

Carquinez Suspension Bridge

A HOCHTIEF Company

Owner

California Department of Transportation

Location

Crockett, CA

Value

\$240,720,279

Market

Bridges

Start - Completion Dates

4/2000 - 10/2004

- 3,465-foot orthotropic steel box girder bridge suspended by twin 407-foot-tall concrete towers
- Two 1.7-foot-diameter cables made up of 13,200 miles of wire
- 24 steel deck sections, weighing an average of 600 tons each
- 380 anchorage piles

Project Description

The Carquinez Suspension Bridge carries traffic westbound on I-80 over the Carquinez Straights just north of San Francisco. Flatiron constructed a three-span 3,465-foot-long structure that became North America's first suspension bridge of its kind to be built in 35 years. At bid time, it was the largest project ever awarded by the California Department of Transportation.

Each 407-foot-tall tower is supported by 12, three-meter-diameter and 90-meter-long rock-socketed drilled shaft piles. Reinforced concrete pile caps transfer vertical and lateral loads between the piles and the towers.

The suspended superstructure utilizes a steel orthotropic deck section 1,056 meters in length. The 24 deck sections were transported on three ocean-going vessels from Japan and jacked into place directly from the ship using the bridge's main suspension cables. The bridge is designed to withstand both major wind and seismic disturbances.

Company Role

Flatiron partnered with an external venture partner to construct this bridge. Flatiron self-performed approximately three-quarters of all work.

Awards

- AGC California/Gallagher Construction Services Constructor Award – Meeting the Challenge of the Difficult Job Heavy Engineering, 2004
- Associated General Contractors of America (AGC) – AON Build America Award in the New Highway Category, 2003
- Associated General Contractors of America (AGC) – Safety Excellence on a High Hazard Job, 2000 & 2003
- Consulting Engineering & Land Surveyors – Engineering Excellence Award, 2004
- Engineering News Record – Image of the Year, 2003
- George S. Richardson Medal, 2004
- McGraw Hill Construction – Best of California, 2003

