

**SKUNK CREEK AT I-17
FCD GAGE ID 5568**

STATION DESCRIPTION

LOCATION – Gage is located approximately 300 feet upstream of the eastbound I-17 bridge, approximately 1.25 miles north of Happy Valley Road. Access is by heading north on the east frontage road. Latitude N 33° 43' 45", Longitude W 112° 07' 10". Located in the NW1/4 SE1/4 SE1/4 S35 T5N R2E in the Union Hills 7.5-minute quadrangle.

ESTABLISHMENT – The Flood Control District established gaging on October 26, 1989.

DRAINAGE AREA – 64.9 mi²

GAGE – The recording gage is a non-submersible type pressure transducer. The transducer is coupled with an orifice line. The elevation of the orifice line is 1.23 feet gage height, levels of September 10, 2014.

There are two staff gages at this location, and read to a maximum height of 8.800 feet gage height.

The USGS maintains four crest gages at this location. Two are on each bank.

CSG#1 is the upper crest gage on the right bank. Pin elevation = 6.35 feet gage height.
CSG#2 is the lower crest gage on the right bank. Pin elevation = 1.75 feet gage height.
CSG#3 is the lower crest gage on the left bank. Pin elevation = 2.35 feet gage height.
CSG#4 is the upper crest gage on the left bank. Pin elevation = 6.83 feet gage height. All levels of October 5, 2009 by USGS.

ZERO GAGE HEIGHT - Zero is based upon the staff gages in the channel located in line with the orifice. Elevation is 1,471.50 feet M.S.L.

HISTORY – The USGS operated crest gages approximately 400 feet downstream from the present location from May 1961 to November 16, 1967 at a datum 6.66 feet lower. An old stilling well gage was operated from November 16, 1967 to December 28, 1984 at a site 285 feet downstream and 12.65 feet lower datum. Current manometer type gage in operation since December 28, 1984. The District began gaging on October 26, 1989. In 2007 – 2009, ADOT rebuilt and added bridges for widening I-17 and for a new interchange at Jomax Road.

REFERENCE MARKS –

RM-SKNKI17 is an FCDMC brass cap on top of the dike north of the station house. Elevation is 23.223 feet gage height, levels of September 10, 2014.

RM1 and RM2 are about 3 feet from the concrete control lip on flat surface.

RM1 is a chiseled square with cross on concrete apron located 2 feet 9 inches east of vertical concrete wall at right bank, about 85 feet downstream of gage. Elevation 1.00 feet gage height.

RM2 is a chiseled square with cross on concrete apron located 2 feet 2 inches east of vertical concrete wall at left bank, about 85 feet downstream of gage. Elevation 0.99 feet gage height.

CHANNEL AND CONTROL – The watercourse of the creek has been channelized above and below the gage. Above, and for 85 feet below the gage, the banks are lined with cobble and boulder size clasts. The channel bottom is rock and earth fill. Beginning 85 feet below the gage is a concrete apron, with vertical concrete walls. The reinforced channel extends downstream 240 feet to join the concrete box culverts that run beneath four bridges spanning the channel. The interior culvert walls of all bridges are joined together. There is a significant drop in elevation from apron lip to the culverts and flow is distributed about equally through these sluiceway type structures.

The low flow control is the upstream lip of the upstream concrete apron, with a low point elevation of 1.00 feet gage height. The medium and height flow control is the channel. The channel is straight for 200 feet upstream and several hundred feet downstream. At present, vegetation growth in the flood control channel is minimal.

RATING – The current rating is USGS Rating #10. The USGS maintains the rating at this location.

DISCHARGE MEASUREMENTS – Made by wading upstream at the CSG cross section from concrete apron.

POINT OF ZERO FLOW – Estimated to be about 1.0 feet gage height.

FLOODS – Flood of August 1, 1964 had a discharge of 11,500 cfs and a stage of 10.48 feet in present datum.

REGULATION – None

DIVERSIONS – None

ACCURACY – Fair

JUSTIFICATION – Monitor inflows to Adobe Dam

UPDATE – September 11, 2014
D E Gardner