

**NEW RIVER DAM OUTLET
FCD GAGE ID# 62007**

STATION DESCRIPTION

LOCATION – The dam is located north and west of the extended intersection of Jomax Road and 75th Avenue in the city of Peoria. The gage is located on the outlet channel on the downstream (south) side of the dam. Latitude N 33° 44' 09", Longitude W 112° 13' 31". Located in the SW1/4 SW1/4 NE1/4 S35 T5N R1E in the Hedgpeth Hills 7.5-minute quadrangle.

ESTABLISHMENT – The gage was established on April 15, 1986.

DRAINAGE AREA – 171 mi²

GAGE – The gage is a pressure transducer type instrument. The transducer elevation is 0.68 feet gage height, levels of July 3, 2017.

There is one staff gage at this location. It is located just downstream of the footbridge on the west bank. The displayed elevations lose accuracy above about 3 feet gage height. The following are levels of November 21, 2017.

STAFF READING	GAGE HEIGHT	STAFF READING	GAGE HEIGHT
0.0	0.40	5.0	5.27
1.0	1.36	6.0	6.23
2.0	2.30	7.0	7.29
3.0	3.35	8.0	8.15
4.0	4.27	9.0	9.18
		10.0	10.16

There is one crest gage at this location. It is located just downstream of the footbridge on the left bank. The crest gage is not used or maintained.

ZERO GAGE HEIGHT - Zero gage height is defined as the low point in the outlet channel at the orifice. Zero gage height is equal to 1,378.147 feet NAVD88, levels of May 24, 2016. The pool zero gage height is 13.317 feet higher.

HISTORY – Gage installed following completion of dam. Gage was first installed as a manometer type gage. Manometer gage replaced with a non-submersible PT at some undetermined date. Staff gage established in 1998. Crest gage installed in June 2000. A new station and PT were installed in early 2016.

REFERENCE MARKS –

NOTE: Gage height references are based on the zero gage height definition for the outlet channel only.

RP-1 is the invert of the outlet from the dam. Elevation 10.261 feet gage height and 1,388.408 feet NAVD88, levels of May 24, 2016.

RP-3 is a chiseled square on the top left downstream side of the footbridge crossing the outlet channel. It is at elevation 17.934 feet gage height and 1,396.081 feet NAVD88, levels of July 3, 2017.

RP-4 is a mark on the top of a large rock near the center of the channel near the PT. It is at elevation 0.336 feet gage height and 1,378.483 feet NAVD88, levels of July 3, 2017.

RP-MP is an arrow chiseled on the upstream side of footbridge, 28 feet from left bank. Elevation 18.15 feet gage height, levels of February 24, 1995.

RM-1 is a rebar set near the station house. It is at elevation 14.932 feet gage height and 1,393.079 feet NAVD88, levels of July 3, 2017.

RM-2 is a chiseled 'X' on the center of the lip of the sediment basin at the outlet of the dam. It is at elevation -6.013 feet gage height and 1,372.134 feet NAVD88, levels of July 3, 2017.

RM-3 is a chiseled 'X' on the left side of the lip of the sediment basin at the outlet of the dam. It is at elevation -6.015 feet gage height and 1,372.132 feet NAVD88, levels of July 3, 2017.

RM-4 is a chiseled 'X' on the right side of the lip of the sediment basin at the outlet of the dam. It is at elevation -6.001 feet gage height and 1,372.146 feet NAVD88, levels of July 3, 2017.

RM-2009 is a chiseled 'X' on the right top of the headwall of the outlet of the dam. Elevation is 24.835 feet gage height and 1,402.982 feet NAVD88, levels of May 24, 2016.

RM-2010 is a chiseled 'X' on the left top of the headwall of the outlet of the dam. Elevation is 24.810 feet gage height and 1,402.957 feet NAVD88, levels of May 24, 2016.

RM-2013 is a chiseled 'X' on the center top of the headwall of the outlet of the dam. Elevation is 24.818 feet gage height and 1,402.965 feet NAVD88, levels of May 24, 2016.

CHANNEL AND CONTROL – The channel is a roughly lined concrete channel with trapezoidal sides. The channel bottom width is 16 feet and the top width is approximately 75 feet. The channel is the control for all elevations.

RATING – The current rating is Rating #2 which is adjustment of elevation of the original rating, developed using an older HEC-2 model of surveyed cross sections. The HEC-2 model was modified with some direct discharge measurements. Rating #2 is valid since the change in PT elevation, on June 1, 2016. Rating #3 was developed from a nine cross section survey of the gage cross section to the end of the outlet channel on November 21, 2017. A HEC-RAS model was developed and run for various discharge values.

DISCHARGE MEASUREMENTS – Direct measurements can be taken in the channel downstream of the footbridge. High flow measurements can be taken from the footbridge using a bridge crane.

POINT OF ZERO FLOW – The PZF was found by survey of May 24, 2016 to be at about 0.2 feet gage height, and occurs about 30 feet downstream from the footbridge across the channel.

FLOODS – The largest discharge occurred in 1993 with the largest impoundment behind the dam. The outlet from the dam is limited to approximately 3,500 cfs. The second greatest discharge occurred on February 15, 1995 with a peak discharge of 1,570 cfs at 9.36 feet gage height.

REGULATION – New River Dam regulates natural flows in New River.

DIVERSIONS – None known

ACCURACY – Good

JUSTIFICATION – Monitor outflows from New River Dam for emergency preparedness.

UPDATE – October 25, 2023
ES Thomas