BUCKEYE #3 FRS
FCD GAGE ID# 48807

STATION DESCRIPTION

LOCATION – The gage is located at the outlet of the structure which runs along the north side of Interstate 10 at the south end of the White Tanks Mountains. Access to the gage is from Watson Road. Head north on Watson Road to the structure. Latitude 33° 27' 49.5" N, Longitude 112° 33' 20" W. Located in the SW1/4 NW1/4 NW1/4 S10 T1N R3W in the Valencia 7.5-minute quadrangle.

ESTABLISHMENT – November 23, 1992

DRAINAGE AREA – 8.7 square miles

GAGE – The gage is a pressure transducer type located at the principal outlet. The pressure transducer is located near the inlet of the invert. The PT diaphragm is at – 4.08 feet gage height, or elevation 1,146.954 feet NAVD 1988, levels of March 13, 2018.

There is one staff gage on the trash rack at the outlet works. There are four additional staff gages up the face of the dam near the outlet. The 0.00 on the staff gages is located at 1,151.034 feet NAVD 1988, which corresponds to 0.00 feet gage height, levels of March 13, 2018.

There is no crest gage at this location.

ZERO GAGE HEIGHT - is defined as 0.0 feet on the staff gage mounted to the trash rack and the staff gages on the dam near the outlet. Zero gage height is 1,151.034 feet NAVD 1988.

HISTORY – No previous history at this location. Elevations in this station description were updated on July 7, 2016 with more recent elevations based on more recent dam survey data.

REFERENCE MARKS –

BM-(E-1) is an FCDMC brass cap located about 300 feet north of the principal outlet on the dam crest. It is at elevation 20.881 feet gage height and 1,171.915 feet NAVD88, levels of March 13, 2018.

BM-(E-2) is an FCDMC brass cap located about 150 east of the principal outlet on the crest of the dam. It is at elevation 19.775 feet gage height and 1,170.809 feet NAVD88, levels of March 13, 2018.

RM-1 is a chiseled 'X', labeled point #3057, located on the left side of the inlet headwall. It is at elevation 2.943 feet gage height and 1,153.977 feet NAVD88, levels of March 13, 2018.

RM-2 is a chiseled 'X', labeled point #3056, located at the center of the inlet headwall. It is at elevation 2.936 feet gage height and 1,153.970 feet NAVD88, levels of March 13, 2018.

RM-3 is a chiseled 'X', labeled point #3055, located on the right side of the inlet headwall. It is at elevation 2.949 feet gage height and 1,153.983 feet NAVD88, levels of March 13, 2018.

RP-1 is a hold down bolt at the highest location on the south side of the transducer conduit. It is at elevation 14.860 feet gage height and 1,165.894 feet NAVD88, levels of March 13, 2018.

RP-2 is a chiseled 'X' located on the inlet lip above the transducer gage as found on March 13, 2018. It is at elevation -0.082 feet gage height and 1,150.952 feet NAVD88, levels of March 13, 2018.

RP-3 is the top of the south most trash rack bolt at the base of the trash rack. It is at elevation 3.087 feet gage height, or 1,154.121 feet NAVD 1988, levels of March 13, 2018.

RP-4 is a chiseled 'X' on the outlet headwall. It is at elevation -12.970 feet gage height and 1,138.064 feet NAVD88, levels of March 13, 2018.

Several references in past station descriptions are not listed here since they were not recovered during the March 2018 survey.

CHANNEL AND CONTROL –

The principal outlet is an ungated 30-inch diameter reinforced concrete pipe. Higher flows are controlled by a spillway on the east end of the structure.

PRINCIPAL OUTLET / EMERGENCY SPILLWAY –

The principal outlet is an ungated 30-inch diameter reinforced concrete pipe 560 feet long. The invert of the inlet is at elevation -4.095 feet gage height and 1,146.939 feet NAVD 1988, and the invert of the outlet is at elevation -21.030 feet gage height and 1,130.004 feet NAVD 1988, levels of March 13, 2018.

The emergency spillway is located on the east end of the structure. The width of the spillway is approximately 400 feet. The crest of the spillway has the hydraulic

characteristics of a weir. The low point in the crest of the spillway is at an elevation of 1,165.03 feet NAVD 1988, and 14.00 feet gage height.

Top of dam elevation is at about 20.3 feet gage height and 1,171.37 feet NAVD88.

RATING – The current discharge rating is Rating #4. Applied in WY18

The current capacity rating is Rating #4. The capacity rating was done by analysis of DTM data from the McLain Harbers FCD 93-51 contract. The DTM analysis was done July 17, 1997 and the final analysis is dated July 22, 1997.

DISCHARGE MEASUREMENTS – Discharge measurements could be made in the outlet channel west of the dam.

POINT OF ZERO FLOW – The PZF at the principal outlet is –4.10 feet gage height, or 1,146.93 feet NAVD 88. The PZF at the spillway is about 14.0 feet gage height.

FLOODS / SIGNIFICANT IMPOUNDMENTS – The largest impoundment recorded occurred on September 8, 2014, with a peak stage of 4.90 feet gage height, and 162 acre-feet and 10.8 percent full.

ACCURACY – Fair

JUSTIFICATION – Monitor Buckeye FRS #3 for Operations and Maintenance and for public safety.

UPDATE – October 25, 2023
ES Thomas