Appendix A - Vista Grande Watershed Peak Stormwater Discharge for Various Design Storms

The Vista Grande watershed peak discharges calculated for storms with 10-year to 100-year return period have been calculated using the Rational Method.

Drainage Area	Area (acres)	C-value[d]	Volume of Rainfall Over Basin (Inches)[a]				Peak rainfall Intensity [b]				Rainfall Runoff [c]			
			10-yr Event (in)	25-yr Event (in)	50-yr Event (in)	100-yr Event (in)	10-yr Event (in/hr)	25-yr Event (in/hr)	50-yr Event (in/hr)	100-yr Event (in/hr)	10-yr Event (ft3/sec)	25-yr Event (ft3/sec)	50-yr Event (ft3/sec)	100-yr Event (ft3/sec)
24" Sub-drainage Basin	110	0.75	1.80	2.00	2.25	2.50	1.13	1.25	1.41	1.56	93	103	116	129
60" Sub-drainage Basin	393	0.6	1.80	2.00	2.25	2.50	1.13	1.25	1.41	1.56	258	287	322	358
6'x7' Sub-drainage Basin	1170	0.75	1.80	2.00	2.25	2.50	1.13	1.25	1.41	1.56	987	1,097	1,234	1,371
Total	1673										1,338	1,487	1,672	1,858

Notes:

a. National Weather Service Precipitation Frequency Publication: NOAA Atlas 2, Volume XI. California, Part 5 North 6hr precipitation maps. Event intensities were estimated from the 6-hr precipitation isopoluvials for the 10-year, 25-year, 50-year and 100-year event.

b. From Figure 4.2, Kennedy Jenks Report; I= V/(0.4x T) with V: volume of rainfall over basin, in inches; and T: storm duration.

c. Calculated using the Rational Method for peak discharge. $Q_p=CIA_d$ (cfs).

d. From civil Engineering Reference Manual, Appendix 20.A