testing, petrographic studies, compressive strength testing of concrete cores, and tensile strength testing of reinforcing steel. After testing and analyzing the samples, the team provided Caltrans conclusions regarding the condition of the concrete and recommendations for the repair or replacement of the concrete where necessary.

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS