

## Texas Solar Facility

Alpine, Texas

Keller installed over 30,000 driven piles to support this Solar Facility's solar panel and racking system.



### The project

Located just north of Alpine, this approximately 800-acre, 56-megawatt solar facility required solar panel and racking system support with extremely tight 1/8-in. tolerances for location and above ground height. Geotechnical explorations indicated that the site's subsurface conditions were highly variable, with soft clays in some locations and dense, hard clay in others.

## The challenge

The specialty pile driving equipment typically used for flanged solar pile foundation elements proved inadequate to advance the piles to design depth in the hard clays. Additionally, refusal was encountered at some pile locations short of design depth.

## The solution

To overcome installation issues, Keller mobilized larger, all-terrain pile driving equipment to complement the primary installation equipment. When refusal was encountered in the hard clay short of the 8 ft design depth, Keller responded to the owner's request for engineering input and conducted in-house analyses that verified that full pile capacity was nevertheless achieved, resulting in cost and schedule savings. Keller also installed specialized larger-flanged (ITS) piles to a depth of 20 ft to support equipment pads. In all cases, the as-built pile capacity was determined based on observed driving resistance. Over 30,000 driven piles were installed for the project.

## Project facts

### Owner(s)

Confidential Client

### Keller business unit(s)

Keller

### Main contractor(s)

Confidential Client

### Engineer(s)

Terracon Consultants, Inc.

### Solutions

Deep foundations

### Markets

Power

### Techniques

Driven piles

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