

SKUNK CREEK AT DIXILETA DRIVE

FCD GAGE ID# 64907

STATION DESCRIPTION

LOCATION – The station is located at the middle low-flow culvert of the Skunk Creek low-flow crossings of Dixileta Drive, about ¼ mile east of I-17. Latitude 33.75686°; Longitude -112.12291°. Located in S23 T5N R2E, in the New River SE 7.5-minute quadrangle.

ESTABLISHMENT - The gage was installed January 11, 2016.

DRAINAGE AREA – 50.1 mi² estimated.

GAGE - The gage is a pressure transducer type instrument. The PT diaphragm is at gage height 2.20 feet, levels of January 11, 2016.

There is one crest-stage gage at this location, located near the transducer gage. It has a pin elevation of 2.30 feet gage height, levels of date unknown.

There is no staff gage at this location.

ZERO GAGE HEIGHT – Zero gage height is defined as an arbitrary point below the current channel bed. It is at elevation 1,543.517 feet NAVD88, levels of March 8, 2017.

HISTORY – Gaging established on January 11, 2016. No previous gaging history at this location. A crest gage was installed sometime in calendar year 2020.

REFERENCE MARKS

RM-1 is an FCDMC brass cap, installed on February 4, 2016. It is at elevation 7.482 feet gage height, levels of January 4, 2017. It is at elevation 1,550.999 feet NAVD88, levels of March 8, 2017. Brass cap is located approximately 25 feet north by northeast of the station tube.

RP-1 is a 2-foot wrought iron fence stake in the ground at the northeast edge of the bridge abutment next to station tube. It is nearly flush with the top of the abutment. Elevation is 8.221 feet gage height, levels of January 26, 2016.

RP-2 is a rebar at the left bank of the far right (west most) low-flow culvert. It is at elevation 7.872 feet gage height, levels of January 26, 2016.

RP-3 is a rebar hammered into a guard rail post on the northwest side of the east low-flow crossing. Elevation 9.637 feet gage height, levels of March 8, 2017.

CHANNEL AND CONTROL – The channel is braided in the approach to the Dixileta Drive crossings. There are three low-flow crossings. The western one is the highest. The middle one is where the PT is located. It is at similar elevation to the lowest, which is to the east. The middle culvert is 350 feet east of the west one, and 480 feet west of the east one.

The three culverts are low flow channels. At about 7.2 feet gage height, the road over the east culvert begins to become submerged. At the west most culvert, the road is at about 10.0 feet gage height. Each culvert is composed of two barrels that are about 40 feet wide each. The culverts are each about 46 feet in length.

The control for the channel is then the culverts to about 7.2 feet gage height, at which the road and the culverts are control. The road is mostly submerged at about 8.4 feet gage height.

RATING – The current rating is Rating #2, developed from an HEC-RAS model of survey data collected in 2017 and 2020.

The previous rating is Rating #1, dated January 11, 2016. It was developed using comparison discharges at the stations above and below this one.

DISCHARGE MEASUREMENTS – Direct measurements would be difficult at all but the lowest flows. Indirect measurements may be able to be taken in a suitable section that has not yet been identified. Channel splits would require combining multiple channel analyses to get the peak (which would assume each channel peaked at the same time.)

POINT OF ZERO FLOW - The PZF is at approximately 0.0 feet gage height, estimated from photos from April 2023.

FLOODS – The highest flow recorded was on July 23, 2021 with the road over-topping. The peak stage recorded was 6.78 feet gage height, and a peak discharge of 11,900 cfs. There have been about 9 runoff events with flow greater than 1,000 cfs since installation.

REGULATION – None known.

DIVERSIONS - None known.

ACCURACY – Poor to Fair. Split flows don't allow for highly accurate computations.

JUSTIFICATION – Monitor flows in Skunk Creek at this location to determine levels of water in relation to the road surface for the city of Phoenix.

UPDATED - January 11, 2024
D E Gardner