

**SOUTH MOUNTAIN FAN
FCD GAGE ID #6563**

STATION DESCRIPTION

LOCATION – The gage is located in South Mountain Park at the approximate 4.5-mile marker of San Juan Road. The gage location is approximately 50 yards south of the road. Latitude: N 33° 18' 53.9", Longitude: W 112° 08' 01.3". Located in S26 T1S R2E in the Laveen 7.5-minute USGS quadrangle.

ESTABLISHMENT – The gage was installed on June 9, 1993.

DRAINAGE AREA – 2.1 mi²

GAGE – The gage is a pressure transducer type instrument. The PT is at gage height 1.05 feet = 1,277.79 feet MSL, levels of March 17, 2015.

There is a staff gage near the pressure transducer. It reads in gage height.

There are two crest gages remaining at this gage site. The two upstream gages and the gage at the PT location were destroyed during the flood of August 12, 2014.

CSG#4: Located on the right bank of cross section D. Pin elevation is 1,275.35 feet MSL = -1.39 feet gage height, levels of February 10, 2000.

CSG#5: Located on the left bank of cross section D. Pin elevation is 1,275.22 feet MSL = -1.52 feet gage height, levels of February 10, 2000.

ZERO GAGE HEIGHT - Zero gage height is the elevation of the pressure transducer, elevation 1,276.74 feet M.S.L.

HISTORY – No known history prior to gage installation. Station installed June 9, 1993. Gage reach began with six crest gages in cross sections B, C, and D.

REFERENCE MARKS –

RM1 – An 'X' marked on a rock approximately 30 feet west of the weather station. Elevation = 1,279.86 feet MSL; Gage Height = 3.15 feet; levels of August 26, 1996.

There are three monumented cross sections near the gage. Cross section B is upstream of the gage cross section which is cross section C. Cross Section D is downstream from gage cross section C. There are brass caps at both banks of the cross section.

BC "B" LB: Elevation 1,284.60 feet MSL, 7.86 feet gage height; levels of 2/10/2000.
BC "B" RB: Elevation 1,284.17 feet MSL, 7.43 feet gage height; levels of 2/10/2000.

BC "C" LB: Elevation 1,279.28 feet MSL, 2.54 feet gage height; levels of 2/10/2000.
BC "C" RB" Elevation 1,279.95 feet MSL, 3.21 feet gage height; levels of 3/17/2015.

BC "D" LB: Elevation 1,275.18 feet MSL, -1.56 feet gage height; levels of 2/10/2000.
BC "D" RB: Elevation 1,275.25 feet MSL, -1.49 feet gage height; levels of 3/17/2015.

[All M.S.L. levels are from a survey by MCDOT in December 1997 and January 1998, tied to an ADOT brass cap on Central Avenue.]

CHANNEL AND CONTROL – The channel is the control at the gage location. The channel is predominantly a moveable be sand channel. The major runoff event of August 12, 2014 added significant sediment to the channel. The low point in the channel increased from about 0.0 feet gage height, to 0.7 feet gage height in March 2015.

RATING – The current rating is Rating #3. It is a modification of the previous rating accounting for channel aggradation.

Previous ratings are as follows: Rating #1 was developed by JJ Riemenschneider following a survey of six cross sections up and downstream of the gage cross section. Rating #2 was developed by DE Gardner on October 7, 1999 and further modified by RW Cruff on February 11, 2000. Rating #2 was developed using Rating #1, modifying it with discharge data from a slope area measurement following the July 7, 1999 event and the refined HECRAS analysis.

POINT OF ZERO FLOW - The PZF is at about 0.65 feet gage height.

DISCHARGE MEASUREMENTS – Direct measurements could be made by wading in the section at the gage. Indirect measurements can be done using the three monumented cross sections located with the crest stage gages.

FLOODS – A discharge of approximately 710 cfs was recorded on July 7, 1999. The largest flow of record was 1,586 cfs and 3.85 feet gage height on August 12, 2014.

REGULATION – None

DIVERSIONS – None

ACCURACY – Fair

JUSTIFICATION – Monitor and study flows at an alluvial fan site.

Updated: March 18, 2015
D E Gardner