DELANEY WASH
FCD GAGE ID# 25007 (5108)

STATION DESCRIPTION

LOCATION - The gage is located near Tonopah, Arizona, approximately 3 miles south of Interstate highway 10 near 427th Avenue. Latitude N 33° 28' 10"; Longitude W 112° 58' 13.1". Located in NW1/4 SW1/4 S34 T2N R7W, in the Tonopah 7.5-minute quadrangle.

ESTABLISHMENT - The gage was installed on December 22, 1999.

DRAINAGE AREA – 49.9 mi^2 via USGS Streamstats, and includes about 14.6 mi^2 upstream of the CAP canal.

GAGE - The gage is a pressure transducer type instrument. The PT diaphragm is at gage height 0.00 feet, levels of January 9, 2020. The PT is on the right bank of the wash.

There is a status sensor at this location. Normal (off) elevation of the sensor is 1.25 feet gage height, levels of January 9, 2020.

There is a crest-gage at the gage cross section. It has pin elevation of 2.08 feet gage height, levels of January 9, 2020.

There are three additional transducer gages installed at cross section up and downstream from the gage.

XS1 is the most downstream cross section. It is about 225 feet downstream of the gage cross section. The elevation of the transducer at this location is 1.01 feet gage height, levels of January 24, 2019. This cross section also has a crest gage with a bottom cap lip elevation of 0.01 feet gage height, levels of January 24, 2019.

XS3 is a cross section upstream from the gage cross section. It is about 110 feet upstream of the gage cross section. The elevation of the transducer at this location is 1.54 feet gage height, levels of January 24, 2019. This cross section also has a crest gage with a bottom cap lip elevation of 1.74 feet gage height, levels of January 24, 2019.

XS4 is the most upstream cross section. It is about 230 feet upstream of the gage cross section. The elevation of the transducer at this location is 2.38 feet gage height, levels of January 24, 2019. This cross section also has a crest gage with a bottom cap lip elevation of 1.92 feet gage height, levels of January 24, 2019.

There are no staff gages at this site.

ZERO GAGE HEIGHT – Zero gage height is defined as the pressure transducer diaphragm as originally installed. The PT has since been moved. However, no change of datum occurred. Zero gage height elevation is equivalent to 1,112.030 feet NAVD88.

HISTORY – Gaging established on December 22, 1999. Crest gage was destroyed during the August 22, 2000 event. Crest gage was replaced in late September, 2000. The pin elevation was raised above the previous level. The PT level was raised on September 28, 2000 to be above the low point in the gage cross section and thus not be buried following most events. A rebar stake was added to the left bank of the third slope area cross section on September 28, 2000. Crest stage gage on right bank destroyed and replaced several times. Crest stage gage replaced in March 2003 on left bank of wash opposite PT. During the survey of April 1, 2003, the PT was found at 0.05 feet gage height. No record of the sensor being lowered was found. The effective date of the move is March 1, 2003. The PT and status sensor were found moved during the survey of February 19, 2009. The effective date of the move is January 1, 2009. Three additional pressure transducers were installed in a 450-foot reach of Delaney Wash on February 8, 2012. Two cross sections upstream, and one cross section downstream from the existing main gage station were established and installed. The purpose for the additional gaging is to do a continuous slope area within the entire reach.

REFERENCE MARKS

RM-DELNY is an FCDMC brass cap located near the standpipe. It has elevation of 8.200 feet gage height, levels of January 24,2019. It has elevation of 1,120.230 feet NAVD 1988. Northing: 899701.201; Easting: 379132.69. RM-DELNY was formerly known as RM-1.

RM-1 is a rebar on the right bank about 20 feet northeast of the station tube. It is at elevation 5.214 feet gage height and 1,117.244 feet NAVD88, levels of January 24, 2019.

RM-2 is a rebar at the gage cross section on the left bank. It is at elevation 6.693 feet gage height and 1,118.723 feet NAVD88, level of January 24, 2019.

RM-3 is a rebar at the gage cross section on the right bank. It is at elevation 6.967 feet gage height and 1,118.997 feet NAVD88, level of January 24, 2019.

RM-4 is a sign channel post at the downstream cross section on the left bank. It is at elevation 7.154 feet gage height and 1,119.184 feet NAVD88, level of January 24, 2019.

RM-5 is a sign channel post at the downstream cross section on the right bank. It is at elevation 8.077 feet gage height and 1,120.107 feet NAVD88, level of January 24, 2019.

RM-6 is a rebar at the most upstream cross section on the left bank. It is at elevation 7.986 feet gage height and 1,120.016 feet NAVD88, level of January 24, 2019.

RM-7 is a rebar at the most upstream cross section on the right bank. It is at elevation 8.393 feet gage height and 1,120.423 feet NAVD88, level of January 24, 2019.

RM-8 is a sign channel post at the cross section upstream of the gage cross section, on the left bank. It is at elevation 5.932 feet gage height and 1,117.962 feet NAVD88, level of January 24, 2019.

RM-9 is a sign channel post at the cross section upstream of the gage cross section, on the right bank. It is at elevation 7.020 feet gage height and 1,119.050 feet NAVD88, level of January 24, 2019.

RP-1 - is the bracket that supports the transducer gage. It has elevation 0.878 feet gage height, levels of January 24, 2019.

RP-2 - is the concrete 'ground' at the end of the PT conduit. Elevation = -0.070 feet gage height, levels of January 24, 2019.

RP-3 is a sign channel post on the left bank about 10 feet downstream of the gage cross section. It is at elevation 5.421 feet gage height, levels of January 24, 2019.

CHANNEL AND CONTROL - The channel has a natural bottom and sides. The left bank is heavily vegetated and has a gradual slope. The right bank is less vegetated and has a sharp, almost vertical slope. The average channel slope for the approximately 350 feet surveyed is 0.0064 feet/feet.

No control exists at very low flows. The channel becomes control at about 2.0 feet gage height. Above about seven feet gage height, flow begins to spill into the overbanks, some of which are not contained for many feet both left and right of the main channel.

RATING - The current rating is Rating #4, dated December 5, 2019. The rating was developed from 5 surveyed cross sections up and downstream of the gage cross section.

DISCHARGE MEASUREMENTS - Direct measurements could be made by wading in the area near the gage. Higher flows can be measured by indirect methods. Four cross sections were monumented for this purpose. The cross sections were re-numbered following the installation of the continuous slope area devices.

POINT OF ZERO FLOW - The point of zero flow is at about 0.0 feet gage height and occurs about 10 feet downstream of the status sensor.

FLOODS – The largest flood of record had a peak of 2,800 cfs at 8.06 feet gage height occurred on September 9, 2013.

REGULATION - Some may occur in the upper watershed at the crossing of the CAP canal. Actual effects have not been documented.

DIVERSIONS - None known

ACCURACY - Fair

JUSTIFICATION - Monitor flows in Delaney Wash for MCDOT for road closure at 411th Avenue and at Salome Highway.

UPDATED - March 19, 2020
DE Gardner