

1	0224	49	0.	*	1	0609	124	92.	*	1	0954	199	64.	*	1	1339	274	57.
1	0227	50	0.	*	1	0612	125	71.	*	1	0957	200	64.	*	1	1342	275	56.
1	0230	51	0.	*	1	0615	126	54.	*	1	1000	201	64.	*	1	1345	276	56.
1	0233	52	0.	*	1	0618	127	51.	*	1	1003	202	64.	*	1	1348	277	56.
1	0236	53	0.	*	1	0621	128	57.	*	1	1006	203	64.	*	1	1351	278	56.
1	0239	54	0.	*	1	0624	129	62.	*	1	1009	204	63.	*	1	1354	279	56.
1	0242	55	0.	*	1	0627	130	67.	*	1	1012	205	63.	*	1	1357	280	56.
1	0245	56	0.	*	1	0630	131	72.	*	1	1015	206	63.	*	1	1400	281	56.
1	0248	57	0.	*	1	0633	132	75.	*	1	1018	207	63.	*	1	1403	282	55.
1	0251	58	0.	*	1	0636	133	78.	*	1	1021	208	63.	*	1	1406	283	55.
1	0254	59	0.	*	1	0639	134	79.	*	1	1024	209	62.	*	1	1409	284	55.
1	0257	60	0.	*	1	0642	135	80.	*	1	1027	210	62.	*	1	1412	285	55.
1	0300	61	0.	*	1	0645	136	81.	*	1	1030	211	62.	*	1	1415	286	55.
1	0303	62	0.	*	1	0648	137	81.	*	1	1033	212	62.	*	1	1418	287	55.
1	0306	63	0.	*	1	0651	138	82.	*	1	1036	213	62.	*	1	1421	288	54.
1	0309	64	0.	*	1	0654	139	82.	*	1	1039	214	62.	*	1	1424	289	54.
1	0312	65	0.	*	1	0657	140	82.	*	1	1042	215	62.	*	1	1427	290	54.
1	0315	66	0.	*	1	0700	141	83.	*	1	1045	216	62.	*	1	1430	291	54.
1	0318	67	0.	*	1	0703	142	83.	*	1	1048	217	61.	*	1	1433	292	54.
1	0321	68	0.	*	1	0706	143	82.	*	1	1051	218	61.	*	1	1436	293	53.
1	0324	69	0.	*	1	0709	144	82.	*	1	1054	219	61.	*	1	1439	294	53.
1	0327	70	0.	*	1	0712	145	81.	*	1	1057	220	61.	*	1	1442	295	53.
1	0330	71	0.	*	1	0715	146	81.	*	1	1100	221	61.	*	1	1445	296	53.
1	0333	72	0.	*	1	0718	147	80.	*	1	1103	222	61.	*	1	1448	297	53.
1	0336	73	0.	*	1	0721	148	79.	*	1	1106	223	61.	*	1	1451	298	52.
1	0339	74	0.	*	1	0724	149	79.	*	1	1109	224	61.	*	1	1454	299	52.
1	0342	75	0.	*	1	0727	150	78.	*	1	1112	225	61.	*	1	1457	300	52.

PEAK FLOW TIME
 (CFS) (HR)
 117. 6.05
 (CFS)
 (INCHES)
 (AC-FT)
 CUMULATIVE AREA = 1.10 SQ MI

638 KK
 AP-D21

640 KO OUTPUT CONTROL VARIABLES
 IPRNT 1 PRINT CONTROL
 IPLOT 1 PLOT CONTROL
 QSCAL 0. HYDROGRAPH PLOT SCALE
 641 HC HYDROGRAPH COMBINATION
 ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

HYDROGRAPH AT STATION AP-D21 SUM OF 2 HYDROGRAPHS

DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW		
1	0000	1	1.	*	1	0345	76	0.	*	1	0730	151	83.	*	1	1115	226	63.
1	0003	2	0.	*	1	0348	77	0.	*	1	0733	152	82.	*	1	1118	227	62.
1	0006	3	0.	*	1	0351	78	0.	*	1	0736	153	82.	*	1	1121	228	62.
1	0009	4	0.	*	1	0354	79	0.	*	1	0739	154	81.	*	1	1124	229	62.
1	0012	5	0.	*	1	0357	80	0.	*	1	0742	155	81.	*	1	1127	230	62.
1	0015	6	0.	*	1	0400	81	0.	*	1	0745	156	81.	*	1	1130	231	62.

1	0018	7	0.	*	1	0403	82	0.	*	1	0748	157	80.	*	1	1133	232	62.
1	0021	8	0.	*	1	0406	83	0.	*	1	0751	158	80.	*	1	1136	233	62.
1	0024	9	0.	*	1	0409	84	0.	*	1	0754	159	80.	*	1	1139	234	62.
1	0027	10	0.	*	1	0412	85	0.	*	1	0757	160	79.	*	1	1142	235	62.
1	0030	11	0.	*	1	0415	86	0.	*	1	0800	161	79.	*	1	1145	236	62.
1	0033	12	0.	*	1	0418	87	0.	*	1	0803	162	79.	*	1	1148	237	62.
1	0036	13	0.	*	1	0421	88	0.	*	1	0806	163	78.	*	1	1151	238	62.
1	0039	14	0.	*	1	0424	89	0.	*	1	0809	164	77.	*	1	1154	239	62.
1	0042	15	0.	*	1	0427	90	0.	*	1	0812	165	76.	*	1	1157	240	62.
1	0045	16	0.	*	1	0430	91	0.	*	1	0815	166	74.	*	1	1200	241	61.
1	0048	17	0.	*	1	0433	92	0.	*	1	0818	167	73.	*	1	1203	242	61.
1	0051	18	0.	*	1	0436	93	0.	*	1	0821	168	73.	*	1	1206	243	61.
1	0054	19	0.	*	1	0439	94	0.	*	1	0824	169	72.	*	1	1209	244	61.
1	0057	20	0.	*	1	0442	95	0.	*	1	0827	170	71.	*	1	1212	245	61.
1	0100	21	0.	*	1	0445	96	0.	*	1	0830	171	71.	*	1	1215	246	61.
1	0103	22	0.	*	1	0448	97	0.	*	1	0833	172	71.	*	1	1218	247	61.
1	0106	23	0.	*	1	0451	98	0.	*	1	0836	173	70.	*	1	1221	248	61.
1	0109	24	0.	*	1	0454	99	0.	*	1	0839	174	70.	*	1	1224	249	61.
1	0112	25	0.	*	1	0457	100	0.	*	1	0842	175	69.	*	1	1227	250	61.
1	0115	26	0.	*	1	0500	101	0.	*	1	0845	176	69.	*	1	1230	251	61.
1	0118	27	0.	*	1	0503	102	0.	*	1	0848	177	69.	*	1	1233	252	61.
1	0121	28	0.	*	1	0506	103	0.	*	1	0851	178	69.	*	1	1236	253	61.
1	0124	29	0.	*	1	0509	104	0.	*	1	0854	179	69.	*	1	1239	254	61.
1	0127	30	0.	*	1	0512	105	0.	*	1	0857	180	68.	*	1	1242	255	60.
1	0130	31	0.	*	1	0515	106	0.	*	1	0900	181	68.	*	1	1245	256	60.
1	0133	32	0.	*	1	0518	107	0.	*	1	0903	182	68.	*	1	1248	257	60.
1	0136	33	0.	*	1	0521	108	0.	*	1	0906	183	68.	*	1	1251	258	60.
1	0139	34	0.	*	1	0524	109	0.	*	1	0909	184	68.	*	1	1254	259	60.
1	0142	35	0.	*	1	0527	110	0.	*	1	0912	185	67.	*	1	1257	260	60.
1	0145	36	0.	*	1	0530	111	0.	*	1	0915	186	67.	*	1	1300	261	60.
1	0148	37	0.	*	1	0533	112	1.	*	1	0918	187	67.	*	1	1303	262	60.
1	0151	38	0.	*	1	0536	113	4.	*	1	0921	188	67.	*	1	1306	263	60.
1	0154	39	0.	*	1	0539	114	14.	*	1	0924	189	67.	*	1	1309	264	60.
1	0157	40	0.	*	1	0542	115	33.	*	1	0927	190	67.	*	1	1312	265	59.
1	0200	41	0.	*	1	0545	116	62.	*	1	0930	191	67.	*	1	1315	266	59.
1	0203	42	0.	*	1	0548	117	94.	*	1	0933	192	67.	*	1	1318	267	59.
1	0206	43	0.	*	1	0551	118	122.	*	1	0936	193	67.	*	1	1321	268	59.
1	0209	44	0.	*	1	0554	119	146.	*	1	0939	194	66.	*	1	1324	269	59.
1	0212	45	0.	*	1	0557	120	167.	*	1	0942	195	66.	*	1	1327	270	59.
1	0215	46	0.	*	1	0600	121	186.	*	1	0945	196	66.	*	1	1330	271	58.
1	0218	47	0.	*	1	0603	122	196.	*	1	0948	197	66.	*	1	1333	272	58.
1	0221	48	0.	*	1	0606	123	188.	*	1	0951	198	66.	*	1	1336	273	58.
1	0224	49	0.	*	1	0609	124	163.	*	1	0954	199	66.	*	1	1339	274	58.
1	0227	50	0.	*	1	0612	125	131.	*	1	0957	200	66.	*	1	1342	275	58.
1	0230	51	0.	*	1	0615	126	98.	*	1	1000	201	66.	*	1	1345	276	58.
1	0233	52	0.	*	1	0618	127	81.	*	1	1003	202	66.	*	1	1348	277	58.
1	0236	53	0.	*	1	0621	128	77.	*	1	1006	203	66.	*	1	1351	278	58.
1	0239	54	0.	*	1	0624	129	78.	*	1	1009	204	65.	*	1	1354	279	57.
1	0242	55	0.	*	1	0627	130	81.	*	1	1012	205	65.	*	1	1357	280	57.
1	0245	56	0.	*	1	0630	131	84.	*	1	1015	206	65.	*	1	1400	281	57.
1	0248	57	0.	*	1	0633	132	86.	*	1	1018	207	65.	*	1	1403	282	57.
1	0251	58	0.	*	1	0636	133	88.	*	1	1021	208	64.	*	1	1406	283	57.
1	0254	59	0.	*	1	0639	134	89.	*	1	1024	209	64.	*	1	1409	284	57.
1	0257	60	0.	*	1	0642	135	89.	*	1	1027	210	64.	*	1	1412	285	56.
1	0300	61	0.	*	1	0645	136	89.	*	1	1030	211	64.	*	1	1415	286	56.
1	0303	62	0.	*	1	0648	137	88.	*	1	1033	212	64.	*	1	1418	287	56.
1	0306	63	0.	*	1	0651	138	89.	*	1	1036	213	64.	*	1	1421	288	56.
1	0309	64	0.	*	1	0654	139	89.	*	1	1039	214	63.	*	1	1424	289	56.
1	0312	65	0.	*	1	0657	140	89.	*	1	1042	215	63.	*	1	1427	290	56.
1	0315	66	0.	*	1	0700	141	89.	*	1	1045	216	63.	*	1	1430	291	55.
1	0318	67	0.	*	1	0703	142	89.	*	1	1048	217	63.	*	1	1433	292	55.
1	0321	68	0.	*	1	0706	143	89.	*	1	1051	218	63.	*	1	1436	293	55.
1	0324	69	0.	*	1	0709	144	88.	*	1	1054	219	63.	*	1	1439	294	55.
1	0327	70	0.	*	1	0712	145	87.	*	1	1057	220	63.	*	1	1442	295	54.
1	0330	71	0.	*	1	0715	146	86.	*	1	1100	221	63.	*	1	1445	296	54.
1	0333	72	0.	*	1	0718	147	85.	*	1	1103	222	63.	*	1	1448	297	54.
1	0336	73	0.	*	1	0721	148	84.	*	1	1106	223	63.	*	1	1451	298	54.
1	0339	74	0.	*	1	0724	149	84.	*	1	1109	224	63.	*	1	1454	299	54.
1	0342	75	0.	*	1	0727	150	83.	*	1	1112	225	63.	*	1	1457	300	53.

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
(CFS)	(HR)	6-HR	24-HR	72-HR	14.95-HR
196.	6.05	79.	44.	44.	44.

(INCHES) 0.639 0.898 0.898 0.898
 (AC-FT) 39. 55. 55. 55.

CUMULATIVE AREA = 1.14 SQ MI

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663 KK *****
 * *
 * AP-DFCS *
 * *

666 KO OUTPUT CONTROL VARIABLES
 IPRNT 1 PRINT CONTROL
 IPLOT 1 PLOT CONTROL
 QSCAL 0. HYDROGRAPH PLOT SCALE

667 HC HYDROGRAPH COMBINATION
 ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

HYDROGRAPH AT STATION AP-DFCS
 SUM OF 2 HYDROGRAPHS

DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*
1	0000	1	1.	*	1	0345	76	0.	*	1	0730	151	84.	*	1	1115	226	63.											
1	0003	2	0.	*	1	0348	77	0.	*	1	0733	152	83.	*	1	1118	227	63.											
1	0006	3	0.	*	1	0351	78	0.	*	1	0736	153	83.	*	1	1121	228	63.											
1	0009	4	0.	*	1	0354	79	0.	*	1	0739	154	82.	*	1	1124	229	63.											
1	0012	5	0.	*	1	0357	80	0.	*	1	0742	155	82.	*	1	1127	230	63.											
1	0015	6	0.	*	1	0400	81	0.	*	1	0745	156	82.	*	1	1130	231	63.											
1	0018	7	0.	*	1	0403	82	0.	*	1	0748	157	81.	*	1	1133	232	63.											
1	0021	8	0.	*	1	0406	83	0.	*	1	0751	158	81.	*	1	1136	233	62.											
1	0024	9	0.	*	1	0409	84	0.	*	1	0754	159	81.	*	1	1139	234	62.											
1	0027	10	0.	*	1	0412	85	0.	*	1	0757	160	80.	*	1	1142	235	62.											
1	0030	11	0.	*	1	0415	86	0.	*	1	0800	161	80.	*	1	1145	236	62.											
1	0033	12	0.	*	1	0418	87	0.	*	1	0803	162	80.	*	1	1148	237	62.											
1	0036	13	0.	*	1	0421	88	0.	*	1	0806	163	79.	*	1	1151	238	62.											
1	0039	14	0.	*	1	0424	89	0.	*	1	0809	164	78.	*	1	1154	239	62.											
1	0042	15	0.	*	1	0427	90	0.	*	1	0812	165	76.	*	1	1157	240	62.											
1	0045	16	0.	*	1	0430	91	0.	*	1	0815	166	75.	*	1	1200	241	62.											
1	0048	17	0.	*	1	0433	92	0.	*	1	0818	167	74.	*	1	1203	242	62.											
1	0051	18	0.	*	1	0436	93	0.	*	1	0821	168	73.	*	1	1206	243	62.											
1	0054	19	0.	*	1	0439	94	0.	*	1	0824	169	73.	*	1	1209	244	62.											
1	0057	20	0.	*	1	0442	95	0.	*	1	0827	170	72.	*	1	1212	245	62.											
1	0100	21	0.	*	1	0445	96	0.	*	1	0830	171	71.	*	1	1215	246	62.											
1	0103	22	0.	*	1	0448	97	0.	*	1	0833	172	71.	*	1	1218	247	62.											
1	0106	23	0.	*	1	0451	98	0.	*	1	0836	173	71.	*	1	1221	248	61.											
1	0109	24	0.	*	1	0454	99	0.	*	1	0839	174	70.	*	1	1224	249	61.											
1	0112	25	0.	*	1	0457	100	0.	*	1	0842	175	70.	*	1	1227	250	61.											
1	0115	26	0.	*	1	0500	101	0.	*	1	0845	176	70.	*	1	1230	251	61.											
1	0118	27	0.	*	1	0503	102	0.	*	1	0848	177	70.	*	1	1233	252	61.											
1	0121	28	0.	*	1	0506	103	0.	*	1	0851	178	69.	*	1	1236	253	61.											
1	0124	29	0.	*	1	0509	104	0.	*	1	0854	179	69.	*	1	1239	254	61.											
1	0127	30	0.	*	1	0512	105	0.	*	1	0857	180	69.	*	1	1242	255	61.											
1	0130	31	0.	*	1	0515	106	0.	*	1	0900	181	69.	*	1	1245	256	61.											
1	0133	32	0.	*	1	0518	107	0.	*	1	0903	182	69.	*	1	1248	257	61.											
1	0136	33	0.	*	1	0521	108	0.	*	1	0906	183	68.	*	1	1251	258	61.											
1	0139	34	0.	*	1	0524	109	0.	*	1	0909	184	68.	*	1	1254	259	61.											
1	0142	35	0.	*	1	0527	110	0.	*	1	0912	185	68.	*	1	1257	260	61.											
1	0145	36	0.	*	1	0530	111	0.	*	1	0915	186	68.	*	1	1300	261	60.											
1	0148	37	0.	*	1	0533	112	1.	*	1	0918	187	68.	*	1	1303	262	60.											
1	0151	38	0.	*	1	0536	113	4.	*	1	0921	188	68.	*	1	1306	263	60.											
1	0154	39	0.	*	1	0539	114	15.	*	1	0924	189	68.	*	1	1309	264	60.											
1	0157	40	0.	*	1	0542	115	37.	*	1	0927	190	67.	*	1	1312	265	60.											
1	0200	41	0.	*	1	0545	116	69.	*	1	0930	191	67.	*	1	1315	266	60.											

1	0203	42	0.	*	1	0548	117	105.	*	1	0933	192	67.	*	1	1318	267	59.
1	0206	43	0.	*	1	0551	118	136.	*	1	0936	193	67.	*	1	1321	268	59.
1	0209	44	0.	*	1	0554	119	164.	*	1	0939	194	67.	*	1	1324	269	59.
1	0212	45	0.	*	1	0557	120	188.	*	1	0942	195	67.	*	1	1327	270	59.
1	0215	46	0.	*	1	0600	121	210.	*	1	0945	196	67.	*	1	1330	271	59.
1	0218	47	0.	*	1	0603	122	221.	*	1	0948	197	67.	*	1	1333	272	59.
1	0221	48	0.	*	1	0606	123	210.	*	1	0951	198	67.	*	1	1336	273	59.
1	0224	49	0.	*	1	0609	124	179.	*	1	0954	199	67.	*	1	1339	274	58.
1	0227	50	0.	*	1	0612	125	142.	*	1	0957	200	67.	*	1	1342	275	58.
1	0230	51	0.	*	1	0615	126	106.	*	1	1000	201	67.	*	1	1345	276	58.
1	0233	52	0.	*	1	0618	127	86.	*	1	1003	202	66.	*	1	1348	277	58.
1	0236	53	0.	*	1	0621	128	82.	*	1	1006	203	66.	*	1	1351	278	58.
1	0239	54	0.	*	1	0624	129	82.	*	1	1009	204	66.	*	1	1354	279	58.
1	0242	55	0.	*	1	0627	130	84.	*	1	1012	205	66.	*	1	1357	280	58.
1	0245	56	0.	*	1	0630	131	87.	*	1	1015	206	65.	*	1	1400	281	58.
1	0248	57	0.	*	1	0633	132	89.	*	1	1018	207	65.	*	1	1403	282	57.
1	0251	58	0.	*	1	0636	133	91.	*	1	1021	208	65.	*	1	1406	283	57.
1	0254	59	0.	*	1	0639	134	91.	*	1	1024	209	65.	*	1	1409	284	57.
1	0257	60	0.	*	1	0642	135	91.	*	1	1027	210	64.	*	1	1412	285	57.
1	0300	61	0.	*	1	0645	136	90.	*	1	1030	211	64.	*	1	1415	286	57.
1	0303	62	0.	*	1	0648	137	90.	*	1	1033	212	64.	*	1	1418	287	56.
1	0306	63	0.	*	1	0651	138	90.	*	1	1036	213	64.	*	1	1421	288	56.
1	0309	64	0.	*	1	0654	139	90.	*	1	1039	214	64.	*	1	1424	289	56.
1	0312	65	0.	*	1	0657	140	91.	*	1	1042	215	64.	*	1	1427	290	56.
1	0315	66	0.	*	1	0700	141	91.	*	1	1045	216	64.	*	1	1430	291	56.
1	0318	67	0.	*	1	0703	142	91.	*	1	1048	217	64.	*	1	1433	292	55.
1	0321	68	0.	*	1	0706	143	90.	*	1	1051	218	64.	*	1	1436	293	55.
1	0324	69	0.	*	1	0709	144	89.	*	1	1054	219	63.	*	1	1439	294	55.
1	0327	70	0.	*	1	0712	145	88.	*	1	1057	220	63.	*	1	1442	295	55.
1	0330	71	0.	*	1	0715	146	87.	*	1	1100	221	63.	*	1	1445	296	55.
1	0333	72	0.	*	1	0718	147	86.	*	1	1103	222	63.	*	1	1448	297	54.
1	0336	73	0.	*	1	0721	148	85.	*	1	1106	223	63.	*	1	1451	298	54.
1	0339	74	0.	*	1	0724	149	85.	*	1	1109	224	63.	*	1	1454	299	54.
1	0342	75	0.	*	1	0727	150	84.	*	1	1112	225	63.	*	1	1457	300	54.

PEAK FLOW TIME
(CFS) (HR)

221. 6.05

(CFS)
(INCHES)
(AC-FT)

81.
0.650
40.

45.
0.909
56.

45.
0.909
56.

45.
0.909
56.

CUMULATIVE AREA = 1.16 SQ MI

668 KK

* RR-DFCS *
*

674 KO

OUTPUT CONTROL VARIABLES

IPRNT 1 PRINT CONTROL
IPLOT 1 PLOT CONTROL
QSCAL 0. HYDROGRAPH PLOT SCALE

HYDROGRAPH ROUTING DATA

675 RS

STORAGE ROUTING

NSTPS 1 NUMBER OF SUBREACHES
ITYP STOR TYPE OF INITIAL CONDITION
RSVRIC 0.00 INITIAL CONDITION
X 0.00 WORKING R AND D COEFFICIENT

676 SV	STORAGE	0.0 7.4	0.1 8.6	0.4 9.9	1.0	1.7	2.5	3.3	4.2	5.2	6.3
678 SE	ELEVATION	72.00 82.00	73.00 83.00	74.00 84.00	75.00	76.00	77.00	78.00	79.00	80.00	81.00

680 SQ DISCHARGE 0. 4. 15. 28. 32. 35. 38. 41. 78. 143.

226. 324. 435.

HYDROGRAPH AT STATION RR-DFCS

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	0.0	72.0	*	1		0500	101	0.	0.0	72.0	*	1		1000	201	67.	4.9	79.7
1		0003	2	0.	0.0	72.0	*	1		0503	102	0.	0.0	72.0	*	1		1003	202	67.	4.9	79.7
1		0006	3	0.	0.0	72.0	*	1		0506	103	0.	0.0	72.0	*	1		1006	203	67.	4.9	79.7
1		0009	4	0.	0.0	72.0	*	1		0509	104	0.	0.0	72.0	*	1		1009	204	67.	4.9	79.7
1		0012	5	0.	0.0	72.0	*	1		0512	105	0.	0.0	72.0	*	1		1012	205	67.	4.9	79.7
1		0015	6	0.	0.0	72.0	*	1		0515	106	0.	0.0	72.0	*	1		1015	206	67.	4.9	79.7
1		0018	7	0.	0.0	72.0	*	1		0518	107	0.	0.0	72.0	*	1		1018	207	66.	4.9	79.7
1		0021	8	0.	0.0	72.0	*	1		0521	108	0.	0.0	72.0	*	1		1021	208	66.	4.9	79.7
1		0024	9	0.	0.0	72.0	*	1		0524	109	0.	0.0	72.0	*	1		1024	209	66.	4.9	79.7
1		0027	10	0.	0.0	72.0	*	1		0527	110	0.	0.0	72.0	*	1		1027	210	66.	4.9	79.7
1		0030	11	0.	0.0	72.0	*	1		0530	111	0.	0.0	72.0	*	1		1030	211	66.	4.9	79.7
1		0033	12	0.	0.0	72.0	*	1		0533	112	0.	0.0	72.1	*	1		1033	212	65.	4.9	79.7
1		0036	13	0.	0.0	72.0	*	1		0536	113	1.	0.0	72.2	*	1		1036	213	65.	4.9	79.7
1		0039	14	0.	0.0	72.0	*	1		0539	114	3.	0.0	72.8	*	1		1039	214	65.	4.9	79.6
1		0042	15	0.	0.0	72.0	*	1		0542	115	7.	0.1	73.2	*	1		1042	215	65.	4.9	79.6
1		0045	16	0.	0.0	72.0	*	1		0545	116	12.	0.3	73.8	*	1		1045	216	65.	4.9	79.6
1		0048	17	0.	0.0	72.0	*	1		0548	117	19.	0.6	74.3	*	1		1048	217	65.	4.9	79.6
1		0051	18	0.	0.0	72.0	*	1		0551	118	28.	1.0	75.0	*	1		1051	218	64.	4.9	79.6
1		0054	19	0.	0.0	72.0	*	1		0554	119	31.	1.5	75.7	*	1		1054	219	64.	4.9	79.6
1		0057	20	0.	0.0	72.0	*	1		0557	120	33.	2.1	76.5	*	1		1057	220	64.	4.9	79.6
1		0100	21	0.	0.0	72.0	*	1		0600	121	36.	2.8	77.4	*	1		1100	221	64.	4.8	79.6
1		0103	22	0.	0.0	72.0	*	1		0603	122	39.	3.5	78.2	*	1		1103	222	64.	4.8	79.6
1		0106	23	0.	0.0	72.0	*	1		0606	123	41.	4.2	79.0	*	1		1106	223	64.	4.8	79.6
1		0109	24	0.	0.0	72.0	*	1		0609	124	63.	4.8	79.6	*	1		1109	224	64.	4.8	79.6
1		0112	25	0.	0.0	72.0	*	1		0612	125	77.	5.2	80.0	*	1		1112	225	64.	4.8	79.6
1		0115	26	0.	0.0	72.0	*	1		0615	126	87.	5.4	80.1	*	1		1115	226	64.	4.8	79.6
1		0118	27	0.	0.0	72.0	*	1		0618	127	89.	5.4	80.2	*	1		1118	227	63.	4.8	79.6
1		0121	28	0.	0.0	72.0	*	1		0621	128	88.	5.4	80.2	*	1		1121	228	63.	4.8	79.6
1		0124	29	0.	0.0	72.0	*	1		0624	129	87.	5.4	80.1	*	1		1124	229	63.	4.8	79.6
1		0127	30	0.	0.0	72.0	*	1		0627	130	86.	5.3	80.1	*	1		1127	230	63.	4.8	79.6
1		0130	31	0.	0.0	72.0	*	1		0630	131	86.	5.3	80.1	*	1		1130	231	63.	4.8	79.6
1		0133	32	0.	0.0	72.0	*	1		0633	132	86.	5.4	80.1	*	1		1133	232	63.	4.8	79.6
1		0136	33	0.	0.0	72.0	*	1		0636	133	87.	5.4	80.1	*	1		1136	233	63.	4.8	79.6
1		0139	34	0.	0.0	72.0	*	1		0639	134	88.	5.4	80.2	*	1		1139	234	63.	4.8	79.6
1		0142	35	0.	0.0	72.0	*	1		0642	135	89.	5.4	80.2	*	1		1142	235	63.	4.8	79.6
1		0145	36	0.	0.0	72.0	*	1		0645	136	89.	5.4	80.2	*	1		1145	236	63.	4.8	79.6
1		0148	37	0.	0.0	72.0	*	1		0648	137	89.	5.4	80.2	*	1		1148	237	63.	4.8	79.6
1		0151	38	0.	0.0	72.0	*	1		0651	138	90.	5.4	80.2	*	1		1151	238	63.	4.8	79.6
1		0154	39	0.	0.0	72.0	*	1		0654	139	90.	5.4	80.2	*	1		1154	239	63.	4.8	79.6
1		0157	40	0.	0.0	72.0	*	1		0657	140	90.	5.4	80.2	*	1		1157	240	62.	4.8	79.6
1		0200	41	0.	0.0	72.0	*	1		0700	141	90.	5.4	80.2	*	1		1200	241	62.	4.8	79.6
1		0203	42	0.	0.0	72.0	*	1		0703	142	90.	5.4	80.2	*	1		1203	242	62.	4.8	79.6
1		0206	43	0.	0.0	72.0	*	1		0706	143	90.	5.4	80.2	*	1		1206	243	62.	4.8	79.6
1		0209	44	0.	0.0	72.0	*	1		0709	144	90.	5.4	80.2	*	1		1209	244	62.	4.8	79.6
1		0212	45	0.	0.0	72.0	*	1		0712	145	90.	5.4	80.2	*	1		1212	245	62.	4.8	79.6
1		0215	46	0.	0.0	72.0	*	1		0715	146	89.	5.4	80.2	*	1		1215	246	62.	4.8	79.6
1		0218	47	0.	0.0	72.0	*	1		0718	147	89.	5.4	80.2	*	1		1218	247	62.	4.8	79.6
1		0221	48	0.	0.0	72.0	*	1		0721	148	88.	5.4	80.2	*	1		1221	248	62.	4.8	79.6
1		0224	49	0.	0.0	72.0	*	1		0724	149	87.	5.4	80.1	*	1		1224	249	62.	4.8	79.6
1		0227	50	0.	0.0	72.0	*	1		0727	150	87.	5.4	80.1	*	1		1227	250	62.	4.8	79.6
1		0230	51	0.	0.0	72.0	*	1		0730	151	86.	5.4	80.1	*	1		1230	251	62.	4.8	79.6
1		0233	52	0.	0.0	72.0	*	1		0733	152	86.	5.3	80.1	*	1		1233	252	62.	4.8	79.6
1		0236	53	0.	0.0	72.0	*	1		0736	153	85.	5.3	80.1	*	1		1236	253	62.	4.8	79.6
1		0239	54	0.	0.0	72.0	*	1		0739	154	84.	5.3	80.1	*	1		1239	254	61.	4.8	79.6
1		0242	55	0.	0.0	72.0	*	1		0742	155	84.	5.3	80.1	*	1		1242	255	61.	4.8	79.6
1		0245	56	0.	0.0	72.0	*	1		0745	156	84.	5.3	80.1	*	1		1245	256	61.	4.8	79.5
1		0248	57	0.	0.0	72.0	*	1		0748	157	83.	5.3	80.1	*	1		1248	257	61.	4.8	79.5
1		0251	58	0.	0.0	72.0	*	1		0751	158	83.	5.3	80.1	*	1		1251	258	61.	4.8	79.5
1		0254	59	0.	0.0	72.0	*	1		0754	159	82.	5.3	80.1	*	1		1254	259	61.	4.8	79.5
1		0257	60	0.	0.0	72.0	*	1		0757	160	82.	5.3	80.1	*	1		1257	260	61.	4.8	79.5
1		0300	61	0.	0.0	72.0	*	1		0800	161	82.	5.3	80.1	*	1		1300	261	61.	4.8	79.5
1		0303	62	0.	0.0	72.0	*	1		0803	162	81.	5.3	80.0	*	1		1303	262	61.	4.8	79.5
1		0306	63	0.	0.0	72.0	*	1		0806	163	81.	5.3	80.0	*	1		1306	263	61.	4.8	79.5

1	0309	64	0.	0.0	72.0	*	1	0809	164	80.	5.3	80.0	*	1	1309	264	61.	4.8	79.5
1	0312	65	0.	0.0	72.0	*	1	0812	165	80.	5.2	80.0	*	1	1312	265	61.	4.8	79.5
1	0315	66	0.	0.0	72.0	*	1	0815	166	79.	5.2	80.0	*	1	1315	266	60.	4.8	79.5
1	0318	67	0.	0.0	72.0	*	1	0818	167	78.	5.2	80.0	*	1	1318	267	60.	4.8	79.5
1	0321	68	0.	0.0	72.0	*	1	0821	168	77.	5.2	80.0	*	1	1321	268	60.	4.7	79.5
1	0324	69	0.	0.0	72.0	*	1	0824	169	77.	5.2	80.0	*	1	1324	269	60.	4.7	79.5
1	0327	70	0.	0.0	72.0	*	1	0827	170	76.	5.2	79.9	*	1	1327	270	60.	4.7	79.5
1	0330	71	0.	0.0	72.0	*	1	0830	171	75.	5.2	79.9	*	1	1330	271	60.	4.7	79.5
1	0333	72	0.	0.0	72.0	*	1	0833	172	75.	5.1	79.9	*	1	1333	272	60.	4.7	79.5
1	0336	73	0.	0.0	72.0	*	1	0836	173	74.	5.1	79.9	*	1	1336	273	59.	4.7	79.5
1	0339	74	0.	0.0	72.0	*	1	0839	174	74.	5.1	79.9	*	1	1339	274	59.	4.7	79.5
1	0342	75	0.	0.0	72.0	*	1	0842	175	73.	5.1	79.9	*	1	1342	275	59.	4.7	79.5
1	0345	76	0.	0.0	72.0	*	1	0845	176	73.	5.1	79.9	*	1	1345	276	59.	4.7	79.5
1	0348	77	0.	0.0	72.0	*	1	0848	177	72.	5.1	79.8	*	1	1348	277	59.	4.7	79.5
1	0351	78	0.	0.0	72.0	*	1	0851	178	72.	5.1	79.8	*	1	1351	278	59.	4.7	79.5
1	0354	79	0.	0.0	72.0	*	1	0854	179	71.	5.0	79.8	*	1	1354	279	59.	4.7	79.5
1	0357	80	0.	0.0	72.0	*	1	0857	180	71.	5.0	79.8	*	1	1357	280	59.	4.7	79.5
1	0400	81	0.	0.0	72.0	*	1	0900	181	71.	5.0	79.8	*	1	1400	281	58.	4.7	79.5
1	0403	82	0.	0.0	72.0	*	1	0903	182	70.	5.0	79.8	*	1	1403	282	58.	4.7	79.5
1	0406	83	0.	0.0	72.0	*	1	0906	183	70.	5.0	79.8	*	1	1406	283	58.	4.7	79.5
1	0409	84	0.	0.0	72.0	*	1	0909	184	70.	5.0	79.8	*	1	1409	284	58.	4.7	79.5
1	0412	85	0.	0.0	72.0	*	1	0912	185	70.	5.0	79.8	*	1	1412	285	58.	4.7	79.5
1	0415	86	0.	0.0	72.0	*	1	0915	186	69.	5.0	79.8	*	1	1415	286	58.	4.7	79.5
1	0418	87	0.	0.0	72.0	*	1	0918	187	69.	5.0	79.8	*	1	1418	287	58.	4.7	79.5
1	0421	88	0.	0.0	72.0	*	1	0921	188	69.	5.0	79.8	*	1	1421	288	57.	4.7	79.4
1	0424	89	0.	0.0	72.0	*	1	0924	189	69.	5.0	79.8	*	1	1424	289	57.	4.7	79.4
1	0427	90	0.	0.0	72.0	*	1	0927	190	69.	5.0	79.7	*	1	1427	290	57.	4.7	79.4
1	0430	91	0.	0.0	72.0	*	1	0930	191	68.	5.0	79.7	*	1	1430	291	57.	4.7	79.4
1	0433	92	0.	0.0	72.0	*	1	0933	192	68.	5.0	79.7	*	1	1433	292	57.	4.7	79.4
1	0436	93	0.	0.0	72.0	*	1	0936	193	68.	5.0	79.7	*	1	1436	293	56.	4.6	79.4
1	0439	94	0.	0.0	72.0	*	1	0939	194	68.	5.0	79.7	*	1	1439	294	56.	4.6	79.4
1	0442	95	0.	0.0	72.0	*	1	0942	195	68.	5.0	79.7	*	1	1442	295	56.	4.6	79.4
1	0445	96	0.	0.0	72.0	*	1	0945	196	68.	4.9	79.7	*	1	1445	296	56.	4.6	79.4
1	0448	97	0.	0.0	72.0	*	1	0948	197	68.	4.9	79.7	*	1	1448	297	56.	4.6	79.4
1	0451	98	0.	0.0	72.0	*	1	0951	198	67.	4.9	79.7	*	1	1451	298	55.	4.6	79.4
1	0454	99	0.	0.0	72.0	*	1	0954	199	67.	4.9	79.7	*	1	1454	299	55.	4.6	79.4
1	0457	100	0.	0.0	72.0	*	1	0957	200	67.	4.9	79.7	*	1	1457	300	55.	4.6	79.4

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
(CFS)	(HR)		6-HR	24-HR	72-HR	14.95-HR
90.	7.10	(CFS)	74.	42.	42.	42.
		(INCHES)	0.593	0.835	0.835	0.835
		(AC-FT)	37.	51.	51.	51.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
(AC-FT)	(HR)		6-HR	24-HR	72-HR	14.95-HR
5.	7.05		5.	3.	3.	3.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
(FEET)	(HR)		6-HR	24-HR	72-HR	14.95-HR
80.19	7.10		79.85	76.69	76.69	76.69

CUMULATIVE AREA = 1.16 SQ MI

702 KK *****
* AP-D24 *

705 KO OUTPUT CONTROL VARIABLES
IPRNT 1 PRINT CONTROL
IPLOT 1 PLOT CONTROL
QSCAL 0. HYDROGRAPH PLOT SCALE

BEGIN CALCULATIONS IN THE NORTH TRIBUTARY WATERSHED

706 HC

HYDROGRAPH COMBINATION

ICOMP

2 NUMBER OF HYDROGRAPHS TO COMBINE

HYDROGRAPH AT STATION AP-D24
SUM OF 2 HYDROGRAPHS

DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	*	1		0345	76	0.	*	1		0730	151	243.	*	1		1115	226	100.
1		0003	2	0.	*	1		0348	77	0.	*	1		0733	152	239.	*	1		1118	227	99.
1		0006	3	0.	*	1		0351	78	0.	*	1		0736	153	234.	*	1		1121	228	99.
1		0009	4	0.	*	1		0354	79	0.	*	1		0739	154	230.	*	1		1124	229	98.
1		0012	5	0.	*	1		0357	80	0.	*	1		0742	155	226.	*	1		1127	230	98.
1		0015	6	0.	*	1		0400	81	0.	*	1		0745	156	222.	*	1		1130	231	97.
1		0018	7	0.	*	1		0403	82	0.	*	1		0748	157	216.	*	1		1133	232	97.
1		0021	8	0.	*	1		0406	83	0.	*	1		0751	158	210.	*	1		1136	233	96.
1		0024	9	0.	*	1		0409	84	0.	*	1		0754	159	205.	*	1		1139	234	96.
1		0027	10	0.	*	1		0412	85	0.	*	1		0757	160	201.	*	1		1142	235	95.
1		0030	11	0.	*	1		0415	86	0.	*	1		0800	161	197.	*	1		1145	236	94.
1		0033	12	0.	*	1		0418	87	0.	*	1		0803	162	193.	*	1		1148	237	94.
1		0036	13	0.	*	1		0421	88	0.	*	1		0806	163	189.	*	1		1151	238	93.
1		0039	14	0.	*	1		0424	89	0.	*	1		0809	164	186.	*	1		1154	239	93.
1		0042	15	0.	*	1		0427	90	1.	*	1		0812	165	182.	*	1		1157	240	92.
1		0045	16	0.	*	1		0430	91	1.	*	1		0815	166	179.	*	1		1200	241	92.
1		0048	17	0.	*	1		0433	92	1.	*	1		0818	167	175.	*	1		1203	242	91.
1		0051	18	0.	*	1		0436	93	1.	*	1		0821	168	172.	*	1		1206	243	90.
1		0054	19	0.	*	1		0439	94	1.	*	1		0824	169	168.	*	1		1209	244	90.
1		0057	20	0.	*	1		0442	95	1.	*	1		0827	170	165.	*	1		1212	245	89.
1		0100	21	0.	*	1		0445	96	1.	*	1		0830	171	161.	*	1		1215	246	89.
1		0103	22	0.	*	1		0448	97	1.	*	1		0833	172	158.	*	1		1218	247	88.
1		0106	23	0.	*	1		0451	98	1.	*	1		0836	173	155.	*	1		1221	248	87.
1		0109	24	0.	*	1		0454	99	1.	*	1		0839	174	153.	*	1		1224	249	87.
1		0112	25	0.	*	1		0457	100	1.	*	1		0842	175	151.	*	1		1227	250	86.
1		0115	26	0.	*	1		0500	101	1.	*	1		0845	176	148.	*	1		1230	251	85.
1		0118	27	0.	*	1		0503	102	1.	*	1		0848	177	146.	*	1		1233	252	85.
1		0121	28	0.	*	1		0506	103	1.	*	1		0851	178	144.	*	1		1236	253	84.
1		0124	29	0.	*	1		0509	104	1.	*	1		0854	179	142.	*	1		1239	254	84.
1		0127	30	0.	*	1		0512	105	1.	*	1		0857	180	141.	*	1		1242	255	83.
1		0130	31	0.	*	1		0515	106	1.	*	1		0900	181	139.	*	1		1245	256	82.
1		0133	32	0.	*	1		0518	107	1.	*	1		0903	182	137.	*	1		1248	257	82.
1		0136	33	0.	*	1		0521	108	1.	*	1		0906	183	136.	*	1		1251	258	81.
1		0139	34	0.	*	1		0524	109	1.	*	1		0909	184	134.	*	1		1254	259	81.
1		0142	35	0.	*	1		0527	110	1.	*	1		0912	185	133.	*	1		1257	260	80.
1		0145	36	0.	*	1		0530	111	1.	*	1		0915	186	132.	*	1		1300	261	79.
1		0148	37	0.	*	1		0533	112	1.	*	1		0918	187	131.	*	1		1303	262	79.
1		0151	38	0.	*	1		0536	113	2.	*	1		0921	188	129.	*	1		1306	263	78.
1		0154	39	0.	*	1		0539	114	6.	*	1		0924	189	128.	*	1		1309	264	78.
1		0157	40	0.	*	1		0542	115	13.	*	1		0927	190	127.	*	1		1312	265	77.
1		0200	41	0.	*	1		0545	116	25.	*	1		0930	191	126.	*	1		1315	266	77.
1		0203	42	0.	*	1		0548	117	41.	*	1		0933	192	125.	*	1		1318	267	77.
1		0206	43	0.	*	1		0551	118	59.	*	1		0936	193	124.	*	1		1321	268	76.
1		0209	44	0.	*	1		0554	119	71.	*	1		0939	194	124.	*	1		1324	269	76.
1		0212	45	0.	*	1		0557	120	83.	*	1		0942	195	123.	*	1		1327	270	75.
1		0215	46	0.	*	1		0600	121	94.	*	1		0945	196	122.	*	1		1330	271	75.
1		0218	47	0.	*	1		0603	122	100.	*	1		0948	197	121.	*	1		1333	272	74.
1		0221	48	0.	*	1		0606	123	114.	*	1		0951	198	120.	*	1		1336	273	73.
1		0224	49	0.	*	1		0609	124	297.	*	1		0954	199	120.	*	1		1339	274	73.
1		0227	50	0.	*	1		0612	125	453.	*	1		0957	200	119.	*	1		1342	275	72.
1		0230	51	0.	*	1		0615	126	571.	*	1		1000	201	118.	*	1		1345	276	72.
1		0233	52	0.	*	1		0618	127	626.	*	1		1003	202	118.	*	1		1348	277	71.
1		0236	53	0.	*	1		0621	128	612.	*	1		1006	203	117.	*	1		1351	278	71.
1		0239	54	0.	*	1		0624	129	630.	*	1		1009	204	116.	*	1		1354	279	70.
1		0242	55	0.	*	1		0627	130	589.	*	1		1012	205	115.	*	1		1357	280	70.
1		0245	56	0.	*	1		0630	131	576.	*	1		1015	206	115.	*	1		1400	281	69.
1		0248	57	0.	*	1		0633	132	539.	*	1		1018	207	114.	*	1		1403	282	69.
1		0251	58	0.	*	1		0636	133	515.	*	1		1021	208	113.	*	1		1406	283	68.
1		0254	59	0.	*	1		0639	134	485.	*	1		1024	209	112.	*	1		1409	284	67.
1		0257	60	0.	*	1		0642	135	458.	*	1		1027	210	111.	*	1		1412	285	67.

1	0300	61	0.	*	1	0645	136	427.	*	1	1030	211	110.	*	1	1415	286	66.
1	0303	62	0.	*	1	0648	137	395.	*	1	1033	212	109.	*	1	1418	287	65.
1	0306	63	0.	*	1	0651	138	367.	*	1	1036	213	108.	*	1	1421	288	65.
1	0309	64	0.	*	1	0654	139	346.	*	1	1039	214	107.	*	1	1424	289	64.
1	0312	65	0.	*	1	0657	140	327.	*	1	1042	215	107.	*	1	1427	290	63.
1	0315	66	0.	*	1	0700	141	316.	*	1	1045	216	106.	*	1	1430	291	63.
1	0318	67	0.	*	1	0703	142	306.	*	1	1048	217	105.	*	1	1433	292	63.
1	0321	68	0.	*	1	0706	143	295.	*	1	1051	218	105.	*	1	1436	293	63.
1	0324	69	0.	*	1	0709	144	285.	*	1	1054	219	104.	*	1	1439	294	62.
1	0327	70	0.	*	1	0712	145	276.	*	1	1057	220	103.	*	1	1442	295	62.
1	0330	71	0.	*	1	0715	146	268.	*	1	1100	221	103.	*	1	1445	296	62.
1	0333	72	0.	*	1	0718	147	261.	*	1	1103	222	102.	*	1	1448	297	61.
1	0336	73	0.	*	1	0721	148	256.	*	1	1106	223	102.	*	1	1451	298	61.
1	0339	74	0.	*	1	0724	149	252.	*	1	1109	224	101.	*	1	1454	299	61.
1	0342	75	0.	*	1	0727	150	247.	*	1	1112	225	101.	*	1	1457	300	61.

PEAK FLOW (CFS)	TIME (HR)	6-HR (CFS)	24-HR (INCHES) (AC-FT)	72-HR (INCHES) (AC-FT)	14.95-HR (INCHES) (AC-FT)
630.	6.40	196.	95.	95.	95.
		1.529	1.841	1.841	1.841
		97.	117.	117.	117.

CUMULATIVE AREA = 1.19 SQ MI

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* *
734 KK * RR-DFG *
* *

738 KO OUTPUT CONTROL VARIABLES
IPRNT 1 PRINT CONTROL
IPLOT 1 PLOT CONTROL
QSCAL 0. HYDROGRAPH PLOT SCALE

HYDROGRAPH ROUTING DATA

739 RS STORAGE ROUTING
NSTPS 1 NUMBER OF SUBREACHES
ITYP STOR TYPE OF INITIAL CONDITION
RSVRIC 0.00 INITIAL CONDITION
X 0.00 WORKING R AND D COEFFICIENT

	STORAGE	0.0	0.1	0.3	0.7	1.4	2.2	3.2	4.2	5.6
740 SV	ELEVATION	60.00	61.00	62.00	64.00	66.00	68.00	70.00	72.00	74.00
741 SE	DISCHARGE	0.	1.	1.	2.	2.	24.	33.	40.	46.

HYDROGRAPH AT STATION RR-DFG

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1	0000	1	0.	0.0	60.0	*	1	0500	101	0.	0.0	60.0	*	1	1000	201	4.	1.4	66.2	
1	0003	2	0.	0.0	60.0	*	1	0503	102	0.	0.0	60.0	*	1	1003	202	4.	1.4	66.1	
1	0006	3	0.	0.0	60.0	*	1	0506	103	0.	0.0	60.0	*	1	1006	203	4.	1.4	66.1	
1	0009	4	0.	0.0	60.0	*	1	0509	104	0.	0.0	60.0	*	1	1009	204	4.	1.4	66.1	
1	0012	5	0.	0.0	60.0	*	1	0512	105	0.	0.0	60.0	*	1	1012	205	4.	1.4	66.1	
1	0015	6	0.	0.0	60.0	*	1	0515	106	0.	0.0	60.0	*	1	1015	206	4.	1.4	66.1	
1	0018	7	0.	0.0	60.0	*	1	0518	107	0.	0.0	60.0	*	1	1018	207	4.	1.4	66.1	
1	0021	8	0.	0.0	60.0	*	1	0521	108	0.	0.0	60.0	*	1	1021	208	4.	1.4	66.1	

1	0024	9	0.	0.0	60.0 * 1	0524	109	0.	0.0	60.0 * 1	1024	209	4.	1.4	66.1
1	0027	10	0.	0.0	60.0 * 1	0527	110	0.	0.0	60.0 * 1	1027	210	3.	1.4	66.1
1	0030	11	0.	0.0	60.0 * 1	0530	111	0.	0.0	60.0 * 1	1030	211	3.	1.4	66.1
1	0033	12	0.	0.0	60.0 * 1	0533	112	0.	0.0	60.0 * 1	1033	212	3.	1.4	66.1
1	0036	13	0.	0.0	60.0 * 1	0536	113	0.	0.0	60.1 * 1	1036	213	3.	1.4	66.1
1	0039	14	0.	0.0	60.0 * 1	0539	114	0.	0.0	60.4 * 1	1039	214	3.	1.4	66.1
1	0042	15	0.	0.0	60.0 * 1	0542	115	1.	0.1	61.1 * 1	1042	215	3.	1.4	66.1
1	0045	16	0.	0.0	60.0 * 1	0545	116	1.	0.2	61.8 * 1	1045	216	3.	1.4	66.1
1	0048	17	0.	0.0	60.0 * 1	0548	117	2.	0.5	62.8 * 1	1048	217	3.	1.4	66.1
1	0051	18	0.	0.0	60.0 * 1	0551	118	2.	0.8	64.2 * 1	1051	218	3.	1.4	66.1
1	0054	19	0.	0.0	60.0 * 1	0554	119	2.	1.2	65.5 * 1	1054	219	3.	1.4	66.1
1	0057	20	0.	0.0	60.0 * 1	0557	120	11.	1.7	66.8 * 1	1057	220	3.	1.4	66.1
1	0100	21	0.	0.0	60.0 * 1	0600	121	24.	2.2	68.1 * 1	1100	221	3.	1.4	66.1
1	0103	22	0.	0.0	60.0 * 1	0603	122	29.	2.7	69.1 * 1	1103	222	3.	1.4	66.1
1	0106	23	0.	0.0	60.0 * 1	0606	123	34.	3.3	70.2 * 1	1106	223	3.	1.4	66.1
1	0109	24	0.	0.0	60.0 * 1	0609	124	37.	3.7	71.0 * 1	1109	224	3.	1.4	66.1
1	0112	25	0.	0.0	60.0 * 1	0612	125	39.	4.0	71.6 * 1	1112	225	3.	1.4	66.1
1	0115	26	0.	0.0	60.0 * 1	0615	126	40.	4.2	72.0 * 1	1115	226	3.	1.4	66.1
1	0118	27	0.	0.0	60.0 * 1	0618	127	41.	4.3	72.1 * 1	1118	227	3.	1.4	66.1
1	0121	28	0.	0.0	60.0 * 1	0621	128	41.	4.3	72.2 * 1	1121	228	3.	1.4	66.1
1	0124	29	0.	0.0	60.0 * 1	0624	129	41.	4.3	72.1 * 1	1124	229	3.	1.4	66.1
1	0127	30	0.	0.0	60.0 * 1	0627	130	40.	4.3	72.1 * 1	1127	230	3.	1.4	66.1
1	0130	31	0.	0.0	60.0 * 1	0630	131	40.	4.2	72.0 * 1	1130	231	3.	1.4	66.1
1	0133	32	0.	0.0	60.0 * 1	0633	132	40.	4.1	71.8 * 1	1133	232	3.	1.4	66.1
1	0136	33	0.	0.0	60.0 * 1	0636	133	39.	4.0	71.7 * 1	1136	233	3.	1.4	66.1
1	0139	34	0.	0.0	60.0 * 1	0639	134	39.	4.0	71.5 * 1	1139	234	3.	1.4	66.1
1	0142	35	0.	0.0	60.0 * 1	0642	135	38.	3.9	71.3 * 1	1142	235	3.	1.4	66.1
1	0145	36	0.	0.0	60.0 * 1	0645	136	37.	3.8	71.1 * 1	1145	236	3.	1.4	66.1
1	0148	37	0.	0.0	60.0 * 1	0648	137	37.	3.7	70.9 * 1	1148	237	3.	1.4	66.1
1	0151	38	0.	0.0	60.0 * 1	0651	138	36.	3.6	70.8 * 1	1151	238	3.	1.4	66.1
1	0154	39	0.	0.0	60.0 * 1	0654	139	35.	3.5	70.6 * 1	1154	239	3.	1.4	66.1
1	0157	40	0.	0.0	60.0 * 1	0657	140	35.	3.4	70.4 * 1	1157	240	3.	1.4	66.1
1	0200	41	0.	0.0	60.0 * 1	0700	141	34.	3.3	70.2 * 1	1200	241	3.	1.4	66.1
1	0203	42	0.	0.0	60.0 * 1	0703	142	33.	3.2	70.0 * 1	1203	242	3.	1.4	66.1
1	0206	43	0.	0.0	60.0 * 1	0706	143	32.	3.1	69.8 * 1	1206	243	3.	1.4	66.1
1	0209	44	0.	0.0	60.0 * 1	0709	144	32.	3.0	69.6 * 1	1209	244	3.	1.4	66.1
1	0212	45	0.	0.0	60.0 * 1	0712	145	31.	2.9	69.5 * 1	1212	245	3.	1.4	66.1
1	0215	46	0.	0.0	60.0 * 1	0715	146	30.	2.8	69.3 * 1	1215	246	3.	1.4	66.1
1	0218	47	0.	0.0	60.0 * 1	0718	147	29.	2.7	69.1 * 1	1218	247	3.	1.4	66.1
1	0221	48	0.	0.0	60.0 * 1	0721	148	28.	2.7	68.9 * 1	1221	248	3.	1.4	66.1
1	0224	49	0.	0.0	60.0 * 1	0724	149	28.	2.6	68.8 * 1	1224	249	3.	1.4	66.1
1	0227	50	0.	0.0	60.0 * 1	0727	150	27.	2.5	68.6 * 1	1227	250	3.	1.4	66.1
1	0230	51	0.	0.0	60.0 * 1	0730	151	26.	2.4	68.5 * 1	1230	251	3.	1.4	66.1
1	0233	52	0.	0.0	60.0 * 1	0733	152	25.	2.3	68.3 * 1	1233	252	3.	1.4	66.1
1	0236	53	0.	0.0	60.0 * 1	0736	153	25.	2.3	68.2 * 1	1236	253	3.	1.4	66.1
1	0239	54	0.	0.0	60.0 * 1	0739	154	24.	2.2	68.0 * 1	1239	254	3.	1.4	66.1
1	0242	55	0.	0.0	60.0 * 1	0742	155	23.	2.1	67.9 * 1	1242	255	3.	1.4	66.1
1	0245	56	0.	0.0	60.0 * 1	0745	156	21.	2.1	67.7 * 1	1245	256	3.	1.4	66.1
1	0248	57	0.	0.0	60.0 * 1	0748	157	20.	2.0	67.6 * 1	1248	257	3.	1.4	66.1
1	0251	58	0.	0.0	60.0 * 1	0751	158	18.	2.0	67.5 * 1	1251	258	3.	1.4	66.1
1	0254	59	0.	0.0	60.0 * 1	0754	159	17.	1.9	67.4 * 1	1254	259	3.	1.4	66.1
1	0257	60	0.	0.0	60.0 * 1	0757	160	16.	1.9	67.3 * 1	1257	260	3.	1.4	66.1
1	0300	61	0.	0.0	60.0 * 1	0800	161	15.	1.9	67.2 * 1	1300	261	3.	1.4	66.1
1	0303	62	0.	0.0	60.0 * 1	0803	162	14.	1.8	67.1 * 1	1303	262	3.	1.4	66.1
1	0306	63	0.	0.0	60.0 * 1	0806	163	14.	1.8	67.1 * 1	1306	263	3.	1.4	66.1
1	0309	64	0.	0.0	60.0 * 1	0809	164	13.	1.8	67.0 * 1	1309	264	3.	1.4	66.1
1	0312	65	0.	0.0	60.0 * 1	0812	165	12.	1.7	66.9 * 1	1312	265	3.	1.4	66.1
1	0315	66	0.	0.0	60.0 * 1	0815	166	12.	1.7	66.8 * 1	1315	266	3.	1.4	66.0
1	0318	67	0.	0.0	60.0 * 1	0818	167	11.	1.7	66.8 * 1	1318	267	3.	1.4	66.0
1	0321	68	0.	0.0	60.0 * 1	0821	168	10.	1.7	66.7 * 1	1321	268	3.	1.4	66.0
1	0324	69	0.	0.0	60.0 * 1	0824	169	10.	1.6	66.7 * 1	1324	269	3.	1.4	66.0
1	0327	70	0.	0.0	60.0 * 1	0827	170	9.	1.6	66.6 * 1	1327	270	3.	1.4	66.0
1	0330	71	0.	0.0	60.0 * 1	0830	171	8.	1.6	66.6 * 1	1330	271	3.	1.4	66.0
1	0333	72	0.	0.0	60.0 * 1	0833	172	8.	1.6	66.5 * 1	1333	272	3.	1.4	66.0
1	0336	73	0.	0.0	60.0 * 1	0836	173	7.	1.6	66.5 * 1	1336	273	3.	1.4	66.0
1	0339	74	0.	0.0	60.0 * 1	0839	174	7.	1.5	66.4 * 1	1339	274	3.	1.4	66.0
1	0342	75	0.	0.0	60.0 * 1	0842	175	7.	1.5	66.4 * 1	1342	275	3.	1.4	66.0
1	0345	76	0.	0.0	60.0 * 1	0845	176	6.	1.5	66.4 * 1	1345	276	3.	1.4	66.0
1	0348	77	0.	0.0	60.0 * 1	0848	177	6.	1.5	66.4 * 1	1348	277	3.	1.4	66.0
1	0351	78	0.	0.0	60.0 * 1	0851	178	6.	1.5	66.3 * 1	1351	278	3.	1.4	66.0
1	0354	79	0.	0.0	60.0 * 1	0854	179	6.	1.5	66.3 * 1	1354	279	3.	1.4	66.0
1	0357	80	0.	0.0	60.0 * 1	0857	180	5.	1.5	66.3 * 1	1357	280	3.	1.4	66.0
1	0400	81	0.	0.0	60.0 * 1	0900	181	5.	1.5	66.3 * 1	1400	281	3.	1.4	66.0
1	0403	82	0.	0.0	60.0 * 1	0903	182	5.	1.5	66.3 * 1	1403	282	3.	1.4	66.0
1	0406	83	0.	0.0	60.0 * 1	0906	183	5.	1.5	66.2 * 1	1406	283	3.	1.4	66.0
1	0409	84	0.	0.0	60.0 * 1	0909	184	5.	1.5	66.2 * 1	1409	284	3.	1.4	66.0
1	0412	85	0.	0.0	60.0 * 1	0912	185	5.	1.5	66.2 * 1	1412	285	3.	1.4	66.0

1	0415	86	0.	0.0	60.0	*	1	0915	186	5.	1.5	66.2	*	1	1415	286	3.	1.4	66.0
1	0418	87	0.	0.0	60.0	*	1	0918	187	5.	1.5	66.2	*	1	1418	287	3.	1.4	66.0
1	0421	88	0.	0.0	60.0	*	1	0921	188	4.	1.4	66.2	*	1	1421	288	2.	1.4	66.0
1	0424	89	0.	0.0	60.0	*	1	0924	189	4.	1.4	66.2	*	1	1424	289	2.	1.4	66.0
1	0427	90	0.	0.0	60.0	*	1	0927	190	4.	1.4	66.2	*	1	1427	290	2.	1.4	66.0
1	0430	91	0.	0.0	60.0	*	1	0930	191	4.	1.4	66.2	*	1	1430	291	2.	1.4	66.0
1	0433	92	0.	0.0	60.0	*	1	0933	192	4.	1.4	66.2	*	1	1433	292	2.	1.4	66.0
1	0436	93	0.	0.0	60.0	*	1	0936	193	4.	1.4	66.2	*	1	1436	293	2.	1.4	66.0
1	0439	94	0.	0.0	60.0	*	1	0939	194	4.	1.4	66.2	*	1	1439	294	2.	1.4	66.0
1	0442	95	0.	0.0	60.0	*	1	0942	195	4.	1.4	66.2	*	1	1442	295	2.	1.4	66.0
1	0445	96	0.	0.0	60.0	*	1	0945	196	4.	1.4	66.2	*	1	1445	296	2.	1.4	66.0
1	0448	97	0.	0.0	60.0	*	1	0948	197	4.	1.4	66.2	*	1	1448	297	2.	1.4	66.0
1	0451	98	0.	0.0	60.0	*	1	0951	198	4.	1.4	66.2	*	1	1451	298	2.	1.4	66.0
1	0454	99	0.	0.0	60.0	*	1	0954	199	4.	1.4	66.2	*	1	1454	299	2.	1.4	66.0
1	0457	100	0.	0.0	60.0	*	1	0957	200	4.	1.4	66.2	*	1	1457	300	2.	1.4	66.0

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
(CFS)	(HR)		6-HR	24-HR	72-HR	14.95-HR
41.	6.35	(CFS)	14.	6.	6.	6.
		(INCHES)	1.661	1.831	1.831	1.831
		(AC-FT)	7.	8.	8.	8.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
(AC-FT)	(HR)		6-HR	24-HR	72-HR	14.95-HR
4.	6.35		2.	1.	1.	1.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
(FEET)	(HR)		6-HR	24-HR	72-HR	14.95-HR
72.16	6.35		67.46	64.27	64.27	64.27

CUMULATIVE AREA = 0.08 SQ MI

100 Year, 24 Hour, Developed Condition

RUNOFF SUMMARY

FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	SB-D1	72.	6.25	12.	5.	5.	0.09		
ROUTED TO	RT-SBD1	72.	6.30	12.	5.	5.	0.09		
HYDROGRAPH AT	SB-D2	72.	6.10	8.	4.	4.	0.06		
2 COMBINED AT	AP-D1	127.	6.20	20.	9.	9.	0.14		
HYDROGRAPH AT	SB-D3	40.	6.15	5.	2.	2.	0.03		
2 COMBINED AT	AP-DDA	165.	6.15	25.	11.	11.	0.17		
ROUTED TO	RR-DFA	65.	6.60	25.	11.	11.	0.17	63.22	6.60
ROUTED TO	RT-APDFA	65.	6.65	25.	11.	11.	0.17		
HYDROGRAPH AT	SB-D6	86.	6.05	9.	4.	4.	0.04		
2 COMBINED AT	AP-D2	131.	6.05	34.	15.	15.	0.21		
ROUTED TO	RT-APD2	130.	6.10	34.	15.	15.	0.21		
HYDROGRAPH AT	SB-D7	157.	6.05	17.	7.	7.	0.07		
HYDROGRAPH AT	SB-D4	56.	6.15	7.	3.	3.	0.05		
HYDROGRAPH AT	SB-D5	47.	6.10	6.	2.	2.	0.03		
2 COMBINED AT	AP-DFB	103.	6.15	12.	6.	6.	0.08		
ROUTED TO	RR-DFB	57.	6.35	12.	6.	6.	0.08	25.45	6.35
ROUTED TO	RT-APDFB	57.	6.35	12.	6.	6.	0.08		
3 COMBINED AT	AP-D3	330.	6.05	63.	28.	28.	0.36		
ROUTED TO	RT-APD3	329.	6.10	63.	28.	28.	0.36		
HYDROGRAPH AT	SB-D8	208.	6.00	22.	9.	9.	0.06		
2 COMBINED AT	AP-DFC	524.	6.05	84.	37.	37.	0.42		
ROUTED TO	RR-DFC	86.	7.30	74.	37.	37.	0.42	65.48	7.30

ROUTED TO	RT-DFC	86.	7.35	74.	37.	37.	0.42
HYDROGRAPH AT	SB-D9A	30.	6.10	3.	1.	1.	0.02
2 COMBINED AT	AP-D4	102.	6.15	78.	38.	38.	0.44
ROUTED TO	RT-APD4	101.	6.15	78.	38.	38.	0.44
HYDROGRAPH AT	SB-D9	37.	6.10	5.	2.	2.	0.02
2 COMBINED AT	AP-D4a	139.	6.15	82.	40.	40.	0.46
ROUTED TO	RT-APD4a	139.	6.15	82.	40.	40.	0.46
HYDROGRAPH AT	SB-D15	75.	6.10	8.	4.	4.	0.04
2 COMBINED AT	AP-D4b	211.	6.10	90.	44.	44.	0.50
ROUTED TO	RT-APD4b	210.	6.10	90.	44.	44.	0.50
HYDROGRAPH AT	SB-D10	27.	6.20	4.	2.	2.	0.03
ROUTED TO	RT-SBD10	27.	6.25	4.	2.	2.	0.03
HYDROGRAPH AT	SB-D11	81.	6.10	10.	4.	4.	0.05
HYDROGRAPH AT	SB-D12	31.	6.15	4.	2.	2.	0.02
ROUTED TO	RT-SBD12	31.	6.20	4.	2.	2.	0.02
3 COMBINED AT	AP-D5	133.	6.15	17.	8.	8.	0.10
ROUTED TO	RT-APD5	132.	6.15	17.	8.	8.	0.10
HYDROGRAPH AT	SB-D13	219.	6.00	23.	10.	10.	0.07
2 COMBINED AT	AP-D6	323.	6.05	40.	18.	18.	0.17
ROUTED TO	RT-APD6	320.	6.05	40.	18.	18.	0.17
HYDROGRAPH AT	SB-D14	49.	6.05	5.	2.	2.	0.02
ROUTED TO	RT-SBD14	49.	6.05	5.	2.	2.	0.02
3 COMBINED AT	AP-D7	567.	6.05	134.	64.	64.	0.69
ROUTED TO	RT-APD7	562.	6.05	134.	64.	64.	0.69
HYDROGRAPH AT	SB-D17	25.	6.00	2.	1.	1.	0.01

2 COMBINED AT	AP-D7A	586.	6.05	137.	65.	65.	0.70		
HYDROGRAPH AT	SB-D16A	28.	6.05	3.	1.	1.	0.01		
2 COMBINED AT	AP-D7A	614.	6.05	139.	66.	66.	0.71		
ROUTED TO	RT-APD8	610.	6.05	139.	66.	66.	0.71		
HYDROGRAPH AT	SB-D17A	36.	6.00	4.	2.	2.	0.01		
2 COMBINED AT	AP-D8	645.	6.05	143.	68.	68.	0.72		
HYDROGRAPH AT	SB-D16	98.	6.10	11.	5.	5.	0.06		
ROUTED TO	RT-SBD16	98.	6.10	11.	5.	5.	0.06		
2 COMBINED AT	AP-D8	739.	6.05	154.	72.	72.	0.78		
ROUTED TO	RT-APD9	735.	6.05	154.	72.	72.	0.78		
HYDROGRAPH AT	SB-D36	34.	6.10	4.	2.	2.	0.02		
ROUTED TO	RT-SBD36	34.	6.15	4.	2.	2.	0.02		
2 COMBINED AT	AP-D9	765.	6.10	158.	74.	74.	0.81		
HYDROGRAPH AT	SB-D37	40.	6.00	5.	2.	2.	0.01		
ROUTED TO	RT-SBD37	40.	6.00	5.	2.	2.	0.01		
2 COMBINED AT	AP-D9	803.	6.05	162.	76.	76.	0.82		
ROUTED TO	RT-APDFE	799.	6.05	162.	76.	76.	0.82		
HYDROGRAPH AT	SB-D18	106.	6.15	13.	6.	6.	0.06		
ROUTED TO	RR-DFPCH	36.	6.45	11.	5.	5.	0.06	23.15	6.45
ROUTED TO	RT-RRDFP	36.	6.50	11.	5.	5.	0.06		
HYDROGRAPH AT	SB-D19	59.	6.00	6.	3.	3.	0.02		
2 COMBINED AT	AP-D10	65.	6.05	17.	7.	7.	0.09		
ROUTED TO	RT-APD10	65.	6.10	17.	7.	7.	0.09		
HYDROGRAPH AT	SB-D20	107.	6.00	12.	5.	5.	0.03		
2 COMBINED AT	AP-D11	167.	6.00	28.	13.	13.	0.12		

ROUTED TO	RT-APD11	165.	6.05	28.	13.	13.	0.12		
HYDROGRAPH AT	SB-D21	117.	6.00	12.	5.	5.	0.04		
3 COMBINED AT	AP-DFE	1079.	6.05	202.	94.	94.	0.98		
ROUTED TO	RR-DFE	600.	6.25	180.	86.	86.	0.98	40.69	6.25
DIVERSION TO	AP-D12	525.	6.25	119.	51.	51.	0.98		
HYDROGRAPH AT	AP-DFE	75.	6.25	61.	36.	36.	0.98		
ROUTED TO	RT-APD13	75.	6.30	61.	36.	36.	0.98		
HYDROGRAPH AT	SB-D22	81.	6.05	8.	4.	4.	0.04		
2 COMBINED AT	AP-D13	148.	6.05	69.	39.	39.	1.02		
ROUTED TO	RT-APD13	146.	6.10	69.	39.	39.	1.02		
HYDROGRAPH AT	SB-D23	15.	6.00	2.	1.	1.	0.00		
2 COMBINED AT	AP-D14	161.	6.05	70.	40.	40.	1.02		
ROUTED TO	AP-DFF	160.	6.05	70.	40.	40.	1.02		
HYDROGRAPH AT	SB-D24	48.	6.05	5.	2.	2.	0.03		
2 COMBINED AT	AP-DFF	208.	6.05	75.	42.	42.	1.05		
ROUTED TO	RR-DFF	76.	7.10	64.	36.	36.	1.05	69.47	7.10
HYDROGRAPH AT	SB-D25	42.	6.05	4.	2.	2.	0.02		
ROUTED TO	RR-SBD25	42.	6.05	4.	2.	2.	0.02		
HYDROGRAPH AT	SB-D26	66.	6.05	7.	3.	3.	0.03		
2 COMBINED AT	AP-D16	108.	6.05	11.	5.	5.	0.05		
ROUTED TO	RT-APD16	107.	6.05	11.	5.	5.	0.05		
2 COMBINED AT	AP-D17	117.	6.05	70.	40.	40.	1.10		
ROUTED TO	RT-APD17	116.	6.05	70.	40.	40.	1.10		
HYDROGRAPH AT	SB-D27	19.	6.05	2.	1.	1.	0.01		
2 COMBINED AT	AP-D18	135.	6.05	71.	41.	41.	1.10		

ROUTED TO	RT-APD18	134.	6.05	71.	41.	41.	1.10		
HYDROGRAPH AT	SB-D29	40.	6.05	4.	2.	2.	0.02		
DIVERSION TO	AP-D19a	20.	5.85	1.	0.	0.	0.02		
HYDROGRAPH AT	AP-D19	20.	5.85	3.	1.	1.	0.02		
ROUTED TO	RT-APD19	20.	5.90	3.	1.	1.	0.02		
HYDROGRAPH AT	SB-D28	11.	6.05	1.	0.	0.	0.00		
3 COMBINED AT	AP-D20	165.	6.05	75.	43.	43.	1.13		
ROUTED TO	RT-APD20	164.	6.05	75.	43.	43.	1.13		
HYDROGRAPH AT	SB-D30	32.	6.05	3.	1.	1.	0.02		
ROUTED TO	RT-SBD30	32.	6.05	3.	1.	1.	0.02		
2 COMBINED AT	AP-D21	196.	6.05	79.	44.	44.	1.14		
HYDROGRAPH AT	SB-D31	16.	6.05	2.	1.	1.	0.01		
2 COMBINED AT	AP-D22	211.	6.05	80.	45.	45.	1.15		
HYDROGRAPH AT	SB-D32	9.	6.05	1.	0.	0.	0.01		
2 COMBINED AT	AP-DFCS	221.	6.05	81.	45.	45.	1.16		
ROUTED TO	RR-DFCS	90.	7.10	74.	42.	42.	1.16		
HYDROGRAPH AT	DR-APD12	525.	6.25	119.	51.	51.	0.00	80.19	7.10
ROUTED TO	RT-APD12	534.	6.40	119.	51.	51.	0.00		
HYDROGRAPH AT	SB-D33	59.	6.05	6.	3.	3.	0.04		
2 COMBINED AT	AP-D23	544.	6.40	123.	53.	53.	0.04		
2 COMBINED AT	AP-D24	630.	6.40	196.	95.	95.	1.19		
HYDROGRAPH AT	SB-D34	80.	6.05	8.	4.	4.	0.04		
ROUTED TO	RT-SBD34	79.	6.05	8.	4.	4.	0.04		
HYDROGRAPH AT	SB-D35	83.	6.05	8.	4.	4.	0.04		
2 COMBINED AT	AP-DFG	162.	6.05	17.	7.	7.	0.08		
ROUTED TO	RR-DFG	41.	6.35	14.	6.	6.	0.08	72.16	6.35

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT (MIN)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	INTERPOLATED TO COMPUTATION INTERVAL			
						DT (MIN)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)
RT-SBD1	MANE	2.10	71.96	378.00	1.41	3.00	71.96	378.00	1.41
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.6407E+01 EXCESS=0.0000E+00 OUTFLOW=0.6389E+01 BASIN STORAGE=0.2228E-01 PERCENT ERROR= -0.1									
RT-APDFA	MANE	1.04	64.89	397.55	1.53	3.00	64.88	399.00	1.53
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1372E+02 EXCESS=0.0000E+00 OUTFLOW=0.1371E+02 BASIN STORAGE=0.1137E-01 PERCENT ERROR= 0.0									
RT-APD2	MANE	1.36	130.63	364.69	1.67	3.00	130.49	366.00	1.67
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1849E+02 EXCESS=0.0000E+00 OUTFLOW=0.1847E+02 BASIN STORAGE=0.2086E-01 PERCENT ERROR= 0.0									
RT-APDFB	MANE	0.85	57.20	381.48	1.64	3.00	57.16	381.00	1.64
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.6826E+01 EXCESS=0.0000E+00 OUTFLOW=0.6821E+01 BASIN STORAGE=0.5042E-02 PERCENT ERROR= 0.0									
RT-APD3	MANE	0.41	329.83	363.73	1.80	3.00	329.38	366.00	1.80
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3418E+02 EXCESS=0.0000E+00 OUTFLOW=0.3417E+02 BASIN STORAGE=0.1188E-01 PERCENT ERROR= 0.0									
RT-DFC	MANE	1.18	86.19	439.60	2.03	3.00	86.19	441.00	2.04
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4541E+02 EXCESS=0.0000E+00 OUTFLOW=0.4538E+02 BASIN STORAGE=0.3301E-01 PERCENT ERROR= 0.0									
RT-APD4	MANE	0.56	101.60	369.43	2.03	3.00	101.40	369.00	2.03
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4721E+02 EXCESS=0.0000E+00 OUTFLOW=0.4719E+02 BASIN STORAGE=0.1691E-01 PERCENT ERROR= 0.0									
RT-APD4a	MANE	0.38	138.71	369.29	2.03	3.00	138.58	369.00	2.03
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4968E+02 EXCESS=0.0000E+00 OUTFLOW=0.4967E+02 BASIN STORAGE=0.1256E-01 PERCENT ERROR= 0.0									
RT-APD4b	MANE	0.32	210.75	366.58	2.03	3.00	209.92	366.00	2.03
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5416E+02 EXCESS=0.0000E+00 OUTFLOW=0.5415E+02 BASIN STORAGE=0.1252E-01 PERCENT ERROR= 0.0									
RT-SBD10	MANE	1.95	27.15	374.40	1.45	3.00	27.07	375.00	1.45
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2089E+01 EXCESS=0.0000E+00 OUTFLOW=0.2083E+01 BASIN STORAGE=0.8854E-02 PERCENT ERROR= -0.2									
RT-SBD12	MANE	1.95	30.62	372.45	1.92	3.00	30.58	372.00	1.92
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2157E+01 EXCESS=0.0000E+00 OUTFLOW=0.2152E+01 BASIN STORAGE=0.7009E-02 PERCENT ERROR= -0.1									
RT-APD5	MANE	0.49	132.65	369.48	1.78	3.00	132.15	369.00	1.78

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.9393E+01 EXCESS=0.0000E+00 OUTFLOW=0.9390E+01 BASIN STORAGE=0.4286E-02 PERCENT ERROR= 0.0

RT-APD6	MANE	0.74	320.90	363.44	2.45	3.00	319.74	363.00	2.45
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2170E+02 EXCESS=0.0000E+00 OUTFLOW=0.2169E+02 BASIN STORAGE=0.1284E-01 PERCENT ERROR= 0.0

RT-SBD14	MANE	0.34	48.96	363.32	2.20	3.00	48.83	363.00	2.20
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2700E+01 EXCESS=0.0000E+00 OUTFLOW=0.2699E+01 BASIN STORAGE=0.8244E-03 PERCENT ERROR= 0.0

RT-APD7	MANE	0.50	566.67	363.90	2.13	3.00	561.56	363.00	2.13
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.7855E+02 EXCESS=0.0000E+00 OUTFLOW=0.7852E+02 BASIN STORAGE=0.3040E-01 PERCENT ERROR= 0.0

RT-APD8	MANE	0.32	613.58	363.62	2.14	3.00	610.33	363.00	2.14
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.8134E+02 EXCESS=0.0000E+00 OUTFLOW=0.8132E+02 BASIN STORAGE=0.2062E-01 PERCENT ERROR= 0.0

RT-SBD16	MANE	0.37	98.05	366.20	1.77	3.00	97.94	366.00	1.77
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5861E+01 EXCESS=0.0000E+00 OUTFLOW=0.5859E+01 BASIN STORAGE=0.2118E-02 PERCENT ERROR= 0.0

RT-APD9	MANE	0.24	738.43	363.33	2.14	3.00	735.04	363.00	2.14
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.8947E+02 EXCESS=0.0000E+00 OUTFLOW=0.8946E+02 BASIN STORAGE=0.1699E-01 PERCENT ERROR= 0.0

RT-SBD36	MANE	0.89	34.00	367.72	1.73	3.00	33.75	369.00	1.73
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2219E+01 EXCESS=0.0000E+00 OUTFLOW=0.2218E+01 BASIN STORAGE=0.1888E-02 PERCENT ERROR= 0.0

RT-SBD37	MANE	0.23	39.85	359.94	4.27	3.00	39.85	360.00	4.27
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2506E+01 EXCESS=0.0000E+00 OUTFLOW=0.2506E+01 BASIN STORAGE=0.3465E-03 PERCENT ERROR= 0.0

RT-APDFE	MANE	0.25	802.07	363.61	2.15	3.00	798.54	363.00	2.15
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.9419E+02 EXCESS=0.0000E+00 OUTFLOW=0.9418E+02 BASIN STORAGE=0.1856E-01 PERCENT ERROR= 0.0

RT-RRDFP	MANE	0.37	35.75	387.49	1.75	3.00	35.73	390.00	1.75
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5970E+01 EXCESS=0.0000E+00 OUTFLOW=0.5968E+01 BASIN STORAGE=0.1937E-02 PERCENT ERROR= 0.0

RT-APD10	MANE	0.81	65.14	364.51	1.94	3.00	64.91	366.00	1.94
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.9099E+01 EXCESS=0.0000E+00 OUTFLOW=0.9093E+01 BASIN STORAGE=0.6275E-02 PERCENT ERROR= 0.0

RT-APD11	MANE	1.02	166.20	361.67	2.46	3.00	164.60	363.00	2.46
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1547E+02 EXCESS=0.0000E+00 OUTFLOW=0.1546E+02 BASIN STORAGE=0.1247E-01 PERCENT ERROR= 0.0

RT-APD13	MANE	0.56	75.38	375.95	0.84	3.00	75.35	378.00	0.84
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4403E+02 EXCESS=0.0000E+00 OUTFLOW=0.4399E+02 BASIN STORAGE=0.4321E-01 PERCENT ERROR= 0.0									
RT-APD13	MANE	0.60	147.47	364.08	0.89	3.00	146.12	366.00	0.89
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4842E+02 EXCESS=0.0000E+00 OUTFLOW=0.4837E+02 BASIN STORAGE=0.5396E-01 PERCENT ERROR= 0.0									
AP-DFF	MANE	0.14	160.69	363.19	0.90	3.00	160.41	363.00	0.90
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4920E+02 EXCESS=0.0000E+00 OUTFLOW=0.4918E+02 BASIN STORAGE=0.1254E-01 PERCENT ERROR= 0.0									
RR-SBD25	MANE	0.61	41.68	363.68	2.55	3.00	41.59	363.00	2.56
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2317E+01 EXCESS=0.0000E+00 OUTFLOW=0.2316E+01 BASIN STORAGE=0.1194E-02 PERCENT ERROR= 0.0									
RT-APD16	MANE	0.25	107.30	363.15	2.19	3.00	107.14	363.00	2.19
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5842E+01 EXCESS=0.0000E+00 OUTFLOW=0.5841E+01 BASIN STORAGE=0.1310E-02 PERCENT ERROR= 0.0									
RT-APD17	MANE	0.31	116.55	363.33	0.85	3.00	116.20	363.00	0.85
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4977E+02 EXCESS=0.0000E+00 OUTFLOW=0.4974E+02 BASIN STORAGE=0.2732E-01 PERCENT ERROR= 0.0									
RT-APD18	MANE	0.30	134.56	363.41	0.86	3.00	134.25	363.00	0.86
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5076E+02 EXCESS=0.0000E+00 OUTFLOW=0.5073E+02 BASIN STORAGE=0.2744E-01 PERCENT ERROR= 0.0									
RT-APD19	MANE	0.10	20.00	351.22	1.83	3.00	20.00	354.00	1.83
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1754E+01 EXCESS=0.0000E+00 OUTFLOW=0.1754E+01 BASIN STORAGE=0.1670E-03 PERCENT ERROR= 0.0									
RT-APD20	MANE	0.31	164.49	363.41	0.88	3.00	164.12	363.00	0.88
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5305E+02 EXCESS=0.0000E+00 OUTFLOW=0.5302E+02 BASIN STORAGE=0.3021E-01 PERCENT ERROR= 0.0									
RT-SBD30	MANE	0.25	31.71	363.32	1.92	3.00	31.60	363.00	1.92
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1738E+01 EXCESS=0.0000E+00 OUTFLOW=0.1738E+01 BASIN STORAGE=0.4217E-03 PERCENT ERROR= 0.0									
RT-APD12	MANE	3.00	533.87	384.00	-1.00	3.00	533.87	384.00	-1.00
RT-SBD34	MANE	0.73	79.52	363.36	2.12	3.00	79.09	363.00	2.12
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4409E+01 EXCESS=0.0000E+00 OUTFLOW=0.4406E+01 BASIN STORAGE=0.2937E-02 PERCENT ERROR= 0.0									

*** NORMAL END OF HEC-1 ***

G.

HEC-1 MODEL OUTPUT

FULLY DEVELOPED CONDITION

SUMMARY SHEETS FOR 2, 5, 10, 25 AND 50-YEAR STORMS

2 Year, 24 Hour, Developed Condition

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	SB-D1	6.	6.35	1.	1.	1.	0.09		
ROUTED TO	RT-SBD1	6.	6.45	1.	1.	1.	0.09		
HYDROGRAPH AT	SB-D2	8.	6.15	1.	1.	1.	0.06		
2 COMBINED AT	AP-D1	11.	6.25	2.	1.	1.	0.14		
HYDROGRAPH AT	SB-D3	7.	6.20	1.	0.	0.	0.03		
2 COMBINED AT	AP-DDA	17.	6.20	3.	2.	2.	0.17		
ROUTED TO	RR-DFA	17.	6.25	3.	2.	2.	0.17	54.92	6.25
ROUTED TO	RT-APDFA	17.	6.25	3.	2.	2.	0.17		
HYDROGRAPH AT	SB-D6	19.	6.10	2.	1.	1.	0.04		
2 COMBINED AT	AP-D2	30.	6.15	5.	2.	2.	0.21		
ROUTED TO	RT-APD2	29.	6.15	5.	2.	2.	0.21		
HYDROGRAPH AT	SB-D7	36.	6.10	4.	2.	2.	0.07		
HYDROGRAPH AT	SB-D4	5.	6.20	1.	0.	0.	0.05		
HYDROGRAPH AT	SB-D5	8.	6.15	1.	0.	0.	0.03		
2 COMBINED AT	AP-DFB	13.	6.15	2.	1.	1.	0.08		
ROUTED TO	RR-DFB	13.	6.20	2.	1.	1.	0.08	19.35	6.20
ROUTED TO	RT-APDFB	13.	6.20	2.	1.	1.	0.08		
3 COMBINED AT	AP-D3	73.	6.10	11.	5.	5.	0.36		
ROUTED TO	RT-APD3	73.	6.15	11.	5.	5.	0.36		
HYDROGRAPH AT	SB-D8	79.	6.00	8.	3.	3.	0.06		
2 COMBINED AT	AP-DFC	139.	6.05	19.	8.	8.	0.42		
ROUTED TO	RR-DFC	45.	6.40	18.	8.	8.	0.42	55.96	6.40

ROUTED TO	RT-DFC	45.	6.45	18.	8.	8.	0.42
HYDROGRAPH AT	SB-D9A	5.	6.15	1.	0.	0.	0.02
2 COMBINED AT	AP-D4	47.	6.30	19.	9.	9.	0.44
ROUTED TO	RT-APD4	47.	6.30	19.	9.	9.	0.44
HYDROGRAPH AT	SB-D9	7.	6.15	1.	0.	0.	0.02
2 COMBINED AT	AP-D4a	53.	6.20	20.	9.	9.	0.46
ROUTED TO	RT-APD4a	53.	6.25	20.	9.	9.	0.46
HYDROGRAPH AT	SB-D15	13.	6.10	2.	1.	1.	0.04
2 COMBINED AT	AP-D4b	64.	6.15	21.	10.	10.	0.50
ROUTED TO	RT-APD4b	64.	6.20	21.	10.	10.	0.50
HYDROGRAPH AT	SB-D10	2.	6.25	0.	0.	0.	0.03
ROUTED TO	RT-SBD10	2.	6.35	0.	0.	0.	0.03
HYDROGRAPH AT	SB-D11	13.	6.15	2.	1.	1.	0.05
HYDROGRAPH AT	SB-D12	5.	6.20	1.	0.	0.	0.02
ROUTED TO	RT-SBD12	5.	6.25	1.	0.	0.	0.02
3 COMBINED AT	AP-D5	19.	6.20	3.	1.	1.	0.10
ROUTED TO	RT-APD5	18.	6.20	3.	1.	1.	0.10
HYDROGRAPH AT	SB-D13	80.	6.00	8.	3.	3.	0.07
2 COMBINED AT	AP-D6	90.	6.05	11.	5.	5.	0.17
ROUTED TO	RT-APD6	89.	6.05	11.	5.	5.	0.17
HYDROGRAPH AT	SB-D14	10.	6.05	1.	0.	0.	0.02
ROUTED TO	RT-SBD14	10.	6.10	1.	0.	0.	0.02
3 COMBINED AT	AP-D7	153.	6.10	33.	15.	15.	0.69
ROUTED TO	RT-APD7	153.	6.10	33.	15.	15.	0.69
HYDROGRAPH AT	SB-D17	6.	6.05	1.	0.	0.	0.01
2 COMBINED AT	AP-D7A	159.	6.10	34.	15.	15.	0.70

HYDROGRAPH AT	SB-D16A	6.	6.05	1.	0.	0.	0.01
2 COMBINED AT	AP-D7A	164.	6.10	34.	15.	15.	0.71
ROUTED TO	RT-APD8	164.	6.10	34.	15.	15.	0.71
HYDROGRAPH AT	SB-D17A	16.	6.00	2.	1.	1.	0.01
2 COMBINED AT	AP-D8	177.	6.10	36.	16.	16.	0.72
HYDROGRAPH AT	SB-D16	14.	6.10	2.	1.	1.	0.06
ROUTED TO	RT-SBD16	14.	6.15	2.	1.	1.	0.06
2 COMBINED AT	AP-D8	191.	6.10	38.	17.	17.	0.78
ROUTED TO	RT-APD9	190.	6.10	38.	17.	17.	0.78
HYDROGRAPH AT	SB-D36	5.	6.15	1.	0.	0.	0.02
ROUTED TO	RT-SBD36	5.	6.20	1.	0.	0.	0.02
2 COMBINED AT	AP-D9	194.	6.10	39.	17.	17.	0.81
HYDROGRAPH AT	SB-D37	18.	6.00	2.	1.	1.	0.01
ROUTED TO	RT-SBD37	18.	6.00	2.	1.	1.	0.01
2 COMBINED AT	AP-D9	208.	6.10	40.	18.	18.	0.82
ROUTED TO	RT-APDFE	208.	6.10	40.	18.	18.	0.82
HYDROGRAPH AT	SB-D18	19.	6.15	3.	1.	1.	0.06
ROUTED TO	RR-DFPCH	1.	8.40	1.	0.	0.	0.06
							20.13
							8.40
ROUTED TO	RT-RRDFP	1.	8.40	1.	0.	0.	0.06
HYDROGRAPH AT	SB-D19	15.	6.05	1.	1.	1.	0.02
2 COMBINED AT	AP-D10	15.	6.05	2.	1.	1.	0.09
ROUTED TO	RT-APD10	15.	6.05	2.	1.	1.	0.09
HYDROGRAPH AT	SB-D20	46.	6.00	5.	2.	2.	0.03
2 COMBINED AT	AP-D11	60.	6.00	7.	3.	3.	0.12
ROUTED TO	RT-APD11	59.	6.05	7.	3.	3.	0.12
HYDROGRAPH AT	SB-D21	36.	6.05	4.	2.	2.	0.04

3 COMBINED AT	AP-DFE	299.	6.05	51.	23.	23.	0.98		
ROUTED TO	RR-DFE	60.	7.15	45.	21.	21.	0.98		
								32.29	7.15
DIVERSION TO	AP-D12	9.	7.15	4.	2.	2.	0.98		
HYDROGRAPH AT	AP-DFE	51.	7.15	41.	19.	19.	0.98		
ROUTED TO	RT-APD13	51.	7.15	41.	19.	19.	0.98		
HYDROGRAPH AT	SB-D22	17.	6.05	2.	1.	1.	0.04		
2 COMBINED AT	AP-D13	55.	6.15	42.	20.	20.	1.02		
ROUTED TO	RT-APD13	55.	6.15	42.	20.	20.	1.02		
HYDROGRAPH AT	SB-D23	5.	6.00	0.	0.	0.	0.00		
2 COMBINED AT	AP-D14	58.	6.15	43.	20.	20.	1.02		
ROUTED TO	AP-DFF	58.	6.15	43.	20.	20.	1.02		
HYDROGRAPH AT	SB-D24	8.	6.10	1.	0.	0.	0.03		
2 COMBINED AT	AP-DFF	66.	6.10	43.	21.	21.	1.05		
ROUTED TO	RR-DFF	48.	8.70	33.	15.	15.	1.05		
								68.83	8.70
HYDROGRAPH AT	SB-D25	11.	6.05	1.	0.	0.	0.02		
ROUTED TO	RR-SB025	11.	6.05	1.	0.	0.	0.02		
HYDROGRAPH AT	SB-D26	12.	6.05	1.	1.	1.	0.03		
2 COMBINED AT	AP-D16	23.	6.05	2.	1.	1.	0.05		
ROUTED TO	RT-APD16	23.	6.05	2.	1.	1.	0.05		
2 COMBINED AT	AP-D17	48.	8.70	33.	16.	16.	1.10		
ROUTED TO	RT-APD17	48.	8.70	33.	16.	16.	1.10		
HYDROGRAPH AT	SB-D27	4.	6.05	0.	0.	0.	0.01		
2 COMBINED AT	AP-D18	49.	8.70	33.	16.	16.	1.10		
ROUTED TO	RT-APD18	49.	8.70	33.	16.	16.	1.10		
HYDROGRAPH AT	SB-D29	9.	6.05	1.	0.	0.	0.02		

DIVERSION TO	AP-D19a	0.	6.05	0.	0.	0.	0.02		
HYDROGRAPH AT	AP-D19	9.	6.05	1.	0.	0.	0.02		
ROUTED TO	RT-APD19	9.	6.05	1.	0.	0.	0.02		
HYDROGRAPH AT	SB-D28	3.	6.05	0.	0.	0.	0.00		
3 COMBINED AT	AP-D20	49.	8.70	34.	17.	17.	1.13		
ROUTED TO	RT-APD20	49.	8.70	34.	17.	17.	1.13		
HYDROGRAPH AT	SB-D30	6.	6.10	1.	0.	0.	0.02		
ROUTED TO	RT-SBD30	5.	6.10	1.	0.	0.	0.02		
2 COMBINED AT	AP-D21	49.	8.70	34.	17.	17.	1.14		
HYDROGRAPH AT	SB-D31	3.	6.05	0.	0.	0.	0.01		
2 COMBINED AT	AP-D22	52.	6.10	34.	17.	17.	1.15		
HYDROGRAPH AT	SB-D32	1.	6.05	0.	0.	0.	0.01		
2 COMBINED AT	AP-DFCS	53.	6.10	34.	17.	17.	1.16		
ROUTED TO	RR-DFCS	37.	10.60	33.	17.	17.	1.16	77.77	10.60
HYDROGRAPH AT	DR-APD12	9.	7.15	4.	2.	2.	0.00		
ROUTED TO	RT-APD12	9.	7.45	4.	2.	2.	0.00		
HYDROGRAPH AT	SB-D33	8.	6.10	1.	0.	0.	0.04		
2 COMBINED AT	AP-D23	9.	7.45	5.	2.	2.	0.04		
2 COMBINED AT	AP-D24	40.	10.45	36.	19.	19.	1.19		
HYDROGRAPH AT	SB-D34	16.	6.10	2.	1.	1.	0.04		
ROUTED TO	RT-SBD34	16.	6.10	2.	1.	1.	0.04		
HYDROGRAPH AT	SB-D35	17.	6.10	2.	1.	1.	0.04		
2 COMBINED AT	AP-DFG	33.	6.10	3.	2.	2.	0.08		
ROUTED TO	RR-DFG	2.	7.85	2.	1.	1.	0.08	65.01	8.10

5 Year, 24 Hour, Developed Condition

RUNOFF SUMMARY

FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	SB-D1	17.	6.30	3.	1.	1.	0.09		
ROUTED TO	RT-SBD1	17.	6.35	3.	1.	1.	0.09		
HYDROGRAPH AT	SB-D2	20.	6.15	2.	1.	1.	0.06		
2 COMBINED AT	AP-D1	31.	6.25	6.	3.	3.	0.14		
HYDROGRAPH AT	SB-D3	13.	6.15	2.	1.	1.	0.03		
2 COMBINED AT	AP-DDA	44.	6.20	7.	3.	3.	0.17		
ROUTED TO	RR-DFA	38.	6.35	7.	3.	3.	0.17	56.38	6.35
ROUTED TO	RT-APDFA	38.	6.35	7.	3.	3.	0.17		
HYDROGRAPH AT	SB-D6	34.	6.05	3.	2.	2.	0.04		
2 COMBINED AT	AP-D2	64.	6.15	11.	5.	5.	0.21		
ROUTED TO	RT-APD2	64.	6.15	11.	5.	5.	0.21		
HYDROGRAPH AT	SB-D7	62.	6.05	7.	3.	3.	0.07		
HYDROGRAPH AT	SB-D4	14.	6.15	2.	1.	1.	0.05		
HYDROGRAPH AT	SB-D5	16.	6.15	2.	1.	1.	0.03		
2 COMBINED AT	AP-DFB	30.	6.15	4.	2.	2.	0.08		
ROUTED TO	RR-DFB	30.	6.15	4.	2.	2.	0.08	19.82	6.15
ROUTED TO	RT-APDFB	30.	6.15	4.	2.	2.	0.08		
3 COMBINED AT	AP-D3	148.	6.10	21.	10.	10.	0.36		
ROUTED TO	RT-APD3	147.	6.15	21.	10.	10.	0.36		
HYDROGRAPH AT	SB-D8	111.	6.00	11.	5.	5.	0.06		
2 COMBINED AT	AP-DFC	237.	6.05	32.	14.	14.	0.42		
ROUTED TO	RR-DFC	60.	6.60	32.	14.	14.	0.42	58.40	6.60

ROUTED TO	RT-DFC	60.	6.60	32.	14.	14.	0.42
HYDROGRAPH AT	SB-D9A	10.	6.10	1.	1.	1.	0.02
2 COMBINED AT	AP-D4	64.	6.25	33.	15.	15.	0.44
ROUTED TO	RT-APD4	63.	6.30	33.	15.	15.	0.44
HYDROGRAPH AT	SB-D9	14.	6.15	2.	1.	1.	0.02
2 COMBINED AT	AP-D4a	76.	6.20	35.	16.	16.	0.46
ROUTED TO	RT-APD4a	76.	6.20	35.	16.	16.	0.46
HYDROGRAPH AT	SB-D15	26.	6.10	3.	1.	1.	0.04
2 COMBINED AT	AP-D4b	99.	6.15	38.	17.	17.	0.50
ROUTED TO	RT-APD4b	99.	6.15	38.	17.	17.	0.50
HYDROGRAPH AT	SB-D10	7.	6.25	1.	0.	0.	0.03
ROUTED TO	RT-SBD10	7.	6.30	1.	0.	0.	0.03
HYDROGRAPH AT	SB-D11	27.	6.15	3.	1.	1.	0.05
HYDROGRAPH AT	SB-D12	10.	6.20	1.	1.	1.	0.02
ROUTED TO	RT-SBD12	10.	6.25	1.	1.	1.	0.02
3 COMBINED AT	AP-D5	40.	6.20	6.	3.	3.	0.10
ROUTED TO	RT-APD5	40.	6.20	6.	3.	3.	0.10
HYDROGRAPH AT	SB-D13	115.	6.00	12.	5.	5.	0.07
2 COMBINED AT	AP-D6	141.	6.05	17.	8.	8.	0.17
ROUTED TO	RT-APD6	139.	6.05	17.	8.	8.	0.17
HYDROGRAPH AT	SB-D14	19.	6.05	2.	1.	1.	0.02
ROUTED TO	RT-SBD14	19.	6.05	2.	1.	1.	0.02
3 COMBINED AT	AP-D7	244.	6.10	57.	25.	25.	0.69
ROUTED TO	RT-APD7	244.	6.10	57.	25.	25.	0.69
HYDROGRAPH AT	SB-D17	10.	6.05	1.	0.	0.	0.01
2 COMBINED AT	AP-D7A	253.	6.10	58.	26.	26.	0.70

HYDROGRAPH AT	SB-D16A	11.	6.05	1.	0.	0.	0.01		
2 COMBINED AT	AP-D7A	263.	6.10	59.	26.	26.	0.71		
ROUTED TO	RT-APD8	263.	6.10	59.	26.	26.	0.71		
HYDROGRAPH AT	SB-D17A	21.	6.00	2.	1.	1.	0.01		
2 COMBINED AT	AP-D8	279.	6.05	61.	27.	27.	0.72		
HYDROGRAPH AT	SB-D16	31.	6.10	4.	2.	2.	0.06		
ROUTED TO	RT-SBD16	31.	6.10	4.	2.	2.	0.06		
2 COMBINED AT	AP-D8	310.	6.10	65.	29.	29.	0.78		
ROUTED TO	RT-APD9	309.	6.10	65.	29.	29.	0.78		
HYDROGRAPH AT	SB-D36	10.	6.15	1.	1.	1.	0.02		
ROUTED TO	RT-SBD36	10.	6.15	1.	1.	1.	0.02		
2 COMBINED AT	AP-D9	319.	6.10	66.	29.	29.	0.81		
HYDROGRAPH AT	SB-D37	23.	6.00	3.	1.	1.	0.01		
ROUTED TO	RT-SBD37	23.	6.00	3.	1.	1.	0.01		
2 COMBINED AT	AP-D9	337.	6.10	69.	31.	31.	0.82		
ROUTED TO	RT-APDFE	337.	6.10	69.	31.	31.	0.82		
HYDROGRAPH AT	SB-D18	38.	6.15	5.	2.	2.	0.06		
ROUTED TO	RR-DFPCH	6.	6.80	3.	1.	1.	0.06	20.80	6.80
ROUTED TO	RT-RRDFP	6.	6.80	3.	1.	1.	0.06		
HYDROGRAPH AT	SB-D19	25.	6.05	2.	1.	1.	0.02		
2 COMBINED AT	AP-D10	25.	6.05	5.	2.	2.	0.09		
ROUTED TO	RT-APD10	25.	6.05	5.	2.	2.	0.09		
HYDROGRAPH AT	SB-D20	62.	6.00	7.	3.	3.	0.03		
2 COMBINED AT	AP-D11	85.	6.00	12.	5.	5.	0.12		
ROUTED TO	RT-APD11	84.	6.00	12.	5.	5.	0.12		
HYDROGRAPH AT									

	SB-D21	56.	6.05	5.	2.	2.	0.04		
3 COMBINED AT	AP-DFE	470.	6.05	86.	38.	38.	0.98		
ROUTED TO	RR-DFE	137.	6.60	74.	36.	36.	0.98	34.90	6.60
DIVERSION TO	AP-D12	77.	6.60	24.	10.	10.	0.98		
HYDROGRAPH AT	AP-DFE	60.	6.60	51.	26.	26.	0.98		
ROUTED TO	RT-APD13	60.	6.60	51.	26.	26.	0.98		
HYDROGRAPH AT	SB-D22	31.	6.05	3.	1.	1.	0.04		
2 COMBINED AT	AP-D13	79.	6.10	54.	27.	27.	1.02		
ROUTED TO	RT-APD13	79.	6.10	54.	27.	27.	1.02		
HYDROGRAPH AT	SB-D23	8.	6.00	1.	0.	0.	0.00		
2 COMBINED AT	AP-D14	84.	6.10	54.	28.	28.	1.02		
ROUTED TO	AP-DFF	84.	6.10	54.	28.	28.	1.02		
HYDROGRAPH AT	SB-D24	16.	6.05	2.	1.	1.	0.03		
2 COMBINED AT	AP-DFF	100.	6.10	56.	28.	28.	1.05		
ROUTED TO	RR-DFF	57.	8.25	47.	23.	23.	1.05	69.05	8.25
HYDROGRAPH AT	SB-D25	18.	6.05	2.	1.	1.	0.02		
ROUTED TO	RR-SBD25	18.	6.05	2.	1.	1.	0.02		
HYDROGRAPH AT	SB-D26	24.	6.05	2.	1.	1.	0.03		
2 COMBINED AT	AP-D16	41.	6.05	4.	2.	2.	0.05		
ROUTED TO	RT-APD16	41.	6.05	4.	2.	2.	0.05		
2 COMBINED AT	AP-D17	59.	8.10	48.	24.	24.	1.10		
ROUTED TO	RT-APD17	59.	8.10	48.	24.	24.	1.10		
HYDROGRAPH AT	SB-D27	8.	6.05	1.	0.	0.	0.01		
2 COMBINED AT	AP-D18	59.	8.10	48.	25.	25.	1.10		
ROUTED TO	RT-APD18	59.	8.10	48.	25.	25.	1.10		
HYDROGRAPH AT	SB-D29	15.	6.05	2.	1.	1.	0.02		

DIVERSION TO	AP-D19a	0.	6.05	0.	0.	0.	0.02		
HYDROGRAPH AT	AP-D19	15.	6.05	2.	1.	1.	0.02		
ROUTED TO	RT-APD19	15.	6.05	2.	1.	1.	0.02		
HYDROGRAPH AT	SB-D28	5.	6.05	0.	0.	0.	0.00		
3 COMBINED AT	AP-D20	74.	6.05	49.	26.	26.	1.13		
ROUTED TO	RT-APD20	74.	6.05	49.	26.	26.	1.13		
HYDROGRAPH AT	SB-D30	11.	6.05	1.	0.	0.	0.02		
ROUTED TO	RT-SBD30	11.	6.05	1.	0.	0.	0.02		
2 COMBINED AT	AP-D21	84.	6.05	49.	26.	26.	1.14		
HYDROGRAPH AT	SB-D31	6.	6.05	1.	0.	0.	0.01		
2 COMBINED AT	AP-D22	90.	6.05	49.	26.	26.	1.15		
HYDROGRAPH AT	SB-D32	3.	6.05	0.	0.	0.	0.01		
2 COMBINED AT	AP-DFCS	93.	6.05	49.	27.	27.	1.16		
ROUTED TO	RR-DFCS	55.	9.90	45.	25.	25.	1.16	79.37	9.90
HYDROGRAPH AT	DR-APD12	77.	6.60	24.	10.	10.	0.00		
ROUTED TO	RT-APD12	78.	6.70	24.	10.	10.	0.00		
HYDROGRAPH AT	SB-D33	18.	6.05	2.	1.	1.	0.04		
2 COMBINED AT	AP-D23	80.	6.70	25.	11.	11.	0.04		
2 COMBINED AT	AP-D24	111.	6.70	67.	35.	35.	1.19		
HYDROGRAPH AT	SB-D34	30.	6.05	3.	1.	1.	0.04		
ROUTED TO	RT-SBD34	29.	6.10	3.	1.	1.	0.04		
HYDROGRAPH AT	SB-D35	32.	6.05	3.	1.	1.	0.04		
2 COMBINED AT	AP-DFG	60.	6.05	6.	3.	3.	0.08		
ROUTED TO	RR-DFG	11.	6.45	4.	2.	2.	0.08	66.82	6.45

10 Year, 24 Hour, Developed Condition

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	SB-D1	27.	6.30	5.	2.	2.	0.09		
ROUTED TO	RT-SB01	27.	6.35	5.	2.	2.	0.09		
HYDROGRAPH AT	SB-D2	30.	6.15	4.	2.	2.	0.06		
2 COMBINED AT	AP-D1	48.	6.20	8.	4.	4.	0.14		
HYDROGRAPH AT	SB-D3	19.	6.15	2.	1.	1.	0.03		
2 COMBINED AT	AP-DDA	66.	6.20	11.	5.	5.	0.17		
ROUTED TO	RR-DFA	45.	6.45	11.	5.	5.	0.17	58.43	6.45
ROUTED TO	RT-APDFA	44.	6.45	11.	5.	5.	0.17		
HYDROGRAPH AT	SB-D6	45.	6.05	5.	2.	2.	0.04		
2 COMBINED AT	AP-D2	81.	6.10	15.	7.	7.	0.21		
ROUTED TO	RT-APD2	80.	6.10	15.	7.	7.	0.21		
HYDROGRAPH AT	SB-D7	82.	6.05	9.	4.	4.	0.07		
HYDROGRAPH AT	SB-D4	22.	6.15	3.	1.	1.	0.05		
HYDROGRAPH AT	SB-D5	22.	6.15	3.	1.	1.	0.03		
2 COMBINED AT	AP-DFB	44.	6.15	6.	3.	3.	0.08		
ROUTED TO	RR-DFB	39.	6.25	6.	3.	3.	0.08	20.69	6.25
ROUTED TO	RT-APDFB	39.	6.25	6.	3.	3.	0.08		
3 COMBINED AT	AP-D3	198.	6.10	29.	13.	13.	0.36		
ROUTED TO	RT-APD3	196.	6.10	29.	13.	13.	0.36		
HYDROGRAPH AT	SB-D8	133.	6.00	13.	6.	6.	0.06		
2 COMBINED AT	AP-DFC	311.	6.05	43.	19.	19.	0.42		
ROUTED TO	RR-DFC	66.	6.80	42.	19.	19.	0.42	60.06	6.80

ROUTED TO	RT-DFC	66.	6.85	42.	19.	19.	0.42
HYDROGRAPH AT	SB-D9A	14.	6.10	2.	1.	1.	0.02
2 COMBINED AT	AP-D4	73.	6.20	44.	19.	19.	0.44
ROUTED TO	RT-APD4	73.	6.20	44.	19.	19.	0.44
HYDROGRAPH AT	SB-D9	18.	6.15	2.	1.	1.	0.02
2 COMBINED AT	AP-D4a	90.	6.15	46.	20.	20.	0.46
ROUTED TO	RT-APD4a	90.	6.20	46.	20.	20.	0.46
HYDROGRAPH AT	SB-D15	36.	6.10	4.	2.	2.	0.04
2 COMBINED AT	AP-D4b	124.	6.15	50.	22.	22.	0.50
ROUTED TO	RT-APD4b	123.	6.15	50.	22.	22.	0.50
HYDROGRAPH AT	SB-D10	11.	6.20	2.	1.	1.	0.03
ROUTED TO	RT-SBD10	10.	6.30	2.	1.	1.	0.03
HYDROGRAPH AT	SB-D11	37.	6.15	4.	2.	2.	0.05
HYDROGRAPH AT	SB-D12	14.	6.15	2.	1.	1.	0.02
ROUTED TO	RT-SBD12	14.	6.20	2.	1.	1.	0.02
3 COMBINED AT	AP-D5	58.	6.15	8.	4.	4.	0.10
ROUTED TO	RT-APD5	58.	6.20	8.	4.	4.	0.10
HYDROGRAPH AT	SB-D13	138.	6.00	14.	6.	6.	0.07
2 COMBINED AT	AP-D6	178.	6.05	22.	10.	10.	0.17
ROUTED TO	RT-APD6	176.	6.05	22.	10.	10.	0.17
HYDROGRAPH AT	SB-D14	25.	6.05	3.	1.	1.	0.02
ROUTED TO	RT-SBD14	25.	6.05	3.	1.	1.	0.02
3 COMBINED AT	AP-D7	311.	6.10	75.	33.	33.	0.69
ROUTED TO	RT-APD7	311.	6.10	74.	33.	33.	0.69
HYDROGRAPH AT	SB-D17	13.	6.05	1.	1.	1.	0.01
2 COMBINED AT	AP-D7A	322.	6.10	76.	34.	34.	0.70

HYDROGRAPH AT	SB-D16A	15.	6.05	1.	1.	1.	0.01		
2 COMBINED AT	AP-D7A	335.	6.10	77.	34.	34.	0.71		
ROUTED TO	RT-APD8	335.	6.10	77.	34.	34.	0.71		
HYDROGRAPH AT	SB-D17A	25.	6.00	3.	1.	1.	0.01		
2 COMBINED AT	AP-D8	355.	6.05	80.	35.	35.	0.72		
HYDROGRAPH AT	SB-D16	45.	6.10	5.	2.	2.	0.06		
ROUTED TO	RT-SBD16	44.	6.10	5.	2.	2.	0.06		
2 COMBINED AT	AP-D8	398.	6.10	85.	38.	38.	0.78		
ROUTED TO	RT-APD9	398.	6.10	85.	38.	38.	0.78		
HYDROGRAPH AT	SB-D36	15.	6.15	2.	1.	1.	0.02		
ROUTED TO	RT-SBD36	15.	6.15	2.	1.	1.	0.02		
2 COMBINED AT	AP-D9	412.	6.10	87.	38.	38.	0.81		
HYDROGRAPH AT	SB-D37	27.	6.00	3.	1.	1.	0.01		
ROUTED TO	RT-SBD37	27.	6.00	3.	1.	1.	0.01		
2 COMBINED AT	AP-D9	433.	6.10	90.	40.	40.	0.82		
ROUTED TO	RT-APDFE	433.	6.10	90.	40.	40.	0.82		
HYDROGRAPH AT	SB-D18	51.	6.15	6.	3.	3.	0.06		
ROUTED TO	RR-DFPCH	14.	6.55	4.	2.	2.	0.06	21.29	6.55
ROUTED TO	RT-RRDFP	14.	6.55	4.	2.	2.	0.06		
HYDROGRAPH AT	SB-D19	32.	6.05	3.	1.	1.	0.02		
2 COMBINED AT	AP-D10	32.	6.05	7.	3.	3.	0.09		
ROUTED TO	RT-APD10	32.	6.05	7.	3.	3.	0.09		
HYDROGRAPH AT	SB-D20	72.	6.00	8.	3.	3.	0.03		
2 COMBINED AT	AP-D11	103.	6.00	15.	7.	7.	0.12		
ROUTED TO	RT-APD11	101.	6.00	15.	7.	7.	0.12		
HYDROGRAPH AT	SB-D21	69.	6.05	7.	3.	3.	0.04		

3 COMBINED AT	AP-DFE	596.	6.05	111.	50.	50.	0.98		
ROUTED TO	RR-DFE	213.	6.45	96.	46.	46.	0.98	36.33	6.45
DIVERSION TO	AP-D12	148.	6.45	42.	17.	17.	0.98		
HYDROGRAPH AT	AP-DFE	64.	6.45	55.	29.	29.	0.98		
ROUTED TO	RT-APD13	64.	6.45	55.	29.	29.	0.98		
HYDROGRAPH AT	SB-D22	42.	6.05	4.	2.	2.	0.04		
2 COMBINED AT	AP-D13	95.	6.10	58.	31.	31.	1.02		
ROUTED TO	RT-APD13	94.	6.10	58.	31.	31.	1.02		
HYDROGRAPH AT	SB-D23	9.	6.00	1.	0.	0.	0.00		
2 COMBINED AT	AP-D14	101.	6.10	59.	31.	31.	1.02		
ROUTED TO	AP-DFF	101.	6.10	59.	31.	31.	1.02		
HYDROGRAPH AT	SB-D24	23.	6.05	2.	1.	1.	0.03		
2 COMBINED AT	AP-DFF	123.	6.10	61.	32.	32.	1.05		
ROUTED TO	RR-DFF	61.	8.10	53.	26.	26.	1.05	69.14	8.10
HYDROGRAPH AT	SB-D25	23.	6.05	2.	1.	1.	0.02		
ROUTED TO	RR-SBD25	23.	6.05	2.	1.	1.	0.02		
HYDROGRAPH AT	SB-D26	32.	6.05	3.	1.	1.	0.03		
2 COMBINED AT	AP-D16	55.	6.05	5.	2.	2.	0.05		
ROUTED TO	RT-APD16	55.	6.05	5.	2.	2.	0.05		
2 COMBINED AT	AP-D17	64.	8.05	54.	29.	29.	1.10		
ROUTED TO	RT-APD17	64.	8.05	54.	29.	29.	1.10		
HYDROGRAPH AT	SB-D27	10.	6.05	1.	0.	0.	0.01		
2 COMBINED AT	AP-D18	72.	6.05	54.	29.	29.	1.10		
ROUTED TO	RT-APD18	71.	6.05	54.	29.	29.	1.10		
HYDROGRAPH AT	SB-D29	20.	6.05	2.	1.	1.	0.02		

DIVERSION TO	AP-D19a	0.	6.05	0.	0.	0.	0.02		
HYDROGRAPH AT	AP-D19	20.	6.05	2.	1.	1.	0.02		
ROUTED TO	RT-APD19	20.	6.05	2.	1.	1.	0.02		
HYDROGRAPH AT	SB-D28	6.	6.05	1.	0.	0.	0.00		
3 COMBINED AT	AP-D20	97.	6.05	55.	30.	30.	1.13		
ROUTED TO	RT-APD20	96.	6.05	55.	30.	30.	1.13		
HYDROGRAPH AT	SB-D30	15.	6.05	2.	1.	1.	0.02		
ROUTED TO	RT-SBD30	15.	6.05	2.	1.	1.	0.02		
2 COMBINED AT	AP-D21	111.	6.05	56.	31.	31.	1.14		
HYDROGRAPH AT	SB-D31	8.	6.05	1.	0.	0.	0.01		
2 COMBINED AT	AP-D22	119.	6.05	57.	31.	31.	1.15		
HYDROGRAPH AT	SB-D32	4.	6.05	0.	0.	0.	0.01		
2 COMBINED AT	AP-DFCS	123.	6.05	57.	32.	32.	1.16		
ROUTED TO	RR-DFCS	61.	9.00	52.	29.	29.	1.16	79.54	9.00
HYDROGRAPH AT	DR-APD12	148.	6.45	42.	17.	17.	0.00		
ROUTED TO	RT-APD12	149.	6.60	42.	17.	17.	0.00		
HYDROGRAPH AT	SB-D33	26.	6.05	2.	1.	1.	0.04		
2 COMBINED AT	AP-D23	153.	6.50	44.	18.	18.	0.04		
2 COMBINED AT	AP-D24	188.	6.50	93.	47.	47.	1.19		
HYDROGRAPH AT	SB-D34	40.	6.05	4.	2.	2.	0.04		
ROUTED TO	RT-SBD34	39.	6.05	4.	2.	2.	0.04		
HYDROGRAPH AT	SB-D35	42.	6.05	4.	2.	2.	0.04		
2 COMBINED AT	AP-DFG	81.	6.05	8.	4.	4.	0.08		
ROUTED TO	RR-DFG	23.	6.35	6.	3.	3.	0.08	67.87	6.35

25 Year, 24 Hour, Developed Condition

RUNOFF SUMMARY

FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	SB-D1	45.	6.30	8.	3.	3.	0.09		
ROUTED TO	RT-SBD1	45.	6.35	8.	3.	3.	0.09		
HYDROGRAPH AT	SB-D2	46.	6.10	6.	2.	2.	0.06		
2 COMBINED AT	AP-D1	79.	6.20	13.	6.	6.	0.14		
HYDROGRAPH AT	SB-D3	27.	6.15	3.	2.	2.	0.03		
2 COMBINED AT	AP-DDA	105.	6.20	16.	7.	7.	0.17		
ROUTED TO	RR-DFA	54.	6.55	16.	7.	7.	0.17	60.75	6.55
ROUTED TO	RT-APDFA	54.	6.55	16.	7.	7.	0.17		
HYDROGRAPH AT	SB-D6	62.	6.05	6.	3.	3.	0.04		
2 COMBINED AT	AP-D2	101.	6.10	23.	10.	10.	0.21		
ROUTED TO	RT-APD2	101.	6.10	23.	10.	10.	0.21		
HYDROGRAPH AT	SB-D7	113.	6.05	12.	5.	5.	0.07		
HYDROGRAPH AT	SB-D4	36.	6.15	4.	2.	2.	0.05		
HYDROGRAPH AT	SB-D5	32.	6.15	4.	2.	2.	0.03		
2 COMBINED AT	AP-DFB	68.	6.15	8.	4.	4.	0.08		
ROUTED TO	RR-DFB	47.	6.30	8.	4.	4.	0.08	23.03	6.30
ROUTED TO	RT-APDFB	47.	6.30	8.	4.	4.	0.08		
3 COMBINED AT	AP-D3	254.	6.10	43.	19.	19.	0.36		
ROUTED TO	RT-APD3	253.	6.10	43.	19.	19.	0.36		
HYDROGRAPH AT	SB-D8	165.	6.00	17.	7.	7.	0.06		
2 COMBINED AT	AP-DFC	405.	6.05	60.	26.	26.	0.42		
ROUTED TO	RR-DFC	75.	7.05	58.	26.	26.	0.42	62.40	7.10

ROUTED TO	RT-DFC	75.	7.10	58.	26.	26.	0.42
HYDROGRAPH AT	SB-D9A	21.	6.10	2.	1.	1.	0.02
2 COMBINED AT	AP-D4	85.	6.15	60.	27.	27.	0.44
ROUTED TO	RT-APD4	85.	6.20	60.	27.	27.	0.44
HYDROGRAPH AT	SB-D9	26.	6.15	3.	1.	1.	0.02
2 COMBINED AT	AP-D4a	111.	6.15	64.	29.	29.	0.46
ROUTED TO	RT-APD4a	111.	6.15	64.	29.	29.	0.46
HYDROGRAPH AT	SB-D15	52.	6.10	6.	3.	3.	0.04
2 COMBINED AT	AP-D4b	159.	6.10	69.	31.	31.	0.50
ROUTED TO	RT-APD4b	159.	6.15	69.	31.	31.	0.50
HYDROGRAPH AT	SB-D10	17.	6.20	2.	1.	1.	0.03
ROUTED TO	RT-SBD10	17.	6.25	2.	1.	1.	0.03
HYDROGRAPH AT	SB-D11	55.	6.10	7.	3.	3.	0.05
HYDROGRAPH AT	SB-D12	21.	6.15	3.	1.	1.	0.02
ROUTED TO	RT-SBD12	21.	6.20	3.	1.	1.	0.02
3 COMBINED AT	AP-D5	88.	6.15	12.	5.	5.	0.10
ROUTED TO	RT-APD5	88.	6.15	12.	5.	5.	0.10
HYDROGRAPH AT	SB-D13	173.	6.00	18.	8.	8.	0.07
2 COMBINED AT	AP-D6	238.	6.05	30.	13.	13.	0.17
ROUTED TO	RT-APD6	236.	6.05	30.	13.	13.	0.17
HYDROGRAPH AT	SB-D14	35.	6.05	4.	2.	2.	0.02
ROUTED TO	RT-SBD14	35.	6.05	4.	2.	2.	0.02
3 COMBINED AT	AP-D7	418.	6.05	102.	46.	46.	0.69
ROUTED TO	RT-APD7	415.	6.10	102.	46.	46.	0.69
HYDROGRAPH AT	SB-D17	18.	6.00	2.	1.	1.	0.01
2 COMBINED AT	AP-D7A	431.	6.05	104.	46.	46.	0.70

HYDROGRAPH AT	SB-D16A	20.	6.05	2.	1.	1.	0.01		
2 COMBINED AT	AP-D7A	451.	6.05	106.	47.	47.	0.71		
ROUTED TO	RT-APD8	448.	6.10	106.	47.	47.	0.71		
HYDROGRAPH AT	SB-D17A	30.	6.00	3.	1.	1.	0.01		
2 COMBINED AT	AP-D8	476.	6.05	109.	49.	49.	0.72		
HYDROGRAPH AT	SB-D16	66.	6.10	7.	3.	3.	0.06		
ROUTED TO	RT-SBD16	66.	6.10	7.	3.	3.	0.06		
2 COMBINED AT	AP-D8	538.	6.05	116.	52.	52.	0.78		
ROUTED TO	RT-APD9	537.	6.10	116.	52.	52.	0.78		
HYDROGRAPH AT	SB-D36	23.	6.15	3.	1.	1.	0.02		
ROUTED TO	RT-SBD36	23.	6.15	3.	1.	1.	0.02		
2 COMBINED AT	AP-D9	559.	6.10	119.	53.	53.	0.81		
HYDROGRAPH AT	SB-D37	33.	6.00	4.	2.	2.	0.01		
ROUTED TO	RT-SBD37	33.	6.00	4.	2.	2.	0.01		
2 COMBINED AT	AP-D9	585.	6.05	122.	55.	55.	0.82		
ROUTED TO	RT-APDFE	584.	6.10	122.	55.	55.	0.82		
HYDROGRAPH AT	SB-D18	74.	6.15	9.	4.	4.	0.06		
ROUTED TO	RR-DFPCH	29.	6.45	7.	3.	3.	0.06	21.96	6.45
ROUTED TO	RT-RRDFP	29.	6.45	7.	3.	3.	0.06		
HYDROGRAPH AT	SB-D19	44.	6.05	4.	2.	2.	0.02		
2 COMBINED AT	AP-D10	44.	6.05	11.	5.	5.	0.09		
ROUTED TO	RT-APD10	43.	6.05	11.	5.	5.	0.09		
HYDROGRAPH AT	SB-D20	87.	6.00	9.	4.	4.	0.03		
2 COMBINED AT	AP-D11	129.	6.00	20.	9.	9.	0.12		
ROUTED TO	RT-APD11	128.	6.00	20.	9.	9.	0.12		
HYDROGRAPH AT									

	SB-D21	89.	6.05	9.	4.	4.	0.04		
3 COMBINED AT	AP-DFE	796.	6.05	152.	68.	68.	0.98		
ROUTED TO	RR-DFE	367.	6.35	132.	63.	63.	0.98	38.46	6.35
DIVERSION TO	AP-D12	297.	6.35	73.	30.	30.	0.98		
HYDROGRAPH AT	AP-DFE	70.	6.35	58.	33.	33.	0.98		
ROUTED TO	RT-APD13	70.	6.35	58.	33.	33.	0.98		
HYDROGRAPH AT	SB-D22	58.	6.05	6.	3.	3.	0.04		
2 COMBINED AT	AP-D13	118.	6.10	63.	35.	35.	1.02		
ROUTED TO	RT-APD13	118.	6.10	63.	35.	35.	1.02		
HYDROGRAPH AT	SB-D23	12.	6.00	1.	1.	1.	0.00		
2 COMBINED AT	AP-D14	127.	6.05	64.	36.	36.	1.02		
ROUTED TO	AP-DFF	126.	6.10	64.	36.	36.	1.02		
HYDROGRAPH AT	SB-D24	33.	6.05	3.	1.	1.	0.03		
2 COMBINED AT	AP-DFF	159.	6.05	68.	37.	37.	1.05		
ROUTED TO	RR-DFF	66.	7.55	59.	31.	31.	1.05	69.26	7.55
HYDROGRAPH AT	SB-D25	31.	6.05	3.	1.	1.	0.02		
ROUTED TO	RR-SBD25	31.	6.05	3.	1.	1.	0.02		
HYDROGRAPH AT	SB-D26	46.	6.05	5.	2.	2.	0.03		
2 COMBINED AT	AP-D16	77.	6.05	8.	3.	3.	0.05		
ROUTED TO	RT-APD16	77.	6.05	8.	3.	3.	0.05		
2 COMBINED AT	AP-D17	85.	6.05	61.	34.	34.	1.10		
ROUTED TO	RT-APD17	84.	6.05	61.	34.	34.	1.10		
HYDROGRAPH AT	SB-D27	14.	6.05	1.	1.	1.	0.01		
2 COMBINED AT	AP-D18	98.	6.05	61.	35.	35.	1.10		
ROUTED TO	RT-APD18	97.	6.05	61.	35.	35.	1.10		
HYDROGRAPH AT	SB-D29	28.	6.05	3.	1.	1.	0.02		

DIVERSION TO	AP-D19a	8.	5.90	0.	0.	0.	0.02		
HYDROGRAPH AT	AP-D19	20.	5.90	3.	1.	1.	0.02		
ROUTED TO	RT-APD19	20.	5.95	3.	1.	1.	0.02		
HYDROGRAPH AT	SB-D28	8.	6.05	1.	0.	0.	0.00		
3 COMBINED AT	AP-D20	125.	6.05	64.	36.	36.	1.13		
ROUTED TO	RT-APD20	125.	6.05	64.	36.	36.	1.13		
HYDROGRAPH AT	SB-D30	22.	6.05	2.	1.	1.	0.02		
ROUTED TO	RT-SBD30	22.	6.05	2.	1.	1.	0.02		
2 COMBINED AT	AP-D21	146.	6.05	66.	37.	37.	1.14		
HYDROGRAPH AT	SB-D31	11.	6.05	1.	0.	0.	0.01		
2 COMBINED AT	AP-D22	158.	6.05	67.	38.	38.	1.15		
HYDROGRAPH AT	SB-D32	6.	6.05	1.	0.	0.	0.01		
2 COMBINED AT	AP-DFCS	164.	6.05	68.	38.	38.	1.16		
ROUTED TO	RR-DFCS	73.	8.10	63.	35.	35.	1.16	79.86	8.10
HYDROGRAPH AT	DR-APD12	297.	6.35	73.	30.	30.	0.00		
ROUTED TO	RT-APD12	300.	6.40	74.	30.	30.	0.00		
HYDROGRAPH AT	SB-D33	39.	6.05	4.	2.	2.	0.04		
2 COMBINED AT	AP-D23	307.	6.40	77.	32.	32.	0.04		
2 COMBINED AT	AP-D24	348.	6.40	136.	67.	67.	1.19		
HYDROGRAPH AT	SB-D34	57.	6.05	6.	3.	3.	0.04		
ROUTED TO	RT-SBD34	56.	6.05	6.	3.	3.	0.04		
HYDROGRAPH AT	SB-D35	59.	6.05	6.	3.	3.	0.04		
2 COMBINED AT	AP-DFG	115.	6.05	12.	5.	5.	0.08		
ROUTED TO	RR-DFG	31.	6.35	9.	4.	4.	0.08	69.56	6.35

50 Year, 24 Hour, Developed Condition

RUNOFF SUMMARY

FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	SB-D1	58.	6.25	10.	4.	4.	0.09		
ROUTED TO	RT-SBD1	58.	6.30	10.	4.	4.	0.09		
HYDROGRAPH AT	SB-D2	59.	6.10	7.	3.	3.	0.06		
2 COMBINED AT	AP-D1	102.	6.20	16.	7.	7.	0.14		
HYDROGRAPH AT	SB-D3	33.	6.15	4.	2.	2.	0.03		
2 COMBINED AT	AP-DDA	134.	6.20	21.	9.	9.	0.17		
ROUTED TO	RR-DFA	60.	6.60	21.	9.	9.	0.17	62.11	6.60
ROUTED TO	RT-APDFA	60.	6.60	21.	9.	9.	0.17		
HYDROGRAPH AT	SB-D6	74.	6.05	8.	3.	3.	0.04		
2 COMBINED AT	AP-D2	116.	6.05	28.	12.	12.	0.21		
ROUTED TO	RT-APD2	116.	6.10	28.	12.	12.	0.21		
HYDROGRAPH AT	SB-D7	134.	6.05	14.	6.	6.	0.07		
HYDROGRAPH AT	SB-D4	45.	6.15	6.	2.	2.	0.05		
HYDROGRAPH AT	SB-D5	40.	6.10	5.	2.	2.	0.03		
2 COMBINED AT	AP-DFB	85.	6.15	10.	5.	5.	0.08		
ROUTED TO	RR-DFB	52.	6.30	10.	5.	5.	0.08	24.31	6.30
ROUTED TO	RT-APDFB	52.	6.35	10.	5.	5.	0.08		
3 COMBINED AT	AP-D3	291.	6.10	53.	23.	23.	0.36		
ROUTED TO	RT-APD3	291.	6.10	53.	23.	23.	0.36		
HYDROGRAPH AT	SB-D8	186.	6.00	19.	8.	8.	0.06		
2 COMBINED AT	AP-DFC	465.	6.05	72.	32.	32.	0.42		
ROUTED TO	RR-DFC	81.	7.20	67.	31.	31.	0.42	64.02	7.20

ROUTED TO	RT-DFC	81.	7.20	67.	31.	31.	0.42
HYDROGRAPH AT	SB-D9A	25.	6.10	3.	1.	1.	0.02
2 COMBINED AT	AP-D4	93.	6.15	70.	33.	33.	0.44
ROUTED TO	RT-APD4	93.	6.15	70.	33.	33.	0.44
HYDROGRAPH AT	SB-D9	32.	6.15	4.	2.	2.	0.02
2 COMBINED AT	AP-D4a	125.	6.15	73.	34.	34.	0.46
ROUTED TO	RT-APD4a	124.	6.15	73.	34.	34.	0.46
HYDROGRAPH AT	SB-D15	63.	6.10	7.	3.	3.	0.04
2 COMBINED AT	AP-D4b	185.	6.10	80.	37.	37.	0.50
ROUTED TO	RT-APD4b	184.	6.10	80.	37.	37.	0.50
HYDROGRAPH AT	SB-D10	22.	6.20	3.	1.	1.	0.03
ROUTED TO	RT-SBD10	22.	6.25	3.	1.	1.	0.03
HYDROGRAPH AT	SB-D11	68.	6.10	8.	4.	4.	0.05
HYDROGRAPH AT	SB-D12	26.	6.15	3.	1.	1.	0.02
ROUTED TO	RT-SBD12	26.	6.20	3.	1.	1.	0.02
3 COMBINED AT	AP-D5	110.	6.15	14.	6.	6.	0.10
ROUTED TO	RT-APD5	109.	6.15	14.	6.	6.	0.10
HYDROGRAPH AT	SB-D13	196.	6.00	20.	9.	9.	0.07
2 COMBINED AT	AP-D6	280.	6.05	35.	15.	15.	0.17
ROUTED TO	RT-APD6	277.	6.05	35.	15.	15.	0.17
HYDROGRAPH AT	SB-D14	42.	6.05	4.	2.	2.	0.02
ROUTED TO	RT-SBD14	42.	6.05	4.	2.	2.	0.02
3 COMBINED AT	AP-D7	492.	6.05	119.	54.	54.	0.69
ROUTED TO	RT-APD7	487.	6.10	119.	54.	54.	0.69
HYDROGRAPH AT	SB-D17	21.	6.00	2.	1.	1.	0.01
2 COMBINED AT	AP-D7A	507.	6.05	121.	55.	55.	0.70

HYDROGRAPH AT	SB-D16A	24.	6.05	2.	1.	1.	0.01		
2 COMBINED AT	AP-D7A	532.	6.05	123.	56.	56.	0.71		
ROUTED TO	RT-APD8	528.	6.05	123.	56.	56.	0.71		
HYDROGRAPH AT	SB-D17A	33.	6.00	4.	2.	2.	0.01		
2 COMBINED AT	AP-D8	559.	6.05	126.	58.	58.	0.72		
HYDROGRAPH AT	SB-D16	82.	6.10	9.	4.	4.	0.06		
ROUTED TO	RT-SBD16	82.	6.10	9.	4.	4.	0.06		
2 COMBINED AT	AP-D8	637.	6.05	135.	62.	62.	0.78		
ROUTED TO	RT-APD9	633.	6.05	135.	62.	62.	0.78		
HYDROGRAPH AT	SB-D36	28.	6.15	3.	2.	2.	0.02		
ROUTED TO	RT-SBD36	28.	6.15	3.	1.	1.	0.02		
2 COMBINED AT	AP-D9	660.	6.10	139.	63.	63.	0.81		
HYDROGRAPH AT	SB-D37	36.	6.00	4.	2.	2.	0.01		
ROUTED TO	RT-SBD37	36.	6.00	4.	2.	2.	0.01		
2 COMBINED AT	AP-D9	692.	6.05	143.	65.	65.	0.82		
ROUTED TO	RT-APDFE	689.	6.10	143.	65.	65.	0.82		
HYDROGRAPH AT	SB-D18	90.	6.15	11.	5.	5.	0.06		
ROUTED TO	RR-DFPCH	33.	6.45	9.	4.	4.	0.06	22.51	6.45
ROUTED TO	RT-RRDFP	33.	6.45	9.	4.	4.	0.06		
HYDROGRAPH AT	SB-D19	51.	6.00	5.	2.	2.	0.02		
2 COMBINED AT	AP-D10	54.	6.05	14.	6.	6.	0.09		
ROUTED TO	RT-APD10	53.	6.05	14.	6.	6.	0.09		
HYDROGRAPH AT	SB-D20	97.	6.00	11.	5.	5.	0.03		
2 COMBINED AT	AP-D11	147.	6.00	24.	11.	11.	0.12		
ROUTED TO	RT-APD11	146.	6.00	24.	11.	11.	0.12		

HYDROGRAPH AT	SB-D21	102.	6.00	11.	5.	5.	0.04		
3 COMBINED AT	AP-D2E	935.	6.05	177.	81.	81.	0.98		
ROUTED TO	RR-D2E	490.	6.30	156.	74.	74.	0.98	39.58	6.30
DIVERSION TO	AP-D12	417.	6.30	96.	40.	40.	0.98		
HYDROGRAPH AT	AP-D2E	73.	6.30	60.	34.	34.	0.98		
ROUTED TO	RT-APD13	73.	6.30	60.	34.	34.	0.98		
HYDROGRAPH AT	SB-D22	69.	6.05	7.	3.	3.	0.04		
2 COMBINED AT	AP-D13	133.	6.05	66.	37.	37.	1.02		
ROUTED TO	RT-APD13	132.	6.10	66.	37.	37.	1.02		
HYDROGRAPH AT	SB-D23	14.	6.00	1.	1.	1.	0.00		
2 COMBINED AT	AP-D14	144.	6.05	67.	38.	38.	1.02		
ROUTED TO	AP-DFF	144.	6.05	67.	38.	38.	1.02		
HYDROGRAPH AT	SB-D24	40.	6.05	4.	2.	2.	0.03		
2 COMBINED AT	AP-DFF	184.	6.05	71.	40.	40.	1.05		
ROUTED TO	RR-DFF	71.	7.25	61.	33.	33.	1.05	69.36	7.25
HYDROGRAPH AT	SB-D25	36.	6.05	4.	2.	2.	0.02		
ROUTED TO	RR-SBD25	36.	6.05	4.	2.	2.	0.02		
HYDROGRAPH AT	SB-D26	56.	6.05	5.	2.	2.	0.03		
2 COMBINED AT	AP-D16	92.	6.05	9.	4.	4.	0.05		
ROUTED TO	RT-APD16	92.	6.05	9.	4.	4.	0.05		
2 COMBINED AT	AP-D17	101.	6.05	65.	37.	37.	1.10		
ROUTED TO	RT-APD17	100.	6.05	65.	37.	37.	1.10		
HYDROGRAPH AT	SB-D27	16.	6.05	2.	1.	1.	0.01		
2 COMBINED AT	AP-D18	116.	6.05	66.	38.	38.	1.10		
ROUTED TO	RT-APD18	116.	6.05	66.	38.	38.	1.10		

HYDROGRAPH AT	SB-D29	34.	6.05	3.	1.	1.	0.02		
DIVERSION TO	AP-D19a	14.	5.85	0.	0.	0.	0.02		
HYDROGRAPH AT	AP-D19	20.	5.85	3.	1.	1.	0.02		
ROUTED TO	RT-APD19	20.	5.90	3.	1.	1.	0.02		
HYDROGRAPH AT	SB-D28	9.	6.05	1.	0.	0.	0.00		
3 COMBINED AT	AP-D20	145.	6.05	70.	40.	40.	1.13		
ROUTED TO	RT-APD20	144.	6.05	70.	40.	40.	1.13		
HYDROGRAPH AT	SB-D30	27.	6.05	3.	1.	1.	0.02		
ROUTED TO	RT-SBD30	27.	6.05	3.	1.	1.	0.02		
2 COMBINED AT	AP-D21	171.	6.05	72.	41.	41.	1.14		
HYDROGRAPH AT	SB-D31	13.	6.05	1.	1.	1.	0.01		
2 COMBINED AT	AP-D22	184.	6.05	74.	42.	42.	1.15		
HYDROGRAPH AT	SB-D32	8.	6.05	1.	0.	0.	0.01		
2 COMBINED AT	AP-DFCS	192.	6.05	74.	42.	42.	1.16		
ROUTED TO	RR-DFCS	79.	7.50	67.	38.	38.	1.16	80.02	7.50
HYDROGRAPH AT	DR-APD12	417.	6.30	96.	40.	40.	0.00		
ROUTED TO	RT-APD12	430.	6.35	96.	40.	40.	0.00		
HYDROGRAPH AT	SB-D33	49.	6.05	5.	2.	2.	0.04		
2 COMBINED AT	AP-D23	440.	6.35	100.	42.	42.	0.04		
2 COMBINED AT	AP-D24	501.	6.35	166.	80.	80.	1.19		
HYDROGRAPH AT	SB-D34	68.	6.05	7.	3.	3.	0.04		
ROUTED TO	RT-SBD34	67.	6.05	7.	3.	3.	0.04		
HYDROGRAPH AT	SB-D35	71.	6.05	7.	3.	3.	0.04		
2 COMBINED AT	AP-DFG	138.	6.05	14.	6.	6.	0.08		
ROUTED TO	RR-DFG	36.	6.35	11.	5.	5.	0.08	70.85	6.35

H.
HEC-1 MODEL OUTPUT
HISTORIC (UNDEVELOPED) CONDITION
• 100-YEAR STORM

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*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
* MAY 1991
* VERSION 4.0.1E
*
* RUN DATE 05/06/1999 TIME 19:40:18
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*
* U.S. ARMY CORPS OF ENGINEERS
* HYDROLOGIC ENGINEERING CENTER
* 609 SECOND STREET
* DAVIS, CALIFORNIA 95616
* (916) 756-1104
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::: Full Microcomputer Implementation :::
::: by :::
::: Haestad Methods, Inc. :::
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37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
 THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
 NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
 DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
 KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
 1 ID KETTLE CREEK DRAINAGE BASIN - 24HR, HISTORIC CONDITION (TYPE IIa100 YEAR)
 2 ID WATERSHED IN PREDEVELOPMENT CONDITION WITH NO CONSERVATION TREATMENT
 3 ID FILE:KCU100.DAT
 4 ID UNDEVELOPED CONDITION MODEL
 5 ID *****
 6 ID BEGIN CALCULATIONS IN THE SOUTH TRIBUTARY WATERSHED
 7 ID *****

*** FREE ***

*DIAGRAM

8 IT 3 0 0 300
 9 IO 5

 10 KK SB-H1
 11 KM COMPUTE HYDROGRAPH FOR BASIN H1
 12 BA .1347
 13 IN 15
 14 PB 4.4 4.0
 15 PC 0000 .0005 .0015 .0030 .0045 .0060 .0080 .0100 .0120 .0143
 16 PC .0165 .0188 .0210 .0233 .0255 .0278 .0320 .0390 .0460 .0530
 17 PC .0600 .0750 .1000 .4000 .7000 .7250 .7500 .7650 .7800 .7900
 18 PC .8000 .8100 .8200 .8250 .8300 .8350 .8400 .8450 .8500 .8550
 19 PC .8600 .8638 .8675 .8713 .8750 .8788 .8825 .8863 .8900 .8938
 20 PC .8975 .9013 .9050 .9083 .9115 .9148 .9180 .9210 .9240 .9270
 21 PC .9300 .9325 .9350 .9375 .9400 .9425 .9450 .9475 .9500 .9525
 22 PC .9550 .9575 .9600 .9625 .9650 .9675 .9700 .9725 .9750 .9775
 23 PC .9800 .9813 .9825 .9838 .9850 .9863 .9875 .9888 .9900 .9913
 24 PC .9925 .9938 .9950 .9963 .9975 .9988 1.000
 25 LS 0 66
 26 UD .420

 27 KK RT-SBH1
 28 KM ROUTE THE RUNOFF FROM SB-H1 THROUGH SB-H2 TO AP-H1
 29 RD 3500 .027 .035 TRAP 15 10

 30 KK SB-H2
 31 KM COMPUTE HYDROGRAPH FOR BASIN H2
 32 BA 0.1288
 33 LS 0 66
 34 UD .303

 35 KK AP-H1
 36 KM COMBINE THE FLOW FROM BASIN H2 TO THE ROUTED FLOW FROM BASIN H1 AT AP-H1
 37 HC 2

 38 KK RT-APH1
 39 KM ROUTE THE RUNOFF FROM AP1 TO AP-H2
 40 RD 590 .015 .035 TRAP 30 5

 41 KK SB-H3
 42 KM COMPUTE HYDROGRAPH FOR BASIN H3
 43 BA 0.0853
 44 LS 0 66
 45 UD .314

LINE	ID	1	2	3	4	5	6	7	8	9	10
46	KK	RT-H3									
47	KM	ROUTE THE RUNOFF FROM BASIN H3 TO AP-H2									
48	RD	610	.025	.035		TRAP	15		10		
49	KK	AP-H2									
50	KM	COMBINE THE ROUTED FLOW FROM AP-H1 AND BASIN H3 AT AP-H2									
51	HC	2									
52	KK	RT-AP2									
53	KM	ROUTE THE RUNOFF FROM AP-H2 TO AP-H3									
54	RD	1800	.022	.035		TRAP	15		10		
55	KK	SB-H4									
56	KM	COMPUTE HYDROGRAPH FOR BASIN H4									
57	BA	0.0428									
58	LS	0	66								
59	UD	.188									
60	KK	SB-H5									
61	KM	COMPUTE HYDROGRAPH FOR BASIN H5									
62	BA	0.0769									
63	LS	0	66								
64	UD	.286									
65	KK	AP-H3									
66	KM	COMBINE THE ROUTED FLOW FROM AP-H2 AND BASINS H4 AND H5 AT AP-H3									
67	HC	3									
68	KK	RT-APH3									
69	KM	ROUTE THE RUNOFF FROM AP-H3 TO AP-H4									
70	RD	530	.021	.035		TRAP	15		3		
71	KK	SB-H6									
72	KM	COMPUTE HYDROGRAPH FOR BASIN H6									
73	BA	0.0814									
74	LS	0	66								
75	UD	.392									
76	KK	AP-H4									
77	KM	COMBINE THE ROUTED FLOW FROM AP-H3 WITH THE FLOW FROM BASIN H6 AT AP-H4									
78	HC	2									
79	KK	RT-APH4									
80	KM	ROUTE THE RUNOFF FROM AP-H4 TO AP-H5									
81	RD	800	.018	.035		TRAP	15		3		
82	KK	RT-APH5									
83	KM	ROUTE THE RUNOFF FROM AP-H5 TO AP-H6									
84	RD	1570	.0248	.035		TRAP	20		15		

LINE	ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
85	KK RT-APH6
86	KM ROUTE THE RUNOFF FROM AP-H6 TO AP-H8
87	RD 650 .039 .040 TRAP 10 5
88	KK SB-H7
89	KM COMPUTE HYDROGRAPH FOR BASIN H7
90	BA 0.0591
91	LS 0 66
92	UD .359
93	KK RT-SBH7
94	KM ROUTE THE RUNOFF FROM BASIN H7 TO AP-H7
95	RD 3000 .030 .040 TRAP 20 20
96	KK SB-H8
97	KM COMPUTE HYDROGRAPH FOR BASIN H8
98	BA 0.0803
99	LS 0 66
100	UD .346
101	KK AP-H7
102	KM COMBINE THE ROUTED FLOW FROM BASIN H7 WITH THE FLOW FROM BASIN H8 AT AP-H7
103	HC 2
104	KK RT-APH7
105	KM ROUTE THE RUNOFF FROM AP-H7 TO AP-H8
106	RD 1030 .038 .040 TRAP 10 15
107	KK AP-H8
108	KM COMBINE THE ROUTED FLOW FROM AP-H7 AND AP-H6 AT AP-H8
109	HC 2
110	KK RT-APH8
111	KM ROUTE THE RUNOFF FROM AP-H8 TO AP-H9
112	RD 570 .039 .035 TRAP 10 5
113	KK SB-H9
114	KM COMPUTE HYDROGRAPH FOR BASIN H9
115	BA 0.1406
116	LS 0 66
117	UD .297
118	KK AP-H9
119	KM COMBINE THE ROUTED FLOW FROM AP-H8 WITH THE FLOW FROM BASIN H9 AT AP-H9
120	KO 1 3
121	HC 2
122	KK RT-APH9
123	KM ROUTE THE RUNOFF FROM AP-H9 TO AP-H10
124	RD 2660 .045 .060 TRAP 10 2

LINE	ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
125	KK SB-H10
126	KM COMPUTE HYDROGRAPH FOR BASIN H10
127	BA 0.0572
128	LS 0 66
129	UD .215
130	KK AP-H10
131	KM COMBINE THE ROUTED FLOW FROM AP-H9 WITH THE FLOW FROM BASIN H10 AT AP-H10
132	KM THIS IS THE TOTAL HISTORIC (UNDEVELOPED CONDITION RUNOFF) CONTRIBUTED
133	KM BY THE SOUTH TRIBUTARY WATERSHED TO KETTLE CREEK
134	HC 2
135	KK SB-H11
136	KM COMPUTE HYDROGRAPH FOR BASIN H11
137	BA 0.168
138	LS 0 66
139	UD .411
140	KK AP-H12
141	KM COMBINE THE FLOW AT AP-H10 WITH THE FLOW FROM BASIN H11 AT THEORETICAL
142	KM AP-12. THIS IS THE TOTAL HISTORIC (UNDEVELOPED CONDITION RUNOFF) CONTRIBUTED
143	KM TO KETTLE CREEK BY THE SOUTH TRIBUTARY WATERSHED AND BASIN H11 TO KETTLE
144	KM CREEK
145	HC 2
146	KM *****
147	KM BEGIN CALCULATIONS IN THE NORTH WATERSHED
148	KM *****
149	KK SB-H12
150	KM COMPUTE HYDROGRAPH FOR BASIN H12
151	BA 0.086
152	LS 0 66
153	UD .397
154	ZZ

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT LINE	(V) ROUTING	(--->) DIVERSION OR PUMP FLOW
NO.	(.) CONNECTOR	(<---) RETURN OF DIVERTED OR PUMPED FLOW
10	SB-H1 V V	
27	RT-SBH1 . .	
30	. SB-H2 . .	
35	AP-H1..... V V	
38	RT-APH1 . .	
41	. SB-H3 . V V	
46	. RT-H3 . .	
49	AP-H2..... V V	
52	RT-AP2 . .	
55	. SB-H4 . .	
60	. . SB-H5 . .	
65	AP-H3..... V V	
68	RT-APH3 . .	
71	. SB-H6 . .	
76	AP-H4..... V V	
79	RT-APH4 V V	
82	RT-APH5 V V	
85	RT-APH6 .	

```
*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
* MAY 1991
* VERSION 4.0.1E
*
* RUN DATE 05/06/1999 TIME 19:40:18
*
*****
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*****
*
* U.S. ARMY CORPS OF ENGINEERS
* HYDROLOGIC ENGINEERING CENTER
* 609 SECOND STREET
* DAVIS, CALIFORNIA 95616
* (916) 756-1104
*
*****
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KETTLE CREEK DRAINAGE BASIN - 24HR, HISTORIC CONDITION (TYPE IIa100 YEAR)
 WATERSHED IN PREDEVELOPMENT CONDITION WITH NO CONSERVATION TREATMENT
 FILE:KCU100.DAT
 UNDEVELOPED CONDITION MODEL

BEGIN CALCULATIONS IN THE SOUTH TRIBUTARY WATERSHED

9 IO OUTPUT CONTROL VARIABLES

IPRNT 5 PRINT CONTROL
 IPLOT 0 PLOT CONTROL
 QSCAL 0. HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA

NMIN 3 MINUTES IN COMPUTATION INTERVAL
 IDATE 1 0 STARTING DATE
 ITIME 0000 STARTING TIME
 NQ 300 NUMBER OF HYDROGRAPH ORDINATES
 NDDATE 1 0 ENDING DATE
 NDTIME 1457 ENDING TIME
 ICENT 19 CENTURY MARK

COMPUTATION INTERVAL 0.05 HOURS
 TOTAL TIME BASE 14.95 HOURS

ENGLISH UNITS

DRAINAGE AREA SQUARE MILES
 PRECIPITATION DEPTH INCHES
 LENGTH, ELEVATION FEET
 FLOW CUBIC FEET PER SECOND
 STORAGE VOLUME ACRE-FEET
 SURFACE AREA ACRES
 TEMPERATURE DEGREES FAHRENHEIT

*** **

* *
 * *
 * *

88	.	SB-H7	
	.	V	
	.	V	
93	.	RT-SBH7	
	.	.	
96	.	.	SB-H8
	.	.	.
	.	.	.
101	.	AP-H7.....	
	.	V	
	.	V	
104	.	RT-APH7	
	.	.	
	.	.	
107	.	AP-H8.....	
	.	V	
	.	V	
110	.	RT-APH8	
	.	.	
	.	.	
113	.	SB-H9	
	.	.	
	.	.	
118	.	AP-H9.....	
	.	V	
	.	V	
122	.	RT-APH9	
	.	.	
	.	.	
125	.	SB-H10	
	.	.	
	.	.	
130	.	AP-H10.....	
	.	.	
	.	.	
135	.	SB-H11	
	.	.	
	.	.	
140	.	AP-H12.....	
	.	.	
	.	.	
149	.	SB-H12	

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

120 KO

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IPRNT      1  PRINT CONTROL
IPLOT      3  PLOT CONTROL
QSCAL      0.  HYDROGRAPH PLOT SCALE

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121 HC

HYDROGRAPH COMBINATION

ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

HYDROGRAPH AT STATION AP-H9
SUM OF 2 HYDROGRAPHS

				*					*					*								
DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
					*						*						*					
1		0000	1	0.	*	1		0345	76	0.	*	1		0730	151	100.	*	1		1115	226	24.
1		0003	2	0.	*	1		0348	77	0.	*	1		0733	152	94.	*	1		1118	227	24.
1		0006	3	0.	*	1		0351	78	0.	*	1		0736	153	89.	*	1		1121	228	24.
1		0009	4	0.	*	1		0354	79	0.	*	1		0739	154	85.	*	1		1124	229	24.
1		0012	5	0.	*	1		0357	80	0.	*	1		0742	155	81.	*	1		1127	230	24.
1		0015	6	0.	*	1		0400	81	0.	*	1		0745	156	78.	*	1		1130	231	24.
1		0018	7	0.	*	1		0403	82	0.	*	1		0748	157	75.	*	1		1133	232	24.
1		0021	8	0.	*	1		0406	83	0.	*	1		0751	158	73.	*	1		1136	233	23.
1		0024	9	0.	*	1		0409	84	0.	*	1		0754	159	71.	*	1		1139	234	23.
1		0027	10	0.	*	1		0412	85	0.	*	1		0757	160	69.	*	1		1142	235	23.
1		0030	11	0.	*	1		0415	86	0.	*	1		0800	161	67.	*	1		1145	236	23.
1		0033	12	0.	*	1		0418	87	0.	*	1		0803	162	66.	*	1		1148	237	23.
1		0036	13	0.	*	1		0421	88	0.	*	1		0806	163	64.	*	1		1151	238	23.
1		0039	14	0.	*	1		0424	89	0.	*	1		0809	164	63.	*	1		1154	239	23.
1		0042	15	0.	*	1		0427	90	0.	*	1		0812	165	62.	*	1		1157	240	23.
1		0045	16	0.	*	1		0430	91	0.	*	1		0815	166	61.	*	1		1200	241	23.
1		0048	17	0.	*	1		0433	92	0.	*	1		0818	167	59.	*	1		1203	242	23.
1		0051	18	0.	*	1		0436	93	0.	*	1		0821	168	57.	*	1		1206	243	23.
1		0054	19	0.	*	1		0439	94	0.	*	1		0824	169	56.	*	1		1209	244	23.
1		0057	20	0.	*	1		0442	95	0.	*	1		0827	170	54.	*	1		1212	245	23.
1		0100	21	0.	*	1		0445	96	0.	*	1		0830	171	52.	*	1		1215	246	23.
1		0103	22	0.	*	1		0448	97	0.	*	1		0833	172	50.	*	1		1218	247	23.
1		0106	23	0.	*	1		0451	98	0.	*	1		0836	173	48.	*	1		1221	248	23.
1		0109	24	0.	*	1		0454	99	0.	*	1		0839	174	46.	*	1		1224	249	23.
1		0112	25	0.	*	1		0457	100	0.	*	1		0842	175	45.	*	1		1227	250	23.
1		0115	26	0.	*	1		0500	101	0.	*	1		0845	176	43.	*	1		1230	251	23.
1		0118	27	0.	*	1		0503	102	0.	*	1		0848	177	42.	*	1		1233	252	23.
1		0121	28	0.	*	1		0506	103	0.	*	1		0851	178	40.	*	1		1236	253	23.
1		0124	29	0.	*	1		0509	104	0.	*	1		0854	179	39.	*	1		1239	254	23.
1		0127	30	0.	*	1		0512	105	0.	*	1		0857	180	38.	*	1		1242	255	23.
1		0130	31	0.	*	1		0515	106	0.	*	1		0900	181	37.	*	1		1245	256	23.
1		0133	32	0.	*	1		0518	107	0.	*	1		0903	182	36.	*	1		1248	257	24.
1		0136	33	0.	*	1		0521	108	0.	*	1		0906	183	35.	*	1		1251	258	24.
1		0139	34	0.	*	1		0524	109	0.	*	1		0909	184	34.	*	1		1254	259	24.
1		0142	35	0.	*	1		0527	110	0.	*	1		0912	185	34.	*	1		1257	260	24.
1		0145	36	0.	*	1		0530	111	0.	*	1		0915	186	33.	*	1		1300	261	24.
1		0148	37	0.	*	1		0533	112	0.	*	1		0918	187	33.	*	1		1303	262	24.
1		0151	38	0.	*	1		0536	113	0.	*	1		0921	188	32.	*	1		1306	263	24.
1		0154	39	0.	*	1		0539	114	0.	*	1		0924	189	32.	*	1		1309	264	24.

1	0157	40	0.	*	1	0542	115	1.	*	1	0927	190	32.	*	1	1312	265	23.
1	0200	41	0.	*	1	0545	116	4.	*	1	0930	191	31.	*	1	1315	266	23.
1	0203	42	0.	*	1	0548	117	10.	*	1	0933	192	31.	*	1	1318	267	23.
1	0206	43	0.	*	1	0551	118	21.	*	1	0936	193	31.	*	1	1321	268	23.
1	0209	44	0.	*	1	0554	119	38.	*	1	0939	194	31.	*	1	1324	269	23.
1	0212	45	0.	*	1	0557	120	63.	*	1	0942	195	31.	*	1	1327	270	23.
1	0215	46	0.	*	1	0600	121	99.	*	1	0945	196	31.	*	1	1330	271	23.
1	0218	47	0.	*	1	0603	122	155.	*	1	0948	197	31.	*	1	1333	272	23.
1	0221	48	0.	*	1	0606	123	232.	*	1	0951	198	31.	*	1	1336	273	23.
1	0224	49	0.	*	1	0609	124	323.	*	1	0954	199	31.	*	1	1339	274	22.
1	0227	50	0.	*	1	0612	125	413.	*	1	0957	200	30.	*	1	1342	275	22.
1	0230	51	0.	*	1	0615	126	484.	*	1	1000	201	30.	*	1	1345	276	22.
1	0233	52	0.	*	1	0618	127	533.	*	1	1003	202	30.	*	1	1348	277	22.
1	0236	53	0.	*	1	0621	128	556.	*	1	1006	203	30.	*	1	1351	278	22.
1	0239	54	0.	*	1	0624	129	557.	*	1	1009	204	30.	*	1	1354	279	22.
1	0242	55	0.	*	1	0627	130	540.	*	1	1012	205	30.	*	1	1357	280	22.
1	0245	56	0.	*	1	0630	131	512.	*	1	1015	206	30.	*	1	1400	281	22.
1	0248	57	0.	*	1	0633	132	477.	*	1	1018	207	30.	*	1	1403	282	21.
1	0251	58	0.	*	1	0636	133	439.	*	1	1021	208	30.	*	1	1406	283	21.
1	0254	59	0.	*	1	0639	134	401.	*	1	1024	209	29.	*	1	1409	284	21.
1	0257	60	0.	*	1	0642	135	364.	*	1	1027	210	29.	*	1	1412	285	21.
1	0300	61	0.	*	1	0645	136	330.	*	1	1030	211	29.	*	1	1415	286	21.
1	0303	62	0.	*	1	0648	137	299.	*	1	1033	212	28.	*	1	1418	287	21.
1	0306	63	0.	*	1	0651	138	272.	*	1	1036	213	28.	*	1	1421	288	21.
1	0309	64	0.	*	1	0654	139	247.	*	1	1039	214	27.	*	1	1424	289	21.
1	0312	65	0.	*	1	0657	140	225.	*	1	1042	215	27.	*	1	1427	290	21.
1	0315	66	0.	*	1	0700	141	205.	*	1	1045	216	27.	*	1	1430	291	20.
1	0318	67	0.	*	1	0703	142	188.	*	1	1048	217	26.	*	1	1433	292	20.
1	0321	68	0.	*	1	0706	143	172.	*	1	1051	218	26.	*	1	1436	293	20.
1	0324	69	0.	*	1	0709	144	159.	*	1	1054	219	26.	*	1	1439	294	20.
1	0327	70	0.	*	1	0712	145	147.	*	1	1057	220	25.	*	1	1442	295	20.
1	0330	71	0.	*	1	0715	146	137.	*	1	1100	221	25.	*	1	1445	296	20.
1	0333	72	0.	*	1	0718	147	128.	*	1	1103	222	25.	*	1	1448	297	20.
1	0336	73	0.	*	1	0721	148	120.	*	1	1106	223	25.	*	1	1451	298	20.
1	0339	74	0.	*	1	0724	149	112.	*	1	1109	224	24.	*	1	1454	299	20.
1	0342	75	0.	*	1	0727	150	106.	*	1	1112	225	24.	*	1	1457	300	20.

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	14.95-HR
557.	6.40	(CFS) 105.	47.	47.	47.
		(INCHES) 1.171	1.303	1.303	1.303
		(AC-FT) 52.	58.	58.	58.

CUMULATIVE AREA = 0.83 SQ MI

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	SB-H1	99.	6.30	17.	8.	8.	0.13		
ROUTED TO	RT-SBH1	98.	6.45	17.	8.	8.	0.13		
HYDROGRAPH AT	SB-H2	118.	6.20	16.	7.	7.	0.13		
2 COMBINED AT	AP-H1	179.	6.30	33.	15.	15.	0.26		
ROUTED TO	RT-APH1	178.	6.35	33.	15.	15.	0.26		
HYDROGRAPH AT	SB-H3	76.	6.20	11.	5.	5.	0.09		
ROUTED TO	RT-H3	75.	6.25	11.	5.	5.	0.09		
2 COMBINED AT	AP-H2	247.	6.30	44.	20.	20.	0.35		
ROUTED TO	RT-AP2	245.	6.35	44.	20.	20.	0.35		
HYDROGRAPH AT	SB-H4	51.	6.10	5.	2.	2.	0.04		
HYDROGRAPH AT	SB-H5	72.	6.20	10.	4.	4.	0.08		
3 COMBINED AT	AP-H3	317.	6.30	59.	26.	26.	0.47		
ROUTED TO	RT-APH3	314.	6.35	59.	26.	26.	0.47		
HYDROGRAPH AT	SB-H6	62.	6.30	10.	5.	5.	0.08		
2 COMBINED AT	AP-H4	376.	6.30	69.	31.	31.	0.55		
ROUTED TO	RT-APH4	376.	6.35	69.	31.	31.	0.55		
ROUTED TO	RT-APH5	376.	6.40	69.	31.	31.	0.55		
ROUTED TO	RT-APH6	374.	6.40	69.	31.	31.	0.55		
HYDROGRAPH AT	SB-H7	48.	6.25	8.	3.	3.	0.06		
ROUTED TO	RT-SBH7	48.	6.45	8.	3.	3.	0.06		
HYDROGRAPH AT	SB-H8	67.	6.25	10.	5.	5.	0.08		
2 COMBINED AT	AP-H7	103.	6.35	18.	8.	8.	0.14		
ROUTED TO	RT-APH7	102.	6.40	18.	8.	8.	0.14		
2 COMBINED AT	AP-H8	477.	6.40	87.	39.	39.	0.69		
ROUTED TO	RT-APH8	474.	6.40	87.	39.	39.	0.69		
HYDROGRAPH AT	SB-H9	130.	6.20	18.	8.	8.	0.14		

2 COMBINED AT	AP-H9	557.	6.40	105.	47.	47.	0.83
ROUTED TO	RT-APH9	558.	6.45	105.	46.	46.	0.83
HYDROGRAPH AT	SB-H10	63.	6.10	7.	3.	3.	0.06
2 COMBINED AT	AP-H10	577.	6.45	111.	50.	50.	0.89
HYDROGRAPH AT	SB-H11	125.	6.30	21.	10.	10.	0.17
2 COMBINED AT	AP-H12	693.	6.40	133.	59.	59.	1.06
HYDROGRAPH AT	SB-H12	65.	6.30	11.	5.	5.	0.09

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	INTERPOLATED TO COMPUTATION INTERVAL			
						DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)

RT-SBH1	MANE	2.25	98.35	387.00	1.30	3.00	98.35	387.00	1.30
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.9429E+01 EXCESS=0.0000E+00 OUTFLOW=0.9338E+01 BASIN STORAGE=0.1320E+00 PERCENT ERROR= -0.4

RT-APH1	MANE	1.79	178.47	381.10	1.31	3.00	178.46	381.00	1.31
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1840E+02 EXCESS=0.0000E+00 OUTFLOW=0.1836E+02 BASIN STORAGE=0.5273E-01 PERCENT ERROR= -0.1

RT-H3	MANE	1.95	75.64	374.40	1.32	3.00	75.26	375.00	1.31
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5996E+01 EXCESS=0.0000E+00 OUTFLOW=0.5985E+01 BASIN STORAGE=0.1681E-01 PERCENT ERROR= -0.1

RT-AP2	MANE	2.40	245.53	381.60	1.30	3.00	244.54	381.00	1.30
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2434E+02 EXCESS=0.0000E+00 OUTFLOW=0.2423E+02 BASIN STORAGE=0.1467E+00 PERCENT ERROR= -0.1

RT-APH3	MANE	1.00	316.88	379.09	1.31	3.00	314.46	381.00	1.31
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3266E+02 EXCESS=0.0000E+00 OUTFLOW=0.3263E+02 BASIN STORAGE=0.5039E-01 PERCENT ERROR= 0.0

RT-APH4	MANE	1.51	376.34	381.05	1.30	3.00	376.31	381.00	1.30
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3833E+02 EXCESS=0.0000E+00 OUTFLOW=0.3827E+02 BASIN STORAGE=0.8959E-01 PERCENT ERROR= -0.1

RT-APH5	MANE	3.00	376.45	384.00	1.30	3.00	376.45	384.00	1.30
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3830E+02 EXCESS=0.0000E+00 OUTFLOW=0.3818E+02 BASIN STORAGE=0.1874E+00 PERCENT ERROR= -0.2

RT-APH6	MANE	1.09	375.92	385.14	1.30	3.00	374.36	384.00	1.30
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3815E+02 EXCESS=0.0000E+00 OUTFLOW=0.3811E+02 BASIN STORAGE=0.5767E-01 PERCENT ERROR= 0.0

RT-SBH7	MANE	2.10	48.07	386.40	1.30	3.00	47.88	387.00	1.30
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4148E+01 EXCESS=0.0000E+00 OUTFLOW=0.4097E+01 BASIN STORAGE=0.7346E-01 PERCENT ERROR= -0.5

RT-APH7	MANE	2.55	102.50	382.50	1.30	3.00	102.14	384.00	1.31
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.9729E+01 EXCESS=0.0000E+00 OUTFLOW=0.9705E+01 BASIN STORAGE=0.3871E-01 PERCENT ERROR= -0.1

RT-APH8	MANE	0.82	475.57	385.13	1.30	3.00	473.85	384.00	1.30
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4782E+02 EXCESS=0.0000E+00 OUTFLOW=0.4778E+02 BASIN STORAGE=0.5406E-01 PERCENT ERROR= 0.0

RT-APH9	MANE	3.00	558.26	387.00	1.30	3.00	558.26	387.00	1.30
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CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5771E+02 EXCESS=0.0000E+00 OUTFLOW=0.5746E+02 BASIN STORAGE=0.3737E+00 PERCENT ERROR= -0.2

*** NORMAL END OF HEC-1 ***

HEC-1 MODEL OUTPUT
HISTORIC (UNDEVELOPED) CONDITION
SUMMARY SHEETS FOR 2, 5, 10, 25, AND 50 YEAR STORMS

2 YEAR 24 HOUR STORM
 RUNOFF SUMMARY
 FLOW IN CUBIC FEET PER SECOND
 TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	SB-H1	7.	6.40	2.	1.	1.	0.13		
ROUTED TO	RT-SBH1	7.	6.65	2.	1.	1.	0.13		
HYDROGRAPH AT	SB-H2	8.	6.25	2.	1.	1.	0.13		
2 COMBINED AT	AP-H1	11.	6.65	3.	2.	2.	0.26		
ROUTED TO	RT-APH1	11.	6.75	3.	2.	2.	0.26		
HYDROGRAPH AT	SB-H3	5.	6.30	1.	1.	1.	0.09		
ROUTED TO	RT-H3	5.	6.35	1.	1.	1.	0.09		
2 COMBINED AT	AP-H2	14.	6.75	5.	2.	2.	0.35		
ROUTED TO	RT-AP2	14.	6.85	5.	2.	2.	0.35		
HYDROGRAPH AT	SB-H4	4.	6.15	1.	0.	0.	0.04		
HYDROGRAPH AT	SB-H5	5.	6.25	1.	1.	1.	0.08		
3 COMBINED AT	AP-H3	18.	6.45	6.	3.	3.	0.47		
ROUTED TO	RT-APH3	18.	6.50	6.	3.	3.	0.47		
HYDROGRAPH AT	SB-H6	4.	6.40	1.	1.	1.	0.08		
2 COMBINED AT	AP-H4	22.	6.50	7.	3.	3.	0.55		
ROUTED TO	RT-APH4	22.	6.50	7.	3.	3.	0.55		
ROUTED TO	RT-APH5	23.	6.65	7.	3.	3.	0.55		
ROUTED TO	RT-APH6	22.	6.70	7.	3.	3.	0.55		
HYDROGRAPH AT	SB-H7	3.	6.35	1.	0.	0.	0.06		
ROUTED TO	RT-SBH7	4.	6.65	1.	0.	0.	0.06		
HYDROGRAPH AT	SB-H8	5.	6.30	1.	1.	1.	0.08		
2 COMBINED AT	AP-H7	7.	6.65	2.	1.	1.	0.14		
ROUTED TO	RT-APH7	6.	6.75	2.	1.	1.	0.14		
2 COMBINED AT	AP-H8	27.	6.75	9.	4.	4.	0.69		
ROUTED TO	RT-APH8	27.	6.75	9.	4.	4.	0.69		
HYDROGRAPH AT	SB-H9	9.	6.25	2.	1.	1.	0.14		

2 COMBINED AT	AP-H9	31.	6.75	11.	5.	5.	0.83
ROUTED TO	RT-APH9	31.	6.85	11.	5.	5.	0.83
HYDROGRAPH AT	SB-H10	5.	6.15	1.	0.	0.	0.06
2 COMBINED AT	AP-H10	32.	6.85	11.	5.	5.	0.89
HYDROGRAPH AT	SB-H11	9.	6.40	2.	1.	1.	0.17
2 COMBINED AT	AP-H12	37.	6.85	13.	7.	7.	1.06
HYDROGRAPH AT	SB-H12	5.	6.40	1.	1.	1.	0.09

5 YEAR 24 HOUR STORM
 RUNOFF SUMMARY
 FLOW IN CUBIC FEET PER SECOND
 TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	SB-H1	22.	6.35	5.	2.	2.	0.13		
ROUTED TO	RT-SBH1	22.	6.55	4.	2.	2.	0.13		
HYDROGRAPH AT	SB-H2	26.	6.25	4.	2.	2.	0.13		
2 COMBINED AT	AP-H1	36.	6.40	9.	4.	4.	0.26		
ROUTED TO	RT-APH1	35.	6.50	9.	4.	4.	0.26		
HYDROGRAPH AT	SB-H3	17.	6.25	3.	1.	1.	0.09		
ROUTED TO	RT-H3	17.	6.30	3.	1.	1.	0.09		
2 COMBINED AT	AP-H2	48.	6.45	12.	5.	5.	0.35		
ROUTED TO	RT-AP2	47.	6.60	12.	5.	5.	0.35		
HYDROGRAPH AT	SB-H4	12.	6.10	1.	1.	1.	0.04		
HYDROGRAPH AT	SB-H5	16.	6.20	3.	1.	1.	0.08		
3 COMBINED AT	AP-H3	60.	6.35	15.	7.	7.	0.47		
ROUTED TO	RT-APH3	59.	6.35	15.	7.	7.	0.47		
HYDROGRAPH AT	SB-H6	14.	6.35	3.	1.	1.	0.08		
2 COMBINED AT	AP-H4	73.	6.35	18.	8.	8.	0.55		
ROUTED TO	RT-APH4	73.	6.40	18.	8.	8.	0.55		
ROUTED TO	RT-APH5	72.	6.50	18.	8.	8.	0.55		
ROUTED TO	RT-APH6	73.	6.50	18.	8.	8.	0.55		
HYDROGRAPH AT	SB-H7	11.	6.30	2.	1.	1.	0.06		
ROUTED TO	RT-SBH7	11.	6.55	2.	1.	1.	0.06		
HYDROGRAPH AT	SB-H8	15.	6.30	3.	1.	1.	0.08		
2 COMBINED AT	AP-H7	23.	6.45	5.	2.	2.	0.14		
ROUTED TO	RT-APH7	22.	6.55	5.	2.	2.	0.14		
2 COMBINED AT	AP-H8	94.	6.55	23.	10.	10.	0.69		
ROUTED TO	RT-APH8	93.	6.55	23.	10.	10.	0.69		
HYDROGRAPH AT	SB-H9	29.	6.25	5.	2.	2.	0.14		

2 COMBINED AT	AP-H9	107.	6.55	27.	13.	13.	0.83
ROUTED TO	RT-APH9	106.	6.65	27.	13.	13.	0.83
HYDROGRAPH AT	SB-H10	15.	6.15	2.	1.	1.	0.06
2 COMBINED AT	AP-H10	110.	6.65	29.	13.	13.	0.89
HYDROGRAPH AT	SB-H11	28.	6.35	6.	3.	3.	0.17
2 COMBINED AT	AP-H12	129.	6.60	34.	16.	16.	1.06
HYDROGRAPH AT	SB-H12	14.	6.35	3.	1.	1.	0.09

10 YEAR 24 HOUR STORM
 RUNOFF SUMMARY
 FLOW IN CUBIC FEET PER SECOND
 TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	SB-H1	35.	6.35	7.	3.	3.	0.13		
ROUTED TO	RT-SBH1	35.	6.55	7.	3.	3.	0.13		
HYDROGRAPH AT	SB-H2	43.	6.20	7.	3.	3.	0.13		
2 COMBINED AT	AP-H1	60.	6.40	13.	6.	6.	0.26		
ROUTED TO	RT-APH1	60.	6.45	13.	6.	6.	0.26		
HYDROGRAPH AT	SB-H3	27.	6.25	4.	2.	2.	0.09		
ROUTED TO	RT-H3	27.	6.25	4.	2.	2.	0.09		
2 COMBINED AT	AP-H2	81.	6.40	18.	8.	8.	0.35		
ROUTED TO	RT-AP2	81.	6.50	18.	8.	8.	0.35		
HYDROGRAPH AT	SB-H4	19.	6.10	2.	1.	1.	0.04		
HYDROGRAPH AT	SB-H5	27.	6.20	4.	2.	2.	0.08		
3 COMBINED AT	AP-H3	99.	6.30	23.	11.	11.	0.47		
ROUTED TO	RT-APH3	99.	6.35	23.	11.	11.	0.47		
HYDROGRAPH AT	SB-H6	22.	6.30	4.	2.	2.	0.08		
2 COMBINED AT	AP-H4	121.	6.35	28.	13.	13.	0.55		
ROUTED TO	RT-APH4	121.	6.35	28.	13.	13.	0.55		
ROUTED TO	RT-APH5	121.	6.45	28.	12.	12.	0.55		
ROUTED TO	RT-APH6	120.	6.50	27.	12.	12.	0.55		
HYDROGRAPH AT	SB-H7	17.	6.30	3.	1.	1.	0.06		
ROUTED TO	RT-SBH7	17.	6.55	3.	1.	1.	0.06		
HYDROGRAPH AT	SB-H8	24.	6.25	4.	2.	2.	0.08		
2 COMBINED AT	AP-H7	35.	6.40	7.	3.	3.	0.14		
ROUTED TO	RT-APH7	35.	6.50	7.	3.	3.	0.14		
2 COMBINED AT	AP-H8	155.	6.50	34.	16.	16.	0.69		
ROUTED TO	RT-APH8	154.	6.50	34.	16.	16.	0.69		
HYDROGRAPH AT	SB-H9	47.	6.20	7.	3.	3.	0.14		

2 COMBINED AT	AP-H9	178.	6.50	41.	19.	19.	0.83
ROUTED TO	RT-APH9	178.	6.55	41.	19.	19.	0.83
HYDROGRAPH AT	SB-H10	24.	6.15	3.	1.	1.	0.06
2 COMBINED AT	AP-H10	184.	6.55	44.	20.	20.	0.89
HYDROGRAPH AT	SB-H11	45.	6.35	8.	4.	4.	0.17
2 COMBINED AT	AP-H12	219.	6.50	52.	24.	24.	1.06
HYDROGRAPH AT	SB-H12	23.	6.30	4.	2.	2.	0.09

25 YEAR 24 HOUR STORM
 RUNOFF SUMMARY
 FLOW IN CUBIC FEET PER SECOND
 TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	SB-H1	59.	6.35	11.	5.	5.	0.13		
ROUTED TO	RT-SBH1	60.	6.50	11.	5.	5.	0.13		
HYDROGRAPH AT	SB-H2	72.	6.20	10.	5.	5.	0.13		
2 COMBINED AT	AP-H1	105.	6.35	21.	10.	10.	0.26		
ROUTED TO	RT-APH1	105.	6.40	21.	10.	10.	0.26		
HYDROGRAPH AT	SB-H3	46.	6.20	7.	3.	3.	0.09		
ROUTED TO	RT-H3	46.	6.25	7.	3.	3.	0.09		
2 COMBINED AT	AP-H2	144.	6.35	28.	13.	13.	0.35		
ROUTED TO	RT-AP2	143.	6.40	28.	13.	13.	0.35		
HYDROGRAPH AT	SB-H4	32.	6.10	3.	2.	2.	0.04		
HYDROGRAPH AT	SB-H5	45.	6.20	6.	3.	3.	0.08		
3 COMBINED AT	AP-H3	181.	6.35	37.	17.	17.	0.47		
ROUTED TO	RT-APH3	180.	6.40	37.	17.	17.	0.47		
HYDROGRAPH AT	SB-H6	38.	6.30	7.	3.	3.	0.08		
2 COMBINED AT	AP-H4	217.	6.35	44.	20.	20.	0.55		
ROUTED TO	RT-APH4	216.	6.40	44.	20.	20.	0.55		
ROUTED TO	RT-APH5	216.	6.45	44.	20.	20.	0.55		
ROUTED TO	RT-APH6	215.	6.45	44.	20.	20.	0.55		
HYDROGRAPH AT	SB-H7	29.	6.25	5.	2.	2.	0.06		
ROUTED TO	RT-SBH7	29.	6.45	5.	2.	2.	0.06		
HYDROGRAPH AT	SB-H8	41.	6.25	6.	3.	3.	0.08		
2 COMBINED AT	AP-H7	60.	6.40	11.	5.	5.	0.14		
ROUTED TO	RT-APH7	60.	6.40	11.	5.	5.	0.14		
2 COMBINED AT	AP-H8	274.	6.45	55.	25.	25.	0.69		
ROUTED TO	RT-APH8	274.	6.45	55.	25.	25.	0.69		
HYDROGRAPH AT	SB-H9	80.	6.20	11.	5.	5.	0.14		

2 COMBINED AT	AP-H9	320.	6.40	66.	30.	30.	0.83
ROUTED TO	RT-APH9	321.	6.50	66.	30.	30.	0.83
HYDROGRAPH AT	SB-H10	39.	6.10	5.	2.	2.	0.06
2 COMBINED AT	AP-H10	331.	6.50	70.	32.	32.	0.89
HYDROGRAPH AT	SB-H11	76.	6.30	14.	6.	6.	0.17
2 COMBINED AT	AP-H12	398.	6.45	84.	38.	38.	1.06
HYDROGRAPH AT	SB-H12	40.	6.30	7.	3.	3.	0.09

50 YEAR 24 HOUR STORM
RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	SB-H1	78.	6.30	14.	6.	6.	0.13		
ROUTED TO	RT-SBH1	78.	6.45	14.	6.	6.	0.13		
HYDROGRAPH AT	SB-H2	94.	6.20	13.	6.	6.	0.13		
2 COMBINED AT	AP-H1	140.	6.35	27.	12.	12.	0.26		
ROUTED TO	RT-APH1	139.	6.35	27.	12.	12.	0.26		
HYDROGRAPH AT	SB-H3	61.	6.20	9.	4.	4.	0.09		
ROUTED TO	RT-H3	60.	6.25	9.	4.	4.	0.09		
2 COMBINED AT	AP-H2	193.	6.30	36.	16.	16.	0.35		
ROUTED TO	RT-AP2	192.	6.40	36.	16.	16.	0.35		
HYDROGRAPH AT	SB-H4	41.	6.10	4.	2.	2.	0.04		
HYDROGRAPH AT	SB-H5	58.	6.20	8.	4.	4.	0.08		
3 COMBINED AT	AP-H3	246.	6.35	48.	22.	22.	0.47		
ROUTED TO	RT-APH3	246.	6.35	48.	21.	21.	0.47		
HYDROGRAPH AT	SB-H6	50.	6.30	8.	4.	4.	0.08		
2 COMBINED AT	AP-H4	294.	6.35	56.	25.	25.	0.55		
ROUTED TO	RT-APH4	292.	6.35	56.	25.	25.	0.55		
ROUTED TO	RT-APH5	291.	6.40	56.	25.	25.	0.55		
ROUTED TO	RT-APH6	291.	6.45	56.	25.	25.	0.55		
HYDROGRAPH AT	SB-H7	38.	6.25	6.	3.	3.	0.06		
ROUTED TO	RT-SBH7	38.	6.45	6.	3.	3.	0.06		
HYDROGRAPH AT	SB-H8	54.	6.25	8.	4.	4.	0.08		
2 COMBINED AT	AP-H7	81.	6.35	14.	6.	6.	0.14		
ROUTED TO	RT-APH7	81.	6.45	14.	6.	6.	0.14		
2 COMBINED AT	AP-H8	371.	6.45	70.	31.	31.	0.69		
ROUTED TO	RT-APH8	370.	6.45	70.	31.	31.	0.69		
HYDROGRAPH AT	SB-H9	104.	6.20	15.	7.	7.	0.14		

2 COMBINED AT	AP-H9	432.	6.40	85.	38.	38.	0.83
ROUTED TO	RT-APH9	433.	6.45	85.	38.	38.	0.83
HYDROGRAPH AT	SB-H10	51.	6.10	6.	3.	3.	0.06
2 COMBINED AT	AP-H10	448.	6.45	90.	40.	40.	0.89
HYDROGRAPH AT	SB-H11	99.	6.30	17.	8.	8.	0.17
2 COMBINED AT	AP-H12	535.	6.45	107.	48.	48.	1.06
HYDROGRAPH AT	SB-H12	52.	6.30	9.	4.	4.	0.09

I.
HEC-1 MODEL OUTPUT
HISTORIC (UNDEVELOPED) CONDITION
SUMMARY SHEETS FOR 2, 5, 10, 25, AND 50-YEAR STORMS

2 YEAR 24 HOUR STORM
 RUNOFF SUMMARY
 FLOW IN CUBIC FEET PER SECOND
 TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
HYDROGRAPH AT	SB-D1	6.	6.35	1.	1.	1.	0.09		
ROUTED TO	RT-SBD1	6.	6.45	1.	1.	1.	0.09		
HYDROGRAPH AT	SB-D2	8.	6.15	1.	1.	1.	0.06		
2 COMBINED AT	AP-D1	11.	6.25	2.	1.	1.	0.14		
HYDROGRAPH AT	SB-D3	7.	6.20	1.	0.	0.	0.03		
2 COMBINED AT	AP-DDA	17.	6.20	3.	2.	2.	0.17		
ROUTED TO	RR-DFA	17.	6.25	3.	2.	2.	0.17	54.92	6.25
ROUTED TO	RT-APDFA	17.	6.25	3.	2.	2.	0.17		
HYDROGRAPH AT	SB-D6	19.	6.10	2.	1.	1.	0.04		
2 COMBINED AT	AP-D2	30.	6.15	5.	2.	2.	0.21		
ROUTED TO	RT-APD2	29.	6.15	5.	2.	2.	0.21		
HYDROGRAPH AT	SB-D7	36.	6.10	4.	2.	2.	0.07		
HYDROGRAPH AT	SB-D4	5.	6.20	1.	0.	0.	0.05		
HYDROGRAPH AT	SB-D5	8.	6.15	1.	0.	0.	0.03		
2 COMBINED AT	AP-DFB	13.	6.15	2.	1.	1.	0.08		
ROUTED TO	RR-DFB	13.	6.20	2.	1.	1.	0.08	19.35	6.20
ROUTED TO	RT-APDFB	13.	6.20	2.	1.	1.	0.08		
3 COMBINED AT	AP-D3	73.	6.10	11.	5.	5.	0.36		
ROUTED TO	RT-APD3	73.	6.15	11.	5.	5.	0.36		
HYDROGRAPH AT	SB-D8	79.	6.00	8.	3.	3.	0.06		
2 COMBINED AT	AP-DFC	139.	6.05	19.	8.	8.	0.42		
ROUTED TO	RR-DFC	45.	6.40	18.	8.	8.	0.42	55.96	6.40
ROUTED TO	RT-RRDFC	45.	6.45	18.	8.	8.	0.42		
HYDROGRAPH AT	SB-D9	41.	6.05	4.	2.	2.	0.06		
2 COMBINED AT	AP-D4	78.	6.10	23.	10.	10.	0.47		
ROUTED TO	RT-APD4	78.	6.10	23.	10.	10.	0.47		

HYDROGRAPH AT	SB-D10	2.	6.25	0.	0.	0.	0.03		
ROUTED TO	RT-SBD10	2.	6.35	0.	0.	0.	0.03		
HYDROGRAPH AT	SB-D11	13.	6.15	2.	1.	1.	0.05		
HYDROGRAPH AT	SB-D12	5.	6.20	1.	0.	0.	0.02		
ROUTED TO	RT-SBD12	5.	6.25	1.	0.	0.	0.02		
3 COMBINED AT	AP-D5	19.	6.20	3.	1.	1.	0.10		
ROUTED TO	RT-APD5	18.	6.20	3.	1.	1.	0.10		
HYDROGRAPH AT	SB-D13	84.	6.05	9.	4.	4.	0.07		
2 COMBINED AT	AP-D6	95.	6.05	11.	5.	5.	0.17		
ROUTED TO	RT-APD6	94.	6.05	11.	5.	5.	0.17		
2 COMBINED AT	AP-D7	169.	6.05	34.	15.	15.	0.64		
ROUTED TO	RT-APD7	167.	6.10	34.	15.	15.	0.64		
HYDROGRAPH AT	SB-D14	10.	6.10	1.	0.	0.	0.03		
2 COMBINED AT	AP-DFD	177.	6.10	35.	16.	16.	0.67		
ROUTED TO	RR-DFD	75.	6.50	35.	16.	16.	0.67	86.56	6.50
ROUTED TO	RT-APDFD	75.	6.50	35.	16.	16.	0.67		
HYDROGRAPH AT	SB-D15	38.	6.10	4.	2.	2.	0.05		
ROUTED TO	RT-SBD15	38.	6.10	4.	2.	2.	0.05		
HYDROGRAPH AT	SB-D16	4.	6.30	1.	0.	0.	0.04		
2 COMBINED AT	AP-D8	40.	6.10	5.	2.	2.	0.09		
ROUTED TO	RT-APD8	40.	6.10	5.	2.	2.	0.09		
HYDROGRAPH AT	SB-D17	37.	6.05	4.	2.	2.	0.04		
3 COMBINED AT	AP-D9	138.	6.10	43.	19.	19.	0.81		
ROUTED TO	RT-APD9	137.	6.10	43.	19.	19.	0.81		
HYDROGRAPH AT	SB-D18	19.	6.15	3.	1.	1.	0.06		
ROUTED TO	RR-DFPCH	1.	8.40	1.	0.	0.	0.06	20.13	8.40
ROUTED TO	RT-RRDFP	1.	8.40	1.	0.	0.	0.06		
HYDROGRAPH AT	SB-D19	13.	6.05	1.	1.	1.	0.02		
2 COMBINED AT	AP-D10	13.	6.05	2.	1.	1.	0.09		
ROUTED TO	RT-APD10	12.	6.05	2.	1.	1.	0.09		

HYDROGRAPH AT	SB-D20	46.	6.00	5.	2.	2.	0.03		
2 COMBINED AT	AP-D11	57.	6.00	7.	3.	3.	0.12		
ROUTED TO	RT-APD11	56.	6.05	7.	3.	3.	0.12		
HYDROGRAPH AT	SB-D21	37.	6.05	4.	2.	2.	0.04		
3 COMBINED AT	AP-DFE	226.	6.05	53.	24.	24.	0.96		
ROUTED TO	RR-DFE	91.	6.75	52.	23.	23.	0.96	35.35	6.75
DIVERSION TO	AP-D12	28.	6.70	7.	3.	3.	0.96		
HYDROGRAPH AT	AP-DFE	62.	6.70	45.	20.	20.	0.96		
ROUTED TO	RT-APDFE	62.	6.75	45.	20.	20.	0.96		
HYDROGRAPH AT	SB-D22	19.	6.05	2.	1.	1.	0.02		
2 COMBINED AT	AP-13	68.	6.15	47.	21.	21.	0.98		
ROUTED TO	RT-AP13	67.	6.15	47.	21.	21.	0.98		
HYDROGRAPH AT	SB-D23	5.	6.00	0.	0.	0.	0.00		
2 COMBINED AT	AP-D14	71.	6.10	47.	21.	21.	0.99		
ROUTED TO	RT-AP13	70.	6.10	47.	21.	21.	0.99		
HYDROGRAPH AT	SB-D24	8.	6.10	1.	0.	0.	0.03		
2 COMBINED AT	AP-DFF	79.	6.10	48.	22.	22.	1.01		
ROUTED TO	RR-DFF	62.	8.30	37.	17.	17.	1.01	69.16	8.30
HYDROGRAPH AT	SB-D25	18.	6.05	2.	1.	1.	0.03		
ROUTED TO	RR-SBD25	18.	6.10	2.	1.	1.	0.03		
HYDROGRAPH AT	SB-D26	12.	6.05	1.	1.	1.	0.03		
2 COMBINED AT	AP-D16	30.	6.10	3.	1.	1.	0.06		
ROUTED TO	RT-APD16	30.	6.10	3.	1.	1.	0.06		
2 COMBINED AT	AP-D17	64.	8.15	39.	19.	19.	1.08		
ROUTED TO	RT-APD17	64.	8.15	39.	18.	18.	1.08		
HYDROGRAPH AT	SB-D27	4.	6.05	0.	0.	0.	0.01		
2 COMBINED AT	AP-D18	64.	8.15	40.	19.	19.	1.08		
ROUTED TO	RT-APD18	64.	8.15	40.	19.	19.	1.08		
HYDROGRAPH AT	SB-D29	9.	6.05	1.	0.	0.	0.02		
DIVERSION TO	AP-D19a	0.	6.05	0.	0.	0.	0.02		

HYDROGRAPH AT	AP-D19	9.	6.05	1.	0.	0.	0.02		
ROUTED TO	RT-APD19	9.	6.05	1.	0.	0.	0.02		
HYDROGRAPH AT	SB-D28	3.	6.05	0.	0.	0.	0.00		
3 COMBINED AT	AP-D20	64.	8.10	41.	19.	19.	1.11		
ROUTED TO	RT-APD20	64.	8.10	41.	19.	19.	1.11		
HYDROGRAPH AT	SB-D30	6.	6.10	1.	0.	0.	0.02		
ROUTED TO	RT-SBD30	5.	6.10	1.	0.	0.	0.02		
2 COMBINED AT	AP-D21	65.	8.10	42.	19.	19.	1.12		
HYDROGRAPH AT	SB-D31	3.	6.05	0.	0.	0.	0.01		
2 COMBINED AT	AP-D22	65.	8.10	42.	20.	20.	1.13		
HYDROGRAPH AT	SB-D32	1.	6.05	0.	0.	0.	0.01		
2 COMBINED AT	AP-DFCS	65.	8.10	42.	20.	20.	1.14		
ROUTED TO	RR-DFCS	58.	9.25	38.	19.	19.	1.14	79.50	9.25
HYDROGRAPH AT	DR-APD12	28.	6.75	7.	3.	3.	0.00		
ROUTED TO	RT-APD12	31.	6.80	7.	3.	3.	0.00		
HYDROGRAPH AT	SB-D33	8.	6.10	1.	0.	0.	0.04		
2 COMBINED AT	AP-D23	32.	6.80	7.	3.	3.	0.04		
2 COMBINED AT	AP-D24	61.	9.20	45.	23.	23.	1.17		
HYDROGRAPH AT	SB-D34	16.	6.10	2.	1.	1.	0.04		
ROUTED TO	RT-SBD34	16.	6.10	2.	1.	1.	0.04		
HYDROGRAPH AT	SB-D35	17.	6.10	2.	1.	1.	0.04		
2 COMBINED AT	AP-DFG	33.	6.10	3.	2.	2.	0.08		
ROUTED TO	RR-DFG	2.	7.85	2.	1.	1.	0.08	65.01	8.10

5 YEAR 24 HOUR STORM
 RUNOFF SUMMARY
 FLOW IN CUBIC FEET PER SECOND
 TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	SB-D1	17.	6.30	3.	1.	1.	0.09		
ROUTED TO	RT-SBD1	17.	6.35	3.	1.	1.	0.09		
HYDROGRAPH AT	SB-D2	20.	6.15	2.	1.	1.	0.06		
2 COMBINED AT	AP-D1	31.	6.25	6.	3.	3.	0.14		
HYDROGRAPH AT	SB-D3	13.	6.15	2.	1.	1.	0.03		
2 COMBINED AT	AP-DDA	44.	6.20	7.	3.	3.	0.17		
ROUTED TO	RR-DFA	38.	6.35	7.	3.	3.	0.17	56.38	6.35
ROUTED TO	RT-APDFA	38.	6.35	7.	3.	3.	0.17		
HYDROGRAPH AT	SB-D6	34.	6.05	3.	2.	2.	0.04		
2 COMBINED AT	AP-D2	64.	6.15	11.	5.	5.	0.21		
ROUTED TO	RT-APD2	64.	6.15	11.	5.	5.	0.21		
HYDROGRAPH AT	SB-D7	62.	6.05	7.	3.	3.	0.07		
HYDROGRAPH AT	SB-D4	14.	6.15	2.	1.	1.	0.05		
HYDROGRAPH AT	SB-D5	16.	6.15	2.	1.	1.	0.03		
2 COMBINED AT	AP-DFB	30.	6.15	4.	2.	2.	0.08		
ROUTED TO	RR-DFB	30.	6.15	4.	2.	2.	0.08	19.82	6.15
ROUTED TO	RT-APDFB	30.	6.15	4.	2.	2.	0.08		
3 COMBINED AT	AP-D3	148.	6.10	21.	10.	10.	0.36		
ROUTED TO	RT-APD3	147.	6.15	21.	10.	10.	0.36		
HYDROGRAPH AT	SB-D8	111.	6.00	11.	5.	5.	0.06		
2 COMBINED AT	AP-DFC	237.	6.05	32.	14.	14.	0.42		
ROUTED TO	RR-DFC	60.	6.60	32.	14.	14.	0.42	58.40	6.60
ROUTED TO	RT-RRDFC	60.	6.60	32.	14.	14.	0.42		
HYDROGRAPH AT	SB-D9	66.	6.05	7.	3.	3.	0.06		
2 COMBINED AT	AP-D4	112.	6.10	39.	17.	17.	0.47		
ROUTED TO	RT-APD4	112.	6.10	39.	17.	17.	0.47		

HYDROGRAPH AT	SB-D10	7.	6.25	1.	0.	0.	0.03		
ROUTED TO	RT-SBD10	7.	6.30	1.	0.	0.	0.03		
HYDROGRAPH AT	SB-D11	27.	6.15	3.	1.	1.	0.05		
HYDROGRAPH AT	SB-D12	10.	6.20	1.	1.	1.	0.02		
ROUTED TO	RT-SBD12	10.	6.25	1.	1.	1.	0.02		
3 COMBINED AT	AP-D5	40.	6.20	6.	3.	3.	0.10		
ROUTED TO	RT-APD5	40.	6.20	6.	3.	3.	0.10		
HYDROGRAPH AT	SB-D13	120.	6.00	12.	5.	5.	0.07		
2 COMBINED AT	AP-D6	148.	6.05	18.	8.	8.	0.17		
ROUTED TO	RT-APD6	147.	6.05	18.	8.	8.	0.17		
2 COMBINED AT	AP-D7	256.	6.05	57.	25.	25.	0.64		
ROUTED TO	RT-APD7	253.	6.05	57.	25.	25.	0.64		
HYDROGRAPH AT	SB-D14	20.	6.05	2.	1.	1.	0.03		
2 COMBINED AT	AP-DFD	272.	6.05	59.	26.	26.	0.67		
ROUTED TO	RR-DFD	94.	6.65	59.	26.	26.	0.67	89.14	6.65
ROUTED TO	RT-APDFD	94.	6.65	59.	26.	26.	0.67		
HYDROGRAPH AT	SB-D15	60.	6.05	6.	3.	3.	0.05		
ROUTED TO	RT-SBD15	59.	6.05	6.	3.	3.	0.05		
HYDROGRAPH AT	SB-D16	11.	6.25	2.	1.	1.	0.04		
2 COMBINED AT	AP-D8	67.	6.10	8.	4.	4.	0.09		
ROUTED TO	RT-APD8	67.	6.10	8.	4.	4.	0.09		
HYDROGRAPH AT	SB-D17	56.	6.05	6.	3.	3.	0.04		
3 COMBINED AT	AP-D9	197.	6.10	72.	32.	32.	0.81		
ROUTED TO	RT-APD9	196.	6.10	72.	32.	32.	0.81		
HYDROGRAPH AT	SB-D18	38.	6.15	5.	2.	2.	0.06		
ROUTED TO	RR-DFPCH	6.	6.80	3.	1.	1.	0.06	20.80	6.80
ROUTED TO	RT-RRDFP	6.	6.80	3.	1.	1.	0.06		
HYDROGRAPH AT	SB-D19	21.	6.05	2.	1.	1.	0.02		
2 COMBINED AT	AP-D10	21.	6.05	5.	2.	2.	0.09		
ROUTED TO	RT-APD10	21.	6.05	5.	2.	2.	0.09		

HYDROGRAPH AT	SB-D20	62.	6.00	7.	3.	3.	0.03		
2 COMBINED AT	AP-D11	81.	6.00	11.	5.	5.	0.12		
ROUTED TO	RT-APD11	80.	6.00	11.	5.	5.	0.12		
HYDROGRAPH AT	SB-D21	57.	6.05	6.	2.	2.	0.04		
3 COMBINED AT	AP-DFE	327.	6.05	89.	40.	40.	0.96		
ROUTED TO	RR-DFE	189.	6.25	85.	39.	39.	0.96	36.34	6.25
DIVERSION TO	AP-D12	122.	6.25	28.	11.	11.	0.96		
HYDROGRAPH AT	AP-DFE	66.	6.25	58.	27.	27.	0.96		
ROUTED TO	RT-APDFE	66.	6.30	58.	27.	27.	0.96		
HYDROGRAPH AT	SB-D22	28.	6.05	3.	1.	1.	0.02		
2 COMBINED AT	AP-13	87.	6.10	60.	28.	28.	0.98		
ROUTED TO	RT-AP13	87.	6.10	60.	28.	28.	0.98		
HYDROGRAPH AT	SB-D23	8.	6.00	1.	0.	0.	0.00		
2 COMBINED AT	AP-D14	92.	6.10	61.	29.	29.	0.99		
ROUTED TO	RT-AP13	92.	6.10	61.	29.	29.	0.99		
HYDROGRAPH AT	SB-D24	16.	6.05	2.	1.	1.	0.03		
2 COMBINED AT	AP-DFF	108.	6.10	62.	29.	29.	1.01		
ROUTED TO	RR-DFF	65.	8.15	53.	25.	25.	1.01	69.22	8.15
HYDROGRAPH AT	SB-D25	31.	6.05	3.	1.	1.	0.03		
ROUTED TO	RR-SBD25	30.	6.05	3.	1.	1.	0.03		
HYDROGRAPH AT	SB-D26	24.	6.05	2.	1.	1.	0.03		
2 COMBINED AT	AP-D16	54.	6.05	6.	2.	2.	0.06		
ROUTED TO	RT-APD16	54.	6.05	6.	2.	2.	0.06		
2 COMBINED AT	AP-D17	68.	8.05	55.	27.	27.	1.08		
ROUTED TO	RT-APD17	68.	8.05	55.	27.	27.	1.08		
HYDROGRAPH AT	SB-D27	8.	6.05	1.	0.	0.	0.01		
2 COMBINED AT	AP-D18	68.	6.05	56.	27.	27.	1.08		
ROUTED TO	RT-APD18	68.	6.10	56.	27.	27.	1.08		
HYDROGRAPH AT	SB-D29	15.	6.05	2.	1.	1.	0.02		
DIVERSION TO	AP-D19a	0.	6.05	0.	0.	0.	0.02		

HYDROGRAPH AT	AP-D19	15.	6.05	2.	1.	1.	0.02		
ROUTED TO	RT-APD19	15.	6.05	2.	1.	1.	0.02		
HYDROGRAPH AT	SB-D28	5.	6.05	0.	0.	0.	0.00		
3 COMBINED AT	AP-D20	88.	6.05	58.	28.	28.	1.11		
ROUTED TO	RT-APD20	87.	6.05	58.	28.	28.	1.11		
HYDROGRAPH AT	SB-D30	11.	6.05	1.	0.	0.	0.02		
ROUTED TO	RT-SBD30	11.	6.05	1.	0.	0.	0.02		
2 COMBINED AT	AP-D21	98.	6.05	59.	29.	29.	1.12		
HYDROGRAPH AT	SB-D31	6.	6.05	1.	0.	0.	0.01		
2 COMBINED AT	AP-D22	104.	6.05	59.	29.	29.	1.13		
HYDROGRAPH AT	SB-D32	3.	6.05	0.	0.	0.	0.01		
2 COMBINED AT	AP-DFCS	106.	6.05	59.	29.	29.	1.14		
ROUTED TO	RR-DFCS	66.	8.85	54.	28.	28.	1.14	79.70	8.85
HYDROGRAPH AT	DR-APD12	122.	6.25	28.	11.	11.	0.00		
ROUTED TO	RT-APD12	143.	6.40	28.	11.	11.	0.00		
HYDROGRAPH AT	SB-D33	18.	6.05	2.	1.	1.	0.04		
2 COMBINED AT	AP-D23	146.	6.40	29.	12.	12.	0.04		
2 COMBINED AT	AP-D24	176.	6.40	81.	40.	40.	1.17		
HYDROGRAPH AT	SB-D34	30.	6.05	3.	1.	1.	0.04		
ROUTED TO	RT-SBD34	29.	6.10	3.	1.	1.	0.04		
HYDROGRAPH AT	SB-D35	32.	6.05	3.	1.	1.	0.04		
2 COMBINED AT	AP-DFG	60.	6.05	6.	3.	3.	0.08		
ROUTED TO	RR-DFG	11.	6.45	4.	2.	2.	0.08	66.82	6.45

10YEAR 24 HOUR STORM
 RUNOFF SUMMARY
 FLOW IN CUBIC FEET PER SECOND
 TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW 6-HOUR	FOR MAXIMUM PERIOD 24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
HYDROGRAPH AT	SB-D1	27.	6.30	5.	2.	2.	0.09		
ROUTED TO	RT-SBD1	27.	6.35	5.	2.	2.	0.09		
HYDROGRAPH AT	SB-D2	30.	6.15	4.	2.	2.	0.06		
2 COMBINED AT	AP-D1	48.	6.20	8.	4.	4.	0.14		
HYDROGRAPH AT	SB-D3	19.	6.15	2.	1.	1.	0.03		
2 COMBINED AT	AP-DDA	66.	6.20	11.	5.	5.	0.17		
ROUTED TO	RR-DFA	45.	6.45	11.	5.	5.	0.17	58.43	6.45
ROUTED TO	RT-APDFA	44.	6.45	11.	5.	5.	0.17		
HYDROGRAPH AT	SB-D6	45.	6.05	5.	2.	2.	0.04		
2 COMBINED AT	AP-D2	81.	6.10	15.	7.	7.	0.21		
ROUTED TO	RT-APD2	80.	6.10	15.	7.	7.	0.21		
HYDROGRAPH AT	SB-D7	82.	6.05	9.	4.	4.	0.07		
HYDROGRAPH AT	SB-D4	22.	6.15	3.	1.	1.	0.05		
HYDROGRAPH AT	SB-D5	22.	6.15	3.	1.	1.	0.03		
2 COMBINED AT	AP-DFB	44.	6.15	6.	3.	3.	0.08		
ROUTED TO	RR-DFB	39.	6.25	6.	3.	3.	0.08	20.69	6.25
ROUTED TO	RT-APDFB	39.	6.25	6.	3.	3.	0.08		
3 COMBINED AT	AP-D3	198.	6.10	29.	13.	13.	0.36		
ROUTED TO	RT-APD3	196.	6.10	29.	13.	13.	0.36		
HYDROGRAPH AT	SB-D8	133.	6.00	13.	6.	6.	0.06		
2 COMBINED AT	AP-DFC	311.	6.05	43.	19.	19.	0.42		
ROUTED TO	RR-DFC	66.	6.80	42.	19.	19.	0.42	60.06	6.80
ROUTED TO	RT-RRDFC	66.	6.85	42.	19.	19.	0.42		
HYDROGRAPH AT	SB-D9	83.	6.05	9.	4.	4.	0.06		
2 COMBINED AT	AP-D4	135.	6.10	51.	23.	23.	0.47		
ROUTED TO	RT-APD4	135.	6.10	51.	23.	23.	0.47		

HYDROGRAPH AT	SB-D10	11.	6.20	2.	1.	1.	0.03		
ROUTED TO	RT-SBD10	10.	6.30	2.	1.	1.	0.03		
HYDROGRAPH AT	SB-D11	37.	6.15	4.	2.	2.	0.05		
HYDROGRAPH AT	SB-D12	14.	6.15	2.	1.	1.	0.02		
ROUTED TO	RT-SBD12	14.	6.20	2.	1.	1.	0.02		
3 COMBINED AT	AP-D5	58.	6.15	8.	4.	4.	0.10		
ROUTED TO	RT-APD5	58.	6.20	8.	4.	4.	0.10		
HYDROGRAPH AT	SB-D13	145.	6.00	15.	7.	7.	0.07		
2 COMBINED AT	AP-D6	187.	6.05	23.	10.	10.	0.17		
ROUTED TO	RT-APD6	186.	6.05	23.	10.	10.	0.17		
2 COMBINED AT	AP-D7	318.	6.05	74.	33.	33.	0.64		
ROUTED TO	RT-APD7	314.	6.05	74.	33.	33.	0.64		
HYDROGRAPH AT	SB-D14	27.	6.05	3.	1.	1.	0.03		
2 COMBINED AT	AP-DFD	342.	6.05	77.	34.	34.	0.67		
ROUTED TO	RR-DFD	103.	6.70	76.	34.	34.	0.67	90.86	6.70
ROUTED TO	RT-APDFD	103.	6.75	76.	34.	34.	0.67		
HYDROGRAPH AT	SB-D15	76.	6.05	8.	4.	4.	0.05		
ROUTED TO	RT-SBD15	75.	6.05	8.	4.	4.	0.05		
HYDROGRAPH AT	SB-D16	16.	6.25	3.	1.	1.	0.04		
2 COMBINED AT	AP-D8	87.	6.10	11.	5.	5.	0.09		
ROUTED TO	RT-APD8	87.	6.10	11.	5.	5.	0.09		
HYDROGRAPH AT	SB-D17	69.	6.05	7.	3.	3.	0.04		
3 COMBINED AT	AP-D9	238.	6.10	94.	41.	41.	0.81		
ROUTED TO	RT-APD9	238.	6.10	94.	41.	41.	0.81		
HYDROGRAPH AT	SB-D18	51.	6.15	6.	3.	3.	0.06		
ROUTED TO	RR-DFPCH	14.	6.55	4.	2.	2.	0.06	21.29	6.55
ROUTED TO	RT-RRDFP	14.	6.55	4.	2.	2.	0.06		
HYDROGRAPH AT	SB-D19	27.	6.05	3.	1.	1.	0.02		
2 COMBINED AT	AP-D10	27.	6.05	7.	3.	3.	0.09		
ROUTED TO	RT-APD10	27.	6.05	7.	3.	3.	0.09		

HYDROGRAPH AT	SB-D20	72.	6.00	8.	3.	3.	0.03		
2 COMBINED AT	AP-D11	98.	6.00	15.	7.	7.	0.12		
ROUTED TO	RT-APD11	96.	6.00	15.	7.	7.	0.12		
HYDROGRAPH AT	SB-D21	70.	6.05	7.	3.	3.	0.04		
3 COMBINED AT	AP-DFE	398.	6.05	115.	51.	51.	0.96		
ROUTED TO	RR-DFE	276.	6.20	107.	50.	50.	0.96	36.97	6.20
DIVERSION TO	AP-D12	205.	6.20	45.	19.	19.	0.96		
HYDROGRAPH AT	AP-DFE	71.	6.20	62.	31.	31.	0.96		
ROUTED TO	RT-APDFE	71.	6.20	62.	31.	31.	0.96		
HYDROGRAPH AT	SB-D22	35.	6.05	4.	2.	2.	0.02		
2 COMBINED AT	AP-13	98.	6.10	65.	33.	33.	0.98		
ROUTED TO	RT-AP13	97.	6.10	65.	33.	33.	0.98		
HYDROGRAPH AT	SB-D23	9.	6.00	1.	0.	0.	0.00		
2 COMBINED AT	AP-D14	104.	6.05	66.	33.	33.	0.99		
ROUTED TO	RT-AP13	104.	6.10	66.	33.	33.	0.99		
HYDROGRAPH AT	SB-D24	23.	6.05	2.	1.	1.	0.03		
2 COMBINED AT	AP-DFF	127.	6.05	68.	34.	34.	1.01		
ROUTED TO	RR-DFF	66.	8.05	61.	29.	29.	1.01	69.26	8.05
HYDROGRAPH AT	SB-D25	40.	6.05	4.	2.	2.	0.03		
ROUTED TO	RR-SBD25	39.	6.05	4.	2.	2.	0.03		
HYDROGRAPH AT	SB-D26	32.	6.05	3.	1.	1.	0.03		
2 COMBINED AT	AP-D16	72.	6.05	7.	3.	3.	0.06		
ROUTED TO	RT-APD16	71.	6.05	7.	3.	3.	0.06		
2 COMBINED AT	AP-D17	80.	6.05	63.	33.	33.	1.08		
ROUTED TO	RT-APD17	79.	6.05	63.	33.	33.	1.08		
HYDROGRAPH AT	SB-D27	10.	6.05	1.	0.	0.	0.01		
2 COMBINED AT	AP-D18	89.	6.05	63.	33.	33.	1.08		
ROUTED TO	RT-APD18	88.	6.05	63.	33.	33.	1.08		
HYDROGRAPH AT	SB-D29	20.	6.05	2.	1.	1.	0.02		
DIVERSION TO	AP-D19a	0.	6.05	0.	0.	0.	0.02		

HYDROGRAPH AT	AP-D19	20.	6.05	2.	1.	1.	0.02		
ROUTED TO	RT-APD19	20.	6.05	2.	1.	1.	0.02		
HYDROGRAPH AT	SB-D28	6.	6.05	1.	0.	0.	0.00		
3 COMBINED AT	AP-D20	114.	6.05	65.	34.	34.	1.11		
ROUTED TO	RT-APD20	113.	6.05	65.	34.	34.	1.11		
HYDROGRAPH AT	SB-D30	15.	6.05	2.	1.	1.	0.02		
ROUTED TO	RT-SBD30	15.	6.05	2.	1.	1.	0.02		
2 COMBINED AT	AP-D21	128.	6.05	66.	35.	35.	1.12		
HYDROGRAPH AT	SB-D31	8.	6.05	1.	0.	0.	0.01		
2 COMBINED AT	AP-D22	136.	6.05	67.	35.	35.	1.13		
HYDROGRAPH AT	SB-D32	4.	6.05	0.	0.	0.	0.01		
2 COMBINED AT	AP-DFCS	140.	6.05	68.	35.	35.	1.14		
ROUTED TO	RR-DFCS	71.	8.20	63.	33.	33.	1.14	79.82	8.20
HYDROGRAPH AT	DR-APD12	205.	6.20	45.	19.	19.	0.00		
ROUTED TO	RT-APD12	238.	6.30	45.	19.	19.	0.00		
HYDROGRAPH AT	SB-D33	26.	6.05	2.	1.	1.	0.04		
2 COMBINED AT	AP-D23	245.	6.30	48.	20.	20.	0.04		
2 COMBINED AT	AP-D24	279.	6.30	107.	52.	52.	1.17		
HYDROGRAPH AT	SB-D34	40.	6.05	4.	2.	2.	0.04		
ROUTED TO	RT-SBD34	39.	6.05	4.	2.	2.	0.04		
HYDROGRAPH AT	SB-D35	42.	6.05	4.	2.	2.	0.04		
2 COMBINED AT	AP-DFG	81.	6.05	8.	4.	4.	0.08		
ROUTED TO	RR-DFG	23.	6.35	6.	3.	3.	0.08	67.87	6.35

25 YEAR 24 HOUR STORM
RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
HYDROGRAPH AT	SB-D1	45.	6.30	8.	3.	3.	0.09		
ROUTED TO	RT-SBD1	45.	6.35	8.	3.	3.	0.09		
HYDROGRAPH AT	SB-D2	46.	6.10	6.	2.	2.	0.06		
2 COMBINED AT	AP-D1	79.	6.20	13.	6.	6.	0.14		
HYDROGRAPH AT	SB-D3	27.	6.15	3.	2.	2.	0.03		
2 COMBINED AT	AP-DDA	105.	6.20	16.	7.	7.	0.17		
ROUTED TO	RR-DFA	54.	6.55	16.	7.	7.	0.17	60.75	6.55
ROUTED TO	RT-APDFA	54.	6.55	16.	7.	7.	0.17		
HYDROGRAPH AT	SB-D6	62.	6.05	6.	3.	3.	0.04		
2 COMBINED AT	AP-D2	101.	6.10	23.	10.	10.	0.21		
ROUTED TO	RT-APD2	101.	6.10	23.	10.	10.	0.21		
HYDROGRAPH AT	SB-D7	113.	6.05	12.	5.	5.	0.07		
HYDROGRAPH AT	SB-D4	36.	6.15	4.	2.	2.	0.05		
HYDROGRAPH AT	SB-D5	32.	6.15	4.	2.	2.	0.03		
2 COMBINED AT	AP-DFB	68.	6.15	8.	4.	4.	0.08		
ROUTED TO	RR-DFB	47.	6.30	8.	4.	4.	0.08	23.03	6.30
ROUTED TO	RT-APDFB	47.	6.30	8.	4.	4.	0.08		
3 COMBINED AT	AP-D3	254.	6.10	43.	19.	19.	0.36		
ROUTED TO	RT-APD3	253.	6.10	43.	19.	19.	0.36		
HYDROGRAPH AT	SB-D8	165.	6.00	17.	7.	7.	0.06		
2 COMBINED AT	AP-DFC	405.	6.05	60.	26.	26.	0.42		
ROUTED TO	RR-DFC	75.	7.05	58.	26.	26.	0.42	62.40	7.10
ROUTED TO	RT-RRDFC	75.	7.10	58.	26.	26.	0.42		
HYDROGRAPH AT	SB-D9	109.	6.05	12.	5.	5.	0.06		
2 COMBINED AT	AP-D4	168.	6.05	70.	31.	31.	0.47		
ROUTED TO	RT-APD4	167.	6.10	70.	31.	31.	0.47		

HYDROGRAPH AT	SB-D10	17.	6.20	2.	1.	1.	0.03		
ROUTED TO	RT-SBD10	17.	6.25	2.	1.	1.	0.03		
HYDROGRAPH AT	SB-D11	55.	6.10	7.	3.	3.	0.05		
HYDROGRAPH AT	SB-D12	21.	6.15	3.	1.	1.	0.02		
ROUTED TO	RT-SBD12	21.	6.20	3.	1.	1.	0.02		
3 COMBINED AT	AP-D5	88.	6.15	12.	5.	5.	0.10		
ROUTED TO	RT-APD5	87.	6.15	12.	5.	5.	0.10		
HYDROGRAPH AT	SB-D13	182.	6.00	19.	8.	8.	0.07		
2 COMBINED AT	AP-D6	249.	6.05	31.	13.	13.	0.17		
ROUTED TO	RT-APD6	248.	6.05	31.	13.	13.	0.17		
2 COMBINED AT	AP-D7	415.	6.05	100.	45.	45.	0.64		
ROUTED TO	RT-APD7	411.	6.05	100.	45.	45.	0.64		
HYDROGRAPH AT	SB-D14	40.	6.05	4.	2.	2.	0.03		
2 COMBINED AT	AP-DFD	451.	6.05	104.	46.	46.	0.67		
ROUTED TO	RR-DFD	117.	6.80	99.	46.	46.	0.67	93.34	6.80
ROUTED TO	RT-APDFD	117.	6.80	99.	46.	46.	0.67		
HYDROGRAPH AT	SB-D15	100.	6.05	11.	5.	5.	0.05		
ROUTED TO	RT-SBD15	100.	6.05	11.	5.	5.	0.05		
HYDROGRAPH AT	SB-D16	26.	6.20	4.	2.	2.	0.04		
2 COMBINED AT	AP-D8	119.	6.10	15.	6.	6.	0.09		
ROUTED TO	RT-APD8	119.	6.10	15.	6.	6.	0.09		
HYDROGRAPH AT	SB-D17	89.	6.05	9.	4.	4.	0.04		
3 COMBINED AT	AP-D9	297.	6.10	123.	57.	57.	0.81		
ROUTED TO	RT-APD9	297.	6.10	123.	57.	57.	0.81		
HYDROGRAPH AT	SB-D18	74.	6.15	9.	4.	4.	0.06		
ROUTED TO	RR-DFPCH	29.	6.45	7.	3.	3.	0.06	21.96	6.45
ROUTED TO	RT-RRDFP	29.	6.45	7.	3.	3.	0.06		
HYDROGRAPH AT	SB-D19	37.	6.05	4.	2.	2.	0.02		
2 COMBINED AT	AP-D10	37.	6.05	11.	5.	5.	0.09		
ROUTED TO	RT-APD10	37.	6.05	11.	5.	5.	0.09		

HYDROGRAPH AT	SB-D20	87.	6.00	9.	4.	4.	0.03		
2 COMBINED AT	AP-D11	123.	6.00	20.	9.	9.	0.12		
ROUTED TO	RT-APD11	121.	6.00	20.	9.	9.	0.12		
HYDROGRAPH AT	SB-D21	90.	6.05	9.	4.	4.	0.04		
3 COMBINED AT	AP-DFE	504.	6.05	151.	69.	69.	0.96		
ROUTED TO	RR-DFE	406.	6.15	140.	68.	68.	0.96	37.76	6.15
DIVERSION TO	AP-D12	332.	6.15	76.	31.	31.	0.96		
HYDROGRAPH AT	AP-DFE	73.	6.15	64.	37.	37.	0.96		
ROUTED TO	RT-APDFE	73.	6.20	64.	37.	37.	0.96		
HYDROGRAPH AT	SB-D22	44.	6.05	5.	2.	2.	0.02		
2 COMBINED AT	AP-13	114.	6.05	68.	39.	39.	0.98		
ROUTED TO	RT-AP13	113.	6.10	68.	38.	38.	0.98		
HYDROGRAPH AT	SB-D23	12.	6.00	1.	1.	1.	0.00		
2 COMBINED AT	AP-D14	124.	6.05	69.	39.	39.	0.99		
ROUTED TO	RT-AP13	124.	6.05	69.	39.	39.	0.99		
HYDROGRAPH AT	SB-D24	33.	6.05	3.	1.	1.	0.03		
2 COMBINED AT	AP-DFF	157.	6.05	72.	40.	40.	1.01		
ROUTED TO	RR-DFF	69.	7.30	65.	35.	35.	1.01	69.32	7.30
HYDROGRAPH AT	SB-D25	54.	6.05	6.	2.	2.	0.03		
ROUTED TO	RR-SBD25	54.	6.05	6.	2.	2.	0.03		
HYDROGRAPH AT	SB-D26	46.	6.05	5.	2.	2.	0.03		
2 COMBINED AT	AP-D16	100.	6.05	10.	4.	4.	0.06		
ROUTED TO	RT-APD16	99.	6.05	10.	4.	4.	0.06		
2 COMBINED AT	AP-D17	109.	6.05	69.	40.	40.	1.08		
ROUTED TO	RT-APD17	108.	6.05	69.	40.	40.	1.08		
HYDROGRAPH AT	SB-D27	14.	6.05	1.	1.	1.	0.01		
2 COMBINED AT	AP-D18	121.	6.05	70.	40.	40.	1.08		
ROUTED TO	RT-APD18	121.	6.05	70.	40.	40.	1.08		
HYDROGRAPH AT	SB-D29	28.	6.05	3.	1.	1.	0.02		
DIVERSION TO	AP-D19a	8.	5.90	0.	0.	0.	0.02		

HYDROGRAPH AT	AP-D19	20.	5.90	3.	1.	1.	0.02		
ROUTED TO	RT-APD19	20.	5.95	3.	1.	1.	0.02		
HYDROGRAPH AT	SB-D28	8.	6.05	1.	0.	0.	0.00		
3 COMBINED AT	AP-D20	149.	6.05	73.	42.	42.	1.11		
ROUTED TO	RT-APD20	148.	6.05	73.	42.	42.	1.11		
HYDROGRAPH AT	SB-D30	22.	6.05	2.	1.	1.	0.02		
ROUTED TO	RT-SBD30	22.	6.05	2.	1.	1.	0.02		
2 COMBINED AT	AP-D21	170.	6.05	75.	43.	43.	1.12		
HYDROGRAPH AT	SB-D31	11.	6.05	1.	0.	0.	0.01		
2 COMBINED AT	AP-D22	181.	6.05	76.	43.	43.	1.13		
HYDROGRAPH AT	SB-D32	6.	6.05	1.	0.	0.	0.01		
2 COMBINED AT	AP-DFCS	187.	6.05	77.	43.	43.	1.14		
ROUTED TO	RR-DFCS	78.	7.50	71.	40.	40.	1.14	79.97	7.50
HYDROGRAPH AT	DR-APD12	332.	6.15	76.	31.	31.	0.00		
ROUTED TO	RT-APD12	342.	6.25	76.	31.	31.	0.00		
HYDROGRAPH AT	SB-D33	39.	6.05	4.	2.	2.	0.04		
2 COMBINED AT	AP-D23	356.	6.25	79.	33.	33.	0.04		
2 COMBINED AT	AP-D24	408.	6.25	148.	73.	73.	1.17		
HYDROGRAPH AT	SB-D34	57.	6.05	6.	3.	3.	0.04		
ROUTED TO	RT-SBD34	56.	6.05	6.	3.	3.	0.04		
HYDROGRAPH AT	SB-D35	59.	6.05	6.	3.	3.	0.04		
2 COMBINED AT	AP-DFG	115.	6.05	12.	5.	5.	0.08		
ROUTED TO	RR-DFG	31.	6.35	9.	4.	4.	0.08	69.56	6.35

50 YEAR 24 HOUR STORM
RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	SB-D1	58.	6.25	10.	4.	4.	0.09		
ROUTED TO	RT-SBD1	58.	6.30	10.	4.	4.	0.09		
HYDROGRAPH AT	SB-D2	59.	6.10	7.	3.	3.	0.06		
2 COMBINED AT	AP-D1	102.	6.20	16.	7.	7.	0.14		
HYDROGRAPH AT	SB-D3	33.	6.15	4.	2.	2.	0.03		
2 COMBINED AT	AP-DDA	134.	6.20	21.	9.	9.	0.17		
ROUTED TO	RR-DFA	60.	6.60	21.	9.	9.	0.17	62.11	6.60
ROUTED TO	RT-APDFA	60.	6.60	21.	9.	9.	0.17		
HYDROGRAPH AT	SB-D6	74.	6.05	8.	3.	3.	0.04		
2 COMBINED AT	AP-D2	116.	6.05	28.	12.	12.	0.21		
ROUTED TO	RT-APD2	116.	6.10	28.	12.	12.	0.21		
HYDROGRAPH AT	SB-D7	134.	6.05	14.	6.	6.	0.07		
HYDROGRAPH AT	SB-D4	45.	6.15	6.	2.	2.	0.05		
HYDROGRAPH AT	SB-D5	40.	6.10	5.	2.	2.	0.03		
2 COMBINED AT	AP-DFB	85.	6.15	10.	5.	5.	0.08		
ROUTED TO	RR-DFB	52.	6.30	10.	5.	5.	0.08	24.31	6.30
ROUTED TO	RT-APDFB	52.	6.35	10.	5.	5.	0.08		
3 COMBINED AT	AP-D3	291.	6.10	53.	23.	23.	0.36		
ROUTED TO	RT-APD3	291.	6.10	53.	23.	23.	0.36		
HYDROGRAPH AT	SB-D8	186.	6.00	19.	8.	8.	0.06		
2 COMBINED AT	AP-DFC	465.	6.05	72.	32.	32.	0.42		
ROUTED TO	RR-DFC	81.	7.20	67.	31.	31.	0.42	64.02	7.20
ROUTED TO	RT-RRDFC	81.	7.20	67.	31.	31.	0.42		
HYDROGRAPH AT	SB-D9	127.	6.05	14.	6.	6.	0.06		
2 COMBINED AT	AP-D4	190.	6.05	80.	37.	37.	0.47		
ROUTED TO	RT-APD4	188.	6.05	80.	37.	37.	0.47		

HYDROGRAPH AT	SB-D10	22.	6.20	3.	1.	1.	0.03		
ROUTED TO	RT-SBD10	22.	6.25	3.	1.	1.	0.03		
HYDROGRAPH AT	SB-D11	68.	6.10	8.	4.	4.	0.05		
HYDROGRAPH AT	SB-D12	26.	6.15	3.	1.	1.	0.02		
ROUTED TO	RT-SBD12	26.	6.20	3.	1.	1.	0.02		
3 COMBINED AT	AP-D5	110.	6.15	14.	6.	6.	0.10		
ROUTED TO	RT-APD5	109.	6.15	14.	6.	6.	0.10		
HYDROGRAPH AT	SB-D13	207.	6.00	22.	9.	9.	0.07		
2 COMBINED AT	AP-D6	293.	6.05	36.	16.	16.	0.17		
ROUTED TO	RT-APD6	292.	6.05	36.	16.	16.	0.17		
2 COMBINED AT	AP-D7	480.	6.05	116.	53.	53.	0.64		
ROUTED TO	RT-APD7	476.	6.05	116.	53.	53.	0.64		
HYDROGRAPH AT	SB-D14	48.	6.05	5.	2.	2.	0.03		
2 COMBINED AT	AP-DFD	524.	6.05	121.	55.	55.	0.67		
ROUTED TO	RR-DFD	125.	6.85	111.	55.	55.	0.67	94.92	6.85
ROUTED TO	RT-APDFD	125.	6.85	111.	55.	55.	0.67		
HYDROGRAPH AT	SB-D15	117.	6.05	13.	5.	5.	0.05		
ROUTED TO	RT-SBD15	116.	6.05	13.	5.	5.	0.05		
HYDROGRAPH AT	SB-D16	33.	6.20	5.	2.	2.	0.04		
2 COMBINED AT	AP-D8	141.	6.10	18.	8.	8.	0.09		
ROUTED TO	RT-APD8	141.	6.10	18.	8.	8.	0.09		
HYDROGRAPH AT	SB-D17	102.	6.05	11.	5.	5.	0.04		
3 COMBINED AT	AP-D9	338.	6.10	137.	67.	67.	0.81		
ROUTED TO	RT-APD9	338.	6.10	137.	67.	67.	0.81		
HYDROGRAPH AT	SB-D18	90.	6.15	11.	5.	5.	0.06		
ROUTED TO	RR-DFPCH	33.	6.45	9.	4.	4.	0.06	22.51	6.45
ROUTED TO	RT-RRDFP	33.	6.45	9.	4.	4.	0.06		
HYDROGRAPH AT	SB-D19	44.	6.05	4.	2.	2.	0.02		
2 COMBINED AT	AP-D10	46.	6.05	13.	6.	6.	0.09		
ROUTED TO	RT-APD10	46.	6.05	13.	6.	6.	0.09		

HYDROGRAPH AT	SB-D20	97.	6.00	11.	5.	5.	0.03		
2 COMBINED AT	AP-D11	140.	6.00	24.	10.	10.	0.12		
ROUTED TO	RT-APD11	138.	6.00	24.	10.	10.	0.12		
HYDROGRAPH AT	SB-D21	104.	6.00	11.	5.	5.	0.04		
3 COMBINED AT	AP-DFE	576.	6.05	171.	82.	82.	0.96		
ROUTED TO	RR-DFE	464.	6.15	160.	79.	79.	0.96	38.31	6.15
DIVERSION TO	AP-D12	388.	6.15	95.	41.	41.	0.96		
HYDROGRAPH AT	AP-DFE	75.	6.15	65.	39.	39.	0.96		
ROUTED TO	RT-APDFE	75.	6.15	65.	39.	39.	0.96		
HYDROGRAPH AT	SB-D22	50.	6.05	5.	2.	2.	0.02		
2 COMBINED AT	AP-13	123.	6.05	69.	41.	41.	0.98		
ROUTED TO	RT-AP13	122.	6.05	69.	41.	41.	0.98		
HYDROGRAPH AT	SB-D23	14.	6.00	1.	1.	1.	0.00		
2 COMBINED AT	AP-D14	135.	6.05	71.	41.	41.	0.99		
ROUTED TO	RT-AP13	135.	6.05	71.	41.	41.	0.99		
HYDROGRAPH AT	SB-D24	40.	6.05	4.	2.	2.	0.03		
2 COMBINED AT	AP-DFF	175.	6.05	75.	43.	43.	1.01		
ROUTED TO	RR-DFF	72.	7.10	67.	38.	38.	1.01	69.40	7.10
HYDROGRAPH AT	SB-D25	64.	6.05	7.	3.	3.	0.03		
ROUTED TO	RR-SBD25	63.	6.05	7.	3.	3.	0.03		
HYDROGRAPH AT	SB-D26	56.	6.05	5.	2.	2.	0.03		
2 COMBINED AT	AP-D16	119.	6.05	12.	5.	5.	0.06		
ROUTED TO	RT-APD16	119.	6.05	12.	5.	5.	0.06		
2 COMBINED AT	AP-D17	129.	6.05	73.	43.	43.	1.08		
ROUTED TO	RT-APD17	128.	6.05	73.	43.	43.	1.08		
HYDROGRAPH AT	SB-D27	16.	6.05	2.	1.	1.	0.01		
2 COMBINED AT	AP-D18	144.	6.05	74.	44.	44.	1.08		
ROUTED TO	RT-APD18	143.	6.05	74.	44.	44.	1.08		
HYDROGRAPH AT	SB-D29	34.	6.05	3.	1.	1.	0.02		
DIVERSION TO	AP-D19a	14.	5.85	0.	0.	0.	0.02		

HYDROGRAPH AT	AP-D19	20.	5.85	3.	1.	1.	0.02		
ROUTED TO	RT-APD19	20.	5.90	3.	1.	1.	0.02		
HYDROGRAPH AT	SB-D28	9.	6.05	1.	0.	0.	0.00		
3 COMBINED AT	AP-D20	173.	6.05	78.	45.	45.	1.11		
ROUTED TO	RT-APD20	172.	6.05	78.	45.	45.	1.11		
HYDROGRAPH AT	SB-D30	27.	6.05	3.	1.	1.	0.02		
ROUTED TO	RT-SBD30	27.	6.05	3.	1.	1.	0.02		
2 COMBINED AT	AP-D21	198.	6.05	81.	46.	46.	1.12		
HYDROGRAPH AT	SB-D31	13.	6.05	1.	1.	1.	0.01		
2 COMBINED AT	AP-D22	212.	6.05	82.	47.	47.	1.13		
HYDROGRAPH AT	SB-D32	8.	6.05	1.	0.	0.	0.01		
2 COMBINED AT	AP-DFCS	219.	6.05	83.	47.	47.	1.14		
ROUTED TO	RR-DFCS	89.	6.30	76.	44.	44.	1.14	80.19	6.30
HYDROGRAPH AT	DR-APD12	388.	6.15	95.	41.	41.	0.00		
ROUTED TO	RT-APD12	412.	6.20	95.	41.	41.	0.00		
HYDROGRAPH AT	SB-D33	49.	6.05	5.	2.	2.	0.04		
2 COMBINED AT	AP-D23	436.	6.20	98.	43.	43.	0.04		
2 COMBINED AT	AP-D24	514.	6.20	174.	86.	86.	1.17		
HYDROGRAPH AT	SB-D34	68.	6.05	7.	3.	3.	0.04		
ROUTED TO	RT-SBD34	67.	6.05	7.	3.	3.	0.04		
HYDROGRAPH AT	SB-D35	71.	6.05	7.	3.	3.	0.04		
2 COMBINED AT	AP-DFG	138.	6.05	14.	6.	6.	0.08		
ROUTED TO	RR-DFG	36.	6.35	11.	5.	5.	0.08	70.85	6.35

J.

**HISTORIC (UNDEVELOPED) CONDITION
REGRESSION EQUATION ANALYSIS**

KETTLE CREEK DRAINAGE BASIN
OLD RANCH ROAD TRIBUTARY
MASTER DEVELOPMENT DRAINAGE PLAN
UNDEVELOPED CONDITION PEAK FLOW RATE ESTIMATE BY REGRESSION EQUATIONS

5/12/99

ANALYSIS POINT I.D.	METHOD OR EQUATION	EQUATION SET NUMBER	WATERSHED AREA (sm)	BASIN SLOPE (ft/mi)	ESTIMATED PEAK RUNOFF RATE					
					Q ₂ (cfs)	Q ₅ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₅₀ (cfs)	Q ₁₀₀ (cfs)
H9	USGS,WRI 87-4094, Livingston and Minges 1987, Quadratic Model	1	0.830			200	326	530	722	961
	CWCB, TM No.1, McCain and Jarrett, 1976	2	0.830	144			693		1751	2490
	USGS,WRI XX Draft, J.E. Vail , 1996	3	0.830		36	182	338	674	1037	1526
	USGS, WRI 87-4117, JARRETT AND COSTA, 1988	4	0.830		33		97		198	257
	S.C.C. UNIT HYDROGRAPH/ HEC1 COMPUTER MODEL		0.830		31	107	178	320	432	557
H10	USGS,WRI 87-4094, Livingston and Minges 1987, Quadratic Model	1	0.890			212	348	571	782	1046
	CWCB, TM No.1, McCain and Jarrett, 1976	2	0.890	159			744		1839	2593
	USGS,WRI XX Draft, J.E. Vail , 1996	3	0.890		37	187	348	693	1066	1567
	USGS, WRI 87-4117, JARRETT AND COSTA, 1988	4	0.890		34		102		210	273
	S.C.C. UNIT HYDROGRAPH/ HEC1 COMPUTER MODEL		0.890		32	110	184	331	448	577
H11	USGS,WRI 87-4094, Livingston and Minges 1987, Quadratic Model	1	0.170			36	49	64	76	88
	CWCB, TM No.1, McCain and Jarrett, 1976	2	0.170	229			351		876	1243
	USGS,WRI XX Draft, J.E. Vail , 1996	3	0.170		16	97	179	360	557	825
	USGS, WRI 87-4117, JARRETT AND COSTA, 1988	4	0.170		13		29		53	66
	S.C.C. UNIT HYDROGRAPH/ HEC1 COMPUTER MODEL		0.170		9	28	45	76	99	125
H12	USGS,WRI 87-4094, Livingston and Minges 1987, Quadratic Model	1	1.060			246	411	686	950	1287
	CWCB, TM No.1, McCain and Jarrett, 1976	2	1.060	158			814		1998	2810
	USGS,WRI XX Draft, J.E. Vail , 1996	3	1.060		40	200	373	742	1142	1677
	USGS, WRI 87-4117, JARRETT AND COSTA, 1988	4	1.060		38		116		242	318
	S.C.C. UNIT HYDROGRAPH/ HEC1 COMPUTER MODEL		1.060		37	129	219	398	535	693
H13	USGS,WRI 87-4094, Livingston and Minges 1987, Quadratic Model	1	0.090			15	18	21	23	25
	CWCB, TM No.1, McCain and Jarrett, 1976	2	0.090	188			235		625	911
	USGS,WRI XX Draft, J.E. Vail , 1996	3	0.090		12	75	139	280	434	644
	USGS, WRI 87-4117, JARRETT AND COSTA, 1988	4	0.090		8		18		31	38
	S.C.C. UNIT HYDROGRAPH/ HEC1 COMPUTER MODEL		0.090		5	14	23	40	52	65

EQUATIONS

1
 $\text{Log } Q_5 = 3.83 - 1.46(AE^{-.25})$
 $\text{Log } Q_{10} = 4.21 - 1.62(AE^{-.25})$
 $\text{Log } Q_{25} = 4.61 - 1.80(AE^{-.25})$
 $\text{Log } Q_{50} = 4.87 - 1.92(AE^{-.25})$
 $\text{Log } Q_{100} = 5.12 - 2.04(AE^{-.25})$

AE = Effective watershed area in
Square Miles (sm)

2
 $Q_{10} = 144(A^{0.528})(SB^{0.336})$
 $Q_{50} = 891(A^{0.482})(SB^{0.154})$
 $Q_{100} = 1770(A^{0.463})(SB^{0.086})$

A = Watershed area in sm
SB = Slope of the watershed between
10% & 85% points in the
watershed length in feet/mile

3
 $Q_2 = 39.0 (A^{0.486})$
 $Q_5 = 195.8 (A^{0.399})$
 $Q_{10} = 364.6 (A^{0.400})$
 $Q_{25} = 725.3 (A^{0.395})$
 $Q_{50} = 1116 (A^{0.392})$
 $Q_{100} = 1640 (A^{0.388})$

A = Watershed area in
square miles (sm)

4
 $Q_2 = 36.9 (AB8^{0.61})$
 $Q_{10} = 111 (AB8^{0.75})$
 $Q_{50} = 231 (AB8^{0.83})$
 $Q_{100} = 302 (AB8^{0.86})$

AB8 = Watershed area below
8000 feet elevation

K.
HYDRAULIC GRADE LINE CALCULATION
FOR
PROPOSED MODIFICATION TO THE EXISTING
OLD RANCH ROAD STORM DRAIN AT
CREEKSIDE ESTATES

MANNINGS n =

0.013

KETTLE CREEK MDDP
MODIFIED OLD RANCH RD. STORM DRAIN
 With Proposed Fully Developed Condition MDDP 100 Year Peak Flows
HGL CALCULATION
 4/5/2001 9:38

STATION	PIPE SIZE (inches)	PEAK RATE (cfs)	AREA (sf)	VELOCITY (fps)	CONV. K	FRICTION SLOPE (ft/ft)	JUNCTION DATA			BEND LOSS K	FRICTION LOSS (ft)	BEND LOSS (ft)	UNCTION LOSS (ft)	ENTRNC LOSS (ft)	TRANS LOSS (ft)	TOTAL LOSS (ft)	ENERGY GRADE LINE (elevation)	VELOCITY HEAD (ft)	HYDRAULIC GRADE LINE (elevation)
							LENGTH (ft)	LATERAL SIZE (inches)	LATERAL ANGLE (degrees)										
DF "CS"	1225	48																	
DF "CS"	1225	48	163	12.560	12.98	1435	0.013	0.00			0.00					0.00	691.66	2.62	689.04
	1225	48	163	12.560	12.98	1435	0.013	12.80			0.17		0.00			0.17	691.68	2.62	689.06
	1225	48	163	12.560	12.98	1435	0.013	0.00		0.32	0.00	0.84	0.00			0.84	692.52	2.62	689.90
AP D22	1235	48	163	12.560	12.98	1435	0.013	12.90			0.17	0.00	0.00			0.17	692.68	2.62	690.07
AP D22	1235	48	147	12.560	11.70	1435	0.010	0.00	24	90	0.00	0.00	0.49			0.49	693.17	2.13	691.04
	1244	48	147	12.560	11.70	1435	0.010	10.70			0.11	0.00	0.00			0.11	693.28	2.13	691.16
	1244	48	147	12.560	11.70	1435	0.010	0.00		0.32	0.00	0.68	0.00			0.68	693.96	2.13	691.84
AP D21	1300	48	147	12.560	11.70	1435	0.010	56.00			0.59	0.00	0.00			0.59	694.55	2.13	692.42
AP D21	1300	48	117	12.560	9.32	1435	0.007	0.00	24	45	0.00	0.00	0.28			0.28	694.83	1.35	693.48
PROP. DIVERT	1310	48	117	12.560	9.32	1435	0.007	10.00			0.07	0.00	0.00			0.07	694.90	1.35	693.55
PROP. DIVERT	1310	48	165	12.560	13.14	1435	0.013	0.00			0.00	0.00	0.00		0.54	0.54	695.43	2.68	692.75
AP D20	3884	48	165	12.560	13.14	1435	0.013	365.00			4.82	0.00	0.00			4.82	704.37	2.68	701.69
AP D20	3884	48	160	12.560	12.74	1435	0.012	0.00	48	90	0.00	0.00	0.16			0.16	704.53	2.52	702.01
	3884	48	160	12.560	12.74	1435	0.012	30.70			0.38	0.00	0.00			0.38	705.17	2.52	702.65
	3884	42	135	9.616	14.04	1005	0.018	0.00	30	45	0.32	0.00	0.98	0.69		1.67	706.84	3.06	703.78
	3906	42	135	9.616	14.04	1005	0.018	26.90			0.49	0.00	0.00			0.49	707.32	3.06	704.26
	3906	42	135	9.616	14.04	1005	0.018	0.00		0.32	0.00	0.98	0.00			0.98	708.30	3.06	705.24
AP D18	4403	42	135	9.616	14.04	1005	0.018	494.00			8.92	0.00	0.00			8.92	733.02	3.06	729.96
AP D18	4403	42	126	9.616	13.10	1005	0.016	0.00	24	75	0.00	0.00	0.37			0.37	733.39	2.67	730.73
AP D18	4403	42	117	9.616	12.17	1005	0.014	0.00	18	70	0.00	0.00	0.32			0.32	733.71	2.30	731.41
	4846	42	117	9.616	12.17	1005	0.014	440.00			5.97	0.00	0.00			5.97	754.39	2.30	752.09
	4846	42	117	9.616	12.17	1005	0.014	0.00			0.00	0.00	0.00			0.00	754.39	2.30	752.09
AP D17	4960	42	117	9.616	12.17	1005	0.014	114.00			1.55	0.00	0.00			1.55	759.28	2.30	756.98
AP D17	4960	42	117	9.616	12.17	1005	0.014	0.00			0.00	0.00	0.00		0.17	0.17	759.45	2.30	757.15

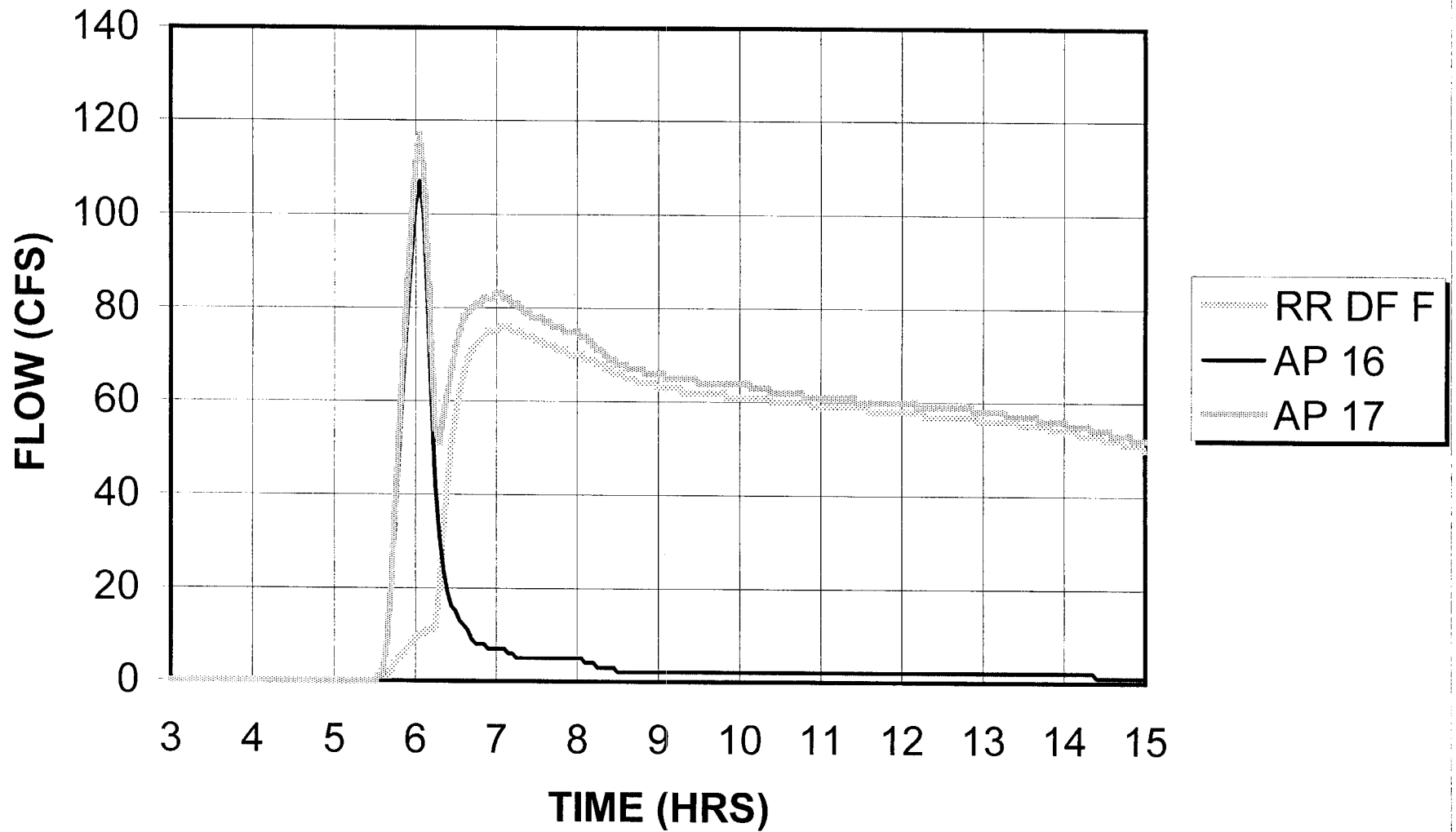
Revised 4/3/01

This calculation assumes that a 30" diameter relief storm drain is connected to the existing 48" diameter storm drain just upstream of Analysis Point D21 and will divert 48 cfs+/- of the 100 year peak flow directly to the Creek Side Detention facility.

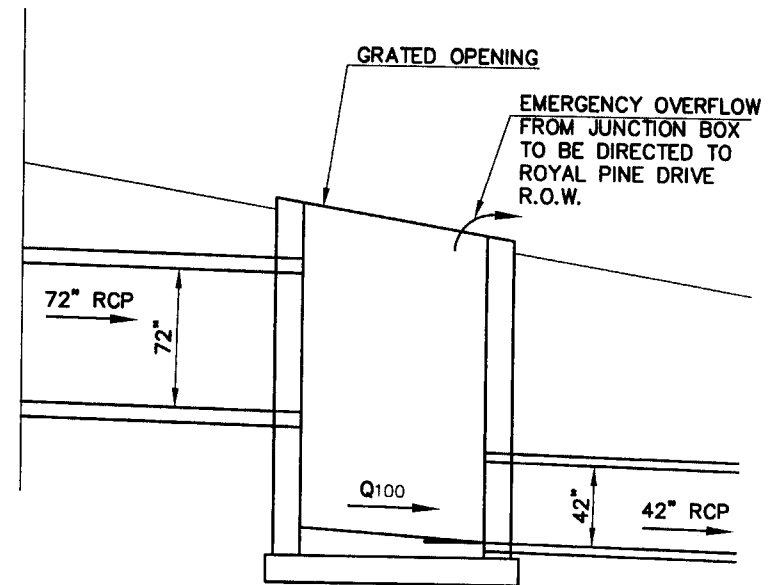
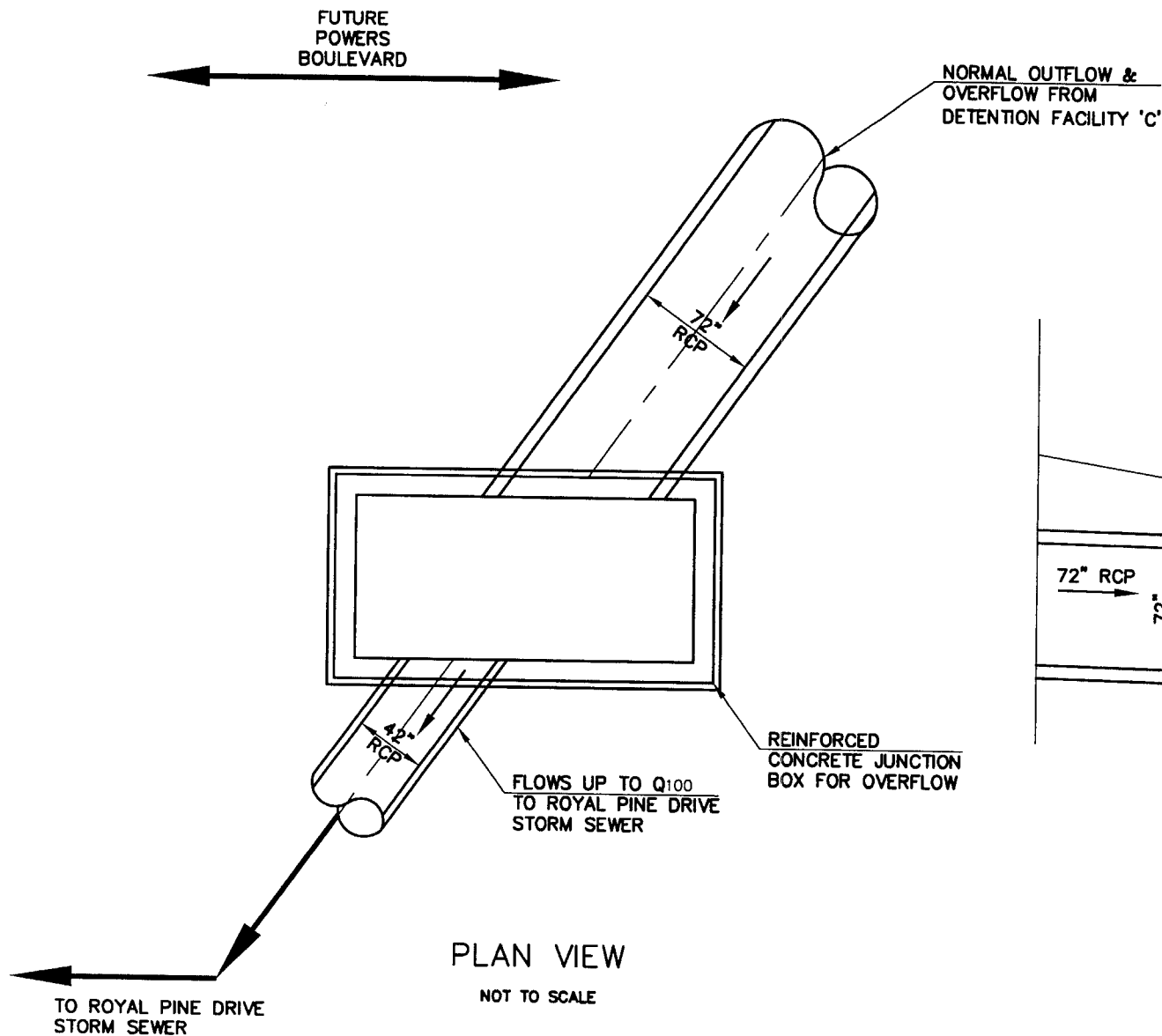
L.

HYDROGRAPH AT ANALYSIS POINT D17

HYDROGRAPH AT AP-D17



M.
JUNCTION/OVERFLOW BOX
CONCEPT DETAIL



SIDE VIEW
NOT TO SCALE

JUNCTION/OVERFLOW BOX
CONCEPT DETAIL
JOB NO. 8877.10
10/2002

N.

MAPS (FOLDED IN POCKETS)

- **FULLY DEVELOPED CONDITION BASIN MAP AND MASTER PLAN**
 - **HISTORIC CONDITION BASIN MAP**
 - **SUBDIVISION AND LAND USE IDENTIFICATION MAP**
 - **EXISTING DRAINAGE FACILITY MAP**