

CASE STUDY

West Mission Bay Drive Bridge Replacement

San Diego, California

HISTORY

The West Mission Bay Drive Bridge is located on West Mission Bay Drive between Interstate 8 and Sea World Drive in San Diego, California. Constructed in the early 1950s to meet the travel demands at the time, it is now one of the city's busiest thoroughfares to and from the neighborhoods in Pacific Beach and Mission Beach. The bridge has four travel lanes and five-foot-wide sidewalks, and was constructed with concrete pier walls on timber piles, with a concrete median barrier.

PROBLEM

Automobile travel has increased exponentially since the early 1950s, and while the West Mission Bay Drive Bridge is sound in design, it does not meet today's structural requirements. Because the daily traffic volume on the bridge exceeds its current capacity, the California Department of Transportation (Caltrans) has evaluated it and classified the bridge as functionally obsolete.

SOLUTION

The City of San Diego has approved a \$110 million project to replace the existing West Mission Bay Drive Bridge. The project is fully funded and most of the money comes from the Federal Highway Administration – Highway Bridge Program and was therefore, a Buy America project.

The City of San Diego has awarded the contract to Flatiron West, Inc. as the general contractor, and expects that the new bridge will be completed sometime in the middle of 2022. Flatiron has sub-contracted the drilled shaft installation of the bridge piers and temporary earth retention and shoring tasks to Condon Johnson & Associates Inc. Nucor Skyline supplied the drilled shaft pipe piles for



CASE STUDY

West Mission Bay Drive Bridge Replacement

PROJECT PARTNERS

Owner

City of San Diego Public Works –
San Diego, CA

General Contractor

Flatiron West, Inc. – Benicia, CA

Engineer

Rick Engineering Co. – San Diego, CA

Driving Contractor

Condon Johnson & Associates –
Oakland, CA

PRODUCTS

Steel Pipe Piles:

118" OD in lengths of 70' to 85'

71" OD in lengths of 37' to 60'

Total tonnage: 2,092, plus installation of
teeth, leffer rings, reinforcing bands, and
drive rings.

PROJECT TIME FRAME

June 2018 to June 2022 completion date



the bridge foundations.

The bridge project consists of replacing the original four-lane bridge with two separate, three-lane structures. This will provide an improved transportation link across the San Diego River. Along with the two new parallel bridges, there will be a Class 1 bike path on both bridges, roadway widening and improvements along Sports Arena Boulevard, West Mission Bay Drive, and the westbound I-8 off-ramp, plus environmental mitigation for the surrounding wetlands and additional architectural features.

In order to meet ongoing traffic demands, a unique construction method will be used to avoid interrupting traffic along the existing bridge. A temporary construction bridge is being built next to the northbound side of the existing bridge. This will hold the construction

equipment needed to build a new three-lane northbound structure. Crews from Condon Johnson & Associates will drive Nucor Skyline 118" and 71" OD pipe piles into the ground between the existing bridge and the temporary construction bridge. Once the bridge piers are in place, the new bridge deck can be built on top of them.

Once the northbound bridge is completed, the temporary construction bridge will be removed and rebuilt along the southbound existing bridge and the process will be repeated. Nucor Skyline worked with Condon Johnson to provide both temporary and permanent drill shaft casings on schedule. The drilled shaft casings were manufactured at the Nucor Skyline Longview, WA facility in lengths of 37' to 85' with Leffer attachment tooling for the deep foundation needs of this bridge project.