



HOOVER DAM BYPASS BRIDGE

NEVADA & ARIZONA

SDI Scope

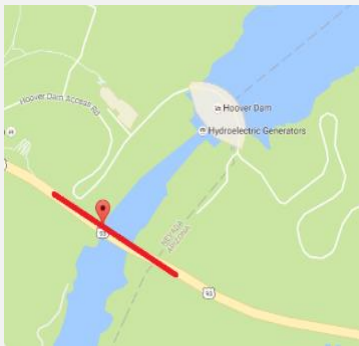
- *Supply of Temporary Stay Cables*
- *Supply of All Post-Tensioning*
- *Supply and Install Rock Anchors*

Contractor

Obayashi-PSM JV

Owner

Federal Highway Administration (FHWA), Arizona Department of Transportation (ADOT), Nevada Department of Transportation (NDOT)



HOOVER DAM BYPASS BRIDGE (MIKE O'CALLAGHAN – PAT TILLMAN MEMORIAL BRIDGE) PROJECT DESCRIPTION

From the perspective of segmental bridge experts, the engineering significance of the new Hoover Dam Bypass Bridge equals that of the adjacent dam built over 75 years earlier. With a main span of 1,060 ft. that crosses Black Canyon 900 feet above the Colorado River just 1,600 ft. downstream from the dam, the twin concrete arch structure stands as the largest arch bridge in North America and the fourth largest worldwide. Completed in late 2010, the bridge's twin arch spans were built using four traveling forms to cast the cantilevered arch segments that meet mid span. During construction, the arches were supported by temporary stay cables routed over temporary pylons at each edge of the vertical canyon walls. Working side-by-side with the joint venture general contractor Obayashi/PSM Construction and Ty Lin, SDI developed the erection sequencing from the early planning phases, drawing on SDI's prior experience with Oregon's Crooked River arch bridge in 2001. SDI also supplied the temporary stay cable system as well as all post-tensioning materials including high-strength bars, strand, stressing equipment and technical support.

HOOVER DAM BYPASS BRIDGE

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SDI'S SCOPE OF WORK

1. Supply all temporary stay cables.
2. Supply and install rock anchors at the foot of both arches.
3. Post-tensioning of temporary towers.
4. Post-tensioning of precast column segments utilizing high-strength bars.

SDI post-tensioned two temporary towers on both sides of the bridge. The peak of these towers served as a place for cables to attach at one mutual location. Constant adjustments of the stay cables were required to account for variable construction loading.



PROJECT HIGHLIGHTS AND FACTS

- Temporary stay cables faced weather-related challenges as they are exposed to the elements without multiple layers of corrosion protection you would see on permanent stay cables.
- The temporary stay cables must be able to manage a vast range of construction loads and stresses.
- With a main span of 1,060 ft., the Hoover Dam Bypass Bridge is the largest concrete arch bridge in North America.

