

**BUCKEYE #2 FRS  
FCD GAGE #5208**

**STATION DESCRIPTION**

**LOCATION** – The gage is located at the outlet of the structure that runs along the north side of Interstate 10 on the southwestern edge of the White Tanks Mountains. The west end of the structure is located just west of Miller Road. Latitude 33° 26' 26" N, Longitude 112° 35' 47" W. Located in SE1/4 NW1/4 SE1/4 S07 T1N R3W, in the Valencia 7.5-minute quadrangle.

**ESTABLISHMENT** – November 11, 1992

**DRAINAGE AREA** – 5.7 square miles

**GAGE** – The gage is a pressure transducer type located on the top of the structure near the outlet works. The pressure transducer is located near the invert to the inlet. The PT diaphragm is at –1.39 feet gage height or 1,096.78 feet NAVD 1988, levels of March 18, 2004.

There is one staff gage located on the cage around the outlet works. The elevation of the 0.00 reading on the gage is at elevation 1,098.17 feet NAVD 1988, = 0.00 gage height, levels of March 18, 2004.

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 at the principal outlet. Elevation 1,098.17 feet NAVD 1988, levels of March 18, 2004.

**HISTORY** – No previous history at this location. Elevations in this station description were updated on July 7, 2016 to reflect more recent dam safety survey data.

**REFERENCE MARKS** –

RM 21: Elevation = 1,134.44 feet NAVD 1988, gage height 36.27 feet. A ½ inch iron rod set 3,230 feet (+/-) WSW of the NE corner of Section 7, T1N, R3W, per the McLain Harbers survey under FCD Contract 93-51.

RM-23 is a 1/2-inch iron rod set about 1,000 southwest of the gage station. Elevation 2.02 feet gage height, or 1,100.19 feet NAVD 1988, levels of March 18, 2004.

C-1 is an FCDMC brass cap settlement marker located about 200 feet northwest of the station house. Elevation 21.00 feet gage height 1,119.17 feet NAVD 1988. C-1 is tied into the Maricopa County G-DACS control.

RP A is a brass tablet near the center of concrete on the spillway. Elevation = 1,113.26 feet NAVD 1988, gage height 15.09 feet, levels of March 18, 2004.

RP B is a brass tablet in the center of the head wall for the inlet of the outlet works. Elevation = 1,102.10 feet NAVD 1988, gage height 3.93 feet, levels of March 18, 2004.

### **CHANNEL AND CONTROL** –

The principal outlet is an ungated 4-foot diameter reinforced concrete pipe 2,194 feet long. The emergency spillway is located on the west end of the structure.

### **PRINCIPAL OUTLET / EMERGENCY SPILLWAY** –

The principal outlet is an ungated 48-inch diameter RCP. The culvert invert elevation is –1.54 feet gage height, or 1,096.60 feet NAVD 1988, levels of March 18, 2004. The invert of the outlet is at –12.96 feet gage height, or 1,085.17 feet NAVD 1988. The length of the outlet culvert is 2,194 feet.

The emergency spillway is located on the west end of the structure, a few hundred feet to the right of the principal outlet. The crest of the spillway is at 15.00 feet gage height or 1,113.17 feet NAVD 1988, levels of December 21, 1995. The spillway width is approximately 360 feet.

The top of dam elevation is 20.43 feet gage height, or 1118.60 feet NAVD 1988.

**RATING** – The current discharge rating is Rating #3. The rating for the principal outlet is an HY8 culvert analysis dated July 8, 1993 with datum adjusted from the level survey of December 21, 1995. The spillway rating is from an HEC-RAS backwater analysis was performed using level data from the December 21, 1995 survey and from the McLain Harbers FCD 93-51 topographic mapping. The analysis is dated October 22, 1996.

The current capacity rating is Rating #3. The rating is from an 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 28, 1997.

**DISCHARGE MEASUREMENTS** – Measurements can be made of the principal outlet by direct measurement in the outlet channel.

**FLOODS** – None

**POINT OF ZERO FLOW** – The principal outlet begins flow at -1.54 feet gage height, elevation 1,096.63 feet NAVD 1988.

The emergency spillway will begin to flow at about 15.0 feet gage height, and 1,113.17 feet NAVD88.

**ACCURACY** – Fair

**JUSTIFICATION** – Monitor the water level behind Buckeye FRS #2 for operations and maintenance and for public safety.

**UPDATE**        July 7, 2016  
                         DE Gardner