

## HISTORICAL LANDMARKS

# Kilauea Lighthouse



## DETAILS

### WORK

Lighthouse restoration

### LOCATION

Kauai, HI

### BUDGET AND SCOPE

Price: \$40K; 20 bolts

### OWNER

Kilauea Point Historic Preservation Fund

### ARCHITECT/ENGINEER

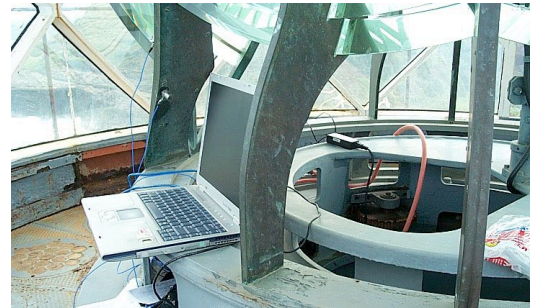
Wiss, Janney, Elstner, Inc.

## PROBLEM

Kilauea Lighthouse began lighting the way for mariners in 1913, serving as a pivotal navigation aid for ships sailing to the Orient. Over the years, exposure to the saltwater coastal environment corroded the bolts connecting the central lighting mechanism to the concrete tower. While restoration commenced, it was also necessary to prevent vibration of the delicate and irreplaceable lens within the lighting mechanism, as well as to prevent waste from disturbing the delicate ecology at Kilauea Point.

## SOLUTION

- Wall-mounted a coring rig within the lighthouse structure
- Cored through the wall to remove the end of each bolt, and then pulled the remaining threaded rod out from above
- Installed new stainless steel rods and mortared the bottom to conceal where the core had been removed
- Installed vibration monitoring equipment and isolation bumpers under the light mechanism, and followed a strict procedure of bolt replacement designed by the architect to prevent vibration of the lens
- As always, ensured that excess material was disposed of properly, with no disturbance to the surrounding wildlife refuge in this case



## Since 1957

Zera is an expert in Concrete & Structural Restoration repairs of all kinds, including:

Parking Garages ■ Building Restoration ■ Historical Landmarks ■ Facade Restoration ■ Plazas ■ Stadiums ■ Vaulted Sidewalks