



PROJECT PROFILE

Guy West Pedestrian Bridge

Bridge Inspection and Repair Design | Sacramento, CA



CLIENT

Quincy Engineering

City of Sacramento

BACKGROUND

The Guy West Pedestrian Bridge is a suspension bridge over the American River that is intended for use by pedestrians and bicyclists on the Sacramento State University Campus. The bridge originally opened in 1966 and was modeled after the famed Golden Gate Bridge. The bridge has a main suspended span of 600 feet and two 72-foot simply supported deck trusses that form the approach spans. The main cables consist of four parallel wire ropes.

The City of Sacramento sought to develop a long-term maintenance and structural rehabilitation plan for the Guy West Pedestrian Bridge. The structure had previously experienced failure of several suspender cables, so there was a need to continue to monitor the condition of this locally significant bridge.



SOLUTION

WJE bridge engineering experts completed a detailed, hands-on inspection to evaluate the condition of the structure. To complete this work, WJE engineers utilized difficult access techniques to gain access to the deck truss and underside of the structure. Above deck and cable elements were accessed using boom lift equipment.

WJE was also retained in 1985 to investigate the suspender cable failure and provided repair recommendations that, based on the later inspection, were performing as intended.

A series of recommendations were developed that included the addition of a main cable clamp to reduce wind-induced resonance and cable fatigue at saddles, handrail system repairs, and replacement of elastomeric bearing pads. Additional laboratory investigations and a fractographic examination were recommended to determine the cause of broken wires found in one of the main suspension cables.

WJE relied on its extensive experience in condition assessments and bridge deterioration mechanisms to develop regular maintenance recommendations and long-term repairs for the structure.

