```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN 09 1992               *
*           VERSION 4.0.3E              *
*                                       *
*  RUN DATE  07/20/00  TIME  14:49:33   *
*                                       *
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*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 551-1748              *
*                                       *
*****************************************
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX        XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

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

1 HEC-1 INPUT PAGE 1

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID     BRUSH CREEK DAM (40-1)  O:\BASIN22\DAM\BRUSH CREEK DAM
  2           ID     1979 USACE HEC MODEL; 24-hr PMP, 33.5" RAIN, SNYDER HYDROGRAPH
  3           ID     DA=14.3 sq.mi., SA=169.0 ac @ NORMAL POOL, SA=338.0 ac @ TOP DAM
  4           ID     NORMAL POOL/50 ft SPILLWAY CREST ELEV = 715.0 ft, TOP DAM = 730.0 ft
  5           ID     USACE DATA CONFIRMED IN 1981 HNTB'S PH II REPORT
              *
  6           IT    12.0 14JUL00    1545     300
  7           IO       1       2
  8           JR    PREC     0.5     1.0
              *
              *                   TYPE II DISTRIBUTION
  9           IN      18 14JUL00    1545
 10           PG     SCS    33.5
 11           PC    0.00    .002    .005    .008    .011    .014    .017     .02    .023    .026
 12           PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
 13           PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
 14           PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
 15           PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
 16           PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
 17           PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
 18           PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
 19           PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
 20           PC    .983    .986    .989    .992    .995    .998    1.00
              *

 21           KK  INFLOW  INFLOW TO DAM
 22           KM                   USACE SNYDER METHOD / HNTB TYPE II - CN = 79
 23           KM                  TP = 4.71, CP = 0.66 / Tc = 19.0 hrs --> Tlag = 11.4 hrs
 24           BA    14.3
 25           PR     SCS
 26           LS       0      79
 27           US    4.71    0.66
              *

 28           KK       1ROUTE STORAGE ROUTING
 29           RS       1    FLOW      -1
              *
 30           KM           STAGE/STORAGE - USED USACE DATA
 31           KM           EXISTING 50 ft SPILLWAY RATING
 32           SV    1884    2249    2453    2672    2906    3154    3411    3680    3959    4249
 33           SV    4549    4858    5174    5499    5833    6175    6524    6882    7247    7620
 34           SQ       0     410     753    1160    1621    2131    2685    3281    3915    4585
 35           SQ    5290    6028    6797    7596    8424   10440   13444   17101   21289   25938
 36           SE     715     717     718     719     720     721     722     723     724     725
 37           SE     726     727     728     729     730     731     732     733     734     735
              *
 38           ZZ
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1*****************************************
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*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
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*  RUN DATE  07/20/00  TIME  14:49:33   *
*                                       *
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*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 551-1748              *
*                                       *
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15	JUL	0257	57	493.	2298.3	717.2	*	15	JUL	2257	157	7245.	5356.3	728.6	*	16	JUL	1857	257	502.	2303.7	717.3
15	JUL	0309	58	541.	2326.7	717.4	*	15	JUL	2309	158	7135.	5311.6	728.4	*	16	JUL	1909	258	488.	2295.6	717.2
15	JUL	0321	59	590.	2356.0	717.5	*	15	JUL	2321	159	7024.	5266.3	728.3	*	16	JUL	1921	259	475.	2287.7	717.2
15	JUL	0333	60	641.	2386.4	717.7	*	15	JUL	2333	160	6911.	5220.3	728.1	*	16	JUL	1933	260	462.	2280.0	717.2
15	JUL	0345	61	694.	2417.8	717.8	*	15	JUL	2345	161	6796.	5173.6	728.0	*	16	JUL	1945	261	450.	2272.6	717.1
15	JUL	0357	62	748.	2450.3	718.0	*	15	JUL	2357	162	6681.	5126.4	727.8	*	16	JUL	1957	262	437.	2265.3	717.1
15	JUL	0409	63	810.	2483.9	718.1	*	16	JUL	0009	163	6565.	5078.6	727.7	*	16	JUL	2009	263	425.	2258.2	717.0
15	JUL	0421	64	875.	2518.6	718.3	*	16	JUL	0021	164	6447.	5030.2	727.5	*	16	JUL	2021	264	414.	2251.3	717.0
15	JUL	0433	65	942.	2554.6	718.5	*	16	JUL	0033	165	6328.	4981.3	727.4	*	16	JUL	2033	265	405.	2244.5	717.0
15	JUL	0445	66	1011.	2591.9	718.6	*	16	JUL	0045	166	6208.	4931.9	727.2	*	16	JUL	2045	266	397.	2237.9	716.9
15	JUL	0457	67	1083.	2630.6	718.8	*	16	JUL	0057	167	6087.	4882.1	727.1	*	16	JUL	2057	267	390.	2231.3	716.9
15	JUL	0509	68	1158.	2671.0	719.0	*	16	JUL	0109	168	5966.	4831.9	726.9	*	16	JUL	2109	268	383.	2225.0	716.9
15	JUL	0521	69	1241.	2713.3	719.2	*	16	JUL	0121	169	5845.	4781.3	726.8	*	16	JUL	2121	269	376.	2218.7	716.8
15	JUL	0533	70	1329.	2757.6	719.4	*	16	JUL	0133	170	5724.	4730.5	726.6	*	16	JUL	2133	270	369.	2212.5	716.8
15	JUL	0545	71	1421.	2804.4	719.6	*	16	JUL	0145	171	5602.	4679.5	726.4	*	16	JUL	2145	271	362.	2206.5	716.8
15	JUL	0557	72	1520.	2855.0	719.8	*	16	JUL	0157	172	5480.	4628.5	726.3	*	16	JUL	2157	272	356.	2200.6	716.7
15	JUL	0609	73	1632.	2911.6	720.0	*	16	JUL	0209	173	5358.	4577.4	726.1	*	16	JUL	2209	273	349.	2194.7	716.7
15	JUL	0621	74	1768.	2977.4	720.3	*	16	JUL	0221	174	5237.	4526.4	725.9	*	16	JUL	2221	274	343.	2189.0	716.7
15	JUL	0633	75	1928.	3055.2	720.6	*	16	JUL	0233	175	5118.	4475.6	725.8	*	16	JUL	2233	275	336.	2183.4	716.6
15	JUL	0645	76	2117.	3147.2	721.0	*	16	JUL	0245	176	4999.	4425.1	725.6	*	16	JUL	2245	276	330.	2177.9	716.6
15	JUL	0657	77	2348.	3254.5	721.4	*	16	JUL	0257	177	4881.	4374.8	725.4	*	16	JUL	2257	277	324.	2172.5	716.6
15	JUL	0709	78	2614.	3378.1	721.9	*	16	JUL	0309	178	4763.	4324.9	725.3	*	16	JUL	2309	278	318.	2167.2	716.6
15	JUL	0721	79	2923.	3518.5	722.4	*	16	JUL	0321	179	4647.	4275.5	725.1	*	16	JUL	2321	279	312.	2162.0	716.5
15	JUL	0733	80	3272.	3676.2	723.0	*	16	JUL	0333	180	4533.	4226.5	724.9	*	16	JUL	2333	280	306.	2156.9	716.5
15	JUL	0745	81	3670.	3851.0	723.6	*	16	JUL	0345	181	4421.	4178.1	724.8	*	16	JUL	2345	281	301.	2151.8	716.5
15	JUL	0757	82	4109.	4043.0	724.3	*	16	JUL	0357	182	4311.	4130.2	724.6	*	16	JUL	2357	282	295.	2146.9	716.4
15	JUL	0809	83	4591.	4251.7	725.0	*	16	JUL	0409	183	4201.	4082.9	724.4	*	17	JUL	0009	283	290.	2142.1	716.4
15	JUL	0821	84	5120.	4476.6	725.8	*	16	JUL	0421	184	4094.	4036.3	724.3	*	17	JUL	0021	284	285.	2137.3	716.4
15	JUL	0833	85	5691.	4716.8	726.5	*	16	JUL	0433	185	3987.	3990.2	724.1	*	17	JUL	0033	285	279.	2132.7	716.4
15	JUL	0845	86	6303.	4970.9	727.4	*	16	JUL	0445	186	3883.	3944.9	723.9	*	17	JUL	0045	286	274.	2128.1	716.3
15	JUL	0857	87	6951.	5236.7	728.2	*	16	JUL	0457	187	3781.	3900.2	723.8	*	17	JUL	0057	287	269.	2123.6	716.3
15	JUL	0909	88	7627.	5511.7	729.0	*	16	JUL	0509	188	3681.	3856.2	723.6	*	17	JUL	0109	288	264.	2119.2	716.3
15	JUL	0921	89	8325.	5793.2	729.9	*	16	JUL	0521	189	3583.	3812.9	723.5	*	17	JUL	0121	289	259.	2114.9	716.3
15	JUL	0933	90	9833.	6072.1	730.7	*	16	JUL	0533	190	3486.	3770.3	723.3	*	17	JUL	0133	290	255.	2110.6	716.2
15	JUL	0945	91	11820.	6335.3	731.5	*	16	JUL	0545	191	3391.	3728.2	723.2	*	17	JUL	0145	291	250.	2106.5	716.2
15	JUL	0957	92	13967.	6575.2	732.1	*	16	JUL	0557	192	3296.	3686.4	723.0	*	17	JUL	0157	292	245.	2102.4	716.2
15	JUL	1009	93	16138.	6787.7	732.7	*	16	JUL	0609	193	3203.	3644.6	722.9	*	17	JUL	0209	293	241.	2098.3	716.2
15	JUL	1021	94	18128.	6971.5	733.2	*	16	JUL	0621	194	3111.	3603.1	722.7	*	17	JUL	0221	294	236.	2094.4	716.2
15	JUL	1033	95	19914.	7127.2	733.7	*	16	JUL	0633	195	3021.	3562.5	722.6	*	17	JUL	0233	295	232.	2090.5	716.1
15	JUL	1045	96	21399.	7255.9	734.0	*	16	JUL	0645	196	2932.	3522.6	722.4	*	17	JUL	0245	296	228.	2086.7	716.1
15	JUL	1057	97	22679.	7358.5	734.3	*	16	JUL	0657	197	2846.	3483.7	722.3	*	17	JUL	0257	297	224.	2083.0	716.1
15	JUL	1109	98	23642.	7435.8	734.5	*	16	JUL	0709	198	2762.	3445.7	722.1	*	17	JUL	0309	298	219.	2079.3	716.1
15	JUL	1121	99	24309.	7489.3	734.6	*	16	JUL	0721	199	2680.	3408.5	722.0	*	17	JUL	0321	299	215.	2075.7	716.1
15	JUL	1133	100	24713.	7521.7	734.7	*	16	JUL	0733	200	2601.	3372.2	721.8	*	17	JUL	0333	300	211.	2072.2	716.0
							*								*							

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	59.80-HR
+ (CFS)	(HR)					
		(CFS)				
+ 24896.	20.20		20781.	10563.	4647.	4647.
		(INCHES)	13.512	27.471	30.114	30.114
		(AC-FT)	10305.	20951.	22967.	22967.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	59.80-HR
+ (AC-FT)	(HR)				
7536.	20.20	7193.	5612.	3661.	3661.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	59.80-HR
+ (FEET)	(HR)				
734.78	20.20	733.84	729.16	722.10	722.10

CUMULATIVE AREA = 14.30 SQ MI

1 STATION 1

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                    (I) INFLOW,    (O) OUTFLOW
          0.     4000.     8000.    12000.    16000.    20000.    24000.    28000.    32000.        0.        0.        0.        0.
                                                                                   (S) STORAGE
          0.        0.        0.        0.        0.        0.        0.     2000.     4000.     6000.     8000.        0.        0.
 DAHRMN PER
 141545   1I---------.---------.---------.---------.---------.---------.--------S.---------.---------.---------.---------.---------.
 141557   2I         .         .         .         .         .         .        S.         .         .         .         .         .
 141609   3I         .         .         .         .         .         .        S.         .         .         .         .         .
 141621   4I         .         .         .         .         .         .        S.         .         .         .         .         .
 141633   5I         .         .         .         .         .         .        S.         .         .         .         .         .
 141645   6I         .         .         .         .         .         .        S.         .         .         .         .         .
 141657   7I         .         .         .         .         .         .        S.         .         .         .         .         .
 141709   8I         .         .         .         .         .         .        S.         .         .         .         .         .
 141721   9I         .         .         .         .         .         .        S.         .         .         .         .         .
 141733  10I         .         .         .         .         .         .        S.         .         .         .         .         .
 141745  11I . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . S. . . . . . . . . . . . . . . . . . . . . . . . . . . . .
 141757  12I         .         .         .         .         .         .        S.         .         .         .         .         .
 141809  13I         .         .         .         .         .         .        S.         .         .         .         .         .
 141821  14I         .         .         .         .         .         .        S.         .         .         .         .         .
 141833  15I         .         .         .         .         .         .        S.         .         .         .         .         .
 141845  16I         .         .         .         .         .         .        S.         .         .         .         .         .
 141857  17I         .         .         .         .         .         .        S.         .         .         .         .         .
 141909  18I         .         .         .         .         .         .        S.         .         .         .         .         .
 141921  19I         .         .         .         .         .         .        S.         .         .         .         .         .
 141933  20I         .         .         .         .         .         .        S.         .         .         .         .         .
 141945  21I . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . S. . . . . . . . . . . . . . . . . . . . . . . . . . . . .
 141957  22I         .         .         .         .         .         .        S.         .         .         .         .         .
 142009  23I         .         .         .         .         .         .        S.         .         .         .         .         .
 142021  24I         .         .         .         .         .         .        S.         .         .         .         .         .
 142033  25I         .         .         .         .         .         .        S.         .         .         .         .         .
 142045  26I         .         .         .         .         .         .        S.         .         .         .         .         .
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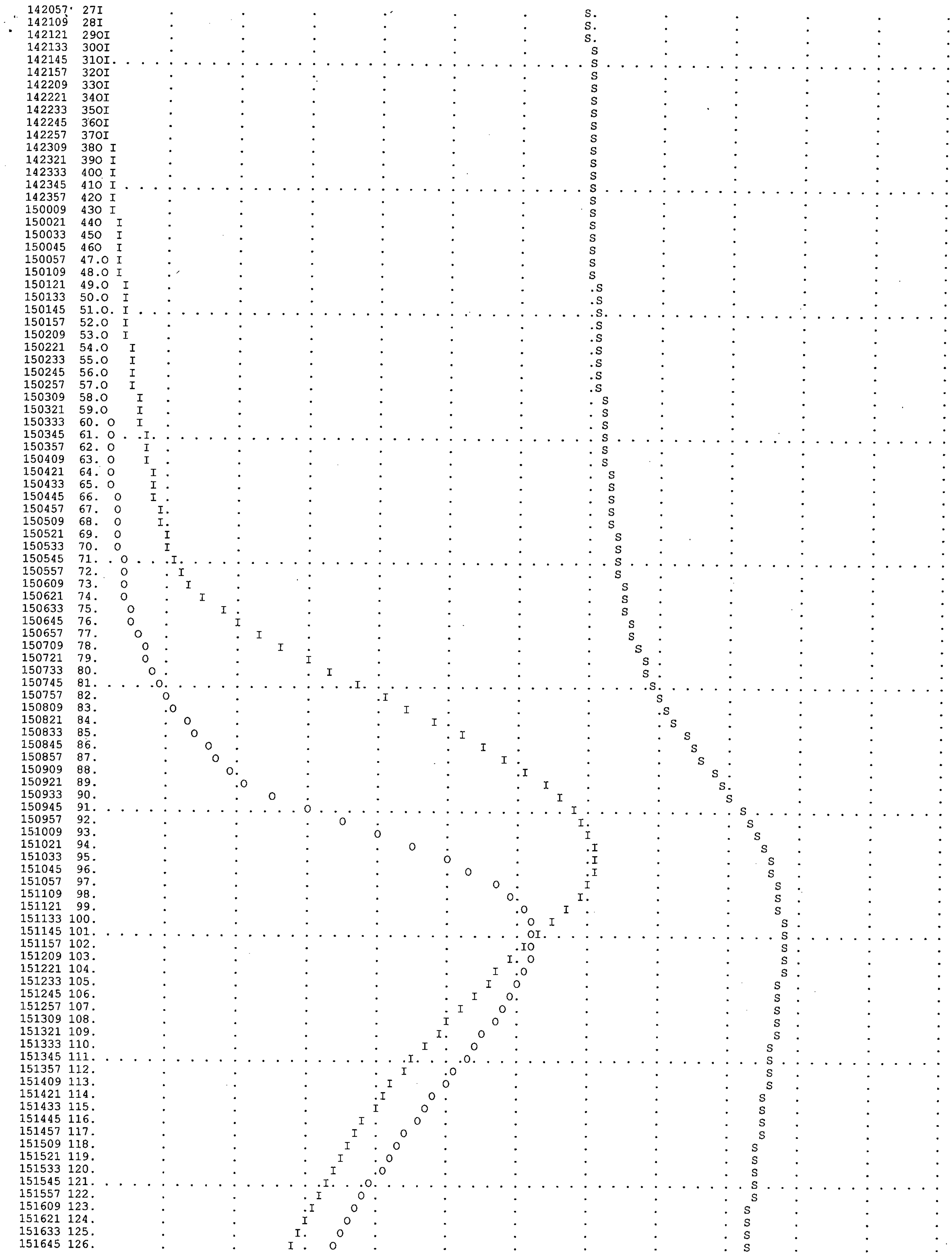
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151621 124.
151633 125.
151645 126.

15 JUL 1409	113	0.09	0.00	0.09	16967.	*	16 JUL 2009	263	0.00	0.00	0.00	1.
15 JUL 1421	114	0.09	0.00	0.09	16408.	*	16 JUL 2021	264	0.00	0.00	0.00	1.
15 JUL 1433	115	0.09	0.00	0.09	15870.	*	16 JUL 2033	265	0.00	0.00	0.00	0.
15 JUL 1445	116	0.09	0.00	0.09	15352.	*	16 JUL 2045	266	0.00	0.00	0.00	0.
15 JUL 1457	117	0.09	0.00	0.09	14853.	*	16 JUL 2057	267	0.00	0.00	0.00	0.
15 JUL 1509	118	0.09	0.00	0.09	14373.	*	16 JUL 2109	268	0.00	0.00	0.00	0.
15 JUL 1521	119	0.09	0.00	0.09	13911.	*	16 JUL 2121	269	0.00	0.00	0.00	0.
15 JUL 1533	120	0.08	0.00	0.08	13466.	*	16 JUL 2133	270	0.00	0.00	0.00	0.
15 JUL 1545	121	0.07	0.00	0.07	13038.	*	16 JUL 2145	271	0.00	0.00	0.00	0.
15 JUL 1557	122	0.07	0.00	0.07	12625.	*	16 JUL 2157	272	0.00	0.00	0.00	0.
15 JUL 1609	123	0.07	0.00	0.07	12227.	*	16 JUL 2209	273	0.00	0.00	0.00	0.
15 JUL 1621	124	0.07	0.00	0.07	11843.	*	16 JUL 2221	274	0.00	0.00	0.00	0.
15 JUL 1633	125	0.07	0.00	0.07	11473.	*	16 JUL 2233	275	0.00	0.00	0.00	0.
15 JUL 1645	126	0.07	0.00	0.07	11116.	*	16 JUL 2245	276	0.00	0.00	0.00	0.
15 JUL 1657	127	0.07	0.00	0.07	10772.	*	16 JUL 2257	277	0.00	0.00	0.00	0.
15 JUL 1709	128	0.07	0.00	0.07	10440.	*	16 JUL 2309	278	0.00	0.00	0.00	0.
15 JUL 1721	129	0.07	0.00	0.07	10121.	*	16 JUL 2321	279	0.00	0.00	0.00	0.
15 JUL 1733	130	0.07	0.00	0.07	9813.	*	16 JUL 2333	280	0.00	0.00	0.00	0.
15 JUL 1745	131	0.07	0.00	0.07	9516.	*	16 JUL 2345	281	0.00	0.00	0.00	0.
15 JUL 1757	132	0.07	0.00	0.07	9229.	*	16 JUL 2357	282	0.00	0.00	0.00	0.
15 JUL 1809	133	0.07	0.00	0.07	8953.	*	17 JUL 0009	283	0.00	0.00	0.00	0.
15 JUL 1821	134	0.07	0.00	0.07	8687.	*	17 JUL 0021	284	0.00	0.00	0.00	0.
15 JUL 1833	135	0.07	0.00	0.07	8431.	*	17 JUL 0033	285	0.00	0.00	0.00	0.
15 JUL 1845	136	0.07	0.00	0.07	8185.	*	17 JUL 0045	286	0.00	0.00	0.00	0.
15 JUL 1857	137	0.07	0.00	0.07	7949.	*	17 JUL 0057	287	0.00	0.00	0.00	0.
15 JUL 1909	138	0.07	0.00	0.07	7722.	*	17 JUL 0109	288	0.00	0.00	0.00	0.
15 JUL 1921	139	0.07	0.00	0.07	7504.	*	17 JUL 0121	289	0.00	0.00	0.00	0.
15 JUL 1933	140	0.07	0.00	0.07	7294.	*	17 JUL 0133	290	0.00	0.00	0.00	0.
15 JUL 1945	141	0.07	0.00	0.07	7093.	*	17 JUL 0145	291	0.00	0.00	0.00	0.
15 JUL 1957	142	0.07	0.00	0.07	6900.	*	17 JUL 0157	292	0.00	0.00	0.00	0.
15 JUL 2009	143	0.07	0.00	0.07	6715.	*	17 JUL 0209	293	0.00	0.00	0.00	0.
15 JUL 2021	144	0.06	0.00	0.06	6537.	*	17 JUL 0221	294	0.00	0.00	0.00	0.
15 JUL 2033	145	0.04	0.00	0.04	6367.	*	17 JUL 0233	295	0.00	0.00	0.00	0.
15 JUL 2045	146	0.00	0.00	0.00	6203.	*	17 JUL 0245	296	0.00	0.00	0.00	0.
15 JUL 2057	147	0.00	0.00	0.00	6045.	*	17 JUL 0257	297	0.00	0.00	0.00	0.
15 JUL 2109	148	0.00	0.00	0.00	5890.	*	17 JUL 0309	298	0.00	0.00	0.00	0.
15 JUL 2121	149	0.00	0.00	0.00	5738.	*	17 JUL 0321	299	0.00	0.00	0.00	0.
15 JUL 2133	150	0.00	0.00	0.00	5589.	*	17 JUL 0333	300	0.00	0.00	0.00	0.

```
TOTAL RAINFALL =   33.50, TOTAL LOSS =    2.99, TOTAL EXCESS =   30.51

  PEAK FLOW      TIME                         MAXIMUM AVERAGE FLOW
                                     6-HR         24-HR        72-HR       59.80-HR
+   (CFS)        (HR)
                           (CFS)
+   28487.       18.80                23693.       11170.        4685.        4685.
                         (INCHES)     15.404       29.050       30.360       30.360
                          (AC-FT)     11748.       22155.       23155.       23155.

                        CUMULATIVE AREA =    14.30 SQ MI
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1                                                        STATION   INFLOW

                       (O) OUTFLOW
         0.     4000.     8000.    12000.    16000.    20000.    24000.    28000.    32000.       0.        0.        0.      0.
                                                                                                  (L) PRECIP,  (X) EXCESS
         0.        0.        0.        0.        0.        0.        0.        0.        8.       6.        4.        2.      0.
DAHRMN PER
141545  10---------.---------.---------.---------.---------.---------.---------.---------.---------.---------.---------.---------.
141557  20         .         .         .         .         .         .         .         .         .         .         .         .
141609  30         .         .         .         .         .         .         .         .         .         .         .         .
141621  40         .         .         .         .         .         .         .         .         .         .         .         .
141633  50         .         .         .         .         .         .         .         .         .         .         .         .
141645  60         .         .         .         .         .         .         .         .         .         .         .         .
141657  70         .         .         .         .         .         .         .         .         .         .         .         .
141709  80         .         .         .         .         .         .         .         .         .         .         .         .
141721  90         .         .         .         .         .         .         .         .         .         .         .         .
141733 100         .         .         .         .         .         .         .         .         .         .         .         .
141745 110 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
141757 120         .         .         .         .         .         .         .         .         .         .         .         .
141809 130         .         .         .         .         .         .         .         .         .         .         .         .
141821 140         .         .         .         .         .         .         .         .         .         .         .         .
141833 150         .         .         .         .         .         .         .         .         .         .         .         .
141845 160         .         .         .         .         .         .         .         .         .         .         .         .
141857 170         .         .         .         .         .         .         .         .         .         .         .         .
141909 180         .         .         .         .         .         .         .         .         .         .         .         .
141921 190         .         .         .         .         .         .         .         .         .         .         .         .
141933 200         .         .         .         .         .         .         .         .         .         .         .         .
141945 210 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
141957 220         .         .         .         .         .         .         .         .         .         .         .         .
142009 230         .         .         .         .         .         .         .         .         .         .         .         .
142021 240         .         .         .         .         .         .         .         .         .         .         .         .
142033 250         .         .         .         .         .         .         .         .         .         .         .         .
142045 260         .         .         .         .         .         .         .         .         .         .         .         .
142057 270         .         .         .         .         .         .         .         .         .         .         .         .
142109 280         .         .         .         .         .         .         .         .         .         .         .         .
142121 29.0        .         .         .         .         .         .         .         .         .         .         .         .
142133 30.0        .         .         .         .         .         .         .         .         .         .         .         .
142145 31.0. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
142157 32.0        .         .         .         .         .         .         .         .         .         .         .         .
142209 33.0        .         .         .         .         .         .         .         .         .         .         .         .
142221 34.0        .         .         .         .         .         .         .         .         .         .         .         .
142233 35.0        .         .         .         .         .         .         .         .         .         .         .         .
142245 36.0        .         .         .         .         .         .         .         .         .         .         .         .
142257 37.0        .         .         .         .         .         .         .         .         .         .         .         .
142309 38. O       .         .         .         .         .         .         .         .         .         .         .        L.
142321 39. O       .         .         .         .         .         .         .         .         .         .         .        L.
142333 40. O       .         .         .         .         .         .         .         .         .         .         .        L.
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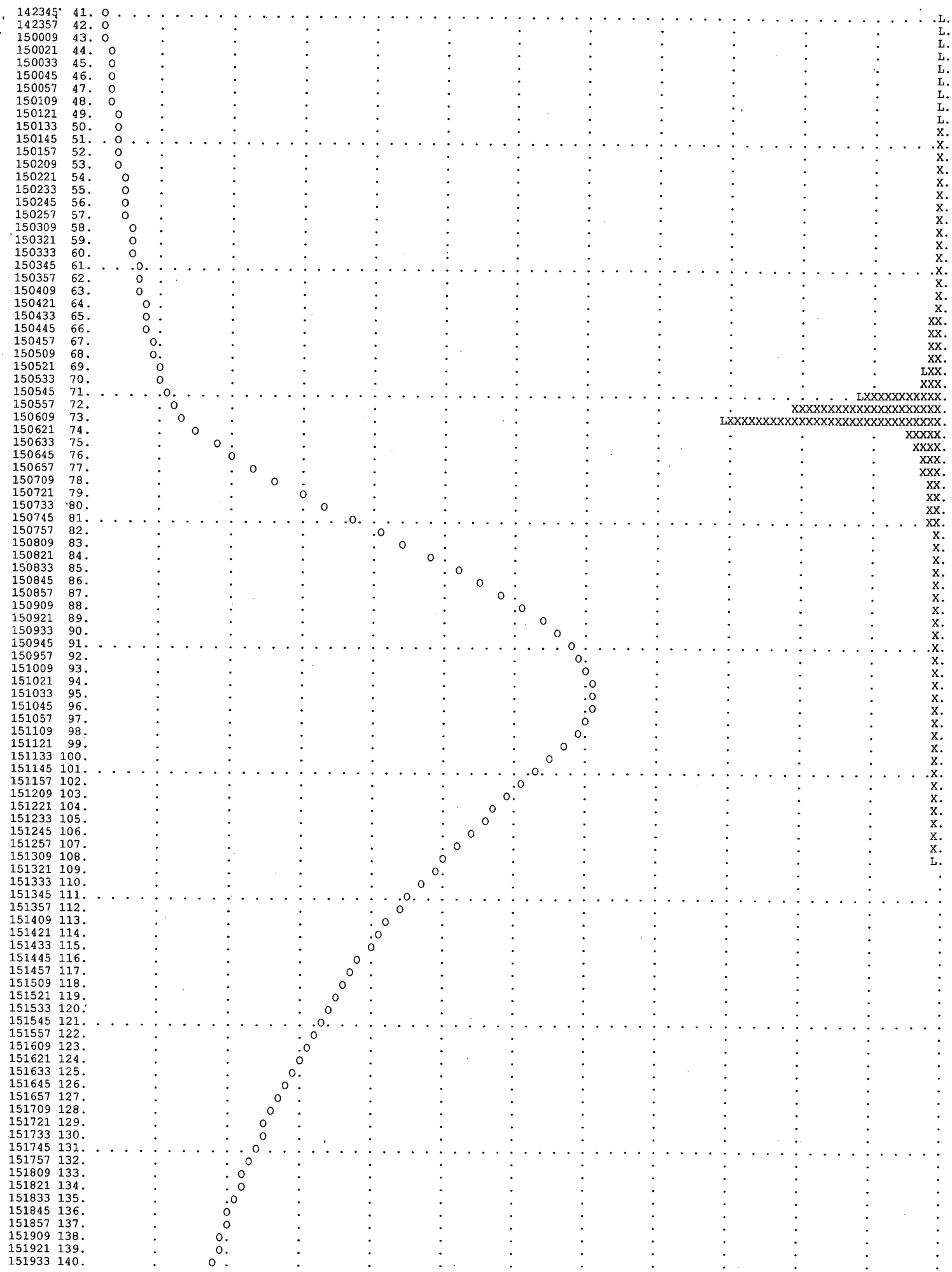
142345 41.
142357 42.
150009 43.
150021 44.
150033 45.
150045 46.
150057 47.
150109 48.
150121 49.
150133 50.
150145 51.
150157 52.
150209 53.
150221 54.
150233 55.
150245 56.
150257 57.
150309 58.
150321 59.
150333 60.
150345 61.
150357 62.
150409 63.
150421 64.
150433 65.
150445 66.
150457 67.
150509 68.
150521 69.
150533 70.
150545 71.
150557 72.
150609 73.
150621 74.
150633 75.
150645 76.
150657 77.
150709 78.
150721 79.
150733 80.
150745 81.
150757 82.
150809 83.
150821 84.
150833 85.
150845 86.
150857 87.
150909 88.
150921 89.
150933 90.
150945 91.
150957 92.
151009 93.
151021 94.
151033 95.
151045 96.
151057 97.
151109 98.
151121 99.
151133 100.
151145 101.
151157 102.
151209 103.
151221 104.
151233 105.
151245 106.
151257 107.
151309 108.
151321 109.
151333 110.
151345 111.
151357 112.
151409 113.
151421 114.
151433 115.
151445 116.
151457 117.
151509 118.
151521 119.
151533 120.
151545 121.
151557 122.
151609 123.
151621 124.
151633 125.
151645 126.
151657 127.
151709 128.
151721 129.
151733 130.
151745 131.
151757 132.
151809 133.
151821 134.
151833 135.
151845 136.
151857 137.
151909 138.
151921 139.
151933 140.

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151945 141. . . . . O . . . . . .
151957 142.         .     O .       .       .       .       .       .       .       .       .       .
152009 143.         .     O .       .       .       .       .       .       .       .       .       .
152021 144.         .    O  .       .       .       .       .       .       .       .       .       .
152033 145.         .    O  .       .       .       .       .       .       .       .       .       .
152045 146.         .    O  .       .       .       .       .       .       .       .       .       .
152057 147.         .   O   .       .       .       .       .       .       .       .       .       .
152109 148.         .   O   .       .       .       .       .       .       .       .       .       .
152121 149.         .  O    .       .       .       .       .       .       .       .       .       .
152133 150.         .  O    .       .       .       .       .       .       .       .       .       .
152145 151. . . . . . O . . . . . .
152157 152.         . O     .       .       .       .       .       .       .       .       .       .
152209 153.         . O     .       .       .       .       .       .       .       .       .       .
152221 154.         . O     .       .       .       .       .       .       .       .       .       .
152233 155.         .O      .       .       .       .       .       .       .       .       .       .
152245 156.         .O      .       .       .       .       .       .       .       .       .       .
152257 157.         O       .       .       .       .       .       .       .       .       .       .
152309 158.         O       .       .       .       .       .       .       .       .       .       .
152321 159.         O       .       .       .       .       .       .       .       .       .       .
152333 160.         O       .       .       .       .       .       .       .       .       .       .
152345 161. . . . . O . . . . . .
152357 162.         O       .       .       .       .       .       .       .       .       .       .
160009 163.        O.       .       .       .       .       .       .       .       .       .       .
160021 164.        O.       .       .       .       .       .       .       .       .       .       .
160033 165.       O .       .       .       .       .       .       .       .       .       .       .
160045 166.       O .       .       .       .       .       .       .       .       .       .       .
160057 167.       O .       .       .       .       .       .       .       .       .       .       .
160109 168.      O  .       .       .       .       .       .       .       .       .       .       .
160121 169.      O  .       .       .       .       .       .       .       .       .       .       .
160133 170.      O  .       .       .       .       .       .       .       .       .       .       .
160145 171. . . O . . . . . .
160157 172.     O   .       .       .       .       .       .       .       .       .       .       .
160209 173.     O   .       .       .       .       .       .       .       .       .       .       .
160221 174.    O    .       .       .       .       .       .       .       .       .       .       .
160233 175.    O    .       .       .       .       .       .       .       .       .       .       .
160245 176.    O    .       .       .       .       .       .       .       .       .       .       .
160257 177.    O    .       .       .       .       .       .       .       .       .       .       .
160309 178.   O     .       .       .       .       .       .       .       .       .       .       .
160321 179.   O     .       .       .       .       .       .       .       .       .       .       .
160333 180.   O     .       .       .       .       .       .       .       .       .       .       .
160345 181. . O . . . . . .
160357 182.   O     .       .       .       .       .       .       .       .       .       .       .
160409 183.  O      .       .       .       .       .       .       .       .       .       .       .
160421 184.  O      .       .       .       .       .       .       .       .       .       .       .
160433 185.  O      .       .       .       .       .       .       .       .       .       .       .
160445 186.  O      .       .       .       .       .       .       .       .       .       .       .
160457 187.  O      .       .       .       .       .       .       .       .       .       .       .
160509 188.  O      .       .       .       .       .       .       .       .       .       .       .
160521 189. O       .       .       .       .       .       .       .       .       .       .       .
160533 190. O       .       .       .       .       .       .       .       .       .       .       .
160545 191. O . . . . . .
160557 192. O       .       .       .       .       .       .       .       .       .       .       .
160609 193. O       .       .       .       .       .       .       .       .       .       .       .
160621 194. O       .       .       .       .       .       .       .       .       .       .       .
160633 195.O        .       .       .       .       .       .       .       .       .       .       .
160645 196.O        .       .       .       .       .       .       .       .       .       .       .
160657 197.O        .       .       .       .       .       .       .       .       .       .       .
160709 198.O        .       .       .       .       .       .       .       .       .       .       .
160721 199.O        .       .       .       .       .       .       .       .       .       .       .
160733 200.O        .       .       .       .       .       .       .       .       .       .       .
160745 201.O. . . . . .
160757 202.O        .       .       .       .       .       .       .       .       .       .       .
160809 203.O        .       .       .       .       .       .       .       .       .       .       .
160821 204.O        .       .       .       .       .       .       .       .       .       .       .
160833 205.O        .       .       .       .       .       .       .       .       .       .       .
160845 206.O        .       .       .       .       .       .       .       .       .       .       .
160857 207.O        .       .       .       .       .       .       .       .       .       .       .
160909 208.O        .       .       .       .       .       .       .       .       .       .       .
160921 209.O        .       .       .       .       .       .       .       .       .       .       .
160933 210.O        .       .       .       .       .       .       .       .       .       .       .
160945 211.O. . . . . .
160957 212.O        .       .       .       .       .       .       .       .       .       .       .
161009 213.O        .       .       .       .       .       .       .       .       .       .       .
161021 2140         .       .       .       .       .       .       .       .       .       .       .
161033 2150         .       .       .       .       .       .       .       .       .       .       .
161045 2160         .       .       .       .       .       .       .       .       .       .       .
161057 2170         .       .       .       .       .       .       .       .       .       .       .
161109 2180         .       .       .       .       .       .       .       .       .       .       .
161121 2190         .       .       .       .       .       .       .       .       .       .       .
161133 2200         .       .       .       .       .       .       .       .       .       .       .
161145 2210 . . . . . .
161157 2220         .       .       .       .       .       .       .       .       .       .       .
161209 2230         .       .       .       .       .       .       .       .       .       .       .
161221 2240         .       .       .       .       .       .       .       .       .       .       .
161233 2250         .       .       .       .       .       .       .       .       .       .       .
161245 2260         .       .       .       .       .       .       .       .       .       .       .
161257 2270         .       .       .       .       .       .       .       .       .       .       .
161309 2280         .       .       .       .       .       .       .       .       .       .       .
161321 2290         .       .       .       .       .       .       .       .       .       .       .
161333 2300         .       .       .       .       .       .       .       .       .       .       .
161345 2310 . . . . . .
161357 2320         .       .       .       .       .       .       .       .       .       .       .
161409 2330         .       .       .       .       .       .       .       .       .       .       .
161421 2340         .       .       .       .       .       .       .       .       .       .       .
161433 2350         .       .       .       .       .       .       .       .       .       .       .
161445 2360         .       .       .       .       .       .       .       .       .       .       .
161457 2370         .       .       .       .       .       .       .       .       .       .       .
161509 2380         .       .       .       .       .       .       .       .       .       .       .
161521 2390         .       .       .       .       .       .       .       .       .       .       .
161533 2400         .       .       .       .       .       .       .       .       .       .       .
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 161545 2410 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
 161557 2420          .         .         .         .         .         .         .         .         .         .         .         .
 161609 2430          .         .         .         .         .         .         .         .         .         .         .         .
 161621 2440          .         .         .         .         .         .         .         .         .         .         .         .
 161633 2450          .         .         .         .         .         .         .         .         .         .         .         .
 161645 2460          .         .         .         .         .         .         .         .         .         .         .         .
 161657 2470          .         .         .         .         .         .         .         .         .         .         .         .
 161709 2480          .         .         .         .         .         .         .         .         .         .         .         .
 161721 2490          .         .         .         .         .         .         .         .         .         .         .         .
 161733 2500          .         .         .         .         .         .         .         .         .         .         .         .
 161745 2510 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
 161757 2520          .         .         .         .         .         .         .         .         .         .         .         .
 161809 2530          .         .         .         .         .         .         .         .         .         .         .         .
 161821 2540          .         .         .         .         .         .         .         .         .         .         .         .
 161833 2550          .         .         .         .         .         .         .         .         .         .         .         .
 161845 2560          .         .         .         .         .         .         .         .         .         .         .         .
 161857 2570          .         .         .         .         .         .         .         .         .         .         .         .
 161909 2580          .         .         .         .         .         .         .         .         .         .         .         .
 161921 2590          .         .         .         .         .         .         .         .         .         .         .         .
 161933 2600          .         .         .         .         .         .         .         .         .         .         .         .
 161945 2610 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
 161957 2620          .         .         .         .         .         .         .         .         .         .         .         .
 162009 2630          .         .         .         .         .         .         .         .         .         .         .         .
 162021 2640          .         .         .         .         .         .         .         .         .         .         .         .
 162033 2650          .         .         .         .         .         .         .         .         .         .         .         .
 162045 2660          .         .         .         .         .         .         .         .         .         .         .         .
 162057 2670          .         .         .         .         .         .         .         .         .         .         .         .
 162109 2680          .         .         .         .         .         .         .         .         .         .         .         .
 162121 2690          .         .         .         .         .         .         .         .         .         .         .         .
 162133 2700          .         .         .         .         .         .         .         .         .         .         .         .
 162145 2710 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
 162157 2720          .         .         .         .         .         .         .         .         .         .         .         .
 162209 2730          .         .         .         .         .         .         .         .         .         .         .         .
 162221 2740          .         .         .         .         .         .         .         .         .         .         .         .
 162233 2750          .         .         .         .         .         .         .         .         .         .         .         .
 162245 2760          .         .         .         .         .         .         .         .         .         .         .         .
 162257 2770          .         .         .         .         .         .         .         .         .         .         .         .
 162309 2780          .         .         .         .         .         .         .         .         .         .         .         .
 162321 2790          .         .         .         .         .         .         .         .         .         .         .         .
 162333 2800          .         .         .         .         .         .         .         .         .         .         .         .
 162345 2810 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
 162357 2820          .         .         .         .         .         .         .         .         .         .         .         .
 170009 2830          .         .         .         .         .         .         .         .         .         .         .         .
 170021 2840          .         .         .         .         .         .         .         .         .         .         .         .
 170033 2850          .         .         .         .         .         .         .         .         .         .         .         .
 170045 2860          .         .         .         .         .         .         .         .         .         .         .         .
 170057 2870          .         .         .         .         .         .         .         .         .         .         .         .
 170109 2880          .         .         .         .         .         .         .         .         .         .         .         .
 170121 2890          .         .         .         .         .         .         .         .         .         .         .         .
 170133 2900          .         .         .         .         .         .         .         .         .         .         .         .
 170145 2910 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
 170157 2920          .         .         .         .         .         .         .         .         .         .         .         .
 170209 2930          .         .         .         .         .         .         .         .         .         .         .         .
 170221 2940          .         .         .         .         .         .         .         .         .         .         .         .
 170233 2950          .         .         .         .         .         .         .         .         .         .         .         .
 170245 2960          .         .         .         .         .         .         .         .         .         .         .         .
 170257 2970          .         .         .         .         .         .         .         .         .         .         .         .
 170309 2980          .         .         .         .         .         .         .         .         .         .         .         .
 170321 2990          .         .         .         .         .         .         .         .         .         .         .         .
 170333 3000---------.---------.---------.---------.---------.---------.---------.---------.---------.---------.---------.---------.
1


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


              **************
              *            *
   28 KK      *     1      *     ROUTE STORAGE ROUTING
              *            *
              **************
                                     STAGE/STORAGE - USED USACE DATA
                                     EXISTING 50 ft SPILLWAY RATING

                HYDROGRAPH ROUTING DATA

   29 RS          STORAGE ROUTING
                       NSTPS          1  NUMBER OF SUBREACHES
                        ITYP       FLOW  TYPE OF INITIAL CONDITION
                      RSVRIC      -1.00  INITIAL CONDITION
                           X       0.00  WORKING R AND D COEFFICIENT

   30 SV           STORAGE      1884.0    2249.0    2453.0    2672.0    2906.0    3154.0    3411.0    3680.0    3959.0    4249.0
                                4549.0    4858.0    5174.0    5499.0    5833.0    6175.0    6524.0    6882.0    7247.0    7620.0

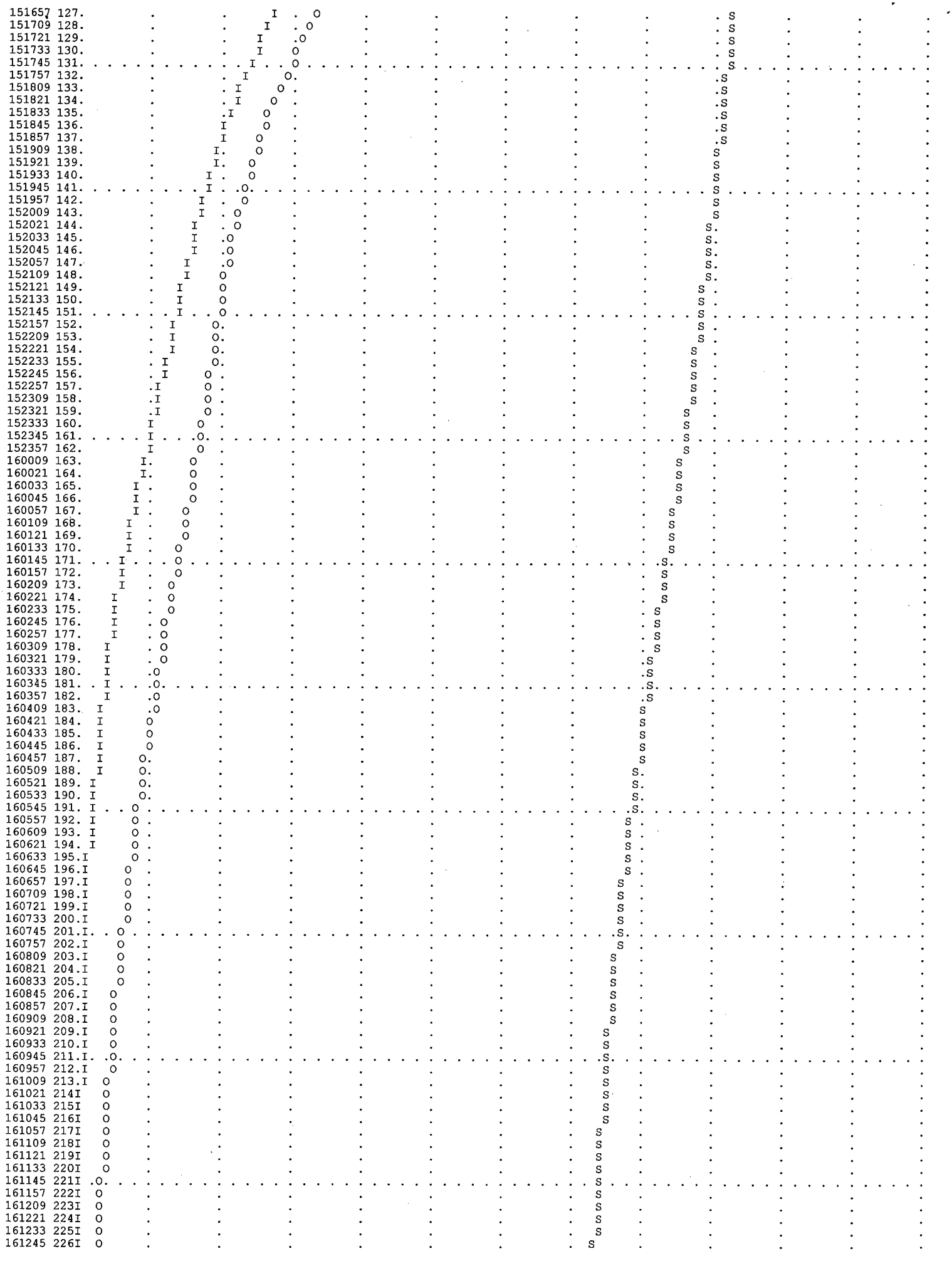
   34 SQ         DISCHARGE          0.      410.      753.     1160.     1621.     2131.     2685.     3281.     3915.     4585.
                                 5290.     6028.     6797.     7596.     8424.    10440.    13444.    17101.    21289.    25938.

   36 SE         ELEVATION      715.00    717.00    718.00    719.00    720.00    721.00    722.00    723.00    724.00    725.00
                                726.00    727.00    728.00    729.00    730.00    731.00    732.00    733.00    734.00    735.00
                                                                ***

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

                                                    HYDROGRAPH AT STATION        1
                                                        PLAN 1,   RATIO =  0.50

*****************************************************************************************************************************
```



```
161257 227I  O                                                                  S
161309 228I  O                                                                  S
161321 229I  O                                                                  S
161333 230I  O                                                                  S
161345 231I .O                                                                  S
161357 232I  O                                                                  S
161409 233I O                                                                   S
161421 234I O                                                                   S
161433 235I O                                                                   S
161445 236I O                                                                   S
161457 237I O                                                                   S
161509 238I O                                                                   S
161521 239I O                                                                  S
161533 240I O                                                                  S
161545 241I O                                                                  S
161557 242I O                                                                  S
161609 243I O                                                                  S
161621 244I O                                                                  S
161633 245I O                                                                  S
161645 246I O                                                                  S
161657 247I O                                                                  S
161709 248I O                                                                  S
161721 249I O                                                                  S
161733 250I O                                                                  S
161745 251IO                                                                   S
161757 252IO                                                                   S
161809 253IO                                                                   S
161821 254IO                                                                   S
161833 255IO                                                                   S
161845 256IO                                                                   S
161857 257IO                                                                   S
161909 258IO                                                                  S
161921 259IO                                                                  S
161933 260IO                                                                  S
161945 261IO                                                                  S
161957 262IO                                                                  S
162009 263IO                                                                  S
162021 264IO                                                                  S
162033 265IO                                                                  S
162045 266IO                                                                  S
162057 267IO                                                                  S
162109 268IO                                                                  S
162121 269IO                                                                  S
162133 270IO                                                                  S
162145 271IO                                                                  S
162157 272IO                                                                  S
162209 273IO                                                                  S
162221 274IO                                                                  S
162233 275IO                                                                  S
162245 276IO                                                                  S
162257 277IO                                                                  S
162309 278IO                                                                  S
162321 279IO                                                                  S
162333 280IO                                                                  S
162345 281IO                                                                  S
170109 288IO                                                                  S
170121 289IO                                                                  S
170133 290IO                                                                  S
170145 291IO                                                                  S
170157 292IO                                                                  S
170209 293IO                                                                 S
170221 294IO                                                                 S
170233 295IO                                                                 S
170245 296IO                                                                 S
170257 297IO                                                                 S
170309 298IO                                                                 S
170321 299IO                                                                 S
170333 300IO--------.---------.---------.---------.---------.---------.---------S---------.---------.---------.---------.---------.
1
1
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PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN		RATIOS APPLIED TO PRECIPITATION RATIO 1 0.50	RATIO 2 1.00
HYDROGRAPH AT						
+	INFLOW	14.30	1	FLOW	13256.	28487.
				TIME	18.80	18.80
ROUTED TO						
+	1	14.30	1	FLOW	7859.	24896.
				TIME	22.60	20.20
			** PEAK STAGES IN FEET **			
			1	STAGE	729.32	734.78
				TIME	22.60	20.20

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