

THE RANCH PLAN PLANNED COMMUNITY  
PLANNING AREAS 3 AND 4 RUNOFF MANAGEMENT PLAN

**Michael Baker**  
INTERNATIONAL

**TECHNICAL APPENDIX C.3**

**Existing SA and FD Hydrographs  
(2-, 5-, 10-, 25-, 50- and 100-year)**

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FLOOD ROUTING ANALYSIS  
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)  
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Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* RANCHO MISSION VIEJO - SINGLE AREA \*  
\* HYDROGRAPH - EXISTING NODE 133T \*  
\* 2-YR EV JMITAL AUGUST 2017 \*  
\*\*\*\*\*

FILE NAME: EVO233TS.DAT  
TIME/DATE OF STUDY: 15:42 08/23/2017

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FLOW PROCESS FROM NODE 13010.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 7114.600 ACRES  
BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 1.903 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.522  
LOW LOSS FRACTION = 0.867  
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.13  
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.28  
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.37  
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.62  
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 0.85  
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 1.44

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE FACTOR = 0.731  
30-MINUTE FACTOR = 0.731  
1-HOUR FACTOR = 0.731  
3-HOUR FACTOR = 0.956  
6-HOUR FACTOR = 0.977  
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 4.379

===== UNIT HYDROGRAPH DETERMINATION =====

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.250	215.304
2	0.751	430.610
3	1.251	430.609
4	1.752	430.611
5	2.384	543.772
6	3.145	655.274
7	3.952	694.509
8	5.230	1099.077
9	6.831	1377.633
10	8.858	1744.469
11	11.115	1941.738
12	13.326	1902.714
13	16.172	2448.595
14	18.596	2085.354
15	21.180	2223.863
16	24.293	2678.481
17	26.861	2208.842
18	29.841	2564.654
19	33.247	2930.346
20	36.575	2863.795
21	39.953	2906.514
22	43.984	3468.294
23	48.258	3676.966
24	52.115	3318.600
25	55.205	2658.583
26	58.626	2943.908
27	62.824	3612.204
28	66.095	2814.027
29	69.191	2664.313
30	72.039	2449.884
31	74.802	2377.983
32	77.084	1963.560
33	79.031	1674.499
34	81.034	1723.955
35	82.980	1674.059
36	84.745	1518.743
37	86.324	1358.418
38	87.670	1158.575
39	88.787	960.557
40	89.811	881.691
41	90.758	814.628
42	91.679	792.374
43	92.545	744.788
44	93.378	717.532
45	94.133	649.518
46	94.698	485.655
47	95.254	478.355
48	95.807	476.248

49	96.226	360.352
50	96.570	295.501
51	96.913	295.494
52	97.256	295.494
53	97.600	295.501
54	97.929	283.022
55	98.069	120.308
56	98.150	70.424
57	98.233	70.805
58	98.315	70.417
59	98.397	71.185
60	98.479	70.614
61	98.561	70.614
62	98.643	70.608
63	98.726	70.614
64	98.808	70.614
65	98.890	70.995
66	98.972	70.227
67	99.054	70.995
68	99.136	70.227
69	99.218	70.227
70	99.299	70.227
71	99.381	70.227
72	99.462	70.227
73	99.544	70.227
74	99.626	70.227
75	99.707	70.227
76	99.789	70.227
77	99.870	70.227
78	99.952	70.227
79	100.000	41.232

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TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 706.3948  
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 134.9180  
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2 4 - H O U R S T O R M  
R U N O F F H Y D R O G R A P H  
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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	100.0	200.0	300.0	400.0
0.083	0.0004	0.05	Q	.	.	.	.
0.167	0.0015	0.16	Q	.	.	.	.
0.250	0.0034	0.27	Q	.	.	.	.
0.333	0.0060	0.38	Q	.	.	.	.
0.417	0.0096	0.52	Q	.	.	.	.
0.500	0.0144	0.69	Q	.	.	.	.
0.583	0.0204	0.87	Q	.	.	.	.
0.667	0.0283	1.15	Q	.	.	.	.
0.750	0.0387	1.50	Q	.	.	.	.
0.833	0.0521	1.95	Q	.	.	.	.
0.917	0.0690	2.45	Q	.	.	.	.
1.000	0.0892	2.94	Q	.	.	.	.
1.083	0.1138	3.57	Q	.	.	.	.
1.167	0.1421	4.11	Q	.	.	.	.
1.250	0.1744	4.69	Q	.	.	.	.
1.333	0.2115	5.38	Q	.	.	.	.
1.417	0.2525	5.96	Q	.	.	.	.
1.500	0.2982	6.63	Q	.	.	.	.
1.583	0.3491	7.40	Q	.	.	.	.
1.667	0.4052	8.15	Q	.	.	.	.
1.750	0.4666	8.91	Q	.	.	.	.
1.833	0.5342	9.82	Q	.	.	.	.
1.917	0.6085	10.78	VQ	.	.	.	.
2.000	0.6888	11.66	VQ	.	.	.	.
2.083	0.7741	12.38	VQ	.	.	.	.
2.167	0.8647	13.16	VQ	.	.	.	.
2.250	0.9620	14.12	VQ	.	.	.	.
2.333	1.0645	14.88	VQ	.	.	.	.
2.417	1.1720	15.61	VQ	.	.	.	.
2.500	1.2842	16.29	VQ	.	.	.	.
2.583	1.4009	16.94	VQ	.	.	.	.
2.667	1.5214	17.50	VQ	.	.	.	.
2.750	1.6452	17.98	VQ	.	.	.	.
2.833	1.7725	18.48	VQ	.	.	.	.
2.917	1.9032	18.97	VQ	.	.	.	.
3.000	2.0370	19.42	VQ	.	.	.	.
3.083	2.1736	19.83	VQ	.	.	.	.
3.167	2.3127	20.20	V Q	.	.	.	.
3.250	2.4539	20.51	V Q	.	.	.	.
3.333	2.5972	20.81	V Q	.	.	.	.
3.417	2.7425	21.09	V Q	.	.	.	.
3.500	2.8896	21.36	V Q	.	.	.	.
3.583	3.0386	21.63	V Q	.	.	.	.
3.667	3.1893	21.89	V Q	.	.	.	.
3.750	3.3418	22.13	V Q	.	.	.	.
3.833	3.4956	22.34	.VQ	.	.	.	.
3.917	3.6509	22.54	.VQ	.	.	.	.

4.000	3.8075	22.74	.VQ	.	.	.	.
4.083	3.9654	22.92	.VQ	.	.	.	.
4.167	4.1243	23.08	.VQ	.	.	.	.
4.250	4.2844	23.24	.VQ	.	.	.	.
4.333	4.4456	23.40	.VQ	.	.	.	.
4.417	4.6079	23.57	.VQ	.	.	.	.
4.500	4.7713	23.73	.VQ	.	.	.	.
4.583	4.9356	23.85	.VQ	.	.	.	.
4.667	5.1006	23.96	.VQ	.	.	.	.
4.750	5.2663	24.07	.VQ	.	.	.	.
4.833	5.4329	24.18	.VQ	.	.	.	.
4.917	5.6002	24.29	.VQ	.	.	.	.
5.000	5.7683	24.41	.VQ	.	.	.	.
5.083	5.9372	24.52	.VQ	.	.	.	.
5.167	6.1069	24.64	.VQ	.	.	.	.
5.250	6.2774	24.76	.VQ	.	.	.	.
5.333	6.4487	24.87	.VQ	.	.	.	.
5.417	6.6208	24.99	.VQ	.	.	.	.
5.500	6.7938	25.11	.Q	.	.	.	.
5.583	6.9676	25.24	.Q	.	.	.	.
5.667	7.1423	25.36	.Q	.	.	.	.
5.750	7.3178	25.48	.Q	.	.	.	.
5.833	7.4941	25.61	.Q	.	.	.	.
5.917	7.6714	25.73	.Q	.	.	.	.
6.000	7.8495	25.86	.Q	.	.	.	.
6.083	8.0285	25.99	.Q	.	.	.	.
6.167	8.2084	26.12	.Q	.	.	.	.
6.250	8.3892	26.25	.Q	.	.	.	.
6.333	8.5709	26.39	.Q	.	.	.	.
6.417	8.7536	26.52	.Q	.	.	.	.
6.500	8.9372	26.66	.Q	.	.	.	.
6.583	9.1217	26.79	.Q	.	.	.	.
6.667	9.3070	26.91	.Q	.	.	.	.
6.750	9.4931	27.03	.Q	.	.	.	.
6.833	9.6802	27.15	.Q	.	.	.	.
6.917	9.8680	27.28	.Q	.	.	.	.
7.000	10.0568	27.41	.Q	.	.	.	.
7.083	10.2464	27.54	.QV	.	.	.	.
7.167	10.4370	27.67	.QV	.	.	.	.
7.250	10.6284	27.80	.QV	.	.	.	.
7.333	10.8208	27.93	.QV	.	.	.	.
7.417	11.0141	28.07	.QV	.	.	.	.
7.500	11.2083	28.20	.QV	.	.	.	.
7.583	11.4035	28.34	.QV	.	.	.	.
7.667	11.5997	28.48	.QV	.	.	.	.
7.750	11.7969	28.63	.QV	.	.	.	.
7.833	11.9950	28.77	.QV	.	.	.	.
7.917	12.1942	28.92	.QV	.	.	.	.
8.000	12.3944	29.07	.QV	.	.	.	.
8.083	12.5956	29.22	.QV	.	.	.	.
8.167	12.7978	29.37	.QV	.	.	.	.
8.250	13.0012	29.52	.QV	.	.	.	.
8.333	13.2056	29.68	.QV	.	.	.	.
8.417	13.4111	29.84	.QV	.	.	.	.
8.500	13.6177	30.00	.QV	.	.	.	.
8.583	13.8254	30.16	.QV	.	.	.	.
8.667	14.0343	30.33	.QV	.	.	.	.
8.750	14.2444	30.50	.QV	.	.	.	.

8.833	14.4556	30.67	.QV	.	.	.	.
8.917	14.6680	30.84	.QV	.	.	.	.
9.000	14.8817	31.02	.QV	.	.	.	.
9.083	15.0966	31.20	.QV	.	.	.	.
9.167	15.3127	31.38	.QV	.	.	.	.
9.250	15.5301	31.57	.QV	.	.	.	.
9.333	15.7488	31.75	.QV	.	.	.	.
9.417	15.9688	31.94	.QV	.	.	.	.
9.500	16.1901	32.14	.QV	.	.	.	.
9.583	16.4128	32.33	.QV	.	.	.	.
9.667	16.6368	32.53	.QV	.	.	.	.
9.750	16.8623	32.74	.QV	.	.	.	.
9.833	17.0892	32.94	.Q V	.	.	.	.
9.917	17.3175	33.15	.Q V	.	.	.	.
10.000	17.5474	33.37	.Q V	.	.	.	.
10.083	17.7787	33.59	.Q V	.	.	.	.
10.167	18.0115	33.81	.Q V	.	.	.	.
10.250	18.2459	34.03	.Q V	.	.	.	.
10.333	18.4819	34.26	.Q V	.	.	.	.
10.417	18.7194	34.50	.Q V	.	.	.	.
10.500	18.9587	34.73	.Q V	.	.	.	.
10.583	19.1995	34.98	.Q V	.	.	.	.
10.667	19.4421	35.22	.Q V	.	.	.	.
10.750	19.6864	35.48	.Q V	.	.	.	.
10.833	19.9325	35.73	.Q V	.	.	.	.
10.917	20.1804	35.99	.Q V	.	.	.	.
11.000	20.4301	36.26	.Q V	.	.	.	.
11.083	20.6817	36.53	.Q V	.	.	.	.
11.167	20.9353	36.81	.Q V	.	.	.	.
11.250	21.1907	37.09	.Q V	.	.	.	.
11.333	21.4482	37.38	.Q V	.	.	.	.
11.417	21.7077	37.68	.Q V	.	.	.	.
11.500	21.9692	37.98	.Q V	.	.	.	.
11.583	22.2329	38.29	.Q V	.	.	.	.
11.667	22.4988	38.60	.Q V	.	.	.	.
11.750	22.7669	38.93	.Q V	.	.	.	.
11.833	23.0372	39.25	.Q V	.	.	.	.
11.917	23.3099	39.59	.Q V	.	.	.	.
12.000	23.5849	39.94	.Q V	.	.	.	.
12.083	23.8626	40.32	.Q V	.	.	.	.
12.167	24.1433	40.75	.Q V	.	.	.	.
12.250	24.4269	41.19	.Q V	.	.	.	.
12.333	24.7137	41.63	.Q V	.	.	.	.
12.417	25.0037	42.11	.Q V	.	.	.	.
12.500	25.2971	42.61	.Q V	.	.	.	.
12.583	25.5941	43.12	.Q V	.	.	.	.
12.667	25.8951	43.71	.Q V	.	.	.	.
12.750	26.2006	44.36	.Q V	.	.	.	.
12.833	26.5110	45.07	.Q V	.	.	.	.
12.917	26.8266	45.82	.Q V	.	.	.	.
13.000	27.1474	46.59	.Q V	.	.	.	.
13.083	27.4742	47.45	.Q V	.	.	.	.
13.167	27.8067	48.27	.Q V	.	.	.	.
13.250	28.1450	49.13	.Q V	.	.	.	.
13.333	28.4899	50.07	.Q V	.	.	.	.
13.417	28.8409	50.96	.Q V	.	.	.	.
13.500	29.1985	51.93	.Q V	.	.	.	.
13.583	29.5633	52.97	.Q V	.	.	.	.

13.667	29.9353	54.02	.	Q	V	.	.	.	.
13.750	30.3147	55.09	.	Q	V	.	.	.	.
13.833	30.7023	56.28	.	Q	V	.	.	.	.
13.917	31.0985	57.52	.	Q	V	.	.	.	.
14.000	31.5030	58.74	.	Q	V	.	.	.	.
14.083	31.9162	59.99	.	Q	V	.	.	.	.
14.167	32.3391	61.42	.	Q	V	.	.	.	.
14.250	32.7729	62.98	.	Q	V	.	.	.	.
14.333	33.2167	64.45	.	Q	V	.	.	.	.
14.417	33.6711	65.98	.	Q	V	.	.	.	.
14.500	34.1365	67.58	.	Q	V	.	.	.	.
14.583	34.6132	69.22	.	Q	V	.	.	.	.
14.667	35.1025	71.03	.	Q	V	.	.	.	.
14.750	35.6051	72.99	.	Q	V	.	.	.	.
14.833	36.1229	75.17	.	Q	V	.	.	.	.
14.917	36.6566	77.50	.	Q	V	.	.	.	.
15.000	37.2063	79.82	.	Q	.V	.	.	.	.
15.083	37.7741	82.44	.	Q	.V	.	.	.	.
15.167	38.3589	84.91	.	Q	.V	.	.	.	.
15.250	38.9613	87.47	.	Q	.V	.	.	.	.
15.333	39.5834	90.32	.	Q	.V	.	.	.	.
15.417	40.2224	92.80	.	Q	.V	.	.	.	.
15.500	40.8790	95.33	.	Q	.V	.	.	.	.
15.583	41.5550	98.15	.	Q	.V	.	.	.	.
15.667	42.2509	101.05	.	Q	V	.	.	.	.
15.750	42.9675	104.05	.	Q	V	.	.	.	.
15.833	43.7073	107.42	.	Q	V	.	.	.	.
15.917	44.4732	111.21	.	.Q	V	.	.	.	.
16.000	45.2652	115.00	.	.Q	V	.	.	.	.
16.083	46.1520	128.76	.	.	QV	.	.	.	.
16.167	47.1309	142.14	.	.	VQ	.	.	.	.
16.250	48.1313	145.25	.	.	Q	.	.	.	.
16.333	49.1523	148.26	.	.	Q	.	.	.	.
16.417	50.2308	156.59	.	.	VQ	.	.	.	.
16.500	51.3719	165.69	.	.	VQ	.	.	.	.
16.583	52.5551	171.81	.	.	V	Q	.	.	.
16.667	53.8981	195.01	.	.	V	Q.	.	.	.
16.750	55.3626	212.63	.	.	V	.Q	.	.	.
16.833	56.9709	233.53	.	.	V	.Q	.	.	.
16.917	58.6612	245.43	.	.	V	.Q	.	.	.
17.000	60.3565	246.15	.	.	V	.Q	.	.	.
17.083	62.2421	273.80	.	.	V	.Q	.	.	.
17.167	64.0162	257.59	.	.	V	.Q	.	.	.
17.250	65.8428	265.22	.	.	V	.Q	.	.	.
17.333	67.8238	287.65	.	.	V	.Q	.	.	.
17.417	69.6640	267.20	.	.	V	.Q	.	.	.
17.500	71.6320	285.75	.	.	.V	.Q	.	.	.
17.583	73.7242	303.78	.	.	.V	.Q	.	.	.
17.667	75.8020	301.69	.	.	.V	.Q	.	.	.
17.750	77.8980	304.34	.	.	.V	.Q	.	.	.
17.833	80.1788	331.17	.	.	.V	.Q	.	.	.
17.917	82.5176	339.59	.	.	.V	.Q	.	.	.
18.000	84.7196	319.73	.	.	.V	.Q	.	.	.
18.083	86.6908	286.21	.	.	.V	.Q	.	.	.
18.167	88.7488	298.83	.	.	.V	.Q	.	.	.
18.250	91.0106	328.42	.	.	.V	.Q	.	.	.
18.333	92.9832	286.42	.	.	.VQ	.	.	.	.
18.417	94.8762	274.86	.	.	QV	.	.	.	.

18.500	96.6708	260.57	.	.	.	.	Q	V	.
18.583	98.4151	253.27	.	.	.	.	Q	V	.
18.667	99.9922	229.00	.	.	.	.	.Q	V	.
18.750	101.4466	211.18	.	.	.	.Q	V	.	.
18.833	102.8885	209.36	.	.	.	Q	V	.	.
18.917	104.2834	202.53	.	.	.	Q	V	.	.
19.000	105.5939	190.29	.	.	.	Q.	.V	.	.
19.083	106.8181	177.75	.	.	.	Q	.V	.	.
19.167	107.9448	163.60	.	.	.	Q	.V	.	.
19.250	108.9746	149.52	.	.	Q	.	.V	.	.
19.333	109.9508	141.74	.	.	Q	.	.V	.	.
19.417	110.8801	134.94	.	.	Q	.	.V	.	.
19.500	111.7779	130.36	.	.	Q	.	.V	.	.
19.583	112.6350	124.45	.	.	Q	.	.V	.	.
19.667	113.4589	119.62	.	.	.Q	.	.V	.	.
19.750	114.2362	112.86	.	.	.Q	.	.V	.	.
19.833	114.9361	101.63	.	.	Q	.	.V	.	.
19.917	115.6123	98.18	.	.	Q.	.	.V	.	.
20.000	116.2678	95.18	.	.	Q.	.	.V	.	.
20.083	116.8666	86.95	.	.	Q	.	.V	.	.
20.167	117.4266	81.31	.	.	Q	.	.V	.	.
20.250	117.9703	78.94	.	.	Q	.	.V	.	.
20.333	118.4993	76.82	.	.	Q	.	.V	.	.
20.417	119.0129	74.57	.	.	Q	.	.V	.	.
20.500	119.5057	71.56	.	.	Q	.	.V	.	.
20.583	119.9293	61.51	.	.	Q	.	.V	.	.
20.667	120.3232	57.19	.	.	Q	.	.V	.	.
20.750	120.7062	55.61	.	.	Q	.	.V	.	.
20.833	121.0794	54.20	.	.	Q	.	.V	.	.
20.917	121.4430	52.80	.	.	Q	.	.V	.	.
21.000	121.7969	51.38	.	.	Q	.	.V	.	.
21.083	122.1421	50.12	.	.	Q	.	.V	.	.
21.167	122.4794	48.98	.	.	Q	.	.V	.	.
21.250	122.8093	47.91	.	.	Q	.	.V	.	.
21.333	123.1322	46.88	.	.	Q	.	.V	.	.
21.417	123.4485	45.92	.	.	Q	.	.V	.	.
21.500	123.7580	44.94	.	.	Q	.	.V	.	.
21.583	124.0621	44.15	.	.	Q	.	.V	.	.
21.667	124.3606	43.34	.	.	Q	.	.V	.	.
21.750	124.6540	42.60	.	.	Q	.	.V	.	.
21.833	124.9426	41.91	.	.	Q	.	.V	.	.
21.917	125.2267	41.26	.	.	Q	.	.V	.	.
22.000	125.5067	40.66	.	.	Q	.	.V	.	.
22.083	125.7829	40.09	.	.	Q	.	.V	.	.
22.167	126.0552	39.54	.	.	Q	.	.V	.	.
22.250	126.3236	38.98	.	.	Q	.	.V	.	.
22.333	126.5882	38.42	.	.	Q	.	.V	.	.
22.417	126.8488	37.83	.	.	Q	.	.V	.	.
22.500	127.1049	37.19	.	.	Q	.	.V	.	.
22.583	127.3471	35.17	.	.	Q	.	.V	.	.
22.667	127.5719	32.64	.	.	Q	.	.V	.	.
22.750	127.7934	32.16	.	.	Q	.	.V	.	.
22.833	128.0120	31.74	.	.	Q	.	.V	.	.
22.917	128.2277	31.33	.	.	Q	.	.V	.	.
23.000	128.4405	30.90	.	.	Q	.	.V	.	.
23.083	128.6504	30.48	.	.	Q	.	.V	.	.
23.167	128.8576	30.08	.	.	Q	.	.V	.	.
23.250	129.0621	29.70	.	.	Q	.	.V	.	.

23.333	129.2641	29.32	. Q	.	.	.	V .
23.417	129.4635	28.96	. Q	.	.	.	V .
23.500	129.6605	28.60	. Q	.	.	.	V .
23.583	129.8552	28.27	. Q	.	.	.	V .
23.667	130.0479	27.98	. Q	.	.	.	V .
23.750	130.2386	27.69	. Q	.	.	.	V .
23.833	130.4273	27.40	. Q	.	.	.	V .
23.917	130.6141	27.13	. Q	.	.	.	V .
24.000	130.7991	26.86	. Q	.	.	.	V .
24.083	130.9820	26.55	. Q	.	.	.	V .
24.167	131.1623	26.19	. Q	.	.	.	V .
24.250	131.3402	25.83	. Q	.	.	.	V .
24.333	131.5157	25.48	. Q	.	.	.	V .
24.417	131.6887	25.11	. Q	.	.	.	V .
24.500	131.8589	24.72	. Q	.	.	.	V .
24.583	132.0265	24.33	. Q	.	.	.	V .
24.667	132.1908	23.85	. Q	.	.	.	V .
24.750	132.3513	23.30	. Q	.	.	.	V .
24.833	132.5074	22.67	. Q	.	.	.	V .
24.917	132.6589	22.00	. Q	.	.	.	V .
25.000	132.8059	21.34	. Q	.	.	.	V .
25.083	132.9474	20.55	. Q	.	.	.	V .
25.167	133.0842	19.86	. Q	.	.	.	V .
25.250	133.2160	19.14	. Q	.	.	.	V .
25.333	133.3422	18.32	. Q	.	.	.	V .
25.417	133.4635	17.62	. Q	.	.	.	V .
25.500	133.5795	16.83	. Q	.	.	.	V .
25.583	133.6894	15.97	. Q	.	.	.	V .
25.667	133.7936	15.12	. Q	.	.	.	V .
25.750	133.8919	14.27	. Q	.	.	.	V .
25.833	133.9834	13.29	. Q	.	.	.	V .
25.917	134.0678	12.26	. Q	.	.	.	V .
26.000	134.1458	11.33	. Q	.	.	.	V .
26.083	134.2186	10.57	. Q	.	.	.	V .
26.167	134.2858	9.75	. Q	.	.	.	V .
26.250	134.3461	8.76	. Q	.	.	.	V .
26.333	134.4012	7.99	. Q	.	.	.	V .
26.417	134.4511	7.25	. Q	.	.	.	V .
26.500	134.4964	6.58	. Q	.	.	.	V .
26.583	134.5373	5.93	. Q	.	.	.	V .
26.667	134.5744	5.39	. Q	.	.	.	V .
26.750	134.6084	4.93	. Q	.	.	.	V .
26.833	134.6390	4.46	. Q	.	.	.	V .
26.917	134.6666	4.00	. Q	.	.	.	V .
27.000	134.6913	3.59	. Q	.	.	.	V .
27.083	134.7134	3.22	. Q	.	.	.	V .
27.167	134.7334	2.90	. Q	.	.	.	V .
27.250	134.7516	2.64	. Q	.	.	.	V .
27.333	134.7681	2.39	. Q	.	.	.	V .
27.417	134.7830	2.17	. Q	.	.	.	V .
27.500	134.7964	1.95	. Q	.	.	.	V .
27.583	134.8085	1.75	. Q	.	.	.	V .
27.667	134.8192	1.56	. Q	.	.	.	V .
27.750	134.8287	1.38	. Q	.	.	.	V .
27.833	134.8373	1.25	. Q	.	.	.	V .
27.917	134.8450	1.12	. Q	.	.	.	V .
28.000	134.8518	0.99	. Q	.	.	.	V .
28.083	134.8579	0.89	. Q	.	.	.	V .

28.167	134.8635	0.81	. Q	.	.	.	V .
28.250	134.8685	0.73	. Q	.	.	.	V .
28.333	134.8730	0.65	. Q	.	.	.	V .
28.417	134.8769	0.57	. Q	.	.	.	V .
28.500	134.8803	0.49	. Q	.	.	.	V .
28.583	134.8835	0.46	. Q	.	.	.	V .
28.667	134.8865	0.44	. Q	.	.	.	V .
28.750	134.8894	0.42	. Q	.	.	.	V .
28.833	134.8921	0.40	. Q	.	.	.	V .
28.917	134.8947	0.37	. Q	.	.	.	V .
29.000	134.8971	0.35	. Q	.	.	.	V .
29.083	134.8994	0.33	. Q	.	.	.	V .
29.167	134.9016	0.31	. Q	.	.	.	V .
29.250	134.9036	0.29	. Q	.	.	.	V .
29.333	134.9055	0.27	. Q	.	.	.	V .
29.417	134.9073	0.25	. Q	.	.	.	V .
29.500	134.9089	0.23	. Q	.	.	.	V .
29.583	134.9104	0.21	. Q	.	.	.	V .
29.667	134.9117	0.20	. Q	.	.	.	V .
29.750	134.9129	0.18	. Q	.	.	.	V .
29.833	134.9140	0.16	. Q	.	.	.	V .
29.917	134.9150	0.14	. Q	.	.	.	V .
30.000	134.9158	0.12	. Q	.	.	.	V .
30.083	134.9165	0.10	. Q	.	.	.	V .
30.167	134.9171	0.08	. Q	.	.	.	V .
30.250	134.9175	0.06	. Q	.	.	.	V .
30.333	134.9178	0.05	. Q	.	.	.	V .
30.417	134.9180	0.03	. Q	.	.	.	V .
30.500	134.9181	0.01	. Q	.	.	.	V .

-----  
TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1830.0
10%	745.0
20%	360.0
30%	245.0
40%	195.0
50%	155.0
60%	130.0
70%	105.0
80%	70.0
90%	20.0

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END OF FLOODSCx ROUTING ANALYSIS

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FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
(c) Copyright 1989-2013 Advanced Engineering Software (aes)
Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RANCHO MISSION VIEJO - SINGLE AREA UH \*
\* EXISTING CONDITION - EXISTING NODE 133T \*
\* 5-YR EV JMITAL AUGUST 2017 \*

FILE NAME: EV0533TS.DAT
TIME/DATE OF STUDY: 15:45 08/03/2017

\*\*\*\*\*

FLOW PROCESS FROM NODE 13010.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<

\*\*\*\*\*

(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 7114.600 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 1.513 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.435
LOW LOSS FRACTION = 0.818
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.18
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.41
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.55
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.92
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.27
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 2.12

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.731
30-MINUTE FACTOR = 0.731
1-HOUR FACTOR = 0.731
3-HOUR FACTOR = 0.956
6-HOUR FACTOR = 0.977
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 5.508

UNIT HYDROGRAPH DETERMINATION

Table with 3 columns: INTERVAL NUMBER, "S" GRAPH MEAN VALUES, UNIT HYDROGRAPH ORDINATES (CFS). Rows 1-48.

49	98.602	88.785
50	98.706	88.942
51	98.809	89.093
52	98.912	88.483
53	99.015	89.093
54	99.118	88.483
55	99.221	88.483
56	99.324	88.483
57	99.427	88.483
58	99.530	88.483
59	99.632	88.483
60	99.735	88.483
61	99.838	88.483
62	99.941	88.483
63	100.000	50.783

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TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 968.4332  
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 270.1287  
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2 4 - H O U R S T O R M  
R U N O F F H Y D R O G R A P H  
=====

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	200.0	400.0	600.0	800.0
0.083	0.0009	0.13	Q	.	.	.	.
0.167	0.0037	0.40	Q	.	.	.	.
0.250	0.0084	0.67	Q	.	.	.	.
0.333	0.0152	0.99	Q	.	.	.	.
0.417	0.0249	1.40	Q	.	.	.	.
0.500	0.0380	1.91	Q	.	.	.	.
0.583	0.0566	2.70	Q	.	.	.	.
0.667	0.0825	3.75	Q	.	.	.	.
0.750	0.1167	4.97	Q	.	.	.	.
0.833	0.1600	6.28	Q	.	.	.	.
0.917	0.2132	7.73	Q	.	.	.	.
1.000	0.2761	9.12	Q	.	.	.	.
1.083	0.3502	10.77	Q	.	.	.	.
1.167	0.4345	12.23	Q	.	.	.	.
1.250	0.5311	14.02	Q	.	.	.	.
1.333	0.6404	15.87	Q	.	.	.	.
1.417	0.7632	17.84	Q	.	.	.	.
1.500	0.9014	20.07	VQ	.	.	.	.
1.583	1.0556	22.38	VQ	.	.	.	.
1.667	1.2219	24.15	VQ	.	.	.	.
1.750	1.4021	26.17	VQ	.	.	.	.
1.833	1.5972	28.33	VQ	.	.	.	.
1.917	1.8044	30.08	VQ	.	.	.	.
2.000	2.0230	31.74	VQ	.	.	.	.
2.083	2.2524	33.30	VQ	.	.	.	.
2.167	2.4902	34.53	VQ	.	.	.	.
2.250	2.7361	35.71	VQ	.	.	.	.
2.333	2.9902	36.88	VQ	.	.	.	.
2.417	3.2515	37.94	VQ	.	.	.	.
2.500	3.5191	38.86	VQ	.	.	.	.
2.583	3.7920	39.63	VQ	.	.	.	.
2.667	4.0697	40.32	V Q	.	.	.	.
2.750	4.3519	40.97	V Q	.	.	.	.
2.833	4.6383	41.60	V Q	.	.	.	.
2.917	4.9289	42.19	V Q	.	.	.	.
3.000	5.2233	42.74	V Q	.	.	.	.
3.083	5.5208	43.20	V Q	.	.	.	.
3.167	5.8215	43.65	V Q	.	.	.	.
3.250	6.1249	44.06	V Q	.	.	.	.
3.333	6.4307	44.40	V Q	.	.	.	.
3.417	6.7389	44.75	V Q	.	.	.	.
3.500	7.0496	45.10	.VQ	.	.	.	.
3.583	7.3626	45.45	.VQ	.	.	.	.
3.667	7.6772	45.69	.VQ	.	.	.	.
3.750	7.9934	45.91	.VQ	.	.	.	.
3.833	8.3111	46.13	.VQ	.	.	.	.
3.917	8.6303	46.35	.VQ	.	.	.	.



4.000	8.9510	46.57	.VQ	.	.	.	.
4.083	9.2732	46.79	.VQ	.	.	.	.
4.167	9.5970	47.02	.VQ	.	.	.	.
4.250	9.9224	47.24	.VQ	.	.	.	.
4.333	10.2493	47.47	.VQ	.	.	.	.
4.417	10.5779	47.70	.VQ	.	.	.	.
4.500	10.9080	47.94	.VQ	.	.	.	.
4.583	11.2398	48.17	.VQ	.	.	.	.
4.667	11.5732	48.41	.VQ	.	.	.	.
4.750	11.9082	48.65	.VQ	.	.	.	.
4.833	12.2450	48.89	.VQ	.	.	.	.
4.917	12.5834	49.14	.VQ	.	.	.	.
5.000	12.9235	49.38	.VQ	.	.	.	.
5.083	13.2653	49.63	.VQ	.	.	.	.
5.167	13.6089	49.88	.Q	.	.	.	.
5.250	13.9540	50.12	.Q	.	.	.	.
5.333	14.3007	50.33	.Q	.	.	.	.
5.417	14.6488	50.55	.Q	.	.	.	.
5.500	14.9984	50.76	.Q	.	.	.	.
5.583	15.3495	50.98	.Q	.	.	.	.
5.667	15.7021	51.20	.Q	.	.	.	.
5.750	16.0563	51.43	.Q	.	.	.	.
5.833	16.4121	51.66	.Q	.	.	.	.
5.917	16.7694	51.89	.Q	.	.	.	.
6.000	17.1284	52.12	.Q	.	.	.	.
6.083	17.4889	52.35	.Q	.	.	.	.
6.167	17.8511	52.59	.Q	.	.	.	.
6.250	18.2150	52.83	.Q	.	.	.	.
6.333	18.5805	53.07	.Q	.	.	.	.
6.417	18.9477	53.32	.Q	.	.	.	.
6.500	19.3167	53.57	.Q	.	.	.	.
6.583	19.6874	53.83	.Q	.	.	.	.
6.667	20.0598	54.08	.Q	.	.	.	.
6.750	20.4341	54.34	.QV	.	.	.	.
6.833	20.8101	54.60	.QV	.	.	.	.
6.917	21.1880	54.87	.QV	.	.	.	.
7.000	21.5677	55.14	.QV	.	.	.	.
7.083	21.9493	55.41	.QV	.	.	.	.
7.167	22.3328	55.68	.QV	.	.	.	.
7.250	22.7183	55.97	.QV	.	.	.	.
7.333	23.1057	56.25	.QV	.	.	.	.
7.417	23.4950	56.54	.QV	.	.	.	.
7.500	23.8864	56.83	.QV	.	.	.	.
7.583	24.2798	57.12	.QV	.	.	.	.
7.667	24.6753	57.42	.QV	.	.	.	.
7.750	25.0728	57.73	.QV	.	.	.	.
7.833	25.4725	58.03	.QV	.	.	.	.
7.917	25.8743	58.34	.QV	.	.	.	.
8.000	26.2783	58.66	.QV	.	.	.	.
8.083	26.6845	58.98	.QV	.	.	.	.
8.167	27.0930	59.31	.Q V	.	.	.	.
8.250	27.5037	59.64	.Q V	.	.	.	.
8.333	27.9167	59.97	.Q V	.	.	.	.
8.417	28.3321	60.31	.QV	.	.	.	.
8.500	28.7498	60.66	.QV	.	.	.	.
8.583	29.1700	61.01	.QV	.	.	.	.
8.667	29.5926	61.36	.QV	.	.	.	.
8.750	30.0177	61.72	.QV	.	.	.	.

8.833	30.4453	62.09	.QV	.	.	.	.
8.917	30.8755	62.46	.QV	.	.	.	.
9.000	31.3083	62.84	.QV	.	.	.	.
9.083	31.7437	63.23	.QV	.	.	.	.
9.167	32.1819	63.62	.QV	.	.	.	.
9.250	32.6227	64.02	.QV	.	.	.	.
9.333	33.0664	64.42	.QV	.	.	.	.
9.417	33.5129	64.83	.QV	.	.	.	.
9.500	33.9622	65.25	.Q V	.	.	.	.
9.583	34.4145	65.67	.Q V	.	.	.	.
9.667	34.8697	66.10	.Q V	.	.	.	.
9.750	35.3280	66.54	.Q V	.	.	.	.
9.833	35.7894	66.99	.Q V	.	.	.	.
9.917	36.2539	67.45	.Q V	.	.	.	.
10.000	36.7216	67.91	.Q V	.	.	.	.
10.083	37.1925	68.38	.Q V	.	.	.	.
10.167	37.6668	68.86	.Q V	.	.	.	.
10.250	38.1444	69.35	.Q V	.	.	.	.
10.333	38.6254	69.85	.Q V	.	.	.	.
10.417	39.1100	70.36	.Q V	.	.	.	.
10.500	39.5981	70.87	.Q V	.	.	.	.
10.583	40.0899	71.41	.Q V	.	.	.	.
10.667	40.5854	71.94	.Q V	.	.	.	.
10.750	41.0846	72.49	.Q V	.	.	.	.
10.833	41.5878	73.05	.Q V	.	.	.	.
10.917	42.0948	73.63	.Q V	.	.	.	.
11.000	42.6059	74.21	.Q V	.	.	.	.
11.083	43.1211	74.81	.Q V	.	.	.	.
11.167	43.6405	75.42	.Q V	.	.	.	.
11.250	44.1643	76.04	.Q V	.	.	.	.
11.333	44.6923	76.68	.Q V	.	.	.	.
11.417	45.2249	77.33	.Q V	.	.	.	.
11.500	45.7621	77.99	.Q V	.	.	.	.
11.583	46.3039	78.68	.Q V	.	.	.	.
11.667	46.8505	79.37	.Q V	.	.	.	.
11.750	47.4021	80.09	.Q V	.	.	.	.
11.833	47.9587	80.82	.Q V	.	.	.	.
11.917	48.5205	81.57	.Q V	.	.	.	.
12.000	49.0875	82.33	.Q V	.	.	.	.
12.083	49.6607	83.23	.Q V	.	.	.	.
12.167	50.2408	84.23	.Q V	.	.	.	.
12.250	50.8281	85.27	.Q V	.	.	.	.
12.333	51.4228	86.36	.Q V	.	.	.	.
12.417	52.0257	87.54	.Q V	.	.	.	.
12.500	52.6374	88.82	.Q V	.	.	.	.
12.583	53.2596	90.34	.Q V	.	.	.	.
12.667	53.8938	92.08	.Q V	.	.	.	.
12.750	54.5410	93.98	.Q V	.	.	.	.
12.833	55.2019	95.97	.Q V	.	.	.	.
12.917	55.8776	98.10	.Q V	.	.	.	.
13.000	56.5677	100.21	.Q V	.	.	.	.
13.083	57.2740	102.56	.Q V	.	.	.	.
13.167	57.9957	104.79	.Q V	.	.	.	.
13.250	58.7348	107.31	.Q V	.	.	.	.
13.333	59.4917	109.91	.Q V	.	.	.	.
13.417	60.2675	112.64	.Q V	.	.	.	.
13.500	61.0637	115.61	.Q V	.	.	.	.
13.583	61.8812	118.70	.Q V	.	.	.	.

13.667	62.7173	121.40	.	Q	V.	.	.	.
13.750	63.5738	124.36	.	Q	V.	.	.	.
13.833	64.4517	127.47	.	Q	V.	.	.	.
13.917	65.3493	130.34	.	Q	V.	.	.	.
14.000	66.2666	133.19	.	Q	V.	.	.	.
14.083	67.2053	136.29	.	Q	V.	.	.	.
14.167	68.1658	139.47	.	Q	V	.	.	.
14.250	69.1485	142.69	.	Q	V	.	.	.
14.333	70.1544	146.05	.	Q	V	.	.	.
14.417	71.1848	149.61	.	Q	V	.	.	.
14.500	72.2405	153.30	.	Q	V	.	.	.
14.583	73.3255	157.54	.	Q	V	.	.	.
14.667	74.4431	162.28	.	Q	.V	.	.	.
14.750	75.5962	167.43	.	Q	.V	.	.	.
14.833	76.7864	172.81	.	Q	.V	.	.	.
14.917	78.0161	178.56	.	Q	.V	.	.	.
15.000	79.2848	184.22	.	Q	.V	.	.	.
15.083	80.5966	190.47	.	Q	.V	.	.	.
15.167	81.9497	196.46	.	Q	.V	.	.	.
15.250	83.3492	203.21	.	Q	V	.	.	.
15.333	84.7965	210.16	.	Q	V	.	.	.
15.417	86.2915	217.07	.	Q	V	.	.	.
15.500	87.8354	224.18	.	.Q	V	.	.	.
15.583	89.4316	231.77	.	.Q	V	.	.	.
15.667	91.0728	238.30	.	.Q	V	.	.	.
15.750	92.7639	245.54	.	.QV		.	.	.
15.833	94.5084	253.31	.	.QV		.	.	.
15.917	96.3008	260.25	.	.QV		.	.	.
16.000	98.1513	268.69	.	.QV		.	.	.
16.083	100.2245	301.03	.	.	VQ	.	.	.
16.167	102.5051	331.13	.	.	VQ	.	.	.
16.250	104.8314	337.79	.	.	VQ	.	.	.
16.333	107.2707	354.18	.	.	V	Q	.	.
16.417	109.8814	379.07	.	.	V	Q	.	.
16.500	112.6961	408.70	.	.	V	Q	.	.
16.583	115.9350	470.29	.	.	V	.	Q	.
16.667	119.5539	525.46	.	.	V	.	Q	.
16.750	123.4150	560.62	.	.	V	.	Q	.
16.833	127.4234	582.02	.	.	V	.	Q	.
16.917	131.6038	607.00	.	.	V.	.	Q	.
17.000	135.7554	602.82	.	.	V	.	Q	.
17.083	140.2293	649.60	.	.	V	.	Q	.
17.167	144.5147	622.24	.	.	.V	.	.Q	.
17.250	149.2191	683.08	.	.	.V	.	.Q	.
17.333	154.0252	697.84	.	.	.V	.	.Q	.
17.417	158.9960	721.75	.	.	.V	.	.Q	.
17.500	164.2865	768.18	.	.	.V	.	.Q	.
17.583	169.6088	772.81	.	.	.V	.	.Q	.
17.667	174.2310	671.14	.	.	.V	.	.Q	.
17.750	179.1222	710.19	.	.	.V	.	.Q	.
17.833	184.1087	724.05	.	.	.V	.	.Q	.
17.917	188.5157	639.89	.	.	.V	.	.Q	.
18.000	192.7236	610.99	.	.	.V	Q	.	.
18.083	196.6945	576.57	.	.	.QV	.	.	.
18.167	200.2033	509.47	.	.	.Q	V.	.	.
18.250	203.5736	489.38	.	.	.Q	V	.	.
18.333	206.8457	475.10	.	.	.Q	V	.	.
18.417	209.8894	441.95	.	.	.Q	.V	.	.

18.500	212.6585	402.08	.	.	.	.	Q	.	.V	.
18.583	215.1645	363.86	.	.	.	.	Q	.	.V	.
18.667	217.4879	337.35	.	.	.	.	Q	.	.V	.
18.750	219.6881	319.47	.	.	.	.	Q	.	.V	.
18.833	221.7892	305.09	.	.	.	.	Q	.	.V	.
18.917	223.7778	288.75	.	.	.	.	Q	.	.V	.
19.000	225.6301	268.94	.	.	.	.	Q	.	.V	.
19.083	227.3013	242.67	.	.	.	.	Q	.	.V	.
19.167	228.9106	233.67	.	.	.	.	Q	.	.V	.
19.250	230.3969	215.81	.	.	.	.	Q	.	.V	.
19.333	231.7559	197.32	.	.	.	.	Q.	.	.V	.
19.417	233.0641	189.95	.	.	.	.	Q.	.	.V	.
19.500	234.3225	182.71	.	.	.	.	Q.	.	.V	.
19.583	235.5144	173.07	.	.	.	.	Q	.	.V	.
19.667	236.5357	148.30	.	.	.	.	Q	.	.V	.
19.750	237.4781	136.83	.	.	.	.	Q	.	.V	.
19.833	238.3834	131.45	.	.	.	.	Q	.	.V	.
19.917	239.2572	126.88	.	.	.	.	Q	.	.V	.
20.000	240.1000	122.37	.	.	.	.	Q	.	.V	.
20.083	240.9144	118.25	.	.	.	.	Q	.	.V	.
20.167	241.7032	114.54	.	.	.	.	Q	.	.V	.
20.250	242.4684	111.10	.	.	.	.	Q	.	.V	.
20.333	243.2112	107.85	.	.	.	.	Q	.	.V	.
20.417	243.9336	104.90	.	.	.	.	Q	.	.V	.
20.500	244.6364	102.04	.	.	.	.	Q	.	.V	.
20.583	245.3217	99.51	.	.	.	.	Q	.	.V	.
20.667	245.9926	97.41	.	.	.	.	Q	.	.V	.
20.750	246.6500	95.45	.	.	.	.	Q	.	.V	.
20.833	247.2943	93.56	.	.	.	.	Q	.	.V	.
20.917	247.9258	91.70	.	.	.	.	Q	.	.V	.
21.000	248.5448	89.88	.	.	.	.	Q	.	.V	.
21.083	249.1515	88.09	.	.	.	.	Q	.	.V	.
21.167	249.7439	86.02	.	.	.	.	Q	.	.V	.
21.250	250.2990	80.60	.	.	.	.	Q	.	.V	.
21.333	250.8120	74.49	.	.	.	.	Q	.	.V	.
21.417	251.3151	73.05	.	.	.	.	Q	.	.V	.
21.500	251.8094	71.77	.	.	.	.	Q	.	.V	.
21.583	252.2951	70.52	.	.	.	.	Q	.	.V	.
21.667	252.7726	69.32	.	.	.	.	Q	.	.V	.
21.750	253.2423	68.20	.	.	.	.	Q	.	.V	.
21.833	253.7046	67.12	.	.	.	.	Q	.	.V	.
21.917	254.1597	66.09	.	.	.	.	Q	.	.V	.
22.000	254.6079	65.09	.	.	.	.	Q	.	.V	.
22.083	255.0495	64.12	.	.	.	.	Q	.	.V	.
22.167	255.4847	63.18	.	.	.	.	Q	.	.V	.
22.250	255.9138	62.31	.	.	.	.	Q	.	.V	.
22.333	256.3375	61.52	.	.	.	.	Q	.	.V	.
22.417	256.7559	60.75	.	.	.	.	Q	.	.V	.
22.500	257.1691	60.01	.	.	.	.	Q	.	.V	.
22.583	257.5775	59.29	.	.	.	.	Q	.	.V	.
22.667	257.9810	58.59	.	.	.	.	Q	.	.V	.
22.750	258.3799	57.92	.	.	.	.	Q	.	.V	.
22.833	258.7742	57.26	.	.	.	.	Q	.	.V	.
22.917	259.1642	56.62	.	.	.	.	Q	.	.V	.
23.000	259.5498	56.00	.	.	.	.	Q	.	.V	.
23.083	259.9314	55.40	.	.	.	.	Q	.	.V	.
23.167	260.3088	54.81	.	.	.	.	Q	.	.V	.
23.250	260.6825	54.25	.	.	.	.	Q	.	.V	.

23.333	261.0525	53.72	. Q	.	.	.	V .
23.417	261.4189	53.21	. Q	.	.	.	V .
23.500	261.7820	52.71	. Q	.	.	.	V .
23.583	262.1417	52.23	. Q	.	.	.	V .
23.667	262.4981	51.75	. Q	.	.	.	V .
23.750	262.8514	51.29	. Q	.	.	.	V .
23.833	263.2015	50.84	. Q	.	.	.	V .
23.917	263.5486	50.40	. Q	.	.	.	V .
24.000	263.8928	49.97	. Q	.	.	.	V .
24.083	264.2331	49.41	. Q	.	.	.	V .
24.167	264.5687	48.73	. Q	.	.	.	V .
24.250	264.8997	48.06	. Q	.	.	.	V .
24.333	265.2259	47.36	. Q	.	.	.	V .
24.417	265.5466	46.57	. Q	.	.	.	V .
24.500	265.8614	45.70	. Q	.	.	.	V .
24.583	266.1683	44.56	. Q	.	.	.	V .
24.667	266.4656	43.17	. Q	.	.	.	V .
24.750	266.7524	41.64	. Q	.	.	.	V .
24.833	267.0281	40.03	. Q	.	.	.	V .
24.917	267.2919	38.30	.Q	.	.	.	V .
25.000	267.5443	36.65	.Q	.	.	.	V .
25.083	267.7838	34.76	.Q	.	.	.	V .
25.167	268.0116	33.08	.Q	.	.	.	V .
25.250	268.2257	31.10	.Q	.	.	.	V .
25.333	268.4259	29.07	.Q	.	.	.	V .
25.417	268.6115	26.95	.Q	.	.	.	V .
25.500	268.7808	24.58	.Q	.	.	.	V .
25.583	268.9334	22.16	.Q	.	.	.	V .
25.667	269.0733	20.32	.Q	.	.	.	V .
25.750	269.1989	18.24	Q	.	.	.	V .
25.833	269.3093	16.03	Q	.	.	.	V .
25.917	269.4076	14.27	Q	.	.	.	V .
26.000	269.4944	12.61	Q	.	.	.	V .
26.083	269.5707	11.08	Q	.	.	.	V .
26.167	269.6388	9.88	Q	.	.	.	V .
26.250	269.6990	8.75	Q	.	.	.	V .
26.333	269.7516	7.64	Q	.	.	.	V .
26.417	269.7975	6.66	Q	.	.	.	V .
26.500	269.8376	5.83	Q	.	.	.	V .
26.583	269.8730	5.15	Q	.	.	.	V .
26.667	269.9044	4.56	Q	.	.	.	V .
26.750	269.9322	4.03	Q	.	.	.	V .
26.833	269.9564	3.52	Q	.	.	.	V .
26.917	269.9773	3.04	Q	.	.	.	V .
27.000	269.9954	2.62	Q	.	.	.	V .
27.083	270.0113	2.30	Q	.	.	.	V .
27.167	270.0250	1.99	Q	.	.	.	V .
27.250	270.0369	1.73	Q	.	.	.	V .
27.333	270.0474	1.53	Q	.	.	.	V .
27.417	270.0566	1.34	Q	.	.	.	V .
27.500	270.0645	1.14	Q	.	.	.	V .
27.583	270.0711	0.96	Q	.	.	.	V .
27.667	270.0771	0.88	Q	.	.	.	V .
27.750	270.0828	0.82	Q	.	.	.	V .
27.833	270.0881	0.77	Q	.	.	.	V .
27.917	270.0931	0.73	Q	.	.	.	V .
28.000	270.0978	0.68	Q	.	.	.	V .
28.083	270.1021	0.63	Q	.	.	.	V .

28.167	270.1061	0.58	Q	.	.	.	V .
28.250	270.1098	0.53	Q	.	.	.	V .
28.333	270.1131	0.48	Q	.	.	.	V .
28.417	270.1161	0.44	Q	.	.	.	V .
28.500	270.1188	0.39	Q	.	.	.	V .
28.583	270.1211	0.34	Q	.	.	.	V .
28.667	270.1232	0.30	Q	.	.	.	V .
28.750	270.1249	0.25	Q	.	.	.	V .
28.833	270.1263	0.20	Q	.	.	.	V .
28.917	270.1274	0.16	Q	.	.	.	V .
29.000	270.1282	0.11	Q	.	.	.	V .
29.083	270.1287	0.07	Q	.	.	.	V .
29.167	270.1288	0.03	Q	.	.	.	V .

-----  
 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
 (Note: 100% of Peak Flow Rate estimate assumed to have  
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1750.0
10%	595.0
20%	305.0
30%	215.0
40%	160.0
50%	125.0
60%	110.0
70%	85.0
80%	55.0
90%	30.0

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 END OF FLOODSCx ROUTING ANALYSIS

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FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
(c) Copyright 1989-2013 Advanced Engineering Software (aes)
Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RANCHO MISSION VIEJO - SINGLE AREA UH \*
\* EXISTING CONDITION - EXISTING NODE 133T \*
\* 10-YR EV JMITAL AUGUST 2017 \*

FILE NAME: EV1033TS.DAT
TIME/DATE OF STUDY: 15:43 08/03/2017

\*\*\*\*\*

FLOW PROCESS FROM NODE 13010.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 7114.600 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 1.354 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.261
LOW LOSS FRACTION = 0.748
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.26
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.59
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.78
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.31
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.81
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.03

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.731
30-MINUTE FACTOR = 0.731
1-HOUR FACTOR = 0.731
3-HOUR FACTOR = 0.956
6-HOUR FACTOR = 0.977
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 6.155

UNIT HYDROGRAPH DETERMINATION

Table with 3 columns: INTERVAL NUMBER, "S" GRAPH MEAN VALUES, UNIT HYDROGRAPH ORDINATES (CFS). Rows 1-48.

49	99.190	99.111
50	99.305	99.111
51	99.421	99.111
52	99.536	99.111
53	99.651	99.111
54	99.766	99.111
55	99.881	99.111
56	99.997	99.111
57	100.000	2.980

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TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 1201.6390  
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 568.4752  
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2 4 - H O U R S T O R M  
R U N O F F H Y D R O G R A P H  
=====

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	475.0	950.0	1425.0	1900.0
0.083	0.0021	0.30	Q	.	.	.	.
0.167	0.0082	0.90	Q	.	.	.	.
0.250	0.0186	1.50	Q	.	.	.	.
0.333	0.0345	2.31	Q	.	.	.	.
0.417	0.0569	3.26	Q	.	.	.	.
0.500	0.0898	4.77	Q	.	.	.	.
0.583	0.1375	6.92	Q	.	.	.	.
0.667	0.2035	9.59	Q	.	.	.	.
0.750	0.2896	12.50	Q	.	.	.	.
0.833	0.3974	15.66	Q	.	.	.	.
0.917	0.5277	18.91	Q	.	.	.	.
1.000	0.6818	22.38	Q	.	.	.	.
1.083	0.8600	25.87	Q	.	.	.	.
1.167	1.0675	30.13	Q	.	.	.	.
1.250	1.3023	34.10	Q	.	.	.	.
1.333	1.5711	39.02	Q	.	.	.	.
1.417	1.8752	44.16	Q	.	.	.	.
1.500	2.2067	48.13	VQ	.	.	.	.
1.583	2.5697	52.72	VQ	.	.	.	.
1.667	2.9638	57.21	VQ	.	.	.	.
1.750	3.3843	61.06	VQ	.	.	.	.
1.833	3.8292	64.60	VQ	.	.	.	.
1.917	4.2949	67.63	VQ	.	.	.	.
2.000	4.7784	70.20	VQ	.	.	.	.
2.083	5.2798	72.80	VQ	.	.	.	.
2.167	5.7972	75.13	VQ	.	.	.	.
2.250	6.3283	77.12	VQ	.	.	.	.
2.333	6.8707	78.75	VQ	.	.	.	.
2.417	7.4232	80.22	VQ	.	.	.	.
2.500	7.9852	81.60	VQ	.	.	.	.
2.583	8.5562	82.92	VQ	.	.	.	.
2.667	9.1359	84.16	VQ	.	.	.	.
2.750	9.7224	85.16	VQ	.	.	.	.
2.833	10.3156	86.13	VQ	.	.	.	.
2.917	10.9147	86.99	VQ	.	.	.	.
3.000	11.5187	87.71	VQ	.	.	.	.
3.083	12.1278	88.44	VQ	.	.	.	.
3.167	12.7419	89.17	VQ	.	.	.	.
3.250	13.3604	89.80	VQ	.	.	.	.
3.333	13.9819	90.24	VQ	.	.	.	.
3.417	14.6063	90.67	.Q	.	.	.	.
3.500	15.2338	91.10	.Q	.	.	.	.
3.583	15.8642	91.54	.Q	.	.	.	.
3.667	16.4977	91.99	.Q	.	.	.	.
3.750	17.1343	92.43	.Q	.	.	.	.
3.833	17.7740	92.88	.Q	.	.	.	.
3.917	18.4168	93.34	.Q	.	.	.	.

4.000	19.0628	93.80	.Q	.	.	.	.
4.083	19.7119	94.26	.Q	.	.	.	.
4.167	20.3643	94.72	.Q	.	.	.	.
4.250	21.0199	95.19	.VQ	.	.	.	.
4.333	21.6787	95.67	.VQ	.	.	.	.
4.417	22.3409	96.14	.VQ	.	.	.	.
4.500	23.0064	96.63	.VQ	.	.	.	.
4.583	23.6752	97.11	.VQ	.	.	.	.
4.667	24.3474	97.61	.VQ	.	.	.	.
4.750	25.0224	98.01	.VQ	.	.	.	.
4.833	25.7001	98.41	.VQ	.	.	.	.
4.917	26.3807	98.81	.VQ	.	.	.	.
5.000	27.0641	99.23	.VQ	.	.	.	.
5.083	27.7503	99.64	.VQ	.	.	.	.
5.167	28.4394	100.06	.Q	.	.	.	.
5.250	29.1315	100.49	.Q	.	.	.	.
5.333	29.8265	100.92	.Q	.	.	.	.
5.417	30.5245	101.35	.Q	.	.	.	.
5.500	31.2255	101.79	.Q	.	.	.	.
5.583	31.9296	102.23	.Q	.	.	.	.
5.667	32.6368	102.68	.Q	.	.	.	.
5.750	33.3471	103.14	.Q	.	.	.	.
5.833	34.0606	103.60	.Q	.	.	.	.
5.917	34.7773	104.06	.Q	.	.	.	.
6.000	35.4972	104.53	.Q	.	.	.	.
6.083	36.2204	105.01	.Q	.	.	.	.
6.167	36.9470	105.49	.Q	.	.	.	.
6.250	37.6769	105.98	.Q	.	.	.	.
6.333	38.4102	106.48	.Q	.	.	.	.
6.417	39.1469	106.97	.Q	.	.	.	.
6.500	39.8871	107.48	.Q	.	.	.	.
6.583	40.6309	107.99	.Q	.	.	.	.
6.667	41.3782	108.51	.Q	.	.	.	.
6.750	42.1292	109.04	.Q	.	.	.	.
6.833	42.8838	109.57	.QV	.	.	.	.
6.917	43.6421	110.11	.QV	.	.	.	.
7.000	44.4042	110.66	.QV	.	.	.	.
7.083	45.1701	111.21	.QV	.	.	.	.
7.167	45.9398	111.77	.QV	.	.	.	.
7.250	46.7135	112.34	.QV	.	.	.	.
7.333	47.4912	112.91	.QV	.	.	.	.
7.417	48.2728	113.50	.QV	.	.	.	.
7.500	49.0585	114.09	.QV	.	.	.	.
7.583	49.8484	114.69	.QV	.	.	.	.
7.667	50.6424	115.30	.QV	.	.	.	.
7.750	51.4407	115.91	.QV	.	.	.	.
7.833	52.2433	116.54	.QV	.	.	.	.
7.917	53.0503	117.17	.QV	.	.	.	.
8.000	53.8617	117.81	.QV	.	.	.	.
8.083	54.6776	118.47	.QV	.	.	.	.
8.167	55.4980	119.13	.QV	.	.	.	.
8.250	56.3231	119.80	.QV	.	.	.	.
8.333	57.1528	120.48	.Q V	.	.	.	.
8.417	57.9874	121.17	.Q V	.	.	.	.
8.500	58.8268	121.88	.Q V	.	.	.	.
8.583	59.6710	122.59	.Q V	.	.	.	.
8.667	60.5203	123.32	.Q V	.	.	.	.
8.750	61.3747	124.05	.Q V	.	.	.	.

8.833	62.2341	124.80	. Q V	.	.	.	.
8.917	63.0989	125.56	. Q V	.	.	.	.
9.000	63.9689	126.33	. Q V	.	.	.	.
9.083	64.8443	127.11	. Q V	.	.	.	.
9.167	65.7253	127.91	. Q V	.	.	.	.
9.250	66.6118	128.72	. Q V	.	.	.	.
9.333	67.5040	129.55	. Q V	.	.	.	.
9.417	68.4019	130.38	. Q V	.	.	.	.
9.500	69.3057	131.24	. Q V	.	.	.	.
9.583	70.2155	132.10	. Q V	.	.	.	.
9.667	71.1314	132.99	. Q V	.	.	.	.
9.750	72.0535	133.88	. Q V	.	.	.	.
9.833	72.9818	134.80	. Q V	.	.	.	.
9.917	73.9166	135.73	. Q V	.	.	.	.
10.000	74.8579	136.68	. Q V	.	.	.	.
10.083	75.8059	137.64	. Q V	.	.	.	.
10.167	76.7606	138.63	. Q V	.	.	.	.
10.250	77.7222	139.63	. Q V	.	.	.	.
10.333	78.6909	140.65	. Q V	.	.	.	.
10.417	79.6667	141.69	. Q V	.	.	.	.
10.500	80.6499	142.76	. Q V	.	.	.	.
10.583	81.6405	143.84	. Q V	.	.	.	.
10.667	82.6387	144.94	. Q V	.	.	.	.
10.750	83.6447	146.07	. Q V	.	.	.	.
10.833	84.6587	147.22	. Q V	.	.	.	.
10.917	85.6807	148.40	. Q V	.	.	.	.
11.000	86.7110	149.60	. Q V	.	.	.	.
11.083	87.7497	150.82	. Q V	.	.	.	.
11.167	88.7971	152.08	. Q V	.	.	.	.
11.250	89.8533	153.36	. Q V	.	.	.	.
11.333	90.9185	154.67	. Q V	.	.	.	.
11.417	91.9930	156.01	. Q V	.	.	.	.
11.500	93.0769	157.38	. Q V	.	.	.	.
11.583	94.1704	158.78	. Q V	.	.	.	.
11.667	95.2739	160.22	. Q V	.	.	.	.
11.750	96.3875	161.69	. Q V	.	.	.	.
11.833	97.5115	163.21	. Q V	.	.	.	.
11.917	98.6461	164.75	. Q V	.	.	.	.
12.000	99.7917	166.34	. Q V	.	.	.	.
12.083	100.9500	168.18	. Q V	.	.	.	.
12.167	102.1229	170.30	. Q V	.	.	.	.
12.250	103.3106	172.46	. Q V	.	.	.	.
12.333	104.5146	174.82	. Q V	.	.	.	.
12.417	105.7360	177.34	. Q V	.	.	.	.
12.500	106.9779	180.32	. Q V	.	.	.	.
12.583	108.2439	183.84	. Q V	.	.	.	.
12.667	109.5373	187.80	. Q V	.	.	.	.
12.750	110.8595	191.97	. Q V	.	.	.	.
12.833	112.2122	196.42	. Q V	.	.	.	.
12.917	113.5964	200.98	. Q V	.	.	.	.
13.000	115.0136	205.78	. Q V	.	.	.	.
13.083	116.4644	210.66	. Q V	.	.	.	.
13.167	117.9533	216.19	. Q V	.	.	.	.
13.250	119.4793	221.57	. Q V	.	.	.	.
13.333	121.0478	227.75	. Q V	.	.	.	.
13.417	122.6605	234.17	. Q V	.	.	.	.
13.500	124.3122	239.82	. Q V	.	.	.	.
13.583	126.0065	246.01	. Q V	.	.	.	.

13.667	127.7437	252.25	.	Q	V	.	.	.	.
13.750	129.5212	258.10	.	Q	V.	.	.	.	.
13.833	131.3383	263.84	.	Q	V.	.	.	.	.
13.917	133.1931	269.31	.	Q	V.	.	.	.	.
14.000	135.0843	274.60	.	Q	V.	.	.	.	.
14.083	137.0168	280.60	.	Q	V.	.	.	.	.
14.167	138.9944	287.16	.	Q	V.	.	.	.	.
14.250	141.0164	293.59	.	Q	V.	.	.	.	.
14.333	143.0847	300.32	.	Q	V	.	.	.	.
14.417	145.2015	307.36	.	Q	V	.	.	.	.
14.500	147.3751	315.62	.	Q	V	.	.	.	.
14.583	149.6150	325.22	.	Q	V	.	.	.	.
14.667	151.9289	335.98	.	Q	V	.	.	.	.
14.750	154.3198	347.16	.	Q	V	.	.	.	.
14.833	156.7926	359.05	.	Q	.V	.	.	.	.
14.917	159.3492	371.22	.	Q	.V	.	.	.	.
15.000	161.9946	384.12	.	Q	.V	.	.	.	.
15.083	164.7327	397.57	.	Q	.V	.	.	.	.
15.167	167.5783	413.18	.	Q	.V	.	.	.	.
15.250	170.5320	428.87	.	Q	.V	.	.	.	.
15.333	173.6124	447.28	.	Q	.V	.	.	.	.
15.417	176.8152	465.04	.	Q	.V	.	.	.	.
15.500	180.1201	479.88	.	Q	V	.	.	.	.
15.583	183.5466	497.53	.	Q	V	.	.	.	.
15.667	187.0981	515.68	.	Q	V	.	.	.	.
15.750	190.7850	535.33	.	.Q	V	.	.	.	.
15.833	194.6104	555.45	.	.Q	V	.	.	.	.
15.917	198.5861	577.27	.	.	QV	.	.	.	.
16.000	202.7689	607.35	.	.	Q V	.	.	.	.
16.083	207.4558	680.53	.	.	Q	.	.	.	.
16.167	212.6352	752.06	.	.	VQ	.	.	.	.
16.250	218.0547	786.91	.	.	VQ	.	.	.	.
16.333	223.9490	855.85	.	.	V	Q	.	.	.
16.417	230.4038	937.23	.	.	V	Q.	.	.	.
16.500	237.8398	1079.71	.	.	V	.	Q	.	.
16.583	246.3050	1229.15	.	.	V	.	Q	.	.
16.667	255.5322	1339.79	.	.	V	.	Q	.	.
16.750	265.1367	1394.58	.	.	V	.	Q.	.	.
16.833	275.1776	1457.93	.	.	V.	.	Q	.	.
16.917	285.4380	1489.82	.	.	V	.	.Q	.	.
17.000	296.0977	1547.79	.	.	V	.	.Q	.	.
17.083	307.0369	1588.36	.	.	.V	.	Q	.	.
17.167	318.8546	1715.93	.	.	.V	.	Q	.	.
17.250	330.6615	1714.37	.	.	.V	.	Q	.	.
17.333	343.3770	1846.29	.	.	.V	.	Q	.	.
17.417	356.1077	1848.49	.	.	.V	.	Q	.	.
17.500	367.6056	1669.49	.	.	.V	.	Q	.	.
17.583	379.4181	1715.17	.	.	.V	.	Q	.	.
17.667	390.8410	1658.61	.	.	.V	.	Q	.	.
17.750	401.2710	1514.44	.	.	.V	.Q	.	.	.
17.833	410.9096	1399.53	.	.	.VQ.	.	.	.	.
17.917	419.6879	1274.60	.	.	.Q	V.	.	.	.
18.000	427.7218	1166.53	.	.	.Q	V	.	.	.
18.083	435.4421	1120.99	.	.	.Q	V	.	.	.
18.167	442.5485	1031.85	.	.	.Q	.V	.	.	.
18.250	448.9530	929.93	.	.	.Q	.V	.	.	.
18.333	454.6941	833.60	.	.	.Q	.V	.	.	.
18.417	460.0078	771.55	.	.	.Q	.V	.	.	.

18.500	465.0190	727.63	.	.	.	Q	.	.	V	.
18.583	469.7226	682.98	.	.	.	Q	.	.	V	.
18.667	474.0986	635.39	.	.	.	Q	.	.	V	.
18.750	478.0155	568.73	.	.	.	.Q	.	.	V	.
18.833	481.6830	532.52	.	.	.	.Q	.	.	V	.
18.917	485.0590	490.19	.	.	.	Q	.	.	V	.
19.000	488.1506	448.90	.	.	.	Q.	.	.	V	.
19.083	491.0869	426.35	.	.	.	Q	.	.	V	.
19.167	493.8552	401.95	.	.	.	Q	.	.	V	.
19.250	496.3512	362.43	.	.	.	Q	.	.	V	.
19.333	498.5120	313.75	.	.	.	Q	.	.	V	.
19.417	500.5572	296.96	.	.	.	Q	.	.	V	.
19.500	502.5274	286.07	.	.	.	Q	.	.	V	.
19.583	504.4202	274.84	.	.	.	Q	.	.	V	.
19.667	506.2326	263.15	.	.	.	Q	.	.	V	.
19.750	507.9755	253.08	.	.	.	Q	.	.	V	.
19.833	509.6563	244.06	.	.	.	Q	.	.	V	.
19.917	511.2807	235.86	.	.	.	Q	.	.	V	.
20.000	512.8549	228.57	.	.	.	Q	.	.	V	.
20.083	514.3847	222.13	.	.	.	Q	.	.	V	.
20.167	515.8730	216.11	.	.	.	Q	.	.	V	.
20.250	517.3241	210.69	.	.	.	Q	.	.	V	.
20.333	518.7433	206.07	.	.	.	Q	.	.	V	.
20.417	520.1286	201.15	.	.	.	Q	.	.	V	.
20.500	521.4788	196.05	.	.	.	Q	.	.	V	.
20.583	522.7855	189.74	.	.	.	Q	.	.	V	.
20.667	524.0379	181.85	.	.	.	Q	.	.	V	.
20.750	525.1588	162.76	.	.	.	Q	.	.	V	.
20.833	526.2435	157.49	.	.	.	Q	.	.	V	.
20.917	527.3063	154.33	.	.	.	Q	.	.	V	.
21.000	528.3500	151.55	.	.	.	Q	.	.	V	.
21.083	529.3710	148.25	.	.	.	Q	.	.	V	.
21.167	530.3710	145.20	.	.	.	Q	.	.	V	.
21.250	531.3522	142.47	.	.	.	Q	.	.	V	.
21.333	532.3168	140.06	.	.	.	Q	.	.	V	.
21.417	533.2655	137.75	.	.	.	Q	.	.	V	.
21.500	534.1989	135.53	.	.	.	Q	.	.	V	.
21.583	535.1176	133.38	.	.	.	Q	.	.	V	.
21.667	536.0219	131.31	.	.	.	Q	.	.	V	.
21.750	536.9137	129.49	.	.	.	Q	.	.	V	.
21.833	537.7935	127.74	.	.	.	Q	.	.	V	.
21.917	538.6616	126.05	.	.	.	Q	.	.	V	.
22.000	539.5184	124.42	.	.	.	Q	.	.	V	.
22.083	540.3644	122.84	.	.	.	Q	.	.	V	.
22.167	541.1999	121.31	.	.	.	Q	.	.	V	.
22.250	542.0251	119.83	.	.	.	Q	.	.	V	.
22.333	542.8405	118.39	.	.	.	Q	.	.	V	.
22.417	543.6463	117.00	.	.	.	Q	.	.	V	.
22.500	544.4427	115.65	.	.	.	Q	.	.	V	.
22.583	545.2302	114.33	.	.	.	Q	.	.	V	.
22.667	546.0087	113.05	.	.	.	Q	.	.	V	.
22.750	546.7792	111.88	.	.	.	Q	.	.	V	.
22.833	547.5419	110.74	.	.	.	Q	.	.	V	.
22.917	548.2969	109.63	.	.	.	Q	.	.	V	.
23.000	549.0444	108.55	.	.	.	Q	.	.	V	.
23.083	549.7848	107.50	.	.	.	Q	.	.	V	.
23.167	550.5181	106.47	.	.	.	Q	.	.	V	.
23.250	551.2445	105.48	.	.	.	Q	.	.	V	.

23.333	551.9642	104.50	. Q	.	.	.	V .
23.417	552.6774	103.55	. Q	.	.	.	V .
23.500	553.3842	102.63	. Q	.	.	.	V .
23.583	554.0848	101.72	. Q	.	.	.	V .
23.667	554.7792	100.84	. Q	.	.	.	V .
23.750	555.4678	99.97	. Q	.	.	.	V .
23.833	556.1505	99.13	. Q	.	.	.	V .
23.917	556.8275	98.30	. Q	.	.	.	V .
24.000	557.4990	97.50	. Q	.	.	.	V .
24.083	558.1630	96.41	. Q	.	.	.	V .
24.167	558.8175	95.04	. Q	.	.	.	V .
24.250	559.4628	93.69	.Q	.	.	.	V .
24.333	560.0975	92.16	.Q	.	.	.	V .
24.417	560.7208	90.51	.Q	.	.	.	V .
24.500	561.3290	88.32	.Q	.	.	.	V .
24.583	561.9180	85.51	.Q	.	.	.	V .
24.667	562.4843	82.23	.Q	.	.	.	V .
24.750	563.0267	78.75	.Q	.	.	.	V .
24.833	563.5436	75.05	.Q	.	.	.	V .
24.917	564.0347	71.31	.Q	.	.	.	V .
25.000	564.4988	67.39	.Q	.	.	.	V .
25.083	564.9361	63.49	.Q	.	.	.	V .
25.167	565.3416	58.87	.Q	.	.	.	V .
25.250	565.7175	54.58	.Q	.	.	.	V .
25.333	566.0577	49.40	.Q	.	.	.	V .
25.417	566.3610	44.05	Q	.	.	.	V .
25.500	566.6360	39.92	Q	.	.	.	V .
25.583	566.8785	35.22	Q	.	.	.	V .
25.667	567.0897	30.66	Q	.	.	.	V .
25.750	567.2742	26.79	Q	.	.	.	V .
25.833	567.4346	23.28	Q	.	.	.	V .
25.917	567.5745	20.31	Q	.	.	.	V .
26.000	567.6973	17.83	Q	.	.	.	V .
26.083	567.8030	15.35	Q	.	.	.	V .
26.167	567.8936	13.16	Q	.	.	.	V .
26.250	567.9717	11.35	Q	.	.	.	V .
26.333	568.0399	9.90	Q	.	.	.	V .
26.417	568.0994	8.64	Q	.	.	.	V .
26.500	568.1509	7.48	Q	.	.	.	V .
26.583	568.1950	6.40	Q	.	.	.	V .
26.667	568.2322	5.40	Q	.	.	.	V .
26.750	568.2643	4.66	Q	.	.	.	V .
26.833	568.2917	3.97	Q	.	.	.	V .
26.917	568.3151	3.39	Q	.	.	.	V .
27.000	568.3354	2.96	Q	.	.	.	V .
27.083	568.3528	2.53	Q	.	.	.	V .
27.167	568.3673	2.10	Q	.	.	.	V .
27.250	568.3796	1.78	Q	.	.	.	V .
27.333	568.3911	1.66	Q	.	.	.	V .
27.417	568.4017	1.55	Q	.	.	.	V .
27.500	568.4117	1.45	Q	.	.	.	V .
27.583	568.4209	1.34	Q	.	.	.	V .
27.667	568.4294	1.23	Q	.	.	.	V .
27.750	568.4371	1.12	Q	.	.	.	V .
27.833	568.4442	1.02	Q	.	.	.	V .
27.917	568.4504	0.91	Q	.	.	.	V .
28.000	568.4560	0.81	Q	.	.	.	V .
28.083	568.4609	0.71	Q	.	.	.	V .

28.167	568.4650	0.60	Q	.	.	.	V .
28.250	568.4685	0.50	Q	.	.	.	V .
28.333	568.4713	0.40	Q	.	.	.	V .
28.417	568.4733	0.30	Q	.	.	.	V .
28.500	568.4747	0.20	Q	.	.	.	V .
28.583	568.4754	0.10	Q	.	.	.	V .
28.667	568.4754	0.00	Q	.	.	.	V .

-----  
TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1720.0
10%	480.0
20%	260.0
30%	180.0
40%	140.0
50%	115.0
60%	95.0
70%	75.0
80%	55.0
90%	30.0

-----  
END OF FLOODSCx ROUTING ANALYSIS



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FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RANCHO MISSION VIEJO - SINGLE AREA UH \*
\* EXISTING CONDITION - EXISTING NODE 133T \*
\* 25-YR EV JMITAL AUGUST 2017 \*

FILE NAME: EV2533TS.DAT
TIME/DATE OF STUDY: 15:42 08/03/2017

\*\*\*\*\*

FLOW PROCESS FROM NODE 13010.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

\*\*\*\*\*

(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 7114.600 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 1.227 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.261
LOW LOSS FRACTION = 0.538
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.34
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.72
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.95
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.59
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.20
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.68

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.731
30-MINUTE FACTOR = 0.731
1-HOUR FACTOR = 0.731
3-HOUR FACTOR = 0.956
6-HOUR FACTOR = 0.977
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 6.792

UNIT HYDROGRAPH DETERMINATION

Table with 3 columns: INTERVAL NUMBER, "S" GRAPH MEAN VALUES, UNIT HYDROGRAPH ORDINATES (CFS). Rows 1-48.

49	99.770	109.614
50	99.898	109.614
51	100.000	87.997

-----  
TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 1065.5380  
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 1084.1010  
-----

=====  
2 4 - H O U R S T O R M  
R U N O F F H Y D R O G R A P H  
=====

=====  
HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
(Note: Time indicated is at END of Each Unit Intervals)  
-----

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	750.0	1500.0	2250.0	3000.0
0.083	0.0051	0.73	Q	.	.	.	.
0.167	0.0202	2.20	Q	.	.	.	.
0.250	0.0460	3.75	Q	.	.	.	.
0.333	0.0864	5.87	Q	.	.	.	.
0.417	0.1458	8.62	Q	.	.	.	.
0.500	0.2362	13.12	Q	.	.	.	.
0.583	0.3695	19.35	Q	.	.	.	.
0.667	0.5497	26.16	Q	.	.	.	.
0.750	0.7840	34.03	Q	.	.	.	.
0.833	1.0723	41.86	Q	.	.	.	.
0.917	1.4187	50.29	Q	.	.	.	.
1.000	1.8262	59.18	Q	.	.	.	.
1.083	2.3037	69.33	Q	.	.	.	.
1.167	2.8550	80.06	VQ	.	.	.	.
1.250	3.4920	92.48	VQ	.	.	.	.
1.333	4.2040	103.39	VQ	.	.	.	.
1.417	4.9872	113.72	VQ	.	.	.	.
1.500	5.8500	125.28	VQ	.	.	.	.
1.583	6.7777	134.70	VQ	.	.	.	.
1.667	7.7651	143.37	VQ	.	.	.	.
1.750	8.8023	150.61	V Q	.	.	.	.
1.833	9.8830	156.91	V Q	.	.	.	.
1.917	11.0060	163.06	V Q	.	.	.	.
2.000	12.1660	168.42	V Q	.	.	.	.
2.083	13.3561	172.81	V Q	.	.	.	.
2.167	14.5713	176.45	V Q	.	.	.	.
2.250	15.8097	179.82	V Q	.	.	.	.
2.333	17.0702	183.01	V Q	.	.	.	.
2.417	18.3512	186.01	V Q	.	.	.	.
2.500	19.6488	188.41	V Q	.	.	.	.
2.583	20.9622	190.70	V Q	.	.	.	.
2.667	22.2886	192.61	V Q	.	.	.	.
2.750	23.6268	194.30	V Q	.	.	.	.
2.833	24.9767	196.00	V Q	.	.	.	.
2.917	26.3380	197.66	V Q	.	.	.	.
3.000	27.7068	198.75	.VQ	.	.	.	.
3.083	29.0823	199.72	.VQ	.	.	.	.
3.167	30.4645	200.69	.VQ	.	.	.	.
3.250	31.8534	201.67	.VQ	.	.	.	.
3.333	33.2492	202.66	.VQ	.	.	.	.
3.417	34.6518	203.66	.VQ	.	.	.	.
3.500	36.0613	204.66	.VQ	.	.	.	.
3.583	37.4778	205.68	.VQ	.	.	.	.
3.667	38.9014	206.70	.VQ	.	.	.	.
3.750	40.3321	207.73	.VQ	.	.	.	.
3.833	41.7699	208.77	.VQ	.	.	.	.
3.917	43.2150	209.82	.VQ	.	.	.	.

4.000	44.6673	210.88	.VQ	.	.	.	.
4.083	46.1270	211.95	.VQ	.	.	.	.
4.167	47.5940	213.02	.VQ	.	.	.	.
4.250	49.0683	214.06	.VQ	.	.	.	.
4.333	50.5484	214.91	.VQ	.	.	.	.
4.417	52.0344	215.78	.VQ	.	.	.	.
4.500	53.5265	216.65	.VQ	.	.	.	.
4.583	55.0246	217.53	. Q	.	.	.	.
4.667	56.5289	218.42	. Q	.	.	.	.
4.750	58.0393	219.32	. Q	.	.	.	.
4.833	59.5560	220.23	. Q	.	.	.	.
4.917	61.0791	221.15	. Q	.	.	.	.
5.000	62.6086	222.08	. Q	.	.	.	.
5.083	64.1445	223.02	. Q	.	.	.	.
5.167	65.6870	223.97	. Q	.	.	.	.
5.250	67.2361	224.93	. Q	.	.	.	.
5.333	68.7919	225.90	. VQ	.	.	.	.
5.417	70.3545	226.89	. VQ	.	.	.	.
5.500	71.9239	227.88	. VQ	.	.	.	.
5.583	73.5003	228.89	. VQ	.	.	.	.
5.667	75.0837	229.90	. VQ	.	.	.	.
5.750	76.6741	230.94	. VQ	.	.	.	.
5.833	78.2718	231.98	. VQ	.	.	.	.
5.917	79.8767	233.03	. VQ	.	.	.	.
6.000	81.4889	234.10	. Q	.	.	.	.
6.083	83.1086	235.18	. Q	.	.	.	.
6.167	84.7358	236.27	. Q	.	.	.	.
6.250	86.3706	237.38	. Q	.	.	.	.
6.333	88.0131	238.49	. Q	.	.	.	.
6.417	89.6635	239.63	. Q	.	.	.	.
6.500	91.3217	240.78	. Q	.	.	.	.
6.583	92.9880	241.94	. Q	.	.	.	.
6.667	94.6623	243.11	. Q	.	.	.	.
6.750	96.3449	244.31	. Q	.	.	.	.
6.833	98.0358	245.51	. Q	.	.	.	.
6.917	99.7351	246.74	. Q	.	.	.	.
7.000	101.4429	247.98	. Q	.	.	.	.
7.083	103.1594	249.24	. Q	.	.	.	.
7.167	104.8846	250.51	. Q	.	.	.	.
7.250	106.6188	251.80	. Q	.	.	.	.
7.333	108.3619	253.10	. Q	.	.	.	.
7.417	110.1142	254.43	. QV	.	.	.	.
7.500	111.8757	255.77	. QV	.	.	.	.
7.583	113.6466	257.14	. QV	.	.	.	.
7.667	115.4270	258.51	. QV	.	.	.	.
7.750	117.2171	259.92	. QV	.	.	.	.
7.833	119.0169	261.34	. QV	.	.	.	.
7.917	120.8267	262.78	. QV	.	.	.	.
8.000	122.6465	264.24	. QV	.	.	.	.
8.083	124.4766	265.73	. QV	.	.	.	.
8.167	126.3170	267.23	. QV	.	.	.	.
8.250	128.1680	268.76	. QV	.	.	.	.
8.333	130.0297	270.31	. QV	.	.	.	.
8.417	131.9022	271.89	. QV	.	.	.	.
8.500	133.7857	273.49	. QV	.	.	.	.
8.583	135.6804	275.11	. Q V	.	.	.	.
8.667	137.5865	276.76	. Q V	.	.	.	.
8.750	139.5041	278.44	. Q V	.	.	.	.

8.833	141.4335	280.14	. Q V	.	.	.	.
8.917	143.3748	281.88	. Q V	.	.	.	.
9.000	145.3282	283.63	. Q V	.	.	.	.
9.083	147.2939	285.42	. Q V	.	.	.	.
9.167	149.2721	287.24	. Q V	.	.	.	.
9.250	151.2631	289.09	. Q V	.	.	.	.
9.333	153.2670	290.97	. Q V	.	.	.	.
9.417	155.2841	292.88	. Q V	.	.	.	.
9.500	157.3146	294.83	. Q V	.	.	.	.
9.583	159.3587	296.81	. Q V	.	.	.	.
9.667	161.4167	298.82	. Q V	.	.	.	.
9.750	163.4889	300.88	. Q V	.	.	.	.
9.833	165.5754	302.96	. Q V	.	.	.	.
9.917	167.6766	305.09	. Q V	.	.	.	.
10.000	169.7927	307.26	. Q V	.	.	.	.
10.083	171.9240	309.47	. Q V	.	.	.	.
10.167	174.0708	311.72	. Q V	.	.	.	.
10.250	176.2334	314.01	. Q V	.	.	.	.
10.333	178.4122	316.35	. Q V	.	.	.	.
10.417	180.6073	318.74	. Q V	.	.	.	.
10.500	182.8192	321.17	. Q V	.	.	.	.
10.583	185.0482	323.65	. Q V	.	.	.	.
10.667	187.2946	326.18	. Q V	.	.	.	.
10.750	189.5589	328.77	. Q V	.	.	.	.
10.833	191.8414	331.41	. Q V	.	.	.	.
10.917	194.1424	334.11	. Q V	.	.	.	.
11.000	196.4624	336.86	. Q V	.	.	.	.
11.083	198.8018	339.68	. Q V	.	.	.	.
11.167	201.1610	342.56	. Q V	.	.	.	.
11.250	203.5405	345.51	. Q V	.	.	.	.
11.333	205.9408	348.51	. Q V	.	.	.	.
11.417	208.3622	351.60	. Q V	.	.	.	.
11.500	210.8054	354.75	. Q V	.	.	.	.
11.583	213.2709	357.99	. Q V	.	.	.	.
11.667	215.7591	361.29	. Q V	.	.	.	.
11.750	218.2707	364.69	. Q V	.	.	.	.
11.833	220.8062	368.16	. Q V	.	.	.	.
11.917	223.3663	371.73	. Q V	.	.	.	.
12.000	225.9516	375.38	. Q V	.	.	.	.
12.083	228.5666	379.70	. Q V	.	.	.	.
12.167	231.2158	384.67	. Q V	.	.	.	.
12.250	233.9005	389.81	. Q V	.	.	.	.
12.333	236.6243	395.49	. Q V	.	.	.	.
12.417	239.3914	401.78	. Q V	.	.	.	.
12.500	242.2117	409.51	. Q V	.	.	.	.
12.583	245.0953	418.70	. Q V	.	.	.	.
12.667	248.0459	428.43	. Q V	.	.	.	.
12.750	251.0702	439.13	. Q V	.	.	.	.
12.833	254.1689	449.93	. Q V	.	.	.	.
12.917	257.3463	461.35	. Q V	.	.	.	.
13.000	260.6056	473.25	. Q V	.	.	.	.
13.083	263.9547	486.30	. Q V	.	.	.	.
13.167	267.3979	499.94	. Q V	.	.	.	.
13.250	270.9453	515.08	. Q V	.	.	.	.
13.333	274.5901	529.23	. Q V	.	.	.	.
13.417	278.3309	543.16	. Q V	.	.	.	.
13.500	282.1754	558.22	. Q V	.	.	.	.
13.583	286.1141	571.91	. Q V	.	.	.	.

13.667	290.1447	585.24	.	Q	V	.	.	.
13.750	294.2614	597.75	.	Q	V	.	.	.
13.833	298.4612	609.80	.	Q	.V	.	.	.
13.917	302.7453	622.06	.	Q	.V	.	.	.
14.000	307.1117	634.00	.	Q	.V	.	.	.
14.083	311.5674	646.96	.	Q	.V	.	.	.
14.167	316.1201	661.05	.	Q	.V	.	.	.
14.250	320.7721	675.47	.	Q	.V	.	.	.
14.333	325.5324	691.19	.	Q	.V	.	.	.
14.417	330.4112	708.40	.	Q	.V	.	.	.
14.500	335.4307	728.84	.	Q	.V	.	.	.
14.583	340.6162	752.93	.	Q	V	.	.	.
14.667	345.9756	778.18	.	Q	V	.	.	.
14.750	351.5249	805.76	.	Q	V	.	.	.
14.833	357.2666	833.69	.	.Q	V	.	.	.
14.917	363.2119	863.25	.	.Q	V	.	.	.
15.000	369.3672	893.75	.	.Q	V	.	.	.
15.083	375.7527	927.18	.	.QV	.	.	.	.
15.167	382.3802	962.31	.	.Q	V	.	.	.
15.250	389.2770	1001.41	.	.	QV	.	.	.
15.333	396.4283	1038.37	.	.	QV	.	.	.
15.417	403.8141	1072.43	.	.	Q	.	.	.
15.500	411.4389	1107.12	.	.	QV	.	.	.
15.583	419.2834	1139.01	.	.	Q	.	.	.
15.667	427.3344	1169.01	.	.	Q	.	.	.
15.750	435.5761	1196.69	.	.	QV	.	.	.
15.833	443.9778	1219.93	.	.	Q	.	.	.
15.917	452.5573	1245.75	.	.	Q	.	.	.
16.000	461.4032	1284.42	.	.	Q	.	.	.
16.083	470.9402	1384.77	.	.	VQ	.	.	.
16.167	481.1548	1483.15	.	.	V	Q.	.	.
16.250	491.6993	1531.07	.	.	V	Q	.	.
16.333	502.9433	1632.62	.	.	V	.Q	.	.
16.417	515.0647	1760.03	.	.	V.	Q	.	.
16.500	528.7025	1980.20	.	.	V.	Q	.	.
16.583	543.6829	2175.15	.	.	V	Q.	.	.
16.667	559.2718	2263.51	.	.	V	Q	.	.
16.750	575.6371	2376.24	.	.	.V	.Q	.	.
16.833	592.1376	2395.87	.	.	.V	.Q	.	.
16.917	609.2317	2482.07	.	.	.V	Q	.	.
17.000	626.9024	2565.79	.	.	.V	Q	.	.
17.083	645.6145	2716.99	.	.	.V	Q	.	.
17.167	664.8740	2796.48	.	.	.V	Q	.	.
17.250	684.9700	2917.95	.	.	.V	Q	.	.
17.333	704.0140	2765.19	.	.	.V	Q	.	.
17.417	722.5317	2688.76	.	.	.V	Q	.	.
17.500	741.3316	2729.75	.	.	.V	Q	.	.
17.583	758.4262	2482.14	.	.	.V	Q	.	.
17.667	774.4839	2331.58	.	.	.V	.Q	.	.
17.750	789.1736	2132.95	.	.	.QV.	.	.	.
17.833	802.9149	1995.23	.	.	Q	V.	.	.
17.917	816.0862	1912.48	.	.	Q	V	.	.
18.000	828.2967	1772.95	.	.	Q	V	.	.
18.083	839.4299	1616.55	.	.	.Q	V	.	.
18.167	849.6709	1486.99	.	.	Q.	.V	.	.
18.250	859.3383	1403.71	.	.	Q	.V	.	.
18.333	868.5136	1332.25	.	.	Q	.V	.	.
18.417	877.1567	1254.98	.	.	Q	.V	.	.

18.500	885.0268	1142.73	.	.	Q	.	.	V	.
18.583	892.4311	1075.10	.	.	Q	.	.	V	.
18.667	899.2574	991.18	.	.	Q	.	.	V	.
18.750	905.6500	928.20	.	.	Q	.	.	V	.
18.833	911.7347	883.50	.	.	Q	.	.	V	.
18.917	917.4510	830.00	.	.	Q	.	.	V	.
19.000	922.5439	739.48	.	.	Q.	.	.	V	.
19.083	927.3060	691.46	.	.	Q.	.	.	V	.
19.167	931.8624	661.58	.	.	Q	.	.	V	.
19.250	936.2239	633.30	.	.	Q	.	.	V	.
19.333	940.3972	605.96	.	.	Q	.	.	V	.
19.417	944.3923	580.08	.	.	Q	.	.	V	.
19.500	948.2178	555.47	.	.	Q	.	.	V	.
19.583	951.8936	533.72	.	.	Q	.	.	V	.
19.667	955.4379	514.63	.	.	Q	.	.	V	.
19.750	958.8657	497.72	.	.	Q	.	.	V	.
19.833	962.1851	481.98	.	.	Q	.	.	V	.
19.917	965.4005	466.88	.	.	Q	.	.	V	.
20.000	968.5241	453.55	.	.	Q	.	.	V	.
20.083	971.5610	440.96	.	.	Q	.	.	V	.
20.167	974.5040	427.31	.	.	Q	.	.	V	.
20.250	977.3189	408.73	.	.	Q	.	.	V	.
20.333	979.9388	380.42	.	.	Q	.	.	V	.
20.417	982.4892	370.31	.	.	Q	.	.	V	.
20.500	984.9836	362.18	.	.	Q	.	.	V	.
20.583	987.4254	354.55	.	.	Q	.	.	V	.
20.667	989.8144	346.89	.	.	Q	.	.	V	.
20.750	992.1544	339.76	.	.	Q	.	.	V	.
20.833	994.4473	332.94	.	.	Q	.	.	V	.
20.917	996.6954	326.43	.	.	Q	.	.	V	.
21.000	998.9034	320.59	.	.	Q	.	.	V	.
21.083	1001.0734	315.08	.	.	Q	.	.	V	.
21.167	1003.2068	309.78	.	.	Q	.	.	V	.
21.250	1005.3056	304.75	.	.	Q	.	.	V	.
21.333	1007.3735	300.26	.	.	Q	.	.	V	.
21.417	1009.4117	295.95	.	.	Q	.	.	V	.
21.500	1011.4213	291.79	.	.	Q	.	.	V	.
21.583	1013.4033	287.78	.	.	Q	.	.	V	.
21.667	1015.3585	283.90	.	.	Q	.	.	V	.
21.750	1017.2880	280.16	.	.	Q	.	.	V	.
21.833	1019.1925	276.54	.	.	Q	.	.	V	.
21.917	1021.0729	273.03	.	.	Q	.	.	V	.
22.000	1022.9298	269.63	.	.	Q	.	.	V	.
22.083	1024.7640	266.33	.	.	Q	.	.	V	.
22.167	1026.5762	263.13	.	.	Q	.	.	V	.
22.250	1028.3672	260.05	.	.	Q	.	.	V	.
22.333	1030.1387	257.21	.	.	Q	.	.	V	.
22.417	1031.8911	254.46	.	.	Q	.	.	V	.
22.500	1033.6251	251.78	.	.	Q	.	.	V	.
22.583	1035.3412	249.17	.	.	Q	.	.	V	.
22.667	1037.0398	246.64	.	.	Q	.	.	V	.
22.750	1038.7214	244.18	.	.	Q	.	.	V	.
22.833	1040.3866	241.78	.	.	Q	.	.	V	.
22.917	1042.0356	239.44	.	.	Q	.	.	V	.
23.000	1043.6689	237.16	.	.	Q	.	.	V	.
23.083	1045.2870	234.94	.	.	Q	.	.	V	.
23.167	1046.8901	232.77	.	.	Q	.	.	V	.
23.250	1048.4786	230.66	.	.	Q	.	.	V	.

23.333	1050.0530	228.59	. Q	.	.	.	V .
23.417	1051.6134	226.58	. Q	.	.	.	V .
23.500	1053.1603	224.61	. Q	.	.	.	V .
23.583	1054.6940	222.68	. Q	.	.	.	V .
23.667	1056.2146	220.80	. Q	.	.	.	V .
23.750	1057.7227	218.96	. Q	.	.	.	V .
23.833	1059.2183	217.16	. Q	.	.	.	V .
23.917	1060.7018	215.40	. Q	.	.	.	V .
24.000	1062.1735	213.68	. Q	.	.	.	V .
24.083	1063.6284	211.26	. Q	.	.	.	V .
24.167	1065.0619	208.15	. Q	.	.	.	V .
24.250	1066.4738	205.01	. Q	.	.	.	V .
24.333	1067.8604	201.34	. Q	.	.	.	V .
24.417	1069.2178	197.09	. Q	.	.	.	V .
24.500	1070.5343	191.16	. Q	.	.	.	V .
24.583	1071.7985	183.56	. Q	.	.	.	V .
24.667	1073.0071	175.49	. Q	.	.	.	V .
24.750	1074.1533	166.44	. Q	.	.	.	V .
24.833	1075.2382	157.52	. Q	.	.	.	V .
24.917	1076.2583	148.12	.Q	.	.	.	V .
25.000	1077.2112	138.35	.Q	.	.	.	V .
25.083	1078.0889	127.44	.Q	.	.	.	V .
25.167	1078.8882	116.05	.Q	.	.	.	V .
25.250	1079.5983	103.10	.Q	.	.	.	V .
25.333	1080.2305	91.79	.Q	.	.	.	V .
25.417	1080.7897	81.19	.Q	.	.	.	V .
25.500	1081.2681	69.46	Q	.	.	.	V .
25.583	1081.6812	59.99	Q	.	.	.	V .
25.667	1082.0349	51.36	Q	.	.	.	V .
25.750	1082.3397	44.26	Q	.	.	.	V .
25.833	1082.6027	38.17	Q	.	.	.	V .
25.917	1082.8252	32.30	Q	.	.	.	V .
26.000	1083.0131	27.29	Q	.	.	.	V .
26.083	1083.1735	23.29	Q	.	.	.	V .
26.167	1083.3118	20.09	Q	.	.	.	V .
26.250	1083.4302	17.20	Q	.	.	.	V .
26.333	1083.5302	14.51	Q	.	.	.	V .
26.417	1083.6132	12.06	Q	.	.	.	V .
26.500	1083.6836	10.23	Q	.	.	.	V .
26.583	1083.7424	8.54	Q	.	.	.	V .
26.667	1083.7924	7.25	Q	.	.	.	V .
26.750	1083.8351	6.20	Q	.	.	.	V .
26.833	1083.8705	5.15	Q	.	.	.	V .
26.917	1083.8992	4.17	Q	.	.	.	V .
27.000	1083.9250	3.76	Q	.	.	.	V .
27.083	1083.9491	3.49	Q	.	.	.	V .
27.167	1083.9713	3.23	Q	.	.	.	V .
27.250	1083.9917	2.97	Q	.	.	.	V .
27.333	1084.0104	2.70	Q	.	.	.	V .
27.417	1084.0272	2.45	Q	.	.	.	V .
27.500	1084.0422	2.19	Q	.	.	.	V .
27.583	1084.0555	1.93	Q	.	.	.	V .
27.667	1084.0671	1.68	Q	.	.	.	V .
27.750	1084.0770	1.43	Q	.	.	.	V .
27.833	1084.0851	1.18	Q	.	.	.	V .
27.917	1084.0914	0.93	Q	.	.	.	V .
28.000	1084.0962	0.68	Q	.	.	.	V .
28.083	1084.0992	0.44	Q	.	.	.	V .

28.167 1084.1006 0.19 Q . . . V.

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 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
 (Note: 100% of Peak Flow Rate estimate assumed to have  
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1690.0
10%	725.0
20%	345.0
30%	235.0
40%	170.0
50%	125.0
60%	100.0
70%	75.0
80%	55.0
90%	30.0

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 END OF FLOODSCx ROUTING ANALYSIS

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FLOOD ROUTING ANALYSIS  
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)  
(c) Copyright 1989-2013 Advanced Engineering Software (aes)  
Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* RANCHO MISSION VIEJO - SINGLE AREA UH \*  
\* EXISTING CONDITION - EXISTING NODE 133T \*  
\* 50-YR EV JMITAL AUGUST 2017 \*  
\*\*\*\*\*

FILE NAME: EV5033TS.DAT  
TIME/DATE OF STUDY: 15:43 08/23/2017

\*\*\*\*\*

FLOW PROCESS FROM NODE 13010.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 7114.600 ACRES  
BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 1.173 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.261  
LOW LOSS FRACTION = 0.508  
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.37  
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.80  
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.06  
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.78  
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.47  
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.12

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE FACTOR = 0.731  
30-MINUTE FACTOR = 0.731  
1-HOUR FACTOR = 0.731  
3-HOUR FACTOR = 0.956  
6-HOUR FACTOR = 0.977  
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 7.104

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UNIT HYDROGRAPH DETERMINATION

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INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.406	349.296
2	1.218	698.593
3	2.091	751.087
4	3.281	1023.958
5	4.954	1439.763
6	7.664	2331.937
7	11.211	3051.536
8	15.187	3420.668
9	19.318	3554.560
10	23.967	4000.653
11	28.423	3833.887
12	33.818	4642.004
13	39.158	4594.667
14	45.654	5589.217
15	52.176	5611.248
16	57.376	4474.572
17	63.714	5453.487
18	68.832	4403.417
19	73.455	3977.476
20	77.345	3347.343
21	80.546	2753.873
22	83.659	2678.742
23	86.306	2277.901
24	88.383	1786.600
25	90.046	1431.002
26	91.557	1300.073
27	92.955	1202.964
28	94.189	1061.453
29	95.108	790.786
30	95.965	737.443
31	96.563	514.847
32	97.120	479.484
33	97.678	479.484
34	98.055	324.660
35	98.189	115.555
36	98.323	114.728
37	98.456	114.373
38	98.589	114.485
39	98.722	114.964
40	98.855	114.255
41	98.988	114.728
42	99.122	114.721
43	99.255	114.721
44	99.388	114.721
45	99.522	114.721
46	99.655	114.721
47	99.788	114.721
48	99.922	114.721

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 TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 1122.2311  
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 1284.3932  
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2 4 - H O U R S T O R M  
 R U N O F F H Y D R O G R A P H

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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	875.0	1750.0	2625.0	3500.0
0.083	0.0063	0.91	Q	.	.	.	.
0.167	0.0251	2.73	Q	.	.	.	.
0.250	0.0575	4.70	Q	.	.	.	.
0.333	0.1083	7.38	Q	.	.	.	.
0.417	0.1852	11.16	Q	.	.	.	.
0.500	0.3042	17.28	Q	.	.	.	.
0.583	0.4783	25.29	Q	.	.	.	.
0.667	0.7144	34.28	Q	.	.	.	.
0.750	1.0151	43.66	Q	.	.	.	.
0.833	1.3886	54.23	Q	.	.	.	.
0.917	1.8322	64.40	Q	.	.	.	.
1.000	2.3605	76.71	Q	.	.	.	.
1.083	2.9730	88.94	VQ	.	.	.	.
1.167	3.6880	103.81	VQ	.	.	.	.
1.250	4.5060	118.77	VQ	.	.	.	.
1.333	5.4070	130.83	VQ	.	.	.	.
1.417	6.4090	145.48	VQ	.	.	.	.
1.500	7.4933	157.45	VQ	.	.	.	.
1.583	8.6527	168.35	VQ	.	.	.	.
1.667	9.8762	177.64	V Q	.	.	.	.
1.750	11.1531	185.42	V Q	.	.	.	.
1.833	12.4826	193.03	V Q	.	.	.	.
1.917	13.8574	199.63	V Q	.	.	.	.
2.000	15.2691	204.97	V Q	.	.	.	.
2.083	16.7113	209.41	V Q	.	.	.	.
2.167	18.1818	213.52	V Q	.	.	.	.
2.250	19.6791	217.40	V Q	.	.	.	.
2.333	21.2006	220.93	V Q	.	.	.	.
2.417	22.7417	223.77	V Q	.	.	.	.
2.500	24.3015	226.48	V Q	.	.	.	.
2.583	25.8761	228.63	V Q	.	.	.	.
2.667	27.4649	230.69	V Q	.	.	.	.
2.750	29.0680	232.77	V Q	.	.	.	.
2.833	30.6827	234.46	V Q	.	.	.	.
2.917	32.3053	235.61	.VQ	.	.	.	.
3.000	33.9360	236.77	.VQ	.	.	.	.
3.083	35.5746	237.94	.VQ	.	.	.	.
3.167	37.2214	239.11	.VQ	.	.	.	.
3.250	38.8764	240.30	.VQ	.	.	.	.
3.333	40.5396	241.50	.VQ	.	.	.	.
3.417	42.2111	242.70	.VQ	.	.	.	.
3.500	43.8910	243.92	.VQ	.	.	.	.
3.583	45.5793	245.14	.VQ	.	.	.	.
3.667	47.2761	246.38	.VQ	.	.	.	.
3.750	48.9816	247.63	.VQ	.	.	.	.
3.833	50.6957	248.89	.VQ	.	.	.	.
3.917	52.4185	250.15	.VQ	.	.	.	.

4.000	54.1501	251.43	.VQ	.	.	.	.
4.083	55.8898	252.60	.VQ	.	.	.	.
4.167	57.6364	253.60	.VQ	.	.	.	.
4.250	59.3899	254.61	.VQ	.	.	.	.
4.333	61.1505	255.64	.VQ	.	.	.	.
4.417	62.9182	256.67	.VQ	.	.	.	.
4.500	64.6931	257.72	. Q	.	.	.	.
4.583	66.4753	258.77	. Q	.	.	.	.
4.667	68.2648	259.84	. Q	.	.	.	.
4.750	70.0618	260.92	. Q	.	.	.	.
4.833	71.8663	262.01	. Q	.	.	.	.
4.917	73.6784	263.11	. VQ	.	.	.	.
5.000	75.4981	264.23	. VQ	.	.	.	.
5.083	77.3256	265.35	. VQ	.	.	.	.
5.167	79.1610	266.50	. VQ	.	.	.	.
5.250	81.0043	267.65	. VQ	.	.	.	.
5.333	82.8556	268.81	. VQ	.	.	.	.
5.417	84.7151	269.99	. VQ	.	.	.	.
5.500	86.5827	271.19	. VQ	.	.	.	.
5.583	88.4587	272.39	. VQ	.	.	.	.
5.667	90.3431	273.61	. VQ	.	.	.	.
5.750	92.2360	274.85	. VQ	.	.	.	.
5.833	94.1375	276.10	. VQ	.	.	.	.
5.917	96.0477	277.36	. VQ	.	.	.	.
6.000	97.9667	278.64	. Q	.	.	.	.
6.083	99.8947	279.94	. Q	.	.	.	.
6.167	101.8317	281.25	. Q	.	.	.	.
6.250	103.7778	282.58	. Q	.	.	.	.
6.333	105.7331	283.92	. Q	.	.	.	.
6.417	107.6979	285.28	. Q	.	.	.	.
6.500	109.6721	286.66	. Q	.	.	.	.
6.583	111.6560	288.05	. Q	.	.	.	.
6.667	113.6495	289.47	. Q	.	.	.	.
6.750	115.6529	290.90	. Q	.	.	.	.
6.833	117.6664	292.35	. Q	.	.	.	.
6.917	119.6899	293.82	. Q	.	.	.	.
7.000	121.7237	295.31	. Q	.	.	.	.
7.083	123.7678	296.81	. Q	.	.	.	.
7.167	125.8225	298.34	. Q	.	.	.	.
7.250	127.8879	299.89	. Q	.	.	.	.
7.333	129.9641	301.46	. QV	.	.	.	.
7.417	132.0512	303.05	. QV	.	.	.	.
7.500	134.1494	304.67	. QV	.	.	.	.
7.583	136.2590	306.30	. QV	.	.	.	.
7.667	138.3799	307.96	. QV	.	.	.	.
7.750	140.5125	309.65	. QV	.	.	.	.
7.833	142.6568	311.36	. QV	.	.	.	.
7.917	144.8130	313.09	. QV	.	.	.	.
8.000	146.9814	314.85	. QV	.	.	.	.
8.083	149.1620	316.63	. QV	.	.	.	.
8.167	151.3551	318.44	. QV	.	.	.	.
8.250	153.5609	320.28	. QV	.	.	.	.
8.333	155.7795	322.15	. QV	.	.	.	.
8.417	158.0112	324.04	. QV	.	.	.	.
8.500	160.2561	325.96	. QV	.	.	.	.
8.583	162.5145	327.92	. Q V	.	.	.	.
8.667	164.7866	329.90	. Q V	.	.	.	.
8.750	167.0725	331.92	. Q V	.	.	.	.

8.833	169.3726	333.97	. Q V	.	.	.	.
8.917	171.6870	336.05	. Q V	.	.	.	.
9.000	174.0160	338.17	. Q V	.	.	.	.
9.083	176.3598	340.32	. Q V	.	.	.	.
9.167	178.7187	342.51	. Q V	.	.	.	.
9.250	181.0929	344.73	. Q V	.	.	.	.
9.333	183.4827	347.00	. Q V	.	.	.	.
9.417	185.8884	349.30	. Q V	.	.	.	.
9.500	188.3102	351.65	. QV	.	.	.	.
9.583	190.7484	354.03	. QV	.	.	.	.
9.667	193.2033	356.46	. Q V	.	.	.	.
9.750	195.6753	358.93	. Q V	.	.	.	.
9.833	198.1646	361.45	. Q V	.	.	.	.
9.917	200.6716	364.01	. Q V	.	.	.	.
10.000	203.1966	366.63	. Q V	.	.	.	.
10.083	205.7399	369.29	. Q V	.	.	.	.
10.167	208.3019	372.00	. Q V	.	.	.	.
10.250	210.8829	374.77	. Q V	.	.	.	.
10.333	213.4834	377.59	. Q V	.	.	.	.
10.417	216.1037	380.47	. Q V	.	.	.	.
10.500	218.7442	383.40	. Q V	.	.	.	.
10.583	221.4054	386.40	. Q V	.	.	.	.
10.667	224.0876	389.46	. Q V	.	.	.	.
10.750	226.7913	392.58	. Q V	.	.	.	.
10.833	229.5170	395.77	. Q V	.	.	.	.
10.917	232.2650	399.02	. Q V	.	.	.	.
11.000	235.0361	402.35	. Q V	.	.	.	.
11.083	237.8305	405.75	. Q V	.	.	.	.
11.167	240.6489	409.24	. Q V	.	.	.	.
11.250	243.4919	412.79	. Q V	.	.	.	.
11.333	246.3598	416.43	. Q V	.	.	.	.
11.417	249.2535	420.16	. Q V	.	.	.	.
11.500	252.1734	423.98	. Q V	.	.	.	.
11.583	255.1202	427.88	. Q V	.	.	.	.
11.667	258.0947	431.89	. Q V	.	.	.	.
11.750	261.0973	435.98	. Q V	.	.	.	.
11.833	264.1290	440.20	. Q V	.	.	.	.
11.917	267.1903	444.51	. Q V	.	.	.	.
12.000	270.2822	448.94	. Q V	.	.	.	.
12.083	273.4104	454.22	. Q V	.	.	.	.
12.167	276.5810	460.37	. Q V	.	.	.	.
12.250	279.7956	466.75	. Q V	.	.	.	.
12.333	283.0591	473.86	. Q V	.	.	.	.
12.417	286.3784	481.98	. Q V	.	.	.	.
12.500	289.7679	492.14	. Q V.	.	.	.	.
12.583	293.2388	503.98	. Q V.	.	.	.	.
12.667	296.7979	516.78	. Q V.	.	.	.	.
12.750	300.4483	530.04	. Q V.	.	.	.	.
12.833	304.1979	544.45	. Q V.	.	.	.	.
12.917	308.0458	558.71	. Q V.	.	.	.	.
13.000	312.0051	574.90	. Q V.	.	.	.	.
13.083	316.0768	591.20	. Q V.	.	.	.	.
13.167	320.2769	609.87	. Q V.	.	.	.	.
13.250	324.6076	628.82	. Q V	.	.	.	.
13.333	329.0544	645.66	. Q V	.	.	.	.
13.417	333.6331	664.84	. Q V	.	.	.	.
13.500	338.3309	682.12	. Q V	.	.	.	.
13.583	343.1435	698.79	. Q V	.	.	.	.



13.667	348.0643	714.49	.	Q V	.	.	.
13.750	353.0867	729.26	.	Q V	.	.	.
13.833	358.2125	744.26	.	Q .V	.	.	.
13.917	363.4381	758.77	.	Q .V	.	.	.
14.000	368.7596	772.68	.	Q .V	.	.	.
14.083	374.1865	787.97	.	Q.V	.	.	.
14.167	379.7319	805.19	.	Q.V	.	.	.
14.250	385.3992	822.90	.	Q. V	.	.	.
14.333	391.1994	842.18	.	Q. V	.	.	.
14.417	397.1458	863.43	.	Q. V	.	.	.
14.500	403.2722	889.54	.	Q V	.	.	.
14.583	409.6030	919.24	.	Q V	.	.	.
14.667	416.1546	951.29	.	Q V	.	.	.
14.750	422.9351	984.53	.	.Q V	.	.	.
14.833	429.9620	1020.31	.	.Q V	.	.	.
14.917	437.2310	1055.46	.	.QV	.	.	.
15.000	444.7749	1095.37	.	.QV	.	.	.
15.083	452.5971	1135.79	.	.Q V	.	.	.
15.167	460.7377	1182.02	.	.QV	.	.	.
15.250	469.2050	1229.44	.	.Q	.	.	.
15.333	477.9699	1272.68	.	.Q	.	.	.
15.417	487.0497	1318.37	.	.Q	.	.	.
15.500	496.3941	1356.82	.	.Q	.	.	.
15.583	505.9998	1394.75	.	.Q	.	.	.
15.667	515.8461	1429.68	.	.Q	.	.	.
15.750	525.9126	1461.66	.	.Q	.	.	.
15.833	536.1746	1490.04	.	.VQ	.	.	.
15.917	546.6454	1520.35	.	.Q	.	.	.
16.000	557.4218	1564.74	.	.Q	.	.	.
16.083	569.0150	1683.32	.	.V Q.	.	.	.
16.167	581.4049	1799.02	.	.V Q	.	.	.
16.250	594.2783	1869.21	.	.V .Q	.	.	.
16.333	608.0149	1994.56	.	.V .Q	.	.	.
16.417	622.9917	2174.63	.	.V. Q	.	.	.
16.500	639.7780	2437.37	.	.V. Q	.	.	.
16.583	657.9588	2639.85	.	.V Q	.	.	.
16.667	677.0039	2765.35	.	.V .Q	.	.	.
16.750	696.4421	2822.43	.	.V .Q	.	.	.
16.833	716.7581	2949.87	.	.V .Q	.	.	.
16.917	737.2604	2976.95	.	.V .Q	.	.	.
17.000	759.2301	3190.00	.	.V .Q	.	.	.
17.083	781.5807	3245.31	.	.V .Q	.	.	.
17.167	805.3238	3447.50	.	.V .Q	.	.	.
17.250	828.8641	3418.06	.	.V .Q	.	.	.
17.333	850.7036	3171.09	.	.V .Q	.	.	.
17.417	873.3583	3289.46	.	.V .Q	.	.	.
17.500	894.0690	3007.19	.	.V .Q	.	.	.
17.583	913.5061	2822.27	.	.V .Q	.	.	.
17.667	931.3768	2594.83	.	.Q.	.	.	.
17.750	947.9351	2404.25	.	.Q V.	.	.	.
17.833	963.7822	2301.00	.	.Q V	.	.	.
17.917	978.4772	2133.73	.	.Q V	.	.	.
18.000	991.8812	1946.25	.	.Q V	.	.	.
18.083	1004.2416	1794.74	.	.Q .V	.	.	.
18.167	1015.9148	1694.94	.	.Q .V	.	.	.
18.250	1026.9493	1602.21	.	.Q .V	.	.	.
18.333	1037.2888	1501.29	.	.Q .V	.	.	.
18.417	1046.7349	1371.56	.	.Q .V	.	.	.

18.500	1055.6179	1289.81	.	. Q	.	. V	.
18.583	1063.7708	1183.78	.	. Q	.	. V	.
18.667	1071.4789	1119.23	.	. Q	.	. V	.
18.750	1078.7783	1059.88	.	. Q	.	. V	.
18.833	1085.4607	970.27	.	.Q	.	. V	.
18.917	1091.5118	878.62	.	.Q	.	. V	.
19.000	1097.2708	836.19	.	.Q.	.	. V	.
19.083	1102.7887	801.20	.	.Q.	.	. V	.
19.167	1108.0597	765.34	.	.Q.	.	. V	.
19.250	1113.0833	729.43	.	.Q.	.	. V	.
19.333	1117.8898	697.90	.	.Q.	.	. V	.
19.417	1122.4866	667.46	.	.Q.	.	. V	.
19.500	1126.9015	641.05	.	.Q.	.	. V	.
19.583	1131.1536	617.40	.	.Q.	.	. V	.
19.667	1135.2574	595.88	.	.Q.	.	. V	.
19.750	1139.2245	576.01	.	.Q.	.	. V	.
19.833	1143.0613	557.10	.	.Q.	.	. V	.
19.917	1146.7759	539.36	.	.Q.	.	. V	.
20.000	1150.3619	520.70	.	.Q.	.	. V	.
20.083	1153.7592	493.27	.	.Q.	.	. V	.
20.167	1156.9601	464.78	.	.Q.	.	. V	.
20.250	1160.0736	452.09	.	.Q.	.	. V	.
20.333	1163.1134	441.39	.	.Q.	.	. V	.
20.417	1166.0846	431.42	.	.Q.	.	. V	.
20.500	1168.9867	421.39	.	.Q.	.	. V	.
20.583	1171.8267	412.36	.	.Q.	.	. V	.
20.667	1174.6077	403.79	.	.Q.	.	. V	.
20.750	1177.3319	395.57	.	.Q.	.	. V	.
20.833	1180.0039	387.97	.	.Q.	.	. V	.
20.917	1182.6285	381.10	.	.Q.	.	. V	.
21.000	1185.2076	374.49	.	.Q.	.	. V	.
21.083	1187.7445	368.35	.	.Q.	.	. V	.
21.167	1190.2429	362.77	.	.Q.	.	. V	.
21.250	1192.7043	357.40	.	.Q.	.	. V	.
21.333	1195.1301	352.23	.	.Q.	.	. V	.
21.417	1197.5216	347.24	.	.Q.	.	. V	.
21.500	1199.8800	342.43	.	.Q.	.	. V	.
21.583	1202.2063	337.79	.	.Q.	.	. V	.
21.667	1204.5017	333.29	.	.Q.	.	. V	.
21.750	1206.7671	328.94	.	.Q.	.	. V	.
21.833	1209.0035	324.73	.	.Q.	.	. V	.
21.917	1211.2118	320.64	.	.Q.	.	. V	.
22.000	1213.3928	316.68	.	.Q.	.	. V	.
22.083	1215.5480	312.93	.	.Q.	.	. V	.
22.167	1217.6791	309.43	.	.Q.	.	. V	.
22.250	1219.7867	306.04	.	.Q.	.	. V	.
22.333	1221.8717	302.74	.	.Q.	.	. V	.
22.417	1223.9347	299.54	.	.Q.	.	. V	.
22.500	1225.9762	296.43	.	.Q.	.	. V	.
22.583	1227.9968	293.40	.	.Q.	.	. V	.
22.667	1229.9972	290.45	.	.Q.	.	. V	.
22.750	1231.9778	287.58	.	.Q.	.	. V	.
22.833	1233.9391	284.78	.	.Q.	.	. V	.
22.917	1235.8817	282.06	.	.Q.	.	. V	.
23.000	1237.8060	279.40	.	.Q.	.	. V	.
23.083	1239.7125	276.81	.	.Q.	.	. V	.
23.167	1241.6016	274.29	.	.Q.	.	. V	.
23.250	1243.4736	271.82	.	.Q.	.	. V	.

23.333	1245.3291	269.41	. Q	.	.	.	V .
23.417	1247.1683	267.06	. Q	.	.	.	V .
23.500	1248.9917	264.76	. Q	.	.	.	V .
23.583	1250.7996	262.51	. Q	.	.	.	V .
23.667	1252.5923	260.31	. Q	.	.	.	V .
23.750	1254.3702	258.16	. Q	.	.	.	V .
23.833	1256.1337	256.05	. Q	.	.	.	V .
23.917	1257.8829	253.99	. Q	.	.	.	V .
24.000	1259.6183	251.98	. Q	.	.	.	V .
24.083	1261.3337	249.09	. Q	.	.	.	V .
24.167	1263.0234	245.35	. Q	.	.	.	V .
24.250	1264.6868	241.51	. Q	.	.	.	V .
24.333	1266.3191	237.02	. Q	.	.	.	V .
24.417	1267.9135	231.50	. Q	.	.	.	V .
24.500	1269.4542	223.72	. Q	.	.	.	V .
24.583	1270.9290	214.13	. Q	.	.	.	V .
24.667	1272.3317	203.67	. Q	.	.	.	V .
24.750	1273.6605	192.95	. Q	.	.	.	V .
24.833	1274.9081	181.15	. Q	.	.	.	V .
24.917	1276.0780	169.88	.Q	.	.	.	V .
25.000	1277.1565	156.60	.Q	.	.	.	V .
25.083	1278.1450	143.54	.Q	.	.	.	V .
25.167	1279.0265	127.98	.Q	.	.	.	V .
25.250	1279.8011	112.49	.Q	.	.	.	V .
25.333	1280.4902	100.06	.Q	.	.	.	V .
25.417	1281.0768	85.17	Q	.	.	.	V .
25.500	1281.5803	73.12	Q	.	.	.	V .
25.583	1282.0092	62.26	Q	.	.	.	V .
25.667	1282.3750	53.12	Q	.	.	.	V .
25.750	1282.6890	45.59	Q	.	.	.	V .
25.833	1282.9528	38.30	Q	.	.	.	V .
25.917	1283.1738	32.11	Q	.	.	.	V .
26.000	1283.3615	27.23	Q	.	.	.	V .
26.083	1283.5221	23.32	Q	.	.	.	V .
26.167	1283.6583	19.78	Q	.	.	.	V .
26.250	1283.7721	16.51	Q	.	.	.	V .
26.333	1283.8660	13.63	Q	.	.	.	V .
26.417	1283.9451	11.48	Q	.	.	.	V .
26.500	1284.0104	9.48	Q	.	.	.	V .
26.583	1284.0660	8.08	Q	.	.	.	V .
26.667	1284.1127	6.77	Q	.	.	.	V .
26.750	1284.1504	5.48	Q	.	.	.	V .
26.833	1284.1820	4.60	Q	.	.	.	V .
26.917	1284.2113	4.26	Q	.	.	.	V .
27.000	1284.2384	3.93	Q	.	.	.	V .
27.083	1284.2633	3.61	Q	.	.	.	V .
27.167	1284.2859	3.29	Q	.	.	.	V .
27.250	1284.3063	2.97	Q	.	.	.	V .
27.333	1284.3245	2.65	Q	.	.	.	V .
27.417	1284.3406	2.33	Q	.	.	.	V .
27.500	1284.3545	2.02	Q	.	.	.	V .
27.583	1284.3662	1.70	Q	.	.	.	V .
27.667	1284.3759	1.40	Q	.	.	.	V .
27.750	1284.3833	1.09	Q	.	.	.	V .
27.833	1284.3887	0.78	Q	.	.	.	V .
27.917	1284.3920	0.48	Q	.	.	.	V .
28.000	1284.3932	0.18	Q	.	.	.	V

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
 (Note: 100% of Peak Flow Rate estimate assumed to have  
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1680.0
10%	730.0
20%	350.0
30%	235.0
40%	170.0
50%	120.0
60%	95.0
70%	75.0
80%	60.0
90%	30.0

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 END OF FLOODSCx ROUTING ANALYSIS

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FLOOD ROUTING ANALYSIS  
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)  
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* RANCHO MISSION VIEJO - SINGLE AREA UH \*  
\* EXISTING CONDITION - EXISTING NODE 133T \*  
\* 100-YR JMITAL AUGUST 2017 \*  
\*\*\*\*\*

FILE NAME: EV0033TS.DAT  
TIME/DATE OF STUDY: 15:38 08/03/2017

\*\*\*\*\*

FLOW PROCESS FROM NODE 13010.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 7114.600 ACRES  
BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 1.133 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.261  
LOW LOSS FRACTION = 0.486  
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.40  
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.87  
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.15  
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.94  
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.71  
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.49

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE FACTOR = 0.731  
30-MINUTE FACTOR = 0.731  
1-HOUR FACTOR = 0.731  
3-HOUR FACTOR = 0.956  
6-HOUR FACTOR = 0.977  
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 7.355

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UNIT HYDROGRAPH DETERMINATION

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INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.420	361.628
2	1.261	723.256
3	2.186	795.947
4	3.435	1074.974
5	5.327	1627.950
6	8.321	2575.529
7	12.029	3190.802
8	16.350	3717.798
9	20.608	3663.610
10	25.482	4193.666
11	30.264	4114.795
12	35.969	4908.408
13	41.979	5171.184
14	48.942	5991.349
15	54.770	5014.318
16	60.865	5244.312
17	66.740	5055.261
18	71.768	4326.195
19	76.141	3762.219
20	79.534	2919.607
21	82.843	2847.062
22	85.719	2474.521
23	87.998	1961.236
24	89.774	1527.972
25	91.357	1362.212
26	92.820	1258.539
27	94.120	1118.479
28	95.081	827.219
29	95.968	762.677
30	96.586	532.250
31	97.163	496.263
32	97.739	495.922
33	98.076	289.370
34	98.214	118.811
35	98.352	118.588
36	98.489	118.581
37	98.627	118.581
38	98.765	118.811
39	98.903	118.581
40	99.041	118.581
41	99.179	118.581
42	99.317	118.581
43	99.454	118.581
44	99.592	118.581
45	99.730	118.581
46	99.868	118.581
47	100.000	113.645

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TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 1164.2390  
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 1458.4829  
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2 4 - H O U R S T O R M  
R U N O F F H Y D R O G R A P H

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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	1000.0	2000.0	3000.0	4000.0
0.083	0.0073	1.06	Q	.	.	.	.
0.167	0.0292	3.18	Q	.	.	.	.
0.250	0.0672	5.52	Q	.	.	.	.
0.333	0.1271	8.69	Q	.	.	.	.
0.417	0.2200	13.49	Q	.	.	.	.
0.500	0.3651	21.08	Q	.	.	.	.
0.583	0.5751	30.49	Q	.	.	.	.
0.667	0.8608	41.48	Q	.	.	.	.
0.750	1.2213	52.35	Q	.	.	.	.
0.833	1.6676	64.81	Q	.	.	.	.
0.917	2.1984	77.07	Q	.	.	.	.
1.000	2.8300	91.71	Q	.	.	.	.
1.083	3.5680	107.16	VQ	.	.	.	.
1.167	4.4294	125.07	VQ	.	.	.	.
1.250	5.3947	140.17	VQ	.	.	.	.
1.333	6.4691	156.01	VQ	.	.	.	.
1.417	7.6491	171.33	VQ	.	.	.	.
1.500	8.9204	184.59	VQ	.	.	.	.
1.583	10.2719	196.23	VQ	.	.	.	.
1.667	11.6869	205.46	V Q	.	.	.	.
1.750	13.1641	214.50	V Q	.	.	.	.
1.833	14.6964	222.49	V Q	.	.	.	.
1.917	16.2735	228.99	V Q	.	.	.	.
2.000	17.8869	234.27	V Q	.	.	.	.
2.083	19.5334	239.07	V Q	.	.	.	.
2.167	21.2110	243.60	V Q	.	.	.	.
2.250	22.9171	247.72	V Q	.	.	.	.
2.333	24.6460	251.03	V Q	.	.	.	.
2.417	26.3963	254.15	V Q	.	.	.	.
2.500	28.1637	256.62	V Q	.	.	.	.
2.583	29.9473	258.99	V Q	.	.	.	.
2.667	31.7475	261.38	V Q	.	.	.	.
2.750	33.5599	263.17	V Q	.	.	.	.
2.833	35.3815	264.48	V Q	.	.	.	.
2.917	37.2120	265.80	.VQ	.	.	.	.
3.000	39.0517	267.13	.VQ	.	.	.	.
3.083	40.9006	268.46	.VQ	.	.	.	.
3.167	42.7589	269.82	.VQ	.	.	.	.
3.250	44.6264	271.17	.VQ	.	.	.	.
3.333	46.5035	272.55	.VQ	.	.	.	.
3.417	48.3900	273.92	.VQ	.	.	.	.
3.500	50.2862	275.32	.VQ	.	.	.	.
3.583	52.1920	276.72	.VQ	.	.	.	.
3.667	54.1076	278.14	.VQ	.	.	.	.
3.750	56.0330	279.57	.VQ	.	.	.	.
3.833	57.9683	281.01	.VQ	.	.	.	.
3.917	59.9136	282.45	.VQ	.	.	.	.

4.000	61.8665	283.57	.VQ	.	.	.	.
4.083	63.8273	284.70	.VQ	.	.	.	.
4.167	65.7959	285.84	.VQ	.	.	.	.
4.250	67.7724	286.99	.VQ	.	.	.	.
4.333	69.7570	288.16	.VQ	.	.	.	.
4.417	71.7497	289.34	.VQ	.	.	.	.
4.500	73.7506	290.53	. Q	.	.	.	.
4.583	75.7598	291.73	. Q	.	.	.	.
4.667	77.7774	292.95	. Q	.	.	.	.
4.750	79.8034	294.18	. Q	.	.	.	.
4.833	81.8380	295.43	. Q	.	.	.	.
4.917	83.8812	296.68	. Q	.	.	.	.
5.000	85.9332	297.95	. Q	.	.	.	.
5.083	87.9941	299.23	. Q	.	.	.	.
5.167	90.0639	300.54	. VQ	.	.	.	.
5.250	92.1427	301.85	. VQ	.	.	.	.
5.333	94.2308	303.18	. VQ	.	.	.	.
5.417	96.3280	304.52	. VQ	.	.	.	.
5.500	98.4347	305.89	. VQ	.	.	.	.
5.583	100.5508	307.26	. VQ	.	.	.	.
5.667	102.6765	308.66	. VQ	.	.	.	.
5.750	104.8119	310.06	. VQ	.	.	.	.
5.833	106.9572	311.49	. VQ	.	.	.	.
5.917	109.1123	312.93	. VQ	.	.	.	.
6.000	111.2776	314.39	. Q	.	.	.	.
6.083	113.4529	315.86	. Q	.	.	.	.
6.167	115.6387	317.37	. Q	.	.	.	.
6.250	117.8348	318.88	. Q	.	.	.	.
6.333	120.0415	320.42	. Q	.	.	.	.
6.417	122.2589	321.96	. Q	.	.	.	.
6.500	124.4871	323.54	. Q	.	.	.	.
6.583	126.7263	325.13	. Q	.	.	.	.
6.667	128.9766	326.75	. Q	.	.	.	.
6.750	131.2382	328.37	. Q	.	.	.	.
6.833	133.5112	330.04	. Q	.	.	.	.
6.917	135.7956	331.71	. Q	.	.	.	.
7.000	138.0919	333.42	. Q	.	.	.	.
7.083	140.3999	335.13	. Q	.	.	.	.
7.167	142.7201	336.89	. Q	.	.	.	.
7.250	145.0524	338.65	. Q	.	.	.	.
7.333	147.3970	340.45	. QV	.	.	.	.
7.417	149.7542	342.26	. QV	.	.	.	.
7.500	152.1241	344.11	. QV	.	.	.	.
7.583	154.5069	345.97	. QV	.	.	.	.
7.667	156.9027	347.88	. QV	.	.	.	.
7.750	159.3118	349.79	. QV	.	.	.	.
7.833	161.7343	351.76	. QV	.	.	.	.
7.917	164.1705	353.73	. QV	.	.	.	.
8.000	166.6205	355.75	. QV	.	.	.	.
8.083	169.0846	357.78	. QV	.	.	.	.
8.167	171.5629	359.86	. QV	.	.	.	.
8.250	174.0557	361.95	. QV	.	.	.	.
8.333	176.5633	364.10	. QV	.	.	.	.
8.417	179.0857	366.25	. QV	.	.	.	.
8.500	181.6233	368.47	. QV	.	.	.	.
8.583	184.1763	370.69	. Q V	.	.	.	.
8.667	186.7450	372.97	. Q V	.	.	.	.
8.750	189.3295	375.27	. Q V	.	.	.	.

8.833	191.9302	377.63	. Q V	.	.	.	.
8.917	194.5473	380.00	. Q V	.	.	.	.
9.000	197.1812	382.44	. Q V	.	.	.	.
9.083	199.8319	384.89	. Q V	.	.	.	.
9.167	202.5000	387.41	. Q V	.	.	.	.
9.250	205.1856	389.95	. Q V	.	.	.	.
9.333	207.8891	392.55	. Q V	.	.	.	.
9.417	210.6107	395.18	. Q V	.	.	.	.
9.500	213.3510	397.88	. Q V	.	.	.	.
9.583	216.1099	400.60	. QV	.	.	.	.
9.667	218.8881	403.39	. Q V	.	.	.	.
9.750	221.6857	406.21	. Q V	.	.	.	.
9.833	224.5033	409.11	. Q V	.	.	.	.
9.917	227.3410	412.04	. Q V	.	.	.	.
10.000	230.1995	415.05	. Q V	.	.	.	.
10.083	233.0789	418.09	. Q V	.	.	.	.
10.167	235.9799	421.22	. Q V	.	.	.	.
10.250	238.9026	424.38	. Q V	.	.	.	.
10.333	241.8477	427.63	. Q V	.	.	.	.
10.417	244.8154	430.91	. Q V	.	.	.	.
10.500	247.8065	434.30	. Q V	.	.	.	.
10.583	250.8211	437.72	. Q V	.	.	.	.
10.667	253.8600	441.25	. Q V	.	.	.	.
10.750	256.9235	444.82	. Q V	.	.	.	.
10.833	260.0123	448.50	. Q V	.	.	.	.
10.917	263.1268	452.22	. Q V	.	.	.	.
11.000	266.2678	456.07	. Q V	.	.	.	.
11.083	269.4355	459.96	. Q V	.	.	.	.
11.167	272.6310	463.98	. Q V	.	.	.	.
11.250	275.8544	468.05	. Q V	.	.	.	.
11.333	279.1068	472.26	. Q V	.	.	.	.
11.417	282.3886	476.52	. Q V	.	.	.	.
11.500	285.7008	480.93	. Q V	.	.	.	.
11.583	289.0438	485.40	. Q V	.	.	.	.
11.667	292.4187	490.04	. Q V	.	.	.	.
11.750	295.8260	494.73	. Q V	.	.	.	.
11.833	299.2668	499.60	. Q V	.	.	.	.
11.917	302.7416	504.55	. Q V	.	.	.	.
12.000	306.2518	509.68	. Q V	.	.	.	.
12.083	309.8046	515.86	. Q V	.	.	.	.
12.167	313.4081	523.22	. Q V	.	.	.	.
12.250	317.0642	530.87	. Q V	.	.	.	.
12.333	320.7797	539.49	. Q V	.	.	.	.
12.417	324.5656	549.71	. Q V	.	.	.	.
12.500	328.4411	562.72	. Q V.	.	.	.	.
12.583	332.4185	577.52	. Q V.	.	.	.	.
12.667	336.5095	594.01	. Q V.	.	.	.	.
12.750	340.7141	610.51	. Q V.	.	.	.	.
12.833	345.0442	628.73	. Q V.	.	.	.	.
12.917	349.4995	646.91	. Q V.	.	.	.	.
13.000	354.0971	667.57	. Q V.	.	.	.	.
13.083	358.8431	689.12	. Q V.	.	.	.	.
13.167	363.7553	713.25	. Q V.	.	.	.	.
13.250	368.8171	734.97	. Q V	.	.	.	.
13.333	374.0356	757.72	. Q V	.	.	.	.
13.417	379.4088	780.20	. Q V	.	.	.	.
13.500	384.9265	801.17	. Q V	.	.	.	.
13.583	390.5800	820.88	. Q V	.	.	.	.

13.667	396.3570	838.82	.	Q V	.	.	.
13.750	402.2581	856.84	.	Q .V	.	.	.
13.833	408.2802	874.42	.	Q .V	.	.	.
13.917	414.4161	890.93	.	Q .V	.	.	.
14.000	420.6619	906.88	.	Q.V	.	.	.
14.083	427.0305	924.73	.	Q.V	.	.	.
14.167	433.5385	944.96	.	Q.V	.	.	.
14.250	440.1886	965.59	.	Q. V	.	.	.
14.333	446.9909	987.70	.	Q. V	.	.	.
14.417	453.9681	1013.09	.	Q V	.	.	.
14.500	461.1572	1043.85	.	Q V	.	.	.
14.583	468.5836	1078.31	.	Q V	.	.	.
14.667	476.2729	1116.49	.	.Q V	.	.	.
14.750	484.2224	1154.26	.	.Q V	.	.	.
14.833	492.4553	1195.41	.	.Q V	.	.	.
14.917	500.9723	1236.67	.	.QV	.	.	.
15.000	509.8107	1283.34	.	.QV	.	.	.
15.083	518.9857	1332.21	.	.QV	.	.	.
15.167	528.5383	1387.04	.	.QV	.	.	.
15.250	538.4404	1437.78	.	.Q	.	.	.
15.333	548.7149	1491.86	.	.QV	.	.	.
15.417	559.3329	1541.73	.	.Q	.	.	.
15.500	570.2527	1585.55	.	.Q	.	.	.
15.583	581.4672	1628.35	.	.VQ	.	.	.
15.667	592.9501	1667.31	.	.Q	.	.	.
15.750	604.6869	1704.19	.	.VQ	.	.	.
15.833	616.6349	1734.85	.	.VQ	.	.	.
15.917	628.8098	1767.79	.	.Q	.	.	.
16.000	641.3129	1815.46	.	.VQ	.	.	.
16.083	654.7516	1951.31	.	.V Q.	.	.	.
16.167	669.1202	2086.31	.	.V Q	.	.	.
16.250	684.0999	2175.06	.	.V .Q	.	.	.
16.333	700.0997	2323.17	.	.V. Q	.	.	.
16.417	717.6613	2549.94	.	.V. Q	.	.	.
16.500	737.2598	2845.70	.	.V	.Q	.	.
16.583	758.2952	3054.35	.	.V	.Q	.	.
16.667	780.4191	3212.38	.	.V	.Q	.	.
16.750	802.7582	3243.64	.	.V	.Q	.	.
16.833	826.2379	3409.26	.	.V	.Q	.	.
16.917	850.1188	3467.50	.	.V	.Q	.	.
17.000	875.6829	3711.92	.	.V	.Q	.Q	.
17.083	901.9371	3812.10	.	.V	.Q	.Q	.
17.167	929.2463	3965.30	.	.V	.Q	.Q	.
17.250	954.9176	3727.47	.	.V	.Q	.Q	.
17.333	980.5212	3717.64	.	.V	.Q	.Q	.
17.417	1005.2620	3592.36	.	.V	.Q	.Q	.
17.500	1028.2175	3333.15	.	.V	.Q	.	.
17.583	1049.4767	3086.83	.	.V Q	.	.	.
17.667	1068.8270	2809.68	.	.QV.	.	.	.
17.750	1087.4083	2698.00	.	.Q V.	.	.	.
17.833	1104.7292	2515.00	.	.Q V	.	.	.
17.917	1120.5840	2302.11	.	.Q	.V	.	.
18.000	1135.1084	2108.95	.	.Q	.V	.	.
18.083	1148.8087	1989.29	.	.Q	.V	.	.
18.167	1161.7600	1880.54	.	.Q	.V	.	.
18.250	1173.9061	1763.62	.	.Q	.V	.	.
18.333	1185.0248	1614.43	.	.Q	.V	.	.
18.417	1195.4592	1515.08	.	.Q	.V	.	.

18.500	1205.0483	1392.34	.	. Q	.	. V	.
18.583	1214.1013	1314.50	.	. Q	.	. V	.
18.667	1222.6562	1242.18	.	. Q	.	. V	.
18.750	1230.4385	1129.97	.	.Q	.	. V	.
18.833	1237.5524	1032.94	.	.Q	.	. V	.
18.917	1244.3286	983.91	.	.Q.	.	. V	.
19.000	1250.8105	941.17	.	.Q.	.	. V	.
19.083	1256.9973	898.32	.	.Q	.	. V	.
19.167	1262.8756	853.52	.	.Q	.	. V	.
19.250	1268.4818	814.01	.	.Q	.	. V	.
19.333	1273.8431	778.46	.	.Q	.	. V	.
19.417	1278.9731	744.87	.	.Q	.	. V	.
19.500	1283.8997	715.33	.	.Q	.	. V	.
19.583	1288.6399	688.27	.	.Q	.	. V	.
19.667	1293.2092	663.47	.	.Q	.	. V	.
19.750	1297.6168	639.99	.	.Q	.	. V	.
19.833	1301.8632	616.56	.	.Q	.	. V	.
19.917	1305.9347	591.19	.	.Q	.	. V	.
20.000	1309.7028	547.13	.	.Q	.	. V	.
20.083	1313.3549	530.28	.	.Q	.	. V	.
20.167	1316.9119	516.47	.	.Q	.	. V	.
20.250	1320.3823	503.91	.	.Q	.	. V	.
20.333	1323.7656	491.25	.	.Q	.	. V	.
20.417	1327.0679	479.49	.	.Q	.	. V	.
20.500	1330.2975	468.94	.	.Q	.	. V	.
20.583	1333.4581	458.92	.	.Q	.	. V	.
20.667	1336.5524	449.28	.	.Q	.	. V	.
20.750	1339.5865	440.56	.	.Q	.	. V	.
20.833	1342.5659	432.61	.	.Q	.	. V	.
20.917	1345.4928	424.99	.	.Q	.	. V	.
21.000	1348.3734	418.26	.	.Q	.	. V	.
21.083	1351.2095	411.80	.	.Q	.	. V	.
21.167	1354.0028	405.59	.	.Q	.	. V	.
21.250	1356.7549	399.60	.	.Q	.	. V	.
21.333	1359.4672	393.83	.	.Q	.	. V	.
21.417	1362.1411	388.26	.	.Q	.	. V	.
21.500	1364.7780	382.87	.	.Q	.	. V	.
21.583	1367.3790	377.67	.	.Q	.	. V	.
21.667	1369.9453	372.63	.	.Q	.	. V	.
21.750	1372.4780	367.75	.	.Q	.	. V	.
21.833	1374.9781	363.01	.	.Q	.	. V	.
21.917	1377.4467	358.43	.	.Q	.	. V	.
22.000	1379.8867	354.29	.	.Q	.	. V	.
22.083	1382.2991	350.28	.	.Q	.	. V	.
22.167	1384.6847	346.38	.	.Q	.	. V	.
22.250	1387.0442	342.60	.	.Q	.	. V	.
22.333	1389.3784	338.93	.	.Q	.	. V	.
22.417	1391.6880	335.35	.	.Q	.	. V	.
22.500	1393.9736	331.88	.	.Q	.	. V	.
22.583	1396.2361	328.50	.	.Q	.	. V	.
22.667	1398.4758	325.21	.	.Q	.	. V	.
22.750	1400.6935	322.01	.	.Q	.	. V	.
22.833	1402.8896	318.88	.	.Q	.	. V	.
22.917	1405.0648	315.84	.	.Q	.	. V	.
23.000	1407.2196	312.87	.	.Q	.	. V	.
23.083	1409.3545	309.98	.	.Q	.	. V	.
23.167	1411.4698	307.15	.	.Q	.	. V	.
23.250	1413.5662	304.39	.	.Q	.	. V	.

23.333	1415.6439	301.70	. Q	.	.	.	V .
23.417	1417.7036	299.06	. Q	.	.	.	V .
23.500	1419.7456	296.49	. Q	.	.	.	V .
23.583	1421.7703	293.97	. Q	.	.	.	V .
23.667	1423.7780	291.51	. Q	.	.	.	V .
23.750	1425.7690	289.11	. Q	.	.	.	V .
23.833	1427.7439	286.75	. Q	.	.	.	V .
23.917	1429.7029	284.44	. Q	.	.	.	V .
24.000	1431.6464	282.19	. Q	.	.	.	V .
24.083	1433.5673	278.92	. Q	.	.	.	V .
24.167	1435.4587	274.64	. Q	.	.	.	V .
24.250	1437.3197	270.21	. Q	.	.	.	V .
24.333	1439.1449	265.02	. Q	.	.	.	V .
24.417	1440.9237	258.28	. Q	.	.	.	V .
24.500	1442.6375	248.83	. Q	.	.	.	V .
24.583	1444.2743	237.67	. Q	.	.	.	V .
24.667	1445.8243	225.06	. Q	.	.	.	V .
24.750	1447.2893	212.72	. Q	.	.	.	V .
24.833	1448.6593	198.93	.Q	.	.	.	V .
24.917	1449.9366	185.47	.Q	.	.	.	V .
25.000	1451.1061	169.80	.Q	.	.	.	V .
25.083	1452.1631	153.48	.Q	.	.	.	V .
25.167	1453.0919	134.87	.Q	.	.	.	V .
25.250	1453.9133	119.26	.Q	.	.	.	V .
25.333	1454.6233	103.09	.Q	.	.	.	V .
25.417	1455.2266	87.59	Q	.	.	.	V .
25.500	1455.7384	74.33	Q	.	.	.	V .
25.583	1456.1710	62.81	Q	.	.	.	V .
25.667	1456.5417	53.83	Q	.	.	.	V .
25.750	1456.8525	45.13	Q	.	.	.	V .
25.833	1457.1113	37.58	Q	.	.	.	V .
25.917	1457.3289	31.58	Q	.	.	.	V .
26.000	1457.5140	26.89	Q	.	.	.	V .
26.083	1457.6705	22.72	Q	.	.	.	V .
26.167	1457.8005	18.89	Q	.	.	.	V .
26.250	1457.9072	15.48	Q	.	.	.	V .
26.333	1457.9965	12.96	Q	.	.	.	V .
26.417	1458.0697	10.64	Q	.	.	.	V .
26.500	1458.1317	9.00	Q	.	.	.	V .
26.583	1458.1833	7.49	Q	.	.	.	V .
26.667	1458.2246	5.99	Q	.	.	.	V .
26.750	1458.2598	5.10	Q	.	.	.	V .
26.833	1458.2922	4.72	Q	.	.	.	V .
26.917	1458.3221	4.34	Q	.	.	.	V .
27.000	1458.3494	3.96	Q	.	.	.	V .
27.083	1458.3740	3.59	Q	.	.	.	V .
27.167	1458.3961	3.21	Q	.	.	.	V .
27.250	1458.4156	2.84	Q	.	.	.	V .
27.333	1458.4327	2.48	Q	.	.	.	V .
27.417	1458.4473	2.11	Q	.	.	.	V .
27.500	1458.4594	1.75	Q	.	.	.	V .
27.583	1458.4690	1.40	Q	.	.	.	V .
27.667	1458.4762	1.04	Q	.	.	.	V .
27.750	1458.4810	0.69	Q	.	.	.	V .
27.833	1458.4833	0.33	Q	.	.	.	V

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TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have

an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1670.0
10%	710.0
20%	350.0
30%	235.0
40%	170.0
50%	120.0
60%	90.0
70%	75.0
80%	55.0
90%	30.0

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END OF FLOODSCx ROUTING ANALYSIS

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FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
(c) Copyright 1989-2013 Advanced Engineering Software (aes)
Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International
5 Hutton Centre Drive, Suite 500
Santa Ana, CA
92707

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* RANCHO MISSION VIEJO \*
\* EXISTING CONDITION - UH SINGLE AREA MODEL (LOCAL NODE 13305) \*
\* 2-YR EV JUNE 2018 JMITAL \*

FILE NAME: EVO2305S.DAT
TIME/DATE OF STUDY: 11:46 06/19/2018

\*\*\*\*\*

FLOW PROCESS FROM NODE 13010.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 6336.100 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
\*USER ENTERED "LAG" TIME = 1.647 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.512
LOW LOSS FRACTION = 0.857
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.13
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.28
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.37
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.62
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 0.85
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 1.44

PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.752
30-MINUTE FACTOR = 0.752
1-HOUR FACTOR = 0.752
3-HOUR FACTOR = 0.960
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 5.060

UNIT HYDROGRAPH DETERMINATION

Table with 3 columns: INTERVAL NUMBER, "S" GRAPH MEAN VALUES, UNIT HYDROGRAPH ORDINATES (CFS). Rows 1-48.



49	98.195	72.469
50	98.290	72.914
51	98.385	72.469
52	98.480	72.768
53	98.574	72.469
54	98.669	72.469
55	98.764	73.358
56	98.859	72.171
57	98.954	72.768
58	99.049	72.762
59	99.143	72.762
60	99.238	72.762
61	99.333	72.762
62	99.428	72.762
63	99.523	72.762
64	99.618	72.762
65	99.713	72.762
66	99.808	72.762
67	99.903	72.762
68	99.998	72.762
69	100.000	1.479

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TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 620.5118  
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 129.9703  
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2 4 - H O U R S T O R M  
R U N O F F H Y D R O G R A P H  
=====

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	100.0	200.0	300.0	400.0
0.083	0.0004	0.06	Q	.	.	.	.
0.167	0.0017	0.18	Q	.	.	.	.
0.250	0.0037	0.30	Q	.	.	.	.
0.333	0.0067	0.43	Q	.	.	.	.
0.417	0.0109	0.61	Q	.	.	.	.
0.500	0.0163	0.80	Q	.	.	.	.
0.583	0.0239	1.09	Q	.	.	.	.
0.667	0.0341	1.49	Q	.	.	.	.
0.750	0.0479	2.00	Q	.	.	.	.
0.833	0.0654	2.54	Q	.	.	.	.
0.917	0.0872	3.16	Q	.	.	.	.
1.000	0.1133	3.79	Q	.	.	.	.
1.083	0.1436	4.41	Q	.	.	.	.
1.167	0.1791	5.15	Q	.	.	.	.
1.250	0.2190	5.79	Q	.	.	.	.
1.333	0.2642	6.56	Q	.	.	.	.
1.417	0.3154	7.44	Q	.	.	.	.
1.500	0.3719	8.20	Q	.	.	.	.
1.583	0.4351	9.19	Q	.	.	.	.
1.667	0.5056	10.23	VQ	.	.	.	.
1.750	0.5824	11.16	VQ	.	.	.	.
1.833	0.6646	11.94	VQ	.	.	.	.
1.917	0.7534	12.89	VQ	.	.	.	.
2.000	0.8487	13.83	VQ	.	.	.	.
2.083	0.9494	14.61	VQ	.	.	.	.
2.167	1.0551	15.36	VQ	.	.	.	.
2.250	1.1658	16.07	VQ	.	.	.	.
2.333	1.2804	16.64	VQ	.	.	.	.
2.417	1.3986	17.17	VQ	.	.	.	.
2.500	1.5206	17.71	VQ	.	.	.	.
2.583	1.6459	18.20	VQ	.	.	.	.
2.667	1.7744	18.65	VQ	.	.	.	.
2.750	1.9055	19.04	VQ	.	.	.	.
2.833	2.0389	19.37	VQ	.	.	.	.
2.917	2.1745	19.68	VQ	.	.	.	.
3.000	2.3120	19.97	VQ	.	.	.	.
3.083	2.4515	20.26	V Q	.	.	.	.
3.167	2.5929	20.53	V Q	.	.	.	.
3.250	2.7360	20.78	V Q	.	.	.	.
3.333	2.8806	20.99	V Q	.	.	.	.
3.417	3.0266	21.20	V Q	.	.	.	.
3.500	3.1740	21.40	V Q	.	.	.	.
3.583	3.3226	21.57	.VQ	.	.	.	.
3.667	3.4722	21.73	.VQ	.	.	.	.
3.750	3.6230	21.89	.VQ	.	.	.	.
3.833	3.7749	22.06	.VQ	.	.	.	.
3.917	3.9279	22.21	.VQ	.	.	.	.

4.000	4.0816	22.32	.VQ	.	.	.	.
4.083	4.2360	22.42	.VQ	.	.	.	.
4.167	4.3912	22.53	.VQ	.	.	.	.
4.250	4.5471	22.63	.VQ	.	.	.	.
4.333	4.7037	22.74	.VQ	.	.	.	.
4.417	4.8611	22.85	.VQ	.	.	.	.
4.500	5.0192	22.96	.VQ	.	.	.	.
4.583	5.1780	23.07	.VQ	.	.	.	.
4.667	5.3377	23.18	.VQ	.	.	.	.
4.750	5.4981	23.29	.VQ	.	.	.	.
4.833	5.6592	23.40	.VQ	.	.	.	.
4.917	5.8212	23.52	.VQ	.	.	.	.
5.000	5.9839	23.63	.VQ	.	.	.	.
5.083	6.1475	23.75	.VQ	.	.	.	.
5.167	6.3118	23.86	.VQ	.	.	.	.
5.250	6.4770	23.98	.VQ	.	.	.	.
5.333	6.6430	24.10	.Q	.	.	.	.
5.417	6.8098	24.22	.Q	.	.	.	.
5.500	6.9774	24.34	.Q	.	.	.	.
5.583	7.1459	24.46	.Q	.	.	.	.
5.667	7.3153	24.59	.Q	.	.	.	.
5.750	7.4853	24.69	.Q	.	.	.	.
5.833	7.6561	24.80	.Q	.	.	.	.
5.917	7.8277	24.91	.Q	.	.	.	.
6.000	8.0000	25.02	.Q	.	.	.	.
6.083	8.1731	25.13	.Q	.	.	.	.
6.167	8.3469	25.24	.Q	.	.	.	.
6.250	8.5215	25.35	.Q	.	.	.	.
6.333	8.6969	25.47	.Q	.	.	.	.
6.417	8.8731	25.58	.Q	.	.	.	.
6.500	9.0501	25.70	.Q	.	.	.	.
6.583	9.2279	25.82	.Q	.	.	.	.
6.667	9.4066	25.94	.Q	.	.	.	.
6.750	9.5861	26.06	.Q	.	.	.	.
6.833	9.7664	26.18	.QV	.	.	.	.
6.917	9.9476	26.31	.QV	.	.	.	.
7.000	10.1296	26.43	.QV	.	.	.	.
7.083	10.3126	26.56	.QV	.	.	.	.
7.167	10.4964	26.69	.QV	.	.	.	.
7.250	10.6811	26.82	.QV	.	.	.	.
7.333	10.8668	26.96	.QV	.	.	.	.
7.417	11.0534	27.09	.QV	.	.	.	.
7.500	11.2409	27.23	.QV	.	.	.	.
7.583	11.4293	27.36	.QV	.	.	.	.
7.667	11.6188	27.50	.QV	.	.	.	.
7.750	11.8092	27.65	.QV	.	.	.	.
7.833	12.0006	27.79	.QV	.	.	.	.
7.917	12.1930	27.94	.QV	.	.	.	.
8.000	12.3864	28.08	.QV	.	.	.	.
8.083	12.5808	28.23	.QV	.	.	.	.
8.167	12.7763	28.39	.QV	.	.	.	.
8.250	12.9729	28.54	.QV	.	.	.	.
8.333	13.1705	28.70	.Q V	.	.	.	.
8.417	13.3692	28.86	.Q V	.	.	.	.
8.500	13.5691	29.02	.Q V	.	.	.	.
8.583	13.7700	29.18	.Q V	.	.	.	.
8.667	13.9722	29.35	.Q V	.	.	.	.
8.750	14.1754	29.52	.Q V	.	.	.	.

8.833	14.3799	29.69	. Q V	.	.	.	.
8.917	14.5855	29.86	. Q V	.	.	.	.
9.000	14.7924	30.04	. QV	.	.	.	.
9.083	15.0005	30.22	. QV	.	.	.	.
9.167	15.2098	30.40	. QV	.	.	.	.
9.250	15.4204	30.58	. QV	.	.	.	.
9.333	15.6324	30.77	. QV	.	.	.	.
9.417	15.8456	30.96	. QV	.	.	.	.
9.500	16.0602	31.16	. QV	.	.	.	.
9.583	16.2761	31.35	. Q V	.	.	.	.
9.667	16.4934	31.55	. Q V	.	.	.	.
9.750	16.7121	31.76	. Q V	.	.	.	.
9.833	16.9323	31.97	. Q V	.	.	.	.
9.917	17.1539	32.18	. Q V	.	.	.	.
10.000	17.3770	32.39	. Q V	.	.	.	.
10.083	17.6016	32.61	. Q V	.	.	.	.
10.167	17.8277	32.83	. Q V	.	.	.	.
10.250	18.0554	33.06	. Q V	.	.	.	.
10.333	18.2847	33.29	. Q V	.	.	.	.
10.417	18.5156	33.53	. Q V	.	.	.	.
10.500	18.7482	33.77	. Q V	.	.	.	.
10.583	18.9825	34.01	. Q V	.	.	.	.
10.667	19.2185	34.26	. Q V	.	.	.	.
10.750	19.4562	34.52	. Q V	.	.	.	.
10.833	19.6957	34.78	. Q V	.	.	.	.
10.917	19.9371	35.04	. Q V	.	.	.	.
11.000	20.1803	35.31	. Q V	.	.	.	.
11.083	20.4254	35.59	. Q V	.	.	.	.
11.167	20.6724	35.87	. Q V	.	.	.	.
11.250	20.9214	36.16	. Q V	.	.	.	.
11.333	21.1725	36.45	. Q V	.	.	.	.
11.417	21.4256	36.75	. Q V	.	.	.	.
11.500	21.6808	37.06	. Q V	.	.	.	.
11.583	21.9382	37.37	. Q V	.	.	.	.
11.667	22.1978	37.69	. Q V	.	.	.	.
11.750	22.4597	38.02	. Q V	.	.	.	.
11.833	22.7239	38.36	. Q V	.	.	.	.
11.917	22.9905	38.71	. Q V	.	.	.	.
12.000	23.2595	39.06	. Q V	.	.	.	.
12.083	23.5312	39.46	. Q V	.	.	.	.
12.167	23.8060	39.90	. Q V	.	.	.	.
12.250	24.0839	40.36	. Q V	.	.	.	.
12.333	24.3651	40.82	. Q V	.	.	.	.
12.417	24.6497	41.33	. Q V	.	.	.	.
12.500	24.9381	41.86	. Q V	.	.	.	.
12.583	25.2305	42.47	. Q V	.	.	.	.
12.667	25.5277	43.14	. Q V	.	.	.	.
12.750	25.8301	43.91	. Q V	.	.	.	.
12.833	26.1379	44.70	. Q V	.	.	.	.
12.917	26.4516	45.55	. Q V	.	.	.	.
13.000	26.7714	46.43	. Q V	.	.	.	.
13.083	27.0972	47.31	. Q V	.	.	.	.
13.167	27.4297	48.28	. Q V	.	.	.	.
13.250	27.7687	49.21	. Q V	.	.	.	.
13.333	28.1146	50.23	. Q V	.	.	.	.
13.417	28.4682	51.34	. Q V	.	.	.	.
13.500	28.8291	52.40	. Q V	.	.	.	.
13.583	29.1983	53.62	. Q V	.	.	.	.

13.667	29.5763	54.89	.	Q	V.	.	.	.
13.750	29.9628	56.11	.	Q	V.	.	.	.
13.833	30.3571	57.26	.	Q	V.	.	.	.
13.917	30.7604	58.55	.	Q	V.	.	.	.
14.000	31.1726	59.86	.	Q	V.	.	.	.
14.083	31.5941	61.21	.	Q	V.	.	.	.
14.167	32.0258	62.67	.	Q	V.	.	.	.
14.250	32.4675	64.15	.	Q	V.	.	.	.
14.333	32.9192	65.59	.	Q	V	.	.	.
14.417	33.3815	67.13	.	Q	V	.	.	.
14.500	33.8549	68.73	.	Q	V	.	.	.
14.583	34.3407	70.54	.	Q	V	.	.	.
14.667	34.8404	72.55	.	Q	V	.	.	.
14.750	35.3554	74.79	.	Q	V	.	.	.
14.833	35.8862	77.07	.	Q	.V	.	.	.
14.917	36.4340	79.54	.	Q	.V	.	.	.
15.000	36.9992	82.07	.	Q	.V	.	.	.
15.083	37.5821	84.63	.	Q	.V	.	.	.
15.167	38.1845	87.47	.	Q	.V	.	.	.
15.250	38.8056	90.18	.	Q	.V	.	.	.
15.333	39.4472	93.16	.	Q	.V	.	.	.
15.417	40.1100	96.23	.	Q	.V	.	.	.
15.500	40.7915	98.96	.	Q	.V	.	.	.
15.583	41.4954	102.21	.	Q	V	.	.	.
15.667	42.2231	105.66	.	Q	V	.	.	.
15.750	42.9734	108.94	.	Q	V	.	.	.
15.833	43.7457	112.14	.	.Q	V	.	.	.
15.917	44.5426	115.71	.	.Q	V	.	.	.
16.000	45.3657	119.51	.	.Q	V	.	.	.
16.083	46.2938	134.76	.	.	QV	.	.	.
16.167	47.3249	149.71	.	.	Q	.	.	.
16.250	48.3759	152.60	.	.	VQ	.	.	.
16.333	49.4590	157.28	.	.	Q	.	.	.
16.417	50.6300	170.03	.	.	V	Q	.	.
16.500	51.8454	176.47	.	.	V	Q	.	.
16.583	53.2388	202.32	.	.	V	Q	.	.
16.667	54.7939	225.80	.	.	V	.Q	.	.
16.750	56.5278	251.76	.	.	V	.Q	.	.
16.833	58.3121	259.08	.	.	V	.Q	.	.
16.917	60.2092	275.45	.	.	V	.Q	.	.
17.000	62.1368	279.90	.	.	V.	Q	.	.
17.083	64.0528	278.21	.	.	V.	Q	.	.
17.167	66.1485	304.29	.	.	V	Q	.	.
17.250	68.1077	284.48	.	.	V	Q	.	.
17.333	70.2449	310.32	.	.	.V	.Q	.	.
17.417	72.5411	333.41	.	.	.V	.Q	.	.
17.500	74.6897	311.97	.	.	.V	.Q	.	.
17.583	77.1372	355.37	.	.	.V	.Q	.	.
17.667	79.6509	365.00	.	.	.V	.Q	.	.
17.750	81.9856	339.00	.	.	.V	.Q	.	.
17.833	84.1016	307.24	.	.	.V	Q	.	.
17.917	86.4372	339.13	.	.	.V	.Q	.	.
18.000	88.7229	331.89	.	.	.V	.Q	.	.
18.083	90.7571	295.36	.	.	.V	Q.	.	.
18.167	92.7090	283.41	.	.	.Q	.	.	.
18.250	94.5718	270.48	.	.	.Q	V.	.	.
18.333	96.2233	239.81	.	.	.Q	V.	.	.
18.417	97.7730	225.00	.	.	.Q	V	.	.

18.500	99.3083	222.93	.	.	.	.Q	.	V	.
18.583	100.7506	209.43	.	.	.	Q	.	.V	.
18.667	102.0873	194.09	.	.	.	Q.	.	.V	.
18.750	103.3009	176.22	.	.	.	Q	.	.V	.
18.833	104.4009	159.71	.	.	.	Q	.	.V	.
18.917	105.4397	150.83	.	.	.	Q	.	.V	.
19.000	106.4233	142.82	.	.	.	Q	.	.V	.
19.083	107.3683	137.21	.	.	.	Q	.	.V	.
19.167	108.2648	130.18	.	.	.	Q	.	.V	.
19.250	109.1093	122.61	.	.	.	Q	.	.V	.
19.333	109.8647	109.69	.	.	.	Q	.	.V	.
19.417	110.5925	105.68	.	.	.	Q	.	.V	.
19.500	111.2850	100.55	.	.	.	Q	.	.V	.
19.583	111.9042	89.90	.	.	.	Q	.	.V	.
19.667	112.4963	85.98	.	.	.	Q	.	.V	.
19.750	113.0695	83.22	.	.	.	Q	.	.V	.
19.833	113.6241	80.54	.	.	.	Q	.	.V	.
19.917	114.1451	75.65	.	.	.	Q	.	.V	.
20.000	114.5841	63.74	.	.	.	Q	.	.V	.
20.083	114.9989	60.22	.	.	.	Q	.	.V	.
20.167	115.4003	58.28	.	.	.	Q	.	.V	.
20.250	115.7892	56.47	.	.	.	Q	.	.V	.
20.333	116.1667	54.81	.	.	.	Q	.	.V	.
20.417	116.5331	53.21	.	.	.	Q	.	.V	.
20.500	116.8892	51.70	.	.	.	Q	.	.V	.
20.583	117.2363	50.39	.	.	.	Q	.	.V	.
20.667	117.5742	49.06	.	.	.	Q	.	.V	.
20.750	117.9041	47.91	.	.	.	Q	.	.V	.
20.833	118.2264	46.80	.	.	.	Q	.	.V	.
20.917	118.5416	45.76	.	.	.	Q	.	.V	.
21.000	118.8504	44.84	.	.	.	Q	.	.V	.
21.083	119.1536	44.03	.	.	.	Q	.	.V	.
21.167	119.4516	43.26	.	.	.	Q	.	.V	.
21.250	119.7444	42.51	.	.	.	Q	.	.V	.
21.333	120.0323	41.81	.	.	.	Q	.	.V	.
21.417	120.3153	41.10	.	.	.	Q	.	.V	.
21.500	120.5936	40.40	.	.	.	Q	.	.V	.
21.583	120.8667	39.67	.	.	.	Q	.	.V	.
21.667	121.1344	38.86	.	.	.	Q	.	.V	.
21.750	121.3708	34.33	.	.	.	Q	.	.V	.
21.833	121.6023	33.61	.	.	.	Q	.	.V	.
21.917	121.8301	33.07	.	.	.	Q	.	.V	.
22.000	122.0545	32.59	.	.	.	Q	.	.V	.
22.083	122.2755	32.08	.	.	.	Q	.	.V	.
22.167	122.4931	31.59	.	.	.	Q	.	.V	.
22.250	122.7074	31.13	.	.	.	Q	.	.V	.
22.333	122.9187	30.68	.	.	.	Q	.	.V	.
22.417	123.1270	30.24	.	.	.	Q	.	.V	.
22.500	123.3324	29.82	.	.	.	Q	.	.V	.
22.583	123.5349	29.41	.	.	.	Q	.	.V	.
22.667	123.7348	29.02	.	.	.	Q	.	.V	.
22.750	123.9323	28.67	.	.	.	Q	.	.V	.
22.833	124.1274	28.34	.	.	.	Q	.	.V	.
22.917	124.3204	28.01	.	.	.	Q	.	.V	.
23.000	124.5111	27.70	.	.	.	Q	.	.V	.
23.083	124.6998	27.39	.	.	.	Q	.	.V	.
23.167	124.8864	27.10	.	.	.	Q	.	.V	.
23.250	125.0710	26.81	.	.	.	Q	.	.V	.

23.333	125.2538	26.53	. Q	.	.	.	V .
23.417	125.4346	26.26	. Q	.	.	.	V .
23.500	125.6136	25.99	. Q	.	.	.	V .
23.583	125.7908	25.73	. Q	.	.	.	V .
23.667	125.9663	25.48	. Q	.	.	.	V .
23.750	126.1402	25.25	. Q	.	.	.	V .
23.833	126.3125	25.02	. Q	.	.	.	V .
23.917	126.4832	24.80	. Q	.	.	.	V .
24.000	126.6525	24.58	. Q	.	.	.	V .
24.083	126.8199	24.31	. Q	.	.	.	V .
24.167	126.9851	23.98	. Q	.	.	.	V .
24.250	127.1480	23.66	. Q	.	.	.	V .
24.333	127.3087	23.34	. Q	.	.	.	V .
24.417	127.4669	22.97	. Q	.	.	.	V .
24.500	127.6225	22.60	. Q	.	.	.	V .
24.583	127.7749	22.12	. Q	.	.	.	V .
24.667	127.9234	21.56	. Q	.	.	.	V .
24.750	128.0672	20.88	. Q	.	.	.	V .
24.833	128.2062	20.19	. Q	.	.	.	V .
24.917	128.3400	19.43	.Q	.	.	.	V .
25.000	128.4685	18.66	.Q	.	.	.	V .
25.083	128.5919	17.91	.Q	.	.	.	V .
25.167	128.7093	17.05	.Q	.	.	.	V .
25.250	128.8215	16.30	.Q	.	.	.	V .
25.333	128.9278	15.44	.Q	.	.	.	V .
25.417	129.0275	14.47	.Q	.	.	.	V .
25.500	129.1213	13.62	.Q	.	.	.	V .
25.583	129.2078	12.57	.Q	.	.	.	V .
25.667	129.2868	11.46	.Q	.	.	.	V .
25.750	129.3590	10.49	.Q	.	.	.	V .
25.833	129.4256	9.67	Q	.	.	.	V .
25.917	129.4855	8.69	Q	.	.	.	V .
26.000	129.5387	7.73	Q	.	.	.	V .
26.083	129.5865	6.94	Q	.	.	.	V .
26.167	129.6292	6.20	Q	.	.	.	V .
26.250	129.6671	5.50	Q	.	.	.	V .
26.333	129.7011	4.94	Q	.	.	.	V .
26.417	129.7317	4.44	Q	.	.	.	V .
26.500	129.7587	3.93	Q	.	.	.	V .
26.583	129.7826	3.46	Q	.	.	.	V .
26.667	129.8036	3.05	Q	.	.	.	V .
26.750	129.8223	2.71	Q	.	.	.	V .
26.833	129.8390	2.43	Q	.	.	.	V .
26.917	129.8539	2.17	Q	.	.	.	V .
27.000	129.8672	1.93	Q	.	.	.	V .
27.083	129.8790	1.70	Q	.	.	.	V .
27.167	129.8892	1.49	Q	.	.	.	V .
27.250	129.8982	1.30	Q	.	.	.	V .
27.333	129.9061	1.15	Q	.	.	.	V .
27.417	129.9131	1.01	Q	.	.	.	V .
27.500	129.9192	0.88	Q	.	.	.	V .
27.583	129.9246	0.79	Q	.	.	.	V .
27.667	129.9294	0.70	Q	.	.	.	V .
27.750	129.9337	0.61	Q	.	.	.	V .
27.833	129.9373	0.53	Q	.	.	.	V .
27.917	129.9404	0.45	Q	.	.	.	V .
28.000	129.9433	0.42	Q	.	.	.	V .
28.083	129.9461	0.40	Q	.	.	.	V .

28.167	129.9487	0.38	Q	.	.	.	V .
28.250	129.9511	0.36	Q	.	.	.	V .
28.333	129.9534	0.33	Q	.	.	.	V .
28.417	129.9556	0.31	Q	.	.	.	V .
28.500	129.9576	0.29	Q	.	.	.	V .
28.583	129.9594	0.27	Q	.	.	.	V .
28.667	129.9611	0.25	Q	.	.	.	V .
28.750	129.9627	0.23	Q	.	.	.	V .
28.833	129.9641	0.20	Q	.	.	.	V .
28.917	129.9653	0.18	Q	.	.	.	V .
29.000	129.9664	0.16	Q	.	.	.	V .
29.083	129.9674	0.14	Q	.	.	.	V .
29.167	129.9683	0.12	Q	.	.	.	V .
29.250	129.9689	0.10	Q	.	.	.	V .
29.333	129.9695	0.08	Q	.	.	.	V .
29.417	129.9699	0.06	Q	.	.	.	V .
29.500	129.9702	0.04	Q	.	.	.	V .
29.583	129.9703	0.02	Q	.	.	.	V .
29.667	129.9703	0.00	Q	.	.	.	V .

-----  
TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1780.0
10%	620.0
20%	315.0
30%	215.0
40%	170.0
50%	130.0
60%	115.0
70%	90.0
80%	55.0
90%	30.0
=====	=====

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS  
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)  
(c) Copyright 1989-2013 Advanced Engineering Software (aes)  
Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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5 Hutton Centre Drive, Suite 500  
Santa Ana, CA  
92707

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* RANCHO MISSION VIEJO \*  
\* EXISTING CONDITION - UH SINGLE AREA MODEL (LOCAL NODE 13305) \*  
\* 5-YR EV JUNE 2018 JMITAL \*  
\*\*\*\*\*

FILE NAME: EV05305S.DAT  
TIME/DATE OF STUDY: 11:45 06/19/2018

\*\*\*\*\*

FLOW PROCESS FROM NODE 13010.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 6336.100 ACRES  
BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 1.301 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.427  
LOW LOSS FRACTION = 0.810  
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.18  
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.41  
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.55  
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.92  
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.27  
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 2.12

PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.752  
30-MINUTE FACTOR = 0.752  
1-HOUR FACTOR = 0.752  
3-HOUR FACTOR = 0.960  
6-HOUR FACTOR = 0.979  
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 6.405

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.366	280.470
2	1.098	560.940
3	1.844	571.443
4	2.855	775.174
5	4.074	933.651
6	6.073	1532.084
7	8.890	2158.615
8	12.145	2493.989
9	15.922	2894.165
10	19.576	2799.675
11	23.826	3257.089
12	27.785	3033.851
13	32.497	3610.626
14	37.318	3694.267
15	42.848	4237.060
16	48.961	4684.089
17	54.084	3925.750
18	59.084	3831.153
19	64.727	4324.221
20	69.237	3456.397
21	73.379	3173.506
22	76.971	2752.726
23	79.847	2203.874
24	82.739	2216.145
25	85.296	1959.006
26	87.402	1613.549
27	89.057	1268.267
28	90.503	1108.391
29	91.843	1026.790
30	93.087	953.128
31	94.192	846.879
32	95.018	632.844
33	95.818	612.991
34	96.398	444.644
35	96.901	384.943
36	97.403	384.943
37	97.887	370.690
38	98.097	161.337
39	98.218	92.177
40	98.338	91.943
41	98.458	92.060
42	98.578	91.943
43	98.698	92.060
44	98.818	92.060
45	98.938	92.060
46	99.058	92.060
47	99.179	92.060
48	99.299	92.060

49	99.419	92.060
50	99.539	92.060
51	99.659	92.060
52	99.779	92.060
53	99.899	92.060
54	100.000	77.065

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TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 852.6791  
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 252.6863  
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2 4 - H O U R S T O R M  
R U N O F F H Y D R O G R A P H  
=====

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	225.0	450.0	675.0	900.0
0.083	0.0010	0.15	Q	.	.	.	.
0.167	0.0040	0.44	Q	.	.	.	.
0.250	0.0091	0.74	Q	.	.	.	.
0.333	0.0170	1.15	Q	.	.	.	.
0.417	0.0283	1.64	Q	.	.	.	.
0.500	0.0451	2.44	Q	.	.	.	.
0.583	0.0697	3.58	Q	.	.	.	.
0.667	0.1034	4.89	Q	.	.	.	.
0.750	0.1476	6.41	Q	.	.	.	.
0.833	0.2020	7.90	Q	.	.	.	.
0.917	0.2682	9.62	Q	.	.	.	.
1.000	0.3456	11.24	Q	.	.	.	.
1.083	0.4362	13.16	Q	.	.	.	.
1.167	0.5404	15.13	Q	.	.	.	.
1.250	0.6602	17.39	Q	.	.	.	.
1.333	0.7972	19.89	Q	.	.	.	.
1.417	0.9487	22.01	Q	.	.	.	.
1.500	1.1146	24.08	VQ	.	.	.	.
1.583	1.2965	26.42	VQ	.	.	.	.
1.667	1.4914	28.31	VQ	.	.	.	.
1.750	1.6985	30.06	VQ	.	.	.	.
1.833	1.9161	31.60	VQ	.	.	.	.
1.917	2.1423	32.85	VQ	.	.	.	.
2.000	2.3773	34.12	VQ	.	.	.	.
2.083	2.6202	35.26	VQ	.	.	.	.
2.167	2.8696	36.22	VQ	.	.	.	.
2.250	3.1245	37.01	VQ	.	.	.	.
2.333	3.3843	37.72	VQ	.	.	.	.
2.417	3.6487	38.39	VQ	.	.	.	.
2.500	3.9174	39.02	VQ	.	.	.	.
2.583	4.1901	39.60	VQ	.	.	.	.
2.667	4.4660	40.07	VQ	.	.	.	.
2.750	4.7451	40.53	VQ	.	.	.	.
2.833	5.0268	40.90	VQ	.	.	.	.
2.917	5.3110	41.25	VQ	.	.	.	.
3.000	5.5975	41.60	VQ	.	.	.	.
3.083	5.8864	41.95	VQ	.	.	.	.
3.167	6.1769	42.18	VQ	.	.	.	.
3.250	6.4688	42.39	.Q	.	.	.	.
3.333	6.7621	42.59	.Q	.	.	.	.
3.417	7.0569	42.80	.Q	.	.	.	.
3.500	7.3531	43.01	.Q	.	.	.	.
3.583	7.6507	43.22	.Q	.	.	.	.
3.667	7.9498	43.43	.Q	.	.	.	.
3.750	8.2504	43.64	.Q	.	.	.	.
3.833	8.5524	43.86	.Q	.	.	.	.
3.917	8.8559	44.07	.Q	.	.	.	.

4.000	9.1610	44.29	.Q	.	.	.	.
4.083	9.4675	44.51	.Q	.	.	.	.
4.167	9.7756	44.73	.Q	.	.	.	.
4.250	10.0852	44.96	.Q	.	.	.	.
4.333	10.3964	45.18	.VQ	.	.	.	.
4.417	10.7092	45.41	.VQ	.	.	.	.
4.500	11.0235	45.64	.VQ	.	.	.	.
4.583	11.3390	45.82	.VQ	.	.	.	.
4.667	11.6559	46.01	.VQ	.	.	.	.
4.750	11.9741	46.20	.VQ	.	.	.	.
4.833	12.2935	46.39	.VQ	.	.	.	.
4.917	12.6143	46.58	.VQ	.	.	.	.
5.000	12.9364	46.77	. Q	.	.	.	.
5.083	13.2599	46.97	. Q	.	.	.	.
5.167	13.5848	47.17	. Q	.	.	.	.
5.250	13.9110	47.37	. Q	.	.	.	.
5.333	14.2387	47.57	. Q	.	.	.	.
5.417	14.5678	47.78	. Q	.	.	.	.
5.500	14.8982	47.99	. Q	.	.	.	.
5.583	15.2302	48.20	. Q	.	.	.	.
5.667	15.5636	48.41	. Q	.	.	.	.
5.750	15.8985	48.63	. Q	.	.	.	.
5.833	16.2349	48.85	. Q	.	.	.	.
5.917	16.5728	49.07	. Q	.	.	.	.
6.000	16.9123	49.29	. Q	.	.	.	.
6.083	17.2533	49.52	. Q	.	.	.	.
6.167	17.5959	49.74	. Q	.	.	.	.
6.250	17.9401	49.98	. Q	.	.	.	.
6.333	18.2859	50.21	. Q	.	.	.	.
6.417	18.6333	50.45	. Q	.	.	.	.
6.500	18.9824	50.69	. QV	.	.	.	.
6.583	19.3332	50.93	. QV	.	.	.	.
6.667	19.6856	51.18	. QV	.	.	.	.
6.750	20.0398	51.43	. QV	.	.	.	.
6.833	20.3957	51.68	. QV	.	.	.	.
6.917	20.7533	51.93	. QV	.	.	.	.
7.000	21.1128	52.19	. QV	.	.	.	.
7.083	21.4741	52.46	. QV	.	.	.	.
7.167	21.8372	52.72	. QV	.	.	.	.
7.250	22.2021	52.99	. QV	.	.	.	.
7.333	22.5689	53.26	. QV	.	.	.	.
7.417	22.9377	53.54	. QV	.	.	.	.
7.500	23.3083	53.82	. QV	.	.	.	.
7.583	23.6810	54.11	. QV	.	.	.	.
7.667	24.0556	54.39	. QV	.	.	.	.
7.750	24.4322	54.69	. QV	.	.	.	.
7.833	24.8109	54.98	. QV	.	.	.	.
7.917	25.1917	55.29	. QV	.	.	.	.
8.000	25.5745	55.59	. Q V	.	.	.	.
8.083	25.9595	55.90	. Q V	.	.	.	.
8.167	26.3467	56.21	. Q V	.	.	.	.
8.250	26.7360	56.53	. Q V	.	.	.	.
8.333	27.1276	56.86	. Q V	.	.	.	.
8.417	27.5214	57.19	. Q V	.	.	.	.
8.500	27.9176	57.52	. Q V	.	.	.	.
8.583	28.3161	57.86	. Q V	.	.	.	.
8.667	28.7169	58.20	. Q V	.	.	.	.
8.750	29.1202	58.55	. Q V	.	.	.	.

8.833	29.5259	58.91	. Q V	.	.	.	.
8.917	29.9341	59.27	. Q V	.	.	.	.
9.000	30.3448	59.64	. Q V	.	.	.	.
9.083	30.7581	60.01	. Q V	.	.	.	.
9.167	31.1740	60.39	. Q V	.	.	.	.
9.250	31.5925	60.77	. Q V	.	.	.	.
9.333	32.0138	61.16	. Q V	.	.	.	.
9.417	32.4378	61.56	. Q V	.	.	.	.
9.500	32.8645	61.97	. Q V	.	.	.	.
9.583	33.2942	62.38	. Q V	.	.	.	.
9.667	33.7267	62.80	. Q V	.	.	.	.
9.750	34.1622	63.23	. Q V	.	.	.	.
9.833	34.6006	63.66	. Q V	.	.	.	.
9.917	35.0421	64.11	. Q V	.	.	.	.
10.000	35.4867	64.56	. Q V	.	.	.	.
10.083	35.9345	65.02	. Q V	.	.	.	.
10.167	36.3855	65.49	. Q V	.	.	.	.
10.250	36.8398	65.96	. Q V	.	.	.	.
10.333	37.2975	66.45	. Q V	.	.	.	.
10.417	37.7585	66.95	. Q V	.	.	.	.
10.500	38.2231	67.45	. Q V	.	.	.	.
10.583	38.6912	67.97	. Q V	.	.	.	.
10.667	39.1629	68.49	. Q V	.	.	.	.
10.750	39.6383	69.03	. Q V	.	.	.	.
10.833	40.1175	69.58	. Q V	.	.	.	.
10.917	40.6006	70.14	. Q V	.	.	.	.
11.000	41.0876	70.71	. Q V	.	.	.	.
11.083	41.5787	71.30	. Q V	.	.	.	.
11.167	42.0738	71.90	. Q V	.	.	.	.
11.250	42.5732	72.51	. Q V	.	.	.	.
11.333	43.0769	73.13	. Q V	.	.	.	.
11.417	43.5849	73.77	. Q V	.	.	.	.
11.500	44.0975	74.43	. Q V	.	.	.	.
11.583	44.6147	75.10	. Q V	.	.	.	.
11.667	45.1366	75.78	. Q V	.	.	.	.
11.750	45.6634	76.49	. Q V	.	.	.	.
11.833	46.1951	77.20	. Q V	.	.	.	.
11.917	46.7319	77.95	. Q V	.	.	.	.
12.000	47.2739	78.70	. Q V	.	.	.	.
12.083	47.8221	79.59	. Q V	.	.	.	.
12.167	48.3772	80.60	. Q V	.	.	.	.
12.250	48.9394	81.64	. Q V	.	.	.	.
12.333	49.5095	82.78	. Q V	.	.	.	.
12.417	50.0881	84.01	. Q V	.	.	.	.
12.500	50.6768	85.48	. Q V	.	.	.	.
12.583	51.2776	87.24	. Q V	.	.	.	.
12.667	51.8915	89.14	. Q V	.	.	.	.
12.750	52.5198	91.23	. Q V	.	.	.	.
12.833	53.1625	93.31	. Q V	.	.	.	.
12.917	53.8209	95.61	. Q V	.	.	.	.
13.000	54.4949	97.85	. Q V	.	.	.	.
13.083	55.1861	100.36	. Q V	.	.	.	.
13.167	55.8950	102.94	. Q V	.	.	.	.
13.250	56.6235	105.77	. Q V	.	.	.	.
13.333	57.3728	108.81	. Q V.	.	.	.	.
13.417	58.1415	111.61	. Q V.	.	.	.	.
13.500	58.9295	114.42	. Q V.	.	.	.	.
13.583	59.7386	117.48	. Q V.	.	.	.	.

13.667	60.5667	120.25	.	Q	V.	.	.	.
13.750	61.4137	122.98	.	Q	V.	.	.	.
13.833	62.2787	125.60	.	Q	V.	.	.	.
13.917	63.1608	128.08	.	Q	V.	.	.	.
14.000	64.0605	130.63	.	Q	V	.	.	.
14.083	64.9793	133.42	.	Q	V	.	.	.
14.167	65.9187	136.40	.	Q	V	.	.	.
14.250	66.8784	139.35	.	Q	V	.	.	.
14.333	67.8597	142.49	.	Q	V	.	.	.
14.417	68.8643	145.86	.	Q	V	.	.	.
14.500	69.8962	149.83	.	Q	.V	.	.	.
14.583	70.9599	154.45	.	Q	.V	.	.	.
14.667	72.0576	159.39	.	Q	.V	.	.	.
14.750	73.1926	164.81	.	Q	.V	.	.	.
14.833	74.3646	170.17	.	Q	.V	.	.	.
14.917	75.5772	176.07	.	Q	.V	.	.	.
15.000	76.8298	181.87	.	Q	.V	.	.	.
15.083	78.1271	188.37	.	Q	.V	.	.	.
15.167	79.4701	195.00	.	Q	.V	.	.	.
15.250	80.8633	202.30	.	Q	.V	.	.	.
15.333	82.3109	210.19	.	Q	.V	.	.	.
15.417	83.8059	217.07	.	Q	.V	.	.	.
15.500	85.3456	223.57	.	Q	.V	.	.	.
15.583	86.9355	230.86	.	Q	V	.	.	.
15.667	88.5698	237.29	.	Q	V	.	.	.
15.750	90.2493	243.87	.	Q	V	.	.	.
15.833	91.9690	249.70	.	.Q	V	.	.	.
15.917	93.7250	254.98	.	.Q	V	.	.	.
16.000	95.5372	263.13	.	.Q	V	.	.	.
16.083	97.5860	279.49	.	.	Q V	.	.	.
16.167	99.8630	330.62	.	.	QV	.	.	.
16.250	102.2011	339.50	.	.	QV	.	.	.
16.333	104.7323	367.53	.	.	Q	.	.	.
16.417	107.4575	395.70	.	.	Q	.	.	.
16.500	110.6642	465.61	.	.	V	Q	.	.
16.583	114.3458	534.57	.	.	V	Q	.	.
16.667	118.2947	573.38	.	.	V	Q	.	.
16.750	122.5292	614.84	.	.	V.	Q	.	.
16.833	126.7521	613.17	.	.	V	Q	.	.
16.917	131.2822	657.77	.	.	V	Q.	.	.
17.000	135.7343	646.45	.	.	.V	Q	.	.
17.083	140.5967	706.02	.	.	.V	.Q	.	.
17.167	145.5692	722.01	.	.	.V	.Q	.	.
17.250	150.9324	778.73	.	.	.V	.Q	.	.
17.333	156.5299	812.75	.	.	.V	.Q	.	.
17.417	161.6099	737.62	.	.	.V	.Q	.	.
17.500	166.6108	726.14	.	.	.V	.Q	.	.
17.583	171.8369	758.83	.	.	.V	.Q	.	.
17.667	176.4324	667.27	.	.	.V	Q.	.	.
17.750	180.7432	625.92	.	.	.V	QV	.	.
17.833	184.6792	571.50	.	.	.Q	V.	.	.
17.917	188.1946	510.44	.	.	.Q	V.	.	.
18.000	191.6345	499.47	.	.	.Q	V	.	.
18.083	194.8156	461.90	.	.	.Q	V	.	.
18.167	197.6780	415.62	.	.	Q	.V	.	.
18.250	200.2282	370.29	.	.	Q	.V	.	.
18.333	202.5942	343.54	.	.	Q	.V	.	.
18.417	204.8354	325.42	.	.	Q	.V	.	.

18.500	206.9545	307.69	.	.	Q	.	.	V	.
18.583	208.9189	285.23	.	.	.Q	.	.	V	.
18.667	210.6741	254.85	.	.	.Q	.	.	V	.
18.750	212.3414	242.10	.	.	Q	.	.	V	.
18.833	213.8369	217.14	.	.	Q.	.	.	V	.
18.917	215.2382	203.48	.	.	Q.	.	.	V	.
19.000	216.5832	195.30	.	.	Q	.	.	V	.
19.083	217.8541	184.53	.	.	Q	.	.	V	.
19.167	218.9347	156.91	.	.	Q	.	.	V	.
19.250	219.9235	143.57	.	.	Q	.	.	V	.
19.333	220.8703	137.47	.	.	Q	.	.	V	.
19.417	221.7811	132.25	.	.	Q	.	.	V	.
19.500	222.6559	127.02	.	.	Q	.	.	V	.
19.583	223.4949	121.83	.	.	Q	.	.	V	.
19.667	224.3031	117.35	.	.	Q	.	.	V	.
19.750	225.0824	113.15	.	.	Q	.	.	V	.
19.833	225.8361	109.44	.	.	Q	.	.	V	.
19.917	226.5680	106.26	.	.	Q	.	.	V	.
20.000	227.2786	103.18	.	.	Q	.	.	V	.
20.083	227.9692	100.28	.	.	Q	.	.	V	.
20.167	228.6426	97.77	.	.	Q	.	.	V	.
20.250	229.2999	95.45	.	.	Q	.	.	V	.
20.333	229.9418	93.19	.	.	Q	.	.	V	.
20.417	230.5668	90.76	.	.	Q	.	.	V	.
20.500	231.1627	86.51	.	.	Q	.	.	V	.
20.583	231.6943	77.19	.	.	Q	.	.	V	.
20.667	232.2133	75.37	.	.	Q	.	.	V	.
20.750	232.7216	73.80	.	.	Q	.	.	V	.
20.833	233.2200	72.37	.	.	Q	.	.	V	.
20.917	233.7084	70.91	.	.	Q	.	.	V	.
21.000	234.1872	69.52	.	.	Q	.	.	V	.
21.083	234.6568	68.19	.	.	Q	.	.	V	.
21.167	235.1181	66.99	.	.	Q	.	.	V	.
21.250	235.5717	65.86	.	.	Q	.	.	V	.
21.333	236.0179	64.78	.	.	Q	.	.	V	.
21.417	236.4568	63.73	.	.	Q	.	.	V	.
21.500	236.8889	62.74	.	.	Q	.	.	V	.
21.583	237.3149	61.85	.	.	Q	.	.	V	.
21.667	237.7350	61.00	.	.	Q	.	.	V	.
21.750	238.1494	60.17	.	.	Q	.	.	V	.
21.833	238.5583	59.38	.	.	Q	.	.	V	.
21.917	238.9619	58.61	.	.	Q	.	.	V	.
22.000	239.3604	57.86	.	.	Q	.	.	V	.
22.083	239.7539	57.14	.	.	Q	.	.	V	.
22.167	240.1426	56.44	.	.	Q	.	.	V	.
22.250	240.5266	55.76	.	.	Q	.	.	V	.
22.333	240.9061	55.10	.	.	Q	.	.	V	.
22.417	241.2812	54.46	.	.	Q	.	.	V	.
22.500	241.6520	53.85	.	.	Q	.	.	V	.
22.583	242.0190	53.28	.	.	Q	.	.	V	.
22.667	242.3820	52.72	.	.	Q	.	.	V	.
22.750	242.7414	52.18	.	.	Q	.	.	V	.
22.833	243.0972	51.66	.	.	Q	.	.	V	.
22.917	243.4495	51.15	.	.	Q	.	.	V	.
23.000	243.7983	50.65	.	.	Q	.	.	V	.
23.083	244.1439	50.17	.	.	Q	.	.	V	.
23.167	244.4861	49.70	.	.	Q	.	.	V	.
23.250	244.8252	49.24	.	.	Q	.	.	V	.



23.333	245.1613	48.79	. Q	.	.	.	V .
23.417	245.4942	48.35	. Q	.	.	.	V .
23.500	245.8243	47.92	. Q	.	.	.	V .
23.583	246.1515	47.51	. Q	.	.	.	V .
23.667	246.4759	47.10	. Q	.	.	.	V .
23.750	246.7975	46.70	. Q	.	.	.	V .
23.833	247.1164	46.31	. Q	.	.	.	V .
23.917	247.4327	45.93	. Q	.	.	.	V .
24.000	247.7465	45.55	. Q	.	.	.	V .
24.083	248.0567	45.04	. Q	.	.	.	V .
24.167	248.3624	44.39	.Q	.	.	.	V .
24.250	248.6637	43.75	.Q	.	.	.	V .
24.333	248.9599	43.01	.Q	.	.	.	V .
24.417	249.2505	42.19	.Q	.	.	.	V .
24.500	249.5334	41.07	.Q	.	.	.	V .
24.583	249.8064	39.64	.Q	.	.	.	V .
24.667	250.0684	38.05	.Q	.	.	.	V .
24.750	250.3182	36.26	.Q	.	.	.	V .
24.833	250.5560	34.54	.Q	.	.	.	V .
24.917	250.7805	32.59	.Q	.	.	.	V .
25.000	250.9924	30.77	.Q	.	.	.	V .
25.083	251.1899	28.67	.Q	.	.	.	V .
25.167	251.3727	26.54	.Q	.	.	.	V .
25.250	251.5390	24.15	.Q	.	.	.	V .
25.333	251.6873	21.54	Q	.	.	.	V .
25.417	251.8206	19.34	Q	.	.	.	V .
25.500	251.9391	17.21	Q	.	.	.	V .
25.583	252.0413	14.84	Q	.	.	.	V .
25.667	252.1303	12.93	Q	.	.	.	V .
25.750	252.2074	11.19	Q	.	.	.	V .
25.833	252.2740	9.68	Q	.	.	.	V .
25.917	252.3323	8.46	Q	.	.	.	V .
26.000	252.3822	7.25	Q	.	.	.	V .
26.083	252.4248	6.18	Q	.	.	.	V .
26.167	252.4612	5.29	Q	.	.	.	V .
26.250	252.4929	4.60	Q	.	.	.	V .
26.333	252.5203	3.99	Q	.	.	.	V .
26.417	252.5439	3.42	Q	.	.	.	V .
26.500	252.5639	2.90	Q	.	.	.	V .
26.583	252.5807	2.44	Q	.	.	.	V .
26.667	252.5951	2.09	Q	.	.	.	V .
26.750	252.6073	1.76	Q	.	.	.	V .
26.833	252.6177	1.52	Q	.	.	.	V .
26.917	252.6267	1.31	Q	.	.	.	V .
27.000	252.6343	1.10	Q	.	.	.	V .
27.083	252.6404	0.90	Q	.	.	.	V .
27.167	252.6460	0.80	Q	.	.	.	V .
27.250	252.6511	0.75	Q	.	.	.	V .
27.333	252.6559	0.70	Q	.	.	.	V .
27.417	252.6604	0.65	Q	.	.	.	V .
27.500	252.6645	0.59	Q	.	.	.	V .
27.583	252.6682	0.54	Q	.	.	.	V .
27.667	252.6716	0.49	Q	.	.	.	V .
27.750	252.6746	0.44	Q	.	.	.	V .
27.833	252.6773	0.39	Q	.	.	.	V .
27.917	252.6796	0.34	Q	.	.	.	V .
28.000	252.6815	0.29	Q	.	.	.	V .
28.083	252.6832	0.24	Q	.	.	.	V .

28.167	252.6845	0.19	Q	.	.	.	V .
28.250	252.6854	0.14	Q	.	.	.	V .
28.333	252.6860	0.09	Q	.	.	.	V .
28.417	252.6863	0.04	Q	.	.	.	V .

-----  
TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1705.0
10%	500.0
20%	265.0
30%	180.0
40%	140.0
50%	105.0
60%	90.0
70%	75.0
80%	45.0
90%	20.0
=====	=====

END OF FLOODSCx ROUTING ANALYSIS

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FLOOD ROUTING ANALYSIS  
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)  
(c) Copyright 1989-2013 Advanced Engineering Software (aes)  
Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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Santa Ana, CA  
92707

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* RANCHO MISSION VIEJO \*  
\* EXISTING CONDITION - UH SINGLE AREA MODEL (LOCAL NODE 13305) \*  
\* 10-YR EV JUNE 2018 JMITAL \*  
\*\*\*\*\*

FILE NAME: EV10305S.DAT  
TIME/DATE OF STUDY: 11:45 06/19/2018

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13010.00 TO NODE 13305.00 IS CODE = 1  
\*\*\*\*\*

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 6336.100 ACRES  
BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 1.190 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.256  
LOW LOSS FRACTION = 0.743  
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.26  
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.59  
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.78  
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.31  
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.81  
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.03

PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.752  
30-MINUTE FACTOR = 0.752  
1-HOUR FACTOR = 0.752  
3-HOUR FACTOR = 0.960  
6-HOUR FACTOR = 0.979  
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 7.003

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.400	306.632
2	1.200	613.263
3	2.053	653.419
4	3.219	893.390
5	4.814	1222.308
6	7.408	1987.469
7	10.877	2658.223
8	14.717	2942.275
9	18.828	3150.525
10	23.324	3444.775
11	27.714	3363.938
12	32.884	3961.660
13	38.156	4040.172
14	44.346	4743.381
15	50.985	5086.795
16	56.155	3961.453
17	62.271	4686.676
18	67.586	4072.852
19	72.288	3603.342
20	76.396	3147.344
21	79.593	2450.332
22	82.751	2419.716
23	85.520	2121.583
24	87.749	1707.766
25	89.484	1329.594
26	91.015	1173.471
27	92.441	1092.367
28	93.752	1004.902
29	94.740	757.310
30	95.628	680.479
31	96.321	530.343
32	96.870	420.809
33	97.419	420.920
34	97.927	389.608
35	98.124	150.347
36	98.255	100.771
37	98.386	100.338
38	98.518	100.771
39	98.649	100.765
40	98.780	100.449
41	98.912	100.660
42	99.043	100.449
43	99.174	100.449
44	99.305	100.449
45	99.436	100.449
46	99.567	100.449
47	99.698	100.449
48	99.829	100.449

49                    99.960                    100.449  
 50                    100.000                    30.424

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 TOTAL SOIL-LOSS VOLUME (ACRE-FEET) =    1059.0465  
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) =    519.9645  
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2 4 - H O U R    S T O R M  
 R U N O F F    H Y D R O G R A P H

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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	475.0	950.0	1425.0	1900.0
0.083	0.0021	0.31	Q	.	.	.	.
0.167	0.0085	0.93	Q	.	.	.	.
0.250	0.0195	1.59	Q	.	.	.	.
0.333	0.0367	2.50	Q	.	.	.	.
0.417	0.0624	3.74	Q	.	.	.	.
0.500	0.1020	5.75	Q	.	.	.	.
0.583	0.1602	8.45	Q	.	.	.	.
0.667	0.2390	11.45	Q	.	.	.	.
0.750	0.3400	14.66	Q	.	.	.	.
0.833	0.4652	18.18	Q	.	.	.	.
0.917	0.6142	21.63	Q	.	.	.	.
1.000	0.7912	25.70	Q	.	.	.	.
1.083	0.9968	29.85	Q	.	.	.	.
1.167	1.2360	34.74	Q	.	.	.	.
1.250	1.5113	39.98	Q	.	.	.	.
1.333	1.8151	44.11	Q	.	.	.	.
1.417	2.1524	48.98	VQ	.	.	.	.
1.500	2.5191	53.25	VQ	.	.	.	.
1.583	2.9121	57.06	VQ	.	.	.	.
1.667	3.3283	60.43	VQ	.	.	.	.
1.750	3.7628	63.10	VQ	.	.	.	.
1.833	4.2157	65.75	VQ	.	.	.	.
1.917	4.6848	68.12	VQ	.	.	.	.
2.000	5.1674	70.07	VQ	.	.	.	.
2.083	5.6609	71.65	VQ	.	.	.	.
2.167	6.1642	73.08	VQ	.	.	.	.
2.250	6.6769	74.44	VQ	.	.	.	.
2.333	7.1983	75.71	VQ	.	.	.	.
2.417	7.7268	76.74	VQ	.	.	.	.
2.500	8.2619	77.70	VQ	.	.	.	.
2.583	8.8026	78.51	VQ	.	.	.	.
2.667	9.3481	79.21	VQ	.	.	.	.
2.750	9.8985	79.92	VQ	.	.	.	.
2.833	10.4536	80.60	VQ	.	.	.	.
2.917	11.0117	81.04	VQ	.	.	.	.
3.000	11.5726	81.44	VQ	.	.	.	.
3.083	12.1362	81.84	VQ	.	.	.	.
3.167	12.7026	82.24	VQ	.	.	.	.
3.250	13.2717	82.64	.Q	.	.	.	.
3.333	13.8437	83.05	.Q	.	.	.	.
3.417	14.4185	83.46	.Q	.	.	.	.
3.500	14.9962	83.88	.Q	.	.	.	.
3.583	15.5768	84.30	.Q	.	.	.	.
3.667	16.1603	84.72	.Q	.	.	.	.
3.750	16.7467	85.15	.Q	.	.	.	.
3.833	17.3360	85.58	.Q	.	.	.	.
3.917	17.9284	86.01	.Q	.	.	.	.

4.000	18.5237	86.45	.Q	.	.	.	.
4.083	19.1221	86.89	.Q	.	.	.	.
4.167	19.7231	87.26	.Q	.	.	.	.
4.250	20.3265	87.61	.Q	.	.	.	.
4.333	20.9322	87.96	.Q	.	.	.	.
4.417	21.5404	88.31	.Q	.	.	.	.
4.500	22.1511	88.67	.Q	.	.	.	.
4.583	22.7643	89.03	.Q	.	.	.	.
4.667	23.3800	89.40	.Q	.	.	.	.
4.750	23.9982	89.77	.Q	.	.	.	.
4.833	24.6190	90.14	.Q	.	.	.	.
4.917	25.2424	90.52	.Q	.	.	.	.
5.000	25.8684	90.90	.Q	.	.	.	.
5.083	26.4971	91.29	.QV	.	.	.	.
5.167	27.1285	91.68	.QV	.	.	.	.
5.250	27.7626	92.07	.QV	.	.	.	.
5.333	28.3994	92.47	.QV	.	.	.	.
5.417	29.0390	92.87	.QV	.	.	.	.
5.500	29.6815	93.28	.QV	.	.	.	.
5.583	30.3268	93.69	.QV	.	.	.	.
5.667	30.9749	94.11	.QV	.	.	.	.
5.750	31.6260	94.54	.QV	.	.	.	.
5.833	32.2800	94.96	.QV	.	.	.	.
5.917	32.9370	95.40	.Q	.	.	.	.
6.000	33.5970	95.83	.Q	.	.	.	.
6.083	34.2601	96.28	.Q	.	.	.	.
6.167	34.9263	96.73	.Q	.	.	.	.
6.250	35.5955	97.18	.Q	.	.	.	.
6.333	36.2680	97.64	.Q	.	.	.	.
6.417	36.9437	98.11	.Q	.	.	.	.
6.500	37.6226	98.58	.Q	.	.	.	.
6.583	38.3048	99.06	.Q	.	.	.	.
6.667	38.9903	99.54	.Q	.	.	.	.
6.750	39.6792	100.03	.QV	.	.	.	.
6.833	40.3716	100.53	.QV	.	.	.	.
6.917	41.0673	101.03	.QV	.	.	.	.
7.000	41.7666	101.54	.QV	.	.	.	.
7.083	42.4695	102.05	.QV	.	.	.	.
7.167	43.1759	102.58	.QV	.	.	.	.
7.250	43.8860	103.11	.QV	.	.	.	.
7.333	44.5998	103.64	.QV	.	.	.	.
7.417	45.3174	104.19	.QV	.	.	.	.
7.500	46.0388	104.74	.QV	.	.	.	.
7.583	46.7640	105.30	.QV	.	.	.	.
7.667	47.4931	105.87	.QV	.	.	.	.
7.750	48.2262	106.45	.QV	.	.	.	.
7.833	48.9633	107.03	.QV	.	.	.	.
7.917	49.7045	107.62	.QV	.	.	.	.
8.000	50.4498	108.22	.QV	.	.	.	.
8.083	51.1994	108.83	.QV	.	.	.	.
8.167	51.9532	109.45	.QV	.	.	.	.
8.250	52.7113	110.08	.Q V	.	.	.	.
8.333	53.4739	110.72	.Q V	.	.	.	.
8.417	54.2408	111.37	.Q V	.	.	.	.
8.500	55.0124	112.02	.Q V	.	.	.	.
8.583	55.7885	112.69	.Q V	.	.	.	.
8.667	56.5693	113.37	.Q V	.	.	.	.
8.750	57.3548	114.06	.Q V	.	.	.	.

8.833	58.1452	114.76	. Q V	.	.	.	.
8.917	58.9405	115.47	. Q V	.	.	.	.
9.000	59.7407	116.20	. Q V	.	.	.	.
9.083	60.5461	116.93	. Q V	.	.	.	.
9.167	61.3565	117.68	. Q V	.	.	.	.
9.250	62.1723	118.44	. Q V	.	.	.	.
9.333	62.9933	119.22	. Q V	.	.	.	.
9.417	63.8198	120.00	. Q V	.	.	.	.
9.500	64.6518	120.80	. Q V	.	.	.	.
9.583	65.4894	121.62	. Q V	.	.	.	.
9.667	66.3327	122.45	. Q V	.	.	.	.
9.750	67.1818	123.29	. Q V	.	.	.	.
9.833	68.0369	124.15	. Q V	.	.	.	.
9.917	68.8980	125.03	. Q V	.	.	.	.
10.000	69.7652	125.92	. Q V	.	.	.	.
10.083	70.6387	126.83	. Q V	.	.	.	.
10.167	71.5186	127.76	. Q V	.	.	.	.
10.250	72.4050	128.70	. Q V	.	.	.	.
10.333	73.2980	129.67	. Q V	.	.	.	.
10.417	74.1978	130.65	. Q V	.	.	.	.
10.500	75.1045	131.65	. Q V	.	.	.	.
10.583	76.0183	132.68	. Q V	.	.	.	.
10.667	76.9392	133.72	. Q V	.	.	.	.
10.750	77.8675	134.79	. Q V	.	.	.	.
10.833	78.8033	135.87	. Q V	.	.	.	.
10.917	79.7467	136.99	. Q V	.	.	.	.
11.000	80.6980	138.12	. Q V	.	.	.	.
11.083	81.6572	139.28	. Q V	.	.	.	.
11.167	82.6246	140.47	. Q V	.	.	.	.
11.250	83.6004	141.69	. Q V	.	.	.	.
11.333	84.5848	142.93	. Q V	.	.	.	.
11.417	85.5779	144.20	. Q V	.	.	.	.
11.500	86.5800	145.50	. Q V	.	.	.	.
11.583	87.5912	146.83	. Q V	.	.	.	.
11.667	88.6119	148.20	. Q V	.	.	.	.
11.750	89.6422	149.60	. Q V	.	.	.	.
11.833	90.6823	151.03	. Q V	.	.	.	.
11.917	91.7326	152.51	. Q V	.	.	.	.
12.000	92.7934	154.02	. Q V	.	.	.	.
12.083	93.8663	155.79	. Q V	.	.	.	.
12.167	94.9534	157.84	. Q V	.	.	.	.
12.250	96.0550	159.96	. Q V	.	.	.	.
12.333	97.1728	162.31	. Q V	.	.	.	.
12.417	98.3088	164.95	. Q V	.	.	.	.
12.500	99.4673	168.21	. Q V	.	.	.	.
12.583	100.6520	172.02	. Q V	.	.	.	.
12.667	101.8648	176.10	. Q V	.	.	.	.
12.750	103.1073	180.40	. Q V	.	.	.	.
12.833	104.3813	184.99	. Q V	.	.	.	.
12.917	105.6870	189.58	. Q V	.	.	.	.
13.000	107.0278	194.70	. Q V	.	.	.	.
13.083	108.4049	199.94	. Q V	.	.	.	.
13.167	109.8222	205.80	. Q V	.	.	.	.
13.250	111.2822	211.99	. Q V	.	.	.	.
13.333	112.7797	217.44	. Q V	.	.	.	.
13.417	114.3192	223.53	. Q V	.	.	.	.
13.500	115.8982	229.26	. Q V	.	.	.	.
13.583	117.5149	234.76	. Q V	.	.	.	.



23.333	506.3679	92.95	.Q	.	.	.	V	.
23.417	507.0025	92.14	.Q	.	.	.	V	.
23.500	507.6316	91.35	.Q	.	.	.	V	.
23.583	508.2554	90.57	.Q	.	.	.	V	.
23.667	508.8739	89.81	.Q	.	.	.	V	.
23.750	509.4874	89.07	.Q	.	.	.	V	.
23.833	510.0958	88.34	.Q	.	.	.	V	.
23.917	510.6993	87.63	.Q	.	.	.	V	.
24.000	511.2980	86.94	.Q	.	.	.	V	.
24.083	511.8900	85.95	.Q	.	.	.	V	.
24.167	512.4730	84.66	.Q	.	.	.	V	.
24.250	513.0471	83.36	.Q	.	.	.	V	.
24.333	513.6107	81.83	.Q	.	.	.	V	.
24.417	514.1615	79.98	.Q	.	.	.	V	.
24.500	514.6945	77.39	.Q	.	.	.	V	.
24.583	515.2052	74.15	.Q	.	.	.	V	.
24.667	515.6917	70.65	.Q	.	.	.	V	.
24.750	516.1529	66.96	.Q	.	.	.	V	.
24.833	516.5869	63.01	.Q	.	.	.	V	.
24.917	516.9944	59.18	.Q	.	.	.	V	.
25.000	517.3716	54.77	.Q	.	.	.	V	.
25.083	517.7182	50.32	.Q	.	.	.	V	.
25.167	518.0294	45.19	Q	.	.	.	V	.
25.250	518.3032	39.75	Q	.	.	.	V	.
25.333	518.5477	35.49	Q	.	.	.	V	.
25.417	518.7579	30.53	Q	.	.	.	V	.
25.500	518.9384	26.21	Q	.	.	.	V	.
25.583	519.0927	22.41	Q	.	.	.	V	.
25.667	519.2241	19.08	Q	.	.	.	V	.
25.750	519.3376	16.48	Q	.	.	.	V	.
25.833	519.4336	13.93	Q	.	.	.	V	.
25.917	519.5142	11.70	Q	.	.	.	V	.
26.000	519.5823	9.90	Q	.	.	.	V	.
26.083	519.6408	8.49	Q	.	.	.	V	.
26.167	519.6908	7.25	Q	.	.	.	V	.
26.250	519.7328	6.10	Q	.	.	.	V	.
26.333	519.7676	5.05	Q	.	.	.	V	.
26.417	519.7969	4.25	Q	.	.	.	V	.
26.500	519.8213	3.54	Q	.	.	.	V	.
26.583	519.8418	2.98	Q	.	.	.	V	.
26.667	519.8593	2.54	Q	.	.	.	V	.
26.750	519.8737	2.10	Q	.	.	.	V	.
26.833	519.8853	1.69	Q	.	.	.	V	.
26.917	519.8958	1.53	Q	.	.	.	V	.
27.000	519.9055	1.41	Q	.	.	.	V	.
27.083	519.9145	1.30	Q	.	.	.	V	.
27.167	519.9227	1.19	Q	.	.	.	V	.
27.250	519.9302	1.08	Q	.	.	.	V	.
27.333	519.9369	0.97	Q	.	.	.	V	.
27.417	519.9429	0.87	Q	.	.	.	V	.
27.500	519.9481	0.76	Q	.	.	.	V	.
27.583	519.9526	0.65	Q	.	.	.	V	.
27.667	519.9564	0.55	Q	.	.	.	V	.
27.750	519.9595	0.44	Q	.	.	.	V	.
27.833	519.9618	0.34	Q	.	.	.	V	.
27.917	519.9634	0.24	Q	.	.	.	V	.
28.000	519.9644	0.13	Q	.	.	.	V	.
28.083	519.9645	0.03	Q	.	.	.	V	.

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TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1685.0
10%	430.0
20%	230.0
30%	150.0
40%	120.0
50%	95.0
60%	85.0
70%	70.0
80%	45.0
90%	25.0
=====	=====

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END OF FLOODSCx ROUTING ANALYSIS

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FLOOD ROUTING ANALYSIS  
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)  
(c) Copyright 1989-2013 Advanced Engineering Software (aes)  
Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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Santa Ana, CA  
92707

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* RANCHO MISSION VIEJO \*  
\* EXISTING CONDITION - UH SINGLE AREA MODEL (LOCAL NODE 13305) \*  
\* 25-YR EV JUNE 2018 JMITAL \*  
\*\*\*\*\*

FILE NAME: EV25305S.DAT  
TIME/DATE OF STUDY: 11:45 06/19/2018

\*\*\*\*\*

FLOW PROCESS FROM NODE 13010.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

=====

(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 6336.100 ACRES  
BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 1.081 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.256  
LOW LOSS FRACTION = 0.547  
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.34  
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.72  
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.95  
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.59  
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.20  
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.68

PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.752  
30-MINUTE FACTOR = 0.752  
1-HOUR FACTOR = 0.752  
3-HOUR FACTOR = 0.960  
6-HOUR FACTOR = 0.979  
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 7.709

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.441	337.550
2	1.322	675.100
3	2.325	768.925
4	3.681	1038.944
5	5.892	1694.337
6	9.281	2597.186
7	13.274	3059.609
8	17.901	3545.298
9	22.635	3627.881
10	27.538	3756.997
11	33.221	4354.441
12	39.060	4474.638
13	46.123	5411.727
14	52.937	5221.576
15	58.836	4520.030
16	65.416	5042.428
17	70.770	4102.665
18	75.513	3634.291
19	79.169	2801.109
20	82.645	2663.583
21	85.680	2325.826
22	88.063	1825.713
23	89.909	1415.001
24	91.556	1261.731
25	93.070	1160.387
26	94.355	984.399
27	95.338	753.370
28	96.190	652.803
29	96.800	467.789
30	97.405	463.317
31	97.948	416.436
32	98.147	152.013
33	98.291	110.762
34	98.436	110.756
35	98.581	110.949
36	98.725	110.855
37	98.870	110.663
38	99.014	110.663
39	99.159	110.663
40	99.303	110.663
41	99.447	110.663
42	99.592	110.663
43	99.736	110.663
44	99.881	110.663
45	100.000	91.487

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TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 959.7793  
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 957.7960

2 4 - H O U R S T O R M  
 R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	725.0	1450.0	2175.0	2900.0
0.083	0.0050	0.73	Q	.	.	.	.
0.167	0.0201	2.18	Q	.	.	.	.
0.250	0.0466	3.85	Q	.	.	.	.
0.333	0.0886	6.10	Q	.	.	.	.
0.417	0.1559	9.77	Q	.	.	.	.
0.500	0.2620	15.40	Q	.	.	.	.
0.583	0.4138	22.04	Q	.	.	.	.
0.667	0.6187	29.76	Q	.	.	.	.
0.750	0.8782	37.67	Q	.	.	.	.
0.833	1.1942	45.89	Q	.	.	.	.
0.917	1.5760	55.43	Q	.	.	.	.
1.000	2.0254	65.25	Q	.	.	.	.
1.083	2.5566	77.13	VQ	.	.	.	.
1.167	3.1671	88.64	VQ	.	.	.	.
1.250	3.8467	98.68	VQ	.	.	.	.
1.333	4.6034	109.87	VQ	.	.	.	.
1.417	5.4235	119.08	VQ	.	.	.	.
1.500	6.3004	127.31	VQ	.	.	.	.
1.583	7.2217	133.78	VQ	.	.	.	.
1.667	8.1857	139.97	VQ	.	.	.	.
1.750	9.1875	145.46	V Q	.	.	.	.
1.833	10.2198	149.89	V Q	.	.	.	.
1.917	11.2766	153.45	V Q	.	.	.	.
2.000	12.3558	156.70	V Q	.	.	.	.
2.083	13.4559	159.74	V Q	.	.	.	.
2.167	14.5745	162.42	V Q	.	.	.	.
2.250	15.7082	164.61	V Q	.	.	.	.
2.333	16.8555	166.59	V Q	.	.	.	.
2.417	18.0138	168.19	V Q	.	.	.	.
2.500	19.1831	169.78	V Q	.	.	.	.
2.583	20.3628	171.28	V Q	.	.	.	.
2.667	21.5489	172.23	V Q	.	.	.	.
2.750	22.7409	173.08	V Q	.	.	.	.
2.833	23.9389	173.95	V Q	.	.	.	.
2.917	25.1429	174.82	.VQ	.	.	.	.
3.000	26.3530	175.70	.VQ	.	.	.	.
3.083	27.5692	176.59	.VQ	.	.	.	.
3.167	28.7915	177.48	.VQ	.	.	.	.
3.250	30.0200	178.38	.VQ	.	.	.	.
3.333	31.2548	179.29	.VQ	.	.	.	.
3.417	32.4959	180.20	.VQ	.	.	.	.
3.500	33.7433	181.13	.VQ	.	.	.	.
3.583	34.9971	182.05	.VQ	.	.	.	.
3.667	36.2574	182.99	.VQ	.	.	.	.
3.750	37.5239	183.90	.VQ	.	.	.	.
3.833	38.7953	184.61	.VQ	.	.	.	.
3.917	40.0717	185.33	.VQ	.	.	.	.



4.000	41.3532	186.06	.VQ	.	.	.	.
4.083	42.6397	186.80	.VQ	.	.	.	.
4.167	43.9313	187.55	.VQ	.	.	.	.
4.250	45.2281	188.30	.VQ	.	.	.	.
4.333	46.5302	189.06	.VQ	.	.	.	.
4.417	47.8375	189.82	.VQ	.	.	.	.
4.500	49.1502	190.60	. Q	.	.	.	.
4.583	50.4683	191.38	. Q	.	.	.	.
4.667	51.7918	192.18	. Q	.	.	.	.
4.750	53.1209	192.98	. Q	.	.	.	.
4.833	54.4555	193.79	. Q	.	.	.	.
4.917	55.7958	194.61	. Q	.	.	.	.
5.000	57.1418	195.44	. Q	.	.	.	.
5.083	58.4936	196.28	. Q	.	.	.	.
5.167	59.8512	197.13	. Q	.	.	.	.
5.250	61.2148	197.98	. Q	.	.	.	.
5.333	62.5843	198.85	. Q	.	.	.	.
5.417	63.9598	199.73	. Q	.	.	.	.
5.500	65.3414	200.62	. Q	.	.	.	.
5.583	66.7292	201.51	. Q	.	.	.	.
5.667	68.1233	202.42	. Q	.	.	.	.
5.750	69.5237	203.34	. Q	.	.	.	.
5.833	70.9305	204.27	. Q	.	.	.	.
5.917	72.3438	205.21	. QV	.	.	.	.
6.000	73.7636	206.16	. QV	.	.	.	.
6.083	75.1901	207.12	. QV	.	.	.	.
6.167	76.6233	208.10	. QV	.	.	.	.
6.250	78.0633	209.09	. QV	.	.	.	.
6.333	79.5102	210.09	. QV	.	.	.	.
6.417	80.9641	211.10	. QV	.	.	.	.
6.500	82.4250	212.13	. QV	.	.	.	.
6.583	83.8931	213.16	. QV	.	.	.	.
6.667	85.3685	214.22	. QV	.	.	.	.
6.750	86.8511	215.28	. QV	.	.	.	.
6.833	88.3412	216.37	. QV	.	.	.	.
6.917	89.8389	217.46	. QV	.	.	.	.
7.000	91.3442	218.57	. Q	.	.	.	.
7.083	92.8572	219.69	. Q	.	.	.	.
7.167	94.3780	220.83	. Q	.	.	.	.
7.250	95.9068	221.98	. QV	.	.	.	.
7.333	97.4437	223.16	. QV	.	.	.	.
7.417	98.9887	224.34	. QV	.	.	.	.
7.500	100.5421	225.54	. QV	.	.	.	.
7.583	102.1038	226.76	. QV	.	.	.	.
7.667	103.6741	228.00	. QV	.	.	.	.
7.750	105.2530	229.25	. QV	.	.	.	.
7.833	106.8406	230.53	. QV	.	.	.	.
7.917	108.4372	231.82	. QV	.	.	.	.
8.000	110.0428	233.13	. QV	.	.	.	.
8.083	111.6576	234.46	. QV	.	.	.	.
8.167	113.2817	235.82	. QV	.	.	.	.
8.250	114.9152	237.18	. QV	.	.	.	.
8.333	116.5583	238.58	. QV	.	.	.	.
8.417	118.2111	239.99	. QV	.	.	.	.
8.500	119.8739	241.43	. Q V	.	.	.	.
8.583	121.5466	242.89	. Q V	.	.	.	.
8.667	123.2296	244.37	. Q V	.	.	.	.
8.750	124.9230	245.87	. Q V	.	.	.	.

8.833	126.6269	247.41	. Q V	.	.	.	.
8.917	128.3415	248.96	. Q V	.	.	.	.
9.000	130.0671	250.55	. Q V	.	.	.	.
9.083	131.8036	252.15	. Q V	.	.	.	.
9.167	133.5515	253.79	. Q V	.	.	.	.
9.250	135.3108	255.45	. Q V	.	.	.	.
9.333	137.0818	257.15	. Q V	.	.	.	.
9.417	138.8647	258.87	. Q V	.	.	.	.
9.500	140.6596	260.62	. Q V	.	.	.	.
9.583	142.4668	262.40	. Q V	.	.	.	.
9.667	144.2865	264.22	. Q V	.	.	.	.
9.750	146.1189	266.07	. Q V	.	.	.	.
9.833	147.9643	267.96	. Q V	.	.	.	.
9.917	149.8230	269.87	. Q V	.	.	.	.
10.000	151.6951	271.83	. Q V	.	.	.	.
10.083	153.5809	273.82	. Q V	.	.	.	.
10.167	155.4808	275.86	. Q V	.	.	.	.
10.250	157.3949	277.93	. Q V	.	.	.	.
10.333	159.3236	280.05	. Q V	.	.	.	.
10.417	161.2671	282.20	. Q V	.	.	.	.
10.500	163.2258	284.40	. Q V	.	.	.	.
10.583	165.1999	286.64	. Q V	.	.	.	.
10.667	167.1898	288.94	. Q V	.	.	.	.
10.750	169.1959	291.28	. Q V	.	.	.	.
10.833	171.2185	293.68	. Q V	.	.	.	.
10.917	173.2578	296.11	. Q V	.	.	.	.
11.000	175.3144	298.62	. Q V	.	.	.	.
11.083	177.3886	301.17	. Q V	.	.	.	.
11.167	179.4808	303.79	. Q V	.	.	.	.
11.250	181.5913	306.45	. Q V	.	.	.	.
11.333	183.7208	309.20	. Q V	.	.	.	.
11.417	185.8695	311.99	. Q V	.	.	.	.
11.500	188.0380	314.87	. Q V	.	.	.	.
11.583	190.2266	317.80	. Q V	.	.	.	.
11.667	192.4361	320.82	. Q V	.	.	.	.
11.750	194.6668	323.90	. Q V	.	.	.	.
11.833	196.9194	327.07	. Q V	.	.	.	.
11.917	199.1943	330.32	. Q V	.	.	.	.
12.000	201.4922	333.66	. Q V	.	.	.	.
12.083	203.8175	337.63	. Q V	.	.	.	.
12.167	206.1746	342.25	. Q V	.	.	.	.
12.250	208.5652	347.12	. Q V	.	.	.	.
12.333	210.9932	352.54	. Q V	.	.	.	.
12.417	213.4665	359.13	. Q V	.	.	.	.
12.500	215.9962	367.31	. Q V	.	.	.	.
12.583	218.5882	376.36	. Q V	.	.	.	.
12.667	221.2491	386.35	. Q V	.	.	.	.
12.750	223.9805	396.60	. Q V	.	.	.	.
12.833	226.7852	407.24	. Q V	.	.	.	.
12.917	229.6707	418.98	. Q V	.	.	.	.
13.000	232.6398	431.11	. Q V	.	.	.	.
13.083	235.7039	444.92	. Q V	.	.	.	.
13.167	238.8625	458.63	. Q V	.	.	.	.
13.250	242.1090	471.38	. Q V	.	.	.	.
13.333	245.4507	485.22	. Q V	.	.	.	.
13.417	248.8785	497.72	. Q V	.	.	.	.
13.500	252.3889	509.72	. Q V	.	.	.	.
13.583	255.9741	520.57	. Q V	.	.	.	.

13.667	259.6345	531.49	.	Q	V	.	.	.
13.750	263.3679	542.09	.	Q	V	.	.	.
13.833	267.1709	552.19	.	Q	.V	.	.	.
13.917	271.0407	561.89	.	Q	.V	.	.	.
14.000	274.9780	571.70	.	Q	.V	.	.	.
14.083	278.9925	582.90	.	Q	.V	.	.	.
14.167	283.0936	595.48	.	Q	.V	.	.	.
14.250	287.2833	608.35	.	Q	.V	.	.	.
14.333	291.5706	622.51	.	Q	.V	.	.	.
14.417	295.9727	639.19	.	Q	.V	.	.	.
14.500	300.5163	659.72	.	Q	.V	.	.	.
14.583	305.2153	682.30	.	Q	.V	.	.	.
14.667	310.0829	706.77	.	Q	.V	.	.	.
14.750	315.1236	731.91	.	Q	V	.	.	.
14.833	320.3448	758.12	.	Q	V	.	.	.
14.917	325.7654	787.08	.	Q	V	.	.	.
15.000	331.3932	817.16	.	.Q	V	.	.	.
15.083	337.2565	851.35	.	.Q	V	.	.	.
15.167	343.3560	885.64	.	.	Q	V	.	.
15.250	349.6786	918.04	.	.	Q	V	.	.
15.333	356.2458	953.56	.	.	Q	V	.	.
15.417	363.0222	983.93	.	.	Q	V	.	.
15.500	369.9863	1011.19	.	.	Q	V	.	.
15.583	377.1230	1036.24	.	.	Q	V	.	.
15.667	384.4295	1060.91	.	.	Q	V	.	.
15.750	391.8833	1082.29	.	.	Q	V	.	.
15.833	399.4548	1099.38	.	.	Q	V	.	.
15.917	407.1798	1121.68	.	.	Q	V	.	.
16.000	415.1515	1157.48	.	.	Q	V	.	.
16.083	423.8609	1264.60	.	.	Q	V	.	.
16.167	433.3215	1373.69	.	.	Q	V	.	.
16.250	443.2669	1444.07	.	.	V	Q	.	.
16.333	454.0786	1569.86	.	.	V	Q	.	.
16.417	466.3035	1775.05	.	.	V	Q	.	.
16.500	480.2063	2018.69	.	.	V	Q	.	.
16.583	495.1262	2166.37	.	.	V	Q	.	.
16.667	510.8893	2288.81	.	.	.V	.Q	.	.
16.750	527.0213	2342.36	.	.	.V	.Q	.	.
16.833	543.6713	2417.58	.	.	.V	.Q	.	.
16.917	561.4749	2585.08	.	.	.V	.Q	.	.
17.000	579.8212	2663.88	.	.	.V	.Q	.	.
17.083	599.4144	2844.93	.	.	.V	.Q	.	.
17.167	618.5947	2784.97	.	.	.V	.Q	.	.
17.250	636.6562	2622.53	.	.	.V	.Q	.	.
17.333	654.9244	2652.55	.	.	.V	.Q	.	.
17.417	671.4561	2400.39	.	.	.V	.Q	.	.
17.500	686.7515	2220.90	.	.	.V	.Q	.	.
17.583	700.4332	1986.59	.	.	.Q	V.	.	.
17.667	713.4504	1890.10	.	.	.Q	V.	.	.
17.750	725.4992	1749.48	.	.	.Q	V	.	.
17.833	736.3787	1579.71	.	.	.Q	V	.	.
17.917	746.2450	1432.58	.	.	.Q	V	.	.
18.000	755.5173	1346.33	.	.	.Q	V	.	.
18.083	764.2410	1266.68	.	.	.Q	V	.	.
18.167	772.3031	1170.62	.	.	.Q	V	.	.
18.250	779.6600	1068.21	.	.	.Q	V	.	.
18.333	786.4875	991.35	.	.	.Q	V	.	.
18.417	792.7430	908.30	.	.	.Q	V	.	.

18.500	798.6558	858.54	.	.Q	.	.	V	.
18.583	804.1660	800.09	.	.Q	.	.	V	.
18.667	809.0322	706.57	.	.Q	.	.	V	.
18.750	813.5897	661.75	.	.Q	.	.	V	.
18.833	817.9450	632.40	.	.Q	.	.	V	.
18.917	822.1172	605.80	.	.Q	.	.	V	.
19.000	826.1033	578.78	.	.Q	.	.	V	.
19.083	829.9035	551.79	.	.Q	.	.	V	.
19.167	833.5368	527.55	.	.Q	.	.	V	.
19.250	837.0226	506.15	.	.Q	.	.	V	.
19.333	840.3622	484.90	.	.Q	.	.	V	.
19.417	843.5744	466.42	.	.Q	.	.	V	.
19.500	846.6658	448.87	.	.Q	.	.	V	.
19.583	849.6451	432.61	.	.Q	.	.	V	.
19.667	852.5098	415.94	.	.Q	.	.	V	.
19.750	855.2308	395.10	.	.Q	.	.	V	.
19.833	857.7370	363.90	.	.Q	.	.	V	.
19.917	860.1658	352.67	.	.Q	.	.	V	.
20.000	862.5312	343.46	.	.Q	.	.	V	.
20.083	864.8376	334.88	.	.Q	.	.	V	.
20.167	867.0848	326.29	.	.Q	.	.	V	.
20.250	869.2786	318.54	.	.Q	.	.	V	.
20.333	871.4225	311.30	.	.Q	.	.	V	.
20.417	873.5208	304.66	.	.Q	.	.	V	.
20.500	875.5751	298.29	.	.Q	.	.	V	.
20.583	877.5879	292.25	.	.Q	.	.	V	.
20.667	879.5635	286.87	.	.Q	.	.	V	.
20.750	881.5045	281.83	.	.Q	.	.	V	.
20.833	883.4144	277.32	.	.Q	.	.	V	.
20.917	885.2946	273.00	.	.Q	.	.	V	.
21.000	887.1461	268.84	.	.Q	.	.	V	.
21.083	888.9700	264.84	.	.Q	.	.	V	.
21.167	890.7675	260.99	.	.Q	.	.	V	.
21.250	892.5394	257.28	.	.Q	.	.	V	.
21.333	894.2866	253.69	.	.Q	.	.	V	.
21.417	896.0099	250.23	.	.Q	.	.	V	.
21.500	897.7102	246.88	.	.Q	.	.	V	.
21.583	899.3881	243.64	.	.Q	.	.	V	.
21.667	901.0444	240.50	.	.Q	.	.	V	.
21.750	902.6800	237.48	.	.Q	.	.	V	.
21.833	904.2964	234.71	.	.Q	.	.	V	.
21.917	905.8943	232.01	.	.Q	.	.	V	.
22.000	907.4743	229.41	.	.Q	.	.	V	.
22.083	909.0368	226.87	.	.Q	.	.	V	.
22.167	910.5823	224.41	.	.Q	.	.	V	.
22.250	912.1115	222.03	.	.Q	.	.	V	.
22.333	913.6246	219.70	.	.Q	.	.	V	.
22.417	915.1221	217.44	.	.Q	.	.	V	.
22.500	916.6046	215.25	.	.Q	.	.	V	.
22.583	918.0722	213.11	.	.Q	.	.	V	.
22.667	919.5255	211.02	.	.Q	.	.	V	.
22.750	920.9648	208.99	.	.Q	.	.	V	.
22.833	922.3906	207.01	.	.Q	.	.	V	.
22.917	923.8030	205.08	.	.Q	.	.	V	.
23.000	925.2024	203.19	.	.Q	.	.	V	.
23.083	926.5891	201.36	.	.Q	.	.	V	.
23.167	927.9635	199.56	.	.Q	.	.	V	.
23.250	929.3258	197.81	.	.Q	.	.	V	.

23.333	930.6763	196.09	. Q	.	.	.	V .
23.417	932.0152	194.42	. Q	.	.	.	V .
23.500	933.3429	192.78	. Q	.	.	.	V .
23.583	934.6595	191.18	. Q	.	.	.	V .
23.667	935.9654	189.61	. Q	.	.	.	V .
23.750	937.2607	188.07	. Q	.	.	.	V .
23.833	938.5456	186.57	. Q	.	.	.	V .
23.917	939.8204	185.10	. Q	.	.	.	V .
24.000	941.0853	183.66	. Q	.	.	.	V .
24.083	942.3355	181.53	. Q	.	.	.	V .
24.167	943.5662	178.69	. Q	.	.	.	V .
24.250	944.7762	175.70	. Q	.	.	.	V .
24.333	945.9619	172.16	. Q	.	.	.	V .
24.417	947.1137	167.25	. Q	.	.	.	V .
24.500	948.2187	160.44	. Q	.	.	.	V .
24.583	949.2703	152.70	. Q	.	.	.	V .
24.667	950.2619	143.98	. Q	.	.	.	V .
24.750	951.1927	135.15	. Q	.	.	.	V .
24.833	952.0612	126.11	. Q	.	.	.	V .
24.917	952.8591	115.85	. Q	.	.	.	V .
25.000	953.5851	105.42	. Q	.	.	.	V .
25.083	954.2259	93.04	. Q	.	.	.	V .
25.167	954.7849	81.16	. Q	.	.	.	V .
25.250	955.2729	70.87	. Q	.	.	.	V .
25.333	955.6830	59.54	. Q	.	.	.	V .
25.417	956.0294	50.30	. Q	.	.	.	V .
25.500	956.3196	42.13	. Q	.	.	.	V .
25.583	956.5662	35.82	. Q	.	.	.	V .
25.667	956.7717	29.84	. Q	.	.	.	V .
25.750	956.9413	24.63	. Q	.	.	.	V .
25.833	957.0828	20.53	. Q	.	.	.	V .
25.917	957.2022	17.35	. Q	.	.	.	V .
26.000	957.3022	14.51	. Q	.	.	.	V .
26.083	957.3843	11.92	. Q	.	.	.	V .
26.167	957.4512	9.72	. Q	.	.	.	V .
26.250	957.5065	8.03	. Q	.	.	.	V .
26.333	957.5517	6.57	. Q	.	.	.	V .
26.417	957.5897	5.52	. Q	.	.	.	V .
26.500	957.6206	4.48	. Q	.	.	.	V .
26.583	957.6451	3.56	. Q	.	.	.	V .
26.667	957.6671	3.20	. Q	.	.	.	V .
26.750	957.6874	2.94	. Q	.	.	.	V .
26.833	957.7059	2.68	. Q	.	.	.	V .
26.917	957.7226	2.43	. Q	.	.	.	V .
27.000	957.7375	2.17	. Q	.	.	.	V .
27.083	957.7508	1.92	. Q	.	.	.	V .
27.167	957.7623	1.67	. Q	.	.	.	V .
27.250	957.7720	1.42	. Q	.	.	.	V .
27.333	957.7801	1.17	. Q	.	.	.	V .
27.417	957.7864	0.93	. Q	.	.	.	V .
27.500	957.7911	0.68	. Q	.	.	.	V .
27.583	957.7942	0.44	. Q	.	.	.	V .
27.667	957.7955	0.20	. Q	.	.	.	V .

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TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1660.0
10%	610.0
20%	305.0
30%	205.0
40%	135.0
50%	105.0
60%	85.0
70%	65.0
80%	50.0
90%	30.0

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END OF FLOODSCx ROUTING ANALYSIS

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FLOOD ROUTING ANALYSIS  
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)  
(c) Copyright 1989-2013 Advanced Engineering Software (aes)  
Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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Santa Ana, CA  
92707

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* RANCHO MISSION VIEJO \*  
\* EXISTING CONDITION - UH SINGLE AREA MODEL (LOCAL NODE 13305) \*  
\* 50-YR EV JUNE 2018 JMITAL \*  
\*\*\*\*\*

FILE NAME: EV50305S.DAT  
TIME/DATE OF STUDY: 11:44 06/19/2018

\*\*\*\*\*

FLOW PROCESS FROM NODE 13010.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 6336.100 ACRES  
BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 1.035 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.256  
LOW LOSS FRACTION = 0.517  
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.37  
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.80  
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.06  
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.78  
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.47  
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.13

PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.752  
30-MINUTE FACTOR = 0.752  
1-HOUR FACTOR = 0.752  
3-HOUR FACTOR = 0.960  
6-HOUR FACTOR = 0.979  
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 8.052

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.460	352.552
2	1.380	705.104
3	2.464	830.755
4	3.951	1138.905
5	6.472	1932.019
6	10.241	2888.409
7	14.615	3351.124
8	19.331	3614.304
9	24.565	4010.679
10	29.732	3958.680
11	35.919	4741.425
12	42.578	5102.068
13	50.151	5803.237
14	56.292	4705.527
15	63.274	5350.485
16	69.148	4500.758
17	74.324	3966.022
18	78.401	3124.521
19	82.041	2788.885
20	85.311	2505.812
21	87.874	1964.438
22	89.831	1499.501
23	91.555	1320.959
24	93.135	1210.828
25	94.445	1003.569
26	95.468	784.232
27	96.303	639.620
28	96.935	483.843
29	97.566	483.942
30	98.039	362.283
31	98.198	122.033
32	98.349	115.895
33	98.500	115.527
34	98.651	115.895
35	98.802	115.620
36	98.953	115.614
37	99.104	115.620
38	99.255	115.614
39	99.406	115.614
40	99.557	115.614
41	99.708	115.614
42	99.858	115.614
43	100.000	108.447

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 1013.1036  
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 1138.9240

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2 4 - H O U R   S T O R M  
R U N O F F   H Y D R O G R A P H

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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	850.0	1700.0	2550.0	3400.0
0.083	0.0063	0.91	Q	.	.	.	.
0.167	0.0251	2.73	Q	.	.	.	.
0.250	0.0586	4.88	Q	.	.	.	.
0.333	0.1126	7.83	Q	.	.	.	.
0.417	0.2009	12.83	Q	.	.	.	.
0.500	0.3409	20.32	Q	.	.	.	.
0.583	0.5407	29.02	Q	.	.	.	.
0.667	0.8054	38.43	Q	.	.	.	.
0.750	1.1421	48.89	Q	.	.	.	.
0.833	1.5501	59.25	Q	.	.	.	.
0.917	2.0437	71.66	Q	.	.	.	.
1.000	2.6294	85.05	VQ	.	.	.	.
1.083	3.3201	100.28	VQ	.	.	.	.
1.167	4.0965	112.74	VQ	.	.	.	.
1.250	4.9705	126.90	VQ	.	.	.	.
1.333	5.9273	138.92	VQ	.	.	.	.
1.417	6.9576	149.61	VQ	.	.	.	.
1.500	8.0469	158.16	VQ	.	.	.	.
1.583	9.1893	165.88	VQ	.	.	.	.
1.667	10.3801	172.90	V Q	.	.	.	.
1.750	11.6098	178.55	V Q	.	.	.	.
1.833	12.8702	183.02	V Q	.	.	.	.
1.917	14.1585	187.06	V Q	.	.	.	.
2.000	15.4727	190.82	V Q	.	.	.	.
2.083	16.8093	194.07	V Q	.	.	.	.
2.167	18.1644	196.76	V Q	.	.	.	.
2.250	19.5356	199.10	V Q	.	.	.	.
2.333	20.9202	201.04	V Q	.	.	.	.
2.417	22.3183	203.01	V Q	.	.	.	.
2.500	23.7278	204.66	V Q	.	.	.	.
2.583	25.1445	205.71	V Q	.	.	.	.
2.667	26.5684	206.74	V Q	.	.	.	.
2.750	27.9994	207.79	V Q	.	.	.	.
2.833	29.4377	208.84	.VQ	.	.	.	.
2.917	30.8834	209.91	.VQ	.	.	.	.
3.000	32.3363	210.97	.VQ	.	.	.	.
3.083	33.7968	212.06	.VQ	.	.	.	.
3.167	35.2647	213.14	.VQ	.	.	.	.
3.250	36.7401	214.24	.VQ	.	.	.	.
3.333	38.2231	215.33	.VQ	.	.	.	.
3.417	39.7139	216.45	.VQ	.	.	.	.
3.500	41.2123	217.57	.VQ	.	.	.	.
3.583	42.7184	218.69	.VQ	.	.	.	.
3.667	44.2303	219.52	.VQ	.	.	.	.
3.750	45.7481	220.38	.VQ	.	.	.	.
3.833	47.2717	221.23	.VQ	.	.	.	.
3.917	48.8014	222.11	.VQ	.	.	.	.

4.000	50.3371	222.98	.VQ	.	.	.	.
4.083	51.8789	223.88	.VQ	.	.	.	.
4.167	53.4269	224.76	.VQ	.	.	.	.
4.250	54.9811	225.68	.VQ	.	.	.	.
4.333	56.5416	226.58	.VQ	.	.	.	.
4.417	58.1085	227.52	.Q	.	.	.	.
4.500	59.6818	228.44	.Q	.	.	.	.
4.583	61.2617	229.40	.Q	.	.	.	.
4.667	62.8481	230.34	.Q	.	.	.	.
4.750	64.4412	231.32	.Q	.	.	.	.
4.833	66.0409	232.28	.Q	.	.	.	.
4.917	67.6475	233.28	.Q	.	.	.	.
5.000	69.2609	234.27	.Q	.	.	.	.
5.083	70.8813	235.28	.Q	.	.	.	.
5.167	72.5087	236.30	.Q	.	.	.	.
5.250	74.1433	237.34	.Q	.	.	.	.
5.333	75.7849	238.37	.Q	.	.	.	.
5.417	77.4339	239.44	.Q	.	.	.	.
5.500	79.0902	240.50	.Q	.	.	.	.
5.583	80.7541	241.59	.Q	.	.	.	.
5.667	82.4253	242.67	.Q	.	.	.	.
5.750	84.1043	243.79	.Q	.	.	.	.
5.833	85.7909	244.90	.QV	.	.	.	.
5.917	87.4854	246.04	.QV	.	.	.	.
6.000	89.1877	247.18	.QV	.	.	.	.
6.083	90.8981	248.35	.QV	.	.	.	.
6.167	92.6165	249.51	.QV	.	.	.	.
6.250	94.3431	250.71	.QV	.	.	.	.
6.333	96.0780	251.91	.QV	.	.	.	.
6.417	97.8214	253.14	.QV	.	.	.	.
6.500	99.5732	254.36	.QV	.	.	.	.
6.583	101.3337	255.63	.Q	.	.	.	.
6.667	103.1029	256.88	.Q	.	.	.	.
6.750	104.8809	258.18	.Q	.	.	.	.
6.833	106.6679	259.47	.Q	.	.	.	.
6.917	108.4640	260.80	.Q	.	.	.	.
7.000	110.2693	262.12	.Q	.	.	.	.
7.083	112.0839	263.49	.Q	.	.	.	.
7.167	113.9079	264.85	.QV	.	.	.	.
7.250	115.7416	266.25	.QV	.	.	.	.
7.333	117.5849	267.65	.QV	.	.	.	.
7.417	119.4382	269.09	.QV	.	.	.	.
7.500	121.3013	270.53	.QV	.	.	.	.
7.583	123.1747	272.01	.QV	.	.	.	.
7.667	125.0583	273.49	.QV	.	.	.	.
7.750	126.9523	275.02	.QV	.	.	.	.
7.833	128.8569	276.54	.QV	.	.	.	.
7.917	130.7723	278.11	.QV	.	.	.	.
8.000	132.6985	279.68	.QV	.	.	.	.
8.083	134.6358	281.30	.QV	.	.	.	.
8.167	136.5843	282.92	.QV	.	.	.	.
8.250	138.5442	284.59	.QV	.	.	.	.
8.333	140.5156	286.25	.QV	.	.	.	.
8.417	142.4989	287.97	.Q V	.	.	.	.
8.500	144.4940	289.69	.Q V	.	.	.	.
8.583	146.5014	291.47	.Q V	.	.	.	.
8.667	148.5209	293.24	.Q V	.	.	.	.
8.750	150.5531	295.07	.Q V	.	.	.	.

8.833	152.5979	296.90	. Q V	.	.	.	.
8.917	154.6557	298.80	. Q V	.	.	.	.
9.000	156.7266	300.69	. Q V	.	.	.	.
9.083	158.8110	302.65	. Q V	.	.	.	.
9.167	160.9088	304.61	. Q V	.	.	.	.
9.250	163.0206	306.63	. Q V	.	.	.	.
9.333	165.1464	308.66	. Q V	.	.	.	.
9.417	167.2866	310.76	. Q V	.	.	.	.
9.500	169.4413	312.86	. Q V	.	.	.	.
9.583	171.6109	315.03	. Q V	.	.	.	.
9.667	173.7955	317.21	. Q V	.	.	.	.
9.750	175.9957	319.46	. Q V	.	.	.	.
9.833	178.2114	321.72	. Q V	.	.	.	.
9.917	180.4432	324.06	. Q V	.	.	.	.
10.000	182.6911	326.40	. Q V	.	.	.	.
10.083	184.9558	328.83	. Q V	.	.	.	.
10.167	187.2373	331.27	. Q V	.	.	.	.
10.250	189.5362	333.80	. Q V	.	.	.	.
10.333	191.8525	336.33	. Q V	.	.	.	.
10.417	194.1869	338.96	. Q V	.	.	.	.
10.500	196.5395	341.60	. Q V	.	.	.	.
10.583	198.9110	344.34	. Q V	.	.	.	.
10.667	201.3014	347.09	. Q V	.	.	.	.
10.750	203.7115	349.95	. Q V	.	.	.	.
10.833	206.1414	352.82	. Q V	.	.	.	.
10.917	208.5918	355.80	. Q V	.	.	.	.
11.000	211.0629	358.80	. Q V	.	.	.	.
11.083	213.5555	361.92	. Q V	.	.	.	.
11.167	216.0696	365.06	. Q V	.	.	.	.
11.250	218.6063	368.32	. Q V	.	.	.	.
11.333	221.1656	371.61	. Q V	.	.	.	.
11.417	223.7484	375.03	. Q V	.	.	.	.
11.500	226.3550	378.47	. Q V	.	.	.	.
11.583	228.9863	382.07	. Q V	.	.	.	.
11.667	231.6426	385.69	. Q V	.	.	.	.
11.750	234.3248	389.46	. Q V	.	.	.	.
11.833	237.0333	393.27	. Q V	.	.	.	.
11.917	239.7692	397.25	. Q V	.	.	.	.
12.000	242.5327	401.26	. Q V	.	.	.	.
12.083	245.3300	406.17	. Q V	.	.	.	.
12.167	248.1662	411.82	. Q V	.	.	.	.
12.250	251.0446	417.94	. Q V	.	.	.	.
12.333	253.9697	424.72	. Q V	.	.	.	.
12.417	256.9539	433.32	. Q V	.	.	.	.
12.500	260.0112	443.91	. Q V	.	.	.	.
12.583	263.1495	455.68	. Q V	.	.	.	.
12.667	266.3731	468.06	. Q V	.	.	.	.
12.750	269.6893	481.51	. Q V	.	.	.	.
12.833	273.0980	494.95	. Q V	.	.	.	.
12.917	276.6122	510.26	. Q V	.	.	.	.
13.000	280.2375	526.40	. Q V	.	.	.	.
13.083	283.9861	544.29	. Q V	.	.	.	.
13.167	287.8434	560.09	. Q V	.	.	.	.
13.250	291.8210	577.55	. Q V	.	.	.	.
13.333	295.9080	593.43	. Q V	.	.	.	.
13.417	300.0997	608.63	. Q V	.	.	.	.
13.500	304.3854	622.28	. Q V	.	.	.	.
13.583	308.7634	635.69	. Q V	.	.	.	.

13.667	313.2310	648.69	.	Q	.V	.	.	.
13.750	317.7838	661.07	.	Q	.V	.	.	.
13.833	322.4167	672.71	.	Q	.V	.	.	.
13.917	327.1310	684.50	.	Q	.V	.	.	.
14.000	331.9264	696.30	.	Q	.V	.	.	.
14.083	336.8151	709.84	.	Q	.V	.	.	.
14.167	341.8065	724.75	.	Q	.V	.	.	.
14.250	346.9068	740.57	.	Q	.V	.	.	.
14.333	352.1253	757.72	.	Q	.V	.	.	.
14.417	357.4911	779.12	.	Q	.V	.	.	.
14.500	363.0339	804.82	.	Q	.V	.	.	.
14.583	368.7697	832.84	.	Q	.V	.	.	.
14.667	374.7087	862.33	.	Q	V	.	.	.
14.750	380.8687	894.43	.	Q	V	.	.	.
14.833	387.2506	926.66	.	Q	V	.	.	.
14.917	393.8852	963.34	.	.	Q V	.	.	.
15.000	400.7865	1002.07	.	.	.Q V	.	.	.
15.083	407.9836	1045.02	.	.	.Q V	.	.	.
15.167	415.4476	1083.77	.	.	.Q V	.	.	.
15.250	423.2104	1127.16	.	.	.QV	.	.	.
15.333	431.2552	1168.10	.	.	.Q V	.	.	.
15.417	439.5534	1204.90	.	.	.QV	.	.	.
15.500	448.0656	1235.96	.	.	.QV	.	.	.
15.583	456.7967	1267.77	.	.	.Q V	.	.	.
15.667	465.7375	1298.21	.	.	.QV	.	.	.
15.750	474.8534	1323.62	.	.	.QV	.	.	.
15.833	484.1047	1343.30	.	.	.Q V	.	.	.
15.917	493.5466	1370.96	.	.	.QV	.	.	.
16.000	503.3055	1416.99	.	.	.QV	.	.	.
16.083	513.9367	1543.65	.	.	.Q	.	.	.
16.167	525.4922	1677.87	.	.	.VQ.	.	.	.
16.250	537.7224	1775.82	.	.	.V Q	.	.	.
16.333	551.0300	1932.26	.	.	.V. Q	.	.	.
16.417	566.1479	2195.13	.	.	.V. Q	.	.	.
16.500	583.2435	2482.27	.	.	.V	.Q.	.	.
16.583	601.4049	2637.04	.	.	.V	.Q	.	.
16.667	620.2685	2739.00	.	.	.V	.Q	.	.
16.750	640.0477	2871.94	.	.	.V	.Q	.	.
16.833	660.2686	2936.08	.	.	.V	.Q	.	.
16.917	682.0652	3164.87	.	.	.V	.Q	.	.
17.000	704.6295	3276.33	.	.	.V	.Q	.	.
17.083	728.0397	3399.16	.	.	.V	.Q	.	.
17.167	749.7073	3146.13	.	.	.V	.Q	.	.
17.250	771.7468	3200.13	.	.	.V	.Q	.	.
17.333	791.9807	2937.95	.	.	.V	.Q	.	.
17.417	810.7323	2722.74	.	.	.V. Q	.	.	.
17.500	827.5823	2446.62	.	.	.QV.	.	.	.
17.583	843.3469	2289.02	.	.	.Q V.	.	.	.
17.667	858.0479	2134.58	.	.	.Q V	.	.	.
17.750	871.3253	1927.88	.	.	.Q V	.	.	.
17.833	883.3550	1746.72	.	.	.Q	.V	.	.
17.917	894.6147	1634.91	.	.	.Q.	.V	.	.
18.000	905.2120	1538.73	.	.	.Q	.V	.	.
18.083	914.9703	1416.90	.	.	.Q	.V	.	.
18.167	923.9073	1297.66	.	.	.Q	.V	.	.
18.250	932.1464	1196.30	.	.	.Q	.V	.	.
18.333	939.7473	1103.65	.	.	.Q	.V	.	.
18.417	946.9183	1041.23	.	.	.Q	.V	.	.

18.500	953.4992	955.55	.	.	.Q	.	.	V	.
18.583	959.3852	854.64	.	.	.Q	.	.	V	.
18.667	964.9547	808.69	.	.	.Q.	.	.	V	.
18.750	970.2739	772.35	.	.	.Q.	.	.	V	.
18.833	975.3663	739.43	.	.	.Q	.	.	V	.
18.917	980.2207	704.86	.	.	.Q	.	.	V	.
19.000	984.8558	673.02	.	.	.Q	.	.	V	.
19.083	989.2776	642.04	.	.	.Q	.	.	V	.
19.167	993.5143	615.16	.	.	.Q	.	.	V	.
19.250	997.5667	588.40	.	.	.Q	.	.	V	.
19.333	1001.4520	564.14	.	.	.Q	.	.	V	.
19.417	1005.1779	541.00	.	.	.Q	.	.	V	.
19.500	1008.7479	518.37	.	.	.Q	.	.	V	.
19.583	1012.1506	494.07	.	.	.Q	.	.	V	.
19.667	1015.2695	452.85	.	.	.Q	.	.	V	.
19.750	1018.2802	437.16	.	.	.Q	.	.	V	.
19.833	1021.2067	424.92	.	.	.Q	.	.	V	.
19.917	1024.0566	413.81	.	.	.Q	.	.	V	.
20.000	1026.8275	402.32	.	.	.Q	.	.	V	.
20.083	1029.5267	391.93	.	.	.Q	.	.	V	.
20.167	1032.1610	382.50	.	.	.Q	.	.	V	.
20.250	1034.7351	373.76	.	.	.Q	.	.	V	.
20.333	1037.2537	365.69	.	.	.Q	.	.	V	.
20.417	1039.7189	357.94	.	.	.Q	.	.	V	.
20.500	1042.1344	350.73	.	.	.Q	.	.	V	.
20.583	1044.5056	344.30	.	.	.Q	.	.	V	.
20.667	1046.8376	338.62	.	.	.Q	.	.	V	.
20.750	1049.1322	333.17	.	.	.Q	.	.	V	.
20.833	1051.3907	327.94	.	.	.Q	.	.	V	.
20.917	1053.6146	322.91	.	.	.Q	.	.	V	.
21.000	1055.8052	318.07	.	.	.Q	.	.	V	.
21.083	1057.9636	313.41	.	.	.Q	.	.	V	.
21.167	1060.0911	308.91	.	.	.Q	.	.	V	.
21.250	1062.1886	304.57	.	.	.Q	.	.	V	.
21.333	1064.2573	300.37	.	.	.Q	.	.	V	.
21.417	1066.2981	296.31	.	.	.Q	.	.	V	.
21.500	1068.3118	292.39	.	.	.Q	.	.	V	.
21.583	1070.2993	288.59	.	.	.Q	.	.	V	.
21.667	1072.2631	285.14	.	.	.Q	.	.	V	.
21.750	1074.2037	281.79	.	.	.Q	.	.	V	.
21.833	1076.1221	278.54	.	.	.Q	.	.	V	.
21.917	1078.0187	275.39	.	.	.Q	.	.	V	.
22.000	1079.8943	272.34	.	.	.Q	.	.	V	.
22.083	1081.7495	269.37	.	.	.Q	.	.	V	.
22.167	1083.5848	266.49	.	.	.Q	.	.	V	.
22.250	1085.4009	263.69	.	.	.Q	.	.	V	.
22.333	1087.1981	260.96	.	.	.Q	.	.	V	.
22.417	1088.9772	258.31	.	.	.Q	.	.	V	.
22.500	1090.7384	255.73	.	.	.Q	.	.	V	.
22.583	1092.4823	253.22	.	.	.Q	.	.	V	.
22.667	1094.2094	250.77	.	.	.Q	.	.	V	.
22.750	1095.9199	248.38	.	.	.Q	.	.	V	.
22.833	1097.6145	246.05	.	.	.Q	.	.	V	.
22.917	1099.2935	243.78	.	.	.Q	.	.	V	.
23.000	1100.9572	241.56	.	.	.Q	.	.	V	.
23.083	1102.6060	239.40	.	.	.Q	.	.	V	.
23.167	1104.2401	237.29	.	.	.Q	.	.	V	.
23.250	1105.8601	235.22	.	.	.Q	.	.	V	.

23.333	1107.4662	233.20	. Q	.	.	.	V .
23.417	1109.0587	231.23	. Q	.	.	.	V .
23.500	1110.6379	229.30	. Q	.	.	.	V .
23.583	1112.2041	227.41	. Q	.	.	.	V .
23.667	1113.7576	225.56	. Q	.	.	.	V .
23.750	1115.2986	223.75	. Q	.	.	.	V .
23.833	1116.8274	221.98	. Q	.	.	.	V .
23.917	1118.3442	220.25	. Q	.	.	.	V .
24.000	1119.8494	218.55	. Q	.	.	.	V .
24.083	1121.3368	215.97	. Q	.	.	.	V .
24.167	1122.8005	212.53	. Q	.	.	.	V .
24.250	1124.2386	208.81	. Q	.	.	.	V .
24.333	1125.6460	204.34	. Q	.	.	.	V .
24.417	1127.0088	197.88	. Q	.	.	.	V .
24.500	1128.3105	189.02	. Q	.	.	.	V .
24.583	1129.5437	179.05	. Q	.	.	.	V .
24.667	1130.7040	168.47	.Q	.	.	.	V .
24.750	1131.7850	156.96	.Q	.	.	.	V .
24.833	1132.7883	145.68	.Q	.	.	.	V .
24.917	1133.7006	132.46	.Q	.	.	.	V .
25.000	1134.5161	118.42	.Q	.	.	.	V .
25.083	1135.2231	102.67	.Q	.	.	.	V .
25.167	1135.8419	89.85	.Q	.	.	.	V .
25.250	1136.3617	75.47	Q	.	.	.	V .
25.333	1136.7981	63.37	Q	.	.	.	V .
25.417	1137.1613	52.73	Q	.	.	.	V .
25.500	1137.4666	44.33	Q	.	.	.	V .
25.583	1137.7203	36.85	Q	.	.	.	V .
25.667	1137.9280	30.15	Q	.	.	.	V .
25.750	1138.0994	24.89	Q	.	.	.	V .
25.833	1138.2430	20.87	Q	.	.	.	V .
25.917	1138.3623	17.32	Q	.	.	.	V .
26.000	1138.4594	14.09	Q	.	.	.	V .
26.083	1138.5380	11.41	Q	.	.	.	V .
26.167	1138.6022	9.32	Q	.	.	.	V .
26.250	1138.6545	7.61	Q	.	.	.	V .
26.333	1138.6980	6.31	Q	.	.	.	V .
26.417	1138.7325	5.02	Q	.	.	.	V .
26.500	1138.7605	4.05	Q	.	.	.	V .
26.583	1138.7860	3.71	Q	.	.	.	V .
26.667	1138.8093	3.39	Q	.	.	.	V .
26.750	1138.8304	3.07	Q	.	.	.	V .
26.833	1138.8494	2.75	Q	.	.	.	V .
26.917	1138.8661	2.43	Q	.	.	.	V .
27.000	1138.8807	2.12	Q	.	.	.	V .
27.083	1138.8932	1.81	Q	.	.	.	V .
27.167	1138.9036	1.50	Q	.	.	.	V .
27.250	1138.9117	1.19	Q	.	.	.	V .
27.333	1138.9178	0.89	Q	.	.	.	V .
27.417	1138.9219	0.58	Q	.	.	.	V .
27.500	1138.9238	0.28	Q	.	.	.	V .

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TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
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Percentile	Duration (minutes)
0%	1650.0
10%	610.0
20%	305.0
30%	205.0
40%	135.0
50%	100.0
60%	80.0
70%	65.0
80%	50.0
90%	25.0

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END OF FLOODSCx ROUTING ANALYSIS



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FLOOD ROUTING ANALYSIS  
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)  
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

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\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* RANCHO MISSION VIEJO \*  
\* EXISTING CONDITION - UH SINGLE AREA MODEL (LOCAL NODE 13305) \*  
\* 100-YR EV JUNE 2018 JMITAL \*  
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FILE NAME: EV00305S.DAT  
TIME/DATE OF STUDY: 11:43 06/19/2018

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FLOW PROCESS FROM NODE 13010.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 6336.100 ACRES  
BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 1.001 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.256  
LOW LOSS FRACTION = 0.495  
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.40  
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.87  
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.15  
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.94  
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.71  
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.49

PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.752  
30-MINUTE FACTOR = 0.752  
1-HOUR FACTOR = 0.752  
3-HOUR FACTOR = 0.960  
6-HOUR FACTOR = 0.979  
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 8.325

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.476	364.527
2	1.427	729.054
3	2.579	882.388
4	4.186	1231.763
5	6.972	2135.086
6	11.010	3093.633
7	15.689	3585.547
8	20.582	3749.783
9	26.008	4157.162
10	31.750	4400.164
11	38.119	4880.044
12	45.518	5670.394
13	52.927	5677.182
14	59.398	4958.430
15	66.287	5278.880
16	71.971	4355.016
17	76.774	3680.412
18	80.569	2908.463
19	84.163	2754.059
20	87.096	2247.001
21	89.272	1667.591
22	91.103	1402.870
23	92.774	1280.532
24	94.220	1108.222
25	95.297	825.167
26	96.213	702.110
27	96.872	504.538
28	97.525	500.311
29	98.030	386.965
30	98.199	129.528
31	98.355	119.636
32	98.511	119.555
33	98.667	119.636
34	98.823	119.549
35	98.979	119.911
36	99.135	119.192
37	99.290	119.192
38	99.446	119.192
39	99.602	119.192
40	99.757	119.192
41	99.913	119.192
42	100.000	66.945

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 1048.2548  
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 1291.3311

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2 4 - H O U R   S T O R M  
R U N O F F   H Y D R O G R A P H

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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	975.0	1950.0	2925.0	3900.0
0.083	0.0072	1.05	Q	.	.	.	.
0.167	0.0289	3.15	Q	.	.	.	.
0.250	0.0682	5.70	Q	.	.	.	.
0.333	0.1320	9.26	Q	.	.	.	.
0.417	0.2383	15.44	Q	.	.	.	.
0.500	0.4063	24.39	Q	.	.	.	.
0.583	0.6459	34.79	Q	.	.	.	.
0.667	0.9606	45.70	Q	.	.	.	.
0.750	1.3588	57.81	Q	.	.	.	.
0.833	1.8455	70.66	Q	.	.	.	.
0.917	2.4305	84.94	Q	.	.	.	.
1.000	3.1298	101.55	VQ	.	.	.	.
1.083	3.9440	118.22	VQ	.	.	.	.
1.167	4.8592	132.89	VQ	.	.	.	.
1.250	5.8821	148.53	VQ	.	.	.	.
1.333	6.9948	161.56	VQ	.	.	.	.
1.417	8.1842	172.70	VQ	.	.	.	.
1.500	9.4352	181.65	VQ	.	.	.	.
1.583	10.7451	190.20	VQ	.	.	.	.
1.667	12.1040	197.31	V Q	.	.	.	.
1.750	13.5007	202.79	V Q	.	.	.	.
1.833	14.9299	207.53	V Q	.	.	.	.
1.917	16.3896	211.94	V Q	.	.	.	.
2.000	17.8762	215.86	V Q	.	.	.	.
2.083	19.3845	219.00	V Q	.	.	.	.
2.167	20.9119	221.79	V Q	.	.	.	.
2.250	22.4548	224.03	V Q	.	.	.	.
2.333	24.0131	226.26	V Q	.	.	.	.
2.417	25.5846	228.19	V Q	.	.	.	.
2.500	27.1644	229.38	V Q	.	.	.	.
2.583	28.7522	230.56	V Q	.	.	.	.
2.667	30.3482	231.74	V Q	.	.	.	.
2.750	31.9524	232.93	V Q	.	.	.	.
2.833	33.5649	234.13	.VQ	.	.	.	.
2.917	35.1857	235.35	.VQ	.	.	.	.
3.000	36.8150	236.56	.VQ	.	.	.	.
3.083	38.4527	237.80	.VQ	.	.	.	.
3.167	40.0989	239.03	.VQ	.	.	.	.
3.250	41.7537	240.28	.VQ	.	.	.	.
3.333	43.4172	241.54	.VQ	.	.	.	.
3.417	45.0894	242.81	.VQ	.	.	.	.
3.500	46.7694	243.93	.VQ	.	.	.	.
3.583	48.4560	244.89	.VQ	.	.	.	.
3.667	50.1491	245.84	.VQ	.	.	.	.
3.750	51.8488	246.81	.VQ	.	.	.	.
3.833	53.5553	247.78	.VQ	.	.	.	.
3.917	55.2686	248.77	.VQ	.	.	.	.

4.000	56.9887	249.76	.VQ	.	.	.	.
4.083	58.7157	250.77	.VQ	.	.	.	.
4.167	60.4498	251.78	.VQ	.	.	.	.
4.250	62.1909	252.81	.VQ	.	.	.	.
4.333	63.9392	253.85	.VQ	.	.	.	.
4.417	65.6947	254.90	.Q	.	.	.	.
4.500	67.4575	255.96	.Q	.	.	.	.
4.583	69.2277	257.03	.Q	.	.	.	.
4.667	71.0054	258.11	.Q	.	.	.	.
4.750	72.7906	259.22	.Q	.	.	.	.
4.833	74.5834	260.32	.Q	.	.	.	.
4.917	76.3840	261.44	.Q	.	.	.	.
5.000	78.1924	262.57	.Q	.	.	.	.
5.083	80.0086	263.72	.Q	.	.	.	.
5.167	81.8329	264.88	.Q	.	.	.	.
5.250	83.6652	266.06	.Q	.	.	.	.
5.333	85.5057	267.24	.Q	.	.	.	.
5.417	87.3544	268.44	.Q	.	.	.	.
5.500	89.2115	269.65	.Q	.	.	.	.
5.583	91.0771	270.88	.Q	.	.	.	.
5.667	92.9512	272.12	.Q	.	.	.	.
5.750	94.8340	273.38	.Q	.	.	.	.
5.833	96.7256	274.65	.Q	.	.	.	.
5.917	98.6260	275.94	.QV	.	.	.	.
6.000	100.5354	277.24	.QV	.	.	.	.
6.083	102.4539	278.57	.QV	.	.	.	.
6.167	104.3816	279.90	.QV	.	.	.	.
6.250	106.3186	281.26	.QV	.	.	.	.
6.333	108.2651	282.62	.QV	.	.	.	.
6.417	110.2211	284.02	.QV	.	.	.	.
6.500	112.1868	285.42	.QV	.	.	.	.
6.583	114.1623	286.85	.QV	.	.	.	.
6.667	116.1477	288.28	.QV	.	.	.	.
6.750	118.1433	289.75	.QV	.	.	.	.
6.833	120.1489	291.22	.QV	.	.	.	.
6.917	122.1650	292.73	.Q	.	.	.	.
7.000	124.1915	294.25	.Q	.	.	.	.
7.083	126.2286	295.79	.Q	.	.	.	.
7.167	128.2765	297.35	.Q	.	.	.	.
7.250	130.3353	298.94	.QV	.	.	.	.
7.333	132.4051	300.54	.QV	.	.	.	.
7.417	134.4862	302.17	.QV	.	.	.	.
7.500	136.5786	303.82	.QV	.	.	.	.
7.583	138.6826	305.50	.QV	.	.	.	.
7.667	140.7983	307.20	.QV	.	.	.	.
7.750	142.9259	308.93	.QV	.	.	.	.
7.833	145.0655	310.67	.QV	.	.	.	.
7.917	147.2174	312.45	.QV	.	.	.	.
8.000	149.3816	314.25	.QV	.	.	.	.
8.083	151.5585	316.08	.QV	.	.	.	.
8.167	153.7482	317.93	.QV	.	.	.	.
8.250	155.9508	319.83	.QV	.	.	.	.
8.333	158.1666	321.74	.QV	.	.	.	.
8.417	160.3959	323.69	.QV	.	.	.	.
8.500	162.6387	325.66	.Q V	.	.	.	.
8.583	164.8954	327.67	.Q V	.	.	.	.
8.667	167.1661	329.71	.Q V	.	.	.	.
8.750	169.4511	331.79	.Q V	.	.	.	.

8.833	171.7506	333.89	. Q V	.	.	.	.
8.917	174.0649	336.04	. Q V	.	.	.	.
9.000	176.3942	338.21	. Q V	.	.	.	.
9.083	178.7388	340.43	. Q V	.	.	.	.
9.167	181.0989	342.68	. Q V	.	.	.	.
9.250	183.4748	344.98	. Q V	.	.	.	.
9.333	185.8667	347.31	. Q V	.	.	.	.
9.417	188.2751	349.69	. Q V	.	.	.	.
9.500	190.7000	352.10	. Q V	.	.	.	.
9.583	193.1420	354.57	. Q V	.	.	.	.
9.667	195.6011	357.07	. Q V	.	.	.	.
9.750	198.0780	359.64	. Q V	.	.	.	.
9.833	200.5726	362.23	. Q V	.	.	.	.
9.917	203.0856	364.89	. Q V	.	.	.	.
10.000	205.6172	367.58	. Q V	.	.	.	.
10.083	208.1678	370.35	. Q V	.	.	.	.
10.167	210.7377	373.15	. Q V	.	.	.	.
10.250	213.3274	376.02	. Q V	.	.	.	.
10.333	215.9371	378.94	. Q V	.	.	.	.
10.417	218.5675	381.93	. Q V	.	.	.	.
10.500	221.2188	384.96	. Q V	.	.	.	.
10.583	223.8916	388.09	. Q V	.	.	.	.
10.667	226.5861	391.25	. Q V	.	.	.	.
10.750	229.3031	394.51	. Q V	.	.	.	.
10.833	232.0428	397.81	. Q V	.	.	.	.
10.917	234.8060	401.21	. Q V	.	.	.	.
11.000	237.5930	404.66	. Q V	.	.	.	.
11.083	240.4044	408.22	. Q V	.	.	.	.
11.167	243.2407	411.83	. Q V	.	.	.	.
11.250	246.1027	415.56	. Q V	.	.	.	.
11.333	248.9908	419.34	. Q V	.	.	.	.
11.417	251.9057	423.25	. Q V	.	.	.	.
11.500	254.8480	427.22	. Q V	.	.	.	.
11.583	257.8186	431.33	. Q V	.	.	.	.
11.667	260.8179	435.50	. Q V	.	.	.	.
11.750	263.8469	439.82	. Q V	.	.	.	.
11.833	266.9062	444.21	. Q V	.	.	.	.
11.917	269.9968	448.75	. Q V	.	.	.	.
12.000	273.1193	453.39	. Q V	.	.	.	.
12.083	276.2814	459.14	. Q V	.	.	.	.
12.167	279.4903	465.93	. Q V	.	.	.	.
12.250	282.7501	473.32	. Q V	.	.	.	.
12.333	286.0678	481.73	. Q V	.	.	.	.
12.417	289.4610	492.70	. Q V	.	.	.	.
12.500	292.9480	506.31	. Q V	.	.	.	.
12.583	296.5391	521.43	. Q V	.	.	.	.
12.667	300.2384	537.14	. Q V	.	.	.	.
12.750	304.0550	554.17	. Q V	.	.	.	.
12.833	307.9945	572.01	. Q V	.	.	.	.
12.917	312.0674	591.39	. Q V	.	.	.	.
13.000	316.2893	613.02	. Q V	.	.	.	.
13.083	320.6626	635.00	. Q V	.	.	.	.
13.167	325.1757	655.31	. Q V	.	.	.	.
13.250	329.8369	676.81	. Q V	.	.	.	.
13.333	334.6313	696.14	. Q V	.	.	.	.
13.417	339.5491	714.08	. Q V	.	.	.	.
13.500	344.5785	730.26	. Q V	.	.	.	.
13.583	349.7193	746.45	. Q V	.	.	.	.

13.667	354.9644	761.59	.	Q	V	.	.	.
13.750	360.3065	775.68	.	Q	.V	.	.	.
13.833	365.7431	789.39	.	Q	.V	.	.	.
13.917	371.2754	803.29	.	Q	.V	.	.	.
14.000	376.9029	817.11	.	Q	.V	.	.	.
14.083	382.6367	832.55	.	Q	.V	.	.	.
14.167	388.4897	849.87	.	Q	.V	.	.	.
14.250	394.4680	868.05	.	Q	.V	.	.	.
14.333	400.5864	888.39	.	Q	.V	.	.	.
14.417	406.8781	913.56	.	Q	.V	.	.	.
14.500	413.3745	943.27	.	Q	.V	.	.	.
14.583	420.0968	976.09	.	Q	V	.	.	.
14.667	427.0542	1010.21	.	Q	V	.	.	.
14.750	434.2660	1047.15	.	Q	V	.	.	.
14.833	441.7444	1085.86	.	.Q	V	.	.	.
14.917	449.5120	1127.87	.	.Q	V	.	.	.
15.000	457.6010	1174.52	.	.Q	V	.	.	.
15.083	466.0213	1222.62	.	.Q	V	.	.	.
15.167	474.7572	1268.45	.	.	QV	.	.	.
15.250	483.8335	1317.87	.	.	QV	.	.	.
15.333	493.2336	1364.90	.	.	Q V	.	.	.
15.417	502.9220	1406.76	.	.	QV	.	.	.
15.500	512.8602	1443.02	.	.	QV	.	.	.
15.583	523.0579	1480.70	.	.	QV	.	.	.
15.667	533.4961	1515.63	.	.	QV	.	.	.
15.750	544.1230	1543.02	.	.	QV	.	.	.
15.833	554.9013	1565.01	.	.	QV	.	.	.
15.917	565.8939	1596.13	.	.	QV	.	.	.
16.000	577.2623	1650.70	.	.	QV	.	.	.
16.083	589.6331	1796.23	.	.	Q	.	.	.
16.167	603.0612	1949.76	.	.	VQ	.	.	.
16.250	617.3326	2072.22	.	.	V.Q	.	.	.
16.333	632.8661	2255.46	.	.	V.	Q	.	.
16.417	650.5782	2571.80	.	.	V	Q	.	.
16.500	670.4415	2884.14	.	.	V	Q.	.	.
16.583	691.4899	3056.22	.	.	.V	.Q	.	.
16.667	713.2132	3154.22	.	.	.V	.Q	.	.
16.750	736.0270	3312.56	.	.	.V	.Q	.	.
16.833	759.8034	3452.33	.	.	.V	.Q	.	.
16.917	784.8343	3634.49	.	.	.V	.Q	.	.
17.000	811.1821	3825.70	.	.	.V	.Q	.	.
17.083	837.3380	3797.82	.	.	.V	.Q	.	.
17.167	862.0130	3582.82	.	.	.V	.Q	.	.
17.250	886.4543	3548.87	.	.	.V	.Q	.	.
17.333	908.7383	3235.63	.	.	.V	.Q	.	.
17.417	929.1484	2963.55	.	.	.V	.Q	.	.
17.500	947.6020	2679.46	.	.	.Q	V.	.	.
17.583	965.0770	2537.36	.	.	.Q	V.	.	.
17.667	981.0096	2313.41	.	.	.Q	V	.	.
17.750	995.3392	2080.66	.	.	.Q	V	.	.
17.833	1008.6287	1929.63	.	.	Q.	.V	.	.
17.917	1021.1467	1817.61	.	.	Q	.V	.	.
18.000	1032.7808	1689.27	.	.	Q	.V	.	.
18.083	1043.3591	1535.98	.	.	Q	.V	.	.
18.167	1053.1681	1424.26	.	.	Q	.V	.	.
18.250	1062.1592	1305.50	.	.	Q	.V	.	.
18.333	1070.6418	1231.68	.	.	Q	.V	.	.
18.417	1078.4525	1134.12	.	.	.Q	.V	.	.

18.500	1085.4504	1016.10	.	Q	.	.	V	.
18.583	1092.0547	958.94	.	Q.	.	.	V	.
18.667	1098.3528	914.48	.	Q.	.	.	V	.
18.750	1104.3690	873.55	.	Q	.	.	V	.
18.833	1110.1040	832.71	.	Q	.	.	V	.
18.917	1115.5740	794.23	.	Q	.	.	V	.
19.000	1120.7809	756.04	.	Q	.	.	V	.
19.083	1125.7439	720.64	.	Q	.	.	V	.
19.167	1130.4846	688.35	.	Q	.	.	V	.
19.250	1135.0048	656.33	.	Q	.	.	V	.
19.333	1139.3168	626.11	.	Q	.	.	V	.
19.417	1143.4222	596.12	.	Q	.	.	V	.
19.500	1147.2661	558.13	.	Q	.	.	V	.
19.583	1150.8513	520.57	.	Q	.	.	V	.
19.667	1154.3080	501.91	.	Q	.	.	V	.
19.750	1157.6621	487.02	.	Q	.	.	V	.
19.833	1160.9197	473.01	.	Q	.	.	V	.
19.917	1164.0819	459.15	.	Q	.	.	V	.
20.000	1167.1571	446.51	.	Q	.	.	V	.
20.083	1170.1545	435.23	.	Q	.	.	V	.
20.167	1173.0800	424.77	.	Q	.	.	V	.
20.250	1175.9397	415.24	.	Q	.	.	V	.
20.333	1178.7365	406.09	.	Q	.	.	V	.
20.417	1181.4746	397.58	.	Q	.	.	V	.
20.500	1184.1627	390.32	.	Q	.	.	V	.
20.583	1186.8053	383.70	.	Q	.	.	V	.
20.667	1189.4042	377.36	.	Q	.	.	V	.
20.750	1191.9612	371.28	.	Q	.	.	V	.
20.833	1194.4779	365.43	.	Q	.	.	V	.
20.917	1196.9558	359.80	.	Q	.	.	V	.
21.000	1199.3964	354.38	.	Q	.	.	V	.
21.083	1201.8009	349.15	.	Q	.	.	V	.
21.167	1204.1708	344.10	.	Q	.	.	V	.
21.250	1206.5070	339.22	.	Q	.	.	V	.
21.333	1208.8107	334.50	.	Q	.	.	V	.
21.417	1211.0830	329.94	.	Q	.	.	V	.
21.500	1213.3258	325.65	.	Q	.	.	V	.
21.583	1215.5411	321.67	.	Q	.	.	V	.
21.667	1217.7300	317.82	.	Q	.	.	V	.
21.750	1219.8931	314.09	.	Q	.	.	V	.
21.833	1222.0312	310.47	.	Q	.	.	V	.
21.917	1224.1453	306.96	.	Q	.	.	V	.
22.000	1226.2358	303.55	.	Q	.	.	V	.
22.083	1228.3036	300.24	.	Q	.	.	V	.
22.167	1230.3492	297.03	.	Q	.	.	V	.
22.250	1232.3734	293.90	.	Q	.	.	V	.
22.333	1234.3766	290.86	.	Q	.	.	V	.
22.417	1236.3594	287.90	.	Q	.	.	V	.
22.500	1238.3223	285.02	.	Q	.	.	V	.
22.583	1240.2659	282.21	.	Q	.	.	V	.
22.667	1242.1907	279.48	.	Q	.	.	V	.
22.750	1244.0970	276.81	.	Q	.	.	V	.
22.833	1245.9855	274.21	.	Q	.	.	V	.
22.917	1247.8564	271.67	.	Q	.	.	V	.
23.000	1249.7103	269.19	.	Q	.	.	V	.
23.083	1251.5476	266.77	.	Q	.	.	V	.
23.167	1253.3687	264.41	.	Q	.	.	V	.
23.250	1255.1737	262.10	.	Q	.	.	V	.

23.333	1256.9633	259.84	. Q	.	.	.	V .
23.417	1258.7375	257.64	. Q	.	.	.	V .
23.500	1260.4971	255.48	. Q	.	.	.	V .
23.583	1262.2421	253.36	. Q	.	.	.	V .
23.667	1263.9728	251.30	. Q	.	.	.	V .
23.750	1265.6896	249.27	. Q	.	.	.	V .
23.833	1267.3927	247.29	. Q	.	.	.	V .
23.917	1269.0824	245.35	. Q	.	.	.	V .
24.000	1270.7590	243.45	. Q	.	.	.	V .
24.083	1272.4156	240.54	. Q	.	.	.	V .
24.167	1274.0453	236.63	. Q	.	.	.	V .
24.250	1275.6453	232.32	. Q	.	.	.	V .
24.333	1277.2091	227.06	. Q	.	.	.	V .
24.417	1278.7192	219.26	. Q	.	.	.	V .
24.500	1280.1571	208.78	. Q	.	.	.	V .
24.583	1281.5137	196.98	. Q	.	.	.	V .
24.667	1282.7864	184.79	.Q	.	.	.	V .
24.750	1283.9678	171.54	.Q	.	.	.	V .
24.833	1285.0537	157.68	.Q	.	.	.	V .
24.917	1286.0355	142.56	.Q	.	.	.	V .
25.000	1286.8982	125.27	.Q	.	.	.	V .
25.083	1287.6426	108.08	.Q	.	.	.	V .
25.167	1288.2837	93.09	Q	.	.	.	V .
25.250	1288.8159	77.28	Q	.	.	.	V .
25.333	1289.2583	64.23	Q	.	.	.	V .
25.417	1289.6248	53.21	Q	.	.	.	V .
25.500	1289.9312	44.49	Q	.	.	.	V .
25.583	1290.1809	36.27	Q	.	.	.	V .
25.667	1290.3845	29.56	Q	.	.	.	V .
25.750	1290.5537	24.57	Q	.	.	.	V .
25.833	1290.6940	20.37	Q	.	.	.	V .
25.917	1290.8079	16.55	Q	.	.	.	V .
26.000	1290.8990	13.25	Q	.	.	.	V .
26.083	1290.9733	10.78	Q	.	.	.	V .
26.167	1291.0331	8.69	Q	.	.	.	V .
26.250	1291.0825	7.18	Q	.	.	.	V .
26.333	1291.1217	5.70	Q	.	.	.	V .
26.417	1291.1530	4.54	Q	.	.	.	V .
26.500	1291.1815	4.14	Q	.	.	.	V .
26.583	1291.2075	3.77	Q	.	.	.	V .
26.667	1291.2310	3.40	Q	.	.	.	V .
26.750	1291.2518	3.03	Q	.	.	.	V .
26.833	1291.2703	2.67	Q	.	.	.	V .
26.917	1291.2861	2.30	Q	.	.	.	V .
27.000	1291.2996	1.95	Q	.	.	.	V .
27.083	1291.3105	1.59	Q	.	.	.	V .
27.167	1291.3191	1.24	Q	.	.	.	V .
27.250	1291.3252	0.89	Q	.	.	.	V .
27.333	1291.3289	0.54	Q	.	.	.	V .
27.417	1291.3302	0.19	Q	.	.	.	V .

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TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
 (Note: 100% of Peak Flow Rate estimate assumed to have  
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====

0%	1645.0
10%	610.0
20%	315.0
30%	205.0
40%	145.0
50%	105.0
60%	80.0
70%	65.0
80%	45.0
90%	30.0

=====

END OF FLOODSCx ROUTING ANALYSIS

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FLOOD ROUTING ANALYSIS  
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)  
(c) Copyright 1989-2013 Advanced Engineering Software (aes)  
Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International  
5 Hutton Centre Drive, Suite 500  
Santa Ana, CA  
92707

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* RANCHO MISSION VIEJO \*  
\* EXISTING CONDITION - UH FREE DRAINING MODEL (LOCAL NODE 13305) \*  
\* 2-YR EV JUNE 2018 ROKAMOTO \*  
\*\*\*\*\*

FILE NAME: EVO2305F.DAT  
TIME/DATE OF STUDY: 12:31 06/19/2018

\*\*\*\*\*

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

=====

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES  
BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 1.263 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.487  
LOW LOSS FRACTION = 0.830  
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.13  
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.28  
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.37  
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.62  
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 0.85  
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 1.44

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE FACTOR = 0.752  
30-MINUTE FACTOR = 0.752  
1-HOUR FACTOR = 0.752  
3-HOUR FACTOR = 0.960  
6-HOUR FACTOR = 0.979  
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 6.598

RUNOFF HYDROGRAPH LISTING LIMITS:  
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00  
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.377	224.539
2	1.131	449.078
3	1.909	463.241
4	2.973	633.532
5	4.296	788.353
6	6.477	1298.413
7	9.526	1816.206
8	12.892	2004.397
9	16.934	2407.431
10	20.693	2238.351
11	25.132	2643.562
12	29.291	2476.944
13	34.441	3067.355
14	39.363	2931.217
15	45.412	3602.033
16	51.611	3691.732
17	56.390	2846.498
18	62.212	3466.974
19	67.232	2989.621
20	71.735	2682.132
21	75.731	2379.543
22	78.827	1843.693
23	81.828	1787.279
24	84.583	1640.733
25	86.892	1375.329
26	88.706	1079.915
27	90.222	903.268
28	91.617	830.592
29	92.913	772.065
30	94.086	698.154
31	94.951	515.472
32	95.779	493.172
33	96.387	362.101
34	96.905	308.245
35	97.422	308.155
36	97.911	290.970
37	98.109	118.203
38	98.233	73.689
39	98.357	73.603
40	98.481	73.775
41	98.604	73.689
42	98.728	73.689
43	98.852	73.689
44	98.975	73.693

45	99.099	73.512
46	99.222	73.512
47	99.346	73.512
48	99.469	73.512
49	99.593	73.512
50	99.716	73.512
51	99.840	73.512
52	99.963	73.512
53	100.000	22.046

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TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 466.7629  
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 116.5015  
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2 4 - H O U R S T O R M  
R U N O F F H Y D R O G R A P H  
=====

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	100.0	200.0	300.0	400.0
10.000	17.0529	30.87	. Q V	.	.	.	.
10.083	17.2671	31.09	. Q V	.	.	.	.
10.167	17.4827	31.32	. Q V	.	.	.	.
10.250	17.7000	31.54	. Q V	.	.	.	.
10.333	17.9188	31.77	. Q V	.	.	.	.
10.417	18.1393	32.01	. Q V	.	.	.	.
10.500	18.3614	32.25	. Q V	.	.	.	.
10.583	18.5852	32.50	. Q V	.	.	.	.
10.667	18.8108	32.75	. Q V	.	.	.	.
10.750	19.0381	33.01	. Q V	.	.	.	.
10.833	19.2672	33.27	. Q V	.	.	.	.
10.917	19.4981	33.53	. Q V	.	.	.	.
11.000	19.7310	33.81	. Q V	.	.	.	.
11.083	19.9657	34.09	. Q V	.	.	.	.
11.167	20.2024	34.37	. Q V	.	.	.	.
11.250	20.4412	34.66	. Q V	.	.	.	.
11.333	20.6819	34.96	. Q V	.	.	.	.
11.417	20.9248	35.27	. Q V	.	.	.	.
11.500	21.1698	35.58	. Q V	.	.	.	.
11.583	21.4170	35.90	. Q V	.	.	.	.
11.667	21.6665	36.22	. Q V	.	.	.	.
11.750	21.9183	36.56	. Q V	.	.	.	.
11.833	22.1724	36.90	. Q V	.	.	.	.
11.917	22.4290	37.25	. Q V	.	.	.	.
12.000	22.6881	37.62	. Q V	.	.	.	.
12.083	22.9500	38.03	. Q V	.	.	.	.
12.167	23.2151	38.50	. Q V	.	.	.	.
12.250	23.4836	38.98	. Q V	.	.	.	.
12.333	23.7557	39.51	. Q V	.	.	.	.
12.417	24.0318	40.08	. Q V	.	.	.	.
12.500	24.3125	40.76	. Q V	.	.	.	.
12.583	24.5988	41.57	. Q V	.	.	.	.
12.667	24.8909	42.41	. Q V	.	.	.	.
12.750	25.1895	43.36	. Q V	.	.	.	.
12.833	25.4945	44.29	. Q V	.	.	.	.
12.917	25.8066	45.31	. Q V	.	.	.	.
13.000	26.1256	46.32	. Q V	.	.	.	.
13.083	26.4525	47.46	. Q V	.	.	.	.
13.167	26.7872	48.60	. Q V	.	.	.	.
13.250	27.1307	49.89	. Q V	.	.	.	.
13.333	27.4834	51.21	. Q V	.	.	.	.
13.417	27.8443	52.40	. Q V	.	.	.	.
13.500	28.2143	53.72	. Q V	.	.	.	.
13.583	28.5930	54.98	. Q V	.	.	.	.
13.667	28.9801	56.21	. Q V	.	.	.	.
13.750	29.3754	57.40	. Q V	.	.	.	.
13.833	29.7783	58.51	. Q V	.	.	.	.

13.917	30.1891	59.65	.	Q	V	.	.	.
14.000	30.6078	60.78	.	Q	V	.	.	.
14.083	31.0350	62.04	.	Q	V	.	.	.
14.167	31.4717	63.40	.	Q	V	.	.	.
14.250	31.9178	64.78	.	Q	V	.	.	.
14.333	32.3743	66.28	.	Q	.V	.	.	.
14.417	32.8420	67.91	.	Q	.V	.	.	.
14.500	33.3232	69.87	.	Q	.V	.	.	.
14.583	33.8201	72.15	.	Q	.V	.	.	.
14.667	34.3338	74.58	.	Q	.V	.	.	.
14.750	34.8660	77.29	.	Q	.V	.	.	.
14.833	35.4165	79.93	.	Q	.V	.	.	.
14.917	35.9872	82.87	.	Q	.V	.	.	.
15.000	36.5779	85.77	.	Q	.V	.	.	.
15.083	37.1913	89.06	.	Q	.V	.	.	.
15.167	37.8273	92.34	.	Q	.V	.	.	.
15.250	38.4891	96.10	.	Q	.V	.	.	.
15.333	39.1778	100.00	.	Q	.V	.	.	.
15.417	39.8889	103.25	.	Q	.V	.	.	.
15.500	40.6240	106.74	.	Q	.V	.	.	.
15.583	41.3822	110.09	.	.Q	V	.	.	.
15.667	42.1620	113.23	.	.Q	V	.	.	.
15.750	42.9630	116.30	.	.Q	V	.	.	.
15.833	43.7812	118.80	.	.Q	V	.	.	.
15.917	44.6161	121.23	.	.Q	V	.	.	.
16.000	45.4717	124.24	.	.Q	V	.	.	.
16.083	46.4321	139.45	.	.Q	V	.	.	.
16.167	47.4982	154.79	.	.	QV	.	.	.
16.250	48.5897	158.49	.	.	QV	.	.	.
16.333	49.7706	171.46	.	.	Q	.	.	.
16.417	51.0396	184.26	.	.	VQ	.	.	.
16.500	52.5336	216.92	.	.	V	.Q	.	.
16.583	54.2455	248.57	.	.	V	.	Q	.
16.667	56.0440	261.15	.	.	V	.	Q	.
16.750	58.0092	285.34	.	.	V	.	Q	.
16.833	59.9207	277.55	.	.	V	.	Q	.
16.917	61.9986	301.71	.	.	.V	.	Q	.
17.000	64.0322	295.29	.	.	.V	.	Q	.
17.083	66.3037	329.82	.	.	.V	.	Q	.
17.167	68.5410	324.86	.	.	.V	.	Q	.
17.250	71.0343	362.02	.	.	.V	.	Q	.
17.333	73.5474	364.90	.	.	.V	.	Q	.
17.417	75.7316	317.15	.	.	.V	.	Q	.
17.500	78.1262	347.69	.	.	.V	.	Q	.
17.583	80.3148	317.80	.	.	.V	.	Q	.
17.667	82.3549	296.22	.	.	.VQ	.	.	.
17.750	84.2383	273.47	.	.	.QV	.	.	.
17.833	85.8878	239.50	.	.	.Q	.	V	.
17.917	87.4823	231.53	.	.	.Q	.	V	.
18.000	88.9866	218.42	.	.	.Q	.	V	.
18.083	90.3518	198.22	.	.	.Q	.	.V	.
18.167	91.5665	176.37	.	.	.Q	.	.V	.
18.250	92.6767	161.21	.	.	.Q	.	.V	.
18.333	93.7239	152.05	.	.	.Q	.	.V	.
18.417	94.7170	144.19	.	.	.Q	.	.V	.
18.500	95.6454	134.80	.	.	.Q	.	.V	.
18.583	96.4700	119.74	.	.	.Q	.	.V	.
18.667	97.2532	113.71	.	.	.Q	.	.V	.

18.750	97.9565	102.12	.	Q	.	.	V	.
18.833	98.6134	95.38	.	Q	.	.	V	.
18.917	99.2433	91.46	.	Q	.	.	V	.
19.000	99.8400	86.64	.	Q	.	.	V	.
19.083	100.3461	73.50	.	Q	.	.	V	.
19.167	100.8139	67.92	.	Q	.	.	V	.
19.250	101.2623	65.11	.	Q	.	.	V	.
19.333	101.6930	62.54	.	Q	.	.	V	.
19.417	102.1070	60.11	.	Q	.	.	V	.
19.500	102.5042	57.67	.	Q	.	.	V	.
19.583	102.8866	55.52	.	Q	.	.	V	.
19.667	103.2552	53.53	.	Q	.	.	V	.
19.750	103.6119	51.79	.	Q	.	.	V	.
19.833	103.9581	50.28	.	Q	.	.	V	.
19.917	104.2944	48.82	.	Q	.	.	V	.
20.000	104.6212	47.45	.	Q	.	.	V	.

-----  
 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
 (Note: 100% of Peak Flow Rate estimate assumed to have  
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	530.0
20%	270.0
30%	190.0
40%	135.0
50%	105.0
60%	85.0
70%	70.0
80%	50.0
90%	20.0

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FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

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 >>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<  
 =====

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER  
 TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE  
 INTERVALS(Reference: the National Engineering Handbook,  
 Hydrology, Chapter 17, page 17-52, August,1972,  
 U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 0.01 CHANNEL Z = 3.00  
 UPSTREAM ELEVATION(FT) = 427.51  
 DOWNSTREAM ELEVATION(FT) = 315.00  
 CHANNEL LENGTH(FT) = 9760.00 MANNING'S FACTOR = 0.040  
 CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:



MAXIMUM INFLOW(CFS) = 364.90  
 AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 280.59  
 CHANNEL NORMAL VELOCITY FOR Q = 280.59 CFS = 6.05 FPS  
 ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.781

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE  
 UNIT INTERVALS IS CSTAR = 0.526

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	30.87	29.82	29.82
10.083	31.09	30.02	30.02
10.167	31.32	30.22	30.22
10.250	31.54	30.43	30.43
10.333	31.77	30.64	30.64
10.417	32.01	30.86	30.86
10.500	32.25	31.07	31.07
10.583	32.50	31.30	31.30
10.667	32.75	31.52	31.52
10.750	33.01	31.76	31.76
10.833	33.27	31.99	31.99
10.917	33.53	32.23	32.23
11.000	33.81	32.48	32.48
11.083	34.09	32.73	32.73
11.167	34.37	32.99	32.99
11.250	34.66	33.25	33.25
11.333	34.96	33.51	33.51
11.417	35.27	33.79	33.79
11.500	35.58	34.06	34.06
11.583	35.90	34.35	34.35
11.667	36.22	34.64	34.64
11.750	36.56	34.94	34.94
11.833	36.90	35.24	35.24
11.917	37.25	35.55	35.55
12.000	37.62	35.87	35.87
12.083	38.03	36.20	36.20
12.167	38.50	36.53	36.53
12.250	38.98	36.88	36.88
12.333	39.51	37.23	37.23
12.417	40.08	37.61	37.61
12.500	40.76	38.03	38.03
12.583	41.57	38.48	38.48
12.667	42.41	38.97	38.97
12.750	43.36	39.50	39.50
12.833	44.29	40.09	40.09
12.917	45.31	40.79	40.79
13.000	46.32	41.55	41.55
13.083	47.46	42.41	42.41
13.167	48.60	43.30	43.30
13.250	49.89	44.25	44.25
13.333	51.21	45.24	45.24
13.417	52.40	46.29	46.29
13.500	53.72	47.39	47.39
13.583	54.98	48.57	48.57

13.667	56.21	49.82	49.82
13.750	57.40	51.05	51.05
13.833	58.51	52.32	52.32
13.917	59.65	53.59	53.59
14.000	60.78	54.84	54.84
14.083	62.04	56.06	56.06
14.167	63.40	57.24	57.24
14.250	64.78	58.39	58.39
14.333	66.28	59.53	59.53
14.417	67.91	60.72	60.72
14.500	69.87	61.99	61.99
14.583	72.15	63.32	63.32
14.667	74.58	64.72	64.72
14.750	77.29	66.23	66.23
14.833	79.93	67.94	67.94
14.917	82.87	69.92	69.92
15.000	85.77	72.12	72.12
15.083	89.06	74.56	74.56
15.167	92.34	77.11	77.11
15.250	96.10	79.84	79.84
15.333	100.00	82.66	82.66
15.417	103.25	85.69	85.69
15.500	106.74	88.85	88.85
15.583	110.09	92.28	92.28
15.667	113.23	95.94	95.94
15.750	116.30	99.45	99.45
15.833	118.80	102.92	102.92
15.917	121.23	106.35	106.35
16.000	124.24	109.65	109.65
16.083	139.45	112.83	112.83
16.167	154.79	115.71	115.71
16.250	158.49	118.36	118.36
16.333	171.46	121.15	121.15
16.417	184.26	129.21	129.21
16.500	216.92	141.09	141.09
16.583	248.57	149.86	149.86
16.667	261.15	159.89	159.89
16.750	285.34	171.39	171.39
16.833	277.55	191.98	191.98
16.917	301.71	218.49	218.49
17.000	295.29	239.64	239.64
17.083	329.82	261.19	261.19
17.167	324.86	270.60	270.60
17.250	362.02	284.48	284.48
17.333	364.90	290.83	290.83
17.417	317.15	307.78	307.78
17.500	347.69	317.28	317.28
17.583	317.80	336.99	336.99
17.667	296.22	351.38	351.38
17.750	273.47	338.30	338.30
17.833	239.50	340.09	340.09
17.917	231.53	331.44	331.44
18.000	218.42	315.14	315.14
18.083	198.22	295.56	295.56
18.167	176.37	269.57	269.57
18.250	161.21	250.37	250.37
18.333	152.05	234.91	234.91
18.417	144.19	217.69	217.69

18.500	134.80	198.20	198.20
18.583	119.74	180.30	180.30
18.667	113.71	166.38	166.38
18.750	102.12	155.52	155.52
18.833	95.38	145.59	145.59
18.917	91.46	133.54	133.54
19.000	86.64	123.73	123.73
19.083	73.50	113.56	113.56
19.167	67.92	104.69	104.69
19.250	65.11	98.13	98.13
19.333	62.54	92.58	92.58
19.417	60.11	83.90	83.90
19.500	57.67	76.07	76.07
19.583	55.52	70.59	70.59
19.667	53.53	66.62	66.62
19.750	51.79	63.45	63.45
19.833	50.28	60.66	60.66
19.917	48.82	58.18	58.18
20.000	47.45	55.94	55.94

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 116.502 AF  
 OUTFLOW VOLUME = 116.502 AF  
 LOSS VOLUME = 0.000 AF

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 1411.700 ACRES  
 BASEFLOW = 0.000 CFS/SQUARE-MILE  
 \*USER ENTERED "LAG" TIME = 0.711 HOURS  
 VALLEY (DEVELOPED) S-GRAPH SELECTED  
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.600  
 LOW LOSS FRACTION = 0.951  
 \*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.13  
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.28  
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.37  
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.62  
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 0.85  
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 1.44

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.752  
 30-MINUTE FACTOR = 0.752  
 1-HOUR FACTOR = 0.752  
 3-HOUR FACTOR = 0.960  
 6-HOUR FACTOR = 0.979  
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES

UNIT INTERVAL PERCENTAGE OF LAG-TIME = 11.721

RUNOFF HYDROGRAPH LISTING LIMITS:

MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00

MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.670	114.344
2	2.099	244.018
3	4.289	373.895
4	8.643	743.391
5	14.882	1065.081
6	21.950	1206.691
7	29.612	1308.168
8	38.613	1536.629
9	49.125	1794.842
10	58.582	1614.434
11	67.946	1598.740
12	75.351	1264.263
13	80.933	953.072
14	85.710	815.452
15	89.097	578.263
16	91.651	436.141
17	93.849	375.250
18	95.438	271.229
19	96.575	194.087
20	97.494	156.960
21	98.098	103.060
22	98.319	37.681
23	98.538	37.512
24	98.758	37.526
25	98.978	37.511
26	99.198	37.526
27	99.417	37.511
28	99.637	37.511
29	99.857	37.511
30	100.000	24.448

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 153.7279  
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 13.4895

2 4 - H O U R S T O R M  
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	50.0	100.0	150.0	200.0
10.000	1.5334	2.68	Q	V	.	.	.
10.083	1.5520	2.70	Q	V	.	.	.
10.167	1.5707	2.72	Q	V	.	.	.
10.250	1.5896	2.74	Q	V	.	.	.
10.333	1.6086	2.76	Q	V	.	.	.
10.417	1.6278	2.78	Q	V	.	.	.
10.500	1.6471	2.81	Q	V	.	.	.
10.583	1.6666	2.83	Q	V	.	.	.
10.667	1.6863	2.85	Q	V	.	.	.
10.750	1.7061	2.88	Q	V	.	.	.
10.833	1.7261	2.90	Q	V	.	.	.
10.917	1.7463	2.93	Q	V	.	.	.
11.000	1.7666	2.95	Q	V	.	.	.
11.083	1.7872	2.98	Q	V	.	.	.
11.167	1.8079	3.01	Q	V	.	.	.
11.250	1.8288	3.04	Q	V	.	.	.
11.333	1.8499	3.06	Q	V	.	.	.
11.417	1.8712	3.09	Q	V	.	.	.
11.500	1.8927	3.12	Q	V	.	.	.
11.583	1.9144	3.15	Q	V	.	.	.
11.667	1.9364	3.19	Q	V	.	.	.
11.750	1.9586	3.22	Q	V	.	.	.
11.833	1.9810	3.25	Q	V	.	.	.
11.917	2.0036	3.29	Q	V	.	.	.
12.000	2.0265	3.32	Q	V	.	.	.
12.083	2.0496	3.36	Q	V	.	.	.
12.167	2.0732	3.42	Q	V	.	.	.
12.250	2.0971	3.48	Q	V	.	.	.
12.333	2.1216	3.56	Q	V	.	.	.
12.417	2.1468	3.66	Q	V	.	.	.
12.500	2.1728	3.77	Q	V	.	.	.
12.583	2.1996	3.89	Q	V	.	.	.
12.667	2.2273	4.02	Q	V	.	.	.
12.750	2.2560	4.17	Q	V	.	.	.
12.833	2.2858	4.32	Q	V	.	.	.
12.917	2.3165	4.46	Q	V	.	.	.
13.000	2.3480	4.58	Q	V	.	.	.
13.083	2.3804	4.69	Q	V	.	.	.
13.167	2.4134	4.80	Q	V	.	.	.
13.250	2.4471	4.89	Q	V	.	.	.
13.333	2.4814	4.98	Q	V	.	.	.
13.417	2.5162	5.06	.Q	V	.	.	.
13.500	2.5517	5.15	.Q	V	.	.	.
13.583	2.5877	5.23	.Q	V	.	.	.
13.667	2.6242	5.31	.Q	V	.	.	.
13.750	2.6613	5.39	.Q	V	.	.	.
13.833	2.6990	5.47	.Q	V	.	.	.

13.917	2.7373	5.56	.Q	V	.	.	.
14.000	2.7761	5.64	.Q	V	.	.	.
14.083	2.8158	5.76	.Q	V	.	.	.
14.167	2.8564	5.90	.Q	V	.	.	.
14.250	2.8981	6.06	.Q	V	.	.	.
14.333	2.9415	6.30	.Q	V	.	.	.
14.417	2.9869	6.59	.Q	V	.	.	.
14.500	3.0345	6.91	.Q	V	.	.	.
14.583	3.0844	7.26	.Q	V	.	.	.
14.667	3.1371	7.64	.Q	V	.	.	.
14.750	3.1927	8.08	.Q	V	.	.	.
14.833	3.2512	8.49	.Q	V	.	.	.
14.917	3.3126	8.91	.Q	V	.	.	.
15.000	3.3765	9.27	.Q	V	.	.	.
15.083	3.4426	9.60	.Q	V	.	.	.
15.167	3.5107	9.90	.Q	V	.	.	.
15.250	3.5809	10.18	.Q	V	.	.	.
15.333	3.6528	10.45	.Q	V	.	.	.
15.417	3.7264	10.68	.Q	.V	.	.	.
15.500	3.8012	10.88	.Q	.V	.	.	.
15.583	3.8773	11.04	.Q	.V	.	.	.
15.667	3.9538	11.11	.Q	.V	.	.	.
15.750	4.0303	11.11	.Q	.V	.	.	.
15.833	4.1068	11.11	.Q	.V	.	.	.
15.917	4.1839	11.19	.Q	.V	.	.	.
16.000	4.2622	11.37	.Q	.V	.	.	.
16.083	4.3805	17.17	.Q	.V	.	.	.
16.167	4.5453	23.93	.Q	.V	.	.	.
16.250	4.7579	30.88	.Q	.V	.	.	.
16.333	5.0994	49.57	.Q	.V	.	.	.
16.417	5.5532	65.90	.Q	.V	.	.	.
16.500	6.0582	73.32	.Q	.V	.	.	.
16.583	6.6006	78.76	.Q	.V	.	.	.
16.667	7.2223	90.27	.Q	.V	.	.	.
16.750	7.9309	102.89	.Q	.V	.	.	.
16.833	8.5775	93.88	.Q	.V	.	.	.
16.917	9.2148	92.53	.Q	.V	.	.	.
17.000	9.7354	75.60	.Q	.V	.	.	.
17.083	10.1477	59.87	.Q	.V	.	.	.
17.167	10.5098	52.57	.Q	.V	.	.	.
17.250	10.7888	40.52	.Q	.V	.	.	.
17.333	11.0164	33.05	.Q	.V	.	.	.
17.417	11.2193	29.46	.Q	.V	.	.	.
17.500	11.3831	23.78	.Q	.V	.	.	.
17.583	11.5167	19.40	.Q	.V	.	.	.
17.667	11.6334	16.94	.Q	.V	.	.	.
17.750	11.7275	13.67	.Q	.V	.	.	.
17.833	11.7958	9.91	.Q	.V	.	.	.
17.917	11.8605	9.39	.Q	.V	.	.	.
18.000	11.9222	8.96	.Q	.V	.	.	.
18.083	11.9813	8.59	.Q	.V	.	.	.
18.167	12.0381	8.24	.Q	.V	.	.	.
18.250	12.0926	7.93	.Q	.V	.	.	.
18.333	12.1452	7.63	.Q	.V	.	.	.
18.417	12.1956	7.32	.Q	.V	.	.	.
18.500	12.2397	6.40	.Q	.V	.	.	.
18.583	12.2737	4.95	.Q	.V	.	.	.
18.667	12.3061	4.70	.Q	.V	.	.	.

18.750	12.3368	4.47	Q	.	.	.	V	.
18.833	12.3662	4.26	Q	.	.	.	V	.
18.917	12.3941	4.06	Q	.	.	.	V	.
19.000	12.4209	3.88	Q	.	.	.	V	.
19.083	12.4466	3.73	Q	.	.	.	V	.
19.167	12.4714	3.60	Q	.	.	.	V	.
19.250	12.4953	3.48	Q	.	.	.	V	.
19.333	12.5186	3.37	Q	.	.	.	V	.
19.417	12.5412	3.28	Q	.	.	.	V	.
19.500	12.5631	3.19	Q	.	.	.	V	.
19.583	12.5846	3.12	Q	.	.	.	V	.
19.667	12.6056	3.05	Q	.	.	.	V	.
19.750	12.6262	2.99	Q	.	.	.	V	.
19.833	12.6464	2.93	Q	.	.	.	V	.
19.917	12.6663	2.88	Q	.	.	.	V	.
20.000	12.6858	2.83	Q	.	.	.	V	.

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TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	150.0
20%	85.0
30%	70.0
40%	55.0
50%	50.0
60%	40.0
70%	35.0
80%	20.0
90%	10.0

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FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

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>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<  
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FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

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>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<  
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FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11

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>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<  
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STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	100.0	200.0	300.0	400.0
-----	-----	-----	-----	-----	-----	-----	-----
0.083	0.0001	0.01	Q	.	.	.	.
0.167	0.0003	0.03	Q	.	.	.	.
0.250	0.0008	0.07	Q	.	.	.	.
0.333	0.0017	0.14	Q	.	.	.	.
0.417	0.0036	0.27	Q	.	.	.	.
0.500	0.0067	0.46	Q	.	.	.	.
0.583	0.0116	0.70	Q	.	.	.	.
0.667	0.0185	1.00	Q	.	.	.	.
0.750	0.0280	1.38	Q	.	.	.	.
0.833	0.0405	1.83	Q	.	.	.	.
0.917	0.0572	2.41	Q	.	.	.	.
1.000	0.0783	3.08	Q	.	.	.	.
1.083	0.1047	3.82	Q	.	.	.	.
1.167	0.1364	4.60	Q	.	.	.	.
1.250	0.1738	5.43	Q	.	.	.	.
1.333	0.2170	6.27	Q	.	.	.	.
1.417	0.2666	7.20	Q	.	.	.	.
1.500	0.3228	8.16	Q	.	.	.	.
1.583	0.3863	9.23	Q	.	.	.	.
1.667	0.4578	10.38	VQ	.	.	.	.
1.750	0.5366	11.45	VQ	.	.	.	.
1.833	0.6230	12.55	VQ	.	.	.	.
1.917	0.7168	13.61	VQ	.	.	.	.
2.000	0.8174	14.61	VQ	.	.	.	.
2.083	0.9243	15.52	VQ	.	.	.	.
2.167	1.0367	16.32	VQ	.	.	.	.
2.250	1.1540	17.03	VQ	.	.	.	.
2.333	1.2758	17.68	VQ	.	.	.	.
2.417	1.4016	18.27	VQ	.	.	.	.
2.500	1.5309	18.77	VQ	.	.	.	.
2.583	1.6632	19.20	VQ	.	.	.	.
2.667	1.7980	19.59	VQ	.	.	.	.
2.750	1.9354	19.94	VQ	.	.	.	.
2.833	2.0749	20.26	V Q	.	.	.	.
2.917	2.2164	20.55	V Q	.	.	.	.
3.000	2.3597	20.80	V Q	.	.	.	.
3.083	2.5045	21.03	V Q	.	.	.	.
3.167	2.6507	21.23	V Q	.	.	.	.
3.250	2.7982	21.42	V Q	.	.	.	.
3.333	2.9470	21.60	V Q	.	.	.	.
3.417	3.0968	21.75	V Q	.	.	.	.
3.500	3.2475	21.88	V Q	.	.	.	.
3.583	3.3990	22.00	.VQ	.	.	.	.
3.667	3.5512	22.11	.VQ	.	.	.	.
3.750	3.7042	22.21	.VQ	.	.	.	.
3.833	3.8579	22.32	.VQ	.	.	.	.
3.917	4.0124	22.43	.VQ	.	.	.	.
4.000	4.1676	22.54	.VQ	.	.	.	.
4.083	4.3235	22.65	.VQ	.	.	.	.
4.167	4.4803	22.76	.VQ	.	.	.	.
4.250	4.6377	22.87	.VQ	.	.	.	.
4.333	4.7960	22.98	.VQ	.	.	.	.
4.417	4.9550	23.09	.VQ	.	.	.	.
4.500	5.1148	23.20	.VQ	.	.	.	.
4.583	5.2754	23.32	.VQ	.	.	.	.

4.667	5.4368	23.43	.VQ	.	.	.	.
4.750	5.5990	23.54	.VQ	.	.	.	.
4.833	5.7618	23.65	.VQ	.	.	.	.
4.917	5.9253	23.75	.VQ	.	.	.	.
5.000	6.0896	23.84	.VQ	.	.	.	.
5.083	6.2544	23.94	.VQ	.	.	.	.
5.167	6.4200	24.04	.VQ	.	.	.	.
5.250	6.5863	24.14	. Q	.	.	.	.
5.333	6.7532	24.24	. Q	.	.	.	.
5.417	6.9208	24.34	. Q	.	.	.	.
5.500	7.0892	24.44	. Q	.	.	.	.
5.583	7.2582	24.55	. Q	.	.	.	.
5.667	7.4280	24.65	. Q	.	.	.	.
5.750	7.5985	24.76	. Q	.	.	.	.
5.833	7.7698	24.87	. Q	.	.	.	.
5.917	7.9418	24.97	. Q	.	.	.	.
6.000	8.1146	25.08	. Q	.	.	.	.
6.083	8.2881	25.20	. Q	.	.	.	.
6.167	8.4624	25.31	. Q	.	.	.	.
6.250	8.6374	25.42	. Q	.	.	.	.
6.333	8.8133	25.54	. Q	.	.	.	.
6.417	8.9900	25.65	. Q	.	.	.	.
6.500	9.1675	25.77	. Q	.	.	.	.
6.583	9.3458	25.89	. Q	.	.	.	.
6.667	9.5249	26.01	. Q	.	.	.	.
6.750	9.7049	26.13	. Q	.	.	.	.
6.833	9.8857	26.26	. QV	.	.	.	.
6.917	10.0674	26.38	. QV	.	.	.	.
7.000	10.2499	26.51	. QV	.	.	.	.
7.083	10.4334	26.64	. QV	.	.	.	.
7.167	10.6177	26.77	. QV	.	.	.	.
7.250	10.8030	26.90	. QV	.	.	.	.
7.333	10.9891	27.03	. QV	.	.	.	.
7.417	11.1762	27.17	. QV	.	.	.	.
7.500	11.3643	27.30	. QV	.	.	.	.
7.583	11.5533	27.44	. QV	.	.	.	.
7.667	11.7433	27.58	. QV	.	.	.	.
7.750	11.9342	27.73	. QV	.	.	.	.
7.833	12.1262	27.87	. QV	.	.	.	.
7.917	12.3191	28.02	. QV	.	.	.	.
8.000	12.5131	28.17	. QV	.	.	.	.
8.083	12.7081	28.32	. QV	.	.	.	.
8.167	12.9042	28.47	. QV	.	.	.	.
8.250	13.1013	28.62	. Q V	.	.	.	.
8.333	13.2996	28.78	. Q V	.	.	.	.
8.417	13.4989	28.94	. Q V	.	.	.	.
8.500	13.6993	29.10	. Q V	.	.	.	.
8.583	13.9009	29.27	. Q V	.	.	.	.
8.667	14.1036	29.43	. Q V	.	.	.	.
8.750	14.3075	29.60	. Q V	.	.	.	.
8.833	14.5126	29.78	. Q V	.	.	.	.
8.917	14.7188	29.95	. Q V	.	.	.	.
9.000	14.9263	30.13	. QV	.	.	.	.
9.083	15.1351	30.31	. QV	.	.	.	.
9.167	15.3451	30.49	. QV	.	.	.	.
9.250	15.5563	30.68	. QV	.	.	.	.
9.333	15.7689	30.87	. QV	.	.	.	.
9.417	15.9828	31.06	. QV	.	.	.	.

9.500	16.1981	31.25	. QV	.	.	.	.
9.583	16.4147	31.45	. Q V	.	.	.	.
9.667	16.6327	31.65	. Q V	.	.	.	.
9.750	16.8521	31.86	. Q V	.	.	.	.
9.833	17.0730	32.07	. Q V	.	.	.	.
9.917	17.2953	32.28	. Q V	.	.	.	.
10.000	17.5191	32.50	. Q V	.	.	.	.
10.083	17.7445	32.72	. Q V	.	.	.	.
10.167	17.9713	32.94	. Q V	.	.	.	.
10.250	18.1998	33.17	. Q V	.	.	.	.
10.333	18.4298	33.40	. Q V	.	.	.	.
10.417	18.6615	33.64	. Q V	.	.	.	.
10.500	18.8949	33.88	. Q V	.	.	.	.
10.583	19.1299	34.13	. Q V	.	.	.	.
10.667	19.3667	34.38	. Q V	.	.	.	.
10.750	19.6052	34.63	. Q V	.	.	.	.
10.833	19.8456	34.90	. Q V	.	.	.	.
10.917	20.0877	35.16	. Q V	.	.	.	.
11.000	20.3317	35.43	. Q V	.	.	.	.
11.083	20.5777	35.71	. Q V	.	.	.	.
11.167	20.8256	35.99	. Q V	.	.	.	.
11.250	21.0755	36.28	. Q V	.	.	.	.
11.333	21.3274	36.58	. Q V	.	.	.	.
11.417	21.5814	36.88	. Q V	.	.	.	.
11.500	21.8375	37.19	. Q V	.	.	.	.
11.583	22.0958	37.50	. Q V	.	.	.	.
11.667	22.3563	37.83	. Q V	.	.	.	.
11.750	22.6191	38.16	. Q V	.	.	.	.
11.833	22.8842	38.49	. Q V	.	.	.	.
11.917	23.1517	38.84	. Q V	.	.	.	.
12.000	23.4216	39.19	. Q V	.	.	.	.
12.083	23.6941	39.56	. Q V	.	.	.	.
12.167	23.9692	39.95	. Q V	.	.	.	.
12.250	24.2471	40.35	. Q V	.	.	.	.
12.333	24.5280	40.79	. Q V	.	.	.	.
12.417	24.8122	41.27	. Q V	.	.	.	.
12.500	25.1001	41.80	. Q V	.	.	.	.
12.583	25.3919	42.37	. Q V	.	.	.	.
12.667	25.6880	42.99	. Q V	.	.	.	.
12.750	25.9888	43.67	. Q V	.	.	.	.
12.833	26.2946	44.41	. Q V	.	.	.	.
12.917	26.6062	45.24	. Q V	.	.	.	.
13.000	26.9239	46.14	. Q V	.	.	.	.
13.083	27.2483	47.10	. Q V	.	.	.	.
13.167	27.5796	48.10	. Q V	.	.	.	.
13.250	27.9180	49.14	. Q V	.	.	.	.
13.333	28.2639	50.21	. Q V	.	.	.	.
13.417	28.6175	51.35	. Q V	.	.	.	.
13.500	28.9793	52.53	. Q V	.	.	.	.
13.583	29.3498	53.80	. Q V	.	.	.	.
13.667	29.7295	55.13	. Q V	.	.	.	.
13.750	30.1182	56.44	. Q V	.	.	.	.
13.833	30.5163	57.79	. Q V	.	.	.	.
13.917	30.9236	59.15	. Q V	.	.	.	.
14.000	31.3402	60.49	. Q V	.	.	.	.
14.083	31.7659	61.82	. Q V	.	.	.	.
14.167	32.2007	63.13	. Q V	.	.	.	.
14.250	32.6446	64.45	. Q V	.	.	.	.

14.333	33.0980	65.83	.	Q	V	.	.	.
14.417	33.5615	67.31	.	Q	V	.	.	.
14.500	34.0361	68.90	.	Q	V	.	.	.
14.583	34.5221	70.57	.	Q	V	.	.	.
14.667	35.0205	72.36	.	Q	V	.	.	.
14.750	35.5323	74.31	.	Q	V	.	.	.
14.833	36.0587	76.44	.	Q	.V	.	.	.
14.917	36.6016	78.83	.	Q	.V	.	.	.
15.000	37.1622	81.40	.	Q	.V	.	.	.
15.083	37.7418	84.16	.	Q	.V	.	.	.
15.167	38.3411	87.01	.	Q	.V	.	.	.
15.250	38.9610	90.02	.	Q	.V	.	.	.
15.333	39.6023	93.11	.	Q	.V	.	.	.
15.417	40.2660	96.37	.	Q	.V	.	.	.
15.500	40.9528	99.72	.	Q	.V	.	.	.
15.583	41.6643	103.31	.	Q	V	.	.	.
15.667	42.4015	107.04	.	Q	V	.	.	.
15.750	43.1630	110.56	.	.Q	V	.	.	.
15.833	43.9483	114.04	.	.Q	V	.	.	.
15.917	44.7579	117.54	.	.Q	V	.	.	.
16.000	45.5913	121.02	.	.	Q	V	.	.
16.083	46.4866	130.00	.	.	Q	V	.	.
16.167	47.4484	139.64	.	.	Q	V	.	.
16.250	48.4762	149.24	.	.	Q	.	.	.
16.333	49.6520	170.72	.	.	V	Q	.	.
16.417	50.9957	195.11	.	.	V	Q	.	.
16.500	52.4723	214.40	.	.	V	.Q	.	.
16.583	54.0469	228.62	.	.	V	.Q	.	.
16.667	55.7697	250.16	.	.	V	.Q	.	.
16.750	57.6587	274.28	.	.	V	.Q	.	.
16.833	59.6275	285.86	.	.	V	.Q	.	.
16.917	61.7695	311.02	.	.	V	.Q	.	.
17.000	63.9405	315.23	.	.	V	.Q	.	.
17.083	66.1517	321.06	.	.	V	.Q	.	.
17.167	68.3774	323.17	.	.	.V	.Q	.	.
17.250	70.6157	324.99	.	.	.V	.Q	.	.
17.333	72.8462	323.87	.	.	.V	.Q	.	.
17.417	75.1688	337.24	.	.	.V	.Q	.	.
17.500	77.5177	341.06	.	.	.V	.Q	.	.
17.583	79.9722	356.39	.	.	.V	.Q	.	.
17.667	82.5088	368.32	.	.	.V	.Q	.	.
17.750	84.9328	351.96	.	.	.V	.Q	.	.
17.833	87.3433	350.00	.	.	.V	.Q	.	.
17.917	89.6906	340.83	.	.	.V	.Q	.	.
18.000	91.9226	324.10	.	.	.V	.Q	.	.
18.083	94.0173	304.15	.	.	.V	Q	.	.
18.167	95.9306	277.80	.	.	.Q	V	.	.
18.250	97.7095	258.30	.	.	.Q	V	.	.
18.333	99.3799	242.54	.	.	.Q	V	.	.
18.417	100.9296	225.01	.	.	.Q	.V	.	.
18.500	102.3387	204.60	.	.	.Q	.V	.	.
18.583	103.6145	185.25	.	.	.Q	.V	.	.
18.667	104.7928	171.08	.	.	.Q	.V	.	.
18.750	105.8946	159.98	.	.	.Q	.V	.	.
18.833	106.9266	149.85	.	.	.Q	.V	.	.
18.917	107.8743	137.60	.	.	.Q	.V	.	.
19.000	108.7531	127.61	.	.	.Q	.V	.	.
19.083	109.5609	117.29	.	.	.Q	.V	.	.

19.167	110.3067	108.29	.	Q	.	.	V	.
19.250	111.0065	101.61	.	Q	.	.	V	.
19.333	111.6674	95.96	.	Q	.	.	V	.
19.417	112.2677	87.17	.	Q	.	.	V	.
19.500	112.8136	79.26	.	Q	.	.	V	.
19.583	113.3212	73.71	.	Q	.	.	V	.
19.667	113.8011	69.67	.	Q	.	.	V	.
19.750	114.2586	66.43	.	Q	.	.	V	.
19.833	114.6966	63.59	.	Q	.	.	V	.
19.917	115.1171	61.06	.	Q	.	.	V	.
20.000	115.5218	58.77	.	Q	.	.	V	.
20.083	115.9124	56.72	.	Q	.	.	V	.
20.167	116.2905	54.90	.	Q	.	.	V	.
20.250	116.6573	53.25	.	Q	.	.	V	.
20.333	117.0134	51.71	.	Q	.	.	V	.
20.417	117.3599	50.31	.	Q	.	.	V	.
20.500	117.6977	49.04	.	Q	.	.	V	.
20.583	118.0272	47.85	.	Q	.	.	V	.
20.667	118.3486	46.67	.	Q	.	.	V	.
20.750	118.6539	44.32	.	Q	.	.	V	.
20.833	118.9423	41.88	.	Q	.	.	V	.
20.917	119.2187	40.14	.	Q	.	.	V	.
21.000	119.4867	38.91	.	Q	.	.	V	.
21.083	119.7480	37.94	.	Q	.	.	V	.
21.167	120.0034	37.10	.	Q	.	.	V	.
21.250	120.2537	36.33	.	Q	.	.	V	.
21.333	120.4990	35.62	.	Q	.	.	V	.
21.417	120.7399	34.97	.	Q	.	.	V	.
21.500	120.9765	34.36	.	Q	.	.	V	.
21.583	121.2092	33.78	.	Q	.	.	V	.
21.667	121.4381	33.23	.	Q	.	.	V	.
21.750	121.6634	32.72	.	Q	.	.	V	.
21.833	121.8854	32.24	.	Q	.	.	V	.
21.917	122.1043	31.78	.	Q	.	.	V	.
22.000	122.3202	31.35	.	Q	.	.	V	.
22.083	122.5333	30.93	.	Q	.	.	V	.
22.167	122.7435	30.53	.	Q	.	.	V	.
22.250	122.9511	30.14	.	Q	.	.	V	.
22.333	123.1561	29.77	.	Q	.	.	V	.
22.417	123.3586	29.40	.	Q	.	.	V	.
22.500	123.5587	29.05	.	Q	.	.	V	.
22.583	123.7564	28.71	.	Q	.	.	V	.
22.667	123.9519	28.38	.	Q	.	.	V	.
22.750	124.1452	28.06	.	Q	.	.	V	.
22.833	124.3363	27.76	.	Q	.	.	V	.
22.917	124.5255	27.47	.	Q	.	.	V	.
23.000	124.7127	27.18	.	Q	.	.	V	.
23.083	124.8980	26.91	.	Q	.	.	V	.
23.167	125.0815	26.64	.	Q	.	.	V	.
23.250	125.2632	26.38	.	Q	.	.	V	.
23.333	125.4431	26.13	.	Q	.	.	V	.
23.417	125.6213	25.88	.	Q	.	.	V	.
23.500	125.7979	25.64	.	Q	.	.	V	.
23.583	125.9729	25.41	.	Q	.	.	V	.
23.667	126.1463	25.18	.	Q	.	.	V	.
23.750	126.3182	24.95	.	Q	.	.	V	.
23.833	126.4885	24.74	.	Q	.	.	V	.
23.917	126.6574	24.52	.	Q	.	.	V	.

24.000	126.8249	24.32	. Q	.	.	.	V.
24.083	126.9909	24.10	. Q	.	.	.	V.
24.167	127.1553	23.88	. Q	.	.	.	V.
24.250	127.3182	23.65	. Q	.	.	.	V.
24.333	127.4793	23.39	. Q	.	.	.	V.
24.417	127.6383	23.08	. Q	.	.	.	V.
24.500	127.7946	22.70	. Q	.	.	.	V.
24.583	127.9481	22.29	. Q	.	.	.	V.
24.667	128.0984	21.82	. Q	.	.	.	V.
24.750	128.2450	21.29	. Q	.	.	.	V.
24.833	128.3874	20.68	. Q	.	.	.	V.
24.917	128.5247	19.95	.Q	.	.	.	V.
25.000	128.6566	19.15	.Q	.	.	.	V.
25.083	128.7824	18.27	.Q	.	.	.	V.
25.167	128.9021	17.37	.Q	.	.	.	V.
25.250	129.0152	16.43	.Q	.	.	.	V.
25.333	129.1219	15.49	.Q	.	.	.	V.
25.417	129.2216	14.48	.Q	.	.	.	V.
25.500	129.3142	13.44	.Q	.	.	.	V.
25.583	129.3989	12.31	.Q	.	.	.	V.
25.667	129.4754	11.11	.Q	.	.	.	V.
25.750	129.5442	9.99	Q	.	.	.	V.
25.833	129.6052	8.86	Q	.	.	.	V.
25.917	129.6588	7.78	Q	.	.	.	V.
26.000	129.7054	6.77	Q	.	.	.	V.
26.083	129.7458	5.86	Q	.	.	.	V.
26.167	129.7808	5.08	Q	.	.	.	V.
26.250	129.8110	4.39	Q	.	.	.	V.
26.333	129.8370	3.77	Q	.	.	.	V.
26.417	129.8591	3.22	Q	.	.	.	V.
26.500	129.8781	2.75	Q	.	.	.	V.
26.583	129.8944	2.37	Q	.	.	.	V.
26.667	129.9084	2.04	Q	.	.	.	V.
26.750	129.9204	1.74	Q	.	.	.	V.
26.833	129.9306	1.47	Q	.	.	.	V.
26.917	129.9392	1.25	Q	.	.	.	V.
27.000	129.9464	1.06	Q	.	.	.	V.
27.083	129.9526	0.90	Q	.	.	.	V.
27.167	129.9579	0.76	Q	.	.	.	V.
27.250	129.9623	0.65	Q	.	.	.	V.
27.333	129.9660	0.54	Q	.	.	.	V.
27.417	129.9692	0.46	Q	.	.	.	V.
27.500	129.9720	0.41	Q	.	.	.	V.
27.583	129.9745	0.37	Q	.	.	.	V.
27.667	129.9769	0.34	Q	.	.	.	V.
27.750	129.9790	0.31	Q	.	.	.	V.
27.833	129.9809	0.28	Q	.	.	.	V.
27.917	129.9827	0.26	Q	.	.	.	V.
28.000	129.9843	0.23	Q	.	.	.	V.
28.083	129.9857	0.20	Q	.	.	.	V.
28.167	129.9869	0.18	Q	.	.	.	V.
28.250	129.9880	0.15	Q	.	.	.	V.
28.333	129.9889	0.13	Q	.	.	.	V.
28.417	129.9896	0.11	Q	.	.	.	V.
28.500	129.9902	0.08	Q	.	.	.	V.
28.583	129.9906	0.06	Q	.	.	.	V.
28.667	129.9908	0.03	Q	.	.	.	V.
28.750	129.9909	0.02	Q	.	.	.	V.

28.833 129.9909 0.00 Q . . . V.

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 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
 (Note: 100% of Peak Flow Rate estimate assumed to have  
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1730.0
10%	590.0
20%	295.0
30%	205.0
40%	160.0
50%	135.0
60%	115.0
70%	95.0
80%	75.0
90%	35.0
=====	=====

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS  
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)  
(c) Copyright 1989-2013 Advanced Engineering Software (aes)  
Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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Santa Ana, CA  
92707

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* RANCHO MISSION VIEJO \*  
\* EXISTING CONDITION - UH FREE DRAINING MODEL (LOCAL NODE 13305) \*  
\* 5-YR EV JUNE 2018 ROKAMOTO \*  
\*\*\*\*\*

FILE NAME: EV05305F.DAT  
TIME/DATE OF STUDY: 12:31 06/19/2018

\*\*\*\*\*

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

=====

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES  
BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.987 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.406  
LOW LOSS FRACTION = 0.789  
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.18  
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.41  
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.55  
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.92  
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.27  
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 2.12

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE FACTOR = 0.752  
30-MINUTE FACTOR = 0.752  
1-HOUR FACTOR = 0.752  
3-HOUR FACTOR = 0.960  
6-HOUR FACTOR = 0.979  
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 8.443

RUNOFF HYDROGRAPH LISTING LIMITS:  
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00  
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.482	287.328
2	1.447	574.656
3	2.629	703.562
4	4.293	991.028
5	7.201	1731.965
6	11.339	2464.256
7	16.154	2867.351
8	21.165	2984.368
9	26.622	3249.843
10	32.649	3589.310
11	39.092	3837.335
12	46.852	4621.557
13	53.976	4242.278
14	60.840	4087.938
15	67.510	3972.179
16	73.108	3334.408
17	77.692	2729.767
18	81.502	2269.146
19	85.010	2088.986
20	87.757	1635.662
21	89.825	1231.700
22	91.630	1075.022
23	93.279	982.309
24	94.592	781.893
25	95.657	634.275
26	96.455	475.088
27	97.117	394.357
28	97.772	390.154
29	98.106	198.521
30	98.264	94.231
31	98.422	94.372
32	98.580	94.231
33	98.738	94.094
34	98.897	94.508
35	99.055	94.094
36	99.213	94.094
37	99.371	94.094
38	99.529	94.094
39	99.687	94.094
40	99.845	94.094
41	100.000	92.218

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TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 644.8396  
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 214.2382

2 4 - H O U R    S T O R M  
 R U N O F F    H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	200.0	400.0	600.0	800.0
10.000	32.1523	57.25	. Q	V	.	.	.
10.083	32.5495	57.67	. Q	V	.	.	.
10.167	32.9497	58.10	. Q	V	.	.	.
10.250	33.3529	58.54	. Q	V	.	.	.
10.333	33.7592	59.00	. Q	V	.	.	.
10.417	34.1686	59.46	. Q	V	.	.	.
10.500	34.5813	59.93	. Q	V	.	.	.
10.583	34.9974	60.40	. Q	V	.	.	.
10.667	35.4167	60.89	. Q	V	.	.	.
10.750	35.8396	61.39	. Q	V	.	.	.
10.833	36.2659	61.90	. Q	V	.	.	.
10.917	36.6958	62.43	. Q	V	.	.	.
11.000	37.1295	62.96	. Q	V	.	.	.
11.083	37.5668	63.51	. Q	V	.	.	.
11.167	38.0080	64.07	. Q	V	.	.	.
11.250	38.4532	64.64	. Q	V	.	.	.
11.333	38.9024	65.22	. Q	V	.	.	.
11.417	39.3557	65.82	. Q	V	.	.	.
11.500	39.8133	66.44	. Q	V	.	.	.
11.583	40.2752	67.07	. Q	V	.	.	.
11.667	40.7415	67.71	. Q	V	.	.	.
11.750	41.2124	68.37	. Q	V	.	.	.
11.833	41.6879	69.05	. Q	V	.	.	.
11.917	42.1683	69.75	. Q	V	.	.	.
12.000	42.6536	70.47	. Q	V	.	.	.
12.083	43.1448	71.32	. Q	V	.	.	.
12.167	43.6429	72.32	. Q	V	.	.	.
12.250	44.1484	73.40	. Q	V	.	.	.
12.333	44.6624	74.63	. Q	V	.	.	.
12.417	45.1871	76.19	. Q	V	.	.	.
12.500	45.7249	78.09	. Q	V	.	.	.
12.583	46.2772	80.19	. Q	V	.	.	.
12.667	46.8446	82.38	. Q	V	.	.	.
12.750	47.4280	84.71	. Q	V	.	.	.
12.833	48.0286	87.21	. Q	V	.	.	.
12.917	48.6475	89.86	. Q	V	.	.	.
13.000	49.2871	92.88	. Q	V	.	.	.
13.083	49.9467	95.78	. Q	V	.	.	.
13.167	50.6261	98.65	. Q	V	.	.	.
13.250	51.3253	101.52	. Q	V	.	.	.
13.333	52.0427	104.16	. Q	V	.	.	.
13.417	52.7768	106.59	. Q	V	.	.	.
13.500	53.5267	108.88	. Q	V	.	.	.
13.583	54.2921	111.14	. Q	V	.	.	.
13.667	55.0723	113.27	. Q	V	.	.	.
13.750	55.8662	115.28	. Q	V	.	.	.
13.833	56.6740	117.29	. Q	V	.	.	.

13.917	57.4957	119.32	.	Q	V	.	.	.
14.000	58.3314	121.34	.	Q	V	.	.	.
14.083	59.1830	123.66	.	Q	.V	.	.	.
14.167	60.0528	126.29	.	Q	.V	.	.	.
14.250	60.9420	129.11	.	Q	.V	.	.	.
14.333	61.8531	132.30	.	Q	.V	.	.	.
14.417	62.7916	136.27	.	Q	.V	.	.	.
14.500	63.7630	141.04	.	Q	.V	.	.	.
14.583	64.7708	146.33	.	Q	.V	.	.	.
14.667	65.8165	151.83	.	Q	.V	.	.	.
14.750	66.9026	157.71	.	Q	.V	.	.	.
14.833	68.0326	164.07	.	Q	.V	.	.	.
14.917	69.2088	170.79	.	Q	.V	.	.	.
15.000	70.4379	178.47	.	Q	.V	.	.	.
15.083	71.7181	185.89	.	Q	.V	.	.	.
15.167	73.0495	193.31	.	Q	.V	.	.	.
15.250	74.4324	200.80	.	Q	.V	.	.	.
15.333	75.8639	207.85	.	Q	.V	.	.	.
15.417	77.3371	213.91	.	Q	.V	.	.	.
15.500	78.8465	219.16	.	Q	.V	.	.	.
15.583	80.3916	224.34	.	.Q	.V	.	.	.
15.667	81.9681	228.92	.	.Q	.V	.	.	.
15.750	83.5682	232.33	.	.Q	.V	.	.	.
15.833	85.1871	235.06	.	.Q	.V	.	.	.
15.917	86.8287	238.36	.	.Q	.V	.	.	.
16.000	88.5195	245.50	.	.Q	.V	.	.	.
16.083	90.4546	280.98	.	.Q	.V	.	.	.
16.167	92.6306	315.95	.	.Q	.V	.	.	.
16.250	94.9602	338.26	.	.Q	.V	.	.	.
16.333	97.5707	379.05	.	.Q	.V	.	.	.
16.417	100.7670	464.11	.	.Q	.V	.	.	.
16.500	104.5195	544.86	.	.Q	.V	.	.	.
16.583	108.5808	589.70	.	.Q	.V	.	.	.
16.667	112.7728	608.67	.	.Q	.V	.	.	.
16.750	117.1994	642.74	.	.Q	.V	.	.	.
16.833	121.9121	684.28	.	.Q	.V	.	.	.
16.917	126.8667	719.42	.	.Q	.V	.	.	.
17.000	132.3210	791.95	.	.Q	.V	.	.	.
17.083	137.5044	752.63	.	.Q	.V	.	.	.
17.167	142.5355	730.52	.	.Q	.V	.	.	.
17.250	147.3934	705.37	.	.Q	.V	.	.	.
17.333	151.7365	630.61	.	.Q	.V	.	.	.
17.417	155.5820	558.36	.	.Q	.V	.	.	.
17.500	159.0387	501.92	.	.Q	.V	.	.	.
17.583	162.2765	470.13	.	.Q	.V	.	.	.
17.667	165.1172	412.47	.	.Q	.V	.	.	.
17.750	167.6077	361.61	.	.Q	.V	.	.	.
17.833	169.9149	335.00	.	.Q	.V	.	.	.
17.917	172.0778	314.06	.	.Q	.V	.	.	.
18.000	174.0222	282.33	.	.Q	.V	.	.	.
18.083	175.7821	255.53	.	.Q	.V	.	.	.
18.167	177.3588	228.94	.	.Q	.V	.	.	.
18.250	178.8116	210.96	.	.Q	.V	.	.	.
18.333	180.1848	199.38	.	.Q	.V	.	.	.
18.417	181.3660	171.51	.	.Q	.V	.	.	.
18.500	182.4224	153.40	.	.Q	.V	.	.	.
18.583	183.4279	145.99	.	.Q	.V	.	.	.
18.667	184.3896	139.64	.	.Q	.V	.	.	.

18.750	185.3098	133.61	.	Q	.	.	.	V	.
18.833	186.1907	127.91	.	Q	.	.	.	V	.
18.917	187.0335	122.37	.	Q	.	.	.	V	.
19.000	187.8388	116.93	.	Q	.	.	.	V	.
19.083	188.6098	111.96	.	Q	.	.	.	V	.
19.167	189.3487	107.28	.	Q	.	.	.	V	.
19.250	190.0568	102.82	.	Q	.	.	.	V	.
19.333	190.7355	98.55	.	Q	.	.	.	V	.
19.417	191.3819	93.86	.	Q	.	.	.	V	.
19.500	191.9456	81.86	.	Q	.	.	.	V	.
19.583	192.4892	78.92	.	Q	.	.	.	V	.
19.667	193.0160	76.50	.	Q	.	.	.	V	.
19.750	193.5284	74.40	.	Q	.	.	.	V	.
19.833	194.0264	72.31	.	Q	.	.	.	V	.
19.917	194.5108	70.35	.	Q	.	.	.	V	.
20.000	194.9830	68.56	.	Q	.	.	.	V	.

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TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	420.0
20%	220.0
30%	135.0
40%	100.0
50%	80.0
60%	65.0
70%	55.0
80%	35.0
90%	20.0

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FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

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>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<  
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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER  
TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE  
INTERVALS(Reference: the National Engineering Handbook,  
Hydrology, Chapter 17, page 17-52, August,1972,  
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:  
BASEWIDTH(FT) = 0.01 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 427.51  
DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.00 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 791.95  
 AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 612.99  
 CHANNEL NORMAL VELOCITY FOR Q = 612.99 CFS = 7.35 FPS  
 ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.812

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE  
 UNIT INTERVALS IS CSTAR = 0.580

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	57.25	55.51	55.51
10.083	57.67	55.90	55.90
10.167	58.10	56.30	56.30
10.250	58.54	56.70	56.70
10.333	59.00	57.12	57.12
10.417	59.46	57.54	57.54
10.500	59.93	57.97	57.97
10.583	60.40	58.41	58.41
10.667	60.89	58.86	58.86
10.750	61.39	59.31	59.31
10.833	61.90	59.78	59.78
10.917	62.43	60.26	60.26
11.000	62.96	60.74	60.74
11.083	63.51	61.24	61.24
11.167	64.07	61.75	61.75
11.250	64.64	62.27	62.27
11.333	65.22	62.80	62.80
11.417	65.82	63.34	63.34
11.500	66.44	63.89	63.89
11.583	67.07	64.46	64.46
11.667	67.71	65.04	65.04
11.750	68.37	65.64	65.64
11.833	69.05	66.25	66.25
11.917	69.75	66.87	66.87
12.000	70.47	67.51	67.51
12.083	71.32	68.17	68.17
12.167	72.32	68.85	68.85
12.250	73.40	69.54	69.54
12.333	74.63	70.28	70.28
12.417	76.19	71.12	71.12
12.500	78.09	72.07	72.07
12.583	80.19	73.13	73.13
12.667	82.38	74.36	74.36
12.750	84.71	75.87	75.87
12.833	87.21	77.65	77.65
12.917	89.86	79.64	79.64
13.000	92.88	81.77	81.77
13.083	95.78	84.06	84.06
13.167	98.65	86.51	86.51
13.250	101.52	89.16	89.16
13.333	104.16	91.99	91.99
13.417	106.59	94.86	94.86
13.500	108.88	97.73	97.73
13.583	111.14	100.55	100.55

13.667	113.27	103.21	103.21
13.750	115.28	105.71	105.71
13.833	117.29	108.08	108.08
13.917	119.32	110.36	110.36
14.000	121.34	112.52	112.52
14.083	123.66	114.59	114.59
14.167	126.29	116.63	116.63
14.250	129.11	118.66	118.66
14.333	132.30	120.76	120.76
14.417	136.27	123.06	123.06
14.500	141.04	125.59	125.59
14.583	146.33	128.38	128.38
14.667	151.83	131.58	131.58
14.750	157.71	135.42	135.42
14.833	164.07	139.92	139.92
14.917	170.79	144.92	144.92
15.000	178.47	150.31	150.31
15.083	185.89	156.09	156.09
15.167	193.31	162.29	162.29
15.250	200.80	169.02	169.02
15.333	207.85	176.24	176.24
15.417	213.91	183.57	183.57
15.500	219.16	190.98	190.98
15.583	224.34	198.32	198.32
15.667	228.92	205.27	205.27
15.750	232.33	211.51	211.51
15.833	235.06	217.16	217.16
15.917	238.36	222.40	222.40
16.000	245.50	226.98	226.98
16.083	280.98	230.72	230.72
16.167	315.95	234.01	234.01
16.250	338.26	238.21	238.21
16.333	379.05	250.75	250.75
16.417	464.11	276.47	276.47
16.500	544.86	304.59	304.59
16.583	589.70	333.67	333.67
16.667	608.67	379.91	379.91
16.750	642.74	447.66	447.66
16.833	684.28	514.53	514.53
16.917	719.42	562.56	562.56
17.000	791.95	597.28	597.28
17.083	752.63	633.38	633.38
17.167	730.52	671.13	671.13
17.250	705.37	716.12	716.12
17.333	630.61	750.88	750.88
17.417	558.36	746.72	746.72
17.500	501.92	731.43	731.43
17.583	470.13	698.81	698.81
17.667	412.47	642.33	642.33
17.750	361.61	580.42	580.42
17.833	335.00	527.45	527.45
17.917	314.06	480.70	480.70
18.000	282.33	429.22	429.22
18.083	255.53	383.78	383.78
18.167	228.94	350.59	350.59
18.250	210.96	321.97	321.97
18.333	199.38	292.71	292.71
18.417	171.51	264.92	264.92

18.500	153.40	239.84	239.84
18.583	145.99	220.38	220.38
18.667	139.64	201.67	201.67
18.750	133.61	179.94	179.94
18.833	127.91	162.81	162.81
18.917	122.37	151.57	151.57
19.000	116.93	143.24	143.24
19.083	111.96	136.32	136.32
19.167	107.28	130.15	130.15
19.250	102.82	124.36	124.36
19.333	98.55	118.89	118.89
19.417	93.86	113.77	113.77
19.500	81.86	108.96	108.96
19.583	78.92	104.40	104.40
19.667	76.50	99.91	99.91
19.750	74.40	93.59	93.59
19.833	72.31	86.10	86.10
19.917	70.35	81.37	81.37
20.000	68.56	78.05	78.05

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 214.238 AF  
 OUTFLOW VOLUME = 214.238 AF  
 LOSS VOLUME = 0.000 AF

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FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 1411.700 ACRES  
 BASEFLOW = 0.000 CFS/SQUARE-MILE  
 \*USER ENTERED "LAG" TIME = 0.534 HOURS  
 VALLEY (DEVELOPED) S-GRAPH SELECTED  
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.500  
 LOW LOSS FRACTION = 0.885  
 \*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.18  
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.41  
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.55  
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.92  
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.27  
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 2.12

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.752  
 30-MINUTE FACTOR = 0.752  
 1-HOUR FACTOR = 0.752  
 3-HOUR FACTOR = 0.960  
 6-HOUR FACTOR = 0.979  
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES

UNIT INTERVAL PERCENTAGE OF LAG-TIME = 15.605

RUNOFF HYDROGRAPH LISTING LIMITS:

MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00

MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.892	152.245
2	3.057	369.713
3	7.795	808.805
4	15.961	1394.164
5	25.650	1654.200
6	36.973	1933.202
7	50.552	2318.290
8	63.262	2169.898
9	74.081	1847.229
10	81.686	1298.369
11	87.459	985.587
12	91.189	636.759
13	94.082	493.913
14	96.024	331.518
15	97.316	220.642
16	98.128	138.526
17	98.422	50.235
18	98.714	49.958
19	99.007	49.957
20	99.300	49.957
21	99.592	49.957
22	99.885	49.957
23	100.000	19.667

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 208.2259  
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 38.0618

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2 4 - H O U R   S T O R M  
R U N O F F   H Y D R O G R A P H  
=====

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	75.0	150.0	225.0	300.0
10.000	5.3818	9.33	.Q V	.	.	.	.
10.083	5.4465	9.40	.Q V	.	.	.	.
10.167	5.5118	9.48	.Q V	.	.	.	.
10.250	5.5776	9.55	.Q V	.	.	.	.
10.333	5.6439	9.63	.Q V	.	.	.	.
10.417	5.7108	9.71	.Q V	.	.	.	.
10.500	5.7783	9.79	.Q V	.	.	.	.
10.583	5.8463	9.88	.Q V	.	.	.	.
10.667	5.9149	9.96	.Q V	.	.	.	.
10.750	5.9841	10.05	.Q V	.	.	.	.
10.833	6.0540	10.14	.Q V	.	.	.	.
10.917	6.1245	10.23	.Q V	.	.	.	.
11.000	6.1956	10.33	.Q V	.	.	.	.
11.083	6.2674	10.43	.Q V	.	.	.	.
11.167	6.3399	10.52	.Q V	.	.	.	.
11.250	6.4131	10.63	.Q V	.	.	.	.
11.333	6.4869	10.73	.Q V	.	.	.	.
11.417	6.5616	10.84	.Q V	.	.	.	.
11.500	6.6370	10.95	.Q V	.	.	.	.
11.583	6.7131	11.06	.Q V	.	.	.	.
11.667	6.7901	11.17	.Q V	.	.	.	.
11.750	6.8679	11.29	.Q V	.	.	.	.
11.833	6.9465	11.41	.Q V	.	.	.	.
11.917	7.0260	11.54	.Q V	.	.	.	.
12.000	7.1063	11.67	.Q V	.	.	.	.
12.083	7.1879	11.84	.Q V	.	.	.	.
12.167	7.2709	12.06	.Q V	.	.	.	.
12.250	7.3563	12.39	.Q V	.	.	.	.
12.333	7.4449	12.86	.Q V	.	.	.	.
12.417	7.5371	13.40	.Q V	.	.	.	.
12.500	7.6336	14.00	.Q V	.	.	.	.
12.583	7.7349	14.71	.Q V	.	.	.	.
12.667	7.8408	15.38	.Q V	.	.	.	.
12.750	7.9510	15.99	.Q V	.	.	.	.
12.833	8.0644	16.48	.Q V	.	.	.	.
12.917	8.1808	16.90	.Q V	.	.	.	.
13.000	8.2996	17.25	.Q V	.	.	.	.
13.083	8.4206	17.57	.Q V	.	.	.	.
13.167	8.5436	17.86	.Q V	.	.	.	.
13.250	8.6686	18.14	.Q V	.	.	.	.
13.333	8.7953	18.40	.Q V	.	.	.	.
13.417	8.9238	18.66	.Q V	.	.	.	.
13.500	9.0542	18.92	.Q V	.	.	.	.
13.583	9.1864	19.20	.Q V	.	.	.	.
13.667	9.3206	19.48	.Q V	.	.	.	.
13.750	9.4568	19.78	.Q V	.	.	.	.
13.833	9.5952	20.09	.Q V	.	.	.	.

13.917	9.7358	20.41	. Q	V	.	.	.
14.000	9.8786	20.74	. Q	V	.	.	.
14.083	10.0244	21.17	. Q	V	.	.	.
14.167	10.1742	21.74	. Q	V	.	.	.
14.250	10.3297	22.58	. Q	V	.	.	.
14.333	10.4933	23.76	. Q	.V	.	.	.
14.417	10.6662	25.11	. Q	.V	.	.	.
14.500	10.8496	26.62	. Q	.V	.	.	.
14.583	11.0450	28.38	. Q	.V	.	.	.
14.667	11.2520	30.06	. Q	.V	.	.	.
14.750	11.4695	31.58	. Q	. V	.	.	.
14.833	11.6955	32.81	. Q	. V	.	.	.
14.917	11.9290	33.90	. Q	. V	.	.	.
15.000	12.1688	34.82	. Q	. V	.	.	.
15.083	12.4147	35.70	. Q	. V	.	.	.
15.167	12.6663	36.53	. Q	. V	.	.	.
15.250	12.9236	37.36	. Q	. V	.	.	.
15.333	13.1867	38.20	. Q	. V	.	.	.
15.417	13.4545	38.89	. Q	. V	.	.	.
15.500	13.7260	39.42	. Q	. V	.	.	.
15.583	13.9984	39.56	. Q	. V	.	.	.
15.667	14.2683	39.19	. Q	. V	.	.	.
15.750	14.5355	38.80	. Q	. V	.	.	.
15.833	14.8004	38.46	. Q	. V	.	.	.
15.917	15.0645	38.35	. Q	. V	.	.	.
16.000	15.3399	39.99	. Q	. V	.	.	.
16.083	15.7326	57.02	. Q	. V	.	.	.
16.167	16.3003	82.44	. Q	. V	.	.	.
16.250	17.1897	129.13	. QV	.	.	.	.
16.333	18.4792	187.24	. QV	. Q	.	.	.
16.417	19.9601	215.02	. QV	. Q	.	.	.
16.500	21.6359	243.32	. QV	. Q	.	.	.
16.583	23.5453	277.25	. QV	. Q	.	.	.
16.667	25.3393	260.49	. QV	. Q	.	.	.
16.750	26.8937	225.69	. QV	. Q	.	.	.
16.833	28.0729	171.22	. QV	. Q	.	.	.
16.917	29.0280	138.69	. QV	. Q	.	.	.
17.000	29.7469	104.37	. QV	. Q	.	.	.
17.083	30.3585	88.81	. QV	. Q	.	.	.
17.167	30.8519	71.64	. QV	. Q	.	.	.
17.250	31.2593	59.16	. QV	. Q	.	.	.
17.333	31.5972	49.05	. QV	. Q	.	.	.
17.417	31.8651	38.91	. QV	. Q	.	.	.
17.500	32.1182	36.75	. QV	. Q	.	.	.
17.583	32.3559	34.51	. QV	. Q	.	.	.
17.667	32.5790	32.39	. QV	. Q	.	.	.
17.750	32.7883	30.39	. QV	. Q	.	.	.
17.833	32.9853	28.61	. QV	. Q	.	.	.
17.917	33.1533	24.38	. QV	. Q	.	.	.
18.000	33.3013	21.50	. QV	. Q	.	.	.
18.083	33.4428	20.54	. QV	. Q	.	.	.
18.167	33.5786	19.72	. QV	. Q	.	.	.
18.250	33.7087	18.88	. QV	. Q	.	.	.
18.333	33.8325	17.98	. QV	. Q	.	.	.
18.417	33.9503	17.10	. QV	. Q	.	.	.
18.500	34.0619	16.20	. QV	. Q	.	.	.
18.583	34.1669	15.25	. QV	. Q	.	.	.
18.667	34.2657	14.35	. QV	. Q	.	.	.

18.750	34.3591	13.56	.Q	.	.	.	V	.
18.833	34.4481	12.92	.Q	.	.	.	V	.
18.917	34.5334	12.39	.Q	.	.	.	V	.
19.000	34.6158	11.97	.Q	.	.	.	V	.
19.083	34.6957	11.59	.Q	.	.	.	V	.
19.167	34.7733	11.28	.Q	.	.	.	V	.
19.250	34.8491	11.00	.Q	.	.	.	V	.
19.333	34.9231	10.75	.Q	.	.	.	V	.
19.417	34.9956	10.53	.Q	.	.	.	V	.
19.500	35.0667	10.33	.Q	.	.	.	V	.
19.583	35.1365	10.13	.Q	.	.	.	V	.
19.667	35.2049	9.94	.Q	.	.	.	V	.
19.750	35.2721	9.76	.Q	.	.	.	V	.
19.833	35.3382	9.59	.Q	.	.	.	V	.
19.917	35.4031	9.43	.Q	.	.	.	V	.
20.000	35.4670	9.28	.Q	.	.	.	V	.

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TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	200.0
20%	75.0
30%	55.0
40%	45.0
50%	40.0
60%	35.0
70%	25.0
80%	20.0
90%	10.0

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

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>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<  
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\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

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>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<  
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\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11

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>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<  
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STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	200.0	400.0	600.0	800.0
-----	-----	-----	-----	-----	-----	-----	-----
0.083	0.0003	0.05	Q	.	.	.	.
0.167	0.0015	0.17	Q	.	.	.	.
0.250	0.0044	0.42	Q	.	.	.	.
0.333	0.0106	0.90	Q	.	.	.	.
0.417	0.0215	1.58	Q	.	.	.	.
0.500	0.0385	2.47	Q	.	.	.	.
0.583	0.0632	3.60	Q	.	.	.	.
0.667	0.0970	4.89	Q	.	.	.	.
0.750	0.1412	6.43	Q	.	.	.	.
0.833	0.1972	8.13	Q	.	.	.	.
0.917	0.2660	9.98	Q	.	.	.	.
1.000	0.3479	11.89	Q	.	.	.	.
1.083	0.4438	13.93	Q	.	.	.	.
1.167	0.5547	16.09	Q	.	.	.	.
1.250	0.6818	18.46	Q	.	.	.	.
1.333	0.8265	21.01	VQ	.	.	.	.
1.417	0.9885	23.52	VQ	.	.	.	.
1.500	1.1676	26.00	VQ	.	.	.	.
1.583	1.3628	28.35	VQ	.	.	.	.
1.667	1.5724	30.44	VQ	.	.	.	.
1.750	1.7945	32.25	VQ	.	.	.	.
1.833	2.0274	33.82	VQ	.	.	.	.
1.917	2.2698	35.19	VQ	.	.	.	.
2.000	2.5200	36.33	VQ	.	.	.	.
2.083	2.7767	37.27	VQ	.	.	.	.
2.167	3.0390	38.09	VQ	.	.	.	.
2.250	3.3064	38.82	VQ	.	.	.	.
2.333	3.5780	39.45	VQ	.	.	.	.
2.417	3.8534	39.98	VQ	.	.	.	.
2.500	4.1319	40.44	V Q	.	.	.	.
2.583	4.4132	40.85	V Q	.	.	.	.
2.667	4.6970	41.21	V Q	.	.	.	.
2.750	4.9828	41.50	V Q	.	.	.	.
2.833	5.2703	41.74	V Q	.	.	.	.
2.917	5.5592	41.96	V Q	.	.	.	.
3.000	5.8497	42.17	V Q	.	.	.	.
3.083	6.1416	42.38	V Q	.	.	.	.
3.167	6.4349	42.59	.VQ	.	.	.	.
3.250	6.7297	42.81	.VQ	.	.	.	.
3.333	7.0260	43.02	.VQ	.	.	.	.
3.417	7.3238	43.23	.VQ	.	.	.	.
3.500	7.6230	43.45	.VQ	.	.	.	.
3.583	7.9238	43.67	.VQ	.	.	.	.
3.667	8.2261	43.89	.VQ	.	.	.	.
3.750	8.5298	44.10	.VQ	.	.	.	.
3.833	8.8348	44.29	.VQ	.	.	.	.
3.917	9.1410	44.46	.VQ	.	.	.	.
4.000	9.4484	44.64	.VQ	.	.	.	.
4.083	9.7571	44.82	.VQ	.	.	.	.
4.167	10.0669	44.99	.VQ	.	.	.	.
4.250	10.3780	45.17	.VQ	.	.	.	.
4.333	10.6904	45.35	.VQ	.	.	.	.
4.417	11.0040	45.53	.VQ	.	.	.	.
4.500	11.3188	45.72	.VQ	.	.	.	.
4.583	11.6350	45.90	.VQ	.	.	.	.

4.667	11.9524	46.09	.VQ	.	.	.	.
4.750	12.2711	46.28	.VQ	.	.	.	.
4.833	12.5912	46.47	.VQ	.	.	.	.
4.917	12.9126	46.67	. Q	.	.	.	.
5.000	13.2354	46.86	. Q	.	.	.	.
5.083	13.5595	47.06	. Q	.	.	.	.
5.167	13.8850	47.26	. Q	.	.	.	.
5.250	14.2119	47.47	. Q	.	.	.	.
5.333	14.5402	47.67	. Q	.	.	.	.
5.417	14.8699	47.88	. Q	.	.	.	.
5.500	15.2011	48.09	. Q	.	.	.	.
5.583	15.5338	48.30	. Q	.	.	.	.
5.667	15.8679	48.52	. Q	.	.	.	.
5.750	16.2035	48.73	. Q	.	.	.	.
5.833	16.5407	48.95	. Q	.	.	.	.
5.917	16.8793	49.17	. Q	.	.	.	.
6.000	17.2196	49.40	. Q	.	.	.	.
6.083	17.5613	49.63	. Q	.	.	.	.
6.167	17.9047	49.86	. Q	.	.	.	.
6.250	18.2497	50.09	. Q	.	.	.	.
6.333	18.5963	50.33	. Q	.	.	.	.
6.417	18.9446	50.57	. QV	.	.	.	.
6.500	19.2945	50.81	. QV	.	.	.	.
6.583	19.6461	51.05	. QV	.	.	.	.
6.667	19.9994	51.30	. QV	.	.	.	.
6.750	20.3545	51.55	. QV	.	.	.	.
6.833	20.7113	51.81	. QV	.	.	.	.
6.917	21.0699	52.07	. QV	.	.	.	.
7.000	21.4303	52.33	. QV	.	.	.	.
7.083	21.7925	52.59	. QV	.	.	.	.
7.167	22.1566	52.86	. QV	.	.	.	.
7.250	22.5225	53.13	. QV	.	.	.	.
7.333	22.8904	53.41	. QV	.	.	.	.
7.417	23.2601	53.69	. QV	.	.	.	.
7.500	23.6319	53.97	. QV	.	.	.	.
7.583	24.0056	54.26	. QV	.	.	.	.
7.667	24.3813	54.55	. QV	.	.	.	.
7.750	24.7590	54.85	. QV	.	.	.	.
7.833	25.1388	55.15	. QV	.	.	.	.
7.917	25.5207	55.45	. Q V	.	.	.	.
8.000	25.9047	55.76	. Q V	.	.	.	.
8.083	26.2909	56.07	. Q V	.	.	.	.
8.167	26.6793	56.39	. Q V	.	.	.	.
8.250	27.0698	56.71	. Q V	.	.	.	.
8.333	27.4627	57.04	. Q V	.	.	.	.
8.417	27.8578	57.37	. Q V	.	.	.	.
8.500	28.2553	57.71	. Q V	.	.	.	.
8.583	28.6551	58.05	. Q V	.	.	.	.
8.667	29.0573	58.40	. Q V	.	.	.	.
8.750	29.4619	58.75	. Q V	.	.	.	.
8.833	29.8691	59.11	. Q V	.	.	.	.
8.917	30.2787	59.48	. Q V	.	.	.	.
9.000	30.6909	59.85	. Q V	.	.	.	.
9.083	31.1057	60.23	. QV	.	.	.	.
9.167	31.5231	60.61	. QV	.	.	.	.
9.250	31.9432	61.00	. Q V	.	.	.	.
9.333	32.3661	61.40	. Q V	.	.	.	.
9.417	32.7917	61.80	. Q V	.	.	.	.

9.500	33.2201	62.21	. Q V	.	.	.	.
9.583	33.6514	62.63	. Q V	.	.	.	.
9.667	34.0857	63.05	. Q V	.	.	.	.
9.750	34.5229	63.49	. Q V	.	.	.	.
9.833	34.9632	63.93	. Q V	.	.	.	.
9.917	35.4065	64.37	. Q V	.	.	.	.
10.000	35.8530	64.83	. Q V	.	.	.	.
10.083	36.3027	65.30	. Q V	.	.	.	.
10.167	36.7557	65.77	. Q V	.	.	.	.
10.250	37.2120	66.26	. Q V	.	.	.	.
10.333	37.6717	66.75	. Q V	.	.	.	.
10.417	38.1349	67.25	. Q V	.	.	.	.
10.500	38.6016	67.76	. Q V	.	.	.	.
10.583	39.0719	68.29	. Q V	.	.	.	.
10.667	39.5458	68.82	. Q V	.	.	.	.
10.750	40.0236	69.37	. Q V	.	.	.	.
10.833	40.5051	69.92	. Q V	.	.	.	.
10.917	40.9906	70.49	. Q V	.	.	.	.
11.000	41.4801	71.07	. Q V	.	.	.	.
11.083	41.9736	71.67	. Q V	.	.	.	.
11.167	42.4714	72.27	. Q V	.	.	.	.
11.250	42.9734	72.89	. Q V	.	.	.	.
11.333	43.4798	73.53	. Q V	.	.	.	.
11.417	43.9906	74.18	. Q V	.	.	.	.
11.500	44.5061	74.84	. Q V	.	.	.	.
11.583	45.0262	75.52	. Q V	.	.	.	.
11.667	45.5511	76.22	. Q V	.	.	.	.
11.750	46.0809	76.93	. Q V	.	.	.	.
11.833	46.6158	77.66	. Q V	.	.	.	.
11.917	47.1558	78.41	. Q V	.	.	.	.
12.000	47.7012	79.18	. Q V	.	.	.	.
12.083	48.2522	80.01	. Q V	.	.	.	.
12.167	48.8094	80.91	. Q V	.	.	.	.
12.250	49.3737	81.93	. Q V	.	.	.	.
12.333	49.9463	83.14	. Q V	.	.	.	.
12.417	50.5283	84.52	. Q V	.	.	.	.
12.500	51.1211	86.07	. Q V	.	.	.	.
12.583	51.7261	87.84	. Q V	.	.	.	.
12.667	52.3442	89.75	. Q V	.	.	.	.
12.750	52.9768	91.86	. Q V	.	.	.	.
12.833	53.6251	94.13	. Q V	.	.	.	.
12.917	54.2899	96.54	. Q V	.	.	.	.
13.000	54.9719	99.02	. Q V	.	.	.	.
13.083	55.6718	101.63	. Q V	.	.	.	.
13.167	56.3906	104.37	. Q V	.	.	.	.
13.250	57.1296	107.30	. Q V	.	.	.	.
13.333	57.8899	110.40	. Q V	.	.	.	.
13.417	58.6717	113.52	. Q V	.	.	.	.
13.500	59.4751	116.65	. Q V	.	.	.	.
13.583	60.2998	119.75	. Q V	.	.	.	.
13.667	61.1448	122.70	. Q V	.	.	.	.
13.750	62.0091	125.49	. Q V	.	.	.	.
13.833	62.8919	128.17	. Q V	.	.	.	.
13.917	63.7925	130.77	. Q V	.	.	.	.
14.000	64.7102	133.26	. Q V	.	.	.	.
14.083	65.6452	135.76	. Q V	.	.	.	.
14.167	66.5982	138.37	. Q V	.	.	.	.
14.250	67.5709	141.24	. Q V	.	.	.	.

14.333	68.5662	144.52	.	Q	V	.	.	.
14.417	69.5866	148.16	.	Q	.V	.	.	.
14.500	70.6349	152.22	.	Q	.V	.	.	.
14.583	71.7145	156.75	.	Q	.V	.	.	.
14.667	72.8277	161.64	.	Q	.V	.	.	.
14.750	73.9779	167.00	.	Q	.V	.	.	.
14.833	75.1675	172.73	.	Q	.V	.	.	.
14.917	76.3991	178.83	.	Q	.V	.	.	.
15.000	77.6741	185.13	.	Q	.V	.	.	.
15.083	78.9950	191.80	.	Q	.V	.	.	.
15.167	80.3643	198.83	.	Q	.V	.	.	.
15.250	81.7857	206.38	.	Q	V	.	.	.
15.333	83.2625	214.43	.	Q	V	.	.	.
15.417	84.7946	222.46	.	.	Q V	.	.	.
15.500	86.3813	230.39	.	.	Q V	.	.	.
15.583	88.0197	237.89	.	.	Q V	.	.	.
15.667	89.7032	244.46	.	.	Q V	.	.	.
15.750	91.4271	250.31	.	.	Q V	.	.	.
15.833	93.1876	255.62	.	.	Q V	.	.	.
15.917	94.9833	260.74	.	.	Q V	.	.	.
16.000	96.8219	266.96	.	.	Q V	.	.	.
16.083	98.8036	287.74	.	.	QV	.	.	.
16.167	100.9830	316.45	.	.	QV	.	.	.
16.250	103.5129	367.34	.	.	V	Q	.	.
16.333	106.5294	437.99	.	.	V	.Q	.	.
16.417	109.9144	491.49	.	.	V	Q	.	.
16.500	113.6878	547.91	.	.	V	Q	.	.
16.583	117.8953	610.92	.	.	V	Q	.	.
16.667	122.3058	640.40	.	.	V	Q	.	.
16.750	126.9431	673.35	.	.	V	Q	.	.
16.833	131.6659	685.75	.	.	V	Q	.	.
16.917	136.4955	701.26	.	.	.V	Q	.	.
17.000	141.3279	701.66	.	.	.V	Q	.	.
17.083	146.3016	722.19	.	.	V	Q	.	.
17.167	151.4171	742.76	.	.	V	Q	.	.
17.250	156.7565	775.28	.	.	V	Q	.	.
17.333	162.2657	799.94	.	.	V	Q	.	.
17.417	167.6763	785.63	.	.	V	Q	.	.
17.500	172.9669	768.18	.	.	V	Q	.	.
17.583	178.0173	733.32	.	.	V	Q	.	.
17.667	182.6641	674.72	.	.	V	Q	.	.
17.750	186.8708	610.81	.	.	.VQ	.	.	.
17.833	190.7004	556.07	.	.	Q	V	.	.
17.917	194.1790	505.09	.	.	Q	V	.	.
18.000	197.2831	450.72	.	.	.Q	.V	.	.
18.083	200.0677	404.33	.	.	Q	.V	.	.
18.167	202.6180	370.31	.	.	Q	.V	.	.
18.250	204.9655	340.85	.	.	Q	.V	.	.
18.333	207.1052	310.68	.	.	Q	.V	.	.
18.417	209.0475	282.02	.	.	Q	.V	.	.
18.500	210.8109	256.04	.	.	Q	.V	.	.
18.583	212.4337	235.63	.	.	.Q	.V	.	.
18.667	213.9215	216.03	.	.	Q	.V	.	.
18.750	215.2541	193.50	.	.	Q	.V	.	.
18.833	216.4644	175.73	.	.	Q	.V	.	.
18.917	217.5936	163.96	.	.	Q	.V	.	.
19.000	218.6625	155.21	.	.	Q	.V	.	.
19.083	219.6812	147.92	.	.	Q	.V	.	.

19.167	220.6552	141.42	.	Q	.	.	.	V	.
19.250	221.5874	135.36	.	Q	.	.	.	V	.
19.333	222.4802	129.64	.	Q	.	.	.	V	.
19.417	223.3363	124.31	.	Q	.	.	.	V	.
19.500	224.1578	119.29	.	Q	.	.	.	V	.
19.583	224.9466	114.53	.	Q	.	.	.	V	.
19.667	225.7031	109.85	.	Q	.	.	.	V	.
19.750	226.4149	103.35	.	Q	.	.	.	V	.
19.833	227.0738	95.68	.	Q	.	.	.	V	.
19.917	227.6991	90.79	.	Q	.	.	.	V	.
20.000	228.3006	87.33	.	Q	.	.	.	V	.
20.083	228.8831	84.58	.	Q	.	.	.	V	.
20.167	229.4489	82.17	.	Q	.	.	.	V	.
20.250	229.9998	79.98	.	Q	.	.	.	V	.
20.333	230.5368	77.98	.	Q	.	.	.	V	.
20.417	231.0613	76.15	.	Q	.	.	.	V	.
20.500	231.5741	74.46	.	Q	.	.	.	V	.
20.583	232.0760	72.87	.	Q	.	.	.	V	.
20.667	232.5677	71.39	.	Q	.	.	.	V	.
20.750	233.0500	70.03	.	Q	.	.	.	V	.
20.833	233.5239	68.81	.	Q	.	.	.	V	.
20.917	233.9900	67.68	.	Q	.	.	.	V	.
21.000	234.4487	66.60	.	Q	.	.	.	V	.
21.083	234.9003	65.57	.	Q	.	.	.	V	.
21.167	235.3451	64.58	.	Q	.	.	.	V	.
21.250	235.7833	63.63	.	Q	.	.	.	V	.
21.333	236.2153	62.72	.	Q	.	.	.	V	.
21.417	236.6411	61.84	.	Q	.	.	.	V	.
21.500	237.0611	60.98	.	Q	.	.	.	V	.
21.583	237.4754	60.16	.	Q	.	.	.	V	.
21.667	237.8843	59.36	.	Q	.	.	.	V	.
21.750	238.2879	58.60	.	Q	.	.	.	V	.
21.833	238.6865	57.88	.	Q	.	.	.	V	.
21.917	239.0804	57.19	.	Q	.	.	.	V	.
22.000	239.4697	56.52	.	Q	.	.	.	V	.
22.083	239.8545	55.88	.	Q	.	.	.	V	.
22.167	240.2351	55.26	.	Q	.	.	.	V	.
22.250	240.6114	54.65	.	Q	.	.	.	V	.
22.333	240.9837	54.06	.	Q	.	.	.	V	.
22.417	241.3521	53.49	.	Q	.	.	.	V	.
22.500	241.7167	52.93	.	Q	.	.	.	V	.
22.583	242.0775	52.39	.	Q	.	.	.	V	.
22.667	242.4347	51.86	.	Q	.	.	.	V	.
22.750	242.7883	51.35	.	Q	.	.	.	V	.
22.833	243.1386	50.85	.	Q	.	.	.	V	.
22.917	243.4854	50.36	.	Q	.	.	.	V	.
23.000	243.8290	49.89	.	Q	.	.	.	V	.
23.083	244.1694	49.43	.	Q	.	.	.	V	.
23.167	244.5067	48.98	.	Q	.	.	.	V	.
23.250	244.8410	48.53	.	Q	.	.	.	V	.
23.333	245.1723	48.10	.	Q	.	.	.	V	.
23.417	245.5007	47.68	.	Q	.	.	.	V	.
23.500	245.8262	47.27	.	Q	.	.	.	V	.
23.583	246.1490	46.87	.	Q	.	.	.	V	.
23.667	246.4691	46.48	.	Q	.	.	.	V	.
23.750	246.7865	46.09	.	Q	.	.	.	V	.
23.833	247.1014	45.72	.	Q	.	.	.	V	.
23.917	247.4137	45.35	.	Q	.	.	.	V	.



24.000	247.7235	44.99	. Q	.	.	.	V.
24.083	248.0306	44.59	. Q	.	.	.	V.
24.167	248.3344	44.12	. Q	.	.	.	V.
24.250	248.6342	43.53	. Q	.	.	.	V.
24.333	248.9285	42.72	. Q	.	.	.	V.
24.417	249.2159	41.73	. Q	.	.	.	V.
24.500	249.4950	40.54	. Q	.	.	.	V.
24.583	249.7644	39.12	.Q	.	.	.	V.
24.667	250.0231	37.55	.Q	.	.	.	V.
24.750	250.2694	35.77	.Q	.	.	.	V.
24.833	250.5024	33.83	.Q	.	.	.	V.
24.917	250.7212	31.77	.Q	.	.	.	V.
25.000	250.9255	29.67	.Q	.	.	.	V.
25.083	251.1146	27.47	.Q	.	.	.	V.
25.167	251.2879	25.16	.Q	.	.	.	V.
25.250	251.4441	22.68	.Q	.	.	.	V.
25.333	251.5821	20.04	.Q	.	.	.	V.
25.417	251.7023	17.46	Q	.	.	.	V.
25.500	251.8052	14.95	Q	.	.	.	V.
25.583	251.8919	12.58	Q	.	.	.	V.
25.667	251.9642	10.50	Q	.	.	.	V.
25.750	252.0244	8.73	Q	.	.	.	V.
25.833	252.0740	7.21	Q	.	.	.	V.
25.917	252.1147	5.91	Q	.	.	.	V.
26.000	252.1481	4.85	Q	.	.	.	V.
26.083	252.1756	4.00	Q	.	.	.	V.
26.167	252.1982	3.28	Q	.	.	.	V.
26.250	252.2166	2.66	Q	.	.	.	V.
26.333	252.2314	2.15	Q	.	.	.	V.
26.417	252.2434	1.74	Q	.	.	.	V.
26.500	252.2531	1.41	Q	.	.	.	V.
26.583	252.2610	1.14	Q	.	.	.	V.
26.667	252.2673	0.92	Q	.	.	.	V.
26.750	252.2726	0.77	Q	.	.	.	V.
26.833	252.2772	0.67	Q	.	.	.	V.
26.917	252.2812	0.59	Q	.	.	.	V.
27.000	252.2849	0.53	Q	.	.	.	V.
27.083	252.2881	0.47	Q	.	.	.	V.
27.167	252.2910	0.41	Q	.	.	.	V.
27.250	252.2934	0.35	Q	.	.	.	V.
27.333	252.2954	0.30	Q	.	.	.	V.
27.417	252.2971	0.24	Q	.	.	.	V.
27.500	252.2983	0.18	Q	.	.	.	V.
27.583	252.2992	0.13	Q	.	.	.	V.
27.667	252.2997	0.07	Q	.	.	.	V.
27.750	252.2999	0.03	Q	.	.	.	V.
27.833	252.3000	0.01	Q	.	.	.	V.
27.917	252.3000	0.01	Q	.	.	.	V.

-----  
TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1675.0
10%	490.0

20%	260.0
30%	175.0
40%	125.0
50%	110.0
60%	95.0
70%	75.0
80%	65.0
90%	35.0

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END OF FLOODSCx ROUTING ANALYSIS

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FLOOD ROUTING ANALYSIS  
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)  
(c) Copyright 1989-2013 Advanced Engineering Software (aes)  
Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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Santa Ana, CA  
92707

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* RANCHO MISSION VIEJO \*  
\* EXISTING CONDITION - UH FREE DRAINING MODEL (LOCAL NODE 13305) \*  
\* 10-YR EV JUNE 2018 ROKAMOTO \*  
\*\*\*\*\*

FILE NAME: EV10305F.DAT  
TIME/DATE OF STUDY: 12:30 06/19/2018

\*\*\*\*\*

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES  
BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.938 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244  
LOW LOSS FRACTION = 0.727  
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.26  
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.59  
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.78  
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.31  
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.81  
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.03

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE FACTOR = 0.752  
30-MINUTE FACTOR = 0.752  
1-HOUR FACTOR = 0.752  
3-HOUR FACTOR = 0.960  
6-HOUR FACTOR = 0.979  
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 8.884

RUNOFF HYDROGRAPH LISTING LIMITS:  
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00  
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.508	302.338
2	1.523	604.819
3	2.819	771.800
4	4.716	1129.648
5	8.114	2023.451
6	12.597	2670.161
7	17.853	3130.103
8	23.366	3283.224
9	29.066	3394.346
10	35.795	4007.575
11	43.214	4418.483
12	51.431	4893.746
13	58.237	4053.149
14	65.724	4458.599
15	71.827	3634.834
16	76.932	3039.875
17	80.977	2408.986
18	84.732	2236.623
19	87.674	1751.966
20	89.859	1301.150
21	91.751	1126.819
22	93.468	1022.475
23	94.780	781.630
24	95.870	649.332
25	96.640	458.377
26	97.337	415.035
27	97.954	367.513
28	98.175	131.320
29	98.341	99.306
30	98.508	99.115
31	98.674	99.242
32	98.841	99.111
33	99.008	99.374
34	99.174	99.111
35	99.341	99.111
36	99.507	99.111
37	99.673	99.111
38	99.840	99.111
39	100.000	95.385

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 801.7547  
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 425.4370

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2 4 - H O U R   S T O R M  
R U N O F F   H Y D R O G R A P H

=====

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	450.0	900.0	1350.0	1800.0
10.000	59.8765	106.27	. Q	V	.	.	.
10.083	60.6138	107.06	. Q	V	.	.	.
10.167	61.3568	107.88	. Q	V	.	.	.
10.250	62.1054	108.70	. Q	V	.	.	.
10.333	62.8598	109.55	. Q	V	.	.	.
10.417	63.6202	110.40	. Q	V	.	.	.
10.500	64.3866	111.28	. Q	V	.	.	.
10.583	65.1591	112.17	. Q	V	.	.	.
10.667	65.9380	113.10	. Q	V	.	.	.
10.750	66.7233	114.03	. Q	V	.	.	.
10.833	67.5153	114.99	. Q	V	.	.	.
10.917	68.3139	115.96	. Q	V	.	.	.
11.000	69.1194	116.96	. Q	V	.	.	.
11.083	69.9319	117.98	. Q	V	.	.	.
11.167	70.7517	119.03	. Q	V	.	.	.
11.250	71.5788	120.10	. Q	V	.	.	.
11.333	72.4135	121.20	. Q	V	.	.	.
11.417	73.2559	122.32	. Q	V	.	.	.
11.500	74.1063	123.47	. Q	V	.	.	.
11.583	74.9647	124.65	. Q	V	.	.	.
11.667	75.8316	125.86	. Q	V	.	.	.
11.750	76.7069	127.10	. Q	V	.	.	.
11.833	77.5910	128.38	. Q	V	.	.	.
11.917	78.4841	129.68	. Q	V	.	.	.
12.000	79.3865	131.03	. Q	V	.	.	.
12.083	80.3000	132.64	. Q	V	.	.	.
12.167	81.2266	134.54	. Q	V	.	.	.
12.250	82.1674	136.60	. Q	V	.	.	.
12.333	83.1248	139.01	. Q	V	.	.	.
12.417	84.1037	142.14	. Q	V	.	.	.
12.500	85.1082	145.86	. Q	V	.	.	.
12.583	86.1411	149.97	. Q	V	.	.	.
12.667	87.2036	154.28	. Q	V	.	.	.
12.750	88.2967	158.72	. Q	V	.	.	.
12.833	89.4243	163.72	. Q	V	.	.	.
12.917	90.5889	169.10	. Q	V	.	.	.
13.000	91.7937	174.95	. Q	V	.	.	.
13.083	93.0347	180.18	. Q	V	.	.	.
13.167	94.3146	185.84	. Q	V	.	.	.
13.250	95.6294	190.91	. Q	V	.	.	.
13.333	96.9767	195.63	. Q	V	.	.	.
13.417	98.3535	199.91	. Q	V	.	.	.
13.500	99.7597	204.18	. Q	V	.	.	.
13.583	101.1931	208.13	. Q	V	.	.	.
13.667	102.6523	211.87	. Q	V	.	.	.
13.750	104.1368	215.55	. Q	V	.	.	.
13.833	105.6471	219.29	. Q	V	.	.	.

13.917	107.1825	222.94	.	Q	V	.	.	.
14.000	108.7435	226.65	.	Q	V	.	.	.
14.083	110.3337	230.90	.	Q	V	.	.	.
14.167	111.9582	235.87	.	Q	V	.	.	.
14.250	113.6196	241.25	.	Q	V	.	.	.
14.333	115.3230	247.32	.	Q	V	.	.	.
14.417	117.0806	255.21	.	Q	.V	.	.	.
14.500	118.9026	264.55	.	Q	.V	.	.	.
14.583	120.7959	274.90	.	Q	.V	.	.	.
14.667	122.7641	285.78	.	Q	.V	.	.	.
14.750	124.8097	297.02	.	Q	.V	.	.	.
14.833	126.9428	309.72	.	Q	.V	.	.	.
14.917	129.1712	323.57	.	Q	.V	.	.	.
15.000	131.5054	338.91	.	Q	.V	.	.	.
15.083	133.9385	353.29	.	Q	.V	.	.	.
15.167	136.4830	369.47	.	Q	.V	.	.	.
15.250	139.1382	385.54	.	Q	.V	.	.	.
15.333	141.9090	402.31	.	Q	.V	.	.	.
15.417	144.7854	417.65	.	Q	.V	.	.	.
15.500	147.7645	432.57	.	Q	.V	.	.	.
15.583	150.8482	447.74	.	Q	.V	.	.	.
15.667	154.0311	462.16	.	Q	.V	.	.	.
15.750	157.2968	474.19	.	Q	.V	.	.	.
15.833	160.6517	487.14	.	Q	.V	.	.	.
15.917	164.1277	504.71	.	.Q	.V	.	.	.
16.000	167.8240	536.70	.	.Q	.V	.	.	.
16.083	172.1041	621.46	.	.	Q V	.	.	.
16.167	177.0001	710.91	.	.	QV	.	.	.
16.250	182.4527	791.71	.	.	Q	.	.	.
16.333	188.7192	909.90	.	.	V Q	.	.	.
16.417	196.3435	1107.05	.	.	V	Q	.	.
16.500	204.9898	1255.44	.	.	V.	Q	.	.
16.583	214.3614	1360.76	.	.	V	Q	.	.
16.667	224.1633	1423.24	.	.	.V	.Q	.	.
16.750	234.4035	1486.87	.	.	.V	.Q	.	.
16.833	245.5618	1620.19	.	.	.V	.Q	.	.
16.917	257.2823	1701.83	.	.	.V	.Q	.	.
17.000	269.3428	1751.18	.	.	.V	.Q	.	.
17.083	280.3825	1602.96	.	.	.V	.Q	.	.
17.167	291.3658	1594.77	.	.	.V	.Q	.	.
17.250	301.1039	1413.98	.	.	.V	.Q	.	.
17.333	309.7731	1258.76	.	.	.Q	V.	.	.
17.417	317.3836	1105.05	.	.	.Q	V.	.	.
17.500	324.4090	1020.08	.	.	.Q	V	.	.
17.583	330.5547	892.36	.	.	.Q	.V	.	.
17.667	335.9099	777.58	.	.	.Q	.V	.	.
17.750	340.7811	707.30	.	.	.Q	.V	.	.
17.833	345.2679	651.49	.	.	.Q	.V	.	.
17.917	349.2458	577.58	.	.	.Q	.V	.	.
18.000	352.8103	517.57	.	.	.Q	.V	.	.
18.083	355.9641	457.94	.	.	.Q	.V	.	.
18.167	358.8557	419.85	.	.	.Q	.V	.	.
18.250	361.4886	382.30	.	.	.Q	.V	.	.
18.333	363.7245	324.66	.	.	.Q	.V	.	.
18.417	365.7887	299.72	.	.	.Q	.V	.	.
18.500	367.7470	284.35	.	.	.Q	.V	.	.
18.583	369.6149	271.21	.	.	.Q	.V	.	.
18.667	371.3963	258.67	.	.	.Q	.V	.	.

18.750	373.0990	247.23	.	Q	.	.	.	V	.
18.833	374.7260	236.23	.	Q	.	.	.	V	.
18.917	376.2827	226.03	.	Q	.	.	.	V	.
19.000	377.7662	215.41	.	Q	.	.	.	V	.
19.083	379.1830	205.71	.	Q	.	.	.	V	.
19.167	380.5229	194.56	.	Q	.	.	.	V	.
19.250	381.7778	182.21	.	Q	.	.	.	V	.
19.333	382.8790	159.89	.	Q	.	.	.	V	.
19.417	383.9308	152.72	.	Q	.	.	.	V	.
19.500	384.9467	147.51	.	Q	.	.	.	V	.
19.583	385.9316	143.01	.	Q	.	.	.	V	.
19.667	386.8844	138.35	.	Q	.	.	.	V	.
19.750	387.8085	134.18	.	Q	.	.	.	V	.
19.833	388.7065	130.39	.	Q	.	.	.	V	.
19.917	389.5813	127.03	.	Q	.	.	.	V	.
20.000	390.4349	123.94	.	Q	.	.	.	V	.

-----  
 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
 (Note: 100% of Peak Flow Rate estimate assumed to have  
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	375.0
20%	195.0
30%	120.0
40%	100.0
50%	80.0
60%	65.0
70%	55.0
80%	40.0
90%	25.0

\*\*\*\*\*

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

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 >>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<  
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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER  
 TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE  
 INTERVALS(Reference: the National Engineering Handbook,  
 Hydrology, Chapter 17, page 17-52, August,1972,  
 U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:  
 BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00  
 UPSTREAM ELEVATION(FT) = 427.51  
 DOWNSTREAM ELEVATION(FT) = 315.00  
 CHANNEL LENGTH(FT) = 9760.00 MANNING'S FACTOR = 0.040  
 CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 1751.18  
 AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1344.03  
 CHANNEL NORMAL VELOCITY FOR Q = 1344.03 CFS = 7.51 FPS  
 ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.815

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE  
 UNIT INTERVALS IS CSTAR = 0.586

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	106.27	103.08	103.08
10.083	107.06	103.81	103.81
10.167	107.88	104.56	104.56
10.250	108.70	105.32	105.32
10.333	109.55	106.09	106.09
10.417	110.40	106.88	106.88
10.500	111.28	107.69	107.69
10.583	112.17	108.51	108.51
10.667	113.10	109.35	109.35
10.750	114.03	110.21	110.21
10.833	114.99	111.08	111.08
10.917	115.96	111.98	111.98
11.000	116.96	112.89	112.89
11.083	117.98	113.82	113.82
11.167	119.03	114.77	114.77
11.250	120.10	115.74	115.74
11.333	121.20	116.74	116.74
11.417	122.32	117.75	117.75
11.500	123.47	118.79	118.79
11.583	124.65	119.86	119.86
11.667	125.86	120.95	120.95
11.750	127.10	122.07	122.07
11.833	128.38	123.21	123.21
11.917	129.68	124.39	124.39
12.000	131.03	125.59	125.59
12.083	132.64	126.82	126.82
12.167	134.54	128.09	128.09
12.250	136.60	129.39	129.39
12.333	139.01	130.79	130.79
12.417	142.14	132.40	132.40
12.500	145.86	134.22	134.22
12.583	149.97	136.27	136.27
12.667	154.28	138.74	138.74
12.750	158.72	141.75	141.75
12.833	163.72	145.28	145.28
12.917	169.10	149.21	149.21
13.000	174.95	153.40	153.40
13.083	180.18	157.89	157.89
13.167	185.84	162.78	162.78
13.250	190.91	168.09	168.09
13.333	195.63	173.54	173.54
13.417	199.91	178.99	178.99
13.500	204.18	184.39	184.39
13.583	208.13	189.51	189.51

13.667	211.87	194.27	194.27
13.750	215.55	198.74	198.74
13.833	219.29	203.01	203.01
13.917	222.94	207.04	207.04
14.000	226.65	210.88	210.88
14.083	230.90	214.64	214.64
14.167	235.87	218.37	218.37
14.250	241.25	222.07	222.07
14.333	247.32	225.92	225.92
14.417	255.21	230.20	230.20
14.500	264.55	235.00	235.00
14.583	274.90	240.33	240.33
14.667	285.78	246.59	246.59
14.750	297.02	254.20	254.20
14.833	309.72	263.11	263.11
14.917	323.57	273.00	273.00
15.000	338.91	283.57	283.57
15.083	353.29	294.94	294.94
15.167	369.47	307.40	307.40
15.250	385.54	321.08	321.08
15.333	402.31	335.47	335.47
15.417	417.65	350.35	350.35
15.500	432.57	365.96	365.96
15.583	447.74	382.03	382.03
15.667	462.16	398.12	398.12
15.750	474.19	413.66	413.66
15.833	487.14	428.90	428.90
15.917	504.71	443.89	443.89
16.000	536.70	457.90	457.90
16.083	621.46	470.99	470.99
16.167	710.91	485.27	485.27
16.250	791.71	505.43	505.43
16.333	909.90	546.99	546.99
16.417	1107.05	615.15	615.15
16.500	1255.44	693.42	693.42
16.583	1360.76	783.42	783.42
16.667	1423.24	911.58	911.58
16.750	1486.87	1066.81	1066.81
16.833	1620.19	1206.22	1206.22
16.917	1701.83	1313.92	1313.92
17.000	1751.18	1395.43	1395.43
17.083	1602.96	1485.56	1485.56
17.167	1594.77	1586.84	1586.84
17.250	1413.98	1667.76	1667.76
17.333	1258.76	1676.03	1676.03
17.417	1105.05	1630.96	1630.96
17.500	1020.08	1560.20	1560.20
17.583	892.36	1431.97	1431.97
17.667	777.58	1288.33	1288.33
17.750	707.30	1157.62	1157.62
17.833	651.49	1042.01	1042.01
17.917	577.58	922.85	922.85
18.000	517.57	818.45	818.45
18.083	457.94	738.01	738.01
18.167	419.85	667.04	667.04
18.250	382.30	598.17	598.17
18.333	324.66	534.59	534.59
18.417	299.72	479.23	479.23

18.500	284.35	434.14	434.14
18.583	271.21	387.96	387.96
18.667	258.67	344.02	344.02
18.750	247.23	313.84	313.84
18.833	236.23	292.96	292.96
18.917	226.03	276.77	276.77
19.000	215.41	263.03	263.03
19.083	205.71	250.75	250.75
19.167	194.56	239.45	239.45
19.250	182.21	228.67	228.67
19.333	159.89	218.24	218.24
19.417	152.72	207.84	207.84
19.500	147.51	196.67	196.67
19.583	143.01	182.08	182.08
19.667	138.35	167.11	167.11
19.750	134.18	157.25	157.25
19.833	130.39	150.31	150.31
19.917	127.03	144.75	144.75
20.000	123.94	139.86	139.86

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 425.437 AF  
 OUTFLOW VOLUME = 425.437 AF  
 LOSS VOLUME = 0.000 AF

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FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 1411.700 ACRES  
 BASEFLOW = 0.000 CFS/SQUARE-MILE  
 \*USER ENTERED "LAG" TIME = 0.486 HOURS  
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.  
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)  
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.  
 VALLEY (DEVELOPED) S-GRAPH SELECTED  
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.300  
 LOW LOSS FRACTION = 0.798  
 \*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.26  
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.59  
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.78  
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.31  
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.81  
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.03

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.752  
 30-MINUTE FACTOR = 0.752  
 1-HOUR FACTOR = 0.752  
 3-HOUR FACTOR = 0.960  
 6-HOUR FACTOR = 0.979

24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 17.147

RUNOFF HYDROGRAPH LISTING LIMITS:

MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00  
 MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.980	167.281
2	3.549	438.661
3	9.581	1029.774
4	19.241	1649.167
5	30.467	1916.617
6	44.248	2352.875
7	58.774	2479.984
8	71.576	2185.707
9	80.582	1537.559
10	87.152	1121.557
11	91.304	708.884
12	94.388	526.512
13	96.359	336.616
14	97.680	225.390
15	98.256	98.333
16	98.577	54.898
17	98.899	54.898
18	99.220	54.880
19	99.542	54.880
20	99.863	54.880
21	100.000	23.391

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 256.3867  
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 95.4318

2 4 - H O U R   S T O R M  
R U N O F F   H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS(CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0.	175.0	350.0	525.0	700.0
10.000	13.6027	23.51	.Q	V	.	.	.
10.083	13.7659	23.70	.Q	V	.	.	.
10.167	13.9304	23.89	.Q	V	.	.	.
10.250	14.0963	24.09	.Q	V	.	.	.
10.333	14.2636	24.29	.Q	V	.	.	.
10.417	14.4323	24.49	.Q	V	.	.	.
10.500	14.6024	24.70	.Q	V	.	.	.
10.583	14.7740	24.91	.Q	V	.	.	.
10.667	14.9471	25.13	.Q	V	.	.	.
10.750	15.1217	25.36	.Q	V	.	.	.
10.833	15.2979	25.59	.Q	V	.	.	.
10.917	15.4757	25.82	.Q	V	.	.	.
11.000	15.6552	26.06	.Q	V	.	.	.
11.083	15.8363	26.30	.Q	V	.	.	.
11.167	16.0192	26.56	.Q	V	.	.	.
11.250	16.2039	26.81	.Q	V	.	.	.
11.333	16.3904	27.08	.Q	V	.	.	.
11.417	16.5788	27.35	.Q	V	.	.	.
11.500	16.7691	27.63	.Q	V	.	.	.
11.583	16.9614	27.92	.Q	V	.	.	.
11.667	17.1557	28.21	.Q	V	.	.	.
11.750	17.3521	28.52	.Q	V	.	.	.
11.833	17.5506	28.83	.Q	V	.	.	.
11.917	17.7513	29.15	.Q	V	.	.	.
12.000	17.9544	29.48	.Q	V	.	.	.
12.083	18.1604	29.92	.Q	V	.	.	.
12.167	18.3706	30.52	.Q	V	.	.	.
12.250	18.5874	31.48	.Q	V	.	.	.
12.333	18.8135	32.82	.Q	V	.	.	.
12.417	19.0499	34.33	.Q	V	.	.	.
12.500	19.2985	36.10	.Q	V	.	.	.
12.583	19.5600	37.97	.Q	V	.	.	.
12.667	19.8333	39.68	.Q	V	.	.	.
12.750	20.1159	41.04	.Q	V	.	.	.
12.833	20.4064	42.17	.Q	V	.	.	.
12.917	20.7030	43.07	.Q	V	.	.	.
13.000	21.0053	43.90	.Q	V	.	.	.
13.083	21.3127	44.63	.Q	V	.	.	.
13.167	21.6248	45.31	.Q	V	.	.	.
13.250	21.9412	45.94	.Q	V	.	.	.
13.333	22.2620	46.58	.Q	V	.	.	.
13.417	22.5872	47.23	.Q	V	.	.	.
13.500	22.9172	47.91	.Q	V	.	.	.
13.583	23.2521	48.62	.Q	V	.	.	.
13.667	23.5920	49.36	.Q	V	.	.	.
13.750	23.9370	50.10	.Q	V	.	.	.
13.833	24.2874	50.88	.Q	V	.	.	.

13.917	24.6434	51.68	.Q	V	.	.	.
14.000	25.0052	52.53	.Q	V	.	.	.
14.083	25.3747	53.66	.Q	V	.	.	.
14.167	25.7550	55.21	.Q	V	.	.	.
14.250	26.1520	57.65	.Q	V	.	.	.
14.333	26.5721	61.00	.Q	.V	.	.	.
14.417	27.0182	64.77	.Q	.V	.	.	.
14.500	27.4948	69.20	.Q	.V	.	.	.
14.583	28.0034	73.85	.Q	.V	.	.	.
14.667	28.5415	78.12	.Q	.V	.	.	.
14.750	29.1029	81.52	.Q	.V	.	.	.
14.833	29.6842	84.41	.Q	.V	.	.	.
14.917	30.2818	86.77	.Q	.V	.	.	.
15.000	30.8946	88.98	.Q	.V	.	.	.
15.083	31.5215	91.01	.Q	.V	.	.	.
15.167	32.1621	93.02	.Q	.V	.	.	.
15.250	32.8169	95.08	.Q	.V	.	.	.
15.333	33.4885	97.50	.Q	.V	.	.	.
15.417	34.1767	99.94	.Q	.V	.	.	.
15.500	34.8808	102.24	.Q	.V	.	.	.
15.583	35.5900	102.97	.Q	.V	.	.	.
15.667	36.2929	102.06	.Q	.V	.	.	.
15.750	36.9931	101.67	.Q	.V	.	.	.
15.833	37.6953	101.96	.Q	.V	.	.	.
15.917	38.4393	108.03	.Q	.V	.	.	.
16.000	39.3170	127.44	.Q	.V	.	.	.
16.083	40.6047	186.97	.Q	.V	.	.	.
16.167	42.5255	278.91	.Q	.V	.	.	.
16.250	45.4078	418.51	.Q	.V	.Q	.	.
16.333	49.2053	551.40	.Q	.V	.Q	.	.
16.417	53.4834	621.17	.Q	.V	.Q	.Q	.
16.500	58.2233	688.24	.Q	.V	.Q	.Q	.Q
16.583	62.9321	683.71	.Q	.V	.Q	.Q	.Q
16.667	67.0478	597.60	.Q	.V	.Q	.Q	.Q
16.750	70.1992	457.59	.Q	.V	.Q	.Q	.Q
16.833	72.6576	356.95	.Q	.V	.Q	.Q	.Q
16.917	74.5155	269.76	.Q	.V	.Q	.Q	.Q
17.000	76.0379	221.06	.Q	.V	.Q	.Q	.Q
17.083	77.2520	176.28	.Q	.V	.Q	.Q	.Q
17.167	78.2551	145.65	.Q	.V	.Q	.Q	.Q
17.250	79.0588	116.70	.Q	.V	.Q	.Q	.Q
17.333	79.7658	102.65	.Q	.V	.Q	.Q	.Q
17.417	80.4293	96.34	.Q	.V	.Q	.Q	.Q
17.500	81.0497	90.07	.Q	.V	.Q	.Q	.Q
17.583	81.6214	83.01	.Q	.V	.Q	.Q	.Q
17.667	82.1428	75.71	.Q	.V	.Q	.Q	.Q
17.750	82.5926	65.32	.Q	.V	.Q	.Q	.Q
17.833	82.9890	57.55	.Q	.V	.Q	.Q	.Q
17.917	83.3642	54.49	.Q	.V	.Q	.Q	.Q
18.000	83.7237	52.20	.Q	.V	.Q	.Q	.Q
18.083	84.0687	50.10	.Q	.V	.Q	.Q	.Q
18.167	84.3999	48.08	.Q	.V	.Q	.Q	.Q
18.250	84.7171	46.06	.Q	.V	.Q	.Q	.Q
18.333	85.0191	43.84	.Q	.V	.Q	.Q	.Q
18.417	85.3054	41.57	.Q	.V	.Q	.Q	.Q
18.500	85.5748	39.12	.Q	.V	.Q	.Q	.Q
18.583	85.8273	36.67	.Q	.V	.Q	.Q	.Q
18.667	86.0646	34.46	.Q	.V	.Q	.Q	.Q

18.750	86.2900	32.73	.Q	.	.	.	V	.
18.833	86.5058	31.33	.Q	.	.	.	V	.
18.917	86.7140	30.22	.Q	.	.	.	V	.
19.000	86.9155	29.26	.Q	.	.	.	V	.
19.083	87.1115	28.45	.Q	.	.	.	V	.
19.167	87.3025	27.74	.Q	.	.	.	V	.
19.250	87.4894	27.13	.Q	.	.	.	V	.
19.333	87.6724	26.58	.Q	.	.	.	V	.
19.417	87.8518	26.05	.Q	.	.	.	V	.
19.500	88.0277	25.54	.Q	.	.	.	V	.
19.583	88.2003	25.06	.Q	.	.	.	V	.
19.667	88.3698	24.60	.Q	.	.	.	V	.
19.750	88.5363	24.18	.Q	.	.	.	V	.
19.833	88.7001	23.78	.Q	.	.	.	V	.
19.917	88.8613	23.41	.Q	.	.	.	V	.
20.000	89.0200	23.05	.Q	.	.	.	V	.

-----  
TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	195.0
20%	70.0
30%	55.0
40%	45.0
50%	40.0
60%	35.0
70%	25.0
80%	25.0
90%	15.0

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

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>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

-----  
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<  
=====

\*\*\*\*\*  
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11

-----  
>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<  
=====

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	450.0	900.0	1350.0	1800.0
0.083	0.0009	0.13	Q	.	.	.	.
0.167	0.0042	0.48	Q	.	.	.	.
0.250	0.0132	1.30	Q	.	.	.	.
0.333	0.0317	2.70	Q	.	.	.	.
0.417	0.0630	4.54	Q	.	.	.	.
0.500	0.1111	6.98	Q	.	.	.	.
0.583	0.1785	9.79	Q	.	.	.	.
0.667	0.2671	12.86	Q	.	.	.	.
0.750	0.3781	16.13	Q	.	.	.	.
0.833	0.5139	19.71	Q	.	.	.	.
0.917	0.6753	23.44	Q	.	.	.	.
1.000	0.8634	27.31	Q	.	.	.	.
1.083	1.0794	31.37	Q	.	.	.	.
1.167	1.3262	35.83	Q	.	.	.	.
1.250	1.6062	40.66	Q	.	.	.	.
1.333	1.9202	45.59	VQ	.	.	.	.
1.417	2.2674	50.41	VQ	.	.	.	.
1.500	2.6468	55.10	VQ	.	.	.	.
1.583	3.0551	59.28	VQ	.	.	.	.
1.667	3.4882	62.89	VQ	.	.	.	.
1.750	3.9425	65.97	VQ	.	.	.	.
1.833	4.4152	68.64	VQ	.	.	.	.
1.917	4.9032	70.85	VQ	.	.	.	.
2.000	5.4037	72.68	VQ	.	.	.	.
2.083	5.9151	74.26	VQ	.	.	.	.
2.167	6.4360	75.64	VQ	.	.	.	.
2.250	6.9651	76.82	VQ	.	.	.	.
2.333	7.5010	77.82	VQ	.	.	.	.
2.417	8.0428	78.67	VQ	.	.	.	.
2.500	8.5898	79.43	VQ	.	.	.	.
2.583	9.1413	80.07	VQ	.	.	.	.
2.667	9.6962	80.58	VQ	.	.	.	.
2.750	10.2542	81.02	VQ	.	.	.	.
2.833	10.8151	81.44	VQ	.	.	.	.
2.917	11.3789	81.85	VQ	.	.	.	.
3.000	11.9454	82.26	VQ	.	.	.	.
3.083	12.5147	82.67	VQ	.	.	.	.
3.167	13.0869	83.08	.Q	.	.	.	.
3.250	13.6620	83.50	.Q	.	.	.	.
3.333	14.2399	83.91	.Q	.	.	.	.
3.417	14.8207	84.33	.Q	.	.	.	.
3.500	15.4044	84.76	.Q	.	.	.	.
3.583	15.9909	85.15	.Q	.	.	.	.
3.667	16.5798	85.51	.Q	.	.	.	.
3.750	17.1711	85.85	.Q	.	.	.	.
3.833	17.7646	86.19	.Q	.	.	.	.
3.917	18.3606	86.53	.Q	.	.	.	.
4.000	18.9588	86.87	.Q	.	.	.	.
4.083	19.5594	87.21	.Q	.	.	.	.
4.167	20.1624	87.56	.Q	.	.	.	.
4.250	20.7678	87.90	.Q	.	.	.	.
4.333	21.3757	88.26	.Q	.	.	.	.
4.417	21.9860	88.61	.Q	.	.	.	.
4.500	22.5988	88.98	.Q	.	.	.	.
4.583	23.2140	89.34	.Q	.	.	.	.



4.667	23.8319	89.71	.Q	.	.	.	.
4.750	24.4523	90.08	.VQ	.	.	.	.
4.833	25.0752	90.46	.VQ	.	.	.	.
4.917	25.7008	90.84	.VQ	.	.	.	.
5.000	26.3291	91.22	.Q	.	.	.	.
5.083	26.9600	91.61	.Q	.	.	.	.
5.167	27.5937	92.00	.Q	.	.	.	.
5.250	28.2300	92.40	.Q	.	.	.	.
5.333	28.8692	92.81	.Q	.	.	.	.
5.417	29.5112	93.21	.Q	.	.	.	.
5.500	30.1560	93.62	.Q	.	.	.	.
5.583	30.8036	94.04	.Q	.	.	.	.
5.667	31.4542	94.46	.Q	.	.	.	.
5.750	32.1077	94.89	.Q	.	.	.	.
5.833	32.7641	95.32	.Q	.	.	.	.
5.917	33.4236	95.76	.Q	.	.	.	.
6.000	34.0861	96.20	.Q	.	.	.	.
6.083	34.7517	96.64	.Q	.	.	.	.
6.167	35.4204	97.10	.Q	.	.	.	.
6.250	36.0923	97.55	.Q	.	.	.	.
6.333	36.7673	98.02	.Q	.	.	.	.
6.417	37.4456	98.49	.Q	.	.	.	.
6.500	38.1272	98.96	.Q	.	.	.	.
6.583	38.8121	99.45	.Q	.	.	.	.
6.667	39.5004	99.93	.QV	.	.	.	.
6.750	40.1920	100.43	.QV	.	.	.	.
6.833	40.8871	100.93	.QV	.	.	.	.
6.917	41.5857	101.44	.QV	.	.	.	.
7.000	42.2879	101.95	.QV	.	.	.	.
7.083	42.9936	102.47	.QV	.	.	.	.
7.167	43.7029	103.00	.QV	.	.	.	.
7.250	44.4160	103.53	.QV	.	.	.	.
7.333	45.1328	104.08	.QV	.	.	.	.
7.417	45.8533	104.63	.QV	.	.	.	.
7.500	46.5777	105.18	.QV	.	.	.	.
7.583	47.3060	105.75	.QV	.	.	.	.
7.667	48.0383	106.32	.QV	.	.	.	.
7.750	48.7745	106.90	.QV	.	.	.	.
7.833	49.5148	107.49	.QV	.	.	.	.
7.917	50.2592	108.09	.QV	.	.	.	.
8.000	51.0079	108.70	.QV	.	.	.	.
8.083	51.7607	109.31	.QV	.	.	.	.
8.167	52.5179	109.94	.Q V	.	.	.	.
8.250	53.2794	110.57	.Q V	.	.	.	.
8.333	54.0454	111.22	.Q V	.	.	.	.
8.417	54.8159	111.87	.Q V	.	.	.	.
8.500	55.5909	112.54	.Q V	.	.	.	.
8.583	56.3706	113.21	.Q V	.	.	.	.
8.667	57.1551	113.90	.Q V	.	.	.	.
8.750	57.9443	114.60	.Q V	.	.	.	.
8.833	58.7384	115.30	.Q V	.	.	.	.
8.917	59.5374	116.02	.Q V	.	.	.	.
9.000	60.3415	116.76	.Q V	.	.	.	.
9.083	61.1508	117.50	.Q V	.	.	.	.
9.167	61.9652	118.26	.Q V	.	.	.	.
9.250	62.7849	119.02	.Q V	.	.	.	.
9.333	63.6100	119.81	.Q V	.	.	.	.
9.417	64.4406	120.60	.Q V	.	.	.	.

9.500	65.2768	121.41	.Q V	.	.	.	.
9.583	66.1187	122.24	.Q V	.	.	.	.
9.667	66.9663	123.08	.Q V	.	.	.	.
9.750	67.8198	123.93	.Q V	.	.	.	.
9.833	68.6794	124.80	.Q V	.	.	.	.
9.917	69.5450	125.69	.Q V	.	.	.	.
10.000	70.4168	126.59	.Q V	.	.	.	.
10.083	71.2950	127.51	.Q V	.	.	.	.
10.167	72.1796	128.45	.Q V	.	.	.	.
10.250	73.0709	129.41	.Q V	.	.	.	.
10.333	73.9688	130.38	.Q V	.	.	.	.
10.417	74.8736	131.38	.Q V	.	.	.	.
10.500	75.7854	132.39	.Q V	.	.	.	.
10.583	76.7043	133.43	.Q V	.	.	.	.
10.667	77.6305	134.49	.Q V	.	.	.	.
10.750	78.5642	135.56	.Q V	.	.	.	.
10.833	79.5054	136.67	.Q V	.	.	.	.
10.917	80.4544	137.79	.Q V	.	.	.	.
11.000	81.4113	138.95	.Q V	.	.	.	.
11.083	82.3764	140.12	.Q V	.	.	.	.
11.167	83.3497	141.33	.Q V	.	.	.	.
11.250	84.3315	142.56	.Q V	.	.	.	.
11.333	85.3220	143.82	.Q V	.	.	.	.
11.417	86.3213	145.11	.Q V	.	.	.	.
11.500	87.3298	146.43	.Q V	.	.	.	.
11.583	88.3475	147.78	.Q V	.	.	.	.
11.667	89.3748	149.16	.Q V	.	.	.	.
11.750	90.4119	150.58	.Q V	.	.	.	.
11.833	91.4590	152.04	.Q V	.	.	.	.
11.917	92.5164	153.53	.Q V	.	.	.	.
12.000	93.5844	155.07	.Q V	.	.	.	.
12.083	94.6638	156.74	.Q V	.	.	.	.
12.167	95.7562	158.61	.Q V	.	.	.	.
12.250	96.8642	160.87	.Q V	.	.	.	.
12.333	97.9910	163.61	.Q V	.	.	.	.
12.417	99.1392	166.72	.Q V	.	.	.	.
12.500	100.3122	170.32	.Q V	.	.	.	.
12.583	101.5122	174.24	.Q V	.	.	.	.
12.667	102.7410	178.42	.Q V	.	.	.	.
12.750	103.9999	182.79	.Q V	.	.	.	.
12.833	105.2909	187.45	.Q V	.	.	.	.
12.917	106.6152	192.29	.Q V	.	.	.	.
13.000	107.9740	197.30	.Q V	.	.	.	.
13.083	109.3687	202.51	.Q V	.	.	.	.
13.167	110.8018	208.10	.Q V	.	.	.	.
13.250	112.2759	214.03	.Q V	.	.	.	.
13.333	113.7919	220.12	.Q V	.	.	.	.
13.417	115.3498	226.21	.Q V	.	.	.	.
13.500	116.9497	232.31	.Q V	.	.	.	.
13.583	118.5897	238.12	.Q V	.	.	.	.
13.667	120.2676	243.62	.Q V	.	.	.	.
13.750	121.9814	248.85	.Q V	.	.	.	.
13.833	123.7299	253.89	.Q V	.	.	.	.
13.917	125.5118	258.72	.Q V	.	.	.	.
14.000	127.3259	263.41	.Q V	.	.	.	.
14.083	129.1737	268.30	.Q V	.	.	.	.
14.167	131.0579	273.58	.Q V	.	.	.	.
14.250	132.9843	279.71	.Q V	.	.	.	.

14.333	134.9603	286.92	.	Q	V	.	.	.
14.417	136.9918	294.97	.	Q	V	.	.	.
14.500	139.0869	304.20	.	Q	V	.	.	.
14.583	141.2506	314.17	.	Q	V	.	.	.
14.667	143.4869	324.71	.	Q	.V	.	.	.
14.750	145.7991	335.73	.	Q	.V	.	.	.
14.833	148.1924	347.51	.	Q	.V	.	.	.
14.917	150.6702	359.78	.	Q	.V	.	.	.
15.000	153.2361	372.56	.	Q	.V	.	.	.
15.083	155.8941	385.95	.	Q	.V	.	.	.
15.167	158.6518	400.42	.	Q	.V	.	.	.
15.250	161.5179	416.16	.	Q	.V	.	.	.
15.333	164.4999	432.98	.	Q	.V	.	.	.
15.417	167.6010	450.29	.	Q	V	.	.	.
15.500	170.8255	468.19	.	Q	V	.	.	.
15.583	174.1657	485.00	.	Q	V	.	.	.
15.667	177.6105	500.18	.	.Q	V	.	.	.
15.750	181.1596	515.33	.	.Q	V	.	.	.
15.833	184.8156	530.86	.	.Q	V	.	.	.
15.917	188.6168	551.93	.	.Q	V	.	.	.
16.000	192.6480	585.33	.	.	QV	.	.	.
16.083	197.1795	657.96	.	.	QV	.	.	.
16.167	202.4424	764.18	.	.	VQ	.	.	.
16.250	208.8056	923.94	.	.	V	Q	.	.
16.333	216.3702	1098.38	.	.	V	Q	.	.
16.417	224.8849	1236.32	.	.	V	Q	.	.
16.500	234.4005	1381.66	.	.	V	Q	.	.
16.583	244.5046	1467.12	.	.	V	Q	.	.
16.667	254.8984	1509.18	.	.	V	Q	.	.
16.750	265.3970	1524.40	.	.	V	Q	.	.
16.833	276.1627	1563.18	.	.	.V	Q	.	.
16.917	287.0695	1583.68	.	.	.V	Q	.	.
17.000	298.2024	1616.49	.	.	.V	Q	.	.
17.083	309.6476	1661.84	.	.	.V	Q	.	.
17.167	321.5793	1732.49	.	.	.V	Q	.	.
17.250	333.8690	1784.46	.	.	.V	Q	.	.
17.333	346.1188	1778.68	.	.	.V	Q	.	.
17.417	358.0148	1727.30	.	.	.V	Q	.	.
17.500	369.3804	1650.28	.	.	.V	Q	.	.
17.583	379.8141	1514.98	.	.	.V	Q	.	.
17.667	389.2083	1364.04	.	.	.V	Q	.	.
17.750	397.6308	1222.94	.	.	.Q	V	.	.
17.833	405.2035	1099.56	.	.	.Q	.V	.	.
17.917	411.9344	977.33	.	.	.Q	.V	.	.
18.000	417.9306	870.64	.	.	.Q	.V	.	.
18.083	423.3583	788.11	.	.	.Q	.V	.	.
18.167	428.2834	715.13	.	.	.Q	.V	.	.
18.250	432.7203	644.23	.	.	.Q	.V	.	.
18.333	436.7040	578.43	.	.	.Q	.V	.	.
18.417	440.2907	520.79	.	.	.Q	.V	.	.
18.500	443.5500	473.25	.	.	.Q	.V	.	.
18.583	446.4744	424.63	.	.	.Q	.V	.	.
18.667	449.0811	378.48	.	.	.Q	.V	.	.
18.750	451.4679	346.57	.	.	.Q	.V	.	.
18.833	453.7013	324.29	.	.	.Q	.V	.	.
18.917	455.8156	307.00	.	.	.Q	.V	.	.
19.000	457.8287	292.29	.	.	.Q	.V	.	.
19.083	459.7516	279.21	.	.	.Q	.V	.	.

19.167	461.5917	267.19	.	Q	.	.	.	V	.
19.250	463.3535	255.81	.	Q	.	.	.	V	.
19.333	465.0396	244.82	.	Q	.	.	.	V	.
19.417	466.6504	233.89	.	Q	.	.	.	V	.
19.500	468.1808	222.22	.	Q	.	.	.	V	.
19.583	469.6074	207.14	.	Q	.	.	.	V	.
19.667	470.9277	191.71	.	Q	.	.	.	V	.
19.750	472.1772	181.43	.	Q	.	.	.	V	.
19.833	473.3762	174.09	.	Q	.	.	.	V	.
19.917	474.5343	168.16	.	Q	.	.	.	V	.
20.000	475.6562	162.90	.	Q	.	.	.	V	.
20.083	476.7457	158.19	.	Q	.	.	.	V	.
20.167	477.8059	153.94	.	Q	.	.	.	V	.
20.250	478.8397	150.11	.	Q	.	.	.	V	.
20.333	479.8495	146.61	.	Q	.	.	.	V	.
20.417	480.8370	143.39	.	Q	.	.	.	V	.
20.500	481.8037	140.37	.	Q	.	.	.	V	.
20.583	482.7514	137.61	.	Q	.	.	.	V	.
20.667	483.6822	135.14	.	Q	.	.	.	V	.
20.750	484.5972	132.86	.	Q	.	.	.	V	.
20.833	485.4973	130.70	.	Q	.	.	.	V	.
20.917	486.3833	128.64	.	Q	.	.	.	V	.
21.000	487.2556	126.67	.	Q	.	.	.	V	.
21.083	488.1150	124.77	.	Q	.	.	.	V	.
21.167	488.9617	122.95	.	Q	.	.	.	V	.
21.250	489.7964	121.19	.	Q	.	.	.	V	.
21.333	490.6194	119.49	.	Q	.	.	.	V	.
21.417	491.4310	117.85	.	Q	.	.	.	V	.
21.500	492.2318	116.27	.	Q	.	.	.	V	.
21.583	493.0221	114.76	.	Q	.	.	.	V	.
21.667	493.8026	113.33	.	Q	.	.	.	V	.
21.750	494.5736	111.95	.	Q	.	.	.	V	.
21.833	495.3355	110.63	.	Q	.	.	.	V	.
21.917	496.0886	109.35	.	Q	.	.	.	V	.
22.000	496.8331	108.11	.	Q	.	.	.	V	.
22.083	497.5694	106.90	.	Q	.	.	.	V	.
22.167	498.2976	105.74	.	Q	.	.	.	V	.
22.250	499.0180	104.60	.	Q	.	.	.	V	.
22.333	499.7308	103.50	.	Q	.	.	.	V	.
22.417	500.4362	102.42	.	Q	.	.	.	V	.
22.500	501.1344	101.38	.	Q	.	.	.	V	.
22.583	501.8257	100.36	.	Q	.	.	.	V	.
22.667	502.5100	99.38	.	Q	.	.	.	V	.
22.750	503.1878	98.41	.	Q	.	.	.	V	.
22.833	503.8591	97.47	.	Q	.	.	.	V	.
22.917	504.5241	96.55	.	Q	.	.	.	V	.
23.000	505.1829	95.66	.	Q	.	.	.	V	.
23.083	505.8357	94.79	.	Q	.	.	.	V	.
23.167	506.4826	93.94	.	Q	.	.	.	V	.
23.250	507.1239	93.11	.	Q	.	.	.	V	.
23.333	507.7595	92.29	.	Q	.	.	.	V	.
23.417	508.3896	91.50	.	Q	.	.	.	V	.
23.500	509.0145	90.72	.	Q	.	.	.	V	.
23.583	509.6340	89.96	.	Q	.	.	.	V	.
23.667	510.2485	89.22	.	Q	.	.	.	V	.
23.750	510.8580	88.49	.	Q	.	.	.	V	.
23.833	511.4625	87.78	.	Q	.	.	.	V	.
23.917	512.0623	87.09	.	Q	.	.	.	V	.

24.000	512.6573	86.40	.Q	.	.	.	V.
24.083	513.2469	85.60	.Q	.	.	.	V.
24.167	513.8295	84.60	.Q	.	.	.	V.
24.250	514.4022	83.15	.Q	.	.	.	V.
24.333	514.9609	81.13	.Q	.	.	.	V.
24.417	515.5030	78.70	.Q	.	.	.	V.
24.500	516.0244	75.71	.Q	.	.	.	V.
24.583	516.5229	72.38	.Q	.	.	.	V.
24.667	516.9968	68.82	.Q	.	.	.	V.
24.750	517.4453	65.11	.Q	.	.	.	V.
24.833	517.8662	61.12	.Q	.	.	.	V.
24.917	518.2590	57.03	.Q	.	.	.	V.
25.000	518.6229	52.84	.Q	.	.	.	V.
25.083	518.9570	48.51	.Q	.	.	.	V.
25.167	519.2588	43.83	Q	.	.	.	V.
25.250	519.5261	38.82	Q	.	.	.	V.
25.333	519.7587	33.77	Q	.	.	.	V.
25.417	519.9575	28.87	Q	.	.	.	V.
25.500	520.1240	24.17	Q	.	.	.	V.
25.583	520.2618	20.01	Q	.	.	.	V.
25.667	520.3752	16.47	Q	.	.	.	V.
25.750	520.4682	13.49	Q	.	.	.	V.
25.833	520.5437	10.96	Q	.	.	.	V.
25.917	520.6051	8.91	Q	.	.	.	V.
26.000	520.6552	7.27	Q	.	.	.	V.
26.083	520.6958	5.89	Q	.	.	.	V.
26.167	520.7284	4.73	Q	.	.	.	V.
26.250	520.7545	3.78	Q	.	.	.	V.
26.333	520.7753	3.03	Q	.	.	.	V.
26.417	520.7921	2.43	Q	.	.	.	V.
26.500	520.8054	1.93	Q	.	.	.	V.
26.583	520.8160	1.55	Q	.	.	.	V.
26.667	520.8251	1.32	Q	.	.	.	V.
26.750	520.8331	1.16	Q	.	.	.	V.
26.833	520.8402	1.02	Q	.	.	.	V.
26.917	520.8464	0.90	Q	.	.	.	V.
27.000	520.8519	0.79	Q	.	.	.	V.
27.083	520.8565	0.67	Q	.	.	.	V.
27.167	520.8604	0.56	Q	.	.	.	V.
27.250	520.8635	0.45	Q	.	.	.	V.
27.333	520.8659	0.34	Q	.	.	.	V.
27.417	520.8676	0.24	Q	.	.	.	V.
27.500	520.8685	0.13	Q	.	.	.	V.
27.583	520.8688	0.05	Q	.	.	.	V.
27.667	520.8690	0.02	Q	.	.	.	V.
27.750	520.8691	0.01	Q	.	.	.	V.

-----

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
 (Note: 100% of Peak Flow Rate estimate assumed to have  
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1665.0
10%	425.0
20%	230.0
30%	150.0

40%	125.0
50%	105.0
60%	95.0
70%	75.0
80%	65.0
90%	35.0

-----

END OF FLOODSCx ROUTING ANALYSIS

\*\*\*\*\*

FLOOD ROUTING ANALYSIS  
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)  
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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Santa Ana, CA  
92707

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* RANCHO MISSION VIEJO \*  
\* EXISTING CONDITION - UH FREE DRAINING MODEL (LOCAL NODE 13305) \*  
\* 25-YR EV JUNE 2018 ROKAMOTO \*  
\*\*\*\*\*

FILE NAME: EV25305F.DAT  
TIME/DATE OF STUDY: 12:30 06/19/2018

\*\*\*\*\*

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

=====

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES  
BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.855 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244  
LOW LOSS FRACTION = 0.567  
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.34  
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.72  
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.95  
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.59  
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.20  
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.68

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE FACTOR = 0.752  
30-MINUTE FACTOR = 0.752  
1-HOUR FACTOR = 0.752  
3-HOUR FACTOR = 0.960  
6-HOUR FACTOR = 0.979  
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 9.747

RUNOFF HYDROGRAPH LISTING LIMITS:  
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00  
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.557	331.687
2	1.683	670.612
3	3.195	900.227
4	5.709	1497.170
5	10.022	2568.816
6	15.380	3191.178
7	21.213	3473.706
8	27.495	3740.985
9	34.620	4243.241
10	42.550	4722.939
11	51.536	5351.253
12	59.162	4541.945
13	67.097	4725.715
14	73.544	3839.039
15	78.593	3007.093
16	82.949	2594.130
17	86.606	2178.101
18	89.247	1572.683
19	91.378	1268.872
20	93.292	1140.309
21	94.769	879.368
22	95.946	701.071
23	96.768	489.778
24	97.533	455.228
25	98.067	318.405
26	98.254	110.988
27	98.436	108.779
28	98.619	108.838
29	98.802	108.838
30	98.985	108.838
31	99.168	108.843
32	99.350	108.838
33	99.533	108.838
34	99.716	108.838
35	99.899	108.838
36	100.000	60.430

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 765.6049  
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 724.7390

2 4 - H O U R S T O R M  
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	650.0	1300.0	1950.0	2600.0
10.000	116.6661	206.03	. Q	V	.	.	.
10.083	118.0959	207.60	. Q	V	.	.	.
10.167	119.5365	209.18	. Q	V	.	.	.
10.250	120.9883	210.81	. Q	V	.	.	.
10.333	122.4515	212.46	. Q	V	.	.	.
10.417	123.9264	214.16	. Q	V	.	.	.
10.500	125.4132	215.87	. Q	V	.	.	.
10.583	126.9121	217.64	. Q	V	.	.	.
10.667	128.4233	219.43	. Q	V	.	.	.
10.750	129.9473	221.28	. Q	V	.	.	.
10.833	131.4842	223.15	. Q	V	.	.	.
10.917	133.0344	225.09	. Q	V	.	.	.
11.000	134.5981	227.04	. Q	V	.	.	.
11.083	136.1757	229.07	. Q	V	.	.	.
11.167	137.7674	231.12	. Q	V	.	.	.
11.250	139.3737	233.24	. Q	V	.	.	.
11.333	140.9948	235.39	. Q	V	.	.	.
11.417	142.6313	237.61	. Q	V	.	.	.
11.500	144.2833	239.87	. Q	V	.	.	.
11.583	145.9514	242.21	. Q	V	.	.	.
11.667	147.6359	244.58	. Q	V	.	.	.
11.750	149.3373	247.05	. Q	V	.	.	.
11.833	151.0559	249.55	. Q	V	.	.	.
11.917	152.7925	252.15	. Q	V	.	.	.
12.000	154.5472	254.79	. Q	V	.	.	.
12.083	156.3244	258.05	. Q	V	.	.	.
12.167	158.1280	261.88	. Q	V	.	.	.
12.250	159.9612	266.19	. Q	V	.	.	.
12.333	161.8308	271.47	. Q	V	.	.	.
12.417	163.7493	278.55	. Q	V	.	.	.
12.500	165.7235	286.67	. Q	V	.	.	.
12.583	167.7578	295.37	. Q	V	.	.	.
12.667	169.8553	304.56	. Q	V	.	.	.
12.750	172.0226	314.70	. Q	V	.	.	.
12.833	174.2656	325.67	. Q	V	.	.	.
12.917	176.5921	337.80	. Q	V	.	.	.
13.000	178.9942	348.78	. Q	V	.	.	.
13.083	181.4752	360.25	. Q	V	.	.	.
13.167	184.0266	370.45	. Q	V	.	.	.
13.250	186.6408	379.59	. Q	V	.	.	.
13.333	189.3143	388.20	. Q	V	.	.	.
13.417	192.0443	396.40	. Q	V	.	.	.
13.500	194.8252	403.79	. Q	V	.	.	.
13.583	197.6556	410.97	. Q	V	.	.	.
13.667	200.5350	418.10	. Q	.V	.	.	.
13.750	203.4627	425.11	. Q	.V	.	.	.
13.833	206.4380	432.01	. Q	.V	.	.	.

13.917	209.4608	438.91	. Q	.V	.	.	.
14.000	212.5321	445.95	. Q	.V	.	.	.
14.083	215.6611	454.34	. Q	.V	.	.	.
14.167	218.8556	463.84	. Q	.V	.	.	.
14.250	222.1240	474.56	. Q	.V	.	.	.
14.333	225.4826	487.67	. Q	.V	.	.	.
14.417	228.9610	505.06	. Q	.V	.	.	.
14.500	232.5761	524.92	. Q	.V	.	.	.
14.583	236.3382	546.26	. Q	.V	.	.	.
14.667	240.2557	568.82	. Q	.V	.	.	.
14.750	244.3447	593.71	. Q	.V	.	.	.
14.833	248.6190	620.63	. Q	.V	.	.	.
14.917	253.0982	650.39	. Q	.V	.	.	.
15.000	257.7646	677.55	. Q	.V	.	.	.
15.083	262.6278	706.14	. Q	.V	.	.	.
15.167	267.6714	732.34	. Q	.V	.	.	.
15.250	272.8849	757.00	. Q	.V	.	.	.
15.333	278.2687	781.73	. Q	.V	.	.	.
15.417	283.8064	804.07	. Q	.V	.	.	.
15.500	289.4770	823.37	. Q	.V	.	.	.
15.583	295.2812	842.78	. Q	.V	.	.	.
15.667	301.1974	859.03	. Q	.V	.	.	.
15.750	307.1813	868.87	. Q	.V	.	.	.
15.833	313.2296	878.20	. Q	.V	.	.	.
15.917	319.4055	896.75	. Q	.V	.	.	.
16.000	325.8318	933.09	. Q	.V	.	.	.
16.083	333.0140	1042.85	. Q	.V	.	.	.
16.167	341.0118	1161.29	. Q	.V	.	.	.
16.250	349.7959	1275.45	. Q	.V	.	.	.
16.333	360.0042	1482.25	. V	.Q	.	.	.
16.417	372.1716	1766.71	. V	.Q	.	.	.
16.500	385.6089	1951.09	. V	.Q	.	.	.
16.583	399.8164	2062.94	. V	.Q	.	.	.
16.667	414.7707	2171.36	. V	.Q	.	.	.
16.750	430.8160	2329.77	. V	.Q	.	.	.
16.833	447.7614	2460.48	. V	.Q	.	.	.
16.917	465.4224	2564.37	. V	.Q	.	.	.
17.000	481.7605	2372.29	. V	.Q	.	.	.
17.083	497.7695	2324.51	. V	.Q	.	.	.
17.167	512.0115	2067.95	. V	.Q	.	.	.
17.250	524.6147	1829.97	. V	.Q	.	.	.
17.333	536.1053	1668.45	. V	.Q	.	.	.
17.417	546.5217	1512.45	. V	.Q	.	.	.
17.500	555.6605	1326.95	. V	.Q	.	.	.
17.583	563.9512	1203.82	. V	.Q	.	.	.
17.667	571.6592	1119.20	. V	.Q	.	.	.
17.750	578.6227	1011.10	. V	.Q	.	.	.
17.833	584.9360	916.69	. V	.Q	.	.	.
17.917	590.5894	820.88	. V	.Q	.	.	.
18.000	595.8453	763.16	. V	.Q	.	.	.
18.083	600.5749	686.73	. V	.Q	.	.	.
18.167	604.7549	606.94	. V	.Q	.	.	.
18.250	608.7070	573.85	. V	.Q	.	.	.
18.333	612.4774	547.46	. V	.Q	.	.	.
18.417	616.0743	522.28	. V	.Q	.	.	.
18.500	619.5025	497.77	. V	.Q	.	.	.
18.583	622.7766	475.39	. V	.Q	.	.	.
18.667	625.9030	453.96	. V	.Q	.	.	.

18.750	628.8850	432.98	.	Q	.	.	.	V	.
18.833	631.7188	411.47	.	Q	.	.	.	V	.
18.917	634.3923	388.19	.	Q	.	.	.	V	.
19.000	636.8531	357.32	.	Q	.	.	.	V	.
19.083	639.1040	326.82	.	Q	.	.	.	V	.
19.167	641.2532	312.06	.	Q	.	.	.	V	.
19.250	643.3206	300.19	.	Q	.	.	.	V	.
19.333	645.3119	289.13	.	Q	.	.	.	V	.
19.417	647.2313	278.70	.	Q	.	.	.	V	.
19.500	649.0892	269.78	.	Q	.	.	.	V	.
19.583	650.8922	261.78	.	Q	.	.	.	V	.
19.667	652.6437	254.32	.	Q	.	.	.	V	.
19.750	654.3487	247.57	.	Q	.	.	.	V	.
19.833	656.0109	241.36	.	Q	.	.	.	V	.
19.917	657.6343	235.72	.	Q	.	.	.	V	.
20.000	659.2220	230.54	.	Q	.	.	.	V	.

-----  
TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	455.0
20%	240.0
30%	160.0
40%	100.0
50%	75.0
60%	60.0
70%	50.0
80%	40.0
90%	25.0

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2  
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>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<  
=====

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER  
TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE  
INTERVALS(Reference: the National Engineering Handbook,  
Hydrology, Chapter 17, page 17-52, August,1972,  
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:  
BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 427.51  
DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.00 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 2564.37  
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1992.77  
CHANNEL NORMAL VELOCITY FOR Q = 1992.77 CFS = 8.56 FPS  
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.834

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE  
UNIT INTERVALS IS CSTAR = 0.624

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	206.03	200.43	200.43
10.083	207.60	201.88	201.88
10.167	209.18	203.36	203.36
10.250	210.81	204.87	204.87
10.333	212.46	206.40	206.40
10.417	214.16	207.97	207.97
10.500	215.87	209.57	209.57
10.583	217.64	211.19	211.19
10.667	219.43	212.86	212.86
10.750	221.28	214.56	214.56
10.833	223.15	216.29	216.29
10.917	225.09	218.06	218.06
11.000	227.04	219.88	219.88
11.083	229.07	221.72	221.72
11.167	231.12	223.62	223.62
11.250	233.24	225.55	225.55
11.333	235.39	227.53	227.53
11.417	237.61	229.55	229.55
11.500	239.87	231.63	231.63
11.583	242.21	233.74	233.74
11.667	244.58	235.92	235.92
11.750	247.05	238.14	238.14
11.833	249.55	240.43	240.43
11.917	252.15	242.77	242.77
12.000	254.79	245.18	245.18
12.083	258.05	247.64	247.64
12.167	261.88	250.17	250.17
12.250	266.19	252.77	252.77
12.333	271.47	255.72	255.72
12.417	278.55	259.15	259.15
12.500	286.67	263.08	263.08
12.583	295.37	267.75	267.75
12.667	304.56	273.74	273.74
12.750	314.70	280.94	280.94
12.833	325.67	289.02	289.02
12.917	337.80	297.74	297.74
13.000	348.78	307.24	307.24
13.083	360.25	317.57	317.57
13.167	370.45	328.91	328.91
13.250	379.59	340.14	340.14
13.333	388.20	351.47	351.47
13.417	396.40	362.23	362.23
13.500	403.79	372.09	372.09
13.583	410.97	381.22	381.22

13.667	418.10	389.82	389.82
13.750	425.11	397.75	397.75
13.833	432.01	405.23	405.23
13.917	438.91	412.50	412.50
14.000	445.95	419.62	419.62
14.083	454.34	426.61	426.61
14.167	463.84	433.55	433.55
14.250	474.56	440.54	440.54
14.333	487.67	448.26	448.26
14.417	505.06	456.97	456.97
14.500	524.92	466.81	466.81
14.583	546.26	478.43	478.43
14.667	568.82	493.19	493.19
14.750	593.71	510.88	510.88
14.833	620.63	530.68	530.68
14.917	650.39	552.08	552.08
15.000	677.55	575.40	575.40
15.083	706.14	600.76	600.76
15.167	732.34	628.56	628.56
15.250	757.00	656.24	656.24
15.333	781.73	684.33	684.33
15.417	804.07	711.50	711.50
15.500	823.37	737.26	737.26
15.583	842.78	762.37	762.37
15.667	859.03	786.01	786.01
15.750	868.87	807.26	807.26
15.833	878.20	827.35	827.35
15.917	896.75	845.39	845.39
16.000	933.09	858.99	858.99
16.083	1042.85	869.98	869.98
16.167	1161.29	884.71	884.71
16.250	1275.45	911.03	911.03
16.333	1482.25	981.61	981.61
16.417	1766.71	1081.12	1081.12
16.500	1951.09	1190.22	1190.22
16.583	2062.94	1350.43	1350.43
16.667	2171.36	1579.90	1579.90
16.750	2329.77	1791.86	1791.86
16.833	2460.48	1949.07	1949.07
16.917	2564.37	2076.22	2076.22
17.000	2372.29	2217.56	2217.56
17.083	2324.51	2355.21	2355.21
17.167	2067.95	2474.65	2474.65
17.250	1829.97	2431.18	2431.18
17.333	1668.45	2369.71	2369.71
17.417	1512.45	2208.71	2208.71
17.500	1326.95	1997.72	1997.72
17.583	1203.82	1809.48	1809.48
17.667	1119.20	1640.76	1640.76
17.750	1011.10	1464.71	1464.71
17.833	916.69	1315.05	1315.05
17.917	820.88	1201.87	1201.87
18.000	763.16	1094.35	1094.35
18.083	686.73	993.55	993.55
18.167	606.94	896.02	896.02
18.250	573.85	819.27	819.27
18.333	547.46	744.71	744.71
18.417	522.28	667.24	667.24

18.500	497.77	612.50	612.50
18.583	475.39	574.73	574.73
18.667	453.96	544.69	544.69
18.750	432.98	518.03	518.03
18.833	411.47	493.81	493.81
18.917	388.19	471.23	471.23
19.000	357.32	449.60	449.60
19.083	326.82	428.10	428.10
19.167	312.06	405.68	405.68
19.250	300.19	378.79	378.79
19.333	289.13	349.61	349.61
19.417	278.70	327.75	327.75
19.500	269.78	311.82	311.82
19.583	261.78	298.84	298.84
19.667	254.32	287.38	287.38
19.750	247.57	277.35	277.35
19.833	241.36	268.49	268.49
19.917	235.72	260.44	260.44
20.000	230.54	253.13	253.13

=====

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 724.739 AF  
 OUTFLOW VOLUME = 724.739 AF  
 LOSS VOLUME = 0.000 AF

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FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 1

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>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 1411.700 ACRES  
 BASEFLOW = 0.000 CFS/SQUARE-MILE  
 \*USER ENTERED "LAG" TIME = 0.454 HOURS  
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.  
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)  
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.  
 VALLEY (DEVELOPED) S-GRAPH SELECTED  
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.300  
 LOW LOSS FRACTION = 0.479  
 \*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.34  
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.72  
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.95  
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.59  
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.20  
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.68

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.752  
 30-MINUTE FACTOR = 0.752  
 1-HOUR FACTOR = 0.752  
 3-HOUR FACTOR = 0.960  
 6-HOUR FACTOR = 0.979

24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 18.355

RUNOFF HYDROGRAPH LISTING LIMITS:  
 MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00  
 MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	1.050	179.275
2	3.987	501.474
3	11.142	1221.551
4	21.861	1829.927
5	34.440	2147.640
6	50.066	2667.781
7	65.007	2550.899
8	76.724	2000.392
9	84.824	1382.834
10	90.082	897.765
11	93.691	616.057
12	96.048	402.478
13	97.543	255.157
14	98.240	119.009
15	98.584	58.777
16	98.928	58.750
17	99.272	58.750
18	99.616	58.750
19	99.961	58.750
20	100.000	6.730

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 190.7091  
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 236.5197

24 - HOUR STORM  
 RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	275.0	550.0	825.0	1100.0
10.000	42.7626	73.81	. Q	V .	.	.	.
10.083	43.2750	74.40	. Q	V .	.	.	.
10.167	43.7916	75.01	. Q	V .	.	.	.
10.250	44.3124	75.63	. Q	V .	.	.	.
10.333	44.8376	76.26	. Q	V .	.	.	.
10.417	45.3673	76.90	. Q	V .	.	.	.
10.500	45.9014	77.56	. Q	V .	.	.	.
10.583	46.4403	78.24	. Q	V .	.	.	.
10.667	46.9839	78.93	. Q	V .	.	.	.
10.750	47.5323	79.63	. Q	V .	.	.	.
10.833	48.0857	80.36	. Q	V .	.	.	.
10.917	48.6443	81.10	. Q	V .	.	.	.
11.000	49.2080	81.86	. Q	V .	.	.	.
11.083	49.7771	82.63	. Q	V .	.	.	.
11.167	50.3517	83.43	. Q	V .	.	.	.
11.250	50.9320	84.25	. Q	V .	.	.	.
11.333	51.5180	85.09	. Q	V .	.	.	.
11.417	52.1099	85.95	. Q	V .	.	.	.
11.500	52.7079	86.83	. Q	V .	.	.	.
11.583	53.3122	87.74	. Q	V .	.	.	.
11.667	53.9229	88.67	. Q	V .	.	.	.
11.750	54.5402	89.63	. Q	V .	.	.	.
11.833	55.1643	90.62	. Q	V .	.	.	.
11.917	55.7954	91.64	. Q	V .	.	.	.
12.000	56.4337	92.68	. Q	V .	.	.	.
12.083	57.0817	94.09	. Q	V .	.	.	.
12.167	57.7439	96.14	. Q	V .	.	.	.
12.250	58.4296	99.57	. Q	V .	.	.	.
12.333	59.1471	104.18	. Q	V .	.	.	.
12.417	59.9007	109.43	. Q	V .	.	.	.
12.500	60.6975	115.70	. Q	V .	.	.	.
12.583	61.5364	121.80	. Q	V .	.	.	.
12.667	62.4106	126.94	. Q	V .	.	.	.
12.750	63.3127	130.98	. Q	V .	.	.	.
12.833	64.2368	134.18	. Q	V .	.	.	.
12.917	65.1796	136.90	. Q	.V	.	.	.
13.000	66.1389	139.29	. Q	.V	.	.	.
13.083	67.1132	141.46	. Q	.V	.	.	.
13.167	68.1012	143.45	. Q	.V	.	.	.
13.250	69.1025	145.39	. Q	.V	.	.	.
13.333	70.1176	147.40	. Q	.V	.	.	.
13.417	71.1472	149.49	. Q	.V	.	.	.
13.500	72.1917	151.66	. Q	.V	.	.	.
13.583	73.2518	153.92	. Q	.V	.	.	.
13.667	74.3274	156.18	. Q	.V	.	.	.
13.750	75.4192	158.53	. Q	.V	.	.	.
13.833	76.5279	160.98	. Q	.V	.	.	.



13.917	77.6544	163.56	.	Q	.	V	.	.	.
14.000	78.7994	166.26	.	Q	.	V	.	.	.
14.083	79.9693	169.87	.	Q	.	V	.	.	.
14.167	81.1747	175.02	.	Q	.	V	.	.	.
14.250	82.4378	183.41	.	Q	.	V	.	.	.
14.333	83.7777	194.56	.	Q	.	V	.	.	.
14.417	85.2047	207.20	.	Q	.	V	.	.	.
14.500	86.7351	222.21	.	Q	.	V	.	.	.
14.583	88.3662	236.83	.	Q	.	V	.	.	.
14.667	90.0826	249.22	.	Q.	.	V	.	.	.
14.750	91.8671	259.11	.	Q.	.	V	.	.	.
14.833	93.7068	267.13	.	Q.	.	V	.	.	.
14.917	95.5951	274.18	.	Q.	.	V	.	.	.
15.000	97.5277	280.61	.	Q	.	V	.	.	.
15.083	99.5026	286.75	.	Q	.	V	.	.	.
15.167	101.5185	292.71	.	Q	.	V	.	.	.
15.250	103.5770	298.89	.	Q	.	V	.	.	.
15.333	105.6819	305.62	.	.Q	.	V	.	.	.
15.417	107.8265	311.41	.	.Q	.	V	.	.	.
15.500	109.9967	315.10	.	.Q	.	V	.	.	.
15.583	112.1550	313.39	.	.Q	.	V	.	.	.
15.667	114.2721	307.41	.	.Q	.	V.	.	.	.
15.750	116.3442	300.87	.	Q	.	V.	.	.	.
15.833	118.3614	292.91	.	Q	.	V	.	.	.
15.917	120.3783	292.84	.	Q	.	V	.	.	.
16.000	122.5183	310.73	.	.Q	.	V	.	.	.
16.083	125.1648	384.27	.	.	Q	.	V	.	.
16.167	128.6519	506.32	.	.	.	Q	.	V	.
16.250	133.4900	702.50	.	.	.	.	V	Q	.
16.333	139.4378	863.62	.	.	.	.	V	.	Q
16.417	146.0094	954.20	.	.	.	.	V	.	Q
16.500	153.2252	1047.72	.	.	.	.	V	.	Q
16.583	160.0459	990.37	.	.	.	.	V	.	Q
16.667	165.8094	836.87	.	.	.	.	V	Q	.
16.750	170.4470	673.37	.	.	.	Q	.	V	.
16.833	174.2327	549.68	.	.	.	Q.	.	V.	.
16.917	177.4953	473.73	.	.	.	Q	.	V	.
17.000	180.3525	414.87	.	.	.	Q	.	V	.
17.083	182.8941	369.04	.	.	.	Q	.	V	.
17.167	185.1461	326.98	.	.	.	.Q	.	.	V
17.250	187.2122	300.01	.	.	.	Q	.	.	V
17.333	189.1644	283.46	.	.	.	Q	.	.	V
17.417	190.9975	266.16	.	.	.	Q.	.	.	V
17.500	192.6906	245.85	.	.	.	Q	.	.	V
17.583	194.2406	225.06	.	.	.	Q	.	.	V
17.667	195.6066	198.34	.	.	.	Q	.	.	V
17.750	196.8760	184.31	.	.	.	Q	.	.	V
17.833	198.0793	174.72	.	.	.	Q	.	.	V
17.917	199.2297	167.05	.	.	.	Q	.	.	V
18.000	200.3342	160.36	.	.	.	Q	.	.	V
18.083	201.3972	154.36	.	.	.	Q	.	.	V
18.167	202.4215	148.72	.	.	.	Q	.	.	V
18.250	203.4017	142.33	.	.	.	Q	.	.	V
18.333	204.3323	135.12	.	.	.	Q	.	.	V
18.417	205.2110	127.58	.	.	.	Q	.	.	V
18.500	206.0328	119.33	.	.	.	Q	.	.	V
18.583	206.8008	111.51	.	.	.	Q	.	.	V
18.667	207.5250	105.15	.	.	.	Q	.	.	V

18.750	208.2148	100.16	.	Q	.	.	.	.	V	.
18.833	208.8775	96.23	.	Q	.	.	.	.	V	.
18.917	209.5177	92.96	.	Q	.	.	.	.	V	.
19.000	210.1391	90.22	.	Q	.	.	.	.	V	.
19.083	210.7442	87.87	.	Q	.	.	.	.	V	.
19.167	211.3357	85.87	.	Q	.	.	.	.	V	.
19.250	211.9147	84.08	.	Q	.	.	.	.	V	.
19.333	212.4821	82.38	.	Q	.	.	.	.	V	.
19.417	213.0382	80.75	.	Q	.	.	.	.	V	.
19.500	213.5836	79.19	.	Q	.	.	.	.	V	.
19.583	214.1188	77.70	.	Q	.	.	.	.	V	.
19.667	214.6448	76.38	.	Q	.	.	.	.	V	.
19.750	215.1621	75.12	.	Q	.	.	.	.	V	.
19.833	215.6711	73.91	.	Q	.	.	.	.	V	.
19.917	216.1721	72.75	.	Q	.	.	.	.	V	.
20.000	216.6655	71.64	.	Q	.	.	.	.	V	.

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 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
 (Note: 100% of Peak Flow Rate estimate assumed to have  
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	380.0
20%	190.0
30%	75.0
40%	50.0
50%	40.0
60%	35.0
70%	25.0
80%	20.0
90%	15.0

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

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 >>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<  
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 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

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 >>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<  
 =====

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11

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 >>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<  
 =====

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	725.0	1450.0	2175.0	2900.0
0.083	0.0031	0.44	Q	.	.	.	.
0.167	0.0147	1.69	Q	.	.	.	.
0.250	0.0472	4.72	Q	.	.	.	.
0.333	0.1135	9.63	Q	.	.	.	.
0.417	0.2230	15.90	Q	.	.	.	.
0.500	0.3885	24.02	Q	.	.	.	.
0.583	0.6141	32.76	Q	.	.	.	.
0.667	0.9018	41.77	Q	.	.	.	.
0.750	1.2515	50.78	Q	.	.	.	.
0.833	1.6622	59.63	Q	.	.	.	.
0.917	2.1341	68.53	Q	.	.	.	.
1.000	2.6699	77.80	VQ	.	.	.	.
1.083	3.2738	87.68	VQ	.	.	.	.
1.167	3.9513	98.38	VQ	.	.	.	.
1.250	4.6998	108.68	VQ	.	.	.	.
1.333	5.5188	118.91	VQ	.	.	.	.
1.417	6.4020	128.24	VQ	.	.	.	.
1.500	7.3398	136.17	VQ	.	.	.	.
1.583	8.3244	142.97	VQ	.	.	.	.
1.667	9.3485	148.69	V Q	.	.	.	.
1.750	10.4043	153.31	V Q	.	.	.	.
1.833	11.4862	157.08	V Q	.	.	.	.
1.917	12.5904	160.34	V Q	.	.	.	.
2.000	13.7137	163.10	V Q	.	.	.	.
2.083	14.8530	165.44	V Q	.	.	.	.
2.167	16.0056	167.36	V Q	.	.	.	.
2.250	17.1698	169.04	V Q	.	.	.	.
2.333	18.3440	170.49	V Q	.	.	.	.
2.417	19.5258	171.60	V Q	.	.	.	.
2.500	20.7141	172.54	V Q	.	.	.	.
2.583	21.9085	173.43	V Q	.	.	.	.
2.667	23.1088	174.29	V Q	.	.	.	.
2.750	24.3151	175.15	.VQ	.	.	.	.
2.833	25.5274	176.02	.VQ	.	.	.	.
2.917	26.7456	176.89	.VQ	.	.	.	.
3.000	27.9699	177.77	.VQ	.	.	.	.
3.083	29.2003	178.65	.VQ	.	.	.	.
3.167	30.4368	179.54	.VQ	.	.	.	.
3.250	31.6791	180.39	.VQ	.	.	.	.
3.333	32.9267	181.15	.VQ	.	.	.	.
3.417	34.1792	181.86	.VQ	.	.	.	.
3.500	35.4366	182.57	.VQ	.	.	.	.
3.583	36.6988	183.28	.VQ	.	.	.	.
3.667	37.9659	183.99	.VQ	.	.	.	.
3.750	39.2380	184.70	.VQ	.	.	.	.
3.833	40.5151	185.43	.VQ	.	.	.	.
3.917	41.7972	186.16	.VQ	.	.	.	.
4.000	43.0843	186.90	.VQ	.	.	.	.
4.083	44.3767	187.64	.VQ	.	.	.	.
4.167	45.6742	188.40	.VQ	.	.	.	.
4.250	46.9769	189.16	.VQ	.	.	.	.
4.333	48.2850	189.93	. Q	.	.	.	.
4.417	49.5984	190.71	. Q	.	.	.	.
4.500	50.9173	191.50	. Q	.	.	.	.
4.583	52.2416	192.29	. Q	.	.	.	.

4.667	53.5715	193.10	. Q	.	.	.	.
4.750	54.9070	193.91	. Q	.	.	.	.
4.833	56.2481	194.73	. Q	.	.	.	.
4.917	57.5949	195.56	. Q	.	.	.	.
5.000	58.9476	196.40	. Q	.	.	.	.
5.083	60.3061	197.25	. Q	.	.	.	.
5.167	61.6705	198.11	. Q	.	.	.	.
5.250	63.0409	198.98	. Q	.	.	.	.
5.333	64.4173	199.86	. Q	.	.	.	.
5.417	65.7999	200.75	. Q	.	.	.	.
5.500	67.1887	201.65	. Q	.	.	.	.
5.583	68.5837	202.56	. Q	.	.	.	.
5.667	69.9851	203.48	. Q	.	.	.	.
5.750	71.3930	204.42	. Q	.	.	.	.
5.833	72.8073	205.36	. QV	.	.	.	.
5.917	74.2282	206.31	. QV	.	.	.	.
6.000	75.6558	207.28	. QV	.	.	.	.
6.083	77.0900	208.26	. QV	.	.	.	.
6.167	78.5312	209.25	. QV	.	.	.	.
6.250	79.9792	210.25	. QV	.	.	.	.
6.333	81.4342	211.27	. QV	.	.	.	.
6.417	82.8964	212.30	. QV	.	.	.	.
6.500	84.3657	213.34	. QV	.	.	.	.
6.583	85.8422	214.40	. QV	.	.	.	.
6.667	87.3262	215.47	. QV	.	.	.	.
6.750	88.8175	216.55	. QV	.	.	.	.
6.833	90.3165	217.65	. Q	.	.	.	.
6.917	91.8231	218.76	. Q	.	.	.	.
7.000	93.3375	219.89	. Q	.	.	.	.
7.083	94.8597	221.03	. Q	.	.	.	.
7.167	96.3900	222.19	. QV	.	.	.	.
7.250	97.9283	223.36	. QV	.	.	.	.
7.333	99.4748	224.55	. QV	.	.	.	.
7.417	101.0296	225.76	. QV	.	.	.	.
7.500	102.5929	226.99	. QV	.	.	.	.
7.583	104.1647	228.23	. QV	.	.	.	.
7.667	105.7452	229.49	. QV	.	.	.	.
7.750	107.3345	230.76	. QV	.	.	.	.
7.833	108.9327	232.06	. QV	.	.	.	.
7.917	110.5400	233.38	. QV	.	.	.	.
8.000	112.1565	234.72	. QV	.	.	.	.
8.083	113.7823	236.07	. QV	.	.	.	.
8.167	115.4176	237.45	. QV	.	.	.	.
8.250	117.0626	238.84	. QV	.	.	.	.
8.333	118.7173	240.27	. QV	.	.	.	.
8.417	120.3819	241.71	. Q V	.	.	.	.
8.500	122.0567	243.17	. Q V	.	.	.	.
8.583	123.7417	244.66	. Q V	.	.	.	.
8.667	125.4371	246.17	. Q V	.	.	.	.
8.750	127.1430	247.71	. Q V	.	.	.	.
8.833	128.8598	249.27	. Q V	.	.	.	.
8.917	130.5875	250.86	. Q V	.	.	.	.
9.000	132.3263	252.48	. Q V	.	.	.	.
9.083	134.0764	254.12	. Q V	.	.	.	.
9.167	135.8381	255.79	. Q V	.	.	.	.
9.250	137.6114	257.49	. Q V	.	.	.	.
9.333	139.3967	259.22	. Q V	.	.	.	.
9.417	141.1940	260.98	. Q V	.	.	.	.

9.500	143.0038	262.77	. Q V . . . .
9.583	144.8260	264.60	. Q V . . . .
9.667	146.6611	266.46	. Q V . . . .
9.750	148.5093	268.35	. Q V . . . .
9.833	150.3707	270.28	. Q V . . . .
9.917	152.2456	272.24	. Q V . . . .
10.000	154.1344	274.25	. Q V . . . .
10.083	156.0372	276.29	. Q V . . . .
10.167	157.9543	278.37	. Q V . . . .
10.250	159.8861	280.49	. Q V . . . .
10.333	161.8328	282.66	. Q V . . . .
10.417	163.7947	284.87	. Q V . . . .
10.500	165.7722	287.13	. Q V . . . .
10.583	167.7655	289.43	. Q V . . . .
10.667	169.7751	291.79	. Q V . . . .
10.750	171.8012	294.19	. Q V . . . .
10.833	173.8443	296.65	. Q V . . . .
10.917	175.9046	299.16	. Q V . . . .
11.000	177.9827	301.73	. Q V . . . .
11.083	180.0788	304.36	. Q V . . . .
11.167	182.1934	307.05	. Q V . . . .
11.250	184.3270	309.80	. Q V . . . .
11.333	186.4800	312.62	. Q V . . . .
11.417	188.6529	315.50	. Q V . . . .
11.500	190.8461	318.46	. Q V . . . .
11.583	193.0602	321.48	. Q V . . . .
11.667	195.2957	324.59	. Q V . . . .
11.750	197.5531	327.78	. Q V . . . .
11.833	199.8331	331.05	. Q V . . . .
11.917	202.1361	334.41	. Q V . . . .
12.000	204.4630	337.86	. Q V . . . .
12.083	206.8165	341.73	. Q V . . . .
12.167	209.2016	346.32	. Q V . . . .
12.250	211.6282	352.34	. Q V . . . .
12.333	214.1068	359.89	. Q V . . . .
12.417	216.6452	368.58	. Q V . . . .
12.500	219.2539	378.78	. Q V . . . .
12.583	221.9368	389.56	. Q V . . . .
12.667	224.6963	400.68	. Q V . . . .
12.750	227.5332	411.92	. Q V . . . .
12.833	230.4478	423.19	. Q V . . . .
12.917	233.4412	434.64	. Q V . . . .
13.000	236.5165	446.53	. Q V . . . .
13.083	239.6779	459.04	. Q V . . . .
13.167	242.9310	472.36	. Q V . . . .
13.250	246.2749	485.53	. Q V . . . .
13.333	249.7106	498.87	. Q V . . . .
13.417	253.2349	511.72	. Q V . . . .
13.500	256.8420	523.75	. Q V . . . .
13.583	260.5276	535.14	. Q V . . . .
13.667	264.2879	546.00	. Q V . . . .
13.750	268.1190	556.27	. Q .V . . . .
13.833	272.0185	566.22	. Q .V . . . .
13.917	275.9858	576.06	. Q .V . . . .
14.000	280.0208	585.88	. Q .V . . . .
14.083	284.1288	596.49	. Q .V . . . .
14.167	288.3201	608.57	. Q .V . . . .
14.250	292.6172	623.95	. Q . V . . . .

14.333	297.0443	642.82	. Q . V . . . .
14.417	301.6185	664.17	. Q . V . . . .
14.500	306.3638	689.02	. Q . V . . . .
14.583	311.2899	715.26	. Q . V . . . .
14.667	316.4029	742.41	. Q V . . . .
14.750	321.7058	769.99	. Q V . . . .
14.833	327.2004	797.81	. Q V . . . .
14.917	332.8908	826.26	. Q V . . . .
15.000	338.7863	856.01	. Q V . . . .
15.083	344.8986	887.51	. Q V . . . .
15.167	351.2434	921.27	. Q V . . . .
15.250	357.8214	955.13	. QV . . . .
15.333	364.6393	989.95	. Q V . . . .
15.417	371.6841	1022.91	. QV . . . .
15.500	378.9318	1052.36	. QV . . . .
15.583	386.3406	1075.76	. Q V . . . .
15.667	393.8710	1093.41	. QV . . . .
15.750	401.5027	1108.13	. QV . . . .
15.833	409.2180	1120.26	. Q V . . . .
15.917	417.0571	1138.23	. Q V . . . .
16.000	425.1130	1169.72	. QV . . . .
16.083	433.7511	1254.25	. QV . . . .
16.167	443.3313	1391.04	. VQ. . . .
16.250	454.4438	1613.53	. V . Q . . . .
16.333	467.1520	1845.23	. V. Q . . . .
16.417	481.1693	2035.32	. V . Q . . . .
16.500	496.5821	2237.94	. V . Q . . . .
16.583	512.7033	2340.80	. V . Q . . . .
16.667	529.3477	2416.77	. V . Q . . . .
16.750	546.3259	2465.23	. V . Q . . . .
16.833	563.5350	2498.76	. V . Q . . . .
16.917	581.0966	2549.95	. V . Q . . . .
17.000	599.2263	2632.43	. V . Q . . . .
17.083	617.9884	2724.25	. V . Q . . . .
17.167	637.2834	2801.63	. V . Q . . . .
17.250	656.0932	2731.19	. V . Q . . . .
17.333	674.3657	2653.17	. V . Q . . . .
17.417	691.4102	2474.86	. V . Q . . . .
17.500	706.8618	2243.57	. VQ . . . .
17.583	720.8738	2034.54	. QV. . . .
17.667	733.5398	1839.10	. Q V . . . .
17.750	744.8967	1649.02	. Q V . . . .
17.833	755.1568	1489.77	. Q .V . . . .
17.917	764.5846	1368.92	. Q .V . . . .
18.000	773.2258	1254.71	. Q . V . . . .
18.083	781.1315	1147.91	. Q . V . . . .
18.167	788.3267	1044.73	. Q . V . . . .
18.250	794.9493	961.60	. Q . V . . . .
18.333	801.0087	879.83	. Q . V . . . .
18.417	806.4827	794.83	. Q . V . . . .
18.500	811.5228	731.83	. Q . V . . . .
18.583	816.2490	686.25	. Q . V . . . .
18.667	820.7245	649.84	. Q . V . . . .
18.750	824.9819	618.18	. Q . V . . . .
18.833	829.0455	590.03	. Q . V . . . .
18.917	832.9312	564.19	. Q . V . . . .
19.000	836.6489	539.82	. Q . V . . . .
19.083	840.2024	515.97	. Q . V . . . .

19.167	843.5877	491.55	.	Q	.	.	.	V	.
19.250	846.7755	462.87	.	Q	.	.	.	V	.
19.333	849.7506	431.99	.	Q	.	.	.	V	.
19.417	852.5640	408.50	.	Q	.	.	.	V	.
19.500	855.2569	391.01	.	Q	.	.	.	V	.
19.583	857.8502	376.55	.	Q	.	.	.	V	.
19.667	860.3555	363.76	.	Q	.	.	.	V	.
19.750	862.7829	352.46	.	Q	.	.	.	V	.
19.833	865.1410	342.39	.	Q	.	.	.	V	.
19.917	867.4357	333.19	.	Q	.	.	.	V	.
20.000	869.6724	324.77	.	Q	.	.	.	V	.
20.083	871.8558	317.02	.	Q	.	.	.	V	.
20.167	873.9901	309.90	.	Q	.	.	.	V	.
20.250	876.0792	303.34	.	Q	.	.	.	V	.
20.333	878.1273	297.39	.	Q	.	.	.	V	.
20.417	880.1384	292.02	.	Q	.	.	.	V	.
20.500	882.1152	287.03	.	Q	.	.	.	V	.
20.583	884.0595	282.31	.	Q	.	.	.	V	.
20.667	885.9728	277.80	.	Q	.	.	.	V	.
20.750	887.8563	273.48	.	Q	.	.	.	V	.
20.833	889.7112	269.33	.	Q	.	.	.	V	.
20.917	891.5386	265.33	.	Q	.	.	.	V	.
21.000	893.3394	261.48	.	Q	.	.	.	V	.
21.083	895.1146	257.76	.	Q	.	.	.	V	.
21.167	896.8651	254.17	.	Q	.	.	.	V	.
21.250	898.5920	250.74	.	Q	.	.	.	V	.
21.333	900.2965	247.49	.	Q	.	.	.	V	.
21.417	901.9796	244.39	.	Q	.	.	.	V	.
21.500	903.6422	241.40	.	Q	.	.	.	V	.
21.583	905.2848	238.51	.	Q	.	.	.	V	.
21.667	906.9081	235.71	.	Q	.	.	.	V	.
21.750	908.5128	233.00	.	Q	.	.	.	V	.
21.833	910.0994	230.37	.	Q	.	.	.	V	.
21.917	911.6683	227.82	.	Q	.	.	.	V	.
22.000	913.2202	225.34	.	Q	.	.	.	V	.
22.083	914.7556	222.93	.	Q	.	.	.	V	.
22.167	916.2747	220.58	.	Q	.	.	.	V	.
22.250	917.7782	218.31	.	Q	.	.	.	V	.
22.333	919.2664	216.09	.	Q	.	.	.	V	.
22.417	920.7397	213.93	.	Q	.	.	.	V	.
22.500	922.1986	211.83	.	Q	.	.	.	V	.
22.583	923.6434	209.78	.	Q	.	.	.	V	.
22.667	925.0744	207.78	.	Q	.	.	.	V	.
22.750	926.4920	205.84	.	Q	.	.	.	V	.
22.833	927.8965	203.93	.	Q	.	.	.	V	.
22.917	929.2882	202.08	.	Q	.	.	.	V	.
23.000	930.6675	200.27	.	Q	.	.	.	V	.
23.083	932.0345	198.50	.	Q	.	.	.	V	.
23.167	933.3897	196.77	.	Q	.	.	.	V	.
23.250	934.7332	195.08	.	Q	.	.	.	V	.
23.333	936.0654	193.43	.	Q	.	.	.	V	.
23.417	937.3864	191.81	.	Q	.	.	.	V	.
23.500	938.6965	190.23	.	Q	.	.	.	V	.
23.583	939.9960	188.69	.	Q	.	.	.	V	.
23.667	941.2851	187.17	.	Q	.	.	.	V	.
23.750	942.5640	185.69	.	Q	.	.	.	V	.
23.833	943.8328	184.24	.	Q	.	.	.	V	.
23.917	945.0919	182.82	.	Q	.	.	.	V	.

24.000	946.3413	181.42	.	Q	.	.	.	V	.
24.083	947.5783	179.61	.	Q	.	.	.	V	.
24.167	948.7975	177.03	.	Q	.	.	.	V	.
24.250	949.9870	172.71	.	Q	.	.	.	V	.
24.333	951.1342	166.57	.	Q	.	.	.	V	.
24.417	952.2301	159.13	.	Q	.	.	.	V	.
24.500	953.2628	149.94	.	Q	.	.	.	V	.
24.583	954.2285	140.22	.	Q	.	.	.	V	.
24.667	955.1262	130.34	.	Q	.	.	.	V	.
24.750	955.9565	120.56	.	Q	.	.	.	V	.
24.833	956.7213	111.06	.	Q	.	.	.	V	.
24.917	957.4210	101.60	.	Q	.	.	.	V	.
25.000	958.0537	91.87	.	Q	.	.	.	V	.
25.083	958.6159	81.63	.	Q	.	.	.	V	.
25.167	959.1027	70.67	.	Q	.	.	.	V	.
25.250	959.5175	60.24	.	Q	.	.	.	V	.
25.333	959.8617	49.97	.	Q	.	.	.	V	.
25.417	960.1422	40.72	.	Q	.	.	.	V	.
25.500	960.3691	32.96	.	Q	.	.	.	V	.
25.583	960.5510	26.41	.	Q	.	.	.	V	.
25.667	960.6957	21.00	.	Q	.	.	.	V	.
25.750	960.8110	16.75	.	Q	.	.	.	V	.
25.833	960.9033	13.40	.	Q	.	.	.	V	.
25.917	960.9763	10.60	.	Q	.	.	.	V	.
26.000	961.0336	8.32	.	Q	.	.	.	V	.
26.083	961.0784	6.50	.	Q	.	.	.	V	.
26.167	961.1136	5.11	.	Q	.	.	.	V	.
26.250	961.1410	3.98	.	Q	.	.	.	V	.
26.333	961.1624	3.11	.	Q	.	.	.	V	.
26.417	961.1801	2.58	.	Q	.	.	.	V	.
26.500	961.1954	2.23	.	Q	.	.	.	V	.
26.583	961.2089	1.95	.	Q	.	.	.	V	.
26.667	961.2205	1.70	.	Q	.	.	.	V	.
26.750	961.2305	1.46	.	Q	.	.	.	V	.
26.833	961.2390	1.22	.	Q	.	.	.	V	.
26.917	961.2457	0.99	.	Q	.	.	.	V	.
27.000	961.2509	0.76	.	Q	.	.	.	V	.
27.083	961.2546	0.53	.	Q	.	.	.	V	.
27.167	961.2567	0.30	.	Q	.	.	.	V	.
27.250	961.2575	0.13	.	Q	.	.	.	V	.
27.333	961.2578	0.05	.	Q	.	.	.	V	.
27.417	961.2579	0.02	.	Q	.	.	.	V	.
27.500	961.2580	0.01	.	Q	.	.	.	V	.

-----  
TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1650.0
10%	625.0
20%	310.0
30%	205.0
40%	135.0
50%	100.0
60%	85.0

70%	75.0
80%	60.0
90%	30.0

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END OF FLOODSCx ROUTING ANALYSIS

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FLOOD ROUTING ANALYSIS  
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)  
(c) Copyright 1989-2013 Advanced Engineering Software (aes)  
Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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92707

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* RANCHO MISSION VIEJO \*  
\* EXISTING CONDITION - UH FREE DRAINING MODEL (LOCAL NODE 13305) \*  
\* 50-YR EV JUNE 2018 ROKAMOTO \*  
\*\*\*\*\*

FILE NAME: EV50305F.DAT  
TIME/DATE OF STUDY: 12:29 06/19/2018

\*\*\*\*\*

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

=====

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES  
BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.821 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244  
LOW LOSS FRACTION = 0.538  
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.37  
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.80  
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.06  
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.78  
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.47  
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.12

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE FACTOR = 0.752  
30-MINUTE FACTOR = 0.752  
1-HOUR FACTOR = 0.752  
3-HOUR FACTOR = 0.960  
6-HOUR FACTOR = 0.979  
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 10.150

RUNOFF HYDROGRAPH LISTING LIMITS:  
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00  
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.580	345.423
2	1.763	704.566
3	3.385	965.815
4	6.233	1696.091
5	10.947	2807.365
6	16.695	3423.111
7	22.920	3707.788
8	29.521	3930.894
9	37.286	4624.335
10	46.219	5319.988
11	54.738	5073.336
12	63.175	5024.953
13	70.521	4374.467
14	76.573	3604.496
15	81.238	2778.116
16	85.407	2483.066
17	88.495	1839.204
18	90.815	1381.282
19	92.862	1219.414
20	94.528	992.055
21	95.788	750.029
22	96.685	534.246
23	97.481	474.138
24	98.059	344.417
25	98.257	117.576
26	98.447	113.337
27	98.637	113.450
28	98.828	113.332
29	99.018	113.223
30	99.208	113.223
31	99.398	113.223
32	99.588	113.223
33	99.778	113.223
34	99.968	113.223
35	100.000	18.833

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 806.2277  
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 862.2829

2 4 - H O U R S T O R M  
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	775.0	1550.0	2325.0	3100.0
10.000	139.4448	245.97	. Q	V .	.	.	.
10.083	141.1517	247.84	. Q	V .	.	.	.
10.167	142.8718	249.76	. Q	V .	.	.	.
10.250	144.6054	251.71	. Q	V .	.	.	.
10.333	146.3527	253.71	. Q	V .	.	.	.
10.417	148.1139	255.74	. Q	V .	.	.	.
10.500	149.8895	257.82	. Q	V .	.	.	.
10.583	151.6797	259.94	. Q	V .	.	.	.
10.667	153.4849	262.11	. Q	V .	.	.	.
10.750	155.3053	264.32	. Q	V .	.	.	.
10.833	157.1413	266.59	. Q	V .	.	.	.
10.917	158.9933	268.90	. Q	V .	.	.	.
11.000	160.8616	271.28	. Q	V .	.	.	.
11.083	162.7466	273.70	. Q	V .	.	.	.
11.167	164.6487	276.19	. Q	V .	.	.	.
11.250	166.5683	278.73	. Q	V .	.	.	.
11.333	168.5059	281.34	. Q	V .	.	.	.
11.417	170.4619	284.00	. Q	V .	.	.	.
11.500	172.4367	286.75	. Q	V .	.	.	.
11.583	174.4309	289.55	. Q	V .	.	.	.
11.667	176.4449	292.44	. Q	V .	.	.	.
11.750	178.4792	295.39	. Q	V .	.	.	.
11.833	180.5345	298.43	. Q	V .	.	.	.
11.917	182.6113	301.54	. Q	V .	.	.	.
12.000	184.7102	304.76	. Q	V .	.	.	.
12.083	186.8364	308.72	. Q	V .	.	.	.
12.167	188.9955	313.50	. Q	V .	.	.	.
12.250	191.1916	318.88	. Q	V .	.	.	.
12.333	193.4354	325.80	. Q	V .	.	.	.
12.417	195.7426	335.01	. Q	V .	.	.	.
12.500	198.1225	345.55	. Q	V .	.	.	.
12.583	200.5796	356.78	. Q	V .	.	.	.
12.667	203.1182	368.61	. Q	V .	.	.	.
12.750	205.7486	381.92	. Q	V .	.	.	.
12.833	208.4812	396.78	. Q	V .	.	.	.
12.917	211.3139	411.31	. Q	V .	.	.	.
13.000	214.2473	425.94	. Q	V .	.	.	.
13.083	217.2740	439.48	. Q	V .	.	.	.
13.167	220.3851	451.72	. Q	V .	.	.	.
13.250	223.5706	462.54	. Q	V .	.	.	.
13.333	226.8282	473.00	. Q	V .	.	.	.
13.417	230.1505	482.41	. Q	V .	.	.	.
13.500	233.5333	491.17	. Q	V .	.	.	.
13.583	236.9757	499.84	. Q	V .	.	.	.
13.667	240.4766	508.34	. Q	.V	.	.	.
13.750	244.0346	516.61	. Q	.V	.	.	.
13.833	247.6488	524.78	. Q	.V	.	.	.

13.917	251.3203	533.11	. Q	.V .	.	.	.
14.000	255.0500	541.55	. Q	.V .	.	.	.
14.083	258.8471	551.34	. Q	.V .	.	.	.
14.167	262.7249	563.05	. Q	.V .	.	.	.
14.250	266.6934	576.23	. Q	.V .	.	.	.
14.333	270.7771	592.95	. Q	.V .	.	.	.
14.417	275.0111	614.78	. Q	.V .	.	.	.
14.500	279.4167	639.69	. Q	.V .	.	.	.
14.583	284.0048	666.19	. Q	.V .	.	.	.
14.667	288.7853	694.13	. Q	.V .	.	.	.
14.750	293.7817	725.48	. Q	.V .	.	.	.
14.833	299.0186	760.39	. Q	.V .	.	.	.
14.917	304.4927	794.84	. Q	V .	.	.	.
15.000	310.2094	830.06	. Q	V .	.	.	.
15.083	316.1584	863.81	. .Q	V .	.	.	.
15.167	322.3307	896.21	. .Q	V .	.	.	.
15.250	328.7193	927.63	. .Q	V .	.	.	.
15.333	335.3367	960.85	. .Q	V .	.	.	.
15.417	342.1564	990.23	. .Q	V .	.	.	.
15.500	349.1595	1016.84	. . Q	V .	.	.	.
15.583	356.3491	1043.94	. . Q	V .	.	.	.
15.667	363.6875	1065.54	. . Q	V .	.	.	.
15.750	371.1171	1078.77	. . Q	V .	.	.	.
15.833	378.6377	1092.00	. . Q	V .	.	.	.
15.917	386.3226	1115.85	. . Q	V .	.	.	.
16.000	394.3279	1162.36	. . Q	V .	.	.	.
16.083	403.2070	1289.24	. . Q	V .	.	.	.
16.167	413.0443	1428.39	. . QV.	.	.	.	.
16.250	423.9048	1576.95	. . VQ	.	.	.	.
16.333	436.5394	1834.54	. . V	Q .	.	.	.
16.417	451.4355	2162.91	. . V	Q .	.	.	.
16.500	467.7781	2372.95	. . .V	Q .	.	.	.
16.583	485.0099	2502.05	. . .V	Q .	.	.	.
16.667	503.0976	2626.35	. . .V	Q .	.	.	.
16.750	522.6396	2837.50	. . .V	Q .	.	.	.
16.833	543.3173	3002.39	. . .V	Q .	.	.	.
16.917	563.4584	2924.49	. . .V	Q .	.	.	.
17.000	582.9659	2832.49	. . .V	Q .	.	.	.
17.083	600.8318	2594.14	. . .V	Q .	.	.	.
17.167	616.8680	2328.45	. . .V	Q .	.	.	.
17.250	631.0544	2059.87	. . .Q	V .	.	.	.
17.333	644.1497	1901.44	. . .Q	V .	.	.	.
17.417	655.7175	1679.64	. . .Q	V .	.	.	.
17.500	666.0592	1501.62	. . .Q	V .	.	.	.
17.583	675.6141	1387.36	. . .Q	.V	.	.	.
17.667	684.3348	1266.25	. . .Q	.V	.	.	.
17.750	692.1861	1140.01	. . .Q	.V	.	.	.
17.833	699.2328	1023.18	. . .Q	.V	.	.	.
17.917	705.7298	943.37	. . .Q	.V	.	.	.
18.000	711.6060	853.22	. . .Q	.V	.	.	.
18.083	716.8008	754.29	. . .Q	.V	.	.	.
18.167	721.6887	709.72	. . .Q	.V	.	.	.
18.250	726.3511	677.00	. . .Q	.V	.	.	.
18.333	730.7991	645.85	. . .Q	.V	.	.	.
18.417	735.0315	614.54	. . .Q	.V	.	.	.
18.500	739.0668	585.93	. . .Q	.V	.	.	.
18.583	742.9119	558.31	. . .Q	.V	.	.	.
18.667	746.5750	531.89	. . .Q	.V	.	.	.

18.750	750.0472	504.17	.	Q	.	.	.	V	.
18.833	753.3123	474.09	.	Q	.	.	.	V	.
18.917	756.2595	427.92	.	Q	.	.	.	V	.
19.000	759.0169	400.38	.	Q	.	.	.	V	.
19.083	761.6458	381.71	.	Q	.	.	.	V	.
19.167	764.1658	365.90	.	Q	.	.	.	V	.
19.250	766.5850	351.26	.	Q	.	.	.	V	.
19.333	768.9108	337.72	.	Q	.	.	.	V	.
19.417	771.1567	326.10	.	Q	.	.	.	V	.
19.500	773.3328	315.96	.	Q	.	.	.	V	.
19.583	775.4444	306.61	.	Q	.	.	.	V	.
19.667	777.4973	298.07	.	Q	.	.	.	V	.
19.750	779.4969	290.35	.	Q	.	.	.	V	.
19.833	781.4483	283.34	.	Q	.	.	.	V	.
19.917	783.3569	277.13	.	Q	.	.	.	V	.
20.000	785.2269	271.52	.	Q	.	.	.	V	.

-----  
TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	465.0
20%	245.0
30%	165.0
40%	100.0
50%	80.0
60%	65.0
70%	50.0
80%	35.0
90%	20.0

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FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

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>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<  
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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER  
TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE  
INTERVALS(Reference: the National Engineering Handbook,  
Hydrology, Chapter 17, page 17-52, August,1972,  
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 427.51  
DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.00 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 3002.39  
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 2296.11  
CHANNEL NORMAL VELOCITY FOR Q = 2296.11 CFS = 8.96 FPS  
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.840

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE  
UNIT INTERVALS IS CSTAR = 0.637

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	245.97	239.49	239.49
10.083	247.84	241.24	241.24
10.167	249.76	243.02	243.02
10.250	251.71	244.84	244.84
10.333	253.71	246.69	246.69
10.417	255.74	248.58	248.58
10.500	257.82	250.51	250.51
10.583	259.94	252.48	252.48
10.667	262.11	254.48	254.48
10.750	264.32	256.54	256.54
10.833	266.59	258.63	258.63
10.917	268.90	260.77	260.77
11.000	271.28	262.96	262.96
11.083	273.70	265.20	265.20
11.167	276.19	267.48	267.48
11.250	278.73	269.82	269.82
11.333	281.34	272.21	272.21
11.417	284.00	274.66	274.66
11.500	286.75	277.17	277.17
11.583	289.55	279.74	279.74
11.667	292.44	282.36	282.36
11.750	295.39	285.06	285.06
11.833	298.43	287.83	287.83
11.917	301.54	290.67	290.67
12.000	304.76	293.57	293.57
12.083	308.72	296.56	296.56
12.167	313.50	299.63	299.63
12.250	318.88	302.79	302.79
12.333	325.80	306.43	306.43
12.417	335.01	310.77	310.77
12.500	345.55	315.75	315.75
12.583	356.78	321.92	321.92
12.667	368.61	329.94	329.94
12.750	381.92	339.53	339.53
12.833	396.78	350.14	350.14
12.917	411.31	361.50	361.50
13.000	425.94	374.06	374.06
13.083	439.48	388.03	388.03
13.167	451.72	402.36	402.36
13.250	462.54	416.89	416.89
13.333	473.00	430.82	430.82
13.417	482.41	443.72	443.72
13.500	491.17	455.34	455.34
13.583	499.84	466.23	466.23



13.667	508.34	476.22	476.22
13.750	516.61	485.45	485.45
13.833	524.78	494.32	494.32
13.917	533.11	502.96	502.96
14.000	541.55	511.38	511.38
14.083	551.34	519.64	519.64
14.167	563.05	527.94	527.94
14.250	576.23	536.32	536.32
14.333	592.95	545.56	545.56
14.417	614.78	556.30	556.30
14.500	639.69	568.55	568.55
14.583	666.19	583.53	583.53
14.667	694.13	602.70	602.70
14.750	725.48	625.41	625.41
14.833	760.39	650.49	650.49
14.917	794.84	677.34	677.34
15.000	830.06	706.94	706.94
15.083	863.81	739.81	739.81
15.167	896.21	773.69	773.69
15.250	927.63	808.41	808.41
15.333	960.85	842.55	842.55
15.417	990.23	875.63	875.63
15.500	1016.84	907.68	907.68
15.583	1043.94	940.42	940.42
15.667	1065.54	971.15	971.15
15.750	1078.77	999.35	999.35
15.833	1092.00	1026.83	1026.83
15.917	1115.85	1050.75	1050.75
16.000	1162.36	1068.15	1068.15
16.083	1289.24	1082.89	1082.89
16.167	1428.39	1103.08	1103.08
16.250	1576.95	1139.27	1139.27
16.333	1834.54	1230.51	1230.51
16.417	2162.91	1351.84	1351.84
16.500	2372.95	1490.19	1490.19
16.583	2502.05	1700.82	1700.82
16.667	2626.35	1984.04	1984.04
16.750	2837.50	2224.64	2224.64
16.833	3002.39	2396.95	2396.95
16.917	2924.49	2538.85	2538.85
17.000	2832.49	2721.94	2721.94
17.083	2594.14	2894.99	2894.99
17.167	2328.45	2916.39	2916.39
17.250	2059.87	2866.05	2866.05
17.333	1901.44	2700.91	2700.91
17.417	1679.64	2472.66	2472.66
17.500	1501.62	2218.82	2218.82
17.583	1387.36	2022.04	2022.04
17.667	1266.25	1811.45	1811.45
17.750	1140.01	1620.14	1620.14
17.833	1023.18	1475.75	1475.75
17.917	943.37	1346.41	1346.41
18.000	853.22	1219.22	1219.22
18.083	754.29	1098.31	1098.31
18.167	709.72	1002.33	1002.33
18.250	677.00	910.41	910.41
18.333	645.85	814.31	814.31
18.417	614.54	749.21	749.21

18.500	585.93	704.32	704.32
18.583	558.31	668.13	668.13
18.667	531.89	635.06	635.06
18.750	504.17	604.73	604.73
18.833	474.09	576.10	576.10
18.917	427.92	548.83	548.83
19.000	400.38	521.33	521.33
19.083	381.71	492.26	492.26
19.167	365.90	452.84	452.84
19.250	351.26	420.36	420.36
19.333	337.72	396.37	396.37
19.417	326.10	377.50	377.50
19.500	315.96	361.29	361.29
19.583	306.61	346.73	346.73
19.667	298.07	333.99	333.99
19.750	290.35	322.85	322.85
19.833	283.34	312.82	312.82
19.917	277.13	303.72	303.72
20.000	271.52	295.46	295.46

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 862.283 AF  
 OUTFLOW VOLUME = 862.282 AF  
 LOSS VOLUME = 0.000 AF

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FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 1

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>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 1411.700 ACRES  
 BASEFLOW = 0.000 CFS/SQUARE-MILE  
 \*USER ENTERED "LAG" TIME = 0.442 HOURS  
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.  
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)  
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.  
 VALLEY (DEVELOPED) S-GRAPH SELECTED  
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.300  
 LOW LOSS FRACTION = 0.445  
 \*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.37  
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.80  
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.06  
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.78  
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.47  
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.12

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.752  
 30-MINUTE FACTOR = 0.752  
 1-HOUR FACTOR = 0.752  
 3-HOUR FACTOR = 0.960  
 6-HOUR FACTOR = 0.979

24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 18.854

RUNOFF HYDROGRAPH LISTING LIMITS:  
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00  
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	1.080	184.429
2	4.185	530.031
3	11.822	1303.858
4	22.927	1895.916
5	36.229	2271.100
6	52.353	2752.742
7	67.450	2577.486
8	78.589	1901.768
9	86.296	1315.825
10	91.103	820.577
11	94.489	578.197
12	96.568	354.919
13	97.891	225.872
14	98.366	81.065
15	98.720	60.363
16	99.073	60.355
17	99.427	60.355
18	99.780	60.355
19	100.000	37.533

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 198.2339  
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 280.0685

24 - HOUR STORM  
RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	325.0	650.0	975.0	1300.0
10.000	50.8599	87.82	. Q	V .	.	.	.
10.083	51.4696	88.53	. Q	V .	.	.	.
10.167	52.0842	89.25	. Q	V .	.	.	.
10.250	52.7040	89.99	. Q	V .	.	.	.
10.333	53.3290	90.74	. Q	V .	.	.	.
10.417	53.9592	91.52	. Q	V .	.	.	.
10.500	54.5950	92.30	. Q	V .	.	.	.
10.583	55.2362	93.11	. Q	V .	.	.	.
10.667	55.8832	93.94	. Q	V .	.	.	.
10.750	56.5360	94.79	. Q	V .	.	.	.
10.833	57.1947	95.65	. Q	V .	.	.	.
10.917	57.8596	96.54	. Q	V .	.	.	.
11.000	58.5306	97.44	. Q	V .	.	.	.
11.083	59.2082	98.38	. Q	V .	.	.	.
11.167	59.8922	99.33	. Q	V .	.	.	.
11.250	60.5830	100.31	. Q	V .	.	.	.
11.333	61.2808	101.31	. Q	V .	.	.	.
11.417	61.9856	102.34	. Q	V .	.	.	.
11.500	62.6977	103.40	. Q	V .	.	.	.
11.583	63.4173	104.49	. Q	V .	.	.	.
11.667	64.1446	105.60	. Q	V .	.	.	.
11.750	64.8798	106.76	. Q	V .	.	.	.
11.833	65.6232	107.93	. Q	V .	.	.	.
11.917	66.3749	109.16	. Q	V .	.	.	.
12.000	67.1353	110.41	. Q	V .	.	.	.
12.083	67.9076	112.13	. Q	V .	.	.	.
12.167	68.6976	114.71	. Q	V .	.	.	.
12.250	69.5182	119.15	. Q	V .	.	.	.
12.333	70.3792	125.03	. Q	V .	.	.	.
12.417	71.2873	131.85	. Q	V .	.	.	.
12.500	72.2505	139.86	. Q	V .	.	.	.
12.583	73.2665	147.53	. Q	V .	.	.	.
12.667	74.3249	153.68	. Q	V .	.	.	.
12.750	75.4167	158.53	. Q	V .	.	.	.
12.833	76.5343	162.28	. Q	V .	.	.	.
12.917	77.6744	165.53	. Q	.V	.	.	.
13.000	78.8337	168.33	. Q	.V	.	.	.
13.083	80.0107	170.91	. Q	.V	.	.	.
13.167	81.2036	173.21	. Q	.V	.	.	.
13.250	82.4126	175.56	. Q	.V	.	.	.
13.333	83.6384	177.98	. Q	.V	.	.	.
13.417	84.8815	180.50	. Q	. V	.	.	.
13.500	86.1426	183.12	. Q	. V	.	.	.
13.583	87.4222	185.80	. Q	. V	.	.	.
13.667	88.7204	188.49	. Q	. V	.	.	.
13.750	90.0379	191.31	. Q	. V	.	.	.
13.833	91.3758	194.26	. Q	. V	.	.	.

13.917	92.7350	197.36	.	Q	.	V	.	.	.
14.000	94.1165	200.60	.	Q	.	V	.	.	.
14.083	95.5281	204.96	.	Q	.	V	.	.	.
14.167	96.9830	211.25	.	Q	.	V	.	.	.
14.250	98.5097	221.68	.	Q	.	V	.	.	.
14.333	100.1300	235.27	.	Q	.	V	.	.	.
14.417	101.8583	250.94	.	Q	.	V	.	.	.
14.500	103.7122	269.20	.	Q	.	V	.	.	.
14.583	105.6869	286.72	.	Q	.	V	.	.	.
14.667	107.7593	300.91	.	Q	.	V	.	.	.
14.750	109.9104	312.35	.	Q	.	V	.	.	.
14.833	112.1244	321.47	.	Q	.	V	.	.	.
14.917	114.3951	329.70	.	Q	.	V	.	.	.
15.000	116.7168	337.11	.	Q	.	V	.	.	.
15.083	119.0881	344.32	.	Q	.	V	.	.	.
15.167	121.5070	351.23	.	Q	.	V	.	.	.
15.250	123.9771	358.65	.	.Q	.	V	.	.	.
15.333	126.5026	366.70	.	.Q	.	V	.	.	.
15.417	129.0759	373.65	.	.Q	.	V	.	.	.
15.500	131.6781	377.85	.	.Q	.	V	.	.	.
15.583	134.2616	375.12	.	.Q	.	V	.	.	.
15.667	136.7935	367.63	.	.Q	.	V	.	.	.
15.750	139.2671	359.17	.	.Q	.	V	.	.	.
15.833	141.6753	349.66	.	Q	.	V	.	.	.
15.917	144.0922	350.93	.	Q	.	V	.	.	.
16.000	146.6766	375.26	.	.Q	.	V	.	.	.
16.083	149.8731	464.13	.	.	Q	.	V	.	.
16.167	154.0826	611.22	.	.	.	Q	.	V	.
16.250	159.8829	842.21	.	.	.	.	V	Q	.
16.333	166.9052	1019.64	.	.	.	.	.	V	.Q
16.417	174.6822	1129.22	.	.	.	.	.	V	Q
16.500	183.0497	1214.96	.	.	.	.	.	V	Q
16.583	190.8351	1130.45	.	.	.	.	.	V	Q
16.667	197.2463	930.90	.	.	.	.	.	Q	.
16.750	202.4483	755.33	.	.	.	Q	.	V	.
16.833	206.7004	617.40	.	.	.	Q	.	V	.
16.917	210.4306	541.63	.	.	Q	.	.	V	.
17.000	213.6948	473.96	.	.	Q	.	.	V	.
17.083	216.6321	426.50	.	.	Q	.	.	V	.
17.167	219.2402	378.68	.	.	.Q	.	.	.V	.
17.250	221.6929	356.14	.	.	Q	.	.	.V	.
17.333	224.0085	336.22	.	.	Q	.	.	.V	.
17.417	226.1754	314.63	.	.	Q	.	.	.V	.
17.500	228.1665	289.11	.	.	Q	.	.	.V	.
17.583	229.9579	260.11	.	.	Q	.	.	.V	.
17.667	231.5661	233.51	.	.	Q	.	.	.V	.
17.750	233.0748	219.07	.	.	Q	.	.	.V	.
17.833	234.5094	208.30	.	.	Q	.	.	.V	.
17.917	235.8818	199.28	.	.	Q	.	.	.V	.
18.000	237.2014	191.60	.	.	Q	.	.	.V	.
18.083	238.4731	184.65	.	.	Q	.	.	.V	.
18.167	239.6994	178.06	.	.	Q	.	.	.V	.
18.250	240.8713	170.16	.	.	Q	.	.	.V	.
18.333	241.9817	161.23	.	.	Q	.	.	.V	.
18.417	243.0267	151.73	.	.	Q	.	.	.V	.
18.500	244.0005	141.40	.	.	Q	.	.	.V	.
18.583	244.9086	131.85	.	.	Q	.	.	.V	.
18.667	245.7648	124.33	.	.	Q	.	.	.V	.

18.750	246.5802	118.40	.	Q	.	.	.	.	V	.
18.833	247.3640	113.81	.	Q	.	.	.	.	V	.
18.917	248.1213	109.96	.	Q	.	.	.	.	V	.
19.000	248.8567	106.77	.	Q	.	.	.	.	V	.
19.083	249.5731	104.03	.	Q	.	.	.	.	V	.
19.167	250.2738	101.74	.	Q	.	.	.	.	V	.
19.250	250.9599	99.62	.	Q	.	.	.	.	V	.
19.333	251.6320	97.59	.	Q	.	.	.	.	V	.
19.417	252.2907	95.65	.	Q	.	.	.	.	V	.
19.500	252.9367	93.80	.	Q	.	.	.	.	V	.
19.583	253.5709	92.08	.	Q	.	.	.	.	V	.
19.667	254.1943	90.52	.	Q	.	.	.	.	V	.
19.750	254.8074	89.03	.	Q	.	.	.	.	V	.
19.833	255.4108	87.60	.	Q	.	.	.	.	V	.
19.917	256.0046	86.23	.	Q	.	.	.	.	V	.
20.000	256.5894	84.92	.	Q	.	.	.	.	V	.

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 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
 (Note: 100% of Peak Flow Rate estimate assumed to have  
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	385.0
20%	195.0
30%	100.0
40%	50.0
50%	45.0
60%	35.0
70%	25.0
80%	20.0
90%	15.0

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7  
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>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<  
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\*\*\*\*\*  
 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6  
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>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<  
 =====

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11  
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>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<  
 =====

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	850.0	1700.0	2550.0	3400.0
0.083	0.0037	0.54	Q	.	.	.	.
0.167	0.0182	2.10	Q	.	.	.	.
0.250	0.0591	5.94	Q	.	.	.	.
0.333	0.1421	12.05	Q	.	.	.	.
0.417	0.2800	20.02	Q	.	.	.	.
0.500	0.4874	30.11	Q	.	.	.	.
0.583	0.7703	41.08	Q	.	.	.	.
0.667	1.1303	52.28	Q	.	.	.	.
0.750	1.5683	63.60	Q	.	.	.	.
0.833	2.0822	74.62	Q	.	.	.	.
0.917	2.6726	85.72	VQ	.	.	.	.
1.000	3.3442	97.53	VQ	.	.	.	.
1.083	4.1056	110.55	VQ	.	.	.	.
1.167	4.9559	123.46	VQ	.	.	.	.
1.250	5.8950	136.35	VQ	.	.	.	.
1.333	6.9165	148.33	VQ	.	.	.	.
1.417	8.0102	158.80	VQ	.	.	.	.
1.500	9.1636	167.48	VQ	.	.	.	.
1.583	10.3685	174.94	V Q	.	.	.	.
1.667	11.6144	180.92	V Q	.	.	.	.
1.750	12.8933	185.68	V Q	.	.	.	.
1.833	14.2000	189.74	V Q	.	.	.	.
1.917	15.5306	193.20	V Q	.	.	.	.
2.000	16.8810	196.08	V Q	.	.	.	.
2.083	18.2476	198.42	V Q	.	.	.	.
2.167	19.6281	200.46	V Q	.	.	.	.
2.250	21.0207	202.20	V Q	.	.	.	.
2.333	22.4222	203.50	V Q	.	.	.	.
2.417	23.8313	204.61	V Q	.	.	.	.
2.500	25.2477	205.66	V Q	.	.	.	.
2.583	26.6712	206.69	V Q	.	.	.	.
2.667	28.1018	207.72	V Q	.	.	.	.
2.750	29.5396	208.76	.VQ	.	.	.	.
2.833	30.9845	209.80	.VQ	.	.	.	.
2.917	32.4367	210.86	.VQ	.	.	.	.
3.000	33.8961	211.91	.VQ	.	.	.	.
3.083	35.3630	212.98	.VQ	.	.	.	.
3.167	36.8362	213.92	.VQ	.	.	.	.
3.250	38.3154	214.78	.VQ	.	.	.	.
3.333	39.8004	215.61	.VQ	.	.	.	.
3.417	41.2910	216.44	.VQ	.	.	.	.
3.500	42.7874	217.28	.VQ	.	.	.	.
3.583	44.2896	218.12	.VQ	.	.	.	.
3.667	45.7977	218.97	.VQ	.	.	.	.
3.750	47.3116	219.83	.VQ	.	.	.	.
3.833	48.8316	220.69	.VQ	.	.	.	.
3.917	50.3575	221.57	.VQ	.	.	.	.
4.000	51.8896	222.45	.VQ	.	.	.	.
4.083	53.4278	223.35	.VQ	.	.	.	.
4.167	54.9722	224.25	.VQ	.	.	.	.
4.250	56.5229	225.16	.VQ	.	.	.	.
4.333	58.0800	226.09	. Q	.	.	.	.
4.417	59.6435	227.02	. Q	.	.	.	.
4.500	61.2135	227.96	. Q	.	.	.	.
4.583	62.7900	228.92	. Q	.	.	.	.

4.667	64.3732	229.88	. Q	.	.	.	.
4.750	65.9631	230.85	. Q	.	.	.	.
4.833	67.5598	231.84	. Q	.	.	.	.
4.917	69.1633	232.83	. Q	.	.	.	.
5.000	70.7738	233.84	. Q	.	.	.	.
5.083	72.3913	234.86	. Q	.	.	.	.
5.167	74.0158	235.89	. Q	.	.	.	.
5.250	75.6476	236.93	. Q	.	.	.	.
5.333	77.2866	237.98	. Q	.	.	.	.
5.417	78.9329	239.05	. Q	.	.	.	.
5.500	80.5867	240.13	. Q	.	.	.	.
5.583	82.2480	241.22	. Q	.	.	.	.
5.667	83.9169	242.32	. Q	.	.	.	.
5.750	85.5935	243.44	. Q	.	.	.	.
5.833	87.2779	244.57	. QV	.	.	.	.
5.917	88.9702	245.72	. QV	.	.	.	.
6.000	90.6704	246.88	. QV	.	.	.	.
6.083	92.3788	248.05	. QV	.	.	.	.
6.167	94.0953	249.24	. QV	.	.	.	.
6.250	95.8201	250.44	. QV	.	.	.	.
6.333	97.5533	251.66	. QV	.	.	.	.
6.417	99.2951	252.90	. QV	.	.	.	.
6.500	101.0454	254.14	. QV	.	.	.	.
6.583	102.8044	255.41	. Q	.	.	.	.
6.667	104.5723	256.69	. Q	.	.	.	.
6.750	106.3491	257.99	. Q	.	.	.	.
6.833	108.1349	259.31	. Q	.	.	.	.
6.917	109.9300	260.64	. Q	.	.	.	.
7.000	111.7344	261.99	. Q	.	.	.	.
7.083	113.5482	263.37	. Q	.	.	.	.
7.167	115.3716	264.76	. QV	.	.	.	.
7.250	117.2047	266.17	. QV	.	.	.	.
7.333	119.0476	267.59	. QV	.	.	.	.
7.417	120.9005	269.04	. QV	.	.	.	.
7.500	122.7636	270.51	. QV	.	.	.	.
7.583	124.6369	272.00	. QV	.	.	.	.
7.667	126.5206	273.51	. QV	.	.	.	.
7.750	128.4149	275.05	. QV	.	.	.	.
7.833	130.3199	276.60	. QV	.	.	.	.
7.917	132.2357	278.19	. QV	.	.	.	.
8.000	134.1627	279.79	. QV	.	.	.	.
8.083	136.1008	281.42	. QV	.	.	.	.
8.167	138.0504	283.07	. QV	.	.	.	.
8.250	140.0115	284.75	. QV	.	.	.	.
8.333	141.9843	286.45	. QV	.	.	.	.
8.417	143.9691	288.19	. Q V	.	.	.	.
8.500	145.9659	289.95	. Q V	.	.	.	.
8.583	147.9751	291.74	. Q V	.	.	.	.
8.667	149.9968	293.55	. Q V	.	.	.	.
8.750	152.0313	295.40	. Q V	.	.	.	.
8.833	154.0786	297.27	. Q V	.	.	.	.
8.917	156.1391	299.19	. Q V	.	.	.	.
9.000	158.2130	301.12	. Q V	.	.	.	.
9.083	160.3005	303.10	. Q V	.	.	.	.
9.167	162.4017	305.11	. Q V	.	.	.	.
9.250	164.5171	307.15	. Q V	.	.	.	.
9.333	166.6468	309.23	. Q V	.	.	.	.
9.417	168.7911	311.35	. Q V	.	.	.	.

9.500	170.9502	313.50	. Q V . . . .
9.583	173.1245	315.70	. Q V . . . .
9.667	175.3141	317.93	. Q V . . . .
9.750	177.5194	320.21	. Q V . . . .
9.833	179.7406	322.53	. Q V . . . .
9.917	181.9782	324.90	. Q V . . . .
10.000	184.2324	327.30	. Q V . . . .
10.083	186.5035	329.76	. Q V . . . .
10.167	188.7918	332.27	. Q V . . . .
10.250	191.0978	334.83	. Q V . . . .
10.333	193.4217	337.43	. Q V . . . .
10.417	195.7639	340.10	. Q V . . . .
10.500	198.1249	342.81	. Q V . . . .
10.583	200.5050	345.59	. Q V . . . .
10.667	202.9046	348.42	. Q V . . . .
10.750	205.3242	351.32	. Q V . . . .
10.833	207.7641	354.28	. Q V . . . .
10.917	210.2249	357.31	. Q V . . . .
11.000	212.7070	360.40	. Q V . . . .
11.083	215.2110	363.57	. Q V . . . .
11.167	217.7372	366.81	. Q V . . . .
11.250	220.2863	370.13	. Q V . . . .
11.333	222.8587	373.52	. Q V . . . .
11.417	225.4552	377.00	. Q V . . . .
11.500	228.0761	380.56	. Q V . . . .
11.583	230.7223	384.22	. Q V . . . .
11.667	233.3942	387.97	. Q V . . . .
11.750	236.0927	391.82	. Q V . . . .
11.833	238.8183	395.76	. Q V . . . .
11.917	241.5719	399.82	. Q V . . . .
12.000	244.3541	403.98	. Q V . . . .
12.083	247.1689	408.70	. Q V . . . .
12.167	250.0224	414.34	. Q V . . . .
12.250	252.9283	421.94	. Q V . . . .
12.333	255.8998	431.46	. Q V . . . .
12.417	258.9482	442.62	. Q V . . . .
12.500	262.0860	455.61	. Q V . . . .
12.583	265.3191	469.45	. Q V . . . .
12.667	268.6498	483.62	. Q V . . . .
12.750	272.0800	498.06	. Q V . . . .
12.833	275.6090	512.41	. Q V . . . .
12.917	279.2387	527.04	. Q V . . . .
13.000	282.9742	542.39	. Q V . . . .
13.083	286.8235	558.93	. Q V . . . .
13.167	290.7875	575.57	. Q V . . . .
13.250	294.8677	592.44	. Q V . . . .
13.333	299.0605	608.79	. Q V . . . .
13.417	303.3595	624.22	. Q V . . . .
13.500	307.7566	638.45	. Q V . . . .
13.583	312.2472	652.03	. Q V . . . .
13.667	316.8250	664.70	. Q .V . . . .
13.750	321.4859	676.76	. Q .V . . . .
13.833	326.2281	688.58	. Q .V . . . .
13.917	331.0513	700.32	. Q .V . . . .
14.000	335.9547	711.97	. Q .V . . . .
14.083	340.9450	724.60	. Q .V . . . .
14.167	346.0358	739.18	. Q . V . . . .
14.250	351.2562	758.00	. Q . V . . . .

14.333	356.6338	780.83	. Q. V . . . .
14.417	362.1934	807.25	. Q. V . . . .
14.500	367.9630	837.75	. Q. V . . . .
14.583	373.9564	870.24	. Q V . . . .
14.667	380.1796	903.61	. Q V . . . .
14.750	386.6380	937.76	. Q V . . . .
14.833	393.3319	971.96	. Q V . . . .
14.917	400.2675	1007.04	. Q V . . . .
15.000	407.4579	1044.05	. Q V . . . .
15.083	414.9243	1084.12	. Q V . . . .
15.167	422.6717	1124.92	. QV . . . .
15.250	430.7093	1167.06	. Q V . . . .
15.333	439.0375	1209.25	. QV . . . .
15.417	447.6413	1249.27	. QV . . . .
15.500	456.4948	1285.54	. Q . . . .
15.583	465.5551	1315.55	. QV . . . .
15.667	474.7753	1338.78	. QV . . . .
15.750	484.1315	1358.52	. QV . . . .
15.833	493.6115	1376.49	. QV . . . .
15.917	503.2650	1401.68	. QV . . . .
16.000	513.2058	1443.41	. QV . . . .
16.083	523.8602	1547.02	. Q . . . .
16.167	535.6667	1714.29	. V Q . . . .
16.250	549.3132	1981.48	. V. Q . . . .
16.333	564.8101	2250.14	. V. Q . . . .
16.417	581.8972	2481.06	. V . Q. . . .
16.500	600.5278	2705.15	. .V .Q . . . .
16.583	620.0269	2831.27	. .V . Q . . . .
16.667	640.1022	2914.94	. .V . Q . . . .
16.750	660.6254	2979.97	. .V . Q . . . .
16.833	681.3854	3014.36	. .V . Q Q . . . .
16.917	702.6008	3080.48	. .V . Q . . . .
17.000	724.6111	3195.90	. .V . Q . . . .
17.083	747.4864	3321.49	. .V . Q . . . .
17.167	770.1797	3295.07	. .V . Q . . . .
17.250	792.3712	3222.19	. .V . Q . . . .
17.333	813.2880	3037.13	. .V . Q . . . .
17.417	832.4843	2787.29	. .V. Q . . . .
17.500	849.7565	2507.93	. .Q. . . . .
17.583	865.4738	2282.14	. .Q V . . . .
17.667	879.5575	2044.96	. .Q V . . . .
17.750	892.2242	1839.20	. .Q .V . . . .
17.833	903.8223	1684.05	. .Q. .V . . . .
17.917	914.4676	1545.69	. .Q . V . . . .
18.000	924.1840	1410.82	. .Q . V . . . .
18.083	933.0197	1282.95	. .Q . V . . . .
18.167	941.1491	1180.39	. .Q . V . . . .
18.250	948.5911	1080.57	. .Q . V . . . .
18.333	955.3097	975.54	. .Q . V . . . .
18.417	961.5145	900.94	. .Q . V . . . .
18.500	967.3391	845.72	. .Q . V . . . .
18.583	972.8486	799.99	. .Q . V . . . .
18.667	978.0786	759.39	. .Q . V . . . .
18.750	983.0588	723.13	. .Q . V . . . .
18.833	987.8102	689.90	. .Q . V . . . .
18.917	992.3473	658.79	. .Q . V . . . .
19.000	996.6730	628.10	. .Q . V . . . .
19.083	1000.7797	596.29	. .Q . V . . . .

19.167	1004.5991	554.58	.	Q	.	.	.	V	.
19.250	1008.1802	519.97	.	Q	.	.	.	V	.
19.333	1011.5821	493.96	.	Q	.	.	.	V	.
19.417	1014.8407	473.15	.	Q	.	.	.	V	.
19.500	1017.9749	455.08	.	Q	.	.	.	V	.
19.583	1020.9969	438.81	.	Q	.	.	.	V	.
19.667	1023.9205	424.51	.	Q	.	.	.	V	.
19.750	1026.7572	411.88	.	Q	.	.	.	V	.
19.833	1029.5149	400.42	.	Q	.	.	.	V	.
19.917	1032.2004	389.95	.	Q	.	.	.	V	.
20.000	1034.8201	380.38	.	Q	.	.	.	V	.
20.083	1037.3795	371.63	.	Q	.	.	.	V	.
20.167	1039.8844	363.72	.	Q	.	.	.	V	.
20.250	1042.3397	356.52	.	Q	.	.	.	V	.
20.333	1044.7504	350.03	.	Q	.	.	.	V	.
20.417	1047.1194	343.99	.	Q	.	.	.	V	.
20.500	1049.4490	338.26	.	Q	.	.	.	V	.
20.583	1051.7408	332.78	.	Q	.	.	.	V	.
20.667	1053.9966	327.53	.	Q	.	.	.	V	.
20.750	1056.2175	322.48	.	Q	.	.	.	V	.
20.833	1058.4050	317.62	.	Q	.	.	.	V	.
20.917	1060.5602	312.93	.	Q	.	.	.	V	.
21.000	1062.6842	308.41	.	Q	.	.	.	V	.
21.083	1064.7782	304.05	.	Q	.	.	.	V	.
21.167	1066.8440	299.95	.	Q	.	.	.	V	.
21.250	1068.8829	296.05	.	Q	.	.	.	V	.
21.333	1070.8960	292.30	.	Q	.	.	.	V	.
21.417	1072.8842	288.69	.	Q	.	.	.	V	.
21.500	1074.8483	285.20	.	Q	.	.	.	V	.
21.583	1076.7892	281.81	.	Q	.	.	.	V	.
21.667	1078.7075	278.54	.	Q	.	.	.	V	.
21.750	1080.6039	275.36	.	Q	.	.	.	V	.
21.833	1082.4790	272.27	.	Q	.	.	.	V	.
21.917	1084.3335	269.28	.	Q	.	.	.	V	.
22.000	1086.1680	266.37	.	Q	.	.	.	V	.
22.083	1087.9830	263.54	.	Q	.	.	.	V	.
22.167	1089.7792	260.79	.	Q	.	.	.	V	.
22.250	1091.5569	258.12	.	Q	.	.	.	V	.
22.333	1093.3167	255.51	.	Q	.	.	.	V	.
22.417	1095.0588	252.97	.	Q	.	.	.	V	.
22.500	1096.7841	250.50	.	Q	.	.	.	V	.
22.583	1098.4927	248.09	.	Q	.	.	.	V	.
22.667	1100.1852	245.75	.	Q	.	.	.	V	.
22.750	1101.8618	243.45	.	Q	.	.	.	V	.
22.833	1103.5231	241.22	.	Q	.	.	.	V	.
22.917	1105.1693	239.04	.	Q	.	.	.	V	.
23.000	1106.8009	236.90	.	Q	.	.	.	V	.
23.083	1108.4181	234.82	.	Q	.	.	.	V	.
23.167	1110.0214	232.79	.	Q	.	.	.	V	.
23.250	1111.6108	230.80	.	Q	.	.	.	V	.
23.333	1113.1870	228.85	.	Q	.	.	.	V	.
23.417	1114.7500	226.95	.	Q	.	.	.	V	.
23.500	1116.3002	225.09	.	Q	.	.	.	V	.
23.583	1117.8378	223.26	.	Q	.	.	.	V	.
23.667	1119.3632	221.48	.	Q	.	.	.	V	.
23.750	1120.8765	219.73	.	Q	.	.	.	V	.
23.833	1122.3779	218.02	.	Q	.	.	.	V	.
23.917	1123.8679	216.34	.	Q	.	.	.	V	.

24.000	1125.3466	214.70	.	Q	.	.	.	V	.
24.083	1126.8104	212.55	.	Q	.	.	.	V	.
24.167	1128.2527	209.41	.	Q	.	.	.	V	.
24.250	1129.6580	204.05	.	Q	.	.	.	V	.
24.333	1131.0112	196.49	.	Q	.	.	.	V	.
24.417	1132.3002	187.16	.	Q	.	.	.	V	.
24.500	1133.5110	175.81	.	Q	.	.	.	V	.
24.583	1134.6384	163.71	.	Q	.	.	.	V	.
24.667	1135.6819	151.51	.	Q	.	.	.	V	.
24.750	1136.6414	139.32	.	Q	.	.	.	V	.
24.833	1137.5198	127.55	.	Q	.	.	.	V	.
24.917	1138.3175	115.83	.	Q	.	.	.	V	.
25.000	1139.0305	103.53	.	Q	.	.	.	V	.
25.083	1139.6512	90.14	.	Q	.	.	.	V	.
25.167	1140.1815	77.00	Q	.	.	.	.	V	.
25.250	1140.6224	64.02	Q	.	.	.	.	V	.
25.333	1140.9812	52.08	Q	.	.	.	.	V	.
25.417	1141.2689	41.77	Q	.	.	.	.	V	.
25.500	1141.4987	33.37	Q	.	.	.	.	V	.
25.583	1141.6794	26.26	Q	.	.	.	.	V	.
25.667	1141.8220	20.70	Q	.	.	.	.	V	.
25.750	1141.9352	16.42	Q	.	.	.	.	V	.
25.833	1142.0240	12.90	Q	.	.	.	.	V	.
25.917	1142.0930	10.01	Q	.	.	.	.	V	.
26.000	1142.1464	7.74	Q	.	.	.	.	V	.
26.083	1142.1879	6.03	Q	.	.	.	.	V	.
26.167	1142.2198	4.65	Q	.	.	.	.	V	.
26.250	1142.2445	3.59	Q	.	.	.	.	V	.
26.333	1142.2650	2.98	Q	.	.	.	.	V	.
26.417	1142.2827	2.58	Q	.	.	.	.	V	.
26.500	1142.2982	2.24	Q	.	.	.	.	V	.
26.583	1142.3115	1.94	Q	.	.	.	.	V	.
26.667	1142.3229	1.64	Q	.	.	.	.	V	.
26.750	1142.3322	1.35	Q	.	.	.	.	V	.
26.833	1142.3395	1.07	Q	.	.	.	.	V	.
26.917	1142.3448	0.78	Q	.	.	.	.	V	.
27.000	1142.3483	0.50	Q	.	.	.	.	V	.
27.083	1142.3497	0.22	Q	.	.	.	.	V	.
27.167	1142.3503	0.08	Q	.	.	.	.	V	.
27.250	1142.3505	0.02	Q	.	.	.	.	V	.
27.333	1142.3505	0.01	Q	.	.	.	.	V	.

-----  
TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1640.0
10%	630.0
20%	315.0
30%	205.0
40%	145.0
50%	105.0
60%	85.0
70%	70.0
80%	60.0

=====

END OF FLOODSCx ROUTING ANALYSIS

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FLOOD ROUTING ANALYSIS  
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)  
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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Santa Ana, CA  
92707

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* RANCHO MISSION VIEJO \*  
\* EXISTING CONDITION - UH FREE DRAINING MODEL (LOCAL NODE 13305) \*  
\* 100-YR EV JUNE 2018 ROKAMOTO \*  
\*\*\*\*\*

FILE NAME: EV00305F.DAT  
TIME/DATE OF STUDY: 12:25 06/19/2018

\*\*\*\*\*

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES  
BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.795 HOURS  
VALLEY (DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244  
LOW LOSS FRACTION = 0.515  
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.40  
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.87  
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.15  
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.94  
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.71  
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.49

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.752  
30-MINUTE FACTOR = 0.752  
1-HOUR FACTOR = 0.752  
3-HOUR FACTOR = 0.960  
6-HOUR FACTOR = 0.979  
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 10.482

RUNOFF HYDROGRAPH LISTING LIMITS:  
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00  
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.599	356.720
2	1.831	733.770
3	3.556	1027.088
4	6.695	1869.576
5	11.711	2987.196
6	17.780	3614.240
7	24.320	3895.169
8	31.406	4219.920
9	39.536	4841.828
10	49.118	5706.248
11	57.463	4970.213
12	66.163	5181.218
13	73.208	4195.692
14	78.677	3256.871
15	83.329	2770.256
16	87.117	2255.902
17	89.790	1591.898
18	92.011	1323.059
19	93.944	1150.833
20	95.353	839.020
21	96.422	637.114
22	97.244	489.587
23	97.961	426.666
24	98.212	149.804
25	98.409	117.181
26	98.605	116.849
27	98.802	117.181
28	98.999	116.958
29	99.195	117.072
30	99.392	116.958
31	99.588	116.958
32	99.784	116.958
33	99.981	116.958
34	100.000	11.500

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 833.8954  
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 984.4341



2 4 - H O U R S T O R M  
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	875.0	1750.0	2625.0	3500.0
10.000	158.4013	279.57	. Q	V	.	.	.
10.083	160.3415	281.72	. Q	V	.	.	.
10.167	162.2969	283.93	. Q	V	.	.	.
10.250	164.2677	286.16	. Q	V	.	.	.
10.333	166.2544	288.46	. Q	V	.	.	.
10.417	168.2571	290.80	. Q	V	.	.	.
10.500	170.2764	293.20	. Q	V	.	.	.
10.583	172.3124	295.63	. Q	V	.	.	.
10.667	174.3656	298.13	. Q	V	.	.	.
10.750	176.4364	300.67	. Q	V	.	.	.
10.833	178.5252	303.29	. Q	V	.	.	.
10.917	180.6323	305.95	. Q	V	.	.	.
11.000	182.7583	308.69	. Q	V	.	.	.
11.083	184.9034	311.48	. Q	V	.	.	.
11.167	187.0683	314.35	. Q	V	.	.	.
11.250	189.2534	317.27	. Q	V	.	.	.
11.333	191.4592	320.28	. Q	V	.	.	.
11.417	193.6861	323.35	. Q	V	.	.	.
11.500	195.9348	326.52	. Q	V	.	.	.
11.583	198.2058	329.74	. Q	V	.	.	.
11.667	200.4997	333.07	. Q	V	.	.	.
11.750	202.8170	336.47	. Q	V	.	.	.
11.833	205.1585	339.99	. Q	V	.	.	.
11.917	207.5247	343.57	. Q	V	.	.	.
12.000	209.9165	347.29	. Q	V	.	.	.
12.083	212.3405	351.97	. Q	V	.	.	.
12.167	214.8044	357.75	. Q	V	.	.	.
12.250	217.3137	364.35	. Q	V	.	.	.
12.333	219.8841	373.22	. Q	V	.	.	.
12.417	222.5356	385.01	. Q	V	.	.	.
12.500	225.2804	398.55	. Q	V	.	.	.
12.583	228.1243	412.92	. Q	V	.	.	.
12.667	231.0741	428.32	. Q	V	.	.	.
12.750	234.1418	445.42	. Q	V	.	.	.
12.833	237.3438	464.93	. Q	V	.	.	.
12.917	240.6685	482.75	. Q	V	.	.	.
13.000	244.1213	501.36	. Q	V	.	.	.
13.083	247.6865	517.67	. Q	V	.	.	.
13.167	251.3498	531.90	. Q	V	.	.	.
13.250	255.1039	545.10	. Q	V	.	.	.
13.333	258.9420	557.30	. Q	V	.	.	.
13.417	262.8541	568.03	. Q	V	.	.	.
13.500	266.8376	578.42	. Q	V	.	.	.
13.583	270.8913	588.59	. Q	.V	.	.	.
13.667	275.0120	598.33	. Q	.V	.	.	.
13.750	279.1982	607.83	. Q	.V	.	.	.
13.833	283.4499	617.35	. Q	.V	.	.	.

13.917	287.7681	627.01	. Q	.V	.	.	.
14.000	292.1512	636.43	. Q	.V	.	.	.
14.083	296.6125	647.79	. Q	.V	.	.	.
14.167	301.1679	661.44	. Q	.V	.	.	.
14.250	305.8293	676.84	. Q	.V	.	.	.
14.333	310.6281	696.79	. Q	.V	.	.	.
14.417	315.6034	722.41	. Q	.V	.	.	.
14.500	320.7794	751.55	. Q	.V	.	.	.
14.583	326.1682	782.45	. Q	.V	.	.	.
14.667	331.7854	815.63	. Q	.V	.	.	.
14.750	337.6565	852.48	. Q	.V	.	.	.
14.833	343.8157	894.31	. Q	.V	.	.	.
14.917	350.2475	933.90	. Q	.V	.	.	.
15.000	356.9727	976.50	. Q	.V	.	.	.
15.083	363.9746	1016.67	. Q	.V	.	.	.
15.167	371.2420	1055.23	. Q	.V	.	.	.
15.250	378.7805	1094.59	. Q	.V	.	.	.
15.333	386.6005	1135.47	. Q	.V	.	.	.
15.417	394.6710	1171.83	. Q	.V	.	.	.
15.500	402.9760	1205.89	. Q	.V	.	.	.
15.583	411.5107	1239.24	. Q	.V	.	.	.
15.667	420.2121	1263.44	. Q	.V	.	.	.
15.750	429.0043	1276.63	. Q	.V	.	.	.
15.833	437.8855	1289.55	. Q	.V	.	.	.
15.917	446.9334	1313.76	. Q	.V	.	.	.
16.000	456.3190	1362.79	. Q	.V	.	.	.
16.083	466.6776	1504.06	. Q	.V	.	.	.
16.167	478.1098	1659.96	. Q	.V	.	.	.
16.250	490.7722	1838.59	. Q	.V	.	.	.
16.333	505.5489	2145.56	. Q	.V	.	.	.
16.417	522.8292	2509.10	. Q	.V	.	.	.
16.500	541.7721	2750.51	. Q	.V	.	.	.
16.583	561.6909	2892.21	. Q	.V	.	.	.
16.667	582.7283	3054.65	. Q	.V	.	.	.
16.750	605.2162	3265.24	. Q	.V	.	.	.
16.833	629.0298	3457.74	. Q	.V	.	.	.
16.917	651.4453	3254.71	. Q	.V	.	.	.
17.000	673.3940	3186.96	. Q	.V	.	.	.
17.083	692.9774	2843.51	. Q	.V	.	.	.
17.167	710.3367	2520.58	. Q	.V	.	.	.
17.250	726.1354	2293.97	. Q	.V	.	.	.
17.333	740.4464	2077.95	. Q	.V	.	.	.
17.417	753.0655	1832.30	. Q	.V	.	.	.
17.500	764.5981	1674.53	. Q	.V	.	.	.
17.583	775.2340	1544.34	. Q	.V	.	.	.
17.667	784.7848	1386.77	. Q	.V	.	.	.
17.750	793.4191	1253.70	. Q	.V	.	.	.
17.833	801.2484	1136.82	. Q	.V	.	.	.
17.917	808.4511	1045.83	. Q	.V	.	.	.
18.000	814.7690	917.36	. Q	.V	.	.	.
18.083	820.6548	854.62	. Q	.V	.	.	.
18.167	826.2489	812.27	. Q	.V	.	.	.
18.250	831.5922	775.84	. Q	.V	.	.	.
18.333	836.6766	738.26	. Q	.V	.	.	.
18.417	841.5197	703.22	. Q	.V	.	.	.
18.500	846.1266	668.93	. Q	.V	.	.	.
18.583	850.5054	635.80	. Q	.V	.	.	.
18.667	854.6540	602.37	. Q	.V	.	.	.

18.750	858.5549	566.42	.	Q	.	.	.	V	.
18.833	862.0608	509.05	.	Q	.	.	.	V	.
18.917	865.3484	477.36	.	Q	.	.	.	V	.
19.000	868.4634	452.30	.	Q	.	.	.	V	.
19.083	871.4344	431.39	.	Q	.	.	.	V	.
19.167	874.2727	412.12	.	Q	.	.	.	V	.
19.250	876.9918	394.81	.	Q	.	.	.	V	.
19.333	879.6059	379.57	.	Q	.	.	.	V	.
19.417	882.1313	366.68	.	Q	.	.	.	V	.
19.500	884.5767	355.06	.	Q	.	.	.	V	.
19.583	886.9485	344.39	.	Q	.	.	.	V	.
19.667	889.2551	334.91	.	Q	.	.	.	V	.
19.750	891.5023	326.30	.	Q	.	.	.	V	.
19.833	893.6985	318.89	.	Q	.	.	.	V	.
19.917	895.8473	312.00	.	Q	.	.	.	V	.
20.000	897.9554	306.09	.	Q	.	.	.	V	.

-----  
TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	455.0
20%	250.0
30%	170.0
40%	100.0
50%	75.0
60%	65.0
70%	50.0
80%	35.0
90%	20.0

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FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

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>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<  
=====

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER  
TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE  
INTERVALS(Reference: the National Engineering Handbook,  
Hydrology, Chapter 17, page 17-52, August,1972,  
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00  
UPSTREAM ELEVATION(FT) = 427.51  
DOWNSTREAM ELEVATION(FT) = 315.00  
CHANNEL LENGTH(FT) = 9760.00 MANNING'S FACTOR = 0.040  
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 3457.74  
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 2661.57  
CHANNEL NORMAL VELOCITY FOR Q = 2661.57 CFS = 9.41 FPS  
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.847

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE  
UNIT INTERVALS IS CSTAR = 0.651

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	279.57	272.43	272.43
10.083	281.72	274.45	274.45
10.167	283.93	276.50	276.50
10.250	286.16	278.60	278.60
10.333	288.46	280.73	280.73
10.417	290.80	282.91	282.91
10.500	293.20	285.14	285.14
10.583	295.63	287.41	287.41
10.667	298.13	289.73	289.73
10.750	300.67	292.10	292.10
10.833	303.29	294.51	294.51
10.917	305.95	296.99	296.99
11.000	308.69	299.51	299.51
11.083	311.48	302.10	302.10
11.167	314.35	304.73	304.73
11.250	317.27	307.44	307.44
11.333	320.28	310.20	310.20
11.417	323.35	313.04	313.04
11.500	326.52	315.93	315.93
11.583	329.74	318.91	318.91
11.667	333.07	321.94	321.94
11.750	336.47	325.07	325.07
11.833	339.99	328.26	328.26
11.917	343.57	331.55	331.55
12.000	347.29	334.92	334.92
12.083	351.97	338.38	338.38
12.167	357.75	341.93	341.93
12.250	364.35	345.64	345.64
12.333	373.22	350.03	350.03
12.417	385.01	355.36	355.36
12.500	398.55	361.62	361.62
12.583	412.92	369.72	369.72
12.667	428.32	380.30	380.30
12.750	445.42	392.85	392.85
12.833	464.93	406.63	406.63
12.917	482.75	421.54	421.54
13.000	501.36	437.99	437.99
13.083	517.67	456.35	456.35
13.167	531.90	474.40	474.40
13.250	545.10	492.70	492.70
13.333	557.30	509.61	509.61
13.417	568.03	524.73	524.73
13.500	578.42	538.56	538.56
13.583	588.59	551.25	551.25

13.667	598.33	562.66	562.66
13.750	607.83	573.39	573.39
13.833	617.35	583.73	583.73
13.917	627.01	593.68	593.68
14.000	636.43	603.33	603.33
14.083	647.79	612.91	612.91
14.167	661.44	622.52	622.52
14.250	676.84	632.10	632.10
14.333	696.79	642.94	642.94
14.417	722.41	655.70	655.70
14.500	751.55	670.39	670.39
14.583	782.45	688.76	688.76
14.667	815.63	712.01	712.01
14.750	852.48	739.19	739.19
14.833	894.31	768.89	768.89
14.917	933.90	801.02	801.02
15.000	976.50	836.46	836.46
15.083	1016.67	875.96	875.96
15.167	1055.23	915.65	915.65
15.250	1094.59	957.13	957.13
15.333	1135.47	997.68	997.68
15.417	1171.83	1036.97	1036.97
15.500	1205.89	1076.38	1076.38
15.583	1239.24	1116.53	1116.53
15.667	1263.44	1154.11	1154.11
15.750	1276.63	1189.37	1189.37
15.833	1289.55	1222.96	1222.96
15.917	1313.76	1249.92	1249.92
16.000	1362.79	1267.91	1267.91
16.083	1504.06	1283.12	1283.12
16.167	1659.96	1305.34	1305.34
16.250	1838.59	1349.28	1349.28
16.333	2145.56	1457.27	1457.27
16.417	2509.10	1597.49	1597.49
16.500	2750.51	1768.67	1768.67
16.583	2892.21	2030.87	2030.87
16.667	3054.65	2353.40	2353.40
16.750	3265.24	2618.50	2618.50
16.833	3457.74	2804.22	2804.22
16.917	3254.71	2977.01	2977.01
17.000	3186.96	3173.57	3173.57
17.083	2843.51	3349.20	3349.20
17.167	2520.58	3284.55	3284.55
17.250	2293.97	3205.12	3205.12
17.333	2077.95	2954.75	2954.75
17.417	1832.30	2661.59	2661.59
17.500	1674.53	2412.25	2412.25
17.583	1544.34	2183.24	2183.24
17.667	1386.77	1947.45	1947.45
17.750	1253.70	1763.74	1763.74
17.833	1136.82	1613.61	1613.61
17.917	1045.83	1459.76	1459.76
18.000	917.36	1320.19	1320.19
18.083	854.62	1196.59	1196.59
18.167	812.27	1092.49	1092.49
18.250	775.84	975.56	975.56
18.333	738.26	894.86	894.86
18.417	703.22	839.40	839.40

18.500	668.93	796.28	796.28
18.583	635.80	756.88	756.88
18.667	602.37	720.36	720.36
18.750	566.42	685.34	685.34
18.833	509.05	651.54	651.54
18.917	477.36	617.87	617.87
19.000	452.30	581.72	581.72
19.083	431.39	532.94	532.94
19.167	412.12	495.59	495.59
19.250	394.81	466.44	466.44
19.333	379.57	442.73	442.73
19.417	366.68	422.00	422.00
19.500	355.06	403.59	403.59
19.583	344.39	387.36	387.36
19.667	334.91	373.36	373.36
19.750	326.30	360.95	360.95
19.833	318.89	349.73	349.73
19.917	312.00	339.69	339.69
20.000	306.09	330.63	330.63

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 984.434 AF  
 OUTFLOW VOLUME = 984.434 AF  
 LOSS VOLUME = 0.000 AF

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FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 1

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>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 1411.700 ACRES  
 BASEFLOW = 0.000 CFS/SQUARE-MILE  
 \*USER ENTERED "LAG" TIME = 0.432 HOURS  
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.  
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)  
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.  
 VALLEY (DEVELOPED) S-GRAPH SELECTED  
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.300  
 LOW LOSS FRACTION = 0.422  
 \*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.40  
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.87  
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.15  
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.94  
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.71  
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.49

\*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.752  
 30-MINUTE FACTOR = 0.752  
 1-HOUR FACTOR = 0.752  
 3-HOUR FACTOR = 0.960  
 6-HOUR FACTOR = 0.979

24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 19.290

RUNOFF HYDROGRAPH LISTING LIMITS:  
MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 10.00  
MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	1.107	189.037
2	4.365	556.242
3	12.421	1375.346
4	23.896	1959.016
5	37.828	2378.555
6	54.394	2828.279
7	69.442	2569.096
8	80.102	1820.047
9	87.437	1252.200
10	91.953	771.071
11	95.107	538.438
12	96.968	317.702
13	98.096	192.619
14	98.477	65.005
15	98.838	61.746
16	99.200	61.781
17	99.562	61.746
18	99.923	61.746
19	100.000	13.074

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 204.5710  
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 316.6800

24 - HOUR STORM  
RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	350.0	700.0	1050.0	1400.0
10.000	57.1809	98.91	. Q	V .	.	.	.
10.083	57.8676	99.71	. Q	V .	.	.	.
10.167	58.5600	100.53	. Q	V .	.	.	.
10.250	59.2582	101.38	. Q	V .	.	.	.
10.333	59.9623	102.23	. Q	V .	.	.	.
10.417	60.6724	103.11	. Q	V .	.	.	.
10.500	61.3887	104.01	. Q	V .	.	.	.
10.583	62.1114	104.93	. Q	V .	.	.	.
10.667	62.8405	105.87	. Q	V .	.	.	.
10.750	63.5763	106.83	. Q	V .	.	.	.
10.833	64.3188	107.81	. Q	V .	.	.	.
10.917	65.0683	108.83	. Q	V .	.	.	.
11.000	65.8248	109.86	. Q	V .	.	.	.
11.083	66.5887	110.92	. Q	V .	.	.	.
11.167	67.3601	112.00	. Q	V .	.	.	.
11.250	68.1391	113.12	. Q	V .	.	.	.
11.333	68.9260	114.26	. Q	V .	.	.	.
11.417	69.7210	115.44	. Q	V .	.	.	.
11.500	70.5243	116.64	. Q	V .	.	.	.
11.583	71.3362	117.88	. Q	V .	.	.	.
11.667	72.1567	119.15	. Q	V .	.	.	.
11.750	72.9864	120.46	. Q	V .	.	.	.
11.833	73.8252	121.80	. Q	V .	.	.	.
11.917	74.6737	123.20	. Q	V .	.	.	.
12.000	75.5320	124.62	. Q	V .	.	.	.
12.083	76.4043	126.66	. Q	V .	.	.	.
12.167	77.2986	129.84	. Q	V .	.	.	.
12.250	78.2320	135.53	. Q	V .	.	.	.
12.333	79.2169	143.02	. Q	V .	.	.	.
12.417	80.2627	151.84	. Q	V .	.	.	.
12.500	81.3788	162.06	. Q	V .	.	.	.
12.583	82.5606	171.60	. Q	V .	.	.	.
12.667	83.7932	178.97	. Q	V .	.	.	.
12.750	85.0656	184.74	. Q	V .	.	.	.
12.833	86.3681	189.13	. Q	V .	.	.	.
12.917	87.6968	192.92	. Q	.V	.	.	.
13.000	89.0475	196.12	. Q	.V	.	.	.
13.083	90.4183	199.04	. Q	.V	.	.	.
13.167	91.8070	201.65	. Q	.V	.	.	.
13.250	93.2145	204.36	. Q	.V	.	.	.
13.333	94.6412	207.16	. Q	.V	.	.	.
13.417	96.0880	210.08	. Q	.V	.	.	.
13.500	97.5555	213.09	. Q	.V	.	.	.
13.583	99.0438	216.09	. Q	.V	.	.	.
13.667	100.5532	219.17	. Q	.V	.	.	.
13.750	102.0849	222.41	. Q	.V	.	.	.
13.833	103.6398	225.77	. Q	.V	.	.	.

13.917	105.2192	229.32	.	Q	.	V	.	.	.
14.000	106.8240	233.02	.	Q	.	V	.	.	.
14.083	108.4631	238.00	.	Q	.	V	.	.	.
14.167	110.1520	245.22	.	Q	.	V	.	.	.
14.250	111.9239	257.28	.	Q	.	V	.	.	.
14.333	113.8025	272.78	.	Q	.	V	.	.	.
14.417	115.8054	290.82	.	Q	.	V	.	.	.
14.500	117.9509	311.52	.	Q	.	V	.	.	.
14.583	120.2301	330.94	.	Q	.	V	.	.	.
14.667	122.6149	346.27	.	Q	.	V	.	.	.
14.750	125.0851	358.67	.	Q	.	V	.	.	.
14.833	127.6236	368.60	.	Q	.	V	.	.	.
14.917	130.2243	377.61	.	Q	.	V	.	.	.
15.000	132.8809	385.74	.	.Q	.	V	.	.	.
15.083	135.5923	393.70	.	.Q	.	V	.	.	.
15.167	138.3569	401.42	.	.Q	.	V	.	.	.
15.250	141.1796	409.85	.	.Q	.	V	.	.	.
15.333	144.0651	418.97	.	.Q	.	V	.	.	.
15.417	147.0042	426.76	.	.Q	.	V	.	.	.
15.500	149.9730	431.07	.	.Q	.	V	.	.	.
15.583	152.9113	426.64	.	.Q	.	V	.	.	.
15.667	155.7826	416.91	.	.Q	.	V	.	.	.
15.750	158.5761	405.63	.	.Q	.	V	.	.	.
15.833	161.2874	393.68	.	.Q	.	V	.	.	.
15.917	164.0134	395.81	.	.Q	.	V	.	.	.
16.000	166.9461	425.83	.	.Q	.	V	.	.	.
16.083	170.5920	529.38	.	.	Q	.	V	.	.
16.167	175.4188	700.85	.	.	.	Q	V	.	.
16.250	182.0736	966.29	.	.	.	.	V	Q	.
16.333	190.0661	1160.51	.	.	.	.	.	V	Q
16.417	198.9270	1286.60	.	.	.	.	.	V	Q
16.500	208.3215	1364.09	.	.	.	.	.	V	Q
16.583	216.9023	1245.93	.	.	.	.	.	V	Q
16.667	223.8507	1008.91	.	.	.	.	.	Q	.
16.750	229.5056	821.09	.	.	.	Q	.	V	.
16.833	234.1555	675.16	.	.	.	Q	.	V	.
16.917	238.2566	595.49	.	.	Q	.	.	V	.
17.000	241.8548	522.46	.	.	Q	.	.	V	.
17.083	245.1080	472.37	.	.	Q	.	.	V	.
17.167	248.0348	424.96	.	.	Q	.	.	V	.
17.250	250.8163	403.87	.	.	Q	.	.	V	.
17.333	253.4434	381.46	.	.	Q	.	.	V	.
17.417	255.8963	356.16	.	.	Q	.	.	V	.
17.500	258.1451	326.52	.	.	Q	.	.	V	.
17.583	260.1384	289.42	.	.	Q	.	.	V	.
17.667	261.9724	266.30	.	.	Q	.	.	V	.
17.750	263.7006	250.93	.	.	Q	.	.	V	.
17.833	265.3489	239.34	.	.	Q	.	.	V	.
17.917	266.9278	229.26	.	.	Q	.	.	V	.
18.000	268.4491	220.89	.	.	Q	.	.	V	.
18.083	269.9176	213.22	.	.	Q	.	.	V	.
18.167	271.3339	205.65	.	.	Q	.	.	V	.
18.250	272.6844	196.10	.	.	Q	.	.	V	.
18.333	273.9598	185.19	.	.	Q	.	.	V	.
18.417	275.1539	173.38	.	.	Q	.	.	V	.
18.500	276.2597	160.56	.	.	Q	.	.	V	.
18.583	277.2866	149.09	.	.	Q	.	.	V	.
18.667	278.2522	140.21	.	.	Q	.	.	V	.

18.750	279.1700	133.26	.	Q	.	.	.	V	.
18.833	280.0513	127.96	.	Q	.	.	.	V	.
18.917	280.9021	123.54	.	Q	.	.	.	V	.
19.000	281.7282	119.95	.	Q	.	.	.	V	.
19.083	282.5331	116.88	.	Q	.	.	.	V	.
19.167	283.3205	114.32	.	Q	.	.	.	V	.
19.250	284.0911	111.90	.	Q	.	.	.	V	.
19.333	284.8459	109.59	.	Q	.	.	.	V	.
19.417	285.5854	107.38	.	Q	.	.	.	V	.
19.500	286.3105	105.27	.	Q	.	.	.	V	.
19.583	287.0226	103.40	.	Q	.	.	.	V	.
19.667	287.7225	101.64	.	Q	.	.	.	V	.
19.750	288.4109	99.96	.	Q	.	.	.	V	.
19.833	289.0883	98.35	.	Q	.	.	.	V	.
19.917	289.7550	96.80	.	Q	.	.	.	V	.
20.000	290.4115	95.32	.	Q	.	.	.	V	.

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 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
 (Note: 100% of Peak Flow Rate estimate assumed to have  
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	385.0
20%	195.0
30%	105.0
40%	50.0
50%	40.0
60%	35.0
70%	30.0
80%	20.0
90%	15.0

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7  
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>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<  
 =====

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6  
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>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<  
 =====

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11  
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>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<  
 =====

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)  
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	975.0	1950.0	2925.0	3900.0
10.000	208.9787	371.33	. Q V .	.	.	.	.
10.083	211.5555	374.16	. Q V .	.	.	.	.
10.167	214.1521	377.03	. Q V .	.	.	.	.
10.250	216.7690	379.97	. Q V .	.	.	.	.
10.333	219.4065	382.96	. Q V .	.	.	.	.
10.417	222.0651	386.03	. Q V .	.	.	.	.
10.500	224.7452	389.14	. Q V .	.	.	.	.
10.583	227.4473	392.34	. Q V .	.	.	.	.
10.667	230.1717	395.59	. Q V .	.	.	.	.
10.750	232.9192	398.93	. Q V .	.	.	.	.
10.833	235.6900	402.32	. Q V .	.	.	.	.
10.917	238.4849	405.81	. Q V .	.	.	.	.
11.000	241.3042	409.36	. Q V .	.	.	.	.
11.083	244.1486	413.01	. Q V .	.	.	.	.
11.167	247.0187	416.73	. Q V .	.	.	.	.
11.250	249.9151	420.56	. Q V .	.	.	.	.
11.333	252.8383	424.46	. Q V .	.	.	.	.
11.417	255.7892	428.47	. Q V .	.	.	.	.
11.500	258.7683	432.57	. Q V .	.	.	.	.
11.583	261.7765	436.78	. Q V .	.	.	.	.
11.667	264.8143	441.09	. Q V .	.	.	.	.
11.750	267.8827	445.53	. Q V .	.	.	.	.
11.833	270.9823	450.07	. Q V .	.	.	.	.
11.917	274.1142	454.75	. Q V .	.	.	.	.
12.000	277.2791	459.54	. Q V .	.	.	.	.
12.083	280.4819	465.05	. Q V .	.	.	.	.
12.167	283.7310	471.78	. Q V .	.	.	.	.
12.250	287.0449	481.17	. Q V .	.	.	.	.
12.333	290.4406	493.05	. Q V .	.	.	.	.
12.417	293.9337	507.20	. Q V .	.	.	.	.
12.500	297.5403	523.69	. Q V .	.	.	.	.
12.583	301.2685	541.33	. Q V .	.	.	.	.
12.667	305.1202	559.27	. Q V .	.	.	.	.
12.750	309.0981	577.59	. Q V .	.	.	.	.
12.833	313.2011	595.76	. Q V .	.	.	.	.
12.917	317.4330	614.47	. Q V .	.	.	.	.
13.000	321.8002	634.11	. Q V .	.	.	.	.
13.083	326.3139	655.39	. Q V .	.	.	.	.
13.167	330.9699	676.05	. Q V .	.	.	.	.
13.250	335.7706	697.07	. Q V .	.	.	.	.
13.333	340.7071	716.77	. Q V .	.	.	.	.
13.417	345.7677	734.81	. Q V .	.	.	.	.
13.500	350.9443	751.64	. Q V .	.	.	.	.
13.583	356.2291	767.35	. Q V .	.	.	.	.
13.667	361.6136	781.83	. Q V .	.	.	.	.
13.750	367.0943	795.79	. Q V .	.	.	.	.
13.833	372.6694	809.50	. Q V .	.	.	.	.
13.917	378.3374	823.00	. Q V .	.	.	.	.
14.000	384.0974	836.35	. Q V .	.	.	.	.
14.083	389.9577	850.91	. Q V .	.	.	.	.
14.167	395.9339	867.74	. Q V .	.	.	.	.
14.250	402.0591	889.38	. Q V .	.	.	.	.
14.333	408.3657	915.72	. Q V .	.	.	.	.
14.417	414.8845	946.52	. Q V .	.	.	.	.
14.500	421.6469	981.91	. Q V .	.	.	.	.

14.583	428.6696	1019.70	. Q V .	.	.	.	.
14.667	435.9581	1058.28	. Q V .	.	.	.	.
14.750	443.5191	1097.86	. Q V .	.	.	.	.
14.833	451.3531	1137.49	. Q V .	.	.	.	.
14.917	459.4704	1178.64	. Q V .	.	.	.	.
15.000	467.8878	1222.20	. Q V .	.	.	.	.
15.083	476.6320	1269.65	. QV .	.	.	.	.
15.167	485.7027	1317.08	. QV .	.	.	.	.
15.250	495.1172	1366.98	. QV .	.	.	.	.
15.333	504.8737	1416.65	. QV .	.	.	.	.
15.417	514.9545	1463.73	. Q .	.	.	.	.
15.500	525.3364	1507.44	. QV .	.	.	.	.
15.583	535.9643	1543.18	. QV .	.	.	.	.
15.667	546.7840	1571.02	. Q .	.	.	.	.
15.750	557.7688	1594.99	. QV .	.	.	.	.
15.833	568.9026	1616.63	. QV .	.	.	.	.
15.917	580.2369	1645.73	. QV .	.	.	.	.
16.000	591.9017	1693.74	. QV .	.	.	.	.
16.083	604.3845	1812.50	. Q .	.	.	.	.
16.167	618.2012	2006.19	. VQ .	.	.	.	.
16.250	634.1487	2315.57	. V . Q .	.	.	.	.
16.333	652.1774	2617.77	. V . Q .	.	.	.	.
16.417	672.0403	2884.09	. V . Q .	.	.	.	.
16.500	693.6158	3132.75	. V . Q .	.	.	.	.
16.583	716.1833	3276.80	. V . Q .	.	.	.	.
16.667	739.3397	3362.31	. V . Q .	.	.	.	.
16.750	763.0283	3439.60	. V . Q .	.	.	.	.
16.833	786.9910	3479.38	. V . Q .	.	.	.	.
16.917	811.5949	3572.49	. V . Q .	.	.	.	.
17.000	837.0497	3696.03	. V . Q .	.	.	.	.
17.083	863.3690	3821.56	. V . Q .	.	.	.	.
17.167	888.9166	3709.51	. V . Q .	.	.	.	.
17.250	913.7720	3608.99	. V . Q .	.	.	.	.
17.333	936.7486	3336.21	. V . Q .	.	.	.	.
17.417	957.5320	3017.76	. VQ .	.	.	.	.
17.500	976.3941	2738.77	. Q V .	.	.	.	.
17.583	993.4235	2472.66	. Q V .	.	.	.	.
17.667	1008.6697	2213.75	. Q . V .	.	.	.	.
17.750	1022.5448	2014.66	. Q . V .	.	.	.	.
17.833	1035.3062	1852.95	. Q . V .	.	.	.	.
17.917	1046.9385	1689.02	. Q . V .	.	.	.	.
18.000	1057.5520	1541.08	. Q . V .	.	.	.	.
18.083	1067.2615	1409.81	. Q . V .	.	.	.	.
18.167	1076.2019	1298.15	. Q . V .	.	.	.	.
18.250	1084.2712	1171.66	. Q . V .	.	.	.	.
18.333	1091.7096	1080.05	. Q . V .	.	.	.	.
18.417	1098.6847	1012.79	. Q . V .	.	.	.	.
18.500	1105.2745	956.85	. Q . V .	.	.	.	.
18.583	1111.5140	905.98	. Q . V .	.	.	.	.
18.667	1117.4408	860.57	. Q . V .	.	.	.	.
18.750	1123.0786	818.60	. Q . V .	.	.	.	.
18.833	1128.4471	779.50	. Q . V .	.	.	.	.
18.917	1133.5532	741.41	. Q . V .	.	.	.	.
19.000	1138.3856	701.66	. Q . V .	.	.	.	.
19.083	1142.8610	649.82	. Q . V .	.	.	.	.
19.167	1147.0615	609.92	. Q . V .	.	.	.	.
19.250	1151.0446	578.34	. Q . V .	.	.	.	.
19.333	1154.8484	552.32	. Q . V .	.	.	.	.

19.417	1158.4943	529.38	.	Q	.	.	.	V	.
19.500	1161.9988	508.86	.	Q	.	.	.	V	.
19.583	1165.3787	490.75	.	Q	.	.	.	V	.
19.667	1168.6500	475.00	.	Q	.	.	.	V	.
19.750	1171.8243	460.91	.	Q	.	.	.	V	.
19.833	1174.9103	448.08	.	Q	.	.	.	V	.
19.917	1177.9164	436.49	.	Q	.	.	.	V	.
20.000	1180.8500	425.95	.	Q	.	.	.	V	.

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TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
 (Note: 100% of Peak Flow Rate estimate assumed to have  
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	610.0
20%	320.0
30%	205.0
40%	150.0
50%	100.0
60%	85.0
70%	70.0
80%	55.0
90%	35.0

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END OF FLOODSCx ROUTING ANALYSIS