



PROJECT PROFILE

Crystal Cove Historic District

Structural/Seismic Retrofit and Architectural Rehabilitation | Laguna Beach, CA



CLIENT

State of California Department of
Parks and Recreation

BACKGROUND

The twelve-acre Crystal Cove Historic District is an enclave of forty-eight historic wood-framed cottages built between the late 1920s and the late 1930s. The District is listed on the National Register for its significance as a well-preserved example of vernacular beach architecture. It has remained a popular site for the Southern California film industry since the 1920s, when it was characterized in the Los Angeles Times as, "... a bathing resort that has the atmosphere of a South Sea atoll."

Described as "architecture without architects," each cottage is completely unique. The structural framing systems are unconventional, and many of the cottages are framed with single-wall construction, requiring extensive structural analyses and special architectural detailing.



SOLUTION

WJE seismic engineers performed structural surveys of all forty-eight cottages to identify deficiencies and evaluate repair options. In accordance with the Secretary of the Interior's Standards, each option was assessed for its potential impact on the historic integrity of the structures. For the twenty-three cottages requiring structural analysis and design, the engineers documented existing construction, developed preliminary repair schemes, prepared construction documents for structural upgrade, and provided estimates of repair costs. Structural upgrade and repairs included strengthening the existing roof framing, adding new steel frames and hidden plywood shear walls to resist lateral seismic and wind forces, and constructing new foundations to correct decay and pest damage caused by excessive wood to earth contact.



Nine cottages additionally underwent architectural rehabilitation design that WJE coordinated with the structural repairs. WJE's architectural design services included rehabilitation of roofing, siding, and windows; replacing deteriorated and distressed stairs and decks; and restoring, conserving, and protecting historic elements.