

Sunset Road Bridge

Tucson, Arizona

Keller installed all twenty-one drilled shafts under very challenging slurry drilling techniques without any shaft remediation or repairs required.



The project

After heavy flooding washed out the original Sunset Road bridge in 1981, a new bridge needed to be built to withstand future flooding of the Santa Cruz River.

The challenge

Environmentally protected lands along the Santa Cruz River limited the work area. There were two pier lines affected by overhead electric lines and one was able to be de-energized, but one pier line was not. Keller had to drill 138 feet and set the 139-foot long reinforcing cage in sections due to the live overhead power 83 feet above working grade.

The solution

Keller installed six drilled shafts with a 96-inch diameter ranging from 117 to 141 feet in depth and fifteen drilled shafts with a 72-inch diameter ranging from 138 to 144 feet in depth. All shafts were excavated and supported using polymer slurry. The reinforcing cages were fabricated in three pieces and spliced over the shaft where space was limited by overhead power lines. Keller also spliced integrity testing tubes, attached to the cages, for drilled shaft integrity testing. Two drill rigs were used to reach the shaft depth and diameters needed and fit under the limited overhead clearance to existing power lines.

Project facts

Owner(s)

Pima County Department of Transportation

Keller business unit(s)

Keller

Main contractor(s)

Borderland Construction Co.

Engineer(s)

Structural Grace

Solutions

Deep foundations

Markets

Infrastructure
Transportation

Techniques

Drilled shafts

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