

Table 1: Weighted "C" Values***Kuhio Highway Short-Term Improvements Kuamoo Road to Temporary Kapaa Bypass Road***

Existing Weighted "C" Values ¹									
SUB BASIN	DRAINAGE AREA (ft ²)	DRAINAGE AREA (ac)	PERVIOUS AREA (ft ²)	PERVIOUS AREA (ac)	IMPERVIOUS AREA (ft ²)	IMPERVIOUS AREA (ac)	C PERVIOUS	C IMPERVIOUS	WEIGHTED C
E1	72812	1.672	21363	0.490	51,450	1.181	0.20	0.87	0.67
E2	5711	0.131	1898	0.044	3,812	0.088	0.20	0.87	0.65
E3	45552	1.046	0	0.000	45,552	1.046	0.20	0.87	0.87
E4	76278	1.751	36075	0.828	40,203	0.923	0.20	0.87	0.55
E5	23377	0.537	0	0.000	23,377	0.537	0.20	0.87	0.87
E6	4429	0.102	279	0.006	4,150	0.095	0.20	0.87	0.83
E7	11181	0.257	960	0.022	10,221	0.235	0.20	0.87	0.81
E8	121261	2.784	45063	1.035	76,198	1.749	0.20	0.87	0.62
E9	9332	0.214	2215	0.051	7,116	0.163	0.20	0.87	0.71
Total	369932	8.492	107854	2.476	262078	6.016			

Note 1: Drainage analysis based on County of Kauai Department of Public Works Storm Water Runoff System Manual, July 2001

Table 2: Hydrology Calculations***Kuhio Highway Short-Term Improvements Kuamoo Road to Temporary Kapaa Bypass Road***

Existing Hydrology Calculations¹										
Sub Basin	AREA (acre)	Weighted C	LENGTH (ft)	SLOPE (%)	Velocity (ft/s)	T_c (min)²	i (in/hr)	Corr. Factor	i_{corr} (in/hr)	Q (ft³/s)
E1	1.672	0.67	98	4.0%	4.00	10.0	2.49	2.25	5.60	6.307
E2	0.131	0.65	60	1.3%	2.22	10.0	2.49	2.25	5.60	0.475
E3	1.046	0.87	50	2.8%	3.37	10.0	2.49	2.25	5.60	5.097
E4	1.751	0.55	75	3.0%	3.53	10.0	2.49	2.25	5.60	5.426
E5	0.537	0.87	585	1.4%	2.33	10.0	2.49	2.25	5.60	2.616
E6	0.102	0.83	70	3.1%	3.59	10.0	2.49	2.25	5.60	0.472
E7	0.257	0.81	325	2.7%	3.33	10.0	2.49	2.25	5.60	1.168
E8	2.784	0.62	570	1.3%	2.26	10.0	2.49	2.25	5.60	9.685
E9	0.214	0.71	55	1.7%	2.60	10.0	2.49	2.25	5.60	0.853
Total	8.492									32.100

Note 1: Drainage analysis based on County of Kauai Department of Public Works Storm Water Runoff System Manual, July 2001 (Storm Duration: 5-year, 1-hour)

Note 2: Minimum time of concentration of 10 minutes based on HDOT criteria

Table 1: Weighted "C" Values***Kuhio Highway Short-Term Improvements Kuamoo Road to Temporary Kapaa Bypass Road***

Proposed Weighted "C" Values¹									
SUB BASIN	DRAINAGE AREA (ft²)	DRAINAGE AREA (ac)	PERVIOUS AREA (ft²)	PERVIOUS AREA (ac)	IMPERVIOUS AREA (ft²)	IMPERVIOUS AREA (ac)	C PERVIOUS	C IMPERVIOUS	WEIGHTED C
P1	72812	1.672	19051	0.437	53,761	1.234	0.20	0.87	0.69
P2	5711	0.131	1898	0.044	3,812	0.088	0.20	0.87	0.65
P3	45552	1.046	0	0.000	45,552	1.046	0.20	0.87	0.87
P4	76278	1.751	23848	0.547	52,430	1.204	0.20	0.87	0.66
P5	23377	0.537	0	0.000	23,377	0.537	0.20	0.87	0.87
P6	4429	0.102	136	0.003	4,293	0.099	0.20	0.87	0.85
P7	11181	0.257	960	0.022	10,221	0.235	0.20	0.87	0.81
P8	121261	2.784	30028	0.689	91,233	2.094	0.20	0.87	0.70
P9	9332	0.214	2151	0.049	7,181	0.165	0.20	0.87	0.72
Total	369932	8.492	78073	1.792	291860	6.700			

Note 1: Drainage analysis based on County of Kauai Department of Public Works Storm Water Runoff System Manual, July 2001

Table 2: Hydrology Calculations***Kuhio Highway Short-Term Improvements Kuamoo Road to Temporary Kapaa Bypass Road***

Proposed Hydrology Calculations¹										
Sub Basin	AREA (acre)	Weighted C	LENGTH (ft)	SLOPE (%)	Velocity (ft/s)	T_c (min)²	i (in/hr)	Corr. Factor	i_{corr} (in/hr)	Q (ft³/s)
P1	1.672	0.69	98	4.0%	4.00	10.0	2.49	2.25	5.60	6.506
P2	0.131	0.65	60	1.3%	2.22	10.0	2.49	2.25	5.60	0.475
P3	1.046	0.87	50	2.8%	3.37	10.0	2.49	2.25	5.60	5.097
P4	1.751	0.66	75	3.0%	3.53	10.0	2.49	2.25	5.60	6.480
P5	0.537	0.87	585	1.4%	2.33	10.0	2.49	2.25	5.60	2.616
P6	0.102	0.85	70	3.1%	3.59	10.0	2.49	2.25	5.60	0.484
P7	0.257	0.81	325	2.7%	3.33	10.0	2.49	2.25	5.60	1.168
P8	2.784	0.70	570	1.3%	2.26	10.0	2.49	2.25	5.60	10.981
P9	0.214	0.72	55	1.7%	2.60	10.0	2.49	2.25	5.60	0.859
Total	8.492									34.666

Note 1: Drainage analysis based on County of Kauai Department of Public Works Storm Water Runoff System Manual, July 2001 (Storm Duration: 5-year, 1-hour)

Note 2: Minimum time of concentration of 10 minutes based on HDOT criteria