

**INDIAN BEND WASH NEAR INDIAN BEND ROAD
FCD GAGE ID# 56307 (4613)**

STATION DESCRIPTION

LOCATION – The gage site is approximately 1/4 mile south of Indian Bend Road and 1/4 west of Hayden Road in Scottsdale. The gage is located on the left bank (east bank) of the Indian Bend Wash near the Arizona Canal siphon. The gage is in a low flow channel in the Scottsdale Links golf course. Latitude N 33° 32' 07.2"; Longitude W 111° 54' 46.6". Located in the SE1/4 NE1/4 S11 T2N R4E of the Paradise Valley 7.5-minute quadrangle.

ESTABLISHMENT – The District established gaging on September 28, 1983.

DRAINAGE AREA – 88 mi² (including area from Interceptor channel)

GAGE – The gage is a pressure transducer type instrument. The PT diaphragm elevation is at -0.15 feet gage height, levels of March 5, 2019.

There are two staff gages at this location.

Staff gage #1 is located on the right bank near the old gage house. It is the lower staff gage, range 3.0 to 7.7 feet. To get equivalent gage height readings, add 1.12 feet to staff readings, levels of March 5, 2019.

Staff gage #2 is located on the right bank near the old gage house. It is the upper staff gage, range 7.6 to 10.6 feet. To get equivalent gage height readings, add 1.17 feet to staff gage readings, levels of March 5, 2019.

There is one crest stage gage at this location. The pin elevation is at -0.02 feet gage height, levels of March 5, 2019.

ZERO GAGE HEIGHT – Zero gage height for the left bank gaging established in 2000, was the 0.00 reading on the staff gage located at the left bank low flow. However, it no longer exists. The gaging is still based on that former gage, and is equivalent to 1,267.550 feet NAVD88, levels of March 5, 2019.

HISTORY – The USGS has maintained a gage at this location from January 1961 through September 1984. The District began gaging this location September 28, 1983. The gaging station was located on the right bank of the channel. A manometer type gage was originally used. The first rating was developed in February 1992. The manometer gage was replaced with a pressure transducer on March 27, 1992. A crest stage gage was installed on January 22, 1997 on the 0 – 5 foot staff gage. The gage was removed on July 7, 1999 for construction. The gage was reestablished on the left bank on January 25,

2000. A non-submersible bubbler type pressure transducer was installed on March 27, 2000, divisor = 100. The gas-purge/bubbler system was removed on May 9, 2002. A standard pressure transducer was added. Also, erosion of the original concrete pad with the orifice line necessitated its replacement. A new pad was poured and the transducer elevation is -0.15 feet gage height.

REFERENCE MARKS –

RM-IBWIBRD is an FCDMC brass cap located just south of the station house on top of the left bank of the channel. The RM was established in November 2000. Elevation 18.550 feet gage height and 1,286.100 feet NAVD88, levels of March 5, 2019.

RM-1 is a chiseled 'X' on the right, downstream edge of the bridge curbing that is approximately 100 feet upstream of the gage. Elevation 3.682 feet gage height and 1,271.232 feet NAVD88, levels of March 5, 2019.

RM-2 is a rebar in the gage cross section on top of the left bank. It is at elevation 18.088 feet gage height and 1,285.638 feet NAVD88, levels of March 5, 2019.

RM-3 is a rebar in the gage cross section on the right bank near the upper staff gage. It is at elevation 9.019 feet gage height and 1,276.569 feet NAVD88, levels of March 5, 2019.

RM-4 is a chiseled 'X' on the end of the left side low flow channel wall. It is at elevation 1.282 feet gage height and 1,268.832 feet NAVD88, levels of March 5, 2019.

RP-1 is the top the sign channel securing the transducer gage. It is at elevation 0.177 feet gage height, levels of March 5, 2019.

RP-2 is the ground at the transducer gage. It is at elevation -0.247 feet gage height, levels of March 5, 2019.

CHANNEL AND CONTROL – The channel upstream and downstream of the gage is a golf course that is mostly grass lined. Low flow control is a 10-foot wide channel where the gage is located. Higher flows are controlled by the main channel, which is approximately 300 feet wide.

RATING – The current rating is Rating #5, dated October 1, 2018. The rating was developed using 3 full surveyed cross sections in a 1300-foot reach from the gage cross section downstream. The survey data were used to create an HEC-RAS model which was run for various discharge.

DISCHARGE MEASUREMENTS – Low flow discharge measurements could be made by wading the channel, golf course function permitting. Higher flows could be measured using indirect methods, assuming the golf course operators allow.

POINT OF ZERO FLOW – The PZF is at about 0.2 feet gage height, levels of March 5, 2019. It is located downstream about 20 feet.

FLOODS – The peak for the period of record was July 24, 1992, with 9,324 cfs and 5.85 feet gage height. The peak for the USGS was approximately 21,000 cfs from June 22, 1972, when the upper watershed above the CAP still was contributing.

REGULATION – No known regulation

DIVERSIONS – Diversions occur into the several golf course lakes upstream. Flows in the upper watershed are completely diverted by the CAP dikes into the CAP canal.

ACCURACY – Fair

JUSTIFICATION – Monitor flows in the Indian Bend Wash for flood warning for the city of Scottsdale. Several roads cross the low flow part of the channel and need to be closed during flood events. Also the channel is used as a recreation corridor by citizens and flood warning is required for evacuation.

UPDATE - July 24, 2019
 DE Gardner