```
 1 JAN 1315 160  0.09  0.00  0.09  17922.   *   2 JAN 0415 340  0.00  0.00  0.00  2013.
 1 JAN 1320 161  0.09  0.00  0.08  19115.   *   2 JAN 0420 341  0.00  0.00  0.00  1938.
 1 JAN 1325 162  0.08  0.00  0.08  20366.   *   2 JAN 0425 342  0.00  0.00  0.00  1865.
 1 JAN 1330 163  0.08  0.00  0.08  21646.   *   2 JAN 0430 343  0.00  0.00  0.00  1794.
 1 JAN 1335 164  0.07  0.00  0.07  22964.   *   2 JAN 0435 344  0.00  0.00  0.00  1723.
 1 JAN 1340 165  0.07  0.00  0.07  24327.   *   2 JAN 0440 345  0.00  0.00  0.00  1655.
 1 JAN 1345 166  0.07  0.00  0.07  25717.   *   2 JAN 0445 346  0.00  0.00  0.00  1588.
 1 JAN 1350 167  0.07  0.00  0.07  27094.   *   2 JAN 0450 347  0.00  0.00  0.00  1522.
 1 JAN 1355 168  0.06  0.00  0.06  28441.   *   2 JAN 0455 348  0.00  0.00  0.00  1458.
 1 JAN 1400 169  0.06  0.00  0.06  29736.   *   2 JAN 0500 349  0.00  0.00  0.00  1396.
 1 JAN 1405 170  0.06  0.00  0.06  30975.   *   2 JAN 0505 350  0.00  0.00  0.00  1336.
 1 JAN 1410 171  0.06  0.00  0.06  32165.   *   2 JAN 0510 351  0.00  0.00  0.00  1278.
 1 JAN 1415 172  0.06  0.00  0.06  33297.   *   2 JAN 0515 352  0.00  0.00  0.00  1222.
 1 JAN 1420 173  0.06  0.00  0.06  34345.   *   2 JAN 0520 353  0.00  0.00  0.00  1168.
 1 JAN 1425 174  0.06  0.00  0.05  35300.   *   2 JAN 0525 354  0.00  0.00  0.00  1118.
 1 JAN 1430 175  0.06  0.00  0.05  36181.   *   2 JAN 0530 355  0.00  0.00  0.00  1071.
 1 JAN 1435 176  0.05  0.00  0.05  37001.   *   2 JAN 0535 356  0.00  0.00  0.00  1028.
 1 JAN 1440 177  0.05  0.00  0.05  37737.   *   2 JAN 0540 357  0.00  0.00  0.00  987.
 1 JAN 1445 178  0.05  0.00  0.05  38372.   *   2 JAN 0545 358  0.00  0.00  0.00  948.
 1 JAN 1450 179  0.05  0.00  0.05  38921.   *   2 JAN 0550 359  0.00  0.00  0.00  910.
 1 JAN 1455 180  0.05  0.00  0.05  39411.   *   2 JAN 0555 360  0.00  0.00  0.00  875.
                                   *
*****************************************************************************************************************************

  TOTAL RAINFALL =  19.53, TOTAL LOSS =  2.71, TOTAL EXCESS =  16.82

 PEAK FLOW    TIME                MAXIMUM AVERAGE FLOW
                      6-HR     24-HR     72-HR   29.92-HR
+ (CFS)    (HR)
             (CFS)
+ 40750.   15.50          30495.    11553.     9277.     9277.
           (INCHES)  11.017    16.695    16.712    16.712
           (AC-FT)  15121.    22916.    22938.    22938.

           CUMULATIVE AREA =  25.74 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


     **************
     *            *
283 KK   *   2BPMP *
     *            *
     **************

284 KO       OUTPUT CONTROL VARIABLES
             IPRNT        0  PRINT CONTROL
             IPLOT        0  PLOT CONTROL
             QSCAL       0.  HYDROGRAPH PLOT SCALE
             IPNCH        1  PUNCH COMPUTED HYDROGRAPH
             IOUT        22  SAVE HYDROGRAPH ON THIS UNIT
             ISAV1        1  FIRST ORDINATE PUNCHED OR SAVED
             ISAV2      360  LAST ORDINATE PUNCHED OR SAVED
            TIMINT    0.083  TIME INTERVAL IN HOURS


287 IN       TIME DATA FOR INPUT TIME SERIES
             JXMIN        6  TIME INTERVAL IN MINUTES
            JXDATE    1JAN94  STARTING DATE
            JXTIME        0  STARTING TIME

        SUBBASIN RUNOFF DATA

285 BA       SUBBASIN CHARACTERISTICS
             TAREA,     7.72  SUBBASIN AREA

        PRECIPITATION DATA

286 PB           STORM     19.32  BASIN TOTAL PRECIPITATION

288 PI       INCREMENTAL PRECIPITATION PATTERN
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.04
0.05	0.08	0.11	0.08	0.02	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

313 LS SCS LOSS RATE
STRTL 0.50 INITIAL ABSTRACTION
CRVNBR 80.00 CURVE NUMBER
RTIMP 0.00 PERCENT IMPERVIOUS AREA

314 UD SCS DIMENSIONLESS UNITGRAPH
TLAG 1.35 LAG

***

UNIT HYDROGRAPH
83 END-OF-PERIOD ORDINATES

48.	116.	228.	360.	504.	694.	904.	1160.	1444.	1747.
2005.	2238.	2414.	2542.	2637.	2659.	2667.	2651.	2590.	2494.
2384.	2269.	2142.	1997.	1837.	1650.	1465.	1305.	1171.	1059.
961.	868.	788.	719.	661.	603.	546.	498.	450.	403.
367.	336.	304.	275.	251.	227.	204.	187.	169.	151.
138.	126.	114.	103.	95.	86.	77.	71.	64.	58.
53.	48.	43.	39.	36.	33.	29.	27.	26.	24.
22.	20.	18.	16.	14.	12.	11.	9.	8.	6.
4.	3.	1.							

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HYDROGRAPH AT STATION 2BPMP

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DA MON HRMN	ORD	RAIN	LOSS	EXCESS	COMP Q	*	DA MON HRMN	ORD	RAIN	LOSS	EXCESS	COMP Q
1 JAN 0000	1	0.00	0.00	0.00	0.	*	1 JAN 1500	181	0.05	0.00	0.05	8349.
1 JAN 0005	2	0.02	0.02	0.00	0.	*	1 JAN 1505	182	0.05	0.00	0.05	7901.
1 JAN 0010	3	0.02	0.02	0.00	0.	*	1 JAN 1510	183	0.05	0.00	0.05	7482.
1 JAN 0015	4	0.02	0.02	0.00	0.	*	1 JAN 1515	184	0.05	0.00	0.04	7100.
1 JAN 0020	5	0.02	0.02	0.00	0.	*	1 JAN 1520	185	0.04	0.00	0.04	6753.
1 JAN 0025	6	0.02	0.02	0.00	0.	*	1 JAN 1525	186	0.04	0.00	0.04	6428.
1 JAN 0030	7	0.02	0.02	0.00	0.	*	1 JAN 1530	187	0.04	0.00	0.04	6124.
1 JAN 0035	8	0.02	0.02	0.00	0.	*	1 JAN 1535	188	0.04	0.00	0.04	5843.
1 JAN 0040	9	0.02	0.02	0.00	0.	*	1 JAN 1540	189	0.04	0.00	0.04	5581.
1 JAN 0045	10	0.02	0.02	0.00	0.	*	1 JAN 1545	190	0.04	0.00	0.04	5335.
1 JAN 0050	11	0.02	0.02	0.00	0.	*	1 JAN 1550	191	0.04	0.00	0.04	5109.
1 JAN 0055	12	0.02	0.02	0.00	0.	*	1 JAN 1555	192	0.04	0.00	0.04	4900.
1 JAN 0100	13	0.02	0.02	0.00	0.	*	1 JAN 1600	193	0.04	0.00	0.04	4703.
1 JAN 0105	14	0.02	0.02	0.00	0.	*	1 JAN 1605	194	0.04	0.00	0.04	4521.

1 JAN 0110	15	0.02	0.02	0.00	0.	*	1 JAN 1610	195	0.04	0.00	0.04	4354.
1 JAN 0115	16	0.02	0.02	0.00	0.	*	1 JAN 1615	196	0.04	0.00	0.04	4196.
1 JAN 0120	17	0.02	0.02	0.00	0.	*	1 JAN 1620	197	0.04	0.00	0.04	4047.
1 JAN 0125	18	0.02	0.02	0.00	0.	*	1 JAN 1625	198	0.04	0.00	0.03	3909.
1 JAN 0130	19	0.02	0.02	0.00	0.	*	1 JAN 1630	199	0.04	0.00	0.03	3778.
1 JAN 0135	20	0.02	0.02	0.00	0.	*	1 JAN 1635	200	0.03	0.00	0.03	3653.
1 JAN 0140	21	0.02	0.02	0.00	0.	*	1 JAN 1640	201	0.04	0.00	0.03	3537.
1 JAN 0145	22	0.02	0.02	0.00	0.	*	1 JAN 1645	202	0.03	0.00	0.03	3427.
1 JAN 0150	23	0.02	0.02	0.00	0.	*	1 JAN 1650	203	0.03	0.00	0.03	3323.
1 JAN 0155	24	0.02	0.02	0.00	0.	*	1 JAN 1655	204	0.03	0.00	0.03	3224.
1 JAN 0200	25	0.02	0.02	0.00	0.	*	1 JAN 1700	205	0.03	0.00	0.03	3132.
1 JAN 0205	26	0.02	0.02	0.00	0.	*	1 JAN 1705	206	0.03	0.00	0.03	3044.
1 JAN 0210	27	0.02	0.02	0.00	0.	*	1 JAN 1710	207	0.03	0.00	0.03	2962.
1 JAN 0215	28	0.02	0.02	0.00	0.	*	1 JAN 1715	208	0.03	0.00	0.03	2886.
1 JAN 0220	29	0.02	0.02	0.00	0.	*	1 JAN 1720	209	0.03	0.00	0.03	2815.
1 JAN 0225	30	0.02	0.02	0.00	0.	*	1 JAN 1725	210	0.03	0.00	0.03	2749.
1 JAN 0230	31	0.02	0.02	0.00	0.	*	1 JAN 1730	211	0.03	0.00	0.03	2687.
1 JAN 0235	32	0.02	0.02	0.00	0.	*	1 JAN 1735	212	0.03	0.00	0.03	2629.
1 JAN 0240	33	0.02	0.02	0.00	0.	*	1 JAN 1740	213	0.03	0.00	0.03	2574.
1 JAN 0245	34	0.02	0.02	0.00	1.	*	1 JAN 1745	214	0.03	0.00	0.03	2520.
1 JAN 0250	35	0.02	0.02	0.00	1.	*	1 JAN 1750	215	0.03	0.00	0.03	2469.
1 JAN 0255	36	0.02	0.02	0.00	2.	*	1 JAN 1755	216	0.03	0.00	0.03	2419.
1 JAN 0300	37	0.02	0.02	0.00	3.	*	1 JAN 1800	217	0.03	0.00	0.03	2372.
1 JAN 0305	38	0.02	0.02	0.00	5.	*	1 JAN 1805	218	0.03	0.00	0.03	2326.
1 JAN 0310	39	0.02	0.02	0.00	7.	*	1 JAN 1810	219	0.03	0.00	0.03	2282.
1 JAN 0315	40	0.02	0.02	0.00	9.	*	1 JAN 1815	220	0.03	0.00	0.03	2239.
1 JAN 0320	41	0.02	0.02	0.00	13.	*	1 JAN 1820	221	0.03	0.00	0.03	2198.
1 JAN 0325	42	0.02	0.02	0.00	17.	*	1 JAN 1825	222	0.03	0.00	0.03	2158.
1 JAN 0330	43	0.02	0.02	0.00	22.	*	1 JAN 1830	223	0.03	0.00	0.03	2119.
1 JAN 0335	44	0.02	0.02	0.00	27.	*	1 JAN 1835	224	0.03	0.00	0.03	2082.
1 JAN 0340	45	0.02	0.02	0.00	34.	*	1 JAN 1840	225	0.03	0.00	0.03	2046.
1 JAN 0345	46	0.02	0.02	0.00	41.	*	1 JAN 1845	226	0.03	0.00	0.03	2012.
1 JAN 0350	47	0.02	0.02	0.01	49.	*	1 JAN 1850	227	0.03	0.00	0.03	1981.
1 JAN 0355	48	0.02	0.02	0.01	58.	*	1 JAN 1855	228	0.03	0.00	0.03	1953.
1 JAN 0400	49	0.02	0.02	0.01	67.	*	1 JAN 1900	229	0.02	0.00	0.02	1928.
1 JAN 0405	50	0.02	0.02	0.01	78.	*	1 JAN 1905	230	0.03	0.00	0.03	1903.
1 JAN 0410	51	0.02	0.02	0.01	89.	*	1 JAN 1910	231	0.02	0.00	0.02	1879.
1 JAN 0415	52	0.02	0.02	0.01	100.	*	1 JAN 1915	232	0.02	0.00	0.02	1855.
1 JAN 0420	53	0.02	0.02	0.01	113.	*	1 JAN 1920	233	0.02	0.00	0.02	1832.
1 JAN 0425	54	0.02	0.02	0.01	126.	*	1 JAN 1925	234	0.02	0.00	0.02	1810.
1 JAN 0430	55	0.02	0.02	0.01	139.	*	1 JAN 1930	235	0.02	0.00	0.02	1787.
1 JAN 0435	56	0.02	0.02	0.01	153.	*	1 JAN 1935	236	0.02	0.00	0.02	1765.
1 JAN 0440	57	0.02	0.02	0.01	167.	*	1 JAN 1940	237	0.02	0.00	0.02	1743.
1 JAN 0445	58	0.02	0.02	0.01	182.	*	1 JAN 1945	238	0.02	0.00	0.02	1722.
1 JAN 0450	59	0.02	0.02	0.01	197.	*	1 JAN 1950	239	0.02	0.00	0.02	1700.
1 JAN 0455	60	0.03	0.02	0.01	212.	*	1 JAN 1955	240	0.02	0.00	0.02	1679.
1 JAN 0500	61	0.03	0.02	0.01	228.	*	1 JAN 2000	241	0.02	0.00	0.02	1658.
1 JAN 0505	62	0.03	0.02	0.01	244.	*	1 JAN 2005	242	0.02	0.00	0.02	1638.
1 JAN 0510	63	0.03	0.02	0.01	260.	*	1 JAN 2010	243	0.02	0.00	0.02	1617.
1 JAN 0515	64	0.03	0.02	0.01	277.	*	1 JAN 2015	244	0.02	0.00	0.02	1597.
1 JAN 0520	65	0.03	0.02	0.01	294.	*	1 JAN 2020	245	0.02	0.00	0.02	1576.
1 JAN 0525	66	0.03	0.02	0.01	311.	*	1 JAN 2025	246	0.02	0.00	0.02	1557.
1 JAN 0530	67	0.03	0.01	0.01	328.	*	1 JAN 2030	247	0.02	0.00	0.02	1537.
1 JAN 0535	68	0.03	0.02	0.01	346.	*	1 JAN 2035	248	0.02	0.00	0.02	1517.
1 JAN 0540	69	0.03	0.01	0.01	364.	*	1 JAN 2040	249	0.02	0.00	0.02	1498.
1 JAN 0545	70	0.03	0.01	0.01	382.	*	1 JAN 2045	250	0.02	0.00	0.02	1479.
1 JAN 0550	71	0.03	0.01	0.01	400.	*	1 JAN 2050	251	0.02	0.00	0.02	1461.
1 JAN 0555	72	0.03	0.01	0.01	419.	*	1 JAN 2055	252	0.02	0.00	0.02	1443.
1 JAN 0600	73	0.03	0.01	0.01	438.	*	1 JAN 2100	253	0.02	0.00	0.02	1425.
1 JAN 0605	74	0.03	0.01	0.01	457.	*	1 JAN 2105	254	0.02	0.00	0.02	1409.
1 JAN 0610	75	0.03	0.01	0.01	477.	*	1 JAN 2110	255	0.02	0.00	0.02	1393.
1 JAN 0615	76	0.03	0.01	0.02	496.	*	1 JAN 2115	256	0.02	0.00	0.02	1377.
1 JAN 0620	77	0.03	0.01	0.02	516.	*	1 JAN 2120	257	0.02	0.00	0.02	1363.
1 JAN 0625	78	0.03	0.01	0.02	536.	*	1 JAN 2125	258	0.02	0.00	0.02	1349.
1 JAN 0630	79	0.03	0.01	0.02	556.	*	1 JAN 2130	259	0.02	0.00	0.02	1336.
1 JAN 0635	80	0.03	0.01	0.02	576.	*	1 JAN 2135	260	0.02	0.00	0.02	1323.
1 JAN 0640	81	0.03	0.01	0.02	597.	*	1 JAN 2140	261	0.02	0.00	0.02	1312.
1 JAN 0645	82	0.03	0.01	0.02	617.	*	1 JAN 2145	262	0.02	0.00	0.02	1301.
1 JAN 0650	83	0.03	0.01	0.02	638.	*	1 JAN 2150	263	0.02	0.00	0.02	1290.
1 JAN 0655	84	0.03	0.01	0.02	659.	*	1 JAN 2155	264	0.02	0.00	0.02	1280.
1 JAN 0700	85	0.03	0.01	0.02	680.	*	1 JAN 2200	265	0.02	0.00	0.02	1271.
1 JAN 0705	86	0.03	0.01	0.02	701.	*	1 JAN 2205	266	0.02	0.00	0.02	1263.
1 JAN 0710	87	0.03	0.01	0.02	722.	*	1 JAN 2210	267	0.02	0.00	0.02	1254.
1 JAN 0715	88	0.03	0.01	0.02	743.	*	1 JAN 2215	268	0.02	0.00	0.02	1247.

1 JAN 0720	89	0.03	0.01	0.02	765.	*	1 JAN 2220	269	0.02	0.00	0.02	1239.
1 JAN 0725	90	0.03	0.01	0.02	786.	*	1 JAN 2225	270	0.02	0.00	0.02	1232.
1 JAN 0730	91	0.03	0.01	0.02	808.	*	1 JAN 2230	271	0.02	0.00	0.02	1225.
1 JAN 0735	92	0.03	0.01	0.02	830.	*	1 JAN 2235	272	0.02	0.00	0.02	1219.
1 JAN 0740	93	0.03	0.01	0.02	851.	*	1 JAN 2240	273	0.02	0.00	0.02	1213.
1 JAN 0745	94	0.03	0.01	0.02	873.	*	1 JAN 2245	274	0.02	0.00	0.02	1207.
1 JAN 0750	95	0.03	0.01	0.02	895.	*	1 JAN 2250	275	0.02	0.00	0.02	1201.
1 JAN 0755	96	0.04	0.01	0.02	917.	*	1 JAN 2255	276	0.02	0.00	0.02	1195.
1 JAN 0800	97	0.04	0.01	0.02	939.	*	1 JAN 2300	277	0.02	0.00	0.02	1189.
1 JAN 0805	98	0.04	0.01	0.02	961.	*	1 JAN 2305	278	0.02	0.00	0.02	1184.
1 JAN 0810	99	0.04	0.01	0.02	983.	*	1 JAN 2310	279	0.02	0.00	0.02	1179.
1 JAN 0815	100	0.04	0.01	0.03	1005.	*	1 JAN 2315	280	0.02	0.00	0.02	1174.
1 JAN 0820	101	0.04	0.01	0.03	1028.	*	1 JAN 2320	281	0.02	0.00	0.02	1168.
1 JAN 0825	102	0.04	0.01	0.03	1051.	*	1 JAN 2325	282	0.02	0.00	0.02	1164.
1 JAN 0830	103	0.04	0.01	0.03	1074.	*	1 JAN 2330	283	0.02	0.00	0.02	1159.
1 JAN 0835	104	0.04	0.01	0.03	1098.	*	1 JAN 2335	284	0.02	0.00	0.02	1154.
1 JAN 0840	105	0.05	0.01	0.03	1123.	*	1 JAN 2340	285	0.02	0.00	0.02	1149.
1 JAN 0845	106	0.05	0.01	0.03	1149.	*	1 JAN 2345	286	0.02	0.00	0.02	1145.
1 JAN 0850	107	0.05	0.01	0.03	1176.	*	1 JAN 2350	287	0.02	0.00	0.02	1140.
1 JAN 0855	108	0.05	0.01	0.04	1205.	*	1 JAN 2355	288	0.02	0.00	0.02	1136.
1 JAN 0900	109	0.05	0.01	0.04	1235.	*	2 JAN 0000	289	0.02	0.00	0.02	1131.
1 JAN 0905	110	0.05	0.01	0.04	1267.	*	2 JAN 0005	290	0.00	0.00	0.00	1126.
1 JAN 0910	111	0.05	0.01	0.04	1301.	*	2 JAN 0010	291	0.00	0.00	0.00	1120.
1 JAN 0915	112	0.05	0.01	0.04	1337.	*	2 JAN 0015	292	0.00	0.00	0.00	1112.
1 JAN 0920	113	0.05	0.01	0.04	1374.	*	2 JAN 0020	293	0.00	0.00	0.00	1101.
1 JAN 0925	114	0.05	0.01	0.04	1414.	*	2 JAN 0025	294	0.00	0.00	0.00	1088.
1 JAN 0930	115	0.05	0.01	0.04	1455.	*	2 JAN 0030	295	0.00	0.00	0.00	1072.
1 JAN 0935	116	0.05	0.01	0.04	1498.	*	2 JAN 0035	296	0.00	0.00	0.00	1052.
1 JAN 0940	117	0.05	0.01	0.04	1542.	*	2 JAN 0040	297	0.00	0.00	0.00	1028.
1 JAN 0945	118	0.06	0.01	0.04	1587.	*	2 JAN 0045	298	0.00	0.00	0.00	999.
1 JAN 0950	119	0.06	0.01	0.05	1633.	*	2 JAN 0050	299	0.00	0.00	0.00	965.
1 JAN 0955	120	0.06	0.01	0.05	1680.	*	2 JAN 0055	300	0.00	0.00	0.00	926.
1 JAN 1000	121	0.06	0.01	0.05	1728.	*	2 JAN 0100	301	0.00	0.00	0.00	884.
1 JAN 1005	122	0.07	0.01	0.05	1777.	*	2 JAN 0105	302	0.00	0.00	0.00	838.
1 JAN 1010	123	0.07	0.01	0.06	1827.	*	2 JAN 0110	303	0.00	0.00	0.00	791.
1 JAN 1015	124	0.07	0.01	0.06	1878.	*	2 JAN 0115	304	0.00	0.00	0.00	742.
1 JAN 1020	125	0.08	0.01	0.06	1930.	*	2 JAN 0120	305	0.00	0.00	0.00	693.
1 JAN 1025	126	0.08	0.01	0.06	1985.	*	2 JAN 0125	306	0.00	0.00	0.00	644.
1 JAN 1030	127	0.08	0.01	0.07	2043.	*	2 JAN 0130	307	0.00	0.00	0.00	595.
1 JAN 1035	128	0.09	0.02	0.07	2104.	*	2 JAN 0135	308	0.00	0.00	0.00	548.
1 JAN 1040	129	0.09	0.02	0.08	2168.	*	2 JAN 0140	309	0.00	0.00	0.00	502.
1 JAN 1045	130	0.10	0.02	0.08	2237.	*	2 JAN 0145	310	0.00	0.00	0.00	459.
1 JAN 1050	131	0.10	0.02	0.09	2312.	*	2 JAN 0150	311	0.00	0.00	0.00	417.
1 JAN 1055	132	0.11	0.02	0.09	2392.	*	2 JAN 0155	312	0.00	0.00	0.00	379.
1 JAN 1100	133	0.11	0.02	0.10	2478.	*	2 JAN 0200	313	0.00	0.00	0.00	342.
1 JAN 1105	134	0.12	0.02	0.11	2572.	*	2 JAN 0205	314	0.00	0.00	0.00	309.
1 JAN 1110	135	0.14	0.02	0.12	2674.	*	2 JAN 0210	315	0.00	0.00	0.00	279.
1 JAN 1115	136	0.15	0.02	0.13	2785.	*	2 JAN 0215	316	0.00	0.00	0.00	253.
1 JAN 1120	137	0.16	0.02	0.14	2908.	*	2 JAN 0220	317	0.00	0.00	0.00	229.
1 JAN 1125	138	0.17	0.02	0.15	3042.	*	2 JAN 0225	318	0.00	0.00	0.00	208.
1 JAN 1130	139	0.19	0.02	0.16	3191.	*	2 JAN 0230	319	0.00	0.00	0.00	188.
1 JAN 1135	140	0.38	0.04	0.34	3363.	*	2 JAN 0235	320	0.00	0.00	0.00	171.
1 JAN 1140	141	0.69	0.06	0.63	3577.	*	2 JAN 0240	321	0.00	0.00	0.00	155.
1 JAN 1145	142	1.04	0.08	0.96	3862.	*	2 JAN 0245	322	0.00	0.00	0.00	141.
1 JAN 1150	143	1.62	0.09	1.53	4269.	*	2 JAN 0250	323	0.00	0.00	0.00	128.
1 JAN 1155	144	2.07	0.09	1.99	4854.	*	2 JAN 0255	324	0.00	0.00	0.00	116.
1 JAN 1200	145	1.53	0.05	1.48	5643.	*	2 JAN 0300	325	0.00	0.00	0.00	105.
1 JAN 1205	146	0.31	0.01	0.30	6621.	*	2 JAN 0305	326	0.00	0.00	0.00	95.
1 JAN 1210	147	0.27	0.01	0.27	7782.	*	2 JAN 0310	327	0.00	0.00	0.00	86.
1 JAN 1215	148	0.25	0.01	0.24	9116.	*	2 JAN 0315	328	0.00	0.00	0.00	78.
1 JAN 1220	149	0.22	0.01	0.21	10645.	*	2 JAN 0320	329	0.00	0.00	0.00	71.
1 JAN 1225	150	0.19	0.00	0.18	12368.	*	2 JAN 0325	330	0.00	0.00	0.00	64.
1 JAN 1230	151	0.16	0.00	0.15	14238.	*	2 JAN 0330	331	0.00	0.00	0.00	58.
1 JAN 1235	152	0.14	0.00	0.13	16191.	*	2 JAN 0335	332	0.00	0.00	0.00	52.
1 JAN 1240	153	0.13	0.00	0.13	18102.	*	2 JAN 0340	333	0.00	0.00	0.00	47.
1 JAN 1245	154	0.12	0.00	0.12	19845.	*	2 JAN 0345	334	0.00	0.00	0.00	43.
1 JAN 1250	155	0.12	0.00	0.11	21333.	*	2 JAN 0350	335	0.00	0.00	0.00	39.
1 JAN 1255	156	0.11	0.00	0.11	22537.	*	2 JAN 0355	336	0.00	0.00	0.00	35.
1 JAN 1300	157	0.10	0.00	0.10	23436.	*	2 JAN 0400	337	0.00	0.00	0.00	32.
1 JAN 1305	158	0.10	0.00	0.09	24045.	*	2 JAN 0405	338	0.00	0.00	0.00	29.
1 JAN 1310	159	0.09	0.00	0.09	24368.	*	2 JAN 0410	339	0.00	0.00	0.00	26.
1 JAN 1315	160	0.09	0.00	0.09	24433.	*	2 JAN 0415	340	0.00	0.00	0.00	23.
1 JAN 1320	161	0.09	0.00	0.08	24286.	*	2 JAN 0420	341	0.00	0.00	0.00	21.
1 JAN 1325	162	0.08	0.00	0.08	23914.	*	2 JAN 0425	342	0.00	0.00	0.00	19.

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 1 JAN 1330 163  0.08  0.00  0.08  23342.  *   2 JAN 0430 343  0.00  0.00  0.00   17.
 1 JAN 1335 164  0.07  0.00  0.07  22627.  *   2 JAN 0435 344  0.00  0.00  0.00   15.
 1 JAN 1340 165  0.07  0.00  0.07  21800.  *   2 JAN 0440 345  0.00  0.00  0.00   14.
 1 JAN 1345 166  0.07  0.00  0.07  20860.  *   2 JAN 0445 346  0.00  0.00  0.00   12.
 1 JAN 1350 167  0.07  0.00  0.07  19805.  *   2 JAN 0450 347  0.00  0.00  0.00   11.
 1 JAN 1355 168  0.06  0.00  0.06  18656.  *   2 JAN 0455 348  0.00  0.00  0.00   10.
 1 JAN 1400 169  0.06  0.00  0.06  17454.  *   2 JAN 0500 349  0.00  0.00  0.00    9.
 1 JAN 1405 170  0.06  0.00  0.06  16268.  *   2 JAN 0505 350  0.00  0.00  0.00    8.
 1 JAN 1410 171  0.06  0.00  0.06  15172.  *   2 JAN 0510 351  0.00  0.00  0.00    7.
 1 JAN 1415 172  0.06  0.00  0.06  14188.  *   2 JAN 0515 352  0.00  0.00  0.00    6.
 1 JAN 1420 173  0.06  0.00  0.05  13303.  *   2 JAN 0520 353  0.00  0.00  0.00    6.
 1 JAN 1425 174  0.05  0.00  0.05  12497.  *   2 JAN 0525 354  0.00  0.00  0.00    5.
 1 JAN 1430 175  0.05  0.00  0.05  11755.  *   2 JAN 0530 355  0.00  0.00  0.00    4.
 1 JAN 1435 176  0.05  0.00  0.05  11073.  *   2 JAN 0535 356  0.00  0.00  0.00    4.
 1 JAN 1440 177  0.05  0.00  0.05  10454.  *   2 JAN 0540 357  0.00  0.00  0.00    3.
 1 JAN 1445 178  0.05  0.00  0.05   9882.  *   2 JAN 0545 358  0.00  0.00  0.00    3.
 1 JAN 1450 179  0.05  0.00  0.05   9342.  *   2 JAN 0550 359  0.00  0.00  0.00    3.
 1 JAN 1455 180  0.05  0.00  0.05   8829.  *   2 JAN 0555 360  0.00  0.00  0.00    2.
                                        *
*****************************************************************************************************************************

  TOTAL RAINFALL =  19.32, TOTAL LOSS =  2.71, TOTAL EXCESS =  16.61

 PEAK FLOW    TIME                MAXIMUM AVERAGE FLOW
                     6-HR     24-HR     72-HR   29.92-HR
+ (CFS)     (HR)
              (CFS)
+ 24433.   13.25          10428.    3447.    2767.    2767.
            (INCHES)  12.558   16.604   16.613   16.613
            (AC-FT)   5171.    6837.    6841.    6841.

            CUMULATIVE AREA =  7.72 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


      **************
      *            *
 315 KK   *    4C *     CNAME    4R
      *            *
      **************

 316 KO      OUTPUT CONTROL VARIABLES
             IPRNT        0  PRINT CONTROL
             IPLOT        0  PLOT CONTROL
             QSCAL       0.  HYDROGRAPH PLOT SCALE
             IPNCH        0  PUNCH COMPUTED HYDROGRAPH
             IOUT        22  SAVE HYDROGRAPH ON THIS UNIT
             ISAV1        1  FIRST ORDINATE PUNCHED OR SAVED
             ISAV2      360  LAST ORDINATE PUNCHED OR SAVED
             TIMINT   0.083  TIME INTERVAL IN HOURS


 317 HC      HYDROGRAPH COMBINATION
             ICOMP        3  NUMBER OF HYDROGRAPHS TO COMBINE

                                  ***

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                          HYDROGRAPH AT STATION     4C
                            SUM OF  3 HYDROGRAPHS

*****************************************************************************************************************************
                 *                 *                 *
 DA MON HRMN  ORD    FLOW  *  DA MON HRMN  ORD    FLOW  *  DA MON HRMN  ORD    FLOW  *  DA MON HRMN  ORD    FLOW
                 *                 *                 *
 1 JAN 0000   1     0.  *  1 JAN 0730  91   8167.  *  1 JAN 1500 181  143597.  *  1 JAN 2230 271   17694.
 1 JAN 0005   2     0.  *  1 JAN 0735  92   8320.  *  1 JAN 1505 182  143883.  *  1 JAN 2235 272   17431.
 1 JAN 0010   3     0.  *  1 JAN 0740  93   8474.  *  1 JAN 1510 183  143707.  *  1 JAN 2240 273   17173.
 1 JAN 0015   4     0.  *  1 JAN 0745  94   8629.  *  1 JAN 1515 184  143144.  *  1 JAN 2245 274   16921.
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1 JAN 0020	5	0.	*	1 JAN 0750	95	8785.	*	1 JAN 1520	185	142209.	*	1 JAN 2250	275	16674.
1 JAN 0025	6	0.	*	1 JAN 0755	96	8942.	*	1 JAN 1525	186	140907.	*	1 JAN 2255	276	16434.
1 JAN 0030	7	0.	*	1 JAN 0800	97	9100.	*	1 JAN 1530	187	139267.	*	1 JAN 2300	277	16200.
1 JAN 0035	8	0.	*	1 JAN 0805	98	9259.	*	1 JAN 1535	188	137329.	*	1 JAN 2305	278	15974.
1 JAN 0040	9	0.	*	1 JAN 0810	99	9420.	*	1 JAN 1540	189	135100.	*	1 JAN 2310	279	15755.
1 JAN 0045	10	0.	*	1 JAN 0815	100	9581.	*	1 JAN 1545	190	132581.	*	1 JAN 2315	280	15545.
1 JAN 0050	11	0.	*	1 JAN 0820	101	9744.	*	1 JAN 1550	191	129792.	*	1 JAN 2320	281	15341.
1 JAN 0055	12	0.	*	1 JAN 0825	102	9908.	*	1 JAN 1555	192	126781.	*	1 JAN 2325	282	15143.
1 JAN 0100	13	0.	*	1 JAN 0830	103	10073.	*	1 JAN 1600	193	123581.	*	1 JAN 2330	283	14952.
1 JAN 0105	14	0.	*	1 JAN 0835	104	10240.	*	1 JAN 1605	194	120222.	*	1 JAN 2335	284	14768.
1 JAN 0110	15	0.	*	1 JAN 0840	105	10409.	*	1 JAN 1610	195	116737.	*	1 JAN 2340	285	14593.
1 JAN 0115	16	0.	*	1 JAN 0845	106	10580.	*	1 JAN 1615	196	113175.	*	1 JAN 2345	286	14427.
1 JAN 0120	17	1.	*	1 JAN 0850	107	10753.	*	1 JAN 1620	197	109594.	*	1 JAN 2350	287	14269.
1 JAN 0125	18	1.	*	1 JAN 0855	108	10929.	*	1 JAN 1625	198	106043.	*	1 JAN 2355	288	14120.
1 JAN 0130	19	2.	*	1 JAN 0900	109	11107.	*	1 JAN 1630	199	102558.	*	2 JAN 0000	289	13978.
1 JAN 0135	20	4.	*	1 JAN 0905	110	11289.	*	1 JAN 1635	200	99170.	*	2 JAN 0005	290	13839.
1 JAN 0140	21	6.	*	1 JAN 0910	111	11474.	*	1 JAN 1640	201	95901.	*	2 JAN 0010	291	13704.
1 JAN 0145	22	10.	*	1 JAN 0915	112	11662.	*	1 JAN 1645	202	92749.	*	2 JAN 0015	292	13570.
1 JAN 0150	23	16.	*	1 JAN 0920	113	11853.	*	1 JAN 1650	203	89699.	*	2 JAN 0020	293	13438.
1 JAN 0155	24	23.	*	1 JAN 0925	114	12049.	*	1 JAN 1655	204	86749.	*	2 JAN 0025	294	13307.
1 JAN 0200	25	33.	*	1 JAN 0930	115	12247.	*	1 JAN 1700	205	83905.	*	2 JAN 0030	295	13176.
1 JAN 0205	26	45.	*	1 JAN 0935	116	12450.	*	1 JAN 1705	206	81155.	*	2 JAN 0035	296	13044.
1 JAN 0210	27	61.	*	1 JAN 0940	117	12657.	*	1 JAN 1710	207	78483.	*	2 JAN 0040	297	12911.
1 JAN 0215	28	81.	*	1 JAN 0945	118	12868.	*	1 JAN 1715	208	75889.	*	2 JAN 0045	298	12775.
1 JAN 0220	29	105.	*	1 JAN 0950	119	13084.	*	1 JAN 1720	209	73385.	*	2 JAN 0050	299	12635.
1 JAN 0225	30	134.	*	1 JAN 0955	120	13305.	*	1 JAN 1725	210	70975.	*	2 JAN 0055	300	12491.
1 JAN 0230	31	168.	*	1 JAN 1000	121	13532.	*	1 JAN 1730	211	68663.	*	2 JAN 0100	301	12344.
1 JAN 0235	32	208.	*	1 JAN 1005	122	13764.	*	1 JAN 1735	212	66447.	*	2 JAN 0105	302	12195.
1 JAN 0240	33	255.	*	1 JAN 1010	123	14004.	*	1 JAN 1740	213	64315.	*	2 JAN 0110	303	12043.
1 JAN 0245	34	308.	*	1 JAN 1015	124	14251.	*	1 JAN 1745	214	62264.	*	2 JAN 0115	304	11889.
1 JAN 0250	35	369.	*	1 JAN 1020	125	14507.	*	1 JAN 1750	215	60306.	*	2 JAN 0120	305	11735.
1 JAN 0255	36	437.	*	1 JAN 1025	126	14774.	*	1 JAN 1755	216	58450.	*	2 JAN 0125	306	11577.
1 JAN 0300	37	512.	*	1 JAN 1030	127	15051.	*	1 JAN 1800	217	56682.	*	2 JAN 0130	307	11415.
1 JAN 0305	38	595.	*	1 JAN 1035	128	15340.	*	1 JAN 1805	218	54982.	*	2 JAN 0135	308	11250.
1 JAN 0310	39	685.	*	1 JAN 1040	129	15642.	*	1 JAN 1810	219	53353.	*	2 JAN 0140	309	11080.
1 JAN 0315	40	783.	*	1 JAN 1045	130	15958.	*	1 JAN 1815	220	51796.	*	2 JAN 0145	310	10906.
1 JAN 0320	41	887.	*	1 JAN 1050	131	16289.	*	1 JAN 1820	221	50308.	*	2 JAN 0150	311	10726.
1 JAN 0325	42	999.	*	1 JAN 1055	132	16637.	*	1 JAN 1825	222	48875.	*	2 JAN 0155	312	10541.
1 JAN 0330	43	1117.	*	1 JAN 1100	133	17001.	*	1 JAN 1830	223	47500.	*	2 JAN 0200	313	10350.
1 JAN 0335	44	1240.	*	1 JAN 1105	134	17385.	*	1 JAN 1835	224	46185.	*	2 JAN 0205	314	10153.
1 JAN 0340	45	1370.	*	1 JAN 1110	135	17788.	*	1 JAN 1840	225	44926.	*	2 JAN 0210	315	9949.
1 JAN 0345	46	1504.	*	1 JAN 1115	136	18214.	*	1 JAN 1845	226	43719.	*	2 JAN 0215	316	9737.
1 JAN 0350	47	1643.	*	1 JAN 1120	137	18665.	*	1 JAN 1850	227	42563.	*	2 JAN 0220	317	9517.
1 JAN 0355	48	1786.	*	1 JAN 1125	138	19142.	*	1 JAN 1855	228	41465.	*	2 JAN 0225	318	9288.
1 JAN 0400	49	1933.	*	1 JAN 1130	139	19649.	*	1 JAN 1900	229	40420.	*	2 JAN 0230	319	9052.
1 JAN 0405	50	2083.	*	1 JAN 1135	140	20200.	*	1 JAN 1905	230	39417.	*	2 JAN 0235	320	8808.
1 JAN 0410	51	2235.	*	1 JAN 1140	141	20823.	*	1 JAN 1910	231	38447.	*	2 JAN 0240	321	8558.
1 JAN 0415	52	2389.	*	1 JAN 1145	142	21558.	*	1 JAN 1915	232	37509.	*	2 JAN 0245	322	8302.
1 JAN 0420	53	2545.	*	1 JAN 1150	143	22470.	*	1 JAN 1920	233	36602.	*	2 JAN 0250	323	8041.
1 JAN 0425	54	2702.	*	1 JAN 1155	144	23635.	*	1 JAN 1925	234	35727.	*	2 JAN 0255	324	7777.
1 JAN 0430	55	2860.	*	1 JAN 1200	145	25076.	*	1 JAN 1930	235	34885.	*	2 JAN 0300	325	7511.
1 JAN 0435	56	3018.	*	1 JAN 1205	146	26762.	*	1 JAN 1935	236	34075.	*	2 JAN 0305	326	7244.
1 JAN 0440	57	3176.	*	1 JAN 1210	147	28707.	*	1 JAN 1940	237	33300.	*	2 JAN 0310	327	6976.
1 JAN 0445	58	3333.	*	1 JAN 1215	148	30920.	*	1 JAN 1945	238	32553.	*	2 JAN 0315	328	6710.
1 JAN 0450	59	3490.	*	1 JAN 1220	149	33423.	*	1 JAN 1950	239	31829.	*	2 JAN 0320	329	6446.
1 JAN 0455	60	3646.	*	1 JAN 1225	150	36191.	*	1 JAN 1955	240	31126.	*	2 JAN 0325	330	6184.
1 JAN 0500	61	3801.	*	1 JAN 1230	151	39184.	*	1 JAN 2000	241	30443.	*	2 JAN 0330	331	5926.
1 JAN 0505	62	3954.	*	1 JAN 1235	152	42367.	*	1 JAN 2005	242	29781.	*	2 JAN 0335	332	5672.
1 JAN 0510	63	4107.	*	1 JAN 1240	153	45640.	*	1 JAN 2010	243	29142.	*	2 JAN 0340	333	5424.
1 JAN 0515	64	4257.	*	1 JAN 1245	154	48903.	*	1 JAN 2015	244	28528.	*	2 JAN 0345	334	5181.
1 JAN 0520	65	4407.	*	1 JAN 1250	155	52107.	*	1 JAN 2020	245	27945.	*	2 JAN 0350	335	4944.
1 JAN 0525	66	4555.	*	1 JAN 1255	156	55277.	*	1 JAN 2025	246	27388.	*	2 JAN 0355	336	4713.
1 JAN 0530	67	4702.	*	1 JAN 1300	157	58438.	*	1 JAN 2030	247	26850.	*	2 JAN 0400	337	4490.
1 JAN 0535	68	4847.	*	1 JAN 1305	158	61626.	*	1 JAN 2035	248	26326.	*	2 JAN 0405	338	4274.
1 JAN 0540	69	4992.	*	1 JAN 1310	159	64854.	*	1 JAN 2040	249	25815.	*	2 JAN 0410	339	4066.
1 JAN 0545	70	5136.	*	1 JAN 1315	160	68178.	*	1 JAN 2045	250	25317.	*	2 JAN 0415	340	3866.
1 JAN 0550	71	5279.	*	1 JAN 1320	161	71662.	*	1 JAN 2050	251	24834.	*	2 JAN 0420	341	3674.
1 JAN 0555	72	5422.	*	1 JAN 1325	162	75278.	*	1 JAN 2055	252	24365.	*	2 JAN 0425	342	3490.
1 JAN 0600	73	5564.	*	1 JAN 1330	163	79022.	*	1 JAN 2100	253	23914.	*	2 JAN 0430	343	3316.
1 JAN 0605	74	5706.	*	1 JAN 1335	164	82963.	*	1 JAN 2105	254	23481.	*	2 JAN 0435	344	3149.
1 JAN 0610	75	5847.	*	1 JAN 1340	165	87133.	*	1 JAN 2110	255	23062.	*	2 JAN 0440	345	2990.
1 JAN 0615	76	5988.	*	1 JAN 1345	166	91502.	*	1 JAN 2115	256	22654.	*	2 JAN 0445	346	2839.
1 JAN 0620	77	6130.	*	1 JAN 1350	167	96006.	*	1 JAN 2120	257	22256.	*	2 JAN 0450	347	2696.
1 JAN 0625	78	6271.	*	1 JAN 1355	168	100602.	*	1 JAN 2125	258	21869.	*	2 JAN 0455	348	2559.

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 1 JAN 0630  79   6413.  *  1 JAN 1400 169  105248.  *  1 JAN 2130 259   21491.  *  2 JAN 0500 349   2428.
 1 JAN 0635  80   6555.  *  1 JAN 1405 170  109923.  *  1 JAN 2135 260   21125.  *  2 JAN 0505 350   2304.
 1 JAN 0640  81   6697.  *  1 JAN 1410 171  114615.  *  1 JAN 2140 261   20770.  *  2 JAN 0510 351   2186.
 1 JAN 0645  82   6841.  *  1 JAN 1415 172  119232.  *  1 JAN 2145 262   20428.  *  2 JAN 0515 352   2074.
 1 JAN 0650  83   6984.  *  1 JAN 1420 173  123641.  *  1 JAN 2150 263   20097.  *  2 JAN 0520 353   1968.
 1 JAN 0655  84   7129.  *  1 JAN 1425 174  127726.  *  1 JAN 2155 264   19774.  *  2 JAN 0525 354   1868.
 1 JAN 0700  85   7274.  *  1 JAN 1430 175  131426.  *  1 JAN 2200 265   19456.  *  2 JAN 0530 355   1775.
 1 JAN 0705  86   7420.  *  1 JAN 1435 176  134702.  *  1 JAN 2205 266   19144.  *  2 JAN 0535 356   1688.
 1 JAN 0710  87   7568.  *  1 JAN 1440 177  137503.  *  1 JAN 2210 267   18839.  *  2 JAN 0540 357   1606.
 1 JAN 0715  88   7716.  *  1 JAN 1445 178  139784.  *  1 JAN 2215 268   18539.  *  2 JAN 0545 358   1528.
 1 JAN 0720  89   7865.  *  1 JAN 1450 179  141545.  *  1 JAN 2220 269   18248.  *  2 JAN 0550 359   1454.
 1 JAN 0725  90   8016.  *  1 JAN 1455 180  142816.  *  1 JAN 2225 270   17966.  *  2 JAN 0555 360   1384.
                        *                  *                  *
*****************************************************************************************************************

 PEAK FLOW    TIME              MAXIMUM AVERAGE FLOW
                     6-HR     24-HR     72-HR    29.92-HR
+  (CFS)     (HR)
              (CFS)
+ 143883.   15.08          94936.    35119.    28362.    28362.
            (INCHES)  18.298    27.075    27.257    27.257
            (AC-FT)  47076.    69657.    70125.    70125.

            CUMULATIVE AREA =  48.24 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


      **************
      *            *
 318 KK   *    4R *     CNAME    4C
      *            *
      **************

 319 KO       OUTPUT CONTROL VARIABLES
              IPRNT        0  PRINT CONTROL
              IPLOT        0  PLOT CONTROL
              QSCAL       0.  HYDROGRAPH PLOT SCALE
              IPNCH        0  PUNCH COMPUTED HYDROGRAPH
              IOUT        22  SAVE HYDROGRAPH ON THIS UNIT
              ISAV1        1  FIRST ORDINATE PUNCHED OR SAVED
              ISAV2      360  LAST ORDINATE PUNCHED OR SAVED
              TIMINT   0.083  TIME INTERVAL IN HOURS


         HYDROGRAPH ROUTING DATA

 320 RM       MUSKINGUM ROUTING
              NSTPS       43  NUMBER OF SUBREACHES
              AMSKK     3.48  MUSKINGUM K
                 X      0.20  MUSKINGUM X

                                  ***

*****************************************************************************************************************

                          HYDROGRAPH AT STATION     4R

*****************************************************************************************************************
                  *                  *                  *
 DA MON HRMN  ORD     FLOW  *  DA MON HRMN  ORD     FLOW  *  DA MON HRMN  ORD     FLOW  *  DA MON HRMN  ORD     FLOW
                  *                  *                  *
 1 JAN 0000   1     0.  *  1 JAN 0730  91   1999.  *  1 JAN 1500 181   20768.  *  1 JAN 2230 271   40755.
 1 JAN 0005   2     0.  *  1 JAN 0735  92   2143.  *  1 JAN 1505 182   21620.  *  1 JAN 2235 272   39719.
 1 JAN 0010   3     0.  *  1 JAN 0740  93   2290.  *  1 JAN 1510 183   22596.  *  1 JAN 2240 273   38724.
 1 JAN 0015   4     0.  *  1 JAN 0745  94   2440.  *  1 JAN 1515 184   23712.  *  1 JAN 2245 274   37768.
 1 JAN 0020   5     0.  *  1 JAN 0750  95   2591.  *  1 JAN 1520 185   24985.  *  1 JAN 2250 275   36848.
 1 JAN 0025   6     0.  *  1 JAN 0755  96   2743.  *  1 JAN 1525 186   26426.  *  1 JAN 2255 276   35963.
 1 JAN 0030   7     0.  *  1 JAN 0800  97   2896.  *  1 JAN 1530 187   28047.  *  1 JAN 2300 277   35110.
 1 JAN 0035   8     0.  *  1 JAN 0805  98   3050.  *  1 JAN 1535 188   29852.  *  1 JAN 2305 278   34289.
 1 JAN 0040   9     0.  *  1 JAN 0810  99   3204.  *  1 JAN 1540 189   31842.  *  1 JAN 2310 279   33498.
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1 JAN 0045	10	0.	*	1 JAN 0815	100	3358.	*	1 JAN 1545	190	34012.	*	1 JAN 2315	280	32735.
1 JAN 0050	11	0.	*	1 JAN 0820	101	3512.	*	1 JAN 1550	191	36355.	*	1 JAN 2320	281	31999.
1 JAN 0055	12	0.	*	1 JAN 0825	102	3665.	*	1 JAN 1555	192	38859.	*	1 JAN 2325	282	31290.
1 JAN 0100	13	0.	*	1 JAN 0830	103	3818.	*	1 JAN 1600	193	41509.	*	1 JAN 2330	283	30605.
1 JAN 0105	14	0.	*	1 JAN 0835	104	3970.	*	1 JAN 1605	194	44290.	*	1 JAN 2335	284	29945.
1 JAN 0110	15	0.	*	1 JAN 0840	105	4121.	*	1 JAN 1610	195	47189.	*	1 JAN 2340	285	29307.
1 JAN 0115	16	0.	*	1 JAN 0845	106	4272.	*	1 JAN 1615	196	50193.	*	1 JAN 2345	286	28692.
1 JAN 0120	17	0.	*	1 JAN 0850	107	4421.	*	1 JAN 1620	197	53293.	*	1 JAN 2350	287	28098.
1 JAN 0125	18	0.	*	1 JAN 0855	108	4570.	*	1 JAN 1625	198	56483.	*	1 JAN 2355	288	27525.
1 JAN 0130	19	0.	*	1 JAN 0900	109	4717.	*	1 JAN 1630	199	59762.	*	2 JAN 0000	289	26971.
1 JAN 0135	20	0.	*	1 JAN 0905	110	4864.	*	1 JAN 1635	200	63130.	*	2 JAN 0005	290	26435.
1 JAN 0140	21	0.	*	1 JAN 0910	111	5009.	*	1 JAN 1640	201	66590.	*	2 JAN 0010	291	25917.
1 JAN 0145	22	0.	*	1 JAN 0915	112	5154.	*	1 JAN 1645	202	70146.	*	2 JAN 0015	292	25416.
1 JAN 0150	23	0.	*	1 JAN 0920	113	5299.	*	1 JAN 1650	203	73803.	*	2 JAN 0020	293	24931.
1 JAN 0155	24	0.	*	1 JAN 0925	114	5443.	*	1 JAN 1655	204	77561.	*	2 JAN 0025	294	24462.
1 JAN 0200	25	0.	*	1 JAN 0930	115	5586.	*	1 JAN 1700	205	81420.	*	2 JAN 0030	295	24007.
1 JAN 0205	26	0.	*	1 JAN 0935	116	5729.	*	1 JAN 1705	206	85372.	*	2 JAN 0035	296	23567.
1 JAN 0210	27	0.	*	1 JAN 0940	117	5872.	*	1 JAN 1710	207	89407.	*	2 JAN 0040	297	23140.
1 JAN 0215	28	0.	*	1 JAN 0945	118	6015.	*	1 JAN 1715	208	93507.	*	2 JAN 0045	298	22725.
1 JAN 0220	29	0.	*	1 JAN 0950	119	6158.	*	1 JAN 1720	209	97647.	*	2 JAN 0050	299	22323.
1 JAN 0225	30	0.	*	1 JAN 0955	120	6300.	*	1 JAN 1725	210	101796.	*	2 JAN 0055	300	21933.
1 JAN 0230	31	0.	*	1 JAN 1000	121	6444.	*	1 JAN 1730	211	105920.	*	2 JAN 0100	301	21554.
1 JAN 0235	32	0.	*	1 JAN 1005	122	6587.	*	1 JAN 1735	212	109975.	*	2 JAN 0105	302	21186.
1 JAN 0240	33	0.	*	1 JAN 1010	123	6731.	*	1 JAN 1740	213	113919.	*	2 JAN 0110	303	20828.
1 JAN 0245	34	0.	*	1 JAN 1015	124	6875.	*	1 JAN 1745	214	117705.	*	2 JAN 0115	304	20480.
1 JAN 0250	35	0.	*	1 JAN 1020	125	7020.	*	1 JAN 1750	215	121288.	*	2 JAN 0120	305	20142.
1 JAN 0255	36	0.	*	1 JAN 1025	126	7166.	*	1 JAN 1755	216	124622.	*	2 JAN 0125	306	19812.
1 JAN 0300	37	0.	*	1 JAN 1030	127	7312.	*	1 JAN 1800	217	127668.	*	2 JAN 0130	307	19491.
1 JAN 0305	38	0.	*	1 JAN 1035	128	7459.	*	1 JAN 1805	218	130389.	*	2 JAN 0135	308	19179.
1 JAN 0310	39	0.	*	1 JAN 1040	129	7607.	*	1 JAN 1810	219	132757.	*	2 JAN 0140	309	18874.
1 JAN 0315	40	0.	*	1 JAN 1045	130	7756.	*	1 JAN 1815	220	134748.	*	2 JAN 0145	310	18578.
1 JAN 0320	41	0.	*	1 JAN 1050	131	7906.	*	1 JAN 1820	221	136346.	*	2 JAN 0150	311	18289.
1 JAN 0325	42	0.	*	1 JAN 1055	132	8057.	*	1 JAN 1825	222	137542.	*	2 JAN 0155	312	18008.
1 JAN 0330	43	0.	*	1 JAN 1100	133	8209.	*	1 JAN 1830	223	138334.	*	2 JAN 0200	313	17734.
1 JAN 0335	44	0.	*	1 JAN 1105	134	8362.	*	1 JAN 1835	224	138725.	*	2 JAN 0205	314	17468.
1 JAN 0340	45	0.	*	1 JAN 1110	135	8516.	*	1 JAN 1840	225	138723.	*	2 JAN 0210	315	17208.
1 JAN 0345	46	0.	*	1 JAN 1115	136	8672.	*	1 JAN 1845	226	138341.	*	2 JAN 0215	316	16956.
1 JAN 0350	47	0.	*	1 JAN 1120	137	8828.	*	1 JAN 1850	227	137593.	*	2 JAN 0220	317	16711.
1 JAN 0355	48	0.	*	1 JAN 1125	138	8986.	*	1 JAN 1855	228	136500.	*	2 JAN 0225	318	16473.
1 JAN 0400	49	0.	*	1 JAN 1130	139	9144.	*	1 JAN 1900	229	135082.	*	2 JAN 0230	319	16242.
1 JAN 0405	50	0.	*	1 JAN 1135	140	9304.	*	1 JAN 1905	230	133362.	*	2 JAN 0235	320	16019.
1 JAN 0410	51	0.	*	1 JAN 1140	141	9466.	*	1 JAN 1910	231	131366.	*	2 JAN 0240	321	15802.
1 JAN 0415	52	0.	*	1 JAN 1145	142	9628.	*	1 JAN 1915	232	129120.	*	2 JAN 0245	322	15592.
1 JAN 0420	53	1.	*	1 JAN 1150	143	9792.	*	1 JAN 1920	233	126652.	*	2 JAN 0250	323	15390.
1 JAN 0425	54	1.	*	1 JAN 1155	144	9958.	*	1 JAN 1925	234	123992.	*	2 JAN 0255	324	15194.
1 JAN 0430	55	1.	*	1 JAN 1200	145	10126.	*	1 JAN 1930	235	121170.	*	2 JAN 0300	325	15006.
1 JAN 0435	56	2.	*	1 JAN 1205	146	10295.	*	1 JAN 1935	236	118217.	*	2 JAN 0305	326	14824.
1 JAN 0440	57	3.	*	1 JAN 1210	147	10467.	*	1 JAN 1940	237	115164.	*	2 JAN 0310	327	14649.
1 JAN 0445	58	5.	*	1 JAN 1215	148	10641.	*	1 JAN 1945	238	112040.	*	2 JAN 0315	328	14480.
1 JAN 0450	59	7.	*	1 JAN 1220	149	10817.	*	1 JAN 1950	239	108873.	*	2 JAN 0320	329	14317.
1 JAN 0455	60	10.	*	1 JAN 1225	150	10996.	*	1 JAN 1955	240	105689.	*	2 JAN 0325	330	14159.
1 JAN 0500	61	13.	*	1 JAN 1230	151	11177.	*	1 JAN 2000	241	102512.	*	2 JAN 0330	331	14006.
1 JAN 0505	62	18.	*	1 JAN 1235	152	11361.	*	1 JAN 2005	242	99361.	*	2 JAN 0335	332	13857.
1 JAN 0510	63	25.	*	1 JAN 1240	153	11549.	*	1 JAN 2010	243	96253.	*	2 JAN 0340	333	13711.
1 JAN 0515	64	33.	*	1 JAN 1245	154	11740.	*	1 JAN 2015	244	93201.	*	2 JAN 0345	334	13568.
1 JAN 0520	65	43.	*	1 JAN 1250	155	11935.	*	1 JAN 2020	245	90217.	*	2 JAN 0350	335	13426.
1 JAN 0525	66	55.	*	1 JAN 1255	156	12133.	*	1 JAN 2025	246	87307.	*	2 JAN 0355	336	13286.
1 JAN 0530	67	71.	*	1 JAN 1300	157	12335.	*	1 JAN 2030	247	84478.	*	2 JAN 0400	337	13146.
1 JAN 0535	68	89.	*	1 JAN 1305	158	12542.	*	1 JAN 2035	248	81734.	*	2 JAN 0405	338	13005.
1 JAN 0540	69	112.	*	1 JAN 1310	159	12754.	*	1 JAN 2040	249	79076.	*	2 JAN 0410	339	12864.
1 JAN 0545	70	138.	*	1 JAN 1315	160	12971.	*	1 JAN 2045	250	76507.	*	2 JAN 0415	340	12722.
1 JAN 0550	71	168.	*	1 JAN 1320	161	13193.	*	1 JAN 2050	251	74026.	*	2 JAN 0420	341	12579.
1 JAN 0555	72	204.	*	1 JAN 1325	162	13422.	*	1 JAN 2055	252	71634.	*	2 JAN 0425	342	12433.
1 JAN 0600	73	244.	*	1 JAN 1330	163	13657.	*	1 JAN 2100	253	69331.	*	2 JAN 0430	343	12285.
1 JAN 0605	74	290.	*	1 JAN 1335	164	13900.	*	1 JAN 2105	254	67115.	*	2 JAN 0435	344	12135.
1 JAN 0610	75	342.	*	1 JAN 1340	165	14151.	*	1 JAN 2110	255	64986.	*	2 JAN 0440	345	11982.
1 JAN 0615	76	400.	*	1 JAN 1345	166	14410.	*	1 JAN 2115	256	62941.	*	2 JAN 0445	346	11825.
1 JAN 0620	77	464.	*	1 JAN 1350	167	14680.	*	1 JAN 2120	257	60979.	*	2 JAN 0450	347	11666.
1 JAN 0625	78	535.	*	1 JAN 1355	168	14960.	*	1 JAN 2125	258	59098.	*	2 JAN 0455	348	11503.
1 JAN 0630	79	612.	*	1 JAN 1400	169	15252.	*	1 JAN 2130	259	57295.	*	2 JAN 0500	349	11336.
1 JAN 0635	80	696.	*	1 JAN 1405	170	15557.	*	1 JAN 2135	260	55567.	*	2 JAN 0505	350	11166.
1 JAN 0640	81	787.	*	1 JAN 1410	171	15877.	*	1 JAN 2140	261	53912.	*	2 JAN 0510	351	10990.
1 JAN 0645	82	883.	*	1 JAN 1415	172	16213.	*	1 JAN 2145	262	52328.	*	2 JAN 0515	352	10810.
1 JAN 0650	83	986.	*	1 JAN 1420	173	16568.	*	1 JAN 2150	263	50810.	*	2 JAN 0520	353	10625.

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1 JAN 0655  84   1095.  *  1 JAN 1425 174   16945.  *  1 JAN 2155 264   49357.  *  2 JAN 0525 354   10434.
1 JAN 0700  85   1210.  *  1 JAN 1430 175   17348.  *  1 JAN 2200 265   47965.  *  2 JAN 0530 355   10237.
1 JAN 0705  86   1330.  *  1 JAN 1435 176   17784.  *  1 JAN 2205 266   46632.  *  2 JAN 0535 356   10034.
1 JAN 0710  87   1455.  *  1 JAN 1440 177   18258.  *  1 JAN 2210 267   45355.  *  2 JAN 0540 357    9826.
1 JAN 0715  88   1585.  *  1 JAN 1445 178   18781.  *  1 JAN 2215 268   44131.  *  2 JAN 0545 358    9611.
1 JAN 0720  89   1719.  *  1 JAN 1450 179   19365.  *  1 JAN 2220 269   42958.  *  2 JAN 0550 359    9390.
1 JAN 0725  90   1857.  *  1 JAN 1455 180   20022.  *  1 JAN 2225 270   41834.  *  2 JAN 0555 360    9163.
                      *                  *                  *
*****************************************************************************************************************

 PEAK FLOW    TIME                MAXIMUM AVERAGE FLOW
                    6-HR     24-HR     72-HR   29.92-HR
+ (CFS)    (HR)
             (CFS)
+ 138725.  18.58          94206.    34684.    27827.    27827.
           (INCHES)  18.157    26.740    26.743    26.743
           (AC-FT)  46714.    68795.    68801.    68801.

           CUMULATIVE AREA =  48.24 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


     **************
     *            *
321 KK   *   4BPMP *
     *            *
     **************

322 KO      OUTPUT CONTROL VARIABLES
            IPRNT        0  PRINT CONTROL
            IPLOT        0  PLOT CONTROL
            QSCAL       0.  HYDROGRAPH PLOT SCALE
            IPNCH        1  PUNCH COMPUTED HYDROGRAPH
            IOUT        22  SAVE HYDROGRAPH ON THIS UNIT
            ISAV1        1  FIRST ORDINATE PUNCHED OR SAVED
            ISAV2      360  LAST ORDINATE PUNCHED OR SAVED
            TIMINT   0.083  TIME INTERVAL IN HOURS


325 IN      TIME DATA FOR INPUT TIME SERIES
            JXMIN        6  TIME INTERVAL IN MINUTES
            JXDATE   1JAN94  STARTING DATE
            JXTIME       0  STARTING TIME

        SUBBASIN RUNOFF DATA

323 BA      SUBBASIN CHARACTERISTICS
            TAREA,    21.47  SUBBASIN AREA

        PRECIPITATION DATA

324 PB          STORM     16.00  BASIN TOTAL PRECIPITATION

326 PI      INCREMENTAL PRECIPITATION PATTERN
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.01  0.01
            0.01  0.01  0.01  0.01  0.01  0.01  0.01  0.01  0.02  0.04
            0.05  0.08  0.11  0.08  0.02  0.01  0.01  0.01  0.01  0.01
            0.01  0.01  0.01  0.01  0.01  0.01  0.00  0.00  0.00  0.00
```

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

351 LS SCS LOSS RATE
STRTL 0.50 INITIAL ABSTRACTION
CRVNBR 80.00 CURVE NUMBER
RTIMP 0.00 PERCENT IMPERVIOUS AREA

352 UD SCS DIMENSIONLESS UNITGRAPH
TLAG 3.28 LAG

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UNIT HYDROGRAPH
199 END-OF-PERIOD ORDINATES

24.	47.	71.	95.	150.	205.	260.	315.	386.	457.
527.	599.	693.	788.	882.	978.	1104.	1230.	1355.	1483.
1632.	1782.	1931.	2077.	2203.	2329.	2454.	2575.	2661.	2748.
2834.	2914.	2962.	3009.	3056.	3096.	3104.	3112.	3120.	3125.
3117.	3109.	3101.	3086.	3038.	2991.	2944.	2895.	2840.	2785.
2730.	2674.	2611.	2548.	2485.	2418.	2340.	2261.	2183.	2100.
2006.	1911.	1817.	1728.	1649.	1571.	1492.	1421.	1366.	1311.
1256.	1204.	1157.	1109.	1062.	1018.	979.	939.	900.	865.
836.	807.	779.	750.	722.	693.	664.	638.	614.	590.
567.	543.	520.	496.	473.	453.	437.	421.	406.	390.
374.	358.	343.	329.	317.	305.	294.	282.	270.	258.
246.	236.	228.	219.	210.	202.	193.	184.	176.	169.
163.	157.	151.	145.	139.	133.	127.	123.	118.	114.
110.	105.	101.	97.	92.	89.	86.	82.	79.	76.
73.	70.	67.	64.	62.	59.	57.	55.	52.	50.
48.	46.	44.	43.	41.	40.	38.	36.	35.	34.
33.	32.	31.	30.	29.	28.	27.	26.	25.	24.
23.	22.	21.	21.	20.	19.	18.	17.	16.	15.
14.	13.	13.	12.	11.	10.	9.	9.	8.	7.
6.	6.	5.	4.	3.	2.	2.	1.	0.	

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HYDROGRAPH AT STATION 4BPMP

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DA MON HRMN	ORD	RAIN	LOSS	EXCESS	COMP Q	*	DA MON HRMN	ORD	RAIN	LOSS	EXCESS	COMP Q
1 JAN 0000	1	0.00	0.00	0.00	0.	*	1 JAN 1500	181	0.04	0.00	0.04	28152.
1 JAN 0005	2	0.01	0.01	0.00	0.	*	1 JAN 1505	182	0.04	0.00	0.04	28281.
1 JAN 0010	3	0.01	0.01	0.00	0.	*	1 JAN 1510	183	0.04	0.00	0.04	28371.
1 JAN 0015	4	0.01	0.01	0.00	0.	*	1 JAN 1515	184	0.04	0.00	0.04	28415.
1 JAN 0020	5	0.01	0.01	0.00	0.	*	1 JAN 1520	185	0.04	0.00	0.04	28410.
1 JAN 0025	6	0.01	0.01	0.00	0.	*	1 JAN 1525	186	0.04	0.00	0.04	28359.
1 JAN 0030	7	0.01	0.01	0.00	0.	*	1 JAN 1530	187	0.04	0.00	0.04	28245.
1 JAN 0035	8	0.01	0.01	0.00	0.	*	1 JAN 1535	188	0.03	0.00	0.03	28060.
1 JAN 0040	9	0.01	0.01	0.00	0.	*	1 JAN 1540	189	0.03	0.00	0.03	27822.
1 JAN 0045	10	0.01	0.01	0.00	0.	*	1 JAN 1545	190	0.03	0.00	0.03	27561.
1 JAN 0050	11	0.01	0.01	0.00	0.	*	1 JAN 1550	191	0.03	0.00	0.03	27273.
1 JAN 0055	12	0.01	0.01	0.00	0.	*	1 JAN 1555	192	0.03	0.00	0.03	26959.
1 JAN 0100	13	0.01	0.01	0.00	0.	*	1 JAN 1600	193	0.03	0.00	0.03	26621.
1 JAN 0105	14	0.01	0.01	0.00	0.	*	1 JAN 1605	194	0.03	0.00	0.03	26263.
1 JAN 0110	15	0.01	0.01	0.00	0.	*	1 JAN 1610	195	0.03	0.00	0.03	25884.
1 JAN 0115	16	0.01	0.01	0.00	0.	*	1 JAN 1615	196	0.03	0.00	0.03	25480.
1 JAN 0120	17	0.02	0.02	0.00	0.	*	1 JAN 1620	197	0.03	0.00	0.03	25052.
1 JAN 0125	18	0.02	0.02	0.00	0.	*	1 JAN 1625	198	0.03	0.00	0.03	24603.
1 JAN 0130	19	0.01	0.01	0.00	0.	*	1 JAN 1630	199	0.03	0.00	0.03	24124.

1 JAN 0135	20	0.02	0.02	0.00	0.	*	1 JAN 1635	200	0.03	0.00	0.03	23613.
1 JAN 0140	21	0.02	0.02	0.00	0.	*	1 JAN 1640	201	0.03	0.00	0.03	23075.
1 JAN 0145	22	0.02	0.02	0.00	0.	*	1 JAN 1645	202	0.03	0.00	0.03	22516.
1 JAN 0150	23	0.02	0.02	0.00	0.	*	1 JAN 1650	203	0.03	0.00	0.03	21933.
1 JAN 0155	24	0.02	0.02	0.00	0.	*	1 JAN 1655	204	0.03	0.00	0.03	21326.
1 JAN 0200	25	0.02	0.02	0.00	0.	*	1 JAN 1700	205	0.03	0.00	0.03	20709.
1 JAN 0205	26	0.02	0.02	0.00	0.	*	1 JAN 1705	206	0.03	0.00	0.03	20099.
1 JAN 0210	27	0.02	0.02	0.00	0.	*	1 JAN 1710	207	0.03	0.00	0.03	19505.
1 JAN 0215	28	0.02	0.02	0.00	0.	*	1 JAN 1715	208	0.03	0.00	0.03	18935.
1 JAN 0220	29	0.02	0.02	0.00	0.	*	1 JAN 1720	209	0.03	0.00	0.03	18386.
1 JAN 0225	30	0.02	0.02	0.00	0.	*	1 JAN 1725	210	0.03	0.00	0.03	17857.
1 JAN 0230	31	0.02	0.02	0.00	0.	*	1 JAN 1730	211	0.03	0.00	0.03	17358.
1 JAN 0235	32	0.02	0.02	0.00	0.	*	1 JAN 1735	212	0.03	0.00	0.02	16894.
1 JAN 0240	33	0.02	0.02	0.00	0.	*	1 JAN 1740	213	0.03	0.00	0.02	16453.
1 JAN 0245	34	0.02	0.02	0.00	0.	*	1 JAN 1745	214	0.03	0.00	0.02	16022.
1 JAN 0250	35	0.02	0.02	0.00	0.	*	1 JAN 1750	215	0.02	0.00	0.02	15605.
1 JAN 0255	36	0.02	0.02	0.00	0.	*	1 JAN 1755	216	0.02	0.00	0.02	15204.
1 JAN 0300	37	0.02	0.02	0.00	0.	*	1 JAN 1800	217	0.02	0.00	0.02	14816.
1 JAN 0305	38	0.02	0.02	0.00	0.	*	1 JAN 1805	218	0.02	0.00	0.02	14437.
1 JAN 0310	39	0.02	0.02	0.00	0.	*	1 JAN 1810	219	0.02	0.00	0.02	14072.
1 JAN 0315	40	0.02	0.02	0.00	0.	*	1 JAN 1815	220	0.02	0.00	0.02	13723.
1 JAN 0320	41	0.02	0.02	0.00	0.	*	1 JAN 1820	221	0.02	0.00	0.02	13388.
1 JAN 0325	42	0.02	0.02	0.00	1.	*	1 JAN 1825	222	0.02	0.00	0.02	13064.
1 JAN 0330	43	0.02	0.02	0.00	1.	*	1 JAN 1830	223	0.02	0.00	0.02	12757.
1 JAN 0335	44	0.02	0.02	0.00	1.	*	1 JAN 1835	224	0.02	0.00	0.02	12467.
1 JAN 0340	45	0.02	0.02	0.00	2.	*	1 JAN 1840	225	0.02	0.00	0.02	12187.
1 JAN 0345	46	0.02	0.02	0.00	3.	*	1 JAN 1845	226	0.02	0.00	0.02	11911.
1 JAN 0350	47	0.02	0.02	0.00	3.	*	1 JAN 1850	227	0.02	0.00	0.02	11638.
1 JAN 0355	48	0.02	0.02	0.00	4.	*	1 JAN 1855	228	0.02	0.00	0.02	11370.
1 JAN 0400	49	0.02	0.02	0.00	6.	*	1 JAN 1900	229	0.02	0.00	0.02	11107.
1 JAN 0405	50	0.02	0.02	0.00	7.	*	1 JAN 1905	230	0.02	0.00	0.02	10851.
1 JAN 0410	51	0.02	0.01	0.00	9.	*	1 JAN 1910	231	0.02	0.00	0.02	10603.
1 JAN 0415	52	0.02	0.02	0.00	10.	*	1 JAN 1915	232	0.02	0.00	0.02	10365.
1 JAN 0420	53	0.02	0.02	0.00	13.	*	1 JAN 1920	233	0.02	0.00	0.02	10132.
1 JAN 0425	54	0.02	0.02	0.00	15.	*	1 JAN 1925	234	0.02	0.00	0.02	9901.
1 JAN 0430	55	0.02	0.02	0.00	18.	*	1 JAN 1930	235	0.02	0.00	0.02	9674.
1 JAN 0435	56	0.02	0.01	0.01	21.	*	1 JAN 1935	236	0.02	0.00	0.02	9451.
1 JAN 0440	57	0.02	0.01	0.01	25.	*	1 JAN 1940	237	0.02	0.00	0.02	9233.
1 JAN 0445	58	0.02	0.01	0.01	29.	*	1 JAN 1945	238	0.02	0.00	0.02	9025.
1 JAN 0450	59	0.02	0.01	0.01	34.	*	1 JAN 1950	239	0.02	0.00	0.02	8828.
1 JAN 0455	60	0.02	0.02	0.01	39.	*	1 JAN 1955	240	0.02	0.00	0.02	8643.
1 JAN 0500	61	0.02	0.01	0.01	45.	*	1 JAN 2000	241	0.02	0.00	0.02	8466.
1 JAN 0505	62	0.02	0.01	0.01	51.	*	1 JAN 2005	242	0.02	0.00	0.02	8290.
1 JAN 0510	63	0.02	0.01	0.01	58.	*	1 JAN 2010	243	0.02	0.00	0.02	8118.
1 JAN 0515	64	0.02	0.01	0.01	66.	*	1 JAN 2015	244	0.02	0.00	0.02	7949.
1 JAN 0520	65	0.02	0.01	0.01	74.	*	1 JAN 2020	245	0.02	0.00	0.02	7783.
1 JAN 0525	66	0.02	0.01	0.01	83.	*	1 JAN 2025	246	0.02	0.00	0.02	7623.
1 JAN 0530	67	0.02	0.01	0.01	93.	*	1 JAN 2030	247	0.02	0.00	0.02	7470.
1 JAN 0535	68	0.02	0.02	0.01	104.	*	1 JAN 2035	248	0.02	0.00	0.02	7323.
1 JAN 0540	69	0.02	0.01	0.01	115.	*	1 JAN 2040	249	0.02	0.00	0.02	7180.
1 JAN 0545	70	0.02	0.01	0.01	127.	*	1 JAN 2045	250	0.02	0.00	0.02	7039.
1 JAN 0550	71	0.02	0.01	0.01	139.	*	1 JAN 2050	251	0.02	0.00	0.02	6900.
1 JAN 0555	72	0.02	0.01	0.01	153.	*	1 JAN 2055	252	0.02	0.00	0.02	6764.
1 JAN 0600	73	0.02	0.01	0.01	167.	*	1 JAN 2100	253	0.02	0.00	0.02	6631.
1 JAN 0605	74	0.02	0.01	0.01	182.	*	1 JAN 2105	254	0.02	0.00	0.02	6502.
1 JAN 0610	75	0.02	0.01	0.01	198.	*	1 JAN 2110	255	0.02	0.00	0.02	6378.
1 JAN 0615	76	0.02	0.01	0.01	215.	*	1 JAN 2115	256	0.02	0.00	0.02	6260.
1 JAN 0620	77	0.03	0.01	0.01	233.	*	1 JAN 2120	257	0.02	0.00	0.02	6145.
1 JAN 0625	78	0.03	0.01	0.01	251.	*	1 JAN 2125	258	0.02	0.00	0.02	6032.
1 JAN 0630	79	0.02	0.01	0.01	270.	*	1 JAN 2130	259	0.02	0.00	0.02	5920.
1 JAN 0635	80	0.03	0.01	0.01	290.	*	1 JAN 2135	260	0.02	0.00	0.02	5810.
1 JAN 0640	81	0.03	0.01	0.01	311.	*	1 JAN 2140	261	0.02	0.00	0.02	5704.
1 JAN 0645	82	0.03	0.01	0.01	333.	*	1 JAN 2145	262	0.02	0.00	0.02	5601.
1 JAN 0650	83	0.03	0.01	0.01	355.	*	1 JAN 2150	263	0.02	0.00	0.02	5502.
1 JAN 0655	84	0.03	0.01	0.01	378.	*	1 JAN 2155	264	0.02	0.00	0.02	5409.
1 JAN 0700	85	0.03	0.01	0.01	403.	*	1 JAN 2200	265	0.02	0.00	0.02	5318.
1 JAN 0705	86	0.03	0.01	0.01	427.	*	1 JAN 2205	266	0.02	0.00	0.02	5229.
1 JAN 0710	87	0.03	0.01	0.01	453.	*	1 JAN 2210	267	0.02	0.00	0.02	5141.
1 JAN 0715	88	0.03	0.01	0.01	479.	*	1 JAN 2215	268	0.02	0.00	0.02	5055.
1 JAN 0720	89	0.03	0.01	0.02	507.	*	1 JAN 2220	269	0.02	0.00	0.02	4971.
1 JAN 0725	90	0.03	0.01	0.02	534.	*	1 JAN 2225	270	0.02	0.00	0.02	4890.
1 JAN 0730	91	0.03	0.01	0.02	563.	*	1 JAN 2230	271	0.01	0.00	0.01	4812.
1 JAN 0735	92	0.03	0.01	0.02	592.	*	1 JAN 2235	272	0.02	0.00	0.02	4737.
1 JAN 0740	93	0.03	0.01	0.02	623.	*	1 JAN 2240	273	0.02	0.00	0.02	4664.

1 JAN 0745	94	0.03	0.01	0.02	653.	*	1 JAN 2245	274	0.02	0.00	0.01	4593.
1 JAN 0750	95	0.03	0.01	0.02	685.	*	1 JAN 2250	275	0.02	0.00	0.01	4523.
1 JAN 0755	96	0.03	0.01	0.02	717.	*	1 JAN 2255	276	0.02	0.00	0.02	4454.
1 JAN 0800	97	0.03	0.01	0.02	750.	*	1 JAN 2300	277	0.02	0.00	0.02	4387.
1 JAN 0805	98	0.03	0.01	0.02	783.	*	1 JAN 2305	278	0.01	0.00	0.01	4323.
1 JAN 0810	99	0.03	0.01	0.02	817.	*	1 JAN 2310	279	0.01	0.00	0.01	4261.
1 JAN 0815	100	0.03	0.01	0.02	852.	*	1 JAN 2315	280	0.02	0.00	0.02	4202.
1 JAN 0820	101	0.03	0.01	0.02	887.	*	1 JAN 2320	281	0.02	0.00	0.02	4144.
1 JAN 0825	102	0.03	0.01	0.02	923.	*	1 JAN 2325	282	0.01	0.00	0.01	4088.
1 JAN 0830	103	0.04	0.01	0.02	960.	*	1 JAN 2330	283	0.01	0.00	0.01	4033.
1 JAN 0835	104	0.04	0.01	0.02	997.	*	1 JAN 2335	284	0.02	0.00	0.02	3979.
1 JAN 0840	105	0.04	0.01	0.02	1035.	*	1 JAN 2340	285	0.01	0.00	0.01	3926.
1 JAN 0845	106	0.04	0.01	0.03	1073.	*	1 JAN 2345	286	0.01	0.00	0.01	3876.
1 JAN 0850	107	0.04	0.01	0.03	1112.	*	1 JAN 2350	287	0.01	0.00	0.01	3827.
1 JAN 0855	108	0.04	0.01	0.03	1152.	*	1 JAN 2355	288	0.01	0.00	0.01	3780.
1 JAN 0900	109	0.04	0.01	0.03	1193.	*	2 JAN 0000	289	0.01	0.00	0.01	3735.
1 JAN 0905	110	0.04	0.01	0.03	1235.	*	2 JAN 0005	290	0.00	0.00	0.00	3690.
1 JAN 0910	111	0.04	0.01	0.03	1278.	*	2 JAN 0010	291	0.00	0.00	0.00	3646.
1 JAN 0915	112	0.04	0.01	0.03	1321.	*	2 JAN 0015	292	0.00	0.00	0.00	3603.
1 JAN 0920	113	0.04	0.01	0.03	1365.	*	2 JAN 0020	293	0.00	0.00	0.00	3560.
1 JAN 0925	114	0.04	0.01	0.03	1411.	*	2 JAN 0025	294	0.00	0.00	0.00	3519.
1 JAN 0930	115	0.04	0.01	0.03	1457.	*	2 JAN 0030	295	0.00	0.00	0.00	3478.
1 JAN 0935	116	0.04	0.01	0.03	1504.	*	2 JAN 0035	296	0.00	0.00	0.00	3439.
1 JAN 0940	117	0.05	0.01	0.03	1552.	*	2 JAN 0040	297	0.00	0.00	0.00	3399.
1 JAN 0945	118	0.05	0.01	0.03	1602.	*	2 JAN 0045	298	0.00	0.00	0.00	3360.
1 JAN 0950	119	0.05	0.01	0.04	1653.	*	2 JAN 0050	299	0.00	0.00	0.00	3320.
1 JAN 0955	120	0.05	0.01	0.04	1705.	*	2 JAN 0055	300	0.00	0.00	0.00	3280.
1 JAN 1000	121	0.05	0.01	0.04	1758.	*	2 JAN 0100	301	0.00	0.00	0.00	3240.
1 JAN 1005	122	0.05	0.01	0.04	1813.	*	2 JAN 0105	302	0.00	0.00	0.00	3201.
1 JAN 1010	123	0.06	0.01	0.04	1869.	*	2 JAN 0110	303	0.00	0.00	0.00	3161.
1 JAN 1015	124	0.06	0.01	0.05	1927.	*	2 JAN 0115	304	0.00	0.00	0.00	3121.
1 JAN 1020	125	0.06	0.01	0.05	1987.	*	2 JAN 0120	305	0.00	0.00	0.00	3081.
1 JAN 1025	126	0.06	0.02	0.05	2049.	*	2 JAN 0125	306	0.00	0.00	0.00	3040.
1 JAN 1030	127	0.07	0.02	0.05	2113.	*	2 JAN 0130	307	0.00	0.00	0.00	2997.
1 JAN 1035	128	0.07	0.02	0.06	2179.	*	2 JAN 0135	308	0.00	0.00	0.00	2953.
1 JAN 1040	129	0.08	0.02	0.06	2248.	*	2 JAN 0140	309	0.00	0.00	0.00	2908.
1 JAN 1045	130	0.08	0.02	0.06	2318.	*	2 JAN 0145	310	0.00	0.00	0.00	2861.
1 JAN 1050	131	0.08	0.02	0.07	2392.	*	2 JAN 0150	311	0.00	0.00	0.00	2812.
1 JAN 1055	132	0.09	0.02	0.07	2468.	*	2 JAN 0155	312	0.00	0.00	0.00	2762.
1 JAN 1100	133	0.09	0.02	0.08	2547.	*	2 JAN 0200	313	0.00	0.00	0.00	2710.
1 JAN 1105	134	0.10	0.02	0.08	2630.	*	2 JAN 0205	314	0.00	0.00	0.00	2657.
1 JAN 1110	135	0.11	0.02	0.09	2716.	*	2 JAN 0210	315	0.00	0.00	0.00	2602.
1 JAN 1115	136	0.12	0.02	0.10	2807.	*	2 JAN 0215	316	0.00	0.00	0.00	2546.
1 JAN 1120	137	0.13	0.02	0.11	2902.	*	2 JAN 0220	317	0.00	0.00	0.00	2489.
1 JAN 1125	138	0.14	0.02	0.12	3002.	*	2 JAN 0225	318	0.00	0.00	0.00	2430.
1 JAN 1130	139	0.15	0.02	0.13	3108.	*	2 JAN 0230	319	0.00	0.00	0.00	2371.
1 JAN 1135	140	0.32	0.04	0.27	3224.	*	2 JAN 0235	320	0.00	0.00	0.00	2312.
1 JAN 1140	141	0.57	0.07	0.50	3354.	*	2 JAN 0240	321	0.00	0.00	0.00	2251.
1 JAN 1145	142	0.87	0.09	0.78	3508.	*	2 JAN 0245	322	0.00	0.00	0.00	2190.
1 JAN 1150	143	1.34	0.11	1.24	3695.	*	2 JAN 0250	323	0.00	0.00	0.00	2130.
1 JAN 1155	144	1.72	0.10	1.62	3929.	*	2 JAN 0255	324	0.00	0.00	0.00	2069.
1 JAN 1200	145	1.27	0.06	1.21	4209.	*	2 JAN 0300	325	0.00	0.00	0.00	2008.
1 JAN 1205	146	0.25	0.01	0.24	4520.	*	2 JAN 0305	326	0.00	0.00	0.00	1947.
1 JAN 1210	147	0.23	0.01	0.22	4878.	*	2 JAN 0310	327	0.00	0.00	0.00	1887.
1 JAN 1215	148	0.20	0.01	0.20	5295.	*	2 JAN 0315	328	0.00	0.00	0.00	1826.
1 JAN 1220	149	0.18	0.01	0.17	5761.	*	2 JAN 0320	329	0.00	0.00	0.00	1766.
1 JAN 1225	150	0.16	0.01	0.15	6252.	*	2 JAN 0325	330	0.00	0.00	0.00	1707.
1 JAN 1230	151	0.13	0.00	0.13	6773.	*	2 JAN 0330	331	0.00	0.00	0.00	1648.
1 JAN 1235	152	0.11	0.00	0.11	7332.	*	2 JAN 0335	332	0.00	0.00	0.00	1589.
1 JAN 1240	153	0.11	0.00	0.10	7927.	*	2 JAN 0340	333	0.00	0.00	0.00	1531.
1 JAN 1245	154	0.10	0.00	0.10	8550.	*	2 JAN 0345	334	0.00	0.00	0.00	1474.
1 JAN 1250	155	0.10	0.00	0.09	9211.	*	2 JAN 0350	335	0.00	0.00	0.00	1418.
1 JAN 1255	156	0.09	0.00	0.09	9920.	*	2 JAN 0355	336	0.00	0.00	0.00	1363.
1 JAN 1300	157	0.09	0.00	0.08	10675.	*	2 JAN 0400	337	0.00	0.00	0.00	1309.
1 JAN 1305	158	0.08	0.00	0.08	11460.	*	2 JAN 0405	338	0.00	0.00	0.00	1257.
1 JAN 1310	159	0.08	0.00	0.07	12291.	*	2 JAN 0410	339	0.00	0.00	0.00	1205.
1 JAN 1315	160	0.07	0.00	0.07	13178.	*	2 JAN 0415	340	0.00	0.00	0.00	1155.
1 JAN 1320	161	0.07	0.00	0.07	14111.	*	2 JAN 0420	341	0.00	0.00	0.00	1106.
1 JAN 1325	162	0.07	0.00	0.07	15068.	*	2 JAN 0425	342	0.00	0.00	0.00	1060.
1 JAN 1330	163	0.06	0.00	0.06	16055.	*	2 JAN 0430	343	0.00	0.00	0.00	1015.
1 JAN 1335	164	0.06	0.00	0.06	17075.	*	2 JAN 0435	344	0.00	0.00	0.00	973.
1 JAN 1340	165	0.06	0.00	0.06	18110.	*	2 JAN 0440	345	0.00	0.00	0.00	932.
1 JAN 1345	166	0.06	0.00	0.06	19129.	*	2 JAN 0445	346	0.00	0.00	0.00	893.
1 JAN 1350	167	0.05	0.00	0.05	20119.	*	2 JAN 0450	347	0.00	0.00	0.00	855.

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 1 JAN 1355 168  0.05  0.00  0.05  21065.  *   2 JAN 0455 348  0.00  0.00  0.00   819.
 1 JAN 1400 169  0.05  0.00  0.05  21967.  *   2 JAN 0500 349  0.00  0.00  0.00   784.
 1 JAN 1405 170  0.05  0.00  0.05  22831.  *   2 JAN 0505 350  0.00  0.00  0.00   751.
 1 JAN 1410 171  0.05  0.00  0.05  23638.  *   2 JAN 0510 351  0.00  0.00  0.00   719.
 1 JAN 1415 172  0.05  0.00  0.05  24371.  *   2 JAN 0515 352  0.00  0.00  0.00   689.
 1 JAN 1420 173  0.05  0.00  0.04  25038.  *   2 JAN 0520 353  0.00  0.00  0.00   660.
 1 JAN 1425 174  0.05  0.00  0.04  25659.  *   2 JAN 0525 354  0.00  0.00  0.00   632.
 1 JAN 1430 175  0.05  0.00  0.04  26218.  *   2 JAN 0530 355  0.00  0.00  0.00   606.
 1 JAN 1435 176  0.04  0.00  0.04  26698.  *   2 JAN 0535 356  0.00  0.00  0.00   581.
 1 JAN 1440 177  0.04  0.00  0.04  27108.  *   2 JAN 0540 357  0.00  0.00  0.00   558.
 1 JAN 1445 178  0.04  0.00  0.04  27471.  *   2 JAN 0545 358  0.00  0.00  0.00   535.
 1 JAN 1450 179  0.04  0.00  0.04  27769.  *   2 JAN 0550 359  0.00  0.00  0.00   513.
 1 JAN 1455 180  0.04  0.00  0.04  27990.  *   2 JAN 0555 360  0.00  0.00  0.00   492.
                                   *
*****************************************************************************************************************************

  TOTAL RAINFALL =  16.00, TOTAL LOSS =  2.65, TOTAL EXCESS =  13.35

 PEAK FLOW    TIME                MAXIMUM AVERAGE FLOW
                     6-HR     24-HR     72-HR    29.92-HR
+ (CFS)     (HR)
              (CFS)
+ 28415.   15.25          20702.    7663.    6151.    6151.
            (INCHES)    8.963    13.270   13.278   13.278
            (AC-FT)   10266.    15198.   15207.   15207.

            CUMULATIVE AREA =  21.47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


     **************
     *            *
353 KK   *   5BPMP  *
     *            *
     **************

354 KO       OUTPUT CONTROL VARIABLES
             IPRNT        0  PRINT CONTROL
             IPLOT        0  PLOT CONTROL
             QSCAL       0.  HYDROGRAPH PLOT SCALE
             IPNCH        1  PUNCH COMPUTED HYDROGRAPH
             IOUT        22  SAVE HYDROGRAPH ON THIS UNIT
             ISAV1        1  FIRST ORDINATE PUNCHED OR SAVED
             ISAV2      360  LAST ORDINATE PUNCHED OR SAVED
             TIMINT   0.083  TIME INTERVAL IN HOURS


357 IN       TIME DATA FOR INPUT TIME SERIES
             JXMIN        6  TIME INTERVAL IN MINUTES
             JXDATE   1JAN94  STARTING DATE
             JXTIME       0  STARTING TIME

        SUBBASIN RUNOFF DATA

355 BA       SUBBASIN CHARACTERISTICS
             TAREA,    0.20  SUBBASIN AREA

        PRECIPITATION DATA

356 PB           STORM     15.61  BASIN TOTAL PRECIPITATION

358 PI       INCREMENTAL PRECIPITATION PATTERN
             0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
             0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
             0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
             0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
             0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
             0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
             0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
             0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.04
0.05	0.08	0.11	0.08	0.02	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

383 LS SCS LOSS RATE
STRTL 0.50 INITIAL ABSTRACTION
CRVNBR 80.00 CURVE NUMBER
RTIMP 0.00 PERCENT IMPERVIOUS AREA

384 UD SCS DIMENSIONLESS UNITGRAPH
TLAG 0.38 LAG

***

UNIT HYDROGRAPH
25 END-OF-PERIOD ORDINATES

23.	73.	155.	218.	235.	219.	184.	133.	92.	66.
49.	35.	25.	18.	13.	10.	7.	5.	4.	3.
2.	1.	1.	0.	0.					

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HYDROGRAPH AT STATION 5BPMP

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DA MON HRMN	ORD	RAIN	LOSS	EXCESS	COMP Q	*	DA MON HRMN	ORD	RAIN	LOSS	EXCESS	COMP Q
1 JAN 0000	1	0.00	0.00	0.00	0.	*	1 JAN 1500	181	0.04	0.00	0.04	67.
1 JAN 0005	2	0.01	0.01	0.00	0.	*	1 JAN 1505	182	0.04	0.00	0.04	66.
1 JAN 0010	3	0.01	0.01	0.00	0.	*	1 JAN 1510	183	0.04	0.00	0.04	65.
1 JAN 0015	4	0.01	0.01	0.00	0.	*	1 JAN 1515	184	0.04	0.00	0.04	63.
1 JAN 0020	5	0.01	0.01	0.00	0.	*	1 JAN 1520	185	0.04	0.00	0.03	62.
1 JAN 0025	6	0.01	0.01	0.00	0.	*	1 JAN 1525	186	0.04	0.00	0.03	61.
1 JAN 0030	7	0.01	0.01	0.00	0.	*	1 JAN 1530	187	0.04	0.00	0.03	60.
1 JAN 0035	8	0.01	0.01	0.00	0.	*	1 JAN 1535	188	0.03	0.00	0.03	58.
1 JAN 0040	9	0.01	0.01	0.00	0.	*	1 JAN 1540	189	0.03	0.00	0.03	57.
1 JAN 0045	10	0.01	0.01	0.00	0.	*	1 JAN 1545	190	0.03	0.00	0.03	56.
1 JAN 0050	11	0.01	0.01	0.00	0.	*	1 JAN 1550	191	0.03	0.00	0.03	55.
1 JAN 0055	12	0.01	0.01	0.00	0.	*	1 JAN 1555	192	0.03	0.00	0.03	54.
1 JAN 0100	13	0.01	0.01	0.00	0.	*	1 JAN 1600	193	0.03	0.00	0.03	53.
1 JAN 0105	14	0.01	0.01	0.00	0.	*	1 JAN 1605	194	0.03	0.00	0.03	52.
1 JAN 0110	15	0.01	0.01	0.00	0.	*	1 JAN 1610	195	0.03	0.00	0.03	51.
1 JAN 0115	16	0.01	0.01	0.00	0.	*	1 JAN 1615	196	0.03	0.00	0.03	49.
1 JAN 0120	17	0.01	0.01	0.00	0.	*	1 JAN 1620	197	0.03	0.00	0.03	48.
1 JAN 0125	18	0.02	0.02	0.00	0.	*	1 JAN 1625	198	0.03	0.00	0.03	47.
1 JAN 0130	19	0.01	0.01	0.00	0.	*	1 JAN 1630	199	0.03	0.00	0.03	47.
1 JAN 0135	20	0.02	0.02	0.00	0.	*	1 JAN 1635	200	0.03	0.00	0.03	46.
1 JAN 0140	21	0.02	0.02	0.00	0.	*	1 JAN 1640	201	0.03	0.00	0.03	45.
1 JAN 0145	22	0.01	0.01	0.00	0.	*	1 JAN 1645	202	0.03	0.00	0.03	45.
1 JAN 0150	23	0.01	0.01	0.00	0.	*	1 JAN 1650	203	0.03	0.00	0.03	44.
1 JAN 0155	24	0.02	0.02	0.00	0.	*	1 JAN 1655	204	0.03	0.00	0.03	44.
1 JAN 0200	25	0.02	0.02	0.00	0.	*	1 JAN 1700	205	0.03	0.00	0.03	44.
1 JAN 0205	26	0.02	0.02	0.00	0.	*	1 JAN 1705	206	0.03	0.00	0.03	43.
1 JAN 0210	27	0.02	0.02	0.00	0.	*	1 JAN 1710	207	0.03	0.00	0.03	43.
1 JAN 0215	28	0.02	0.02	0.00	0.	*	1 JAN 1715	208	0.03	0.00	0.03	42.

1 JAN 0220	29	0.02	0.02	0.00	0.	*	1 JAN 1720	209	0.03	0.00	0.02	42.
1 JAN 0225	30	0.02	0.02	0.00	0.	*	1 JAN 1725	210	0.02	0.00	0.02	41.
1 JAN 0230	31	0.02	0.02	0.00	0.	*	1 JAN 1730	211	0.03	0.00	0.03	41.
1 JAN 0235	32	0.02	0.02	0.00	0.	*	1 JAN 1735	212	0.02	0.00	0.02	40.
1 JAN 0240	33	0.02	0.02	0.00	0.	*	1 JAN 1740	213	0.02	0.00	0.02	40.
1 JAN 0245	34	0.02	0.02	0.00	0.	*	1 JAN 1745	214	0.02	0.00	0.02	40.
1 JAN 0250	35	0.02	0.02	0.00	0.	*	1 JAN 1750	215	0.02	0.00	0.02	39.
1 JAN 0255	36	0.02	0.02	0.00	0.	*	1 JAN 1755	216	0.02	0.00	0.02	39.
1 JAN 0300	37	0.02	0.02	0.00	0.	*	1 JAN 1800	217	0.02	0.00	0.02	38.
1 JAN 0305	38	0.02	0.02	0.00	0.	*	1 JAN 1805	218	0.02	0.00	0.02	38.
1 JAN 0310	39	0.02	0.02	0.00	0.	*	1 JAN 1810	219	0.02	0.00	0.02	38.
1 JAN 0315	40	0.02	0.02	0.00	0.	*	1 JAN 1815	220	0.02	0.00	0.02	37.
1 JAN 0320	41	0.02	0.02	0.00	1.	*	1 JAN 1820	221	0.02	0.00	0.02	37.
1 JAN 0325	42	0.02	0.02	0.00	1.	*	1 JAN 1825	222	0.02	0.00	0.02	36.
1 JAN 0330	43	0.02	0.02	0.00	1.	*	1 JAN 1830	223	0.02	0.00	0.02	36.
1 JAN 0335	44	0.02	0.02	0.00	1.	*	1 JAN 1835	224	0.02	0.00	0.02	36.
1 JAN 0340	45	0.02	0.02	0.00	2.	*	1 JAN 1840	225	0.02	0.00	0.02	35.
1 JAN 0345	46	0.02	0.02	0.00	2.	*	1 JAN 1845	226	0.02	0.00	0.02	35.
1 JAN 0350	47	0.02	0.01	0.00	2.	*	1 JAN 1850	227	0.02	0.00	0.02	34.
1 JAN 0355	48	0.02	0.02	0.00	3.	*	1 JAN 1855	228	0.02	0.00	0.02	34.
1 JAN 0400	49	0.02	0.02	0.00	3.	*	1 JAN 1900	229	0.02	0.00	0.02	33.
1 JAN 0405	50	0.02	0.01	0.00	3.	*	1 JAN 1905	230	0.02	0.00	0.02	33.
1 JAN 0410	51	0.02	0.01	0.00	4.	*	1 JAN 1910	231	0.02	0.00	0.02	33.
1 JAN 0415	52	0.02	0.02	0.00	4.	*	1 JAN 1915	232	0.02	0.00	0.02	32.
1 JAN 0420	53	0.02	0.02	0.00	4.	*	1 JAN 1920	233	0.02	0.00	0.02	32.
1 JAN 0425	54	0.02	0.02	0.00	5.	*	1 JAN 1925	234	0.02	0.00	0.02	31.
1 JAN 0430	55	0.02	0.01	0.00	5.	*	1 JAN 1930	235	0.02	0.00	0.02	31.
1 JAN 0435	56	0.02	0.01	0.00	5.	*	1 JAN 1935	236	0.02	0.00	0.02	31.
1 JAN 0440	57	0.02	0.01	0.00	6.	*	1 JAN 1940	237	0.02	0.00	0.02	30.
1 JAN 0445	58	0.02	0.01	0.01	6.	*	1 JAN 1945	238	0.02	0.00	0.02	30.
1 JAN 0450	59	0.02	0.01	0.01	7.	*	1 JAN 1950	239	0.02	0.00	0.02	29.
1 JAN 0455	60	0.02	0.01	0.01	7.	*	1 JAN 1955	240	0.02	0.00	0.02	29.
1 JAN 0500	61	0.02	0.01	0.01	7.	*	1 JAN 2000	241	0.02	0.00	0.02	29.
1 JAN 0505	62	0.02	0.01	0.01	8.	*	1 JAN 2005	242	0.02	0.00	0.02	28.
1 JAN 0510	63	0.02	0.01	0.01	8.	*	1 JAN 2010	243	0.02	0.00	0.02	28.
1 JAN 0515	64	0.02	0.01	0.01	8.	*	1 JAN 2015	244	0.02	0.00	0.02	27.
1 JAN 0520	65	0.02	0.01	0.01	9.	*	1 JAN 2020	245	0.02	0.00	0.02	27.
1 JAN 0525	66	0.02	0.01	0.01	9.	*	1 JAN 2025	246	0.02	0.00	0.02	27.
1 JAN 0530	67	0.02	0.01	0.01	10.	*	1 JAN 2030	247	0.02	0.00	0.02	26.
1 JAN 0535	68	0.02	0.02	0.01	10.	*	1 JAN 2035	248	0.02	0.00	0.02	26.
1 JAN 0540	69	0.02	0.01	0.01	11.	*	1 JAN 2040	249	0.02	0.00	0.02	26.
1 JAN 0545	70	0.02	0.01	0.01	11.	*	1 JAN 2045	250	0.02	0.00	0.02	26.
1 JAN 0550	71	0.02	0.01	0.01	11.	*	1 JAN 2050	251	0.02	0.00	0.02	26.
1 JAN 0555	72	0.02	0.01	0.01	12.	*	1 JAN 2055	252	0.02	0.00	0.02	26.
1 JAN 0600	73	0.02	0.01	0.01	12.	*	1 JAN 2100	253	0.02	0.00	0.02	26.
1 JAN 0605	74	0.02	0.01	0.01	13.	*	1 JAN 2105	254	0.02	0.00	0.02	25.
1 JAN 0610	75	0.02	0.01	0.01	13.	*	1 JAN 2110	255	0.02	0.00	0.02	25.
1 JAN 0615	76	0.02	0.01	0.01	14.	*	1 JAN 2115	256	0.02	0.00	0.02	25.
1 JAN 0620	77	0.02	0.01	0.01	14.	*	1 JAN 2120	257	0.02	0.00	0.02	25.
1 JAN 0625	78	0.02	0.01	0.01	15.	*	1 JAN 2125	258	0.02	0.00	0.02	25.
1 JAN 0630	79	0.02	0.01	0.01	15.	*	1 JAN 2130	259	0.02	0.00	0.02	25.
1 JAN 0635	80	0.03	0.01	0.01	16.	*	1 JAN 2135	260	0.02	0.00	0.02	25.
1 JAN 0640	81	0.02	0.01	0.01	16.	*	1 JAN 2140	261	0.02	0.00	0.02	25.
1 JAN 0645	82	0.02	0.01	0.01	16.	*	1 JAN 2145	262	0.02	0.00	0.02	25.
1 JAN 0650	83	0.03	0.01	0.01	17.	*	1 JAN 2150	263	0.02	0.00	0.02	25.
1 JAN 0655	84	0.03	0.01	0.01	17.	*	1 JAN 2155	264	0.02	0.00	0.02	25.
1 JAN 0700	85	0.03	0.01	0.01	18.	*	1 JAN 2200	265	0.02	0.00	0.02	25.
1 JAN 0705	86	0.03	0.01	0.01	18.	*	1 JAN 2205	266	0.02	0.00	0.02	24.
1 JAN 0710	87	0.03	0.01	0.01	19.	*	1 JAN 2210	267	0.02	0.00	0.02	24.
1 JAN 0715	88	0.03	0.01	0.01	19.	*	1 JAN 2215	268	0.02	0.00	0.02	24.
1 JAN 0720	89	0.03	0.01	0.01	20.	*	1 JAN 2220	269	0.02	0.00	0.02	24.
1 JAN 0725	90	0.03	0.01	0.01	20.	*	1 JAN 2225	270	0.02	0.00	0.02	24.
1 JAN 0730	91	0.03	0.01	0.01	21.	*	1 JAN 2230	271	0.01	0.00	0.01	24.
1 JAN 0735	92	0.03	0.01	0.01	21.	*	1 JAN 2235	272	0.02	0.00	0.02	24.
1 JAN 0740	93	0.03	0.01	0.02	22.	*	1 JAN 2240	273	0.02	0.00	0.02	24.
1 JAN 0745	94	0.03	0.01	0.02	22.	*	1 JAN 2245	274	0.01	0.00	0.01	24.
1 JAN 0750	95	0.03	0.01	0.02	22.	*	1 JAN 2250	275	0.01	0.00	0.01	24.
1 JAN 0755	96	0.03	0.01	0.02	23.	*	1 JAN 2255	276	0.02	0.00	0.02	24.
1 JAN 0800	97	0.03	0.01	0.02	23.	*	1 JAN 2300	277	0.02	0.00	0.02	23.
1 JAN 0805	98	0.03	0.01	0.02	24.	*	1 JAN 2305	278	0.01	0.00	0.01	23.
1 JAN 0810	99	0.03	0.01	0.02	24.	*	1 JAN 2310	279	0.01	0.00	0.01	23.
1 JAN 0815	100	0.03	0.01	0.02	25.	*	1 JAN 2315	280	0.02	0.00	0.01	23.
1 JAN 0820	101	0.03	0.01	0.02	26.	*	1 JAN 2320	281	0.02	0.00	0.01	23.
1 JAN 0825	102	0.03	0.01	0.02	26.	*	1 JAN 2325	282	0.01	0.00	0.01	23.

1 JAN 0830	103	0.04	0.01	0.02	27.	*	1 JAN 2330	283	0.01	0.00	0.01	23.
1 JAN 0835	104	0.04	0.01	0.02	28.	*	1 JAN 2335	284	0.02	0.00	0.02	23.
1 JAN 0840	105	0.04	0.01	0.02	30.	*	1 JAN 2340	285	0.01	0.00	0.01	23.
1 JAN 0845	106	0.04	0.01	0.02	31.	*	1 JAN 2345	286	0.01	0.00	0.01	23.
1 JAN 0850	107	0.04	0.01	0.02	32.	*	1 JAN 2350	287	0.01	0.00	0.01	23.
1 JAN 0855	108	0.04	0.01	0.03	33.	*	1 JAN 2355	288	0.01	0.00	0.01	23.
1 JAN 0900	109	0.04	0.01	0.03	35.	*	2 JAN 0000	289	0.01	0.00	0.01	23.
1 JAN 0905	110	0.04	0.01	0.03	36.	*	2 JAN 0005	290	0.00	0.00	0.00	22.
1 JAN 0910	111	0.04	0.01	0.03	37.	*	2 JAN 0010	291	0.00	0.00	0.00	21.
1 JAN 0915	112	0.04	0.01	0.03	39.	*	2 JAN 0015	292	0.00	0.00	0.00	19.
1 JAN 0920	113	0.04	0.01	0.03	40.	*	2 JAN 0020	293	0.00	0.00	0.00	16.
1 JAN 0925	114	0.04	0.01	0.03	41.	*	2 JAN 0025	294	0.00	0.00	0.00	12.
1 JAN 0930	115	0.04	0.01	0.03	42.	*	2 JAN 0030	295	0.00	0.00	0.00	9.
1 JAN 0935	116	0.04	0.01	0.03	43.	*	2 JAN 0035	296	0.00	0.00	0.00	7.
1 JAN 0940	117	0.04	0.01	0.03	43.	*	2 JAN 0040	297	0.00	0.00	0.00	5.
1 JAN 0945	118	0.05	0.01	0.03	44.	*	2 JAN 0045	298	0.00	0.00	0.00	3.
1 JAN 0950	119	0.05	0.01	0.03	45.	*	2 JAN 0050	299	0.00	0.00	0.00	2.
1 JAN 0955	120	0.05	0.01	0.04	46.	*	2 JAN 0055	300	0.00	0.00	0.00	2.
1 JAN 1000	121	0.05	0.01	0.04	48.	*	2 JAN 0100	301	0.00	0.00	0.00	1.
1 JAN 1005	122	0.05	0.01	0.04	50.	*	2 JAN 0105	302	0.00	0.00	0.00	1.
1 JAN 1010	123	0.06	0.01	0.04	52.	*	2 JAN 0110	303	0.00	0.00	0.00	1.
1 JAN 1015	124	0.06	0.01	0.04	54.	*	2 JAN 0115	304	0.00	0.00	0.00	0.
1 JAN 1020	125	0.06	0.02	0.05	56.	*	2 JAN 0120	305	0.00	0.00	0.00	0.
1 JAN 1025	126	0.06	0.02	0.05	59.	*	2 JAN 0125	306	0.00	0.00	0.00	0.
1 JAN 1030	127	0.07	0.02	0.05	62.	*	2 JAN 0130	307	0.00	0.00	0.00	0.
1 JAN 1035	128	0.07	0.02	0.05	65.	*	2 JAN 0135	308	0.00	0.00	0.00	0.
1 JAN 1040	129	0.07	0.02	0.06	68.	*	2 JAN 0140	309	0.00	0.00	0.00	0.
1 JAN 1045	130	0.08	0.02	0.06	72.	*	2 JAN 0145	310	0.00	0.00	0.00	0.
1 JAN 1050	131	0.08	0.02	0.07	76.	*	2 JAN 0150	311	0.00	0.00	0.00	0.
1 JAN 1055	132	0.09	0.02	0.07	80.	*	2 JAN 0155	312	0.00	0.00	0.00	0.
1 JAN 1100	133	0.09	0.02	0.07	85.	*	2 JAN 0200	313	0.00	0.00	0.00	0.
1 JAN 1105	134	0.10	0.02	0.08	90.	*	2 JAN 0205	314	0.00	0.00	0.00	0.
1 JAN 1110	135	0.11	0.02	0.09	96.	*	2 JAN 0210	315	0.00	0.00	0.00	0.
1 JAN 1115	136	0.12	0.02	0.10	103.	*	2 JAN 0215	316	0.00	0.00	0.00	0.
1 JAN 1120	137	0.13	0.02	0.11	110.	*	2 JAN 0220	317	0.00	0.00	0.00	0.
1 JAN 1125	138	0.14	0.02	0.12	120.	*	2 JAN 0225	318	0.00	0.00	0.00	0.
1 JAN 1130	139	0.15	0.02	0.13	130.	*	2 JAN 0230	319	0.00	0.00	0.00	0.
1 JAN 1135	140	0.31	0.04	0.26	144.	*	2 JAN 0235	320	0.00	0.00	0.00	0.
1 JAN 1140	141	0.56	0.07	0.49	171.	*	2 JAN 0240	321	0.00	0.00	0.00	0.
1 JAN 1145	142	0.84	0.09	0.75	225.	*	2 JAN 0245	322	0.00	0.00	0.00	0.
1 JAN 1150	143	1.31	0.11	1.20	329.	*	2 JAN 0250	323	0.00	0.00	0.00	0.
1 JAN 1155	144	1.67	0.10	1.57	500.	*	2 JAN 0255	324	0.00	0.00	0.00	0.
1 JAN 1200	145	1.24	0.06	1.18	733.	*	2 JAN 0300	325	0.00	0.00	0.00	0.
1 JAN 1205	146	0.25	0.01	0.24	978.	*	2 JAN 0305	326	0.00	0.00	0.00	0.
1 JAN 1210	147	0.22	0.01	0.21	1156.	*	2 JAN 0310	327	0.00	0.00	0.00	0.
1 JAN 1215	148	0.20	0.01	0.19	1201.	*	2 JAN 0315	328	0.00	0.00	0.00	0.
1 JAN 1220	149	0.18	0.01	0.17	1127.	*	2 JAN 0320	329	0.00	0.00	0.00	0.
1 JAN 1225	150	0.15	0.01	0.15	983.	*	2 JAN 0325	330	0.00	0.00	0.00	0.
1 JAN 1230	151	0.13	0.00	0.12	813.	*	2 JAN 0330	331	0.00	0.00	0.00	0.
1 JAN 1235	152	0.11	0.00	0.11	656.	*	2 JAN 0335	332	0.00	0.00	0.00	0.
1 JAN 1240	153	0.11	0.00	0.10	534.	*	2 JAN 0340	333	0.00	0.00	0.00	0.
1 JAN 1245	154	0.10	0.00	0.10	442.	*	2 JAN 0345	334	0.00	0.00	0.00	0.
1 JAN 1250	155	0.09	0.00	0.09	370.	*	2 JAN 0350	335	0.00	0.00	0.00	0.
1 JAN 1255	156	0.09	0.00	0.08	312.	*	2 JAN 0355	336	0.00	0.00	0.00	0.
1 JAN 1300	157	0.08	0.00	0.08	267.	*	2 JAN 0400	337	0.00	0.00	0.00	0.
1 JAN 1305	158	0.08	0.00	0.08	232.	*	2 JAN 0405	338	0.00	0.00	0.00	0.
1 JAN 1310	159	0.07	0.00	0.07	204.	*	2 JAN 0410	339	0.00	0.00	0.00	0.
1 JAN 1315	160	0.07	0.00	0.07	183.	*	2 JAN 0415	340	0.00	0.00	0.00	0.
1 JAN 1320	161	0.07	0.00	0.07	165.	*	2 JAN 0420	341	0.00	0.00	0.00	0.
1 JAN 1325	162	0.07	0.00	0.06	151.	*	2 JAN 0425	342	0.00	0.00	0.00	0.
1 JAN 1330	163	0.06	0.00	0.06	139.	*	2 JAN 0430	343	0.00	0.00	0.00	0.
1 JAN 1335	164	0.06	0.00	0.06	130.	*	2 JAN 0435	344	0.00	0.00	0.00	0.
1 JAN 1340	165	0.06	0.00	0.06	121.	*	2 JAN 0440	345	0.00	0.00	0.00	0.
1 JAN 1345	166	0.06	0.00	0.05	114.	*	2 JAN 0445	346	0.00	0.00	0.00	0.
1 JAN 1350	167	0.05	0.00	0.05	107.	*	2 JAN 0450	347	0.00	0.00	0.00	0.
1 JAN 1355	168	0.05	0.00	0.05	101.	*	2 JAN 0455	348	0.00	0.00	0.00	0.
1 JAN 1400	169	0.05	0.00	0.05	96.	*	2 JAN 0500	349	0.00	0.00	0.00	0.
1 JAN 1405	170	0.05	0.00	0.05	92.	*	2 JAN 0505	350	0.00	0.00	0.00	0.
1 JAN 1410	171	0.05	0.00	0.05	88.	*	2 JAN 0510	351	0.00	0.00	0.00	0.
1 JAN 1415	172	0.05	0.00	0.04	85.	*	2 JAN 0515	352	0.00	0.00	0.00	0.
1 JAN 1420	173	0.05	0.00	0.04	82.	*	2 JAN 0520	353	0.00	0.00	0.00	0.
1 JAN 1425	174	0.04	0.00	0.04	79.	*	2 JAN 0525	354	0.00	0.00	0.00	0.
1 JAN 1430	175	0.04	0.00	0.04	76.	*	2 JAN 0530	355	0.00	0.00	0.00	0.
1 JAN 1435	176	0.04	0.00	0.04	74.	*	2 JAN 0535	356	0.00	0.00	0.00	0.

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1 JAN 1440 177  0.04  0.00  0.04    73.   *   2 JAN 0540 357  0.00  0.00  0.00    0.
1 JAN 1445 178  0.04  0.00  0.04    71.   *   2 JAN 0545 358  0.00  0.00  0.00    0.
1 JAN 1450 179  0.04  0.00  0.04    70.   *   2 JAN 0550 359  0.00  0.00  0.00    0.
1 JAN 1455 180  0.04  0.00  0.04    68.   *   2 JAN 0555 360  0.00  0.00  0.00    0.
                                     *
*****************************************************************************************************************

  TOTAL RAINFALL =  15.61, TOTAL LOSS =  2.65, TOTAL EXCESS =  12.96

 PEAK FLOW   TIME              MAXIMUM AVERAGE FLOW
                 6-HR     24-HR     72-HR   29.92-HR
+ (CFS)    (HR)
             (CFS)
+  1201.   12.25          219.      71.      57.      57.
           (INCHES)  10.020    12.965   12.965   12.965
           (AC-FT)   108.      140.     140.     140.

           CUMULATIVE AREA =  0.20 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


     **************
     *            *
385 KK  *    3C *    CNAME    3R
     *            *
     **************

386 KO      OUTPUT CONTROL VARIABLES
            IPRNT       0  PRINT CONTROL
            IPLOT       0  PLOT CONTROL
            QSCAL       0.  HYDROGRAPH PLOT SCALE
            IPNCH       0  PUNCH COMPUTED HYDROGRAPH
            IOUT       22  SAVE HYDROGRAPH ON THIS UNIT
            ISAV1       1  FIRST ORDINATE PUNCHED OR SAVED
            ISAV2     360  LAST ORDINATE PUNCHED OR SAVED
            TIMINT  0.083  TIME INTERVAL IN HOURS


387 HC      HYDROGRAPH COMBINATION
            ICOMP       4  NUMBER OF HYDROGRAPHS TO COMBINE

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                        HYDROGRAPH AT STATION     3C
                          SUM OF  4 HYDROGRAPHS

*****************************************************************************************************************
                 *                 *                 *
 DA MON HRMN  ORD    FLOW  *  DA MON HRMN  ORD    FLOW  *  DA MON HRMN  ORD    FLOW  *  DA MON HRMN  ORD    FLOW
                 *                 *                 *
 1 JAN 0000   1     0.  *  1 JAN 0730  91   3729.  *  1 JAN 1500 181  129629.  *  1 JAN 2230 271   94272.
 1 JAN 0005   2     0.  *  1 JAN 0735  92   3989.  *  1 JAN 1505 182  134000.  *  1 JAN 2235 272   92288.
 1 JAN 0010   3     0.  *  1 JAN 0740  93   4257.  *  1 JAN 1510 183  138502.  *  1 JAN 2240 273   90367.
 1 JAN 0015   4     0.  *  1 JAN 0745  94   4531.  *  1 JAN 1515 184  143125.  *  1 JAN 2245 274   88505.
 1 JAN 0020   5     0.  *  1 JAN 0750  95   4812.  *  1 JAN 1520 185  147860.  *  1 JAN 2250 275   86699.
 1 JAN 0025   6     0.  *  1 JAN 0755  96   5099.  *  1 JAN 1525 186  152701.  *  1 JAN 2255 276   84946.
 1 JAN 0030   7     0.  *  1 JAN 0800  97   5392.  *  1 JAN 1530 187  157619.  *  1 JAN 2300 277   83245.
 1 JAN 0035   8     0.  *  1 JAN 0805  98   5691.  *  1 JAN 1535 188  162591.  *  1 JAN 2305 278   81594.
 1 JAN 0040   9     0.  *  1 JAN 0810  99   5994.  *  1 JAN 1540 189  167621.  *  1 JAN 2310 279   79991.
 1 JAN 0045  10     0.  *  1 JAN 0815 100   6303.  *  1 JAN 1545 190  172721.  *  1 JAN 2315 280   78433.
 1 JAN 0050  11     0.  *  1 JAN 0820 101   6616.  *  1 JAN 1550 191  177863.  *  1 JAN 2320 281   76920.
 1 JAN 0055  12     0.  *  1 JAN 0825 102   6934.  *  1 JAN 1555 192  183017.  *  1 JAN 2325 282   75448.
 1 JAN 0100  13     0.  *  1 JAN 0830 103   7256.  *  1 JAN 1600 193  188151.  *  1 JAN 2330 283   74017.
 1 JAN 0105  14     0.  *  1 JAN 0835 104   7583.  *  1 JAN 1605 194  193236.  *  1 JAN 2335 284   72627.
 1 JAN 0110  15     0.  *  1 JAN 0840 105   7913.  *  1 JAN 1610 195  198239.  *  1 JAN 2340 285   71276.
 1 JAN 0115  16     0.  *  1 JAN 0845 106   8248.  *  1 JAN 1615 196  203130.  *  1 JAN 2345 286   69964.
 1 JAN 0120  17     0.  *  1 JAN 0850 107   8587.  *  1 JAN 1620 197  207894.  *  1 JAN 2350 287   68692.
 1 JAN 0125  18     0.  *  1 JAN 0855 108   8930.  *  1 JAN 1625 198  212524.  *  1 JAN 2355 288   67459.
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1 JAN 0130	19	0.	*	1 JAN 0900	109	9278.	*	1 JAN 1630	199	217009.	*	2 JAN 0000	289	66265.
1 JAN 0135	20	0.	*	1 JAN 0905	110	9629.	*	1 JAN 1635	200	221342.	*	2 JAN 0005	290	65106.
1 JAN 0140	21	0.	*	1 JAN 0910	111	9986.	*	1 JAN 1640	201	225533.	*	2 JAN 0010	291	63982.
1 JAN 0145	22	0.	*	1 JAN 0915	112	10347.	*	1 JAN 1645	202	229592.	*	2 JAN 0015	292	62889.
1 JAN 0150	23	0.	*	1 JAN 0920	113	10712.	*	1 JAN 1650	203	233521.	*	2 JAN 0020	293	61828.
1 JAN 0155	24	0.	*	1 JAN 0925	114	11082.	*	1 JAN 1655	204	237328.	*	2 JAN 0025	294	60795.
1 JAN 0200	25	0.	*	1 JAN 0930	115	11458.	*	1 JAN 1700	205	241034.	*	2 JAN 0030	295	59790.
1 JAN 0205	26	0.	*	1 JAN 0935	116	11839.	*	1 JAN 1705	206	244655.	*	2 JAN 0035	296	58811.
1 JAN 0210	27	0.	*	1 JAN 0940	117	12225.	*	1 JAN 1710	207	248195.	*	2 JAN 0040	297	57858.
1 JAN 0215	28	0.	*	1 JAN 0945	118	12616.	*	1 JAN 1715	208	251650.	*	2 JAN 0045	298	56929.
1 JAN 0220	29	0.	*	1 JAN 0950	119	13014.	*	1 JAN 1720	209	254999.	*	2 JAN 0050	299	56023.
1 JAN 0225	30	0.	*	1 JAN 0955	120	13418.	*	1 JAN 1725	210	258214.	*	2 JAN 0055	300	55140.
1 JAN 0230	31	0.	*	1 JAN 1000	121	13829.	*	1 JAN 1730	211	261273.	*	2 JAN 0100	301	54278.
1 JAN 0235	32	0.	*	1 JAN 1005	122	14246.	*	1 JAN 1735	212	264147.	*	2 JAN 0105	302	53435.
1 JAN 0240	33	0.	*	1 JAN 1010	123	14671.	*	1 JAN 1740	213	266787.	*	2 JAN 0110	303	52610.
1 JAN 0245	34	0.	*	1 JAN 1015	124	15102.	*	1 JAN 1745	214	269146.	*	2 JAN 0115	304	51802.
1 JAN 0250	35	0.	*	1 JAN 1020	125	15542.	*	1 JAN 1750	215	271194.	*	2 JAN 0120	305	51009.
1 JAN 0255	36	0.	*	1 JAN 1025	126	15989.	*	1 JAN 1755	216	272903.	*	2 JAN 0125	306	50230.
1 JAN 0300	37	0.	*	1 JAN 1030	127	16444.	*	1 JAN 1800	217	274241.	*	2 JAN 0130	307	49466.
1 JAN 0305	38	0.	*	1 JAN 1035	128	16907.	*	1 JAN 1805	218	275182.	*	2 JAN 0135	308	48716.
1 JAN 0310	39	0.	*	1 JAN 1040	129	17380.	*	1 JAN 1810	219	275712.	*	2 JAN 0140	309	47980.
1 JAN 0315	40	1.	*	1 JAN 1045	130	17862.	*	1 JAN 1815	220	275820.	*	2 JAN 0145	310	47257.
1 JAN 0320	41	1.	*	1 JAN 1050	131	18355.	*	1 JAN 1820	221	275498.	*	2 JAN 0150	311	46546.
1 JAN 0325	42	2.	*	1 JAN 1055	132	18858.	*	1 JAN 1825	222	274743.	*	2 JAN 0155	312	45848.
1 JAN 0330	43	2.	*	1 JAN 1100	133	19373.	*	1 JAN 1830	223	273565.	*	2 JAN 0200	313	45160.
1 JAN 0335	44	3.	*	1 JAN 1105	134	19901.	*	1 JAN 1835	224	271975.	*	2 JAN 0205	314	44482.
1 JAN 0340	45	4.	*	1 JAN 1110	135	20442.	*	1 JAN 1840	225	269983.	*	2 JAN 0210	315	43815.
1 JAN 0345	46	5.	*	1 JAN 1115	136	20998.	*	1 JAN 1845	226	267601.	*	2 JAN 0215	316	43158.
1 JAN 0350	47	7.	*	1 JAN 1120	137	21571.	*	1 JAN 1850	227	264851.	*	2 JAN 0220	317	42511.
1 JAN 0355	48	9.	*	1 JAN 1125	138	22161.	*	1 JAN 1855	228	261755.	*	2 JAN 0225	318	41873.
1 JAN 0400	49	11.	*	1 JAN 1130	139	22770.	*	1 JAN 1900	229	258337.	*	2 JAN 0230	319	41246.
1 JAN 0405	50	13.	*	1 JAN 1135	140	23406.	*	1 JAN 1905	230	254623.	*	2 JAN 0235	320	40629.
1 JAN 0410	51	17.	*	1 JAN 1140	141	24085.	*	1 JAN 1910	231	250641.	*	2 JAN 0240	321	40020.
1 JAN 0415	52	21.	*	1 JAN 1145	142	24830.	*	1 JAN 1915	232	246417.	*	2 JAN 0245	322	39422.
1 JAN 0420	53	25.	*	1 JAN 1150	143	25678.	*	1 JAN 1920	233	241976.	*	2 JAN 0250	323	38832.
1 JAN 0425	54	31.	*	1 JAN 1155	144	26669.	*	1 JAN 1925	234	237341.	*	2 JAN 0255	324	38250.
1 JAN 0430	55	37.	*	1 JAN 1200	145	27807.	*	1 JAN 1930	235	232540.	*	2 JAN 0300	325	37675.
1 JAN 0435	56	45.	*	1 JAN 1205	146	29048.	*	1 JAN 1935	236	227599.	*	2 JAN 0305	326	37108.
1 JAN 0440	57	54.	*	1 JAN 1210	147	30347.	*	1 JAN 1940	237	222546.	*	2 JAN 0310	327	36547.
1 JAN 0445	58	65.	*	1 JAN 1215	148	31672.	*	1 JAN 1945	238	217412.	*	2 JAN 0315	328	35992.
1 JAN 0450	59	77.	*	1 JAN 1220	149	33031.	*	1 JAN 1950	239	212226.	*	2 JAN 0320	329	35443.
1 JAN 0455	60	92.	*	1 JAN 1225	150	34440.	*	1 JAN 1955	240	207016.	*	2 JAN 0325	330	34899.
1 JAN 0500	61	109.	*	1 JAN 1230	151	35938.	*	1 JAN 2000	241	201804.	*	2 JAN 0330	331	34359.
1 JAN 0505	62	129.	*	1 JAN 1235	152	37575.	*	1 JAN 2005	242	196607.	*	2 JAN 0335	332	33822.
1 JAN 0510	63	151.	*	1 JAN 1240	153	39391.	*	1 JAN 2010	243	191449.	*	2 JAN 0340	333	33288.
1 JAN 0515	64	177.	*	1 JAN 1245	154	41393.	*	1 JAN 2015	244	186349.	*	2 JAN 0345	334	32755.
1 JAN 0520	65	208.	*	1 JAN 1250	155	43592.	*	1 JAN 2020	245	181328.	*	2 JAN 0350	335	32225.
1 JAN 0525	66	242.	*	1 JAN 1255	156	45988.	*	1 JAN 2025	246	176403.	*	2 JAN 0355	336	31695.
1 JAN 0530	67	281.	*	1 JAN 1300	157	48552.	*	1 JAN 2030	247	171593.	*	2 JAN 0400	337	31167.
1 JAN 0535	68	326.	*	1 JAN 1305	158	51233.	*	1 JAN 2035	248	166910.	*	2 JAN 0405	338	30639.
1 JAN 0540	69	376.	*	1 JAN 1310	159	54008.	*	1 JAN 2040	249	162362.	*	2 JAN 0410	339	30111.
1 JAN 0545	70	433.	*	1 JAN 1315	160	56860.	*	1 JAN 2045	250	157954.	*	2 JAN 0415	340	29584.
1 JAN 0550	71	497.	*	1 JAN 1320	161	59760.	*	1 JAN 2050	251	153690.	*	2 JAN 0420	341	29057.
1 JAN 0555	72	568.	*	1 JAN 1325	162	62686.	*	1 JAN 2055	252	149570.	*	2 JAN 0425	342	28532.
1 JAN 0600	73	648.	*	1 JAN 1330	163	65656.	*	1 JAN 2100	253	145594.	*	2 JAN 0430	343	28008.
1 JAN 0605	74	735.	*	1 JAN 1335	164	68686.	*	1 JAN 2105	254	141761.	*	2 JAN 0435	344	27484.
1 JAN 0610	75	832.	*	1 JAN 1340	165	71780.	*	1 JAN 2110	255	138069.	*	2 JAN 0440	345	26960.
1 JAN 0615	76	938.	*	1 JAN 1345	166	74925.	*	1 JAN 2115	256	134514.	*	2 JAN 0445	346	26436.
1 JAN 0620	77	1053.	*	1 JAN 1350	167	78123.	*	1 JAN 2120	257	131089.	*	2 JAN 0450	347	25912.
1 JAN 0625	78	1179.	*	1 JAN 1355	168	81372.	*	1 JAN 2125	258	127787.	*	2 JAN 0455	348	25388.
1 JAN 0630	79	1315.	*	1 JAN 1400	169	84678.	*	1 JAN 2130	259	124602.	*	2 JAN 0500	349	24864.
1 JAN 0635	80	1461.	*	1 JAN 1405	170	88055.	*	1 JAN 2135	260	121532.	*	2 JAN 0505	350	24340.
1 JAN 0640	81	1617.	*	1 JAN 1410	171	91483.	*	1 JAN 2140	261	118570.	*	2 JAN 0510	351	23816.
1 JAN 0645	82	1784.	*	1 JAN 1415	172	94948.	*	1 JAN 2145	262	115716.	*	2 JAN 0515	352	23292.
1 JAN 0650	83	1962.	*	1 JAN 1420	173	98462.	*	1 JAN 2150	263	112966.	*	2 JAN 0520	353	22768.
1 JAN 0655	84	2149.	*	1 JAN 1425	174	102056.	*	1 JAN 2155	264	110317.	*	2 JAN 0525	354	22244.
1 JAN 0700	85	2347.	*	1 JAN 1430	175	105727.	*	1 JAN 2200	265	107765.	*	2 JAN 0530	355	21719.
1 JAN 0705	86	2554.	*	1 JAN 1435	176	109468.	*	1 JAN 2205	266	105306.	*	2 JAN 0535	356	21194.
1 JAN 0710	87	2772.	*	1 JAN 1440	177	113297.	*	1 JAN 2210	267	102936.	*	2 JAN 0540	357	20670.
1 JAN 0715	88	2998.	*	1 JAN 1445	178	117237.	*	1 JAN 2215	268	100652.	*	2 JAN 0545	358	20145.
1 JAN 0720	89	3233.	*	1 JAN 1450	179	121273.	*	1 JAN 2220	269	98449.	*	2 JAN 0550	359	19620.
1 JAN 0725	90	3477.	*	1 JAN 1455	180	125397.	*	1 JAN 2225	270	96324.	*	2 JAN 0555	360	19096.
			*				*				*			

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PEAK FLOW    TIME                MAXIMUM AVERAGE FLOW
                  6-HR     24-HR     72-HR   29.92-HR
+ (CFS)    (HR)
             (CFS)
+ 275820.  18.25          218445.    87890.    70518.     70518.
           (INCHES)  10.831    17.431    17.433     17.433
           (AC-FT)  108320.   174328.   174353.    174353.

           CUMULATIVE AREA = 187.52 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


     **************
     *            *
388 KK   *    3R *     CNAME    3C
     *            *
     **************

389 KO      OUTPUT CONTROL VARIABLES
            IPRNT        0  PRINT CONTROL
            IPLOT        0  PLOT CONTROL
            QSCAL       0.  HYDROGRAPH PLOT SCALE
            IPNCH        0  PUNCH COMPUTED HYDROGRAPH
            IOUT        22  SAVE HYDROGRAPH ON THIS UNIT
            ISAV1        1  FIRST ORDINATE PUNCHED OR SAVED
            ISAV2      360  LAST ORDINATE PUNCHED OR SAVED
            TIMINT   0.083  TIME INTERVAL IN HOURS


        HYDROGRAPH ROUTING DATA

390 RM      MUSKINGUM ROUTING
            NSTPS       39 NUMBER OF SUBREACHES
            AMSKK     3.19 MUSKINGUM K
              X     0.20 MUSKINGUM X

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                          HYDROGRAPH AT STATION     3R

*****************************************************************************************************************************
                 *                 *                 *                 *                 *
 DA MON HRMN ORD    FLOW  *  DA MON HRMN ORD    FLOW  *  DA MON HRMN ORD    FLOW  *  DA MON HRMN ORD    FLOW
                 *                 *                 *
  1 JAN 0000  1     0.  *  1 JAN 0730  91    34.  *  1 JAN 1500 181   26392.  *  1 JAN 2230 271  240896.
  1 JAN 0005  2     0.  *  1 JAN 0735  92    41.  *  1 JAN 1505 182   27392.  *  1 JAN 2235 272  236603.
  1 JAN 0010  3     0.  *  1 JAN 0740  93    49.  *  1 JAN 1510 183   28469.  *  1 JAN 2240 273  232140.
  1 JAN 0015  4     0.  *  1 JAN 0745  94    58.  *  1 JAN 1515 184   29628.  *  1 JAN 2245 274  227532.
  1 JAN 0020  5     0.  *  1 JAN 0750  95    70.  *  1 JAN 1520 185   30874.  *  1 JAN 2250 275  222806.
  1 JAN 0025  6     0.  *  1 JAN 0755  96    82.  *  1 JAN 1525 186   32212.  *  1 JAN 2255 276  217986.
  1 JAN 0030  7     0.  *  1 JAN 0800  97    97.  *  1 JAN 1530 187   33647.  *  1 JAN 2300 277  213096.
  1 JAN 0035  8     0.  *  1 JAN 0805  98   114.  *  1 JAN 1535 188   35187.  *  1 JAN 2305 278  208160.
  1 JAN 0040  9     0.  *  1 JAN 0810  99   134.  *  1 JAN 1540 189   36838.  *  1 JAN 2310 279  203200.
  1 JAN 0045 10     0.  *  1 JAN 0815 100   157.  *  1 JAN 1545 190   38605.  *  1 JAN 2315 280  198239.
  1 JAN 0050 11     0.  *  1 JAN 0820 101   183.  *  1 JAN 1550 191   40492.  *  1 JAN 2320 281  193296.
  1 JAN 0055 12     0.  *  1 JAN 0825 102   213.  *  1 JAN 1555 192   42501.  *  1 JAN 2325 282  188391.
  1 JAN 0100 13     0.  *  1 JAN 0830 103   247.  *  1 JAN 1600 193   44634.  *  1 JAN 2330 283  183541.
  1 JAN 0105 14     0.  *  1 JAN 0835 104   285.  *  1 JAN 1605 194   46888.  *  1 JAN 2335 284  178761.
  1 JAN 0110 15     0.  *  1 JAN 0840 105   328.  *  1 JAN 1610 195   49258.  *  1 JAN 2340 285  174065.
  1 JAN 0115 16     0.  *  1 JAN 0845 106   377.  *  1 JAN 1615 196   51738.  *  1 JAN 2345 286  169465.
  1 JAN 0120 17     0.  *  1 JAN 0850 107   431.  *  1 JAN 1620 197   54322.  *  1 JAN 2350 287  164971.
  1 JAN 0125 18     0.  *  1 JAN 0855 108   492.  *  1 JAN 1625 198   57001.  *  1 JAN 2355 288  160591.
  1 JAN 0130 19     0.  *  1 JAN 0900 109   559.  *  1 JAN 1630 199   59768.  *  2 JAN 0000 289  156330.
  1 JAN 0135 20     0.  *  1 JAN 0905 110   634.  *  1 JAN 1635 200   62616.  *  2 JAN 0005 290  152193.
  1 JAN 0140 21     0.  *  1 JAN 0910 111   716.  *  1 JAN 1640 201   65538.  *  2 JAN 0010 291  148183.
  1 JAN 0145 22     0.  *  1 JAN 0915 112   806.  *  1 JAN 1645 202   68530.  *  2 JAN 0015 292  144301.
  1 JAN 0150 23     0.  *  1 JAN 0920 113   905.  *  1 JAN 1650 203   71587.  *  2 JAN 0020 293  140547.
  1 JAN 0155 24     0.  *  1 JAN 0925 114  1012.  *  1 JAN 1655 204   74707.  *  2 JAN 0025 294  136919.
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1 JAN 0200	25	0.	*	1 JAN 0930	115	1128.	*	1 JAN 1700	205	77887.	*	2 JAN 0030	295	133416.
1 JAN 0205	26	0.	*	1 JAN 0935	116	1254.	*	1 JAN 1705	206	81128.	*	2 JAN 0035	296	130036.
1 JAN 0210	27	0.	*	1 JAN 0940	117	1389.	*	1 JAN 1710	207	84429.	*	2 JAN 0040	297	126774.
1 JAN 0215	28	0.	*	1 JAN 0945	118	1533.	*	1 JAN 1715	208	87791.	*	2 JAN 0045	298	123629.
1 JAN 0220	29	0.	*	1 JAN 0950	119	1688.	*	1 JAN 1720	209	91216.	*	2 JAN 0050	299	120596.
1 JAN 0225	30	0.	*	1 JAN 0955	120	1852.	*	1 JAN 1725	210	94706.	*	2 JAN 0055	300	117672.
1 JAN 0230	31	0.	*	1 JAN 1000	121	2025.	*	1 JAN 1730	211	98265.	*	2 JAN 0100	301	114853.
1 JAN 0235	32	0.	*	1 JAN 1005	122	2209.	*	1 JAN 1735	212	101897.	*	2 JAN 0105	302	112135.
1 JAN 0240	33	0.	*	1 JAN 1010	123	2402.	*	1 JAN 1740	213	105605.	*	2 JAN 0110	303	109514.
1 JAN 0245	34	0.	*	1 JAN 1015	124	2605.	*	1 JAN 1745	214	109393.	*	2 JAN 0115	304	106987.
1 JAN 0250	35	0.	*	1 JAN 1020	125	2816.	*	1 JAN 1750	215	113267.	*	2 JAN 0120	305	104550.
1 JAN 0255	36	0.	*	1 JAN 1025	126	3037.	*	1 JAN 1755	216	117230.	*	2 JAN 0125	306	102199.
1 JAN 0300	37	0.	*	1 JAN 1030	127	3266.	*	1 JAN 1800	217	121286.	*	2 JAN 0130	307	99929.
1 JAN 0305	38	0.	*	1 JAN 1035	128	3504.	*	1 JAN 1805	218	125437.	*	2 JAN 0135	308	97738.
1 JAN 0310	39	0.	*	1 JAN 1040	129	3750.	*	1 JAN 1810	219	129685.	*	2 JAN 0140	309	95620.
1 JAN 0315	40	0.	*	1 JAN 1045	130	4004.	*	1 JAN 1815	220	134030.	*	2 JAN 0145	310	93574.
1 JAN 0320	41	0.	*	1 JAN 1050	131	4265.	*	1 JAN 1820	221	138469.	*	2 JAN 0150	311	91595.
1 JAN 0325	42	0.	*	1 JAN 1055	132	4533.	*	1 JAN 1825	222	143001.	*	2 JAN 0155	312	89679.
1 JAN 0330	43	0.	*	1 JAN 1100	133	4809.	*	1 JAN 1830	223	147618.	*	2 JAN 0200	313	87825.
1 JAN 0335	44	0.	*	1 JAN 1105	134	5090.	*	1 JAN 1835	224	152314.	*	2 JAN 0205	314	86028.
1 JAN 0340	45	0.	*	1 JAN 1110	135	5378.	*	1 JAN 1840	225	157080.	*	2 JAN 0210	315	84286.
1 JAN 0345	46	0.	*	1 JAN 1115	136	5672.	*	1 JAN 1845	226	161904.	*	2 JAN 0215	316	82597.
1 JAN 0350	47	0.	*	1 JAN 1120	137	5971.	*	1 JAN 1850	227	166772.	*	2 JAN 0220	317	80958.
1 JAN 0355	48	0.	*	1 JAN 1125	138	6276.	*	1 JAN 1855	228	171671.	*	2 JAN 0225	318	79368.
1 JAN 0400	49	0.	*	1 JAN 1130	139	6585.	*	1 JAN 1900	229	176584.	*	2 JAN 0230	319	77825.
1 JAN 0405	50	0.	*	1 JAN 1135	140	6900.	*	1 JAN 1905	230	181493.	*	2 JAN 0235	320	76326.
1 JAN 0410	51	0.	*	1 JAN 1140	141	7220.	*	1 JAN 1910	231	186383.	*	2 JAN 0240	321	74872.
1 JAN 0415	52	0.	*	1 JAN 1145	142	7544.	*	1 JAN 1915	232	191235.	*	2 JAN 0245	322	73459.
1 JAN 0420	53	0.	*	1 JAN 1150	143	7873.	*	1 JAN 1920	233	196033.	*	2 JAN 0250	323	72088.
1 JAN 0425	54	0.	*	1 JAN 1155	144	8206.	*	1 JAN 1925	234	200763.	*	2 JAN 0255	324	70756.
1 JAN 0430	55	0.	*	1 JAN 1200	145	8544.	*	1 JAN 1930	235	205412.	*	2 JAN 0300	325	69464.
1 JAN 0435	56	0.	*	1 JAN 1205	146	8886.	*	1 JAN 1935	236	209968.	*	2 JAN 0305	326	68208.
1 JAN 0440	57	0.	*	1 JAN 1210	147	9233.	*	1 JAN 1940	237	214424.	*	2 JAN 0310	327	66990.
1 JAN 0445	58	0.	*	1 JAN 1215	148	9585.	*	1 JAN 1945	238	218772.	*	2 JAN 0315	328	65806.
1 JAN 0450	59	0.	*	1 JAN 1220	149	9941.	*	1 JAN 1950	239	223008.	*	2 JAN 0320	329	64656.
1 JAN 0455	60	0.	*	1 JAN 1225	150	10302.	*	1 JAN 1955	240	227129.	*	2 JAN 0325	330	63539.
1 JAN 0500	61	0.	*	1 JAN 1230	151	10668.	*	1 JAN 2000	241	231132.	*	2 JAN 0330	331	62453.
1 JAN 0505	62	0.	*	1 JAN 1235	152	11039.	*	1 JAN 2005	242	235016.	*	2 JAN 0335	332	61397.
1 JAN 0510	63	0.	*	1 JAN 1240	153	11415.	*	1 JAN 2010	243	238776.	*	2 JAN 0340	333	60369.
1 JAN 0515	64	0.	*	1 JAN 1245	154	11796.	*	1 JAN 2015	244	242408.	*	2 JAN 0345	334	59370.
1 JAN 0520	65	0.	*	1 JAN 1250	155	12183.	*	1 JAN 2020	245	245903.	*	2 JAN 0350	335	58396.
1 JAN 0525	66	0.	*	1 JAN 1255	156	12576.	*	1 JAN 2025	246	249253.	*	2 JAN 0355	336	57447.
1 JAN 0530	67	0.	*	1 JAN 1300	157	12975.	*	1 JAN 2030	247	252443.	*	2 JAN 0400	337	56522.
1 JAN 0535	68	0.	*	1 JAN 1305	158	13381.	*	1 JAN 2035	248	255457.	*	2 JAN 0405	338	55619.
1 JAN 0540	69	0.	*	1 JAN 1310	159	13792.	*	1 JAN 2040	249	258278.	*	2 JAN 0410	339	54737.
1 JAN 0545	70	0.	*	1 JAN 1315	160	14211.	*	1 JAN 2045	250	260883.	*	2 JAN 0415	340	53876.
1 JAN 0550	71	0.	*	1 JAN 1320	161	14636.	*	1 JAN 2050	251	263250.	*	2 JAN 0420	341	53033.
1 JAN 0555	72	0.	*	1 JAN 1325	162	15070.	*	1 JAN 2055	252	265356.	*	2 JAN 0425	342	52209.
1 JAN 0600	73	0.	*	1 JAN 1330	163	15510.	*	1 JAN 2100	253	267178.	*	2 JAN 0430	343	51402.
1 JAN 0605	74	0.	*	1 JAN 1335	164	15960.	*	1 JAN 2105	254	268694.	*	2 JAN 0435	344	50611.
1 JAN 0610	75	1.	*	1 JAN 1340	165	16417.	*	1 JAN 2110	255	269885.	*	2 JAN 0440	345	49836.
1 JAN 0615	76	1.	*	1 JAN 1345	166	16884.	*	1 JAN 2115	256	270733.	*	2 JAN 0445	346	49075.
1 JAN 0620	77	1.	*	1 JAN 1350	167	17361.	*	1 JAN 2120	257	271223.	*	2 JAN 0450	347	48329.
1 JAN 0625	78	2.	*	1 JAN 1355	168	17848.	*	1 JAN 2125	258	271345.	*	2 JAN 0455	348	47596.
1 JAN 0630	79	2.	*	1 JAN 1400	169	18347.	*	1 JAN 2130	259	271091.	*	2 JAN 0500	349	46875.
1 JAN 0635	80	3.	*	1 JAN 1405	170	18860.	*	1 JAN 2135	260	270458.	*	2 JAN 0505	350	46168.
1 JAN 0640	81	4.	*	1 JAN 1410	171	19387.	*	1 JAN 2140	261	269447.	*	2 JAN 0510	351	45472.
1 JAN 0645	82	5.	*	1 JAN 1415	172	19931.	*	1 JAN 2145	262	268061.	*	2 JAN 0515	352	44787.
1 JAN 0650	83	6.	*	1 JAN 1420	173	20497.	*	1 JAN 2150	263	266308.	*	2 JAN 0520	353	44113.
1 JAN 0655	84	8.	*	1 JAN 1425	174	21087.	*	1 JAN 2155	264	264200.	*	2 JAN 0525	354	43451.
1 JAN 0700	85	10.	*	1 JAN 1430	175	21706.	*	1 JAN 2200	265	261749.	*	2 JAN 0530	355	42798.
1 JAN 0705	86	13.	*	1 JAN 1435	176	22361.	*	1 JAN 2205	266	258972.	*	2 JAN 0535	356	42156.
1 JAN 0710	87	16.	*	1 JAN 1440	177	23058.	*	1 JAN 2210	267	255887.	*	2 JAN 0540	357	41523.
1 JAN 0715	88	19.	*	1 JAN 1445	178	23803.	*	1 JAN 2215	268	252515.	*	2 JAN 0545	358	40900.
1 JAN 0720	89	23.	*	1 JAN 1450	179	24603.	*	1 JAN 2220	269	248877.	*	2 JAN 0550	359	40286.
1 JAN 0725	90	28.	*	1 JAN 1455	180	25464.	*	1 JAN 2225	270	244996.	*	2 JAN 0555	360	39680.

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PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	29.92-HR
+ (CFS)	(HR)	(CFS)			
+ 271345.	21.42	217161.	84002.	67389.	67389.

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(INCHES)  10.767   16.660   16.660   16.660
(AC-FT)  107683.   166615.  166615.  166615.

CUMULATIVE AREA = 187.52 SQ MI
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     **************
     *            *
391 KK   *  12BPMP *
     *            *
     **************

392 KO      OUTPUT CONTROL VARIABLES
            IPRNT        0  PRINT CONTROL
            IPLOT        0  PLOT CONTROL
            QSCAL        0.  HYDROGRAPH PLOT SCALE
            IPNCH        1  PUNCH COMPUTED HYDROGRAPH
            IOUT        22  SAVE HYDROGRAPH ON THIS UNIT
            ISAV1        1  FIRST ORDINATE PUNCHED OR SAVED
            ISAV2      360  LAST ORDINATE PUNCHED OR SAVED
            TIMINT   0.083  TIME INTERVAL IN HOURS

395 IN      TIME DATA FOR INPUT TIME SERIES
            JXMIN        6  TIME INTERVAL IN MINUTES
            JXDATE   1JAN94  STARTING DATE
            JXTIME       0  STARTING TIME

        SUBBASIN RUNOFF DATA

393 BA      SUBBASIN CHARACTERISTICS
            TAREA,    20.36  SUBBASIN AREA

        PRECIPITATION DATA

394 PB          STORM    15.61  BASIN TOTAL PRECIPITATION

396 PI      INCREMENTAL PRECIPITATION PATTERN
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.01  0.01
            0.01  0.01  0.01  0.01  0.01  0.01  0.01  0.01  0.02  0.04
            0.05  0.08  0.11  0.08  0.02  0.01  0.01  0.01  0.01  0.01
            0.01  0.01  0.01  0.01  0.01  0.01  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
            0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00

421 LS      SCS LOSS RATE
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          STRTL     0.50 INITIAL ABSTRACTION
         CRVNBR    80.00 CURVE NUMBER
          RTIMP     0.00 PERCENT IMPERVIOUS AREA

422 UD      SCS DIMENSIONLESS UNITGRAPH
          TLAG     3.18 LAG

                          ***

                      UNIT HYDROGRAPH
                  193 END-OF-PERIOD ORDINATES
   24.   47.   71.   99.  154.  210.  265.  325.  396.  467.
  538.  619.  714.  808.  903. 1015. 1142. 1268. 1394. 1537.
 1687. 1837. 1987. 2118. 2245. 2371. 2498. 2587. 2673. 2760.
 2844. 2891. 2939. 2986. 3025. 3033. 3041. 3049. 3051. 3043.
 3035. 3027. 3000. 2953. 2905. 2858. 2805. 2750. 2695. 2640.
 2578. 2515. 2452. 2389. 2311. 2232. 2153. 2074. 1979. 1884.
 1789. 1697. 1618. 1539. 1460. 1388. 1333. 1277. 1222. 1170.
 1123. 1075. 1028.  985.  946.  906.  867.  835.  806.  777.
  748.  719.  690.  662.  633.  609.  585.  561.  538.  514.
  490.  467.  445.  429.  413.  398.  382.  366.  350.  334.
  321.  309.  297.  285.  273.  261.  249.  238.  228.  220.
  211.  202.  193.  185.  176.  168.  162.  156.  150.  144.
  138.  132.  126.  121.  116.  112.  108.  103.   99.   95.
   90.   87.   83.   80.   77.   74.   71.   68.   65.   62.
   60.   57.   55.   53.   50.   48.   46.   44.   42.   41.
   39.   38.   36.   35.   33.   32.   31.   30.   29.   28.
   28.   27.   26.   25.   24.   23.   22.   21.   20.   19.
   18.   17.   16.   15.   14.   14.   13.   12.   11.   10.
   10.    9.    8.    7.    7.    6.    5.    4.    3.    3.
    2.    1.    0.
*****************************************************************************************************************

                    HYDROGRAPH AT STATION  12BPMP

*****************************************************************************************************************
                                   *
 DA MON HRMN  ORD   RAIN   LOSS  EXCESS   COMP Q    *   DA MON HRMN  ORD   RAIN   LOSS  EXCESS   COMP Q
                                   *
 1 JAN 0000   1   0.00   0.00   0.00     0.     *   1 JAN 1500  181   0.04   0.00   0.04   26689.
 1 JAN 0005   2   0.01   0.01   0.00     0.     *   1 JAN 1505  182   0.04   0.00   0.04   26769.
 1 JAN 0010   3   0.01   0.01   0.00     0.     *   1 JAN 1510  183   0.04   0.00   0.04   26801.
 1 JAN 0015   4   0.01   0.01   0.00     0.     *   1 JAN 1515  184   0.04   0.00   0.04   26786.
 1 JAN 0020   5   0.01   0.01   0.00     0.     *   1 JAN 1520  185   0.04   0.00   0.03   26720.
 1 JAN 0025   6   0.01   0.01   0.00     0.     *   1 JAN 1525  186   0.04   0.00   0.03   26589.
 1 JAN 0030   7   0.01   0.01   0.00     0.     *   1 JAN 1530  187   0.04   0.00   0.03   26392.
 1 JAN 0035   8   0.01   0.01   0.00     0.     *   1 JAN 1535  188   0.03   0.00   0.03   26153.
 1 JAN 0040   9   0.01   0.01   0.00     0.     *   1 JAN 1540  189   0.03   0.00   0.03   25889.
 1 JAN 0045  10   0.01   0.01   0.00     0.     *   1 JAN 1545  190   0.03   0.00   0.03   25599.
 1 JAN 0050  11   0.01   0.01   0.00     0.     *   1 JAN 1550  191   0.03   0.00   0.03   25283.
 1 JAN 0055  12   0.01   0.01   0.00     0.     *   1 JAN 1555  192   0.03   0.00   0.03   24946.
 1 JAN 0100  13   0.01   0.01   0.00     0.     *   1 JAN 1600  193   0.03   0.00   0.03   24589.
 1 JAN 0105  14   0.01   0.01   0.00     0.     *   1 JAN 1605  194   0.03   0.00   0.03   24207.
 1 JAN 0110  15   0.01   0.01   0.00     0.     *   1 JAN 1610  195   0.03   0.00   0.03   23802.
 1 JAN 0115  16   0.01   0.01   0.00     0.     *   1 JAN 1615  196   0.03   0.00   0.03   23374.
 1 JAN 0120  17   0.01   0.01   0.00     0.     *   1 JAN 1620  197   0.03   0.00   0.03   22921.
 1 JAN 0125  18   0.02   0.02   0.00     0.     *   1 JAN 1625  198   0.03   0.00   0.03   22435.
 1 JAN 0130  19   0.01   0.01   0.00     0.     *   1 JAN 1630  199   0.03   0.00   0.03   21918.
 1 JAN 0135  20   0.02   0.02   0.00     0.     *   1 JAN 1635  200   0.03   0.00   0.03   21382.
 1 JAN 0140  21   0.02   0.02   0.00     0.     *   1 JAN 1640  201   0.03   0.00   0.03   20822.
 1 JAN 0145  22   0.01   0.01   0.00     0.     *   1 JAN 1645  202   0.03   0.00   0.03   20237.
 1 JAN 0150  23   0.01   0.01   0.00     0.     *   1 JAN 1650  203   0.03   0.00   0.03   19637.
 1 JAN 0155  24   0.02   0.02   0.00     0.     *   1 JAN 1655  204   0.03   0.00   0.03   19042.
 1 JAN 0200  25   0.02   0.02   0.00     0.     *   1 JAN 1700  205   0.03   0.00   0.03   18463.
 1 JAN 0205  26   0.02   0.02   0.00     0.     *   1 JAN 1705  206   0.03   0.00   0.03   17907.
 1 JAN 0210  27   0.02   0.02   0.00     0.     *   1 JAN 1710  207   0.03   0.00   0.03   17374.
 1 JAN 0215  28   0.02   0.02   0.00     0.     *   1 JAN 1715  208   0.03   0.00   0.03   16859.
 1 JAN 0220  29   0.02   0.02   0.00     0.     *   1 JAN 1720  209   0.03   0.00   0.02   16374.
 1 JAN 0225  30   0.02   0.02   0.00     0.     *   1 JAN 1725  210   0.02   0.00   0.02   15923.
 1 JAN 0230  31   0.02   0.02   0.00     0.     *   1 JAN 1730  211   0.03   0.00   0.03   15496.
 1 JAN 0235  32   0.02   0.02   0.00     0.     *   1 JAN 1735  212   0.02   0.00   0.02   15078.
 1 JAN 0240  33   0.02   0.02   0.00     0.     *   1 JAN 1740  213   0.02   0.00   0.02   14675.
 1 JAN 0245  34   0.02   0.02   0.00     0.     *   1 JAN 1745  214   0.02   0.00   0.02   14287.
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1 JAN 0250	35	0.02	0.02	0.00	0.	*	1 JAN 1750	215	0.02	0.00	0.02	13912.
1 JAN 0255	36	0.02	0.02	0.00	0.	*	1 JAN 1755	216	0.02	0.00	0.02	13546.
1 JAN 0300	37	0.02	0.02	0.00	0.	*	1 JAN 1800	217	0.02	0.00	0.02	13195.
1 JAN 0305	38	0.02	0.02	0.00	0.	*	1 JAN 1805	218	0.02	0.00	0.02	12860.
1 JAN 0310	39	0.02	0.02	0.00	0.	*	1 JAN 1810	219	0.02	0.00	0.02	12537.
1 JAN 0315	40	0.02	0.02	0.00	0.	*	1 JAN 1815	220	0.02	0.00	0.02	12227.
1 JAN 0320	41	0.02	0.02	0.00	0.	*	1 JAN 1820	221	0.02	0.00	0.02	11935.
1 JAN 0325	42	0.02	0.02	0.00	0.	*	1 JAN 1825	222	0.02	0.00	0.02	11658.
1 JAN 0330	43	0.02	0.02	0.00	1.	*	1 JAN 1830	223	0.02	0.00	0.02	11387.
1 JAN 0335	44	0.02	0.02	0.00	1.	*	1 JAN 1835	224	0.02	0.00	0.02	11120.
1 JAN 0340	45	0.02	0.02	0.00	2.	*	1 JAN 1840	225	0.02	0.00	0.02	10857.
1 JAN 0345	46	0.02	0.02	0.00	2.	*	1 JAN 1845	226	0.02	0.00	0.02	10599.
1 JAN 0350	47	0.02	0.01	0.00	3.	*	1 JAN 1850	227	0.02	0.00	0.02	10346.
1 JAN 0355	48	0.02	0.02	0.00	4.	*	1 JAN 1855	228	0.02	0.00	0.02	10102.
1 JAN 0400	49	0.02	0.02	0.00	5.	*	1 JAN 1900	229	0.02	0.00	0.02	9867.
1 JAN 0405	50	0.02	0.01	0.00	6.	*	1 JAN 1905	230	0.02	0.00	0.02	9639.
1 JAN 0410	51	0.02	0.01	0.00	7.	*	1 JAN 1910	231	0.02	0.00	0.02	9415.
1 JAN 0415	52	0.02	0.02	0.00	9.	*	1 JAN 1915	232	0.02	0.00	0.02	9193.
1 JAN 0420	53	0.02	0.02	0.00	11.	*	1 JAN 1920	233	0.02	0.00	0.02	8975.
1 JAN 0425	54	0.02	0.02	0.00	13.	*	1 JAN 1925	234	0.02	0.00	0.02	8762.
1 JAN 0430	55	0.02	0.01	0.00	16.	*	1 JAN 1930	235	0.02	0.00	0.02	8558.
1 JAN 0435	56	0.02	0.01	0.00	19.	*	1 JAN 1935	236	0.02	0.00	0.02	8364.
1 JAN 0440	57	0.02	0.01	0.00	22.	*	1 JAN 1940	237	0.02	0.00	0.02	8183.
1 JAN 0445	58	0.02	0.01	0.01	26.	*	1 JAN 1945	238	0.02	0.00	0.02	8011.
1 JAN 0450	59	0.02	0.01	0.01	30.	*	1 JAN 1950	239	0.02	0.00	0.02	7840.
1 JAN 0455	60	0.02	0.01	0.01	35.	*	1 JAN 1955	240	0.02	0.00	0.02	7673.
1 JAN 0500	61	0.02	0.01	0.01	40.	*	1 JAN 2000	241	0.02	0.00	0.02	7509.
1 JAN 0505	62	0.02	0.01	0.01	46.	*	1 JAN 2005	242	0.02	0.00	0.02	7349.
1 JAN 0510	63	0.02	0.01	0.01	53.	*	1 JAN 2010	243	0.02	0.00	0.02	7194.
1 JAN 0515	64	0.02	0.01	0.01	60.	*	1 JAN 2015	244	0.02	0.00	0.02	7046.
1 JAN 0520	65	0.02	0.01	0.01	67.	*	1 JAN 2020	245	0.02	0.00	0.02	6904.
1 JAN 0525	66	0.02	0.01	0.01	76.	*	1 JAN 2025	246	0.02	0.00	0.02	6766.
1 JAN 0530	67	0.02	0.01	0.01	85.	*	1 JAN 2030	247	0.02	0.00	0.02	6629.
1 JAN 0535	68	0.02	0.02	0.01	95.	*	1 JAN 2035	248	0.02	0.00	0.02	6495.
1 JAN 0540	69	0.02	0.01	0.01	105.	*	1 JAN 2040	249	0.02	0.00	0.02	6364.
1 JAN 0545	70	0.02	0.01	0.01	116.	*	1 JAN 2045	250	0.02	0.00	0.02	6236.
1 JAN 0550	71	0.02	0.01	0.01	128.	*	1 JAN 2050	251	0.02	0.00	0.02	6112.
1 JAN 0555	72	0.02	0.01	0.01	141.	*	1 JAN 2055	252	0.02	0.00	0.02	5994.
1 JAN 0600	73	0.02	0.01	0.01	154.	*	1 JAN 2100	253	0.02	0.00	0.02	5881.
1 JAN 0605	74	0.02	0.01	0.01	169.	*	1 JAN 2105	254	0.02	0.00	0.02	5771.
1 JAN 0610	75	0.02	0.01	0.01	183.	*	1 JAN 2110	255	0.02	0.00	0.02	5661.
1 JAN 0615	76	0.02	0.01	0.01	199.	*	1 JAN 2115	256	0.02	0.00	0.02	5554.
1 JAN 0620	77	0.02	0.01	0.01	216.	*	1 JAN 2120	257	0.02	0.00	0.02	5449.
1 JAN 0625	78	0.02	0.01	0.01	233.	*	1 JAN 2125	258	0.02	0.00	0.02	5347.
1 JAN 0630	79	0.02	0.01	0.01	251.	*	1 JAN 2130	259	0.02	0.00	0.02	5249.
1 JAN 0635	80	0.03	0.01	0.01	270.	*	1 JAN 2135	260	0.02	0.00	0.02	5157.
1 JAN 0640	81	0.02	0.01	0.01	289.	*	1 JAN 2140	261	0.02	0.00	0.02	5068.
1 JAN 0645	82	0.02	0.01	0.01	310.	*	1 JAN 2145	262	0.02	0.00	0.02	4981.
1 JAN 0650	83	0.03	0.01	0.01	331.	*	1 JAN 2150	263	0.02	0.00	0.02	4895.
1 JAN 0655	84	0.03	0.01	0.01	353.	*	1 JAN 2155	264	0.02	0.00	0.02	4810.
1 JAN 0700	85	0.03	0.01	0.01	375.	*	1 JAN 2200	265	0.02	0.00	0.02	4728.
1 JAN 0705	86	0.03	0.01	0.01	399.	*	1 JAN 2205	266	0.02	0.00	0.02	4648.
1 JAN 0710	87	0.03	0.01	0.01	423.	*	1 JAN 2210	267	0.02	0.00	0.02	4571.
1 JAN 0715	88	0.03	0.01	0.01	447.	*	1 JAN 2215	268	0.02	0.00	0.02	4498.
1 JAN 0720	89	0.03	0.01	0.01	473.	*	1 JAN 2220	269	0.02	0.00	0.02	4426.
1 JAN 0725	90	0.03	0.01	0.01	499.	*	1 JAN 2225	270	0.02	0.00	0.02	4356.
1 JAN 0730	91	0.03	0.01	0.01	526.	*	1 JAN 2230	271	0.01	0.00	0.01	4287.
1 JAN 0735	92	0.03	0.01	0.01	554.	*	1 JAN 2235	272	0.02	0.00	0.02	4220.
1 JAN 0740	93	0.03	0.01	0.02	582.	*	1 JAN 2240	273	0.02	0.00	0.02	4154.
1 JAN 0745	94	0.03	0.01	0.02	611.	*	1 JAN 2245	274	0.01	0.00	0.01	4091.
1 JAN 0750	95	0.03	0.01	0.02	640.	*	1 JAN 2250	275	0.01	0.00	0.01	4030.
1 JAN 0755	96	0.03	0.01	0.02	670.	*	1 JAN 2255	276	0.02	0.00	0.02	3972.
1 JAN 0800	97	0.03	0.01	0.02	701.	*	1 JAN 2300	277	0.02	0.00	0.02	3915.
1 JAN 0805	98	0.03	0.01	0.02	732.	*	1 JAN 2305	278	0.01	0.00	0.01	3860.
1 JAN 0810	99	0.03	0.01	0.02	764.	*	1 JAN 2310	279	0.01	0.00	0.01	3805.
1 JAN 0815	100	0.03	0.01	0.02	797.	*	1 JAN 2315	280	0.02	0.00	0.01	3752.
1 JAN 0820	101	0.03	0.01	0.02	830.	*	1 JAN 2320	281	0.02	0.00	0.01	3701.
1 JAN 0825	102	0.03	0.01	0.02	863.	*	1 JAN 2325	282	0.01	0.00	0.01	3651.
1 JAN 0830	103	0.04	0.01	0.02	897.	*	1 JAN 2330	283	0.01	0.00	0.01	3603.
1 JAN 0835	104	0.04	0.01	0.02	932.	*	1 JAN 2335	284	0.02	0.00	0.02	3558.
1 JAN 0840	105	0.04	0.01	0.02	968.	*	1 JAN 2340	285	0.01	0.00	0.01	3513.
1 JAN 0845	106	0.04	0.01	0.02	1004.	*	1 JAN 2345	286	0.01	0.00	0.01	3469.
1 JAN 0850	107	0.04	0.01	0.02	1040.	*	1 JAN 2350	287	0.01	0.00	0.01	3427.
1 JAN 0855	108	0.04	0.01	0.03	1078.	*	1 JAN 2355	288	0.01	0.00	0.01	3385.

1 JAN	0900	109	0.04	0.01	0.03	1116.	*	2 JAN	0000	289	0.01	0.00	0.01	3345.
1 JAN	0905	110	0.04	0.01	0.03	1155.	*	2 JAN	0005	290	0.00	0.00	0.00	3307.
1 JAN	0910	111	0.04	0.01	0.03	1195.	*	2 JAN	0010	291	0.00	0.00	0.00	3269.
1 JAN	0915	112	0.04	0.01	0.03	1236.	*	2 JAN	0015	292	0.00	0.00	0.00	3234.
1 JAN	0920	113	0.04	0.01	0.03	1277.	*	2 JAN	0020	293	0.00	0.00	0.00	3198.
1 JAN	0925	114	0.04	0.01	0.03	1320.	*	2 JAN	0025	294	0.00	0.00	0.00	3163.
1 JAN	0930	115	0.04	0.01	0.03	1363.	*	2 JAN	0030	295	0.00	0.00	0.00	3127.
1 JAN	0935	116	0.04	0.01	0.03	1408.	*	2 JAN	0035	296	0.00	0.00	0.00	3092.
1 JAN	0940	117	0.04	0.01	0.03	1453.	*	2 JAN	0040	297	0.00	0.00	0.00	3058.
1 JAN	0945	118	0.05	0.01	0.03	1500.	*	2 JAN	0045	298	0.00	0.00	0.00	3024.
1 JAN	0950	119	0.05	0.01	0.03	1547.	*	2 JAN	0050	299	0.00	0.00	0.00	2990.
1 JAN	0955	120	0.05	0.01	0.04	1596.	*	2 JAN	0055	300	0.00	0.00	0.00	2956.
1 JAN	1000	121	0.05	0.01	0.04	1647.	*	2 JAN	0100	301	0.00	0.00	0.00	2922.
1 JAN	1005	122	0.05	0.01	0.04	1698.	*	2 JAN	0105	302	0.00	0.00	0.00	2887.
1 JAN	1010	123	0.06	0.01	0.04	1752.	*	2 JAN	0110	303	0.00	0.00	0.00	2851.
1 JAN	1015	124	0.06	0.01	0.04	1807.	*	2 JAN	0115	304	0.00	0.00	0.00	2815.
1 JAN	1020	125	0.06	0.02	0.05	1863.	*	2 JAN	0120	305	0.00	0.00	0.00	2777.
1 JAN	1025	126	0.06	0.02	0.05	1922.	*	2 JAN	0125	306	0.00	0.00	0.00	2738.
1 JAN	1030	127	0.07	0.02	0.05	1982.	*	2 JAN	0130	307	0.00	0.00	0.00	2698.
1 JAN	1035	128	0.07	0.02	0.05	2045.	*	2 JAN	0135	308	0.00	0.00	0.00	2656.
1 JAN	1040	129	0.07	0.02	0.06	2110.	*	2 JAN	0140	309	0.00	0.00	0.00	2613.
1 JAN	1045	130	0.08	0.02	0.06	2177.	*	2 JAN	0145	310	0.00	0.00	0.00	2569.
1 JAN	1050	131	0.08	0.02	0.07	2247.	*	2 JAN	0150	311	0.00	0.00	0.00	2522.
1 JAN	1055	132	0.09	0.02	0.07	2319.	*	2 JAN	0155	312	0.00	0.00	0.00	2474.
1 JAN	1100	133	0.09	0.02	0.07	2394.	*	2 JAN	0200	313	0.00	0.00	0.00	2424.
1 JAN	1105	134	0.10	0.02	0.08	2473.	*	2 JAN	0205	314	0.00	0.00	0.00	2373.
1 JAN	1110	135	0.11	0.02	0.09	2555.	*	2 JAN	0210	315	0.00	0.00	0.00	2321.
1 JAN	1115	136	0.12	0.02	0.10	2642.	*	2 JAN	0215	316	0.00	0.00	0.00	2267.
1 JAN	1120	137	0.13	0.02	0.11	2732.	*	2 JAN	0220	317	0.00	0.00	0.00	2213.
1 JAN	1125	138	0.14	0.02	0.12	2828.	*	2 JAN	0225	318	0.00	0.00	0.00	2158.
1 JAN	1130	139	0.15	0.02	0.13	2929.	*	2 JAN	0230	319	0.00	0.00	0.00	2102.
1 JAN	1135	140	0.31	0.04	0.26	3040.	*	2 JAN	0235	320	0.00	0.00	0.00	2046.
1 JAN	1140	141	0.56	0.07	0.49	3166.	*	2 JAN	0240	321	0.00	0.00	0.00	1989.
1 JAN	1145	142	0.84	0.09	0.75	3314.	*	2 JAN	0245	322	0.00	0.00	0.00	1932.
1 JAN	1150	143	1.31	0.11	1.20	3495.	*	2 JAN	0250	323	0.00	0.00	0.00	1875.
1 JAN	1155	144	1.67	0.10	1.57	3724.	*	2 JAN	0255	324	0.00	0.00	0.00	1817.
1 JAN	1200	145	1.24	0.06	1.18	3998.	*	2 JAN	0300	325	0.00	0.00	0.00	1760.
1 JAN	1205	146	0.25	0.01	0.24	4305.	*	2 JAN	0305	326	0.00	0.00	0.00	1703.
1 JAN	1210	147	0.22	0.01	0.21	4658.	*	2 JAN	0310	327	0.00	0.00	0.00	1646.
1 JAN	1215	148	0.20	0.01	0.19	5069.	*	2 JAN	0315	328	0.00	0.00	0.00	1589.
1 JAN	1220	149	0.18	0.01	0.17	5527.	*	2 JAN	0320	329	0.00	0.00	0.00	1533.
1 JAN	1225	150	0.15	0.01	0.15	6009.	*	2 JAN	0325	330	0.00	0.00	0.00	1478.
1 JAN	1230	151	0.13	0.00	0.12	6524.	*	2 JAN	0330	331	0.00	0.00	0.00	1422.
1 JAN	1235	152	0.11	0.00	0.11	7076.	*	2 JAN	0335	332	0.00	0.00	0.00	1368.
1 JAN	1240	153	0.11	0.00	0.10	7663.	*	2 JAN	0340	333	0.00	0.00	0.00	1315.
1 JAN	1245	154	0.10	0.00	0.10	8280.	*	2 JAN	0345	334	0.00	0.00	0.00	1263.
1 JAN	1250	155	0.09	0.00	0.09	8939.	*	2 JAN	0350	335	0.00	0.00	0.00	1212.
1 JAN	1255	156	0.09	0.00	0.08	9645.	*	2 JAN	0355	336	0.00	0.00	0.00	1163.
1 JAN	1300	157	0.08	0.00	0.08	10391.	*	2 JAN	0400	337	0.00	0.00	0.00	1116.
1 JAN	1305	158	0.08	0.00	0.08	11173.	*	2 JAN	0405	338	0.00	0.00	0.00	1072.
1 JAN	1310	159	0.07	0.00	0.07	12006.	*	2 JAN	0410	339	0.00	0.00	0.00	1028.
1 JAN	1315	160	0.07	0.00	0.07	12891.	*	2 JAN	0415	340	0.00	0.00	0.00	986.
1 JAN	1320	161	0.07	0.00	0.07	13810.	*	2 JAN	0420	341	0.00	0.00	0.00	945.
1 JAN	1325	162	0.07	0.00	0.06	14757.	*	2 JAN	0425	342	0.00	0.00	0.00	905.
1 JAN	1330	163	0.06	0.00	0.06	15735.	*	2 JAN	0430	343	0.00	0.00	0.00	867.
1 JAN	1335	164	0.06	0.00	0.06	16736.	*	2 JAN	0435	344	0.00	0.00	0.00	829.
1 JAN	1340	165	0.06	0.00	0.06	17732.	*	2 JAN	0440	345	0.00	0.00	0.00	793.
1 JAN	1345	166	0.06	0.00	0.05	18704.	*	2 JAN	0445	346	0.00	0.00	0.00	759.
1 JAN	1350	167	0.05	0.00	0.05	19635.	*	2 JAN	0450	347	0.00	0.00	0.00	726.
1 JAN	1355	168	0.05	0.00	0.05	20522.	*	2 JAN	0455	348	0.00	0.00	0.00	694.
1 JAN	1400	169	0.05	0.00	0.05	21371.	*	2 JAN	0500	349	0.00	0.00	0.00	664.
1 JAN	1405	170	0.05	0.00	0.05	22168.	*	2 JAN	0505	350	0.00	0.00	0.00	635.
1 JAN	1410	171	0.05	0.00	0.05	22891.	*	2 JAN	0510	351	0.00	0.00	0.00	608.
1 JAN	1415	172	0.05	0.00	0.04	23545.	*	2 JAN	0515	352	0.00	0.00	0.00	582.
1 JAN	1420	173	0.05	0.00	0.04	24154.	*	2 JAN	0520	353	0.00	0.00	0.00	557.
1 JAN	1425	174	0.04	0.00	0.04	24702.	*	2 JAN	0525	354	0.00	0.00	0.00	534.
1 JAN	1430	175	0.04	0.00	0.04	25171.	*	2 JAN	0530	355	0.00	0.00	0.00	511.
1 JAN	1435	176	0.04	0.00	0.04	25569.	*	2 JAN	0535	356	0.00	0.00	0.00	490.
1 JAN	1440	177	0.04	0.00	0.04	25919.	*	2 JAN	0540	357	0.00	0.00	0.00	469.
1 JAN	1445	178	0.04	0.00	0.04	26205.	*	2 JAN	0545	358	0.00	0.00	0.00	450.
1 JAN	1450	179	0.04	0.00	0.04	26415.	*	2 JAN	0550	359	0.00	0.00	0.00	431.
1 JAN	1455	180	0.04	0.00	0.04	26569.	*	2 JAN	0555	360	0.00	0.00	0.00	413.

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TOTAL RAINFALL = 15.61, TOTAL LOSS = 2.65, TOTAL EXCESS = 12.96

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	29.92-HR
+ (CFS)	(HR)				
	(CFS)				
+ 26801.	15.17	19253.	7061.	5668.	5668.
	(INCHES)	8.792	12.898	12.906	12.906
	(AC-FT)	9547.	14006.	14014.	14014.

CUMULATIVE AREA = 20.36 SQ MI

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     *            *
423 KK  *    2C *    CNAME    2R
     *            *
     **************
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424 KO OUTPUT CONTROL VARIABLES

IPRNT	0	PRINT CONTROL
IPLOT	0	PLOT CONTROL
QSCAL	0.	HYDROGRAPH PLOT SCALE
IPNCH	0	PUNCH COMPUTED HYDROGRAPH
IOUT	22	SAVE HYDROGRAPH ON THIS UNIT
ISAV1	1	FIRST ORDINATE PUNCHED OR SAVED
ISAV2	360	LAST ORDINATE PUNCHED OR SAVED
TIMINT	0.083	TIME INTERVAL IN HOURS

425 HC HYDROGRAPH COMBINATION

ICOMP	2	NUMBER OF HYDROGRAPHS TO COMBINE

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HYDROGRAPH AT STATION 2C
SUM OF 2 HYDROGRAPHS

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DA MON HRMN	ORD	FLOW	DA MON HRMN	ORD	FLOW	DA MON HRMN	ORD	FLOW	DA MON HRMN	ORD	FLOW
1 JAN 0000	1	0.	1 JAN 0730	91	560.	1 JAN 1500	181	53081.	1 JAN 2230	271	245184.
1 JAN 0005	2	0.	1 JAN 0735	92	595.	1 JAN 1505	182	54161.	1 JAN 2235	272	240822.
1 JAN 0010	3	0.	1 JAN 0740	93	631.	1 JAN 1510	183	55270.	1 JAN 2240	273	236294.
1 JAN 0015	4	0.	1 JAN 0745	94	669.	1 JAN 1515	184	56414.	1 JAN 2245	274	231623.
1 JAN 0020	5	0.	1 JAN 0750	95	710.	1 JAN 1520	185	57594.	1 JAN 2250	275	226836.
1 JAN 0025	6	0.	1 JAN 0755	96	753.	1 JAN 1525	186	58801.	1 JAN 2255	276	221958.
1 JAN 0030	7	0.	1 JAN 0800	97	798.	1 JAN 1530	187	60039.	1 JAN 2300	277	217011.
1 JAN 0035	8	0.	1 JAN 0805	98	847.	1 JAN 1535	188	61340.	1 JAN 2305	278	212019.
1 JAN 0040	9	0.	1 JAN 0810	99	899.	1 JAN 1540	189	62727.	1 JAN 2310	279	207006.
1 JAN 0045	10	0.	1 JAN 0815	100	954.	1 JAN 1545	190	64204.	1 JAN 2315	280	201991.
1 JAN 0050	11	0.	1 JAN 0820	101	1013.	1 JAN 1550	191	65775.	1 JAN 2320	281	196997.
1 JAN 0055	12	0.	1 JAN 0825	102	1076.	1 JAN 1555	192	67448.	1 JAN 2325	282	192042.
1 JAN 0100	13	0.	1 JAN 0830	103	1144.	1 JAN 1600	193	69223.	1 JAN 2330	283	187144.
1 JAN 0105	14	0.	1 JAN 0835	104	1217.	1 JAN 1605	194	71095.	1 JAN 2335	284	182318.
1 JAN 0110	15	0.	1 JAN 0840	105	1296.	1 JAN 1610	195	73059.	1 JAN 2340	285	177578.
1 JAN 0115	16	0.	1 JAN 0845	106	1381.	1 JAN 1615	196	75112.	1 JAN 2345	286	172934.
1 JAN 0120	17	0.	1 JAN 0850	107	1472.	1 JAN 1620	197	77243.	1 JAN 2350	287	168398.
1 JAN 0125	18	0.	1 JAN 0855	108	1570.	1 JAN 1625	198	79436.	1 JAN 2355	288	163976.
1 JAN 0130	19	0.	1 JAN 0900	109	1675.	1 JAN 1630	199	81687.	2 JAN 0000	289	159675.
1 JAN 0135	20	0.	1 JAN 0905	110	1789.	1 JAN 1635	200	83998.	2 JAN 0005	290	155500.
1 JAN 0140	21	0.	1 JAN 0910	111	1911.	1 JAN 1640	201	86361.	2 JAN 0010	291	151453.
1 JAN 0145	22	0.	1 JAN 0915	112	2042.	1 JAN 1645	202	88767.	2 JAN 0015	292	147535.
1 JAN 0150	23	0.	1 JAN 0920	113	2182.	1 JAN 1650	203	91224.	2 JAN 0020	293	143745.
1 JAN 0155	24	0.	1 JAN 0925	114	2332.	1 JAN 1655	204	93749.	2 JAN 0025	294	140082.
1 JAN 0200	25	0.	1 JAN 0930	115	2491.	1 JAN 1700	205	96350.	2 JAN 0030	295	136544.

1 JAN 0205	26	0.	*	1 JAN 0935	116	2661.	*	1 JAN 1705	206	99035.	*	2 JAN 0035	296	133128.
1 JAN 0210	27	0.	*	1 JAN 0940	117	2842.	*	1 JAN 1710	207	101803.	*	2 JAN 0040	297	129832.
1 JAN 0215	28	0.	*	1 JAN 0945	118	3033.	*	1 JAN 1715	208	104650.	*	2 JAN 0045	298	126653.
1 JAN 0220	29	0.	*	1 JAN 0950	119	3235.	*	1 JAN 1720	209	107590.	*	2 JAN 0050	299	123586.
1 JAN 0225	30	0.	*	1 JAN 0955	120	3448.	*	1 JAN 1725	210	110629.	*	2 JAN 0055	300	120628.
1 JAN 0230	31	0.	*	1 JAN 1000	121	3672.	*	1 JAN 1730	211	113761.	*	2 JAN 0100	301	117775.
1 JAN 0235	32	0.	*	1 JAN 1005	122	3907.	*	1 JAN 1735	212	116975.	*	2 JAN 0105	302	115022.
1 JAN 0240	33	0.	*	1 JAN 1010	123	4154.	*	1 JAN 1740	213	120280.	*	2 JAN 0110	303	112366.
1 JAN 0245	34	0.	*	1 JAN 1015	124	4411.	*	1 JAN 1745	214	123681.	*	2 JAN 0115	304	109802.
1 JAN 0250	35	0.	*	1 JAN 1020	125	4680.	*	1 JAN 1750	215	127179.	*	2 JAN 0120	305	107327.
1 JAN 0255	36	0.	*	1 JAN 1025	126	4959.	*	1 JAN 1755	216	130777.	*	2 JAN 0125	306	104937.
1 JAN 0300	37	0.	*	1 JAN 1030	127	5249.	*	1 JAN 1800	217	134481.	*	2 JAN 0130	307	102627.
1 JAN 0305	38	0.	*	1 JAN 1035	128	5549.	*	1 JAN 1805	218	138297.	*	2 JAN 0135	308	100394.
1 JAN 0310	39	0.	*	1 JAN 1040	129	5860.	*	1 JAN 1810	219	142222.	*	2 JAN 0140	309	98234.
1 JAN 0315	40	0.	*	1 JAN 1045	130	6181.	*	1 JAN 1815	220	146257.	*	2 JAN 0145	310	96143.
1 JAN 0320	41	0.	*	1 JAN 1050	131	6512.	*	1 JAN 1820	221	150404.	*	2 JAN 0150	311	94117.
1 JAN 0325	42	0.	*	1 JAN 1055	132	6853.	*	1 JAN 1825	222	154658.	*	2 JAN 0155	312	92153.
1 JAN 0330	43	1.	*	1 JAN 1100	133	7203.	*	1 JAN 1830	223	159005.	*	2 JAN 0200	313	90249.
1 JAN 0335	44	1.	*	1 JAN 1105	134	7563.	*	1 JAN 1835	224	163435.	*	2 JAN 0205	314	88401.
1 JAN 0340	45	2.	*	1 JAN 1110	135	7933.	*	1 JAN 1840	225	167937.	*	2 JAN 0210	315	86607.
1 JAN 0345	46	2.	*	1 JAN 1115	136	8313.	*	1 JAN 1845	226	172503.	*	2 JAN 0215	316	84864.
1 JAN 0350	47	3.	*	1 JAN 1120	137	8703.	*	1 JAN 1850	227	177119.	*	2 JAN 0220	317	83171.
1 JAN 0355	48	4.	*	1 JAN 1125	138	9104.	*	1 JAN 1855	228	181773.	*	2 JAN 0225	318	81526.
1 JAN 0400	49	5.	*	1 JAN 1130	139	9515.	*	1 JAN 1900	229	186450.	*	2 JAN 0230	319	79927.
1 JAN 0405	50	6.	*	1 JAN 1135	140	9940.	*	1 JAN 1905	230	191132.	*	2 JAN 0235	320	78372.
1 JAN 0410	51	7.	*	1 JAN 1140	141	10386.	*	1 JAN 1910	231	195797.	*	2 JAN 0240	321	76861.
1 JAN 0415	52	9.	*	1 JAN 1145	142	10858.	*	1 JAN 1915	232	200427.	*	2 JAN 0245	322	75391.
1 JAN 0420	53	11.	*	1 JAN 1150	143	11368.	*	1 JAN 1920	233	205008.	*	2 JAN 0250	323	73963.
1 JAN 0425	54	13.	*	1 JAN 1155	144	11930.	*	1 JAN 1925	234	209526.	*	2 JAN 0255	324	72573.
1 JAN 0430	55	16.	*	1 JAN 1200	145	12542.	*	1 JAN 1930	235	213970.	*	2 JAN 0300	325	71223.
1 JAN 0435	56	19.	*	1 JAN 1205	146	13191.	*	1 JAN 1935	236	218332.	*	2 JAN 0305	326	69911.
1 JAN 0440	57	22.	*	1 JAN 1210	147	13891.	*	1 JAN 1940	237	222607.	*	2 JAN 0310	327	68635.
1 JAN 0445	58	26.	*	1 JAN 1215	148	14654.	*	1 JAN 1945	238	226782.	*	2 JAN 0315	328	67395.
1 JAN 0450	59	30.	*	1 JAN 1220	149	15468.	*	1 JAN 1950	239	230848.	*	2 JAN 0320	329	66189.
1 JAN 0455	60	35.	*	1 JAN 1225	150	16311.	*	1 JAN 1955	240	234802.	*	2 JAN 0325	330	65016.
1 JAN 0500	61	40.	*	1 JAN 1230	151	17192.	*	1 JAN 2000	241	238641.	*	2 JAN 0330	331	63875.
1 JAN 0505	62	46.	*	1 JAN 1235	152	18115.	*	1 JAN 2005	242	242365.	*	2 JAN 0335	332	62765.
1 JAN 0510	63	53.	*	1 JAN 1240	153	19078.	*	1 JAN 2010	243	245970.	*	2 JAN 0340	333	61684.
1 JAN 0515	64	60.	*	1 JAN 1245	154	20076.	*	1 JAN 2015	244	249453.	*	2 JAN 0345	334	60632.
1 JAN 0520	65	68.	*	1 JAN 1250	155	21122.	*	1 JAN 2020	245	252807.	*	2 JAN 0350	335	59608.
1 JAN 0525	66	76.	*	1 JAN 1255	156	22221.	*	1 JAN 2025	246	256018.	*	2 JAN 0355	336	58610.
1 JAN 0530	67	85.	*	1 JAN 1300	157	23366.	*	1 JAN 2030	247	259072.	*	2 JAN 0400	337	57638.
1 JAN 0535	68	95.	*	1 JAN 1305	158	24554.	*	1 JAN 2035	248	261953.	*	2 JAN 0405	338	56690.
1 JAN 0540	69	105.	*	1 JAN 1310	159	25799.	*	1 JAN 2040	249	264642.	*	2 JAN 0410	339	55765.
1 JAN 0545	70	116.	*	1 JAN 1315	160	27102.	*	1 JAN 2045	250	267118.	*	2 JAN 0415	340	54862.
1 JAN 0550	71	128.	*	1 JAN 1320	161	28446.	*	1 JAN 2050	251	269362.	*	2 JAN 0420	341	53978.
1 JAN 0555	72	141.	*	1 JAN 1325	162	29826.	*	1 JAN 2055	252	271350.	*	2 JAN 0425	342	53114.
1 JAN 0600	73	155.	*	1 JAN 1330	163	31246.	*	1 JAN 2100	253	273059.	*	2 JAN 0430	343	52269.
1 JAN 0605	74	169.	*	1 JAN 1335	164	32695.	*	1 JAN 2105	254	274465.	*	2 JAN 0435	344	51440.
1 JAN 0610	75	184.	*	1 JAN 1340	165	34149.	*	1 JAN 2110	255	275546.	*	2 JAN 0440	345	50629.
1 JAN 0615	76	200.	*	1 JAN 1345	166	35588.	*	1 JAN 2115	256	276287.	*	2 JAN 0445	346	49834.
1 JAN 0620	77	217.	*	1 JAN 1350	167	36996.	*	1 JAN 2120	257	276672.	*	2 JAN 0450	347	49054.
1 JAN 0625	78	235.	*	1 JAN 1355	168	38370.	*	1 JAN 2125	258	276692.	*	2 JAN 0455	348	48289.
1 JAN 0630	79	253.	*	1 JAN 1400	169	39718.	*	1 JAN 2130	259	276340.	*	2 JAN 0500	349	47539.
1 JAN 0635	80	273.	*	1 JAN 1405	170	41028.	*	1 JAN 2135	260	275615.	*	2 JAN 0505	350	46802.
1 JAN 0640	81	293.	*	1 JAN 1410	171	42278.	*	1 JAN 2140	261	274515.	*	2 JAN 0510	351	46079.
1 JAN 0645	82	315.	*	1 JAN 1415	172	43476.	*	1 JAN 2145	262	273041.	*	2 JAN 0515	352	45369.
1 JAN 0650	83	337.	*	1 JAN 1420	173	44651.	*	1 JAN 2150	263	271203.	*	2 JAN 0520	353	44671.
1 JAN 0655	84	361.	*	1 JAN 1425	174	45788.	*	1 JAN 2155	264	269010.	*	2 JAN 0525	354	43984.
1 JAN 0700	85	385.	*	1 JAN 1430	175	46877.	*	1 JAN 2200	265	266477.	*	2 JAN 0530	355	43310.
1 JAN 0705	86	411.	*	1 JAN 1435	176	47930.	*	1 JAN 2205	266	263620.	*	2 JAN 0535	356	42646.
1 JAN 0710	87	438.	*	1 JAN 1440	177	48977.	*	1 JAN 2210	267	260458.	*	2 JAN 0540	357	41993.
1 JAN 0715	88	467.	*	1 JAN 1445	178	50007.	*	1 JAN 2215	268	257012.	*	2 JAN 0545	358	41350.
1 JAN 0720	89	496.	*	1 JAN 1450	179	51018.	*	1 JAN 2220	269	253303.	*	2 JAN 0550	359	40717.
1 JAN 0725	90	527.	*	1 JAN 1455	180	52032.	*	1 JAN 2225	270	249352.	*	2 JAN 0555	360	40093.
			*				*				*			

****

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	29.92-HR
+ (CFS)	(HR)				
	(CFS)				
+ 276692.	21.42	223328.	91063.	73057.	73057.
	(INCHES)	9.988	16.291	16.292	16.292

(AC-FT) 110741. 180621. 180629. 180629.

CUMULATIVE AREA = 207.88 SQ MI

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     **************
     *            *
426 KK  *    2R *    CNAME    2C
     *            *
     **************
```

427 KO OUTPUT CONTROL VARIABLES

IPRNT	0	PRINT CONTROL
IPLOT	0	PLOT CONTROL
QSCAL	0.	HYDROGRAPH PLOT SCALE
IPNCH	0	PUNCH COMPUTED HYDROGRAPH
IOUT	22	SAVE HYDROGRAPH ON THIS UNIT
ISAV1	1	FIRST ORDINATE PUNCHED OR SAVED
ISAV2	360	LAST ORDINATE PUNCHED OR SAVED
TIMINT	0.083	TIME INTERVAL IN HOURS

HYDROGRAPH ROUTING DATA

428 RN NO ROUTING

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HYDROGRAPH AT STATION 2R

****

DA MON HRMN	ORD	FLOW	DA MON HRMN	ORD	FLOW	DA MON HRMN	ORD	FLOW	DA MON HRMN	ORD	FLOW
1 JAN 0000	1	0.	1 JAN 0730	91	560.	1 JAN 1500	181	53081.	1 JAN 2230	271	245184.
1 JAN 0005	2	0.	1 JAN 0735	92	595.	1 JAN 1505	182	54161.	1 JAN 2235	272	240822.
1 JAN 0010	3	0.	1 JAN 0740	93	631.	1 JAN 1510	183	55270.	1 JAN 2240	273	236294.
1 JAN 0015	4	0.	1 JAN 0745	94	669.	1 JAN 1515	184	56414.	1 JAN 2245	274	231623.
1 JAN 0020	5	0.	1 JAN 0750	95	710.	1 JAN 1520	185	57594.	1 JAN 2250	275	226836.
1 JAN 0025	6	0.	1 JAN 0755	96	753.	1 JAN 1525	186	58801.	1 JAN 2255	276	221958.
1 JAN 0030	7	0.	1 JAN 0800	97	798.	1 JAN 1530	187	60039.	1 JAN 2300	277	217011.
1 JAN 0035	8	0.	1 JAN 0805	98	847.	1 JAN 1535	188	61340.	1 JAN 2305	278	212019.
1 JAN 0040	9	0.	1 JAN 0810	99	899.	1 JAN 1540	189	62727.	1 JAN 2310	279	207006.
1 JAN 0045	10	0.	1 JAN 0815	100	954.	1 JAN 1545	190	64204.	1 JAN 2315	280	201991.
1 JAN 0050	11	0.	1 JAN 0820	101	1013.	1 JAN 1550	191	65775.	1 JAN 2320	281	196997.
1 JAN 0055	12	0.	1 JAN 0825	102	1076.	1 JAN 1555	192	67448.	1 JAN 2325	282	192042.
1 JAN 0100	13	0.	1 JAN 0830	103	1144.	1 JAN 1600	193	69223.	1 JAN 2330	283	187144.
1 JAN 0105	14	0.	1 JAN 0835	104	1217.	1 JAN 1605	194	71095.	1 JAN 2335	284	182318.
1 JAN 0110	15	0.	1 JAN 0840	105	1296.	1 JAN 1610	195	73059.	1 JAN 2340	285	177578.
1 JAN 0115	16	0.	1 JAN 0845	106	1381.	1 JAN 1615	196	75112.	1 JAN 2345	286	172934.
1 JAN 0120	17	0.	1 JAN 0850	107	1472.	1 JAN 1620	197	77243.	1 JAN 2350	287	168398.
1 JAN 0125	18	0.	1 JAN 0855	108	1570.	1 JAN 1625	198	79436.	1 JAN 2355	288	163976.
1 JAN 0130	19	0.	1 JAN 0900	109	1675.	1 JAN 1630	199	81687.	2 JAN 0000	289	159675.
1 JAN 0135	20	0.	1 JAN 0905	110	1789.	1 JAN 1635	200	83998.	2 JAN 0005	290	155500.
1 JAN 0140	21	0.	1 JAN 0910	111	1911.	1 JAN 1640	201	86361.	2 JAN 0010	291	151453.
1 JAN 0145	22	0.	1 JAN 0915	112	2042.	1 JAN 1645	202	88767.	2 JAN 0015	292	147535.
1 JAN 0150	23	0.	1 JAN 0920	113	2182.	1 JAN 1650	203	91224.	2 JAN 0020	293	143745.
1 JAN 0155	24	0.	1 JAN 0925	114	2332.	1 JAN 1655	204	93749.	2 JAN 0025	294	140082.
1 JAN 0200	25	0.	1 JAN 0930	115	2491.	1 JAN 1700	205	96350.	2 JAN 0030	295	136544.
1 JAN 0205	26	0.	1 JAN 0935	116	2661.	1 JAN 1705	206	99035.	2 JAN 0035	296	133128.
1 JAN 0210	27	0.	1 JAN 0940	117	2842.	1 JAN 1710	207	101803.	2 JAN 0040	297	129832.
1 JAN 0215	28	0.	1 JAN 0945	118	3033.	1 JAN 1715	208	104650.	2 JAN 0045	298	126653.
1 JAN 0220	29	0.	1 JAN 0950	119	3235.	1 JAN 1720	209	107590.	2 JAN 0050	299	123586.
1 JAN 0225	30	0.	1 JAN 0955	120	3448.	1 JAN 1725	210	110629.	2 JAN 0055	300	120628.
1 JAN 0230	31	0.	1 JAN 1000	121	3672.	1 JAN 1730	211	113761.	2 JAN 0100	301	117775.
1 JAN 0235	32	0.	1 JAN 1005	122	3907.	1 JAN 1735	212	116975.	2 JAN 0105	302	115022.
1 JAN 0240	33	0.	1 JAN 1010	123	4154.	1 JAN 1740	213	120280.	2 JAN 0110	303	112366.

1 JAN	0245	34	0.	*	1 JAN	1015	124	4411.	*	1 JAN	1745	214	123681.	*	2 JAN	0115	304	109802.
1 JAN	0250	35	0.	*	1 JAN	1020	125	4680.	*	1 JAN	1750	215	127179.	*	2 JAN	0120	305	107327.
1 JAN	0255	36	0.	*	1 JAN	1025	126	4959.	*	1 JAN	1755	216	130777.	*	2 JAN	0125	306	104937.
1 JAN	0300	37	0.	*	1 JAN	1030	127	5249.	*	1 JAN	1800	217	134481.	*	2 JAN	0130	307	102627.
1 JAN	0305	38	0.	*	1 JAN	1035	128	5549.	*	1 JAN	1805	218	138297.	*	2 JAN	0135	308	100394.
1 JAN	0310	39	0.	*	1 JAN	1040	129	5860.	*	1 JAN	1810	219	142222.	*	2 JAN	0140	309	98234.
1 JAN	0315	40	0.	*	1 JAN	1045	130	6181.	*	1 JAN	1815	220	146257.	*	2 JAN	0145	310	96143.
1 JAN	0320	41	0.	*	1 JAN	1050	131	6512.	*	1 JAN	1820	221	150404.	*	2 JAN	0150	311	94117.
1 JAN	0325	42	0.	*	1 JAN	1055	132	6853.	*	1 JAN	1825	222	154658.	*	2 JAN	0155	312	92153.
1 JAN	0330	43	1.	*	1 JAN	1100	133	7203.	*	1 JAN	1830	223	159005.	*	2 JAN	0200	313	90249.
1 JAN	0335	44	1.	*	1 JAN	1105	134	7563.	*	1 JAN	1835	224	163435.	*	2 JAN	0205	314	88401.
1 JAN	0340	45	2.	*	1 JAN	1110	135	7933.	*	1 JAN	1840	225	167937.	*	2 JAN	0210	315	86607.
1 JAN	0345	46	2.	*	1 JAN	1115	136	8313.	*	1 JAN	1845	226	172503.	*	2 JAN	0215	316	84864.
1 JAN	0350	47	3.	*	1 JAN	1120	137	8703.	*	1 JAN	1850	227	177119.	*	2 JAN	0220	317	83171.
1 JAN	0355	48	4.	*	1 JAN	1125	138	9104.	*	1 JAN	1855	228	181773.	*	2 JAN	0225	318	81526.
1 JAN	0400	49	5.	*	1 JAN	1130	139	9515.	*	1 JAN	1900	229	186450.	*	2 JAN	0230	319	79927.
1 JAN	0405	50	6.	*	1 JAN	1135	140	9940.	*	1 JAN	1905	230	191132.	*	2 JAN	0235	320	78372.
1 JAN	0410	51	7.	*	1 JAN	1140	141	10386.	*	1 JAN	1910	231	195797.	*	2 JAN	0240	321	76861.
1 JAN	0415	52	9.	*	1 JAN	1145	142	10858.	*	1 JAN	1915	232	200427.	*	2 JAN	0245	322	75391.
1 JAN	0420	53	11.	*	1 JAN	1150	143	11368.	*	1 JAN	1920	233	205008.	*	2 JAN	0250	323	73963.
1 JAN	0425	54	13.	*	1 JAN	1155	144	11930.	*	1 JAN	1925	234	209526.	*	2 JAN	0255	324	72573.
1 JAN	0430	55	16.	*	1 JAN	1200	145	12542.	*	1 JAN	1930	235	213970.	*	2 JAN	0300	325	71223.
1 JAN	0435	56	19.	*	1 JAN	1205	146	13191.	*	1 JAN	1935	236	218332.	*	2 JAN	0305	326	69911.
1 JAN	0440	57	22.	*	1 JAN	1210	147	13891.	*	1 JAN	1940	237	222607.	*	2 JAN	0310	327	68635.
1 JAN	0445	58	26.	*	1 JAN	1215	148	14654.	*	1 JAN	1945	238	226782.	*	2 JAN	0315	328	67395.
1 JAN	0450	59	30.	*	1 JAN	1220	149	15468.	*	1 JAN	1950	239	230848.	*	2 JAN	0320	329	66189.
1 JAN	0455	60	35.	*	1 JAN	1225	150	16311.	*	1 JAN	1955	240	234802.	*	2 JAN	0325	330	65016.
1 JAN	0500	61	40.	*	1 JAN	1230	151	17192.	*	1 JAN	2000	241	238641.	*	2 JAN	0330	331	63875.
1 JAN	0505	62	46.	*	1 JAN	1235	152	18115.	*	1 JAN	2005	242	242365.	*	2 JAN	0335	332	62765.
1 JAN	0510	63	53.	*	1 JAN	1240	153	19078.	*	1 JAN	2010	243	245970.	*	2 JAN	0340	333	61684.
1 JAN	0515	64	60.	*	1 JAN	1245	154	20076.	*	1 JAN	2015	244	249453.	*	2 JAN	0345	334	60632.
1 JAN	0520	65	68.	*	1 JAN	1250	155	21122.	*	1 JAN	2020	245	252807.	*	2 JAN	0350	335	59608.
1 JAN	0525	66	76.	*	1 JAN	1255	156	22221.	*	1 JAN	2025	246	256018.	*	2 JAN	0355	336	58610.
1 JAN	0530	67	85.	*	1 JAN	1300	157	23366.	*	1 JAN	2030	247	259072.	*	2 JAN	0400	337	57638.
1 JAN	0535	68	95.	*	1 JAN	1305	158	24554.	*	1 JAN	2035	248	261953.	*	2 JAN	0405	338	56690.
1 JAN	0540	69	105.	*	1 JAN	1310	159	25799.	*	1 JAN	2040	249	264642.	*	2 JAN	0410	339	55765.
1 JAN	0545	70	116.	*	1 JAN	1315	160	27102.	*	1 JAN	2045	250	267118.	*	2 JAN	0415	340	54862.
1 JAN	0550	71	128.	*	1 JAN	1320	161	28446.	*	1 JAN	2050	251	269362.	*	2 JAN	0420	341	53978.
1 JAN	0555	72	141.	*	1 JAN	1325	162	29826.	*	1 JAN	2055	252	271350.	*	2 JAN	0425	342	53114.
1 JAN	0600	73	155.	*	1 JAN	1330	163	31246.	*	1 JAN	2100	253	273059.	*	2 JAN	0430	343	52269.
1 JAN	0605	74	169.	*	1 JAN	1335	164	32695.	*	1 JAN	2105	254	274465.	*	2 JAN	0435	344	51440.
1 JAN	0610	75	184.	*	1 JAN	1340	165	34149.	*	1 JAN	2110	255	275546.	*	2 JAN	0440	345	50629.
1 JAN	0615	76	200.	*	1 JAN	1345	166	35588.	*	1 JAN	2115	256	276287.	*	2 JAN	0445	346	49834.
1 JAN	0620	77	217.	*	1 JAN	1350	167	36996.	*	1 JAN	2120	257	276672.	*	2 JAN	0450	347	49054.
1 JAN	0625	78	235.	*	1 JAN	1355	168	38370.	*	1 JAN	2125	258	276692.	*	2 JAN	0455	348	48289.
1 JAN	0630	79	253.	*	1 JAN	1400	169	39718.	*	1 JAN	2130	259	276340.	*	2 JAN	0500	349	47539.
1 JAN	0635	80	273.	*	1 JAN	1405	170	41028.	*	1 JAN	2135	260	275615.	*	2 JAN	0505	350	46802.
1 JAN	0640	81	293.	*	1 JAN	1410	171	42278.	*	1 JAN	2140	261	274515.	*	2 JAN	0510	351	46079.
1 JAN	0645	82	315.	*	1 JAN	1415	172	43476.	*	1 JAN	2145	262	273041.	*	2 JAN	0515	352	45369.
1 JAN	0650	83	337.	*	1 JAN	1420	173	44651.	*	1 JAN	2150	263	271203.	*	2 JAN	0520	353	44671.
1 JAN	0655	84	361.	*	1 JAN	1425	174	45788.	*	1 JAN	2155	264	269010.	*	2 JAN	0525	354	43984.
1 JAN	0700	85	385.	*	1 JAN	1430	175	46877.	*	1 JAN	2200	265	266477.	*	2 JAN	0530	355	43310.
1 JAN	0705	86	411.	*	1 JAN	1435	176	47930.	*	1 JAN	2205	266	263620.	*	2 JAN	0535	356	42646.
1 JAN	0710	87	438.	*	1 JAN	1440	177	48977.	*	1 JAN	2210	267	260458.	*	2 JAN	0540	357	41993.
1 JAN	0715	88	467.	*	1 JAN	1445	178	50007.	*	1 JAN	2215	268	257012.	*	2 JAN	0545	358	41350.
1 JAN	0720	89	496.	*	1 JAN	1450	179	51018.	*	1 JAN	2220	269	253303.	*	2 JAN	0550	359	40717.
1 JAN	0725	90	527.	*	1 JAN	1455	180	52032.	*	1 JAN	2225	270	249352.	*	2 JAN	0555	360	40093.
			*					*					*					

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PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	29.92-HR
+ (CFS)	(HR)				
	(CFS)				
+ 276692.	21.42	223328.	91063.	73057.	73057.
	(INCHES)	9.988	16.291	16.292	16.292
	(AC-FT)	110741.	180621.	180629.	180629.

CUMULATIVE AREA = 207.88 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 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	10BPMP	79436.	16.33	64478.	26172.	21010.	55.56		
+	HYDROGRAPH AT	11BPMP	43506.	14.83	29736.	10610.	8517.	32.43		
+	2 COMBINED AT	5C	116521.	15.67	92775.	36782.	29527.	87.98		
+	ROUTED TO	5R	115851.	16.92	92499.	36485.	29272.	87.98		
+	HYDROGRAPH AT	8BPMP	9419.	13.17	3793.	1237.	993.	3.70		
+	HYDROGRAPH AT	9BPMP	19852.	15.50	14767.	5517.	4427.	18.66		
+	3 COMBINED AT	8C	133434.	16.75	107040.	43235.	34692.	110.34		
+	ROUTED TO	8R	133360.	16.92	107013.	43180.	34646.	110.34		
+	HYDROGRAPH AT	6BPMP	571.	12.17	89.	29.	23.	0.08		
+	HYDROGRAPH AT	7BPMP	9595.	14.92	6653.	2391.	1919.	7.18		
+	3 COMBINED AT	7C	139421.	16.83	112485.	45600.	36588.	117.61		
+	ROUTED TO	7R	139240.	17.17	112420.	45473.	36484.	117.61		
+	HYDROGRAPH AT	3BPMP	97359.	14.00	55824.	20198.	16331.	14.78		
+	ROUTED TO	9R	95881.	15.17	55720.	20194.	16318.	14.78		
+	HYDROGRAPH AT	1BPMP	40750.	15.50	30495.	11553.	9277.	25.74		
+	HYDROGRAPH AT	2BPMP	24433.	13.25	10428.	3447.	2767.	7.72		
+	3 COMBINED AT	4C	143883.	15.08	94936.	35119.	28362.	48.24		
+	ROUTED TO	4R	138725.	18.58	94206.	34684.	27827.	48.24		
+	HYDROGRAPH AT	4BPMP	28415.	15.25	20702.	7663.	6151.	21.47		
+	HYDROGRAPH AT	5BPMP	1201.	12.25	219.	71.	57.	0.20		
+	4 COMBINED AT	3C	275820.	18.25	218445.	87890.	70518.	187.52		
+	ROUTED TO	3R	271345.	21.42	217161.	84002.	67389.	187.52		

```
      HYDROGRAPH AT
+                12BPMP   26801.  15.17    19253.    7061.    5668.   20.36

      2 COMBINED AT
+                    2C  276692.  21.42   223328.   91063.   73057.  207.88

      ROUTED TO
+                    2R  276692.  21.42   223328.   91063.   73057.  207.88
```

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

APPENDIX D

Hydraulic Model Simulation Files

HEC-RAS Version 3.1.3 May 2005
U.S. Army Corp of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

```
X   X XXXXXX  XXXX    XXXX    XX   XXXX
X   X X    X  X    X  X   X X  X
X   X X    X       X  X  X  X  X
XXXXXXX XXXX  X    XXX XXXX   XXXXXX  XXXX
X   X X    X       X  X  X  X    X
X   X X    X  X    X  X  X  X    X
X   X XXXXXX  XXXX    X  X  X  X  XXXXX
```

PROJECT DATA
Project Title: Valenciano Dam Break Analysis
Project File : valenciano10.prj
Run Date and Time: 2/16/2007 4:07:40 PM

Project in SI units

PLAN DATA

Plan Title: Valenciano Dam PMP with Dam (new spill.)
Plan File : C:\Documents and Settings\user\My Documents\Projects\Valenciano\Finalrun\valenciano10.p09

Geometry Title: Valenciano Cross Sections with Dam
Geometry File : C:\Documents and Settings\user\My Documents\Projects\Valenciano\Finalrun\valenciano10.g01

Flow Title :
Flow File :

Plan Summary Information:
Number of: Cross Sections = 19 Multiple Openings = 0
Culverts = 0 Inline Structures = 1
Bridges = 0 Lateral Structures = 0

Computational Information
Water surface calculation tolerance = 0.003
Critical depth calculation tolerance = 0.003
Maximum number of iterations = 20
Maximum difference tolerance = 0.1
Flow tolerance factor = 0.001

Computation Options
Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 100

CROSS SECTION OUTPUT Profile #01JAN2006 1420

E.G. Elev (m)	120.03	Element	Left OB	Channel	Right OB
Vel Head (m)	12.83	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	107.20	Reach Len. (m)	3811.95	4023.17	3585.51
Crit W.S. (m)	109.97	Flow Area (m2)	93.47	90.28	113.21
E.G. Slope (m/m)	0.009772	Area (m2)	93.47	90.28	113.21
Q Total (m3/s)	2664.25	Flow (m3/s)	295.74	1742.27	626.23
Top Width (m)	128.37	Top Width (m)	77.30	10.76	40.32

Vel Total (m/s)	8.97	Avg. Vel. (m/s)	3.16	19.30	5.53
Max Chl Dpth (m)	9.00	Hydr. Depth (m)	1.21	8.39	2.81
Conv. Total (m3/s)	26950.8	Conv. (m3/s)	2991.7	17624.4	6334.8
Length Wtd. (m)	3946.58	Wetted Per. (m)	78.84	11.70	41.31
Min Ch El (m)	98.20	Shear (N/m2)	113.62	739.39	262.65
Alpha	3.13	Stream Power (N/m s)	359.50	14269.89	1452.87
Frctn Loss (m)	2.08	Cum Volume (1000 m3)	14642.35	14790.91	9302.14
C & E Loss (m)		Cum SA (1000 m2)	5485.50	2134.05	4265.35

Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The cross section had to be extended vertically during the critical depth calculations.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.
Warning: The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 80

CROSS SECTION OUTPUT Profile #01JAN2006 1420

E.G. Elev (m)	90.87	Element	Left OB	Channel	Right OB
Vel Head (m)	0.56	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	90.32	Reach Len. (m)	327.57	333.52	336.32
Crit W.S. (m)		Flow Area (m2)	229.32	780.44	183.32
E.G. Slope (m/m)	0.000186	Area (m2)	229.32	780.44	183.32
Q Total (m3/s)	2985.81	Flow (m3/s)	123.52	2702.12	160.18
Top Width (m)	255.80	Top Width (m)	140.43	61.28	54.09
Vel Total (m/s)	2.50	Avg. Vel. (m/s)	0.54	3.46	0.87
Max Chl Dpth (m)	16.04	Hydr. Depth (m)	1.63	12.74	3.39
Conv. Total (m3/s)	219168.6	Conv. (m3/s)	9066.5	198344.7	11757.5
Length Wtd. (m)	333.37	Wetted Per. (m)	140.87	68.10	54.50
Min Ch El (m)	74.28	Shear (N/m2)	2.96	20.86	6.12
Alpha	1.74	Stream Power (N/m s)	1.60	72.21	5.35
Frctn Loss (m)	0.06	Cum Volume (1000 m3)	14027.13	13039.40	8770.54
C & E Loss (m)		Cum SA (1000 m2)	5070.52	1989.14	4096.10

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 79

CROSS SECTION OUTPUT Profile #01JAN2006 1420

E.G. Elev (m)	90.81	Element	Left OB	Channel	Right OB
Vel Head (m)	0.63	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	90.18	Reach Len. (m)	145.42	150.59	160.69
Crit W.S. (m)		Flow Area (m2)	151.68	764.03	92.86
E.G. Slope (m/m)	0.000197	Area (m2)	151.68	764.03	92.86
Q Total (m3/s)	3016.53	Flow (m3/s)	144.23	2787.22	85.09
Top Width (m)	126.57	Top Width (m)	40.88	59.80	25.88
Vel Total (m/s)	2.99	Avg. Vel. (m/s)	0.95	3.65	0.92
Max Chl Dpth (m)	16.48	Hydr. Depth (m)	3.71	12.78	3.59
Conv. Total (m3/s)	215030.4	Conv. (m3/s)	10281.2	198683.9	6065.2
Length Wtd. (m)	152.12	Wetted Per. (m)	41.51	64.42	26.86
Min Ch El (m)	73.70	Shear (N/m2)	7.05	22.89	6.67
Alpha	1.38	Stream Power (N/m s)	6.70	83.50	6.11
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	13964.72	12781.84	8724.10
C & E Loss (m)		Cum SA (1000 m2)	5040.82	1968.95	4082.65

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for

additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 78

CROSS SECTION OUTPUT Profile #01JAN2006 1420

E.G. Elev (m)	101.92	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	101.89	Reach Len. (m)	99.12	93.82	99.87
Crit W.S. (m)	86.03	Flow Area (m2)	1526.96	898.02	2604.76
E.G. Slope (m/m)	0.000009	Area (m2)	1526.96	898.02	2604.76
Q Total (m3/s)	3029.87	Flow (m3/s)	703.06	1061.37	1265.44
Top Width (m)	356.80	Top Width (m)	124.27	34.21	198.33
Vel Total (m/s)	0.60	Avg. Vel. (m/s)	0.46	1.18	0.49
Max Chl Dpth (m)	28.62	Hydr. Depth (m)	12.29	26.25	13.13
Conv. Total (m3/s)	986925.8	Conv. (m3/s)	229009.0	345721.7	412195.0
Length Wtd. (m)	93.82	Wetted Per. (m)	126.97	42.03	199.83
Min Ch El (m)	73.27	Shear (N/m2)	1.11	1.97	1.20
Alpha	1.76	Stream Power (N/m s)	0.51	2.33	0.59
Frctn Loss (m)		Cum Volume (1000 m3)	13842.67	12656.70	8507.36
C & E Loss (m)		Cum SA (1000 m2)	5028.81	1961.87	4064.64

Warning: The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Warning: The energy computed by the inline structure equations at the upstream cross section is lower than the energy at the downstream cross section. The energy at the upstream cross section has been set to the energy at the downstream cross section.

INLINE STRUCTURE

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 77.1

INLINE STRUCTURE OUTPUT Profile #01JAN2006 1420 Inl Struct:

E.G. Elev (m)	101.98	Q Gates (m3/s)	
W.S. Elev (m)	101.95	Q Gate Group (m3/s)	4.68
Q Total (m3/s)	3029.87	Gate Open Ht (m)	45513.83
Q Weir (m3/s)	3029.87	Gate #Open	81218
Weir Flow Area (m2)	1075.10	Gate Area (m2)	5919.73
Weir Sta Lft (m)	155.46	Gate Submerg	4386.57
Weir Sta Rgt (m)	227.96	Gate Invert (m)	6098.57
Weir Max Depth (m)	28.68		
Weir Avg Depth (m)	14.83		
Weir Submerg	0.94		
Min El Weir Flow (m)	73.30		
Wr Top Wdth (m)	72.50		

Warning: The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Warning: The energy computed by the inline structure equations at the upstream cross section is lower than the energy at the downstream cross section. The energy at the upstream cross section has been set to the energy at the downstream cross section.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 77

CROSS SECTION OUTPUT Profile #01JAN2006 1420

E.G. Elev (m)	101.92	Element	Left OB	Channel	Right OB
Vel Head (m)	15.88	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	86.04	Reach Len. (m)	669.32	650.00	619.21
Crit W.S. (m)	90.30	Flow Area (m2)	50.37	125.54	48.79
E.G. Slope (m/m)	0.014766	Area (m2)	50.37	125.54	48.79
Q Total (m3/s)	3029.87	Flow (m3/s)	313.40	2441.59	274.88
Top Width (m)	55.56	Top Width (m)	20.38	12.17	23.01
Vel Total (m/s)	13.48	Avg. Vel. (m/s)	6.22	19.45	5.63
Max Chl Dpth (m)	13.04	Hydr. Depth (m)	2.47	10.32	2.12
Conv. Total (m3/s)	24933.6	Conv. (m3/s)	2579.0	20092.5	2262.1
Length Wtd. (m)	649.41	Wetted Per. (m)	21.00	21.92	23.60
Min Ch El (m)	73.00	Shear (N/m2)	347.38	829.35	299.34
Alpha	1.71	Stream Power (N/m s)	2161.32	16130.30	1686.54
Frctn Loss (m)	9.65	Cum Volume (1000 m3)	13764.50	12608.68	8374.85
C & E Loss (m)		Cum SA (1000 m2)	5021.64	1959.69	4053.59

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 73.0431*

CROSS SECTION OUTPUT Profile #01JAN2006 1420

E.G. Elev (m)	95.28	Element	Left OB	Channel	Right OB
Vel Head (m)	18.78	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	76.51	Reach Len. (m)	683.91	664.17	632.71
Crit W.S. (m)	82.13	Flow Area (m2)	10.69	150.07	14.61
E.G. Slope (m/m)	0.014949	Area (m2)	10.69	150.07	14.61
Q Total (m3/s)	3044.32	Flow (m3/s)	45.79	2932.53	66.00
Top Width (m)	34.86	Top Width (m)	7.31	18.06	9.50
Vel Total (m/s)	17.36	Avg. Vel. (m/s)	4.28	19.54	4.52
Max Chl Dpth (m)	10.38	Hydr. Depth (m)	1.46	8.31	1.54
Conv. Total (m3/s)	24898.9	Conv. (m3/s)	374.5	23984.5	539.8
Length Wtd. (m)	663.73	Wetted Per. (m)	7.87	26.26	9.94
Min Ch El (m)	66.13	Shear (N/m2)	199.11	837.79	215.50
Alpha	1.22	Stream Power (N/m s)	853.08	16371.14	973.29
Frctn Loss (m)	5.58	Cum Volume (1000 m3)	13744.06	12519.11	8355.22
C & E Loss (m)		Cum SA (1000 m2)	5012.38	1949.87	4043.52

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 69

CROSS SECTION OUTPUT Profile #01JAN2006 1420

E.G. Elev (m)	78.73	Element	Left OB	Channel	Right OB
Vel Head (m)	8.87	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	69.86	Reach Len. (m)	623.36	532.00	469.89
Crit W.S. (m)	72.75	Flow Area (m2)	14.66	218.38	22.74
E.G. Slope (m/m)	0.005387	Area (m2)	14.66	218.38	22.74
Q Total (m3/s)	3055.65	Flow (m3/s)	44.19	2935.70	75.76
Top Width (m)	42.31	Top Width (m)	7.58	24.07	10.66
Vel Total (m/s)	11.95	Avg. Vel. (m/s)	3.01	13.44	3.33

Max Chl Dpth (m)	10.76	Hydr. Depth (m)	1.93	9.07	2.13
Conv. Total (m3/s)	41634.1	Conv. (m3/s)	602.0	39999.8	1032.3
Length Wtd. (m)	534.76	Wetted Per. (m)	8.51	31.14	11.36
Min Ch El (m)	59.10	Shear (N/m2)	91.00	370.37	105.77
Alpha	1.22	Stream Power (N/m s)	274.20	4979.03	352.33
Frctn Loss (m)	3.01	Cum Volume (1000 m3)	13735.39	12396.76	8343.40
C & E Loss (m)		Cum SA (1000 m2)	5007.29	1935.88	4037.15

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 67

CROSS SECTION OUTPUT Profile #01JAN2006 1420

E.G. Elev (m)	71.80	Element	Left OB	Channel	Right OB
Vel Head (m)	4.90	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	66.90	Reach Len. (m)	786.30	870.97	1210.02
Crit W.S. (m)	68.52	Flow Area (m2)	129.22	259.51	90.39
E.G. Slope (m/m)	0.005855	Area (m2)	129.22	259.51	90.39
Q Total (m3/s)	3447.89	Flow (m3/s)	383.49	2799.59	264.81
Top Width (m)	183.82	Top Width (m)	81.63	44.13	58.05
Vel Total (m/s)	7.20	Avg. Vel. (m/s)	2.97	10.79	2.93
Max Chl Dpth (m)	12.90	Hydr. Depth (m)	1.58	5.88	1.56
Conv. Total (m3/s)	45059.2	Conv. (m3/s)	5011.7	36586.8	3460.7
Length Wtd. (m)	938.05	Wetted Per. (m)	81.71	54.81	58.26
Min Ch El (m)	54.00	Shear (N/m2)	90.81	271.87	89.07
Alpha	1.86	Stream Power (N/m s)	269.48	2932.95	260.96
Frctn Loss (m)	4.93	Cum Volume (1000 m3)	13690.55	12269.64	8316.82
C & E Loss (m)		Cum SA (1000 m2)	4979.48	1917.74	4021.00

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 58

CROSS SECTION OUTPUT Profile #01JAN2006 1420

E.G. Elev (m)	63.17	Element	Left OB	Channel	Right OB
Vel Head (m)	1.31	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	61.85	Reach Len. (m)	693.28	743.03	725.17
Crit W.S. (m)	62.24	Flow Area (m2)	374.72	177.33	530.46
E.G. Slope (m/m)	0.004760	Area (m2)	374.72	177.33	530.46
Q Total (m3/s)	3529.37	Flow (m3/s)	776.73	1347.22	1405.42
Top Width (m)	790.83	Top Width (m)	355.33	48.33	387.17
Vel Total (m/s)	3.26	Avg. Vel. (m/s)	2.07	7.60	2.65
Max Chl Dpth (m)	8.85	Hydr. Depth (m)	1.05	3.67	1.37
Conv. Total (m3/s)	51155.8	Conv. (m3/s)	11258.2	19527.1	20370.6
Length Wtd. (m)	729.81	Wetted Per. (m)	356.25	54.26	387.95
Min Ch El (m)	53.00	Shear (N/m2)	49.10	152.56	63.82
Alpha	2.42	Stream Power (N/m s)	101.77	1159.07	169.10
Frctn Loss (m)	0.58	Cum Volume (1000 m3)	13492.42	12079.40	7941.21
C & E Loss (m)		Cum SA (1000 m2)	4807.69	1877.47	3751.64

Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 21

CROSS SECTION OUTPUT Profile #01JAN2006 1420

E.G. Elev (m)	60.68	Element	Left OB	Channel	Right OB
Vel Head (m)	0.39	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	60.29	Reach Len. (m)	490.22	585.85	483.58
Crit W.S. (m)		Flow Area (m2)	126.38	566.52	1586.36
E.G. Slope (m/m)	0.000319	Area (m2)	126.38	566.52	1586.36
Q Total (m3/s)	3650.73	Flow (m3/s)	70.00	2030.86	1549.86
Top Width (m)	776.30	Top Width (m)	111.64	65.71	598.95
Vel Total (m/s)	1.60	Avg. Vel. (m/s)	0.55	3.58	0.98
Max Chl Dpth (m)	9.29	Hydr. Depth (m)	1.13	8.62	2.65
Conv. Total (m3/s)	204361.0	Conv. (m3/s)	3918.6	113683.9	86758.5
Length Wtd. (m)	554.30	Wetted Per. (m)	111.78	70.46	599.01
Min Ch El (m)	51.00	Shear (N/m2)	3.54	25.16	8.29
Alpha	2.95	Stream Power (N/m s)	1.96	90.20	8.10
Frctn Loss (m)	0.31	Cum Volume (1000 m3)	13318.72	11803.05	7173.68
C & E Loss (m)		Cum SA (1000 m2)	4645.82	1835.10	3394.09

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 17

CROSS SECTION OUTPUT Profile #01JAN2006 1420

E.G. Elev (m)	61.13	Element	Left OB	Channel	Right OB
Vel Head (m)	1.72	Wt. n-Val.	0.025	0.017	0.025
W.S. Elev (m)	59.41	Reach Len. (m)	910.92	982.07	907.66
Crit W.S. (m)		Flow Area (m2)	32.42	581.34	448.17
E.G. Slope (m/m)	0.000965	Area (m2)	32.42	581.34	448.17
Q Total (m3/s)	4700.99	Flow (m3/s)	45.69	3736.52	918.78
Top Width (m)	451.05	Top Width (m)	26.70	89.02	335.33
Vel Total (m/s)	4.43	Avg. Vel. (m/s)	1.41	6.43	2.05
Max Chl Dpth (m)	9.41	Hydr. Depth (m)	1.21	6.53	1.34
Conv. Total (m3/s)	151368.8	Conv. (m3/s)	1471.2	120313.5	29584.2
Length Wtd. (m)	969.64	Wetted Per. (m)	26.82	92.13	335.90
Min Ch El (m)	50.00	Shear (N/m2)	11.43	59.69	12.62
Alpha	1.72	Stream Power (N/m s)	16.11	383.62	25.87
Frctn Loss (m)	1.38	Cum Volume (1000 m3)	13279.80	11466.81	6681.75
C & E Loss (m)		Cum SA (1000 m2)	4611.91	1789.78	3168.19

Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano

REACH: Valenciano Upstr RS: 15

CROSS SECTION OUTPUT Profile #01JAN2006 1420

E.G. Elev (m)	59.83	Element	Left OB	Channel	Right OB
Vel Head (m)	1.94	Wt. n-Val.	0.035	0.030	0.035
W.S. Elev (m)	57.89	Reach Len. (m)	649.59	787.12	797.68
Crit W.S. (m)	58.47	Flow Area (m2)	0.92	630.41	496.25
E.G. Slope (m/m)	0.002281	Area (m2)	0.92	630.41	496.25
Q Total (m3/s)	4777.98	Flow (m3/s)	0.71	4156.54	620.73
Top Width (m)	630.32	Top Width (m)	1.08	62.52	566.72
Vel Total (m/s)	4.24	Avg. Vel. (m/s)	0.77	6.59	1.25
Max Chl Dpth (m)	10.90	Hydr. Depth (m)	0.85	10.08	0.88
Conv. Total (m3/s)	100043.4	Conv. (m3/s)	14.8	87031.5	12997.1
Length Wtd. (m)	776.05	Wetted Per. (m)	2.19	74.79	566.83
Min Ch El (m)	47.00	Shear (N/m2)	9.43	188.53	19.58
Alpha	2.12	Stream Power (N/m s)	7.23	1243.08	24.49
Frctn Loss (m)	1.04	Cum Volume (1000 m3)	13264.61	10871.80	6253.15
C & E Loss (m)		Cum SA (1000 m2)	4599.26	1715.37	2758.81

Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 14

CROSS SECTION OUTPUT Profile #01JAN2006 1420

E.G. Elev (m)	57.48	Element	Left OB	Channel	Right OB
Vel Head (m)	0.39	Wt. n-Val.	0.035	0.030	0.035
W.S. Elev (m)	57.09	Reach Len. (m)	3427.88	3857.33	3600.30
Crit W.S. (m)		Flow Area (m2)	510.33	665.47	1029.49
E.G. Slope (m/m)	0.000890	Area (m2)	510.33	665.47	1029.49
Q Total (m3/s)	4833.67	Flow (m3/s)	936.18	2392.15	1505.34
Top Width (m)	713.21	Top Width (m)	161.27	94.09	457.86
Vel Total (m/s)	2.19	Avg. Vel. (m/s)	1.83	3.59	1.46
Max Chl Dpth (m)	10.59	Hydr. Depth (m)	3.16	7.07	2.25
Conv. Total (m3/s)	162064.9	Conv. (m3/s)	31388.5	80204.8	50471.6
Length Wtd. (m)	3698.35	Wetted Per. (m)	161.57	96.79	458.01
Min Ch El (m)	46.50	Shear (N/m2)	27.55	59.98	19.61
Alpha	1.61	Stream Power (N/m s)	50.55	215.59	28.67
Frctn Loss (m)	4.27	Cum Volume (1000 m3)	13098.56	10361.80	5644.62
C & E Loss (m)		Cum SA (1000 m2)	4546.53	1653.73	2350.17

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 10

CROSS SECTION OUTPUT Profile #01JAN2006 1420

E.G. Elev (m)	53.77	Element	Left OB	Channel	Right OB
Vel Head (m)	1.87	Wt. n-Val.	0.035	0.017	0.035
W.S. Elev (m)	51.91	Reach Len. (m)	1283.77	1260.97	888.51
Crit W.S. (m)	51.94	Flow Area (m2)	719.65	411.13	145.43

E.G. Slope (m/m)	0.001547	Area (m2)	719.65	411.13	145.43
Q Total (m3/s)	4918.80	Flow (m3/s)	1658.40	3068.57	191.83
Top Width (m)	452.90	Top Width (m)	244.81	70.06	138.03
Vel Total (m/s)	3.85	Avg. Vel. (m/s)	2.30	7.46	1.32
Max Chl Dpth (m)	7.91	Hydr. Depth (m)	2.94	5.87	1.05
Conv. Total (m3/s)	125049.0	Conv. (m3/s)	42161.0	78011.2	4876.8
Length Wtd. (m)	1259.36	Wetted Per. (m)	245.10	70.96	138.56
Min Ch El (m)	44.00	Shear (N/m2)	44.55	87.90	15.93
Alpha	2.46	Stream Power (N/m s)	102.67	656.10	21.01
Frctn Loss (m)	1.69	Cum Volume (1000 m3)	10990.46	8285.40	3529.59
C & E Loss (m)		Cum SA (1000 m2)	3850.55	1337.14	1277.49

Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 7

CROSS SECTION OUTPUT Profile #01JAN2006 1420

E.G. Elev (m)	51.41	Element	Left OB	Channel	Right OB
Vel Head (m)	0.38	Wt. n-Val.	0.035	0.025	0.035
W.S. Elev (m)	51.03	Reach Len. (m)	1597.57	1918.90	1643.33
Crit W.S. (m)		Flow Area (m2)	1713.78	554.38	150.86
E.G. Slope (m/m)	0.001195	Area (m2)	1713.78	554.38	150.86
Q Total (m3/s)	5484.72	Flow (m3/s)	3251.52	2079.55	153.65
Top Width (m)	909.64	Top Width (m)	643.17	122.74	143.72
Vel Total (m/s)	2.27	Avg. Vel. (m/s)	1.90	3.75	1.02
Max Chl Dpth (m)	7.03	Hydr. Depth (m)	2.66	4.52	1.05
Conv. Total (m3/s)	158670.2	Conv. (m3/s)	94064.8	60160.5	4444.9
Length Wtd. (m)	1685.18	Wetted Per. (m)	643.64	124.06	144.80
Min Ch El (m)	44.00	Shear (N/m2)	31.20	52.36	12.21
Alpha	1.46	Stream Power (N/m s)	59.19	196.41	12.43
Frctn Loss (m)	1.24	Cum Volume (1000 m3)	9428.47	7676.66	3397.96
C & E Loss (m)		Cum SA (1000 m2)	3280.56	1215.58	1152.32

Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 6

CROSS SECTION OUTPUT Profile #01JAN2006 1420

E.G. Elev (m)	49.95	Element	Left OB	Channel	Right OB
Vel Head (m)	0.06	Wt. n-Val.	0.050	0.045	0.050
W.S. Elev (m)	49.90	Reach Len. (m)	1787.59	2081.40	1639.64
Crit W.S. (m)		Flow Area (m2)	2845.04	301.64	1427.57
E.G. Slope (m/m)	0.000472	Area (m2)	2845.04	301.64	1427.57
Q Total (m3/s)	4688.17	Flow (m3/s)	2821.43	473.66	1393.08
Top Width (m)	1298.77	Top Width (m)	824.67	50.19	423.91
Vel Total (m/s)	1.02	Avg. Vel. (m/s)	0.99	1.57	0.98
Max Chl Dpth (m)	6.90	Hydr. Depth (m)	3.45	6.01	3.37
Conv. Total (m3/s)	215715.0	Conv. (m3/s)	129821.6	21794.1	64099.2
Length Wtd. (m)	1871.76	Wetted Per. (m)	825.56	51.45	424.38
Min Ch El (m)	43.00	Shear (N/m2)	15.96	27.16	15.58
Alpha	1.07	Stream Power (N/m s)	15.83	42.64	15.20
Frctn Loss (m)	0.29	Cum Volume (1000 m3)	5786.96	6855.36	2101.02

C & E Loss (m)	Cum SA (1000 m2)	2108.07	1049.66	685.91

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 5

CROSS SECTION OUTPUT Profile #01JAN2006 1420

E.G. Elev (m)	49.47	Element	Left OB	Channel	Right OB
Vel Head (m)	0.05	Wt. n-Val.	0.035	0.025	0.035
W.S. Elev (m)	49.42	Reach Len. (m)	631.86	824.34	767.18
Crit W.S. (m)		Flow Area (m2)	846.60	2440.89	626.69
E.G. Slope (m/m)	0.000062	Area (m2)	846.60	2440.89	626.69
Q Total (m3/s)	3387.39	Flow (m3/s)	406.46	2688.59	292.33
Top Width (m)	920.12	Top Width (m)	340.84	370.58	208.69
Vel Total (m/s)	0.87	Avg. Vel. (m/s)	0.48	1.10	0.47
Max Chl Dpth (m)	7.42	Hydr. Depth (m)	2.48	6.59	3.00
Conv. Total (m3/s)	431617.1	Conv. (m3/s)	51791.1	342577.4	37248.6
Length Wtd. (m)	802.27	Wetted Per. (m)	341.72	371.38	208.86
Min Ch El (m)	42.00	Shear (N/m2)	1.50	3.97	1.81
Alpha	1.35	Stream Power (N/m s)	0.72	4.37	0.85
Frctn Loss (m)	0.02	Cum Volume (1000 m3)	2487.38	4001.22	416.90
C & E Loss (m)		Cum SA (1000 m2)	1066.35	611.76	167.29

Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 4

CROSS SECTION OUTPUT Profile #01JAN2006 1420

E.G. Elev (m)	49.44	Element	Left OB	Channel	Right OB
Vel Head (m)	0.04	Wt. n-Val.	0.035	0.015	0.035
W.S. Elev (m)	49.41	Reach Len. (m)	1081.21	1049.13	952.21
Crit W.S. (m)		Flow Area (m2)	1161.05	2924.27	202.44
E.G. Slope (m/m)	0.000014	Area (m2)	1161.05	2924.27	202.44
Q Total (m3/s)	2777.71	Flow (m3/s)	202.74	2538.66	36.30
Top Width (m)	1196.92	Top Width (m)	661.73	443.59	91.61
Vel Total (m/s)	0.65	Avg. Vel. (m/s)	0.17	0.87	0.18
Max Chl Dpth (m)	7.41	Hydr. Depth (m)	1.75	6.59	2.21
Conv. Total (m3/s)	748736.9	Conv. (m3/s)	54648.9	684302.9	9785.2
Length Wtd. (m)	1059.88	Wetted Per. (m)	662.66	444.67	92.00
Min Ch El (m)	42.00	Shear (N/m2)	0.24	0.89	0.30
Alpha	1.65	Stream Power (N/m s)	0.04	0.77	0.05
Frctn Loss (m)	0.03	Cum Volume (1000 m3)	1853.11	1789.86	98.86
C & E Loss (m)		Cum SA (1000 m2)	749.61	276.19	52.09

Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 3

CROSS SECTION OUTPUT Profile #01JAN2006 1420

E.G. Elev (m)	49.37	Element	Left OB	Channel	Right OB	
Vel Head (m)	0.03	Wt. n-Val.	0.035	0.035	0.035	
W.S. Elev (m)	49.34	Reach Len. (m)				
Crit W.S. (m)	46.55	Flow Area (m2)	2266.80	487.81	5.21	
E.G. Slope (m/m)	0.000117	Area (m2)	2266.80	487.81	5.21	
Q Total (m3/s)	1970.61	Flow (m3/s)	1499.80	470.09	0.72	
Top Width (m)	825.61	Top Width (m)	724.89	82.92	17.81	
Vel Total (m/s)	0.71	Avg. Vel. (m/s)	0.66	0.96	0.14	
Max Chl Dpth (m)	7.34	Hydr. Depth (m)	3.13	5.88	0.29	
Conv. Total (m3/s)	182121.3	Conv. (m3/s)	138610.1	43445.0	66.2	
Length Wtd. (m)		Wetted Per. (m)	725.39	88.64	17.91	
Min Ch El (m)	42.00	Shear (N/m2)	3.59	6.32	0.33	
Alpha	1.09	Stream Power (N/m s)	2.37	6.09	0.05	
Frctn Loss (m)		Cum Volume (1000 m3)				
C & E Loss (m)		Cum SA (1000 m2)				

Warning: Divided flow computed for this cross-section.

SUMMARY OF MANNING'S N VALUES

River:Rio Valenciano

Reach	River Sta.	n1	n2	n3
Valenciano Upstr	100	.035	.02	.035
Valenciano Upstr	80	.035	.02	.035
Valenciano Upstr	79	.035	.02	.035
Valenciano Upstr	78	.035	.02	.035
Valenciano Upstr	77.1	Inl Struct		
Valenciano Upstr	77	.035	.02	.035
Valenciano Upstr	73.0431*	.035	.02	.035
Valenciano Upstr	69	.035	.02	.035
Valenciano Upstr	67	.035	.02	.035
Valenciano Upstr	58	.035	.02	.035
Valenciano Upstr	21	.035	.02	.035
Valenciano Upstr	17	.025	.0165	.025
Valenciano Upstr	15	.035	.03	.035
Valenciano Upstr	14	.035	.03	.035
Valenciano Upstr	10	.035	.017	.035
Valenciano Upstr	7	.035	.025	.035
Valenciano Upstr	6	.05	.045	.05
Valenciano Upstr	5	.035	.025	.035
Valenciano Upstr	4	.035	.015	.035
Valenciano Upstr	3	.035	.035	.035

SUMMARY OF REACH LENGTHS

River: Rio Valenciano

Reach	River Sta.	Left	Channel	Right
Valenciano Upstr	100	3811.95	4023.17	3585.51
Valenciano Upstr	80	327.57	333.52	336.32
Valenciano Upstr	79	145.42	150.59	160.69
Valenciano Upstr	78	99.12	93.82	99.87
Valenciano Upstr	77.1	Inl Struct		
Valenciano Upstr	77	669.319	650	619.211
Valenciano Upstr	73.0431*	683.911	664.17	632.709
Valenciano Upstr	69	623.36	532	469.89
Valenciano Upstr	67	786.3	870.97	1210.02
Valenciano Upstr	58	693.28	743.03	725.17
Valenciano Upstr	21	490.22	585.85	483.58
Valenciano Upstr	17	910.92	982.07	907.66
Valenciano Upstr	15	649.59	787.12	797.68
Valenciano Upstr	14	3427.88	3857.33	3600.3
Valenciano Upstr	10	1283.77	1260.97	888.51

Valenciano Upstr	7	1597.57	1918.9	1643.33
Valenciano Upstr	6	1787.59	2081.4	1639.64
Valenciano Upstr	5	631.86	824.34	767.18
Valenciano Upstr	4	1081.21	1049.13	952.21
Valenciano Upstr	3		826.21	

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Rio Valenciano

Reach	River Sta.	Contr.	Expan.
Valenciano Upstr	100	.1	.3
Valenciano Upstr	80	.1	.3
Valenciano Upstr	79	.1	.3
Valenciano Upstr	78	.1	.3
Valenciano Upstr	77.1	Inl Struct	
Valenciano Upstr	77	.1	.3
Valenciano Upstr	73.0431*	.1	.3
Valenciano Upstr	69	.1	.3
Valenciano Upstr	67	.1	.3
Valenciano Upstr	58	.1	.3
Valenciano Upstr	21	.1	.3
Valenciano Upstr	17	.1	.3
Valenciano Upstr	15	.1	.3
Valenciano Upstr	14	.1	.3
Valenciano Upstr	10	.1	.3
Valenciano Upstr	7	.1	.3
Valenciano Upstr	6	.1	.3
Valenciano Upstr	5	.1	.3
Valenciano Upstr	4	.1	.3
Valenciano Upstr	3	.1	.3

Profile Output Table - Standard Table 1

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m/m)	E.G. Slope (m/s)	Vel Chnl (m2)	Flow Area (m)	Top Width	Froude # Chl
Valenciano Upstr	100	01JAN2006 1420	2664.25	98.20	107.20	109.97	120.03	0.009772	19.30	296.96	128.37	2.13
Valenciano Upstr	80	01JAN2006 1420	2985.81	74.28	90.32		90.87	0.000186	3.46	1193.07	255.80	0.31
Valenciano Upstr	79	01JAN2006 1420	3016.53	73.70	90.18		90.81	0.000197	3.65	1008.57	126.57	0.33
Valenciano Upstr	78	01JAN2006 1420	3029.87	73.27	101.89	86.03	101.92	0.000009	1.18	5029.73	356.80	0.07
Valenciano Upstr	77.1	Inl Struct										
Valenciano Upstr	77	01JAN2006 1420	3029.87	73.00	86.04	90.30	101.92	0.014766	19.45	224.70	55.56	1.93
Valenciano Upstr	73.0431*	01JAN2006 1420	3044.32	66.13	76.51	82.13	95.28	0.014949	19.54	175.37	34.86	2.16
Valenciano Upstr	69	01JAN2006 1420	3055.65	59.10	69.86	72.75	78.73	0.005387	13.44	255.78	42.31	1.42
Valenciano Upstr	67	01JAN2006 1420	3447.89	54.00	66.90	68.52	71.80	0.005855	10.79	479.12	183.82	1.42
Valenciano Upstr	58	01JAN2006 1420	3529.37	53.00	61.85	62.24	63.17	0.004760	7.60	1082.51	790.83	1.27
Valenciano Upstr	21	01JAN2006 1420	3650.73	51.00	60.29		60.68	0.000319	3.58	2279.26	776.30	0.39
Valenciano Upstr	17	01JAN2006 1420	4700.99	50.00	59.41		61.13	0.000965	6.43	1061.93	451.05	0.80
Valenciano Upstr	15	01JAN2006 1420	4777.98	47.00	57.89	58.47	59.83	0.002281	6.59	1127.58	630.32	0.66
Valenciano Upstr	14	01JAN2006 1420	4833.67	46.50	57.09		57.48	0.000890	3.59	2205.28	713.21	0.43
Valenciano Upstr	10	01JAN2006 1420	4918.80	44.00	51.91	51.94	53.77	0.001547	7.46	1276.21	452.90	0.98
Valenciano Upstr	7	01JAN2006 1420	5484.72	44.00	51.03		51.41	0.001195	3.75	2419.02	909.64	0.56
Valenciano Upstr	6	01JAN2006 1420	4688.17	43.00	49.90		49.95	0.000472	1.57	4574.25	1298.77	0.20
Valenciano Upstr	5	01JAN2006 1420	3387.39	42.00	49.42		49.47	0.000062	1.10	3914.17	920.12	0.14
Valenciano Upstr	4	01JAN2006 1420	2777.71	42.00	49.41		49.44	0.000014	0.87	4287.75	1196.92	0.11
Valenciano Upstr	3	01JAN2006 1420	1970.61	42.00	49.34	46.55	49.37	0.000117	0.96	2759.82	825.61	0.13

HEC-RAS Version 3.1.3 May 2005
U.S. Army Corp of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

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PROJECT DATA
Project Title: Valenciano Dam Break Analysis
Project File : valenciano10.prj
Run Date and Time: 2/16/2007 8:09:40 PM

Project in SI units

PLAN DATA

Plan Title: Valenciano Dam 100yr24hr with Dam
Plan File : C:\Documents and Settings\user\My Documents\Projects\Valenciano\Finalrun\valenciano10.p02

Geometry Title: Valenciano Cross Sections with Dam
Geometry File : C:\Documents and Settings\user\My Documents\Projects\Valenciano\Finalrun\valenciano10.g01

Flow Title :
Flow File :

Plan Summary Information:
Number of: Cross Sections = 19 Multiple Openings = 0
Culverts = 0 Inline Structures = 1
Bridges = 0 Lateral Structures = 0

Computational Information
Water surface calculation tolerance = 0.003
Critical depth calculation tolerance = 0.003
Maximum number of iterations = 20
Maximum difference tolerance = 0.1
Flow tolerance factor = 0.001

Computation Options
Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 100

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	109.17	Element	Left OB	Channel	Right OB
Vel Head (m)	3.93	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	105.25	Reach Len. (m)	3811.95	4023.17	3585.51
Crit W.S. (m)	106.77	Flow Area (m2)	24.58	69.30	58.92
E.G. Slope (m/m)	0.003802	Area (m2)	24.58	69.30	58.92
Q Total (m3/s)	956.71	Flow (m3/s)	63.99	699.40	193.32
Top Width (m)	45.71	Top Width (m)	12.38	10.76	22.58

Vel Total (m/s)	6.26	Avg. Vel. (m/s)	2.60	10.09	3.28
Max Chl Dpth (m)	7.05	Hydr. Depth (m)	1.99	6.44	2.61
Conv. Total (m3/s)	15515.4	Conv. (m3/s)	1037.7	11342.5	3135.2
Length Wtd. (m)	3917.45	Wetted Per. (m)	13.68	11.70	23.18
Min Ch El (m)	98.20	Shear (N/m2)	66.98	220.83	94.77
Alpha	1.97	Stream Power (N/m s)	174.39	2228.72	310.95
Frctn Loss (m)	0.02	Cum Volume (1000 m3)	15688.87	15080.62	6960.66
C & E Loss (m)		Cum SA (1000 m2)	5400.39	2133.30	3355.79

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 80

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	98.40	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	98.39	Reach Len. (m)	327.57	333.52	336.32
Crit W.S. (m)		Flow Area (m2)	1658.59	1275.25	753.64
E.G. Slope (m/m)	0.000001	Area (m2)	1658.59	1275.25	753.64
Q Total (m3/s)	734.85	Flow (m3/s)	194.16	449.99	90.70
Top Width (m)	346.23	Top Width (m)	199.11	61.28	85.84
Vel Total (m/s)	0.20	Avg. Vel. (m/s)	0.12	0.35	0.12
Max Chl Dpth (m)	24.11	Hydr. Depth (m)	8.33	20.81	8.78
Conv. Total (m3/s)	734258.1	Conv. (m3/s)	194000.8	449626.1	90631.3
Length Wtd. (m)	332.58	Wetted Per. (m)	200.24	68.10	87.28
Min Ch El (m)	74.28	Shear (N/m2)	0.08	0.18	0.08
Alpha	2.06	Stream Power (N/m s)	0.01	0.06	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	12480.80	12375.94	5503.93
C & E Loss (m)		Cum SA (1000 m2)	4997.30	1988.39	3161.41

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 79

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	98.40	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	98.39	Reach Len. (m)	145.42	150.59	160.69
Crit W.S. (m)		Flow Area (m2)	926.87	1254.56	474.74
E.G. Slope (m/m)	0.000001	Area (m2)	926.87	1254.56	474.74
Q Total (m3/s)	703.68	Flow (m3/s)	102.51	545.07	56.11
Top Width (m)	290.59	Top Width (m)	158.32	59.80	72.48
Vel Total (m/s)	0.26	Avg. Vel. (m/s)	0.11	0.43	0.12
Max Chl Dpth (m)	24.69	Hydr. Depth (m)	5.85	20.98	6.55
Conv. Total (m3/s)	586207.6	Conv. (m3/s)	85392.6	454073.8	46741.2
Length Wtd. (m)	151.99	Wetted Per. (m)	160.07	64.42	74.21
Min Ch El (m)	73.70	Shear (N/m2)	0.08	0.28	0.09
Alpha	2.12	Stream Power (N/m s)	0.01	0.12	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	12057.34	11954.07	5297.37
C & E Loss (m)		Cum SA (1000 m2)	4938.76	1968.20	3134.78

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 78

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	98.39	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	98.39	Reach Len. (m)	99.12	93.82	99.87
Crit W.S. (m)	78.42	Flow Area (m2)	1114.39	778.44	1928.86
E.G. Slope (m/m)	0.000001	Area (m2)	1114.39	778.44	1928.86
Q Total (m3/s)	689.67	Flow (m3/s)	147.23	276.97	265.48
Top Width (m)	332.94	Top Width (m)	112.70	34.21	186.03
Vel Total (m/s)	0.18	Avg. Vel. (m/s)	0.13	0.36	0.14
Max Chl Dpth (m)	25.12	Hydr. Depth (m)	9.89	22.76	10.37
Conv. Total (m3/s)	678435.4	Conv. (m3/s)	144829.9	272454.2	261151.4
Length Wtd. (m)	93.82	Wetted Per. (m)	114.87	42.03	186.99
Min Ch El (m)	73.27	Shear (N/m2)	0.10	0.19	0.10
Alpha	1.90	Stream Power (N/m s)	0.01	0.07	0.01
Frctn Loss (m)		Cum Volume (1000 m3)	11908.92	11801.00	5104.25
C & E Loss (m)		Cum SA (1000 m2)	4919.06	1961.12	3114.01

INLINE STRUCTURE

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 77.1

INLINE STRUCTURE OUTPUT Profile #Max WS Inl Struct:

E.G. Elev (m)	98.39	Q Gates (m3/s)	
W.S. Elev (m)	98.39	Q Gate Group (m3/s)	7.29
Q Total (m3/s)	689.67	Gate Open Ht (m)	0.30
Q Weir (m3/s)	689.67	Gate #Open	257
Weir Flow Area (m2)	216.87	Gate Area (m2)	
Weir Sta Lft (m)	155.46	Gate Submerg	
Weir Sta Rgt (m)	227.96	Gate Invert (m)	80.46
Weir Max Depth (m)	2.99		
Weir Avg Depth (m)	2.99		
Weir Submerg	0.00		
Min El Weir Flow (m)	95.40		
Wr Top Wdth (m)	72.50		

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 77

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	97.33	Element	Left OB	Channel	Right OB
Vel Head (m)	13.15	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	84.18	Reach Len. (m)	669.32	650.00	619.21
Crit W.S. (m)	88.35	Flow Area (m2)	19.70	102.89	18.37
E.G. Slope (m/m)	0.014347	Area (m2)	19.70	102.89	18.37
Q Total (m3/s)	1899.89	Flow (m3/s)	89.33	1727.56	83.01
Top Width (m)	36.37	Top Width (m)	12.51	12.17	11.69
Vel Total (m/s)	13.48	Avg. Vel. (m/s)	4.54	16.79	4.52
Max Chl Dpth (m)	11.18	Hydr. Depth (m)	1.57	8.46	1.57
Conv. Total (m3/s)	15861.7	Conv. (m3/s)	745.8	14422.9	693.0
Length Wtd. (m)	649.76	Wetted Per. (m)	12.91	21.92	12.12
Min Ch El (m)	73.00	Shear (N/m2)	214.64	660.44	213.37
Alpha	1.42	Stream Power (N/m s)	973.46	11088.88	963.87
Frctn Loss (m)	9.37	Cum Volume (1000 m3)	11852.71	11759.66	5007.02
C & E Loss (m)		Cum SA (1000 m2)	4912.85	1958.94	3104.14

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 73.0431*

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	87.89	Element	Left OB	Channel	Right OB
Vel Head (m)	13.28	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	74.60	Reach Len. (m)	683.91	664.17	632.71
Crit W.S. (m)	78.91	Flow Area (m2)	1.31	115.74	1.90
E.G. Slope (m/m)	0.014487	Area (m2)	1.31	115.74	1.90
Q Total (m3/s)	1879.09	Flow (m3/s)	2.74	1872.27	4.08
Top Width (m)	24.32	Top Width (m)	2.56	18.06	3.71
Vel Total (m/s)	15.80	Avg. Vel. (m/s)	2.09	16.18	2.15
Max Chl Dpth (m)	8.48	Hydr. Depth (m)	0.51	6.41	0.51
Conv. Total (m3/s)	15612.0	Conv. (m3/s)	22.8	15555.3	33.9
Length Wtd. (m)	664.05	Wetted Per. (m)	2.76	26.26	3.85
Min Ch El (m)	66.13	Shear (N/m2)	67.53	626.12	70.09
Alpha	1.04	Stream Power (N/m s)	141.45	10128.84	150.51
Frctn Loss (m)	4.48	Cum Volume (1000 m3)	11845.68	11688.60	5000.74
C & E Loss (m)		Cum SA (1000 m2)	4907.81	1949.12	3099.37

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 69

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	73.46	Element	Left OB	Channel	Right OB
Vel Head (m)	5.11	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	68.35	Reach Len. (m)	623.36	532.00	469.89
Crit W.S. (m)	69.58	Flow Area (m2)	5.44	182.01	9.24
E.G. Slope (m/m)	0.003867	Area (m2)	5.44	182.01	9.24
Q Total (m3/s)	1864.94	Flow (m3/s)	9.99	1836.24	18.72
Top Width (m)	35.91	Top Width (m)	4.62	24.07	7.21
Vel Total (m/s)	9.48	Avg. Vel. (m/s)	1.83	10.09	2.02
Max Chl Dpth (m)	9.25	Hydr. Depth (m)	1.18	7.56	1.28
Conv. Total (m3/s)	29988.7	Conv. (m3/s)	160.6	29527.1	301.0
Length Wtd. (m)	533.28	Wetted Per. (m)	5.19	31.14	7.60
Min Ch El (m)	59.10	Shear (N/m2)	39.79	221.64	46.14
Alpha	1.12	Stream Power (N/m s)	73.00	2236.01	93.43
Frctn Loss (m)	2.19	Cum Volume (1000 m3)	11843.37	11589.72	4997.21
C & E Loss (m)		Cum SA (1000 m2)	4905.35	1935.13	3095.92

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 67

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	69.38	Element	Left OB	Channel	Right OB
Vel Head (m)	3.27	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	66.10	Reach Len. (m)	786.30	870.97	1210.02
Crit W.S. (m)	67.09	Flow Area (m2)	66.61	224.19	47.18

E.G. Slope (m/m)	0.004328	Area (m2)	66.61	224.19	47.18
Q Total (m3/s)	2087.12	Flow (m3/s)	115.85	1886.04	85.23
Top Width (m)	168.85	Top Width (m)	74.81	44.13	49.90
Vel Total (m/s)	6.18	Avg. Vel. (m/s)	1.74	8.41	1.81
Max Chl Dpth (m)	12.10	Hydr. Depth (m)	0.89	5.08	0.95
Conv. Total (m3/s)	31726.0	Conv. (m3/s)	1761.1	28669.4	1295.5
Length Wtd. (m)	929.77	Wetted Per. (m)	74.84	54.81	50.08
Min Ch El (m)	54.00	Shear (N/m2)	37.77	173.60	39.99
Alpha	1.69	Stream Power (N/m s)	65.69	1460.43	72.23
Frctn Loss (m)	4.71	Cum Volume (1000 m3)	11820.91	11481.67	4983.96
C & E Loss (m)		Cum SA (1000 m2)	4880.59	1916.99	3082.50

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 58

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	62.86	Element	Left OB	Channel	Right OB
Vel Head (m)	1.67	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	61.19	Reach Len. (m)	693.28	743.03	725.17
Crit W.S. (m)	61.69	Flow Area (m2)	146.94	145.10	294.56
E.G. Slope (m/m)	0.006059	Area (m2)	146.94	145.10	294.56
Q Total (m3/s)	1999.96	Flow (m3/s)	207.55	1088.04	704.37
Top Width (m)	696.37	Top Width (m)	327.77	48.33	320.27
Vel Total (m/s)	3.41	Avg. Vel. (m/s)	1.41	7.50	2.39
Max Chl Dpth (m)	8.19	Hydr. Depth (m)	0.45	3.00	0.92
Conv. Total (m3/s)	25692.6	Conv. (m3/s)	2666.3	13977.5	9048.8
Length Wtd. (m)	734.32	Wetted Per. (m)	328.21	54.26	320.73
Min Ch El (m)	53.00	Shear (N/m2)	26.60	158.91	54.57
Alpha	2.82	Stream Power (N/m s)	37.58	1191.63	130.50
Frctn Loss (m)	0.50	Cum Volume (1000 m3)	11736.95	11320.86	4777.20
C & E Loss (m)		Cum SA (1000 m2)	4722.32	1876.72	2858.54

Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 21

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	59.22	Element	Left OB	Channel	Right OB
Vel Head (m)	0.27	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	58.95	Reach Len. (m)	490.22	585.85	483.58
Crit W.S. (m)		Flow Area (m2)	42.89	478.22	835.12
E.G. Slope (m/m)	0.000227	Area (m2)	42.89	478.22	835.12
Q Total (m3/s)	1843.17	Flow (m3/s)	21.95	1291.60	529.62
Top Width (m)	565.81	Top Width (m)	32.99	65.71	467.11
Vel Total (m/s)	1.36	Avg. Vel. (m/s)	0.51	2.70	0.63
Max Chl Dpth (m)	7.95	Hydr. Depth (m)	1.30	7.28	1.79
Conv. Total (m3/s)	122316.5	Conv. (m3/s)	1456.7	85713.0	35146.8
Length Wtd. (m)	568.90	Wetted Per. (m)	33.09	70.46	467.14
Min Ch El (m)	51.00	Shear (N/m2)	2.89	15.11	3.98
Alpha	2.83	Stream Power (N/m s)	1.48	40.82	2.52

Frctn Loss (m)	0.31	Cum Volume (1000 m3)	11671.15	11089.29	4367.59
C & E Loss (m)		Cum SA (1000 m2)	4597.27	1834.36	2573.05

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 17

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	59.50	Element	Left OB	Channel	Right OB
Vel Head (m)	1.77	Wt. n-Val.	0.017	0.025	
W.S. Elev (m)	57.74	Reach Len. (m)	910.92	982.07	907.66
Crit W.S. (m)	57.84	Flow Area (m2)	432.42	137.27	
E.G. Slope (m/m)	0.001282	Area (m2)	432.42	137.27	
Q Total (m3/s)	2882.22	Flow (m3/s)	2649.16	233.06	
Top Width (m)	194.16	Top Width (m)	88.07	106.10	
Vel Total (m/s)	5.06	Avg. Vel. (m/s)	6.13	1.70	
Max Chl Dpth (m)	7.74	Hydr. Depth (m)	4.91	1.29	
Conv. Total (m3/s)	80512.6	Conv. (m3/s)	74002.2	6510.4	
Length Wtd. (m)	978.98	Wetted Per. (m)	91.13	106.32	
Min Ch El (m)	50.00	Shear (N/m2)	59.63	16.23	
Alpha	1.36	Stream Power (N/m s)	365.31	27.55	
Frctn Loss (m)	1.52	Cum Volume (1000 m3)	11660.63	10822.54	4132.47
C & E Loss (m)		Cum SA (1000 m2)	4589.18	1789.31	2434.45

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 15

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	57.72	Element	Left OB	Channel	Right OB
Vel Head (m)	1.48	Wt. n-Val.	0.035	0.030	0.035
W.S. Elev (m)	56.25	Reach Len. (m)	649.59	787.12	797.68
Crit W.S. (m)		Flow Area (m2)	0.01	527.27	10.67
E.G. Slope (m/m)	0.001933	Area (m2)	0.01	527.27	10.67
Q Total (m3/s)	2845.99	Flow (m3/s)	0.00	2840.84	5.14
Top Width (m)	107.56	Top Width (m)	0.11	62.52	44.93
Vel Total (m/s)	5.29	Avg. Vel. (m/s)	0.17	5.39	0.48
Max Chl Dpth (m)	9.25	Hydr. Depth (m)	0.12	8.43	0.24
Conv. Total (m3/s)	64737.0	Conv. (m3/s)	0.1	64620.0	117.0
Length Wtd. (m)	777.72	Wetted Per. (m)	0.27	74.79	44.94
Min Ch El (m)	47.00	Shear (N/m2)	0.98	133.61	4.50
Alpha	1.04	Stream Power (N/m s)	0.17	719.88	2.17
Frctn Loss (m)	1.40	Cum Volume (1000 m3)	11660.63	10351.29	4065.33
C & E Loss (m)		Cum SA (1000 m2)	4589.13	1715.37	2365.91

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 14

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	56.13	Element	Left OB	Channel	Right OB
Vel Head (m)	0.69	Wt. n-Val.	0.035	0.030	0.035
W.S. Elev (m)	55.45	Reach Len. (m)	3427.88	3857.33	3600.30
Crit W.S. (m)		Flow Area (m2)	250.30	511.27	289.87
E.G. Slope (m/m)	0.001674	Area (m2)	250.30	511.27	289.87
Q Total (m3/s)	2775.89	Flow (m3/s)	404.20	2114.83	256.86
Top Width (m)	687.33	Top Width (m)	154.10	94.09	439.14
Vel Total (m/s)	2.64	Avg. Vel. (m/s)	1.61	4.14	0.89
Max Chl Dpth (m)	8.95	Hydr. Depth (m)	1.62	5.43	0.66
Conv. Total (m3/s)	67845.7	Conv. (m3/s)	9879.0	51688.7	6278.0
Length Wtd. (m)	3751.16	Wetted Per. (m)	154.16	96.79	439.20
Min Ch El (m)	46.50	Shear (N/m2)	26.65	86.71	10.83
Alpha	1.94	Stream Power (N/m s)	43.04	358.68	9.60
Frctn Loss (m)	4.15	Cum Volume (1000 m3)	11579.33	9942.56	3945.47
C & E Loss (m)		Cum SA (1000 m2)	4539.05	1653.73	2172.85

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 10

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	51.83	Element	Left OB	Channel	Right OB
Vel Head (m)	0.79	Wt. n-Val.	0.035	0.017	0.035
W.S. Elev (m)	51.04	Reach Len. (m)	1283.77	1260.97	888.51
Crit W.S. (m)		Flow Area (m2)	514.46	350.42	37.64
E.G. Slope (m/m)	0.000741	Area (m2)	514.46	350.42	37.64
Q Total (m3/s)	2353.39	Flow (m3/s)	686.33	1627.22	39.85
Top Width (m)	409.57	Top Width (m)	228.77	70.06	110.74
Vel Total (m/s)	2.61	Avg. Vel. (m/s)	1.33	4.64	1.06
Max Chl Dpth (m)	7.04	Hydr. Depth (m)	2.25	5.00	0.34
Conv. Total (m3/s)	86447.8	Conv. (m3/s)	25211.0	59773.0	1463.8
Length Wtd. (m)	1261.98	Wetted Per. (m)	229.03	70.96	111.08
Min Ch El (m)	44.00	Shear (N/m2)	16.32	35.89	2.46
Alpha	2.27	Stream Power (N/m s)	21.78	166.65	2.61
Frctn Loss (m)	0.98	Cum Volume (1000 m3)	10268.57	8280.66	3355.90
C & E Loss (m)		Cum SA (1000 m2)	3882.84	1337.14	1182.97

Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 7

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	50.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.21	Wt. n-Val.	0.035	0.025	0.035
W.S. Elev (m)	50.35	Reach Len. (m)	1597.57	1918.90	1643.33
Crit W.S. (m)		Flow Area (m2)	1277.00	470.87	86.56
E.G. Slope (m/m)	0.000802	Area (m2)	1277.00	470.87	86.56
Q Total (m3/s)	3020.40	Flow (m3/s)	1635.13	1297.57	87.70
Top Width (m)	842.18	Top Width (m)	640.89	122.74	78.55

Vel Total (m/s)	1.65	Avg. Vel. (m/s)	1.28	2.76	1.01
Max Chl Dpth (m)	6.35	Hydr. Depth (m)	1.99	3.84	1.10
Conv. Total (m3/s)	106678.5	Conv. (m3/s)	57751.8	45829.2	3097.5
Length Wtd. (m)	1697.01	Wetted Per. (m)	641.25	124.06	79.37
Min Ch El (m)	44.00	Shear (N/m2)	15.65	29.84	8.57
Alpha	1.54	Stream Power (N/m s)	20.05	82.22	8.69
Frctn Loss (m)	0.51	Cum Volume (1000 m3)	9118.66	7762.85	3300.72
C & E Loss (m)		Cum SA (1000 m2)	3324.62	1215.58	1098.88

Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 6

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	49.76	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.050	0.045	0.050
W.S. Elev (m)	49.74	Reach Len. (m)	1787.59	2081.40	1639.64
Crit W.S. (m)		Flow Area (m2)	2719.17	293.97	1362.97
E.G. Slope (m/m)	0.000131	Area (m2)	2719.17	293.97	1362.97
Q Total (m3/s)	2298.09	Flow (m3/s)	1378.42	238.90	680.77
Top Width (m)	1296.28	Top Width (m)	823.88	50.19	422.21
Vel Total (m/s)	0.53	Avg. Vel. (m/s)	0.51	0.81	0.50
Max Chl Dpth (m)	6.74	Hydr. Depth (m)	3.30	5.86	3.23
Conv. Total (m3/s)	200846.4	Conv. (m3/s)	120469.7	20879.1	59497.6
Length Wtd. (m)	1887.80	Wetted Per. (m)	824.75	51.45	422.68
Min Ch El (m)	43.00	Shear (N/m2)	4.23	7.34	4.14
Alpha	1.08	Stream Power (N/m s)	2.15	5.96	2.07
Frctn Loss (m)	0.09	Cum Volume (1000 m3)	5926.57	7029.02	2109.69
C & E Loss (m)		Cum SA (1000 m2)	2154.59	1049.66	687.42

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 5

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	49.62	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.035	0.025	0.035
W.S. Elev (m)	49.60	Reach Len. (m)	631.86	824.34	767.18
Crit W.S. (m)		Flow Area (m2)	909.89	2507.75	664.42
E.G. Slope (m/m)	0.000024	Area (m2)	909.89	2507.75	664.42
Q Total (m3/s)	2221.27	Flow (m3/s)	276.14	1745.70	199.44
Top Width (m)	940.85	Top Width (m)	360.66	370.58	209.60
Vel Total (m/s)	0.54	Avg. Vel. (m/s)	0.30	0.70	0.30
Max Chl Dpth (m)	7.60	Hydr. Depth (m)	2.52	6.77	3.17
Conv. Total (m3/s)	455988.4	Conv. (m3/s)	56686.3	358361.3	40940.8
Length Wtd. (m)	801.71	Wetted Per. (m)	361.56	371.38	209.79
Min Ch El (m)	42.00	Shear (N/m2)	0.59	1.57	0.74
Alpha	1.35	Stream Power (N/m s)	0.18	1.09	0.22
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	2682.93	4113.27	447.60
C & E Loss (m)		Cum SA (1000 m2)	1095.86	611.76	169.44

Warning: Divided flow computed for this cross-section.

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 4

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	49.61	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.035	0.015	0.035
W.S. Elev (m)	49.59	Reach Len. (m)	1081.21	1049.13	952.21
Crit W.S. (m)		Flow Area (m2)	1285.47	3006.34	219.44
E.G. Slope (m/m)	0.000008	Area (m2)	1285.47	3006.34	219.44
Q Total (m3/s)	2180.50	Flow (m3/s)	173.04	1976.72	30.74
Top Width (m)	1219.10	Top Width (m)	683.30	443.59	92.21
Vel Total (m/s)	0.48	Avg. Vel. (m/s)	0.13	0.66	0.14
Max Chl Dpth (m)	7.59	Hydr. Depth (m)	1.88	6.78	2.38
Conv. Total (m3/s)	790485.5	Conv. (m3/s)	62732.8	716610.1	11142.6
Length Wtd. (m)	1061.85	Wetted Per. (m)	684.30	444.67	92.62
Min Ch El (m)	42.00	Shear (N/m2)	0.14	0.50	0.18
Alpha	1.68	Stream Power (N/m s)	0.02	0.33	0.02
Frctn Loss (m)	0.02	Cum Volume (1000 m3)	1989.35	1840.52	108.55
C & E Loss (m)		Cum SA (1000 m2)	766.04	276.19	53.67

Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 3

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	49.55	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.035	0.035	0.035
W.S. Elev (m)	49.52	Reach Len. (m)			
Crit W.S. (m)	46.60	Flow Area (m2)	2394.39	502.32	8.56
E.G. Slope (m/m)	0.000117	Area (m2)	2394.39	502.32	8.56
Q Total (m3/s)	2127.07	Flow (m3/s)	1631.68	493.90	1.49
Top Width (m)	837.14	Top Width (m)	733.70	82.92	20.52
Vel Total (m/s)	0.73	Avg. Vel. (m/s)	0.68	0.98	0.17
Max Chl Dpth (m)	7.52	Hydr. Depth (m)	3.26	6.06	0.42
Conv. Total (m3/s)	196470.2	Conv. (m3/s)	150712.6	45619.7	137.8
Length Wtd. (m)		Wetted Per. (m)	734.23	88.64	20.67
Min Ch El (m)	42.00	Shear (N/m2)	3.75	6.51	0.48
Alpha	1.08	Stream Power (N/m s)	2.55	6.40	0.08
Frctn Loss (m)		Cum Volume (1000 m3)			
C & E Loss (m)		Cum SA (1000 m2)			

Warning: Divided flow computed for this cross-section.

SUMMARY OF MANNING'S N VALUES

River:Rio Valenciano

Reach	River Sta.	n1	n2	n3
Valenciano Upstr	100	.035	.02	.035
Valenciano Upstr	80	.035	.02	.035
Valenciano Upstr	79	.035	.02	.035
Valenciano Upstr	78	.035	.02	.035
Valenciano Upstr	77.1	Inl Struct		

Valenciano Upstr	77	.035	.02	.035
Valenciano Upstr	73.0431*	.035	.02	.035
Valenciano Upstr	69	.035	.02	.035
Valenciano Upstr	67	.035	.02	.035
Valenciano Upstr	58	.035	.02	.035
Valenciano Upstr	21	.035	.02	.035
Valenciano Upstr	17	.025	.0165	.025
Valenciano Upstr	15	.035	.03	.035
Valenciano Upstr	14	.035	.03	.035
Valenciano Upstr	10	.035	.017	.035
Valenciano Upstr	7	.035	.025	.035
Valenciano Upstr	6	.05	.045	.05
Valenciano Upstr	5	.035	.025	.035
Valenciano Upstr	4	.035	.015	.035
Valenciano Upstr	3	.035	.035	.035

SUMMARY OF REACH LENGTHS

River: Rio Valenciano

Reach	River Sta.	Left	Channel	Right
Valenciano Upstr	100	3811.95	4023.17	3585.51
Valenciano Upstr	80	327.57	333.52	336.32
Valenciano Upstr	79	145.42	150.59	160.69
Valenciano Upstr	78	99.12	93.82	99.87
Valenciano Upstr	77.1	Inl Struct		
Valenciano Upstr	77	669.319	650	619.211
Valenciano Upstr	73.0431*	683.911	664.17	632.709
Valenciano Upstr	69	623.36	532	469.89
Valenciano Upstr	67	786.3	870.97	1210.02
Valenciano Upstr	58	693.28	743.03	725.17
Valenciano Upstr	21	490.22	585.85	483.58
Valenciano Upstr	17	910.92	982.07	907.66
Valenciano Upstr	15	649.59	787.12	797.68
Valenciano Upstr	14	3427.88	3857.33	3600.3
Valenciano Upstr	10	1283.77	1260.97	888.51
Valenciano Upstr	7	1597.57	1918.9	1643.33
Valenciano Upstr	6	1787.59	2081.4	1639.64
Valenciano Upstr	5	631.86	824.34	767.18
Valenciano Upstr	4	1081.21	1049.13	952.21
Valenciano Upstr	3		826.21	

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Rio Valenciano

Reach	River Sta.	Contr.	Expan.
Valenciano Upstr	100	.1	.3
Valenciano Upstr	80	.1	.3
Valenciano Upstr	79	.1	.3
Valenciano Upstr	78	.1	.3
Valenciano Upstr	77.1	Inl Struct	
Valenciano Upstr	77	.1	.3
Valenciano Upstr	73.0431*	.1	.3
Valenciano Upstr	69	.1	.3
Valenciano Upstr	67	.1	.3
Valenciano Upstr	58	.1	.3
Valenciano Upstr	21	.1	.3
Valenciano Upstr	17	.1	.3
Valenciano Upstr	15	.1	.3
Valenciano Upstr	14	.1	.3
Valenciano Upstr	10	.1	.3
Valenciano Upstr	7	.1	.3
Valenciano Upstr	6	.1	.3
Valenciano Upstr	5	.1	.3
Valenciano Upstr	4	.1	.3

Valenciano Upstr 3 .1 .3

Profile Output Table - Standard Table 1

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m/m)	E.G. Slope (m/s)	Vel Chnl (m2)	Flow Area (m)	Top Width	Froude # Chl
Valenciano Upstr	100	Max WS	956.71	98.20	105.25	106.77	109.17	0.003802	10.09	152.80	45.71	1.27
Valenciano Upstr	80	Max WS	734.85	74.28	98.39		98.40	0.000001	0.35	3687.48	346.23	0.02
Valenciano Upstr	79	Max WS	703.68	73.70	98.39		98.40	0.000001	0.43	2656.16	290.59	0.03
Valenciano Upstr	78	Max WS	689.67	73.27	98.39	78.42	98.39	0.000001	0.36	3821.69	332.94	0.02
Valenciano Upstr	77.1	Inl Struct										
Valenciano Upstr	77	Max WS	1899.89	73.00	84.18	88.35	97.33	0.014347	16.79	140.96	36.37	1.84
Valenciano Upstr	73.0431*	Max WS	1879.09	66.13	74.60	78.91	87.89	0.014487	16.18	118.94	24.32	2.04
Valenciano Upstr	69	Max WS	1864.94	59.10	68.35	69.58	73.46	0.003867	10.09	196.70	35.91	1.17
Valenciano Upstr	67	Max WS	2087.12	54.00	66.10	67.09	69.38	0.004328	8.41	337.98	168.85	1.19
Valenciano Upstr	58	Max WS	1999.96	53.00	61.19	61.69	62.86	0.006059	7.50	586.60	696.37	1.38
Valenciano Upstr	21	Max WS	1843.17	51.00	58.95		59.22	0.000227	2.70	1356.23	565.81	0.32
Valenciano Upstr	17	Max WS	2882.22	50.00	57.74	57.84	59.50	0.001282	6.13	569.69	194.16	0.88
Valenciano Upstr	15	Max WS	2845.99	47.00	56.25		57.72	0.001933	5.39	537.96	107.56	0.59
Valenciano Upstr	14	Max WS	2775.89	46.50	55.45		56.13	0.001674	4.14	1051.43	687.33	0.57
Valenciano Upstr	10	Max WS	2353.39	44.00	51.04		51.83	0.000741	4.64	902.53	409.57	0.66
Valenciano Upstr	7	Max WS	3020.40	44.00	50.35		50.56	0.000802	2.76	1834.44	842.18	0.45
Valenciano Upstr	6	Max WS	2298.09	43.00	49.74		49.76	0.000131	0.81	4376.11	1296.28	0.11
Valenciano Upstr	5	Max WS	2221.27	42.00	49.60		49.62	0.000024	0.70	4082.07	940.85	0.09
Valenciano Upstr	4	Max WS	2180.50	42.00	49.59		49.61	0.000008	0.66	4511.26	1219.10	0.08
Valenciano Upstr	3	Max WS	2127.07	42.00	49.52	46.60	49.55	0.000117	0.98	2905.27	837.14	0.13

HEC-RAS Version 3.1.3 May 2005
U.S. Army Corp of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

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PROJECT DATA
Project Title: Valenciano Dam Break Analysis
Project File : valenciano10.prj
Run Date and Time: 2/16/2007 4:15:11 PM

Project in SI units

PLAN DATA

Plan Title: Valenciano Dam Sunny Day Breach
Plan File : C:\Documents and Settings\user\My Documents\Projects\Valenciano\Finalrun\valenciano10.p10

Geometry Title: Valenciano Cross Sections with Dam
Geometry File : C:\Documents and Settings\user\My Documents\Projects\Valenciano\Finalrun\valenciano10.g01

Flow Title :
Flow File :

Plan Summary Information:
Number of: Cross Sections = 19 Multiple Openings = 0
Culverts = 0 Inline Structures = 1
Bridges = 0 Lateral Structures = 0

Computational Information
Water surface calculation tolerance = 0.003
Critical depth calculation tolerance = 0.003
Maximum number of iterations = 20
Maximum difference tolerance = 0.1
Flow tolerance factor = 0.001

Computation Options
Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 100

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	101.84	Element	Left OB	Channel	Right OB	
Vel Head (m)	0.82	Wt. n-Val.	0.035	0.020	0.035	
W.S. Elev (m)	101.03	Reach Len. (m)	3811.95	4023.17	3585.51	
Crit W.S. (m)		Flow Area (m2)	0.97	23.93	2.21	
E.G. Slope (m/m)	0.002540	Area (m2)	0.97	23.93	2.21	
Q Total (m3/s)	100.00	Flow (m3/s)	0.82	97.17	2.00	
Top Width (m)	16.95	Top Width (m)	1.88	10.76	4.31	

Vel Total (m/s)	3.69	Avg. Vel. (m/s)	0.85	4.06	0.91
Max Chl Dpth (m)	2.83	Hydr. Depth (m)	0.51	2.22	0.51
Conv. Total (m3/s)	1984.2	Conv. (m3/s)	16.3	1928.2	39.8
Length Wtd. (m)	3970.64	Wetted Per. (m)	2.15	11.70	4.43
Min Ch El (m)	98.20	Shear (N/m2)	11.25	50.95	12.44
Alpha	1.18	Stream Power (N/m s)	9.53	206.85	11.27
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	12363.77	13486.87	4560.71
C & E Loss (m)		Cum SA (1000 m2)	4777.91	2105.51	1862.67

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 80

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	96.23	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	96.23	Reach Len. (m)	327.57	333.52	336.32
Crit W.S. (m)		Flow Area (m2)	1235.15	1142.56	576.07
E.G. Slope (m/m)	0.000000	Area (m2)	1235.15	1142.56	576.07
Q Total (m3/s)	100.00	Flow (m3/s)	21.84	67.09	11.06
Top Width (m)	331.05	Top Width (m)	191.61	61.28	78.16
Vel Total (m/s)	0.03	Avg. Vel. (m/s)	0.02	0.06	0.02
Max Chl Dpth (m)	21.95	Hydr. Depth (m)	6.45	18.64	7.37
Conv. Total (m3/s)	558015.6	Conv. (m3/s)	121886.1	374388.4	61741.1
Length Wtd. (m)	332.84	Wetted Per. (m)	192.43	68.10	79.29
Min Ch El (m)	74.28	Shear (N/m2)	0.00	0.01	0.00
Alpha	2.11	Stream Power (N/m s)	0.00	0.00	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	10007.76	11140.37	3524.00
C & E Loss (m)		Cum SA (1000 m2)	4409.11	1960.60	1714.82

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 79

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	96.23	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	96.23	Reach Len. (m)	145.42	150.59	160.69
Crit W.S. (m)		Flow Area (m2)	594.65	1125.25	334.61
E.G. Slope (m/m)	0.000000	Area (m2)	594.65	1125.25	334.61
Q Total (m3/s)	100.00	Flow (m3/s)	9.39	83.80	6.81
Top Width (m)	265.20	Top Width (m)	149.02	59.80	56.39
Vel Total (m/s)	0.05	Avg. Vel. (m/s)	0.02	0.07	0.02
Max Chl Dpth (m)	22.53	Hydr. Depth (m)	3.99	18.82	5.93
Conv. Total (m3/s)	452006.3	Conv. (m3/s)	42459.0	378786.2	30761.0
Length Wtd. (m)	152.05	Wetted Per. (m)	150.52	64.42	57.98
Min Ch El (m)	73.70	Shear (N/m2)	0.00	0.01	0.00
Alpha	1.98	Stream Power (N/m s)	0.00	0.00	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	9708.07	10762.19	3370.86
C & E Loss (m)		Cum SA (1000 m2)	4353.33	1940.40	1692.20

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 78

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	96.23	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	96.23	Reach Len. (m)	99.12	93.82	99.87
Crit W.S. (m)	74.82	Flow Area (m2)	877.27	704.40	1545.09
E.G. Slope (m/m)	0.000000	Area (m2)	877.27	704.40	1545.09
Q Total (m3/s)	100.00	Flow (m3/s)	19.26	43.97	36.76
Top Width (m)	309.19	Top Width (m)	106.58	34.21	168.40
Vel Total (m/s)	0.03	Avg. Vel. (m/s)	0.02	0.06	0.02
Max Chl Dpth (m)	22.96	Hydr. Depth (m)	8.23	20.59	9.18
Conv. Total (m3/s)	524539.3	Conv. (m3/s)	101044.5	230647.3	192847.5
Length Wtd. (m)	93.82	Wetted Per. (m)	108.38	42.03	169.23
Min Ch El (m)	73.27	Shear (N/m2)	0.00	0.01	0.00
Alpha	1.97	Stream Power (N/m s)	0.00	0.00	0.00
Frctn Loss (m)		Cum Volume (1000 m3)	9601.05	10624.43	3219.83
C & E Loss (m)		Cum SA (1000 m2)	4334.74	1933.33	1674.14

INLINE STRUCTURE

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 77.1

INLINE STRUCTURE OUTPUT Profile #Max WS Inl Struct:

E.G. Elev (m)	96.23	Q Gates (m3/s)	
W.S. Elev (m)	96.22	Q Gate Group (m3/s)	6.95
Q Total (m3/s)	100.00	Gate Open Ht (m)	0.30
Q Weir (m3/s)	100.00	Gate #Open	245
Weir Flow Area (m2)	59.82	Gate Area (m2)	
Weir Sta Lft (m)	155.46	Gate Submerg	
Weir Sta Rgt (m)	227.96	Gate Invert (m)	75.53
Weir Max Depth (m)	0.83		
Weir Avg Depth (m)	0.83		
Weir Submerg	0.00		
Min El Weir Flow (m)	95.40		
Wr Top Wdth (m)	72.50		

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 77

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	87.12	Element	Left OB	Channel	Right OB
Vel Head (m)	6.99	Wt. n-Val.		0.020	
W.S. Elev (m)	80.13	Reach Len. (m)	669.32	650.00	619.21
Crit W.S. (m)	82.72	Flow Area (m2)		53.98	
E.G. Slope (m/m)	0.014554	Area (m2)		53.98	
Q Total (m3/s)	632.39	Flow (m3/s)		632.39	
Top Width (m)	11.26	Top Width (m)		11.26	
Vel Total (m/s)	11.71	Avg. Vel. (m/s)		11.71	
Max Chl Dpth (m)	7.13	Hydr. Depth (m)		4.79	
Conv. Total (m3/s)	5241.9	Conv. (m3/s)		5241.9	
Length Wtd. (m)	650.00	Wetted Per. (m)		19.95	
Min Ch El (m)	73.00	Shear (N/m2)		386.26	
Alpha	1.00	Stream Power (N/m s)		4524.71	
Frctn Loss (m)	8.80	Cum Volume (1000 m3)	9557.57	10588.85	3142.68
C & E Loss (m)		Cum SA (1000 m2)	4329.46	1931.19	1665.73

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 73.0431*

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	77.36	Element	Left OB	Channel	Right OB
Vel Head (m)	6.30	Wt. n-Val.		0.020	
W.S. Elev (m)	71.07	Reach Len. (m)	683.91	664.17	632.71
Crit W.S. (m)	73.07	Flow Area (m2)		56.07	
E.G. Slope (m/m)	0.012601	Area (m2)		56.07	
Q Total (m3/s)	623.53	Flow (m3/s)		623.53	
Top Width (m)	14.67	Top Width (m)		14.67	
Vel Total (m/s)	11.12	Avg. Vel. (m/s)		11.12	
Max Chl Dpth (m)	4.94	Hydr. Depth (m)		3.82	
Conv. Total (m3/s)	5554.6	Conv. (m3/s)		5554.6	
Length Wtd. (m)	664.17	Wetted Per. (m)		20.11	
Min Ch El (m)	66.13	Shear (N/m2)		344.59	
Alpha	1.00	Stream Power (N/m s)		3831.73	
Frctn Loss (m)	0.47	Cum Volume (1000 m3)	9557.57	10553.08	3142.68
C & E Loss (m)		Cum SA (1000 m2)	4329.46	1922.76	1665.73

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 69

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	66.98	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	66.96	Reach Len. (m)	623.36	532.00	469.89
Crit W.S. (m)		Flow Area (m2)	0.90	148.42	1.67
E.G. Slope (m/m)	0.000017	Area (m2)	0.90	148.42	1.67
Q Total (m3/s)	86.05	Flow (m3/s)	0.06	85.88	0.12
Top Width (m)	29.43	Top Width (m)	1.88	24.07	3.48
Vel Total (m/s)	0.57	Avg. Vel. (m/s)	0.07	0.58	0.07
Max Chl Dpth (m)	7.86	Hydr. Depth (m)	0.48	6.17	0.48
Conv. Total (m3/s)	21059.3	Conv. (m3/s)	14.6	21016.2	28.5
Length Wtd. (m)	532.00	Wetted Per. (m)	2.11	31.14	3.61
Min Ch El (m)	59.10	Shear (N/m2)	0.07	0.78	0.08
Alpha	1.03	Stream Power (N/m s)	0.00	0.45	0.01
Frctn Loss (m)	0.32	Cum Volume (1000 m3)	9557.26	10485.17	3142.15
C & E Loss (m)		Cum SA (1000 m2)	4328.81	1909.90	1664.63

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 67

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	65.96	Element	Left OB	Channel	Right OB

Vel Head (m)	1.56	Wt. n-Val.	0.020		
W.S. Elev (m)	64.40	Reach Len. (m)	786.30	870.97	1210.02
Crit W.S. (m)		Flow Area (m2)	153.68		
E.G. Slope (m/m)	0.002463	Area (m2)	153.68		
Q Total (m3/s)	850.68	Flow (m3/s)	850.68		
Top Width (m)	35.77	Top Width (m)	35.77		
Vel Total (m/s)	5.54	Avg. Vel. (m/s)	5.54		
Max Chl Dpth (m)	10.40	Hydr. Depth (m)	4.30		
Conv. Total (m3/s)	17141.3	Conv. (m3/s)	17141.3		
Length Wtd. (m)	883.26	Wetted Per. (m)	46.12		
Min Ch El (m)	54.00	Shear (N/m2)	80.47		
Alpha	1.00	Stream Power (N/m s)	445.46		
Frctn Loss (m)	3.33	Cum Volume (1000 m3)	9556.98	10404.81	3141.76
C & E Loss (m)		Cum SA (1000 m2)	4328.23	1893.98	1663.81

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 58

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	62.95	Element	Left OB	Channel	Right OB
Vel Head (m)	2.97	Wt. n-Val.	0.020	0.035	
W.S. Elev (m)	59.99	Reach Len. (m)	693.28	743.03	725.17
Crit W.S. (m)	60.90	Flow Area (m2)	96.49	31.50	
E.G. Slope (m/m)	0.006627	Area (m2)	96.49	31.50	
Q Total (m3/s)	823.80	Flow (m3/s)	763.08	60.72	
Top Width (m)	71.53	Top Width (m)	29.89	41.64	
Vel Total (m/s)	6.44	Avg. Vel. (m/s)	7.91	1.93	
Max Chl Dpth (m)	6.99	Hydr. Depth (m)	3.23	0.76	
Conv. Total (m3/s)	10119.8	Conv. (m3/s)	9374.0	745.9	
Length Wtd. (m)	742.06	Wetted Per. (m)	35.63	41.77	
Min Ch El (m)	53.00	Shear (N/m2)	175.99	49.02	
Alpha	1.41	Stream Power (N/m s)	1391.78	94.47	
Frctn Loss (m)	0.45	Cum Volume (1000 m3)	9556.98	10295.87	3122.70
C & E Loss (m)		Cum SA (1000 m2)	4328.23	1865.38	1638.62

Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 21

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	57.43	Element	Left OB	Channel	Right OB
Vel Head (m)	0.23	Wt. n-Val.	0.035	0.020	0.035
W.S. Elev (m)	57.20	Reach Len. (m)	490.22	585.85	483.58
Crit W.S. (m)		Flow Area (m2)	0.57	363.36	129.52
E.G. Slope (m/m)	0.000207	Area (m2)	0.57	363.36	129.52
Q Total (m3/s)	808.55	Flow (m3/s)	0.05	780.61	27.89
Top Width (m)	413.30	Top Width (m)	5.65	65.71	341.94
Vel Total (m/s)	1.64	Avg. Vel. (m/s)	0.09	2.15	0.22

Max Chl Dpth (m)	6.20	Hydr. Depth (m)	0.10	5.53	0.38	
Conv. Total (m3/s)	56168.8	Conv. (m3/s)	3.6	54228.0	1937.3	
Length Wtd. (m)	583.08	Wetted Per. (m)	5.66	70.46	341.94	
Min Ch El (m)	51.00	Shear (N/m2)	0.21	10.48	0.77	
Alpha	1.66	Stream Power (N/m s)	0.02	22.51	0.17	
Frctn Loss (m)	0.35	Cum Volume (1000 m3)	9556.78	10125.02	3064.31	
C & E Loss (m)		Cum SA (1000 m2)	4326.27	1829.87	1499.54	

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 17

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	58.21	Element	Left OB	Channel	Right OB
Vel Head (m)	1.42	Wt. n-Val.	0.017	0.025	
W.S. Elev (m)	56.79	Reach Len. (m)	910.92	982.07	907.66
Crit W.S. (m)	56.54	Flow Area (m2)	351.05	44.74	
E.G. Slope (m/m)	0.001194	Area (m2)	351.05	44.74	
Q Total (m3/s)	1921.17	Flow (m3/s)	1875.10	46.07	
Top Width (m)	152.75	Top Width (m)	83.25	69.50	
Vel Total (m/s)	4.85	Avg. Vel. (m/s)	5.34	1.03	
Max Chl Dpth (m)	6.79	Hydr. Depth (m)	4.22	0.64	
Conv. Total (m3/s)	55602.5	Conv. (m3/s)	54269.2	1333.2	
Length Wtd. (m)	981.17	Wetted Per. (m)	86.17	69.56	
Min Ch El (m)	50.00	Shear (N/m2)	47.69	7.53	
Alpha	1.18	Stream Power (N/m s)	254.75	7.75	
Frctn Loss (m)	1.11	Cum Volume (1000 m3)	9556.64	9915.76	3022.18
C & E Loss (m)		Cum SA (1000 m2)	4324.88	1786.23	1400.06

Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 15

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	56.41	Element	Left OB	Channel	Right OB
Vel Head (m)	0.76	Wt. n-Val.	0.030		
W.S. Elev (m)	55.65	Reach Len. (m)	649.59	787.12	797.68
Crit W.S. (m)		Flow Area (m2)	490.08		
E.G. Slope (m/m)	0.001071	Area (m2)	490.08		
Q Total (m3/s)	1890.87	Flow (m3/s)	1890.87		
Top Width (m)	61.71	Top Width (m)	61.71		
Vel Total (m/s)	3.86	Avg. Vel. (m/s)	3.86		
Max Chl Dpth (m)	8.65	Hydr. Depth (m)	7.94		
Conv. Total (m3/s)	57783.1	Conv. (m3/s)	57783.1		
Length Wtd. (m)	781.58	Wetted Per. (m)	73.67		
Min Ch El (m)	47.00	Shear (N/m2)	69.86		
Alpha	1.00	Stream Power (N/m s)	269.53		
Frctn Loss (m)	1.04	Cum Volume (1000 m3)	9556.64	9502.73	3001.88
C & E Loss (m)		Cum SA (1000 m2)	4324.88	1715.05	1368.52

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 14

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	55.35	Element	Left OB	Channel	Right OB
Vel Head (m)	0.66	Wt. n-Val.	0.035	0.030	0.035
W.S. Elev (m)	54.69	Reach Len. (m)	3427.88	3857.33	3600.30
Crit W.S. (m)		Flow Area (m2)	136.14	439.91	54.87
E.G. Slope (m/m)	0.001720	Area (m2)	136.14	439.91	54.87
Q Total (m3/s)	1863.21	Flow (m3/s)	154.38	1668.60	40.23
Top Width (m)	355.06	Top Width (m)	145.39	94.09	115.57
Vel Total (m/s)	2.95	Avg. Vel. (m/s)	1.13	3.79	0.73
Max Chl Dpth (m)	8.19	Hydr. Depth (m)	0.94	4.68	0.47
Conv. Total (m3/s)	44926.8	Conv. (m3/s)	3722.5	40234.2	970.1
Length Wtd. (m)	3778.73	Wetted Per. (m)	145.42	96.79	115.61
Min Ch El (m)	46.50	Shear (N/m2)	15.79	76.66	8.01
Alpha	1.49	Stream Power (N/m s)	17.91	290.76	5.87
Frctn Loss (m)	3.36	Cum Volume (1000 m3)	9512.42	9136.72	2979.99
C & E Loss (m)		Cum SA (1000 m2)	4277.66	1653.73	1322.42

Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 10

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	51.20	Element	Left OB	Channel	Right OB
Vel Head (m)	0.51	Wt. n-Val.	0.035	0.017	0.035
W.S. Elev (m)	50.69	Reach Len. (m)	1283.77	1260.97	888.51
Crit W.S. (m)		Flow Area (m2)	436.45	325.78	27.65
E.G. Slope (m/m)	0.000516	Area (m2)	436.45	325.78	27.65
Q Total (m3/s)	1683.74	Flow (m3/s)	455.72	1202.90	25.12
Top Width (m)	300.24	Top Width (m)	213.76	70.06	16.42
Vel Total (m/s)	2.13	Avg. Vel. (m/s)	1.04	3.69	0.91
Max Chl Dpth (m)	6.69	Hydr. Depth (m)	2.04	4.65	1.68
Conv. Total (m3/s)	74091.7	Conv. (m3/s)	20053.7	52932.7	1105.3
Length Wtd. (m)	1262.96	Wetted Per. (m)	214.02	70.96	16.71
Min Ch El (m)	44.00	Shear (N/m2)	10.33	23.25	8.38
Alpha	2.21	Stream Power (N/m s)	10.78	85.85	7.61
Frctn Loss (m)	0.84	Cum Volume (1000 m3)	8531.03	7659.97	2831.43
C & E Loss (m)		Cum SA (1000 m2)	3662.10	1337.14	1084.82

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 7

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	50.11	Element	Left OB	Channel	Right OB
Vel Head (m)	0.19	Wt. n-Val.	0.035	0.025	0.035

W.S. Elev (m)	49.92	Reach Len. (m)	1597.57	1918.90	1643.33
Crit W.S. (m)		Flow Area (m2)	1006.64	418.20	57.98
E.G. Slope (m/m)	0.000822	Area (m2)	1006.64	418.20	57.98
Q Total (m3/s)	2339.97	Flow (m3/s)	1206.57	1078.28	55.12
Top Width (m)	752.75	Top Width (m)	583.03	122.74	46.97
Vel Total (m/s)	1.58	Avg. Vel. (m/s)	1.20	2.58	0.95
Max Chl Dpth (m)	5.92	Hydr. Depth (m)	1.73	3.41	1.23
Conv. Total (m3/s)	81610.6	Conv. (m3/s)	42081.2	37607.1	1922.3
Length Wtd. (m)	1702.72	Wetted Per. (m)	583.33	124.06	47.63
Min Ch El (m)	44.00	Shear (N/m2)	13.91	27.18	9.81
Alpha	1.54	Stream Power (N/m s)	16.68	70.07	9.33
Frctn Loss (m)	0.53	Cum Volume (1000 m3)	7604.73	7190.91	2793.39
C & E Loss (m)		Cum SA (1000 m2)	3150.65	1215.58	1056.65

Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 6

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	49.29	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.050	0.045	0.050
W.S. Elev (m)	49.27	Reach Len. (m)	1787.59	2081.40	1639.64
Crit W.S. (m)		Flow Area (m2)	2333.02	270.42	1166.01
E.G. Slope (m/m)	0.000142	Area (m2)	2333.02	270.42	1166.01
Q Total (m3/s)	1879.42	Flow (m3/s)	1112.84	216.17	550.41
Top Width (m)	1288.61	Top Width (m)	821.44	50.19	416.99
Vel Total (m/s)	0.50	Avg. Vel. (m/s)	0.48	0.80	0.47
Max Chl Dpth (m)	6.27	Hydr. Depth (m)	2.84	5.39	2.80
Conv. Total (m3/s)	157935.4	Conv. (m3/s)	93516.6	18165.7	46253.1
Length Wtd. (m)	1893.08	Wetted Per. (m)	822.26	51.45	417.43
Min Ch El (m)	43.00	Shear (N/m2)	3.94	7.30	3.88
Alpha	1.10	Stream Power (N/m s)	1.88	5.83	1.83
Frctn Loss (m)	0.08	Cum Volume (1000 m3)	4937.05	6530.22	1787.68
C & E Loss (m)		Cum SA (1000 m2)	2028.78	1049.66	675.43

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 5

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	49.14	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.035	0.025	0.035
W.S. Elev (m)	49.13	Reach Len. (m)	631.86	824.34	767.18
Crit W.S. (m)		Flow Area (m2)	750.63	2331.32	565.20
E.G. Slope (m/m)	0.000021	Area (m2)	750.63	2331.32	565.20
Q Total (m3/s)	1805.41	Flow (m3/s)	203.86	1456.88	144.67
Top Width (m)	886.14	Top Width (m)	308.35	370.58	207.21
Vel Total (m/s)	0.50	Avg. Vel. (m/s)	0.27	0.62	0.26
Max Chl Dpth (m)	7.13	Hydr. Depth (m)	2.43	6.29	2.73
Conv. Total (m3/s)	393249.5	Conv. (m3/s)	44403.6	317333.7	31512.2
Length Wtd. (m)	804.72	Wetted Per. (m)	309.22	371.38	207.34
Min Ch El (m)	42.00	Shear (N/m2)	0.50	1.30	0.56
Alpha	1.34	Stream Power (N/m s)	0.14	0.81	0.14

Frctn Loss (m)	0.01	Cum Volume (1000 m3)	2180.90	3822.59	368.40
C & E Loss (m)		Cum SA (1000 m2)	1018.98	611.76	163.70

Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 4

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	49.13	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.035	0.015	0.035
W.S. Elev (m)	49.12	Reach Len. (m)	1081.21	1049.13	952.21
Crit W.S. (m)		Flow Area (m2)	974.14	2795.69	176.02
E.G. Slope (m/m)	0.000007	Area (m2)	974.14	2795.69	176.02
Q Total (m3/s)	1767.70	Flow (m3/s)	111.40	1636.18	20.12
Top Width (m)	1162.18	Top Width (m)	627.92	443.59	90.67
Vel Total (m/s)	0.45	Avg. Vel. (m/s)	0.11	0.59	0.11
Max Chl Dpth (m)	7.12	Hydr. Depth (m)	1.55	6.30	1.94
Conv. Total (m3/s)	685926.5	Conv. (m3/s)	43226.0	634894.1	7806.4
Length Wtd. (m)	1061.44	Wetted Per. (m)	628.76	444.67	91.02
Min Ch El (m)	42.00	Shear (N/m2)	0.10	0.41	0.13
Alpha	1.58	Stream Power (N/m s)	0.01	0.24	0.01
Frctn Loss (m)	0.02	Cum Volume (1000 m3)	1635.99	1709.39	84.08
C & E Loss (m)		Cum SA (1000 m2)	723.19	276.19	49.44

Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Valenciano
REACH: Valenciano Upstr RS: 3

CROSS SECTION OUTPUT Profile #Max WS

E.G. Elev (m)	49.07	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.035	0.035	0.035
W.S. Elev (m)	49.04	Reach Len. (m)			
Crit W.S. (m)	46.42	Flow Area (m2)	2052.09	462.99	0.57
E.G. Slope (m/m)	0.000117	Area (m2)	2052.09	462.99	0.57
Q Total (m3/s)	1717.85	Flow (m3/s)	1286.99	430.85	0.02
Top Width (m)	805.90	Top Width (m)	709.81	82.92	13.16
Vel Total (m/s)	0.68	Avg. Vel. (m/s)	0.63	0.93	0.04
Max Chl Dpth (m)	7.04	Hydr. Depth (m)	2.89	5.58	0.04
Conv. Total (m3/s)	158784.4	Conv. (m3/s)	118958.5	39823.9	2.0
Length Wtd. (m)		Wetted Per. (m)	710.26	88.64	13.18
Min Ch El (m)	42.00	Shear (N/m2)	3.32	6.00	0.05
Alpha	1.10	Stream Power (N/m s)	2.08	5.58	0.00
Frctn Loss (m)		Cum Volume (1000 m3)			
C & E Loss (m)		Cum SA (1000 m2)			

Warning: Divided flow computed for this cross-section.

SUMMARY OF MANNING'S N VALUES

River:Rio Valenciano

Reach	River Sta.	n1	n2	n3

Valenciano Upstr	100	.035	.02	.035
Valenciano Upstr	80	.035	.02	.035
Valenciano Upstr	79	.035	.02	.035
Valenciano Upstr	78	.035	.02	.035
Valenciano Upstr	77.1	Inl Struct		
Valenciano Upstr	77	.035	.02	.035
Valenciano Upstr	73.0431*	.035	.02	.035
Valenciano Upstr	69	.035	.02	.035
Valenciano Upstr	67	.035	.02	.035
Valenciano Upstr	58	.035	.02	.035
Valenciano Upstr	21	.035	.02	.035
Valenciano Upstr	17	.025	.0165	.025
Valenciano Upstr	15	.035	.03	.035
Valenciano Upstr	14	.035	.03	.035
Valenciano Upstr	10	.035	.017	.035
Valenciano Upstr	7	.035	.025	.035
Valenciano Upstr	6	.05	.045	.05
Valenciano Upstr	5	.035	.025	.035
Valenciano Upstr	4	.035	.015	.035
Valenciano Upstr	3	.035	.035	.035

SUMMARY OF REACH LENGTHS

River: Rio Valenciano

Reach	River Sta.	Left	Channel	Right
Valenciano Upstr	100	3811.95	4023.17	3585.51
Valenciano Upstr	80	327.57	333.52	336.32
Valenciano Upstr	79	145.42	150.59	160.69
Valenciano Upstr	78	99.12	93.82	99.87
Valenciano Upstr	77.1	Inl Struct		
Valenciano Upstr	77	669.319	650	619.211
Valenciano Upstr	73.0431*	683.911	664.17	632.709
Valenciano Upstr	69	623.36	532	469.89
Valenciano Upstr	67	786.3	870.97	1210.02
Valenciano Upstr	58	693.28	743.03	725.17
Valenciano Upstr	21	490.22	585.85	483.58
Valenciano Upstr	17	910.92	982.07	907.66
Valenciano Upstr	15	649.59	787.12	797.68
Valenciano Upstr	14	3427.88	3857.33	3600.3
Valenciano Upstr	10	1283.77	1260.97	888.51
Valenciano Upstr	7	1597.57	1918.9	1643.33
Valenciano Upstr	6	1787.59	2081.4	1639.64
Valenciano Upstr	5	631.86	824.34	767.18
Valenciano Upstr	4	1081.21	1049.13	952.21
Valenciano Upstr	3		826.21	

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Rio Valenciano

Reach	River Sta.	Contr.	Expan.
Valenciano Upstr	100	.1	.3
Valenciano Upstr	80	.1	.3
Valenciano Upstr	79	.1	.3
Valenciano Upstr	78	.1	.3
Valenciano Upstr	77.1	Inl Struct	
Valenciano Upstr	77	.1	.3
Valenciano Upstr	73.0431*	.1	.3
Valenciano Upstr	69	.1	.3
Valenciano Upstr	67	.1	.3
Valenciano Upstr	58	.1	.3
Valenciano Upstr	21	.1	.3
Valenciano Upstr	17	.1	.3
Valenciano Upstr	15	.1	.3
Valenciano Upstr	14	.1	.3

Valenciano Upstr	10	.1	.3
Valenciano Upstr	7	.1	.3
Valenciano Upstr	6	.1	.3
Valenciano Upstr	5	.1	.3
Valenciano Upstr	4	.1	.3
Valenciano Upstr	3	.1	.3

Profile Output Table - Standard Table 1

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m/m)	E.G. Slope (m/s)	Vel Chnl (m2)	Flow Area (m)	Top Width	Froude # Chl
Valenciano Upstr	100	Max WS	100.00	98.20	101.03		101.84	0.002540	4.06	27.11	16.95	0.87
Valenciano Upstr	80	Max WS	100.00	74.28	96.23		96.23	0.000000	0.06	2953.78	331.05	0.00
Valenciano Upstr	79	Max WS	100.00	73.70	96.23		96.23	0.000000	0.07	2054.52	265.20	0.01
Valenciano Upstr	78	Max WS	100.00	73.27	96.23	74.82	96.23	0.000000	0.06	3126.76	309.19	0.00
Valenciano Upstr	77.1	Inl Struct										
Valenciano Upstr	77	Max WS	632.39	73.00	80.13	82.72	87.12	0.014554	11.71	53.98	11.26	1.71
Valenciano Upstr	73.0431*	Max WS	623.53	66.13	71.07	73.07	77.36	0.012601	11.12	56.07	14.67	1.82
Valenciano Upstr	69	Max WS	86.05	59.10	66.96		66.98	0.000017	0.58	150.99	29.43	0.07
Valenciano Upstr	67	Max WS	850.68	54.00	64.40		65.96	0.002463	5.54	153.68	35.77	0.85
Valenciano Upstr	58	Max WS	823.80	53.00	59.99	60.90	62.95	0.006627	7.91	128.00	71.53	1.40
Valenciano Upstr	21	Max WS	808.55	51.00	57.20		57.43	0.000207	2.15	493.45	413.30	0.29
Valenciano Upstr	17	Max WS	1921.17	50.00	56.79	56.54	58.21	0.001194	5.34	395.78	152.75	0.83
Valenciano Upstr	15	Max WS	1890.87	47.00	55.65		56.41	0.001071	3.86	490.08	61.71	0.44
Valenciano Upstr	14	Max WS	1863.21	46.50	54.69		55.35	0.001720	3.79	630.93	355.06	0.56
Valenciano Upstr	10	Max WS	1683.74	44.00	50.69		51.20	0.000516	3.69	789.88	300.24	0.55
Valenciano Upstr	7	Max WS	2339.97	44.00	49.92		50.11	0.000822	2.58	1482.82	752.75	0.45
Valenciano Upstr	6	Max WS	1879.42	43.00	49.27		49.29	0.000142	0.80	3769.45	1288.61	0.11
Valenciano Upstr	5	Max WS	1805.41	42.00	49.13		49.14	0.000021	0.62	3647.16	886.14	0.08
Valenciano Upstr	4	Max WS	1767.70	42.00	49.12		49.13	0.000007	0.59	3945.85	1162.18	0.07
Valenciano Upstr	3	Max WS	1717.85	42.00	49.04	46.42	49.07	0.000117	0.93	2515.65	805.90	0.13

HEC-RAS Version 3.1.3 May 2005
U.S. Army Corp of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

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X   X XXXXXX  XXXX    XXXX    XX   XXXX
X   X X    X  X    X  X   X X  X
X   X X    X      X  X   X  X  X
XXXXXXX XXXX   X    XXX XXXX   XXXXXX  XXXX
X   X X    X      X  X   X  X    X
X   X X    X  X    X  X   X  X    X
X   X XXXXXX  XXXX    X  X  X  X  XXXXX
```

PROJECT DATA
Project Title: Valenciano Dam Break Analysis (Gurabo)
Project File : guraboarriba.prj
Run Date and Time: 2/15/2007 3:20:37 PM

Project in SI units

PLAN DATA

Plan Title: Valenciano Dam (Gurabo Arriba)
Plan File : C:\Documents and Settings\user\My Documents\Projects\Valenciano\Finalrun\guraboarriba.p01

Geometry Title: Valenciano Cross Sections
Geometry File : C:\Documents and Settings\user\My Documents\Projects\Valenciano\Finalrun\guraboarriba.g01

Flow Title : Valenciano 100-yr flows
Flow File : C:\Documents and Settings\user\My Documents\Projects\Valenciano\Finalrun\guraboarriba.f01

Plan Description:
Gurabo backwater upstream of confluence with Rio Valenciano with and without
dam breach.

Plan Summary Information:
Number of: Cross Sections = 9 Multiple Openings = 0
Culverts = 0 Inline Structures = 0
Bridges = 0 Lateral Structures = 0

Computational Information
Water surface calculation tolerance = 0.003
Critical depth calculation tolerance = 0.003
Maximum number of iterations = 20
Maximum difference tolerance = 0.1
Flow tolerance factor = 0.001

Computation Options
Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: Valenciano 100-yr flows
Flow File : C:\Documents and Settings\user\My Documents\Projects\Valenciano\Finalrun\guraboarriba.f01

Flow Data (m3/s)

River	Reach	RS	PMF Dam	PMF Dam Breach	100yr Dam	100yr Dam Breach	Sunny Day Breach
Rio Gurabo	Gurabo Arriba	30	1153.92	1153.92	1153.92	1153.92	100

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Rio Gurabo	Gurabo Arriba	PMF Dam		Known WS = 60.12
Rio Gurabo	Gurabo Arriba	PMF Dam Breach		Known WS = 61.22
Rio Gurabo	Gurabo Arriba	100yr Dam		Known WS = 57.93
Rio Gurabo	Gurabo Arriba	100yr Dam Breach		Known WS = 59.32
Rio Gurabo	Gurabo Arriba	Sunny Day Breach		Known WS = 57.66

Observed Water Surface Marks

River	Reach	RS	PMF Dam	PMF Dam Breach		100yr Dam	100yr Dam Breach	Sunny Day Breach
Rio Gurabo	Gurabo Arriba	27	65.47	65.47	65.47	65.47	65.47	
Rio Gurabo	Gurabo Arriba	26	63.09	63.09	63.09	63.09	63.09	
Rio Gurabo	Gurabo Arriba	25	62	62	62	62	62	
Rio Gurabo	Gurabo Arriba	24	59.62	59.62	59.62	59.62	59.62	
Rio Gurabo	Gurabo Arriba	23	59.41	59.41	59.41	59.41	59.41	

GEOMETRY DATA

Geometry Title: Valenciano Cross Sections
Geometry File : C:\Documents and Settings\user\My Documents\Projects\Valenciano\Finalrun\guraboarriba.g01

CROSS SECTION

RIVER: Rio Gurabo
REACH: Gurabo Arriba RS: 30

INPUT
Description:
Station Elevation Data num= 88

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	112	2.3146	111	4.5442	110	7.2765	109	10.1886	108
13.2353	107	16.3963	106	18.8767	105	21.2117	104	23.4675	103
26.5224	102	29.6965	101	32.2914	100	34.6945	99	37.4588	98
40.1456	97	42.761	96	45.7905	95	48.9474	94	51.8347	93
54.2123	92	56.5554	91	59.1088	90	61.6673	89	64.3283	88
67.2665	87	70.8681	86	76.6177	85	85.0854	84	88.8002	83
91.4956	82	94.363	81	100.4028	80	104.2376	79	108.0411	78
112.5195	77	117.0964	76	122.3944	75	126.9385	74	130.6479	73
135.12	72	140.466	71	144.4346	70	145.4835	69	146.5326	68
147.6512	67	180.4825	67	181.8688	68	183.2229	69	208.938	69
221.973	70	239.915	70	256.1821	71	272.8567	72	309.7424	72
320.5611	71	328.0314	71	388.4423	72	391.0933	73	393.0426	74
394.9824	75	396.5467	76	398.1894	77	399.9696	78	401.8685	79
403.848	80	405.9667	81	408.5126	82	411.9777	83	415.0647	84
417.1681	85	419.7256	86	423.9201	87	446.1074	87	466.2092	88
471.2424	89	484.6278	90	491.8038	91	520.1798	91	537.4893	92
551.463	93	566.7042	94	575.6768	95	617.1756	96	620.3146	97
624.2891	98	651.5408	99	664.4707	100				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	145.4835	.035	183.2229	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
145.4835	183.2229		438.01	478.31	556.69	.1	.3

Right Levee Station= 283.39 Elevation= 74.94

CROSS SECTION OUTPUT Profile #PMF Dam Breach

E.G. Elev (m)	72.38	Element	Left OB	Channel	Right OB	
Vel Head (m)	1.12	Wt. n-Val.	0.035	0.035	0.035	
W.S. Elev (m)	71.27	Reach Len. (m)	438.01	478.31	556.69	
Crit W.S. (m)	71.27	Flow Area (m2)	5.09	156.21	117.19	
E.G. Slope (m/m)	0.005366	Area (m2)	5.09	156.21	117.19	

Q Total (m3/s)	1153.92	Flow (m3/s)	8.62	822.16	323.14	
Top Width (m)	121.61	Top Width (m)	6.45	37.74	77.42	
Vel Total (m/s)	4.14	Avg. Vel. (m/s)	1.69	5.26	2.76	
Max Chl Dpth (m)	4.27	Hydr. Depth (m)	0.79	4.14	1.51	
Conv. Total (m3/s)	15752.0	Conv. (m3/s)	117.7	11223.1	4411.1	
Length Wtd. (m)	495.52	Wetted Per. (m)	7.00	39.17	77.50	
Min Ch El (m)	67.00	Shear (N/m2)	38.29	209.85	79.58	
Alpha	1.27	Stream Power (N/m s)	64.84	1104.47	219.42	
Frctn Loss (m)	1.56	Cum Volume (1000 m3)	607.12	1263.23	415.35	
C & E Loss (m)	0.22	Cum SA (1000 m2)	428.58	286.90	386.90	

Warning: The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.
Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION

RIVER: Rio Gurabo
REACH: Gurabo Arriba RS: 29

INPUT
Description:
Station Elevation Data num= 79

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	107	5.0794	106	9.8558	105	13.9077	104	17.1951	103
20.0861	102	22.9917	101	25.6071	100	28.2763	99	30.8922	98
33.5276	97	36.1301	96	38.7525	95	41.5978	94	44.2513	93
46.6618	92	49.7112	91	55.4441	90	58.8166	89	60.7272	88
62.6779	87	65.0182	86	68.1909	85	70.8963	84	73.5434	83
77.835	82	82.5505	81	85.6598	80	88.1473	79	90.9586	78
94.5034	77	100.8409	76	104.3891	75	107.4719	74	110.0396	73
112.747	72	116.108	71	119.2962	70	138.3326	69	251.3857	69
258.3828	68	261.4572	67	265.1252	66	303.845	65	306.2348	65
310.6519	66	313.3716	67	322.4209	68	388.2858	68	396.2882	69
407.187	70	413.791	71	417.8011	72	432.603	73	439.4775	74
445.3157	75	452.0944	76	457.9921	77	463.4952	78	469.0951	79
478.9527	80	487.4121	81	498.6881	82	503.6103	83	510.4099	84
523.1518	85	537.9691	86	546.5488	87	553.5985	88	595.9171	89
604.5035	89	629.4739	90	639.5134	91	650.1784	92	660.5381	93
675.9817	94	699.1641	94	708.9393	95	718.5624	96		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	251.3857	.035	322.4209	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
251.3857	322.4209	851	734	547.07	.1	.3

CROSS SECTION OUTPUT Profile #PMF Dam Breach

E.G. Elev (m)	70.22	Element	Left OB	Channel	Right OB
Vel Head (m)	0.37	Wt. n-Val.	0.035	0.035	0.035
W.S. Elev (m)	69.85	Reach Len. (m)	851.00	734.00	547.07
Crit W.S. (m)	69.32	Flow Area (m2)	103.17	258.69	136.72
E.G. Slope (m/m)	0.002072	Area (m2)	103.17	258.69	136.72
Q Total (m3/s)	1153.92	Flow (m3/s)	115.44	790.96	247.51
Top Width (m)	283.45	Top Width (m)	129.26	71.04	83.15
Vel Total (m/s)	2.31	Avg. Vel. (m/s)	1.12	3.06	1.81
Max Chl Dpth (m)	4.85	Hydr. Depth (m)	0.80	3.64	1.64
Conv. Total (m3/s)	25351.1	Conv. (m3/s)	2536.2	17377.1	5437.8
Length Wtd. (m)	725.95	Wetted Per. (m)	129.29	71.76	83.25
Min Ch El (m)	65.00	Shear (N/m2)	16.21	73.25	33.37

Alpha	1.35	Stream Power (N/m s)	18.14	223.96	60.41
Frctn Loss (m)	2.14	Cum Volume (1000 m3)	583.41	1164.00	344.67
C & E Loss (m)	0.04	Cum SA (1000 m2)	398.86	260.89	342.21

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Gurabo
REACH: Gurabo Arriba RS: 28

INPUT
Description:
Station Elevation Data num= 103

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	130	11.3654	130	15.6026	129	29.4428	128	33.5397	127
36.81	126	40.9405	125	43.1856	124	45.396	123	47.7658	122
52.221	121	59.0151	120	62.6565	119	64.8536	118	66.4599	117
68.0832	116	69.8376	115	72.0249	114	74.4052	113	76.9563	112
79.6399	111	81.9313	110	84.0852	109	86.16	108	88.1555	107
90.0737	106	92.4588	105	95.1796	104	97.6884	103	100.2615	102
102.5325	101	104.8052	100	106.8207	99	108.246	98	109.53	97
110.7274	96	111.9399	95	113.2884	94	114.7989	93	116.3347	92
117.9446	91	119.3999	90	120.8906	89	122.467	88	123.9877	87
125.539	86	127.1063	85	128.531	84	129.9902	83	131.4112	82
132.9	81	134.6423	80	137.5606	79	139.9817	78	141.1685	77
142.355	76	143.5473	75	144.9866	74	148.923	73	154.326	72
159.1626	71	163.575	70	166.8443	69	172.9688	68	180.4899	67
188.1399	66	212.3713	65	217.0996	64	220.2057	63	249.7932	63
259.6513	64	271.6207	65	288.0952	66	296.1515	67	300.2123	68
362.4804	68	408.4703	69	436.6554	70	448.203	71	455.0006	72
459.2372	73	464.0076	74	472.967	75	479.5052	76	485.255	77
491.61	78	496.4245	79	501.4195	80	506.661	81	511.1184	82
515.5632	83	520.6495	84	525.8961	85	600.4858	86	604.4188	87
614.2901	88	626.3009	89	633.765	90	655.2407	90	663.1461	91
676.6565	92	697.2389	93	709.4751	94				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	212.3713	.035	300.2123	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
212.3713	300.2123	469.73	446.55	422.7	.1	.3

CROSS SECTION OUTPUT Profile #PMF Dam Breach

E.G. Elev (m)	68.04	Element	Left OB	Channel	Right OB
Vel Head (m)	0.76	Wt. n-Val.	0.035	0.035	
W.S. Elev (m)	67.28	Reach Len. (m)	469.73	446.55	422.70
Crit W.S. (m)		Flow Area (m2)	49.33	257.67	
E.G. Slope (m/m)	0.004513	Area (m2)	49.33	257.67	
Q Total (m3/s)	1153.92	Flow (m3/s)	121.17	1032.75	
Top Width (m)	118.88	Top Width (m)	33.97	84.91	
Vel Total (m/s)	3.76	Avg. Vel. (m/s)	2.46	4.01	
Max Chl Dpth (m)	4.28	Hydr. Depth (m)	1.45	3.03	
Conv. Total (m3/s)	17177.3	Conv. (m3/s)	1803.8	15373.5	
Length Wtd. (m)	447.21	Wetted Per. (m)	34.08	85.39	
Min Ch El (m)	63.00	Shear (N/m2)	64.06	133.54	
Alpha	1.06	Stream Power (N/m s)	157.36	535.23	
Frctn Loss (m)	0.92	Cum Volume (1000 m3)	518.51	974.50	307.27
C & E Loss (m)	0.08	Cum SA (1000 m2)	329.40	203.66	319.47

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Gurabo
REACH: Gurabo Arriba RS: 27

INPUT
Description:
Station Elevation Data num= 77

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	73	36.5212	73	52.0554	74	61.7152	75	71.8103	76
77.3895	77	82.6255	78	100.433	79	103.7675	79	132.7008	78
147.6057	78	169.6632	79	176.4691	79	179.8266	78	183.4324	77
209.1115	76	238.9899	76	243.5283	75	251.5807	74	256.3091	73
259.0627	72	260.7494	71	262.3737	70	263.9685	69	265.925	68
269.7554	67	273.2489	66	297.7911	66	305.4037	67	310.0368	68
325.6501	69	334.8233	70	363.6907	71	427.848	72	436.5399	73
495.5188	73	500.3916	72	505.2094	71	515.6636	70	516.3419	69
517.0202	68	517.6987	67	518.4002	66	519.1022	65	519.8039	64
520.5058	63	521.1167	59	543.2774	59	545.979	63	563.2096	64
623.6759	65	652.7094	66	691.7709	67	721.2506	68	767.887	68
780.3638	69	800.5304	70	809.234	71	812.5662	72	815.0106	73
817.6306	74	820.6345	75	825.3867	76	833.1084	77	840.8469	78
845.1149	79	849.4914	80	851.9074	81	853.9824	82	855.7708	83
857.5429	84	859.6885	85	862.1728	86	864.9879	87	867.2592	88
874.5528	89	908.417	89						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	519.8039	.015	563.2096	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
519.8039	563.2096	646.2	820	856	.1	.3

Left Levee Station= 467.56 Elevation= 75.9

CROSS SECTION OUTPUT Profile #PMF Dam Breach

E.G. Elev (m)	67.04	Element	Left OB	Channel	Right OB
Vel Head (m)	1.57	Wt. n-Val.	0.035	0.015	0.035
W.S. Elev (m)	65.47	Reach Len. (m)	646.20	820.00	856.00
Crit W.S. (m)	65.47	Flow Area (m2)	0.76	193.63	62.06
E.G. Slope (m/m)	0.001177	Area (m2)	0.76	193.63	62.06
Q Total (m3/s)	1153.92	Flow (m3/s)	0.42	1099.49	54.01
Top Width (m)	118.63	Top Width (m)	1.03	43.41	74.19
Vel Total (m/s)	4.50	Avg. Vel. (m/s)	0.55	5.68	0.87
Max Chl Dpth (m)	6.47	Hydr. Depth (m)	0.74	4.46	0.84
Conv. Total (m3/s)	33628.4	Conv. (m3/s)	12.3	32042.1	1574.1
Length Wtd. (m)	813.18	Wetted Per. (m)	1.80	49.52	74.21
Min Ch El (m)	59.00	Shear (N/m2)	4.88	45.15	9.66
Alpha	1.52	Stream Power (N/m s)	2.70	256.39	8.40
Frctn Loss (m)	1.50	Cum Volume (1000 m3)	506.75	873.74	294.15
C & E Loss (m)	0.13	Cum SA (1000 m2)	321.18	175.01	303.79

Warning: The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.
Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION

RIVER: Rio Gurabo
REACH: Gurabo Arriba RS: 26

INPUT
Description:
Station Elevation Data num= 61

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	70	11.0467	71	22.7813	72	29.3692	73	34.4354	74
46.3192	75	53.709	76	59.8498	77	73.4729	78	83.4477	79
98.8546	79	106.4647	78	114.4383	77	124.3738	76	129.4707	75
134.5275	74	139.759	73	145.1211	72	155.5835	71	162.603	70
167.9922	69	173.5193	68	177.6048	67	181.0942	66	185.8923	65
204.3891	64	244.6038	63	373.6799	63	426.4001	64	468.4317	64
496.2648	63	528.405	62	574.359	62	581.6272	63	594.1133	63
599.0638	62	602.1438	61	604.354	60	609.8046	55.6	631.1027	55.6
632.4145	60	633.726	61	635.0377	62	636.0427	63	637.9967	64
640.0271	65	642.1929	66	644.6102	67	647.3047	68	650.7631	69
653.2978	70	655.6671	71	658.7715	72	662.3785	73	664.9481	74
669.0902	75	677.2507	76	690.1635	76	712.0542	75	753.9725	75
770.6505	76								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	594.1133	.031	8636.0427	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
594.1133	636.0427	342.3	461	546	.1	.3

Left Levee Station= 458.26 Elevation= 65.27

CROSS SECTION OUTPUT Profile #PMF Dam Breach

E.G. Elev (m)	64.22	Element	Left OB	Channel	Right OB
Vel Head (m)	1.12	Wt. n-Val.	0.035	0.032	0.035
W.S. Elev (m)	63.09	Reach Len. (m)	342.30	461.00	546.00
Crit W.S. (m)	62.86	Flow Area (m2)	74.96	215.07	0.01
E.G. Slope (m/m)	0.003309	Area (m2)	74.96	215.07	0.01
Q Total (m3/s)	1153.92	Flow (m3/s)	101.29	1052.63	0.00
Top Width (m)	142.57	Top Width (m)	100.46	41.93	0.18
Vel Total (m/s)	3.98	Avg. Vel. (m/s)	1.35	4.89	0.20
Max Chl Dpth (m)	7.49	Hydr. Depth (m)	0.75	5.13	0.05
Conv. Total (m3/s)	20059.8	Conv. (m3/s)	1760.8	18299.0	0.0
Length Wtd. (m)	439.99	Wetted Per. (m)	100.54	48.33	0.21
Min Ch El (m)	55.60	Shear (N/m2)	24.19	144.42	1.35
Alpha	1.39	Stream Power (N/m s)	32.69	706.83	0.27
Frctn Loss (m)	1.48	Cum Volume (1000 m3)	482.28	706.17	267.59
C & E Loss (m)	0.22	Cum SA (1000 m2)	288.39	140.02	271.95

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION

RIVER: Rio Gurabo
REACH: Gurabo Arriba RS: 25

INPUT
Description:
Station Elevation Data num= 30

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	66	22.3533	66	52.9157	65	60.2979	64	79.0959	63
93.9096	62	144.8556	62	188.7756	61	328.802	60	343.5894	60
349.3196	61	402.4395	61	408.9435	60	415.79	59	428.8024	55
439.8273	55	450.7876	59	457.0547	60	459.9967	61	474.1198	62
591.6453	62	615.573	63	672.8739	64	697.7401	64	734.3313	65
905.9268	65	926.9715	66	935.0559	67	945.7264	68	998.7206	68

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

0 .075402.4395 .0418474.1198 .075

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
402.4395474.1198 776 720 531 .1 .3

CROSS SECTION OUTPUT Profile #PMF Dam Breach

E.G. Elev (m)	62.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.40	Wt. n-Val.	0.075	0.042	0.075
W.S. Elev (m)	62.12	Reach Len. (m)	776.00	720.00	531.00
Crit W.S. (m)		Flow Area (m2)	359.27	259.38	13.82
E.G. Slope (m/m)	0.003424	Area (m2)	359.27	259.38	13.82
Q Total (m3/s)	1153.92	Flow (m3/s)	309.04	842.33	2.55
Top Width (m)	502.24	Top Width (m)	310.25	71.68	120.31
Vel Total (m/s)	1.82	Avg. Vel. (m/s)	0.86	3.25	0.18
Max Chl Dpth (m)	7.12	Hydr. Depth (m)	1.16	3.62	0.11
Conv. Total (m3/s)	19719.1	Conv. (m3/s)	5281.1	14394.5	43.6
Length Wtd. (m)	720.63	Wetted Per. (m)	310.36	73.42	120.31
Min Ch El (m)	55.00	Shear (N/m2)	38.87	118.64	3.86
Alpha	2.37	Stream Power (N/m s)	33.44	385.28	0.71
Frctn Loss (m)	1.05	Cum Volume (1000 m3)	407.97	596.80	263.81
C & E Loss (m)	0.06	Cum SA (1000 m2)	218.10	113.83	239.06

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Gurabo
REACH: Gurabo Arriba RS: 24

INPUT
Description:
Station Elevation Data num= 25

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	65	79.5112	64	124.8811	64	161.2923	63	172.674	63
197.4468	62	204.5254	61	208.9344	60	213.04	59	218.3949	58
227.1676	57	232.7237	52	266.9711	52	270.0212	57	276.3756	58
291.7315	59	309.7978	60	402.7897	60	423.9133	61	493.5764	62
584.815	63	697.1256	64	723.6255	65	730.9055	66	736.826	67

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.045	197.4468	.039	309.7978	.045

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
197.4468309.7978 179.82 241.43 292.49 .1 .3

CROSS SECTION OUTPUT Profile #PMF Dam Breach

E.G. Elev (m)	61.41	Element	Left OB	Channel	Right OB
Vel Head (m)	0.20	Wt. n-Val.		0.039	0.045
W.S. Elev (m)	61.21	Reach Len. (m)	179.82	241.43	292.49
Crit W.S. (m)		Flow Area (m2)		526.67	129.14
E.G. Slope (m/m)	0.000801	Area (m2)		526.67	129.14
Q Total (m3/s)	1153.92	Flow (m3/s)		1072.56	81.36
Top Width (m)	235.55	Top Width (m)		106.76	128.79
Vel Total (m/s)	1.76	Avg. Vel. (m/s)		2.04	0.63
Max Chl Dpth (m)	9.21	Hydr. Depth (m)		4.93	1.00
Conv. Total (m3/s)	40773.6	Conv. (m3/s)		37898.9	2874.7
Length Wtd. (m)	235.38	Wetted Per. (m)		112.02	128.82
Min Ch El (m)	52.00	Shear (N/m2)		36.93	7.87
Alpha	1.25	Stream Power (N/m s)		75.20	4.96
Frctn Loss (m)	0.08	Cum Volume (1000 m3)	268.57	313.83	225.85
C & E Loss (m)	0.04	Cum SA (1000 m2)	97.72	49.59	172.92

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than

0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Rio Gurabo
REACH: Gurabo Arriba RS: 23

INPUT
Description:
Station Elevation Data num= 51

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	65	14.6051	65	34.0754	64	83.22	64	119.8738	63
131.7323	62	134.9174	61	137.1679	60	139.6043	59	142.3244	58
147.9538	57	150.7067	57	156.6225	58	159.381	59	161.6848	60
163.9553	61	169.8908	62	176.2785	62	183.9897	61	190.9789	60
203.5355	60	267.1275	59	273.5974	59	301.9165	58	407.5822	58
413.7089	57	416.0703	53	460.9887	53	463.9248	57	473.4794	58
484.8873	59	574.0073	59	598.2592	60	647.4437	61	795.6901	61
821.4692	62	834.6067	63	852.4654	63	885.8197	64	907.4035	65
925.4779	66	930.6073	67	937.3501	67	953.8324	66	963.501	66
973.3599	67	1064.41	67	1098.492	68	1130.87	69	1171.28	70
1197.402	71								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	407.5822	.033	484.8873	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
407.5822	484.8873	406.11	372	223.54	.1	.3

Left Levee Station= 174.79 Elevation= 62.8

CROSS SECTION OUTPUT Profile #PMF Dam Breach

E.G. Elev (m)	61.29	Element	Left OB	Channel	Right OB
Vel Head (m)	0.06	Wt. n-Val.	0.035	0.033	0.035
W.S. Elev (m)	61.23	Reach Len. (m)	406.11	372.00	223.54
Crit W.S. (m)	56.99	Flow Area (m2)	564.35	492.50	312.16
E.G. Slope (m/m)	0.000172	Area (m2)	564.35	492.50	312.16
Q Total (m3/s)	1153.92	Flow (m3/s)	389.97	648.09	115.87
Top Width (m)	619.49	Top Width (m)	225.39	77.31	316.80
Vel Total (m/s)	0.84	Avg. Vel. (m/s)	0.69	1.32	0.37
Max Chl Dpth (m)	8.23	Hydr. Depth (m)	2.50	6.37	0.99
Conv. Total (m3/s)	87949.0	Conv. (m3/s)	29722.4	49395.6	8831.0
Length Wtd. (m)	349.36	Wetted Per. (m)	225.50	81.79	316.83
Min Ch El (m)	53.00	Shear (N/m2)	4.22	10.16	1.66
Alpha	1.62	Stream Power (N/m s)	2.92	13.38	0.62
Frctn Loss (m)	0.04	Cum Volume (1000 m3)	217.83	190.80	161.32
C & E Loss (m)	0.01	Cum SA (1000 m2)	77.46	27.38	107.76

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION

RIVER: Rio Gurabo
REACH: Gurabo Arriba RS: 22

INPUT
Description:
Station Elevation Data num= 94

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
.0004	76	2.4288	75	5.8423	74	27.9942	74	36.4959	73
48.2987	72	58.1962	71	73.6134	71	82.7938	70	98.9027	69
111.5138	69	115.0411	70	117.6036	71	139.7322	72	151.1613	73
159.2792	73	164.1038	72	181.2456	71	186.4579	70	198.659	69
201.4733	68	204.3597	67	220.9622	66	229.4635	65	245.9806	64
251.6499	63	257.5607	62	270.9326	62	276.634	63	299.0841	63
305.031	64	315.4862	64	320.0937	63	323.497	62	327.967	61
335.0732	60	358.5333	59	381.6983	59	386.7063	58	390.4773	57

394.6198	56399.0942	55 405.558	55408.1288	56410.5893	57
413.0368	58415.5344	59 418.147	60420.7333	61423.3387	62
431.9807	62434.4555	61437.3986	60 448.989	60484.9546	61
488.804	61502.3393	60543.9295	59564.8789	58579.9941	57
656.0662	57662.3377	56671.1486	52706.6071	52715.3707	56
725.9385	57744.0616	58752.9132	59763.1037	59769.5368	58
783.1755	57 795.316	57 841.073	58895.1084	58906.0789	59
1076.167	601207.003	601279.168	611360.964	611416.753	62
1441.505	631451.708	641473.708	641478.336	651485.521	66
1492.22	671523.557	681533.399	69 1550.09	691566.539	68
1595.991	671638.717	671649.284	68 1664.38	69	

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
.0004 .035656.0662 .033725.9385 .035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
656.0662725.9385 0 0 0 .1 .3
Left Levee Station= 500 Elevation= 62

CROSS SECTION OUTPUT Profile #PMF Dam Breach

E.G. Elev (m)	61.25	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.035	0.033	0.035
W.S. Elev (m)	61.22	Reach Len. (m)			
Crit W.S. (m)	56.43	Flow Area (m2)	508.41	533.29	1131.12
E.G. Slope (m/m)	0.000068	Area (m2)	508.41	533.29	1131.12
Q Total (m3/s)	1153.92	Flow (m3/s)	261.48	506.65	385.79
Top Width (m)	873.24	Top Width (m)	156.07	69.87	647.30
Vel Total (m/s)	0.53	Avg. Vel. (m/s)	0.51	0.95	0.34
Max Chl Dpth (m)	9.22	Hydr. Depth (m)	3.26	7.63	1.75
Conv. Total (m3/s)	140199.9	Conv. (m3/s)	31769.8	61557.2	46872.9
Length Wtd. (m)		Wetted Per. (m)	157.19	71.73	647.57
Min Ch El (m)	52.00	Shear (N/m2)	2.15	4.94	1.16
Alpha	1.76	Stream Power (N/m s)	1.11	4.69	0.40
Frctn Loss (m)		Cum Volume (1000 m3)			
C & E Loss (m)		Cum SA (1000 m2)			

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

SUMMARY OF MANNING'S N VALUES

River:Rio Gurabo

Reach	River Sta.	n1	n2	n3
Gurabo Arriba	30	.035	.035	.035
Gurabo Arriba	29	.035	.035	.035
Gurabo Arriba	28	.035	.035	.035
Gurabo Arriba	27	.035	.015	.035
Gurabo Arriba	26	.035	.0318	.035
Gurabo Arriba	25	.075	.0418	.075
Gurabo Arriba	24	.045	.039	.045
Gurabo Arriba	23	.035	.033	.035
Gurabo Arriba	22	.035	.033	.035

SUMMARY OF REACH LENGTHS

River: Rio Gurabo

Reach	River Sta.	Left	Channel	Right
Gurabo Arriba	30	438.01	478.31	556.69
Gurabo Arriba	29	851	734	547.07
Gurabo Arriba	28	469.73	446.55	422.7
Gurabo Arriba	27	646.2	820	856
Gurabo Arriba	26	342.3	461	546

Gurabo Arriba	25	776	720	531
Gurabo Arriba	24	179.82	241.43	292.49
Gurabo Arriba	23	406.11	372	223.54
Gurabo Arriba	22	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Rio Gurabo

Reach	River Sta.	Contr.	Expan.
Gurabo Arriba	30	.1	.3
Gurabo Arriba	29	.1	.3
Gurabo Arriba	28	.1	.3
Gurabo Arriba	27	.1	.3
Gurabo Arriba	26	.1	.3
Gurabo Arriba	25	.1	.3
Gurabo Arriba	24	.1	.3
Gurabo Arriba	23	.1	.3
Gurabo Arriba	22	.1	.3

Profile Output Table - Standard Table 1

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m/m)	E.G. Slope (m/s)	Vel Chnl (m2)	Flow Area (m)	Top Width	Froude # Chl
Gurabo Arriba	30	PMF Dam Breach	1153.92	67.00	71.27	71.27	72.38	0.005366	5.26	278.49	121.61	0.83
Gurabo Arriba	29	PMF Dam Breach	1153.92	65.00	69.85	69.32	70.22	0.002072	3.06	498.58	283.45	0.51
Gurabo Arriba	28	PMF Dam Breach	1153.92	63.00	67.28		68.04	0.004513	4.01	307.01	118.88	0.73
Gurabo Arriba	27	PMF Dam Breach	1153.92	59.00	65.47	65.47	67.04	0.001177	5.68	256.46	118.63	0.86
Gurabo Arriba	26	PMF Dam Breach	1153.92	55.60	63.09	62.86	64.22	0.003309	4.89	290.04	142.57	0.69
Gurabo Arriba	25	PMF Dam Breach	1153.92	55.00	62.12		62.52	0.003424	3.25	632.47	502.24	0.54
Gurabo Arriba	24	PMF Dam Breach	1153.92	52.00	61.21		61.41	0.000801	2.04	655.81	235.55	0.29
Gurabo Arriba	23	PMF Dam Breach	1153.92	53.00	61.23	56.99	61.29	0.000172	1.32	1369.01	619.49	0.17
Gurabo Arriba	22	PMF Dam Breach	1153.92	52.00	61.22	56.43	61.25	0.000068	0.95	2172.83	873.24	0.11