DESCRIPTION OF GAGING STATION ON CACHAGUA CREEK

Location – Lat 36.4004, long -121.6582, 50 feet upstream (right bank) of Nason Rd. Bridge in Princes Camp, Cachagua.

Establishment - Staff gage station established Dec. 30, 1981 by G. Matthews. Re-established as a recording station Oct. 24, 1991 by G. W. James.

Drainage area - 46.3 sq. mi.

Gage - Campbell Scientific (CS) CR300 data recorder/CS451-7.25 psig pressure transducer system. Gage housing consists of a steel recorder shelter supported by 3-inch galvanized pipe. Two-inch pipe (conduit) runs approx. 40 ft. down right bank to active channel. Two enameled staff gages on the right bank along conduit range from 6.66 - 10.0 ft (upper), and 1.96 - 4.56 ft (lower, installed Dec. 22, 2000).

History - No other gages have been operated on this stream. This station, previously located on a bridge support at the Nason Rd. Bridge, was non-recording until Water Year 1992 when an Environmental Monitoring Systems (ENMOS) recorder and pressure transducer system was installed. Three subsequent CS recorder upgrades include the following: BDR-320, CR510, and CR300 installed Oct. 13, 1994, Nov. 9, 1999 and Oct. 24, 2018, respectively. The gage was inundated and destroyed during the March 10, 1995 flood when the creek flowed over the bridge and through the community of Princes Camp. The gage was re-activated/located approx. 50 ft. upstream of the former site Apr. 28, 1995, and a new arbitrary gage datum was established (current datum + 2.2 ft. = old datum).

Reference and benchmarks – Two-inch galvanized coupler at base of recorder shelter riser is elevation 11.20 ft gage datum. Steel T-post at the upper orifice at elevation 6.30 ft. (top of post) was established Feb. 13, 1998. Top of lower staff gage post (4X6 redwood) is elevation 4.59 ft. surveyed Dec. 22, 2000.

Channel - One channel to stage 8 ft. (approximately) at which point creek flows over bank and becomes braided. Channel bed is composed of poorly sorted alluvial material.

Control - Low and medium stage control is gravel/cobble riffle approx. 20 ft. downstream of gage. Channel control at high flows subject to debris loading at bridge supports 50 ft. downstream of gage.

Discharge measurements - Low and medium stage measurements are made by wading within 300 ft. upstream or downstream of the gage. High flow measurements are taken from the Nason Bridge, the bridge on Cachagua Rd. 3/4 miles upstream of the gaging station or are determined by the slope area method. Maximum wading flow is approximately 200 cfs.

Floods - Flood of March 10, 1995 reached a stage of 9.8 ft., gage datum as indicated by high water marks (HWM) surveyed at the gage. Flood of February 3, 1998 reached a stage of 9.7 ft. as indicated by HWM at the gage.

Point of zero flow - 2.2 ft., gage datum. Varies due to scour and fill at control.

Winter flow - No ice.
Regulation - None

Diversion - Dry season flows affected by numerous small diversions for domestic and agricultural use.

Accuracy - Computed flows above 200 cfs are fair to poor due to un-favorable high flow measuring conditions at the bridges. Bridge piers, downstream of gage in channel, snag debris at high flows which can affect accuracy of record computation during periods of high flow.

Cooperation -