

US 89 Landslide

Kleinfelder was selected by the Arizona Department of Transportation (ADOT) to perform a geologic assessment of a large landslide that occurred in February 2013, along Highway US 89 near the Grand Canyon-Glen Canyon region in northern Arizona. The work was funded through an existing ADOT On-Call Subsurface Investigations contract that Kleinfelder was awarded in 2011.

PROJECT RESULTS

ADOT has retained Kleinfelder to proceed with the final design for the planned mitigation, which includes an approximate 60-foot eastward shift of the existing US 89 alignment. Our design leverages approximately 1 million cubic yards of excavated landslide debris to supply the materials needed for the buttress, while eliminating the existing rockfall hazard.



MEGASLIDE FORCES CLOSURE

The landslide displaced approximately 500 feet of the three-lane road and portions of the uphill shoulder with vertical offsets of up to five feet in the pavement and lateral shifts of up to three feet. The base of the slide extended several hundred feet downslope of the road and was approximately 1,200 feet wide. The landslide forced a full closure of US 89, cutting off the main thoroughfare between Page (Lake Powell Resort) and Flagstaff, Arizona.

MOBILIZING SKILLED STAFF

Kleinfelder's scope of work included initial site visits, test drilling, laboratory analyses, geologic assessments, geologic mapping, kinematic analyses of slopes, global and local stability analyses, rock logging, and monitoring of slope inclinometers—all leading the development of mitigation concepts and a preferred alternative. Staff from several of Kleinfelder's West Coast offices collaborated to analyze and prepare the Draft Geotechnical Assessment Report, which was submitted in a timely manner to meet our client's needs.

Location:

Page/Bitter Springs, Arizona

Owner:

Arizona Department of Transportation (ADOT)

