# TATUM WASH BASIN
# FCD GAGE ID# 58507

## STATION DESCRIPTION

**LOCATION** – The structure is located along Shea Boulevard just east of 44th Street intersection. The gage is located at the outlet near the center top of the basin. Latitude N 33° 34' 59", Longitude W 111° 58' 59". Located in the SE1/4 SW1/4 NW1/4 S36 T4N R3E in the Paradise Valley 7.5-minute quadrangle.

**ESTABLISHMENT** – The gage was installed on May 8, 1998.

**DRAINAGE AREA** – 2.17 $mi^2$

**GAGE** – The gage is a pressure transducer type instrument, located at 0.05 feet gage height, levels of February 28, 2019.

There are no staff gages at this location.

There are no crest gages at this location.

**ZERO GAGE HEIGHT** – Zero gage height is defined as the invert of the inlet of the lower inlet at the principal outlet. It is equivalent to 1,382.739 feet NAVD88, levels of February 28, 2019.

**HISTORY** – No history at this location prior to gage establishment. Gage was established on May 8, 1998.

**REFERENCE MARKS** –

BM-4638 is an FCDMC brass cap located on top of the left bank of the inflow channel near the station tube for that gage. It is at elevation 21.354 feet gage height and 1,404.093 feet NAVD88, levels of February 28, 2019. It is at elevation 3.890 feet gage height with respect to the inflow channel elevation zero gage height datum.

BM-4653 is an FCDMC brass cap located near the top of the north end of the basin along Shea Boulevard. It is at elevation 13.490 feet gage height and 1,396.229 feet NAVD88, levels of February 28, 2019. It is at elevation -3.974 feet gage height with respect to the inflow channel elevation zero gage height datum.

RM-1 is a chiseled ‘X’ painted white on top of the left bank channel wall near the inflow gage standpipe. It is at elevation 22.065 feet gage height and 1,404.804 feet NAVD88,

levels of February 28, 2019. It is at elevation 4.601 feet gage height with respect to the inflow channel elevation zero gage height datum.

RM-2 is a chiseled 'X' on the concrete pad near the railing post near the outlet gage standpipe. It is at elevation 14.348 feet gage height and 1,397.087 feet NAVD88, levels of February 28, 2019. It is at elevation -3.116 feet gage height with respect to the inflow channel elevation zero gage height datum.

RM-3 is a chiseled 'X' painted white on top of the right bank channel wall across from the inflow channel gage standpipe. Is it at elevation 22.043 feet gage height and 1,404.782 feet NAVD88, levels of February 28, 2019. It is at elevation 4.579 feet gage height with respect to the inflow channel elevation zero gage height datum.

RM-4 is a rebar on top of the left bank of the inflow channel near that station tube and BM-4638. It is at elevation 21.510 feet gage height and 1,404.249 feet NAVD88, levels of February 28, 2019. It is at elevation 4.046 feet gage height with respect to the inflow channel elevation zero gage height datum.

RM-5 is a rebar on top of the basin near the basin station tube and BM-4653. It is at elevation 14.645 feet gage height and 1,397.384 feet NAVD88, levels of February 28, 2019. It is at elevation -2.819 feet gage height with respect to the inflow channel elevation zero gage height datum.

RM-6 is a chiseled 'X' on top at the northwest corner of the principal outlet at the basin. It is at elevation 11.610 feet gage height and 1,394.349 feet NAVD88, levels of February 28, 2019. It is at elevation -5.854 feet gage height with respect to the inflow channel elevation zero gage height datum.

RP-1 is a chiseled 'X' at the ground in front of the basin transducer on the left wingwall of the principal outlet. It is at elevation 0.007 feet gage height, levels of February 28, 2019.

RP-2 is a chiseled 'X' on an irrigation pad located west of the basin gage tube. It is at elevation 14.349 feet gage height, levels of February 28, 2019.

**CHANNEL AND CONTROL** – The principal outlet for this basin is a 42-inch diameter RCP. The culvert length is 108 feet and discharges to the Shea Boulevard storm drain. The spillway for the basin is located on the northeast side of the basin and spills into Shea Boulevard.

**PRINCIPAL OUTLET / EMERGENCY SPILLWAY** –

The primary outlet is a 42-inch diameter RCP with inlet elevation of 0.00 feet gage height and an undetermined outlet elevation. The culvert length is 108 feet. There are

three inlets into the intake tower. The lower inlet is a 24-inch diameter opening at 0.00 feet gage height. The second inlet is a 24-inch diameter opening at 4.00 feet gage height. The third opening is at the top of the tower and is at 11.10 feet gage height, all levels of February 28, 2019.

The emergency spillway is located just to the east of the intake tower. The crest elevation of the spillway is 12.6 feet gage height, levels of December 21, 2020.

The top of the basin is at approximately 13.6 feet gage height, levels of December 21, 2020.

**RATING** – The current rating is Rating #2 developed by M. A. Lopez during the design of the basin. The rating was developed using inlet control nomographs. The spillway was rated using the weir equation with coefficient of 2.63. Rating #2 is the same as Rating #1 with adjustments at the top end of the rating to accommodate the higher top-of-basin elevation.

The current capacity rating is Rating #2 from the design adjusted for increased top of basin from original.

**DISCHARGE MEASUREMENTS** – Discharge measurements would not be possible because flow occurs directly into Shea Boulevard and storm drains buried underground.

**POINT OF ZERO FLOW** – The PZF is the inlet invert at 0.00 feet gage height, levels of February 28, 2019.

**FLOODS / SIGNIFICANT IMPOUNDMENTS** – Peak occurred September 8, 2014 with a peak stage of 15.18 feet gage height, a volume of 41.9 acre-feet, which is 128 percent of spillway capacity. The basin overtopped during this event.

**REGULATION** – Natural flows in the wash are captured by the basin for slower release to the storm drain under Shea Boulevard.

**DIVERSIONS** – None known

**ACCURACY** – Good

**JUSTIFICATION** – Monitor levels in basin.

**UPDATE** – December 28, 2023
D E Gardner