

**REATA PASS DAM
FCD GAGE# 61207**

STATION DESCRIPTION

LOCATION - The gage is located in the city of Scottsdale, approximately 1/2 mile south of Dynamite Road, and approximately 1/4 mile east of Alma School Road. Latitude N 33° 44' 06", Longitude W 111° 50' 36". Located in the SW1/4 NE1/4 S11 T7N R5W in the McDowell Peak 7.5-minute quadrangle.

ESTABLISHMENT - The gage was installed on October 2, 2001.

DRAINAGE AREA - About 1.15 mi²

GAGE - The gage is a pressure transducer type instrument, located at 0.15 feet gage height, levels of February 1, 2018.

There are no staff gages at this site.

There are no crest gages at this site.

ZERO GAGE HEIGHT – Zero gage height is defined as 2,590.50 feet NAVD 1988, which is the invert of the inlet. It was back calculated as this, using the design elevation for the spillway being 2607.000 feet NAVD88.

HISTORY – A stage gage existed at this station from February 25, 1993 to November 17, 1998. The gage was removed. The dam was rebuilt with a primary outlet. A new stage gage was installed on October 2, 2001. A steel plate was installed over the outlet sometime in 2003, exact date unknown. The plate restricts flow through the outlet culvert. The plate was removed sometime after the annual field visit in May 2012. The PT setup was changed around October 23, 2013.

REFERENCE MARKS -

BM-RPD1 is an FCDMC brass cap located on top of the dam, about 10 feet east of the station tube. It is at elevation 19.721 feet gage height and 2,610.221 feet NAVD88, levels of February 1, 2018.

RM-1 is a rebar set on top of the dam near the spillway. It is at elevation 20.218 feet gage height and 2,610.718 feet NAVD88, levels of February 1, 2018.

RM-2 is a chiseled 'X' on the upstream emergency spillway sill near the center. It is at elevation 16.546 feet gage height and 2,607.046 feet NAVD88, levels of February 1, 2018.

RM-3 is a chiseled 'X' on the downstream emergency spillway sill near the center. It is at elevation 16.513 feet gage height and 2,607.013 feet NAVD88, levels of February 1, 2018.

RM-4 is a chiseled 'X' at the invert of the outlet. It is at elevation -0.420 feet gage height and 2,590.080 feet NAVD88, levels of February 1, 2018.

RM-5 is a chiseled 'X' on the top of the outlet headwall. It is at elevation 7.096 feet gage height and 2,597.596 feet NAVD88, levels of February 1, 2018.

RM-6 is a chiseled 'X' on a granite rock in the pool area, about 30 feet west of the inlet. It is at elevation 6.780 feet gage height and 2,597.280 feet NAVD88, levels of February 1, 2018.

RM-7 is a chiseled 'X' at the ground at the transducer conduit. It is at elevation -0.002 feet gage height and 2,590.498 feet NAVD88, levels of February 1, 2018.

RM-8 is a chiseled 'X' on top of the inlet headwall. It is at elevation 6.430 feet gage height and 2,596.930 feet NAVD88, levels of February 1, 2018.

CHANNEL AND CONTROL - The principal outlet for the dam is a 60-inch diameter, 100-foot long culvert.

An emergency spillway is located on the left side of the dam. There are two concrete sills at the spillway that were found to be covered by dirt of thickness from 0.2 to 0.6 feet.

PRINCIPAL OUTLET AND EMERGENCY SPILLWAY

The principal outlet is a 60-inch diameter culvert pipe. The pipe opening is not restricted. In the past, a steel plate was installed over the pool side of the outlet culvert. The culvert invert elevation at the inlet is 0.000 feet gage height and 2,590.500 feet NAVD88. The culvert invert elevation at the outlet is -0.420 feet gage height and 2,590.080 feet NAVD88. All levels are of February 1, 2018.

The emergency spillway sill elevation is at 16.50 feet gage height and 2,607.000 feet NAVD88, levels of February 1, 2018. There are two concrete sills at the spillway of approximately the same elevation. On February 1, 2018, much of the spillway sills were covered in sediment which would raise the functional spillway elevation by about 0.3 feet. The spillway has a bottom width of about 30 feet and a top width of about 46 feet.

The minimum top of dam elevation found during the survey of February 1, 2018 was 19.28 feet gage height. This may or may not be the actual minimum elevation. For rating purposes, the top of dam is considered to be 19.300 feet gage height and 1,609.800 feet NAVD88.

RATING - The current rating is Rating #2. It was reapplied as of July 1, 2012 because the restriction plate was removed.

A volumetric rating was received in December 2012. Data were developed for the reconstructed basins a few years back. The rating is rating #1 and is applied back to the beginning of the period of record for the re-install in 2001.

DISCHARGE MEASUREMENTS - Discharge measurements would be difficult to obtain under almost any circumstances.

POINT OF ZERO FLOW - Flow begins at 0.00 feet gage height at the culvert inlet entrance.

FLOODS / SIGNIFICANT IMPOUNDMENTS – The highest impoundment occurred on September 8, 2014, with a peak stage of 5.70 feet gage height and a peak volume of 4.1 acre-feet and 8.2 percent full.

REGULATION - The dam is a regulation of natural flows in local drainages.

DIVERSIONS - None known

ACCURACY - Good

JUSTIFICATION - Monitor impoundment behind Reata Pass Dam for flood warning to the city of Scottsdale.

UPDATE - February 8, 2024
DE Gardner