

Table H (c) Summary of SEC and URS Combined Hydrographs at Broadway and Lomas Intersection Manhole COA32878			
Time	SEC SWMM Hydrograph Flow	URS North Flow Hydrograph	Combined Flow
(Hrs)	(cfs)	(cfs)	(cfs)
	a	b	
1:12:00	7.63	0.23	7.86
1:13:00	8.35	7.78	16.13
1:14:00	9.46	28.1	37.56
1:15:00	11.15	61.14	72.29
1:16:00	13.91	97.51	111.42
1:17:00	17.14	131.17	148.31
1:18:00	20.48	153.49	173.97
1:19:00	25.61	168.16	193.77
1:20:00	32.86	176.73	209.59
1:21:00	42.35	182.9	225.25
1:22:00	54.73	187.75	242.48
1:23:00	71.95	192.12	264.07
1:24:00	111.43	197.22	308.65
1:25:00	132.42	203.23	335.65
1:26:00	150.52	209.9	360.42
1:27:00	207.32	216.63	423.95
1:28:00	224.52	222.67	447.19
1:29:00	240.65	226.97	467.62
1:30:00	255.74	228.56	484.3
1:31:00	248.05	227.32	475.37
1:32:00	241.4	223.94	465.34
1:33:00	235.68	219.16	454.84
1:34:00	227.92	213.76	441.68
1:35:00	221.16	208.3	429.46
1:36:00	215.25	202.92	418.17
1:37:00	208.38	197.53	405.91
1:38:00	202.33	191.95	394.28
1:39:00	196.99	186.26	383.25
1:40:00	191.04	180.55	371.59
1:41:00	185.76	174.77	360.53
1:42:00	181.07	168.99	350.06
1:43:00	175.97	163.13	339.1
1:44:00	171.4	157.21	328.61
1:45:00	167.34	151.67	319.01
1:46:00	162.89	146.8	309.69
1:47:00	158.91	142.65	301.56
1:48:00	155.32	139.03	294.35
1:49:00	151.51	135.56	287.07
1:50:00	148.13	132.32	280.45
1:51:00	145.18	129.22	274.4
1:52:00	142.07	126.04	268.11
1:53:00	139.31	122.73	262.04
1:54:00	135.88	119.43	255.31
1:55:00	136.29	116.3	252.59
1:56:00	131.85	111.59	243.44
1:57:00	131.15	100.7	231.85
1:58:00	129.87	94.77	224.64
1:59:00	127.2	90.21	217.41
2:00:00	123.2	88.5	211.7
2:01:00	119.97	86.53	206.5
2:02:00	115.36	83.8	199.16
2:03:00	114.71	79.92	194.63
2:04:00	112.03	69.17	181.2
2:05:00	105.87	33.23	139.1
2:06:00	102.46	10.31	112.77
2:07:00	97.2	1.97	99.17
2:08:00	92.95	0	92.95
2:09:00	89.05	0	89.05
2:10:00	85.39	0	85.39
2:11:00	82.88	0	82.88
a - Total inflow at Broadway and Lomas intersection from SEC existing conditions SWMM model from the Mid-Valley Drainage Management Plan: April 2012 b - Surface runoff entering the Mid-Valley study area at Broadway and Lomas intersection called North Flow Hydrograph generated by URS from their Preliminary South Valley Drainage and Storm Water Quality Management Plan: 5/15/2012			
c- See Figure H			

FIGURE H: COMBINED SEC AND URS NORTHFLOW HYDROGRAPH (a)



(a) Hydrographs were simulated for the 24 hour storm but only the peak time interval is shown on this graph
 (b) URS hydrograph peaked at 6hrs 26 minutes and had to be translated to match the peak of SEC hydrograph at 1hr 30 minutes

Table MA					
Marble-Arno Pond @ 1V:1H with 10ft Offset From ROW					
Using Entire Property with 2 Lots					
grey box means must input data					
Contour Elevation NAVD 1988	Depth SWMM	Contour Area SWMM	Incremental Volume	Incremental Volume	Cumulative Volume
(ft)		(sq ft)	(cu ft)	(ac-ft)	(ac-ft)
		a			
4946.00	0	0	0	0.0000	0.0000
4947.00	1.0	59881	29941	0.6873	0.6873
4948.00	2.0	61108	60495	1.3888	2.0761
4949.00	3.0	62343	61726	1.4170	3.4931
4950.00	4.0	63585	62964	1.4455	4.9386
4951.00	5.0	64834	64210	1.4740	6.4126
4952.36	6.0	66090	65462	1.5028	7.9154
4953.00	7.0	67353	66722	1.5317	9.4471
4954.00	8.0	68623	67988	1.5608	11.0079
4955.00	9.0	69900	69262	1.5900	12.5980
4956.00	10.0	71185	70543	1.6194	14.2174
4957.00	11.0	72476	71831	1.6490	15.8664
4958.00	12.0	73775	73126	1.6787	17.5451
Total Volume (ft ³) =			764266		
Total Volume (ac-ft) =			17.55		
a - Area obtained from AutoCAD					

Table TJ					
Tijeras Pond @ 1V:1H with 10ft Offset From ROW					
grey box means must input data					
Contour Elevation NAVD 1988	Depth SWMM	Contour Area SWMM	Incremental Volume	Incremental Volume	Cumulative Volume
(ft)		(sq ft)	(cu ft)	(ac-ft)	(ac-ft)
		a			
4950.00	0	0	0	0.0000	0.0000
4951.00	1.0	20555	10278	0.2359	0.2359
4952.00	2.0	21203	20879	0.4793	0.7153
4953.00	3.0	21858	21531	0.4943	1.2095
4954.00	4.0	22520	22189	0.5094	1.7189
4955.00	5.0	23190	22855	0.5247	2.2436
4952.36	6.0	23877	23534	0.5403	2.7838
4957.00	7.0	24550	24214	0.5559	3.3397
4958.00	8.0	25240	24895	0.5715	3.9112
4959.00	9.0	25936	25588	0.5874	4.4986
4960.00	10.0	26642	26289	0.6035	5.1022
4961.00	11.0	27353	26998	0.6198	5.7219
4962.00	12.0	28070	27712	0.6362	6.3581
4963.00	13.0	28795	28433	0.6527	7.0108
4964.00	14.0	29527	29161	0.6694	7.6803
	Total Volume (ft³) =		334553		
	Total Volume (ac-ft) =		7.68		
a - Area obtained from AutoCAD					

TABLE SP-A1

STREET PONDING SURFACE AREA

Mid-Valley Drainage Management Plan

Basin No.	Street Name	Length	Original Street Width (Curb to Curb)	Original Street Cross Section Area	Street Crown Area	Reduction Factor to Remove Street Crown Area	Revised Street Width (Curb to Curb)	Total Adjusted Surface Area Per Street Available for Ponding at 1 ft. deep	MH No.s Surface Ponding Area Added Into	Surface Area Added Per Manhole	Total Ponding Surface Area	Basins Added To Manhole
		ft.	ft.	sq. ft.	sq. ft.		ft.	sq. ft.		sq. ft.	sq. ft.	
		(a)	(b)	(c)	(c)	(c)	(c)	(c)			(d)	
BR21	Spruce	235	28	28	6.48	0.77	21.52	5,057				
BR21							Total	64,093	COA 7870		0	
Add 1	Broadway	1050	42	42	8.82	0.79	33.18	34,839	MH10,MH11, MH12	11613	34,839	

(a) some street lengths shortened to account for intersection overlapping

(b) widths were measure in AutoCAD on LIDAR mapping as shown in the Drainage Basin Maps

(c) SWMM allows water that exceeds manhole rim elevations to be stored in a ponding area assigned to a manhole, and as the HGL recedes below the rim, the stored water volume is Due to the flat nature of most basins in the Mid Valley area, the street surface area was computed as the width of the street between curbs by the total length of the given street. Note the depth in that surface area. The maximum ponded depth that was assumed in each street cross-section is 1-foot to allow for determination of depths up to the FEMA limit of 1 foot for flood simple computation of each street surface ponded area based on 1-foot depth by the width would overestimate the actual ponded area available as this does not account for loss of street crown.

Therefore, the street crown cross-section area (COA requires 2% cross-slope) was removed from the total cross-section area (assuming a rectangular section 1-foot deep by the width) in order to compute the revised street width. The revised street width by the street length therefore provides for the adjusted street surface area within each street that will provide a more accurate street flow depth when the HGL is ATTACHED FOR DEFINITION SKETCH

(d) Ponding area for mild sloped basins was distributed equally among all the manholes within basin boundary. However, for basins with part steep and part mild areas, only the mild sloped street areas were areas for Mild sloped basins without a manhole were added to the nearest downstream manhole