SacCalc Model Data

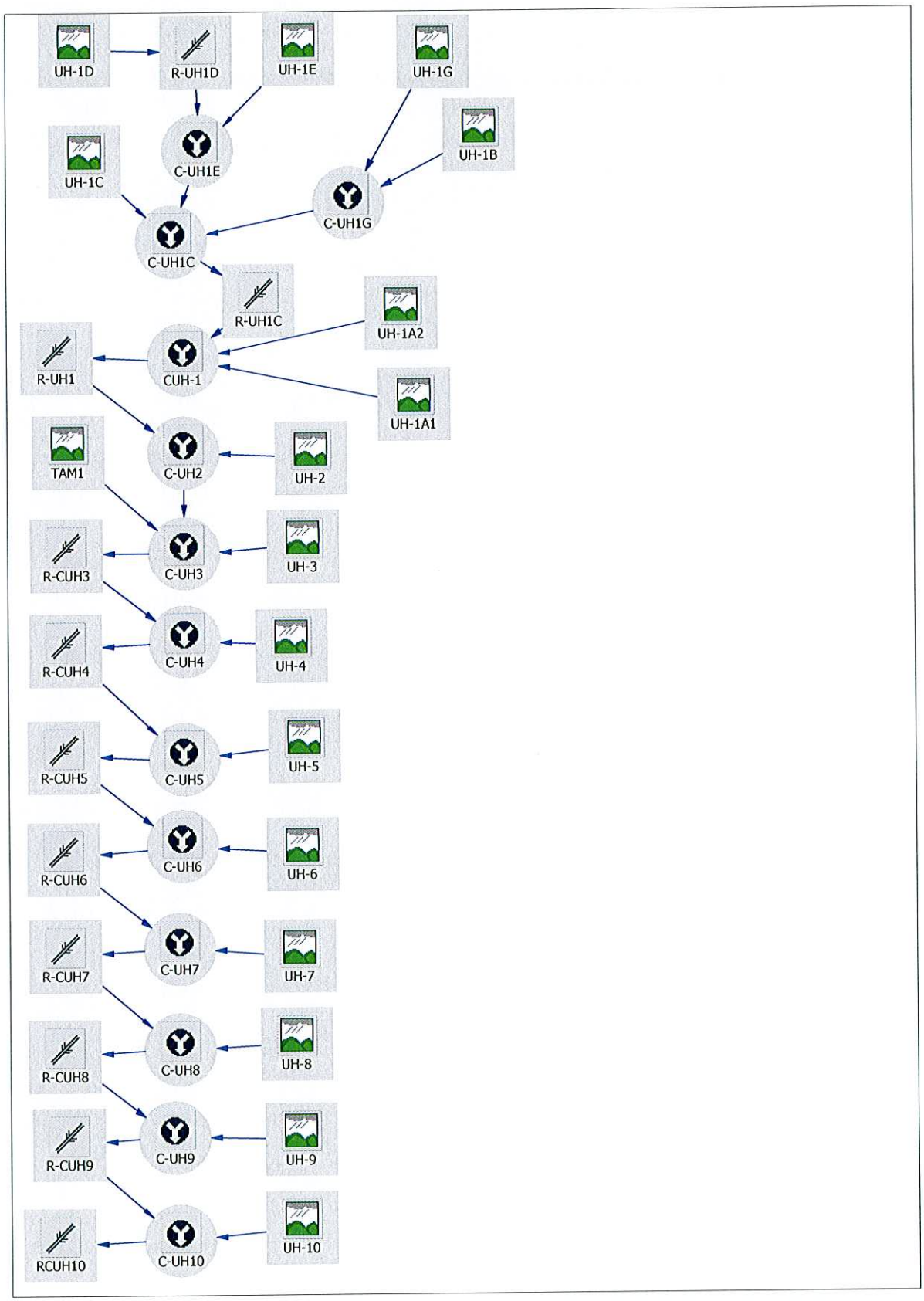
For

Unionhouse Creek – Pre Fvcp

Model Schematic Layout

Peak Flow Summary

Report


UH-1D
R-UH1D
UH-1E
UH-1G
UH-1B
UH-1C
C-UH1E
C-UH1G
C-UH1C
R-UH1C
UH-1A2
R-UH1
CUH-1
UH-1A1
TAM1
C-UH2
UH-2
R-CUH3
C-UH3
UH-3
R-CUH4
C-UH4
UH-4
R-CUH5
C-UH5
UH-5
R-CUH6
C-UH6
UH-6
R-CUH7
C-UH7
UH-7
R-CUH8
C-UH8
UH-8
R-CUH9
C-UH9
UH-9
RCUH10
C-UH10
UH-10

View HEC-1 output

Sacramento method results
(Project: UHPre Unionhouse pre-FVCP conditions.)
(100-year, 1-day rainfall)

ID	Peak flow (cfs)	Time of peak (hours)	Basin area (sq. mi)	Peak stage (feet)	Peak storage (ac-ft)	Diversion volume (ac-ft)
UH-5	145.	12:41	.22			
UH-1C	85.	12:34	.12			
UH-1B	157.	12:31	.21			
UH-1G	110.	12:45	.18			
C-UH1G	249.	12:34	.39			
UH-1E	63.	12:12	.05			
UH-1D	126.	12:33	.17			
R-UH1D	125.	12:35	.17			
C-UH1E	154.	12:32	.22			
C-UH1C	489.	12:34	.73			
R-UH1C	477.	12:38	.73	.0	2.8	
UH-1A2	202.	12:32	.27			
UH-1A1	157.	12:42	.25			
CUH-1	823.	12:37	1.25			
R-UH1	629.	13:37	1.25	.0	5.3	
UH-2	226.	12:52	.41			
C-UH2	804.	13:02	1.66			
UH-3	216.	12:42	.34			
TAM1	104.	12:21	.11			
C-UH3	1024.	12:55	2.11			
R-CUH3	1024.	12:55	2.11	.0	.7	
UH-4	151.	12:26	.18			
C-UH4	1106.	12:53	2.29			
R-CUH4	1067.	13:17	2.29	.0	7.2	
C-UH5	1155.	13:15	2.51			
R-CUH5	1111.	13:38	2.51	.0	7.4	
UH-6	240.	12:44	.38			
C-UH6	1234.	13:33	2.89			
R-CUH6	1197.	14:00	2.89	.0	15.	
UH-7	113.	12:33	.15			
C-UH7	1230.	13:59	3.05			
R-CUH7	1209.	14:21	3.05	.0	12.	
UH-8	103.	12:40	.16			
C-UH8	1240.	14:18	3.20			
R-CUH8	991.	16:25	3.20	.0	20.	
UH-9	178.	12:30	.22			
C-UH9	1006.	16:25	3.43			
R-CUH9	995.	16:54	3.43	.0	8.4	

UH-10	96.	12:17	.09			
C-UH10	1001.	16:54	3.52			
RCUH10	997.	17:12	3.52	.0	6.7	

(10-year, 1-day rainfall)

ID	Peak flow (cfs)	Time of peak (hours)	Basin area (sq. mi)	Peak stage (feet)	Peak storage (ac-ft)	Diversion volume (ac-ft)
UH-5	94.	12:36	.22			
UH-1C	51.	12:32	.12			
UH-1B	91.	12:31	.21			
UH-1G	65.	12:45	.18			
C-UH1G	146.	12:35	.39			
UH-1E	41.	12:09	.05			
UH-1D	73.	12:33	.17			
R-UH1D	73.	12:35	.17			
C-UH1E	89.	12:33	.22			
C-UH1C	286.	12:34	.73			
R-UH1C	282.	12:37	.73	.0	1.7	
UH-1A2	128.	12:28	.27			
UH-1A1	92.	12:42	.25			
CUH-1	485.	12:35	1.25			
R-UH1	436.	13:06	1.25	.0	3.0	
UH-2	136.	12:51	.41			
C-UH2	560.	13:01	1.66			
UH-3	147.	12:34	.34			
TAM1	70.	12:16	.11			
C-UH3	687.	12:55	2.11			
R-CUH3	687.	12:56	2.11	.0	.6	
UH-4	100.	12:21	.18			
C-UH4	734.	12:51	2.29			
R-CUH4	718.	13:14	2.29	.0	4.5	
C-UH5	774.	13:12	2.51			
R-CUH5	773.	13:16	2.51	.0	2.8	
UH-6	161.	12:36	.38			
C-UH6	868.	13:11	2.89			
R-CUH6	831.	13:37	2.89	.0	7.1	
UH-7	71.	12:30	.15			
C-UH7	857.	13:34	3.05			
R-CUH7	837.	13:57	3.05	.0	5.0	
UH-8	69.	12:33	.16			
C-UH8	860.	13:55	3.20			
R-CUH8	750.	15:07	3.20	.0	9.2	
UH-9	107.	12:29	.22			

C-UH9	767.	15:06	3.43		
R-CUH9	764.	15:20	3.43	.0	5.2
UH-10	61.	12:14	.09		
C-UH10	770.	15:19	3.52		
RCUH10	767.	15:32	3.52	.0	4.8

Sacramento Hydrologic Calculator Report

October 12, 2007 12:33

Project Title: UHPre Unionhouse pre-FVCP conditions.
Comments:
Prepared by:

Method: Sacramento County HEC-1 method
Date: 12/4/2006

Watershed Hydrologic Summary Data

Watershed	Area (acres)	Mean Elevation (ft)	Lag Times		Basin "n"		Loss Rates		Percent Impervious	
			Method	Lag Time (min)	Method	Basin "n"	Method	Loss Rate (in/hr)	Method	Impervious Area (%)
UH-1D	110.2	73	Basin "n"	-	Computed	-	Computed	-	Computed	-
UH-1E	32.2	61	Basin "n"	-	Computed	-	Computed	-	Computed	-
UH-1C	75.5	48	Basin "n"	-	Computed	-	Computed	-	Computed	-
UH-1B	131.2	68	Basin "n"	-	Computed	-	Computed	-	Computed	-
UH-1A2	173.1	45	Basin "n"	-	Computed	-	Computed	-	Computed	-
UH-2	263.7	38	Basin "n"	-	Computed	-	Computed	-	Computed	-
UH-3	216.4	40	Basin "n"	-	Computed	-	Computed	-	Computed	-
TAM1	68.8	43	Basin "n"	-	Computed	-	Computed	-	Computed	-
UH-4	112.6	35	Basin "n"	-	Computed	-	Computed	-	Computed	-
UH-5	143	37	Basin "n"	-	Computed	-	Computed	-	Computed	-
UH-6	245.3	33	Basin "n"	-	Computed	-	Computed	-	Computed	-
UH-7	98.7	30	Basin "n"	-	Computed	-	Computed	-	Computed	-
UH-8	99.3	28	Basin "n"	-	Computed	-	Computed	-	Computed	-
UH-9	143.5	25	Basin "n"	-	Computed	-	Computed	-	Computed	-
UH-10	57	25	Basin "n"	-	Computed	-	Computed	-	Computed	-
UH-1G	117.6	68	Basin "n"	-	Computed	-	Computed	-	Computed	-
UH-1A1	162.04	45	Basin "n"	-	Computed	-	Computed	-	Computed	-

Basin "n" Method Data for Lag Time Computation

Watershed	Channel Length (ft)	Centroid Length (ft)	Slope (ft/ft)	Channelization	Land Use Impervious Area Percent (% or acres)																
					95	90	85	80	75	70	60	50	40	30	25	20	15	10	5	2	1	1*
UH-1D	3577	1179.5	0.014	Undeveloped													0	0	0	84.2		
				Developed													9.8	5.2	11	0		
UH-1E	1896	948	0.0095	Undeveloped								0						0		0.9		
				Developed								31.1						0.1		0		
UH-1C	2630	1349	0.0044	Undeveloped								0						0		47.6		
				Developed								27.6						0.3		0		
UH-1B	2740.8	1370.4	0.0131	Undeveloped													0		0	93		
				Developed													36.6		1.5	0		
UH-1A2	3076.3	1538.15	0.00065	Undeveloped								0	0			0		0				
				Developed								10.6	66			14.2		82.31				
UH-2	5097.8	2548.9	0.0016	Undeveloped								0	0			0		0		81.5		
				Developed								19	0.1			5.4		157.7		0		
UH-3	5903.	4361.	0.0030	Undeveloped			0				0		0						0	9.6		
				Developed			26.9				6		164.3						9.5	0		
TAM1	2043.8	1022	.00098	Undeveloped									0									
				Developed									68.8									
UH-4	3400.	1748.	0.002	Undeveloped					0		0	0	0				0		0	0.1		
				Developed					26.6		2	15.8	50.7				1.1		16.3	0		
UH-5	4678.	2519.	.002	Undeveloped							0		0							37.7		
				Developed							89.1		15.3							0		
UH-6	4726.	2952.	.0010	Undeveloped	0					0			0					9.42	3.88			
				Developed	3.6					15.51			67.59					0	0			
UH-7	3031.	1441.	.0020	Undeveloped									0					43.59				
				Developed									56.41					0				
UH-8	3374.	2798.	0.0010	Undeveloped	0								0						14.86			
				Developed	12.84								72.3						0			
UH-9	2160.	1098.	.0029	Undeveloped	0	0			0									38.2	10.2	21.8		
				Developed	20.9	5.8			3.6									0	0	0		
UH-10	2920.	1236.	.0029	Undeveloped	0	0														0		
				Developed	39.3	38.2														22.5		
UH-1G	2849	1400	0.003	Undeveloped													0	0		106.4		
				Developed													8.9	2.4		0		
UH-1A1	2500	1250	0.001	Undeveloped													0	0	0.1	99.5		
				Developed													13.2	49.28	0	0		

Refer to the Drainage manual for Land Use Impervious Area Percent

*Dense Oaks, Shrubs, Vines

Infiltration Loss Rate Data

Watershed	Soil Cover Group	Land Use Impervious Area Percent (% or acres)																	
		95	90	85	80	75	70	60	50	40	30	25	20	15	10	5	2	1	1*
UH-1D	B														0.6		0.3		
	C																		
	D													9.8	4.6	11	83.9		
UH-1E	B								0.1										
	C																		
	D								31.1						0.1		0.9		
UH-1C	B								2										
	C																		
	D								25.6						0.3		47.6		
UH-1B	B																		
	C																		
	D													36.6		1.5	93		
UH-1A2	B																		
	C																		
	D								10.6	66			14.2		82.31				
UH-2	B																		
	C																		
	D								19	0.1			5.4		157.7		81.5		
UH-3	B																		
	C															9.5	9.6		
	D			26.9				6		164.3									
TAM1	B																		
	C																		
	D									68.8									
UH-4	B																		
	C																		
	D					26.6		2	15.8	50.7				1.1		16.3	0.1		
UH-5	B																		
	C																37.7		
	D							89.1		15.3									
UH-6	B																		
	C																		
	D	3.6					15.51			67.59					9.42	3.88			
UH-7	B																		
	C																		
	D									56.41					43.59				
UH-8	B																		
	C																		
	D	12.84								72.3						14.86			
UH-9	B																		
	C																		
	D	20.9	5.8			3.6									38.2	10.2	21.8		
UH-10	B																		
	C																22.5		
	D	39.3	38.2																
UH-1G	B																		
	C													8.9	2.4		106.4		
	D																		
UH-1A1	B																		
	C													13.2	49.28	0.1	99.5		
	D																		

Refer to the help file for Land Use Impervious Area Percent

*Dense Oaks, Shrubs, Vines

Hydrograph Routing – Muskingum–Cunge (Standard)

Routing ID	Route From	Route To	Channel Type	Length (ft)	Slope (ft/ft)	Width or Diameter (ft)	Side Slope (H:V)	Mannings "n"
R-UH1D	UH-1D	C-UH1E	Pipe	500	0.002	100		0.06

Hydrograph Routing – Modified Puls (Storage)

Routing ID	Route From	Route To	No. Steps	Initial Flow (cfs)	Storage-Discharge Relationship											
R-UH1C	C-UH1C	CUH-1	1	-1	Volume (acre-ft)	0	1.3	1.8	2.3	3.6	4.3	4.7	5	5.4	8	
					Flow (cfs)	0	200	300	400	600	800	1000	1200	1400	100	
R-UH1	CUH-1	C-UH2	5	-1	Volume (acre-ft)	0	4.5	7.3	10.3	13.6	22.6	49.6	144.4	156.2	166.6	
					Flow (cfs)	0	100	200	300	400	600	800	1000	1200	1400	
R-CUH3	C-UH3	C-UH4	1	-1	Volume (acre-ft)	0	0.1	0.2	0.3	0.4	0.6	0.7	0.8	0.9		
					Flow (cfs)	0	100	200	300	400	700	1000	1200	1400		
R-CUH5	C-UH5	C-UH6	2	-1	Volume (acre-ft)	0	1.5	2.4	3.1	3.7	4.7	5.8	11.3	17.5	23	
					Flow (cfs)	0	100	200	300	400	600	800	1000	1200	1400	
R-CUH6	C-UH6	C-UH7	2	-1	Volume (acre-ft)	0	2.3	3.7	4.9	6.4	8.5	12.5	23.4	30.3	40.8	
					Flow (cfs)	0	100	200	300	400	600	800	1000	1200	1400	
R-CUH7	C-UH7	C-UH8	2	-1	Volume (acre-ft)	0	1.1	1.7	2.2	3	4.1	8.1	18.3	22.8	31.8	
					Flow (cfs)	0	100	200	300	400	600	800	1000	1200	1400	
R-CUH8	C-UH8	C-UH9	5	-1	Volume (acre-ft)	0	3.5	5.5	7.3	9	22.9	53.8	102.3	144.1	190.6	
					Flow (cfs)	0	100	200	300	400	600	800	1000	1200	1400	
R-CUH9	C-UH9	C-UH10	3	-1	Volume (acre-ft)	0	2.9	4.8	6.6	8.5	12.3	16.4	25.4	32.3	40.3	
					Flow (cfs)	0	100	200	300	400	600	800	1000	1200	1400	
RCUH10	C-UH10	-	3	-1	Volume (acre-ft)	0	2.7	4.2	5.9	7.7	11.2	15	20.2	26.7	33.5	
					Flow (cfs)	0	100	200	300	400	600	800	1000	1200	1400	
R-CUH4	C-UH4	C-UH5	4	-1	Volume (acre-ft)	0	3.6	5.8	7.7	9.9	14.9	20.4	26.8	33.1	42.6	
					Flow (cfs)	0	100	200	300	400	600	800	1000	1200	1400	