

## Tampa International Airport - Taxiway J Bridge Reconstruction

Tampa, Florida

Part of the planned expansion at Tampa International Airport is the reconstruction of the Taxiway J Bridge.



## The project

The bridge, which crosses the John Bean Parkway public access road into the airport, was inadequate to support newer, larger, and heavier aircraft, and the road length was insufficient to construct a future automated people mover along the parkway.

The project included phased removal of the existing bridge superstructure and construction of a new, approximately 300 ft-long and 214 ft-wide bridge at the same location. The new bridge is supported by two abutments and three intermediate piers built on 42-inch and 48-inch diameter drilled shaft foundations installed by Keller.

## The challenge

Primary challenges included limited height restrictions for the drill and crane required for the foundation work, the need for Keller to dovetail its operations with superstructure demolition and reconstruction phases, and the sand and porous limestone subsurface conditions with a high groundwater table.

## The solution

Key to the overall success of the project was the close cooperation of the general contractor, which created a 35-ft wide by 300-ft long work area cut down 5-6 ft below grade for each phase of the work to cater to crane height restrictions. Keller also modified its crane boom to ensure adequate clearance. A continuous French drain controlled the otherwise high water table.

Prior to production work, two method tests were conducted, one for each shaft diameter, to verify the installation process. One shaft was then utilized as a production shaft for a project total of 132 shafts. At each shaft location, the temporary casing was advanced to design depth under natural slurry and seated approximately 2 ft into the limestone before rock sockets were drilled. Following cleaning of each shaft, a full-length reinforcing cage was installed and 5000 psi concrete tremie-poured to complete the installation. Required cross-hole sonic logging (CSL) testing was completed ahead of schedule.

## Project facts

### Owner(s)

Hillsborough County Aviation Authority

### Keller business unit(s)

Keller

### Main contractor(s)

Johnson Brothers

### Solutions

Deep foundations

### Markets

Infrastructure  
Transportation

### Techniques

Drilled shafts

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