

**IBW NEAR MCKELLIPS ROAD
FCD GAGE ID# 55707 (4603)**

STATION DESCRIPTION

LOCATION — The gage is located about 0.3 miles south of McKellips Road on Indian Bend Wash. The gage house is on the west bike path. The instrument is located in the low-flow channel near the middle of the channel east of the gage house. Latitude 33° 26' 57.1" N, Longitude 111° 54' 53.5" W. Located in the SW1/4 NE1/4 of S11 T1N R4E, in the Tempe 7.5-minute quadrangle.

ESTABLISHMENT — The gage was established May 21, 1985 by the Flood Control District of Maricopa County.

DRAINAGE AREA — 101 mi²

GAGE — The gage is a pressure transducer connected to a nitrogen bubbler line whose orifice is located near the center of the low flow channel. The orifice elevation is at 0.00 feet gage height, levels of March 6, 2019.

There is one staff gage located near the orifice. The staff gage displays depth in feet, gage height, levels of March 6, 2019.

One crest stage gage is attached to the staff gage with a pin elevation of 1.12 feet gage height, levels of March 6, 2019.

ZERO GAGE HEIGHT — Zero gage height is defined as the 0.00 point on the staff gage in the low flow channel. It is equivalent to 1,173.843 feet NAVD88.

HISTORY — This station was installed May 21, 1985 by the FCDMC. The orifice line was secured to the bottom of the orifice outlet on November 25, 2008. The elevation of the orifice was -0.33 feet gage height as of November 25, 2008. The orifice was replaced and secured again to the top of the orifice outlet box. The elevation changed to 0.00 feet gage height as of September 30, 2009.

REFERENCE MARKS — The reference marks for this site are as follows:

RM-IBWMKLP is an FCD brass cap located just to the south of the gage house on the west bank of the channel. The RM was established in November 2000. Elevation 17.137 feet gage height, and 1,190.980 feet NAVD88, levels of March 28, 2019.

RM-1 is a rebar in the gage cross section at the right bank. It is at elevation 17.668 feet gage height and 1,191.511 feet NAVD88, levels of March 6 and 28, 2019.

RM-2 is a rebar in the gage cross section at the left bank, at the west edge of the sidewalk. It is at elevation 17.107 feet gage height and 1,190.950 feet NAVD88, levels of March 6, 2019.

RM-3 is a chiseled 'X' on the east side of the right bank sidewalk near the station house. It is at elevation 17.369 feet gage height and 1,191.212 feet NAVD88, levels of March 6, 2019.

RP-1 is the lip of cup at bubbler orifice, elevation 0.131 feet gage height, levels of March 6, 2019.

RP-2 is the lower, upstream bolt on the staff gage. It is at elevation 2.190 feet gage height, levels of March 6, 2019.

RM-3 is the top, upstream bolt on the staff gage. It is at elevation 4.183 feet gage height, levels of March 6, 2019.

CHANNEL AND CONTROL – The channel at this location is wide, with the main low flow channel in the center of the full channel. The main low channel is open, but has significant vegetation on both banks. Both the left and right overbanks are sparsely vegetated, but is grass lined and has many contours due to it being a golf course in the recent past.

RATINGS — The current rating is Rating #4. This rating is a modification of Rating #3. The modifications are based on additional flow measurements. Rating #4 is effective as of October 1, 1997, but was not implemented until April 14, 2003. The previous rating is Rating #3, developed by T. W. Lehman. Rating #3 was developed as a modification of ratings one and two. The original rating, Rating No. 1 was developed from a step-backwater HEC-2 analysis by R. W. Cruff from 7 cross sections surveyed on January 21-22, 1992. The low end of the rating was computed using Manning's equation for discharges below 300 cfs. On January 22, 1993 Rating No. 2 was developed by R. W. Cruff by modification of Rating No. 1 to include current meter measurements of July 1992 and January 1993. The low end of the rating was further modified based on examination of USGS current meter measurements made over the history of their gage at Curry Road by T. W. Lehman in Dec. 1997. These modifications called Rating No. 3 were applied to the record as of October 1, 1996 as it is believed the channel has not changed significantly since then and that Rating No. 3 is a truer representation of the low end of the stage-discharge relationship at this site.

DISCHARGE MEASUREMENTS - Wading measurements can be made in the low flow channel downstream of the McKellips Road bridge between the rock riprap and the gaging station cross section. Higher flow measurements can be taken from the Curry Road bridge. However, Curry Road will become inundated at very high flows. McKellips Road bridge could probably be used for such an event. Indirect measurements can be made in the reach past the gage.

POINT OF ZERO FLOW – The point of zero flow is approximately 0.00 feet gage height, levels of March 6, 2019. It is at the concrete sill at the low flow channel.

FLOODS – The peak flood recorded was 5,841 cfs at 6.90 feet gage height on September 8, 2014. The largest known flow occurred in June 1972 and exceeded 20,000 cfs.

REGULATION - Numerous lakes within golf courses in and along the channel. These probably attenuate flows in Indian Bend Wash.

DIVERSIONS – The upper watershed is no longer contributing and is diverted to the CAP canal.

ACCURACY – Fair

JUSTIFICATION — Monitor flows from FCDMC flood control project of Indian Bend Wash. Provide real-time warning to Tempe Town Lake.

UPDATE - April 9, 2019
 DE Gardner