

## PROJECT DESCRIPTION

**PROJECT:** Holiday Inn Hotel

**LOCATION:** Anaheim, California

**DESIGN TEAM:** *Architect:* Lee & Sakahara Architects  
*Structural Engineer:* Edmond Babayan & Associates, Inc.  
*Geotechnical Engineer:* Southern California Geotechnical, Inc.

**CONTRACTOR:** R. D. Olson Construction



### DESCRIPTION:

- 9-story, reinforced concrete
- Shear wall loads up to ..... 1700 kips
- Uplift loads up to ..... 465 kips
- Interior column loads up to ..... 730 kips

The project geotechnical report initially recommended minimum 50' long drilled concrete caissons for foundation support. The Geopier® System was selected as a Value Engineering alternative.

Subsurface conditions at the site consist of alluvial deposits of sandy silt, silty sand and fine to medium sand occurring in random layers. The borings reveal these deposits to extend to at least 75' below site grade. Groundwater was not encountered within the 75' exploration depth.

Rammed Aggregate Pier® (RAP) elements were 30" diameter. Piers subjected only to compression loading extended to a depth of 8' below bottom of footing. Piers installed to resist uplift loading extended to a depth of 10'. Due to hydrocollapse potential in the upper soils, 5' RAP elements, 15' on-centers were used to support the floor slab on-grade.

By reinforcing the subgrade soils with RAP elements, a design bearing pressure of 8000 psf was allowed for proportioning the footings. A maximum edge pressure of 11,000 psf was allowed on the interior shear wall footings. Individual design loads for the RAP elements were 95 kips in compression and 47 kips in tension. Full-scale field load tests confirmed these design capacities.

Using 3 installation crews, a total of 580 RAP elements were constructed in only 9 working days.

**REFERENCES:**

Frank Bohls	Edmond Babayan
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