

**EAST FORK CAVE CREEK NEAR 7TH AVEUNE
FCD GAGE ID# 4668**

STATION DESCRIPTION

LOCATION – The gage is located in Moon Valley Park, near 7th Avenue and Coral Gables Drive in Phoenix. The instrument is located on the upstream side of a concrete path approximately 1,000 feet upstream of 7th Avenue. Latitude N33° 37' 43"; Longitude W112° 04' 50". Located in the SW1/4 SW1/4 S05 T3N R3E in the Union Hills 7.5-minute quadrangle.

ESTABLISHMENT – The gage was installed on May 8, 1997.

DRAINAGE AREA – 14.3 mi²

GAGE – The gage is a pressure transducer type instrument located in the center of the channel on the upstream side of a concrete pathway. The PT diaphragm is at gage height -0.30 feet, levels of December 16, 2014.

There is no staff gage at this location.

There is one crest stage gage at this location. It is located on the north side of the channel at the walkway. Pin elevation is -0.33 feet gage height, levels of February 24, 2016.

ZERO GAGE HEIGHT - Zero gage height is defined as the low point at the upstream lip of the concrete walkway at the gage cross section, and is at elevation 1,341.83 feet NAVD 1988.

HISTORY – No gaging history prior to FCD gage installed on May 8, 1997. Gage conduit moved May 5, 1998 to avoid wake created by debris caught on staff gage. Crest stage gage destroyed during July 15, 1999 event. A new crest-stage gage was installed on the south bank of the wash in January 2000. Crest gage was destroyed during the 2014 high flow events. Crest gage was replaced in December 2014 and was placed on the right (north) bank. An FCDMC brass cap was reinstalled in 2015.

REFERENCE MARKS –

All previous reference points and marks have been destroyed.

BM-4668 is an FCDMC brass cap located just east of the station tube. It is stamped '4668', and is at elevation 6.297 feet gage height, or 1,348.130 feet NAVD88, levels of February 24, 2016.

RP1 is the lowest point on the extreme upstream edge of the walkway at the gage. Elevation 0.00 feet gage height, levels of December 16, 2014.

RM-1 is a 3/8-inch rebar located downstream of the gage about 200 feet on the right bank. It is near a bush but is not well marked so as not to be disturbed. Elevation is 3.565 feet gage height, or 1,345.398 feet NAVD88, levels of February 24, 2016.

CHANNEL AND CONTROL – The channel has a relatively uniform shape through the reach of the gage, and has a sand and gravel bottom. The main channel is mostly open and free, but both overbanks are heavily vegetated with scrub and trees. At times, the vegetation is overgrown such that it covers parts of the main channel. Most flows in the channel are controlled by the sidewalk section where the gage is located.

RATING – The current rating is Rating #3. This rating was developed from survey data collected in October 2005. Data were used to compute a peak discharge, and were used in an HEC-RAS model. Rating #2 did not adequately represent flows for Water Year 2005 events. Rating #3 is valid for Water Year 2005.

DISCHARGE MEASUREMENTS – Low flow measurements at the gage cross section could be done directly by wading. Higher discharges should be computed using indirect methods.

POINT OF ZERO FLOW – The low point in the concrete pathway is at 0.00 feet gage height, levels of March 31, 2004.

FLOODS – Two events in 2014 (8/19 and 9/8) had a maximum discharge of 1,567 cfs at 4.7 feet gage height. A flood of 4,067 cfs and 7.55 feet gage height occurred on August 2, 2005.

REGULATION – Several detention basins are located throughout the watershed including EFCC numbers 1 – 5 and a few city of Phoenix dams on the north faces of the mountains along the south edge of the watershed.

DIVERSIONS – Upper watershed may be cut off by the CAP canal and diversion dike.

ACCURACY – Fair to good for discharges to about 4.5 feet gage height. Higher discharges are adversely affected by the significant vegetation and should be considered poor to fair.

JUSTIFICATION – Monitor additions to Cave Creek from the highly urbanized East Fork, and for warning at the dip cross of 7th Avenue, just downstream

UPDATE - February 25, 2016
DE Gardner