

**CAVE CREEK NEAR UNION HILLS DRIVE
FCD GAGE ID# 8007**

STATION DESCRIPTION

LOCATION – The gage site is located approximately 3 miles north of the crossing with Agua Caliente Road and approximately 10 miles above the Gila River. Latitude N 33° 39' 32", Longitude W 112° 04' 29". Located in W1/2 SE1/4 SE1/4 S33 T2S R10W, in the Hyder NE 7.5-minute quadrangle.

ESTABLISHMENT – The gage was installed March 3, 2022.

DRAINAGE AREA – 7.1 mi² (area below Cave Buttes Dam.)

GAGE – The gage is a pressure transducer type instrument. The PT is at gage height 1.90 feet gage height, levels of March 3, 2022.

There are no staff gages at this location.

There is one crest gage located near the PT. The pin elevation is 2.05 feet gage height, levels of March 3, 2022.

ZERO GAGE HEIGHT – Zero gage height is defined as 1,405.000 feet NAVD88. It is arbitrarily defined as this elevation.

HISTORY – No history before gage installation.

REFERENCE MARKS –

BM-50080 is an FCDMC brass cap on top of the left bank in the gage cross section. It is at elevation 10.360 feet gage height and 1,415.360 feet NAVD88, levels of December 21, 2021.

RM-1 is a rebar located on the left bank near the benchmark. It is at elevation 10.418 feet gage height and 1,415.418 feet NAVD88, levels of December 21, 2021.

RM-2 is a rebar located on the right bank in the gage cross section. It is at elevation 6.863 feet gage height and 1,411.863 feet NAVD88, levels of December 21, 2021.

RP-1 is nail in the crack of where the sidewalks intersect near the cul-de-sac, about 110 feet south of the benchmark. It is at elevation 6.798 feet gage height and 1,411.798 feet NAVD88, levels of December 21, 2021.

RP-2 is chiseled 'X' located at the end of the north extension of the sidewalk. It is at elevation 7.098 feet gage height and 1,412.098 feet NAVD88, levels of December 21, 2021.

CHANNEL & CONTROL – The channel has a natural bottom, with encroached dirt banks on both banks. The channel is much smaller than the historic, pre-development channel. There are some significant changes downstream of the gage where the channel turns west then back south. At higher flows there could be some losses to an overflow channel on the east that returns to the main channel downstream. The main channel is mostly free from significant vegetation, but as upstream near Carefree Highway, has larger volcanic cobbles on the bottom.

RATING – The current rating is Rating #1. The rating was developed from cross sections collected in December 2021 and used to create an HEC-RAS model for analysis.

DISCHARGE MEASUREMENTS – Direct measurements could be made in a reach that extends both up and downstream from the gage cross section. That same channel reach could be used for indirect measurements as well.

POINT OF ZERO FLOW - The PZF is at about 0.5 feet gage height, levels of December 21, 2021.

FLOODS – largest runoff event recorded on July 30th, 2022. The gage height was 2.48 ft leading to 248 cfs discharge.

REGULATION – Cave Buttes Dam about 4.8 miles upstream regulates flow to about a maximum of 480 cfs from the principal outlet with an additional maximum of 628 cfs from a gated auxiliary outlet when pool levels reach a height greater than 40 feet.

DIVERSIONS – No known diversions

ACCURACY – Fair

JUSTIFICATION – Provide information for operations at the Cave Buttes Dam auxiliary outlet.

UPDATE - January 9, 2024
 ES Thomas