

North Torrey Pines Bridge

A HOCHTIEF Company

Owner

City of San Diego

Location

San Diego, CA

Value

\$9,628,748

Market

Bridges

Start - Completion Dates

11/2003 - 7/2005

- A 340-foot three-span box girder bridge
- A parabolic superstructure ranging in depth from 3.5 feet at the abutments and mid-point to 13 feet at the piers
- 4,000 cubic yards of structural concrete and 950,000 pounds of epoxy coated reinforcing steel

Project Description

The North Torrey Pines Bridge's unique location along coastal Highway 101 over an environmentally sensitive lagoon required innovative solutions in regards to both bridge design and construction. The bridge was designed with just three spans to enable better natural tidal flushing of Los Peñasquitos Lagoon. The new bridge replaced an old 17-span bridge and included a parabolic design along its length, adding to the construction challenges. The exterior girders are radiused and the superstructure depth ranges from 3.5 feet at the abutments and mid-point to 13 feet at the piers.

The bridge's varying superstructure depth and parabolic shape created challenges in regards to designing and constructing the falsework. Flatiron utilized 'tables' at each pier to spread the extremely high load during concrete pouring. Flatiron also used a series of double channel steel whalers on the exterior girder radii to obtain the required shape. High pour loads at the piers required extremely strong double channel whalers.

Flatiron also constructed new bicycle lanes and a pedestrian walkway for beach access and installed new storm water controls to prevent highway pollutants from entering the lagoon. Flatiron implemented traffic control systems that included specialty signs and striping throughout the duration of the project. Many cyclists frequent the area and Flatiron considered their safety at all times, as well as the safety of motorists, incorporating both edge line striping and temporary asphalt ramps to separate motorist and cyclist traffic. Flatiron not only maintained safe pedestrian access from the lagoon to the beach, but also kept two lanes of traffic throughout the duration of the project.

Company Role

Flatiron was the prime contractor for this project.

Awards

- American Concrete Institute (ACI) – Transportation Award, 2006
- American Public Works Association (APWA) National – Project of the Year, 2006
- American Public Works Association (APWA) San Diego Chapter – Project of the Year, 2006
- American Society of Civil Engineers (ASCE) San Diego Section – Award of Excellence, 2006



- Associated General Contractors (AGC) San Diego Chapter – First Place Build San Diego Award, 2005
- California Transportation Foundation (CTF) – Tranny Awards Contender for Conventional Highway Project, 2006
- Consulting Engineers and Land Surveyors (CELSOC) – Honor Award, 2006
- Women’s Transportation Seminar (WTS) – First Place in Street/Roads/Highways, 2005