Roberts Road Bridge –CSA 37

Ben Lomond, California

Civil and Structural Engineering

Before:

After:

Client Reference:
Larry Gollbach**,** Road Association Contact
902 Roberts Road
Ben Lomond, CA 95005
(831) 458-7780

Budget: $50,000

Mesiti-Miller Engineering was retained to investigate and prepare a cost estimate for strengthening Roberts Road Bridge over Love Creek.

MME identified some minor deterioration of the structural framing members but concluded the 22-ft-span bridge was functioning as originally designed. In addition, MME determined the abutments were in generally serviceable condition.

However, the original bridge was never intended to support a 25-ton fire truck and therefore did not satisfy the strength requirements of the County Fire Code. Accordingly MME designed structural modifications to increase the load capacity of the bridge by approximately 25,000 lbs.

During the design process, MME studied various repair and replacement options and evaluated the cost of each. MME's final solution was to improve load sharing among adjacent bridge girders by stiffening the bridge deck. In this way, the existing bridge girders were used more efficiently and the amount of retrofit work was minimized.

MME provided the Owner with a detailed cost comparison of the options studied. The cost comparison highlighted $35,000 in potential construction cost savings between the repair and replacement options.

We investigated the condition of the existing 22-ft-span bridge and found the existing bridge superstructure did not have the capacity to safely support a fire truck as required by the County Fire Code. Consequently, we explored options to increase the load capacity and determined retrofitting the existing superstructure to be the most cost effective option.

MME's familiarity with Caltrans bridge design methodology coupled with our cost-based approach to design selection ensures the Owner receives the best possible structural design for the least cost.