



## PROJECT PROFILE

# Radio Communications System

Design of Facility Infrastructure to Support New Equipment | San Francisco, CA



### CLIENT

National Park Service (NPS)

### BACKGROUND

The main communication facility and radio maintenance shop is to be located in Building 314 at the Presidio in San Francisco. Building 314 is a historic 1940s three-story reinforced concrete-frame structure. The building had not been occupied for over twenty years and was in a deteriorated state. Structurally, the building did not have the strength or stiffness to satisfy the seismic performance objectives for an essential facility. An adjacent historic unreinforced masonry building (Building 312) was also considered for the main communication facility.

The existing emergency communication system within the Golden Gate National Recreational Area was seriously deficient and did not provide adequate coverage throughout the Recreational Area, affecting the ability of emergency personnel to respond to natural and man-made disasters or other emergency events. NPS retained WJE to design the infrastructure for a communications facility at the Presidio in San Francisco and radio towers at four sites in surrounding counties. The infrastructure must remain operational after a major earthquake.



### SOLUTION

WJE assembled a team of consultants that included geotechnical, civil, interior design, mechanical, electrical, plumbing, and environmental professionals. The team evaluated the existing facilities at each proposed tower site and two historic structures identified as potential locations for the new communications facility (Building 314 and 312). As part of this evaluation, WJE met with representatives of each of the land management agencies responsible for the tower sites and incorporated their concerns and requirements into the proposed design.

Building 312 was not selected because it did not meet the programming needs of NPS, and the cost to seismically strengthen the building was too high. For Building 314 to meet the seismic performance objectives, new strategically located shearwalls, spandrels, and rock anchors were designed so as not to impact the function or historic fabric of the building. WJE worked closely with the end-users to design a state-of-the-art communications facility with renovated interior and exterior finishes and new building and communication services.

