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Marsh Creek Road Bridge Replacement Project: Highway/Bridges



Marsh Creek Road Bridge Replacement

PHOTO BY SUNNY JHUTTI

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Marsh Creek Road Bridge Replacement

Clayton, Calif.

Best Project

Owner | Project Manager: Contra Costa County Dept. of Public Works

Lead Design Firm | Structural Engineer: Mark Thomas

General Contractor: Bridgeway Civil Constructors Inc.

Civil Engineer: Substrate Inc.

Bridge Inspection Services: Hill International Inc.

The \$5.1-million Marsh Creek Road Bridge is a precast, prestressed wide-flange California Bulb Tee girder structure that includes retaining walls at the bridge corners. The replacement bridge features two 12-ft-wide lanes and 8-ft-wide shoulders. The project realigned pavement, created new driveways and met current traffic demand while protecting a sensitive creek bed. Crews created a temporary wildlife-proof work area by building stream diversions in the creek.

A primary objective was to cut the two-year schedule in half. That meant implementing several accelerated bridge construction techniques to finish the bridge itself in less than eight months. The team also used two special concrete-mix designs for the abutment pours, retaining walls and approach slabs. That shaved several days off the schedule and allowed crews to backfill the abutments and walls sooner. Vehicles could drive on the approach slabs within three days rather than the standard seven.

Project constraints included meeting environmental restrictions for work in Marsh Creek, including a critical 4.5-month work window from mid-May 2018 to the end of October.

The deadline required longer shifts—10- to 12-hour days—and working weekends throughout the summer. The in-creek work was finished before the October deadline. By avoiding costly site winterization, the project remained within budget while protecting both the traveling public and the creek's delicate ecosystem.

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