

An aerial photograph of a city, likely Hesperia, with a dense residential area in the foreground and a range of rugged, snow-capped mountains in the background under a blue sky with scattered white clouds. The text is overlaid on this image.

CITY OF HESPERIA

HYDROLOGY and HYDRAULICS

REPORT

FOR

TRUCK PARKING CENTER

SAN BERNARDINO COUNTY

Prepared Under the Supervision of:
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This project is a 3.0 -acre gross on-site area located in the City of Hesperia within the Mojave River Watershed boundary. The project is bounded by Highway 395, located on the project's east side, and Oro Grande Wash on the west side. The Northside of the project is the aqueduct, and the south side of the project is Freeway 15 and the railroad. The site is vacant with scattered debris and native desert in the existing condition. The site's drainage is South to North, with the lowest elevation in the site being 3,631 ft and the highest elevation being 3,638 ft.

The project plan is intended to develop truck parking in the proposed condition.

Run-off in the proposed condition drains from South to North. The run-off from the parking area will sheet flow into the proposed catch basins through inserted filters and drain to proposed bioretention basins via storm pipes.

Appendix A of this report shows the proposed 10 years and 100-year rational hydrology calculation. In compliance with San Bernardino county, 100 year-1 hour results were used to design hydraulic features such as catch basins and Water Quality outlet structures as shown in **Appendix D**.

Appendix B of this report shows the 100 year-24 hour calculation of Unit hydrograph in existing and proposed conditions.

In compliance with San Bernardino Hydrology manual, increased run-off from the increase of imperviousness of site has been addressed in **Appendix C** of this report for 10 year-24 hours and 100 year-24 hours. The table below shows the flow rate in the proposed condition is lower than the existing condition:

Existing Condition 10 year-24 hour

Drainage Area (Node)	Area (ac)	Q 10yr-24 hour (cfs)
Node 1 to Node 2	3.0	5.40

Proposed Condition 10 year-24 hour

Drainage Area	Area (ac)	Q 10yr-24 hour (cfs)
Node 1 to Node 2	3.0	3.59

Mitigated Condition 10 year-24 hour

Drainage Area (Node)	Area (ac)	Q 10yr-24 hour (cfs)
Node 15	3.0	2.55

Existing Condition 100 yr-24 hr

Drainage Area (Node)	Area (ac)	Q 100yr-24 hour (cfs)
Node 1 to Node 2	3.0	6.18

Proposed Condition 100 yr-24 hr

Drainage Area	Area (ac)	Q 100yr-24 hour (cfs)
Node 1 to Node 2	3.0	6.21

Mitigated Condition 100 yr-24 hr

Drainage Area (Node)	Area (ac)	Q 100yr-24 hour (cfs)
Node 2	3.0	6.1

I. DRAINAGE OVERVIEW

1. INTRODUCTION

A. PURPOSE

A hydrologic and hydraulic analysis has been prepared for a truck parking in Hesperia, California. This site is located in the south of Phelan Road, West of Highway 395, and east of Oro Grande Wash. The project site encompasses approximately 3.0 acres.

2. DISCUSSION

The project site is bounded by undeveloped areas on North, South, East, and West. The site is currently in a natural undeveloped condition. The proposed project is a truck parking site.

The project site is located within the boundaries of the Victorville Master Plan of Drainage (MPD). The entire project site drain directly to the Oro Grande Wash.

In the existing condition, most storm flows traverse the site in a south to north direction.

In the proposed condition, entire storm flows from the project will be directed in a storm drain system to one basin located in North East side of the project. The basins will reduce the proposed condition storm flows to the existing condition level. The basins have footprints of .2 acres. Both the storm drain system and the basins are private systems. The following criteria were used in this analysis:

- All available information and improvement plans were collected.
- The drainage areas within and tributary to the project site were defined.
- The water quality study was performed as shown in the Design Handbook.

- The existing hydrographs were prepared based on the existing and proposed drainage patterns using Civilcadd/Civildesign Engineering Software.
- The Excel spreadsheet was used to determine the water quality quantities.
- The hydrographs were prepared using the Civilcadd/Civildesign Engineering Software.

The results of this study and the print out of these calculations for this hydrological analysis are presented herein.

3. HYDROLOGIC ANALYSIS

The hydrologic analysis was completed in accordance with the 1986 San Bernardino County Hydrology Manual and 2010 Hydrology Manual Addendum. The rational method has been used hydrologic analysis been prepared.

The Hydrology Manual Addendum requires the use of NOAA Atlas 14 rainfall values when completing hydrologic analyses. The addendum also requires the use of the USDA Web Soil Survey for soil type groupings. The Web Soil Survey indicates the project site is situated within an area comprised of compacted San soil, which is identified as hydrologic soil type "A" in the Hydrology Manual.

In the existing condition analysis, and "Open Brush-dense cover" land use type has been assigned based on the existing condition of the site. In proposed condition 3 Ac of truck parking will be constructed. Additionally, in the proposed condition a "commercial" land use type has been assigned for the developed area and "open Brush-poor cover" land use type has been proposed that will not be disturbed by the project.

The existing condition hydrologic analysis is contained in Technical Appendix A and the proposed condition hydrologic analysis is contained in Technical Appendix B

Hydrology calculations were prepared using the "Rational Method Hydrology Computer Program Package" by Civilcadd Software based on the hydrology manual criterion. This study will calculate the 10-year and 100-year storm discharges for the sizing of drainage facilities.

The rational method computes the peak runoff as a function of area, rainfall intensity, and a coefficient of runoff. The basic formula in the rational method is as follows:

$$Q = CIA$$

Where:

Q = Peak runoff in cubic feet per second (cfs)

C = Coefficient of runoff

I = Average rainfall in inches per hour corresponding to the time of concentration

A = Drainage area in acres

This formula computes the peak flow rate at all points of concentration. The hydrology analysis is provided in this report.

4. BASIN ANALYSIS

To reduce the site discharge to the existing condition level, two basins have been proposed. An onsite storm drain will convey storm to the basins which one is located in the north east along Highway 395 and one in the south west which is located along the edge of the Oro Grande Wash.

Existing Condition 100 yr-24 hr

Drainage Area (Node)	Area (ac)	Q 100yr-24 hour (cfs)
Node 1 to Node 2	3.0	6.18

Proposed Condition 100 yr-24 hr

Drainage Area	Area (ac)	Q 100yr-24 hour (cfs)
Node 1 to Node 2	3.0	6.21

Mitigated Condition 100 yr-24 hr

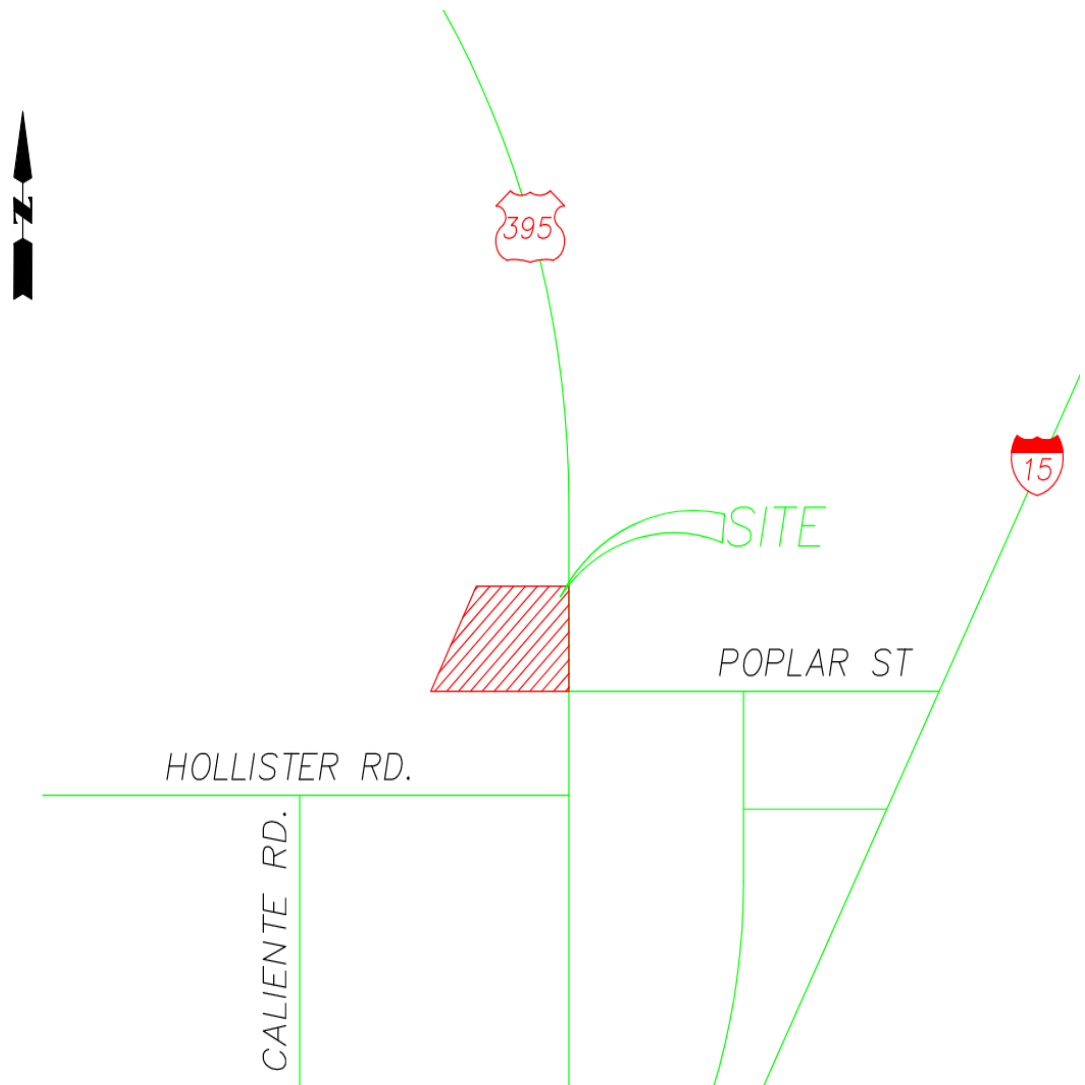
Drainage Area (Node)	Area (ac)	Q 100yr-24 hour (cfs)
Node 2	3.0	6.1

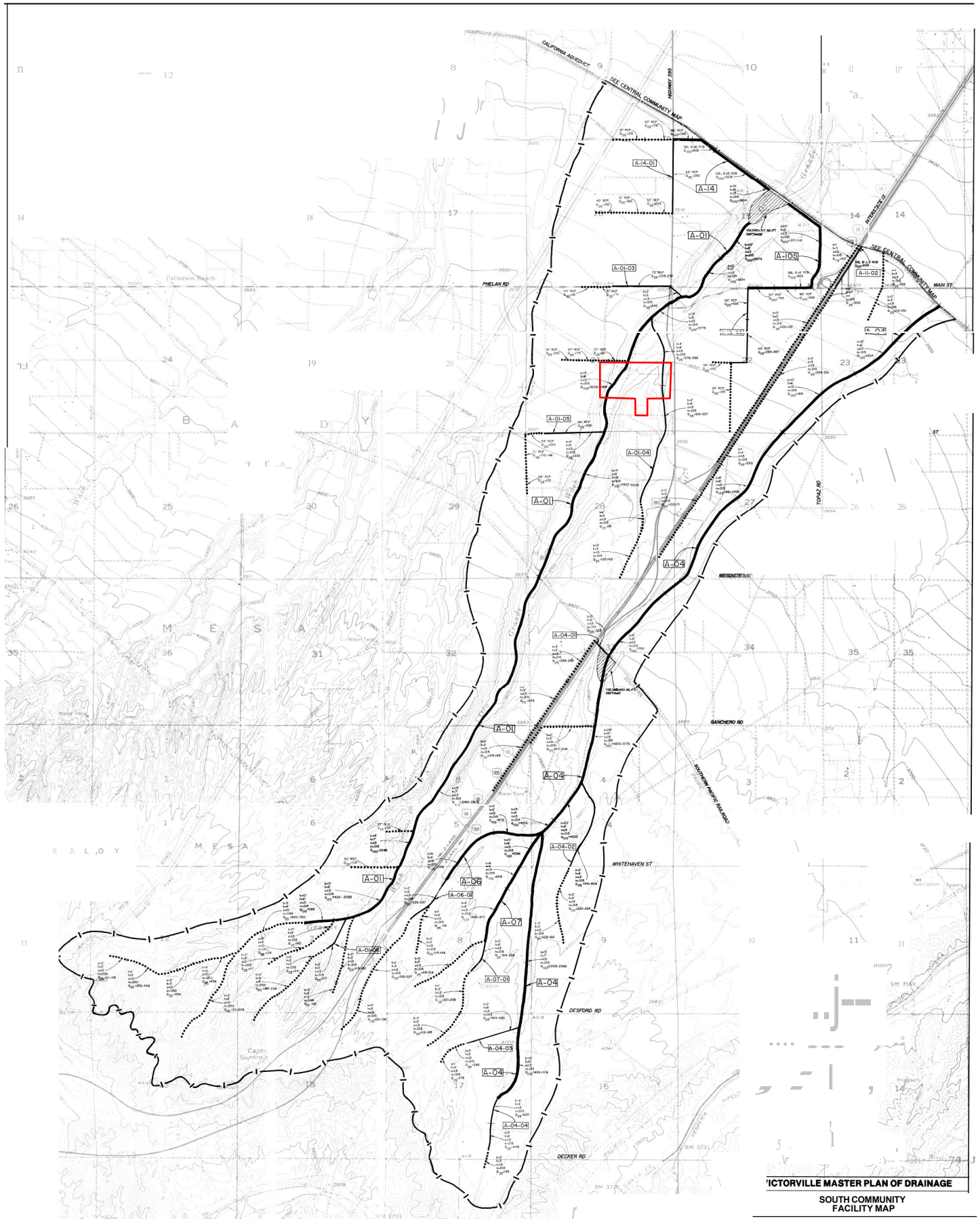
6. BASIN EMERGENCY OUTFLOW ANALYSIS

A GENERAL

All of the Basins within this project use outlet structures per Standard Drawing No. WQ501. This outlet allows the Outflow Trash Rack to act as an emergency 100-year outlet if the structure's outlet holes become plugged. If this structure were to become completely plugged, then an emergency spillway will be constructed to carry the flows. This spillway would be designed to carry the 100-year flows or if flows are greater than the 100-year flows could not be carried by the outlet structure and downstream facilities, then the spillway would handle that occurrence.

II. VICINITY MAP





III. APPENDICES

APPENDIX A RATIONAL HYDROLOGY ANALYSIS

Drainage Area existing '**Area A**' Calculation 10-yr & 100-yr

Drainage Area proposed '**Area A**' Calculation 10-yr & 100-yr

APPENDIX B UNIT HYDROGRAPHS HYDROLOGY ANALYSIS

'Area 1' CALCULATIONS

Subarea '**Area 1**' 100-yr - Storm Events for Existing

Subarea '**Area A**' 100-yr - Storm Events for Proposed

APPENDIX C FLOOD ROUTING ANALYSIS

'Area 1' - 100-yr Flood Routing for 1-hr,

APPENDIX D HYDRAULIC CALCULATIONS ON PROPOSED FACILITIES

Outlet Weir & Spillway Calculations

APPENDIX "A"

RATIONAL HYDROLOGY ANALYSIS

Drainage Area existing '**Area 1**' Calculation 10-yr & 100-yr

Drainage Area proposed '**Area A**' Calculation 10-yr & 100-yr

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2019 Version 9.1
Rational Hydrology Study Date: 06/26/23

City of Hesperia
10-year-1 Hour Rational Hydrology
Existing condition

Program License Serial Number 6472

***** Hydrology Study Control Information *****

Rational hydrology study storm event year is 10.0
Computed rainfall intensity:
Storm year = 10.00 1 hour rainfall = 0.793 (In.)
Slope used for rainfall intensity curve b = 0.6000
Soil antecedent moisture condition (AMC) = 2

+++++
Process from Point/Station 3.000 to Point/Station 4.000
**** INITIAL AREA EVALUATION ****

UNDEVELOPED (poor cover) subarea
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 67.00
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.578(In/Hr)
Initial subarea data:
Initial area flow distance = 570.000(Ft.)
Top (of initial area) elevation = 3641.000(Ft.)
Bottom (of initial area) elevation = 3628.000(Ft.)
Difference in elevation = 13.000(Ft.)
Slope = 0.02281 s(%)= 2.28
 $TC = k(0.525)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 14.155 min.
Rainfall intensity = 1.886(In/Hr) for a 10.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.624
Subarea runoff = 3.532(CFS)
Total initial stream area = 3.000(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.578(In/Hr)
End of computations, Total Study Area = 3.00 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area

effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 1.000

Area averaged SCS curve number = 67.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2019 Version 9.1
Rational Hydrology Study Date: 06/26/23

City of Hesperia
100-year-1 Hour Rational Hydrology
Existing condition

Program License Serial Number 6472

***** Hydrology Study Control Information *****

Rational hydrology study storm event year is 100.0

10 Year storm 1 hour rainfall = 0.793(In.)

100 Year storm 1 hour rainfall = 1.330(In.)

Computed rainfall intensity:

Storm year = 100.00 1 hour rainfall = 1.330 (In.)

Slope used for rainfall intensity curve b = 0.6000

Soil antecedent moisture condition (AMC) = 3

+++++
Process from Point/Station 3.000 to Point/Station 4.000
**** INITIAL AREA EVALUATION ****

UNDEVELOPED (poor cover) subarea

Decimal fraction soil group A = 1.000

Decimal fraction soil group B = 0.000

Decimal fraction soil group C = 0.000

Decimal fraction soil group D = 0.000

SCS curve number for soil(AMC 2) = 67.00

Adjusted SCS curve number for AMC 3 = 84.60

Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.290 (In/Hr)

Initial subarea data:

Initial area flow distance = 570.000(Ft.)

Top (of initial area) elevation = 3641.000(Ft.)

Bottom (of initial area) elevation = 3628.000(Ft.)

Difference in elevation = 13.000(Ft.)

Slope = 0.02281 s(%)= 2.28

TC = $k(0.525)*[(\text{length}^3)/(\text{elevation change})]^{0.2}$

Initial area time of concentration = 14.155 min.

Rainfall intensity = 3.164(In/Hr) for a 100.0 year storm

Effective runoff coefficient used for area (Q=KCIA) is C = 0.818

Subarea runoff = 7.759(CFS)

Total initial stream area = 3.000(Ac.)

Pervious area fraction = 1.000

Initial area Fm value = 0.290 (In/Hr)

End of computations, Total Study Area = 3.00 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 1.000

Area averaged SCS curve number = 67.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2019 Version 9.1
Rational Hydrology Study Date: 06/27/23

**10-Year 1 Hour Flood
Rational Hydrology Area A**

Program License Serial Number 6472

***** Hydrology Study Control Information *****

Rational hydrology study storm event year is 10.0
Computed rainfall intensity:
Storm year = 10.00 1 hour rainfall = 0.793 (In.)
Slope used for rainfall intensity curve b = 0.6000
Soil antecedent moisture condition (AMC) = 2

+++++
Process from Point/Station 1.000 to Point/Station 2.000
**** INITIAL AREA EVALUATION ****

COMMERCIAL subarea type

Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 32.00
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.098 (In/Hr)
Initial subarea data:
Initial area flow distance = 529.000 (Ft.)
Top (of initial area) elevation = 3642.000 (Ft.)
Bottom (of initial area) elevation = 3630.000 (Ft.)
Difference in elevation = 12.000 (Ft.)
Slope = 0.02268 s(%)= 2.27
 $TC = k(0.304) * [(length^3) / (elevation\ change)]^{0.2}$
Initial area time of concentration = 7.964 min.
Rainfall intensity = 2.664 (In/Hr) for a 10.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.867
Subarea runoff = 6.928 (CFS)
Total initial stream area = 3.000 (Ac.)
Pervious area fraction = 0.100
Initial area Fm value = 0.098 (In/Hr)
End of computations, Total Study Area = 3.00 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area

effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 32.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2019 Version 9.1
Rational Hydrology Study Date: 06/27/23

100-Year 1 Hour Flood
Rational Hydrology Area A

Program License Serial Number 6472

***** Hydrology Study Control Information *****

Rational hydrology study storm event year is 100.0

10 Year storm 1 hour rainfall = 0.793(In.)

100 Year storm 1 hour rainfall = 1.320(In.)

Computed rainfall intensity:

Storm year = 100.00 1 hour rainfall = 1.320 (In.)

Slope used for rainfall intensity curve b = 0.6000

Soil antecedent moisture condition (AMC) = 3

+++++
Process from Point/Station 1.000 to Point/Station 2.000
**** INITIAL AREA EVALUATION ****

COMMERCIAL subarea type

Decimal fraction soil group A = 1.000

Decimal fraction soil group B = 0.000

Decimal fraction soil group C = 0.000

Decimal fraction soil group D = 0.000

SCS curve number for soil(AMC 2) = 32.00

Adjusted SCS curve number for AMC 3 = 52.00

Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.079(In/Hr)

Initial subarea data:

Initial area flow distance = 529.000(Ft.)

Top (of initial area) elevation = 3642.000(Ft.)

Bottom (of initial area) elevation = 3630.000(Ft.)

Difference in elevation = 12.000(Ft.)

Slope = 0.02268 s(%)= 2.27

$TC = k(0.304) * [(length^3) / (elevation\ change)]^{0.2}$

Initial area time of concentration = 7.964 min.

Rainfall intensity = 4.434(In/Hr) for a 100.0 year storm

Effective runoff coefficient used for area (Q=KCIA) is C = 0.884

Subarea runoff = 11.760(CFS)

Total initial stream area = 3.000(Ac.)

Pervious area fraction = 0.100

Initial area Fm value = 0.079(In/Hr)

End of computations, Total Study Area = 3.00 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 32.0

APPENDIX "B"

UNIT HYDROGRAPHS HYDROLOGY ANALYSIS

Subarea existing '**Area A**' 100-yr - Storm Events for Existing
Subarea proposed '**Area A**' 100-yr - Storm Events for Proposed

Unit Hydrograph Analysis

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0

Study date 06/26/23

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6472

10-Year 24 Hour Flood Unit Hydrograph Existing Condition

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
3.00	1	1.32

Rainfall data for year 10		
3.00	6	3.11

Rainfall data for year 10		
3.00	24	6.42

***** Area-averaged max loss rate, Fm *****

SCS curve No. (AMCII)	SCS curve NO. (AMC 2)	Area (Ac.)	Area Fraction	Fp (Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
67.0	67.0	3.00	1.000	0.578	1.000	0.578

Area-averaged adjusted loss rate Fm (In/Hr) = 0.578

***** Area-Averaged low loss rate fraction, Yb *****

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
3.00	1.000	67.0	67.0	4.93	0.444

Area-averaged catchment yield fraction, Y = 0.444

Area-averaged low loss fraction, Yb = 0.556

Direct entry of lag time by user

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Watershed area = 3.00 (Ac.)

Catchment Lag time = 0.230 hours

Unit interval = 5.000 minutes

Unit interval percentage of lag time = 36.2319

Hydrograph baseflow = 0.00 (CFS)

Average maximum watershed loss rate (Fm) = 0.578 (In/Hr)

Average low loss rate fraction (Yb) = 0.556 (decimal)

VALLEY UNDEVELOPED S-Graph Selected

Computed peak 5-minute rainfall = 0.489 (In)

Computed peak 30-minute rainfall = 1.000 (In)

Specified peak 1-hour rainfall = 1.320 (In)

Computed peak 3-hour rainfall = 2.232 (In)

Specified peak 6-hour rainfall = 3.110 (In)

Specified peak 24-hour rainfall = 6.420 (In)

Rainfall depth area reduction factors:

Using a total area of 3.00 (Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.488 (In)

30-minute factor = 1.000 Adjusted rainfall = 1.000 (In)

1-hour factor = 1.000 Adjusted rainfall = 1.320 (In)

3-hour factor = 1.000 Adjusted rainfall = 2.232 (In)

6-hour factor = 1.000 Adjusted rainfall = 3.110 (In)

24-hour factor = 1.000 Adjusted rainfall = 6.420 (In)

Unit Hydrograph

+++++

Interval Number	'S' Graph Mean values	Unit Hydrograph (CFS)
--------------------	--------------------------	--------------------------

(K = 36.28 (CFS))

1	3.766	1.366
2	18.758	5.439
3	43.017	8.802
4	62.169	6.948
5	72.030	3.578
6	77.776	2.085
7	82.033	1.544
8	85.364	1.209
9	87.961	0.942
10	90.119	0.783

11	91.839	0.624
12	93.233	0.506
13	94.381	0.416
14	95.468	0.395
15	96.358	0.323
16	97.106	0.272
17	97.747	0.232
18	98.277	0.192
19	98.703	0.155
20	99.065	0.131
21	99.428	0.131
22	99.790	0.131
23	100.000	0.076

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.4885	0.4885
2	0.6445	0.1561
3	0.7580	0.1135
4	0.8505	0.0924
5	0.9299	0.0794
6	1.0002	0.0703
7	1.0638	0.0636
8	1.1222	0.0584
9	1.1764	0.0541
10	1.2270	0.0506
11	1.2747	0.0477
12	1.3198	0.0451
13	1.3713	0.0515
14	1.4208	0.0495
15	1.4685	0.0477
16	1.5146	0.0460
17	1.5591	0.0446
18	1.6023	0.0432
19	1.6443	0.0420
20	1.6852	0.0408
21	1.7250	0.0398
22	1.7638	0.0388
23	1.8017	0.0379
24	1.8388	0.0371
25	1.8750	0.0363
26	1.9105	0.0355
27	1.9454	0.0348
28	1.9795	0.0341
29	2.0130	0.0335
30	2.0459	0.0329
31	2.0783	0.0323
32	2.1101	0.0318
33	2.1414	0.0313
34	2.1722	0.0308
35	2.2025	0.0303
36	2.2324	0.0299
37	2.2618	0.0294
38	2.2909	0.0290
39	2.3195	0.0286
40	2.3478	0.0283
41	2.3757	0.0279

42	2.4032	0.0275
43	2.4304	0.0272
44	2.4573	0.0269
45	2.4838	0.0266
46	2.5101	0.0262
47	2.5360	0.0260
48	2.5617	0.0257
49	2.5871	0.0254
50	2.6122	0.0251
51	2.6371	0.0249
52	2.6617	0.0246
53	2.6861	0.0244
54	2.7102	0.0241
55	2.7341	0.0239
56	2.7577	0.0237
57	2.7812	0.0234
58	2.8044	0.0232
59	2.8274	0.0230
60	2.8503	0.0228
61	2.8729	0.0226
62	2.8953	0.0224
63	2.9176	0.0222
64	2.9396	0.0221
65	2.9615	0.0219
66	2.9832	0.0217
67	3.0047	0.0215
68	3.0261	0.0214
69	3.0473	0.0212
70	3.0683	0.0210
71	3.0892	0.0209
72	3.1100	0.0207
73	3.1325	0.0225
74	3.1548	0.0224
75	3.1771	0.0222
76	3.1991	0.0221
77	3.2211	0.0219
78	3.2429	0.0218
79	3.2646	0.0217
80	3.2861	0.0215
81	3.3075	0.0214
82	3.3288	0.0213
83	3.3500	0.0212
84	3.3710	0.0210
85	3.3919	0.0209
86	3.4127	0.0208
87	3.4334	0.0207
88	3.4540	0.0206
89	3.4745	0.0205
90	3.4948	0.0204
91	3.5151	0.0202
92	3.5352	0.0201
93	3.5552	0.0200
94	3.5752	0.0199
95	3.5950	0.0198
96	3.6148	0.0197
97	3.6344	0.0196
98	3.6539	0.0195

99	3.6734	0.0194
100	3.6927	0.0194
101	3.7120	0.0193
102	3.7312	0.0192
103	3.7502	0.0191
104	3.7692	0.0190
105	3.7881	0.0189
106	3.8070	0.0188
107	3.8257	0.0187
108	3.8443	0.0187
109	3.8629	0.0186
110	3.8814	0.0185
111	3.8998	0.0184
112	3.9181	0.0183
113	3.9364	0.0183
114	3.9546	0.0182
115	3.9727	0.0181
116	3.9907	0.0180
117	4.0086	0.0179
118	4.0265	0.0179
119	4.0443	0.0178
120	4.0621	0.0177
121	4.0797	0.0177
122	4.0973	0.0176
123	4.1148	0.0175
124	4.1323	0.0175
125	4.1497	0.0174
126	4.1670	0.0173
127	4.1843	0.0173
128	4.2015	0.0172
129	4.2186	0.0171
130	4.2357	0.0171
131	4.2527	0.0170
132	4.2696	0.0169
133	4.2865	0.0169
134	4.3033	0.0168
135	4.3201	0.0168
136	4.3368	0.0167
137	4.3534	0.0166
138	4.3700	0.0166
139	4.3865	0.0165
140	4.4030	0.0165
141	4.4194	0.0164
142	4.4358	0.0164
143	4.4521	0.0163
144	4.4683	0.0163
145	4.4845	0.0162
146	4.5007	0.0161
147	4.5168	0.0161
148	4.5328	0.0160
149	4.5488	0.0160
150	4.5647	0.0159
151	4.5806	0.0159
152	4.5964	0.0158
153	4.6122	0.0158
154	4.6280	0.0157
155	4.6436	0.0157

156	4.6593	0.0156
157	4.6749	0.0156
158	4.6904	0.0155
159	4.7059	0.0155
160	4.7214	0.0155
161	4.7368	0.0154
162	4.7521	0.0154
163	4.7675	0.0153
164	4.7827	0.0153
165	4.7979	0.0152
166	4.8131	0.0152
167	4.8283	0.0151
168	4.8434	0.0151
169	4.8584	0.0151
170	4.8734	0.0150
171	4.8884	0.0150
172	4.9033	0.0149
173	4.9182	0.0149
174	4.9330	0.0148
175	4.9478	0.0148
176	4.9626	0.0148
177	4.9773	0.0147
178	4.9920	0.0147
179	5.0067	0.0146
180	5.0213	0.0146
181	5.0358	0.0146
182	5.0504	0.0145
183	5.0648	0.0145
184	5.0793	0.0145
185	5.0937	0.0144
186	5.1081	0.0144
187	5.1224	0.0143
188	5.1367	0.0143
189	5.1510	0.0143
190	5.1652	0.0142
191	5.1794	0.0142
192	5.1936	0.0142
193	5.2077	0.0141
194	5.2218	0.0141
195	5.2359	0.0141
196	5.2499	0.0140
197	5.2639	0.0140
198	5.2778	0.0140
199	5.2917	0.0139
200	5.3056	0.0139
201	5.3195	0.0139
202	5.3333	0.0138
203	5.3471	0.0138
204	5.3608	0.0138
205	5.3746	0.0137
206	5.3883	0.0137
207	5.4019	0.0137
208	5.4155	0.0136
209	5.4291	0.0136
210	5.4427	0.0136
211	5.4562	0.0135
212	5.4697	0.0135

213	5.4832	0.0135
214	5.4967	0.0134
215	5.5101	0.0134
216	5.5235	0.0134
217	5.5368	0.0134
218	5.5501	0.0133
219	5.5634	0.0133
220	5.5767	0.0133
221	5.5899	0.0132
222	5.6032	0.0132
223	5.6163	0.0132
224	5.6295	0.0132
225	5.6426	0.0131
226	5.6557	0.0131
227	5.6688	0.0131
228	5.6818	0.0130
229	5.6948	0.0130
230	5.7078	0.0130
231	5.7208	0.0130
232	5.7337	0.0129
233	5.7466	0.0129
234	5.7595	0.0129
235	5.7724	0.0129
236	5.7852	0.0128
237	5.7980	0.0128
238	5.8108	0.0128
239	5.8235	0.0128
240	5.8363	0.0127
241	5.8490	0.0127
242	5.8616	0.0127
243	5.8743	0.0127
244	5.8869	0.0126
245	5.8995	0.0126
246	5.9121	0.0126
247	5.9247	0.0126
248	5.9372	0.0125
249	5.9497	0.0125
250	5.9622	0.0125
251	5.9746	0.0125
252	5.9871	0.0124
253	5.9995	0.0124
254	6.0119	0.0124
255	6.0242	0.0124
256	6.0366	0.0123
257	6.0489	0.0123
258	6.0612	0.0123
259	6.0734	0.0123
260	6.0857	0.0122
261	6.0979	0.0122
262	6.1101	0.0122
263	6.1223	0.0122
264	6.1345	0.0122
265	6.1466	0.0121
266	6.1587	0.0121
267	6.1708	0.0121
268	6.1829	0.0121
269	6.1949	0.0121

270	6.2070	0.0120
271	6.2190	0.0120
272	6.2310	0.0120
273	6.2429	0.0120
274	6.2549	0.0119
275	6.2668	0.0119
276	6.2787	0.0119
277	6.2906	0.0119
278	6.3024	0.0119
279	6.3143	0.0118
280	6.3261	0.0118
281	6.3379	0.0118
282	6.3497	0.0118
283	6.3615	0.0118
284	6.3732	0.0117
285	6.3849	0.0117
286	6.3966	0.0117
287	6.4083	0.0117
288	6.4200	0.0117

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0117	0.0065	0.0052
2	0.0117	0.0065	0.0052
3	0.0117	0.0065	0.0052
4	0.0117	0.0065	0.0052
5	0.0118	0.0065	0.0052
6	0.0118	0.0066	0.0052
7	0.0118	0.0066	0.0053
8	0.0119	0.0066	0.0053
9	0.0119	0.0066	0.0053
10	0.0119	0.0066	0.0053
11	0.0120	0.0067	0.0053
12	0.0120	0.0067	0.0053
13	0.0120	0.0067	0.0053
14	0.0121	0.0067	0.0054
15	0.0121	0.0067	0.0054
16	0.0121	0.0067	0.0054
17	0.0122	0.0068	0.0054
18	0.0122	0.0068	0.0054
19	0.0122	0.0068	0.0054
20	0.0122	0.0068	0.0054
21	0.0123	0.0068	0.0055
22	0.0123	0.0068	0.0055
23	0.0124	0.0069	0.0055
24	0.0124	0.0069	0.0055
25	0.0124	0.0069	0.0055
26	0.0125	0.0069	0.0055
27	0.0125	0.0070	0.0056
28	0.0125	0.0070	0.0056
29	0.0126	0.0070	0.0056
30	0.0126	0.0070	0.0056
31	0.0127	0.0070	0.0056
32	0.0127	0.0070	0.0056
33	0.0127	0.0071	0.0057

34	0.0128	0.0071	0.0057
35	0.0128	0.0071	0.0057
36	0.0128	0.0071	0.0057
37	0.0129	0.0072	0.0057
38	0.0129	0.0072	0.0057
39	0.0130	0.0072	0.0058
40	0.0130	0.0072	0.0058
41	0.0130	0.0073	0.0058
42	0.0131	0.0073	0.0058
43	0.0131	0.0073	0.0058
44	0.0132	0.0073	0.0058
45	0.0132	0.0073	0.0059
46	0.0132	0.0074	0.0059
47	0.0133	0.0074	0.0059
48	0.0133	0.0074	0.0059
49	0.0134	0.0074	0.0059
50	0.0134	0.0075	0.0060
51	0.0135	0.0075	0.0060
52	0.0135	0.0075	0.0060
53	0.0136	0.0075	0.0060
54	0.0136	0.0076	0.0060
55	0.0137	0.0076	0.0061
56	0.0137	0.0076	0.0061
57	0.0138	0.0076	0.0061
58	0.0138	0.0077	0.0061
59	0.0139	0.0077	0.0062
60	0.0139	0.0077	0.0062
61	0.0140	0.0078	0.0062
62	0.0140	0.0078	0.0062
63	0.0141	0.0078	0.0062
64	0.0141	0.0078	0.0063
65	0.0142	0.0079	0.0063
66	0.0142	0.0079	0.0063
67	0.0143	0.0079	0.0063
68	0.0143	0.0080	0.0064
69	0.0144	0.0080	0.0064
70	0.0144	0.0080	0.0064
71	0.0145	0.0081	0.0064
72	0.0145	0.0081	0.0065
73	0.0146	0.0081	0.0065
74	0.0146	0.0081	0.0065
75	0.0147	0.0082	0.0065
76	0.0148	0.0082	0.0066
77	0.0148	0.0083	0.0066
78	0.0149	0.0083	0.0066
79	0.0150	0.0083	0.0066
80	0.0150	0.0083	0.0067
81	0.0151	0.0084	0.0067
82	0.0151	0.0084	0.0067
83	0.0152	0.0085	0.0068
84	0.0153	0.0085	0.0068
85	0.0154	0.0085	0.0068
86	0.0154	0.0086	0.0068
87	0.0155	0.0086	0.0069
88	0.0155	0.0086	0.0069
89	0.0156	0.0087	0.0069
90	0.0157	0.0087	0.0070

91	0.0158	0.0088	0.0070
92	0.0158	0.0088	0.0070
93	0.0159	0.0089	0.0071
94	0.0160	0.0089	0.0071
95	0.0161	0.0089	0.0071
96	0.0161	0.0090	0.0072
97	0.0163	0.0090	0.0072
98	0.0163	0.0091	0.0072
99	0.0164	0.0091	0.0073
100	0.0165	0.0092	0.0073
101	0.0166	0.0092	0.0074
102	0.0166	0.0093	0.0074
103	0.0168	0.0093	0.0074
104	0.0168	0.0094	0.0075
105	0.0169	0.0094	0.0075
106	0.0170	0.0095	0.0076
107	0.0171	0.0095	0.0076
108	0.0172	0.0096	0.0076
109	0.0173	0.0096	0.0077
110	0.0174	0.0097	0.0077
111	0.0175	0.0097	0.0078
112	0.0176	0.0098	0.0078
113	0.0177	0.0099	0.0079
114	0.0178	0.0099	0.0079
115	0.0179	0.0100	0.0080
116	0.0180	0.0100	0.0080
117	0.0182	0.0101	0.0081
118	0.0183	0.0101	0.0081
119	0.0184	0.0102	0.0082
120	0.0185	0.0103	0.0082
121	0.0187	0.0104	0.0083
122	0.0187	0.0104	0.0083
123	0.0189	0.0105	0.0084
124	0.0190	0.0106	0.0084
125	0.0192	0.0107	0.0085
126	0.0193	0.0107	0.0086
127	0.0194	0.0108	0.0086
128	0.0195	0.0109	0.0087
129	0.0197	0.0110	0.0088
130	0.0198	0.0110	0.0088
131	0.0200	0.0111	0.0089
132	0.0201	0.0112	0.0089
133	0.0204	0.0113	0.0090
134	0.0205	0.0114	0.0091
135	0.0207	0.0115	0.0092
136	0.0208	0.0116	0.0092
137	0.0210	0.0117	0.0093
138	0.0212	0.0118	0.0094
139	0.0214	0.0119	0.0095
140	0.0215	0.0120	0.0096
141	0.0218	0.0121	0.0097
142	0.0219	0.0122	0.0097
143	0.0222	0.0124	0.0099
144	0.0224	0.0124	0.0099
145	0.0207	0.0115	0.0092
146	0.0209	0.0116	0.0093
147	0.0212	0.0118	0.0094

148	0.0214	0.0119	0.0095
149	0.0217	0.0121	0.0096
150	0.0219	0.0122	0.0097
151	0.0222	0.0124	0.0099
152	0.0224	0.0125	0.0100
153	0.0228	0.0127	0.0101
154	0.0230	0.0128	0.0102
155	0.0234	0.0130	0.0104
156	0.0237	0.0132	0.0105
157	0.0241	0.0134	0.0107
158	0.0244	0.0135	0.0108
159	0.0249	0.0138	0.0110
160	0.0251	0.0140	0.0112
161	0.0257	0.0143	0.0114
162	0.0260	0.0144	0.0115
163	0.0266	0.0148	0.0118
164	0.0269	0.0149	0.0119
165	0.0275	0.0153	0.0122
166	0.0279	0.0155	0.0124
167	0.0286	0.0159	0.0127
168	0.0290	0.0161	0.0129
169	0.0299	0.0166	0.0133
170	0.0303	0.0169	0.0135
171	0.0313	0.0174	0.0139
172	0.0318	0.0177	0.0141
173	0.0329	0.0183	0.0146
174	0.0335	0.0186	0.0149
175	0.0348	0.0194	0.0155
176	0.0355	0.0197	0.0158
177	0.0371	0.0206	0.0165
178	0.0379	0.0211	0.0168
179	0.0398	0.0221	0.0177
180	0.0408	0.0227	0.0181
181	0.0432	0.0240	0.0192
182	0.0446	0.0248	0.0198
183	0.0477	0.0265	0.0212
184	0.0495	0.0275	0.0220
185	0.0451	0.0251	0.0200
186	0.0477	0.0265	0.0212
187	0.0541	0.0301	0.0240
188	0.0584	0.0324	0.0259
189	0.0703	0.0391	0.0312
190	0.0794	0.0441	0.0353
191	0.1135	0.0482	0.0653
192	0.1561	0.0482	0.1079
193	0.4885	0.0482	0.4403
194	0.0924	0.0482	0.0443
195	0.0636	0.0354	0.0283
196	0.0506	0.0281	0.0225
197	0.0515	0.0286	0.0229
198	0.0460	0.0256	0.0205
199	0.0420	0.0233	0.0186
200	0.0388	0.0216	0.0172
201	0.0363	0.0202	0.0161
202	0.0341	0.0190	0.0152
203	0.0323	0.0180	0.0144
204	0.0308	0.0171	0.0137

205	0.0294	0.0164	0.0131
206	0.0283	0.0157	0.0126
207	0.0272	0.0151	0.0121
208	0.0262	0.0146	0.0117
209	0.0254	0.0141	0.0113
210	0.0246	0.0137	0.0109
211	0.0239	0.0133	0.0106
212	0.0232	0.0129	0.0103
213	0.0226	0.0126	0.0100
214	0.0221	0.0123	0.0098
215	0.0215	0.0120	0.0096
216	0.0210	0.0117	0.0093
217	0.0225	0.0125	0.0100
218	0.0221	0.0123	0.0098
219	0.0217	0.0120	0.0096
220	0.0213	0.0118	0.0095
221	0.0209	0.0116	0.0093
222	0.0206	0.0114	0.0091
223	0.0202	0.0113	0.0090
224	0.0199	0.0111	0.0089
225	0.0196	0.0109	0.0087
226	0.0194	0.0108	0.0086
227	0.0191	0.0106	0.0085
228	0.0188	0.0105	0.0084
229	0.0186	0.0103	0.0082
230	0.0183	0.0102	0.0081
231	0.0181	0.0101	0.0080
232	0.0179	0.0099	0.0079
233	0.0177	0.0098	0.0078
234	0.0175	0.0097	0.0078
235	0.0173	0.0096	0.0077
236	0.0171	0.0095	0.0076
237	0.0169	0.0094	0.0075
238	0.0167	0.0093	0.0074
239	0.0165	0.0092	0.0073
240	0.0164	0.0091	0.0073
241	0.0162	0.0090	0.0072
242	0.0160	0.0089	0.0071
243	0.0159	0.0088	0.0071
244	0.0157	0.0087	0.0070
245	0.0156	0.0087	0.0069
246	0.0155	0.0086	0.0069
247	0.0153	0.0085	0.0068
248	0.0152	0.0084	0.0067
249	0.0151	0.0084	0.0067
250	0.0149	0.0083	0.0066
251	0.0148	0.0082	0.0066
252	0.0147	0.0082	0.0065
253	0.0146	0.0081	0.0065
254	0.0145	0.0080	0.0064
255	0.0143	0.0080	0.0064
256	0.0142	0.0079	0.0063
257	0.0141	0.0079	0.0063
258	0.0140	0.0078	0.0062
259	0.0139	0.0077	0.0062
260	0.0138	0.0077	0.0061
261	0.0137	0.0076	0.0061

262	0.0136	0.0076	0.0061
263	0.0135	0.0075	0.0060
264	0.0134	0.0075	0.0060
265	0.0134	0.0074	0.0059
266	0.0133	0.0074	0.0059
267	0.0132	0.0073	0.0059
268	0.0131	0.0073	0.0058
269	0.0130	0.0072	0.0058
270	0.0129	0.0072	0.0057
271	0.0129	0.0071	0.0057
272	0.0128	0.0071	0.0057
273	0.0127	0.0071	0.0056
274	0.0126	0.0070	0.0056
275	0.0126	0.0070	0.0056
276	0.0125	0.0069	0.0055
277	0.0124	0.0069	0.0055
278	0.0123	0.0069	0.0055
279	0.0123	0.0068	0.0054
280	0.0122	0.0068	0.0054
281	0.0121	0.0067	0.0054
282	0.0121	0.0067	0.0054
283	0.0120	0.0067	0.0053
284	0.0119	0.0066	0.0053
285	0.0119	0.0066	0.0053
286	0.0118	0.0066	0.0053
287	0.0118	0.0065	0.0052
288	0.0117	0.0065	0.0052

Total soil rain loss = 3.29(In)

Total effective rainfall = 3.13(In)

Peak flow rate in flood hydrograph = 5.40 (CFS)

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24 - H O U R S T O R M

R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.01	Q				
0+10	0.0003	0.04	Q				
0+15	0.0008	0.08	Q				
0+20	0.0017	0.12	Q				
0+25	0.0026	0.14	Q				
0+30	0.0036	0.15	Q				
0+35	0.0047	0.16	Q				
0+40	0.0058	0.16	Q				
0+45	0.0069	0.17	Q				
0+50	0.0081	0.17	Q				
0+55	0.0093	0.18	Q				
1+ 0	0.0106	0.18	Q				
1+ 5	0.0118	0.18	Q				
1+10	0.0131	0.18	Q				
1+15	0.0144	0.19	Q				

1+20	0.0157	0.19	Q				
1+25	0.0170	0.19	Q				
1+30	0.0183	0.19	Q				
1+35	0.0196	0.19	QV				
1+40	0.0209	0.19	QV				
1+45	0.0223	0.19	QV				
1+50	0.0236	0.20	QV				
1+55	0.0250	0.20	QV				
2+ 0	0.0263	0.20	QV				
2+ 5	0.0277	0.20	QV				
2+10	0.0291	0.20	QV				
2+15	0.0304	0.20	QV				
2+20	0.0318	0.20	QV				
2+25	0.0332	0.20	QV				
2+30	0.0346	0.20	QV				
2+35	0.0360	0.20	QV				
2+40	0.0374	0.20	QV				
2+45	0.0387	0.20	QV				
2+50	0.0401	0.20	Q V				
2+55	0.0415	0.20	Q V				
3+ 0	0.0430	0.20	Q V				
3+ 5	0.0444	0.20	Q V				
3+10	0.0458	0.21	Q V				
3+15	0.0472	0.21	Q V				
3+20	0.0486	0.21	Q V				
3+25	0.0501	0.21	Q V				
3+30	0.0515	0.21	Q V				
3+35	0.0529	0.21	Q V				
3+40	0.0544	0.21	Q V				
3+45	0.0558	0.21	Q V				
3+50	0.0573	0.21	Q V				
3+55	0.0587	0.21	Q V				
4+ 0	0.0602	0.21	Q V				
4+ 5	0.0616	0.21	Q V				
4+10	0.0631	0.21	Q V				
4+15	0.0646	0.21	Q V				
4+20	0.0661	0.21	Q V				
4+25	0.0675	0.22	Q V				
4+30	0.0690	0.22	Q V				
4+35	0.0705	0.22	Q V				
4+40	0.0720	0.22	Q V				
4+45	0.0735	0.22	Q V				
4+50	0.0750	0.22	Q V				
4+55	0.0766	0.22	Q V				
5+ 0	0.0781	0.22	Q V				
5+ 5	0.0796	0.22	Q V				
5+10	0.0811	0.22	Q V				
5+15	0.0827	0.22	Q V				
5+20	0.0842	0.22	Q V				
5+25	0.0858	0.22	Q V				
5+30	0.0873	0.23	Q V				
5+35	0.0889	0.23	Q V				
5+40	0.0904	0.23	Q V				
5+45	0.0920	0.23	Q V				
5+50	0.0936	0.23	Q V				
5+55	0.0952	0.23	Q V				
6+ 0	0.0967	0.23	Q V				

6+ 5	0.0983	0.23	Q	V				
6+10	0.0999	0.23	Q	V				
6+15	0.1015	0.23	Q	V				
6+20	0.1032	0.23	Q	V				
6+25	0.1048	0.24	Q	V				
6+30	0.1064	0.24	Q	V				
6+35	0.1080	0.24	Q	V				
6+40	0.1097	0.24	Q	V				
6+45	0.1113	0.24	Q	V				
6+50	0.1130	0.24	Q	V				
6+55	0.1146	0.24	Q	V				
7+ 0	0.1163	0.24	Q	V				
7+ 5	0.1180	0.24	Q	V				
7+10	0.1197	0.24	Q	V				
7+15	0.1213	0.25	Q	V				
7+20	0.1230	0.25	Q	V				
7+25	0.1247	0.25	Q	V				
7+30	0.1265	0.25	Q	V				
7+35	0.1282	0.25	Q	V				
7+40	0.1299	0.25	IQ	V				
7+45	0.1316	0.25	IQ	V				
7+50	0.1334	0.25	IQ	V				
7+55	0.1351	0.25	IQ	V				
8+ 0	0.1369	0.26	IQ	V				
8+ 5	0.1386	0.26	IQ	V				
8+10	0.1404	0.26	IQ	V				
8+15	0.1422	0.26	IQ	V				
8+20	0.1440	0.26	IQ	V				
8+25	0.1458	0.26	IQ	V				
8+30	0.1476	0.26	IQ	V				
8+35	0.1494	0.26	IQ	V				
8+40	0.1513	0.27	IQ	V				
8+45	0.1531	0.27	IQ	V				
8+50	0.1549	0.27	IQ	V				
8+55	0.1568	0.27	IQ	V				
9+ 0	0.1587	0.27	IQ	V				
9+ 5	0.1605	0.27	IQ	V				
9+10	0.1624	0.27	IQ	V				
9+15	0.1643	0.28	IQ	V				
9+20	0.1662	0.28	IQ	V				
9+25	0.1682	0.28	IQ	V				
9+30	0.1701	0.28	IQ	V				
9+35	0.1720	0.28	IQ	V				
9+40	0.1740	0.28	IQ	V				
9+45	0.1760	0.29	IQ	V				
9+50	0.1779	0.29	IQ	V				
9+55	0.1799	0.29	IQ	V				
10+ 0	0.1819	0.29	IQ	V				
10+ 5	0.1839	0.29	IQ	V				
10+10	0.1860	0.29	IQ	V				
10+15	0.1880	0.30	IQ	V				
10+20	0.1901	0.30	IQ	V				
10+25	0.1921	0.30	IQ	V				
10+30	0.1942	0.30	IQ	V				
10+35	0.1963	0.30	IQ	V				
10+40	0.1984	0.31	IQ	V				
10+45	0.2005	0.31	IQ	V				

10+50	0.2027	0.31	Q	V			
10+55	0.2048	0.31	Q	V			
11+ 0	0.2070	0.32	Q	V			
11+ 5	0.2092	0.32	Q	V			
11+10	0.2114	0.32	Q	V			
11+15	0.2136	0.32	Q	V			
11+20	0.2159	0.33	Q	V			
11+25	0.2181	0.33	Q	V			
11+30	0.2204	0.33	Q	V			
11+35	0.2227	0.33	Q	V			
11+40	0.2250	0.34	Q	V			
11+45	0.2273	0.34	Q	V			
11+50	0.2297	0.34	Q	V			
11+55	0.2321	0.34	Q	V			
12+ 0	0.2344	0.35	Q	V			
12+ 5	0.2369	0.35	Q	V			
12+10	0.2393	0.35	Q	V			
12+15	0.2416	0.34	Q	V			
12+20	0.2440	0.34	Q	V			
12+25	0.2463	0.34	Q	V			
12+30	0.2487	0.34	Q	V			
12+35	0.2511	0.35	Q	V			
12+40	0.2535	0.35	Q	V			
12+45	0.2559	0.35	Q	V			
12+50	0.2584	0.36	Q	V			
12+55	0.2609	0.36	Q	V			
13+ 0	0.2634	0.36	Q	V			
13+ 5	0.2659	0.37	Q	V			
13+10	0.2685	0.37	Q	V			
13+15	0.2711	0.38	Q	V			
13+20	0.2738	0.38	Q	V			
13+25	0.2764	0.39	Q	V			
13+30	0.2792	0.39	Q	V			
13+35	0.2819	0.40	Q	V			
13+40	0.2847	0.41	Q	V			
13+45	0.2876	0.41	Q	V			
13+50	0.2905	0.42	Q	V			
13+55	0.2934	0.43	Q	V			
14+ 0	0.2964	0.44	Q	V			
14+ 5	0.2995	0.44	Q	V			
14+10	0.3026	0.45	Q	V			
14+15	0.3058	0.46	Q	V			
14+20	0.3090	0.47	Q	V			
14+25	0.3123	0.48	Q	V			
14+30	0.3157	0.49	Q	V			
14+35	0.3192	0.51	Q	V			
14+40	0.3228	0.52	Q	V			
14+45	0.3265	0.53	Q	V			
14+50	0.3302	0.55	Q	V			
14+55	0.3341	0.56	Q	V			
15+ 0	0.3381	0.58	Q	V			
15+ 5	0.3423	0.60	Q	V			
15+10	0.3466	0.62	Q	V			
15+15	0.3510	0.65	Q	V			
15+20	0.3557	0.68	Q	V			
15+25	0.3605	0.70	Q	V			
15+30	0.3655	0.72	Q	V			

15+35	0.3705	0.73	Q		V			
15+40	0.3757	0.75	Q		V			
15+45	0.3812	0.80	Q		V			
15+50	0.3873	0.88	Q		V			
15+55	0.3943	1.02	Q		V			
16+ 0	0.4035	1.33	Q		V			
16+ 5	0.4196	2.34	Q		V			
16+10	0.4486	4.22	Q		V			
16+15	0.4858	5.40	Q		V			
16+20	0.5159	4.36	Q		V			
16+25	0.5350	2.78	Q		V			
16+30	0.5488	2.00	Q		V			
16+35	0.5603	1.67	Q		V			
16+40	0.5702	1.45	Q		V			
16+45	0.5789	1.26	Q		V			
16+50	0.5867	1.13	Q		V			
16+55	0.5937	1.01	Q		V			
17+ 0	0.5999	0.91	Q		V			
17+ 5	0.6057	0.83	Q		V			
17+10	0.6111	0.78	Q		V			
17+15	0.6160	0.72	Q		V			
17+20	0.6206	0.67	Q		V			
17+25	0.6249	0.63	Q		V			
17+30	0.6290	0.58	Q		V			
17+35	0.6327	0.55	Q		V			
17+40	0.6363	0.52	Q		V			
17+45	0.6397	0.50	Q		V			
17+50	0.6430	0.48	Q		V			
17+55	0.6460	0.43	Q		V			
18+ 0	0.6487	0.39	Q		V			
18+ 5	0.6513	0.38	Q		V			
18+10	0.6539	0.37	Q		V			
18+15	0.6564	0.37	Q		V			
18+20	0.6589	0.37	Q		V			
18+25	0.6614	0.36	Q		V			
18+30	0.6639	0.35	Q		V			
18+35	0.6663	0.35	Q		V			
18+40	0.6686	0.34	Q		V			
18+45	0.6710	0.34	Q		V			
18+50	0.6732	0.33	Q		V			
18+55	0.6755	0.33	Q		V			
19+ 0	0.6777	0.32	Q		V			
19+ 5	0.6799	0.32	Q		V			
19+10	0.6821	0.31	Q		V			
19+15	0.6842	0.31	Q		V			
19+20	0.6863	0.30	Q		V			
19+25	0.6884	0.30	Q		V			
19+30	0.6904	0.30	Q		V			
19+35	0.6924	0.29	Q		V			
19+40	0.6944	0.29	Q		V			
19+45	0.6964	0.29	Q		V			
19+50	0.6983	0.28	Q		V			
19+55	0.7003	0.28	Q		V			
20+ 0	0.7022	0.28	Q		V			
20+ 5	0.7040	0.27	Q		V			
20+10	0.7059	0.27	Q		V			
20+15	0.7078	0.27	Q		V			

20+20	0.7096	0.26	IQ				V	
20+25	0.7114	0.26	IQ				V	
20+30	0.7132	0.26	IQ				V	
20+35	0.7149	0.26	IQ				V	
20+40	0.7167	0.25	IQ				V	
20+45	0.7184	0.25	IQ				V	
20+50	0.7202	0.25	Q				V	
20+55	0.7219	0.25	Q				V	
21+ 0	0.7235	0.25	Q				V	
21+ 5	0.7252	0.24	Q				V	
21+10	0.7269	0.24	Q				V	
21+15	0.7285	0.24	Q				V	
21+20	0.7302	0.24	Q				V	
21+25	0.7318	0.24	Q				V	
21+30	0.7334	0.23	Q				V	
21+35	0.7350	0.23	Q				V	
21+40	0.7366	0.23	Q				V	
21+45	0.7381	0.23	Q				V	
21+50	0.7397	0.23	Q				V	
21+55	0.7413	0.22	Q				V	
22+ 0	0.7428	0.22	Q				V	
22+ 5	0.7443	0.22	Q				V	
22+10	0.7458	0.22	Q				V	
22+15	0.7473	0.22	Q				V	
22+20	0.7488	0.22	Q				V	
22+25	0.7503	0.22	Q				V	
22+30	0.7518	0.21	Q				V	
22+35	0.7533	0.21	Q				V	
22+40	0.7547	0.21	Q				V	
22+45	0.7562	0.21	Q				V	
22+50	0.7576	0.21	Q				V	
22+55	0.7590	0.21	Q				V	
23+ 0	0.7605	0.21	Q				V	
23+ 5	0.7619	0.21	Q				V	
23+10	0.7633	0.20	Q				V	
23+15	0.7647	0.20	Q				V	
23+20	0.7661	0.20	Q				V	
23+25	0.7674	0.20	Q				V	
23+30	0.7688	0.20	Q				V	
23+35	0.7702	0.20	Q				V	
23+40	0.7715	0.20	Q				V	
23+45	0.7729	0.20	Q				V	
23+50	0.7742	0.19	Q				V	
23+55	0.7755	0.19	Q				V	
24+ 0	0.7769	0.19	Q				V	
24+ 5	0.7781	0.18	Q				V	
24+10	0.7792	0.16	Q				V	
24+15	0.7800	0.11	Q				V	
24+20	0.7805	0.07	Q				V	
24+25	0.7808	0.05	Q				V	
24+30	0.7811	0.04	Q				V	
24+35	0.7814	0.03	Q				V	
24+40	0.7816	0.03	Q				V	
24+45	0.7817	0.02	Q				V	
24+50	0.7819	0.02	Q				V	
24+55	0.7820	0.02	Q				V	
25+ 0	0.7821	0.01	Q				V	

25+ 5	0.7821	0.01	Q				V
25+10	0.7822	0.01	Q				V
25+15	0.7822	0.01	Q				V
25+20	0.7823	0.01	Q				V
25+25	0.7823	0.00	Q				V
25+30	0.7823	0.00	Q				V
25+35	0.7824	0.00	Q				V
25+40	0.7824	0.00	Q				V
25+45	0.7824	0.00	Q				V
25+50	0.7824	0.00	Q				V

Unit Hydrograph Analysis

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Study date 06/26/23

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6472

100-Year 24 Hour Flood Unit Hydrograph Existing Condition

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
3.00	1	1.32

Rainfall data for year 100		
3.00	6	3.11

Rainfall data for year 100		
3.00	24	6.42

***** Area-averaged max loss rate, Fm *****

SCS curve No. (AMCII)	SCS curve NO. (AMC 3)	Area (Ac.)	Area Fraction	Fp (Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
67.0	84.6	3.00	1.000	0.290	1.000	0.290

Area-averaged adjusted loss rate Fm (In/Hr) = 0.290

***** Area-Averaged low loss rate fraction, Yb *****

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
3.00	1.000	67.0	84.6	1.82	0.725

Area-averaged catchment yield fraction, Y = 0.725

Area-averaged low loss fraction, Yb = 0.275

Direct entry of lag time by user

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Watershed area = 3.00 (Ac.)

Catchment Lag time = 0.230 hours

Unit interval = 5.000 minutes

Unit interval percentage of lag time = 36.2319

Hydrograph baseflow = 0.00 (CFS)

Average maximum watershed loss rate (Fm) = 0.290 (In/Hr)

Average low loss rate fraction (Yb) = 0.275 (decimal)

VALLEY UNDEVELOPED S-Graph Selected

Computed peak 5-minute rainfall = 0.489 (In)

Computed peak 30-minute rainfall = 1.000 (In)

Specified peak 1-hour rainfall = 1.320 (In)

Computed peak 3-hour rainfall = 2.232 (In)

Specified peak 6-hour rainfall = 3.110 (In)

Specified peak 24-hour rainfall = 6.420 (In)

Rainfall depth area reduction factors:

Using a total area of 3.00 (Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.488 (In)

30-minute factor = 1.000 Adjusted rainfall = 1.000 (In)

1-hour factor = 1.000 Adjusted rainfall = 1.320 (In)

3-hour factor = 1.000 Adjusted rainfall = 2.232 (In)

6-hour factor = 1.000 Adjusted rainfall = 3.110 (In)

24-hour factor = 1.000 Adjusted rainfall = 6.420 (In)

Unit Hydrograph

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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
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(K = 36.28 (CFS))

1	3.766	1.366
2	18.758	5.439
3	43.017	8.802
4	62.169	6.948
5	72.030	3.578
6	77.776	2.085
7	82.033	1.544
8	85.364	1.209
9	87.961	0.942
10	90.119	0.783
11	91.839	0.624

12	93.233	0.506
13	94.381	0.416
14	95.468	0.395
15	96.358	0.323
16	97.106	0.272
17	97.747	0.232
18	98.277	0.192
19	98.703	0.155
20	99.065	0.131
21	99.428	0.131
22	99.790	0.131
23	100.000	0.076

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.4885	0.4885
2	0.6445	0.1561
3	0.7580	0.1135
4	0.8505	0.0924
5	0.9299	0.0794
6	1.0002	0.0703
7	1.0638	0.0636
8	1.1222	0.0584
9	1.1764	0.0541
10	1.2270	0.0506
11	1.2747	0.0477
12	1.3198	0.0451
13	1.3713	0.0515
14	1.4208	0.0495
15	1.4685	0.0477
16	1.5146	0.0460
17	1.5591	0.0446
18	1.6023	0.0432
19	1.6443	0.0420
20	1.6852	0.0408
21	1.7250	0.0398
22	1.7638	0.0388
23	1.8017	0.0379
24	1.8388	0.0371
25	1.8750	0.0363
26	1.9105	0.0355
27	1.9454	0.0348
28	1.9795	0.0341
29	2.0130	0.0335
30	2.0459	0.0329
31	2.0783	0.0323
32	2.1101	0.0318
33	2.1414	0.0313
34	2.1722	0.0308
35	2.2025	0.0303
36	2.2324	0.0299
37	2.2618	0.0294
38	2.2909	0.0290
39	2.3195	0.0286
40	2.3478	0.0283
41	2.3757	0.0279
42	2.4032	0.0275

43	2.4304	0.0272
44	2.4573	0.0269
45	2.4838	0.0266
46	2.5101	0.0262
47	2.5360	0.0260
48	2.5617	0.0257
49	2.5871	0.0254
50	2.6122	0.0251
51	2.6371	0.0249
52	2.6617	0.0246
53	2.6861	0.0244
54	2.7102	0.0241
55	2.7341	0.0239
56	2.7577	0.0237
57	2.7812	0.0234
58	2.8044	0.0232
59	2.8274	0.0230
60	2.8503	0.0228
61	2.8729	0.0226
62	2.8953	0.0224
63	2.9176	0.0222
64	2.9396	0.0221
65	2.9615	0.0219
66	2.9832	0.0217
67	3.0047	0.0215
68	3.0261	0.0214
69	3.0473	0.0212
70	3.0683	0.0210
71	3.0892	0.0209
72	3.1100	0.0207
73	3.1325	0.0225
74	3.1548	0.0224
75	3.1771	0.0222
76	3.1991	0.0221
77	3.2211	0.0219
78	3.2429	0.0218
79	3.2646	0.0217
80	3.2861	0.0215
81	3.3075	0.0214
82	3.3288	0.0213
83	3.3500	0.0212
84	3.3710	0.0210
85	3.3919	0.0209
86	3.4127	0.0208
87	3.4334	0.0207
88	3.4540	0.0206
89	3.4745	0.0205
90	3.4948	0.0204
91	3.5151	0.0202
92	3.5352	0.0201
93	3.5552	0.0200
94	3.5752	0.0199
95	3.5950	0.0198
96	3.6148	0.0197
97	3.6344	0.0196
98	3.6539	0.0195
99	3.6734	0.0194

100	3.6927	0.0194
101	3.7120	0.0193
102	3.7312	0.0192
103	3.7502	0.0191
104	3.7692	0.0190
105	3.7881	0.0189
106	3.8070	0.0188
107	3.8257	0.0187
108	3.8443	0.0187
109	3.8629	0.0186
110	3.8814	0.0185
111	3.8998	0.0184
112	3.9181	0.0183
113	3.9364	0.0183
114	3.9546	0.0182
115	3.9727	0.0181
116	3.9907	0.0180
117	4.0086	0.0179
118	4.0265	0.0179
119	4.0443	0.0178
120	4.0621	0.0177
121	4.0797	0.0177
122	4.0973	0.0176
123	4.1148	0.0175
124	4.1323	0.0175
125	4.1497	0.0174
126	4.1670	0.0173
127	4.1843	0.0173
128	4.2015	0.0172
129	4.2186	0.0171
130	4.2357	0.0171
131	4.2527	0.0170
132	4.2696	0.0169
133	4.2865	0.0169
134	4.3033	0.0168
135	4.3201	0.0168
136	4.3368	0.0167
137	4.3534	0.0166
138	4.3700	0.0166
139	4.3865	0.0165
140	4.4030	0.0165
141	4.4194	0.0164
142	4.4358	0.0164
143	4.4521	0.0163
144	4.4683	0.0163
145	4.4845	0.0162
146	4.5007	0.0161
147	4.5168	0.0161
148	4.5328	0.0160
149	4.5488	0.0160
150	4.5647	0.0159
151	4.5806	0.0159
152	4.5964	0.0158
153	4.6122	0.0158
154	4.6280	0.0157
155	4.6436	0.0157
156	4.6593	0.0156

157	4.6749	0.0156
158	4.6904	0.0155
159	4.7059	0.0155
160	4.7214	0.0155
161	4.7368	0.0154
162	4.7521	0.0154
163	4.7675	0.0153
164	4.7827	0.0153
165	4.7979	0.0152
166	4.8131	0.0152
167	4.8283	0.0151
168	4.8434	0.0151
169	4.8584	0.0151
170	4.8734	0.0150
171	4.8884	0.0150
172	4.9033	0.0149
173	4.9182	0.0149
174	4.9330	0.0148
175	4.9478	0.0148
176	4.9626	0.0148
177	4.9773	0.0147
178	4.9920	0.0147
179	5.0067	0.0146
180	5.0213	0.0146
181	5.0358	0.0146
182	5.0504	0.0145
183	5.0648	0.0145
184	5.0793	0.0145
185	5.0937	0.0144
186	5.1081	0.0144
187	5.1224	0.0143
188	5.1367	0.0143
189	5.1510	0.0143
190	5.1652	0.0142
191	5.1794	0.0142
192	5.1936	0.0142
193	5.2077	0.0141
194	5.2218	0.0141
195	5.2359	0.0141
196	5.2499	0.0140
197	5.2639	0.0140
198	5.2778	0.0140
199	5.2917	0.0139
200	5.3056	0.0139
201	5.3195	0.0139
202	5.3333	0.0138
203	5.3471	0.0138
204	5.3608	0.0138
205	5.3746	0.0137
206	5.3883	0.0137
207	5.4019	0.0137
208	5.4155	0.0136
209	5.4291	0.0136
210	5.4427	0.0136
211	5.4562	0.0135
212	5.4697	0.0135
213	5.4832	0.0135

214	5.4967	0.0134
215	5.5101	0.0134
216	5.5235	0.0134
217	5.5368	0.0134
218	5.5501	0.0133
219	5.5634	0.0133
220	5.5767	0.0133
221	5.5899	0.0132
222	5.6032	0.0132
223	5.6163	0.0132
224	5.6295	0.0132
225	5.6426	0.0131
226	5.6557	0.0131
227	5.6688	0.0131
228	5.6818	0.0130
229	5.6948	0.0130
230	5.7078	0.0130
231	5.7208	0.0130
232	5.7337	0.0129
233	5.7466	0.0129
234	5.7595	0.0129
235	5.7724	0.0129
236	5.7852	0.0128
237	5.7980	0.0128
238	5.8108	0.0128
239	5.8235	0.0128
240	5.8363	0.0127
241	5.8490	0.0127
242	5.8616	0.0127
243	5.8743	0.0127
244	5.8869	0.0126
245	5.8995	0.0126
246	5.9121	0.0126
247	5.9247	0.0126
248	5.9372	0.0125
249	5.9497	0.0125
250	5.9622	0.0125
251	5.9746	0.0125
252	5.9871	0.0124
253	5.9995	0.0124
254	6.0119	0.0124
255	6.0242	0.0124
256	6.0366	0.0123
257	6.0489	0.0123
258	6.0612	0.0123
259	6.0734	0.0123
260	6.0857	0.0122
261	6.0979	0.0122
262	6.1101	0.0122
263	6.1223	0.0122
264	6.1345	0.0122
265	6.1466	0.0121
266	6.1587	0.0121
267	6.1708	0.0121
268	6.1829	0.0121
269	6.1949	0.0121
270	6.2070	0.0120

271	6.2190	0.0120
272	6.2310	0.0120
273	6.2429	0.0120
274	6.2549	0.0119
275	6.2668	0.0119
276	6.2787	0.0119
277	6.2906	0.0119
278	6.3024	0.0119
279	6.3143	0.0118
280	6.3261	0.0118
281	6.3379	0.0118
282	6.3497	0.0118
283	6.3615	0.0118
284	6.3732	0.0117
285	6.3849	0.0117
286	6.3966	0.0117
287	6.4083	0.0117
288	6.4200	0.0117

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0117	0.0032	0.0085
2	0.0117	0.0032	0.0085
3	0.0117	0.0032	0.0085
4	0.0117	0.0032	0.0085
5	0.0118	0.0032	0.0085
6	0.0118	0.0032	0.0086
7	0.0118	0.0033	0.0086
8	0.0119	0.0033	0.0086
9	0.0119	0.0033	0.0086
10	0.0119	0.0033	0.0086
11	0.0120	0.0033	0.0087
12	0.0120	0.0033	0.0087
13	0.0120	0.0033	0.0087
14	0.0121	0.0033	0.0087
15	0.0121	0.0033	0.0088
16	0.0121	0.0033	0.0088
17	0.0122	0.0033	0.0088
18	0.0122	0.0033	0.0088
19	0.0122	0.0034	0.0089
20	0.0122	0.0034	0.0089
21	0.0123	0.0034	0.0089
22	0.0123	0.0034	0.0089
23	0.0124	0.0034	0.0090
24	0.0124	0.0034	0.0090
25	0.0124	0.0034	0.0090
26	0.0125	0.0034	0.0090
27	0.0125	0.0034	0.0091
28	0.0125	0.0034	0.0091
29	0.0126	0.0035	0.0091
30	0.0126	0.0035	0.0091
31	0.0127	0.0035	0.0092
32	0.0127	0.0035	0.0092
33	0.0127	0.0035	0.0092
34	0.0128	0.0035	0.0092

35	0.0128	0.0035	0.0093
36	0.0128	0.0035	0.0093
37	0.0129	0.0035	0.0093
38	0.0129	0.0035	0.0094
39	0.0130	0.0036	0.0094
40	0.0130	0.0036	0.0094
41	0.0130	0.0036	0.0095
42	0.0131	0.0036	0.0095
43	0.0131	0.0036	0.0095
44	0.0132	0.0036	0.0095
45	0.0132	0.0036	0.0096
46	0.0132	0.0036	0.0096
47	0.0133	0.0037	0.0096
48	0.0133	0.0037	0.0097
49	0.0134	0.0037	0.0097
50	0.0134	0.0037	0.0097
51	0.0135	0.0037	0.0098
52	0.0135	0.0037	0.0098
53	0.0136	0.0037	0.0098
54	0.0136	0.0037	0.0099
55	0.0137	0.0038	0.0099
56	0.0137	0.0038	0.0099
57	0.0138	0.0038	0.0100
58	0.0138	0.0038	0.0100
59	0.0139	0.0038	0.0100
60	0.0139	0.0038	0.0101
61	0.0140	0.0038	0.0101
62	0.0140	0.0038	0.0101
63	0.0141	0.0039	0.0102
64	0.0141	0.0039	0.0102
65	0.0142	0.0039	0.0103
66	0.0142	0.0039	0.0103
67	0.0143	0.0039	0.0103
68	0.0143	0.0039	0.0104
69	0.0144	0.0039	0.0104
70	0.0144	0.0040	0.0105
71	0.0145	0.0040	0.0105
72	0.0145	0.0040	0.0105
73	0.0146	0.0040	0.0106
74	0.0146	0.0040	0.0106
75	0.0147	0.0040	0.0107
76	0.0148	0.0041	0.0107
77	0.0148	0.0041	0.0108
78	0.0149	0.0041	0.0108
79	0.0150	0.0041	0.0109
80	0.0150	0.0041	0.0109
81	0.0151	0.0041	0.0109
82	0.0151	0.0042	0.0110
83	0.0152	0.0042	0.0110
84	0.0153	0.0042	0.0111
85	0.0154	0.0042	0.0111
86	0.0154	0.0042	0.0112
87	0.0155	0.0043	0.0112
88	0.0155	0.0043	0.0113
89	0.0156	0.0043	0.0113
90	0.0157	0.0043	0.0114
91	0.0158	0.0043	0.0114

92	0.0158	0.0044	0.0115
93	0.0159	0.0044	0.0116
94	0.0160	0.0044	0.0116
95	0.0161	0.0044	0.0117
96	0.0161	0.0044	0.0117
97	0.0163	0.0045	0.0118
98	0.0163	0.0045	0.0118
99	0.0164	0.0045	0.0119
100	0.0165	0.0045	0.0119
101	0.0166	0.0046	0.0120
102	0.0166	0.0046	0.0121
103	0.0168	0.0046	0.0122
104	0.0168	0.0046	0.0122
105	0.0169	0.0047	0.0123
106	0.0170	0.0047	0.0123
107	0.0171	0.0047	0.0124
108	0.0172	0.0047	0.0125
109	0.0173	0.0048	0.0126
110	0.0174	0.0048	0.0126
111	0.0175	0.0048	0.0127
112	0.0176	0.0048	0.0128
113	0.0177	0.0049	0.0129
114	0.0178	0.0049	0.0129
115	0.0179	0.0049	0.0130
116	0.0180	0.0050	0.0131
117	0.0182	0.0050	0.0132
118	0.0183	0.0050	0.0132
119	0.0184	0.0051	0.0134
120	0.0185	0.0051	0.0134
121	0.0187	0.0051	0.0135
122	0.0187	0.0051	0.0136
123	0.0189	0.0052	0.0137
124	0.0190	0.0052	0.0138
125	0.0192	0.0053	0.0139
126	0.0193	0.0053	0.0140
127	0.0194	0.0053	0.0141
128	0.0195	0.0054	0.0142
129	0.0197	0.0054	0.0143
130	0.0198	0.0054	0.0144
131	0.0200	0.0055	0.0145
132	0.0201	0.0055	0.0146
133	0.0204	0.0056	0.0148
134	0.0205	0.0056	0.0148
135	0.0207	0.0057	0.0150
136	0.0208	0.0057	0.0151
137	0.0210	0.0058	0.0153
138	0.0212	0.0058	0.0153
139	0.0214	0.0059	0.0155
140	0.0215	0.0059	0.0156
141	0.0218	0.0060	0.0158
142	0.0219	0.0060	0.0159
143	0.0222	0.0061	0.0161
144	0.0224	0.0061	0.0162
145	0.0207	0.0057	0.0150
146	0.0209	0.0057	0.0151
147	0.0212	0.0058	0.0154
148	0.0214	0.0059	0.0155

149	0.0217	0.0060	0.0157
150	0.0219	0.0060	0.0159
151	0.0222	0.0061	0.0161
152	0.0224	0.0062	0.0163
153	0.0228	0.0063	0.0166
154	0.0230	0.0063	0.0167
155	0.0234	0.0064	0.0170
156	0.0237	0.0065	0.0172
157	0.0241	0.0066	0.0175
158	0.0244	0.0067	0.0177
159	0.0249	0.0068	0.0180
160	0.0251	0.0069	0.0182
161	0.0257	0.0071	0.0186
162	0.0260	0.0071	0.0188
163	0.0266	0.0073	0.0193
164	0.0269	0.0074	0.0195
165	0.0275	0.0076	0.0200
166	0.0279	0.0077	0.0202
167	0.0286	0.0079	0.0208
168	0.0290	0.0080	0.0211
169	0.0299	0.0082	0.0217
170	0.0303	0.0083	0.0220
171	0.0313	0.0086	0.0227
172	0.0318	0.0087	0.0231
173	0.0329	0.0090	0.0239
174	0.0335	0.0092	0.0243
175	0.0348	0.0096	0.0252
176	0.0355	0.0098	0.0258
177	0.0371	0.0102	0.0269
178	0.0379	0.0104	0.0275
179	0.0398	0.0109	0.0289
180	0.0408	0.0112	0.0296
181	0.0432	0.0119	0.0313
182	0.0446	0.0122	0.0323
183	0.0477	0.0131	0.0346
184	0.0495	0.0136	0.0359
185	0.0451	0.0124	0.0327
186	0.0477	0.0131	0.0346
187	0.0541	0.0149	0.0393
188	0.0584	0.0160	0.0423
189	0.0703	0.0193	0.0510
190	0.0794	0.0218	0.0576
191	0.1135	0.0242	0.0893
192	0.1561	0.0242	0.1319
193	0.4885	0.0242	0.4643
194	0.0924	0.0242	0.0683
195	0.0636	0.0175	0.0461
196	0.0506	0.0139	0.0367
197	0.0515	0.0142	0.0374
198	0.0460	0.0127	0.0334
199	0.0420	0.0115	0.0305
200	0.0388	0.0107	0.0282
201	0.0363	0.0100	0.0263
202	0.0341	0.0094	0.0248
203	0.0323	0.0089	0.0235
204	0.0308	0.0085	0.0223
205	0.0294	0.0081	0.0214

206	0.0283	0.0078	0.0205
207	0.0272	0.0075	0.0197
208	0.0262	0.0072	0.0190
209	0.0254	0.0070	0.0184
210	0.0246	0.0068	0.0178
211	0.0239	0.0066	0.0173
212	0.0232	0.0064	0.0168
213	0.0226	0.0062	0.0164
214	0.0221	0.0061	0.0160
215	0.0215	0.0059	0.0156
216	0.0210	0.0058	0.0153
217	0.0225	0.0062	0.0163
218	0.0221	0.0061	0.0160
219	0.0217	0.0060	0.0157
220	0.0213	0.0058	0.0154
221	0.0209	0.0057	0.0152
222	0.0206	0.0057	0.0149
223	0.0202	0.0056	0.0147
224	0.0199	0.0055	0.0145
225	0.0196	0.0054	0.0142
226	0.0194	0.0053	0.0140
227	0.0191	0.0052	0.0138
228	0.0188	0.0052	0.0136
229	0.0186	0.0051	0.0135
230	0.0183	0.0050	0.0133
231	0.0181	0.0050	0.0131
232	0.0179	0.0049	0.0130
233	0.0177	0.0049	0.0128
234	0.0175	0.0048	0.0127
235	0.0173	0.0047	0.0125
236	0.0171	0.0047	0.0124
237	0.0169	0.0046	0.0122
238	0.0167	0.0046	0.0121
239	0.0165	0.0045	0.0120
240	0.0164	0.0045	0.0119
241	0.0162	0.0044	0.0117
242	0.0160	0.0044	0.0116
243	0.0159	0.0044	0.0115
244	0.0157	0.0043	0.0114
245	0.0156	0.0043	0.0113
246	0.0155	0.0042	0.0112
247	0.0153	0.0042	0.0111
248	0.0152	0.0042	0.0110
249	0.0151	0.0041	0.0109
250	0.0149	0.0041	0.0108
251	0.0148	0.0041	0.0107
252	0.0147	0.0040	0.0106
253	0.0146	0.0040	0.0106
254	0.0145	0.0040	0.0105
255	0.0143	0.0039	0.0104
256	0.0142	0.0039	0.0103
257	0.0141	0.0039	0.0102
258	0.0140	0.0039	0.0102
259	0.0139	0.0038	0.0101
260	0.0138	0.0038	0.0100
261	0.0137	0.0038	0.0100
262	0.0136	0.0037	0.0099

263	0.0135	0.0037	0.0098
264	0.0134	0.0037	0.0098
265	0.0134	0.0037	0.0097
266	0.0133	0.0036	0.0096
267	0.0132	0.0036	0.0096
268	0.0131	0.0036	0.0095
269	0.0130	0.0036	0.0094
270	0.0129	0.0036	0.0094
271	0.0129	0.0035	0.0093
272	0.0128	0.0035	0.0093
273	0.0127	0.0035	0.0092
274	0.0126	0.0035	0.0092
275	0.0126	0.0034	0.0091
276	0.0125	0.0034	0.0091
277	0.0124	0.0034	0.0090
278	0.0123	0.0034	0.0090
279	0.0123	0.0034	0.0089
280	0.0122	0.0034	0.0089
281	0.0121	0.0033	0.0088
282	0.0121	0.0033	0.0088
283	0.0120	0.0033	0.0087
284	0.0119	0.0033	0.0087
285	0.0119	0.0033	0.0086
286	0.0118	0.0032	0.0086
287	0.0118	0.0032	0.0085
288	0.0117	0.0032	0.0085

Total soil rain loss = 1.63(In)
 Total effective rainfall = 4.79(In)
 Peak flow rate in flood hydrograph = 6.18(CFS)

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24 - H O U R S T O R M
 R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.01	Q				
0+10	0.0005	0.06	Q				
0+15	0.0014	0.13	Q				
0+20	0.0027	0.19	Q				
0+25	0.0042	0.22	Q				
0+30	0.0059	0.24	Q				
0+35	0.0076	0.25	VQ				
0+40	0.0095	0.26	VQ				
0+45	0.0113	0.27	VQ				
0+50	0.0133	0.28	VQ				
0+55	0.0152	0.29	VQ				
1+ 0	0.0173	0.29	VQ				
1+ 5	0.0193	0.30	VQ				
1+10	0.0214	0.30	VQ				
1+15	0.0235	0.30	VQ				
1+20	0.0256	0.31	VQ				

1+25	0.0277	0.31	VQ				
1+30	0.0298	0.31	VQ				
1+35	0.0320	0.31	IQ				
1+40	0.0342	0.32	IQ				
1+45	0.0364	0.32	IQ				
1+50	0.0386	0.32	IQ				
1+55	0.0408	0.32	IQ				
2+ 0	0.0430	0.32	IQ				
2+ 5	0.0452	0.32	IQ				
2+10	0.0475	0.32	IQ				
2+15	0.0497	0.33	IQ				
2+20	0.0520	0.33	IQ				
2+25	0.0542	0.33	IQ				
2+30	0.0565	0.33	IQ				
2+35	0.0587	0.33	IQ				
2+40	0.0610	0.33	IQV				
2+45	0.0633	0.33	IQV				
2+50	0.0656	0.33	IQV				
2+55	0.0679	0.33	IQV				
3+ 0	0.0702	0.33	IQV				
3+ 5	0.0725	0.33	IQV				
3+10	0.0748	0.34	IQV				
3+15	0.0771	0.34	IQV				
3+20	0.0794	0.34	IQV				
3+25	0.0817	0.34	IQV				
3+30	0.0841	0.34	IQV				
3+35	0.0864	0.34	IQV				
3+40	0.0888	0.34	IQV				
3+45	0.0911	0.34	IQ V				
3+50	0.0935	0.34	IQ V				
3+55	0.0959	0.35	IQ V				
4+ 0	0.0983	0.35	IQ V				
4+ 5	0.1007	0.35	IQ V				
4+10	0.1031	0.35	IQ V				
4+15	0.1055	0.35	IQ V				
4+20	0.1079	0.35	IQ V				
4+25	0.1103	0.35	IQ V				
4+30	0.1127	0.35	IQ V				
4+35	0.1152	0.35	IQ V				
4+40	0.1176	0.36	IQ V				
4+45	0.1201	0.36	IQ V				
4+50	0.1226	0.36	IQ V				
4+55	0.1250	0.36	IQ V				
5+ 0	0.1275	0.36	IQ V				
5+ 5	0.1300	0.36	IQ V				
5+10	0.1325	0.36	IQ V				
5+15	0.1350	0.36	IQ V				
5+20	0.1375	0.37	IQ V				
5+25	0.1401	0.37	IQ V				
5+30	0.1426	0.37	IQ V				
5+35	0.1451	0.37	IQ V				
5+40	0.1477	0.37	IQ V				
5+45	0.1503	0.37	IQ V				
5+50	0.1528	0.37	IQ V				
5+55	0.1554	0.38	IQ V				
6+ 0	0.1580	0.38	IQ V				
6+ 5	0.1606	0.38	IQ V				

6+10	0.1632	0.38	Q	V				
6+15	0.1658	0.38	Q	V				
6+20	0.1685	0.38	Q	V				
6+25	0.1711	0.38	Q	V				
6+30	0.1738	0.39	Q	V				
6+35	0.1764	0.39	Q	V				
6+40	0.1791	0.39	Q	V				
6+45	0.1818	0.39	Q	V				
6+50	0.1845	0.39	Q	V				
6+55	0.1872	0.39	Q	V				
7+ 0	0.1899	0.40	Q	V				
7+ 5	0.1927	0.40	Q	V				
7+10	0.1954	0.40	Q	V				
7+15	0.1982	0.40	Q	V				
7+20	0.2009	0.40	Q	V				
7+25	0.2037	0.40	Q	V				
7+30	0.2065	0.41	Q	V				
7+35	0.2093	0.41	Q	V				
7+40	0.2121	0.41	Q	V				
7+45	0.2150	0.41	Q	V				
7+50	0.2178	0.41	Q	V				
7+55	0.2207	0.41	Q	V				
8+ 0	0.2235	0.42	Q	V				
8+ 5	0.2264	0.42	Q	V				
8+10	0.2293	0.42	Q	V				
8+15	0.2322	0.42	Q	V				
8+20	0.2352	0.43	Q	V				
8+25	0.2381	0.43	Q	V				
8+30	0.2411	0.43	Q	V				
8+35	0.2440	0.43	Q	V				
8+40	0.2470	0.43	Q	V				
8+45	0.2500	0.44	Q	V				
8+50	0.2530	0.44	Q	V				
8+55	0.2561	0.44	Q	V				
9+ 0	0.2591	0.44	Q	V				
9+ 5	0.2622	0.45	Q	V				
9+10	0.2653	0.45	Q	V				
9+15	0.2684	0.45	Q	V				
9+20	0.2715	0.45	Q	V				
9+25	0.2746	0.46	Q	V				
9+30	0.2778	0.46	Q	V				
9+35	0.2810	0.46	Q	V				
9+40	0.2842	0.46	Q	V				
9+45	0.2874	0.47	Q	V				
9+50	0.2906	0.47	Q	V				
9+55	0.2938	0.47	Q	V				
10+ 0	0.2971	0.47	Q	V				
10+ 5	0.3004	0.48	Q	V				
10+10	0.3037	0.48	Q	V				
10+15	0.3070	0.48	Q	V				
10+20	0.3104	0.49	Q	V				
10+25	0.3138	0.49	Q	V				
10+30	0.3172	0.49	Q	V				
10+35	0.3206	0.50	Q	V				
10+40	0.3240	0.50	Q	V				
10+45	0.3275	0.50	Q	V				
10+50	0.3310	0.51	Q	V				

10+55	0.3345	0.51	Q	V			
11+ 0	0.3381	0.51	Q	V			
11+ 5	0.3416	0.52	Q	V			
11+10	0.3452	0.52	Q	V			
11+15	0.3489	0.53	Q	V			
11+20	0.3525	0.53	Q	V			
11+25	0.3562	0.54	Q	V			
11+30	0.3599	0.54	Q	V			
11+35	0.3637	0.54	Q	V			
11+40	0.3674	0.55	Q	V			
11+45	0.3713	0.55	Q	V			
11+50	0.3751	0.56	Q	V			
11+55	0.3790	0.56	Q	V			
12+ 0	0.3829	0.57	Q	V			
12+ 5	0.3868	0.57	Q	V			
12+10	0.3907	0.57	Q	V			
12+15	0.3946	0.56	Q	V			
12+20	0.3985	0.56	Q	V			
12+25	0.4023	0.56	Q	V			
12+30	0.4062	0.56	Q	V			
12+35	0.4101	0.57	Q	V			
12+40	0.4140	0.57	Q	V			
12+45	0.4180	0.58	Q	V			
12+50	0.4220	0.58	Q	V			
12+55	0.4261	0.59	Q	V			
13+ 0	0.4302	0.60	Q	V			
13+ 5	0.4343	0.60	Q	V			
13+10	0.4385	0.61	Q	V			
13+15	0.4428	0.62	Q	V			
13+20	0.4471	0.63	Q	V			
13+25	0.4515	0.64	Q	V			
13+30	0.4559	0.64	Q	V			
13+35	0.4604	0.65	Q	V			
13+40	0.4650	0.66	Q	V			
13+45	0.4696	0.68	Q	V			
13+50	0.4744	0.69	Q	V			
13+55	0.4792	0.70	Q	V			
14+ 0	0.4841	0.71	Q	V			
14+ 5	0.4891	0.73	Q	V			
14+10	0.4942	0.74	Q	V			
14+15	0.4994	0.75	Q	V			
14+20	0.5047	0.77	Q	V			
14+25	0.5101	0.79	Q	V			
14+30	0.5156	0.81	Q	V			
14+35	0.5213	0.83	Q	V			
14+40	0.5272	0.85	Q	V			
14+45	0.5331	0.87	Q	V			
14+50	0.5393	0.89	Q	V			
14+55	0.5456	0.92	Q	V			
15+ 0	0.5522	0.95	Q	V			
15+ 5	0.5590	0.98	Q	V			
15+10	0.5660	1.02	Q	V			
15+15	0.5733	1.06	Q	V			
15+20	0.5809	1.10	Q	V			
15+25	0.5888	1.15	Q	V			
15+30	0.5969	1.17	Q	V			
15+35	0.6051	1.19	Q	V			

15+40	0.6135	1.23		Q		V			
15+45	0.6226	1.31		Q		V			
15+50	0.6325	1.44		Q		V			
15+55	0.6438	1.64		Q		V			
16+ 0	0.6577	2.02			Q	V			
16+ 5	0.6789	3.08				V			
16+10	0.7133	4.99				Q V			
16+15	0.7559	6.18				QV			
16+20	0.7911	5.12				Q V			
16+25	0.8151	3.48			Q	V			
16+30	0.8332	2.64			Q	V			
16+35	0.8488	2.26			Q	V			
16+40	0.8625	2.00			Q	V			
16+45	0.8747	1.77			Q	V			
16+50	0.8858	1.60			Q	V			
16+55	0.8958	1.45			Q	V			
17+ 0	0.9049	1.33			Q	V			
17+ 5	0.9134	1.23			Q	V			
17+10	0.9214	1.16			Q	V			
17+15	0.9288	1.08			Q	V			
17+20	0.9358	1.01			Q	V			
17+25	0.9423	0.95			Q	V			
17+30	0.9485	0.89			Q	V			
17+35	0.9543	0.84			Q	V			
17+40	0.9598	0.80			Q	V			
17+45	0.9652	0.77			Q	V			
17+50	0.9703	0.74			Q	V			
17+55	0.9750	0.69			Q	V			
18+ 0	0.9794	0.64			Q	V			
18+ 5	0.9837	0.62			Q	V			
18+10	0.9878	0.61			Q	V			
18+15	0.9920	0.60			Q	V			
18+20	0.9961	0.60			Q	V			
18+25	1.0002	0.59			Q	V			
18+30	1.0042	0.58			Q	V			
18+35	1.0081	0.57			Q	V			
18+40	1.0119	0.56			Q	V			
18+45	1.0157	0.55			Q	V			
18+50	1.0195	0.54			Q	V			
18+55	1.0232	0.53			Q	V			
19+ 0	1.0268	0.53			Q	V			
19+ 5	1.0304	0.52			Q	V			
19+10	1.0339	0.51			Q	V			
19+15	1.0374	0.50			Q	V			
19+20	1.0408	0.50			Q	V			
19+25	1.0442	0.49			Q	V			
19+30	1.0475	0.48			Q	V			
19+35	1.0508	0.48			Q	V			
19+40	1.0541	0.47			Q	V			
19+45	1.0573	0.47			Q	V			
19+50	1.0605	0.46			Q	V			
19+55	1.0636	0.46			Q	V			
20+ 0	1.0667	0.45			Q	V			
20+ 5	1.0698	0.45			Q	V			
20+10	1.0728	0.44			Q	V			
20+15	1.0758	0.44			Q	V			
20+20	1.0788	0.43			Q	V			

20+25	1.0818	0.43	IQ				V	
20+30	1.0847	0.42	IQ				V	
20+35	1.0876	0.42	IQ				V	
20+40	1.0904	0.42	IQ				V	
20+45	1.0933	0.41	IQ				V	
20+50	1.0961	0.41	IQ				V	
20+55	1.0989	0.40	IQ				V	
21+ 0	1.1016	0.40	IQ				V	
21+ 5	1.1044	0.40	IQ				V	
21+10	1.1071	0.39	IQ				V	
21+15	1.1098	0.39	IQ				V	
21+20	1.1124	0.39	IQ				V	
21+25	1.1151	0.38	IQ				V	
21+30	1.1177	0.38	IQ				V	
21+35	1.1203	0.38	IQ				V	
21+40	1.1229	0.38	IQ				V	
21+45	1.1255	0.37	IQ				V	
21+50	1.1280	0.37	IQ				V	
21+55	1.1305	0.37	IQ				V	
22+ 0	1.1331	0.36	IQ				V	
22+ 5	1.1355	0.36	IQ				V	
22+10	1.1380	0.36	IQ				V	
22+15	1.1405	0.36	IQ				V	
22+20	1.1429	0.35	IQ				V	
22+25	1.1454	0.35	IQ				V	
22+30	1.1478	0.35	IQ				V	
22+35	1.1502	0.35	IQ				V	
22+40	1.1525	0.35	IQ				V	
22+45	1.1549	0.34	IQ				V	
22+50	1.1572	0.34	IQ				V	
22+55	1.1596	0.34	IQ				V	
23+ 0	1.1619	0.34	IQ				V	
23+ 5	1.1642	0.33	IQ				V	
23+10	1.1665	0.33	IQ				V	
23+15	1.1688	0.33	IQ				V	
23+20	1.1710	0.33	IQ				V	
23+25	1.1733	0.33	IQ				V	
23+30	1.1755	0.33	IQ				V	
23+35	1.1778	0.32	IQ				V	
23+40	1.1800	0.32	IQ				V	
23+45	1.1822	0.32	IQ				V	
23+50	1.1844	0.32	IQ				V	
23+55	1.1866	0.32	IQ				V	
24+ 0	1.1887	0.31	IQ				V	
24+ 5	1.1908	0.30	IQ				V	
24+10	1.1925	0.25	IQ				V	
24+15	1.1938	0.18	Q				V	
24+20	1.1946	0.12	Q				V	
24+25	1.1952	0.09	Q				V	
24+30	1.1957	0.07	Q				V	
24+35	1.1961	0.06	Q				V	
24+40	1.1964	0.05	Q				V	
24+45	1.1967	0.04	Q				V	
24+50	1.1969	0.03	Q				V	
24+55	1.1970	0.03	Q				V	
25+ 0	1.1972	0.02	Q				V	
25+ 5	1.1973	0.02	Q				V	

25+10	1.1974	0.01	Q				V
25+15	1.1975	0.01	Q				V
25+20	1.1975	0.01	Q				V
25+25	1.1976	0.01	Q				V
25+30	1.1976	0.01	Q				V
25+35	1.1977	0.00	Q				V
25+40	1.1977	0.00	Q				V
25+45	1.1977	0.00	Q				V
25+50	1.1977	0.00	Q				V

Unit Hydrograph Analysis

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Study date 06/03/23

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6472

10-Year 24 Hour Flood Unit Hydrograph To the Basin Area C

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
3.00	1	0.79

Rainfall data for year 10		
3.00	6	1.86

Rainfall data for year 10		
3.00	24	3.71

***** Area-averaged max loss rate, Fm *****

SCS curve No. (AMCII)	SCS curve NO. (AMC 2)	Area (Ac.)	Area Fraction	Fp (Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
32.0	32.0	3.00	1.000	0.978	0.100	0.098

Area-averaged adjusted loss rate Fm (In/Hr) = 0.098

***** Area-Averaged low loss rate fraction, Yb *****

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
0.30	0.100	32.0	32.0	18.55	0.000
2.70	0.900	98.0	98.0	0.20	0.937

Area-averaged catchment yield fraction, Y = 0.843

Area-averaged low loss fraction, Yb = 0.157

User entry of time of concentration = 0.130 (hours)

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Watershed area = 3.00 (Ac.)

Catchment Lag time = 0.104 hours

Unit interval = 10.000 minutes

Unit interval percentage of lag time = 160.2564

Hydrograph baseflow = 0.00 (CFS)

Average maximum watershed loss rate (Fm) = 0.098 (In/Hr)

Average low loss rate fraction (Yb) = 0.157 (decimal)

VALLEY UNDEVELOPED S-Graph Selected

Computed peak 5-minute rainfall = 0.293 (In)

Computed peak 30-minute rainfall = 0.601 (In)

Specified peak 1-hour rainfall = 0.793 (In)

Computed peak 3-hour rainfall = 1.337 (In)

Specified peak 6-hour rainfall = 1.860 (In)

Specified peak 24-hour rainfall = 3.710 (In)

Rainfall depth area reduction factors:

Using a total area of 3.00 (Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.293 (In)

30-minute factor = 1.000 Adjusted rainfall = 0.601 (In)

1-hour factor = 1.000 Adjusted rainfall = 0.793 (In)

3-hour factor = 1.000 Adjusted rainfall = 1.337 (In)

6-hour factor = 1.000 Adjusted rainfall = 1.860 (In)

24-hour factor = 1.000 Adjusted rainfall = 3.710 (In)

Unit Hydrograph

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Interval Number	'S' Graph Mean values	Unit Hydrograph (CFS)
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(K = 18.14 (CFS))

1	35.568	6.452
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2	81.816	8.390
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3	92.435	1.926
---	--------	-------

4	97.006	0.829
---	--------	-------

5	100.000	0.543
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Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
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1	0.3872	0.0938
---	--------	--------

2	0.5109	0.0555
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3	0.6009	0.0423
4	0.6742	0.0351
5	0.7371	0.0304
6	0.7929	0.0271
7	0.8532	0.0296
8	0.9092	0.0275
9	0.9616	0.0258
10	1.0111	0.0244
11	1.0580	0.0232
12	1.1027	0.0221
13	1.1456	0.0212
14	1.1867	0.0204
15	1.2263	0.0196
16	1.2645	0.0190
17	1.3016	0.0184
18	1.3374	0.0178
19	1.3723	0.0173
20	1.4062	0.0168
21	1.4392	0.0164
22	1.4714	0.0160
23	1.5029	0.0156
24	1.5336	0.0153
25	1.5637	0.0150
26	1.5932	0.0147
27	1.6220	0.0144
28	1.6504	0.0141
29	1.6781	0.0138
30	1.7054	0.0136
31	1.7322	0.0134
32	1.7586	0.0131
33	1.7846	0.0129
34	1.8101	0.0127
35	1.8352	0.0125
36	1.8600	0.0123
37	1.8855	0.0127
38	1.9108	0.0126
39	1.9356	0.0124
40	1.9602	0.0122
41	1.9844	0.0121
42	2.0084	0.0119
43	2.0321	0.0118
44	2.0555	0.0117
45	2.0786	0.0115
46	2.1015	0.0114
47	2.1241	0.0113
48	2.1465	0.0112
49	2.1687	0.0111
50	2.1906	0.0109
51	2.2123	0.0108
52	2.2338	0.0107
53	2.2551	0.0106
54	2.2762	0.0105
55	2.2971	0.0104
56	2.3178	0.0103
57	2.3383	0.0102
58	2.3587	0.0101
59	2.3789	0.0101

60	2.3989	0.0100
61	2.4187	0.0099
62	2.4383	0.0098
63	2.4579	0.0097
64	2.4772	0.0097
65	2.4964	0.0096
66	2.5155	0.0095
67	2.5344	0.0094
68	2.5532	0.0094
69	2.5718	0.0093
70	2.5903	0.0092
71	2.6086	0.0092
72	2.6269	0.0091
73	2.6450	0.0090
74	2.6630	0.0090
75	2.6808	0.0089
76	2.6986	0.0089
77	2.7162	0.0088
78	2.7337	0.0087
79	2.7511	0.0087
80	2.7684	0.0086
81	2.7856	0.0086
82	2.8027	0.0085
83	2.8196	0.0085
84	2.8365	0.0084
85	2.8533	0.0084
86	2.8699	0.0083
87	2.8865	0.0083
88	2.9030	0.0082
89	2.9194	0.0082
90	2.9357	0.0081
91	2.9519	0.0081
92	2.9680	0.0080
93	2.9840	0.0080
94	2.9999	0.0080
95	3.0158	0.0079
96	3.0316	0.0079
97	3.0473	0.0078
98	3.0629	0.0078
99	3.0784	0.0078
100	3.0938	0.0077
101	3.1092	0.0077
102	3.1245	0.0076
103	3.1397	0.0076
104	3.1549	0.0076
105	3.1699	0.0075
106	3.1849	0.0075
107	3.1999	0.0075
108	3.2147	0.0074
109	3.2295	0.0074
110	3.2442	0.0074
111	3.2589	0.0073
112	3.2735	0.0073
113	3.2880	0.0073
114	3.3025	0.0072
115	3.3169	0.0072
116	3.3312	0.0072

117	3.3455	0.0071
118	3.3597	0.0071
119	3.3738	0.0071
120	3.3879	0.0070
121	3.4020	0.0070
122	3.4159	0.0070
123	3.4299	0.0070
124	3.4437	0.0069
125	3.4575	0.0069
126	3.4713	0.0069
127	3.4850	0.0068
128	3.4986	0.0068
129	3.5122	0.0068
130	3.5257	0.0068
131	3.5392	0.0067
132	3.5526	0.0067
133	3.5660	0.0067
134	3.5793	0.0067
135	3.5926	0.0066
136	3.6059	0.0066
137	3.6190	0.0066
138	3.6322	0.0066
139	3.6453	0.0065
140	3.6583	0.0065
141	3.6713	0.0065
142	3.6842	0.0065
143	3.6971	0.0064
144	3.7100	0.0064

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0129	0.0020	0.0108
2	0.0129	0.0020	0.0109
3	0.0130	0.0020	0.0110
4	0.0131	0.0020	0.0110
5	0.0131	0.0021	0.0111
6	0.0132	0.0021	0.0111
7	0.0133	0.0021	0.0112
8	0.0134	0.0021	0.0113
9	0.0134	0.0021	0.0113
10	0.0135	0.0021	0.0114
11	0.0136	0.0021	0.0115
12	0.0137	0.0021	0.0115
13	0.0137	0.0022	0.0116
14	0.0138	0.0022	0.0117
15	0.0139	0.0022	0.0117
16	0.0140	0.0022	0.0118
17	0.0141	0.0022	0.0119
18	0.0142	0.0022	0.0120
19	0.0143	0.0022	0.0120
20	0.0144	0.0023	0.0121
21	0.0145	0.0023	0.0122
22	0.0146	0.0023	0.0123
23	0.0147	0.0023	0.0124
24	0.0148	0.0023	0.0124

25	0.0149	0.0023	0.0125
26	0.0150	0.0023	0.0126
27	0.0151	0.0024	0.0127
28	0.0152	0.0024	0.0128
29	0.0153	0.0024	0.0129
30	0.0154	0.0024	0.0130
31	0.0155	0.0024	0.0131
32	0.0156	0.0025	0.0132
33	0.0158	0.0025	0.0133
34	0.0159	0.0025	0.0134
35	0.0160	0.0025	0.0135
36	0.0162	0.0025	0.0136
37	0.0163	0.0026	0.0137
38	0.0164	0.0026	0.0139
39	0.0166	0.0026	0.0140
40	0.0167	0.0026	0.0141
41	0.0169	0.0026	0.0142
42	0.0170	0.0027	0.0144
43	0.0172	0.0027	0.0145
44	0.0173	0.0027	0.0146
45	0.0175	0.0027	0.0148
46	0.0177	0.0028	0.0149
47	0.0179	0.0028	0.0151
48	0.0180	0.0028	0.0152
49	0.0182	0.0029	0.0154
50	0.0184	0.0029	0.0155
51	0.0186	0.0029	0.0157
52	0.0188	0.0030	0.0159
53	0.0191	0.0030	0.0161
54	0.0193	0.0030	0.0163
55	0.0195	0.0031	0.0165
56	0.0197	0.0031	0.0167
57	0.0200	0.0031	0.0169
58	0.0203	0.0032	0.0171
59	0.0205	0.0032	0.0173
60	0.0208	0.0033	0.0175
61	0.0211	0.0033	0.0178
62	0.0214	0.0034	0.0180
63	0.0217	0.0034	0.0183
64	0.0220	0.0035	0.0186
65	0.0224	0.0035	0.0189
66	0.0228	0.0036	0.0192
67	0.0231	0.0036	0.0195
68	0.0235	0.0037	0.0198
69	0.0240	0.0038	0.0202
70	0.0244	0.0038	0.0206
71	0.0249	0.0039	0.0210
72	0.0254	0.0040	0.0214
73	0.0248	0.0039	0.0209
74	0.0253	0.0040	0.0214
75	0.0259	0.0041	0.0219
76	0.0266	0.0042	0.0224
77	0.0273	0.0043	0.0230
78	0.0280	0.0044	0.0236
79	0.0289	0.0045	0.0243
80	0.0298	0.0047	0.0251
81	0.0307	0.0048	0.0259

82	0.0318	0.0050	0.0268
83	0.0330	0.0052	0.0278
84	0.0344	0.0054	0.0290
85	0.0359	0.0056	0.0303
86	0.0376	0.0059	0.0317
87	0.0396	0.0062	0.0334
88	0.0419	0.0066	0.0354
89	0.0447	0.0070	0.0377
90	0.0481	0.0075	0.0406
91	0.0524	0.0082	0.0442
92	0.0580	0.0091	0.0489
93	0.0558	0.0087	0.0470
94	0.0676	0.0106	0.0570
95	0.0900	0.0141	0.0759
96	0.1619	0.0163	0.1456
97	0.3490	0.0163	0.3327
98	0.0686	0.0108	0.0579
99	0.0583	0.0091	0.0491
100	0.0482	0.0076	0.0407
101	0.0420	0.0066	0.0354
102	0.0376	0.0059	0.0317
103	0.0344	0.0054	0.0290
104	0.0318	0.0050	0.0268
105	0.0298	0.0047	0.0251
106	0.0281	0.0044	0.0237
107	0.0266	0.0042	0.0224
108	0.0253	0.0040	0.0214
109	0.0254	0.0040	0.0214
110	0.0244	0.0038	0.0206
111	0.0235	0.0037	0.0198
112	0.0228	0.0036	0.0192
113	0.0220	0.0035	0.0186
114	0.0214	0.0034	0.0180
115	0.0208	0.0033	0.0175
116	0.0203	0.0032	0.0171
117	0.0197	0.0031	0.0167
118	0.0193	0.0030	0.0163
119	0.0188	0.0030	0.0159
120	0.0184	0.0029	0.0155
121	0.0180	0.0028	0.0152
122	0.0177	0.0028	0.0149
123	0.0173	0.0027	0.0146
124	0.0170	0.0027	0.0144
125	0.0167	0.0026	0.0141
126	0.0164	0.0026	0.0139
127	0.0162	0.0025	0.0136
128	0.0159	0.0025	0.0134
129	0.0156	0.0025	0.0132
130	0.0154	0.0024	0.0130
131	0.0152	0.0024	0.0128
132	0.0150	0.0023	0.0126
133	0.0148	0.0023	0.0124
134	0.0146	0.0023	0.0123
135	0.0144	0.0023	0.0121
136	0.0142	0.0022	0.0120
137	0.0140	0.0022	0.0118
138	0.0138	0.0022	0.0117

139	0.0137	0.0021	0.0115
140	0.0135	0.0021	0.0114
141	0.0134	0.0021	0.0113
142	0.0132	0.0021	0.0111
143	0.0131	0.0020	0.0110
144	0.0129	0.0020	0.0109

Total soil rain loss = 0.53(In)
 Total effective rainfall = 3.18(In)
 Peak flow rate in flood hydrograph = 3.59(CFS)

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24 - H O U R S T O R M
 R u n o f f H y d r o g r a p h

Hydrograph in 10 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+10	0.0010	0.07	Q					
0+20	0.0032	0.16	Q					
0+30	0.0057	0.18	Q					
0+40	0.0084	0.19	Q					
0+50	0.0111	0.20	Q					
1+ 0	0.0139	0.20	Q					
1+10	0.0167	0.20	Q					
1+20	0.0195	0.20	Q					
1+30	0.0223	0.20	QV					
1+40	0.0251	0.21	QV					
1+50	0.0280	0.21	QV					
2+ 0	0.0308	0.21	QV					
2+10	0.0337	0.21	QV					
2+20	0.0366	0.21	QV					
2+30	0.0395	0.21	QV					
2+40	0.0425	0.21	Q V					
2+50	0.0454	0.21	Q V					
3+ 0	0.0484	0.22	Q V					
3+10	0.0514	0.22	Q V					
3+20	0.0544	0.22	Q V					
3+30	0.0574	0.22	Q V					
3+40	0.0604	0.22	Q V					
3+50	0.0635	0.22	Q V					
4+ 0	0.0666	0.22	Q V					
4+10	0.0697	0.23	Q V					
4+20	0.0728	0.23	Q V					
4+30	0.0760	0.23	Q V					
4+40	0.0792	0.23	Q V					
4+50	0.0824	0.23	Q V					
5+ 0	0.0856	0.23	Q V					
5+10	0.0889	0.24	Q V					
5+20	0.0921	0.24	Q V					
5+30	0.0954	0.24	Q V					
5+40	0.0988	0.24	Q V					
5+50	0.1021	0.24	Q V					
6+ 0	0.1055	0.25	Q V					

6+10	0.1089	0.25	Q	V					
6+20	0.1123	0.25	Q	V					
6+30	0.1158	0.25	IQ	V					
6+40	0.1193	0.25	IQ	V					
6+50	0.1228	0.26	IQ	V					
7+ 0	0.1264	0.26	IQ	V					
7+10	0.1300	0.26	IQ	V					
7+20	0.1336	0.26	IQ	V					
7+30	0.1372	0.27	IQ	V					
7+40	0.1409	0.27	IQ	V					
7+50	0.1447	0.27	IQ	V					
8+ 0	0.1484	0.27	IQ	V					
8+10	0.1522	0.28	IQ	V					
8+20	0.1561	0.28	IQ	V					
8+30	0.1600	0.28	IQ	V					
8+40	0.1639	0.29	IQ	V					
8+50	0.1679	0.29	IQ	V					
9+ 0	0.1719	0.29	IQ	V					
9+10	0.1759	0.30	IQ	V					
9+20	0.1801	0.30	IQ	V					
9+30	0.1842	0.30	IQ	V					
9+40	0.1884	0.31	IQ	V					
9+50	0.1927	0.31	IQ	V					
10+ 0	0.1970	0.31	IQ	V					
10+10	0.2014	0.32	IQ	V					
10+20	0.2059	0.32	IQ	V					
10+30	0.2104	0.33	IQ	V					
10+40	0.2150	0.33	IQ	V					
10+50	0.2196	0.34	IQ	V					
11+ 0	0.2243	0.34	IQ	V					
11+10	0.2292	0.35	IQ	V					
11+20	0.2340	0.35	IQ	V					
11+30	0.2390	0.36	IQ	V					
11+40	0.2441	0.37	IQ	V					
11+50	0.2492	0.37	IQ	V					
12+ 0	0.2545	0.38	IQ	V					
12+10	0.2597	0.38	IQ	V					
12+20	0.2650	0.38	IQ	V					
12+30	0.2704	0.39	IQ	V					
12+40	0.2759	0.40	IQ	V					
12+50	0.2815	0.41	IQ	V					
13+ 0	0.2872	0.42	IQ	V					
13+10	0.2932	0.43	IQ	V					
13+20	0.2993	0.44	IQ	V					
13+30	0.3056	0.46	IQ	V					
13+40	0.3121	0.47	IQ	V					
13+50	0.3188	0.49	IQ	V					
14+ 0	0.3258	0.51	IQ	V					
14+10	0.3331	0.53	IQ	V					
14+20	0.3407	0.55	IQ	V					
14+30	0.3486	0.58	IQ	V					
14+40	0.3570	0.61	IQ	V					
14+50	0.3660	0.65	IQ	V					
15+ 0	0.3755	0.69	IQ	V					
15+10	0.3858	0.75	IQ	V					
15+20	0.3970	0.82	IQ	V					
15+30	0.4087	0.85	IQ	V					

15+40	0.4213	0.92	Q		V		
15+50	0.4368	1.12	Q		V		
16+ 0	0.4609	1.75	Q		V		
16+10	0.5104	3.59		Q	V		
16+20	0.5591	3.54		Q	V		
16+30	0.5812	1.61	Q		V		
16+40	0.5969	1.14	Q		V		
16+50	0.6092	0.89	Q		V		
17+ 0	0.6182	0.65	Q		V		
17+10	0.6262	0.58	Q		V		
17+20	0.6335	0.53	Q		V		
17+30	0.6403	0.49	Q		V		
17+40	0.6465	0.46	Q		V		
17+50	0.6525	0.43	Q		V		
18+ 0	0.6581	0.41	Q		V		
18+10	0.6635	0.39	Q		V		
18+20	0.6688	0.38	Q		V		
18+30	0.6739	0.37	Q		V		
18+40	0.6789	0.36	Q		V		
18+50	0.6837	0.35	Q		V		
19+ 0	0.6883	0.34	Q		V		
19+10	0.6928	0.33	Q		V		
19+20	0.6972	0.32	Q		V		
19+30	0.7014	0.31	Q		V		
19+40	0.7056	0.30	Q		V		
19+50	0.7097	0.29	Q		V		
20+ 0	0.7136	0.29	Q		V		
20+10	0.7175	0.28	Q		V		
20+20	0.7213	0.28	Q		V		
20+30	0.7250	0.27	Q		V		
20+40	0.7287	0.27	Q		V		
20+50	0.7323	0.26	Q		V		
21+ 0	0.7358	0.26	Q		V		
21+10	0.7392	0.25	Q		V		
21+20	0.7426	0.25	Q		V		
21+30	0.7460	0.24	Q		V		
21+40	0.7493	0.24	Q		V		
21+50	0.7525	0.24	Q		V		
22+ 0	0.7557	0.23	Q		V		
22+10	0.7589	0.23	Q		V		
22+20	0.7620	0.23	Q		V		
22+30	0.7650	0.22	Q		V		
22+40	0.7681	0.22	Q		V		
22+50	0.7711	0.22	Q		V		
23+ 0	0.7740	0.21	Q		V		
23+10	0.7769	0.21	Q		V		
23+20	0.7798	0.21	Q		V		
23+30	0.7826	0.21	Q		V		
23+40	0.7855	0.20	Q		V		
23+50	0.7882	0.20	Q		V		
24+ 0	0.7910	0.20	Q		V		
24+10	0.7927	0.13	Q		V		
24+20	0.7932	0.04	Q		V		
24+30	0.7935	0.02	Q		V		
24+40	0.7935	0.01	Q		V		

Unit Hydrograph Analysis

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Study date 06/03/23

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6472

100-Year 24 Hour Flood Unit Hydrograph To the Basin Area C

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
3.00	1	1.32

Rainfall data for year 100		
3.00	6	3.11

Rainfall data for year 100		
3.00	24	6.42

***** Area-averaged max loss rate, Fm *****

SCS curve No. (AMCII)	SCS curve NO. (AMC 3)	Area (Ac.)	Area Fraction	Fp (Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
32.0	52.0	3.00	1.000	0.785	0.100	0.079

Area-averaged adjusted loss rate Fm (In/Hr) = 0.079

***** Area-Averaged low loss rate fraction, Yb *****

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
0.30	0.100	32.0	52.0	9.23	0.236
2.70	0.900	98.0	98.0	0.20	0.963

Area-averaged catchment yield fraction, Y = 0.890

Area-averaged low loss fraction, Yb = 0.110

User entry of time of concentration = 0.130 (hours)

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Watershed area = 3.00 (Ac.)

Catchment Lag time = 0.104 hours

Unit interval = 10.000 minutes

Unit interval percentage of lag time = 160.2564

Hydrograph baseflow = 0.00 (CFS)

Average maximum watershed loss rate (Fm) = 0.079 (In/Hr)

Average low loss rate fraction (Yb) = 0.110 (decimal)

VALLEY UNDEVELOPED S-Graph Selected

Computed peak 5-minute rainfall = 0.489 (In)

Computed peak 30-minute rainfall = 1.000 (In)

Specified peak 1-hour rainfall = 1.320 (In)

Computed peak 3-hour rainfall = 2.232 (In)

Specified peak 6-hour rainfall = 3.110 (In)

Specified peak 24-hour rainfall = 6.420 (In)

Rainfall depth area reduction factors:

Using a total area of 3.00 (Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.488 (In)

30-minute factor = 1.000 Adjusted rainfall = 1.000 (In)

1-hour factor = 1.000 Adjusted rainfall = 1.320 (In)

3-hour factor = 1.000 Adjusted rainfall = 2.232 (In)

6-hour factor = 1.000 Adjusted rainfall = 3.110 (In)

24-hour factor = 1.000 Adjusted rainfall = 6.420 (In)

U n i t H y d r o g r a p h

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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
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(K = 18.14 (CFS))

1	35.568	6.452
2	81.816	8.390
3	92.435	1.926
4	97.006	0.829
5	100.000	0.543

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.6445	0.1561

2	0.8505	0.0924
3	1.0002	0.0703
4	1.1222	0.0584
5	1.2270	0.0506
6	1.3198	0.0451
7	1.4208	0.0495
8	1.5146	0.0460
9	1.6023	0.0432
10	1.6852	0.0408
11	1.7638	0.0388
12	1.8388	0.0371
13	1.9105	0.0355
14	1.9795	0.0341
15	2.0459	0.0329
16	2.1101	0.0318
17	2.1722	0.0308
18	2.2324	0.0299
19	2.2909	0.0290
20	2.3478	0.0283
21	2.4032	0.0275
22	2.4573	0.0269
23	2.5101	0.0262
24	2.5617	0.0257
25	2.6122	0.0251
26	2.6617	0.0246
27	2.7102	0.0241
28	2.7577	0.0237
29	2.8044	0.0232
30	2.8503	0.0228
31	2.8953	0.0224
32	2.9396	0.0221
33	2.9832	0.0217
34	3.0261	0.0214
35	3.0683	0.0210
36	3.1100	0.0207
37	3.1548	0.0224
38	3.1991	0.0221
39	3.2429	0.0218
40	3.2861	0.0215
41	3.3288	0.0213
42	3.3710	0.0210
43	3.4127	0.0208
44	3.4540	0.0206
45	3.4948	0.0204
46	3.5352	0.0201
47	3.5752	0.0199
48	3.6148	0.0197
49	3.6539	0.0195
50	3.6927	0.0194
51	3.7312	0.0192
52	3.7692	0.0190
53	3.8070	0.0188
54	3.8443	0.0187
55	3.8814	0.0185
56	3.9181	0.0183
57	3.9546	0.0182
58	3.9907	0.0180

59	4.0265	0.0179
60	4.0621	0.0177
61	4.0973	0.0176
62	4.1323	0.0175
63	4.1670	0.0173
64	4.2015	0.0172
65	4.2357	0.0171
66	4.2696	0.0169
67	4.3033	0.0168
68	4.3368	0.0167
69	4.3700	0.0166
70	4.4030	0.0165
71	4.4358	0.0164
72	4.4683	0.0163
73	4.5007	0.0161
74	4.5328	0.0160
75	4.5647	0.0159
76	4.5964	0.0158
77	4.6280	0.0157
78	4.6593	0.0156
79	4.6904	0.0155
80	4.7214	0.0155
81	4.7521	0.0154
82	4.7827	0.0153
83	4.8131	0.0152
84	4.8434	0.0151
85	4.8734	0.0150
86	4.9033	0.0149
87	4.9330	0.0148
88	4.9626	0.0148
89	4.9920	0.0147
90	5.0213	0.0146
91	5.0504	0.0145
92	5.0793	0.0145
93	5.1081	0.0144
94	5.1367	0.0143
95	5.1652	0.0142
96	5.1936	0.0142
97	5.2218	0.0141
98	5.2499	0.0140
99	5.2778	0.0140
100	5.3056	0.0139
101	5.3333	0.0138
102	5.3608	0.0138
103	5.3883	0.0137
104	5.4155	0.0136
105	5.4427	0.0136
106	5.4697	0.0135
107	5.4967	0.0134
108	5.5235	0.0134
109	5.5501	0.0133
110	5.5767	0.0133
111	5.6032	0.0132
112	5.6295	0.0132
113	5.6557	0.0131
114	5.6818	0.0130
115	5.7078	0.0130

116	5.7337	0.0129
117	5.7595	0.0129
118	5.7852	0.0128
119	5.8108	0.0128
120	5.8363	0.0127
121	5.8616	0.0127
122	5.8869	0.0126
123	5.9121	0.0126
124	5.9372	0.0125
125	5.9622	0.0125
126	5.9871	0.0124
127	6.0119	0.0124
128	6.0366	0.0123
129	6.0612	0.0123
130	6.0857	0.0122
131	6.1101	0.0122
132	6.1345	0.0122
133	6.1587	0.0121
134	6.1829	0.0121
135	6.2070	0.0120
136	6.2310	0.0120
137	6.2549	0.0119
138	6.2787	0.0119
139	6.3024	0.0119
140	6.3261	0.0118
141	6.3497	0.0118
142	6.3732	0.0117
143	6.3966	0.0117
144	6.4200	0.0117

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0233	0.0026	0.0208
2	0.0235	0.0026	0.0209
3	0.0236	0.0026	0.0210
4	0.0237	0.0026	0.0211
5	0.0238	0.0026	0.0212
6	0.0240	0.0026	0.0213
7	0.0241	0.0026	0.0214
8	0.0242	0.0027	0.0216
9	0.0243	0.0027	0.0217
10	0.0245	0.0027	0.0218
11	0.0246	0.0027	0.0219
12	0.0247	0.0027	0.0220
13	0.0249	0.0027	0.0222
14	0.0250	0.0027	0.0223
15	0.0252	0.0028	0.0224
16	0.0253	0.0028	0.0225
17	0.0255	0.0028	0.0227
18	0.0256	0.0028	0.0228
19	0.0258	0.0028	0.0230
20	0.0260	0.0029	0.0231
21	0.0261	0.0029	0.0232
22	0.0263	0.0029	0.0234
23	0.0264	0.0029	0.0235

24	0.0266	0.0029	0.0237
25	0.0268	0.0029	0.0239
26	0.0270	0.0030	0.0240
27	0.0272	0.0030	0.0242
28	0.0274	0.0030	0.0243
29	0.0275	0.0030	0.0245
30	0.0277	0.0030	0.0247
31	0.0279	0.0031	0.0249
32	0.0281	0.0031	0.0251
33	0.0284	0.0031	0.0252
34	0.0286	0.0031	0.0254
35	0.0288	0.0032	0.0256
36	0.0290	0.0032	0.0258
37	0.0292	0.0032	0.0260
38	0.0295	0.0032	0.0262
39	0.0297	0.0033	0.0265
40	0.0300	0.0033	0.0267
41	0.0302	0.0033	0.0269
42	0.0305	0.0033	0.0271
43	0.0308	0.0034	0.0274
44	0.0310	0.0034	0.0276
45	0.0313	0.0034	0.0279
46	0.0316	0.0035	0.0281
47	0.0319	0.0035	0.0284
48	0.0322	0.0035	0.0287
49	0.0326	0.0036	0.0290
50	0.0329	0.0036	0.0293
51	0.0332	0.0036	0.0296
52	0.0336	0.0037	0.0299
53	0.0339	0.0037	0.0302
54	0.0343	0.0038	0.0306
55	0.0347	0.0038	0.0309
56	0.0351	0.0039	0.0313
57	0.0355	0.0039	0.0316
58	0.0360	0.0040	0.0320
59	0.0364	0.0040	0.0324
60	0.0369	0.0041	0.0328
61	0.0374	0.0041	0.0333
62	0.0379	0.0042	0.0337
63	0.0384	0.0042	0.0342
64	0.0390	0.0043	0.0347
65	0.0396	0.0043	0.0352
66	0.0402	0.0044	0.0358
67	0.0408	0.0045	0.0363
68	0.0415	0.0046	0.0369
69	0.0422	0.0046	0.0376
70	0.0430	0.0047	0.0382
71	0.0437	0.0048	0.0389
72	0.0446	0.0049	0.0397
73	0.0416	0.0046	0.0371
74	0.0426	0.0047	0.0379
75	0.0436	0.0048	0.0388
76	0.0447	0.0049	0.0398
77	0.0458	0.0050	0.0408
78	0.0471	0.0052	0.0419
79	0.0485	0.0053	0.0432
80	0.0500	0.0055	0.0445

81	0.0516	0.0057	0.0460
82	0.0534	0.0059	0.0476
83	0.0554	0.0061	0.0493
84	0.0577	0.0063	0.0513
85	0.0602	0.0066	0.0536
86	0.0631	0.0069	0.0562
87	0.0664	0.0073	0.0591
88	0.0703	0.0077	0.0626
89	0.0750	0.0082	0.0667
90	0.0806	0.0089	0.0718
91	0.0878	0.0096	0.0781
92	0.0972	0.0107	0.0865
93	0.0928	0.0102	0.0826
94	0.1125	0.0124	0.1001
95	0.1498	0.0131	0.1367
96	0.2696	0.0131	0.2565
97	0.5809	0.0131	0.5678
98	0.1143	0.0125	0.1017
99	0.0976	0.0107	0.0869
100	0.0808	0.0089	0.0719
101	0.0704	0.0077	0.0627
102	0.0631	0.0069	0.0562
103	0.0577	0.0063	0.0514
104	0.0535	0.0059	0.0476
105	0.0500	0.0055	0.0445
106	0.0471	0.0052	0.0419
107	0.0447	0.0049	0.0398
108	0.0426	0.0047	0.0379
109	0.0446	0.0049	0.0397
110	0.0430	0.0047	0.0382
111	0.0415	0.0046	0.0369
112	0.0402	0.0044	0.0358
113	0.0390	0.0043	0.0347
114	0.0379	0.0042	0.0337
115	0.0369	0.0041	0.0328
116	0.0360	0.0040	0.0320
117	0.0351	0.0039	0.0313
118	0.0343	0.0038	0.0306
119	0.0336	0.0037	0.0299
120	0.0329	0.0036	0.0293
121	0.0322	0.0035	0.0287
122	0.0316	0.0035	0.0281
123	0.0310	0.0034	0.0276
124	0.0305	0.0033	0.0271
125	0.0300	0.0033	0.0267
126	0.0295	0.0032	0.0262
127	0.0290	0.0032	0.0258
128	0.0286	0.0031	0.0254
129	0.0281	0.0031	0.0251
130	0.0277	0.0030	0.0247
131	0.0274	0.0030	0.0243
132	0.0270	0.0030	0.0240
133	0.0266	0.0029	0.0237
134	0.0263	0.0029	0.0234
135	0.0260	0.0029	0.0231
136	0.0256	0.0028	0.0228
137	0.0253	0.0028	0.0225

138	0.0250	0.0027	0.0223
139	0.0247	0.0027	0.0220
140	0.0245	0.0027	0.0218
141	0.0242	0.0027	0.0216
142	0.0240	0.0026	0.0213
143	0.0237	0.0026	0.0211
144	0.0235	0.0026	0.0209

Total soil rain loss = 0.63(In)
 Total effective rainfall = 5.79(In)
 Peak flow rate in flood hydrograph = 6.21 (CFS)

+++++

24 - H O U R S T O R M
 R u n o f f H y d r o g r a p h

Hydrograph in 10 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+10	0.0018	0.13	Q				
0+20	0.0061	0.31	VQ				
0+30	0.0109	0.35	VQ				
0+40	0.0160	0.37	VQ				
0+50	0.0213	0.38	VQ				
1+ 0	0.0266	0.38	VQ				
1+10	0.0319	0.39	VQ				
1+20	0.0373	0.39	Q				
1+30	0.0427	0.39	IQ				
1+40	0.0481	0.39	IQ				
1+50	0.0535	0.40	IQ				
2+ 0	0.0590	0.40	IQ				
2+10	0.0645	0.40	IQ				
2+20	0.0701	0.40	IQ				
2+30	0.0756	0.40	IQV				
2+40	0.0812	0.41	IQV				
2+50	0.0869	0.41	IQV				
3+ 0	0.0925	0.41	IQV				
3+10	0.0983	0.41	IQV				
3+20	0.1040	0.42	IQV				
3+30	0.1098	0.42	IQ V				
3+40	0.1156	0.42	IQ V				
3+50	0.1214	0.42	IQ V				
4+ 0	0.1273	0.43	IQ V				
4+10	0.1332	0.43	IQ V				
4+20	0.1392	0.43	IQ V				
4+30	0.1452	0.44	IQ V				
4+40	0.1512	0.44	IQ V				
4+50	0.1573	0.44	IQ V				
5+ 0	0.1635	0.45	IQ V				
5+10	0.1696	0.45	IQ V				
5+20	0.1759	0.45	IQ V				
5+30	0.1821	0.45	IQ V				
5+40	0.1884	0.46	IQ V				
5+50	0.1948	0.46	IQ V				

6+ 0	0.2012	0.47	Q	V				
6+10	0.2077	0.47	Q	V				
6+20	0.2142	0.47	Q	V				
6+30	0.2207	0.48	Q	V				
6+40	0.2273	0.48	Q	V				
6+50	0.2340	0.48	Q	V				
7+ 0	0.2407	0.49	Q	V				
7+10	0.2475	0.49	Q	V				
7+20	0.2544	0.50	Q	V				
7+30	0.2613	0.50	Q	V				
7+40	0.2683	0.51	Q	V				
7+50	0.2753	0.51	Q	V				
8+ 0	0.2824	0.52	Q	V				
8+10	0.2896	0.52	Q	V				
8+20	0.2968	0.53	Q	V				
8+30	0.3042	0.53	Q	V				
8+40	0.3115	0.54	Q	V				
8+50	0.3190	0.54	Q	V				
9+ 0	0.3266	0.55	Q	V				
9+10	0.3342	0.55	Q	V				
9+20	0.3420	0.56	Q	V				
9+30	0.3498	0.57	Q	V				
9+40	0.3577	0.57	Q	V				
9+50	0.3657	0.58	Q	V				
10+ 0	0.3738	0.59	Q	V				
10+10	0.3820	0.60	Q	V				
10+20	0.3903	0.60	Q	V				
10+30	0.3988	0.61	Q	V				
10+40	0.4073	0.62	Q	V				
10+50	0.4160	0.63	Q	V				
11+ 0	0.4248	0.64	Q	V				
11+10	0.4338	0.65	Q	V				
11+20	0.4429	0.66	Q	V				
11+30	0.4521	0.67	Q	V				
11+40	0.4615	0.68	Q	V				
11+50	0.4711	0.69	Q	V				
12+ 0	0.4808	0.71	Q	V				
12+10	0.4905	0.70	Q	V				
12+20	0.4999	0.68	Q	V				
12+30	0.5095	0.69	Q	V				
12+40	0.5192	0.71	Q	V				
12+50	0.5292	0.72	Q	V				
13+ 0	0.5394	0.74	Q	V				
13+10	0.5499	0.76	Q	V				
13+20	0.5607	0.79	Q	V				
13+30	0.5719	0.81	Q	V				
13+40	0.5834	0.84	Q	V				
13+50	0.5953	0.87	Q	V				
14+ 0	0.6077	0.90	Q	V				
14+10	0.6206	0.94	Q	V				
14+20	0.6341	0.98	Q	V				
14+30	0.6482	1.03	Q	V				
14+40	0.6631	1.08	Q	V				
14+50	0.6789	1.15	Q	V				
15+ 0	0.6957	1.22	Q	V				
15+10	0.7139	1.32	Q	V				
15+20	0.7337	1.44	Q	V				

15+30	0.7545	1.51		Q		V			
15+40	0.7766	1.61		Q		V			
15+50	0.8041	2.00		Q		V			
16+ 0	0.8470	3.11			Q	V			
16+10	0.9325	6.21				QV			
16+20	1.0162	6.08				Q	V		
16+30	1.0547	2.79			Q		V		
16+40	1.0822	2.00		Q			V		
16+50	1.1038	1.57		Q			V		
17+ 0	1.1197	1.15		Q			V		
17+10	1.1339	1.03		Q			V		
17+20	1.1468	0.94		Q			V		
17+30	1.1588	0.87		Q			V		
17+40	1.1699	0.81		Q			V		
17+50	1.1804	0.76		Q			V		
18+ 0	1.1904	0.72		Q			V		
18+10	1.2001	0.71		Q			V		
18+20	1.2099	0.71		Q			V		
18+30	1.2194	0.69		Q			V		
18+40	1.2286	0.67		Q			V		
18+50	1.2375	0.65		Q			V		
19+ 0	1.2462	0.63		Q			V		
19+10	1.2546	0.61		Q			V		
19+20	1.2628	0.60		Q			V		
19+30	1.2708	0.58		Q			V		
19+40	1.2786	0.57		Q			V		
19+50	1.2862	0.55		Q			V		
20+ 0	1.2937	0.54		Q			V		
20+10	1.3010	0.53		Q			V		
20+20	1.3082	0.52		Q			V		
20+30	1.3152	0.51		Q			V		
20+40	1.3221	0.50		Q			V		
20+50	1.3289	0.49	Q				V		
21+ 0	1.3355	0.48	Q				V		
21+10	1.3421	0.48	Q				V		
21+20	1.3485	0.47	Q				V		
21+30	1.3549	0.46	Q				V		
21+40	1.3611	0.45	Q				V		
21+50	1.3673	0.45	Q				V		
22+ 0	1.3734	0.44	Q				V		
22+10	1.3794	0.44	Q				V		
22+20	1.3853	0.43	Q				V		
22+30	1.3911	0.42	Q				V		
22+40	1.3969	0.42	Q				V		
22+50	1.4026	0.41	Q				V		
23+ 0	1.4082	0.41	Q				V		
23+10	1.4138	0.40	Q				V		
23+20	1.4193	0.40	Q				V		
23+30	1.4247	0.40	Q				V		
23+40	1.4301	0.39	Q				V		
23+50	1.4355	0.39	Q				V		
24+ 0	1.4407	0.38	Q				V		
24+10	1.4441	0.25	Q				V		
24+20	1.4451	0.07	Q				V		
24+30	1.4455	0.03	Q				V		
24+40	1.4456	0.01	Q				V		

the 1990s, the number of people in the world who are under 15 years of age is expected to increase from 1.1 billion to 1.5 billion.

As the world's population grows, the demand for food and other resources will increase. This will put pressure on the environment and on the world's food supply. It is important that we find ways to meet this demand without harming the environment or the world's food supply.

One way to do this is to use sustainable agriculture. Sustainable agriculture is a way of farming that uses natural resources in a way that will not harm them. It uses methods that are good for the environment and that will help to keep the world's food supply safe for the future.

Another way to do this is to use sustainable development. Sustainable development is a way of living that uses natural resources in a way that will not harm them. It uses methods that are good for the environment and that will help to keep the world's food supply safe for the future.

There are many other ways to do this. We need to find ways to meet the world's growing demand for food and other resources without harming the environment or the world's food supply. We need to find ways to live in a way that is good for the environment and that will help to keep the world's food supply safe for the future.

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APPENDIX "C"

FLOOD ROUTING AREA 'A'

'Area 1' - 100-yr Flood Routing for 1-hr,

Storage Capacity Hesperia Area "A" Basin 6/26/2023						
Elevation	Basin Depth	Contour Interval	Area (Sq. Ft.)	Mean Area (Sq. Ft.)	Mean volume (Acres.Ft.)	Total Volume (Ac. Ft.)
3,622.00	-	1.00	3,532.00	3,532.00	0.03	
3,623.00	1.00	1.00	3,532.00	3,532.00	-	0.03
3,624.00	2.00	1.00	3,532.00	3,532.00	-	0.05
3,625.00	3.00	1.00	3,532.00	3,532.00	-	0.07
3,626.00	4.00	1.00	3,532.00	3,532.00	-	0.09
3,627.00	5.00	0.50	3,532.00	3,737.59	-	0.11
3,627.50	5.50	0.50	3,943.18	4,157.17	-	0.16
3,628.00	6.00	0.50	4,371.16	4,593.66	-	0.20
3,628.50	6.50	0.50	4,816.15	5,047.12	-	0.26
3,629.00	7.00	1.00	5,278.08	5,765.36	-	0.32
3,630.00	8.00	1.00	6,252.64	6,773.63	-	0.45
3,631.00	9.00	1.00	7,294.61	7,849.22	-	0.60
3,632.00	10.00	-	8,403.83	8,992.01	-	0.78
3,633.00	11.00	-	9,580.18		-	0.99

DEPTH vs OUTFLOW CALCULATIONS

DARA "Area A" Depth vs Outflow Calculation												
No. of Holes & Slots	Holes	Holes	Holes	Holes	Holes	Holes	Holes	Holes	Slots	Slots	Weir	No. of Weir
	1	1	1	3	3	3	0	0	0	0	1	
Discharge Coefficient	Hole C	Hole C	Hole C	Hole C	Hole C	Hole C	Hole C	Hole C	Slot C	Slot C	Weir C	Weir Coefficient
	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66		3.33	
Distance of Holes to Basin Bottom (in)	Hole FL	Hole FL	Hole FL	Hole FL	Hole FL	Hole FL	Hole FL	Hole FL	Slot FL	Slot FL	Dist to Weir	Distance of Top of Weir to Basin Bottom (in)
	84	106	119	72	76	80	0	0	0	0	102	
Hole Radius (in) Slots Area (sq ft)	Hole R	Hole R	Hole R	Hole R	Hole R	Hole R	Hole R	Hole R	Area	Area	Weir Length (ft)	Riser Perimeter (ft) = 2(6)+2(6)
	3	3	3	0	0	0	0	0	0	0	24	
Hole Centerline Elev (ft)	Cen Elev	Cen Elev	Cen Elev	Cen Elev	Cen Elev	Cen Elev	Cen Elev	Cen Elev	Cen Elev	Cen Elev	Weir Elev	Top of Riser Elevation (ft)
	3629.25	3631.08	3632.17	3628.00	3628.33	3628.67	3622.00	3622.00			3630.50	

Elevation	Depth	asin	Volum	Outflow											
3622.00	0	0	0.00												
3623.00	1.00	0.030	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3624.00	2.00	0.050	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3625.00	3.00	0.070	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3626.00	4.00	0.090	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3627.00	5.00	0.110	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3627.50	5.50	0.160	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3628.00	6.00	0.200	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3628.50	6.50	0.260	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3629.00	7.00	0.320	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3630.00	8.00	0.450	0.90	0.9002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3631.00	9.00	0.600	29.63	1.3750	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	28.2560	0.0000
3632.00	10.00	0.780	149.54	1.7237	0.9952	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	146.8224	0.0000
3633.00	11.00	0.990	320.31	2.0129	1.4390	0.9489	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	315.9115	0.0000

[Σ Flows (Holes + Weir)]

(Outflow through Holes)

(Outflow through Slots)

Note:

1. Orifice outflow is based on:

$$Q=CA(2gH)^{0.5}$$

where:

C = Coefficient, 0.66 used here

A = Orifice Area

H = Headwater, Elevation of Water to Cen. of Orifice

2. Slot outflow is based on:

$$Q=CA(2gH)^{0.5}$$

where:

C = Coefficient, 0.66 used here

A = Slot Area (sq.ft.)

H = Headwater, Elevation of Water to Cen. of Slot

3. Weir flow is based on:

$$Q=CLH^{1.5}$$

where:

C = Coefficient, 3.33 used here

L = Weir Length, Riser Pipe Perimeter was used here

H = Headwater, Elevation of Water to Top of Weir

FLOOD HYDROGRAPH ROUTING PROGRAM
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 Study date: 06/26/23

10-Year 24 Hour Routing Condition

Program License Serial Number 6472

***** HYDROGRAPH INFORMATION *****

From study/file name: areac10.rte
 *****HYDROGRAPH DATA*****
 Number of intervals = 148
 Time interval = 10.0 (Min.)
 Maximum/Peak flow rate = 3.587 (CFS)
 Total volume = 0.794 (Ac.Ft)
 Status of hydrographs being held in storage
 Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
 Peak (CFS) 0.000 0.000 0.000 0.000 0.000
 Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

+++++
 Process from Point/Station 6.000 to Point/Station 6.000
 **** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

 Total number of inflow hydrograph intervals = 148
 Hydrograph time unit = 10.000 (Min.)
 Initial depth in storage basin = 0.00 (Ft.)

 Initial basin depth = 0.00 (Ft.)
 Initial basin storage = 0.00 (Ac.Ft)
 Initial basin outflow = 0.00 (CFS)

 Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.030	0.001	0.030	0.030
2.000	0.050	0.001	0.050	0.050
3.000	0.070	0.001	0.070	0.070
4.000	0.090	0.001	0.090	0.090

5.000	0.110	0.001	0.110	0.110
5.500	0.160	0.001	0.160	0.160
6.000	0.200	0.001	0.200	0.200
6.500	0.260	0.001	0.260	0.260
7.000	0.320	0.010	0.320	0.320
8.000	0.450	0.900	0.444	0.456
9.000	0.600	29.630	0.396	0.804
10.000	0.780	149.540	-0.250	1.810
11.000	0.990	320.310	-1.216	3.196

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time	Inflow	Outflow	Storage						Depth
(Hours)	(CFS)	(CFS)	(Ac.Ft)	.0	0.9	1.79	2.69	3.59	(Ft.)
0.167	0.07	0.00	0.000	O					0.02
0.333	0.16	0.00	0.002	OI					0.07
0.500	0.18	0.00	0.004	OI					0.15
0.667	0.19	0.00	0.007	OI					0.23
0.833	0.20	0.00	0.010	OI					0.32
1.000	0.20	0.00	0.012	OI					0.42
1.167	0.20	0.00	0.015	OI					0.51
1.333	0.20	0.00	0.018	OI					0.60
1.500	0.20	0.00	0.021	OI					0.69
1.667	0.21	0.00	0.024	OI					0.79
1.833	0.21	0.00	0.026	OI					0.88
2.000	0.21	0.00	0.029	OI					0.98
2.167	0.21	0.00	0.032	OI					1.11
2.333	0.21	0.00	0.035	OI					1.25
2.500	0.21	0.00	0.038	OI					1.40
2.667	0.21	0.00	0.041	OI					1.54
2.833	0.21	0.00	0.044	OI					1.69
3.000	0.22	0.00	0.047	OI					1.84
3.167	0.22	0.00	0.050	OI					1.99
3.333	0.22	0.00	0.053	OI					2.13
3.500	0.22	0.00	0.056	OI					2.28
3.667	0.22	0.00	0.059	OI					2.44
3.833	0.22	0.00	0.062	OI					2.59
4.000	0.22	0.00	0.065	O I					2.74
4.167	0.23	0.00	0.068	O I					2.90
4.333	0.23	0.00	0.071	O I					3.05
4.500	0.23	0.00	0.074	O I					3.21
4.667	0.23	0.00	0.077	O I					3.37
4.833	0.23	0.00	0.080	O I					3.52
5.000	0.23	0.00	0.084	O I					3.68
5.167	0.24	0.00	0.087	O I					3.84
5.333	0.24	0.00	0.090	O I					4.01
5.500	0.24	0.00	0.093	O I					4.17
5.667	0.24	0.00	0.097	O I					4.34
5.833	0.24	0.00	0.100	O I					4.50
6.000	0.25	0.00	0.103	O I					4.67
6.167	0.25	0.00	0.107	O I					4.84
6.333	0.25	0.00	0.110	O I					5.00
6.500	0.25	0.00	0.114	O I					5.04
6.667	0.25	0.00	0.117	O I					5.07

6.833	0.26	0.00	0.121	O I					5.11
7.000	0.26	0.00	0.124	O I					5.14
7.167	0.26	0.00	0.128	O I					5.18
7.333	0.26	0.00	0.131	O I					5.21
7.500	0.27	0.00	0.135	O I					5.25
7.667	0.27	0.00	0.139	O I					5.29
7.833	0.27	0.00	0.142	O I					5.32
8.000	0.27	0.00	0.146	O I					5.36
8.167	0.28	0.00	0.150	O I					5.40
8.333	0.28	0.00	0.154	O I					5.44
8.500	0.28	0.00	0.157	O I					5.47
8.667	0.29	0.00	0.161	O I					5.52
8.833	0.29	0.00	0.165	O I					5.57
9.000	0.29	0.00	0.169	O I					5.62
9.167	0.30	0.00	0.173	O I					5.67
9.333	0.30	0.00	0.177	O I					5.72
9.500	0.30	0.00	0.181	O I					5.77
9.667	0.31	0.00	0.186	O I					5.82
9.833	0.31	0.00	0.190	O I					5.87
10.000	0.31	0.00	0.194	O I					5.93
10.167	0.32	0.00	0.198	O I					5.98
10.333	0.32	0.00	0.203	O I					6.02
10.500	0.33	0.00	0.207	O I					6.06
10.667	0.33	0.00	0.212	O I					6.10
10.833	0.34	0.00	0.216	O I					6.14
11.000	0.34	0.00	0.221	O I					6.18
11.167	0.35	0.00	0.226	O I					6.22
11.333	0.35	0.00	0.231	O I					6.26
11.500	0.36	0.00	0.236	O I					6.30
11.667	0.37	0.00	0.241	O I					6.34
11.833	0.37	0.00	0.246	O I					6.38
12.000	0.38	0.00	0.251	O I					6.42
12.167	0.38	0.00	0.256	O I					6.47
12.333	0.38	0.00	0.261	O I					6.51
12.500	0.39	0.00	0.267	O I					6.56
12.667	0.40	0.00	0.272	O I					6.60
12.833	0.41	0.00	0.278	O I					6.65
13.000	0.42	0.00	0.283	O I					6.69
13.167	0.43	0.01	0.289	O I					6.74
13.333	0.44	0.01	0.295	O I					6.79
13.500	0.46	0.01	0.301	O I					6.84
13.667	0.47	0.01	0.307	O I					6.89
13.833	0.49	0.01	0.314	O I					6.95
14.000	0.51	0.01	0.321	O I					7.00
14.167	0.53	0.06	0.327	O I					7.06
14.333	0.55	0.10	0.334	O I					7.10
14.500	0.58	0.14	0.340	O I					7.15
14.667	0.61	0.18	0.346	O I					7.20
14.833	0.65	0.22	0.351	O I					7.24
15.000	0.69	0.26	0.357	O I					7.29
15.167	0.75	0.31	0.363	O I					7.33
15.333	0.82	0.35	0.369	O I					7.38
15.500	0.85	0.39	0.376	O I					7.43
15.667	0.92	0.44	0.382	O I					7.48
15.833	1.12	0.49	0.390	O I					7.54
16.000	1.75	0.57	0.402	O I	I				7.63
16.167	3.59	0.76	0.430	O I			I		7.85

16.333	3.54	2.36	0.458					O		I		8.05
16.500	1.61	2.60	0.459				I		O			8.06
16.667	1.14	1.20	0.452				O					8.01
16.833	0.89	0.99	0.450			IO						8.00
17.000	0.65	0.89	0.448		I	O						7.99
17.167	0.58	0.86	0.445		I	O						7.96
17.333	0.53	0.84	0.441		I	O						7.93
17.500	0.49	0.81	0.436		I	O						7.89
17.667	0.46	0.78	0.432		I	O						7.86
17.833	0.43	0.75	0.428		I	O						7.83
18.000	0.41	0.72	0.423		I	O						7.79
18.167	0.39	0.69	0.419		I	O						7.76
18.333	0.38	0.66	0.415		I	O						7.73
18.500	0.37	0.64	0.411		I	O						7.70
18.667	0.36	0.61	0.408		I	O						7.68
18.833	0.35	0.59	0.404		I	O						7.65
19.000	0.34	0.57	0.401		I	O						7.62
19.167	0.33	0.54	0.398		I	O						7.60
19.333	0.32	0.52	0.395		I	O						7.58
19.500	0.31	0.51	0.392		I	O						7.56
19.667	0.30	0.49	0.390		I	O						7.54
19.833	0.29	0.47	0.387		I	O						7.52
20.000	0.29	0.45	0.385		I	O						7.50
20.167	0.28	0.44	0.383		IO							7.48
20.333	0.28	0.42	0.381		IO							7.47
20.500	0.27	0.41	0.379		IO							7.45
20.667	0.27	0.40	0.377		IO							7.44
20.833	0.26	0.39	0.375		IO							7.42
21.000	0.26	0.37	0.373		IO							7.41
21.167	0.25	0.36	0.372		IO							7.40
21.333	0.25	0.35	0.370		IO							7.39
21.500	0.24	0.34	0.369		IO							7.37
21.667	0.24	0.33	0.367		O							7.36
21.833	0.24	0.33	0.366		O							7.35
22.000	0.23	0.32	0.365		O							7.35
22.167	0.23	0.31	0.364		O							7.34
22.333	0.23	0.30	0.363		O							7.33
22.500	0.22	0.30	0.362		IO							7.32
22.667	0.22	0.29	0.361		IO							7.31
22.833	0.22	0.28	0.360		IO							7.31
23.000	0.21	0.28	0.359		IO							7.30
23.167	0.21	0.27	0.358		IO							7.29
23.333	0.21	0.26	0.357		IO							7.29
23.500	0.21	0.26	0.356		IO							7.28
23.667	0.20	0.25	0.356		IO							7.28
23.833	0.20	0.25	0.355		IO							7.27
24.000	0.20	0.25	0.354		IO							7.26
24.167	0.13	0.24	0.353		IO							7.26
24.333	0.04	0.22	0.351		I O							7.24
24.500	0.02	0.21	0.349		IO							7.22
24.667	0.01	0.19	0.346		IO							7.20
24.833	0.00	0.17	0.344		IO							7.18
25.000	0.00	0.16	0.341		IO							7.16
25.167	0.00	0.14	0.339		IO							7.15
25.333	0.00	0.13	0.337		IO							7.13
25.500	0.00	0.12	0.336		IO							7.12
25.667	0.00	0.11	0.334		O							7.11

25.833	0.00	0.10	0.333	O					7.10
26.000	0.00	0.09	0.332	O					7.09
26.167	0.00	0.08	0.330	O					7.08
26.333	0.00	0.07	0.329	O					7.07
26.500	0.00	0.07	0.328	O					7.06
26.667	0.00	0.06	0.327	O					7.06
26.833	0.00	0.06	0.327	O					7.05
27.000	0.00	0.05	0.326	O					7.05
27.167	0.00	0.05	0.325	O					7.04
27.333	0.00	0.04	0.325	O					7.04
27.500	0.00	0.04	0.324	O					7.03
27.667	0.00	0.03	0.324	O					7.03
27.833	0.00	0.03	0.323	O					7.02
28.000	0.00	0.03	0.323	O					7.02
28.167	0.00	0.03	0.322	O					7.02
28.333	0.00	0.02	0.322	O					7.02
28.500	0.00	0.02	0.322	O					7.01
28.667	0.00	0.02	0.321	O					7.01
28.833	0.00	0.02	0.321	O					7.01
29.000	0.00	0.02	0.321	O					7.01
29.167	0.00	0.01	0.321	O					7.01
29.333	0.00	0.01	0.321	O					7.00
29.500	0.00	0.01	0.320	O					7.00
29.667	0.00	0.01	0.320	O					7.00
29.833	0.00	0.01	0.320	O					7.00
30.000	0.00	0.01	0.320	O					7.00
30.167	0.00	0.01	0.320	O					7.00
30.333	0.00	0.01	0.320	O					7.00
30.500	0.00	0.01	0.319	O					7.00
30.667	0.00	0.01	0.319	O					6.99
30.833	0.00	0.01	0.319	O					6.99
31.000	0.00	0.01	0.319	O					6.99
31.167	0.00	0.01	0.319	O					6.99
31.333	0.00	0.01	0.319	O					6.99
31.500	0.00	0.01	0.319	O					6.99
31.667	0.00	0.01	0.319	O					6.99
31.833	0.00	0.01	0.318	O					6.99
32.000	0.00	0.01	0.318	O					6.99
32.167	0.00	0.01	0.318	O					6.98
32.333	0.00	0.01	0.318	O					6.98
32.500	0.00	0.01	0.318	O					6.98
32.667	0.00	0.01	0.318	O					6.98
32.833	0.00	0.01	0.318	O					6.98
33.000	0.00	0.01	0.317	O					6.98
33.167	0.00	0.01	0.317	O					6.98
33.333	0.00	0.01	0.317	O					6.98
33.500	0.00	0.01	0.317	O					6.98
33.667	0.00	0.01	0.317	O					6.97
33.833	0.00	0.01	0.317	O					6.97
34.000	0.00	0.01	0.317	O					6.97
34.167	0.00	0.01	0.317	O					6.97
34.333	0.00	0.01	0.316	O					6.97
34.500	0.00	0.01	0.316	O					6.97
34.667	0.00	0.01	0.316	O					6.97
34.833	0.00	0.01	0.316	O					6.97
35.000	0.00	0.01	0.316	O					6.97
35.167	0.00	0.01	0.316	O					6.96

35.333	0.00	0.01	0.316	O					6.96
35.500	0.00	0.01	0.315	O					6.96
35.667	0.00	0.01	0.315	O					6.96
35.833	0.00	0.01	0.315	O					6.96
36.000	0.00	0.01	0.315	O					6.96
36.167	0.00	0.01	0.315	O					6.96
36.333	0.00	0.01	0.315	O					6.96
36.500	0.00	0.01	0.315	O					6.96
36.667	0.00	0.01	0.315	O					6.96
36.833	0.00	0.01	0.314	O					6.95
37.000	0.00	0.01	0.314	O					6.95
37.167	0.00	0.01	0.314	O					6.95
37.333	0.00	0.01	0.314	O					6.95
37.500	0.00	0.01	0.314	O					6.95
37.667	0.00	0.01	0.314	O					6.95
37.833	0.00	0.01	0.314	O					6.95
38.000	0.00	0.01	0.314	O					6.95
38.167	0.00	0.01	0.313	O					6.95
38.333	0.00	0.01	0.313	O					6.94
38.500	0.00	0.01	0.313	O					6.94
38.667	0.00	0.01	0.313	O					6.94
38.833	0.00	0.01	0.313	O					6.94
39.000	0.00	0.01	0.313	O					6.94
39.167	0.00	0.01	0.313	O					6.94
39.333	0.00	0.01	0.313	O					6.94
39.500	0.00	0.01	0.312	O					6.94
39.667	0.00	0.01	0.312	O					6.94
39.833	0.00	0.01	0.312	O					6.94
40.000	0.00	0.01	0.312	O					6.93
40.167	0.00	0.01	0.312	O					6.93
40.333	0.00	0.01	0.312	O					6.93
40.500	0.00	0.01	0.312	O					6.93
40.667	0.00	0.01	0.312	O					6.93
40.833	0.00	0.01	0.312	O					6.93
41.000	0.00	0.01	0.311	O					6.93
41.167	0.00	0.01	0.311	O					6.93
41.333	0.00	0.01	0.311	O					6.93
41.500	0.00	0.01	0.311	O					6.93
41.667	0.00	0.01	0.311	O					6.92
41.833	0.00	0.01	0.311	O					6.92
42.000	0.00	0.01	0.311	O					6.92
42.167	0.00	0.01	0.311	O					6.92
42.333	0.00	0.01	0.310	O					6.92
42.500	0.00	0.01	0.310	O					6.92
42.667	0.00	0.01	0.310	O					6.92
42.833	0.00	0.01	0.310	O					6.92
43.000	0.00	0.01	0.310	O					6.92
43.167	0.00	0.01	0.310	O					6.92
43.333	0.00	0.01	0.310	O					6.91
43.500	0.00	0.01	0.310	O					6.91
43.667	0.00	0.01	0.310	O					6.91
43.833	0.00	0.01	0.309	O					6.91
44.000	0.00	0.01	0.309	O					6.91
44.167	0.00	0.01	0.309	O					6.91
44.333	0.00	0.01	0.309	O					6.91
44.500	0.00	0.01	0.309	O					6.91
44.667	0.00	0.01	0.309	O					6.91

44.833	0.00	0.01	0.309	O					6.91
45.000	0.00	0.01	0.309	O					6.90
45.167	0.00	0.01	0.308	O					6.90
45.333	0.00	0.01	0.308	O					6.90
45.500	0.00	0.01	0.308	O					6.90
45.667	0.00	0.01	0.308	O					6.90
45.833	0.00	0.01	0.308	O					6.90
46.000	0.00	0.01	0.308	O					6.90
46.167	0.00	0.01	0.308	O					6.90
46.333	0.00	0.01	0.308	O					6.90
46.500	0.00	0.01	0.308	O					6.90
46.667	0.00	0.01	0.307	O					6.90
46.833	0.00	0.01	0.307	O					6.89
47.000	0.00	0.01	0.307	O					6.89
47.167	0.00	0.01	0.307	O					6.89
47.333	0.00	0.01	0.307	O					6.89
47.500	0.00	0.01	0.307	O					6.89
47.667	0.00	0.01	0.307	O					6.89
47.833	0.00	0.01	0.307	O					6.89
48.000	0.00	0.01	0.307	O					6.89
48.167	0.00	0.01	0.306	O					6.89
48.333	0.00	0.01	0.306	O					6.89
48.500	0.00	0.01	0.306	O					6.89
48.667	0.00	0.01	0.306	O					6.88
48.833	0.00	0.01	0.306	O					6.88
49.000	0.00	0.01	0.306	O					6.88
49.167	0.00	0.01	0.306	O					6.88
49.333	0.00	0.01	0.306	O					6.88
49.500	0.00	0.01	0.306	O					6.88
49.667	0.00	0.01	0.305	O					6.88
49.833	0.00	0.01	0.305	O					6.88
50.000	0.00	0.01	0.305	O					6.88
50.167	0.00	0.01	0.305	O					6.88
50.333	0.00	0.01	0.305	O					6.88
50.500	0.00	0.01	0.305	O					6.87
50.667	0.00	0.01	0.305	O					6.87
50.833	0.00	0.01	0.305	O					6.87
51.000	0.00	0.01	0.305	O					6.87
51.167	0.00	0.01	0.305	O					6.87
51.333	0.00	0.01	0.304	O					6.87
51.500	0.00	0.01	0.304	O					6.87
51.667	0.00	0.01	0.304	O					6.87
51.833	0.00	0.01	0.304	O					6.87
52.000	0.00	0.01	0.304	O					6.87
52.167	0.00	0.01	0.304	O					6.87
52.333	0.00	0.01	0.304	O					6.86
52.500	0.00	0.01	0.304	O					6.86
52.667	0.00	0.01	0.304	O					6.86
52.833	0.00	0.01	0.303	O					6.86
53.000	0.00	0.01	0.303	O					6.86
53.167	0.00	0.01	0.303	O					6.86
53.333	0.00	0.01	0.303	O					6.86
53.500	0.00	0.01	0.303	O					6.86
53.667	0.00	0.01	0.303	O					6.86
53.833	0.00	0.01	0.303	O					6.86
54.000	0.00	0.01	0.303	O					6.86
54.167	0.00	0.01	0.303	O					6.86

54.333	0.00	0.01	0.303	O					6.85
54.500	0.00	0.01	0.302	O					6.85
54.667	0.00	0.01	0.302	O					6.85
54.833	0.00	0.01	0.302	O					6.85
55.000	0.00	0.01	0.302	O					6.85
55.167	0.00	0.01	0.302	O					6.85
55.333	0.00	0.01	0.302	O					6.85
55.500	0.00	0.01	0.302	O					6.85
55.667	0.00	0.01	0.302	O					6.85
55.833	0.00	0.01	0.302	O					6.85
56.000	0.00	0.01	0.302	O					6.85
56.167	0.00	0.01	0.301	O					6.85
56.333	0.00	0.01	0.301	O					6.84
56.500	0.00	0.01	0.301	O					6.84
56.667	0.00	0.01	0.301	O					6.84
56.833	0.00	0.01	0.301	O					6.84
57.000	0.00	0.01	0.301	O					6.84
57.167	0.00	0.01	0.301	O					6.84
57.333	0.00	0.01	0.301	O					6.84
57.500	0.00	0.01	0.301	O					6.84
57.667	0.00	0.01	0.301	O					6.84
57.833	0.00	0.01	0.300	O					6.84
58.000	0.00	0.01	0.300	O					6.84
58.167	0.00	0.01	0.300	O					6.84
58.333	0.00	0.01	0.300	O					6.83
58.500	0.00	0.01	0.300	O					6.83
58.667	0.00	0.01	0.300	O					6.83
58.833	0.00	0.01	0.300	O					6.83
59.000	0.00	0.01	0.300	O					6.83
59.167	0.00	0.01	0.300	O					6.83
59.333	0.00	0.01	0.300	O					6.83
59.500	0.00	0.01	0.299	O					6.83
59.667	0.00	0.01	0.299	O					6.83
59.833	0.00	0.01	0.299	O					6.83
60.000	0.00	0.01	0.299	O					6.83
60.167	0.00	0.01	0.299	O					6.83
60.333	0.00	0.01	0.299	O					6.83
60.500	0.00	0.01	0.299	O					6.82
60.667	0.00	0.01	0.299	O					6.82
60.833	0.00	0.01	0.299	O					6.82
61.000	0.00	0.01	0.299	O					6.82
61.167	0.00	0.01	0.299	O					6.82
61.333	0.00	0.01	0.298	O					6.82
61.500	0.00	0.01	0.298	O					6.82
61.667	0.00	0.01	0.298	O					6.82
61.833	0.00	0.01	0.298	O					6.82
62.000	0.00	0.01	0.298	O					6.82
62.167	0.00	0.01	0.298	O					6.82
62.333	0.00	0.01	0.298	O					6.82
62.500	0.00	0.01	0.298	O					6.82
62.667	0.00	0.01	0.298	O					6.81
62.833	0.00	0.01	0.298	O					6.81
63.000	0.00	0.01	0.298	O					6.81
63.167	0.00	0.01	0.297	O					6.81
63.333	0.00	0.01	0.297	O					6.81
63.500	0.00	0.01	0.297	O					6.81
63.667	0.00	0.01	0.297	O					6.81

63.833	0.00	0.01	0.297	O					6.81
64.000	0.00	0.01	0.297	O					6.81
64.167	0.00	0.01	0.297	O					6.81
64.333	0.00	0.01	0.297	O					6.81
64.500	0.00	0.01	0.297	O					6.81
64.667	0.00	0.01	0.297	O					6.81
64.833	0.00	0.01	0.297	O					6.80
65.000	0.00	0.01	0.296	O					6.80
65.167	0.00	0.01	0.296	O					6.80
65.333	0.00	0.01	0.296	O					6.80
65.500	0.00	0.01	0.296	O					6.80
65.667	0.00	0.01	0.296	O					6.80
65.833	0.00	0.01	0.296	O					6.80
66.000	0.00	0.01	0.296	O					6.80
66.167	0.00	0.01	0.296	O					6.80
66.333	0.00	0.01	0.296	O					6.80
66.500	0.00	0.01	0.296	O					6.80
66.667	0.00	0.01	0.296	O					6.80
66.833	0.00	0.01	0.295	O					6.80
67.000	0.00	0.01	0.295	O					6.80
67.167	0.00	0.01	0.295	O					6.79
67.333	0.00	0.01	0.295	O					6.79
67.500	0.00	0.01	0.295	O					6.79
67.667	0.00	0.01	0.295	O					6.79
67.833	0.00	0.01	0.295	O					6.79
68.000	0.00	0.01	0.295	O					6.79
68.167	0.00	0.01	0.295	O					6.79
68.333	0.00	0.01	0.295	O					6.79
68.500	0.00	0.01	0.295	O					6.79
68.667	0.00	0.01	0.295	O					6.79
68.833	0.00	0.01	0.294	O					6.79
69.000	0.00	0.01	0.294	O					6.79
69.167	0.00	0.01	0.294	O					6.79
69.333	0.00	0.01	0.294	O					6.79
69.500	0.00	0.01	0.294	O					6.78
69.667	0.00	0.01	0.294	O					6.78
69.833	0.00	0.01	0.294	O					6.78
70.000	0.00	0.01	0.294	O					6.78
70.167	0.00	0.01	0.294	O					6.78
70.333	0.00	0.01	0.294	O					6.78
70.500	0.00	0.01	0.294	O					6.78
70.667	0.00	0.01	0.294	O					6.78
70.833	0.00	0.01	0.293	O					6.78
71.000	0.00	0.01	0.293	O					6.78
71.167	0.00	0.01	0.293	O					6.78
71.333	0.00	0.01	0.293	O					6.78
71.500	0.00	0.01	0.293	O					6.78
71.667	0.00	0.01	0.293	O					6.78
71.833	0.00	0.01	0.293	O					6.77
72.000	0.00	0.01	0.293	O					6.77
72.167	0.00	0.01	0.293	O					6.77
72.333	0.00	0.01	0.293	O					6.77
72.500	0.00	0.01	0.293	O					6.77
72.667	0.00	0.01	0.293	O					6.77
72.833	0.00	0.01	0.292	O					6.77
73.000	0.00	0.01	0.292	O					6.77
73.167	0.00	0.01	0.292	O					6.77

73.333	0.00	0.01	0.292	O					6.77
73.500	0.00	0.01	0.292	O					6.77
73.667	0.00	0.01	0.292	O					6.77
73.833	0.00	0.01	0.292	O					6.77
74.000	0.00	0.01	0.292	O					6.77
74.167	0.00	0.01	0.292	O					6.77
74.333	0.00	0.01	0.292	O					6.76
74.500	0.00	0.01	0.292	O					6.76
74.667	0.00	0.01	0.292	O					6.76
74.833	0.00	0.01	0.292	O					6.76
75.000	0.00	0.01	0.291	O					6.76
75.167	0.00	0.01	0.291	O					6.76
75.333	0.00	0.01	0.291	O					6.76
75.500	0.00	0.01	0.291	O					6.76
75.667	0.00	0.01	0.291	O					6.76
75.833	0.00	0.01	0.291	O					6.76
76.000	0.00	0.01	0.291	O					6.76
76.167	0.00	0.01	0.291	O					6.76
76.333	0.00	0.01	0.291	O					6.76
76.500	0.00	0.01	0.291	O					6.76
76.667	0.00	0.01	0.291	O					6.76
76.833	0.00	0.01	0.291	O					6.75
77.000	0.00	0.01	0.290	O					6.75
77.167	0.00	0.01	0.290	O					6.75
77.333	0.00	0.01	0.290	O					6.75
77.500	0.00	0.01	0.290	O					6.75
77.667	0.00	0.01	0.290	O					6.75
77.833	0.00	0.01	0.290	O					6.75
78.000	0.00	0.01	0.290	O					6.75
78.167	0.00	0.01	0.290	O					6.75
78.333	0.00	0.01	0.290	O					6.75
78.500	0.00	0.01	0.290	O					6.75
78.667	0.00	0.01	0.290	O					6.75
78.833	0.00	0.01	0.290	O					6.75
79.000	0.00	0.01	0.290	O					6.75
79.167	0.00	0.01	0.290	O					6.75
79.333	0.00	0.01	0.289	O					6.75
79.500	0.00	0.01	0.289	O					6.74
79.667	0.00	0.01	0.289	O					6.74
79.833	0.00	0.01	0.289	O					6.74
80.000	0.00	0.01	0.289	O					6.74
80.167	0.00	0.01	0.289	O					6.74
80.333	0.00	0.01	0.289	O					6.74
80.500	0.00	0.01	0.289	O					6.74
80.667	0.00	0.01	0.289	O					6.74
80.833	0.00	0.01	0.289	O					6.74
81.000	0.00	0.01	0.289	O					6.74
81.167	0.00	0.01	0.289	O					6.74
81.333	0.00	0.01	0.289	O					6.74
81.500	0.00	0.01	0.288	O					6.74
81.667	0.00	0.01	0.288	O					6.74
81.833	0.00	0.01	0.288	O					6.74
82.000	0.00	0.01	0.288	O					6.74
82.167	0.00	0.01	0.288	O					6.73
82.333	0.00	0.01	0.288	O					6.73
82.500	0.00	0.01	0.288	O					6.73
82.667	0.00	0.01	0.288	O					6.73

82.833	0.00	0.01	0.288	O					6.73
83.000	0.00	0.01	0.288	O					6.73
83.167	0.00	0.01	0.288	O					6.73
83.333	0.00	0.01	0.288	O					6.73
83.500	0.00	0.01	0.288	O					6.73
83.667	0.00	0.01	0.288	O					6.73
83.833	0.00	0.01	0.287	O					6.73
84.000	0.00	0.01	0.287	O					6.73
84.167	0.00	0.01	0.287	O					6.73
84.333	0.00	0.01	0.287	O					6.73
84.500	0.00	0.01	0.287	O					6.73
84.667	0.00	0.01	0.287	O					6.73
84.833	0.00	0.01	0.287	O					6.73
85.000	0.00	0.01	0.287	O					6.72
85.167	0.00	0.01	0.287	O					6.72
85.333	0.00	0.01	0.287	O					6.72
85.500	0.00	0.01	0.287	O					6.72
85.667	0.00	0.01	0.287	O					6.72
85.833	0.00	0.00	0.287	O					6.72
86.000	0.00	0.00	0.287	O					6.72
86.167	0.00	0.00	0.287	O					6.72
86.333	0.00	0.00	0.286	O					6.72
86.500	0.00	0.00	0.286	O					6.72
86.667	0.00	0.00	0.286	O					6.72
86.833	0.00	0.00	0.286	O					6.72
87.000	0.00	0.00	0.286	O					6.72
87.167	0.00	0.00	0.286	O					6.72
87.333	0.00	0.00	0.286	O					6.72
87.500	0.00	0.00	0.286	O					6.72
87.667	0.00	0.00	0.286	O					6.72
87.833	0.00	0.00	0.286	O					6.72
88.000	0.00	0.00	0.286	O					6.71
88.167	0.00	0.00	0.286	O					6.71
88.333	0.00	0.00	0.286	O					6.71
88.500	0.00	0.00	0.286	O					6.71
88.667	0.00	0.00	0.285	O					6.71
88.833	0.00	0.00	0.285	O					6.71
89.000	0.00	0.00	0.285	O					6.71
89.167	0.00	0.00	0.285	O					6.71
89.333	0.00	0.00	0.285	O					6.71
89.500	0.00	0.00	0.285	O					6.71
89.667	0.00	0.00	0.285	O					6.71
89.833	0.00	0.00	0.285	O					6.71
90.000	0.00	0.00	0.285	O					6.71
90.167	0.00	0.00	0.285	O					6.71
90.333	0.00	0.00	0.285	O					6.71
90.500	0.00	0.00	0.285	O					6.71
90.667	0.00	0.00	0.285	O					6.71
90.833	0.00	0.00	0.285	O					6.71
91.000	0.00	0.00	0.285	O					6.70
91.167	0.00	0.00	0.285	O					6.70
91.333	0.00	0.00	0.284	O					6.70
91.500	0.00	0.00	0.284	O					6.70
91.667	0.00	0.00	0.284	O					6.70
91.833	0.00	0.00	0.284	O					6.70
92.000	0.00	0.00	0.284	O					6.70
92.167	0.00	0.00	0.284	O					6.70

92.333	0.00	0.00	0.284	O					6.70
92.500	0.00	0.00	0.284	O					6.70
92.667	0.00	0.00	0.284	O					6.70
92.833	0.00	0.00	0.284	O					6.70
93.000	0.00	0.00	0.284	O					6.70
93.167	0.00	0.00	0.284	O					6.70
93.333	0.00	0.00	0.284	O					6.70
93.500	0.00	0.00	0.284	O					6.70
93.667	0.00	0.00	0.284	O					6.70
93.833	0.00	0.00	0.283	O					6.70
94.000	0.00	0.00	0.283	O					6.70
94.167	0.00	0.00	0.283	O					6.69
94.333	0.00	0.00	0.283	O					6.69
94.500	0.00	0.00	0.283	O					6.69
94.667	0.00	0.00	0.283	O					6.69
94.833	0.00	0.00	0.283	O					6.69
95.000	0.00	0.00	0.283	O					6.69
95.167	0.00	0.00	0.283	O					6.69
95.333	0.00	0.00	0.283	O					6.69
95.500	0.00	0.00	0.283	O					6.69
95.667	0.00	0.00	0.283	O					6.69
95.833	0.00	0.00	0.283	O					6.69
96.000	0.00	0.00	0.283	O					6.69
96.167	0.00	0.00	0.283	O					6.69
96.333	0.00	0.00	0.283	O					6.69
96.500	0.00	0.00	0.283	O					6.69
96.667	0.00	0.00	0.282	O					6.69
96.833	0.00	0.00	0.282	O					6.69
97.000	0.00	0.00	0.282	O					6.69
97.167	0.00	0.00	0.282	O					6.69
97.333	0.00	0.00	0.282	O					6.69
97.500	0.00	0.00	0.282	O					6.68
97.667	0.00	0.00	0.282	O					6.68
97.833	0.00	0.00	0.282	O					6.68
98.000	0.00	0.00	0.282	O					6.68
98.167	0.00	0.00	0.282	O					6.68
98.333	0.00	0.00	0.282	O					6.68
98.500	0.00	0.00	0.282	O					6.68
98.667	0.00	0.00	0.282	O					6.68
98.833	0.00	0.00	0.282	O					6.68
99.000	0.00	0.00	0.282	O					6.68
99.167	0.00	0.00	0.282	O					6.68
99.333	0.00	0.00	0.282	O					6.68
99.500	0.00	0.00	0.281	O					6.68
99.667	0.00	0.00	0.281	O					6.68
99.833	0.00	0.00	0.281	O					6.68
100.000	0.00	0.00	0.281	O					6.68
100.167	0.00	0.00	0.281	O					6.68
100.333	0.00	0.00	0.281	O					6.68
100.500	0.00	0.00	0.281	O					6.68
100.667	0.00	0.00	0.281	O					6.68
100.833	0.00	0.00	0.281	O					6.67
101.000	0.00	0.00	0.281	O					6.67
101.167	0.00	0.00	0.281	O					6.67
101.333	0.00	0.00	0.281	O					6.67
101.500	0.00	0.00	0.281	O					6.67
101.667	0.00	0.00	0.281	O					6.67

101.833	0.00	0.00	0.281	O					6.67
102.000	0.00	0.00	0.281	O					6.67
102.167	0.00	0.00	0.281	O					6.67
102.333	0.00	0.00	0.280	O					6.67
102.500	0.00	0.00	0.280	O					6.67
102.667	0.00	0.00	0.280	O					6.67
102.833	0.00	0.00	0.280	O					6.67
103.000	0.00	0.00	0.280	O					6.67
103.167	0.00	0.00	0.280	O					6.67
103.333	0.00	0.00	0.280	O					6.67
103.500	0.00	0.00	0.280	O					6.67
103.667	0.00	0.00	0.280	O					6.67
103.833	0.00	0.00	0.280	O					6.67
104.000	0.00	0.00	0.280	O					6.67
104.167	0.00	0.00	0.280	O					6.67
104.333	0.00	0.00	0.280	O					6.67
104.500	0.00	0.00	0.280	O					6.66
104.667	0.00	0.00	0.280	O					6.66
104.833	0.00	0.00	0.280	O					6.66
105.000	0.00	0.00	0.280	O					6.66
105.167	0.00	0.00	0.280	O					6.66
105.333	0.00	0.00	0.279	O					6.66
105.500	0.00	0.00	0.279	O					6.66
105.667	0.00	0.00	0.279	O					6.66
105.833	0.00	0.00	0.279	O					6.66
106.000	0.00	0.00	0.279	O					6.66
106.167	0.00	0.00	0.279	O					6.66
106.333	0.00	0.00	0.279	O					6.66
106.500	0.00	0.00	0.279	O					6.66
106.667	0.00	0.00	0.279	O					6.66
106.833	0.00	0.00	0.279	O					6.66
107.000	0.00	0.00	0.279	O					6.66
107.167	0.00	0.00	0.279	O					6.66
107.333	0.00	0.00	0.279	O					6.66
107.500	0.00	0.00	0.279	O					6.66
107.667	0.00	0.00	0.279	O					6.66
107.833	0.00	0.00	0.279	O					6.66
108.000	0.00	0.00	0.279	O					6.66
108.167	0.00	0.00	0.279	O					6.65
108.333	0.00	0.00	0.279	O					6.65
108.500	0.00	0.00	0.278	O					6.65
108.667	0.00	0.00	0.278	O					6.65
108.833	0.00	0.00	0.278	O					6.65
109.000	0.00	0.00	0.278	O					6.65
109.167	0.00	0.00	0.278	O					6.65
109.333	0.00	0.00	0.278	O					6.65
109.500	0.00	0.00	0.278	O					6.65
109.667	0.00	0.00	0.278	O					6.65
109.833	0.00	0.00	0.278	O					6.65
110.000	0.00	0.00	0.278	O					6.65
110.167	0.00	0.00	0.278	O					6.65
110.333	0.00	0.00	0.278	O					6.65
110.500	0.00	0.00	0.278	O					6.65
110.667	0.00	0.00	0.278	O					6.65
110.833	0.00	0.00	0.278	O					6.65
111.000	0.00	0.00	0.278	O					6.65
111.167	0.00	0.00	0.278	O					6.65

111.333	0.00	0.00	0.278	O					6.65
111.500	0.00	0.00	0.278	O					6.65
111.667	0.00	0.00	0.278	O					6.65
111.833	0.00	0.00	0.277	O					6.65
112.000	0.00	0.00	0.277	O					6.65
112.167	0.00	0.00	0.277	O					6.64
112.333	0.00	0.00	0.277	O					6.64
112.500	0.00	0.00	0.277	O					6.64
112.667	0.00	0.00	0.277	O					6.64
112.833	0.00	0.00	0.277	O					6.64
113.000	0.00	0.00	0.277	O					6.64
113.167	0.00	0.00	0.277	O					6.64
113.333	0.00	0.00	0.277	O					6.64
113.500	0.00	0.00	0.277	O					6.64
113.667	0.00	0.00	0.277	O					6.64
113.833	0.00	0.00	0.277	O					6.64
114.000	0.00	0.00	0.277	O					6.64
114.167	0.00	0.00	0.277	O					6.64
114.333	0.00	0.00	0.277	O					6.64
114.500	0.00	0.00	0.277	O					6.64
114.667	0.00	0.00	0.277	O					6.64
114.833	0.00	0.00	0.277	O					6.64
115.000	0.00	0.00	0.277	O					6.64
115.167	0.00	0.00	0.276	O					6.64
115.333	0.00	0.00	0.276	O					6.64
115.500	0.00	0.00	0.276	O					6.64
115.667	0.00	0.00	0.276	O					6.64
115.833	0.00	0.00	0.276	O					6.64
116.000	0.00	0.00	0.276	O					6.64
116.167	0.00	0.00	0.276	O					6.64
116.333	0.00	0.00	0.276	O					6.63
116.500	0.00	0.00	0.276	O					6.63
116.667	0.00	0.00	0.276	O					6.63
116.833	0.00	0.00	0.276	O					6.63
117.000	0.00	0.00	0.276	O					6.63
117.167	0.00	0.00	0.276	O					6.63
117.333	0.00	0.00	0.276	O					6.63
117.500	0.00	0.00	0.276	O					6.63
117.667	0.00	0.00	0.276	O					6.63
117.833	0.00	0.00	0.276	O					6.63
118.000	0.00	0.00	0.276	O					6.63
118.167	0.00	0.00	0.276	O					6.63
118.333	0.00	0.00	0.276	O					6.63
118.500	0.00	0.00	0.276	O					6.63
118.667	0.00	0.00	0.276	O					6.63
118.833	0.00	0.00	0.275	O					6.63
119.000	0.00	0.00	0.275	O					6.63
119.167	0.00	0.00	0.275	O					6.63
119.333	0.00	0.00	0.275	O					6.63
119.500	0.00	0.00	0.275	O					6.63
119.667	0.00	0.00	0.275	O					6.63
119.833	0.00	0.00	0.275	O					6.63
120.000	0.00	0.00	0.275	O					6.63
120.167	0.00	0.00	0.275	O					6.63
120.333	0.00	0.00	0.275	O					6.63
120.500	0.00	0.00	0.275	O					6.63
120.667	0.00	0.00	0.275	O					6.62

120.833	0.00	0.00	0.275	O					6.62
121.000	0.00	0.00	0.275	O					6.62
121.167	0.00	0.00	0.275	O					6.62
121.333	0.00	0.00	0.275	O					6.62
121.500	0.00	0.00	0.275	O					6.62
121.667	0.00	0.00	0.275	O					6.62
121.833	0.00	0.00	0.275	O					6.62
122.000	0.00	0.00	0.275	O					6.62
122.167	0.00	0.00	0.275	O					6.62
122.333	0.00	0.00	0.275	O					6.62
122.500	0.00	0.00	0.274	O					6.62
122.667	0.00	0.00	0.274	O					6.62
122.833	0.00	0.00	0.274	O					6.62
123.000	0.00	0.00	0.274	O					6.62
123.167	0.00	0.00	0.274	O					6.62
123.333	0.00	0.00	0.274	O					6.62
123.500	0.00	0.00	0.274	O					6.62
123.667	0.00	0.00	0.274	O					6.62
123.833	0.00	0.00	0.274	O					6.62
124.000	0.00	0.00	0.274	O					6.62
124.167	0.00	0.00	0.274	O					6.62
124.333	0.00	0.00	0.274	O					6.62
124.500	0.00	0.00	0.274	O					6.62
124.667	0.00	0.00	0.274	O					6.62
124.833	0.00	0.00	0.274	O					6.62
125.000	0.00	0.00	0.274	O					6.62
125.167	0.00	0.00	0.274	O					6.61
125.333	0.00	0.00	0.274	O					6.61
125.500	0.00	0.00	0.274	O					6.61
125.667	0.00	0.00	0.274	O					6.61
125.833	0.00	0.00	0.274	O					6.61
126.000	0.00	0.00	0.274	O					6.61
126.167	0.00	0.00	0.274	O					6.61
126.333	0.00	0.00	0.273	O					6.61
126.500	0.00	0.00	0.273	O					6.61
126.667	0.00	0.00	0.273	O					6.61
126.833	0.00	0.00	0.273	O					6.61
127.000	0.00	0.00	0.273	O					6.61
127.167	0.00	0.00	0.273	O					6.61
127.333	0.00	0.00	0.273	O					6.61
127.500	0.00	0.00	0.273	O					6.61
127.667	0.00	0.00	0.273	O					6.61
127.833	0.00	0.00	0.273	O					6.61
128.000	0.00	0.00	0.273	O					6.61
128.167	0.00	0.00	0.273	O					6.61
128.333	0.00	0.00	0.273	O					6.61
128.500	0.00	0.00	0.273	O					6.61
128.667	0.00	0.00	0.273	O					6.61
128.833	0.00	0.00	0.273	O					6.61
129.000	0.00	0.00	0.273	O					6.61
129.167	0.00	0.00	0.273	O					6.61
129.333	0.00	0.00	0.273	O					6.61
129.500	0.00	0.00	0.273	O					6.61
129.667	0.00	0.00	0.273	O					6.61
129.833	0.00	0.00	0.273	O					6.61
130.000	0.00	0.00	0.273	O					6.60
130.167	0.00	0.00	0.273	O					6.60

130.333	0.00	0.00	0.273	O					6.60
130.500	0.00	0.00	0.272	O					6.60
130.667	0.00	0.00	0.272	O					6.60
130.833	0.00	0.00	0.272	O					6.60
131.000	0.00	0.00	0.272	O					6.60
131.167	0.00	0.00	0.272	O					6.60
131.333	0.00	0.00	0.272	O					6.60
131.500	0.00	0.00	0.272	O					6.60
131.667	0.00	0.00	0.272	O					6.60
131.833	0.00	0.00	0.272	O					6.60
132.000	0.00	0.00	0.272	O					6.60
132.167	0.00	0.00	0.272	O					6.60
132.333	0.00	0.00	0.272	O					6.60
132.500	0.00	0.00	0.272	O					6.60
132.667	0.00	0.00	0.272	O					6.60
132.833	0.00	0.00	0.272	O					6.60
133.000	0.00	0.00	0.272	O					6.60
133.167	0.00	0.00	0.272	O					6.60
133.333	0.00	0.00	0.272	O					6.60
133.500	0.00	0.00	0.272	O					6.60
133.667	0.00	0.00	0.272	O					6.60
133.833	0.00	0.00	0.272	O					6.60
134.000	0.00	0.00	0.272	O					6.60
134.167	0.00	0.00	0.272	O					6.60
134.333	0.00	0.00	0.272	O					6.60
134.500	0.00	0.00	0.272	O					6.60
134.667	0.00	0.00	0.272	O					6.60
134.833	0.00	0.00	0.271	O					6.60
135.000	0.00	0.00	0.271	O					6.60
135.167	0.00	0.00	0.271	O					6.60
135.333	0.00	0.00	0.271	O					6.59
135.500	0.00	0.00	0.271	O					6.59
135.667	0.00	0.00	0.271	O					6.59
135.833	0.00	0.00	0.271	O					6.59
136.000	0.00	0.00	0.271	O					6.59
136.167	0.00	0.00	0.271	O					6.59
136.333	0.00	0.00	0.271	O					6.59
136.500	0.00	0.00	0.271	O					6.59
136.667	0.00	0.00	0.271	O					6.59
136.833	0.00	0.00	0.271	O					6.59
137.000	0.00	0.00	0.271	O					6.59
137.167	0.00	0.00	0.271	O					6.59
137.333	0.00	0.00	0.271	O					6.59
137.500	0.00	0.00	0.271	O					6.59
137.667	0.00	0.00	0.271	O					6.59
137.833	0.00	0.00	0.271	O					6.59
138.000	0.00	0.00	0.271	O					6.59
138.167	0.00	0.00	0.271	O					6.59
138.333	0.00	0.00	0.271	O					6.59
138.500	0.00	0.00	0.271	O					6.59
138.667	0.00	0.00	0.271	O					6.59
138.833	0.00	0.00	0.271	O					6.59
139.000	0.00	0.00	0.271	O					6.59
139.167	0.00	0.00	0.271	O					6.59
139.333	0.00	0.00	0.270	O					6.59
139.500	0.00	0.00	0.270	O					6.59
139.667	0.00	0.00	0.270	O					6.59

139.833	0.00	0.00	0.270	O					6.59
140.000	0.00	0.00	0.270	O					6.59
140.167	0.00	0.00	0.270	O					6.59
140.333	0.00	0.00	0.270	O					6.59
140.500	0.00	0.00	0.270	O					6.59
140.667	0.00	0.00	0.270	O					6.59
140.833	0.00	0.00	0.270	O					6.58
141.000	0.00	0.00	0.270	O					6.58
141.167	0.00	0.00	0.270	O					6.58
141.333	0.00	0.00	0.270	O					6.58
141.500	0.00	0.00	0.270	O					6.58
141.667	0.00	0.00	0.270	O					6.58
141.833	0.00	0.00	0.270	O					6.58
142.000	0.00	0.00	0.270	O					6.58
142.167	0.00	0.00	0.270	O					6.58
142.333	0.00	0.00	0.270	O					6.58
142.500	0.00	0.00	0.270	O					6.58
142.667	0.00	0.00	0.270	O					6.58
142.833	0.00	0.00	0.270	O					6.58
143.000	0.00	0.00	0.270	O					6.58
143.167	0.00	0.00	0.270	O					6.58
143.333	0.00	0.00	0.270	O					6.58
143.500	0.00	0.00	0.270	O					6.58
143.667	0.00	0.00	0.270	O					6.58
143.833	0.00	0.00	0.270	O					6.58
144.000	0.00	0.00	0.270	O					6.58
144.167	0.00	0.00	0.269	O					6.58
144.333	0.00	0.00	0.269	O					6.58
144.500	0.00	0.00	0.269	O					6.58
144.667	0.00	0.00	0.269	O					6.58
144.833	0.00	0.00	0.269	O					6.58
145.000	0.00	0.00	0.269	O					6.58
145.167	0.00	0.00	0.269	O					6.58
145.333	0.00	0.00	0.269	O					6.58
145.500	0.00	0.00	0.269	O					6.58
145.667	0.00	0.00	0.269	O					6.58
145.833	0.00	0.00	0.269	O					6.58
146.000	0.00	0.00	0.269	O					6.58
146.167	0.00	0.00	0.269	O					6.58
146.333	0.00	0.00	0.269	O					6.58
146.500	0.00	0.00	0.269	O					6.58
146.667	0.00	0.00	0.269	O					6.58
146.833	0.00	0.00	0.269	O					6.57
147.000	0.00	0.00	0.269	O					6.57
147.167	0.00	0.00	0.269	O					6.57
147.333	0.00	0.00	0.269	O					6.57
147.500	0.00	0.00	0.269	O					6.57
147.667	0.00	0.00	0.269	O					6.57
147.833	0.00	0.00	0.269	O					6.57
148.000	0.00	0.00	0.269	O					6.57
148.167	0.00	0.00	0.269	O					6.57
148.333	0.00	0.00	0.269	O					6.57
148.500	0.00	0.00	0.269	O					6.57
148.667	0.00	0.00	0.269	O					6.57
148.833	0.00	0.00	0.269	O					6.57
149.000	0.00	0.00	0.269	O					6.57
149.167	0.00	0.00	0.269	O					6.57

158.833	0.00	0.00	0.267	O					6.56
159.000	0.00	0.00	0.267	O					6.56
159.167	0.00	0.00	0.267	O					6.56
159.333	0.00	0.00	0.267	O					6.56
159.500	0.00	0.00	0.267	O					6.56
159.667	0.00	0.00	0.267	O					6.56
159.833	0.00	0.00	0.267	O					6.56
160.000	0.00	0.00	0.267	O					6.56
160.167	0.00	0.00	0.267	O					6.55
160.333	0.00	0.00	0.267	O					6.55
160.500	0.00	0.00	0.267	O					6.55
160.667	0.00	0.00	0.267	O					6.55
160.833	0.00	0.00	0.266	O					6.55
161.000	0.00	0.00	0.266	O					6.55
161.167	0.00	0.00	0.266	O					6.55
161.333	0.00	0.00	0.266	O					6.55
161.500	0.00	0.00	0.266	O					6.55
161.667	0.00	0.00	0.266	O					6.55
161.833	0.00	0.00	0.266	O					6.55
162.000	0.00	0.00	0.266	O					6.55
162.167	0.00	0.00	0.266	O					6.55
162.333	0.00	0.00	0.266	O					6.55
162.500	0.00	0.00	0.266	O					6.55
162.667	0.00	0.00	0.266	O					6.55
162.833	0.00	0.00	0.266	O					6.55
163.000	0.00	0.00	0.266	O					6.55
163.167	0.00	0.00	0.266	O					6.55
163.333	0.00	0.00	0.266	O					6.55
163.500	0.00	0.00	0.266	O					6.55
163.667	0.00	0.00	0.266	O					6.55
163.833	0.00	0.00	0.266	O					6.55
164.000	0.00	0.00	0.266	O					6.55
164.167	0.00	0.00	0.266	O					6.55
164.333	0.00	0.00	0.266	O					6.55
164.500	0.00	0.00	0.266	O					6.55
164.667	0.00	0.00	0.266	O					6.55
164.833	0.00	0.00	0.266	O					6.55
165.000	0.00	0.00	0.266	O					6.55
165.167	0.00	0.00	0.266	O					6.55
165.333	0.00	0.00	0.266	O					6.55
165.500	0.00	0.00	0.266	O					6.55
165.667	0.00	0.00	0.266	O					6.55
165.833	0.00	0.00	0.266	O					6.55
166.000	0.00	0.00	0.266	O					6.55
166.167	0.00	0.00	0.266	O					6.55
166.333	0.00	0.00	0.266	O					6.55
166.500	0.00	0.00	0.266	O					6.55
166.667	0.00	0.00	0.266	O					6.55
166.833	0.00	0.00	0.266	O					6.55
167.000	0.00	0.00	0.266	O					6.55
167.167	0.00	0.00	0.265	O					6.55
167.333	0.00	0.00	0.265	O					6.55
167.500	0.00	0.00	0.265	O					6.55
167.667	0.00	0.00	0.265	O					6.55
167.833	0.00	0.00	0.265	O					6.54
168.000	0.00	0.00	0.265	O					6.54
168.167	0.00	0.00	0.265	O					6.54

168.333	0.00	0.00	0.265	O					6.54
168.500	0.00	0.00	0.265	O					6.54
168.667	0.00	0.00	0.265	O					6.54
168.833	0.00	0.00	0.265	O					6.54
169.000	0.00	0.00	0.265	O					6.54
169.167	0.00	0.00	0.265	O					6.54
169.333	0.00	0.00	0.265	O					6.54
169.500	0.00	0.00	0.265	O					6.54
169.667	0.00	0.00	0.265	O					6.54
169.833	0.00	0.00	0.265	O					6.54
170.000	0.00	0.00	0.265	O					6.54
170.167	0.00	0.00	0.265	O					6.54
170.333	0.00	0.00	0.265	O					6.54
170.500	0.00	0.00	0.265	O					6.54
170.667	0.00	0.00	0.265	O					6.54
170.833	0.00	0.00	0.265	O					6.54
171.000	0.00	0.00	0.265	O					6.54
171.167	0.00	0.00	0.265	O					6.54
171.333	0.00	0.00	0.265	O					6.54
171.500	0.00	0.00	0.265	O					6.54
171.667	0.00	0.00	0.265	O					6.54
171.833	0.00	0.00	0.265	O					6.54
172.000	0.00	0.00	0.265	O					6.54
172.167	0.00	0.00	0.265	O					6.54
172.333	0.00	0.00	0.265	O					6.54
172.500	0.00	0.00	0.265	O					6.54
172.667	0.00	0.00	0.265	O					6.54
172.833	0.00	0.00	0.265	O					6.54
173.000	0.00	0.00	0.265	O					6.54
173.167	0.00	0.00	0.265	O					6.54
173.333	0.00	0.00	0.265	O					6.54
173.500	0.00	0.00	0.265	O					6.54
173.667	0.00	0.00	0.265	O					6.54
173.833	0.00	0.00	0.265	O					6.54
174.000	0.00	0.00	0.264	O					6.54
174.167	0.00	0.00	0.264	O					6.54
174.333	0.00	0.00	0.264	O					6.54
174.500	0.00	0.00	0.264	O					6.54
174.667	0.00	0.00	0.264	O					6.54
174.833	0.00	0.00	0.264	O					6.54
175.000	0.00	0.00	0.264	O					6.54
175.167	0.00	0.00	0.264	O					6.54
175.333	0.00	0.00	0.264	O					6.54
175.500	0.00	0.00	0.264	O					6.54
175.667	0.00	0.00	0.264	O					6.54
175.833	0.00	0.00	0.264	O					6.54
176.000	0.00	0.00	0.264	O					6.54
176.167	0.00	0.00	0.264	O					6.54
176.333	0.00	0.00	0.264	O					6.53
176.500	0.00	0.00	0.264	O					6.53
176.667	0.00	0.00	0.264	O					6.53
176.833	0.00	0.00	0.264	O					6.53
177.000	0.00	0.00	0.264	O					6.53
177.167	0.00	0.00	0.264	O					6.53
177.333	0.00	0.00	0.264	O					6.53
177.500	0.00	0.00	0.264	O					6.53
177.667	0.00	0.00	0.264	O					6.53

177.833	0.00	0.00	0.264	O					6.53
178.000	0.00	0.00	0.264	O					6.53
178.167	0.00	0.00	0.264	O					6.53
178.333	0.00	0.00	0.264	O					6.53
178.500	0.00	0.00	0.264	O					6.53
178.667	0.00	0.00	0.264	O					6.53
178.833	0.00	0.00	0.264	O					6.53
179.000	0.00	0.00	0.264	O					6.53
179.167	0.00	0.00	0.264	O					6.53
179.333	0.00	0.00	0.264	O					6.53
179.500	0.00	0.00	0.264	O					6.53
179.667	0.00	0.00	0.264	O					6.53
179.833	0.00	0.00	0.264	O					6.53
180.000	0.00	0.00	0.264	O					6.53
180.167	0.00	0.00	0.264	O					6.53
180.333	0.00	0.00	0.264	O					6.53
180.500	0.00	0.00	0.264	O					6.53
180.667	0.00	0.00	0.264	O					6.53
180.833	0.00	0.00	0.264	O					6.53
181.000	0.00	0.00	0.264	O					6.53
181.167	0.00	0.00	0.264	O					6.53
181.333	0.00	0.00	0.264	O					6.53
181.500	0.00	0.00	0.264	O					6.53
181.667	0.00	0.00	0.263	O					6.53
181.833	0.00	0.00	0.263	O					6.53
182.000	0.00	0.00	0.263	O					6.53
182.167	0.00	0.00	0.263	O					6.53
182.333	0.00	0.00	0.263	O					6.53
182.500	0.00	0.00	0.263	O					6.53
182.667	0.00	0.00	0.263	O					6.53
182.833	0.00	0.00	0.263	O					6.53
183.000	0.00	0.00	0.263	O					6.53
183.167	0.00	0.00	0.263	O					6.53
183.333	0.00	0.00	0.263	O					6.53
183.500	0.00	0.00	0.263	O					6.53
183.667	0.00	0.00	0.263	O					6.53
183.833	0.00	0.00	0.263	O					6.53
184.000	0.00	0.00	0.263	O					6.53
184.167	0.00	0.00	0.263	O					6.53
184.333	0.00	0.00	0.263	O					6.53
184.500	0.00	0.00	0.263	O					6.53
184.667	0.00	0.00	0.263	O					6.53
184.833	0.00	0.00	0.263	O					6.53
185.000	0.00	0.00	0.263	O					6.53
185.167	0.00	0.00	0.263	O					6.53
185.333	0.00	0.00	0.263	O					6.53
185.500	0.00	0.00	0.263	O					6.53
185.667	0.00	0.00	0.263	O					6.52
185.833	0.00	0.00	0.263	O					6.52
186.000	0.00	0.00	0.263	O					6.52
186.167	0.00	0.00	0.263	O					6.52
186.333	0.00	0.00	0.263	O					6.52
186.500	0.00	0.00	0.263	O					6.52
186.667	0.00	0.00	0.263	O					6.52
186.833	0.00	0.00	0.263	O					6.52
187.000	0.00								

196.833	0.00	0.00	0.262	O					6.51
197.000	0.00	0.00	0.262	O					6.51
197.167	0.00	0.00	0.262	O					6.51
197.333	0.00	0.00	0.262	O					6.51
197.500	0.00	0.00	0.262	O					6.51
197.667	0.00	0.00	0.262	O					6.51
197.833	0.00	0.00	0.262	O					6.51
198.000	0.00	0.00	0.262	O					6.51
198.167	0.00	0.00	0.262	O					6.51
198.333	0.00	0.00	0.262	O					6.51
198.500	0.00	0.00	0.262	O					6.51
198.667	0.00	0.00	0.262	O					6.51
198.833	0.00	0.00	0.262	O					6.51
199.000	0.00	0.00	0.262	O					6.51
199.167	0.00	0.00	0.262	O					6.51
199.333	0.00	0.00	0.261	O					6.51
199.500	0.00	0.00	0.261	O					6.51
199.667	0.00	0.00	0.261	O					6.51
199.833	0.00	0.00	0.261	O					6.51
200.000	0.00	0.00	0.261	O					6.51
200.167	0.00	0.00	0.261	O					6.51
200.333	0.00	0.00	0.261	O					6.51
200.500	0.00	0.00	0.261	O					6.51
200.667	0.00	0.00	0.261	O					6.51
200.833	0.00	0.00	0.261	O					6.51
201.000	0.00	0.00	0.261	O					6.51
201.167	0.00	0.00	0.261	O					6.51
201.333	0.00	0.00	0.261	O					6.51
201.500	0.00	0.00	0.261	O					6.51
201.667	0.00	0.00	0.261	O					6.51
201.833	0.00	0.00	0.261	O					6.51
202.000	0.00	0.00	0.261	O					6.51
202.167	0.00	0.00	0.261	O					6.51
202.333	0.00	0.00	0.261	O					6.51
202.500	0.00	0.00	0.261	O					6.51
202.667	0.00	0.00	0.261	O					6.51
202.833	0.00	0.00	0.261	O					6.51
203.000	0.00	0.00	0.261	O					6.51
203.167	0.00	0.00	0.261	O					6.51
203.333	0.00	0.00	0.261	O					6.51
203.500	0.00	0.00	0.261	O					6.51
203.667	0.00	0.00	0.261	O					6.51
203.833	0.00	0.00	0.261	O					6.51
204.000	0.00	0.00	0.261	O					6.51
204.167	0.00	0.00	0.261	O					6.51
204.333	0.00	0.00	0.261	O					6.51
204.500	0.00	0.00	0.261	O					6.51
204.667	0.00	0.00	0.261	O					6.51
204.833	0.00	0.00	0.261	O					6.51
205.000	0.00	0.00	0.261	O					6.51
205.167	0.00	0.00	0.261	O					6.51
205.333	0.00	0.00	0.261	O					6.51
205.500	0.00	0.00	0.261	O					6.51
205.667	0.00	0.00	0.261	O					6.51
205.833	0.00	0.00	0.261	O					6.51
206.000	0.00	0.00	0.261	O					6.51
206.167	0.00	0.00	0.261	O					6.51

206.333	0.00	0.00	0.261	0					6.51
206.500	0.00	0.00	0.261	0					6.51
206.667	0.00	0.00	0.261	0					6.51
206.833	0.00	0.00	0.261	0					6.51
207.000	0.00	0.00	0.261	0					6.51
207.167	0.00	0.00	0.261	0					6.51
207.333	0.00	0.00	0.261	0					6.51
207.500	0.00	0.00	0.261	0					6.51
207.667	0.00	0.00	0.261	0					6.51
207.833	0.00	0.00	0.261	0					6.51
208.000	0.00	0.00	0.261	0					6.51
208.167	0.00	0.00	0.261	0					6.51
208.333	0.00	0.00	0.261	0					6.51
208.500	0.00	0.00	0.261	0					6.51
208.667	0.00	0.00	0.261	0					6.50
208.833	0.00	0.00	0.261	0					6.50
209.000	0.00	0.00	0.261	0					6.50
209.167	0.00	0.00	0.261	0					6.50
209.333	0.00	0.00	0.261	0					6.50
209.500	0.00	0.00	0.261	0					6.50
209.667	0.00	0.00	0.261	0					6.50
209.833	0.00	0.00	0.260	0					6.50
210.000	0.00	0.00	0.260	0					6.50
210.167	0.00	0.00	0.260	0					6.50
210.333	0.00	0.00	0.260	0					6.50
210.500	0.00	0.00	0.260	0					6.50
210.667	0.00	0.00	0.260	0					6.50
210.833	0.00	0.00	0.260	0					6.50
211.000	0.00	0.00	0.260	0					6.50
211.167	0.00	0.00	0.260	0					6.50
211.333	0.00	0.00	0.260	0					6.50
211.500	0.00	0.00	0.260	0					6.50
211.667	0.00	0.00	0.260	0					6.50
211.833	0.00	0.00	0.260	0					6.50
212.000	0.00	0.00	0.260	0					6.50
212.167	0.00	0.00	0.260	0					6.50
212.333	0.00	0.00	0.260	0					6.50
212.500	0.00	0.00	0.260	0					6.50
212.667	0.00	0.00	0.260	0					6.50
212.833	0.00	0.00	0.260	0					6.50
213.000	0.00	0.00	0.260	0					6.50
213.167	0.00	0.00	0.260	0					6.50
213.333	0.00	0.00	0.260	0					6.50
213.500	0.00	0.00	0.260	0					6.50
213.667	0.00	0.00	0.260	0					6.50
213.833	0.00	0.00	0.260	0					6.50
214.000	0.00	0.00	0.260	0					6.50
214.167	0.00	0.00	0.260	0					6.50
214.333	0.00	0.00	0.260	0					6.50
214.500	0.00	0.00	0.260	0					6.50
214.667	0.00	0.00	0.260	0					6.50
214.833	0.00	0.00	0.260	0					

Remaining water in basin = 0.26 (Ac.Ft)

*****HYDROGRAPH DATA*****

Number of intervals = 1294
 Time interval = 10.0 (Min.)
 Maximum/Peak flow rate = 2.602 (CFS)
 Total volume = 0.534 (Ac.Ft)
 Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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Process from Point/Station 2.000 to Point/Station 3.000

**** STREAM ROUTING SCS CONVEX METHOD ****

HYDROGRAPH STREAM ROUTING DATA:

Length of stream = 1265.00 (Ft.)
 Elevation difference = 52.00 (Ft.)
 Slope of channel = 0.041107 (Vert/Horiz)
 Channel type - Pipe

Pipe length = 1265.00(Ft.) Elevation difference = 52.00(Ft.)
 Manning's N = 0.013 No. of pipes = 1
 Pipe evaluation using mean flow rate of hydrograph
 Required pipe flow = 0.095(CFS)
 Nearest computed pipe diameter = 3.00(In.)
 Calculated individual pipe flow = 0.095(CFS)
 Normal flow depth in pipe = 1.55(In.)
 Flow top width inside pipe = 3.00(In.)
 Critical Depth = 0.19(Ft.)
 Pipe flow velocity = 3.70(Ft/s)
 Travel time through pipe = 5.70 min.

Pipe length = 1265.00(Ft.) Elevation difference = 52.00(Ft.)
 Manning's N = 0.013 No. of pipes = 1
 Pipe evaluation using maximum flow rate of hydrograph
 Required pipe flow = 2.602(CFS)
 Nearest computed pipe diameter = 9.00(In.)
 Calculated individual pipe flow = 2.602(CFS)
 Normal flow depth in pipe = 5.95(In.)
 Flow top width inside pipe = 8.52(In.)
 Critical Depth = 0.70(Ft.)
 Pipe flow velocity = 8.39(Ft/s)
 Travel time through pipe = 2.51 min.

***** SCS CONVEX CHANNEL ROUTING *****

Convex method of stream routing data items:

Using equation: Outflow =

$$O(t+dt) = (1-c^*)O(t+dt-dt^*) + \text{Input}(c^*)$$

where $c^* = 1 - (1-c)^e$ and $dt = c(\text{length})/\text{velocity}$

$$c(v/v+1.7) = 0.8315 \quad \text{Travel time} = 2.51 \text{ (min.)}$$

$$dt^*(\text{unit time interval}) = 10.00 \text{ (min.)}, \quad e = 3.5226$$

$$dt(\text{routing time-step}) = 2.09 \text{ (min.)}, \quad c^* = 0.9981$$

Output hydrograph delayed by 0 unit time increments

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P R I N T O F S T O R M

R u n o f f H y d r o g r a p h

Hydrograph in 10 Minute intervals (CFS)

Time(h+m)	Out = O(CFS)	In = I	0	0.7	1.3	2.0	2.6
0+10	0.0000	0.00	O				
0+20	0.0001	0.00	O				
0+30	0.0001	0.00	O				
0+40	0.0002	0.00	O				
0+50	0.0003	0.00	O				
1+ 0	0.0004	0.00	O				
1+10	0.0005	0.00	O				
1+20	0.0006	0.00	O				
1+30	0.0007	0.00	O				
1+40	0.0008	0.00	O				
1+50	0.0009	0.00	O				
2+ 0	0.0010	0.00	O				
2+10	0.0010	0.00	O				
2+20	0.0010	0.00	O				
2+30	0.0010	0.00	O				
2+40	0.0010	0.00	O				
2+50	0.0010	0.00	O				
3+ 0	0.0010	0.00	O				
3+10	0.0010	0.00	O				
3+20	0.0010	0.00	O				
3+30	0.0010	0.00	O				
3+40	0.0010	0.00	O				
3+50	0.0010	0.00	O				
4+ 0	0.0010	0.00	O				
4+10	0.0010	0.00	O				
4+20	0.0010	0.00	O				
4+30	0.0010	0.00	O				
4+40	0.0010	0.00	O				
4+50	0.0010	0.00	O				
5+ 0	0.0010	0.00	O				
5+10	0.0010	0.00	O				
5+20	0.0010	0.00	O				
5+30	0.0010	0.00	O				
5+40	0.0010	0.00	O				
5+50	0.0010	0.00	O				
6+ 0	0.0010	0.00	O				
6+10	0.0010	0.00	O				

6+20	0.0010	0.00	o				
6+30	0.0010	0.00	o				
6+40	0.0010	0.00	o				
6+50	0.0010	0.00	o				
7+ 0	0.0010	0.00	o				
7+10	0.0010	0.00	o				
7+20	0.0010	0.00	o				
7+30	0.0010	0.00	o				
7+40	0.0010	0.00	o				
7+50	0.0010	0.00	o				
8+ 0	0.0010	0.00	o				
8+10	0.0010	0.00	o				
8+20	0.0010	0.00	o				
8+30	0.0010	0.00	o				
8+40	0.0010	0.00	o				
8+50	0.0010	0.00	o				
9+ 0	0.0010	0.00	o				
9+10	0.0010	0.00	o				
9+20	0.0010	0.00	o				
9+30	0.0010	0.00	o				
9+40	0.0010	0.00	o				
9+50	0.0010	0.00	o				
10+ 0	0.0010	0.00	o				
10+10	0.0010	0.00	o				
10+20	0.0010	0.00	o				
10+30	0.0010	0.00	o				
10+40	0.0010	0.00	o				
10+50	0.0010	0.00	o				
11+ 0	0.0010	0.00	o				
11+10	0.0010	0.00	o				
11+20	0.0010	0.00	o				
11+30	0.0010	0.00	o				
11+40	0.0010	0.00	o				
11+50	0.0010	0.00	o				
12+ 0	0.0010	0.00	o				
12+10	0.0010	0.00	o				
12+20	0.0012	0.00	o				
12+30	0.0018	0.00	o				
12+40	0.0026	0.00	o				
12+50	0.0035	0.00	o				
13+ 0	0.0043	0.00	o				
13+10	0.0052	0.01	o				
13+20	0.0061	0.01	o				
13+30	0.0070	0.01	o				
13+40	0.0079	0.01	o				
13+50	0.0089	0.01	o				
14+ 0	0.0130	0.01	o				
14+10	0.0498	0.06	o				
14+20	0.0935	0.10	o				
14+30	0.1356	0.14	o				
14+40	0.1764	0.18	o				
14+50	0.2164	0.22	o				
15+ 0	0.2565	0.26	OI				
15+10	0.2971	0.31	o				
15+20	0.3395	0.35	o				
15+30	0.3830	0.39	OI				
15+40	0.4272	0.44	o				

25+20	0.1323	0.13	IO				
25+30	0.1204	0.12	O				
25+40	0.1096	0.11	O				
25+50	0.0997	0.10	O				
26+ 0	0.0907	0.09	O				
26+10	0.0825	0.08	O				
26+20	0.0751	0.07	O				
26+30	0.0684	0.07	O				
26+40	0.0622	0.06	O				
26+50	0.0566	0.06	O				
27+ 0	0.0515	0.05	O				
27+10	0.0469	0.05	O				
27+20	0.0426	0.04	O				
27+30	0.0388	0.04	O				
27+40	0.0353	0.03	O				
27+50	0.0321	0.03	O				
28+ 0	0.0292	0.03	O				
28+10	0.0266	0.03	O				
28+20	0.0242	0.02	O				
28+30	0.0220	0.02	O				
28+40	0.0200	0.02	O				
28+50	0.0182	0.02	O				
29+ 0	0.0166	0.02	O				
29+10	0.0151	0.01	O				
29+20	0.0137	0.01	O				
29+30	0.0125	0.01	O				
29+40	0.0114	0.01	O				
29+50	0.0104	0.01	O				
30+ 0	0.0100	0.01	O				
30+10	0.0100	0.01	O				
30+20	0.0099	0.01	O				
30+30	0.0099	0.01	O				
30+40	0.0099	0.01	O				
30+50	0.0099	0.01	O				
31+ 0	0.0099	0.01	O				
31+10	0.0098	0.01	O				
31+20	0.0098	0.01	O				
31+30	0.0098	0.01	O				
31+40	0.0098	0.01	O				
31+50	0.0098	0.01	O				
32+ 0	0.0097	0.01	O				
32+10	0.0097	0.01	O				
32+20	0.0097	0.01	O				
32+30	0.0097	0.01	O				
32+40	0.0097	0.01	O				
32+50	0.0096	0.01	O				
33+ 0	0.0096	0.01	O				
33+10	0.0096	0.01	O				
33+20	0.0096	0.01	O				
33+30	0.0096	0.01	O				
33+40	0.0095	0.01	O				
33+50	0.0095	0.01	O				
34+ 0	0.0095	0.01	O				
34+10	0.0095	0.01	O				
34+20	0.0095	0.01	O				
34+30	0.0094	0.01	O				
34+40	0.0094	0.01	O				

34+50	0.0094	0.01	O				
35+ 0	0.0094	0.01	O				
35+10	0.0094	0.01	O				
35+20	0.0093	0.01	O				
35+30	0.0093	0.01	O				
35+40	0.0093	0.01	O				
35+50	0.0093	0.01	O				
36+ 0	0.0093	0.01	O				
36+10	0.0093	0.01	O				
36+20	0.0092	0.01	O				
36+30	0.0092	0.01	O				
36+40	0.0092	0.01	O				
36+50	0.0092	0.01	O				
37+ 0	0.0092	0.01	O				
37+10	0.0091	0.01	O				
37+20	0.0091	0.01	O				
37+30	0.0091	0.01	O				
37+40	0.0091	0.01	O				
37+50	0.0091	0.01	O				
38+ 0	0.0090	0.01	O				
38+10	0.0090	0.01	O				
38+20	0.0090	0.01	O				
38+30	0.0090	0.01	O				
38+40	0.0090	0.01	O				
38+50	0.0090	0.01	O				
39+ 0	0.0089	0.01	O				
39+10	0.0089	0.01	O				
39+20	0.0089	0.01	O				
39+30	0.0089	0.01	O				
39+40	0.0089	0.01	O				
39+50	0.0088	0.01	O				
40+ 0	0.0088	0.01	O				
40+10	0.0088	0.01	O				
40+20	0.0088	0.01	O				
40+30	0.0088	0.01	O				
40+40	0.0087	0.01	O				
40+50	0.0087	0.01	O				
41+ 0	0.0087	0.01	O				
41+10	0.0087	0.01	O				
41+20	0.0087	0.01	O				
41+30	0.0087	0.01	O				
41+40	0.0086	0.01	O				
41+50	0.0086	0.01	O				
42+ 0	0.0086	0.01	O				
42+10	0.0086	0.01	O				
42+20	0.0086	0.01	O				
42+30	0.0086	0.01	O				
42+40	0.0085	0.01	O				
42+50	0.0085	0.01	O				
43+ 0	0.0085	0.01	O				
43+10	0.0085	0.01	O				
43+20	0.0085	0.01	O				
43+30	0.0084	0.01	O				
43+40	0.0084	0.01	O				
43+50	0.0084	0.01	O				
44+ 0	0.0084	0.01	O				
44+10	0.0084	0.01	O				

44+20	0.0084	0.01	O				
44+30	0.0083	0.01	O				
44+40	0.0083	0.01	O				
44+50	0.0083	0.01	O				
45+ 0	0.0083	0.01	O				
45+10	0.0083	0.01	O				
45+20	0.0083	0.01	O				
45+30	0.0082	0.01	O				
45+40	0.0082	0.01	O				
45+50	0.0082	0.01	O				
46+ 0	0.0082	0.01	O				
46+10	0.0082	0.01	O				
46+20	0.0082	0.01	O				
46+30	0.0081	0.01	O				
46+40	0.0081	0.01	O				
46+50	0.0081	0.01	O				
47+ 0	0.0081	0.01	O				
47+10	0.0081	0.01	O				
47+20	0.0081	0.01	O				
47+30	0.0080	0.01	O				
47+40	0.0080	0.01	O				
47+50	0.0080	0.01	O				
48+ 0	0.0080	0.01	O				
48+10	0.0080	0.01	O				
48+20	0.0080	0.01	O				
48+30	0.0079	0.01	O				
48+40	0.0079	0.01	O				
48+50	0.0079	0.01	O				
49+ 0	0.0079	0.01	O				
49+10	0.0079	0.01	O				
49+20	0.0079	0.01	O				
49+30	0.0078	0.01	O				
49+40	0.0078	0.01	O				
49+50	0.0078	0.01	O				
50+ 0	0.0078	0.01	O				
50+10	0.0078	0.01	O				
50+20	0.0078	0.01	O				
50+30	0.0077	0.01	O				
50+40	0.0077	0.01	O				
50+50	0.0077	0.01	O				
51+ 0	0.0077	0.01	O				
51+10	0.0077	0.01	O				
51+20	0.0077	0.01	O				
51+30	0.0077	0.01	O				
51+40	0.0076	0.01	O				
51+50	0.0076	0.01	O				
52+ 0	0.0076	0.01	O				
52+10	0.0076	0.01	O				
52+20	0.0076	0.01	O				
52+30	0.0076	0.01	O				
52+40	0.0075	0.01	O				
52+50	0.0075	0.01	O				
53+ 0	0.0075	0.01	O				
53+10	0.0075	0.01	O				
53+20	0.0075	0.01	O				
53+30	0.0075	0.01	O				
53+40	0.0074	0.01	O				

53+50	0.0074	0.01	O				
54+ 0	0.0074	0.01	O				
54+10	0.0074	0.01	O				
54+20	0.0074	0.01	O				
54+30	0.0074	0.01	O				
54+40	0.0074	0.01	O				
54+50	0.0073	0.01	O				
55+ 0	0.0073	0.01	O				
55+10	0.0073	0.01	O				
55+20	0.0073	0.01	O				
55+30	0.0073	0.01	O				
55+40	0.0073	0.01	O				
55+50	0.0073	0.01	O				
56+ 0	0.0072	0.01	O				
56+10	0.0072	0.01	O				
56+20	0.0072	0.01	O				
56+30	0.0072	0.01	O				
56+40	0.0072	0.01	O				
56+50	0.0072	0.01	O				
57+ 0	0.0071	0.01	O				
57+10	0.0071	0.01	O				
57+20	0.0071	0.01	O				
57+30	0.0071	0.01	O				
57+40	0.0071	0.01	O				
57+50	0.0071	0.01	O				
58+ 0	0.0071	0.01	O				
58+10	0.0070	0.01	O				
58+20	0.0070	0.01	O				
58+30	0.0070	0.01	O				
58+40	0.0070	0.01	O				
58+50	0.0070	0.01	O				
59+ 0	0.0070	0.01	O				
59+10	0.0070	0.01	O				
59+20	0.0069	0.01	O				
59+30	0.0069	0.01	O				
59+40	0.0069	0.01	O				
59+50	0.0069	0.01	O				
60+ 0	0.0069	0.01	O				
60+10	0.0069	0.01	O				
60+20	0.0069	0.01	O				
60+30	0.0068	0.01	O				
60+40	0.0068	0.01	O				
60+50	0.0068	0.01	O				
61+ 0	0.0068	0.01	O				
61+10	0.0068	0.01	O				
61+20	0.0068	0.01	O				
61+30	0.0068	0.01	O				
61+40	0.0067	0.01	O				
61+50	0.0067	0.01	O				
62+ 0	0.0067	0.01	O				
62+10	0.0067	0.01	O				
62+20	0.0067	0.01	O				
62+30	0.0067	0.01	O				
62+40	0.0067	0.01	O				
62+50	0.0066	0.01	O				
63+ 0	0.0066	0.01	O				
63+10	0.0066	0.01	O				

63+20	0.0066	0.01	O				
63+30	0.0066	0.01	O				
63+40	0.0066	0.01	O				
63+50	0.0066	0.01	O				
64+ 0	0.0066	0.01	O				
64+10	0.0065	0.01	O				
64+20	0.0065	0.01	O				
64+30	0.0065	0.01	O				
64+40	0.0065	0.01	O				
64+50	0.0065	0.01	O				
65+ 0	0.0065	0.01	O				
65+10	0.0065	0.01	O				
65+20	0.0064	0.01	O				
65+30	0.0064	0.01	O				
65+40	0.0064	0.01	O				
65+50	0.0064	0.01	O				
66+ 0	0.0064	0.01	O				
66+10	0.0064	0.01	O				
66+20	0.0064	0.01	O				
66+30	0.0064	0.01	O				
66+40	0.0063	0.01	O				
66+50	0.0063	0.01	O				
67+ 0	0.0063	0.01	O				
67+10	0.0063	0.01	O				
67+20	0.0063	0.01	O				
67+30	0.0063	0.01	O				
67+40	0.0063	0.01	O				
67+50	0.0062	0.01	O				
68+ 0	0.0062	0.01	O				
68+10	0.0062	0.01	O				
68+20	0.0062	0.01	O				
68+30	0.0062	0.01	O				
68+40	0.0062	0.01	O				
68+50	0.0062	0.01	O				
69+ 0	0.0062	0.01	O				
69+10	0.0061	0.01	O				
69+20	0.0061	0.01	O				
69+30	0.0061	0.01	O				
69+40	0.0061	0.01	O				
69+50	0.0061	0.01	O				
70+ 0	0.0061	0.01	O				
70+10	0.0061	0.01	O				
70+20	0.0061	0.01	O				
70+30	0.0060	0.01	O				
70+40	0.0060	0.01	O				
70+50	0.0060	0.01	O				
71+ 0	0.0060	0.01	O				
71+10	0.0060	0.01	O				
71+20	0.0060	0.01	O				
71+30	0.0060	0.01	O				
71+40	0.0060	0.01	O				
71+50	0.0059	0.01	O				
72+ 0	0.0059	0.01	O				
72+10	0.0059	0.01	O				
72+20	0.0059	0.01	O				
72+30	0.0059	0.01	O				
72+40	0.0059	0.01	O				

72+50	0.0059	0.01	O				
73+ 0	0.0059	0.01	O				
73+10	0.0058	0.01	O				
73+20	0.0058	0.01	O				
73+30	0.0058	0.01	O				
73+40	0.0058	0.01	O				
73+50	0.0058	0.01	O				
74+ 0	0.0058	0.01	O				
74+10	0.0058	0.01	O				
74+20	0.0058	0.01	O				
74+30	0.0058	0.01	O				
74+40	0.0057	0.01	O				
74+50	0.0057	0.01	O				
75+ 0	0.0057	0.01	O				
75+10	0.0057	0.01	O				
75+20	0.0057	0.01	O				
75+30	0.0057	0.01	O				
75+40	0.0057	0.01	O				
75+50	0.0057	0.01	O				
76+ 0	0.0056	0.01	O				
76+10	0.0056	0.01	O				
76+20	0.0056	0.01	O				
76+30	0.0056	0.01	O				
76+40	0.0056	0.01	O				
76+50	0.0056	0.01	O				
77+ 0	0.0056	0.01	O				
77+10	0.0056	0.01	O				
77+20	0.0056	0.01	O				
77+30	0.0055	0.01	O				
77+40	0.0055	0.01	O				
77+50	0.0055	0.01	O				
78+ 0	0.0055	0.01	O				
78+10	0.0055	0.01	O				
78+20	0.0055	0.01	O				
78+30	0.0055	0.01	O				
78+40	0.0055	0.01	O				
78+50	0.0055	0.01	O				
79+ 0	0.0054	0.01	O				
79+10	0.0054	0.01	O				
79+20	0.0054	0.01	O				
79+30	0.0054	0.01	O				
79+40	0.0054	0.01	O				
79+50	0.0054	0.01	O				
80+ 0	0.0054	0.01	O				
80+10	0.0054	0.01	O				
80+20	0.0054	0.01	O				
80+30	0.0053	0.01	O				
80+40	0.0053	0.01	O				
80+50	0.0053	0.01	O				
81+ 0	0.0053	0.01	O				
81+10	0.0053	0.01	O				
81+20	0.0053	0.01	O				
81+30	0.0053	0.01	O				
81+40	0.0053	0.01	O				
81+50	0.0053	0.01	O				
82+ 0	0.0052	0.01	O				
82+10	0.0052	0.01	O				

82+20	0.0052	0.01	O				
82+30	0.0052	0.01	O				
82+40	0.0052	0.01	O				
82+50	0.0052	0.01	O				
83+ 0	0.0052	0.01	O				
83+10	0.0052	0.01	O				
83+20	0.0052	0.01	O				
83+30	0.0051	0.01	O				
83+40	0.0051	0.01	O				
83+50	0.0051	0.01	O				
84+ 0	0.0051	0.01	O				
84+10	0.0051	0.01	O				
84+20	0.0051	0.01	O				
84+30	0.0051	0.01	O				
84+40	0.0051	0.01	O				
84+50	0.0051	0.01	O				
85+ 0	0.0051	0.01	O				
85+10	0.0050	0.01	O				
85+20	0.0050	0.01	O				
85+30	0.0050	0.01	O				
85+40	0.0050	0.01	O				
85+50	0.0050	0.00	O				
86+ 0	0.0050	0.00	O				
86+10	0.0050	0.00	O				
86+20	0.0050	0.00	O				
86+30	0.0050	0.00	O				
86+40	0.0049	0.00	O				
86+50	0.0049	0.00	O				
87+ 0	0.0049	0.00	O				
87+10	0.0049	0.00	O				
87+20	0.0049	0.00	O				
87+30	0.0049	0.00	O				
87+40	0.0049	0.00	O				
87+50	0.0049	0.00	O				
88+ 0	0.0049	0.00	O				
88+10	0.0049	0.00	O				
88+20	0.0048	0.00	O				
88+30	0.0048	0.00	O				
88+40	0.0048	0.00	O				
88+50	0.0048	0.00	O				
89+ 0	0.0048	0.00	O				
89+10	0.0048	0.00	O				
89+20	0.0048	0.00	O				
89+30	0.0048	0.00	O				
89+40	0.0048	0.00	O				
89+50	0.0048	0.00	O				
90+ 0	0.0047	0.00	O				
90+10	0.0047	0.00	O				
90+20	0.0047	0.00	O				
90+30	0.0047	0.00	O				
90+40	0.0047	0.00	O				
90+50	0.0047	0.00	O				
91+ 0	0.0047	0.00	O				
91+10	0.0047	0.00	O				
91+20	0.0047	0.00	O				
91+30	0.0047	0.00	O				
91+40	0.0046	0.00	O				

91+50	0.0046	0.00	0				
92+ 0	0.0046	0.00	0				
92+10	0.0046	0.00	0				
92+20	0.0046	0.00	0				
92+30	0.0046	0.00	0				
92+40	0.0046	0.00	0				
92+50	0.0046	0.00	0				
93+ 0	0.0046	0.00	0				
93+10	0.0046	0.00	0				
93+20	0.0046	0.00	0				
93+30	0.0045	0.00	0				
93+40	0.0045	0.00	0				
93+50	0.0045	0.00	0				
94+ 0	0.0045	0.00	0				
94+10	0.0045	0.00	0				
94+20	0.0045	0.00	0				
94+30	0.0045	0.00	0				
94+40	0.0045	0.00	0				
94+50	0.0045	0.00	0				
95+ 0	0.0045	0.00	0				
95+10	0.0045	0.00	0				
95+20	0.0044	0.00	0				
95+30	0.0044	0.00	0				
95+40	0.0044	0.00	0				
95+50	0.0044	0.00	0				
96+ 0	0.0044	0.00	0				
96+10	0.0044	0.00	0				
96+20	0.0044	0.00	0				
96+30	0.0044	0.00	0				
96+40	0.0044	0.00	0				
96+50	0.0044	0.00	0				
97+ 0	0.0044	0.00	0				
97+10	0.0043	0.00	0				
97+20	0.0043	0.00	0				
97+30	0.0043	0.00	0				
97+40	0.0043	0.00	0				
97+50	0.0043	0.00	0				
98+ 0	0.0043	0.00	0				
98+10	0.0043	0.00	0				
98+20	0.0043	0.00	0				
98+30	0.0043	0.00	0				
98+40	0.0043	0.00	0				
98+50	0.0043	0.00	0				
99+ 0	0.0042	0.00	0				
99+10	0.0042	0.00	0				
99+20	0.0042	0.00	0				
99+30	0.0042	0.00	0				
99+40	0.0042	0.00	0				
99+50	0.0042	0.00	0				
100+ 0	0.0042	0.00	0				
100+10	0.0042	0.00	0				
100+20	0.0042	0.00	0				
100+30	0.0042	0.00	0				
100+40	0.0042	0.00	0				
100+50	0.0042	0.00	0				
101+ 0	0.0041	0.00	0				
101+10	0.0041	0.00	0				

101+20	0.0041	0.00	0				
101+30	0.0041	0.00	0				
101+40	0.0041	0.00	0				
101+50	0.0041	0.00	0				
102+ 0	0.0041	0.00	0				
102+10	0.0041	0.00	0				
102+20	0.0041	0.00	0				
102+30	0.0041	0.00	0				
102+40	0.0041	0.00	0				
102+50	0.0040	0.00	0				
103+ 0	0.0040	0.00	0				
103+10	0.0040	0.00	0				
103+20	0.0040	0.00	0				
103+30	0.0040	0.00	0				
103+40	0.0040	0.00	0				
103+50	0.0040	0.00	0				
104+ 0	0.0040	0.00	0				
104+10	0.0040	0.00	0				
104+20	0.0040	0.00	0				
104+30	0.0040	0.00	0				
104+40	0.0040	0.00	0				
104+50	0.0039	0.00	0				
105+ 0	0.0039	0.00	0				
105+10	0.0039	0.00	0				
105+20	0.0039	0.00	0				
105+30	0.0039	0.00	0				
105+40	0.0039	0.00	0				
105+50	0.0039	0.00	0				
106+ 0	0.0039	0.00	0				
106+10	0.0039	0.00	0				
106+20	0.0039	0.00	0				
106+30	0.0039	0.00	0				
106+40	0.0039	0.00	0				
106+50	0.0039	0.00	0				
107+ 0	0.0038	0.00	0				
107+10	0.0038	0.00	0				
107+20	0.0038	0.00	0				
107+30	0.0038	0.00	0				
107+40	0.0038	0.00	0				
107+50	0.0038	0.00	0				
108+ 0	0.0038	0.00	0				
108+10	0.0038	0.00	0				
108+20	0.0038	0.00	0				
108+30	0.0038	0.00	0				
108+40	0.0038	0.00	0				
108+50	0.0038	0.00	0				
109+ 0	0.0038	0.00	0				
109+10	0.0037	0.00	0				
109+20	0.0037	0.00	0				
109+30	0.0037	0.00	0				
109+40	0.0037	0.00	0				
109+50	0.0037	0.00	0				
110+ 0	0.0037	0.00	0				
110+10	0.0037	0.00	0				
110+20	0.0037	0.00	0				
110+30	0.0037	0.00	0				
110+40	0.0037	0.00	0				

110+50	0.0037	0.00	O				
111+ 0	0.0037	0.00	O				
111+10	0.0037	0.00	O				
111+20	0.0036	0.00	O				
111+30	0.0036	0.00	O				
111+40	0.0036	0.00	O				
111+50	0.0036	0.00	O				
112+ 0	0.0036	0.00	O				
112+10	0.0036	0.00	O				
112+20	0.0036	0.00	O				
112+30	0.0036	0.00	O				
112+40	0.0036	0.00	O				
112+50	0.0036	0.00	O				
113+ 0	0.0036	0.00	O				
113+10	0.0036	0.00	O				
113+20	0.0036	0.00	O				
113+30	0.0035	0.00	O				
113+40	0.0035	0.00	O				
113+50	0.0035	0.00	O				
114+ 0	0.0035	0.00	O				
114+10	0.0035	0.00	O				
114+20	0.0035	0.00	O				
114+30	0.0035	0.00	O				
114+40	0.0035	0.00	O				
114+50	0.0035	0.00	O				
115+ 0	0.0035	0.00	O				
115+10	0.0035	0.00	O				
115+20	0.0035	0.00	O				
115+30	0.0035	0.00	O				
115+40	0.0035	0.00	O				
115+50	0.0034	0.00	O				
116+ 0	0.0034	0.00	O				
116+10	0.0034	0.00	O				
116+20	0.0034	0.00	O				
116+30	0.0034	0.00	O				
116+40	0.0034	0.00	O				
116+50	0.0034	0.00	O				
117+ 0	0.0034	0.00	O				
117+10	0.0034	0.00	O				
117+20	0.0034	0.00	O				
117+30	0.0034	0.00	O				
117+40	0.0034	0.00	O				
117+50	0.0034	0.00	O				
118+ 0	0.0034	0.00	O				
118+10	0.0033	0.00	O				
118+20	0.0033	0.00	O				
118+30	0.0033	0.00	O				
118+40	0.0033	0.00	O				
118+50	0.0033	0.00	O				
119+ 0	0.0033	0.00	O				
119+10	0.0033	0.00	O				
119+20	0.0033	0.00	O				
119+30	0.0033	0.00	O				
119+40	0.0033	0.00	O				
119+50	0.0033	0.00	O				
120+ 0	0.0033	0.00	O				
120+10	0.0033	0.00	O				

120+20	0.0033	0.00	0				
120+30	0.0033	0.00	0				
120+40	0.0032	0.00	0				
120+50	0.0032	0.00	0				
121+ 0	0.0032	0.00	0				
121+10	0.0032	0.00	0				
121+20	0.0032	0.00	0				
121+30	0.0032	0.00	0				
121+40	0.0032	0.00	0				
121+50	0.0032	0.00	0				
122+ 0	0.0032	0.00	0				
122+10	0.0032	0.00	0				
122+20	0.0032	0.00	0				
122+30	0.0032	0.00	0				
122+40	0.0032	0.00	0				
122+50	0.0032	0.00	0				
123+ 0	0.0032	0.00	0				
123+10	0.0031	0.00	0				
123+20	0.0031	0.00	0				
123+30	0.0031	0.00	0				
123+40	0.0031	0.00	0				
123+50	0.0031	0.00	0				
124+ 0	0.0031	0.00	0				
124+10	0.0031	0.00	0				
124+20	0.0031	0.00	0				
124+30	0.0031	0.00	0				
124+40	0.0031	0.00	0				
124+50	0.0031	0.00	0				
125+ 0	0.0031	0.00	0				
125+10	0.0031	0.00	0				
125+20	0.0031	0.00	0				
125+30	0.0031	0.00	0				
125+40	0.0031	0.00	0				
125+50	0.0030	0.00	0				
126+ 0	0.0030	0.00	0				
126+10	0.0030	0.00	0				
126+20	0.0030	0.00	0				
126+30	0.0030	0.00	0				
126+40	0.0030	0.00	0				
126+50	0.0030	0.00	0				
127+ 0	0.0030	0.00	0				
127+10	0.0030	0.00	0				
127+20	0.0030	0.00	0				
127+30	0.0030	0.00	0				
127+40	0.0030	0.00	0				
127+50	0.0030	0.00	0				
128+ 0	0.0030	0.00	0				
128+10	0.0030	0.00	0				
128+20	0.0030	0.00	0				
128+30	0.0029	0.00	0				
128+40	0.0029	0.00	0				
128+50	0.0029	0.00	0				
129+ 0	0.0029	0.00	0				
129+10	0.0029	0.00	0				
129+20	0.0029	0.00	0				
129+30	0.0029	0.00	0				
129+40	0.0029	0.00	0				

129+50	0.0029	0.00	0				
130+ 0	0.0029	0.00	0				
130+10	0.0029	0.00	0				
130+20	0.0029	0.00	0				
130+30	0.0029	0.00	0				
130+40	0.0029	0.00	0				
130+50	0.0029	0.00	0				
131+ 0	0.0029	0.00	0				
131+10	0.0028	0.00	0				
131+20	0.0028	0.00	0				
131+30	0.0028	0.00	0				
131+40	0.0028	0.00	0				
131+50	0.0028	0.00	0				
132+ 0	0.0028	0.00	0				
132+10	0.0028	0.00	0				
132+20	0.0028	0.00	0				
132+30	0.0028	0.00	0				
132+40	0.0028	0.00	0				
132+50	0.0028	0.00	0				
133+ 0	0.0028	0.00	0				
133+10	0.0028	0.00	0				
133+20	0.0028	0.00	0				
133+30	0.0028	0.00	0				
133+40	0.0028	0.00	0				
133+50	0.0028	0.00	0				
134+ 0	0.0028	0.00	0				
134+10	0.0027	0.00	0				
134+20	0.0027	0.00	0				
134+30	0.0027	0.00	0				
134+40	0.0027	0.00	0				
134+50	0.0027	0.00	0				
135+ 0	0.0027	0.00	0				
135+10	0.0027	0.00	0				
135+20	0.0027	0.00	0				
135+30	0.0027	0.00	0				
135+40	0.0027	0.00	0				
135+50	0.0027	0.00	0				
136+ 0	0.0027	0.00	0				
136+10	0.0027	0.00	0				
136+20	0.0027	0.00	0				
136+30	0.0027	0.00	0				
136+40	0.0027	0.00	0				
136+50	0.0027	0.00	0				
137+ 0	0.0027	0.00	0				
137+10	0.0026	0.00	0				
137+20	0.0026	0.00	0				
137+30	0.0026	0.00	0				
137+40	0.0026	0.00	0				
137+50	0.0026	0.00	0				
138+ 0	0.0026	0.00	0				
138+10	0.0026	0.00	0				
138+20	0.0026	0.00	0				
138+30	0.0026	0.00	0				
138+40	0.0026	0.00	0				
138+50	0.0026	0.00	0				
139+ 0	0.0026	0.00	0				
139+10	0.0026	0.00	0				

139+20	0.0026	0.00	O				
139+30	0.0026	0.00	O				
139+40	0.0026	0.00	O				
139+50	0.0026	0.00	O				

*****HYDROGRAPH DATA*****

Number of intervals = 1295

Time interval = 10.0 (Min.)

Maximum/Peak flow rate = 2.550 (CFS)

Total volume = 0.534 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

FLOOD HYDROGRAPH ROUTING PROGRAM
 Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
 Study date: 06/26/23

100-Year 24 Hour Routing Condition

Program License Serial Number 6472

***** HYDROGRAPH INFORMATION *****

From study/file name: areac100.rte
 *****HYDROGRAPH DATA*****
 Number of intervals = 148
 Time interval = 10.0 (Min.)
 Maximum/Peak flow rate = 6.207 (CFS)
 Total volume = 1.446 (Ac.Ft)
 Status of hydrographs being held in storage
 Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
 Peak (CFS) 0.000 0.000 0.000 0.000 0.000
 Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

+++++
 Process from Point/Station 6.000 to Point/Station 6.000
 **** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

 Total number of inflow hydrograph intervals = 148
 Hydrograph time unit = 10.000 (Min.)
 Initial depth in storage basin = 0.00 (Ft.)

 Initial basin depth = 0.00 (Ft.)
 Initial basin storage = 0.00 (Ac.Ft)
 Initial basin outflow = 0.00 (CFS)

 Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.030	0.001	0.030	0.030
2.000	0.050	0.001	0.050	0.050
3.000	0.070	0.001	0.070	0.070
4.000	0.090	0.001	0.090	0.090

5.000	0.110	0.001	0.110	0.110
5.500	0.160	0.001	0.160	0.160
6.000	0.200	0.001	0.200	0.200
6.500	0.260	0.001	0.260	0.260
7.000	0.320	0.010	0.320	0.320
8.000	0.450	0.900	0.444	0.456
9.000	0.600	29.630	0.396	0.804
10.000	0.780	149.540	-0.250	1.810
11.000	0.990	320.310	-1.216	3.196

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	1.6	3.10	4.66	6.21	Depth (Ft.)
0.167	0.13	0.00	0.001	O					0.03
0.333	0.31	0.00	0.004	OI					0.13
0.500	0.35	0.00	0.009	OI					0.28
0.667	0.37	0.00	0.013	OI					0.45
0.833	0.38	0.00	0.019	OI					0.62
1.000	0.38	0.00	0.024	OI					0.80
1.167	0.39	0.00	0.029	OI					0.97
1.333	0.39	0.00	0.035	O I					1.23
1.500	0.39	0.00	0.040	O I					1.50
1.667	0.39	0.00	0.045	O I					1.77
1.833	0.40	0.00	0.051	O I					2.04
2.000	0.40	0.00	0.056	O I					2.31
2.167	0.40	0.00	0.062	O I					2.58
2.333	0.40	0.00	0.067	O I					2.86
2.500	0.40	0.00	0.073	O I					3.14
2.667	0.41	0.00	0.078	O I					3.41
2.833	0.41	0.00	0.084	O I					3.69
3.000	0.41	0.00	0.090	O I					3.98
3.167	0.41	0.00	0.095	O I					4.26
3.333	0.42	0.00	0.101	O I					4.55
3.500	0.42	0.00	0.107	O I					4.83
3.667	0.42	0.00	0.112	O I					5.02
3.833	0.42	0.00	0.118	O I					5.08
4.000	0.43	0.00	0.124	O I					5.14
4.167	0.43	0.00	0.130	O I					5.20
4.333	0.43	0.00	0.136	O I					5.26
4.500	0.44	0.00	0.142	O I					5.32
4.667	0.44	0.00	0.148	O I					5.38
4.833	0.44	0.00	0.154	O I					5.44
5.000	0.45	0.00	0.160	O I					5.50
5.167	0.45	0.00	0.166	O I					5.58
5.333	0.45	0.00	0.172	O I					5.65
5.500	0.45	0.00	0.179	O I					5.73
5.667	0.46	0.00	0.185	O I					5.81
5.833	0.46	0.00	0.191	O I					5.89
6.000	0.47	0.00	0.198	O I					5.97
6.167	0.47	0.00	0.204	O I					6.03
6.333	0.47	0.00	0.210	O I					6.09
6.500	0.48	0.00	0.217	O I					6.14
6.667	0.48	0.00	0.224	O I					6.20

6.833	0.48	0.00	0.230	O I					6.25
7.000	0.49	0.00	0.237	O I					6.31
7.167	0.49	0.00	0.244	O I					6.36
7.333	0.50	0.00	0.250	O I					6.42
7.500	0.50	0.00	0.257	O I					6.48
7.667	0.51	0.00	0.264	O I					6.53
7.833	0.51	0.00	0.271	O I					6.59
8.000	0.52	0.00	0.278	O I					6.65
8.167	0.52	0.00	0.285	O I					6.71
8.333	0.53	0.01	0.292	O I					6.77
8.500	0.53	0.01	0.300	O I					6.83
8.667	0.54	0.01	0.307	O I					6.89
8.833	0.54	0.01	0.314	O I					6.95
9.000	0.55	0.02	0.322	O I					7.01
9.167	0.55	0.07	0.328	O I					7.07
9.333	0.56	0.11	0.335	O I					7.11
9.500	0.57	0.15	0.341	O I					7.16
9.667	0.57	0.19	0.346	O I					7.20
9.833	0.58	0.23	0.351	OI					7.24
10.000	0.59	0.26	0.356	O I					7.28
10.167	0.60	0.29	0.361	O I					7.31
10.333	0.60	0.32	0.365	O I					7.34
10.500	0.61	0.34	0.369	O I					7.37
10.667	0.62	0.37	0.372	O I					7.40
10.833	0.63	0.39	0.376	OI					7.43
11.000	0.64	0.41	0.379	OI					7.45
11.167	0.65	0.43	0.382	OI					7.48
11.333	0.66	0.45	0.385	OI					7.50
11.500	0.67	0.47	0.388	OI					7.52
11.667	0.68	0.49	0.390	OI					7.54
11.833	0.69	0.51	0.393	OI					7.56
12.000	0.71	0.53	0.395	OI					7.58
12.167	0.70	0.54	0.398	OI					7.60
12.333	0.68	0.56	0.400	OI					7.61
12.500	0.69	0.57	0.401	OI					7.63
12.667	0.71	0.58	0.403	OI					7.64
12.833	0.72	0.59	0.405	O					7.65
13.000	0.74	0.60	0.407	O					7.67
13.167	0.76	0.62	0.409	O					7.68
13.333	0.79	0.63	0.411	OI					7.70
13.500	0.81	0.65	0.413	OI					7.72
13.667	0.84	0.66	0.415	OI					7.73
13.833	0.87	0.68	0.418	OI					7.75
14.000	0.90	0.70	0.420	OI					7.77
14.167	0.94	0.72	0.423	OI					7.80
14.333	0.98	0.74	0.427	O I					7.82
14.500	1.03	0.76	0.430	O I					7.85
14.667	1.08	0.79	0.434	OI					7.88
14.833	1.15	0.82	0.438	OI					7.91
15.000	1.22	0.85	0.443	O I					7.95
15.167	1.32	0.89	0.448	O I					7.99
15.333	1.44	1.32	0.452	OI					8.01
15.500	1.51	1.49	0.453	OI					8.02
15.667	1.61	1.57	0.453	O					8.02
15.833	2.00	1.84	0.455	OI					8.03
16.000	3.11	2.65	0.459	O I					8.06
16.167	6.21	4.93	0.471	O I				I	8.14

16.333	6.08	6.31	0.478						IO	8.19
16.500	2.79	4.18	0.467				I		O	8.11
16.667	2.00	2.15	0.457				IO			8.04
16.833	1.57	1.73	0.454				O			8.03
17.000	1.15	1.31	0.452		IO					8.01
17.167	1.03	1.06	0.451		O					8.01
17.333	0.94	0.97	0.450		IO					8.00
17.500	0.87	0.90	0.450		O					8.00
17.667	0.81	0.89	0.449		O					7.99
17.833	0.76	0.88	0.448		IO					7.98
18.000	0.72	0.87	0.446		IO					7.97
18.167	0.71	0.86	0.444		IO					7.95
18.333	0.71	0.84	0.442		IO					7.94
18.500	0.69	0.83	0.440		IO					7.92
18.667	0.67	0.82	0.438		IO					7.91
18.833	0.65	0.80	0.436		IO					7.89
19.000	0.63	0.79	0.434		IO					7.87
19.167	0.61	0.77	0.431		O					7.86
19.333	0.60	0.76	0.429		O					7.84
19.500	0.58	0.74	0.427		IO					7.82
19.667	0.57	0.73	0.425		IO					7.81
19.833	0.55	0.71	0.423		IO					7.79
20.000	0.54	0.70	0.420		IO					7.77
20.167	0.53	0.68	0.418		IO					7.76
20.333	0.52	0.67	0.416		IO					7.74
20.500	0.51	0.65	0.414		IO					7.72
20.667	0.50	0.64	0.412		IO					7.71
20.833	0.49	0.63	0.410		IO					7.69
21.000	0.48	0.62	0.408		IO					7.68
21.167	0.48	0.60	0.407		IO					7.67
21.333	0.47	0.59	0.405		IO					7.65
21.500	0.46	0.58	0.403		O					7.64
21.667	0.45	0.57	0.402		O					7.63
21.833	0.45	0.56	0.400		O					7.62
22.000	0.44	0.55	0.399		O					7.60
22.167	0.44	0.54	0.397		O					7.59
22.333	0.43	0.53	0.396		O					7.58
22.500	0.42	0.52	0.394		O					7.57
22.667	0.42	0.51	0.393		O					7.56
22.833	0.41	0.50	0.392		O					7.55
23.000	0.41	0.49	0.391		O					7.54
23.167	0.40	0.49	0.390		O					7.54
23.333	0.40	0.48	0.388		O					7.53
23.500	0.40	0.47	0.387		O					7.52
23.667	0.39	0.46	0.386		O					7.51
23.833	0.39	0.46	0.385		IO					7.50
24.000	0.38	0.45	0.384		IO					7.50
24.167	0.25	0.44	0.383		IO					7.48
24.333	0.07	0.41	0.379		I O					7.45
24.500	0.03	0.38	0.374		IO					7.42
24.667	0.01	0.35	0.369		IO					7.38
24.833	0.00	0.32	0.365		IO					7.35
25.000	0.00	0.29	0.361		IO					7.31
25.167	0.00	0.26	0.357		IO					7.28
25.333	0.00	0.24	0.353		IO					7.26
25.500	0.00	0.22	0.350		IO					7.23
25.667	0.00	0.20	0.347		IO					7.21

25.833	0.00	0.18	0.345	O					7.19
26.000	0.00	0.16	0.342	O					7.17
26.167	0.00	0.15	0.340	O					7.16
26.333	0.00	0.14	0.338	O					7.14
26.500	0.00	0.12	0.337	O					7.13
26.667	0.00	0.11	0.335	O					7.11
26.833	0.00	0.10	0.333	O					7.10
27.000	0.00	0.09	0.332	O					7.09
27.167	0.00	0.08	0.331	O					7.08
27.333	0.00	0.08	0.330	O					7.08
27.500	0.00	0.07	0.329	O					7.07
27.667	0.00	0.06	0.328	O					7.06
27.833	0.00	0.06	0.327	O					7.05
28.000	0.00	0.05	0.326	O					7.05
28.167	0.00	0.05	0.326	O					7.04
28.333	0.00	0.04	0.325	O					7.04
28.500	0.00	0.04	0.324	O					7.03
28.667	0.00	0.04	0.324	O					7.03
28.833	0.00	0.03	0.323	O					7.03
29.000	0.00	0.03	0.323	O					7.02
29.167	0.00	0.03	0.323	O					7.02
29.333	0.00	0.02	0.322	O					7.02
29.500	0.00	0.02	0.322	O					7.01
29.667	0.00	0.02	0.322	O					7.01
29.833	0.00	0.02	0.321	O					7.01
30.000	0.00	0.02	0.321	O					7.01
30.167	0.00	0.02	0.321	O					7.01
30.333	0.00	0.01	0.321	O					7.00
30.500	0.00	0.01	0.320	O					7.00
30.667	0.00	0.01	0.320	O					7.00
30.833	0.00	0.01	0.320	O					7.00
31.000	0.00	0.01	0.320	O					7.00
31.167	0.00	0.01	0.320	O					7.00
31.333	0.00	0.01	0.320	O					7.00
31.500	0.00	0.01	0.320	O					7.00
31.667	0.00	0.01	0.319	O					6.99
31.833	0.00	0.01	0.319	O					6.99
32.000	0.00	0.01	0.319	O					6.99
32.167	0.00	0.01	0.319	O					6.99
32.333	0.00	0.01	0.319	O					6.99
32.500	0.00	0.01	0.319	O					6.99
32.667	0.00	0.01	0.319	O					6.99
32.833	0.00	0.01	0.318	O					6.99
33.000	0.00	0.01	0.318	O					6.99
33.167	0.00	0.01	0.318	O					6.98
33.333	0.00	0.01	0.318	O					6.98
33.500	0.00	0.01	0.318	O					6.98
33.667	0.00	0.01	0.318	O					6.98
33.833	0.00	0.01	0.318	O					6.98
34.000	0.00	0.01	0.318	O					6.98
34.167	0.00	0.01	0.317	O					6.98
34.333	0.00	0.01	0.317	O					6.98
34.500	0.00	0.01	0.317	O					6.98
34.667	0.00	0.01	0.317	O					6.97
34.833	0.00	0.01	0.317	O					6.97
35.000	0.00	0.01	0.317	O					6.97
35.167	0.00	0.01	0.317	O					6.97

35.333	0.00	0.01	0.316	O					6.97
35.500	0.00	0.01	0.316	O					6.97
35.667	0.00	0.01	0.316	O					6.97
35.833	0.00	0.01	0.316	O					6.97
36.000	0.00	0.01	0.316	O					6.97
36.167	0.00	0.01	0.316	O					6.97
36.333	0.00	0.01	0.316	O					6.96
36.500	0.00	0.01	0.316	O					6.96
36.667	0.00	0.01	0.315	O					6.96
36.833	0.00	0.01	0.315	O					6.96
37.000	0.00	0.01	0.315	O					6.96
37.167	0.00	0.01	0.315	O					6.96
37.333	0.00	0.01	0.315	O					6.96
37.500	0.00	0.01	0.315	O					6.96
37.667	0.00	0.01	0.315	O					6.96
37.833	0.00	0.01	0.315	O					6.95
38.000	0.00	0.01	0.314	O					6.95
38.167	0.00	0.01	0.314	O					6.95
38.333	0.00	0.01	0.314	O					6.95
38.500	0.00	0.01	0.314	O					6.95
38.667	0.00	0.01	0.314	O					6.95
38.833	0.00	0.01	0.314	O					6.95
39.000	0.00	0.01	0.314	O					6.95
39.167	0.00	0.01	0.314	O					6.95
39.333	0.00	0.01	0.313	O					6.95
39.500	0.00	0.01	0.313	O					6.94
39.667	0.00	0.01	0.313	O					6.94
39.833	0.00	0.01	0.313	O					6.94
40.000	0.00	0.01	0.313	O					6.94
40.167	0.00	0.01	0.313	O					6.94
40.333	0.00	0.01	0.313	O					6.94
40.500	0.00	0.01	0.313	O					6.94
40.667	0.00	0.01	0.312	O					6.94
40.833	0.00	0.01	0.312	O					6.94
41.000	0.00	0.01	0.312	O					6.93
41.167	0.00	0.01	0.312	O					6.93
41.333	0.00	0.01	0.312	O					6.93
41.500	0.00	0.01	0.312	O					6.93
41.667	0.00	0.01	0.312	O					6.93
41.833	0.00	0.01	0.312	O					6.93
42.000	0.00	0.01	0.311	O					6.93
42.167	0.00	0.01	0.311	O					6.93
42.333	0.00	0.01	0.311	O					6.93
42.500	0.00	0.01	0.311	O					6.93
42.667	0.00	0.01	0.311	O					6.92
42.833	0.00	0.01	0.311	O					6.92
43.000	0.00	0.01	0.311	O					6.92
43.167	0.00	0.01	0.311	O					6.92
43.333	0.00	0.01	0.311	O					6.92
43.500	0.00	0.01	0.310	O					6.92
43.667	0.00	0.01	0.310	O					6.92
43.833	0.00	0.01	0.310	O					6.92
44.000	0.00	0.01	0.310	O					6.92
44.167	0.00	0.01	0.310	O					6.92
44.333	0.00	0.01	0.310	O					6.91
44.500	0.00	0.01	0.310	O					6.91
44.667	0.00	0.01	0.310	O					6.91

44.833	0.00	0.01	0.309	O					6.91
45.000	0.00	0.01	0.309	O					6.91
45.167	0.00	0.01	0.309	O					6.91
45.333	0.00	0.01	0.309	O					6.91
45.500	0.00	0.01	0.309	O					6.91
45.667	0.00	0.01	0.309	O					6.91
45.833	0.00	0.01	0.309	O					6.91
46.000	0.00	0.01	0.309	O					6.91
46.167	0.00	0.01	0.309	O					6.90
46.333	0.00	0.01	0.308	O					6.90
46.500	0.00	0.01	0.308	O					6.90
46.667	0.00	0.01	0.308	O					6.90
46.833	0.00	0.01	0.308	O					6.90
47.000	0.00	0.01	0.308	O					6.90
47.167	0.00	0.01	0.308	O					6.90
47.333	0.00	0.01	0.308	O					6.90
47.500	0.00	0.01	0.308	O					6.90
47.667	0.00	0.01	0.308	O					6.90
47.833	0.00	0.01	0.307	O					6.90
48.000	0.00	0.01	0.307	O					6.89
48.167	0.00	0.01	0.307	O					6.89
48.333	0.00	0.01	0.307	O					6.89
48.500	0.00	0.01	0.307	O					6.89
48.667	0.00	0.01	0.307	O					6.89
48.833	0.00	0.01	0.307	O					6.89
49.000	0.00	0.01	0.307	O					6.89
49.167	0.00	0.01	0.307	O					6.89
49.333	0.00	0.01	0.306	O					6.89
49.500	0.00	0.01	0.306	O					6.89
49.667	0.00	0.01	0.306	O					6.88
49.833	0.00	0.01	0.306	O					6.88
50.000	0.00	0.01	0.306	O					6.88
50.167	0.00	0.01	0.306	O					6.88
50.333	0.00	0.01	0.306	O					6.88
50.500	0.00	0.01	0.306	O					6.88
50.667	0.00	0.01	0.306	O					6.88
50.833	0.00	0.01	0.305	O					6.88
51.000	0.00	0.01	0.305	O					6.88
51.167	0.00	0.01	0.305	O					6.88
51.333	0.00	0.01	0.305	O					6.88
51.500	0.00	0.01	0.305	O					6.87
51.667	0.00	0.01	0.305	O					6.87
51.833	0.00	0.01	0.305	O					6.87
52.000	0.00	0.01	0.305	O					6.87
52.167	0.00	0.01	0.305	O					6.87
52.333	0.00	0.01	0.304	O					6.87
52.500	0.00	0.01	0.304	O					6.87
52.667	0.00	0.01	0.304	O					6.87
52.833	0.00	0.01	0.304	O					6.87
53.000	0.00	0.01	0.304	O					6.87
53.167	0.00	0.01	0.304	O					6.87
53.333	0.00	0.01	0.304	O					6.87
53.500	0.00	0.01	0.304	O					6.86
53.667	0.00	0.01	0.304	O					6.86
53.833	0.00	0.01	0.304	O					6.86
54.000	0.00	0.01	0.303	O					6.86
54.167	0.00	0.01	0.303	O					6.86

54.333	0.00	0.01	0.303	O					6.86
54.500	0.00	0.01	0.303	O					6.86
54.667	0.00	0.01	0.303	O					6.86
54.833	0.00	0.01	0.303	O					6.86
55.000	0.00	0.01	0.303	O					6.86
55.167	0.00	0.01	0.303	O					6.86
55.333	0.00	0.01	0.303	O					6.86
55.500	0.00	0.01	0.302	O					6.85
55.667	0.00	0.01	0.302	O					6.85
55.833	0.00	0.01	0.302	O					6.85
56.000	0.00	0.01	0.302	O					6.85
56.167	0.00	0.01	0.302	O					6.85
56.333	0.00	0.01	0.302	O					6.85
56.500	0.00	0.01	0.302	O					6.85
56.667	0.00	0.01	0.302	O					6.85
56.833	0.00	0.01	0.302	O					6.85
57.000	0.00	0.01	0.302	O					6.85
57.167	0.00	0.01	0.301	O					6.85
57.333	0.00	0.01	0.301	O					6.84
57.500	0.00	0.01	0.301	O					6.84
57.667	0.00	0.01	0.301	O					6.84
57.833	0.00	0.01	0.301	O					6.84
58.000	0.00	0.01	0.301	O					6.84
58.167	0.00	0.01	0.301	O					6.84
58.333	0.00	0.01	0.301	O					6.84
58.500	0.00	0.01	0.301	O					6.84
58.667	0.00	0.01	0.301	O					6.84
58.833	0.00	0.01	0.301	O					6.84
59.000	0.00	0.01	0.300	O					6.84
59.167	0.00	0.01	0.300	O					6.84
59.333	0.00	0.01	0.300	O					6.84
59.500	0.00	0.01	0.300	O					6.83
59.667	0.00	0.01	0.300	O					6.83
59.833	0.00	0.01	0.300	O					6.83
60.000	0.00	0.01	0.300	O					6.83
60.167	0.00	0.01	0.300	O					6.83
60.333	0.00	0.01	0.300	O					6.83
60.500	0.00	0.01	0.300	O					6.83
60.667	0.00	0.01	0.299	O					6.83
60.833	0.00	0.01	0.299	O					6.83
61.000	0.00	0.01	0.299	O					6.83
61.167	0.00	0.01	0.299	O					6.83
61.333	0.00	0.01	0.299	O					6.83
61.500	0.00	0.01	0.299	O					6.82
61.667	0.00	0.01	0.299	O					6.82
61.833	0.00	0.01	0.299	O					6.82
62.000	0.00	0.01	0.299	O					6.82
62.167	0.00	0.01	0.299	O					6.82
62.333	0.00	0.01	0.299	O					6.82
62.500	0.00	0.01	0.298	O					6.82
62.667	0.00	0.01	0.298	O					6.82
62.833	0.00	0.01	0.298	O					6.82
63.000	0.00	0.01	0.298	O					6.82
63.167	0.00	0.01	0.298	O					6.82
63.333	0.00	0.01	0.298	O					6.82
63.500	0.00	0.01	0.298	O					6.82
63.667	0.00	0.01	0.298	O					6.81

63.833	0.00	0.01	0.298	O					6.81
64.000	0.00	0.01	0.298	O					6.81
64.167	0.00	0.01	0.297	O					6.81
64.333	0.00	0.01	0.297	O					6.81
64.500	0.00	0.01	0.297	O					6.81
64.667	0.00	0.01	0.297	O					6.81
64.833	0.00	0.01	0.297	O					6.81
65.000	0.00	0.01	0.297	O					6.81
65.167	0.00	0.01	0.297	O					6.81
65.333	0.00	0.01	0.297	O					6.81
65.500	0.00	0.01	0.297	O					6.81
65.667	0.00	0.01	0.297	O					6.81
65.833	0.00	0.01	0.297	O					6.80
66.000	0.00	0.01	0.296	O					6.80
66.167	0.00	0.01	0.296	O					6.80
66.333	0.00	0.01	0.296	O					6.80
66.500	0.00	0.01	0.296	O					6.80
66.667	0.00	0.01	0.296	O					6.80
66.833	0.00	0.01	0.296	O					6.80
67.000	0.00	0.01	0.296	O					6.80
67.167	0.00	0.01	0.296	O					6.80
67.333	0.00	0.01	0.296	O					6.80
67.500	0.00	0.01	0.296	O					6.80
67.667	0.00	0.01	0.296	O					6.80
67.833	0.00	0.01	0.296	O					6.80
68.000	0.00	0.01	0.295	O					6.80
68.167	0.00	0.01	0.295	O					6.79
68.333	0.00	0.01	0.295	O					6.79
68.500	0.00	0.01	0.295	O					6.79
68.667	0.00	0.01	0.295	O					6.79
68.833	0.00	0.01	0.295	O					6.79
69.000	0.00	0.01	0.295	O					6.79
69.167	0.00	0.01	0.295	O					6.79
69.333	0.00	0.01	0.295	O					6.79
69.500	0.00	0.01	0.295	O					6.79
69.667	0.00	0.01	0.295	O					6.79
69.833	0.00	0.01	0.294	O					6.79
70.000	0.00	0.01	0.294	O					6.79
70.167	0.00	0.01	0.294	O					6.79
70.333	0.00	0.01	0.294	O					6.79
70.500	0.00	0.01	0.294	O					6.78
70.667	0.00	0.01	0.294	O					6.78
70.833	0.00	0.01	0.294	O					6.78
71.000	0.00	0.01	0.294	O					6.78
71.167	0.00	0.01	0.294	O					6.78
71.333	0.00	0.01	0.294	O					6.78
71.500	0.00	0.01	0.294	O					6.78
71.667	0.00	0.01	0.294	O					6.78
71.833	0.00	0.01	0.293	O					6.78
72.000	0.00	0.01	0.293	O					6.78
72.167	0.00	0.01	0.293	O					6.78
72.333	0.00	0.01	0.293	O					6.78
72.500	0.00	0.01	0.293	O					6.78
72.667	0.00	0.01	0.293	O					6.78
72.833	0.00	0.01	0.293	O					6.77
73.000	0.00	0.01	0.293	O					6.77
73.167	0.00	0.01	0.293	O					6.77

73.333	0.00	0.01	0.293	O					6.77
73.500	0.00	0.01	0.293	O					6.77
73.667	0.00	0.01	0.293	O					6.77
73.833	0.00	0.01	0.293	O					6.77
74.000	0.00	0.01	0.292	O					6.77
74.167	0.00	0.01	0.292	O					6.77
74.333	0.00	0.01	0.292	O					6.77
74.500	0.00	0.01	0.292	O					6.77
74.667	0.00	0.01	0.292	O					6.77
74.833	0.00	0.01	0.292	O					6.77
75.000	0.00	0.01	0.292	O					6.77
75.167	0.00	0.01	0.292	O					6.77
75.333	0.00	0.01	0.292	O					6.76
75.500	0.00	0.01	0.292	O					6.76
75.667	0.00	0.01	0.292	O					6.76
75.833	0.00	0.01	0.292	O					6.76
76.000	0.00	0.01	0.291	O					6.76
76.167	0.00	0.01	0.291	O					6.76
76.333	0.00	0.01	0.291	O					6.76
76.500	0.00	0.01	0.291	O					6.76
76.667	0.00	0.01	0.291	O					6.76
76.833	0.00	0.01	0.291	O					6.76
77.000	0.00	0.01	0.291	O					6.76
77.167	0.00	0.01	0.291	O					6.76
77.333	0.00	0.01	0.291	O					6.76
77.500	0.00	0.01	0.291	O					6.76
77.667	0.00	0.01	0.291	O					6.76
77.833	0.00	0.01	0.291	O					6.76
78.000	0.00	0.01	0.291	O					6.75
78.167	0.00	0.01	0.290	O					6.75
78.333	0.00	0.01	0.290	O					6.75
78.500	0.00	0.01	0.290	O					6.75
78.667	0.00	0.01	0.290	O					6.75
78.833	0.00	0.01	0.290	O					6.75
79.000	0.00	0.01	0.290	O					6.75
79.167	0.00	0.01	0.290	O					6.75
79.333	0.00	0.01	0.290	O					6.75
79.500	0.00	0.01	0.290	O					6.75
79.667	0.00	0.01	0.290	O					6.75
79.833	0.00	0.01	0.290	O					6.75
80.000	0.00	0.01	0.290	O					6.75
80.167	0.00	0.01	0.290	O					6.75
80.333	0.00	0.01	0.289	O					6.75
80.500	0.00	0.01	0.289	O					6.74
80.667	0.00	0.01	0.289	O					6.74
80.833	0.00	0.01	0.289	O					6.74
81.000	0.00	0.01	0.289	O					6.74
81.167	0.00	0.01	0.289	O					6.74
81.333	0.00	0.01	0.289	O					6.74
81.500	0.00	0.01	0.289	O					6.74
81.667	0.00	0.01	0.289	O					6.74
81.833	0.00	0.01	0.289	O					6.74
82.000	0.00	0.01	0.289	O					6.74
82.167	0.00	0.01	0.289	O					6.74
82.333	0.00	0.01	0.289	O					6.74
82.500	0.00	0.01	0.289	O					6.74
82.667	0.00	0.01	0.288	O					6.74

82.833	0.00	0.01	0.288	O					6.74
83.000	0.00	0.01	0.288	O					6.74
83.167	0.00	0.01	0.288	O					6.74
83.333	0.00	0.01	0.288	O					6.73
83.500	0.00	0.01	0.288	O					6.73
83.667	0.00	0.01	0.288	O					6.73
83.833	0.00	0.01	0.288	O					6.73
84.000	0.00	0.01	0.288	O					6.73
84.167	0.00	0.01	0.288	O					6.73
84.333	0.00	0.01	0.288	O					6.73
84.500	0.00	0.01	0.288	O					6.73
84.667	0.00	0.01	0.288	O					6.73
84.833	0.00	0.01	0.288	O					6.73
85.000	0.00	0.01	0.287	O					6.73
85.167	0.00	0.01	0.287	O					6.73
85.333	0.00	0.01	0.287	O					6.73
85.500	0.00	0.01	0.287	O					6.73
85.667	0.00	0.01	0.287	O					6.73
85.833	0.00	0.01	0.287	O					6.73
86.000	0.00	0.01	0.287	O					6.73
86.167	0.00	0.01	0.287	O					6.72
86.333	0.00	0.01	0.287	O					6.72
86.500	0.00	0.01	0.287	O					6.72
86.667	0.00	0.01	0.287	O					6.72
86.833	0.00	0.01	0.287	O					6.72
87.000	0.00	0.00	0.287	O					6.72
87.167	0.00	0.00	0.287	O					6.72
87.333	0.00	0.00	0.286	O					6.72
87.500	0.00	0.00	0.286	O					6.72
87.667	0.00	0.00	0.286	O					6.72
87.833	0.00	0.00	0.286	O					6.72
88.000	0.00	0.00	0.286	O					6.72
88.167	0.00	0.00	0.286	O					6.72
88.333	0.00	0.00	0.286	O					6.72
88.500	0.00	0.00	0.286	O					6.72
88.667	0.00	0.00	0.286	O					6.72
88.833	0.00	0.00	0.286	O					6.72
89.000	0.00	0.00	0.286	O					6.71
89.167	0.00	0.00	0.286	O					6.71
89.333	0.00	0.00	0.286	O					6.71
89.500	0.00	0.00	0.286	O					6.71
89.667	0.00	0.00	0.286	O					6.71
89.833	0.00	0.00	0.285	O					6.71
90.000	0.00	0.00	0.285	O					6.71
90.167	0.00	0.00	0.285	O					6.71
90.333	0.00	0.00	0.285	O					6.71
90.500	0.00	0.00	0.285	O					6.71
90.667	0.00	0.00	0.285	O					6.71
90.833	0.00	0.00	0.285	O					6.71
91.000	0.00	0.00	0.285	O					6.71
91.167	0.00	0.00	0.285	O					6.71
91.333	0.00	0.00	0.285	O					6.71
91.500	0.00	0.00	0.285	O					6.71
91.667	0.00	0.00	0.285	O					6.71
91.833	0.00	0.00	0.285	O					6.71
92.000	0.00	0.00	0.285	O					6.71
92.167	0.00	0.00	0.285	O					6.70

92.333	0.00	0.00	0.284	O					6.70
92.500	0.00	0.00	0.284	O					6.70
92.667	0.00	0.00	0.284	O					6.70
92.833	0.00	0.00	0.284	O					6.70
93.000	0.00	0.00	0.284	O					6.70
93.167	0.00	0.00	0.284	O					6.70
93.333	0.00	0.00	0.284	O					6.70
93.500	0.00	0.00	0.284	O					6.70
93.667	0.00	0.00	0.284	O					6.70
93.833	0.00	0.00	0.284	O					6.70
94.000	0.00	0.00	0.284	O					6.70
94.167	0.00	0.00	0.284	O					6.70
94.333	0.00	0.00	0.284	O					6.70
94.500	0.00	0.00	0.284	O					6.70
94.667	0.00	0.00	0.284	O					6.70
94.833	0.00	0.00	0.284	O					6.70
95.000	0.00	0.00	0.283	O					6.70
95.167	0.00	0.00	0.283	O					6.70
95.333	0.00	0.00	0.283	O					6.69
95.500	0.00	0.00	0.283	O					6.69
95.667	0.00	0.00	0.283	O					6.69
95.833	0.00	0.00	0.283	O					6.69
96.000	0.00	0.00	0.283	O					6.69
96.167	0.00	0.00	0.283	O					6.69
96.333	0.00	0.00	0.283	O					6.69
96.500	0.00	0.00	0.283	O					6.69
96.667	0.00	0.00	0.283	O					6.69
96.833	0.00	0.00	0.283	O					6.69
97.000	0.00	0.00	0.283	O					6.69
97.167	0.00	0.00	0.283	O					6.69
97.333	0.00	0.00	0.283	O					6.69
97.500	0.00	0.00	0.283	O					6.69
97.667	0.00	0.00	0.282	O					6.69
97.833	0.00	0.00	0.282	O					6.69
98.000	0.00	0.00	0.282	O					6.69
98.167	0.00	0.00	0.282	O					6.69
98.333	0.00	0.00	0.282	O					6.69
98.500	0.00	0.00	0.282	O					6.68
98.667	0.00	0.00	0.282	O					6.68
98.833	0.00	0.00	0.282	O					6.68
99.000	0.00	0.00	0.282	O					6.68
99.167	0.00	0.00	0.282	O					6.68
99.333	0.00	0.00	0.282	O					6.68
99.500	0.00	0.00	0.282	O					6.68
99.667	0.00	0.00	0.282	O					6.68
99.833	0.00	0.00	0.282	O					6.68
100.000	0.00	0.00	0.282	O					6.68
100.167	0.00	0.00	0.282	O					6.68
100.333	0.00	0.00	0.282	O					6.68
100.500	0.00	0.00	0.281	O					6.68
100.667	0.00	0.00	0.281	O					6.68
100.833	0.00	0.00	0.281	O					6.68
101.000	0.00	0.00	0.281	O					6.68
101.167	0.00	0.00	0.281	O					6.68
101.333	0.00	0.00	0.281	O					6.68
101.500	0.00	0.00	0.281	O					6.68
101.667	0.00	0.00	0.281	O					6.68

101.833	0.00	0.00	0.281	O					6.68
102.000	0.00	0.00	0.281	O					6.67
102.167	0.00	0.00	0.281	O					6.67
102.333	0.00	0.00	0.281	O					6.67
102.500	0.00	0.00	0.281	O					6.67
102.667	0.00	0.00	0.281	O					6.67
102.833	0.00	0.00	0.281	O					6.67
103.000	0.00	0.00	0.281	O					6.67
103.167	0.00	0.00	0.281	O					6.67
103.333	0.00	0.00	0.281	O					6.67
103.500	0.00	0.00	0.280	O					6.67
103.667	0.00	0.00	0.280	O					6.67
103.833	0.00	0.00	0.280	O					6.67
104.000	0.00	0.00	0.280	O					6.67
104.167	0.00	0.00	0.280	O					6.67
104.333	0.00	0.00	0.280	O					6.67
104.500	0.00	0.00	0.280	O					6.67
104.667	0.00	0.00	0.280	O					6.67
104.833	0.00	0.00	0.280	O					6.67
105.000	0.00	0.00	0.280	O					6.67
105.167	0.00	0.00	0.280	O					6.67
105.333	0.00	0.00	0.280	O					6.67
105.500	0.00	0.00	0.280	O					6.66
105.667	0.00	0.00	0.280	O					6.66
105.833	0.00	0.00	0.280	O					6.66
106.000	0.00	0.00	0.280	O					6.66
106.167	0.00	0.00	0.280	O					6.66
106.333	0.00	0.00	0.280	O					6.66
106.500	0.00	0.00	0.279	O					6.66
106.667	0.00	0.00	0.279	O					6.66
106.833	0.00	0.00	0.279	O					6.66
107.000	0.00	0.00	0.279	O					6.66
107.167	0.00	0.00	0.279	O					6.66
107.333	0.00	0.00	0.279	O					6.66
107.500	0.00	0.00	0.279	O					6.66
107.667	0.00	0.00	0.279	O					6.66
107.833	0.00	0.00	0.279	O					6.66
108.000	0.00	0.00	0.279	O					6.66
108.167	0.00	0.00	0.279	O					6.66
108.333	0.00	0.00	0.279	O					6.66
108.500	0.00	0.00	0.279	O					6.66
108.667	0.00	0.00	0.279	O					6.66
108.833	0.00	0.00	0.279	O					6.66
109.000	0.00	0.00	0.279	O					6.66
109.167	0.00	0.00	0.279	O					6.66
109.333	0.00	0.00	0.279	O					6.65
109.500	0.00	0.00	0.279	O					6.65
109.667	0.00	0.00	0.278	O					6.65
109.833	0.00	0.00	0.278	O					6.65
110.000	0.00	0.00	0.278	O					6.65
110.167	0.00	0.00	0.278	O					6.65
110.333	0.00	0.00	0.278	O					6.65
110.500	0.00	0.00	0.278	O					6.65
110.667	0.00	0.00	0.278	O					6.65
110.833	0.00	0.00	0.278	O					6.65
111.000	0.00	0.00	0.278	O					6.65
111.167	0.00	0.00	0.278	O					6.65

111.333	0.00	0.00	0.278	O					6.65
111.500	0.00	0.00	0.278	O					6.65
111.667	0.00	0.00	0.278	O					6.65
111.833	0.00	0.00	0.278	O					6.65
112.000	0.00	0.00	0.278	O					6.65
112.167	0.00	0.00	0.278	O					6.65
112.333	0.00	0.00	0.278	O					6.65
112.500	0.00	0.00	0.278	O					6.65
112.667	0.00	0.00	0.278	O					6.65
112.833	0.00	0.00	0.277	O					6.65
113.000	0.00	0.00	0.277	O					6.65
113.167	0.00	0.00	0.277	O					6.64
113.333	0.00	0.00	0.277	O					6.64
113.500	0.00	0.00	0.277	O					6.64
113.667	0.00	0.00	0.277	O					6.64
113.833	0.00	0.00	0.277	O					6.64
114.000	0.00	0.00	0.277	O					6.64
114.167	0.00	0.00	0.277	O					6.64
114.333	0.00	0.00	0.277	O					6.64
114.500	0.00	0.00	0.277	O					6.64
114.667	0.00	0.00	0.277	O					6.64
114.833	0.00	0.00	0.277	O					6.64
115.000	0.00	0.00	0.277	O					6.64
115.167	0.00	0.00	0.277	O					6.64
115.333	0.00	0.00	0.277	O					6.64
115.500	0.00	0.00	0.277	O					6.64
115.667	0.00	0.00	0.277	O					6.64
115.833	0.00	0.00	0.277	O					6.64
116.000	0.00	0.00	0.277	O					6.64
116.167	0.00	0.00	0.277	O					6.64
116.333	0.00	0.00	0.276	O					6.64
116.500	0.00	0.00	0.276	O					6.64
116.667	0.00	0.00	0.276	O					6.64
116.833	0.00	0.00	0.276	O					6.64
117.000	0.00	0.00	0.276	O					6.64
117.167	0.00	0.00	0.276	O					6.64
117.333	0.00	0.00	0.276	O					6.63
117.500	0.00	0.00	0.276	O					6.63
117.667	0.00	0.00	0.276	O					6.63
117.833	0.00	0.00	0.276	O					6.63
118.000	0.00	0.00	0.276	O					6.63
118.167	0.00	0.00	0.276	O					6.63
118.333	0.00	0.00	0.276	O					6.63
118.500	0.00	0.00	0.276	O					6.63
118.667	0.00	0.00	0.276	O					6.63
118.833	0.00	0.00	0.276	O					6.63
119.000	0.00	0.00	0.276	O					6.63
119.167	0.00	0.00	0.276	O					6.63
119.333	0.00	0.00	0.276	O					6.63
119.500	0.00	0.00	0.276	O					6.63
119.667	0.00	0.00	0.276	O					6.63
119.833	0.00	0.00	0.275	O					6.63
120.000	0.00	0.00	0.275	O					6.63
120.167	0.00	0.00	0.275	O					6.63
120.333	0.00	0.00	0.275	O					6.63
120.500	0.00	0.00	0.275	O					6.63
120.667	0.00	0.00	0.275	O					6.63

120.833	0.00	0.00	0.275	O					6.63
121.000	0.00	0.00	0.275	O					6.63
121.167	0.00	0.00	0.275	O					6.63
121.333	0.00	0.00	0.275	O					6.63
121.500	0.00	0.00	0.275	O					6.63
121.667	0.00	0.00	0.275	O					6.62
121.833	0.00	0.00	0.275	O					6.62
122.000	0.00	0.00	0.275	O					6.62
122.167	0.00	0.00	0.275	O					6.62
122.333	0.00	0.00	0.275	O					6.62
122.500	0.00	0.00	0.275	O					6.62
122.667	0.00	0.00	0.275	O					6.62
122.833	0.00	0.00	0.275	O					6.62
123.000	0.00	0.00	0.275	O					6.62
123.167	0.00	0.00	0.275	O					6.62
123.333	0.00	0.00	0.275	O					6.62
123.500	0.00	0.00	0.274	O					6.62
123.667	0.00	0.00	0.274	O					6.62
123.833	0.00	0.00	0.274	O					6.62
124.000	0.00	0.00	0.274	O					6.62
124.167	0.00	0.00	0.274	O					6.62
124.333	0.00	0.00	0.274	O					6.62
124.500	0.00	0.00	0.274	O					6.62
124.667	0.00	0.00	0.274	O					6.62
124.833	0.00	0.00	0.274	O					6.62
125.000	0.00	0.00	0.274	O					6.62
125.167	0.00	0.00	0.274	O					6.62
125.333	0.00	0.00	0.274	O					6.62
125.500	0.00	0.00	0.274	O					6.62
125.667	0.00	0.00	0.274	O					6.62
125.833	0.00	0.00	0.274	O					6.62
126.000	0.00	0.00	0.274	O					6.62
126.167	0.00	0.00	0.274	O					6.62
126.333	0.00	0.00	0.274	O					6.61
126.500	0.00	0.00	0.274	O					6.61
126.667	0.00	0.00	0.274	O					6.61
126.833	0.00	0.00	0.274	O					6.61
127.000	0.00	0.00	0.274	O					6.61
127.167	0.00	0.00	0.274	O					6.61
127.333	0.00	0.00	0.274	O					6.61
127.500	0.00	0.00	0.273	O					6.61
127.667	0.00	0.00	0.273	O					6.61
127.833	0.00	0.00	0.273	O					6.61
128.000	0.00	0.00	0.273	O					6.61
128.167	0.00	0.00	0.273	O					6.61
128.333	0.00	0.00	0.273	O					6.61
128.500	0.00	0.00	0.273	O					6.61
128.667	0.00	0.00	0.273	O					6.61
128.833	0.00	0.00	0.273	O					6.61
129.000	0.00	0.00	0.273	O					6.61
129.167	0.00	0.00	0.273	O					6.61
129.333	0.00	0.00	0.273	O					6.61
129.500	0.00	0.00	0.273	O					6.61
129.667	0.00	0.00	0.273	O					6.61
129.833	0.00	0.00	0.273	O					6.61
130.000	0.00	0.00	0.273	O					6.61
130.167	0.00	0.00	0.273	O					6.61

130.333	0.00	0.00	0.273	O					6.61
130.500	0.00	0.00	0.273	O					6.61
130.667	0.00	0.00	0.273	O					6.61
130.833	0.00	0.00	0.273	O					6.61
131.000	0.00	0.00	0.273	O					6.61
131.167	0.00	0.00	0.273	O					6.60
131.333	0.00	0.00	0.273	O					6.60
131.500	0.00	0.00	0.272	O					6.60
131.667	0.00	0.00	0.272	O					6.60
131.833	0.00	0.00	0.272	O					6.60
132.000	0.00	0.00	0.272	O					6.60
132.167	0.00	0.00	0.272	O					6.60
132.333	0.00	0.00	0.272	O					6.60
132.500	0.00	0.00	0.272	O					6.60
132.667	0.00	0.00	0.272	O					6.60
132.833	0.00	0.00	0.272	O					6.60
133.000	0.00	0.00	0.272	O					6.60
133.167	0.00	0.00	0.272	O					6.60
133.333	0.00	0.00	0.272	O					6.60
133.500	0.00	0.00	0.272	O					6.60
133.667	0.00	0.00	0.272	O					6.60
133.833	0.00	0.00	0.272	O					6.60
134.000	0.00	0.00	0.272	O					6.60
134.167	0.00	0.00	0.272	O					6.60
134.333	0.00	0.00	0.272	O					6.60
134.500	0.00	0.00	0.272	O					6.60
134.667	0.00	0.00	0.272	O					6.60
134.833	0.00	0.00	0.272	O					6.60
135.000	0.00	0.00	0.272	O					6.60
135.167	0.00	0.00	0.272	O					6.60
135.333	0.00	0.00	0.272	O					6.60
135.500	0.00	0.00	0.272	O					6.60
135.667	0.00	0.00	0.272	O					6.60
135.833	0.00	0.00	0.271	O					6.60
136.000	0.00	0.00	0.271	O					6.60
136.167	0.00	0.00	0.271	O					6.60
136.333	0.00	0.00	0.271	O					6.59
136.500	0.00	0.00	0.271	O					6.59
136.667	0.00	0.00	0.271	O					6.59
136.833	0.00	0.00	0.271	O					6.59
137.000	0.00	0.00	0.271	O					6.59
137.167	0.00	0.00	0.271	O					6.59
137.333	0.00	0.00	0.271	O					6.59
137.500	0.00	0.00	0.271	O					6.59
137.667	0.00	0.00	0.271	O					6.59
137.833	0.00	0.00	0.271	O					6.59
138.000	0.00	0.00	0.271	O					6.59
138.167	0.00	0.00	0.271	O					6.59
138.333	0.00	0.00	0.271	O					6.59
138.500	0.00	0.00	0.271	O					6.59
138.667	0.00	0.00	0.271	O					6.59
138.833	0.00	0.00	0.271	O					6.59
139.000	0.00	0.00	0.271	O					6.59
139.167	0.00	0.00	0.271	O					6.59
139.333	0.00	0.00	0.271	O					6.59
139.500	0.00	0.00	0.271	O					6.59
139.667	0.00	0.00	0.271	O					6.59

139.833	0.00	0.00	0.271	O					6.59
140.000	0.00	0.00	0.271	O					6.59
140.167	0.00	0.00	0.271	O					6.59
140.333	0.00	0.00	0.271	O					6.59
140.500	0.00	0.00	0.270	O					6.59
140.667	0.00	0.00	0.270	O					6.59
140.833	0.00	0.00	0.270	O					6.59
141.000	0.00	0.00	0.270	O					6.59
141.167	0.00	0.00	0.270	O					6.59
141.333	0.00	0.00	0.270	O					6.59
141.500	0.00	0.00	0.270	O					6.59
141.667	0.00	0.00	0.270	O					6.59
141.833	0.00	0.00	0.270	O					6.58
142.000	0.00	0.00	0.270	O					6.58
142.167	0.00	0.00	0.270	O					6.58
142.333	0.00	0.00	0.270	O					6.58
142.500	0.00	0.00	0.270	O					6.58
142.667	0.00	0.00	0.270	O					6.58
142.833	0.00	0.00	0.270	O					6.58
143.000	0.00	0.00	0.270	O					6.58
143.167	0.00	0.00	0.270	O					6.58
143.333	0.00	0.00	0.270	O					6.58
143.500	0.00	0.00	0.270	O					6.58
143.667	0.00	0.00	0.270	O					6.58
143.833	0.00	0.00	0.270	O					6.58
144.000	0.00	0.00	0.270	O					6.58
144.167	0.00	0.00	0.270	O					6.58
144.333	0.00	0.00	0.270	O					6.58
144.500	0.00	0.00	0.270	O					6.58
144.667	0.00	0.00	0.270	O					6.58
144.833	0.00	0.00	0.270	O					6.58
145.000	0.00	0.00	0.270	O					6.58
145.167	0.00	0.00	0.270	O					6.58
145.333	0.00	0.00	0.269	O					6.58
145.500	0.00	0.00	0.269	O					6.58
145.667	0.00	0.00	0.269	O					6.58
145.833	0.00	0.00	0.269	O					6.58
146.000	0.00	0.00	0.269	O					6.58
146.167	0.00	0.00	0.269	O					6.58
146.333	0.00	0.00	0.269	O					6.58
146.500	0.00	0.00	0.269	O					6.58
146.667	0.00	0.00	0.269	O					6.58
146.833	0.00	0.00	0.269	O					6.58
147.000	0.00	0.00	0.269	O					6.58
147.167	0.00	0.00	0.269	O					6.58
147.333	0.00	0.00	0.269	O					6.58
147.500	0.00	0.00	0.269	O					6.58
147.667	0.00	0.00	0.269	O					6.58
147.833	0.00	0.00	0.269	O					6.57
148.000	0.00	0.00	0.269	O					6.57
148.167	0.00	0.00	0.269	O					6.57
148.333	0.00	0.00	0.269	O					6.57
148.500	0.00	0.00	0.269	O					6.57
148.667	0.00	0.00	0.269	O					6.57
148.833	0.00	0.00	0.269	O					6.57
149.000	0.00	0.00	0.269	O					6.57
149.167	0.00	0.00	0.269	O					6.57

149.333	0.00	0.00	0.269	O					6.57
149.500	0.00	0.00	0.269	O					6.57
149.667	0.00	0.00	0.269	O					6.57
149.833	0.00	0.00	0.269	O					6.57
150.000	0.00	0.00	0.269	O					6.57
150.167	0.00	0.00	0.269	O					6.57
150.333	0.00	0.00	0.269	O					6.57
150.500	0.00	0.00	0.268	O					6.57
150.667	0.00	0.00	0.268	O					6.57
150.833	0.00	0.00	0.268	O					6.57
151.000	0.00	0.00	0.268	O					6.57
151.167	0.00	0.00	0.268	O					6.57
151.333	0.00	0.00	0.268	O					6.57
151.500	0.00	0.00	0.268	O					6.57
151.667	0.00	0.00	0.268	O					6.57
151.833	0.00	0.00	0.268	O					6.57
152.000	0.00	0.00	0.268	O					6.57
152.167	0.00	0.00	0.268	O					6.57
152.333	0.00	0.00	0.268	O					6.57
152.500	0.00	0.00	0.268	O					6.57
152.667	0.00	0.00	0.268	O					6.57
152.833	0.00	0.00	0.268	O					6.57
153.000	0.00	0.00	0.268	O					6.57
153.167	0.00	0.00	0.268	O					6.57
153.333	0.00	0.00	0.268	O					6.57
153.500	0.00	0.00	0.268	O					6.57
153.667	0.00	0.00	0.268	O					6.57
153.833	0.00	0.00	0.268	O					6.57
154.000	0.00	0.00	0.268	O					6.57
154.167	0.00	0.00	0.268	O					6.57
154.333	0.00	0.00	0.268	O					6.56
154.500	0.00	0.00	0.268	O					6.56
154.667	0.00	0.00	0.268	O					6.56
154.833	0.00	0.00	0.268	O					6.56
155.000	0.00	0.00	0.268	O					6.56
155.167	0.00	0.00	0.268	O					6.56
155.333	0.00	0.00	0.268	O					6.56
155.500	0.00	0.00	0.268	O					6.56
155.667	0.00	0.00	0.268	O					6.56
155.833	0.00	0.00	0.268	O					6.56
156.000	0.00	0.00	0.267	O					6.56
156.167	0.00	0.00	0.267	O					6.56
156.333	0.00	0.00	0.267	O					6.56
156.500	0.00	0.00	0.267	O					6.56
156.667	0.00	0.00	0.267	O					6.56
156.833	0.00	0.00	0.267	O					6.56
157.000	0.00	0.00	0.267	O					6.56
157.167	0.00	0.00	0.267	O					6.56
157.333	0.00	0.00	0.267	O					6.56
157.500	0.00	0.00	0.267	O					6.56
157.667	0.00	0.00	0.267	O					6.56
157.833	0.00	0.00	0.267	O					6.56
158.000	0.00	0.00	0.267	O					6.56
158.167	0.00	0.00	0.267	O					6.56
158.333	0.00	0.00	0.267	O					6.56
158.500	0.00	0.00	0.267	O					6.56
158.667	0.00	0.00	0.267	O					6.56

158.833	0.00	0.00	0.267	O					6.56
159.000	0.00	0.00	0.267	O					6.56
159.167	0.00	0.00	0.267	O					6.56
159.333	0.00	0.00	0.267	O					6.56
159.500	0.00	0.00	0.267	O					6.56
159.667	0.00	0.00	0.267	O					6.56
159.833	0.00	0.00	0.267	O					6.56
160.000	0.00	0.00	0.267	O					6.56
160.167	0.00	0.00	0.267	O					6.56
160.333	0.00	0.00	0.267	O					6.56
160.500	0.00	0.00	0.267	O					6.56
160.667	0.00	0.00	0.267	O					6.56
160.833	0.00	0.00	0.267	O					6.56
161.000	0.00	0.00	0.267	O					6.56
161.167	0.00	0.00	0.267	O					6.56
161.333	0.00	0.00	0.267	O					6.55
161.500	0.00	0.00	0.267	O					6.55
161.667	0.00	0.00	0.267	O					6.55
161.833	0.00	0.00	0.266	O					6.55
162.000	0.00	0.00	0.266	O					6.55
162.167	0.00	0.00	0.266	O					6.55
162.333	0.00	0.00	0.266	O					6.55
162.500	0.00	0.00	0.266	O					6.55
162.667	0.00	0.00	0.266	O					6.55
162.833	0.00	0.00	0.266	O					6.55
163.000	0.00	0.00	0.266	O					6.55
163.167	0.00	0.00	0.266	O					6.55
163.333	0.00	0.00	0.266	O					6.55
163.500	0.00	0.00	0.266	O					6.55
163.667	0.00	0.00	0.266	O					6.55
163.833	0.00	0.00	0.266	O					6.55
164.000	0.00	0.00	0.266	O					6.55
164.167	0.00	0.00	0.266	O					6.55
164.333	0.00	0.00	0.266	O					6.55
164.500	0.00	0.00	0.266	O					6.55
164.667	0.00	0.00	0.266	O					6.55
164.833	0.00	0.00	0.266	O					6.55
165.000	0.00	0.00	0.266	O					6.55
165.167	0.00	0.00	0.266	O					6.55
165.333	0.00	0.00	0.266	O					6.55
165.500	0.00	0.00	0.266	O					6.55
165.667	0.00	0.00	0.266	O					6.55
165.833	0.00	0.00	0.266	O					6.55
166.000	0.00	0.00	0.266	O					6.55
166.167	0.00	0.00	0.266	O					6.55
166.333	0.00	0.00	0.266	O					6.55
166.500	0.00	0.00	0.266	O					6.55
166.667	0.00	0.00	0.266	O					6.55
166.833	0.00	0.00	0.266	O					6.55
167.000	0.00	0.00	0.266	O					6.55
167.167	0.00	0.00	0.266	O					6.55
167.333	0.00	0.00	0.266	O					6.55
167.500	0.00	0.00	0.266	O					6.55
167.667	0.00	0.00	0.266	O					6.55
167.833	0.00	0.00	0.266	O					6.55
168.000	0.00								

168.333	0.00	0.00	0.265	O					6.55
168.500	0.00	0.00	0.265	O					6.55
168.667	0.00	0.00	0.265	O					6.55
168.833	0.00	0.00	0.265	O					6.54
169.000	0.00	0.00	0.265	O					6.54
169.167	0.00	0.00	0.265	O					6.54
169.333	0.00	0.00	0.265	O					6.54
169.500	0.00	0.00	0.265	O					6.54
169.667	0.00	0.00	0.265	O					6.54
169.833	0.00	0.00	0.265	O					6.54
170.000	0.00	0.00	0.265	O					6.54
170.167	0.00	0.00	0.265	O					6.54
170.333	0.00	0.00	0.265	O					6.54
170.500	0.00	0.00	0.265	O					6.54
170.667	0.00	0.00	0.265	O					6.54
170.833	0.00	0.00	0.265	O					6.54
171.000	0.00	0.00	0.265	O					6.54
171.167	0.00	0.00	0.265	O					6.54
171.333	0.00	0.00	0.265	O					6.54
171.500	0.00	0.00	0.265	O					6.54
171.667	0.00	0.00	0.265	O					6.54
171.833	0.00	0.00	0.265	O					6.54
172.000	0.00	0.00	0.265	O					6.54
172.167	0.00	0.00	0.265	O					6.54
172.333	0.00	0.00	0.265	O					6.54
172.500	0.00	0.00	0.265	O					6.54
172.667	0.00	0.00	0.265	O					6.54
172.833	0.00	0.00	0.265	O					6.54
173.000	0.00	0.00	0.265	O					6.54
173.167	0.00	0.00	0.265	O					6.54
173.333	0.00	0.00	0.265	O					6.54
173.500	0.00	0.00	0.265	O					6.54
173.667	0.00	0.00	0.265	O					6.54
173.833	0.00	0.00	0.265	O					6.54
174.000	0.00	0.00	0.265	O					6.54
174.167	0.00	0.00	0.265	O					6.54
174.333	0.00	0.00	0.265	O					6.54
174.500	0.00	0.00	0.265	O					6.54
174.667	0.00	0.00	0.265	O					6.54
174.833	0.00	0.00	0.265	O					6.54
175.000	0.00	0.00	0.265	O					6.54
175.167	0.00	0.00	0.264	O					6.54
175.333	0.00	0.00	0.264	O					6.54
175.500	0.00	0.00	0.264	O					6.54
175.667	0.00	0.00	0.264	O					6.54
175.833	0.00	0.00	0.264	O					6.54
176.000	0.00	0.00	0.264	O					6.54
176.167	0.00	0.00	0.264	O					6.54
176.333	0.00	0.00	0.264	O					6.54
176.500	0.00	0.00	0.264	O					6.54
176.667	0.00	0.00	0.264	O					6.54
176.833	0.00	0.00	0.264	O					6.54
177.000	0.00	0.00	0.264	O					6.54
177.167	0.00	0.00	0.264	O					6.54
177.333	0.00	0.00	0.264	O					6.53
177.500	0.00	0.00	0.264	O					6.53
177.667	0.00	0.00	0.264	O					6.53

177.833	0.00	0.00	0.264	O					6.53
178.000	0.00	0.00	0.264	O					6.53
178.167	0.00	0.00	0.264	O					6.53
178.333	0.00	0.00	0.264	O					6.53
178.500	0.00	0.00	0.264	O					6.53
178.667	0.00	0.00	0.264	O					6.53
178.833	0.00	0.00	0.264	O					6.53
179.000	0.00	0.00	0.264	O					6.53
179.167	0.00	0.00	0.264	O					6.53
179.333	0.00	0.00	0.264	O					6.53
179.500	0.00	0.00	0.264	O					6.53
179.667	0.00	0.00	0.264	O					6.53
179.833	0.00	0.00	0.264	O					6.53
180.000	0.00	0.00	0.264	O					6.53
180.167	0.00	0.00	0.264	O					6.53
180.333	0.00	0.00	0.264	O					6.53
180.500	0.00	0.00	0.264	O					6.53
180.667	0.00	0.00	0.264	O					6.53
180.833	0.00	0.00	0.264	O					6.53
181.000	0.00	0.00	0.264	O					6.53
181.167	0.00	0.00	0.264	O					6.53
181.333	0.00	0.00	0.264	O					6.53
181.500	0.00	0.00	0.264	O					6.53
181.667	0.00	0.00	0.264	O					6.53
181.833	0.00	0.00	0.264	O					6.53
182.000	0.00	0.00	0.264	O					6.53
182.167	0.00	0.00	0.264	O					6.53
182.333	0.00	0.00	0.264	O					6.53
182.500	0.00	0.00	0.264	O					6.53
182.667	0.00	0.00	0.263	O					6.53
182.833	0.00	0.00	0.263	O					6.53
183.000	0.00	0.00	0.263	O					6.53
183.167	0.00	0.00	0.263	O					6.53
183.333	0.00	0.00	0.263	O					6.53
183.500	0.00	0.00	0.263	O					6.53
183.667	0.00	0.00	0.263	O					6.53
183.833	0.00	0.00	0.263	O					6.53
184.000	0.00	0.00	0.263	O					6.53
184.167	0.00	0.00	0.263	O					6.53
184.333	0.00	0.00	0.263	O					6.53
184.500	0.00	0.00	0.263	O					6.53
184.667	0.00	0.00	0.263	O					6.53
184.833	0.00	0.00	0.263	O					6.53
185.000	0.00	0.00	0.263	O					6.53
185.167	0.00	0.00	0.263	O					6.53
185.333	0.00	0.00	0.263	O					6.53
185.500	0.00	0.00	0.263	O					6.53
185.667	0.00	0.00	0.263	O					6.53
185.833	0.00	0.00	0.263	O					6.53
186.000	0.00	0.00	0.263	O					6.53
186.167	0.00	0.00	0.263	O					6.53
186.333	0.00	0.00	0.263	O					6.53
186.500	0.00	0.00	0.263	O					6.53
186.667	0.00	0.00	0.263	O					6.53
186.833	0.00	0.00	0.263	O					6.52
187.000	0.00	0.00	0.263	O					6.52
187.167	0.00	0.00	0.263	O					6.52

187.333	0.00	0.00	0.263	O					6.52
187.500	0.00	0.00	0.263	O					6.52
187.667	0.00	0.00	0.263	O					6.52
187.833	0.00	0.00	0.263	O					6.52
188.000	0.00	0.00	0.263	O					6.52
188.167	0.00	0.00	0.263	O					6.52
188.333	0.00	0.00	0.263	O					6.52
188.500	0.00	0.00	0.263	O					6.52
188.667	0.00	0.00	0.263	O					6.52
188.833	0.00	0.00	0.263	O					6.52
189.000	0.00	0.00	0.263	O					6.52
189.167	0.00	0.00	0.263	O					6.52
189.333	0.00	0.00	0.263	O					6.52
189.500	0.00	0.00	0.263	O					6.52
189.667	0.00	0.00	0.263	O					6.52
189.833	0.00	0.00	0.263	O					6.52
190.000	0.00	0.00	0.263	O					6.52
190.167	0.00	0.00	0.263	O					6.52
190.333	0.00	0.00	0.263	O					6.52
190.500	0.00	0.00	0.263	O					6.52
190.667	0.00	0.00	0.263	O					6.52
190.833	0.00	0.00	0.263	O					6.52
191.000	0.00	0.00	0.262	O					6.52
191.167	0.00	0.00	0.262	O					6.52
191.333	0.00	0.00	0.262	O					6.52
191.500	0.00	0.00	0.262	O					6.52
191.667	0.00	0.00	0.262	O					6.52
191.833	0.00	0.00	0.262	O					6.52
192.000	0.00	0.00	0.262	O					6.52
192.167	0.00	0.00	0.262	O					6.52
192.333	0.00	0.00	0.262	O					6.52
192.500	0.00	0.00	0.262	O					6.52
192.667	0.00	0.00	0.262	O					6.52
192.833	0.00	0.00	0.262	O					6.52
193.000	0.00	0.00	0.262	O					6.52
193.167	0.00	0.00	0.262	O					6.52
193.333	0.00	0.00	0.262	O					6.52
193.500	0.00	0.00	0.262	O					6.52
193.667	0.00	0.00	0.262	O					6.52
193.833	0.00	0.00	0.262	O					6.52
194.000	0.00	0.00	0.262	O					6.52
194.167	0.00	0.00	0.262	O					6.52
194.333	0.00	0.00	0.262	O					6.52
194.500	0.00	0.00	0.262	O					6.52
194.667	0.00	0.00	0.262	O					6.52
194.833	0.00	0.00	0.262	O					6.52
195.000	0.00	0.00	0.262	O					6.52
195.167	0.00	0.00	0.262	O					6.52
195.333	0.00	0.00	0.262	O					6.52
195.500	0.00	0.00	0.262	O					6.52
195.667	0.00	0.00	0.262	O					6.52
195.833	0.00	0.00	0.262	O					6.52
196.000	0.00	0.00	0.262	O					6.52
196.167	0.00	0.00	0.262	O					6.52
196.333	0.00	0.00	0.262	O					6.52
196.500	0.00								

196.833	0.00	0.00	0.262	O					6.52
197.000	0.00	0.00	0.262	O					6.52
197.167	0.00	0.00	0.262	O					6.52
197.333	0.00	0.00	0.262	O					6.52
197.500	0.00	0.00	0.262	O					6.51
197.667	0.00	0.00	0.262	O					6.51
197.833	0.00	0.00	0.262	O					6.51
198.000	0.00	0.00	0.262	O					6.51
198.167	0.00	0.00	0.262	O					6.51
198.333	0.00	0.00	0.262	O					6.51
198.500	0.00	0.00	0.262	O					6.51
198.667	0.00	0.00	0.262	O					6.51
198.833	0.00	0.00	0.262	O					6.51
199.000	0.00	0.00	0.262	O					6.51
199.167	0.00	0.00	0.262	O					6.51
199.333	0.00	0.00	0.262	O					6.51
199.500	0.00	0.00	0.262	O					6.51
199.667	0.00	0.00	0.262	O					6.51
199.833	0.00	0.00	0.262	O					6.51
200.000	0.00	0.00	0.262	O					6.51
200.167	0.00	0.00	0.262	O					6.51
200.333	0.00	0.00	0.261	O					6.51
200.500	0.00	0.00	0.261	O					6.51
200.667	0.00	0.00	0.261	O					6.51
200.833	0.00	0.00	0.261	O					6.51
201.000	0.00	0.00	0.261	O					6.51
201.167	0.00	0.00	0.261	O					6.51
201.333	0.00	0.00	0.261	O					6.51
201.500	0.00	0.00	0.261	O					6.51
201.667	0.00	0.00	0.261	O					6.51
201.833	0.00	0.00	0.261	O					6.51
202.000	0.00	0.00	0.261	O					6.51
202.167	0.00	0.00	0.261	O					6.51
202.333	0.00	0.00	0.261	O					6.51
202.500	0.00	0.00	0.261	O					6.51
202.667	0.00	0.00	0.261	O					6.51
202.833	0.00	0.00	0.261	O					6.51
203.000	0.00	0.00	0.261	O					6.51
203.167	0.00	0.00	0.261	O					6.51
203.333	0.00	0.00	0.261	O					6.51
203.500	0.00	0.00	0.261	O					6.51
203.667	0.00	0.00	0.261	O					6.51
203.833	0.00	0.00	0.261	O					6.51
204.000	0.00	0.00	0.261	O					6.51
204.167	0.00	0.00	0.261	O					6.51
204.333	0.00	0.00	0.261	O					6.51
204.500	0.00	0.00	0.261	O					6.51
204.667	0.00	0.00	0.261	O					6.51
204.833	0.00	0.00	0.261	O					6.51
205.000	0.00	0.00	0.261	O					6.51
205.167	0.00	0.00	0.261	O					6.51
205.333	0.00	0.00	0.261	O					6.51
205.500	0.00	0.00	0.261	O					6.51
205.667	0.00	0.00	0.261	O					6.51
205.833	0.00	0.00	0.261	O					6.51
206.000	0.00	0.00	0.261	O					6.51
206.167	0.00	0.00	0.261	O					6.51

206.333	0.00	0.00	0.261	0					6.51
206.500	0.00	0.00	0.261	0					6.51
206.667	0.00	0.00	0.261	0					6.51
206.833	0.00	0.00	0.261	0					6.51
207.000	0.00	0.00	0.261	0					6.51
207.167	0.00	0.00	0.261	0					6.51
207.333	0.00	0.00	0.261	0					6.51
207.500	0.00	0.00	0.261	0					6.51
207.667	0.00	0.00	0.261	0					6.51
207.833	0.00	0.00	0.261	0					6.51
208.000	0.00	0.00	0.261	0					6.51
208.167	0.00	0.00	0.261	0					6.51
208.333	0.00	0.00	0.261	0					6.51
208.500	0.00	0.00	0.261	0					6.51
208.667	0.00	0.00	0.261	0					6.51
208.833	0.00	0.00	0.261	0					6.51
209.000	0.00	0.00	0.261	0					6.51
209.167	0.00	0.00	0.261	0					6.51
209.333	0.00	0.00	0.261	0					6.51
209.500	0.00	0.00	0.261	0					6.51
209.667	0.00	0.00	0.261	0					6.51
209.833	0.00	0.00	0.261	0					6.50
210.000	0.00	0.00	0.261	0					6.50
210.167	0.00	0.00	0.261	0					6.50
210.333	0.00	0.00	0.261	0					6.50
210.500	0.00	0.00	0.261	0					6.50
210.667	0.00	0.00	0.261	0					6.50
210.833	0.00	0.00	0.261	0					6.50
211.000	0.00	0.00	0.260	0					6.50
211.167	0.00	0.00	0.260	0					6.50
211.333	0.00	0.00	0.260	0					6.50
211.500	0.00	0.00	0.260	0					6.50
211.667	0.00	0.00	0.260	0					6.50
211.833	0.00	0.00	0.260	0					6.50
212.000	0.00	0.00	0.260	0					6.50
212.167	0.00	0.00	0.260	0					6.50
212.333	0.00	0.00	0.260	0					6.50
212.500	0.00	0.00	0.260	0					6.50
212.667	0.00	0.00	0.260	0					6.50
212.833	0.00	0.00	0.260	0					6.50
213.000	0.00	0.00	0.260	0					6.50
213.167	0.00	0.00	0.260	0					6.50
213.333	0.00	0.00	0.260	0					6.50
213.500	0.00	0.00	0.260	0					6.50
213.667	0.00	0.00	0.260	0					6.50
213.833	0.00	0.00	0.260	0					6.50
214.000	0.00	0.00	0.260	0					6.50
214.167	0.00	0.00	0.260	0					6.50
214.333	0.00	0.00	0.260	0					6.50
214.500	0.00	0.00	0.260	0					6.50
214.667	0.00	0.00	0.260	0					6.50
214.833	0.00	0.00	0.260	0					

215.833	0.00	0.00	0.260	O					6.50
216.000	0.00	0.00	0.260	O					6.50
216.167	0.00	0.00	0.260	O					6.50
216.333	0.00	0.00	0.260	O					6.50
216.500	0.00	0.00	0.260	O					6.50
216.667	0.00	0.00	0.260	O					6.50
216.833	0.00	0.00	0.260	O					6.50

Remaining water in basin = 0.26 (Ac.Ft)

*****HYDROGRAPH DATA*****

Number of intervals = 1301
Time interval = 10.0 (Min.)
Maximum/Peak flow rate = 6.311 (CFS)
Total volume = 1.186 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

+++++
Process from Point/Station 2.000 to Point/Station 3.000
**** STREAM ROUTING SCS CONVEX METHOD ****

HYDROGRAPH STREAM ROUTING DATA:

Length of stream = 1265.00 (Ft.)
Elevation difference = 52.00 (Ft.)
Slope of channel = 0.041107 (Vert/Horiz)
Channel type - Pipe

Pipe length = 1265.00(Ft.) Elevation difference = 52.00(Ft.)
Manning's N = 0.013 No. of pipes = 1
Pipe evaluation using mean flow rate of hydrograph
Required pipe flow = 0.438(CFS)
Nearest computed pipe diameter = 6.00(In.)
Calculated individual pipe flow = 0.438(CFS)
Normal flow depth in pipe = 2.58(In.)
Flow top width inside pipe = 5.94(In.)
Critical Depth = 0.34(Ft.)
Pipe flow velocity = 5.42(Ft/s)
Travel time through pipe = 3.89 min.

Pipe length = 1265.00(Ft.) Elevation difference = 52.00(Ft.)
Manning's N = 0.013 No. of pipes = 1
Pipe evaluation using maximum flow rate of hydrograph
Required pipe flow = 6.311(CFS)
Nearest computed pipe diameter = 12.00(In.)
Calculated individual pipe flow = 6.311(CFS)
Normal flow depth in pipe = 8.68(In.)

Flow top width inside pipe = 10.73(In.)
 Critical depth could not be calculated.
 Pipe flow velocity = 10.37(Ft/s)
 Travel time through pipe = 2.03 min.

***** SCS CONVEX CHANNEL ROUTING *****

Convex method of stream routing data items:

Using equation: Outflow =

$O(t+dt) = (1-c^*)O(t+dt-dt^*) + \text{Input}(c^*)$

where $c^* = 1 - (1-c)^e$ and $dt = c(\text{length})/\text{velocity}$

$c(v/v+1.7) = 0.8591$ Travel time = 2.03 (min.)

$dt^*(\text{unit time interval}) = 10.00(\text{min.}), e = 4.1488$

$dt(\text{routing time-step}) = 1.75 (\text{min.}), c^* = 0.9997$

Output hydrograph delayed by 0 unit time increments

+++++

P R I N T O F S T O R M
 R u n o f f H y d r o g r a p h

 Hydrograph in 10 Minute intervals (CFS)

Time(h+m)	Out = O(CFS)	In = I	0	1.6	3.2	4.7	6.3
0+10	0.0000	0.00	0				
0+20	0.0001	0.00	0				
0+30	0.0003	0.00	0				
0+40	0.0004	0.00	0				
0+50	0.0006	0.00	0				
1+ 0	0.0008	0.00	0				
1+10	0.0009	0.00	0				
1+20	0.0010	0.00	0				
1+30	0.0010	0.00	0				
1+40	0.0010	0.00	0				
1+50	0.0010	0.00	0				
2+ 0	0.0010	0.00	0				
2+10	0.0010	0.00	0				
2+20	0.0010	0.00	0				
2+30	0.0010	0.00	0				
2+40	0.0010	0.00	0				
2+50	0.0010	0.00	0				
3+ 0	0.0010	0.00	0				
3+10	0.0010	0.00	0				
3+20	0.0010	0.00	0				
3+30	0.0010	0.00	0				
3+40	0.0010	0.00	0				
3+50	0.0010	0.00	0				
4+ 0	0.0010	0.00	0				
4+10	0.0010	0.00	0				
4+20	0.0010	0.00	0				
4+30	0.0010	0.00	0				
4+40	0.0010	0.00	0				
4+50	0.0010	0.00	0				
5+ 0	0.0010	0.00	0				

5+10	0.0010	0.00	O				
5+20	0.0010	0.00	O				
5+30	0.0010	0.00	O				
5+40	0.0010	0.00	O				
5+50	0.0010	0.00	O				
6+ 0	0.0010	0.00	O				
6+10	0.0010	0.00	O				
6+20	0.0010	0.00	O				
6+30	0.0010	0.00	O				
6+40	0.0010	0.00	O				
6+50	0.0010	0.00	O				
7+ 0	0.0010	0.00	O				
7+10	0.0010	0.00	O				
7+20	0.0010	0.00	O				
7+30	0.0010	0.00	O				
7+40	0.0015	0.00	O				
7+50	0.0025	0.00	O				
8+ 0	0.0035	0.00	O				
8+10	0.0046	0.00	O				
8+20	0.0057	0.01	O				
8+30	0.0068	0.01	O				
8+40	0.0078	0.01	O				
8+50	0.0089	0.01	O				
9+ 0	0.0183	0.02	O				
9+10	0.0598	0.07	O				
9+20	0.1045	0.11	O				
9+30	0.1458	0.15	O				
9+40	0.1840	0.19	O				
9+50	0.2194	0.23	O				
10+ 0	0.2522	0.26	O				
10+10	0.2828	0.29	O				
10+20	0.3113	0.32	OI				
10+30	0.3379	0.34	O				
10+40	0.3629	0.37	O				
10+50	0.3864	0.39	O				
11+ 0	0.4087	0.41	O				
11+10	0.4298	0.43	O				
11+20	0.4499	0.45	O				
11+30	0.4692	0.47	O				
11+40	0.4877	0.49	O				
11+50	0.5056	0.51	O				
12+ 0	0.5230	0.53	O				
12+10	0.5392	0.54	O				
12+20	0.5532	0.56	O				
12+30	0.5655	0.57	O				
12+40	0.5775	0.58	O				
12+50	0.5896	0.59	O				
13+ 0	0.6023	0.60	O				
13+10	0.6155	0.62	O				
13+20	0.6294	0.63	OI				
13+30	0.6442	0.65	O				
13+40	0.6599	0.66	O				
13+50	0.6767	0.68	O				
14+ 0	0.6948	0.70	O				
14+10	0.7143	0.72	O				
14+20	0.7355	0.74	O				
14+30	0.7588	0.76	O				

14+40	0.7845	0.79		OI					
14+50	0.8131	0.82		O					
15+ 0	0.8454	0.85		O					
15+10	0.8824	0.89		O					
15+20	1.2445	1.32			OI				
15+30	1.4638	1.49			O				
15+40	1.5536	1.57			O				
15+50	1.7881	1.84				O			
16+ 0	2.5085	2.65				OI			
16+10	4.5349	4.93					O	I	
16+20	6.0699	6.31							O I
16+30	4.5532	4.18					I O		
16+40	2.5063	2.15				I O			
16+50	1.8061	1.73			IO				
17+ 0	1.3840	1.31			O				
17+10	1.1059	1.06			IO				
17+20	0.9888	0.97			O				
17+30	0.9123	0.90		O					
17+40	0.8947	0.89		O					
17+50	0.8857	0.88		O					
18+ 0	0.8734	0.87		O					
18+10	0.8596	0.86		O					
18+20	0.8462	0.84		O					
18+30	0.8331	0.83		O					
18+40	0.8194	0.82		O					
18+50	0.8052	0.80		O					
19+ 0	0.7905	0.79		IO					
19+10	0.7755	0.77		O					
19+20	0.7603	0.76		O					
19+30	0.7450	0.74		O					
19+40	0.7298	0.73		O					
19+50	0.7147	0.71		O					
20+ 0	0.6999	0.70		O					
20+10	0.6854	0.68		O					
20+20	0.6711	0.67		O					
20+30	0.6572	0.65		O					
20+40	0.6437	0.64		O					
20+50	0.6306	0.63		O					
21+ 0	0.6179	0.62		O					
21+10	0.6056	0.60		O					
21+20	0.5937	0.59		O					
21+30	0.5822	0.58		O					
21+40	0.5711	0.57		O					
21+50	0.5604	0.56		O					
22+ 0	0.5500	0.55		O					
22+10	0.5401	0.54		O					
22+20	0.5305	0.53		O					
22+30	0.5212	0.52		O					
22+40	0.5123	0.51		O					
22+50	0.5038	0.50		O					
23+ 0	0.4955	0.49		O					
23+10	0.4876	0.49		O					
23+20	0.4799	0.48		O					
23+30	0.4725	0.47		O					
23+40	0.4654	0.46		O					
23+50	0.4586	0.46		O					
24+ 0	0.4520	0.45		O					

24+10	0.4407	0.44	O				
24+20	0.4176	0.41	O				
24+30	0.3861	0.38	O				
24+40	0.3536	0.35	O				
24+50	0.3225	0.32	O				
25+ 0	0.2936	0.29	O				
25+10	0.2671	0.26	O				
25+20	0.2431	0.24	O				
25+30	0.2212	0.22	O				
25+40	0.2013	0.20	O				
25+50	0.1831	0.18	O				
26+ 0	0.1666	0.16	O				
26+10	0.1516	0.15	O				
26+20	0.1380	0.14	O				
26+30	0.1256	0.12	O				
26+40	0.1142	0.11	O				
26+50	0.1040	0.10	O				
27+ 0	0.0946	0.09	O				
27+10	0.0861	0.08	O				
27+20	0.0783	0.08	O				
27+30	0.0713	0.07	O				
27+40	0.0649	0.06	O				
27+50	0.0590	0.06	O				
28+ 0	0.0537	0.05	O				
28+10	0.0489	0.05	O				
28+20	0.0445	0.04	O				
28+30	0.0405	0.04	O				
28+40	0.0368	0.04	O				
28+50	0.0335	0.03	O				
29+ 0	0.0305	0.03	O				
29+10	0.0277	0.03	O				
29+20	0.0252	0.02	O				
29+30	0.0230	0.02	O				
29+40	0.0209	0.02	O				
29+50	0.0190	0.02	O				
30+ 0	0.0173	0.02	O				
30+10	0.0157	0.02	O				
30+20	0.0143	0.01	O				
30+30	0.0130	0.01	O				
30+40	0.0119	0.01	O				
30+50	0.0108	0.01	O				
31+ 0	0.0101	0.01	O				
31+10	0.0100	0.01	O				
31+20	0.0100	0.01	O				
31+30	0.0099	0.01	O				
31+40	0.0099	0.01	O				
31+50	0.0099	0.01	O				
32+ 0	0.0099	0.01	O				
32+10	0.0099	0.01	O				
32+20	0.0098	0.01	O				
32+30	0.0098	0.01	O				
32+40	0.0098	0.01	O				
32+50	0.0098	0.01	O				
33+ 0	0.0098	0.01	O				
33+10	0.0097	0.01	O				
33+20	0.0097	0.01	O				
33+30	0.0097	0.01	O				

33+40	0.0097	0.01	O				
33+50	0.0097	0.01	O				
34+ 0	0.0096	0.01	O				
34+10	0.0096	0.01	O				
34+20	0.0096	0.01	O				
34+30	0.0096	0.01	O				
34+40	0.0096	0.01	O				
34+50	0.0095	0.01	O				
35+ 0	0.0095	0.01	O				
35+10	0.0095	0.01	O				
35+20	0.0095	0.01	O				
35+30	0.0095	0.01	O				
35+40	0.0094	0.01	O				
35+50	0.0094	0.01	O				
36+ 0	0.0094	0.01	O				
36+10	0.0094	0.01	O				
36+20	0.0094	0.01	O				
36+30	0.0093	0.01	O				
36+40	0.0093	0.01	O				
36+50	0.0093	0.01	O				
37+ 0	0.0093	0.01	O				
37+10	0.0093	0.01	O				
37+20	0.0092	0.01	O				
37+30	0.0092	0.01	O				
37+40	0.0092	0.01	O				
37+50	0.0092	0.01	O				
38+ 0	0.0092	0.01	O				
38+10	0.0091	0.01	O				
38+20	0.0091	0.01	O				
38+30	0.0091	0.01	O				
38+40	0.0091	0.01	O				
38+50	0.0091	0.01	O				
39+ 0	0.0091	0.01	O				
39+10	0.0090	0.01	O				
39+20	0.0090	0.01	O				
39+30	0.0090	0.01	O				
39+40	0.0090	0.01	O				
39+50	0.0090	0.01	O				
40+ 0	0.0089	0.01	O				
40+10	0.0089	0.01	O				
40+20	0.0089	0.01	O				
40+30	0.0089	0.01	O				
40+40	0.0089	0.01	O				
40+50	0.0088	0.01	O				
41+ 0	0.0088	0.01	O				
41+10	0.0088	0.01	O				
41+20	0.0088	0.01	O				
41+30	0.0088	0.01	O				
41+40	0.0088	0.01	O				
41+50	0.0087	0.01	O				
42+ 0	0.0087	0.01	O				
42+10	0.0087	0.01	O				
42+20	0.0087	0.01	O				
42+30	0.0087	0.01	O				
42+40	0.0086	0.01	O				
42+50	0.0086	0.01	O				
43+ 0	0.0086	0.01	O				

43+10	0.0086	0.01	O				
43+20	0.0086	0.01	O				
43+30	0.0086	0.01	O				
43+40	0.0085	0.01	O				
43+50	0.0085	0.01	O				
44+ 0	0.0085	0.01	O				
44+10	0.0085	0.01	O				
44+20	0.0085	0.01	O				
44+30	0.0085	0.01	O				
44+40	0.0084	0.01	O				
44+50	0.0084	0.01	O				
45+ 0	0.0084	0.01	O				
45+10	0.0084	0.01	O				
45+20	0.0084	0.01	O				
45+30	0.0084	0.01	O				
45+40	0.0083	0.01	O				
45+50	0.0083	0.01	O				
46+ 0	0.0083	0.01	O				
46+10	0.0083	0.01	O				
46+20	0.0083	0.01	O				
46+30	0.0082	0.01	O				
46+40	0.0082	0.01	O				
46+50	0.0082	0.01	O				
47+ 0	0.0082	0.01	O				
47+10	0.0082	0.01	O				
47+20	0.0082	0.01	O				
47+30	0.0081	0.01	O				
47+40	0.0081	0.01	O				
47+50	0.0081	0.01	O				
48+ 0	0.0081	0.01	O				
48+10	0.0081	0.01	O				
48+20	0.0081	0.01	O				
48+30	0.0080	0.01	O				
48+40	0.0080	0.01	O				
48+50	0.0080	0.01	O				
49+ 0	0.0080	0.01	O				
49+10	0.0080	0.01	O				
49+20	0.0080	0.01	O				
49+30	0.0079	0.01	O				
49+40	0.0079	0.01	O				
49+50	0.0079	0.01	O				
50+ 0	0.0079	0.01	O				
50+10	0.0079	0.01	O				
50+20	0.0079	0.01	O				
50+30	0.0078	0.01	O				
50+40	0.0078	0.01	O				
50+50	0.0078	0.01	O				
51+ 0	0.0078	0.01	O				
51+10	0.0078	0.01	O				
51+20	0.0078	0.01	O				
51+30	0.0078	0.01	O				
51+40	0.0077	0.01	O				
51+50	0.0077	0.01	O				
52+ 0	0.0077	0.01	O				
52+10	0.0077	0.01	O				
52+20	0.0077	0.01	O				
52+30	0.0077	0.01	O				

52+40	0.0076	0.01	O				
52+50	0.0076	0.01	O				
53+ 0	0.0076	0.01	O				
53+10	0.0076	0.01	O				
53+20	0.0076	0.01	O				
53+30	0.0076	0.01	O				
53+40	0.0075	0.01	O				
53+50	0.0075	0.01	O				
54+ 0	0.0075	0.01	O				
54+10	0.0075	0.01	O				
54+20	0.0075	0.01	O				
54+30	0.0075	0.01	O				
54+40	0.0075	0.01	O				
54+50	0.0074	0.01	O				
55+ 0	0.0074	0.01	O				
55+10	0.0074	0.01	O				
55+20	0.0074	0.01	O				
55+30	0.0074	0.01	O				
55+40	0.0074	0.01	O				
55+50	0.0073	0.01	O				
56+ 0	0.0073	0.01	O				
56+10	0.0073	0.01	O				
56+20	0.0073	0.01	O				
56+30	0.0073	0.01	O				
56+40	0.0073	0.01	O				
56+50	0.0073	0.01	O				
57+ 0	0.0072	0.01	O				
57+10	0.0072	0.01	O				
57+20	0.0072	0.01	O				
57+30	0.0072	0.01	O				
57+40	0.0072	0.01	O				
57+50	0.0072	0.01	O				
58+ 0	0.0072	0.01	O				
58+10	0.0071	0.01	O				
58+20	0.0071	0.01	O				
58+30	0.0071	0.01	O				
58+40	0.0071	0.01	O				
58+50	0.0071	0.01	O				
59+ 0	0.0071	0.01	O				
59+10	0.0070	0.01	O				
59+20	0.0070	0.01	O				
59+30	0.0070	0.01	O				
59+40	0.0070	0.01	O				
59+50	0.0070	0.01	O				
60+ 0	0.0070	0.01	O				
60+10	0.0070	0.01	O				
60+20	0.0069	0.01	O				
60+30	0.0069	0.01	O				
60+40	0.0069	0.01	O				
60+50	0.0069	0.01	O				
61+ 0	0.0069	0.01	O				
61+10	0.0069	0.01	O				
61+20	0.0069	0.01	O				
61+30	0.0068	0.01	O				
61+40	0.0068	0.01	O				
61+50	0.0068	0.01	O				
62+ 0	0.0068	0.01	O				

62+10	0.0068	0.01	O				
62+20	0.0068	0.01	O				
62+30	0.0068	0.01	O				
62+40	0.0068	0.01	O				
62+50	0.0067	0.01	O				
63+ 0	0.0067	0.01	O				
63+10	0.0067	0.01	O				
63+20	0.0067	0.01	O				
63+30	0.0067	0.01	O				
63+40	0.0067	0.01	O				
63+50	0.0067	0.01	O				
64+ 0	0.0066	0.01	O				
64+10	0.0066	0.01	O				
64+20	0.0066	0.01	O				
64+30	0.0066	0.01	O				
64+40	0.0066	0.01	O				
64+50	0.0066	0.01	O				
65+ 0	0.0066	0.01	O				
65+10	0.0065	0.01	O				
65+20	0.0065	0.01	O				
65+30	0.0065	0.01	O				
65+40	0.0065	0.01	O				
65+50	0.0065	0.01	O				
66+ 0	0.0065	0.01	O				
66+10	0.0065	0.01	O				
66+20	0.0065	0.01	O				
66+30	0.0064	0.01	O				
66+40	0.0064	0.01	O				
66+50	0.0064	0.01	O				
67+ 0	0.0064	0.01	O				
67+10	0.0064	0.01	O				
67+20	0.0064	0.01	O				
67+30	0.0064	0.01	O				
67+40	0.0063	0.01	O				
67+50	0.0063	0.01	O				
68+ 0	0.0063	0.01	O				
68+10	0.0063	0.01	O				
68+20	0.0063	0.01	O				
68+30	0.0063	0.01	O				
68+40	0.0063	0.01	O				
68+50	0.0063	0.01	O				
69+ 0	0.0062	0.01	O				
69+10	0.0062	0.01	O				
69+20	0.0062	0.01	O				
69+30	0.0062	0.01	O				
69+40	0.0062	0.01	O				
69+50	0.0062	0.01	O				
70+ 0	0.0062	0.01	O				
70+10	0.0062	0.01	O				
70+20	0.0061	0.01	O				
70+30	0.0061	0.01	O				
70+40	0.0061	0.01	O				
70+50	0.0061	0.01	O				
71+ 0	0.0061	0.01	O				
71+10	0.0061	0.01	O				
71+20	0.0061	0.01	O				
71+30	0.0061	0.01	O				

71+40	0.0060	0.01	O				
71+50	0.0060	0.01	O				
72+ 0	0.0060	0.01	O				
72+10	0.0060	0.01	O				
72+20	0.0060	0.01	O				
72+30	0.0060	0.01	O				
72+40	0.0060	0.01	O				
72+50	0.0060	0.01	O				
73+ 0	0.0059	0.01	O				
73+10	0.0059	0.01	O				
73+20	0.0059	0.01	O				
73+30	0.0059	0.01	O				
73+40	0.0059	0.01	O				
73+50	0.0059	0.01	O				
74+ 0	0.0059	0.01	O				
74+10	0.0059	0.01	O				
74+20	0.0058	0.01	O				
74+30	0.0058	0.01	O				
74+40	0.0058	0.01	O				
74+50	0.0058	0.01	O				
75+ 0	0.0058	0.01	O				
75+10	0.0058	0.01	O				
75+20	0.0058	0.01	O				
75+30	0.0058	0.01	O				
75+40	0.0057	0.01	O				
75+50	0.0057	0.01	O				
76+ 0	0.0057	0.01	O				
76+10	0.0057	0.01	O				
76+20	0.0057	0.01	O				
76+30	0.0057	0.01	O				
76+40	0.0057	0.01	O				
76+50	0.0057	0.01	O				
77+ 0	0.0057	0.01	O				
77+10	0.0056	0.01	O				
77+20	0.0056	0.01	O				
77+30	0.0056	0.01	O				
77+40	0.0056	0.01	O				
77+50	0.0056	0.01	O				
78+ 0	0.0056	0.01	O				
78+10	0.0056	0.01	O				
78+20	0.0056	0.01	O				
78+30	0.0055	0.01	O				
78+40	0.0055	0.01	O				
78+50	0.0055	0.01	O				
79+ 0	0.0055	0.01	O				
79+10	0.0055	0.01	O				
79+20	0.0055	0.01	O				
79+30	0.0055	0.01	O				
79+40	0.0055	0.01	O				
79+50	0.0055	0.01	O				
80+ 0	0.0054	0.01	O				
80+10	0.0054	0.01	O				
80+20	0.0054	0.01	O				
80+30	0.0054	0.01	O				
80+40	0.0054	0.01	O				
80+50	0.0054	0.01	O				
81+ 0	0.0054	0.01	O				

81+10	0.0054	0.01	0				
81+20	0.0054	0.01	0				
81+30	0.0053	0.01	0				
81+40	0.0053	0.01	0				
81+50	0.0053	0.01	0				
82+ 0	0.0053	0.01	0				
82+10	0.0053	0.01	0				
82+20	0.0053	0.01	0				
82+30	0.0053	0.01	0				
82+40	0.0053	0.01	0				
82+50	0.0053	0.01	0				
83+ 0	0.0052	0.01	0				
83+10	0.0052	0.01	0				
83+20	0.0052	0.01	0				
83+30	0.0052	0.01	0				
83+40	0.0052	0.01	0				
83+50	0.0052	0.01	0				
84+ 0	0.0052	0.01	0				
84+10	0.0052	0.01	0				
84+20	0.0052	0.01	0				
84+30	0.0051	0.01	0				
84+40	0.0051	0.01	0				
84+50	0.0051	0.01	0				
85+ 0	0.0051	0.01	0				
85+10	0.0051	0.01	0				
85+20	0.0051	0.01	0				
85+30	0.0051	0.01	0				
85+40	0.0051	0.01	0				
85+50	0.0051	0.01	0				
86+ 0	0.0051	0.01	0				
86+10	0.0050	0.01	0				
86+20	0.0050	0.01	0				
86+30	0.0050	0.01	0				
86+40	0.0050	0.01	0				
86+50	0.0050	0.01	0				
87+ 0	0.0050	0.00	0				
87+10	0.0050	0.00	0				
87+20	0.0050	0.00	0				
87+30	0.0050	0.00	0				
87+40	0.0050	0.00	0				
87+50	0.0049	0.00	0				
88+ 0	0.0049	0.00	0				
88+10	0.0049	0.00	0				
88+20	0.0049	0.00	0				
88+30	0.0049	0.00	0				
88+40	0.0049	0.00	0				
88+50	0.0049	0.00	0				
89+ 0	0.0049	0.00	0				
89+10	0.0049	0.00	0				
89+20	0.0049	0.00	0				
89+30	0.0048	0.00	0				
89+40	0.0048	0.00	0				
89+50	0.0048	0.00	0				
90+ 0	0.0048	0.00	0				
90+10	0.0048	0.00	0				
90+20	0.0048	0.00	0				
90+30	0.0048	0.00	0				

90+40	0.0048	0.00	0				
90+50	0.0048	0.00	0				
91+ 0	0.0048	0.00	0				
91+10	0.0047	0.00	0				
91+20	0.0047	0.00	0				
91+30	0.0047	0.00	0				
91+40	0.0047	0.00	0				
91+50	0.0047	0.00	0				
92+ 0	0.0047	0.00	0				
92+10	0.0047	0.00	0				
92+20	0.0047	0.00	0				
92+30	0.0047	0.00	0				
92+40	0.0047	0.00	0				
92+50	0.0046	0.00	0				
93+ 0	0.0046	0.00	0				
93+10	0.0046	0.00	0				
93+20	0.0046	0.00	0				
93+30	0.0046	0.00	0				
93+40	0.0046	0.00	0				
93+50	0.0046	0.00	0				
94+ 0	0.0046	0.00	0				
94+10	0.0046	0.00	0				
94+20	0.0046	0.00	0				
94+30	0.0045	0.00	0				
94+40	0.0045	0.00	0				
94+50	0.0045	0.00	0				
95+ 0	0.0045	0.00	0				
95+10	0.0045	0.00	0				
95+20	0.0045	0.00	0				
95+30	0.0045	0.00	0				
95+40	0.0045	0.00	0				
95+50	0.0045	0.00	0				
96+ 0	0.0045	0.00	0				
96+10	0.0045	0.00	0				
96+20	0.0044	0.00	0				
96+30	0.0044	0.00	0				
96+40	0.0044	0.00	0				
96+50	0.0044	0.00	0				
97+ 0	0.0044	0.00	0				
97+10	0.0044	0.00	0				
97+20	0.0044	0.00	0				
97+30	0.0044	0.00	0				
97+40	0.0044	0.00	0				
97+50	0.0044	0.00	0				
98+ 0	0.0044	0.00	0				
98+10	0.0043	0.00	0				
98+20	0.0043	0.00	0				
98+30	0.0043	0.00	0				
98+40	0.0043	0.00	0				
98+50	0.0043	0.00	0				
99+ 0	0.0043	0.00	0				
99+10	0.0043	0.00	0				
99+20	0.0043	0.00	0				
99+30	0.0043	0.00	0				
99+40	0.0043	0.00	0				
99+50	0.0043	0.00	0				
100+ 0	0.0042	0.00	0				

100+10	0.0042	0.00	0				
100+20	0.0042	0.00	0				
100+30	0.0042	0.00	0				
100+40	0.0042	0.00	0				
100+50	0.0042	0.00	0				
101+ 0	0.0042	0.00	0				
101+10	0.0042	0.00	0				
101+20	0.0042	0.00	0				
101+30	0.0042	0.00	0				
101+40	0.0042	0.00	0				
101+50	0.0042	0.00	0				
102+ 0	0.0041	0.00	0				
102+10	0.0041	0.00	0				
102+20	0.0041	0.00	0				
102+30	0.0041	0.00	0				
102+40	0.0041	0.00	0				
102+50	0.0041	0.00	0				
103+ 0	0.0041	0.00	0				
103+10	0.0041	0.00	0				
103+20	0.0041	0.00	0				
103+30	0.0041	0.00	0				
103+40	0.0041	0.00	0				
103+50	0.0041	0.00	0				
104+ 0	0.0040	0.00	0				
104+10	0.0040	0.00	0				
104+20	0.0040	0.00	0				
104+30	0.0040	0.00	0				
104+40	0.0040	0.00	0				
104+50	0.0040	0.00	0				
105+ 0	0.0040	0.00	0				
105+10	0.0040	0.00	0				
105+20	0.0040	0.00	0				
105+30	0.0040	0.00	0				
105+40	0.0040	0.00	0				
105+50	0.0040	0.00	0				
106+ 0	0.0039	0.00	0				
106+10	0.0039	0.00	0				
106+20	0.0039	0.00	0				
106+30	0.0039	0.00	0				
106+40	0.0039	0.00	0				
106+50	0.0039	0.00	0				
107+ 0	0.0039	0.00	0				
107+10	0.0039	0.00	0				
107+20	0.0039	0.00	0				
107+30	0.0039	0.00	0				
107+40	0.0039	0.00	0				
107+50	0.0039	0.00	0				
108+ 0	0.0038	0.00	0				
108+10	0.0038	0.00	0				
108+20	0.0038	0.00	0				
108+30	0.0038	0.00	0				
108+40	0.0038	0.00	0				
108+50	0.0038	0.00	0				
109+ 0	0.0038	0.00	0				
109+10	0.0038	0.00	0				
109+20	0.0038	0.00	0				
109+30	0.0038	0.00	0				

109+40	0.0038	0.00	O				
109+50	0.0038	0.00	O				
110+ 0	0.0038	0.00	O				
110+10	0.0037	0.00	O				
110+20	0.0037	0.00	O				
110+30	0.0037	0.00	O				
110+40	0.0037	0.00	O				
110+50	0.0037	0.00	O				
111+ 0	0.0037	0.00	O				
111+10	0.0037	0.00	O				
111+20	0.0037	0.00	O				
111+30	0.0037	0.00	O				
111+40	0.0037	0.00	O				
111+50	0.0037	0.00	O				
112+ 0	0.0037	0.00	O				
112+10	0.0037	0.00	O				
112+20	0.0036	0.00	O				
112+30	0.0036	0.00	O				
112+40	0.0036	0.00	O				
112+50	0.0036	0.00	O				
113+ 0	0.0036	0.00	O				
113+10	0.0036	0.00	O				
113+20	0.0036	0.00	O				
113+30	0.0036	0.00	O				
113+40	0.0036	0.00	O				
113+50	0.0036	0.00	O				
114+ 0	0.0036	0.00	O				
114+10	0.0036	0.00	O				
114+20	0.0036	0.00	O				
114+30	0.0036	0.00	O				
114+40	0.0035	0.00	O				
114+50	0.0035	0.00	O				
115+ 0	0.0035	0.00	O				
115+10	0.0035	0.00	O				
115+20	0.0035	0.00	O				
115+30	0.0035	0.00	O				
115+40	0.0035	0.00	O				
115+50	0.0035	0.00	O				
116+ 0	0.0035	0.00	O				
116+10	0.0035	0.00	O				
116+20	0.0035	0.00	O				
116+30	0.0035	0.00	O				
116+40	0.0035	0.00	O				
116+50	0.0034	0.00	O				
117+ 0	0.0034	0.00	O				
117+10	0.0034	0.00	O				
117+20	0.0034	0.00	O				
117+30	0.0034	0.00	O				
117+40	0.0034	0.00	O				
117+50	0.0034	0.00	O				
118+ 0	0.0034	0.00	O				
118+10	0.0034	0.00	O				
118+20	0.0034	0.00	O				
118+30	0.0034	0.00	O				
118+40	0.0034	0.00	O				
118+50	0.0034	0.00	O				
119+ 0	0.0034	0.00	O				

119+10	0.0034	0.00	O				
119+20	0.0033	0.00	O				
119+30	0.0033	0.00	O				
119+40	0.0033	0.00	O				
119+50	0.0033	0.00	O				
120+ 0	0.0033	0.00	O				
120+10	0.0033	0.00	O				
120+20	0.0033	0.00	O				
120+30	0.0033	0.00	O				
120+40	0.0033	0.00	O				
120+50	0.0033	0.00	O				
121+ 0	0.0033	0.00	O				
121+10	0.0033	0.00	O				
121+20	0.0033	0.00	O				
121+30	0.0033	0.00	O				
121+40	0.0032	0.00	O				
121+50	0.0032	0.00	O				
122+ 0	0.0032	0.00	O				
122+10	0.0032	0.00	O				
122+20	0.0032	0.00	O				
122+30	0.0032	0.00	O				
122+40	0.0032	0.00	O				
122+50	0.0032	0.00	O				
123+ 0	0.0032	0.00	O				
123+10	0.0032	0.00	O				
123+20	0.0032	0.00	O				
123+30	0.0032	0.00	O				
123+40	0.0032	0.00	O				
123+50	0.0032	0.00	O				
124+ 0	0.0032	0.00	O				
124+10	0.0031	0.00	O				
124+20	0.0031	0.00	O				
124+30	0.0031	0.00	O				
124+40	0.0031	0.00	O				
124+50	0.0031	0.00	O				
125+ 0	0.0031	0.00	O				
125+10	0.0031	0.00	O				
125+20	0.0031	0.00	O				
125+30	0.0031	0.00	O				
125+40	0.0031	0.00	O				
125+50	0.0031	0.00	O				
126+ 0	0.0031	0.00	O				
126+10	0.0031	0.00	O				
126+20	0.0031	0.00	O				
126+30	0.0031	0.00	O				
126+40	0.0031	0.00	O				
126+50	0.0030	0.00	O				
127+ 0	0.0030	0.00	O				
127+10	0.0030	0.00	O				
127+20	0.0030	0.00	O				
127+30	0.0030	0.00	O				
127+40	0.0030	0.00	O				
127+50	0.0030	0.00	O				
128+ 0	0.0030	0.00	O				
128+10	0.0030	0.00	O				
128+20	0.0030	0.00	O				
128+30	0.0030	0.00	O				

128+40	0.0030	0.00	O				
128+50	0.0030	0.00	O				
129+ 0	0.0030	0.00	O				
129+10	0.0030	0.00	O				
129+20	0.0030	0.00	O				
129+30	0.0029	0.00	O				
129+40	0.0029	0.00	O				
129+50	0.0029	0.00	O				
130+ 0	0.0029	0.00	O				
130+10	0.0029	0.00	O				
130+20	0.0029	0.00	O				
130+30	0.0029	0.00	O				
130+40	0.0029	0.00	O				
130+50	0.0029	0.00	O				
131+ 0	0.0029	0.00	O				
131+10	0.0029	0.00	O				
131+20	0.0029	0.00	O				
131+30	0.0029	0.00	O				
131+40	0.0029	0.00	O				
131+50	0.0029	0.00	O				
132+ 0	0.0029	0.00	O				
132+10	0.0029	0.00	O				
132+20	0.0028	0.00	O				
132+30	0.0028	0.00	O				
132+40	0.0028	0.00	O				
132+50	0.0028	0.00	O				
133+ 0	0.0028	0.00	O				
133+10	0.0028	0.00	O				
133+20	0.0028	0.00	O				
133+30	0.0028	0.00	O				
133+40	0.0028	0.00	O				
133+50	0.0028	0.00	O				
134+ 0	0.0028	0.00	O				
134+10	0.0028	0.00	O				
134+20	0.0028	0.00	O				
134+30	0.0028	0.00	O				
134+40	0.0028	0.00	O				
134+50	0.0028	0.00	O				
135+ 0	0.0028	0.00	O				
135+10	0.0027	0.00	O				
135+20	0.0027	0.00	O				
135+30	0.0027	0.00	O				
135+40	0.0027	0.00	O				
135+50	0.0027	0.00	O				
136+ 0	0.0027	0.00	O				
136+10	0.0027	0.00	O				
136+20	0.0027	0.00	O				
136+30	0.0027	0.00	O				
136+40	0.0027	0.00	O				
136+50	0.0027	0.00	O				
137+ 0	0.0027	0.00	O				
137+10	0.0027	0.00	O				
137+20	0.0027	0.00	O				
137+30	0.0027	0.00	O				
137+40	0.0027	0.00	O				
137+50	0.0027	0.00	O				
138+ 0	0.0027	0.00	O				

138+10	0.0026	0.00	O				
138+20	0.0026	0.00	O				
138+30	0.0026	0.00	O				
138+40	0.0026	0.00	O				
138+50	0.0026	0.00	O				
139+ 0	0.0026	0.00	O				
139+10	0.0026	0.00	O				
139+20	0.0026	0.00	O				
139+30	0.0026	0.00	O				
139+40	0.0026	0.00	O				
139+50	0.0026	0.00	O				

*****HYDROGRAPH DATA*****

Number of intervals = 1302

Time interval = 10.0 (Min.)

Maximum/Peak flow rate = 6.070 (CFS)

Total volume = 1.186 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
--	----------	----------	----------	----------	----------

Peak (CFS)	0.000	0.000	0.000	0.000	0.000
------------	-------	-------	-------	-------	-------

Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000
-------------	-------	-------	-------	-------	-------

APPENDIX "D"

HYDRAULIC CALCULATIONS ON PROPOSED FACILITIES

Outlet Weir & Spillway Calculations

Worksheet for Broad Crested Weir - 1

Project Description	
Solve For	Headwater Elevation
Input Data	
Discharge	6.70 cfs
Crest Elevation	3,630.50 ft
Tailwater Elevation	0.00 ft
Crest Surface Type	Gravel
Crest Breadth	5.00 ft
Crest Length	20.0 ft
Results	
Headwater Elevation	3,630.75 ft
Headwater Height Above Crest	0.25 ft
Tailwater Height Above Crest	-3,630.50 ft
Weir Coefficient	$2.61 \text{ ft}^{(1/2)}/\text{s}$
Submergence Factor	1.000
Adjusted Weir Coefficient	$2.61 \text{ ft}^{(1/2)}/\text{s}$
Flow Area	5.1 ft ²
Velocity	1.32 ft/s
Wetted Perimeter	20.5 ft
Top Width	20.00 ft

Worksheet for Curb Inlet In Sag - 1

Project Description	
Solve For	Spread
Input Data	
Discharge	6.70 cfs
Gutter Width	2.00 ft
Gutter Cross Slope	0.020 ft/ft
Road Cross Slope	0.020 ft/ft
Curb Opening Length	14.0 ft
Opening Height	1.0 ft
Curb Throat Type	Horizontal
Local Depression	4.0 in
Local Depression Width	40.0 in
Throat Incline Angle	90.00 degrees
Results	
Spread	14.7 ft
Depth	3.5 in
Gutter Depression	0.0 in
Total Depression	4.0 in

IV. EXHIBITS

EXHIBIT A HYDROLOGIC SOILS MAP

EXHIBIT B PRECIPITATION MAPS

EXHIBIT C RATIONAL HYDROLOGY MAP

➤ Rational Hydrology Map On-Site

EXHIBIT D UNIT HYDROGRAPH HYDROLOGY MAP

EXHIBIT A

HYDROLOGIC SOILS MAP



United States
Department of
Agriculture

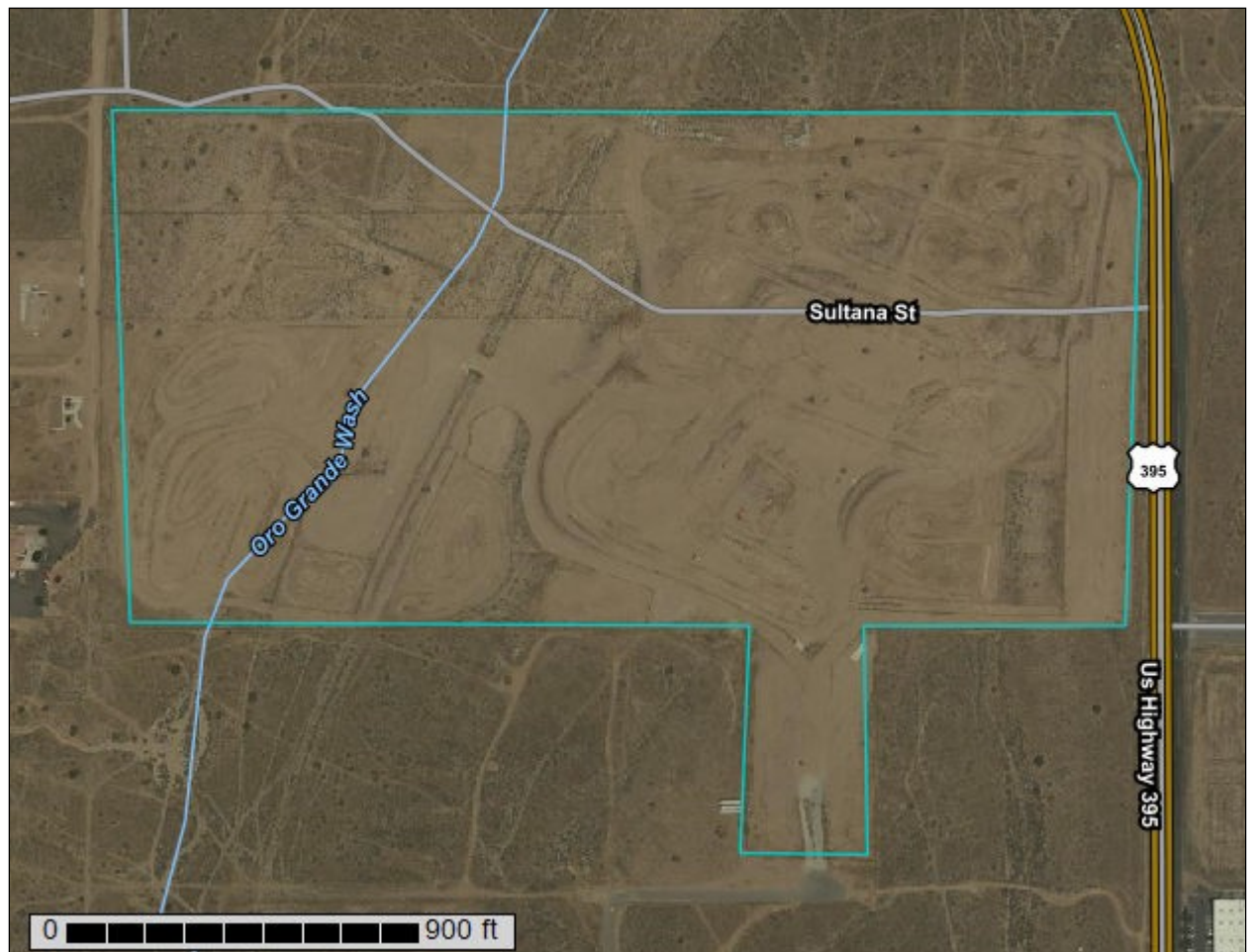
NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for San Bernardino County, California, Mojave River Area

Hesperia Project Preliminary Soil Report



August 19, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Bernardino County, California, Mojave River Area
Survey Area Data: Version 12, May 27, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 26, 2019—Jul 8, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
114	CAJON SAND, 9 TO 15 PERCENT SLOPES	11.7	14.4%
134	HESPERIA LOAMY FINE SAND, 2 TO 5 PERCENT SLOPES	69.8	85.6%
Totals for Area of Interest		81.5	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the

Custom Soil Resource Report

development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

San Bernardino County, California, Mojave River Area

114—CAJON SAND, 9 TO 15 PERCENT SLOPES

Map Unit Setting

National map unit symbol: hkr1
Elevation: 1,800 to 4,000 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 59 to 66 degrees F
Frost-free period: 180 to 290 days
Farmland classification: Not prime farmland

Map Unit Composition

Cajon, slope, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cajon, Slope

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite sources

Typical profile

H1 - 0 to 6 inches: sand
H2 - 6 to 42 inches: sand
H3 - 42 to 60 inches: gravelly sand

Properties and qualities

Slope: 9 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R030XF012CA - Sandy
Hydric soil rating: No

Minor Components

Cajon, steep

Percent of map unit: 5 percent
Hydric soil rating: No

Arizo

Percent of map unit: 5 percent

Hydric soil rating: No

Cajon, gravelly surface

Percent of map unit: 5 percent

Hydric soil rating: No

134—HESPERIA LOAMY FINE SAND, 2 TO 5 PERCENT SLOPES

Map Unit Setting

National map unit symbol: hks7

Elevation: 200 to 4,000 feet

Mean annual precipitation: 6 to 9 inches

Mean annual air temperature: 57 to 61 degrees F

Frost-free period: 150 to 250 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Hesperia and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hesperia

Setting

Landform: Fan aprons

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium derived from granite sources

Typical profile

H1 - 0 to 6 inches: loamy fine sand

H2 - 6 to 60 inches: sandy loam, coarse sandy loam

H2 - 6 to 60 inches:

Properties and qualities

Slope: 2 to 5 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 11.3 inches)

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Interpretive groups

Land capability classification (irrigated): 2e

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: A

Ecological site: R030XE006CA - COARSE LOAMY

Hydric soil rating: No

Minor Components

Cajon

Percent of map unit: 5 percent

Hydric soil rating: No

Wrightwood

Percent of map unit: 5 percent

Hydric soil rating: No

Bull trail

Percent of map unit: 3 percent

Hydric soil rating: No

Unnamed soils

Percent of map unit: 2 percent

Hydric soil rating: No

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EXHIBIT B

PRECIPITATION MAPS



NOAA Atlas 14, Volume 6, Version 2
Location name: Hesperia, California, USA*
Latitude: 34.4176°, Longitude: -117.4031°
Elevation: 3597.89 ft**

* source: ESRI Maps

** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps & aerals](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.088 (0.073-0.107)	0.125 (0.103-0.152)	0.173 (0.143-0.212)	0.213 (0.175-0.264)	0.269 (0.212-0.343)	0.312 (0.241-0.407)	0.356 (0.269-0.476)	0.403 (0.296-0.554)	0.467 (0.329-0.669)	0.517 (0.352-0.768)
10-min	0.126 (0.104-0.154)	0.179 (0.148-0.218)	0.248 (0.205-0.304)	0.306 (0.250-0.378)	0.385 (0.305-0.492)	0.447 (0.346-0.583)	0.511 (0.386-0.683)	0.577 (0.424-0.794)	0.669 (0.471-0.959)	0.741 (0.505-1.10)
15-min	0.152 (0.126-0.186)	0.216 (0.179-0.264)	0.300 (0.248-0.368)	0.370 (0.302-0.457)	0.466 (0.368-0.595)	0.541 (0.419-0.705)	0.618 (0.467-0.826)	0.698 (0.513-0.960)	0.809 (0.570-1.16)	0.897 (0.610-1.33)
30-min	0.230 (0.190-0.280)	0.326 (0.269-0.398)	0.453 (0.374-0.555)	0.558 (0.456-0.689)	0.703 (0.556-0.897)	0.815 (0.651-1.06)	0.932 (0.704-1.25)	1.05 (0.773-1.45)	1.22 (0.860-1.75)	1.35 (0.921-2.07)
60-min	0.326 (0.270-0.398)	0.463 (0.383-0.566)	0.644 (0.531-0.789)	0.793 (0.648-0.979)	0.998 (0.789-1.27)	1.16 (0.897-1.51)	1.32 (1.00-1.77)	1.50 (1.10-2.06)	1.73 (1.22-2.49)	1.92 (1.31-2.85)
2-hr	0.480 (0.397-0.585)	0.651 (0.538-0.795)	0.882 (0.727-1.08)	1.08 (0.879-1.33)	1.35 (1.07-1.72)	1.56 (1.21-2.04)	1.79 (1.35-2.39)	2.03 (1.49-2.79)	2.36 (1.66-3.38)	2.63 (1.79-3.90)
3-hr	0.606 (0.501-0.739)	0.810 (0.669-0.989)	1.09 (0.896-1.33)	1.32 (1.08-1.63)	1.65 (1.31-2.11)	1.92 (1.48-2.50)	2.20 (1.66-2.94)	2.49 (1.83-3.43)	2.92 (2.05-4.18)	3.26 (2.22-4.84)
6-hr	0.864 (0.710-1.06)	1.15 (0.947-1.40)	1.53 (1.26-1.87)	1.86 (1.52-2.30)	2.33 (1.84-2.97)	2.77 (2.09-3.53)	3.17 (2.35-4.16)	3.54 (2.60-4.87)	4.17 (2.94-5.97)	4.68 (3.19-6.93)
12-hr	1.13 (0.937-1.38)	1.54 (1.27-1.88)	2.09 (1.73-2.56)	2.56 (2.10-3.17)	3.24 (2.56-4.14)	3.78 (2.93-4.94)	4.36 (3.30-5.83)	4.99 (3.67-6.86)	5.89 (4.15-8.44)	6.63 (4.51-9.84)
24-hr	1.54 (1.36-1.77)	2.15 (1.90-2.48)	2.99 (2.64-3.46)	3.71 (3.25-4.32)	4.72 (4.00-5.69)	5.55 (4.60-6.82)	6.42 (5.20-8.09)	7.36 (5.80-9.53)	8.71 (6.58-11.8)	9.81 (7.17-13.7)
2-day	1.78 (1.58-2.05)	2.49 (2.21-2.87)	3.48 (3.08-4.03)	4.33 (3.80-5.05)	5.56 (4.71-6.70)	6.57 (5.45-8.07)	7.64 (6.19-9.63)	8.81 (6.94-11.4)	10.5 (7.94-14.2)	11.9 (8.70-16.6)
3-day	1.91 (1.69-2.20)	2.67 (2.37-3.08)	3.74 (3.30-4.32)	4.66 (4.09-5.44)	6.01 (5.09-7.24)	7.12 (5.91-8.75)	8.31 (6.73-10.5)	9.61 (7.57-12.5)	11.5 (8.70-15.5)	13.1 (9.57-18.3)
4-day	2.06 (1.82-2.37)	2.88 (2.55-3.33)	4.04 (3.56-4.67)	5.04 (4.41-5.87)	6.49 (5.50-7.82)	7.70 (6.39-9.47)	9.00 (7.29-11.3)	10.4 (8.21-13.5)	12.5 (9.45-16.9)	14.2 (10.4-19.9)
7-day	2.31 (2.05-2.66)	3.22 (2.85-3.71)	4.48 (3.96-5.18)	5.58 (4.88-6.50)	7.17 (6.08-8.63)	8.48 (7.04-10.4)	9.90 (8.02-12.5)	11.5 (9.02-14.8)	13.7 (10.4-18.5)	15.6 (11.4-21.8)
10-day	2.47 (2.19-2.85)	3.43 (3.04-3.96)	4.77 (4.21-5.51)	5.92 (5.18-6.90)	7.59 (6.43-9.14)	8.97 (7.44-11.0)	10.5 (8.47-13.2)	12.1 (9.52-15.6)	14.4 (10.9-19.5)	16.4 (12.0-22.9)
20-day	2.97 (2.63-3.41)	4.10 (3.63-4.73)	5.68 (5.01-6.56)	7.04 (6.16-8.20)	9.00 (7.62-10.8)	10.6 (8.81-13.0)	12.4 (10.0-15.6)	14.3 (11.2-18.5)	17.0 (12.9-23.0)	19.4 (14.2-27.1)
30-day	3.50 (3.10-4.03)	4.82 (4.26-5.55)	6.63 (5.86-7.66)	8.20 (7.18-9.55)	10.5 (8.86-12.6)	12.3 (10.2-15.1)	14.3 (11.6-18.1)	16.5 (13.0-21.4)	19.8 (15.0-26.7)	22.5 (16.4-31.4)
45-day	4.18 (3.70-4.81)	5.67 (5.02-6.54)	7.74 (6.83-8.94)	9.52 (8.33-11.1)	12.1 (10.2-14.6)	14.2 (11.8-17.5)	16.5 (13.4-20.8)	19.0 (15.0-24.7)	22.8 (17.2-30.7)	25.9 (18.9-36.2)
60-day	4.77 (4.23-5.49)	6.38 (5.65-7.35)	8.59 (7.59-9.93)	10.5 (9.20-12.2)	13.3 (11.2-16.0)	15.5 (12.9-19.1)	18.0 (14.6-22.7)	20.8 (16.4-26.9)	24.9 (18.8-33.6)	28.3 (20.7-39.6)

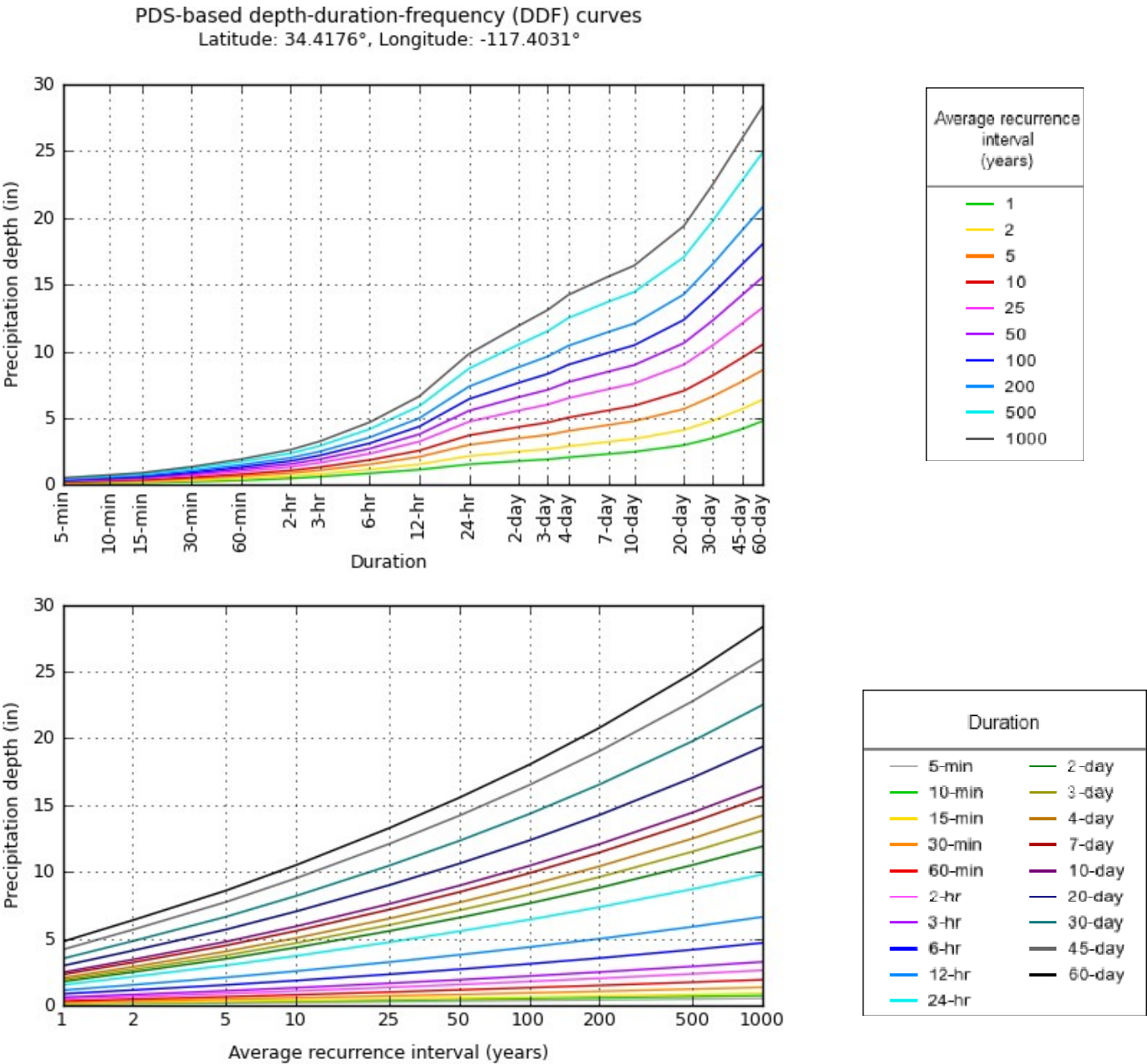
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

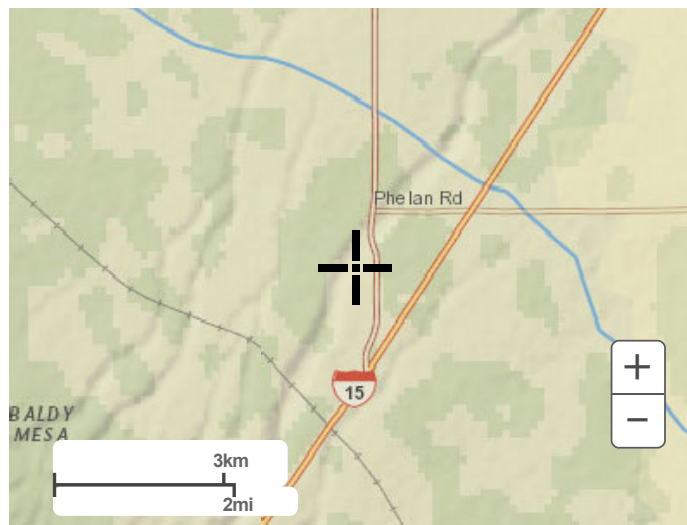
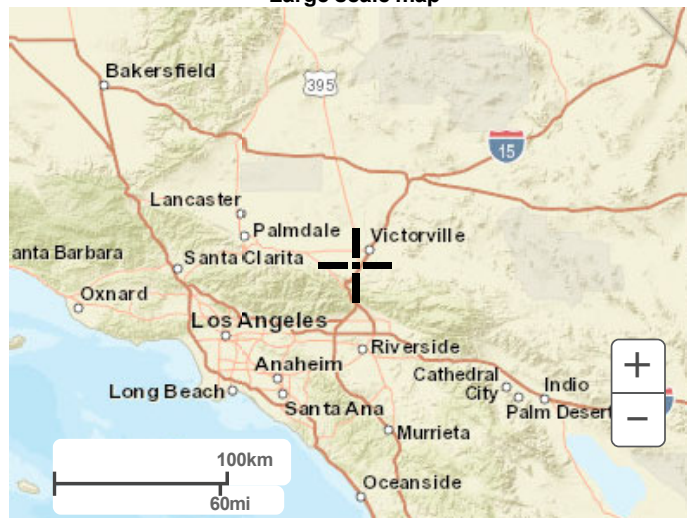
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PF graphical



Maps & aerals

Small scale terrain

**Large scale terrain****Large scale map****Large scale aerial**



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EXHIBIT C

RATIONAL HYDROLOGY MAP