

**HASSAYAMPA RIVER AT INTERSTATE 10
FCD GAGE ID# 48007**

STATION DESCRIPTION

LOCATION – The gage site is at the Interstate 10 highway crossing of the Hassayampa River, approximately fifteen miles west of the town of Buckeye. The gage instrumentation is located near the center of the riverbed on the eastbound bridge. Latitude N 33° 27' 33", Longitude W 112° 45' 46". Located in the SW1/4 SW1/4 NW1/4 S03 T1N R5W in the Wintersburg 7.5-minute quadrangle.

ESTABLISHMENT – The stage gage was established November 9, 1994.

DRAINAGE AREA – 1,324 mi², vis USGS Streamstats

GAGE – The gage is a pressure transducer type instrument at 1.10 feet gage height and 1,019.82 feet NAVD88 levels of May 25, 2017.

There is a single usable staff gage at this location. It is painted on the first pier on the west end of the westbound I-10 bridge. The gage displays in gage height, levels of September 30, 2021.

There are two crest gages at this location.

CSG#1 is the one located on the westmost pier on the eastbound bridge. It has a pin elevation of 1.75 gage height, levels of September 30, 2021.

CSG#2 is the one located on the second pier from the west bank of the eastbound bridge. It has a pin elevation of 4.10 feet gage height, levels of September 30, 2021.

ZERO GAGE HEIGHT is equivalent to 1,018.722 feet NAVD88.

HISTORY – No previous gaging at this location. Pressure transducer gage established November 9, 1994 by the Flood Control District. PT raised from 0.9 feet to 3.0 feet gage height on October 23, 1997. Crest gages were also installed on October 23, 1997. Cross section markers at each bank at the gage cross section were installed and surveyed on October 4, 2000. Transducer gage moved about 300 feet east in the channel to near the low flow channel as it exists in April 2002. Gage was moved on April 3, 2002. The streamgage was removed due to bridge construction from February 15, 2011 to January 30, 2012. Streamgage was re-installed on January 31, 2012 at a different location. Because the low flow channel migrated toward the right bank, the transducer gage was moved to the pier closest to the right bank in the spring of 2017.

REFERENCE MARKS –

RM-HASS-I10 is an FCD brass cap installed inside the fenced area near the weather station. Monument was established on November 20, 2000. Elevation 1,033.79 feet NAVD88 or 15.068 feet gage height, levels of September 30, 2021.

Many of previously referenced marks have been destroyed or no longer found. New references were established in September 2021.

RM-1 is a stake on the southwest corner of the eastbound I-10 bridge. It is at elevation 15.256 feet gage height and 1,034.082 feet NAVD88, levels of September 30, 2021.

RP-1 is a chiseled 'X' on a rock at the right bank under the eastbound bridge. It is at elevation 3.599 feet gage height, levels of September 30, 2021.

RP-2 is the downstream bracket on the crest gage. It is at elevation 3.063 feet gage height, levels of September 30, 2021.

CHANNEL AND CONTROL – The channel is a very wide sand and cobble channel with a loose trapezoidal shape. The channel is approximately 1,200 feet in width at the bridge. The channel is relatively straight up and downstream of the gage. Several small channels exist within the main river channel. Each has its own channel control until all low flow channels are submerged. At that time, the main channel is the control.

RATING – There have been several ratings at this location since installation, all based on the original HEC-2 analysis by T. M. Donaldson. The current rating is Rating #4, which is a modification of the previous rating to account for a lower level sensor elevation. No changes to the rating were made above 3.0 feet gage height. The Manning equation was used to develop a stage discharge relationship below 3.0 feet gage height. The original rating by Donaldson was based on the 1989 Cella Barr HEC-2 analysis for the Hassayampa River.

DISCHARGE MEASUREMENTS – Low flow measurements could be made by wading the channel. Higher discharges should be measured by indirect methods, as no suitable location is available to set up a bridge crane.

POINT OF ZERO FLOW – The PZF of the main flow channel is approximately 0.25 feet gage height, from levels of March 7, 2017. Shifting beds during floods causes the PZF to change during events.

FLOODS – A flood with discharge of about 40,000 cfs and 7.15 feet gage height occurred on October 27, 2000. Peak recorded from crest gage #4.

REGULATION – Hassayampa Lake in the uppermost watershed regulates flows in the first several square miles.

DIVERSIONS – There are several small irrigation diversions in the river above Wickenburg.

ACCURACY – Fair

JUSTIFICATION – Monitor flows in the Hassayampa River for Baseline Road low flow crossing.

UPDATE - November 8, 2021
DE Gardner