P. B. L. A. ENGINEERING, INC

PLANNING • ENGINEERING • SURVEYING

PRELIMINARY HYDROLOGY STUDY

MAJESTIC FREEWAY BUSINESS CENTER

BUILDING No. 17

RIVERSIDE COUNTY, CA

PREPARED FOR:

Majestic Freeway Business Center, LLC
13191 Crossroads Parkway North
6th Floor
Industry, California 91746
Preparation Date: January, 2022

Prepared under the supervision of:

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Background and Purpose

Majestic Freeway Business Center, LLC is proposing to develop a single logistics industrial building on approximately 14.5 acres of land in the County of Riverside. The property is located east of Harvill Avenue, north of America's Tire Drive (formerly Nance Street). The property is vacant and unimproved. The natural drainage pattern flows towards the south east corner of the site to the UPRR right of way and the existing RCFCD Detention Basin located north of Commerce Center Dr. and west of the UPRR. The purpose of this report is to establish the basis for final design of flood protection and drainage conveyance elements, ensure that these elements can be sized properly, and to ensure the development can comply with County of Riverside requirements when constructed.

Project Scope

This study contemplates the entire project site, and both the existing pre-developed condition of the site and the post-developed proposed condition are analyzed for comparison to ensure compliance with current drainage policies and regulations. The analyses are based on comparing the total flows of the existing site & the proposed flows that gather in a basin on the southeast corner of the site.

The Hydrology Maps for both the existing condition and proposed condition are given in Appendix A & B respectively.

Flood Designation

The property described on this survey lies within Zone "X" of the Flood Insurance Rate Map identified as Community Panel No. 1410 of 3805, map number 06065C1410G bearing an effective date of August 28, 2008.

Zone "X" is defined as areas outside the 0.2% annual chance floodplain.

Project Location

Design Criteria and Methods

The runoff calculations presented in this study are produced using the Unit Hydrograph method as detailed in the current Riverside County Hydrology Manual. Because this is a preliminary study to determine feasibility, multiple recurrence interval storms were not produced as would be required on a final report. This study presents multiple storm events for the 100 year recurrence interval.
The County requires that any increased runoff does not exceed pre-development runoff.

The proposed detention basin is sized for the worst case 100 year storm event. Rainfall data, soil loss, and SCS curve numbers are based on the County Manual. No volume reduction is taken for infiltration, although the basins will incorporate under-drain systems to evacuate standing water. Detention basin volume and outflow calculations are produced with a spreadsheet program.

Hydrology Model Assumptions

Existing Condition:

Runoff Index = 84.6 – See exist Hydrology map for composite RI Calculation
Soils Type = A, B, & C – Soil map included.
Rainfall Data – NOAA Atlas 14 per SB County requirements.
AMC = 2 - Typical for studies of this nature.
Unit Hydrograph Lag Time – Calculated by Hydrology program based on physical properties.
Base Flow = 0 – There are no existing watercourses in the study catchment.

Proposed Condition:

Runoff Index = 38.8 – See proposed Hydrology map for composite RI Calculation
Soils Type = A, B, & C – Soil map included.
Rainfall Data – NOAA Atlas 14 per SB County requirements.
AMC = 2 - Typical for studies of this nature.
Unit Hydrograph Lag Time – Calculated by Hydrology program based on physical properties.
Base Flow = 0 – There are no existing watercourses in the study catchment.

Basin Outlet Structures

The proposed structure will control outlet flows in the existing storm drain system located at the north east corner of the site. The basin outlet structure restricts flows to ensure proper Water Quality treatment volumes and outlet times are retained, ensure peak inflow attenuation, and safely outlet design storm flows to the existing storm drain systems.

Preliminary Hydrology Results

EXISTING CONDITION -SITE RUNOFF (cfs)

	1 HR	3 HR	6 HR	24 HR	24 HR TOTAL VOLUME (AC-FT)
100 YR	39.6	21.5	18.5	6.9	2.4

DEVELOPED CONDITION - AREA 1 BASIN INFLOW (cfs)

	1 HR	3 HR	6 HR	24 HR	24 HR TOTAL VOLUME (AC-FT)
100 YR	33.6	19.7	17.4	6.5	3.9

DEVELOPED CONDITION - AREA 2 RUNOFF (cfs)

	1 HR	3 HR	6 HR	24 HR	24 HR TOTAL VOLUME (AC-FT)
100 YR	5.2	2.8	2.4	0.7	0.3
TOTAL DEVELOPED INFLOW	**38.8**	**22.5**	**19.8**	**7.2**	**4.2**

FLOOD ROUTING RESULTS - AREA 1/BASIN B1 BASIN OUTFLOW (cfs)

	1 HR	3 HR	6 HR	24 HR	24 HR TOTAL VOLUME (AC-FT)
100 YR	4.7	5.6	12.5	4.7	3.9

DEVELOPED CONDITION - AREA 2 RUNOFF (cfs)

	1 HR	3 HR	6 HR	24 HR	24 HR TOTAL VOLUME (AC-FT)
100 YR	5.2	2.8	2.4	0.7	0.3
TOTAL DEVELOPED	**9.9**	**8.4**	**14.9**	**5.4**	**4.2**

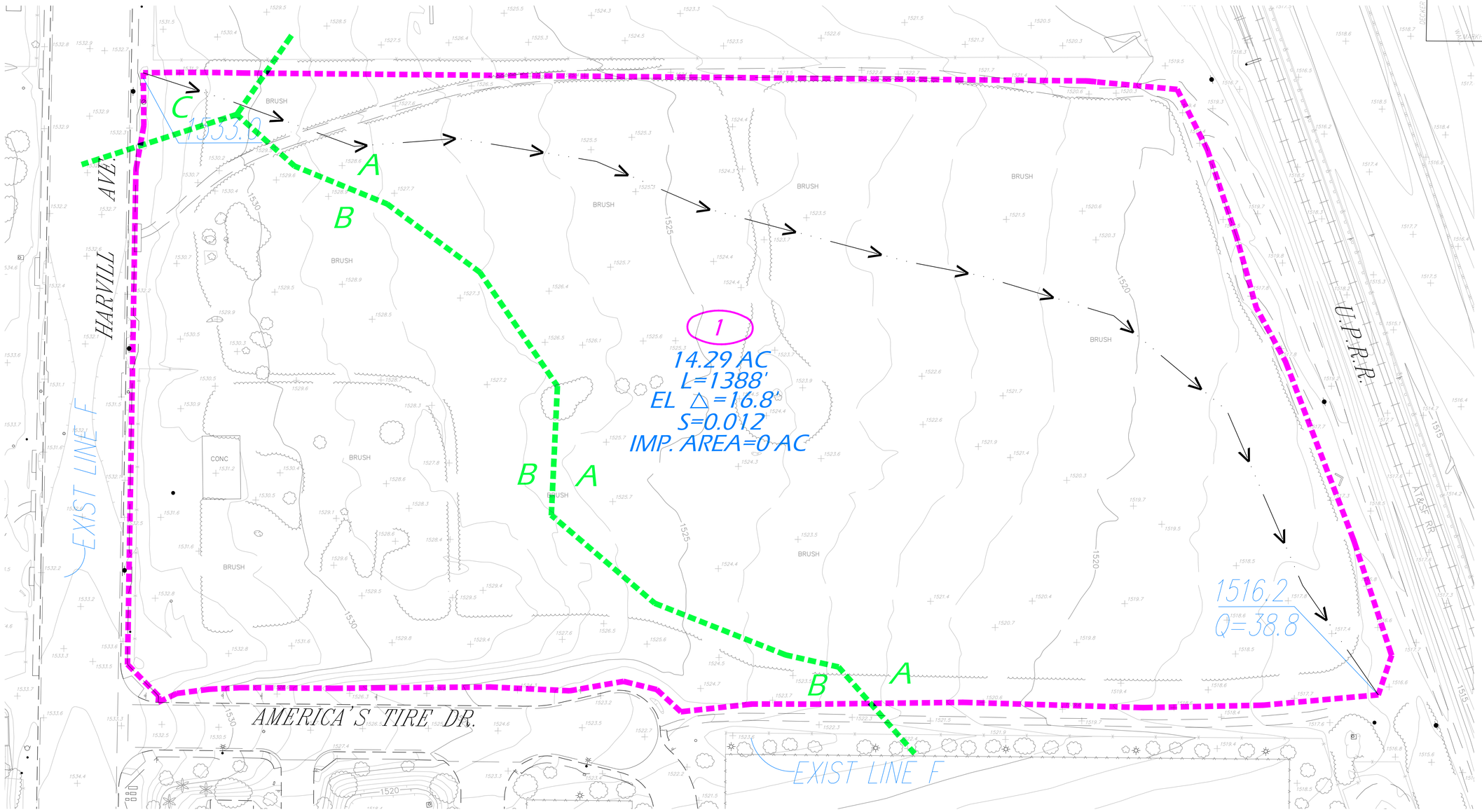
Conclusion

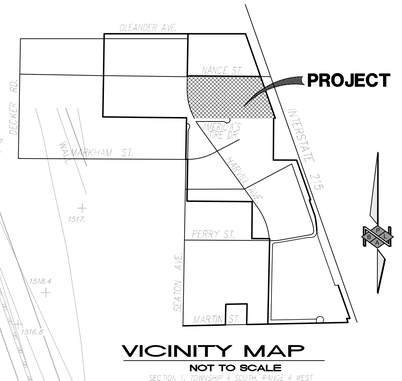
This study and the related calculations indicated that the proposed development design flows can be conveyed to the existing storm drain system without danger of site flooding. Additionally, the detention basins are properly sized to attenuate the difference between pre-development runoff and runoff from the completed development.

Note that a final Hydrology and Hydraulics study will be required to accompany final construction documents to analyze final basin geometry, provide conveyance element hydraulics for proper pipe sizing, surface drainage facilities and energy dissipation.

APPENDIX A

HYDROLOGY MAP – EXISTING CONDITION





VICINITY MAP
NOT TO SCALE
SECTION 1, TOWNSHIP 3 SOUTH, RANGE 4 WEST
THOMAS BROS. PAGE 777, GRID J1 & D2

RUNOFF INDEX CALCULATION

SOIL TYPE A = 9.59 AC (67%) – RI=78
SOIL TYPE B = 4.59 AC (32%) – RI=86
SOIL TYPE C = 0.11 AC (1%) – RI=91
COMPOSITE RI = 84.6

LEGEND

- (A) — SUBAREA DESIGNATION
- ---------- — SUBAREA BOUNDARY
- ←---← — FLOWPATH THROUGH SUBAREA
- Q=10.0 — RUNOFF FROM SUBAREA (100 YEAR, 1 HOUR STORM)
- ---------- — SOIL TYPE BOUNDARY
- A — SOIL TYPE

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

HYDROLOGY MAP PROPOSED CONDITION MFBC-BUILDING 17

Jan 11 2022

PREPARED FOR:
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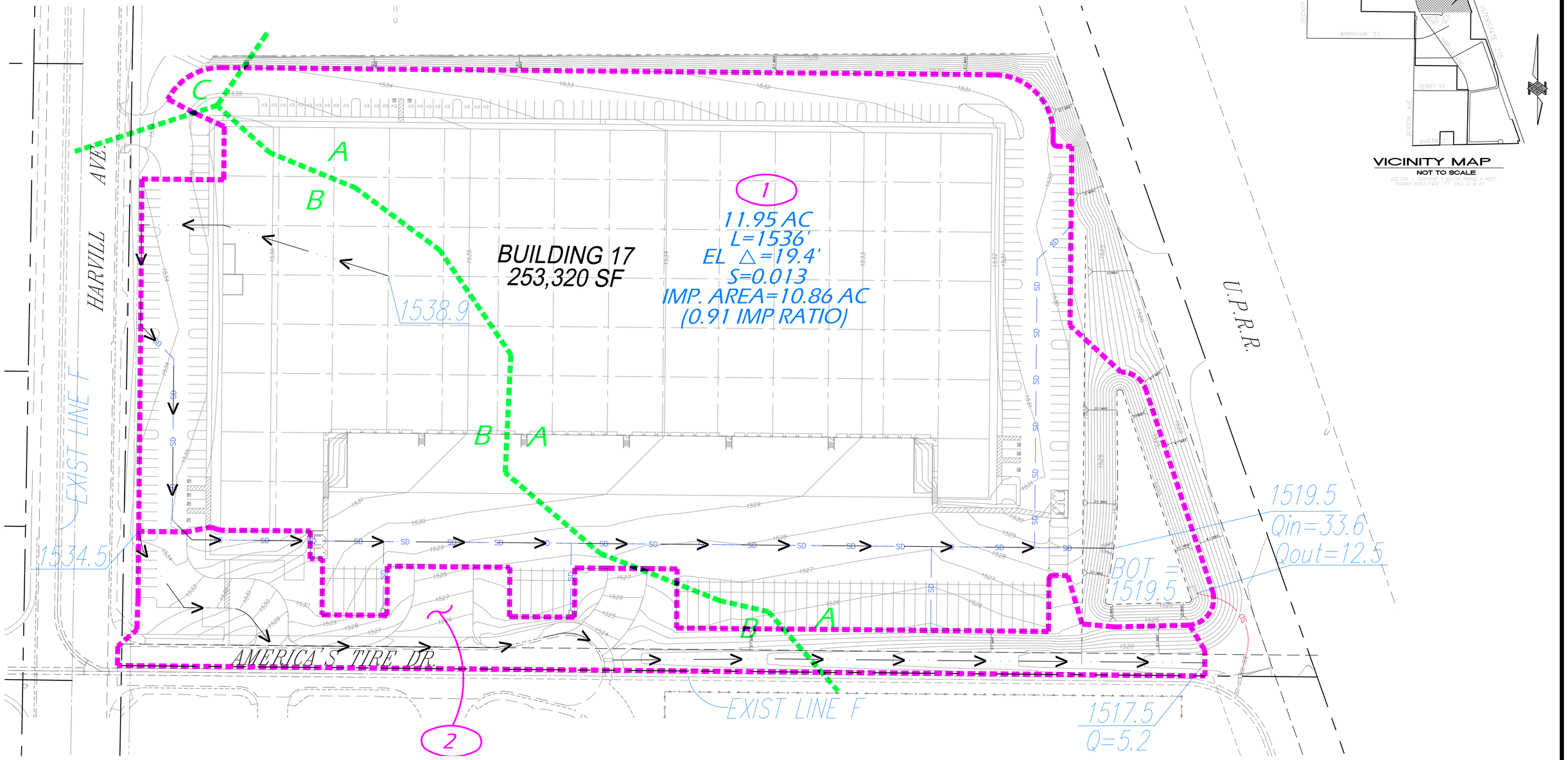
DATE	BY	REVISION
	SDL	1st Release

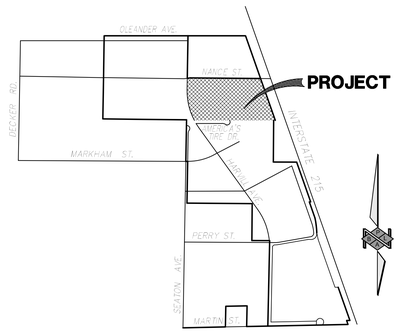
WO 100-103

Sht. 1 of 1

APPENDIX B

HYDROLOGY MAP – DEVELOPED CONDITION





VICINITY MAP
NOT TO SCALE
SECTION 1, TOWNSHIP 3 SOUTH, RANGE 4 WEST
THOMAS BROS PAGE 777, GRID D1 & D2

RUNOFF INDEX CALCULATION

SOIL TYPE A = 8.60 AC (72%) – RI=32
SOIL TYPE B = 3.30 AC (27%) – RI=56
SOIL TYPE C = 0.05 AC (1%) – RI=69
COMPOSITE RI = 38.8

LEGEND

- (A) — SUBAREA DESIGNATION
- ——— SUBAREA BOUNDARY
- ←·←·← FLOWPATH THROUGH SUBAREA
- Q=10.0 — RUNOFF FROM SUBAREA (100 YEAR, 1 HOUR STORM)
- - - - - SOIL TYPE BOUNDARY
- A — SOIL TYPE

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

N

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APPENDIX C

UNIT HYDROGRAPH HYDROLOGY

EXISTING CONDITION

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

Study date 01/11/22 File: 100103EXUH1100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6490

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

MFBC BLD 17
EXIST CONDITION UNIT HYDRROGRAPH
100103EXUH

Drainage Area = 14.29(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.29(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1388.00(Ft.)
Length along longest watercourse measured to centroid = 700.00(Ft.)
Length along longest watercourse = 0.263 Mi.
Length along longest watercourse measured to centroid = 0.133 Mi.
Difference in elevation = 16.80(Ft.)
Slope along watercourse = 63.9078 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.076 Hr.
Lag time = 4.56 Min.
25% of lag time = 1.14 Min.
40% of lag time = 1.83 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
14.29	0.46	6.50

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
14.29	1.32	18.86

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.455(In)
Area Averaged 100-Year Rainfall = 1.320(In)

Point rain (area averaged) = 1.320(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.320(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
14.290	84.60	0.000

Total Area Entered = 14.29(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
84.6	84.6	0.192	0.000	0.192	1.000	0.192
					Sum (F) =	0.192

Area averaged mean soil loss (F) (In/Hr) = 0.192
Minimum soil loss rate ((In/Hr)) = 0.096
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Slope of intensity-duration curve for a 1 hour storm =0.5000

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	109.567	22.109	3.184
2	0.167	219.134	48.826	7.032
3	0.250	328.701	14.358	2.068
4	0.333	438.267	6.566	0.946
5	0.417	547.834	3.647	0.525
6	0.500	657.401	2.279	0.328
7	0.583	766.968	1.336	0.192
8	0.667	876.535	0.878	0.126
		Sum = 100.000	Sum=	14.402

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	4.20	0.665	0.192	(	0.599)	0.474
2	0.17	4.30	0.681	0.192	(	0.613)	0.489
3	0.25	5.00	0.792	0.192	(	0.713)	0.600
4	0.33	5.00	0.792	0.192	(	0.713)	0.600
5	0.42	5.80	0.919	0.192	(	0.827)	0.727
6	0.50	6.50	1.029	0.192	(	0.927)	0.838
7	0.58	7.40	1.172	0.192	(	1.055)	0.980
8	0.67	8.60	1.362	0.192	(	1.226)	1.171
9	0.75	12.30	1.948	0.192	(	1.753)	1.757
10	0.83	29.10	4.609	0.192	(	4.148)	4.417
11	0.92	6.80	1.077	0.192	(	0.969)	0.885
12	1.00	5.00	0.792	0.192	(	0.713)	0.600
		(Loss Rate Not Used)					
Sum =		100.0				Sum =	13.5

Flood volume = Effective rainfall 1.13(In)
times area 14.3(Ac.)/[(In)/(Ft.)] = 1.3(Ac.Ft)
Total soil loss = 0.19(In)
Total soil loss = 0.228(Ac.Ft)
Total rainfall = 1.32(In)
Flood volume = 58526.4 Cubic Feet
Total soil loss = 9936.7 Cubic Feet

Peak flow rate of this hydrograph = 39.646(CFS)

1 - 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	10.0	20.0	30.0	40.0
0+ 5	0.0104	1.51	VQ				
0+10	0.0441	4.89	V Q				
0+15	0.0877	6.34	V Q				
0+20	0.1400	7.60	V Q				
0+25	0.1985	8.49	V Q				
0+30	0.2675	10.01	V Q				
0+35	0.3477	11.66	VQ				
0+40	0.4422	13.71	Q				
0+45	0.5621	17.41	VQ				
0+50	0.7732	30.65	V		Q		
0+55	1.0462	39.65				V Q	
1+ 0	1.1849	20.13			Q	V	
1+ 5	1.2664	11.84	Q			V	
1+10	1.3031	5.33	Q			V	
1+15	1.3235	2.97	Q			V	
1+20	1.3351	1.68	Q			V	
1+25	1.3415	0.93	Q			V	
1+30	1.3431	0.23	Q			V	
1+35	1.3436	0.08	Q			V	

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

Study date 01/11/22 File: 100103EXUH3100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6490

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

MFBC BLD 17
EXIST CONDITION UNIT HYDRROGRAPH
100103EXUH

Drainage Area = 14.29(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.29(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1388.00(Ft.)
Length along longest watercourse measured to centroid = 700.00(Ft.)
Length along longest watercourse = 0.263 Mi.
Length along longest watercourse measured to centroid = 0.133 Mi.
Difference in elevation = 16.80(Ft.)
Slope along watercourse = 63.9078 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.076 Hr.
Lag time = 4.56 Min.
25% of lag time = 1.14 Min.
40% of lag time = 1.83 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
14.29	0.79	11.30

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
14.29	1.97	28.15

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.791(In)
Area Averaged 100-Year Rainfall = 1.970(In)

Point rain (area averaged) = 1.970(In)
Areal adjustment factor = 99.99 %

Adjusted average point rain = 1.970(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
14.290	84.60	0.000

Total Area Entered = 14.29(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
84.6	84.6	0.192	0.000	0.192	1.000	0.192
					Sum (F) =	0.192

Area averaged mean soil loss (F) (In/Hr) = 0.192
Minimum soil loss rate ((In/Hr)) = 0.096
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	109.567	22.109	3.184
2	0.167	219.134	48.826	7.032
3	0.250	328.701	14.358	2.068
4	0.333	438.267	6.566	0.946
5	0.417	547.834	3.647	0.525
6	0.500	657.401	2.279	0.328
7	0.583	766.968	1.336	0.192
8	0.667	876.535	0.878	0.126
		Sum =	100.000 Sum=	14.402

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	1.30	0.307	0.192	(	0.277)	0.116
2	0.17	1.30	0.307	0.192	(	0.277)	0.116
3	0.25	1.10	0.260	0.192	(	0.234)	0.068
4	0.33	1.50	0.355	0.192	(	0.319)	0.163
5	0.42	1.50	0.355	0.192	(	0.319)	0.163
6	0.50	1.80	0.425	0.192	(	0.383)	0.234
7	0.58	1.50	0.355	0.192	(	0.319)	0.163
8	0.67	1.80	0.425	0.192	(	0.383)	0.234
9	0.75	1.80	0.425	0.192	(	0.383)	0.234
10	0.83	1.50	0.355	0.192	(	0.319)	0.163
11	0.92	1.60	0.378	0.192	(	0.340)	0.187
12	1.00	1.80	0.425	0.192	(	0.383)	0.234
13	1.08	2.20	0.520	0.192	(	0.468)	0.328
14	1.17	2.20	0.520	0.192	(	0.468)	0.328
15	1.25	2.20	0.520	0.192	(	0.468)	0.328
16	1.33	2.00	0.473	0.192	(	0.425)	0.281
17	1.42	2.60	0.615	0.192	(	0.553)	0.423
18	1.50	2.70	0.638	0.192	(	0.574)	0.447
19	1.58	2.40	0.567	0.192	(	0.511)	0.376
20	1.67	2.70	0.638	0.192	(	0.574)	0.447
21	1.75	3.30	0.780	0.192	(	0.702)	0.589
22	1.83	3.10	0.733	0.192	(	0.660)	0.541
23	1.92	2.90	0.686	0.192	(	0.617)	0.494

24	2.00	3.00	0.709	0.192	(0.638)	0.518	
25	2.08	3.10	0.733	0.192	(0.660)	0.541	
26	2.17	4.20	0.993	0.192	(0.894)	0.801	
27	2.25	5.00	1.182	0.192	(1.064)	0.990	
28	2.33	3.50	0.827	0.192	(0.745)	0.636	
29	2.42	6.80	1.607	0.192	(1.447)	1.416	
30	2.50	7.30	1.726	0.192	(1.553)	1.534	
31	2.58	8.20	1.938	0.192	(1.745)	1.747	
32	2.67	5.90	1.395	0.192	(1.255)	1.203	
33	2.75	2.00	0.473	0.192	(0.425)	0.281	
34	2.83	1.80	0.425	0.192	(0.383)	0.234	
35	2.92	1.80	0.425	0.192	(0.383)	0.234	
36	3.00	0.60	0.142	(0.192)	0.128	0.014	

(Loss Rate Not Used)

Sum = 100.0 Sum = 16.8

Flood volume = Effective rainfall 1.40(In)
times area 14.3(Ac.)/[(In)/(Ft.)] = 1.7(Ac.Ft)
Total soil loss = 0.57(In)
Total soil loss = 0.678(Ac.Ft)
Total rainfall = 1.97(In)
Flood volume = 72648.9 Cubic Feet
Total soil loss = 29533.9 Cubic Feet

Peak flow rate of this hydrograph = 21.518(CFS)

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3 - 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	7.5	15.0	22.5	30.0
0+ 5	0.0025	0.37	Q				
0+10	0.0107	1.18	VQ				
0+15	0.0194	1.27	VQ				
0+20	0.0287	1.35	VQ				
0+25	0.0424	1.98	VQ				
0+30	0.0588	2.39	V Q				
0+35	0.0778	2.75	V Q				
0+40	0.0962	2.68	VQ				
0+45	0.1177	3.12	V Q				
0+50	0.1385	3.02	VQ				
0+55	0.1568	2.66	Q				
1+ 0	0.1765	2.86	QV				
1+ 5	0.2006	3.49	Q				
1+10	0.2298	4.25	Q				
1+15	0.2607	4.48	QV				
1+20	0.2913	4.44	QV				
1+25	0.3231	4.62	QV				
1+30	0.3620	5.64	QV				
1+35	0.4023	5.85	Q V				
1+40	0.4419	5.75	Q V				
1+45	0.4876	6.64	Q V				
1+50	0.5401	7.61	Q V				
1+55	0.5916	7.48	Q V				
2+ 0	0.6419	7.30	Q V				
2+ 5	0.6934	7.48	Q V				
2+10	0.7520	8.51	Q V				
2+15	0.8278	11.01	Q V				
2+20	0.9089	11.78	Q V				
2+25	0.9944	12.41	Q V				
2+30	1.1174	17.86	Q V				
2+35	1.2609	20.84	Q V				
2+40	1.4091	21.52	Q V				

```
    2+45       1.5171     15.67  |          |          Q          |      V   |
    2+50       1.5748      8.38  |          |Q         |          |       V  |
    2+55       1.6153      5.89  |       Q  |          |          |        V |
    3+ 0       1.6437      4.12  |    Q     |          |          |         V|
    3+ 5       1.6567      1.88  | Q        |          |          |         V|
    3+10       1.6630      0.92  |Q         |          |          |         V|
    3+15       1.6659      0.42  Q          |          |          |         V|
    3+20       1.6670      0.16  Q          |          |          |         V|
    3+25       1.6676      0.08  Q          |          |          |         V|
    3+30       1.6678      0.03  Q          |          |          |         V|
    3+35       1.6678      0.00  Q          |          |          |          V
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U n i t H y d r o g r a p h A n a l y s i s

Study date 01/11/22 File: 100103EXUH6100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6490

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

MFBC BLD 17
EXIST CONDITION UNIT HYDRROGRAPH
100103EXUH

Drainage Area = 14.29(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.29(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1388.00(Ft.)
Length along longest watercourse measured to centroid = 700.00(Ft.)
Length along longest watercourse = 0.263 Mi.
Length along longest watercourse measured to centroid = 0.133 Mi.
Difference in elevation = 16.80(Ft.)
Slope along watercourse = 63.9078 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.076 Hr.
Lag time = 4.56 Min.
25% of lag time = 1.14 Min.
40% of lag time = 1.83 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
14.29	1.10	15.72

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
14.29	2.64	37.73

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.100(In)
Area Averaged 100-Year Rainfall = 2.640(In)

Point rain (area averaged) = 2.640(In)
Areal adjustment factor = 100.00 %

Adjusted average point rain = 2.640(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
14.290	84.60	0.000

Total Area Entered = 14.29(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
84.6	84.6	0.192	0.000	0.192	1.000	0.192
					Sum (F) =	0.192

Area averaged mean soil loss (F) (In/Hr) = 0.192
Minimum soil loss rate ((In/Hr)) = 0.096
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	109.567	22.109	3.184
2	0.167	219.134	48.826	7.032
3	0.250	328.701	14.358	2.068
4	0.333	438.267	6.566	0.946
5	0.417	547.834	3.647	0.525
6	0.500	657.401	2.279	0.328
7	0.583	766.968	1.336	0.192
8	0.667	876.535	0.878	0.126
		Sum =	100.000 Sum=	14.402

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.158	(0.192)	0.143	0.016
2	0.17	0.60	0.190	(0.192)	0.171	0.019
3	0.25	0.60	0.190	(0.192)	0.171	0.019
4	0.33	0.60	0.190	(0.192)	0.171	0.019
5	0.42	0.60	0.190	(0.192)	0.171	0.019
6	0.50	0.70	0.222	0.192	(0.200)	0.030
7	0.58	0.70	0.222	0.192	(0.200)	0.030
8	0.67	0.70	0.222	0.192	(0.200)	0.030
9	0.75	0.70	0.222	0.192	(0.200)	0.030
10	0.83	0.70	0.222	0.192	(0.200)	0.030
11	0.92	0.70	0.222	0.192	(0.200)	0.030
12	1.00	0.80	0.253	0.192	(0.228)	0.062
13	1.08	0.80	0.253	0.192	(0.228)	0.062
14	1.17	0.80	0.253	0.192	(0.228)	0.062
15	1.25	0.80	0.253	0.192	(0.228)	0.062
16	1.33	0.80	0.253	0.192	(0.228)	0.062
17	1.42	0.80	0.253	0.192	(0.228)	0.062
18	1.50	0.80	0.253	0.192	(0.228)	0.062
19	1.58	0.80	0.253	0.192	(0.228)	0.062
20	1.67	0.80	0.253	0.192	(0.228)	0.062
21	1.75	0.80	0.253	0.192	(0.228)	0.062
22	1.83	0.80	0.253	0.192	(0.228)	0.062
23	1.92	0.80	0.253	0.192	(0.228)	0.062

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24   2.00     0.90      0.285          0.192    (  0.257)        0.094
25   2.08     0.80      0.253          0.192    (  0.228)        0.062
26   2.17     0.90      0.285          0.192    (  0.257)        0.094
27   2.25     0.90      0.285          0.192    (  0.257)        0.094
28   2.33     0.90      0.285          0.192    (  0.257)        0.094
29   2.42     0.90      0.285          0.192    (  0.257)        0.094
30   2.50     0.90      0.285          0.192    (  0.257)        0.094
31   2.58     0.90      0.285          0.192    (  0.257)        0.094
32   2.67     0.90      0.285          0.192    (  0.257)        0.094
33   2.75     1.00      0.317          0.192    (  0.285)        0.125
34   2.83     1.00      0.317          0.192    (  0.285)        0.125
35   2.92     1.00      0.317          0.192    (  0.285)        0.125
36   3.00     1.00      0.317          0.192    (  0.285)        0.125
37   3.08     1.00      0.317          0.192    (  0.285)        0.125
38   3.17     1.10      0.348          0.192    (  0.314)        0.157
39   3.25     1.10      0.348          0.192    (  0.314)        0.157
40   3.33     1.10      0.348          0.192    (  0.314)        0.157
41   3.42     1.20      0.380          0.192    (  0.342)        0.189
42   3.50     1.30      0.412          0.192    (  0.371)        0.220
43   3.58     1.40      0.443          0.192    (  0.399)        0.252
44   3.67     1.40      0.443          0.192    (  0.399)        0.252
45   3.75     1.50      0.475          0.192    (  0.428)        0.284
46   3.83     1.50      0.475          0.192    (  0.428)        0.284
47   3.92     1.60      0.507          0.192    (  0.456)        0.315
48   4.00     1.60      0.507          0.192    (  0.456)        0.315
49   4.08     1.70      0.539          0.192    (  0.485)        0.347
50   4.17     1.80      0.570          0.192    (  0.513)        0.379
51   4.25     1.90      0.602          0.192    (  0.542)        0.410
52   4.33     2.00      0.634          0.192    (  0.570)        0.442
53   4.42     2.10      0.665          0.192    (  0.599)        0.474
54   4.50     2.10      0.665          0.192    (  0.599)        0.474
55   4.58     2.20      0.697          0.192    (  0.627)        0.505
56   4.67     2.30      0.729          0.192    (  0.656)        0.537
57   4.75     2.40      0.760          0.192    (  0.684)        0.569
58   4.83     2.40      0.760          0.192    (  0.684)        0.569
59   4.92     2.50      0.792          0.192    (  0.713)        0.600
60   5.00     2.60      0.824          0.192    (  0.741)        0.632
61   5.08     3.10      0.982          0.192    (  0.884)        0.790
62   5.17     3.60      1.140          0.192    (  1.026)        0.949
63   5.25     3.90      1.235          0.192    (  1.112)        1.044
64   5.33     4.20      1.330          0.192    (  1.197)        1.139
65   5.42     4.70      1.489          0.192    (  1.340)        1.297
66   5.50     5.60      1.774          0.192    (  1.597)        1.582
67   5.58     1.90      0.602          0.192    (  0.542)        0.410
68   5.67     0.90      0.285          0.192    (  0.257)        0.094
69   5.75     0.60      0.190       (  0.192)       0.171        0.019
70   5.83     0.50      0.158       (  0.192)       0.143        0.016
71   5.92     0.30      0.095       (  0.192)       0.086        0.010
72   6.00     0.20      0.063       (  0.192)       0.057        0.006
            (Loss Rate Not Used)
 Sum =     100.0                                    Sum =    18.3
   Flood volume = Effective rainfall      1.53(In)
    times area      14.3(Ac.)/[(In)/(Ft.)] =       1.8(Ac.Ft)
   Total soil loss =      1.11(In)
   Total soil loss =     1.325(Ac.Ft)
   Total rainfall =      2.64(In)
   Flood volume =       79223.4 Cubic Feet
   Total soil loss =       57713.8 Cubic Feet
   ---------------------------------------------------------------------
    Peak flow rate of this hydrograph =     18.468(CFS)
   ---------------------------------------------------------------------
   +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                      6 - 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))
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Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0003	0.05	Q				
0+10	0.0015	0.17	Q				
0+15	0.0031	0.23	Q				
0+20	0.0048	0.25	Q				
0+25	0.0066	0.26	Q				
0+30	0.0087	0.30	Q				
0+35	0.0113	0.39	Q				
0+40	0.0142	0.41	Q				
0+45	0.0171	0.42	Q				
0+50	0.0200	0.43	Q				
0+55	0.0230	0.43	Q				
1+ 0	0.0267	0.53	VQ				
1+ 5	0.0319	0.76	VQ				
1+10	0.0376	0.82	VQ				
1+15	0.0435	0.85	VQ				
1+20	0.0495	0.87	|Q				
1+25	0.0555	0.88	|Q				
1+30	0.0616	0.89	|Q				
1+35	0.0678	0.89	|Q				
1+40	0.0739	0.89	|Q				
1+45	0.0801	0.89	|Q				
1+50	0.0862	0.89	|Q				
1+55	0.0923	0.89	|QV				
2+ 0	0.0992	0.99	|QV				
2+ 5	0.1068	1.11	| Q				
2+10	0.1141	1.06	| Q				
2+15	0.1227	1.25	| Q				
2+20	0.1316	1.30	| Q				
2+25	0.1407	1.32	| QV				
2+30	0.1499	1.33	| QV				
2+35	0.1592	1.34	| QV				
2+40	0.1684	1.34	| QV				
2+45	0.1784	1.45	| QV				
2+50	0.1899	1.67	| QV				
2+55	0.2019	1.74	| QV				
3+ 0	0.2140	1.77	| QV				
3+ 5	0.2263	1.78	| QV				
3+10	0.2394	1.90	| Q V				
3+15	0.2540	2.12	| QV				
3+20	0.2691	2.19	| QV				
3+25	0.2851	2.32	| Q V				
3+30	0.3035	2.67	| QV				
3+35	0.3246	3.06	| QV				
3+40	0.3479	3.39	| QV				
3+45	0.3728	3.61	| QV				
3+50	0.3995	3.89	| QV				
3+55	0.4277	4.09	| QV|				
4+ 0	0.4577	4.36	| Q V				
4+ 5	0.4890	4.55	| QV				
4+10	0.5229	4.92	| Q|V				
4+15	0.5597	5.33	| Q V				
4+20	0.5994	5.77	| |Q V				
4+25	0.6421	6.21	| | Q V				
4+30	0.6873	6.56	| | Q V				
4+35	0.7340	6.79	| | Q V				
4+40	0.7835	7.18	| | Q V				
4+45	0.8359	7.60	| | Q V |				
4+50	0.8906	7.94	| | Q V|				
4+55	0.9468	8.17	| | Q V				
5+ 0	1.0057	8.55	| | Q | V				
5+ 5	1.0703	9.38	| | Q | V				
5+10	1.1468	11.11	| | | Q V				

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    5+15       1.2358     12.91  |         |         |    Q V  |         |
    5+20       1.3349     14.39  |         |         |       QV|         |
    5+25       1.4452     16.01  |         |         |         |VQ       |
    5+30       1.5724     18.47  |         |         |         |   V Q   |
    5+35       1.6915     17.29  |         |         |         |   Q  V  |
    5+40       1.7529      8.91  |         |      Q  |         |       V |
    5+45       1.7834      4.44  |       Q |         |         |        V|
    5+50       1.7998      2.37  |   Q     |         |         |        V|
    5+55       1.8094      1.40  | Q       |         |         |        V|
    6+ 0       1.8149      0.79  |Q        |         |         |        V|
    6+ 5       1.8176      0.40  Q         |         |         |        V|
    6+10       1.8184      0.11  Q         |         |         |        V|
    6+15       1.8186      0.03  Q         |         |         |        V|
    6+20       1.8187      0.01  Q         |         |         |        V|
    6+25       1.8187      0.01  Q         |         |         |        V|
    6+30       1.8187      0.00  Q         |         |         |        V|
    6+35       1.8187      0.00  Q         |         |         |        V|
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U n i t H y d r o g r a p h A n a l y s i s

Study date 01/11/22 File: 100103EXUH24100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6490

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

MFBC BLD 17
EXIST CONDITION UNIT HYDRROGRAPH
100103EXUH

Drainage Area = 14.29(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.29(Ac.) = 0.022 Sq. Mi.
Length along longest watercourse = 1388.00(Ft.)
Length along longest watercourse measured to centroid = 700.00(Ft.)
Length along longest watercourse = 0.263 Mi.
Length along longest watercourse measured to centroid = 0.133 Mi.
Difference in elevation = 16.80(Ft.)
Slope along watercourse = 63.9078 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.076 Hr.
Lag time = 4.56 Min.
25% of lag time = 1.14 Min.
40% of lag time = 1.83 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
14.29	1.89	27.01

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
14.29	4.77	68.16

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.890(In)
Area Averaged 100-Year Rainfall = 4.770(In)

Point rain (area averaged) = 4.770(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.770(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
14.290	84.60	0.000

Total Area Entered = 14.29(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
84.6	84.6	0.192	0.000	0.192	1.000	0.192
					Sum (F) =	0.192

Area averaged mean soil loss (F) (In/Hr) = 0.192
Minimum soil loss rate ((In/Hr)) = 0.096
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	109.567	22.109	3.184
2	0.167	219.134	48.826	7.032
3	0.250	328.701	14.358	2.068
4	0.333	438.267	6.566	0.946
5	0.417	547.834	3.647	0.525
6	0.500	657.401	2.279	0.328
7	0.583	766.968	1.336	0.192
8	0.667	876.535	0.878	0.126
		Sum = 100.000	Sum=	14.402

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.038	(0.340)	0.034	0.004
2	0.17	0.07	0.038	(0.338)	0.034	0.004
3	0.25	0.07	0.038	(0.337)	0.034	0.004
4	0.33	0.10	0.057	(0.336)	0.052	0.006
5	0.42	0.10	0.057	(0.334)	0.052	0.006
6	0.50	0.10	0.057	(0.333)	0.052	0.006
7	0.58	0.10	0.057	(0.332)	0.052	0.006
8	0.67	0.10	0.057	(0.330)	0.052	0.006
9	0.75	0.10	0.057	(0.329)	0.052	0.006
10	0.83	0.13	0.076	(0.328)	0.069	0.008
11	0.92	0.13	0.076	(0.327)	0.069	0.008
12	1.00	0.13	0.076	(0.325)	0.069	0.008
13	1.08	0.10	0.057	(0.324)	0.052	0.006
14	1.17	0.10	0.057	(0.323)	0.052	0.006
15	1.25	0.10	0.057	(0.321)	0.052	0.006
16	1.33	0.10	0.057	(0.320)	0.052	0.006
17	1.42	0.10	0.057	(0.319)	0.052	0.006
18	1.50	0.10	0.057	(0.318)	0.052	0.006
19	1.58	0.10	0.057	(0.316)	0.052	0.006
20	1.67	0.10	0.057	(0.315)	0.052	0.006
21	1.75	0.10	0.057	(0.314)	0.052	0.006
22	1.83	0.13	0.076	(0.313)	0.069	0.008
23	1.92	0.13	0.076	(0.311)	0.069	0.008
24	2.00	0.13	0.076	(0.310)	0.069	0.008

25	2.08	0.13	0.076	(0.309)	0.069	0.008
26	2.17	0.13	0.076	(0.308)	0.069	0.008
27	2.25	0.13	0.076	(0.306)	0.069	0.008
28	2.33	0.13	0.076	(0.305)	0.069	0.008
29	2.42	0.13	0.076	(0.304)	0.069	0.008
30	2.50	0.13	0.076	(0.303)	0.069	0.008
31	2.58	0.17	0.095	(0.301)	0.086	0.010
32	2.67	0.17	0.095	(0.300)	0.086	0.010
33	2.75	0.17	0.095	(0.299)	0.086	0.010
34	2.83	0.17	0.095	(0.298)	0.086	0.010
35	2.92	0.17	0.095	(0.296)	0.086	0.010
36	3.00	0.17	0.095	(0.295)	0.086	0.010
37	3.08	0.17	0.095	(0.294)	0.086	0.010
38	3.17	0.17	0.095	(0.293)	0.086	0.010
39	3.25	0.17	0.095	(0.291)	0.086	0.010
40	3.33	0.17	0.095	(0.290)	0.086	0.010
41	3.42	0.17	0.095	(0.289)	0.086	0.010
42	3.50	0.17	0.095	(0.288)	0.086	0.010
43	3.58	0.17	0.095	(0.287)	0.086	0.010
44	3.67	0.17	0.095	(0.285)	0.086	0.010
45	3.75	0.17	0.095	(0.284)	0.086	0.010
46	3.83	0.20	0.114	(0.283)	0.103	0.011
47	3.92	0.20	0.114	(0.282)	0.103	0.011
48	4.00	0.20	0.114	(0.281)	0.103	0.011
49	4.08	0.20	0.114	(0.279)	0.103	0.011
50	4.17	0.20	0.114	(0.278)	0.103	0.011
51	4.25	0.20	0.114	(0.277)	0.103	0.011
52	4.33	0.23	0.134	(0.276)	0.120	0.013
53	4.42	0.23	0.134	(0.275)	0.120	0.013
54	4.50	0.23	0.134	(0.274)	0.120	0.013
55	4.58	0.23	0.134	(0.272)	0.120	0.013
56	4.67	0.23	0.134	(0.271)	0.120	0.013
57	4.75	0.23	0.134	(0.270)	0.120	0.013
58	4.83	0.27	0.153	(0.269)	0.137	0.015
59	4.92	0.27	0.153	(0.268)	0.137	0.015
60	5.00	0.27	0.153	(0.267)	0.137	0.015
61	5.08	0.20	0.114	(0.265)	0.103	0.011
62	5.17	0.20	0.114	(0.264)	0.103	0.011
63	5.25	0.20	0.114	(0.263)	0.103	0.011
64	5.33	0.23	0.134	(0.262)	0.120	0.013
65	5.42	0.23	0.134	(0.261)	0.120	0.013
66	5.50	0.23	0.134	(0.260)	0.120	0.013
67	5.58	0.27	0.153	(0.259)	0.137	0.015
68	5.67	0.27	0.153	(0.257)	0.137	0.015
69	5.75	0.27	0.153	(0.256)	0.137	0.015
70	5.83	0.27	0.153	(0.255)	0.137	0.015
71	5.92	0.27	0.153	(0.254)	0.137	0.015
72	6.00	0.27	0.153	(0.253)	0.137	0.015
73	6.08	0.30	0.172	(0.252)	0.155	0.017
74	6.17	0.30	0.172	(0.251)	0.155	0.017
75	6.25	0.30	0.172	(0.249)	0.155	0.017
76	6.33	0.30	0.172	(0.248)	0.155	0.017
77	6.42	0.30	0.172	(0.247)	0.155	0.017
78	6.50	0.30	0.172	(0.246)	0.155	0.017
79	6.58	0.33	0.191	(0.245)	0.172	0.019
80	6.67	0.33	0.191	(0.244)	0.172	0.019
81	6.75	0.33	0.191	(0.243)	0.172	0.019
82	6.83	0.33	0.191	(0.242)	0.172	0.019
83	6.92	0.33	0.191	(0.241)	0.172	0.019
84	7.00	0.33	0.191	(0.240)	0.172	0.019
85	7.08	0.33	0.191	(0.238)	0.172	0.019
86	7.17	0.33	0.191	(0.237)	0.172	0.019
87	7.25	0.33	0.191	(0.236)	0.172	0.019
88	7.33	0.37	0.210	(0.235)	0.189	0.021
89	7.42	0.37	0.210	(0.234)	0.189	0.021
90	7.50	0.37	0.210	(0.233)	0.189	0.021

91	7.58	0.40	0.229	(	0.232)	0.206	0.023
92	7.67	0.40	0.229	(	0.231)	0.206	0.023
93	7.75	0.40	0.229	(	0.230)	0.206	0.023
94	7.83	0.43	0.248	(	0.229)	0.223	0.025
95	7.92	0.43	0.248	(	0.228)	0.223	0.025
96	8.00	0.43	0.248	(	0.227)	0.223	0.025
97	8.08	0.50	0.286		0.226	(0.258)	0.061
98	8.17	0.50	0.286		0.225	(0.258)	0.062
99	8.25	0.50	0.286		0.224	(0.258)	0.063
100	8.33	0.50	0.286		0.223	(0.258)	0.064
101	8.42	0.50	0.286		0.221	(0.258)	0.065
102	8.50	0.50	0.286		0.220	(0.258)	0.066
103	8.58	0.53	0.305		0.219	(0.275)	0.086
104	8.67	0.53	0.305		0.218	(0.275)	0.087
105	8.75	0.53	0.305		0.217	(0.275)	0.088
106	8.83	0.57	0.324		0.216	(0.292)	0.108
107	8.92	0.57	0.324		0.215	(0.292)	0.109
108	9.00	0.57	0.324		0.214	(0.292)	0.110
109	9.08	0.63	0.363		0.213	(0.326)	0.149
110	9.17	0.63	0.363		0.212	(0.326)	0.150
111	9.25	0.63	0.363		0.211	(0.326)	0.151
112	9.33	0.67	0.382		0.210	(0.343)	0.171
113	9.42	0.67	0.382		0.209	(0.343)	0.172
114	9.50	0.67	0.382		0.208	(0.343)	0.173
115	9.58	0.70	0.401		0.207	(0.361)	0.193
116	9.67	0.70	0.401		0.206	(0.361)	0.194
117	9.75	0.70	0.401		0.205	(0.361)	0.195
118	9.83	0.73	0.420		0.204	(0.378)	0.215
119	9.92	0.73	0.420		0.203	(0.378)	0.216
120	10.00	0.73	0.420		0.202	(0.378)	0.217
121	10.08	0.50	0.286		0.201	(0.258)	0.085
122	10.17	0.50	0.286		0.200	(0.258)	0.086
123	10.25	0.50	0.286		0.199	(0.258)	0.087
124	10.33	0.50	0.286		0.198	(0.258)	0.088
125	10.42	0.50	0.286		0.197	(0.258)	0.089
126	10.50	0.50	0.286		0.196	(0.258)	0.090
127	10.58	0.67	0.382		0.196	(0.343)	0.186
128	10.67	0.67	0.382		0.195	(0.343)	0.187
129	10.75	0.67	0.382		0.194	(0.343)	0.188
130	10.83	0.67	0.382		0.193	(0.343)	0.189
131	10.92	0.67	0.382		0.192	(0.343)	0.190
132	11.00	0.67	0.382		0.191	(0.343)	0.191
133	11.08	0.63	0.363		0.190	(0.326)	0.173
134	11.17	0.63	0.363		0.189	(0.326)	0.174
135	11.25	0.63	0.363		0.188	(0.326)	0.175
136	11.33	0.63	0.363		0.187	(0.326)	0.175
137	11.42	0.63	0.363		0.186	(0.326)	0.176
138	11.50	0.63	0.363		0.185	(0.326)	0.177
139	11.58	0.57	0.324		0.184	(0.292)	0.140
140	11.67	0.57	0.324		0.183	(0.292)	0.141
141	11.75	0.57	0.324		0.182	(0.292)	0.142
142	11.83	0.60	0.343		0.182	(0.309)	0.162
143	11.92	0.60	0.343		0.181	(0.309)	0.163
144	12.00	0.60	0.343		0.180	(0.309)	0.164
145	12.08	0.83	0.477		0.179	(0.429)	0.298
146	12.17	0.83	0.477		0.178	(0.429)	0.299
147	12.25	0.83	0.477		0.177	(0.429)	0.300
148	12.33	0.87	0.496		0.176	(0.446)	0.320
149	12.42	0.87	0.496		0.175	(0.446)	0.321
150	12.50	0.87	0.496		0.174	(0.446)	0.322
151	12.58	0.93	0.534		0.173	(0.481)	0.361
152	12.67	0.93	0.534		0.173	(0.481)	0.362
153	12.75	0.93	0.534		0.172	(0.481)	0.362
154	12.83	0.97	0.553		0.171	(0.498)	0.382
155	12.92	0.97	0.553		0.170	(0.498)	0.383
156	13.00	0.97	0.553		0.169	(0.498)	0.384

157	13.08	1.13	0.649		0.168	(0.584)	0.480
158	13.17	1.13	0.649		0.167	(0.584)	0.481
159	13.25	1.13	0.649		0.167	(0.584)	0.482
160	13.33	1.13	0.649		0.166	(0.584)	0.483
161	13.42	1.13	0.649		0.165	(0.584)	0.484
162	13.50	1.13	0.649		0.164	(0.584)	0.485
163	13.58	0.77	0.439		0.163	(0.395)	0.276
164	13.67	0.77	0.439		0.162	(0.395)	0.276
165	13.75	0.77	0.439		0.162	(0.395)	0.277
166	13.83	0.77	0.439		0.161	(0.395)	0.278
167	13.92	0.77	0.439		0.160	(0.395)	0.279
168	14.00	0.77	0.439		0.159	(0.395)	0.280
169	14.08	0.90	0.515		0.158	(0.464)	0.357
170	14.17	0.90	0.515		0.157	(0.464)	0.358
171	14.25	0.90	0.515		0.157	(0.464)	0.358
172	14.33	0.87	0.496		0.156	(0.446)	0.340
173	14.42	0.87	0.496		0.155	(0.446)	0.341
174	14.50	0.87	0.496		0.154	(0.446)	0.342
175	14.58	0.87	0.496		0.154	(0.446)	0.343
176	14.67	0.87	0.496		0.153	(0.446)	0.343
177	14.75	0.87	0.496		0.152	(0.446)	0.344
178	14.83	0.83	0.477		0.151	(0.429)	0.326
179	14.92	0.83	0.477		0.150	(0.429)	0.327
180	15.00	0.83	0.477		0.150	(0.429)	0.327
181	15.08	0.80	0.458		0.149	(0.412)	0.309
182	15.17	0.80	0.458		0.148	(0.412)	0.310
183	15.25	0.80	0.458		0.147	(0.412)	0.311
184	15.33	0.77	0.439		0.147	(0.395)	0.292
185	15.42	0.77	0.439		0.146	(0.395)	0.293
186	15.50	0.77	0.439		0.145	(0.395)	0.294
187	15.58	0.63	0.363		0.144	(0.326)	0.218
188	15.67	0.63	0.363		0.144	(0.326)	0.219
189	15.75	0.63	0.363		0.143	(0.326)	0.220
190	15.83	0.63	0.363		0.142	(0.326)	0.220
191	15.92	0.63	0.363		0.141	(0.326)	0.221
192	16.00	0.63	0.363		0.141	(0.326)	0.222
193	16.08	0.13	0.076	(0.140)		0.069	0.008
194	16.17	0.13	0.076	(0.139)		0.069	0.008
195	16.25	0.13	0.076	(0.139)		0.069	0.008
196	16.33	0.13	0.076	(0.138)		0.069	0.008
197	16.42	0.13	0.076	(0.137)		0.069	0.008
198	16.50	0.13	0.076	(0.136)		0.069	0.008
199	16.58	0.10	0.057	(0.136)		0.052	0.006
200	16.67	0.10	0.057	(0.135)		0.052	0.006
201	16.75	0.10	0.057	(0.134)		0.052	0.006
202	16.83	0.10	0.057	(0.134)		0.052	0.006
203	16.92	0.10	0.057	(0.133)		0.052	0.006
204	17.00	0.10	0.057	(0.132)		0.052	0.006
205	17.08	0.17	0.095	(0.132)		0.086	0.010
206	17.17	0.17	0.095	(0.131)		0.086	0.010
207	17.25	0.17	0.095	(0.130)		0.086	0.010
208	17.33	0.17	0.095	(0.130)		0.086	0.010
209	17.42	0.17	0.095	(0.129)		0.086	0.010
210	17.50	0.17	0.095	(0.128)		0.086	0.010
211	17.58	0.17	0.095	(0.128)		0.086	0.010
212	17.67	0.17	0.095	(0.127)		0.086	0.010
213	17.75	0.17	0.095	(0.126)		0.086	0.010
214	17.83	0.13	0.076	(0.126)		0.069	0.008
215	17.92	0.13	0.076	(0.125)		0.069	0.008
216	18.00	0.13	0.076	(0.125)		0.069	0.008
217	18.08	0.13	0.076	(0.124)		0.069	0.008
218	18.17	0.13	0.076	(0.123)		0.069	0.008
219	18.25	0.13	0.076	(0.123)		0.069	0.008
220	18.33	0.13	0.076	(0.122)		0.069	0.008
221	18.42	0.13	0.076	(0.122)		0.069	0.008
222	18.50	0.13	0.076	(0.121)		0.069	0.008

223	18.58	0.10	0.057	(0.120)	0.052	0.006
224	18.67	0.10	0.057	(0.120)	0.052	0.006
225	18.75	0.10	0.057	(0.119)	0.052	0.006
226	18.83	0.07	0.038	(0.119)	0.034	0.004
227	18.92	0.07	0.038	(0.118)	0.034	0.004
228	19.00	0.07	0.038	(0.118)	0.034	0.004
229	19.08	0.10	0.057	(0.117)	0.052	0.006
230	19.17	0.10	0.057	(0.116)	0.052	0.006
231	19.25	0.10	0.057	(0.116)	0.052	0.006
232	19.33	0.13	0.076	(0.115)	0.069	0.008
233	19.42	0.13	0.076	(0.115)	0.069	0.008
234	19.50	0.13	0.076	(0.114)	0.069	0.008
235	19.58	0.10	0.057	(0.114)	0.052	0.006
236	19.67	0.10	0.057	(0.113)	0.052	0.006
237	19.75	0.10	0.057	(0.113)	0.052	0.006
238	19.83	0.07	0.038	(0.112)	0.034	0.004
239	19.92	0.07	0.038	(0.112)	0.034	0.004
240	20.00	0.07	0.038	(0.111)	0.034	0.004
241	20.08	0.10	0.057	(0.111)	0.052	0.006
242	20.17	0.10	0.057	(0.110)	0.052	0.006
243	20.25	0.10	0.057	(0.110)	0.052	0.006
244	20.33	0.10	0.057	(0.109)	0.052	0.006
245	20.42	0.10	0.057	(0.109)	0.052	0.006
246	20.50	0.10	0.057	(0.108)	0.052	0.006
247	20.58	0.10	0.057	(0.108)	0.052	0.006
248	20.67	0.10	0.057	(0.107)	0.052	0.006
249	20.75	0.10	0.057	(0.107)	0.052	0.006
250	20.83	0.07	0.038	(0.107)	0.034	0.004
251	20.92	0.07	0.038	(0.106)	0.034	0.004
252	21.00	0.07	0.038	(0.106)	0.034	0.004
253	21.08	0.10	0.057	(0.105)	0.052	0.006
254	21.17	0.10	0.057	(0.105)	0.052	0.006
255	21.25	0.10	0.057	(0.104)	0.052	0.006
256	21.33	0.07	0.038	(0.104)	0.034	0.004
257	21.42	0.07	0.038	(0.104)	0.034	0.004
258	21.50	0.07	0.038	(0.103)	0.034	0.004
259	21.58	0.10	0.057	(0.103)	0.052	0.006
260	21.67	0.10	0.057	(0.103)	0.052	0.006
261	21.75	0.10	0.057	(0.102)	0.052	0.006
262	21.83	0.07	0.038	(0.102)	0.034	0.004
263	21.92	0.07	0.038	(0.101)	0.034	0.004
264	22.00	0.07	0.038	(0.101)	0.034	0.004
265	22.08	0.10	0.057	(0.101)	0.052	0.006
266	22.17	0.10	0.057	(0.100)	0.052	0.006
267	22.25	0.10	0.057	(0.100)	0.052	0.006
268	22.33	0.07	0.038	(0.100)	0.034	0.004
269	22.42	0.07	0.038	(0.100)	0.034	0.004
270	22.50	0.07	0.038	(0.099)	0.034	0.004
271	22.58	0.07	0.038	(0.099)	0.034	0.004
272	22.67	0.07	0.038	(0.099)	0.034	0.004
273	22.75	0.07	0.038	(0.098)	0.034	0.004
274	22.83	0.07	0.038	(0.098)	0.034	0.004
275	22.92	0.07	0.038	(0.098)	0.034	0.004
276	23.00	0.07	0.038	(0.098)	0.034	0.004
277	23.08	0.07	0.038	(0.097)	0.034	0.004
278	23.17	0.07	0.038	(0.097)	0.034	0.004
279	23.25	0.07	0.038	(0.097)	0.034	0.004
280	23.33	0.07	0.038	(0.097)	0.034	0.004
281	23.42	0.07	0.038	(0.097)	0.034	0.004
282	23.50	0.07	0.038	(0.096)	0.034	0.004
283	23.58	0.07	0.038	(0.096)	0.034	0.004
284	23.67	0.07	0.038	(0.096)	0.034	0.004
285	23.75	0.07	0.038	(0.096)	0.034	0.004
286	23.83	0.07	0.038	(0.096)	0.034	0.004
287	23.92	0.07	0.038	(0.096)	0.034	0.004
288	24.00	0.07	0.038	(0.096)	0.034	0.004

(Loss Rate Not Used)
Sum = 100.0 Sum = 24.4
Flood volume = Effective rainfall 2.03(In)
times area 14.3(Ac.)/[(In)/(Ft.)] = 2.4(Ac.Ft)
Total soil loss = 2.74(In)
Total soil loss = 3.259(Ac.Ft)
Total rainfall = 4.77(In)
Flood volume = 105457.3 Cubic Feet
Total soil loss = 141968.5 Cubic Feet

Peak flow rate of this hydrograph = 6.936(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	0.0004	0.04	Q				
0+15	0.0007	0.05	Q				
0+20	0.0011	0.06	Q				
0+25	0.0016	0.07	Q				
0+30	0.0021	0.08	Q				
0+35	0.0026	0.08	Q				
0+40	0.0032	0.08	Q				
0+45	0.0038	0.08	Q				
0+50	0.0044	0.09	Q				
0+55	0.0051	0.10	Q				
1+ 0	0.0058	0.11	Q				
1+ 5	0.0065	0.10	Q				
1+10	0.0071	0.09	Q				
1+15	0.0077	0.09	Q				
1+20	0.0083	0.08	Q				
1+25	0.0089	0.08	Q				
1+30	0.0094	0.08	Q				
1+35	0.0100	0.08	Q				
1+40	0.0106	0.08	Q				
1+45	0.0111	0.08	Q				
1+50	0.0118	0.09	Q				
1+55	0.0125	0.10	Q				
2+ 0	0.0132	0.11	Q				
2+ 5	0.0139	0.11	Q				
2+10	0.0147	0.11	Q				
2+15	0.0154	0.11	Q				
2+20	0.0162	0.11	Q				
2+25	0.0169	0.11	Q				
2+30	0.0177	0.11	Q				
2+35	0.0185	0.12	Q				
2+40	0.0194	0.13	Q				
2+45	0.0203	0.13	Q				
2+50	0.0212	0.14	Q				
2+55	0.0222	0.14	Q				
3+ 0	0.0231	0.14	Q				
3+ 5	0.0241	0.14	Q				
3+10	0.0250	0.14	Q				
3+15	0.0260	0.14	Q				
3+20	0.0269	0.14	Q				
3+25	0.0279	0.14	Q				
3+30	0.0288	0.14	Q				
3+35	0.0298	0.14	Q				
3+40	0.0307	0.14	Q				
3+45	0.0316	0.14	Q				

3+50	0.0326	0.14	Q	|	|	|	|
3+55	0.0337	0.16	Q	|	|	|	|
4+ 0	0.0348	0.16	Q	|	|	|	|
4+ 5	0.0359	0.16	Q	|	|	|	|
4+10	0.0371	0.16	Q	|	|	|	|
4+15	0.0382	0.16	Q	|	|	|	|
4+20	0.0394	0.17	Q	|	|	|	|
4+25	0.0406	0.18	Q	|	|	|	|
4+30	0.0419	0.19	Q	|	|	|	|
4+35	0.0433	0.19	Q	|	|	|	|
4+40	0.0446	0.19	Q	|	|	|	|
4+45	0.0459	0.19	Q	|	|	|	|
4+50	0.0473	0.20	Q	|	|	|	|
4+55	0.0487	0.21	Q	|	|	|	|
5+ 0	0.0502	0.22	Q	|	|	|	|
5+ 5	0.0516	0.21	Q	|	|	|	|
5+10	0.0529	0.18	Q	|	|	|	|
5+15	0.0540	0.17	Q	|	|	|	|
5+20	0.0553	0.18	Q	|	|	|	|
5+25	0.0565	0.19	Q	|	|	|	|
5+30	0.0578	0.19	Q	|	|	|	|
5+35	0.0592	0.20	Q	|	|	|	|
5+40	0.0607	0.21	QV	|	|	|	|
5+45	0.0621	0.22	QV	|	|	|	|
5+50	0.0636	0.22	QV	|	|	|	|
5+55	0.0651	0.22	QV	|	|	|	|
6+ 0	0.0667	0.22	QV	|	|	|	|
6+ 5	0.0682	0.23	QV	|	|	|	|
6+10	0.0699	0.24	QV	|	|	|	|
6+15	0.0715	0.24	QV	|	|	|	|
6+20	0.0732	0.25	QV	|	|	|	|
6+25	0.0749	0.25	QV	|	|	|	|
6+30	0.0766	0.25	QV	|	|	|	|
6+35	0.0784	0.25	|Q	|	|	|	|
6+40	0.0802	0.27	|Q	|	|	|	|
6+45	0.0821	0.27	|Q	|	|	|	|
6+50	0.0839	0.27	|Q	|	|	|	|
6+55	0.0858	0.27	|Q	|	|	|	|
7+ 0	0.0877	0.27	|Q	|	|	|	|
7+ 5	0.0896	0.27	|Q	|	|	|	|
7+10	0.0915	0.27	|Q	|	|	|	|
7+15	0.0934	0.27	|Q	|	|	|	|
7+20	0.0953	0.28	|Q	|	|	|	|
7+25	0.0974	0.29	|Q	|	|	|	|
7+30	0.0994	0.30	|Q	|	|	|	|
7+35	0.1015	0.31	|Q	|	|	|	|
7+40	0.1037	0.32	|Q	|	|	|	|
7+45	0.1060	0.33	|Q	|	|	|	|
7+50	0.1083	0.33	|Q	|	|	|	|
7+55	0.1107	0.35	|Q	|	|	|	|
8+ 0	0.1131	0.35	|Q	|	|	|	|
8+ 5	0.1163	0.47	|Q	|	|	|	|
8+10	0.1213	0.72	| Q	|	|	|	|
8+15	0.1269	0.81	| VQ	|	|	|	|
8+20	0.1328	0.86	| VQ	|	|	|	|
8+25	0.1389	0.89	| VQ	|	|	|	|
8+30	0.1452	0.92	| VQ	|	|	|	|
8+35	0.1521	1.00	| VQ	|	|	|	|
8+40	0.1600	1.15	| V Q	|	|	|	|
8+45	0.1683	1.21	| V Q	|	|	|	|
8+50	0.1773	1.30	| V Q	|	|	|	|
8+55	0.1873	1.46	| V Q	|	|	|	|
9+ 0	0.1978	1.52	| V Q	|	|	|	|
9+ 5	0.2094	1.68	| V Q	|	|	|	|
9+10	0.2230	1.97	| V Q	|	|	|	|
9+15	0.2372	2.07	| V Q	|	|	|	|

9+20	0.2523	2.19	V Q			
9+25	0.2685	2.36	V Q			
9+30	0.2852	2.43	V Q			
9+35	0.3026	2.53	V Q			
9+40	0.3212	2.69	V Q			
9+45	0.3401	2.75	V Q			
9+50	0.3597	2.85	V Q			
9+55	0.3804	3.01	V Q			
10+ 0	0.4015	3.07	V Q			
10+ 5	0.4200	2.68	V Q			
10+10	0.4321	1.76	Q			
10+15	0.4425	1.51	QV			
10+20	0.4522	1.40	Q V			
10+25	0.4615	1.35	Q V			
10+30	0.4705	1.32	Q V			
10+35	0.4816	1.61	QV			
10+40	0.4973	2.28	VQ			
10+45	0.5144	2.49	VQ			
10+50	0.5323	2.59	V Q			
10+55	0.5505	2.66	VQ			
11+ 0	0.5691	2.70	VQ			
11+ 5	0.5875	2.67	VQ			
11+10	0.6052	2.56	VQ			
11+15	0.6227	2.54	Q			
11+20	0.6401	2.53	Q			
11+25	0.6576	2.54	Q			
11+30	0.6751	2.54	QV			
11+35	0.6918	2.43	Q V			
11+40	0.7068	2.17	Q V			
11+45	0.7213	2.11	Q V			
11+50	0.7361	2.15	Q V			
11+55	0.7517	2.27	Q V			
12+ 0	0.7677	2.31	Q V			
12+ 5	0.7867	2.76	QV			
12+10	0.8123	3.72	VQ			
12+15	0.8400	4.02	V Q			
12+20	0.8690	4.22	V Q			
12+25	0.8996	4.44	V Q			
12+30	0.9308	4.53	V Q			
12+35	0.9633	4.71	V Q			
12+40	0.9979	5.02	V Q			
12+45	1.0331	5.12	V Q			
12+50	1.0691	5.23	V Q			
12+55	1.1063	5.40	V Q			
13+ 0	1.1440	5.47	V Q			
13+ 5	1.1840	5.81	V Q			
13+10	1.2288	6.51	V Q			
13+15	1.2751	6.72	V Q			
13+20	1.3221	6.83	V Q			
13+25	1.3696	6.89	V Q			
13+30	1.4173	6.94	V Q			
13+35	1.4607	6.30	VQ			
13+40	1.4941	4.85	Q V			
13+45	1.5245	4.42	Q V			
13+50	1.5537	4.24	Q V			
13+55	1.5822	4.14	Q V			
14+ 0	1.6103	4.08	Q V			
14+ 5	1.6399	4.30	Q V			
14+10	1.6731	4.82	Q V			
14+15	1.7074	4.99	Q V			
14+20	1.7419	5.01	Q V			
14+25	1.7759	4.93	Q V			
14+30	1.8098	4.92	Q V			
14+35	1.8438	4.93	Q V			
14+40	1.8778	4.94	Q V			
14+45	1.9119	4.95	Q V			

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14+50       1.9456      4.90  |          |          Q|          | V        |
14+55       1.9785      4.77  |          |          Q|          | V        |
15+ 0       2.0111      4.74  |          |         Q |          |  V       |
15+ 5       2.0433      4.67  |          |         Q |          |  V       |
15+10       2.0746      4.54  |          |         Q |          |   V      |
15+15       2.1056      4.51  |          |         Q |          |   V      |
15+20       2.1362      4.44  |          |        Q  |          |    V     |
15+25       2.1658      4.30  |          |        Q  |          |    V     |
15+30       2.1952      4.26  |          |        Q  |          |     V    |
15+35       2.2228      4.01  |          |      Q    |          |     V    |
15+40       2.2467      3.47  |          |  Q        |          |      V   |
15+45       2.2695      3.32  |          |  Q        |          |      V   |
15+50       2.2919      3.25  |          |  Q        |          |      V   |
15+55       2.3141      3.22  |          | Q         |          |       V  |
16+ 0       2.3362      3.21  |          | Q         |          |       V  |
16+ 5       2.3535      2.52  |          Q           |          |       V  |
16+10       2.3605      1.00  |    Q     |           |          |        V|
16+15       2.3643      0.56  | Q        |           |          |        V|
16+20       2.3668      0.36  |Q         |           |          |        V|
16+25       2.3685      0.25  Q          |           |          |        V|
16+30       2.3698      0.18  Q          |           |          |        V|
16+35       2.3707      0.13  Q          |           |          |        V|
16+40       2.3713      0.09  Q          |           |          |        V|
16+45       2.3719      0.09  Q          |           |          |        V|
16+50       2.3725      0.08  Q          |           |          |        V|
16+55       2.3730      0.08  Q          |           |          |        V|
17+ 0       2.3736      0.08  Q          |           |          |        V|
17+ 5       2.3743      0.09  Q          |           |          |        V|
17+10       2.3751      0.12  Q          |           |          |        V|
17+15       2.3760      0.13  Q          |           |          |        V|
17+20       2.3769      0.13  Q          |           |          |        V|
17+25       2.3778      0.13  Q          |           |          |        V|
17+30       2.3788      0.14  Q          |           |          |        V|
17+35       2.3797      0.14  Q          |           |          |        V|
17+40       2.3807      0.14  Q          |           |          |        V|
17+45       2.3816      0.14  Q          |           |          |        V|
17+50       2.3825      0.13  Q          |           |          |        V|
17+55       2.3833      0.12  Q          |           |          |        V|
18+ 0       2.3841      0.11  Q          |           |          |        V|
18+ 5       2.3849      0.11  Q          |           |          |        V|
18+10       2.3857      0.11  Q          |           |          |        V|
18+15       2.3864      0.11  Q          |           |          |        V|
18+20       2.3872      0.11  Q          |           |          |        V|
18+25       2.3879      0.11  Q          |           |          |        V|
18+30       2.3887      0.11  Q          |           |          |        V|
18+35       2.3894      0.10  Q          |           |          |        V|
18+40       2.3900      0.09  Q          |           |          |        V|
18+45       2.3906      0.09  Q          |           |          |        V|
18+50       2.3912      0.08  Q          |           |          |        V|
18+55       2.3916      0.06  Q          |           |          |        V|
19+ 0       2.3920      0.06  Q          |           |          |        V|
19+ 5       2.3925      0.06  Q          |           |          |        V|
19+10       2.3930      0.08  Q          |           |          |        V|
19+15       2.3935      0.08  Q          |           |          |        V|
19+20       2.3941      0.09  Q          |           |          |        V|
19+25       2.3948      0.10  Q          |           |          |        V|
19+30       2.3955      0.11  Q          |           |          |        V|
19+35       2.3962      0.10  Q          |           |          |        V|
19+40       2.3968      0.09  Q          |           |          |        V|
19+45       2.3974      0.09  Q          |           |          |        V|
19+50       2.3980      0.08  Q          |           |          |        V|
19+55       2.3984      0.06  Q          |           |          |        V|
20+ 0       2.3988      0.06  Q          |           |          |        V|
20+ 5       2.3993      0.06  Q          |           |          |        V|
20+10       2.3998      0.08  Q          |           |          |        V|
20+15       2.4003      0.08  Q          |           |          |        V|
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20+20	2.4009	0.08	Q	|	|	|	V|
20+25	2.4014	0.08	Q	|	|	|	V|
20+30	2.4020	0.08	Q	|	|	|	V|
20+35	2.4026	0.08	Q	|	|	|	V|
20+40	2.4031	0.08	Q	|	|	|	V|
20+45	2.4037	0.08	Q	|	|	|	V|
20+50	2.4042	0.08	Q	|	|	|	V|
20+55	2.4047	0.06	Q	|	|	|	V|
21+ 0	2.4051	0.06	Q	|	|	|	V|
21+ 5	2.4055	0.06	Q	|	|	|	V|
21+10	2.4060	0.08	Q	|	|	|	V|
21+15	2.4066	0.08	Q	|	|	|	V|
21+20	2.4071	0.07	Q	|	|	|	V|
21+25	2.4075	0.06	Q	|	|	|	V|
21+30	2.4079	0.06	Q	|	|	|	V|
21+35	2.4084	0.06	Q	|	|	|	V|
21+40	2.4089	0.08	Q	|	|	|	V|
21+45	2.4094	0.08	Q	|	|	|	V|
21+50	2.4099	0.07	Q	|	|	|	V|
21+55	2.4104	0.06	Q	|	|	|	V|
22+ 0	2.4108	0.06	Q	|	|	|	V|
22+ 5	2.4112	0.06	Q	|	|	|	V|
22+10	2.4117	0.08	Q	|	|	|	V|
22+15	2.4123	0.08	Q	|	|	|	V|
22+20	2.4128	0.07	Q	|	|	|	V|
22+25	2.4132	0.06	Q	|	|	|	V|
22+30	2.4136	0.06	Q	|	|	|	V|
22+35	2.4140	0.06	Q	|	|	|	V|
22+40	2.4144	0.06	Q	|	|	|	V|
22+45	2.4148	0.06	Q	|	|	|	V|
22+50	2.4151	0.06	Q	|	|	|	V|
22+55	2.4155	0.05	Q	|	|	|	V|
23+ 0	2.4159	0.05	Q	|	|	|	V|
23+ 5	2.4163	0.05	Q	|	|	|	V|
23+10	2.4167	0.05	Q	|	|	|	V|
23+15	2.4170	0.05	Q	|	|	|	V|
23+20	2.4174	0.05	Q	|	|	|	V|
23+25	2.4178	0.05	Q	|	|	|	V|
23+30	2.4182	0.05	Q	|	|	|	V|
23+35	2.4186	0.05	Q	|	|	|	V|
23+40	2.4189	0.05	Q	|	|	|	V|
23+45	2.4193	0.05	Q	|	|	|	V|
23+50	2.4197	0.05	Q	|	|	|	V|
23+55	2.4201	0.05	Q	|	|	|	V|
24+ 0	2.4204	0.05	Q	|	|	|	V|
24+ 5	2.4207	0.04	Q	|	|	|	V|
24+10	2.4209	0.02	Q	|	|	|	V|
24+15	2.4209	0.01	Q	|	|	|	V|
24+20	2.4209	0.00	Q	|	|	|	V|
24+25	2.4210	0.00	Q	|	|	|	V|
24+30	2.4210	0.00	Q	|	|	|	V|
24+35	2.4210	0.00	Q	|	|	|	V|

APPENDIX D

UNIT HYDROGRAPH HYDROLOGY

DEVELOPED CONDITION

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

Study date 01/11/22 File: 100103PRUH1100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6490

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

MFBC - BUILDING 17
DEVELOPED CONDITION INFLOW HYDROGRAPH
100103PRUH

Drainage Area = 11.95(Ac.) = 0.019 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 11.95(Ac.) = 0.019 Sq. Mi.
Length along longest watercourse = 1536.00(Ft.)
Length along longest watercourse measured to centroid = 660.00(Ft.)
Length along longest watercourse = 0.291 Mi.
Length along longest watercourse measured to centroid = 0.125 Mi.
Difference in elevation = 19.40(Ft.)
Slope along watercourse = 66.6875 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.046 Hr.
Lag time = 2.76 Min.
25% of lag time = 0.69 Min.
40% of lag time = 1.10 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
11.95	0.46	5.44

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
11.95	1.32	15.77

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.455(In)
Area Averaged 100-Year Rainfall = 1.320(In)

Point rain (area averaged) = 1.320(In)
Areal adjustment factor = 99.99 %

Adjusted average point rain = 1.320(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
11.950	38.80	0.910

Total Area Entered = 11.95(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
38.8	38.8	0.681	0.910	0.123	1.000	0.123
					Sum (F) =	0.123

Area averaged mean soil loss (F) (In/Hr) = 0.123
Minimum soil loss rate ((In/Hr)) = 0.062
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.170

Slope of intensity-duration curve for a 1 hour storm =0.5000

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	181.147	39.946	4.811
2	0.167	362.294	44.703	5.384
3	0.250	543.441	9.606	1.157
4	0.333	724.588	3.924	0.473
5	0.417	905.735	1.821	0.219
		Sum = 100.000	Sum=	12.043

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	4.20	0.665	(0.123)	0.113	0.552
2	0.17	4.30	0.681	(0.123)	0.116	0.565
3	0.25	5.00	0.792	0.123	(0.135)	0.669
4	0.33	5.00	0.792	0.123	(0.135)	0.669
5	0.42	5.80	0.919	0.123	(0.156)	0.795
6	0.50	6.50	1.029	0.123	(0.175)	0.906
7	0.58	7.40	1.172	0.123	(0.199)	1.049
8	0.67	8.60	1.362	0.123	(0.232)	1.239
9	0.75	12.30	1.948	0.123	(0.331)	1.825
10	0.83	29.10	4.609	0.123	(0.784)	4.486
11	0.92	6.80	1.077	0.123	(0.183)	0.954
12	1.00	5.00	0.792	0.123	(0.135)	0.669
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	14.4

Flood volume = Effective rainfall 1.20(In)
times area 11.9(Ac.)/[(In)/(Ft.)] = 1.2(Ac.Ft)
Total soil loss = 0.12(In)
Total soil loss = 0.121(Ac.Ft)
Total rainfall = 1.32(In)
Flood volume = 51971.7 Cubic Feet
Total soil loss = 5281.7 Cubic Feet

Peak flow rate of this hydrograph = 33.550(CFS)

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1 - 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	10.0	20.0	30.0	40.0
0+ 5	0.0183	2.66	V Q				
0+10	0.0575	5.69	V Q				
0+15	0.1051	6.90	V Q				
0+20	0.1583	7.74	V Q				
0+25	0.2175	8.59	VQ				
0+30	0.2854	9.86	Q				
0+35	0.3633	11.31		QV			
0+40	0.4541	13.18		Q V			
0+45	0.5731	17.27		Q V			
0+50	0.8042	33.55			V	Q	
0+55	1.0224	31.68				Q V	
1+ 0	1.1235	14.68		Q		V	
1+ 5	1.1733	7.23	Q			V	
1+10	1.1885	2.21	Q			V	
1+15	1.1921	0.53	Q			V	
1+20	1.1931	0.15	Q			V	

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

Study date 01/11/22 File: 100103PRUH3100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6490

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

MFBC - BUILDING 17
DEVELOPED CONDITION INFLOW HYDROGRAPH
100103PRUH

Drainage Area = 11.95(Ac.) = 0.019 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 11.95(Ac.) = 0.019 Sq. Mi.
Length along longest watercourse = 1536.00(Ft.)
Length along longest watercourse measured to centroid = 660.00(Ft.)
Length along longest watercourse = 0.291 Mi.
Length along longest watercourse measured to centroid = 0.125 Mi.
Difference in elevation = 19.40(Ft.)
Slope along watercourse = 66.6875 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.046 Hr.
Lag time = 2.76 Min.
25% of lag time = 0.69 Min.
40% of lag time = 1.10 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
11.95	0.79	9.45

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
11.95	1.97	23.54

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.791(In)
Area Averaged 100-Year Rainfall = 1.970(In)

Point rain (area averaged) = 1.970(In)
Areal adjustment factor = 99.99 %

Adjusted average point rain = 1.970(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
11.950	38.80	0.910

Total Area Entered = 11.95(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
38.8	38.8	0.681	0.910	0.123	1.000	0.123
					Sum (F) =	0.123

Area averaged mean soil loss (F) (In/Hr) = 0.123
Minimum soil loss rate ((In/Hr)) = 0.062
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.170

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	181.147	39.946	4.811
2	0.167	362.294	44.703	5.384
3	0.250	543.441	9.606	1.157
4	0.333	724.588	3.924	0.473
5	0.417	905.735	1.821	0.219
			Sum = 100.000	Sum= 12.043

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.307	(0.123)	0.052	0.255
2	0.17	1.30	0.307	(0.123)	0.052	0.255
3	0.25	1.10	0.260	(0.123)	0.044	0.216
4	0.33	1.50	0.355	(0.123)	0.060	0.294
5	0.42	1.50	0.355	(0.123)	0.060	0.294
6	0.50	1.80	0.425	(0.123)	0.072	0.353
7	0.58	1.50	0.355	(0.123)	0.060	0.294
8	0.67	1.80	0.425	(0.123)	0.072	0.353
9	0.75	1.80	0.425	(0.123)	0.072	0.353
10	0.83	1.50	0.355	(0.123)	0.060	0.294
11	0.92	1.60	0.378	(0.123)	0.064	0.314
12	1.00	1.80	0.425	(0.123)	0.072	0.353
13	1.08	2.20	0.520	(0.123)	0.088	0.432
14	1.17	2.20	0.520	(0.123)	0.088	0.432
15	1.25	2.20	0.520	(0.123)	0.088	0.432
16	1.33	2.00	0.473	(0.123)	0.080	0.392
17	1.42	2.60	0.615	(0.123)	0.104	0.510
18	1.50	2.70	0.638	(0.123)	0.109	0.530
19	1.58	2.40	0.567	(0.123)	0.096	0.471
20	1.67	2.70	0.638	(0.123)	0.109	0.530
21	1.75	3.30	0.780	0.123	(0.133)	0.657
22	1.83	3.10	0.733	0.123	(0.125)	0.610
23	1.92	2.90	0.686	(0.123)	0.117	0.569
24	2.00	3.00	0.709	(0.123)	0.121	0.589
25	2.08	3.10	0.733	0.123	(0.125)	0.610
26	2.17	4.20	0.993	0.123	(0.169)	0.870

27	2.25	5.00	1.182	0.123	(0.201)		1.059
28	2.33	3.50	0.827	0.123	(0.141)		0.704
29	2.42	6.80	1.607	0.123	(0.273)		1.484
30	2.50	7.30	1.726	0.123	(0.293)		1.602
31	2.58	8.20	1.938	0.123	(0.330)		1.815
32	2.67	5.90	1.395	0.123	(0.237)		1.271
33	2.75	2.00	0.473	(0.123)	0.080		0.392
34	2.83	1.80	0.425	(0.123)	0.072		0.353
35	2.92	1.80	0.425	(0.123)	0.072		0.353
36	3.00	0.60	0.142	(0.123)	0.024		0.118

(Loss Rate Not Used)

Sum = 100.0 Sum = 20.4

Flood volume = Effective rainfall 1.70(In)
times area 11.9(Ac.)/[(In)/(Ft.)] = 1.7(Ac.Ft)
Total soil loss = 0.27(In)
Total soil loss = 0.268(Ac.Ft)
Total rainfall = 1.97(In)
Flood volume = 73791.5 Cubic Feet
Total soil loss = 11659.7 Cubic Feet

Peak flow rate of this hydrograph = 19.651(CFS)

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3 - 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	5.0	10.0	15.0	20.0
0+ 5	0.0085	1.23	V Q	|	|	|	|
0+10	0.0264	2.60	V Q	|	|	|	|
0+15	0.0450	2.71	|V Q	|	|	|	|
0+20	0.0656	2.99	|V Q	|	|	|	|
0+25	0.0893	3.43	| V Q	|	|	|	|
0+30	0.1153	3.78	| V Q	|	|	|	|
0+35	0.1418	3.85	| V Q	|	|	|	|
0+40	0.1686	3.90	| V Q	|	|	|	|
0+45	0.1974	4.17	| V Q	|	|	|	|
0+50	0.2246	3.94	| V Q	|	|	|	|
0+55	0.2503	3.74	| V Q	|	|	|	|
1+ 0	0.2777	3.98	| VQ	|	|	|	|
1+ 5	0.3091	4.56	| V Q|	|	|	|	|
1+10	0.3437	5.02	| V Q	|	|	|	|
1+15	0.3791	5.14	| V Q	|	|	|	|
1+20	0.4135	5.00	| Q|	|	|	|	|
1+25	0.4504	5.37	| Q	|	|	|	|
1+30	0.4921	6.05	| |VQ	|	|	|	|
1+35	0.5334	5.99	| |QV	|	|	|	|
1+40	0.5749	6.03	| QV	|	|	|	|
1+45	0.6226	6.92	| QV	|	|	|	|
1+50	0.6737	7.42	| QV	|	|	|	|
1+55	0.7228	7.14	| Q V	|	|	|	|
2+ 0	0.7713	7.03	| Q V	|	|	|	|
2+ 5	0.8208	7.20	| Q V|	|	|	|	|
2+10	0.8797	8.55	| Q V	|	|	|	|
2+15	0.9547	10.89	| |QV	|	|	|	|
2+20	1.0271	10.52	| |Q V	|	|	|	|
2+25	1.1146	12.71	| QV	|	|	|	|
2+30	1.2332	17.21	| V| Q	|	|	|	|
2+35	1.3685	19.65	| | V Q|	|	|	|	|
2+40	1.4967	18.61	| | V Q	|	|	|	|
2+45	1.5788	11.92	| | Q V	|	|	|	|
2+50	1.6235	6.50	| Q V	|	|	|	|
2+55	1.6584	5.06	| Q V|	|	|	|	|

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    3+ 0       1.6814      3.34  |     Q   |         |         |        V|
    3+ 5       1.6903      1.30  | Q       |         |         |        V|
    3+10       1.6929      0.38  Q         |         |         |        V|
    3+15       1.6938      0.13  Q         |         |         |        V|
    3+20       1.6940      0.03  Q         |         |         |         V
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U n i t H y d r o g r a p h A n a l y s i s

Study date 01/11/22 File: 100103PRUH6100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6490

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

MFBC - BUILDING 17
DEVELOPED CONDITION INFLOW HYDROGRAPH
100103PRUH

Drainage Area = 11.95(Ac.) = 0.019 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 11.95(Ac.) = 0.019 Sq. Mi.
Length along longest watercourse = 1536.00(Ft.)
Length along longest watercourse measured to centroid = 660.00(Ft.)
Length along longest watercourse = 0.291 Mi.
Length along longest watercourse measured to centroid = 0.125 Mi.
Difference in elevation = 19.40(Ft.)
Slope along watercourse = 66.6875 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.046 Hr.
Lag time = 2.76 Min.
25% of lag time = 0.69 Min.
40% of lag time = 1.10 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
11.95	1.10	13.15

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
11.95	2.64	31.55

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.100(In)
Area Averaged 100-Year Rainfall = 2.640(In)

Point rain (area averaged) = 2.640(In)

Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.640(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
11.950	38.80	0.910

Total Area Entered = 11.95(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
38.8	38.8	0.681	0.910	0.123	1.000	0.123
					Sum (F) =	0.123

Area averaged mean soil loss (F) (In/Hr) = 0.123
Minimum soil loss rate ((In/Hr)) = 0.062
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.170

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	181.147	39.946	4.811
2	0.167	362.294	44.703	5.384
3	0.250	543.441	9.606	1.157
4	0.333	724.588	3.924	0.473
5	0.417	905.735	1.821	0.219
			Sum = 100.000	Sum= 12.043

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.158	(0.123)	0.027	0.131
2	0.17	0.60	0.190	(0.123)	0.032	0.158
3	0.25	0.60	0.190	(0.123)	0.032	0.158
4	0.33	0.60	0.190	(0.123)	0.032	0.158
5	0.42	0.60	0.190	(0.123)	0.032	0.158
6	0.50	0.70	0.222	(0.123)	0.038	0.184
7	0.58	0.70	0.222	(0.123)	0.038	0.184
8	0.67	0.70	0.222	(0.123)	0.038	0.184
9	0.75	0.70	0.222	(0.123)	0.038	0.184
10	0.83	0.70	0.222	(0.123)	0.038	0.184
11	0.92	0.70	0.222	(0.123)	0.038	0.184
12	1.00	0.80	0.253	(0.123)	0.043	0.210
13	1.08	0.80	0.253	(0.123)	0.043	0.210
14	1.17	0.80	0.253	(0.123)	0.043	0.210
15	1.25	0.80	0.253	(0.123)	0.043	0.210
16	1.33	0.80	0.253	(0.123)	0.043	0.210
17	1.42	0.80	0.253	(0.123)	0.043	0.210
18	1.50	0.80	0.253	(0.123)	0.043	0.210
19	1.58	0.80	0.253	(0.123)	0.043	0.210
20	1.67	0.80	0.253	(0.123)	0.043	0.210
21	1.75	0.80	0.253	(0.123)	0.043	0.210
22	1.83	0.80	0.253	(0.123)	0.043	0.210
23	1.92	0.80	0.253	(0.123)	0.043	0.210
24	2.00	0.90	0.285	(0.123)	0.048	0.237
25	2.08	0.80	0.253	(0.123)	0.043	0.210

26	2.17	0.90	0.285	(0.123)	0.048	0.237
27	2.25	0.90	0.285	(0.123)	0.048	0.237
28	2.33	0.90	0.285	(0.123)	0.048	0.237
29	2.42	0.90	0.285	(0.123)	0.048	0.237
30	2.50	0.90	0.285	(0.123)	0.048	0.237
31	2.58	0.90	0.285	(0.123)	0.048	0.237
32	2.67	0.90	0.285	(0.123)	0.048	0.237
33	2.75	1.00	0.317	(0.123)	0.054	0.263
34	2.83	1.00	0.317	(0.123)	0.054	0.263
35	2.92	1.00	0.317	(0.123)	0.054	0.263
36	3.00	1.00	0.317	(0.123)	0.054	0.263
37	3.08	1.00	0.317	(0.123)	0.054	0.263
38	3.17	1.10	0.348	(0.123)	0.059	0.289
39	3.25	1.10	0.348	(0.123)	0.059	0.289
40	3.33	1.10	0.348	(0.123)	0.059	0.289
41	3.42	1.20	0.380	(0.123)	0.065	0.316
42	3.50	1.30	0.412	(0.123)	0.070	0.342
43	3.58	1.40	0.444	(0.123)	0.075	0.368
44	3.67	1.40	0.444	(0.123)	0.075	0.368
45	3.75	1.50	0.475	(0.123)	0.081	0.394
46	3.83	1.50	0.475	(0.123)	0.081	0.394
47	3.92	1.60	0.507	(0.123)	0.086	0.421
48	4.00	1.60	0.507	(0.123)	0.086	0.421
49	4.08	1.70	0.539	(0.123)	0.092	0.447
50	4.17	1.80	0.570	(0.123)	0.097	0.473
51	4.25	1.90	0.602	(0.123)	0.102	0.500
52	4.33	2.00	0.634	(0.123)	0.108	0.526
53	4.42	2.10	0.665	(0.123)	0.113	0.552
54	4.50	2.10	0.665	(0.123)	0.113	0.552
55	4.58	2.20	0.697	(0.123)	0.118	0.578
56	4.67	2.30	0.729	0.123	(0.124)	0.605
57	4.75	2.40	0.760	0.123	(0.129)	0.637
58	4.83	2.40	0.760	0.123	(0.129)	0.637
59	4.92	2.50	0.792	0.123	(0.135)	0.669
60	5.00	2.60	0.824	0.123	(0.140)	0.700
61	5.08	3.10	0.982	0.123	(0.167)	0.859
62	5.17	3.60	1.140	0.123	(0.194)	1.017
63	5.25	3.90	1.235	0.123	(0.210)	1.112
64	5.33	4.20	1.331	0.123	(0.226)	1.207
65	5.42	4.70	1.489	0.123	(0.253)	1.366
66	5.50	5.60	1.774	0.123	(0.302)	1.651
67	5.58	1.90	0.602	(0.123)	0.102	0.500
68	5.67	0.90	0.285	(0.123)	0.048	0.237
69	5.75	0.60	0.190	(0.123)	0.032	0.158
70	5.83	0.50	0.158	(0.123)	0.027	0.131
71	5.92	0.30	0.095	(0.123)	0.016	0.079
72	6.00	0.20	0.063	(0.123)	0.011	0.053

(Loss Rate Not Used)

Sum = 100.0 Sum = 26.9

Flood volume = Effective rainfall 2.25(In)
times area 11.9(Ac.)/[(In)/(Ft.)] = 2.2(Ac.Ft)
Total soil loss = 0.39(In)
Total soil loss = 0.393(Ac.Ft)
Total rainfall = 2.64(In)
Flood volume = 97408.6 Cubic Feet
Total soil loss = 17106.0 Cubic Feet

Peak flow rate of this hydrograph = 17.448(CFS)

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6 - 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	5.0	10.0	15.0	20.0
0+ 5	0.0044	0.63	VQ				
0+10	0.0145	1.47	V Q				
0+15	0.0266	1.76	V Q				
0+20	0.0394	1.85	V Q				
0+25	0.0524	1.90	V Q				
0+30	0.0664	2.03	V Q				
0+35	0.0813	2.17	V Q				
0+40	0.0965	2.20	V Q				
0+45	0.1117	2.21	V Q				
0+50	0.1270	2.22	V Q				
0+55	0.1422	2.22	V Q				
1+ 0	0.1584	2.34	V Q				
1+ 5	0.1755	2.49	VQ				
1+10	0.1928	2.52	V Q				
1+15	0.2103	2.53	V Q				
1+20	0.2277	2.53	VQ				
1+25	0.2452	2.53	VQ				
1+30	0.2626	2.53	VQ				
1+35	0.2801	2.53	Q				
1+40	0.2975	2.53	Q				
1+45	0.3150	2.53	Q				
1+50	0.3325	2.53	Q				
1+55	0.3499	2.53	QV				
2+ 0	0.3682	2.66	QV				
2+ 5	0.3867	2.68	QV				
2+10	0.4052	2.69	Q V				
2+15	0.4246	2.82	Q V				
2+20	0.4441	2.84	Q V				
2+25	0.4637	2.85	Q V				
2+30	0.4834	2.85	Q V				
2+35	0.5030	2.85	Q V				
2+40	0.5227	2.85	Q V				
2+45	0.5432	2.98	Q V				
2+50	0.5646	3.12	Q V				
2+55	0.5863	3.15	Q V				
3+ 0	0.6081	3.16	Q V				
3+ 5	0.6299	3.17	Q V				
3+10	0.6526	3.29	Q V				
3+15	0.6763	3.44	Q V				
3+20	0.7002	3.47	Q V				
3+25	0.7250	3.61	Q V				
3+30	0.7517	3.88	Q V				
3+35	0.7805	4.18	Q V				
3+40	0.8106	4.36	Q V				
3+45	0.8418	4.54	Q V				
3+50	0.8742	4.70	Q V				
3+55	0.9076	4.86	Q V				
4+ 0	0.9422	5.01	Q V				
4+ 5	0.9778	5.18	Q V				
4+10	1.0154	5.46	Q V				
4+15	1.0551	5.76	Q V				
4+20	1.0969	6.07	Q V				
4+25	1.1410	6.39	Q V				
4+30	1.1863	6.58	Q V				
4+35	1.2328	6.76	Q V				
4+40	1.2813	7.05	Q V				
4+45	1.3321	7.38	Q V				
4+50	1.3844	7.59	Q V				
4+55	1.4382	7.80	Q V				
5+ 0	1.4943	8.15	Q V				
5+ 5	1.5571	9.12	Q V				
5+10	1.6314	10.79	Q V				
5+15	1.7161	12.30	Q V				
5+20	1.8094	13.54	Q V				

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    5+25       1.9129     15.03  |         |         |         Q   V     |
    5+30       2.0331     17.45  |         |         |         |   Q V   |
    5+35       2.1274     13.69  |         |         |       Q |       V |
    5+40       2.1732      6.65  |         |  Q      |         |       V |
    5+45       2.1986      3.69  |       Q |         |         |         V|
    5+50       2.2148      2.35  |    Q    |         |         |         V|
    5+55       2.2251      1.49  |  Q      |         |         |         V|
    6+ 0       2.2317      0.96  |Q        |         |         |         V|
    6+ 5       2.2349      0.47  Q         |         |         |         V|
    6+10       2.2358      0.13  Q         |         |         |         V|
    6+15       2.2361      0.04  Q         |         |         |         V|
    6+20       2.2362      0.01  Q         |         |         |         V|
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U n i t H y d r o g r a p h A n a l y s i s

Study date 01/11/22 File: 100103PRUH24100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6490

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

MFBC - BUILDING 17
DEVELOPED CONDITION INFLOW HYDROGRAPH
100103PRUH

Drainage Area = 11.95(Ac.) = 0.019 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 11.95(Ac.) = 0.019 Sq. Mi.
Length along longest watercourse = 1536.00(Ft.)
Length along longest watercourse measured to centroid = 660.00(Ft.)
Length along longest watercourse = 0.291 Mi.
Length along longest watercourse measured to centroid = 0.125 Mi.
Difference in elevation = 19.40(Ft.)
Slope along watercourse = 66.6875 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.046 Hr.
Lag time = 2.76 Min.
25% of lag time = 0.69 Min.
40% of lag time = 1.10 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
11.95	1.89	22.59

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
11.95	4.77	57.00

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.890(In)
Area Averaged 100-Year Rainfall = 4.770(In)

Point rain (area averaged) = 4.770(In)

Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.770(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
11.950	38.80	0.910

Total Area Entered = 11.95(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
38.8	38.8	0.681	0.910	0.123	1.000	0.123
					Sum (F) =	0.123

Area averaged mean soil loss (F) (In/Hr) = 0.123
Minimum soil loss rate ((In/Hr)) = 0.062
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.170

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	181.147	39.946	4.811
2	0.167	362.294	44.703	5.384
3	0.250	543.441	9.606	1.157
4	0.333	724.588	3.924	0.473
5	0.417	905.735	1.821	0.219
			Sum = 100.000	Sum= 12.043

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.038	(0.218)	0.006	0.032
2	0.17	0.07	0.038	(0.218)	0.006	0.032
3	0.25	0.07	0.038	(0.217)	0.006	0.032
4	0.33	0.10	0.057	(0.216)	0.010	0.048
5	0.42	0.10	0.057	(0.215)	0.010	0.048
6	0.50	0.10	0.057	(0.214)	0.010	0.048
7	0.58	0.10	0.057	(0.213)	0.010	0.048
8	0.67	0.10	0.057	(0.213)	0.010	0.048
9	0.75	0.10	0.057	(0.212)	0.010	0.048
10	0.83	0.13	0.076	(0.211)	0.013	0.063
11	0.92	0.13	0.076	(0.210)	0.013	0.063
12	1.00	0.13	0.076	(0.209)	0.013	0.063
13	1.08	0.10	0.057	(0.208)	0.010	0.048
14	1.17	0.10	0.057	(0.208)	0.010	0.048
15	1.25	0.10	0.057	(0.207)	0.010	0.048
16	1.33	0.10	0.057	(0.206)	0.010	0.048
17	1.42	0.10	0.057	(0.205)	0.010	0.048
18	1.50	0.10	0.057	(0.204)	0.010	0.048
19	1.58	0.10	0.057	(0.203)	0.010	0.048
20	1.67	0.10	0.057	(0.203)	0.010	0.048
21	1.75	0.10	0.057	(0.202)	0.010	0.048
22	1.83	0.13	0.076	(0.201)	0.013	0.063
23	1.92	0.13	0.076	(0.200)	0.013	0.063
24	2.00	0.13	0.076	(0.199)	0.013	0.063
25	2.08	0.13	0.076	(0.199)	0.013	0.063

26	2.17	0.13	0.076	(0.198)	0.013	0.063
27	2.25	0.13	0.076	(0.197)	0.013	0.063
28	2.33	0.13	0.076	(0.196)	0.013	0.063
29	2.42	0.13	0.076	(0.195)	0.013	0.063
30	2.50	0.13	0.076	(0.195)	0.013	0.063
31	2.58	0.17	0.095	(0.194)	0.016	0.079
32	2.67	0.17	0.095	(0.193)	0.016	0.079
33	2.75	0.17	0.095	(0.192)	0.016	0.079
34	2.83	0.17	0.095	(0.191)	0.016	0.079
35	2.92	0.17	0.095	(0.191)	0.016	0.079
36	3.00	0.17	0.095	(0.190)	0.016	0.079
37	3.08	0.17	0.095	(0.189)	0.016	0.079
38	3.17	0.17	0.095	(0.188)	0.016	0.079
39	3.25	0.17	0.095	(0.188)	0.016	0.079
40	3.33	0.17	0.095	(0.187)	0.016	0.079
41	3.42	0.17	0.095	(0.186)	0.016	0.079
42	3.50	0.17	0.095	(0.185)	0.016	0.079
43	3.58	0.17	0.095	(0.184)	0.016	0.079
44	3.67	0.17	0.095	(0.184)	0.016	0.079
45	3.75	0.17	0.095	(0.183)	0.016	0.079
46	3.83	0.20	0.114	(0.182)	0.019	0.095
47	3.92	0.20	0.114	(0.181)	0.019	0.095
48	4.00	0.20	0.114	(0.181)	0.019	0.095
49	4.08	0.20	0.114	(0.180)	0.019	0.095
50	4.17	0.20	0.114	(0.179)	0.019	0.095
51	4.25	0.20	0.114	(0.178)	0.019	0.095
52	4.33	0.23	0.134	(0.177)	0.023	0.111
53	4.42	0.23	0.134	(0.177)	0.023	0.111
54	4.50	0.23	0.134	(0.176)	0.023	0.111
55	4.58	0.23	0.134	(0.175)	0.023	0.111
56	4.67	0.23	0.134	(0.174)	0.023	0.111
57	4.75	0.23	0.134	(0.174)	0.023	0.111
58	4.83	0.27	0.153	(0.173)	0.026	0.127
59	4.92	0.27	0.153	(0.172)	0.026	0.127
60	5.00	0.27	0.153	(0.171)	0.026	0.127
61	5.08	0.20	0.114	(0.171)	0.019	0.095
62	5.17	0.20	0.114	(0.170)	0.019	0.095
63	5.25	0.20	0.114	(0.169)	0.019	0.095
64	5.33	0.23	0.134	(0.169)	0.023	0.111
65	5.42	0.23	0.134	(0.168)	0.023	0.111
66	5.50	0.23	0.134	(0.167)	0.023	0.111
67	5.58	0.27	0.153	(0.166)	0.026	0.127
68	5.67	0.27	0.153	(0.166)	0.026	0.127
69	5.75	0.27	0.153	(0.165)	0.026	0.127
70	5.83	0.27	0.153	(0.164)	0.026	0.127
71	5.92	0.27	0.153	(0.163)	0.026	0.127
72	6.00	0.27	0.153	(0.163)	0.026	0.127
73	6.08	0.30	0.172	(0.162)	0.029	0.143
74	6.17	0.30	0.172	(0.161)	0.029	0.143
75	6.25	0.30	0.172	(0.160)	0.029	0.143
76	6.33	0.30	0.172	(0.160)	0.029	0.143
77	6.42	0.30	0.172	(0.159)	0.029	0.143
78	6.50	0.30	0.172	(0.158)	0.029	0.143
79	6.58	0.33	0.191	(0.158)	0.032	0.158
80	6.67	0.33	0.191	(0.157)	0.032	0.158
81	6.75	0.33	0.191	(0.156)	0.032	0.158
82	6.83	0.33	0.191	(0.156)	0.032	0.158
83	6.92	0.33	0.191	(0.155)	0.032	0.158
84	7.00	0.33	0.191	(0.154)	0.032	0.158
85	7.08	0.33	0.191	(0.153)	0.032	0.158
86	7.17	0.33	0.191	(0.153)	0.032	0.158
87	7.25	0.33	0.191	(0.152)	0.032	0.158
88	7.33	0.37	0.210	(0.151)	0.036	0.174
89	7.42	0.37	0.210	(0.151)	0.036	0.174
90	7.50	0.37	0.210	(0.150)	0.036	0.174
91	7.58	0.40	0.229	(0.149)	0.039	0.190

92	7.67	0.40	0.229	(0.149)	0.039	0.190
93	7.75	0.40	0.229	(0.148)	0.039	0.190
94	7.83	0.43	0.248	(0.147)	0.042	0.206
95	7.92	0.43	0.248	(0.147)	0.042	0.206
96	8.00	0.43	0.248	(0.146)	0.042	0.206
97	8.08	0.50	0.286	(0.145)	0.049	0.238
98	8.17	0.50	0.286	(0.144)	0.049	0.238
99	8.25	0.50	0.286	(0.144)	0.049	0.238
100	8.33	0.50	0.286	(0.143)	0.049	0.238
101	8.42	0.50	0.286	(0.142)	0.049	0.238
102	8.50	0.50	0.286	(0.142)	0.049	0.238
103	8.58	0.53	0.305	(0.141)	0.052	0.253
104	8.67	0.53	0.305	(0.140)	0.052	0.253
105	8.75	0.53	0.305	(0.140)	0.052	0.253
106	8.83	0.57	0.324	(0.139)	0.055	0.269
107	8.92	0.57	0.324	(0.138)	0.055	0.269
108	9.00	0.57	0.324	(0.138)	0.055	0.269
109	9.08	0.63	0.363	(0.137)	0.062	0.301
110	9.17	0.63	0.363	(0.137)	0.062	0.301
111	9.25	0.63	0.363	(0.136)	0.062	0.301
112	9.33	0.67	0.382	(0.135)	0.065	0.317
113	9.42	0.67	0.382	(0.135)	0.065	0.317
114	9.50	0.67	0.382	(0.134)	0.065	0.317
115	9.58	0.70	0.401	(0.133)	0.068	0.333
116	9.67	0.70	0.401	(0.133)	0.068	0.333
117	9.75	0.70	0.401	(0.132)	0.068	0.333
118	9.83	0.73	0.420	(0.131)	0.071	0.348
119	9.92	0.73	0.420	(0.131)	0.071	0.348
120	10.00	0.73	0.420	(0.130)	0.071	0.348
121	10.08	0.50	0.286	(0.129)	0.049	0.238
122	10.17	0.50	0.286	(0.129)	0.049	0.238
123	10.25	0.50	0.286	(0.128)	0.049	0.238
124	10.33	0.50	0.286	(0.128)	0.049	0.238
125	10.42	0.50	0.286	(0.127)	0.049	0.238
126	10.50	0.50	0.286	(0.126)	0.049	0.238
127	10.58	0.67	0.382	(0.126)	0.065	0.317
128	10.67	0.67	0.382	(0.125)	0.065	0.317
129	10.75	0.67	0.382	(0.125)	0.065	0.317
130	10.83	0.67	0.382	(0.124)	0.065	0.317
131	10.92	0.67	0.382	(0.123)	0.065	0.317
132	11.00	0.67	0.382	(0.123)	0.065	0.317
133	11.08	0.63	0.363	(0.122)	0.062	0.301
134	11.17	0.63	0.363	(0.122)	0.062	0.301
135	11.25	0.63	0.363	(0.121)	0.062	0.301
136	11.33	0.63	0.363	(0.120)	0.062	0.301
137	11.42	0.63	0.363	(0.120)	0.062	0.301
138	11.50	0.63	0.363	(0.119)	0.062	0.301
139	11.58	0.57	0.324	(0.119)	0.055	0.269
140	11.67	0.57	0.324	(0.118)	0.055	0.269
141	11.75	0.57	0.324	(0.117)	0.055	0.269
142	11.83	0.60	0.343	(0.117)	0.058	0.285
143	11.92	0.60	0.343	(0.116)	0.058	0.285
144	12.00	0.60	0.343	(0.116)	0.058	0.285
145	12.08	0.83	0.477	(0.115)	0.081	0.396
146	12.17	0.83	0.477	(0.114)	0.081	0.396
147	12.25	0.83	0.477	(0.114)	0.081	0.396
148	12.33	0.87	0.496	(0.113)	0.084	0.412
149	12.42	0.87	0.496	(0.113)	0.084	0.412
150	12.50	0.87	0.496	(0.112)	0.084	0.412
151	12.58	0.93	0.534	(0.112)	0.091	0.443
152	12.67	0.93	0.534	(0.111)	0.091	0.443
153	12.75	0.93	0.534	(0.110)	0.091	0.443
154	12.83	0.97	0.553	(0.110)	0.094	0.459
155	12.92	0.97	0.553	(0.109)	0.094	0.459
156	13.00	0.97	0.553	(0.109)	0.094	0.459
157	13.08	1.13	0.649	0.108	(0.110)	0.540

158	13.17	1.13	0.649		0.108	(0.110)	0.541
159	13.25	1.13	0.649		0.107	(0.110)	0.542
160	13.33	1.13	0.649		0.107	(0.110)	0.542
161	13.42	1.13	0.649		0.106	(0.110)	0.543
162	13.50	1.13	0.649		0.106	(0.110)	0.543
163	13.58	0.77	0.439	(	0.105)	0.075	0.364
164	13.67	0.77	0.439	(	0.104)	0.075	0.364
165	13.75	0.77	0.439	(	0.104)	0.075	0.364
166	13.83	0.77	0.439	(	0.103)	0.075	0.364
167	13.92	0.77	0.439	(	0.103)	0.075	0.364
168	14.00	0.77	0.439	(	0.102)	0.075	0.364
169	14.08	0.90	0.515	(	0.102)	0.088	0.428
170	14.17	0.90	0.515	(	0.101)	0.088	0.428
171	14.25	0.90	0.515	(	0.101)	0.088	0.428
172	14.33	0.87	0.496	(	0.100)	0.084	0.412
173	14.42	0.87	0.496	(	0.100)	0.084	0.412
174	14.50	0.87	0.496	(	0.099)	0.084	0.412
175	14.58	0.87	0.496	(	0.099)	0.084	0.412
176	14.67	0.87	0.496	(	0.098)	0.084	0.412
177	14.75	0.87	0.496	(	0.098)	0.084	0.412
178	14.83	0.83	0.477	(	0.097)	0.081	0.396
179	14.92	0.83	0.477	(	0.097)	0.081	0.396
180	15.00	0.83	0.477	(	0.096)	0.081	0.396
181	15.08	0.80	0.458	(	0.096)	0.078	0.380
182	15.17	0.80	0.458	(	0.095)	0.078	0.380
183	15.25	0.80	0.458	(	0.095)	0.078	0.380
184	15.33	0.77	0.439	(	0.094)	0.075	0.364
185	15.42	0.77	0.439	(	0.094)	0.075	0.364
186	15.50	0.77	0.439	(	0.093)	0.075	0.364
187	15.58	0.63	0.363	(	0.093)	0.062	0.301
188	15.67	0.63	0.363	(	0.092)	0.062	0.301
189	15.75	0.63	0.363	(	0.092)	0.062	0.301
190	15.83	0.63	0.363	(	0.091)	0.062	0.301
191	15.92	0.63	0.363	(	0.091)	0.062	0.301
192	16.00	0.63	0.363	(	0.090)	0.062	0.301
193	16.08	0.13	0.076	(	0.090)	0.013	0.063
194	16.17	0.13	0.076	(	0.090)	0.013	0.063
195	16.25	0.13	0.076	(	0.089)	0.013	0.063
196	16.33	0.13	0.076	(	0.089)	0.013	0.063
197	16.42	0.13	0.076	(	0.088)	0.013	0.063
198	16.50	0.13	0.076	(	0.088)	0.013	0.063
199	16.58	0.10	0.057	(	0.087)	0.010	0.048
200	16.67	0.10	0.057	(	0.087)	0.010	0.048
201	16.75	0.10	0.057	(	0.086)	0.010	0.048
202	16.83	0.10	0.057	(	0.086)	0.010	0.048
203	16.92	0.10	0.057	(	0.086)	0.010	0.048
204	17.00	0.10	0.057	(	0.085)	0.010	0.048
205	17.08	0.17	0.095	(	0.085)	0.016	0.079
206	17.17	0.17	0.095	(	0.084)	0.016	0.079
207	17.25	0.17	0.095	(	0.084)	0.016	0.079
208	17.33	0.17	0.095	(	0.083)	0.016	0.079
209	17.42	0.17	0.095	(	0.083)	0.016	0.079
210	17.50	0.17	0.095	(	0.083)	0.016	0.079
211	17.58	0.17	0.095	(	0.082)	0.016	0.079
212	17.67	0.17	0.095	(	0.082)	0.016	0.079
213	17.75	0.17	0.095	(	0.081)	0.016	0.079
214	17.83	0.13	0.076	(	0.081)	0.013	0.063
215	17.92	0.13	0.076	(	0.081)	0.013	0.063
216	18.00	0.13	0.076	(	0.080)	0.013	0.063
217	18.08	0.13	0.076	(	0.080)	0.013	0.063
218	18.17	0.13	0.076	(	0.079)	0.013	0.063
219	18.25	0.13	0.076	(	0.079)	0.013	0.063
220	18.33	0.13	0.076	(	0.079)	0.013	0.063
221	18.42	0.13	0.076	(	0.078)	0.013	0.063
222	18.50	0.13	0.076	(	0.078)	0.013	0.063
223	18.58	0.10	0.057	(	0.077)	0.010	0.048

224	18.67	0.10	0.057	(0.077)	0.010	0.048
225	18.75	0.10	0.057	(0.077)	0.010	0.048
226	18.83	0.07	0.038	(0.076)	0.006	0.032
227	18.92	0.07	0.038	(0.076)	0.006	0.032
228	19.00	0.07	0.038	(0.076)	0.006	0.032
229	19.08	0.10	0.057	(0.075)	0.010	0.048
230	19.17	0.10	0.057	(0.075)	0.010	0.048
231	19.25	0.10	0.057	(0.075)	0.010	0.048
232	19.33	0.13	0.076	(0.074)	0.013	0.063
233	19.42	0.13	0.076	(0.074)	0.013	0.063
234	19.50	0.13	0.076	(0.074)	0.013	0.063
235	19.58	0.10	0.057	(0.073)	0.010	0.048
236	19.67	0.10	0.057	(0.073)	0.010	0.048
237	19.75	0.10	0.057	(0.073)	0.010	0.048
238	19.83	0.07	0.038	(0.072)	0.006	0.032
239	19.92	0.07	0.038	(0.072)	0.006	0.032
240	20.00	0.07	0.038	(0.072)	0.006	0.032
241	20.08	0.10	0.057	(0.071)	0.010	0.048
242	20.17	0.10	0.057	(0.071)	0.010	0.048
243	20.25	0.10	0.057	(0.071)	0.010	0.048
244	20.33	0.10	0.057	(0.070)	0.010	0.048
245	20.42	0.10	0.057	(0.070)	0.010	0.048
246	20.50	0.10	0.057	(0.070)	0.010	0.048
247	20.58	0.10	0.057	(0.069)	0.010	0.048
248	20.67	0.10	0.057	(0.069)	0.010	0.048
249	20.75	0.10	0.057	(0.069)	0.010	0.048
250	20.83	0.07	0.038	(0.069)	0.006	0.032
251	20.92	0.07	0.038	(0.068)	0.006	0.032
252	21.00	0.07	0.038	(0.068)	0.006	0.032
253	21.08	0.10	0.057	(0.068)	0.010	0.048
254	21.17	0.10	0.057	(0.067)	0.010	0.048
255	21.25	0.10	0.057	(0.067)	0.010	0.048
256	21.33	0.07	0.038	(0.067)	0.006	0.032
257	21.42	0.07	0.038	(0.067)	0.006	0.032
258	21.50	0.07	0.038	(0.066)	0.006	0.032
259	21.58	0.10	0.057	(0.066)	0.010	0.048
260	21.67	0.10	0.057	(0.066)	0.010	0.048
261	21.75	0.10	0.057	(0.066)	0.010	0.048
262	21.83	0.07	0.038	(0.066)	0.006	0.032
263	21.92	0.07	0.038	(0.065)	0.006	0.032
264	22.00	0.07	0.038	(0.065)	0.006	0.032
265	22.08	0.10	0.057	(0.065)	0.010	0.048
266	22.17	0.10	0.057	(0.065)	0.010	0.048
267	22.25	0.10	0.057	(0.064)	0.010	0.048
268	22.33	0.07	0.038	(0.064)	0.006	0.032
269	22.42	0.07	0.038	(0.064)	0.006	0.032
270	22.50	0.07	0.038	(0.064)	0.006	0.032
271	22.58	0.07	0.038	(0.064)	0.006	0.032
272	22.67	0.07	0.038	(0.063)	0.006	0.032
273	22.75	0.07	0.038	(0.063)	0.006	0.032
274	22.83	0.07	0.038	(0.063)	0.006	0.032
275	22.92	0.07	0.038	(0.063)	0.006	0.032
276	23.00	0.07	0.038	(0.063)	0.006	0.032
277	23.08	0.07	0.038	(0.063)	0.006	0.032
278	23.17	0.07	0.038	(0.063)	0.006	0.032
279	23.25	0.07	0.038	(0.062)	0.006	0.032
280	23.33	0.07	0.038	(0.062)	0.006	0.032
281	23.42	0.07	0.038	(0.062)	0.006	0.032
282	23.50	0.07	0.038	(0.062)	0.006	0.032
283	23.58	0.07	0.038	(0.062)	0.006	0.032
284	23.67	0.07	0.038	(0.062)	0.006	0.032
285	23.75	0.07	0.038	(0.062)	0.006	0.032
286	23.83	0.07	0.038	(0.062)	0.006	0.032
287	23.92	0.07	0.038	(0.062)	0.006	0.032
288	24.00	0.07	0.038	(0.062)	0.006	0.032

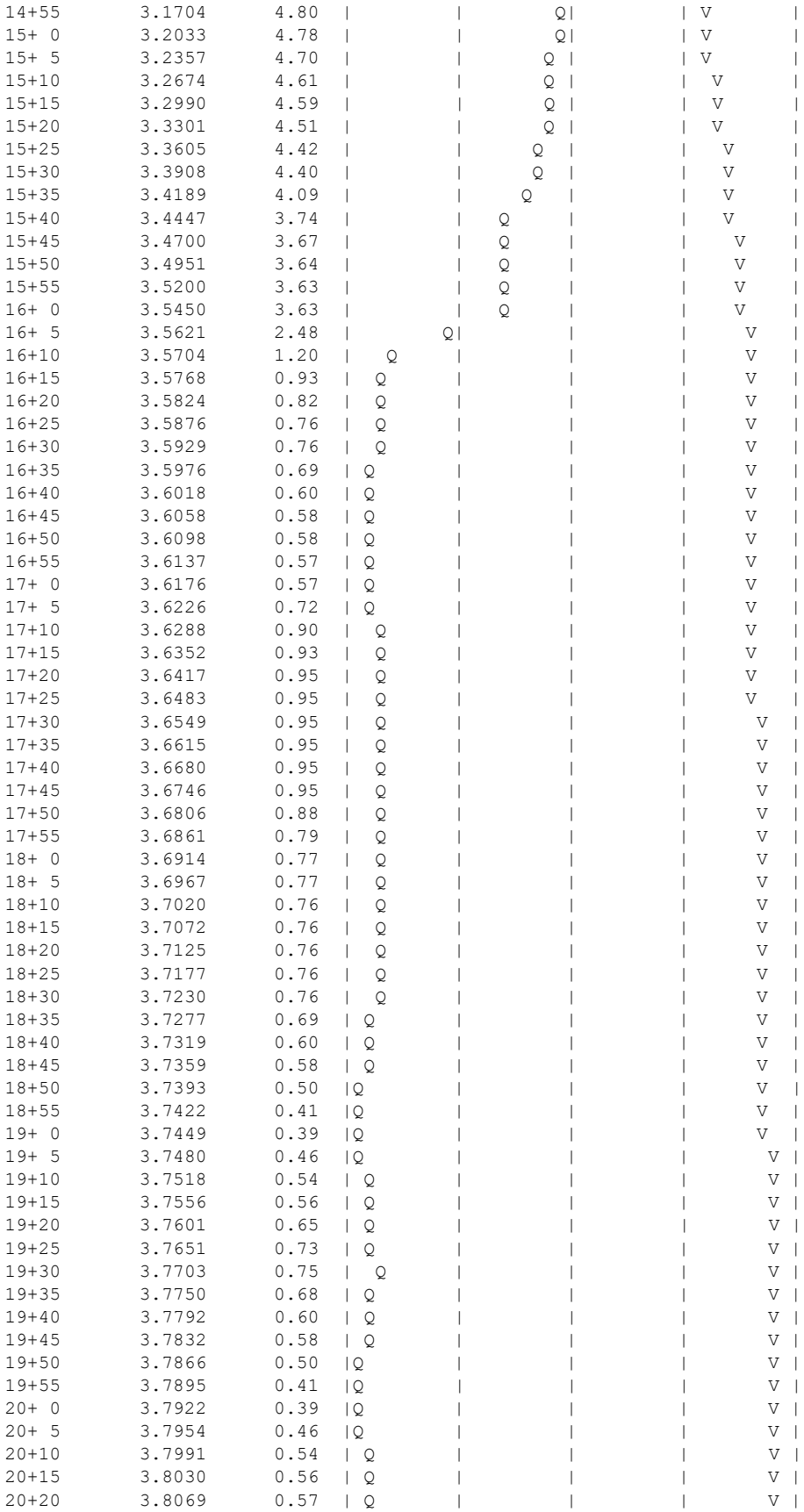
(Loss Rate Not Used)

```
   Sum =     100.0                                    Sum =    47.5
      Flood volume = Effective rainfall      3.96(In)
       times area      11.9(Ac.)/[(In)/(Ft.)] =       3.9(Ac.Ft)
      Total soil loss =      0.81(In)
      Total soil loss =     0.806(Ac.Ft)
      Total rainfall =      4.77(In)
      Flood volume =      171809.1 Cubic Feet
      Total soil loss =       35101.5 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      6.539(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   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0010      0.15  Q         |         |         |         |
  0+10       0.0033      0.32  VQ        |         |         |         |
  0+15       0.0058      0.36  VQ        |         |         |         |
  0+20       0.0089      0.45  VQ        |         |         |         |
  0+25       0.0126      0.54  V Q       |         |         |         |
  0+30       0.0165      0.56  V Q       |         |         |         |
  0+35       0.0204      0.57  V Q       |         |         |         |
  0+40       0.0243      0.57  V Q       |         |         |         |
  0+45       0.0283      0.57  V Q       |         |         |         |
  0+50       0.0327      0.65  V Q       |         |         |         |
  0+55       0.0378      0.73  V Q       |         |         |         |
  1+ 0       0.0430      0.75  V  Q      |         |         |         |
  1+ 5       0.0477      0.68  V Q       |         |         |         |
  1+10       0.0518      0.60  V Q       |         |         |         |
  1+15       0.0558      0.58  V Q       |         |         |         |
  1+20       0.0598      0.58  V Q       |         |         |         |
  1+25       0.0638      0.57  V Q       |         |         |         |
  1+30       0.0677      0.57  V Q       |         |         |         |
  1+35       0.0716      0.57  V Q       |         |         |         |
  1+40       0.0756      0.57  V Q       |         |         |         |
  1+45       0.0795      0.57  V Q       |         |         |         |
  1+50       0.0840      0.65  V Q       |         |         |         |
  1+55       0.0890      0.73  V Q       |         |         |         |
  2+ 0       0.0942      0.75  V  Q      |         |         |         |
  2+ 5       0.0995      0.76  |V Q      |         |         |         |
  2+10       0.1047      0.76  |V Q      |         |         |         |
  2+15       0.1100      0.76  |V Q      |         |         |         |
  2+20       0.1152      0.76  |V Q      |         |         |         |
  2+25       0.1205      0.76  |V Q      |         |         |         |
  2+30       0.1257      0.76  |V Q      |         |         |         |
  2+35       0.1315      0.84  |V Q      |         |         |         |
  2+40       0.1379      0.92  |V Q      |         |         |         |
  2+45       0.1444      0.94  |V Q      |         |         |         |
  2+50       0.1509      0.95  |V Q      |         |         |         |
  2+55       0.1575      0.95  |V Q      |         |         |         |
  3+ 0       0.1641      0.95  |V Q      |         |         |         |
  3+ 5       0.1706      0.95  |V Q      |         |         |         |
  3+10       0.1772      0.95  |V Q      |         |         |         |
  3+15       0.1838      0.95  |V Q      |         |         |         |
  3+20       0.1904      0.95  |V Q      |         |         |         |
  3+25       0.1969      0.95  |V Q      |         |         |         |
  3+30       0.2035      0.95  | VQ      |         |         |         |
  3+35       0.2101      0.95  | VQ      |         |         |         |
  3+40       0.2166      0.95  | VQ      |         |         |         |
  3+45       0.2232      0.95  | VQ      |         |         |         |
  3+50       0.2303      1.03  | V Q     |         |         |         |
```

3+55	0.2380	1.12	V Q			
4+ 0	0.2458	1.13	V Q			
4+ 5	0.2537	1.14	V Q			
4+10	0.2615	1.14	V Q			
4+15	0.2694	1.14	V Q			
4+20	0.2778	1.22	V Q			
4+25	0.2868	1.31	V Q			
4+30	0.2960	1.32	V Q			
4+35	0.3051	1.33	V Q			
4+40	0.3143	1.34	V Q			
4+45	0.3235	1.34	V Q			
4+50	0.3333	1.41	V Q			
4+55	0.3436	1.50	V Q			
5+ 0	0.3540	1.52	V Q			
5+ 5	0.3635	1.37	V Q			
5+10	0.3717	1.20	VQ			
5+15	0.3798	1.17	VQ			
5+20	0.3882	1.23	VQ			
5+25	0.3972	1.31	VQ			
5+30	0.4064	1.32	VQ			
5+35	0.4161	1.41	VQ			
5+40	0.4264	1.50	VQ			
5+45	0.4368	1.52	V Q			
5+50	0.4473	1.52	V Q			
5+55	0.4578	1.53	V Q			
6+ 0	0.4683	1.53	V Q			
6+ 5	0.4794	1.60	V Q			
6+10	0.4910	1.69	V Q			
6+15	0.5027	1.71	VQ			
6+20	0.5145	1.71	VQ			
6+25	0.5264	1.72	VQ			
6+30	0.5382	1.72	VQ			
6+35	0.5505	1.79	V Q			
6+40	0.5635	1.88	V Q			
6+45	0.5766	1.90	V Q			
6+50	0.5897	1.90	V Q			
6+55	0.6028	1.91	VQ			
7+ 0	0.6160	1.91	VQ			
7+ 5	0.6291	1.91	VQ			
7+10	0.6422	1.91	VQ			
7+15	0.6554	1.91	VQ			
7+20	0.6690	1.98	VQ			
7+25	0.6833	2.07	V Q			
7+30	0.6977	2.09	VQ			
7+35	0.7126	2.17	VQ			
7+40	0.7282	2.26	V Q			
7+45	0.7439	2.28	V Q			
7+50	0.7602	2.36	V Q			
7+55	0.7771	2.45	V Q			
8+ 0	0.7941	2.47	VQ			
8+ 5	0.8122	2.63	V Q			
8+10	0.8315	2.80	V Q			
8+15	0.8510	2.84	V Q			
8+20	0.8707	2.86	V Q			
8+25	0.8904	2.86	V Q			
8+30	0.9101	2.86	V Q			
8+35	0.9304	2.94	V Q			
8+40	0.9512	3.02	V Q			
8+45	0.9721	3.04	V Q			
8+50	0.9937	3.13	V Q			
8+55	1.0158	3.21	V Q			
9+ 0	1.0381	3.23	V Q			
9+ 5	1.0614	3.39	V Q			
9+10	1.0860	3.57	V Q			
9+15	1.1108	3.60	V Q			
9+20	1.1363	3.69	V Q			

9+25	1.1624	3.79	|	|V Q |	|	|
9+30	1.1886	3.81	|	| V Q |	|	|
9+35	1.2154	3.89	|	| V Q |	|	|
9+40	1.2427	3.98	|	| V Q |	|	|
9+45	1.2703	4.00	|	| V Q |	|	|
9+50	1.2984	4.08	|	| V Q |	|	|
9+55	1.3271	4.17	|	| V Q |	|	|
10+ 0	1.3559	4.19	|	| V Q |	|	|
10+ 5	1.3811	3.66	|	| Q |	|	|
10+10	1.4023	3.07	|	| Q V |	|	|
10+15	1.4225	2.94	|	|Q V |	|	|
10+20	1.4424	2.89	|	|Q V |	|	|
10+25	1.4621	2.86	|	|Q V |	|	|
10+30	1.4818	2.86	|	|Q V |	|	|
10+35	1.5041	3.24	|	| Q V |	|	|
10+40	1.5294	3.67	|	| QV |	|	|
10+45	1.5553	3.76	|	| Q |	|	|
10+50	1.5815	3.80	|	| QV |	|	|
10+55	1.6078	3.82	|	| QV |	|	|
11+ 0	1.6340	3.82	|	| QV |	|	|
11+ 5	1.6598	3.74	|	| Q V |	|	|
11+10	1.6850	3.65	|	| Q V |	|	|
11+15	1.7100	3.64	|	| Q V |	|	|
11+20	1.7350	3.63	|	| Q V |	|	|
11+25	1.7600	3.63	|	| Q V |	|	|
11+30	1.7850	3.63	|	| Q V |	|	|
11+35	1.8089	3.47	|	| Q V |	|	|
11+40	1.8316	3.30	|	| Q V |	|	|
11+45	1.8541	3.27	|	| Q V |	|	|
11+50	1.8770	3.33	|	| Q V|	|	|
11+55	1.9005	3.41	|	| Q V|	|	|
12+ 0	1.9241	3.42	|	| Q V|	|	|
12+ 5	1.9514	3.96	|	| Q V|	|	|
12+10	1.9828	4.57	|	| Q V |	|	|
12+15	2.0151	4.69	|	| Q V |	|	|
12+20	2.0483	4.82	|	| QV |	|	|
12+25	2.0823	4.93	|	| Q|V |	|	|
12+30	2.1164	4.95	|	| Q|V |	|	|
12+35	2.1516	5.11	|	| QV |	|	|
12+40	2.1880	5.28	|	| |QV |	|	|
12+45	2.2246	5.32	|	| |QV |	|	|
12+50	2.2619	5.41	|	| |QV |	|	|
12+55	2.2998	5.50	|	| | QV |	|	|
13+ 0	2.3379	5.52	|	| | QV |	|	|
13+ 5	2.3786	5.92	|	| | QV |	|	|
13+10	2.4225	6.36	|	| | VQ |	|	|
13+15	2.4670	6.46	|	| | Q |	|	|
13+20	2.5118	6.51	|	| | VQ |	|	|
13+25	2.5568	6.53	|	| | VQ |	|	|
13+30	2.6018	6.54	|	| | Q |	|	|
13+35	2.6410	5.68	|	| | Q V |	|	|
13+40	2.6735	4.72	|	| Q | V |	|	|
13+45	2.7046	4.51	|	| Q | V |	|	|
13+50	2.7350	4.43	|	| Q | V |	|	|
13+55	2.7653	4.39	|	| Q | V |	|	|
14+ 0	2.7955	4.39	|	| Q | V |	|	|
14+ 5	2.8278	4.69	|	| Q | V |	|	|
14+10	2.8625	5.03	|	| Q V|	|	|
14+15	2.8977	5.11	|	| Q V|	|	|
14+20	2.9325	5.06	|	| Q V|	|	|
14+25	2.9669	4.99	|	| Q| V |	|	|
14+30	3.0012	4.97	|	| Q| V |	|	|
14+35	3.0353	4.96	|	| Q| V |	|	|
14+40	3.0695	4.96	|	| Q| |V |	|	|
14+45	3.1037	4.96	|	| Q| |V |	|	|
14+50	3.1373	4.89	|	| Q| |V |	|	|



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   20+25       3.8108      0.57  | Q       |         |         |       V |
   20+30       3.8148      0.57  | Q       |         |         |       V |
   20+35       3.8187      0.57  | Q       |         |         |       V |
   20+40       3.8226      0.57  | Q       |         |         |       V |
   20+45       3.8266      0.57  | Q       |         |         |       V |
   20+50       3.8300      0.50  |Q        |         |         |       V |
   20+55       3.8328      0.41  |Q        |         |         |       V |
   21+ 0       3.8355      0.39  |Q        |         |         |       V |
   21+ 5       3.8387      0.46  |Q        |         |         |       V |
   21+10       3.8425      0.54  | Q       |         |         |       V |
   21+15       3.8463      0.56  | Q       |         |         |        V|
   21+20       3.8497      0.49  |Q        |         |         |        V|
   21+25       3.8526      0.41  |Q        |         |         |        V|
   21+30       3.8553      0.39  |Q        |         |         |        V|
   21+35       3.8584      0.46  |Q        |         |         |        V|
   21+40       3.8622      0.54  | Q       |         |         |        V|
   21+45       3.8660      0.56  | Q       |         |         |        V|
   21+50       3.8694      0.49  |Q        |         |         |        V|
   21+55       3.8723      0.41  |Q        |         |         |        V|
   22+ 0       3.8750      0.39  |Q        |         |         |        V|
   22+ 5       3.8781      0.46  |Q        |         |         |        V|
   22+10       3.8819      0.54  | Q       |         |         |        V|
   22+15       3.8858      0.56  | Q       |         |         |        V|
   22+20       3.8891      0.49  |Q        |         |         |        V|
   22+25       3.8920      0.41  |Q        |         |         |        V|
   22+30       3.8947      0.39  |Q        |         |         |        V|
   22+35       3.8973      0.39  |Q        |         |         |        V|
   22+40       3.9000      0.38  |Q        |         |         |        V|
   22+45       3.9026      0.38  |Q        |         |         |        V|
   22+50       3.9052      0.38  |Q        |         |         |        V|
   22+55       3.9078      0.38  |Q        |         |         |        V|
   23+ 0       3.9105      0.38  |Q        |         |         |        V|
   23+ 5       3.9131      0.38  |Q        |         |         |        V|
   23+10       3.9157      0.38  |Q        |         |         |        V|
   23+15       3.9184      0.38  |Q        |         |         |        V|
   23+20       3.9210      0.38  |Q        |         |         |        V|
   23+25       3.9236      0.38  |Q        |         |         |        V|
   23+30       3.9262      0.38  |Q        |         |         |        V|
   23+35       3.9289      0.38  |Q        |         |         |        V|
   23+40       3.9315      0.38  |Q        |         |         |        V|
   23+45       3.9341      0.38  |Q        |         |         |        V|
   23+50       3.9368      0.38  |Q        |         |         |        V|
   23+55       3.9394      0.38  |Q        |         |         |        V|
   24+ 0       3.9420      0.38  |Q        |         |         |        V|
   24+ 5       3.9436      0.23  Q         |         |         |        V|
   24+10       3.9440      0.06  Q         |         |         |        V|
   24+15       3.9441      0.02  Q         |         |         |        V|
   24+20       3.9442      0.01  Q         |         |         |         V
-------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

Study date 01/11/22 File: 100103PRUHAREA21100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6490

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

MFBC BUILDING 17 - AREA 2
DEVELOPED UNIT HYDROGRAPH
100103PRUHAREA2

Drainage Area = 1.89(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.89(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 1159.00(Ft.)
Length along longest watercourse measured to centroid = 700.00(Ft.)
Length along longest watercourse = 0.220 Mi.
Length along longest watercourse measured to centroid = 0.133 Mi.
Difference in elevation = 17.00(Ft.)
Slope along watercourse = 77.4461 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.041 Hr.
Lag time = 2.47 Min.
25% of lag time = 0.62 Min.
40% of lag time = 0.99 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.89	0.46	0.86

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.89	1.32	2.49

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.455(In)
Area Averaged 100-Year Rainfall = 1.320(In)

Point rain (area averaged) = 1.320(In)

Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.320(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.890	56.00	0.420

Total Area Entered = 1.89(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.420	0.318	1.000	0.318
					Sum (F) =	0.318

Area averaged mean soil loss (F) (In/Hr) = 0.318
Minimum soil loss rate ((In/Hr)) = 0.159
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.560

Slope of intensity-duration curve for a 1 hour storm =0.5000

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	202.833	43.887	0.836
2	0.167	405.666	43.170	0.822
3	0.250	608.499	8.679	0.165
4	0.333	811.333	4.264	0.081
		Sum = 100.000	Sum=	1.905

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	4.20	0.665	0.318	(0.373)	0.348
2	0.17	4.30	0.681	0.318	(0.381)	0.363
3	0.25	5.00	0.792	0.318	(0.444)	0.474
4	0.33	5.00	0.792	0.318	(0.444)	0.474
5	0.42	5.80	0.919	0.318	(0.514)	0.601
6	0.50	6.50	1.030	0.318	(0.577)	0.712
7	0.58	7.40	1.172	0.318	(0.656)	0.854
8	0.67	8.60	1.362	0.318	(0.763)	1.044
9	0.75	12.30	1.948	0.318	(1.091)	1.631
10	0.83	29.10	4.609	0.318	(2.581)	4.292
11	0.92	6.80	1.077	0.318	(0.603)	0.759
12	1.00	5.00	0.792	0.318	(0.444)	0.474
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	12.0

Flood volume = Effective rainfall 1.00(In)
times area 1.9(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.32(In)
Total soil loss = 0.050(Ac.Ft)
Total rainfall = 1.32(In)
Flood volume = 6876.2 Cubic Feet
Total soil loss = 2179.8 Cubic Feet

Peak flow rate of this hydrograph = 5.173(CFS)

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1 - 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	0.0020	0.29	VQ				
0+10	0.0061	0.59	VQ				
0+15	0.0113	0.75	VQ				
0+20	0.0173	0.88	QV				
0+25	0.0242	1.00	Q V				
0+30	0.0325	1.21	Q V				
0+35	0.0424	1.44	Q V				
0+40	0.0544	1.74	Q	V			
0+45	0.0711	2.42	Q	V			
0+50	0.1067	5.17		Q	V		
0+55	0.1378	4.52		Q		V	
1+ 0	0.1507	1.86	Q				V
1+ 5	0.1566	0.86	Q				V
1+10	0.1576	0.14	Q				V
1+15	0.1579	0.04	Q				V

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

Study date 01/11/22 File: 100103PRUHAREA23100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6490

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

MFBC BUILDING 17 - AREA 2
DEVELOPED UNIT HYDROGRAPH
100103PRUHAREA2

Drainage Area = 1.89(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.89(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 1159.00(Ft.)
Length along longest watercourse measured to centroid = 700.00(Ft.)
Length along longest watercourse = 0.220 Mi.
Length along longest watercourse measured to centroid = 0.133 Mi.
Difference in elevation = 17.00(Ft.)
Slope along watercourse = 77.4461 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.041 Hr.
Lag time = 2.47 Min.
25% of lag time = 0.62 Min.
40% of lag time = 0.99 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.89	0.79	1.49

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.89	1.97	3.72

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.791(In)
Area Averaged 100-Year Rainfall = 1.970(In)

Point rain (area averaged) = 1.970(In)
Areal adjustment factor = 100.00 %

Adjusted average point rain = 1.970(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.890	56.00	0.420

Total Area Entered = 1.89(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.420	0.318	1.000	0.318
					Sum (F) =	0.318

Area averaged mean soil loss (F) (In/Hr) = 0.318
Minimum soil loss rate ((In/Hr)) = 0.159
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.560

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	202.833	43.887	0.836
2	0.167	405.666	43.170	0.822
3	0.250	608.499	8.679	0.165
4	0.333	811.333	4.264	0.081
			Sum = 100.000 Sum=	1.905

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	1.30	0.307	(0.318)		0.172	0.135
2	0.17	1.30	0.307	(0.318)		0.172	0.135
3	0.25	1.10	0.260	(0.318)		0.146	0.114
4	0.33	1.50	0.355	(0.318)		0.199	0.156
5	0.42	1.50	0.355	(0.318)		0.199	0.156
6	0.50	1.80	0.426	(0.318)		0.238	0.187
7	0.58	1.50	0.355	(0.318)		0.199	0.156
8	0.67	1.80	0.426	(0.318)		0.238	0.187
9	0.75	1.80	0.426	(0.318)		0.238	0.187
10	0.83	1.50	0.355	(0.318)		0.199	0.156
11	0.92	1.60	0.378	(0.318)		0.212	0.166
12	1.00	1.80	0.426	(0.318)		0.238	0.187
13	1.08	2.20	0.520	(0.318)		0.291	0.229
14	1.17	2.20	0.520	(0.318)		0.291	0.229
15	1.25	2.20	0.520	(0.318)		0.291	0.229
16	1.33	2.00	0.473	(0.318)		0.265	0.208
17	1.42	2.60	0.615	0.318	(	0.344)	0.297
18	1.50	2.70	0.638	0.318	(	0.357)	0.321
19	1.58	2.40	0.567	0.318	(	0.318)	0.250
20	1.67	2.70	0.638	0.318	(	0.357)	0.321
21	1.75	3.30	0.780	0.318	(	0.437)	0.462
22	1.83	3.10	0.733	0.318	(	0.410)	0.415
23	1.92	2.90	0.686	0.318	(	0.384)	0.368
24	2.00	3.00	0.709	0.318	(	0.397)	0.391
25	2.08	3.10	0.733	0.318	(	0.410)	0.415
26	2.17	4.20	0.993	0.318	(	0.556)	0.675
27	2.25	5.00	1.182	0.318	(	0.662)	0.864

28	2.33	3.50	0.827	0.318	(0.463)		0.510
29	2.42	6.80	1.608	0.318	(0.900)		1.290
30	2.50	7.30	1.726	0.318	(0.966)		1.408
31	2.58	8.20	1.938	0.318	(1.086)		1.621
32	2.67	5.90	1.395	0.318	(0.781)		1.077
33	2.75	2.00	0.473	(0.318)	0.265		0.208
34	2.83	1.80	0.426	(0.318)	0.238		0.187
35	2.92	1.80	0.426	(0.318)	0.238		0.187
36	3.00	0.60	0.142	(0.318)	0.079		0.062

(Loss Rate Not Used)

Sum = 100.0 Sum = 14.1

Flood volume = Effective rainfall 1.18(In)
times area 1.9(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.79(In)
Total soil loss = 0.125(Ac.Ft)
Total rainfall = 1.97(In)
Flood volume = 8088.7 Cubic Feet
Total soil loss = 5426.7 Cubic Feet

Peak flow rate of this hydrograph = 2.769(CFS)

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3 - 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	0.0008	0.11	Q				
0+10	0.0023	0.22	Q				
0+15	0.0039	0.23	Q				
0+20	0.0057	0.26	|Q				
0+25	0.0077	0.29	|Q				
0+30	0.0099	0.32	|QV				
0+35	0.0121	0.32	|QV				
0+40	0.0144	0.33	|Q V				
0+45	0.0168	0.35	|Q V				
0+50	0.0190	0.33	|Q V				
0+55	0.0212	0.31	|Q V				
1+ 0	0.0235	0.33	|Q V				
1+ 5	0.0262	0.39	|Q V				
1+10	0.0291	0.42	|Q V				
1+15	0.0321	0.43	|Q V				
1+20	0.0349	0.42	|Q V				
1+25	0.0382	0.48	|Q V				
1+30	0.0421	0.57	| Q V|				
1+35	0.0458	0.54	| Q V|				
1+40	0.0496	0.55	| Q V				
1+45	0.0546	0.72	| Q |V				
1+50	0.0601	0.80	| Q | V				
1+55	0.0653	0.75	| Q | V				
2+ 0	0.0703	0.74	| Q | V				
2+ 5	0.0756	0.76	| Q | V				
2+10	0.0825	1.00	| Q | V				
2+15	0.0920	1.38	| Q | V|				
2+20	0.1008	1.28	| Q | |V				
2+25	0.1125	1.70	| Q | | V				
2+30	0.1290	2.39	| Q| | V				
2+35	0.1480	2.77	| |Q | |V				
2+40	0.1658	2.57	| Q | | V				
2+45	0.1757	1.44	| Q | | V				
2+50	0.1801	0.64	| Q | | V				
2+55	0.1831	0.43	|Q | | V				
3+ 0	0.1848	0.25	|Q | | V				

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    3+ 5       0.1855      0.10  Q          |          |          |         V|
    3+10       0.1857      0.03  Q          |          |          |         V|
    3+15       0.1857      0.01  Q          |          |          |          V
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U n i t H y d r o g r a p h A n a l y s i s

Study date 01/11/22 File: 100103PRUHAREA26100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6490

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

MFBC BUILDING 17 - AREA 2
DEVELOPED UNIT HYDROGRAPH
100103PRUHAREA2

Drainage Area = 1.89(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.89(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 1159.00(Ft.)
Length along longest watercourse measured to centroid = 700.00(Ft.)
Length along longest watercourse = 0.220 Mi.
Length along longest watercourse measured to centroid = 0.133 Mi.
Difference in elevation = 17.00(Ft.)
Slope along watercourse = 77.4461 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.041 Hr.
Lag time = 2.47 Min.
25% of lag time = 0.62 Min.
40% of lag time = 0.99 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.89	1.10	2.08

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.89	2.64	4.99

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.100(In)
Area Averaged 100-Year Rainfall = 2.640(In)

Point rain (area averaged) = 2.640(In)
Areal adjustment factor = 100.00 %

Adjusted average point rain = 2.640(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.890	56.00	0.420

Total Area Entered = 1.89(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.420	0.318	1.000	0.318
					Sum (F) =	0.318

Area averaged mean soil loss (F) (In/Hr) = 0.318
Minimum soil loss rate ((In/Hr)) = 0.159
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.560

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	202.833	43.887	0.836
2	0.167	405.666	43.170	0.822
3	0.250	608.499	8.679	0.165
4	0.333	811.333	4.264	0.081
			Sum = 100.000 Sum=	1.905

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.50	0.158	(0.318)		0.089	0.070
2	0.17	0.60	0.190	(0.318)		0.106	0.084
3	0.25	0.60	0.190	(0.318)		0.106	0.084
4	0.33	0.60	0.190	(0.318)		0.106	0.084
5	0.42	0.60	0.190	(0.318)		0.106	0.084
6	0.50	0.70	0.222	(0.318)		0.124	0.098
7	0.58	0.70	0.222	(0.318)		0.124	0.098
8	0.67	0.70	0.222	(0.318)		0.124	0.098
9	0.75	0.70	0.222	(0.318)		0.124	0.098
10	0.83	0.70	0.222	(0.318)		0.124	0.098
11	0.92	0.70	0.222	(0.318)		0.124	0.098
12	1.00	0.80	0.253	(0.318)		0.142	0.112
13	1.08	0.80	0.253	(0.318)		0.142	0.112
14	1.17	0.80	0.253	(0.318)		0.142	0.112
15	1.25	0.80	0.253	(0.318)		0.142	0.112
16	1.33	0.80	0.253	(0.318)		0.142	0.112
17	1.42	0.80	0.253	(0.318)		0.142	0.112
18	1.50	0.80	0.253	(0.318)		0.142	0.112
19	1.58	0.80	0.253	(0.318)		0.142	0.112
20	1.67	0.80	0.253	(0.318)		0.142	0.112
21	1.75	0.80	0.253	(0.318)		0.142	0.112
22	1.83	0.80	0.253	(0.318)		0.142	0.112
23	1.92	0.80	0.253	(0.318)		0.142	0.112
24	2.00	0.90	0.285	(0.318)		0.160	0.125
25	2.08	0.80	0.253	(0.318)		0.142	0.112
26	2.17	0.90	0.285	(0.318)		0.160	0.125
27	2.25	0.90	0.285	(0.318)		0.160	0.125

28	2.33	0.90	0.285	(0.318)	0.160	0.125	
29	2.42	0.90	0.285	(0.318)	0.160	0.125	
30	2.50	0.90	0.285	(0.318)	0.160	0.125	
31	2.58	0.90	0.285	(0.318)	0.160	0.125	
32	2.67	0.90	0.285	(0.318)	0.160	0.125	
33	2.75	1.00	0.317	(0.318)	0.177	0.139	
34	2.83	1.00	0.317	(0.318)	0.177	0.139	
35	2.92	1.00	0.317	(0.318)	0.177	0.139	
36	3.00	1.00	0.317	(0.318)	0.177	0.139	
37	3.08	1.00	0.317	(0.318)	0.177	0.139	
38	3.17	1.10	0.348	(0.318)	0.195	0.153	
39	3.25	1.10	0.348	(0.318)	0.195	0.153	
40	3.33	1.10	0.348	(0.318)	0.195	0.153	
41	3.42	1.20	0.380	(0.318)	0.213	0.167	
42	3.50	1.30	0.412	(0.318)	0.231	0.181	
43	3.58	1.40	0.444	(0.318)	0.248	0.195	
44	3.67	1.40	0.444	(0.318)	0.248	0.195	
45	3.75	1.50	0.475	(0.318)	0.266	0.209	
46	3.83	1.50	0.475	(0.318)	0.266	0.209	
47	3.92	1.60	0.507	(0.318)	0.284	0.223	
48	4.00	1.60	0.507	(0.318)	0.284	0.223	
49	4.08	1.70	0.539	(0.318)	0.302	0.237	
50	4.17	1.80	0.570	0.318	(0.319)	0.253	
51	4.25	1.90	0.602	0.318	(0.337)	0.284	
52	4.33	2.00	0.634	0.318	(0.355)	0.316	
53	4.42	2.10	0.665	0.318	(0.373)	0.348	
54	4.50	2.10	0.665	0.318	(0.373)	0.348	
55	4.58	2.20	0.697	0.318	(0.390)	0.379	
56	4.67	2.30	0.729	0.318	(0.408)	0.411	
57	4.75	2.40	0.760	0.318	(0.426)	0.443	
58	4.83	2.40	0.760	0.318	(0.426)	0.443	
59	4.92	2.50	0.792	0.318	(0.444)	0.474	
60	5.00	2.60	0.824	0.318	(0.461)	0.506	
61	5.08	3.10	0.982	0.318	(0.550)	0.664	
62	5.17	3.60	1.140	0.318	(0.639)	0.823	
63	5.25	3.90	1.236	0.318	(0.692)	0.918	
64	5.33	4.20	1.331	0.318	(0.745)	1.013	
65	5.42	4.70	1.489	0.318	(0.834)	1.171	
66	5.50	5.60	1.774	0.318	(0.993)	1.456	
67	5.58	1.90	0.602	0.318	(0.337)	0.284	
68	5.67	0.90	0.285	(0.318)	0.160	0.125	
69	5.75	0.60	0.190	(0.318)	0.106	0.084	
70	5.83	0.50	0.158	(0.318)	0.089	0.070	
71	5.92	0.30	0.095	(0.318)	0.053	0.042	
72	6.00	0.20	0.063	(0.318)	0.035	0.028	

(Loss Rate Not Used)

Sum = 100.0 Sum = 17.3

Flood volume = Effective rainfall 1.44(In)
times area 1.9(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 1.20(In)
Total soil loss = 0.188(Ac.Ft)
Total rainfall = 2.64(In)
Flood volume = 9902.9 Cubic Feet
Total soil loss = 8209.2 Cubic Feet

Peak flow rate of this hydrograph = 2.424(CFS)

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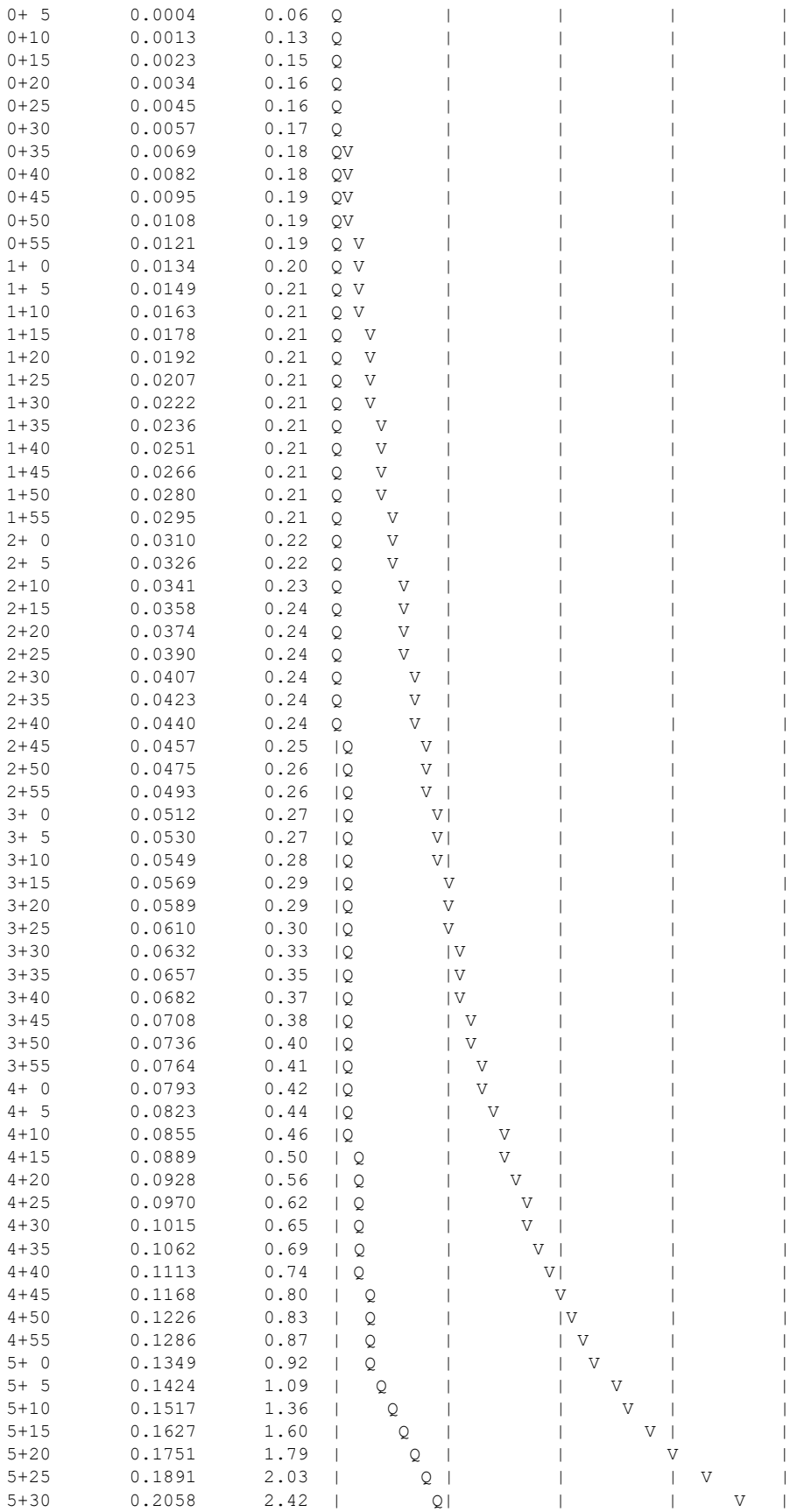
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0



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    5+35       0.2175      1.71  |     Q   |         |         |       V |
    5+40       0.2222      0.67  | Q       |         |         |        V|
    5+45       0.2245      0.34  |Q        |         |         |        V|
    5+50       0.2257      0.17  Q         |         |         |        V|
    5+55       0.2265      0.12  Q         |         |         |        V|
    6+ 0       0.2270      0.08  Q         |         |         |        V|
    6+ 5       0.2273      0.04  Q         |         |         |        V|
    6+10       0.2273      0.01  Q         |         |         |        V|
    6+15       0.2273      0.00  Q         |         |         |         V
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U n i t H y d r o g r a p h A n a l y s i s

Study date 01/11/22 File: 100103PRUHAREA224100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6490

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

MFBC BUILDING 17 - AREA 2
DEVELOPED UNIT HYDROGRAPH
100103PRUHAREA2

Drainage Area = 1.89(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.89(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 1159.00(Ft.)
Length along longest watercourse measured to centroid = 700.00(Ft.)
Length along longest watercourse = 0.220 Mi.
Length along longest watercourse measured to centroid = 0.133 Mi.
Difference in elevation = 17.00(Ft.)
Slope along watercourse = 77.4461 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.041 Hr.
Lag time = 2.47 Min.
25% of lag time = 0.62 Min.
40% of lag time = 0.99 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.89	1.89	3.57

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.89	4.77	9.02

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.890(In)
Area Averaged 100-Year Rainfall = 4.770(In)

Point rain (area averaged) = 4.770(In)
Areal adjustment factor = 100.00 %

Adjusted average point rain = 4.770(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.890	56.00	0.420

Total Area Entered = 1.89(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.420	0.318	1.000	0.318
					Sum (F) =	0.318

Area averaged mean soil loss (F) (In/Hr) = 0.318
Minimum soil loss rate ((In/Hr)) = 0.159
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.560

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	202.833	43.887	0.836
2	0.167	405.666	43.170	0.822
3	0.250	608.499	8.679	0.165
4	0.333	811.333	4.264	0.081
			Sum = 100.000 Sum=	1.905

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.07	0.038	(0.563)		0.021	0.017
2	0.17	0.07	0.038	(0.561)		0.021	0.017
3	0.25	0.07	0.038	(0.559)		0.021	0.017
4	0.33	0.10	0.057	(0.557)		0.032	0.025
5	0.42	0.10	0.057	(0.555)		0.032	0.025
6	0.50	0.10	0.057	(0.552)		0.032	0.025
7	0.58	0.10	0.057	(0.550)		0.032	0.025
8	0.67	0.10	0.057	(0.548)		0.032	0.025
9	0.75	0.10	0.057	(0.546)		0.032	0.025
10	0.83	0.13	0.076	(0.544)		0.043	0.034
11	0.92	0.13	0.076	(0.542)		0.043	0.034
12	1.00	0.13	0.076	(0.539)		0.043	0.034
13	1.08	0.10	0.057	(0.537)		0.032	0.025
14	1.17	0.10	0.057	(0.535)		0.032	0.025
15	1.25	0.10	0.057	(0.533)		0.032	0.025
16	1.33	0.10	0.057	(0.531)		0.032	0.025
17	1.42	0.10	0.057	(0.529)		0.032	0.025
18	1.50	0.10	0.057	(0.527)		0.032	0.025
19	1.58	0.10	0.057	(0.525)		0.032	0.025
20	1.67	0.10	0.057	(0.523)		0.032	0.025
21	1.75	0.10	0.057	(0.520)		0.032	0.025
22	1.83	0.13	0.076	(0.518)		0.043	0.034
23	1.92	0.13	0.076	(0.516)		0.043	0.034
24	2.00	0.13	0.076	(0.514)		0.043	0.034
25	2.08	0.13	0.076	(0.512)		0.043	0.034
26	2.17	0.13	0.076	(0.510)		0.043	0.034
27	2.25	0.13	0.076	(0.508)		0.043	0.034

28	2.33	0.13	0.076	(0.506)	0.043	0.034
29	2.42	0.13	0.076	(0.504)	0.043	0.034
30	2.50	0.13	0.076	(0.502)	0.043	0.034
31	2.58	0.17	0.095	(0.500)	0.053	0.042
32	2.67	0.17	0.095	(0.498)	0.053	0.042
33	2.75	0.17	0.095	(0.496)	0.053	0.042
34	2.83	0.17	0.095	(0.494)	0.053	0.042
35	2.92	0.17	0.095	(0.492)	0.053	0.042
36	3.00	0.17	0.095	(0.490)	0.053	0.042
37	3.08	0.17	0.095	(0.487)	0.053	0.042
38	3.17	0.17	0.095	(0.485)	0.053	0.042
39	3.25	0.17	0.095	(0.483)	0.053	0.042
40	3.33	0.17	0.095	(0.481)	0.053	0.042
41	3.42	0.17	0.095	(0.479)	0.053	0.042
42	3.50	0.17	0.095	(0.477)	0.053	0.042
43	3.58	0.17	0.095	(0.475)	0.053	0.042
44	3.67	0.17	0.095	(0.473)	0.053	0.042
45	3.75	0.17	0.095	(0.471)	0.053	0.042
46	3.83	0.20	0.114	(0.469)	0.064	0.050
47	3.92	0.20	0.114	(0.467)	0.064	0.050
48	4.00	0.20	0.114	(0.465)	0.064	0.050
49	4.08	0.20	0.114	(0.464)	0.064	0.050
50	4.17	0.20	0.114	(0.462)	0.064	0.050
51	4.25	0.20	0.114	(0.460)	0.064	0.050
52	4.33	0.23	0.134	(0.458)	0.075	0.059
53	4.42	0.23	0.134	(0.456)	0.075	0.059
54	4.50	0.23	0.134	(0.454)	0.075	0.059
55	4.58	0.23	0.134	(0.452)	0.075	0.059
56	4.67	0.23	0.134	(0.450)	0.075	0.059
57	4.75	0.23	0.134	(0.448)	0.075	0.059
58	4.83	0.27	0.153	(0.446)	0.085	0.067
59	4.92	0.27	0.153	(0.444)	0.085	0.067
60	5.00	0.27	0.153	(0.442)	0.085	0.067
61	5.08	0.20	0.114	(0.440)	0.064	0.050
62	5.17	0.20	0.114	(0.438)	0.064	0.050
63	5.25	0.20	0.114	(0.436)	0.064	0.050
64	5.33	0.23	0.134	(0.434)	0.075	0.059
65	5.42	0.23	0.134	(0.433)	0.075	0.059
66	5.50	0.23	0.134	(0.431)	0.075	0.059
67	5.58	0.27	0.153	(0.429)	0.085	0.067
68	5.67	0.27	0.153	(0.427)	0.085	0.067
69	5.75	0.27	0.153	(0.425)	0.085	0.067
70	5.83	0.27	0.153	(0.423)	0.085	0.067
71	5.92	0.27	0.153	(0.421)	0.085	0.067
72	6.00	0.27	0.153	(0.419)	0.085	0.067
73	6.08	0.30	0.172	(0.418)	0.096	0.076
74	6.17	0.30	0.172	(0.416)	0.096	0.076
75	6.25	0.30	0.172	(0.414)	0.096	0.076
76	6.33	0.30	0.172	(0.412)	0.096	0.076
77	6.42	0.30	0.172	(0.410)	0.096	0.076
78	6.50	0.30	0.172	(0.408)	0.096	0.076
79	6.58	0.33	0.191	(0.406)	0.107	0.084
80	6.67	0.33	0.191	(0.405)	0.107	0.084
81	6.75	0.33	0.191	(0.403)	0.107	0.084
82	6.83	0.33	0.191	(0.401)	0.107	0.084
83	6.92	0.33	0.191	(0.399)	0.107	0.084
84	7.00	0.33	0.191	(0.397)	0.107	0.084
85	7.08	0.33	0.191	(0.396)	0.107	0.084
86	7.17	0.33	0.191	(0.394)	0.107	0.084
87	7.25	0.33	0.191	(0.392)	0.107	0.084
88	7.33	0.37	0.210	(0.390)	0.118	0.092
89	7.42	0.37	0.210	(0.388)	0.118	0.092
90	7.50	0.37	0.210	(0.387)	0.118	0.092
91	7.58	0.40	0.229	(0.385)	0.128	0.101
92	7.67	0.40	0.229	(0.383)	0.128	0.101
93	7.75	0.40	0.229	(0.381)	0.128	0.101

94	7.83	0.43	0.248	(0.380)	0.139	0.109
95	7.92	0.43	0.248	(0.378)	0.139	0.109
96	8.00	0.43	0.248	(0.376)	0.139	0.109
97	8.08	0.50	0.286	(0.374)	0.160	0.126
98	8.17	0.50	0.286	(0.373)	0.160	0.126
99	8.25	0.50	0.286	(0.371)	0.160	0.126
100	8.33	0.50	0.286	(0.369)	0.160	0.126
101	8.42	0.50	0.286	(0.367)	0.160	0.126
102	8.50	0.50	0.286	(0.366)	0.160	0.126
103	8.58	0.53	0.305	(0.364)	0.171	0.134
104	8.67	0.53	0.305	(0.362)	0.171	0.134
105	8.75	0.53	0.305	(0.360)	0.171	0.134
106	8.83	0.57	0.324	(0.359)	0.182	0.143
107	8.92	0.57	0.324	(0.357)	0.182	0.143
108	9.00	0.57	0.324	(0.355)	0.182	0.143
109	9.08	0.63	0.363	(0.354)	0.203	0.160
110	9.17	0.63	0.363	(0.352)	0.203	0.160
111	9.25	0.63	0.363	(0.350)	0.203	0.160
112	9.33	0.67	0.382	(0.349)	0.214	0.168
113	9.42	0.67	0.382	(0.347)	0.214	0.168
114	9.50	0.67	0.382	(0.345)	0.214	0.168
115	9.58	0.70	0.401	(0.344)	0.224	0.176
116	9.67	0.70	0.401	(0.342)	0.224	0.176
117	9.75	0.70	0.401	(0.340)	0.224	0.176
118	9.83	0.73	0.420	(0.339)	0.235	0.185
119	9.92	0.73	0.420	(0.337)	0.235	0.185
120	10.00	0.73	0.420	(0.336)	0.235	0.185
121	10.08	0.50	0.286	(0.334)	0.160	0.126
122	10.17	0.50	0.286	(0.332)	0.160	0.126
123	10.25	0.50	0.286	(0.331)	0.160	0.126
124	10.33	0.50	0.286	(0.329)	0.160	0.126
125	10.42	0.50	0.286	(0.327)	0.160	0.126
126	10.50	0.50	0.286	(0.326)	0.160	0.126
127	10.58	0.67	0.382	(0.324)	0.214	0.168
128	10.67	0.67	0.382	(0.323)	0.214	0.168
129	10.75	0.67	0.382	(0.321)	0.214	0.168
130	10.83	0.67	0.382	(0.320)	0.214	0.168
131	10.92	0.67	0.382	(0.318)	0.214	0.168
132	11.00	0.67	0.382	(0.316)	0.214	0.168
133	11.08	0.63	0.363	(0.315)	0.203	0.160
134	11.17	0.63	0.363	(0.313)	0.203	0.160
135	11.25	0.63	0.363	(0.312)	0.203	0.160
136	11.33	0.63	0.363	(0.310)	0.203	0.160
137	11.42	0.63	0.363	(0.309)	0.203	0.160
138	11.50	0.63	0.363	(0.307)	0.203	0.160
139	11.58	0.57	0.324	(0.306)	0.182	0.143
140	11.67	0.57	0.324	(0.304)	0.182	0.143
141	11.75	0.57	0.324	(0.303)	0.182	0.143
142	11.83	0.60	0.343	(0.301)	0.192	0.151
143	11.92	0.60	0.343	(0.300)	0.192	0.151
144	12.00	0.60	0.343	(0.298)	0.192	0.151
145	12.08	0.83	0.477	(0.297)	0.267	0.210
146	12.17	0.83	0.477	(0.295)	0.267	0.210
147	12.25	0.83	0.477	(0.294)	0.267	0.210
148	12.33	0.87	0.496	(0.292)	0.278	0.218
149	12.42	0.87	0.496	(0.291)	0.278	0.218
150	12.50	0.87	0.496	(0.289)	0.278	0.218
151	12.58	0.93	0.534	0.288	(0.299)	0.246
152	12.67	0.93	0.534	0.286	(0.299)	0.248
153	12.75	0.93	0.534	0.285	(0.299)	0.249
154	12.83	0.97	0.553	0.283	(0.310)	0.270
155	12.92	0.97	0.553	0.282	(0.310)	0.271
156	13.00	0.97	0.553	0.281	(0.310)	0.273
157	13.08	1.13	0.649	0.279	(0.363)	0.370
158	13.17	1.13	0.649	0.278	(0.363)	0.371
159	13.25	1.13	0.649	0.276	(0.363)	0.372

160	13.33	1.13	0.649		0.275	(	0.363)	0.374
161	13.42	1.13	0.649		0.274	(	0.363)	0.375
162	13.50	1.13	0.649		0.272	(	0.363)	0.377
163	13.58	0.77	0.439	(	0.271)		0.246	0.193
164	13.67	0.77	0.439	(	0.269)		0.246	0.193
165	13.75	0.77	0.439	(	0.268)		0.246	0.193
166	13.83	0.77	0.439	(	0.267)		0.246	0.193
167	13.92	0.77	0.439	(	0.265)		0.246	0.193
168	14.00	0.77	0.439	(	0.264)		0.246	0.193
169	14.08	0.90	0.515		0.263	(	0.288)	0.253
170	14.17	0.90	0.515		0.261	(	0.288)	0.254
171	14.25	0.90	0.515		0.260	(	0.288)	0.255
172	14.33	0.87	0.496		0.259	(	0.278)	0.238
173	14.42	0.87	0.496		0.257	(	0.278)	0.239
174	14.50	0.87	0.496		0.256	(	0.278)	0.240
175	14.58	0.87	0.496		0.255	(	0.278)	0.241
176	14.67	0.87	0.496		0.253	(	0.278)	0.243
177	14.75	0.87	0.496		0.252	(	0.278)	0.244
178	14.83	0.83	0.477		0.251	(	0.267)	0.226
179	14.92	0.83	0.477		0.249	(	0.267)	0.228
180	15.00	0.83	0.477		0.248	(	0.267)	0.229
181	15.08	0.80	0.458		0.247	(	0.256)	0.211
182	15.17	0.80	0.458		0.246	(	0.256)	0.212
183	15.25	0.80	0.458		0.244	(	0.256)	0.214
184	15.33	0.77	0.439		0.243	(	0.246)	0.196
185	15.42	0.77	0.439		0.242	(	0.246)	0.197
186	15.50	0.77	0.439		0.241	(	0.246)	0.198
187	15.58	0.63	0.363	(	0.239)		0.203	0.160
188	15.67	0.63	0.363	(	0.238)		0.203	0.160
189	15.75	0.63	0.363	(	0.237)		0.203	0.160
190	15.83	0.63	0.363	(	0.236)		0.203	0.160
191	15.92	0.63	0.363	(	0.235)		0.203	0.160
192	16.00	0.63	0.363	(	0.233)		0.203	0.160
193	16.08	0.13	0.076	(	0.232)		0.043	0.034
194	16.17	0.13	0.076	(	0.231)		0.043	0.034
195	16.25	0.13	0.076	(	0.230)		0.043	0.034
196	16.33	0.13	0.076	(	0.229)		0.043	0.034
197	16.42	0.13	0.076	(	0.227)		0.043	0.034
198	16.50	0.13	0.076	(	0.226)		0.043	0.034
199	16.58	0.10	0.057	(	0.225)		0.032	0.025
200	16.67	0.10	0.057	(	0.224)		0.032	0.025
201	16.75	0.10	0.057	(	0.223)		0.032	0.025
202	16.83	0.10	0.057	(	0.222)		0.032	0.025
203	16.92	0.10	0.057	(	0.221)		0.032	0.025
204	17.00	0.10	0.057	(	0.219)		0.032	0.025
205	17.08	0.17	0.095	(	0.218)		0.053	0.042
206	17.17	0.17	0.095	(	0.217)		0.053	0.042
207	17.25	0.17	0.095	(	0.216)		0.053	0.042
208	17.33	0.17	0.095	(	0.215)		0.053	0.042
209	17.42	0.17	0.095	(	0.214)		0.053	0.042
210	17.50	0.17	0.095	(	0.213)		0.053	0.042
211	17.58	0.17	0.095	(	0.212)		0.053	0.042
212	17.67	0.17	0.095	(	0.211)		0.053	0.042
213	17.75	0.17	0.095	(	0.210)		0.053	0.042
214	17.83	0.13	0.076	(	0.209)		0.043	0.034
215	17.92	0.13	0.076	(	0.208)		0.043	0.034
216	18.00	0.13	0.076	(	0.207)		0.043	0.034
217	18.08	0.13	0.076	(	0.206)		0.043	0.034
218	18.17	0.13	0.076	(	0.205)		0.043	0.034
219	18.25	0.13	0.076	(	0.204)		0.043	0.034
220	18.33	0.13	0.076	(	0.203)		0.043	0.034
221	18.42	0.13	0.076	(	0.202)		0.043	0.034
222	18.50	0.13	0.076	(	0.201)		0.043	0.034
223	18.58	0.10	0.057	(	0.200)		0.032	0.025
224	18.67	0.10	0.057	(	0.199)		0.032	0.025
225	18.75	0.10	0.057	(	0.198)		0.032	0.025

226	18.83	0.07	0.038	(0.197)	0.021	0.017
227	18.92	0.07	0.038	(0.196)	0.021	0.017
228	19.00	0.07	0.038	(0.195)	0.021	0.017
229	19.08	0.10	0.057	(0.194)	0.032	0.025
230	19.17	0.10	0.057	(0.193)	0.032	0.025
231	19.25	0.10	0.057	(0.192)	0.032	0.025
232	19.33	0.13	0.076	(0.191)	0.043	0.034
233	19.42	0.13	0.076	(0.190)	0.043	0.034
234	19.50	0.13	0.076	(0.190)	0.043	0.034
235	19.58	0.10	0.057	(0.189)	0.032	0.025
236	19.67	0.10	0.057	(0.188)	0.032	0.025
237	19.75	0.10	0.057	(0.187)	0.032	0.025
238	19.83	0.07	0.038	(0.186)	0.021	0.017
239	19.92	0.07	0.038	(0.185)	0.021	0.017
240	20.00	0.07	0.038	(0.184)	0.021	0.017
241	20.08	0.10	0.057	(0.184)	0.032	0.025
242	20.17	0.10	0.057	(0.183)	0.032	0.025
243	20.25	0.10	0.057	(0.182)	0.032	0.025
244	20.33	0.10	0.057	(0.181)	0.032	0.025
245	20.42	0.10	0.057	(0.181)	0.032	0.025
246	20.50	0.10	0.057	(0.180)	0.032	0.025
247	20.58	0.10	0.057	(0.179)	0.032	0.025
248	20.67	0.10	0.057	(0.178)	0.032	0.025
249	20.75	0.10	0.057	(0.178)	0.032	0.025
250	20.83	0.07	0.038	(0.177)	0.021	0.017
251	20.92	0.07	0.038	(0.176)	0.021	0.017
252	21.00	0.07	0.038	(0.175)	0.021	0.017
253	21.08	0.10	0.057	(0.175)	0.032	0.025
254	21.17	0.10	0.057	(0.174)	0.032	0.025
255	21.25	0.10	0.057	(0.173)	0.032	0.025
256	21.33	0.07	0.038	(0.173)	0.021	0.017
257	21.42	0.07	0.038	(0.172)	0.021	0.017
258	21.50	0.07	0.038	(0.171)	0.021	0.017
259	21.58	0.10	0.057	(0.171)	0.032	0.025
260	21.67	0.10	0.057	(0.170)	0.032	0.025
261	21.75	0.10	0.057	(0.169)	0.032	0.025
262	21.83	0.07	0.038	(0.169)	0.021	0.017
263	21.92	0.07	0.038	(0.168)	0.021	0.017
264	22.00	0.07	0.038	(0.168)	0.021	0.017
265	22.08	0.10	0.057	(0.167)	0.032	0.025
266	22.17	0.10	0.057	(0.167)	0.032	0.025
267	22.25	0.10	0.057	(0.166)	0.032	0.025
268	22.33	0.07	0.038	(0.166)	0.021	0.017
269	22.42	0.07	0.038	(0.165)	0.021	0.017
270	22.50	0.07	0.038	(0.165)	0.021	0.017
271	22.58	0.07	0.038	(0.164)	0.021	0.017
272	22.67	0.07	0.038	(0.164)	0.021	0.017
273	22.75	0.07	0.038	(0.163)	0.021	0.017
274	22.83	0.07	0.038	(0.163)	0.021	0.017
275	22.92	0.07	0.038	(0.162)	0.021	0.017
276	23.00	0.07	0.038	(0.162)	0.021	0.017
277	23.08	0.07	0.038	(0.162)	0.021	0.017
278	23.17	0.07	0.038	(0.161)	0.021	0.017
279	23.25	0.07	0.038	(0.161)	0.021	0.017
280	23.33	0.07	0.038	(0.161)	0.021	0.017
281	23.42	0.07	0.038	(0.160)	0.021	0.017
282	23.50	0.07	0.038	(0.160)	0.021	0.017
283	23.58	0.07	0.038	(0.160)	0.021	0.017
284	23.67	0.07	0.038	(0.160)	0.021	0.017
285	23.75	0.07	0.038	(0.159)	0.021	0.017
286	23.83	0.07	0.038	(0.159)	0.021	0.017
287	23.92	0.07	0.038	(0.159)	0.021	0.017
288	24.00	0.07	0.038	(0.159)	0.021	0.017
		(Loss Rate Not Used)				
	Sum =	100.0			Sum =	26.1

Flood volume = Effective rainfall 2.18(In)

```
 times area       1.9(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
Total soil loss =      2.59(In)
Total soil loss =     0.408(Ac.Ft)
Total rainfall =      4.77(In)
Flood volume =       14949.4 Cubic Feet
Total soil loss =       17776.1 Cubic Feet
--------------------------------------------------------------------------
 Peak flow rate of this hydrograph =      0.716(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   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	0.0003	0.03	Q				
0+15	0.0005	0.03	Q				
0+20	0.0008	0.04	Q				
0+25	0.0011	0.05	Q				
0+30	0.0014	0.05	Q				
0+35	0.0017	0.05	Q				
0+40	0.0021	0.05	Q				
0+45	0.0024	0.05	Q				
0+50	0.0028	0.06	Q				
0+55	0.0032	0.06	Q				
1+ 0	0.0036	0.06	Q				
1+ 5	0.0040	0.06	Q				
1+10	0.0044	0.05	Q				
1+15	0.0047	0.05	Q				
1+20	0.0050	0.05	Q				
1+25	0.0054	0.05	Q				
1+30	0.0057	0.05	Q				
1+35	0.0060	0.05	Q				
1+40	0.0064	0.05	Q				
1+45	0.0067	0.05	Q				
1+50	0.0071	0.06	Q				
1+55	0.0075	0.06	Q				
2+ 0	0.0079	0.06	Q				
2+ 5	0.0084	0.06	Q				
2+10	0.0088	0.06	QV				
2+15	0.0093	0.06	QV				
2+20	0.0097	0.06	QV				
2+25	0.0101	0.06	QV				
2+30	0.0106	0.06	QV				
2+35	0.0111	0.07	QV				
2+40	0.0116	0.08	QV				
2+45	0.0122	0.08	QV				
2+50	0.0127	0.08	QV				
2+55	0.0133	0.08	QV				
3+ 0	0.0138	0.08	QV				
3+ 5	0.0144	0.08	QV				
3+10	0.0149	0.08	QV				
3+15	0.0155	0.08	QV				
3+20	0.0160	0.08	QV				
3+25	0.0166	0.08	QV				
3+30	0.0171	0.08	QV				
3+35	0.0177	0.08	Q V				
3+40	0.0182	0.08	Q V				
3+45	0.0188	0.08	Q V				
3+50	0.0194	0.09	Q V				
3+55	0.0200	0.09	Q V				
4+ 0	0.0207	0.10	Q V				

4+ 5	0.0213	0.10	Q V	|	|	|	|
4+10	0.0220	0.10	Q V	|	|	|	|
4+15	0.0227	0.10	Q V	|	|	|	|
4+20	0.0234	0.10	Q V	|	|	|	|
4+25	0.0241	0.11	Q V	|	|	|	|
4+30	0.0249	0.11	Q V	|	|	|	|
4+35	0.0257	0.11	Q V	|	|	|	|
4+40	0.0264	0.11	Q V	|	|	|	|
4+45	0.0272	0.11	Q V	|	|	|	|
4+50	0.0280	0.12	Q V	|	|	|	|
4+55	0.0289	0.13	Q V	|	|	|	|
5+ 0	0.0298	0.13	Q V	|	|	|	|
5+ 5	0.0305	0.11	Q V	|	|	|	|
5+10	0.0312	0.10	Q V	|	|	|	|
5+15	0.0319	0.10	Q V	|	|	|	|
5+20	0.0326	0.10	Q V	|	|	|	|
5+25	0.0334	0.11	Q V	|	|	|	|
5+30	0.0341	0.11	Q V	|	|	|	|
5+35	0.0350	0.12	Q V	|	|	|	|
5+40	0.0358	0.13	Q V	|	|	|	|
5+45	0.0367	0.13	Q V	|	|	|	|
5+50	0.0376	0.13	Q V	|	|	|	|
5+55	0.0385	0.13	Q V	|	|	|	|
6+ 0	0.0394	0.13	Q V	|	|	|	|
6+ 5	0.0403	0.14	Q V	|	|	|	|
6+10	0.0413	0.14	Q V	|	|	|	|
6+15	0.0422	0.14	Q V	|	|	|	|
6+20	0.0432	0.14	Q V	|	|	|	|
6+25	0.0442	0.14	Q V	|	|	|	|
6+30	0.0452	0.14	Q V	|	|	|	|
6+35	0.0463	0.15	Q V	|	|	|	|
6+40	0.0473	0.16	Q V	|	|	|	|
6+45	0.0484	0.16	Q V	|	|	|	|
6+50	0.0495	0.16	Q V	|	|	|	|
6+55	0.0506	0.16	Q V	|	|	|	|
7+ 0	0.0518	0.16	Q V	|	|	|	|
7+ 5	0.0529	0.16	Q V	|	|	|	|
7+10	0.0540	0.16	Q V	|	|	|	|
7+15	0.0551	0.16	Q V	|	|	|	|
7+20	0.0562	0.17	Q V	|	|	|	|
7+25	0.0574	0.17	Q V	|	|	|	|
7+30	0.0586	0.18	Q V	|	|	|	|
7+35	0.0599	0.18	Q V	|	|	|	|
7+40	0.0612	0.19	Q V	|	|	|	|
7+45	0.0625	0.19	Q V	|	|	|	|
7+50	0.0639	0.20	Q V	|	|	|	|
7+55	0.0653	0.21	Q V	|	|	|	|
8+ 0	0.0667	0.21	Q V	|	|	|	|
8+ 5	0.0682	0.22	Q V	|	|	|	|
8+10	0.0699	0.24	Q V	|	|	|	|
8+15	0.0715	0.24	Q V	|	|	|	|
8+20	0.0732	0.24	Q V	|	|	|	|
8+25	0.0748	0.24	Q V	|	|	|	|
8+30	0.0765	0.24	Q V	|	|	|	|
8+35	0.0782	0.25	Q V	|	|	|	|
8+40	0.0799	0.25	|Q V	|	|	|	|
8+45	0.0817	0.26	|Q V	|	|	|	|
8+50	0.0835	0.26	|Q V	|	|	|	|
8+55	0.0853	0.27	|Q V	|	|	|	|
9+ 0	0.0872	0.27	|Q V	|	|	|	|
9+ 5	0.0892	0.29	|Q V	|	|	|	|
9+10	0.0913	0.30	|Q V	|	|	|	|
9+15	0.0933	0.30	|Q V	|	|	|	|
9+20	0.0955	0.31	|Q |V	|	|	|	|
9+25	0.0977	0.32	|Q |V	|	|	|	|
9+30	0.0999	0.32	|Q |V	|	|	|	|

9+35	0.1021	0.33	|Q	|V	|	|	|
9+40	0.1044	0.33	|Q	| V	|	|	|
9+45	0.1067	0.34	|Q	| V	|	|	|
9+50	0.1091	0.34	|Q	| V	|	|	|
9+55	0.1115	0.35	|Q	| V	|	|	|
10+ 0	0.1139	0.35	|Q	| V	|	|	|
10+ 5	0.1160	0.30	|Q	| V	|	|	|
10+10	0.1178	0.25	|Q	| V	|	|	|
10+15	0.1194	0.24	Q	| V	|	|	|
10+20	0.1211	0.24	Q	| V	|	|	|
10+25	0.1227	0.24	Q	| V	|	|	|
10+30	0.1244	0.24	Q	| V	|	|	|
10+35	0.1263	0.28	|Q	| V	|	|	|
10+40	0.1284	0.31	|Q	| V	|	|	|
10+45	0.1306	0.32	|Q	| V	|	|	|
10+50	0.1328	0.32	|Q	| V	|	|	|
10+55	0.1350	0.32	|Q	| V	|	|	|
11+ 0	0.1372	0.32	|Q	| V	|	|	|
11+ 5	0.1394	0.31	|Q	| V	|	|	|
11+10	0.1415	0.31	|Q	| V	|	|	|
11+15	0.1436	0.30	|Q	| V	|	|	|
11+20	0.1457	0.30	|Q	| V	|	|	|
11+25	0.1478	0.30	|Q	| V	|	|	|
11+30	0.1499	0.30	|Q	| V	|	|	|
11+35	0.1519	0.29	|Q	| V	|	|	|
11+40	0.1538	0.28	|Q	| V	|	|	|
11+45	0.1556	0.27	|Q	| V	|	|	|
11+50	0.1576	0.28	|Q	| V	|	|	|
11+55	0.1595	0.29	|Q	| V	|	|	|
12+ 0	0.1615	0.29	|Q	| V	|	|	|
12+ 5	0.1638	0.34	|Q	| V|	|	|	|
12+10	0.1665	0.39	|Q	| V|	|	|	|
12+15	0.1692	0.40	|Q	| V|	|	|	|
12+20	0.1720	0.41	|Q	| V	|	|	|
12+25	0.1749	0.41	|Q	| V	|	|	|
12+30	0.1777	0.42	|Q	| V	|	|	|
12+35	0.1808	0.44	|Q	| |V	|	|	|
12+40	0.1839	0.46	|Q	| |V	|	|	|
12+45	0.1872	0.47	|Q	| |V	|	|	|
12+50	0.1906	0.49	|Q	| | V	|	|	|
12+55	0.1941	0.51	| Q	| | V	|	|	|
13+ 0	0.1976	0.52	| Q	| | V	|	|	|
13+ 5	0.2018	0.60	| Q	| | V	|	|	|
13+10	0.2065	0.68	| Q	| | V	|	|	|
13+15	0.2113	0.70	| Q	| | V	|	|	|
13+20	0.2162	0.71	| Q	| | V	|	|	|
13+25	0.2211	0.71	| Q	| | V	|	|	|
13+30	0.2260	0.72	| Q	| | V	|	|	|
13+35	0.2299	0.56	| Q	| | V	|	|	|
13+40	0.2328	0.41	|Q	| | V	|	|	|
13+45	0.2354	0.38	|Q	| | V	|	|	|
13+50	0.2379	0.37	|Q	| | V	|	|	|
13+55	0.2405	0.37	|Q	| | V	|	|	|
14+ 0	0.2430	0.37	|Q	| | V	|	|	|
14+ 5	0.2459	0.42	|Q	| | V	|	|	|
14+10	0.2491	0.47	|Q	| | V|	|	|	|
14+15	0.2524	0.48	|Q	| | V|	|	|	|
14+20	0.2556	0.47	|Q	| | V|	|	|	|
14+25	0.2588	0.46	|Q	| | V	|	|	|
14+30	0.2620	0.46	|Q	| | V	|	|	|
14+35	0.2651	0.46	|Q	| | V	|	|	|
14+40	0.2683	0.46	|Q	| | |V	|	|	|
14+45	0.2715	0.46	|Q	| | |V	|	|	|
14+50	0.2746	0.45	|Q	| | | V	|	|	|
14+55	0.2776	0.44	|Q	| | | V	|	|	|
15+ 0	0.2806	0.44	|Q	| | | V	|	|	|

15+ 5	0.2835	0.42	|Q	|	|	| V |
15+10	0.2863	0.41	|Q	|	|	| V |
15+15	0.2891	0.41	|Q	|	|	| V |
15+20	0.2918	0.39	|Q	|	|	| V |
15+25	0.2944	0.38	|Q	|	|	| V |
15+30	0.2970	0.38	|Q	|	|	| V |
15+35	0.2994	0.34	|Q	|	|	| V |
15+40	0.3015	0.31	|Q	|	|	| V |
15+45	0.3036	0.31	|Q	|	|	| V |
15+50	0.3057	0.30	|Q	|	|	| V |
15+55	0.3078	0.30	|Q	|	|	| V |
16+ 0	0.3099	0.30	|Q	|	|	| V |
16+ 5	0.3113	0.20	Q	|	|	| V |
16+10	0.3119	0.10	Q	|	|	| V |
16+15	0.3125	0.07	Q	|	|	| V |
16+20	0.3129	0.06	Q	|	|	| V |
16+25	0.3133	0.06	Q	|	|	| V |
16+30	0.3138	0.06	Q	|	|	| V |
16+35	0.3142	0.06	Q	|	|	| V |
16+40	0.3145	0.05	Q	|	|	| V |
16+45	0.3148	0.05	Q	|	|	| V |
16+50	0.3152	0.05	Q	|	|	| V |
16+55	0.3155	0.05	Q	|	|	| V |
17+ 0	0.3158	0.05	Q	|	|	| V |
17+ 5	0.3163	0.06	Q	|	|	| V |
17+10	0.3168	0.08	Q	|	|	| V |
17+15	0.3173	0.08	Q	|	|	| V |
17+20	0.3179	0.08	Q	|	|	| V |
17+25	0.3184	0.08	Q	|	|	| V |
17+30	0.3190	0.08	Q	|	|	| V |
17+35	0.3195	0.08	Q	|	|	| V |
17+40	0.3201	0.08	Q	|	|	| V |
17+45	0.3206	0.08	Q	|	|	| V |
17+50	0.3211	0.07	Q	|	|	| V |
17+55	0.3216	0.07	Q	|	|	| V |
18+ 0	0.3220	0.06	Q	|	|	| V |
18+ 5	0.3225	0.06	Q	|	|	| V |
18+10	0.3229	0.06	Q	|	|	| V |
18+15	0.3234	0.06	Q	|	|	| V |
18+20	0.3238	0.06	Q	|	|	| V |
18+25	0.3242	0.06	Q	|	|	| V |
18+30	0.3247	0.06	Q	|	|	| V |
18+35	0.3251	0.06	Q	|	|	| V |
18+40	0.3254	0.05	Q	|	|	| V |
18+45	0.3258	0.05	Q	|	|	| V |
18+50	0.3260	0.04	Q	|	|	| V |
18+55	0.3263	0.03	Q	|	|	| V |
19+ 0	0.3265	0.03	Q	|	|	| V |
19+ 5	0.3268	0.04	Q	|	|	| V |
19+10	0.3271	0.05	Q	|	|	| V |
19+15	0.3274	0.05	Q	|	|	| V |
19+20	0.3278	0.06	Q	|	|	| V |
19+25	0.3282	0.06	Q	|	|	| V |
19+30	0.3287	0.06	Q	|	|	| V |
19+35	0.3290	0.06	Q	|	|	| V |
19+40	0.3294	0.05	Q	|	|	| V |
19+45	0.3297	0.05	Q	|	|	| V |
19+50	0.3300	0.04	Q	|	|	| V |
19+55	0.3302	0.03	Q	|	|	| V |
20+ 0	0.3305	0.03	Q	|	|	| V |
20+ 5	0.3307	0.04	Q	|	|	| V |
20+10	0.3311	0.05	Q	|	|	| V |
20+15	0.3314	0.05	Q	|	|	| V |
20+20	0.3317	0.05	Q	|	|	| V |
20+25	0.3320	0.05	Q	|	|	| V |
20+30	0.3324	0.05	Q	|	|	| V |

20+35	0.3327	0.05	Q	|	|	|	V |
20+40	0.3330	0.05	Q	|	|	|	V |
20+45	0.3334	0.05	Q	|	|	|	V |
20+50	0.3336	0.04	Q	|	|	|	V |
20+55	0.3339	0.03	Q	|	|	|	V |
21+ 0	0.3341	0.03	Q	|	|	|	V |
21+ 5	0.3344	0.04	Q	|	|	|	V |
21+10	0.3347	0.05	Q	|	|	|	V|
21+15	0.3350	0.05	Q	|	|	|	V|
21+20	0.3353	0.04	Q	|	|	|	V|
21+25	0.3355	0.03	Q	|	|	|	V|
21+30	0.3358	0.03	Q	|	|	|	V|
21+35	0.3360	0.04	Q	|	|	|	V|
21+40	0.3363	0.05	Q	|	|	|	V|
21+45	0.3367	0.05	Q	|	|	|	V|
21+50	0.3369	0.04	Q	|	|	|	V|
21+55	0.3372	0.03	Q	|	|	|	V|
22+ 0	0.3374	0.03	Q	|	|	|	V|
22+ 5	0.3377	0.04	Q	|	|	|	V|
22+10	0.3380	0.05	Q	|	|	|	V|
22+15	0.3383	0.05	Q	|	|	|	V|
22+20	0.3386	0.04	Q	|	|	|	V|
22+25	0.3388	0.03	Q	|	|	|	V|
22+30	0.3391	0.03	Q	|	|	|	V|
22+35	0.3393	0.03	Q	|	|	|	V|
22+40	0.3395	0.03	Q	|	|	|	V|
22+45	0.3397	0.03	Q	|	|	|	V|
22+50	0.3399	0.03	Q	|	|	|	V|
22+55	0.3402	0.03	Q	|	|	|	V|
23+ 0	0.3404	0.03	Q	|	|	|	V|
23+ 5	0.3406	0.03	Q	|	|	|	V|
23+10	0.3408	0.03	Q	|	|	|	V|
23+15	0.3410	0.03	Q	|	|	|	V|
23+20	0.3413	0.03	Q	|	|	|	V|
23+25	0.3415	0.03	Q	|	|	|	V|
23+30	0.3417	0.03	Q	|	|	|	V|
23+35	0.3419	0.03	Q	|	|	|	V|
23+40	0.3421	0.03	Q	|	|	|	V|
23+45	0.3424	0.03	Q	|	|	|	V|
23+50	0.3426	0.03	Q	|	|	|	V|
23+55	0.3428	0.03	Q	|	|	|	V|
24+ 0	0.3430	0.03	Q	|	|	|	V|
24+ 5	0.3432	0.02	Q	|	|	|	V|
24+10	0.3432	0.00	Q	|	|	|	V|
24+15	0.3432	0.00	Q	|	|	|	V|

APPENDIX E

DETENTION BASIN VOLUME CALCULATIONS

DETENTION BASIN DESIGN

MAJESTIC FREEWAY BUSINESS CENTER - BUILDING 17

BASIN VOLUMES BY ELEVATION

BASIN B1

ELEVATION	***AREA***	***AREA***	***VOLUME***	***CUMULATIVE***	***CUMULATIVE***	
(FT)	(SF)	(AC)	(ACRE-FT)	(ACRE-FT)	(CU-FT)	
1516.5	9,591	0.22	0.00	0	0	BIO-RETENTION LAYERS
1517.5	9,591	0.22	0.09	0.09	3,836	
1518.5	9,591	0.22	0.09	0.18	7,673	
1519.5	9,591	0.22	0.09	0.26	11,509	
1520	10,406	0.24	0.11	0.38	16,508	
1521	12,077	0.28	0.26	0.64	27,750	
1522	13,804	0.32	0.30	0.93	40,690	
1523	15,588	0.36	0.34	1.27	55,386	
1524	17,428	0.40	0.38	1.65	71,894	

APPENDIX F

DETENTION BASIN OUTFLOW CALCULATIONS

BASIN OUTFLOW CALCULATIONS

DETENTION BASIN DESIGN

MAJESTIC FREEWAY BUSINESS CENTER - BUILDING 17

BASIN B1

OUTFLOW THROUGH CIRCULAR HOLE IN STRUCTURE

FROM KING'S HANDBOOK, (4-3)

$Q=Ca(2gh)^{1/2}$

WHERE:

Q= DISCHARGE (CFS)

a= TOTAL AREA OF 2- 8" HOLEs (SF) =0.698

h = HEAD AT ORIFICE (FT)

C= DISCHARGE COEFFICIENT (KING'S 4-10) = 0.610

BIOTREATMENT FLOW = BOTTOM AREA x 4 IN/HR

9,591 SF x 4"/HR = 0.89 CFS

OUTFLOW PER WATER SURFACE ELEVATION

W/S ELEV	DEPTH	HEAD (h)	AREA (a)	Q (cfs)	TOTAL (cfs)	
1516.5	0	0	--		**0.00**	BIO-RETENTION LAYERS
1517.5	0	0	--		**0.89**	
1518.5	0	0	--		**0.89**	
1519.5	0	0	0.698	0.00	**0.89**	
1520	0.50	0	0.698	0.00	**0.89**	
1521	1.50	0	0.698	0.00	**0.89**	
1522	2.50	1	0.698	3.42	**4.31**	
1523	3.50	2	0.698	4.83	**5.72**	
1524	4.50	3	0.698	5.92	**6.81**	
			PLUS OVERFLOW =		**72.66**	

TIME REQUIRED TO EMPTY BASIN

ASSUMES CONSTANT HEAD BETWEEN STAGES

DELTA W/S ELEVS	HEAD (FT)	VOL (AC-FT)	VOLUME (C.F.)	Q out (CFS)	TIME (HRS)	CUMULATIVE (HRS)
1524.00	7.50	1.65	71,894	5.72	3.49	3.5
1523.00	6.50	1.27	55,386	4.31	3.57	7.1
1522.00	5.50	0.93	40,690	0.89	12.70	19.8
1521.00	4.50	0.64	27,750	0.89	8.66	28.4
1520.00	3.50	0.38	16,508	0.89	5.15	33.6
1519.50	3.00	0.26	11,509	0.89	3.59	37.2
1518.50	2.00	0.18	7,673	0.89	2.39	39.6
1517.50	1.00	0.09	3,836	0.89	1.20	40.8
1516.50	0.00	0.00	0	0.00	0.00	40.8

OUTFLOW THROUGH TOP OF STRUCTURE

SHARP EDGED WEIR ABOVE WATER QUALITY SCREEN

$Q=CLH^{3/2}$

WHERE:

C=WEIR COEFFICIENT (3.087)

L=WEIR LENGTH (21.33' FOR THIS STRUCTURE)

H=HEAD (FT)

W/S ELEV	DEPTH	HEAD (h)	Q (cfs)
1523	3.50	0.00	0.00
1524	4.50	1.00	65.85

APPENDIX G

FLOOD ROUTING CALCULATIONS

FLOOD HYDROGRAPH ROUTING PROGRAM

Study date: 01/11/22

MFBC BUILDING 17
FLOOD ROUTING
100 YR - 1 HR
100103RTE

Program License Serial Number 6490

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

From study/file name: 100103PRUH1100.rte
**********HYDROGRAPH DATA**********
Number of intervals = 16
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 33.550 (CFS)
Total volume = 1.193 (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 1.000 to Point/Station 2.000
**** RETARDING BASIN ROUTING ****
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User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 16
Hydrograph time unit = 5.000 (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	0.090	0.890	0.087	0.093
2.000	0.180	0.890	0.177	0.183
3.000	0.260	0.890	0.257	0.263
3.500	0.380	0.890	0.377	0.383
4.500	0.640	0.890	0.637	0.643
5.500	0.930	4.310	0.915	0.945
6.500	1.270	5.720	1.250	1.290

7.500 1.650 72.660 1.400 1.900

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0 8.4 16.77 25.16 33.55	Depth (Ft.)
0.083	2.66	0.09	0.009	O I	0.10
0.167	5.69	0.36	0.036	O I	0.40
0.250	6.90	0.75	0.076	O I	0.84
0.333	7.74	0.89	0.120	O I	1.34
0.417	8.59	0.89	0.171	O I	1.89
0.500	9.86	0.89	0.228	O I	2.60
0.583	11.31	0.89	0.295	O I	3.14
0.667	13.18	0.89	0.373	O I	3.47
0.750	17.27	0.89	0.472	O I	3.85
0.833	33.55	0.90	0.641	O I	4.50
0.917	31.68	3.37	0.850	O I	5.23
1.000	14.68	4.53	0.983	O I	5.66
1.083	7.23	4.71	1.027	O I	5.78
1.167	2.21	4.71	1.027	I O	5.78
1.250	0.53	4.62	1.004	I O	5.72
1.333	0.15	4.50	0.975	I O	5.63
1.417	0.00	4.37	0.945	I O	5.54
1.500	0.00	4.14	0.916	I O	5.45
1.583	0.00	3.82	0.888	I O	5.36
1.667	0.00	3.52	0.863	I O	5.27
1.750	0.00	3.24	0.840	I O	5.19
1.833	0.00	2.99	0.818	I O	5.11
1.917	0.00	2.76	0.798	I O	5.05
2.000	0.00	2.54	0.780	I O	4.98
2.083	0.00	2.34	0.763	I O	4.93
2.167	0.00	2.16	0.748	I O	4.87
2.250	0.00	1.99	0.733	IO	4.82
2.333	0.00	1.84	0.720	IO	4.78
2.417	0.00	1.69	0.708	IO	4.73
2.500	0.00	1.56	0.697	IO	4.70
2.583	0.00	1.44	0.687	IO	4.66
2.667	0.00	1.33	0.677	IO	4.63
2.750	0.00	1.22	0.668	IO	4.60
2.833	0.00	1.13	0.660	IO	4.57
2.917	0.00	1.04	0.653	O	4.54
3.000	0.00	0.96	0.646	O	4.52
3.083	0.00	0.89	0.639	O	4.50
3.167	0.00	0.89	0.633	O	4.47
3.250	0.00	0.89	0.627	O	4.45
3.333	0.00	0.89	0.621	O	4.43
3.417	0.00	0.89	0.615	O	4.40
3.500	0.00	0.89	0.609	O	4.38
3.583	0.00	0.89	0.603	O	4.36
3.667	0.00	0.89	0.597	O	4.33
3.750	0.00	0.89	0.590	O	4.31
3.833	0.00	0.89	0.584	O	4.29
3.917	0.00	0.89	0.578	O	4.26
4.000	0.00	0.89	0.572	O	4.24
4.083	0.00	0.89	0.566	O	4.21
4.167	0.00	0.89	0.560	O	4.19
4.250	0.00	0.89	0.554	O	4.17
4.333	0.00	0.89	0.548	O	4.14
4.417	0.00	0.89	0.541	O	4.12
4.500	0.00	0.89	0.535	O	4.10
4.583	0.00	0.89	0.529	O	4.07
4.667	0.00	0.89	0.523	O	4.05
4.750	0.00	0.89	0.517	O	4.03

4.833	0.00	0.89	0.511	O	|	|	|	|	4.00
4.917	0.00	0.89	0.505	O	|	|	|	|	3.98
5.000	0.00	0.89	0.498	O	|	|	|	|	3.96
5.083	0.00	0.89	0.492	O	|	|	|	|	3.93
5.167	0.00	0.89	0.486	O	|	|	|	|	3.91
5.250	0.00	0.89	0.480	O	|	|	|	|	3.88
5.333	0.00	0.89	0.474	O	|	|	|	|	3.86
5.417	0.00	0.89	0.468	O	|	|	|	|	3.84
5.500	0.00	0.89	0.462	O	|	|	|	|	3.81
5.583	0.00	0.89	0.456	O	|	|	|	|	3.79
5.667	0.00	0.89	0.449	O	|	|	|	|	3.77
5.750	0.00	0.89	0.443	O	|	|	|	|	3.74
5.833	0.00	0.89	0.437	O	|	|	|	|	3.72
5.917	0.00	0.89	0.431	O	|	|	|	|	3.70
6.000	0.00	0.89	0.425	O	|	|	|	|	3.67
6.083	0.00	0.89	0.419	O	|	|	|	|	3.65
6.167	0.00	0.89	0.413	O	|	|	|	|	3.63
6.250	0.00	0.89	0.407	O	|	|	|	|	3.60
6.333	0.00	0.89	0.400	O	|	|	|	|	3.58
6.417	0.00	0.89	0.394	O	|	|	|	|	3.55
6.500	0.00	0.89	0.388	O	|	|	|	|	3.53
6.583	0.00	0.89	0.382	O	|	|	|	|	3.51
6.667	0.00	0.89	0.376	O	|	|	|	|	3.48
6.750	0.00	0.89	0.370	O	|	|	|	|	3.46
6.833	0.00	0.89	0.364	O	|	|	|	|	3.43
6.917	0.00	0.89	0.357	O	|	|	|	|	3.41
7.000	0.00	0.89	0.351	O	|	|	|	|	3.38
7.083	0.00	0.89	0.345	O	|	|	|	|	3.36
7.167	0.00	0.89	0.339	O	|	|	|	|	3.33
7.250	0.00	0.89	0.333	O	|	|	|	|	3.30
7.333	0.00	0.89	0.327	O	|	|	|	|	3.28
7.417	0.00	0.89	0.321	O	|	|	|	|	3.25
7.500	0.00	0.89	0.315	O	|	|	|	|	3.23
7.583	0.00	0.89	0.308	O	|	|	|	|	3.20
7.667	0.00	0.89	0.302	O	|	|	|	|	3.18
7.750	0.00	0.89	0.296	O	|	|	|	|	3.15
7.833	0.00	0.89	0.290	O	|	|	|	|	3.13
7.917	0.00	0.89	0.284	O	|	|	|	|	3.10
8.000	0.00	0.89	0.278	O	|	|	|	|	3.07
8.083	0.00	0.89	0.272	O	|	|	|	|	3.05
8.167	0.00	0.89	0.266	O	|	|	|	|	3.02
8.250	0.00	0.89	0.259	O	|	|	|	|	2.99
8.333	0.00	0.89	0.253	O	|	|	|	|	2.92
8.417	0.00	0.89	0.247	O	|	|	|	|	2.84
8.500	0.00	0.89	0.241	O	|	|	|	|	2.76
8.583	0.00	0.89	0.235	O	|	|	|	|	2.69
8.667	0.00	0.89	0.229	O	|	|	|	|	2.61
8.750	0.00	0.89	0.223	O	|	|	|	|	2.53
8.833	0.00	0.89	0.217	O	|	|	|	|	2.46
8.917	0.00	0.89	0.210	O	|	|	|	|	2.38
9.000	0.00	0.89	0.204	O	|	|	|	|	2.30
9.083	0.00	0.89	0.198	O	|	|	|	|	2.23
9.167	0.00	0.89	0.192	O	|	|	|	|	2.15
9.250	0.00	0.89	0.186	O	|	|	|	|	2.07
9.333	0.00	0.89	0.180	O	|	|	|	|	2.00
9.417	0.00	0.89	0.174	O	|	|	|	|	1.93
9.500	0.00	0.89	0.167	O	|	|	|	|	1.86
9.583	0.00	0.89	0.161	O	|	|	|	|	1.79
9.667	0.00	0.89	0.155	O	|	|	|	|	1.72
9.750	0.00	0.89	0.149	O	|	|	|	|	1.66
9.833	0.00	0.89	0.143	O	|	|	|	|	1.59
9.917	0.00	0.89	0.137	O	|	|	|	|	1.52
10.000	0.00	0.89	0.131	O	|	|	|	|	1.45
10.083	0.00	0.89	0.125	O	|	|	|	|	1.38
10.167	0.00	0.89	0.118	O	|	|	|	|	1.32
10.250	0.00	0.89	0.112	O	|	|	|	|	1.25

10.333	0.00	0.89	0.106	O	|	|	|	|	1.18
10.417	0.00	0.89	0.100	O	|	|	|	|	1.11
10.500	0.00	0.89	0.094	O	|	|	|	|	1.04
10.583	0.00	0.87	0.088	O	|	|	|	|	0.98
10.667	0.00	0.81	0.082	O	|	|	|	|	0.91
10.750	0.00	0.76	0.077	O	|	|	|	|	0.85
10.833	0.00	0.71	0.072	O	|	|	|	|	0.80
10.917	0.00	0.66	0.067	O	|	|	|	|	0.74
11.000	0.00	0.62	0.063	O	|	|	|	|	0.69
11.083	0.00	0.58	0.058	O	|	|	|	|	0.65
11.167	0.00	0.54	0.055	O	|	|	|	|	0.61
11.250	0.00	0.50	0.051	O	|	|	|	|	0.57
11.333	0.00	0.47	0.048	O	|	|	|	|	0.53
11.417	0.00	0.44	0.044	O	|	|	|	|	0.49
11.500	0.00	0.41	0.042	O	|	|	|	|	0.46
11.583	0.00	0.38	0.039	O	|	|	|	|	0.43
11.667	0.00	0.36	0.036	O	|	|	|	|	0.40
11.750	0.00	0.33	0.034	O	|	|	|	|	0.38
11.833	0.00	0.31	0.032	O	|	|	|	|	0.35
11.917	0.00	0.29	0.030	O	|	|	|	|	0.33
12.000	0.00	0.27	0.028	O	|	|	|	|	0.31
12.083	0.00	0.25	0.026	O	|	|	|	|	0.29
12.167	0.00	0.24	0.024	O	|	|	|	|	0.27
12.250	0.00	0.22	0.022	O	|	|	|	|	0.25
12.333	0.00	0.21	0.021	O	|	|	|	|	0.23
12.417	0.00	0.19	0.020	O	|	|	|	|	0.22
12.500	0.00	0.18	0.018	O	|	|	|	|	0.20
12.583	0.00	0.17	0.017	O	|	|	|	|	0.19
12.667	0.00	0.16	0.016	O	|	|	|	|	0.18
12.750	0.00	0.15	0.015	O	|	|	|	|	0.17
12.833	0.00	0.14	0.014	O	|	|	|	|	0.16
12.917	0.00	0.13	0.013	O	|	|	|	|	0.14
13.000	0.00	0.12	0.012	O	|	|	|	|	0.14
13.083	0.00	0.11	0.011	O	|	|	|	|	0.13
13.167	0.00	0.11	0.011	O	|	|	|	|	0.12
13.250	0.00	0.10	0.010	O	|	|	|	|	0.11
13.333	0.00	0.09	0.009	O	|	|	|	|	0.10
13.417	0.00	0.09	0.009	O	|	|	|	|	0.10
13.500	0.00	0.08	0.008	O	|	|	|	|	0.09
13.583	0.00	0.07	0.008	O	|	|	|	|	0.08
13.667	0.00	0.07	0.007	O	|	|	|	|	0.08
13.750	0.00	0.07	0.007	O	|	|	|	|	0.07
13.833	0.00	0.06	0.006	O	|	|	|	|	0.07
13.917	0.00	0.06	0.006	O	|	|	|	|	0.06
14.000	0.00	0.05	0.005	O	|	|	|	|	0.06
14.083	0.00	0.05	0.005	O	|	|	|	|	0.06
14.167	0.00	0.05	0.005	O	|	|	|	|	0.05
14.250	0.00	0.04	0.004	O	|	|	|	|	0.05
14.333	0.00	0.04	0.004	O	|	|	|	|	0.05
14.417	0.00	0.04	0.004	O	|	|	|	|	0.04
14.500	0.00	0.04	0.004	O	|	|	|	|	0.04
14.583	0.00	0.03	0.003	O	|	|	|	|	0.04
14.667	0.00	0.03	0.003	O	|	|	|	|	0.03
14.750	0.00	0.03	0.003	O	|	|	|	|	0.03
14.833	0.00	0.03	0.003	O	|	|	|	|	0.03
14.917	0.00	0.03	0.003	O	|	|	|	|	0.03
15.000	0.00	0.02	0.002	O	|	|	|	|	0.03
15.083	0.00	0.02	0.002	O	|	|	|	|	0.02
15.167	0.00	0.02	0.002	O	|	|	|	|	0.02
15.250	0.00	0.02	0.002	O	|	|	|	|	0.02
15.333	0.00	0.02	0.002	O	|	|	|	|	0.02
15.417	0.00	0.02	0.002	O	|	|	|	|	0.02
15.500	0.00	0.02	0.002	O	|	|	|	|	0.02
15.583	0.00	0.01	0.001	O	|	|	|	|	0.02
15.667	0.00	0.01	0.001	O	|	|	|	|	0.02
15.750	0.00	0.01	0.001	O	|	|	|	|	0.01

15.833	0.00	0.01	0.001	O	|	|	|	0.01
15.917	0.00	0.01	0.001	O	|	|	|	0.01
16.000	0.00	0.01	0.001	O	|	|	|	0.01
16.083	0.00	0.01	0.001	O	|	|	|	0.01
16.167	0.00	0.01	0.001	O	|	|	|	0.01
16.250	0.00	0.01	0.001	O	|	|	|	0.01
16.333	0.00	0.01	0.001	O	|	|	|	0.01
16.417	0.00	0.01	0.001	O	|	|	|	0.01
16.500	0.00	0.01	0.001	O	|	|	|	0.01
16.583	0.00	0.01	0.001	O	|	|	|	0.01
16.667	0.00	0.01	0.001	O	|	|	|	0.01
16.750	0.00	0.01	0.001	O	|	|	|	0.01
16.833	0.00	0.01	0.001	O	|	|	|	0.01
16.917	0.00	0.00	0.000	O	|	|	|	0.01
17.000	0.00	0.00	0.000	O	|	|	|	0.01
17.083	0.00	0.00	0.000	O	|	|	|	0.00
17.167	0.00	0.00	0.000	O	|	|	|	0.00
17.250	0.00	0.00	0.000	O	|	|	|	0.00
17.333	0.00	0.00	0.000	O	|	|	|	0.00
17.417	0.00	0.00	0.000	O	|	|	|	0.00
17.500	0.00	0.00	0.000	O	|	|	|	0.00
17.583	0.00	0.00	0.000	O	|	|	|	0.00
17.667	0.00	0.00	0.000	O	|	|	|	0.00
17.750	0.00	0.00	0.000	O	|	|	|	0.00
17.833	0.00	0.00	0.000	O	|	|	|	0.00
17.917	0.00	0.00	0.000	O	|	|	|	0.00
18.000	0.00	0.00	0.000	O	|	|	|	0.00
18.083	0.00	0.00	0.000	O	|	|	|	0.00
18.167	0.00	0.00	0.000	O	|	|	|	0.00
18.250	0.00	0.00	0.000	O	|	|	|	0.00
18.333	0.00	0.00	0.000	O	|	|	|	0.00
18.417	0.00	0.00	0.000	O	|	|	|	0.00
18.500	0.00	0.00	0.000	O	|	|	|	0.00
18.583	0.00	0.00	0.000	O	|	|	|	0.00
18.667	0.00	0.00	0.000	O	|	|	|	0.00
18.750	0.00	0.00	0.000	O	|	|	|	0.00
18.833	0.00	0.00	0.000	O	|	|	|	0.00
18.917	0.00	0.00	0.000	O	|	|	|	0.00

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

Number of intervals = 227
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 4.711 (CFS)
Total volume = 1.193 (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

Study date: 01/11/22

MFBC BUILDING 17
FLOOD ROUTING
100 YR - 3 HR
100103RTE

Program License Serial Number 6490

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

From study/file name: 100103PRUH3100.rte
**********HYDROGRAPH DATA**********
Number of intervals = 40
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 19.651 (CFS)
Total volume = 1.694 (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 1.000 to Point/Station 2.000
**** RETARDING BASIN ROUTING ****
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User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 40
Hydrograph time unit = 5.000 (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	0.090	0.890	0.087	0.093
2.000	0.180	0.890	0.177	0.183
3.000	0.260	0.890	0.257	0.263
3.500	0.380	0.890	0.377	0.383
4.500	0.640	0.890	0.637	0.643
5.500	0.930	4.310	0.915	0.945

6.500	1.270	5.720	1.250	1.290
7.500	1.650	72.660	1.400	1.900

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0 4.9 9.83 14.74 19.65	Depth (Ft.)
0.083	1.23	0.04	0.004	OI | | | | |	0.05
0.167	2.60	0.16	0.017	O I | | | | |	0.18
0.250	2.71	0.33	0.033	O I | | | | |	0.37
0.333	2.99	0.49	0.050	O I | | | | |	0.56
0.417	3.43	0.67	0.068	|O I | | | | |	0.76
0.500	3.78	0.87	0.088	|O I | | | | |	0.97
0.583	3.85	0.89	0.108	|O I | | | | |	1.20
0.667	3.90	0.89	0.128	|O I | | | | |	1.43
0.750	4.17	0.89	0.150	|O I | | | | |	1.67
0.833	3.94	0.89	0.172	|O I | | | | |	1.91
0.917	3.74	0.89	0.192	|O I | | | | |	2.15
1.000	3.98	0.89	0.213	|O I | | | | |	2.41
1.083	4.56	0.89	0.236	|O I| | | | |	2.70
1.167	5.02	0.89	0.263	|O I | | | | |	3.01
1.250	5.14	0.89	0.292	|O I | | | | |	3.13
1.333	5.00	0.89	0.320	|O I | | | | |	3.25
1.417	5.37	0.89	0.350	|O I | | | | |	3.37
1.500	6.05	0.89	0.383	|O |I | | | | |	3.51
1.583	5.99	0.89	0.418	|O |I | | | | |	3.65
1.667	6.03	0.89	0.454	|O |I | | | | |	3.78
1.750	6.92	0.89	0.492	|O | I | | | | |	3.93
1.833	7.42	0.89	0.535	|O | I | | | | |	4.10
1.917	7.14	0.89	0.579	|O | I | | | | |	4.27
2.000	7.03	0.89	0.622	|O | I | | | | |	4.43
2.083	7.20	1.17	0.664	|O | I | | | | |	4.58
2.167	8.55	1.70	0.708	| O | I | | | |	4.74
2.250	10.89	2.32	0.761	| O | |I | | |	4.92
2.333	10.52	2.98	0.817	| O | |I | | |	5.11
2.417	12.71	3.65	0.874	| O | | I | |	5.31
2.500	17.21	4.39	0.949	| O| | | I |	5.56
2.583	19.65	4.79	1.045	| O| | | | I	5.84
2.667	18.61	5.19	1.142	| O | | I |	6.12
2.750	11.92	5.47	1.211	| O | I | | |	6.33
2.833	6.50	5.58	1.236	| |OI | | | |	6.40
2.917	5.06	5.58	1.237	| IO | | | |	6.40
3.000	3.34	5.55	1.228	| I |O | | | |	6.38
3.083	1.30	5.45	1.206	| I O | | | |	6.31
3.167	0.38	5.32	1.175	I O | | | |	6.22
3.250	0.13	5.18	1.140	I O | | | |	6.12
3.333	0.03	5.04	1.106	I O | | | |	6.02
3.417	0.00	4.90	1.071	I O| | | |	5.92
3.500	0.00	4.76	1.038	I O| | | |	5.82
3.583	0.00	4.62	1.006	I O| | | |	5.72
3.667	0.00	4.49	0.974	I O| | | |	5.63
3.750	0.00	4.37	0.944	I O| | | |	5.54
3.833	0.00	4.13	0.915	I O | | | |	5.45
3.917	0.00	3.81	0.887	I O | | | |	5.35
4.000	0.00	3.51	0.862	I O | | | |	5.27
4.083	0.00	3.24	0.839	I O | | | |	5.19
4.167	0.00	2.98	0.818	I O | | | |	5.11
4.250	0.00	2.75	0.798	I O | | | |	5.04
4.333	0.00	2.54	0.780	I O | | | |	4.98
4.417	0.00	2.34	0.763	I O | | | |	4.92
4.500	0.00	2.16	0.747	I O | | | |	4.87
4.583	0.00	1.99	0.733	I O | | | |	4.82
4.667	0.00	1.83	0.720	I O | | | |	4.78

4.750	0.00	1.69	0.708	I O	|	|	|	4.73
4.833	0.00	1.56	0.697	I O	|	|	|	4.70
4.917	0.00	1.44	0.686	I O	|	|	|	4.66
5.000	0.00	1.32	0.677	I O	|	|	|	4.63
5.083	0.00	1.22	0.668	IO	|	|	|	4.60
5.167	0.00	1.13	0.660	IO	|	|	|	4.57
5.250	0.00	1.04	0.652	IO	|	|	|	4.54
5.333	0.00	0.96	0.646	IO	|	|	|	4.52
5.417	0.00	0.89	0.639	IO	|	|	|	4.50
5.500	0.00	0.89	0.633	IO	|	|	|	4.47
5.583	0.00	0.89	0.627	IO	|	|	|	4.45
5.667	0.00	0.89	0.621	IO	|	|	|	4.43
5.750	0.00	0.89	0.615	IO	|	|	|	4.40
5.833	0.00	0.89	0.609	IO	|	|	|	4.38
5.917	0.00	0.89	0.602	IO	|	|	|	4.36
6.000	0.00	0.89	0.596	IO	|	|	|	4.33
6.083	0.00	0.89	0.590	IO	|	|	|	4.31
6.167	0.00	0.89	0.584	IO	|	|	|	4.29
6.250	0.00	0.89	0.578	IO	|	|	|	4.26
6.333	0.00	0.89	0.572	IO	|	|	|	4.24
6.417	0.00	0.89	0.566	IO	|	|	|	4.21
6.500	0.00	0.89	0.560	IO	|	|	|	4.19
6.583	0.00	0.89	0.553	IO	|	|	|	4.17
6.667	0.00	0.89	0.547	IO	|	|	|	4.14
6.750	0.00	0.89	0.541	IO	|	|	|	4.12
6.833	0.00	0.89	0.535	IO	|	|	|	4.10
6.917	0.00	0.89	0.529	IO	|	|	|	4.07
7.000	0.00	0.89	0.523	IO	|	|	|	4.05
7.083	0.00	0.89	0.517	IO	|	|	|	4.03
7.167	0.00	0.89	0.511	IO	|	|	|	4.00
7.250	0.00	0.89	0.504	IO	|	|	|	3.98
7.333	0.00	0.89	0.498	IO	|	|	|	3.95
7.417	0.00	0.89	0.492	IO	|	|	|	3.93
7.500	0.00	0.89	0.486	IO	|	|	|	3.91
7.583	0.00	0.89	0.480	IO	|	|	|	3.88
7.667	0.00	0.89	0.474	IO	|	|	|	3.86
7.750	0.00	0.89	0.468	IO	|	|	|	3.84
7.833	0.00	0.89	0.462	IO	|	|	|	3.81
7.917	0.00	0.89	0.455	IO	|	|	|	3.79
8.000	0.00	0.89	0.449	IO	|	|	|	3.77
8.083	0.00	0.89	0.443	IO	|	|	|	3.74
8.167	0.00	0.89	0.437	IO	|	|	|	3.72
8.250	0.00	0.89	0.431	IO	|	|	|	3.70
8.333	0.00	0.89	0.425	IO	|	|	|	3.67
8.417	0.00	0.89	0.419	IO	|	|	|	3.65
8.500	0.00	0.89	0.412	IO	|	|	|	3.62
8.583	0.00	0.89	0.406	IO	|	|	|	3.60
8.667	0.00	0.89	0.400	IO	|	|	|	3.58
8.750	0.00	0.89	0.394	IO	|	|	|	3.55
8.833	0.00	0.89	0.388	IO	|	|	|	3.53
8.917	0.00	0.89	0.382	IO	|	|	|	3.51
9.000	0.00	0.89	0.376	IO	|	|	|	3.48
9.083	0.00	0.89	0.370	IO	|	|	|	3.46
9.167	0.00	0.89	0.363	IO	|	|	|	3.43
9.250	0.00	0.89	0.357	IO	|	|	|	3.41
9.333	0.00	0.89	0.351	IO	|	|	|	3.38
9.417	0.00	0.89	0.345	IO	|	|	|	3.35
9.500	0.00	0.89	0.339	IO	|	|	|	3.33
9.583	0.00	0.89	0.333	IO	|	|	|	3.30
9.667	0.00	0.89	0.327	IO	|	|	|	3.28
9.750	0.00	0.89	0.321	IO	|	|	|	3.25
9.833	0.00	0.89	0.314	IO	|	|	|	3.23
9.917	0.00	0.89	0.308	IO	|	|	|	3.20
10.000	0.00	0.89	0.302	IO	|	|	|	3.18
10.083	0.00	0.89	0.296	IO	|	|	|	3.15
10.167	0.00	0.89	0.290	IO	|	|	|	3.12

10.250	0.00	0.89	0.284	IO				3.10
10.333	0.00	0.89	0.278	IO				3.07
10.417	0.00	0.89	0.272	IO				3.05
10.500	0.00	0.89	0.265	IO				3.02
10.583	0.00	0.89	0.259	IO				2.99
10.667	0.00	0.89	0.253	IO				2.91
10.750	0.00	0.89	0.247	IO				2.84
10.833	0.00	0.89	0.241	IO				2.76
10.917	0.00	0.89	0.235	IO				2.68
11.000	0.00	0.89	0.229	IO				2.61
11.083	0.00	0.89	0.222	IO				2.53
11.167	0.00	0.89	0.216	IO				2.45
11.250	0.00	0.89	0.210	IO				2.38
11.333	0.00	0.89	0.204	IO				2.30
11.417	0.00	0.89	0.198	IO				2.22
11.500	0.00	0.89	0.192	IO				2.15
11.583	0.00	0.89	0.186	IO				2.07
11.667	0.00	0.89	0.180	IO				2.00
11.750	0.00	0.89	0.173	IO				1.93
11.833	0.00	0.89	0.167	IO				1.86
11.917	0.00	0.89	0.161	IO				1.79
12.000	0.00	0.89	0.155	IO				1.72
12.083	0.00	0.89	0.149	IO				1.65
12.167	0.00	0.89	0.143	IO				1.59
12.250	0.00	0.89	0.137	IO				1.52
12.333	0.00	0.89	0.131	IO				1.45
12.417	0.00	0.89	0.124	IO				1.38
12.500	0.00	0.89	0.118	IO				1.31
12.583	0.00	0.89	0.112	IO				1.25
12.667	0.00	0.89	0.106	IO				1.18
12.750	0.00	0.89	0.100	IO				1.11
12.833	0.00	0.89	0.094	IO				1.04
12.917	0.00	0.87	0.088	IO				0.97
13.000	0.00	0.81	0.082	IO				0.91
13.083	0.00	0.76	0.077	IO				0.85
13.167	0.00	0.71	0.071	IO				0.79
13.250	0.00	0.66	0.067	IO				0.74
13.333	0.00	0.62	0.062	IO				0.69
13.417	0.00	0.58	0.058	O				0.65
13.500	0.00	0.54	0.054	O				0.60
13.583	0.00	0.50	0.051	O				0.56
13.667	0.00	0.47	0.047	O				0.53
13.750	0.00	0.44	0.044	O				0.49
13.833	0.00	0.41	0.041	O				0.46
13.917	0.00	0.38	0.039	O				0.43
14.000	0.00	0.36	0.036	O				0.40
14.083	0.00	0.33	0.034	O				0.38
14.167	0.00	0.31	0.032	O				0.35
14.250	0.00	0.29	0.029	O				0.33
14.333	0.00	0.27	0.028	O				0.31
14.417	0.00	0.25	0.026	O				0.29
14.500	0.00	0.24	0.024	O				0.27
14.583	0.00	0.22	0.022	O				0.25
14.667	0.00	0.21	0.021	O				0.23
14.750	0.00	0.19	0.020	O				0.22
14.833	0.00	0.18	0.018	O				0.20
14.917	0.00	0.17	0.017	O				0.19
15.000	0.00	0.16	0.016	O				0.18
15.083	0.00	0.15	0.015	O				0.17
15.167	0.00	0.14	0.014	O				0.15
15.250	0.00	0.13	0.013	O				0.14
15.333	0.00	0.12	0.012	O				0.14
15.417	0.00	0.11	0.011	O				0.13
15.500	0.00	0.10	0.011	O				0.12
15.583	0.00	0.10	0.010	O				0.11
15.667	0.00	0.09	0.009	O				0.10

15.750	0.00	0.09	0.009	O					0.10
15.833	0.00	0.08	0.008	O					0.09
15.917	0.00	0.07	0.008	O					0.08
16.000	0.00	0.07	0.007	O					0.08
16.083	0.00	0.07	0.007	O					0.07
16.167	0.00	0.06	0.006	O					0.07
16.250	0.00	0.06	0.006	O					0.06
16.333	0.00	0.05	0.005	O					0.06
16.417	0.00	0.05	0.005	O					0.06
16.500	0.00	0.05	0.005	O					0.05
16.583	0.00	0.04	0.004	O					0.05
16.667	0.00	0.04	0.004	O					0.05
16.750	0.00	0.04	0.004	O					0.04
16.833	0.00	0.04	0.004	O					0.04
16.917	0.00	0.03	0.003	O					0.04
17.000	0.00	0.03	0.003	O					0.03
17.083	0.00	0.03	0.003	O					0.03
17.167	0.00	0.03	0.003	O					0.03
17.250	0.00	0.03	0.003	O					0.03
17.333	0.00	0.02	0.002	O					0.03
17.417	0.00	0.02	0.002	O					0.02
17.500	0.00	0.02	0.002	O					0.02
17.583	0.00	0.02	0.002	O					0.02
17.667	0.00	0.02	0.002	O					0.02
17.750	0.00	0.02	0.002	O					0.02
17.833	0.00	0.02	0.002	O					0.02
17.917	0.00	0.01	0.001	O					0.02
18.000	0.00	0.01	0.001	O					0.02
18.083	0.00	0.01	0.001	O					0.01
18.167	0.00	0.01	0.001	O					0.01
18.250	0.00	0.01	0.001	O					0.01
18.333	0.00	0.01	0.001	O					0.01
18.417	0.00	0.01	0.001	O					0.01
18.500	0.00	0.01	0.001	O					0.01
18.583	0.00	0.01	0.001	O					0.01
18.667	0.00	0.01	0.001	O					0.01
18.750	0.00	0.01	0.001	O					0.01
18.833	0.00	0.01	0.001	O					0.01
18.917	0.00	0.01	0.001	O					0.01
19.000	0.00	0.01	0.001	O					0.01
19.083	0.00	0.01	0.001	O					0.01
19.167	0.00	0.01	0.001	O					0.01
19.250	0.00	0.00	0.000	O					0.01
19.333	0.00	0.00	0.000	O					0.01
19.417	0.00	0.00	0.000	O					0.00
19.500	0.00	0.00	0.000	O					0.00
19.583	0.00	0.00	0.000	O					0.00
19.667	0.00	0.00	0.000	O					0.00
19.750	0.00	0.00	0.000	O					0.00
19.833	0.00	0.00	0.000	O					0.00
19.917	0.00	0.00	0.000	O					0.00
20.000	0.00	0.00	0.000	O					0.00
20.083	0.00	0.00	0.000	O					0.00
20.167	0.00	0.00	0.000	O					0.00
20.250	0.00	0.00	0.000	O					0.00
20.333	0.00	0.00	0.000	O					0.00
20.417	0.00	0.00	0.000	O					0.00
20.500	0.00	0.00	0.000	O					0.00
20.583	0.00	0.00	0.000	O					0.00
20.667	0.00	0.00	0.000	O					0.00
20.750	0.00	0.00	0.000	O					0.00
20.833	0.00	0.00	0.000	O					0.00
20.917	0.00	0.00	0.000	O					0.00
21.000	0.00	0.00	0.000	O					0.00
21.083	0.00	0.00	0.000	O					0.00
21.167	0.00	0.00	0.000	O					0.00

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21.250    0.00    0.00      0.000  O       |       |       |       |     0.00

      ****************************HYDROGRAPH DATA****************************
                    Number of intervals =   255
                    Time interval =    5.0 (Min.)
                    Maximum/Peak flow rate =        5.584 (CFS)
                    Total volume =       1.694 (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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FLOOD HYDROGRAPH ROUTING PROGRAM

Study date: 01/11/22

MFBC BUILDING 17
FLOOD ROUTING
100 YR - 6 HR
100103RTE

Program License Serial Number 6490

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

From study/file name: 100103PRUH6100.rte
**********HYDROGRAPH DATA**********
Number of intervals = 76
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 17.448 (CFS)
Total volume = 2.236 (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 1.000 to Point/Station 2.000
**** RETARDING BASIN ROUTING ****
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User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 76
Hydrograph time unit = 5.000 (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	0.090	0.890	0.087	0.093
2.000	0.180	0.890	0.177	0.183
3.000	0.260	0.890	0.257	0.263
3.500	0.380	0.890	0.377	0.383
4.500	0.640	0.890	0.637	0.643

5.500	0.930	4.310	0.915	0.945
6.500	1.270	5.720	1.250	1.290
7.500	1.650	72.660	1.400	1.900

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0 4.4 8.72 13.09 17.45	Depth (Ft.)
0.083	0.63	0.02	0.002	OI | | | |	0.02
0.167	1.47	0.09	0.009	O I | | | |	0.10
0.250	1.76	0.19	0.019	O I | | | |	0.21
0.333	1.85	0.30	0.030	O I | | | |	0.33
0.417	1.90	0.40	0.040	O I | | | |	0.45
0.500	2.03	0.50	0.051	O I | | | |	0.56
0.583	2.17	0.61	0.061	|O I | | | |	0.68
0.667	2.20	0.71	0.072	|O I | | | |	0.80
0.750	2.21	0.81	0.082	|O I | | | |	0.91
0.833	2.22	0.89	0.091	|O I | | | |	1.01
0.917	2.22	0.89	0.100	|O I | | | |	1.12
1.000	2.34	0.89	0.110	|O I | | | |	1.22
1.083	2.49	0.89	0.121	|O I | | | |	1.34
1.167	2.52	0.89	0.132	|O I | | | |	1.46
1.250	2.53	0.89	0.143	|O I | | | |	1.59
1.333	2.53	0.89	0.154	|O I | | | |	1.71
1.417	2.53	0.89	0.166	|O I | | | |	1.84
1.500	2.53	0.89	0.177	|O I | | | |	1.96
1.583	2.53	0.89	0.188	|O I | | | |	2.10
1.667	2.53	0.89	0.199	|O I | | | |	2.24
1.750	2.53	0.89	0.211	|O I | | | |	2.39
1.833	2.53	0.89	0.222	|O I | | | |	2.53
1.917	2.53	0.89	0.233	|O I | | | |	2.67
2.000	2.66	0.89	0.245	|O I | | | |	2.82
2.083	2.68	0.89	0.257	|O I | | | |	2.97
2.167	2.69	0.89	0.270	|O I | | | |	3.04
2.250	2.82	0.89	0.283	|O I | | | |	3.09
2.333	2.84	0.89	0.296	|O I | | | |	3.15
2.417	2.85	0.89	0.309	|O I | | | |	3.21
2.500	2.85	0.89	0.323	|O I | | | |	3.26
2.583	2.85	0.89	0.336	|O I | | | |	3.32
2.667	2.85	0.89	0.350	|O I | | | |	3.37
2.750	2.98	0.89	0.364	|O I | | | |	3.43
2.833	3.12	0.89	0.379	|O I | | | |	3.49
2.917	3.15	0.89	0.394	|O I | | | |	3.55
3.000	3.16	0.89	0.410	|O I | | | |	3.61
3.083	3.17	0.89	0.426	|O I | | | |	3.68
3.167	3.29	0.89	0.442	|O I | | | |	3.74
3.250	3.44	0.89	0.459	|O I | | | |	3.80
3.333	3.47	0.89	0.476	|O I | | | |	3.87
3.417	3.61	0.89	0.495	|O I | | | |	3.94
3.500	3.88	0.89	0.514	|O I| | | |	4.02
3.583	4.18	0.89	0.536	|O I| | | |	4.10
3.667	4.36	0.89	0.559	|O I | | |	4.19
3.750	4.54	0.89	0.584	|O I | | |	4.28
3.833	4.70	0.89	0.609	|O I | | |	4.38
3.917	4.86	0.89	0.636	|O I | | |	4.48
4.000	5.01	1.16	0.663	| O |I | | |	4.58
4.083	5.18	1.47	0.689	| O |I | | |	4.67
4.167	5.46	1.77	0.715	| O | I | | |	4.76
4.250	5.76	2.07	0.740	| O | I | | |	4.84
4.333	6.07	2.37	0.765	| O | I | | |	4.93
4.417	6.39	2.67	0.791	| O | I | | |	5.02
4.500	6.58	2.97	0.816	| O | I | | |	5.11
4.583	6.76	3.26	0.841	| O | I | | |	5.19

4.667	7.05	3.54	0.865	| O | I | | | 5.28
4.750	7.38	3.83	0.889	| O| I | | | 5.36
4.833	7.59	4.11	0.913	| O| I | | | 5.44
4.917	7.80	4.34	0.937	| O| I | | | 5.52
5.000	8.15	4.44	0.962	| O I | | | 5.59
5.083	9.12	4.56	0.990	| O I | | 5.68
5.167	10.79	4.71	1.027	| O | I | | 5.79
5.250	12.30	4.90	1.073	| O | I | | 5.92
5.333	13.54	5.13	1.128	|O | I | | 6.08
5.417	15.03	5.39	1.190	|O | | I | 6.26
5.500	17.45	5.69	1.264	| O | | I 6.48
5.583	13.69	12.48	1.308	| | O |I | 6.60
5.667	6.65	10.74	1.298	| I | O | | 6.57
5.750	3.69	6.53	1.275	| I | O | | | 6.51
5.833	2.35	5.65	1.253	| I | O | | | 6.45
5.917	1.49	5.55	1.228	| I | O | | | 6.38
6.000	0.96	5.42	1.199	|I |O | | | 6.29
6.083	0.47	5.29	1.167	I |O | | | 6.20
6.167	0.13	5.15	1.133	I |O | | | 6.10
6.250	0.04	5.01	1.099	I |O | | | 6.00
6.333	0.01	4.87	1.065	I O | | | 5.90
6.417	0.00	4.73	1.032	I O | | | 5.80
6.500	0.00	4.60	1.000	I O | | | 5.70
6.583	0.00	4.47	0.968	I O | | | 5.61
6.667	0.00	4.34	0.938	I O| | | 5.52
6.750	0.00	4.06	0.909	I O| | | 5.43
6.833	0.00	3.75	0.882	I O | | | 5.33
6.917	0.00	3.45	0.857	I O | | | 5.25
7.000	0.00	3.18	0.835	I O | | | 5.17
7.083	0.00	2.94	0.813	I O | | | 5.10
7.167	0.00	2.71	0.794	I O | | | 5.03
7.250	0.00	2.49	0.776	I O | | | 4.97
7.333	0.00	2.30	0.760	I O | | | 4.91
7.417	0.00	2.12	0.744	I O | | | 4.86
7.500	0.00	1.96	0.730	I O | | | 4.81
7.583	0.00	1.80	0.717	I O | | | 4.77
7.667	0.00	1.66	0.705	I O | | | 4.73
7.750	0.00	1.53	0.694	I O | | | 4.69
7.833	0.00	1.41	0.684	I O | | | 4.65
7.917	0.00	1.30	0.675	I O | | | 4.62
8.000	0.00	1.20	0.666	I O | | | 4.59
8.083	0.00	1.11	0.658	I O | | | 4.56
8.167	0.00	1.02	0.651	IO | | | 4.54
8.250	0.00	0.94	0.644	IO | | | 4.51
8.333	0.00	0.89	0.638	IO | | | 4.49
8.417	0.00	0.89	0.632	IO | | | 4.47
8.500	0.00	0.89	0.626	IO | | | 4.45
8.583	0.00	0.89	0.620	IO | | | 4.42
8.667	0.00	0.89	0.613	IO | | | 4.40
8.750	0.00	0.89	0.607	IO | | | 4.37
8.833	0.00	0.89	0.601	IO | | | 4.35
8.917	0.00	0.89	0.595	IO | | | 4.33
9.000	0.00	0.89	0.589	IO | | | 4.30
9.083	0.00	0.89	0.583	IO | | | 4.28
9.167	0.00	0.89	0.577	IO | | | 4.26
9.250	0.00	0.89	0.571	IO | | | 4.23
9.333	0.00	0.89	0.564	IO | | | 4.21
9.417	0.00	0.89	0.558	IO | | | 4.19
9.500	0.00	0.89	0.552	IO | | | 4.16
9.583	0.00	0.89	0.546	IO | | | 4.14
9.667	0.00	0.89	0.540	IO | | | 4.12
9.750	0.00	0.89	0.534	IO | | | 4.09
9.833	0.00	0.89	0.528	IO | | | 4.07
9.917	0.00	0.89	0.522	IO | | | 4.04
10.000	0.00	0.89	0.515	IO | | | 4.02
10.083	0.00	0.89	0.509	IO | | | 4.00

10.167	0.00	0.89	0.503	IO				3.97
10.250	0.00	0.89	0.497	IO				3.95
10.333	0.00	0.89	0.491	IO				3.93
10.417	0.00	0.89	0.485	IO				3.90
10.500	0.00	0.89	0.479	IO				3.88
10.583	0.00	0.89	0.473	IO				3.86
10.667	0.00	0.89	0.466	IO				3.83
10.750	0.00	0.89	0.460	IO				3.81
10.833	0.00	0.89	0.454	IO				3.79
10.917	0.00	0.89	0.448	IO				3.76
11.000	0.00	0.89	0.442	IO				3.74
11.083	0.00	0.89	0.436	IO				3.71
11.167	0.00	0.89	0.430	IO				3.69
11.250	0.00	0.89	0.423	IO				3.67
11.333	0.00	0.89	0.417	IO				3.64
11.417	0.00	0.89	0.411	IO				3.62
11.500	0.00	0.89	0.405	IO				3.60
11.583	0.00	0.89	0.399	IO				3.57
11.667	0.00	0.89	0.393	IO				3.55
11.750	0.00	0.89	0.387	IO				3.53
11.833	0.00	0.89	0.381	IO				3.50
11.917	0.00	0.89	0.374	IO				3.48
12.000	0.00	0.89	0.368	IO				3.45
12.083	0.00	0.89	0.362	IO				3.43
12.167	0.00	0.89	0.356	IO				3.40
12.250	0.00	0.89	0.350	IO				3.37
12.333	0.00	0.89	0.344	IO				3.35
12.417	0.00	0.89	0.338	IO				3.32
12.500	0.00	0.89	0.332	IO				3.30
12.583	0.00	0.89	0.325	IO				3.27
12.667	0.00	0.89	0.319	IO				3.25
12.750	0.00	0.89	0.313	IO				3.22
12.833	0.00	0.89	0.307	IO				3.20
12.917	0.00	0.89	0.301	IO				3.17
13.000	0.00	0.89	0.295	IO				3.14
13.083	0.00	0.89	0.289	IO				3.12
13.167	0.00	0.89	0.283	IO				3.09
13.250	0.00	0.89	0.276	IO				3.07
13.333	0.00	0.89	0.270	IO				3.04
13.417	0.00	0.89	0.264	IO				3.02
13.500	0.00	0.89	0.258	IO				2.97
13.583	0.00	0.89	0.252	IO				2.90
13.667	0.00	0.89	0.246	IO				2.82
13.750	0.00	0.89	0.240	IO				2.74
13.833	0.00	0.89	0.233	IO				2.67
13.917	0.00	0.89	0.227	IO				2.59
14.000	0.00	0.89	0.221	IO				2.52
14.083	0.00	0.89	0.215	IO				2.44
14.167	0.00	0.89	0.209	IO				2.36
14.250	0.00	0.89	0.203	IO				2.29
14.333	0.00	0.89	0.197	IO				2.21
14.417	0.00	0.89	0.191	IO				2.13
14.500	0.00	0.89	0.184	IO				2.06
14.583	0.00	0.89	0.178	IO				1.98
14.667	0.00	0.89	0.172	IO				1.91
14.750	0.00	0.89	0.166	IO				1.84
14.833	0.00	0.89	0.160	IO				1.78
14.917	0.00	0.89	0.154	IO				1.71
15.000	0.00	0.89	0.148	IO				1.64
15.083	0.00	0.89	0.142	IO				1.57
15.167	0.00	0.89	0.135	IO				1.50
15.250	0.00	0.89	0.129	IO				1.44
15.333	0.00	0.89	0.123	IO				1.37
15.417	0.00	0.89	0.117	IO				1.30
15.500	0.00	0.89	0.111	IO				1.23
15.583	0.00	0.89	0.105	IO				1.16

15.667	0.00	0.89	0.099	IO				1.10
15.750	0.00	0.89	0.092	IO				1.03
15.833	0.00	0.86	0.086	IO				0.96
15.917	0.00	0.80	0.081	IO				0.90
16.000	0.00	0.75	0.075	IO				0.84
16.083	0.00	0.70	0.070	IO				0.78
16.167	0.00	0.65	0.066	IO				0.73
16.250	0.00	0.61	0.062	IO				0.68
16.333	0.00	0.57	0.057	IO				0.64
16.417	0.00	0.53	0.054	O				0.60
16.500	0.00	0.50	0.050	O				0.56
16.583	0.00	0.46	0.047	O				0.52
16.667	0.00	0.43	0.044	O				0.49
16.750	0.00	0.40	0.041	O				0.45
16.833	0.00	0.38	0.038	O				0.42
16.917	0.00	0.35	0.036	O				0.40
17.000	0.00	0.33	0.033	O				0.37
17.083	0.00	0.31	0.031	O				0.35
17.167	0.00	0.29	0.029	O				0.32
17.250	0.00	0.27	0.027	O				0.30
17.333	0.00	0.25	0.025	O				0.28
17.417	0.00	0.23	0.024	O				0.26
17.500	0.00	0.22	0.022	O				0.25
17.583	0.00	0.20	0.021	O				0.23
17.667	0.00	0.19	0.019	O				0.21
17.750	0.00	0.18	0.018	O				0.20
17.833	0.00	0.17	0.017	O				0.19
17.917	0.00	0.16	0.016	O				0.17
18.000	0.00	0.15	0.015	O				0.16
18.083	0.00	0.14	0.014	O				0.15
18.167	0.00	0.13	0.013	O				0.14
18.250	0.00	0.12	0.012	O				0.13
18.333	0.00	0.11	0.011	O				0.12
18.417	0.00	0.10	0.010	O				0.12
18.500	0.00	0.10	0.010	O				0.11
18.583	0.00	0.09	0.009	O				0.10
18.667	0.00	0.08	0.009	O				0.09
18.750	0.00	0.08	0.008	O				0.09
18.833	0.00	0.07	0.007	O				0.08
18.917	0.00	0.07	0.007	O				0.08
19.000	0.00	0.06	0.006	O				0.07
19.083	0.00	0.06	0.006	O				0.07
19.167	0.00	0.06	0.006	O				0.06
19.250	0.00	0.05	0.005	O				0.06
19.333	0.00	0.05	0.005	O				0.05
19.417	0.00	0.05	0.005	O				0.05
19.500	0.00	0.04	0.004	O				0.05
19.583	0.00	0.04	0.004	O				0.04
19.667	0.00	0.04	0.004	O				0.04
19.750	0.00	0.03	0.004	O				0.04
19.833	0.00	0.03	0.003	O				0.04
19.917	0.00	0.03	0.003	O				0.03
20.000	0.00	0.03	0.003	O				0.03
20.083	0.00	0.03	0.003	O				0.03
20.167	0.00	0.02	0.003	O				0.03
20.250	0.00	0.02	0.002	O				0.03
20.333	0.00	0.02	0.002	O				0.02
20.417	0.00	0.02	0.002	O				0.02
20.500	0.00	0.02	0.002	O				0.02
20.583	0.00	0.02	0.002	O				0.02
20.667	0.00	0.02	0.002	O				0.02
20.750	0.00	0.02	0.002	O				0.02
20.833	0.00	0.01	0.001	O				0.02
20.917	0.00	0.01	0.001	O				0.02
21.000	0.00	0.01	0.001	O				0.01
21.083	0.00	0.01	0.001	O				0.01

21.167	0.00	0.01	0.001	O	|	|	|	|	0.01
21.250	0.00	0.01	0.001	O	|	|	|	|	0.01
21.333	0.00	0.01	0.001	O	|	|	|	|	0.01
21.417	0.00	0.01	0.001	O	|	|	|	|	0.01
21.500	0.00	0.01	0.001	O	|	|	|	|	0.01
21.583	0.00	0.01	0.001	O	|	|	|	|	0.01
21.667	0.00	0.01	0.001	O	|	|	|	|	0.01
21.750	0.00	0.01	0.001	O	|	|	|	|	0.01
21.833	0.00	0.01	0.001	O	|	|	|	|	0.01
21.917	0.00	0.01	0.001	O	|	|	|	|	0.01
22.000	0.00	0.01	0.001	O	|	|	|	|	0.01
22.083	0.00	0.01	0.001	O	|	|	|	|	0.01
22.167	0.00	0.00	0.000	O	|	|	|	|	0.01
22.250	0.00	0.00	0.000	O	|	|	|	|	0.01
22.333	0.00	0.00	0.000	O	|	|	|	|	0.00
22.417	0.00	0.00	0.000	O	|	|	|	|	0.00
22.500	0.00	0.00	0.000	O	|	|	|	|	0.00
22.583	0.00	0.00	0.000	O	|	|	|	|	0.00
22.667	0.00	0.00	0.000	O	|	|	|	|	0.00
22.750	0.00	0.00	0.000	O	|	|	|	|	0.00
22.833	0.00	0.00	0.000	O	|	|	|	|	0.00
22.917	0.00	0.00	0.000	O	|	|	|	|	0.00
23.000	0.00	0.00	0.000	O	|	|	|	|	0.00
23.083	0.00	0.00	0.000	O	|	|	|	|	0.00
23.167	0.00	0.00	0.000	O	|	|	|	|	0.00
23.250	0.00	0.00	0.000	O	|	|	|	|	0.00
23.333	0.00	0.00	0.000	O	|	|	|	|	0.00
23.417	0.00	0.00	0.000	O	|	|	|	|	0.00
23.500	0.00	0.00	0.000	O	|	|	|	|	0.00
23.583	0.00	0.00	0.000	O	|	|	|	|	0.00
23.667	0.00	0.00	0.000	O	|	|	|	|	0.00
23.750	0.00	0.00	0.000	O	|	|	|	|	0.00
23.833	0.00	0.00	0.000	O	|	|	|	|	0.00
23.917	0.00	0.00	0.000	O	|	|	|	|	0.00
24.000	0.00	0.00	0.000	O	|	|	|	|	0.00
24.083	0.00	0.00	0.000	O	|	|	|	|	0.00
24.167	0.00	0.00	0.000	O	|	|	|	|	0.00

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

Number of intervals = 290
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 12.479 (CFS)
Total volume = 2.236 (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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FLOOD HYDROGRAPH ROUTING PROGRAM
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Study date: 01/11/22

MFBC BUILDING 17
FLOOD ROUTING
100 YR - 24 HR
100103RTE

Program License Serial Number 6490

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

From study/file name: 100103PRUH24100.rte
**********HYDROGRAPH DATA**********
Number of intervals = 292
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 6.539 (CFS)
Total volume = 3.944 (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 1.000 to Point/Station 2.000
**** RETARDING BASIN ROUTING ****
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User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 292
Hydrograph time unit = 5.000 (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	0.090	0.890	0.087	0.093
2.000	0.180	0.890	0.177	0.183
3.000	0.260	0.890	0.257	0.263
3.500	0.380	0.890	0.377	0.383
4.500	0.640	0.890	0.637	0.643
5.500	0.930	4.310	0.915	0.945
6.500	1.270	5.720	1.250	1.290
7.500	1.650	72.660	1.400	1.900

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	3.27	4.90	6.54	Depth (Ft.)
0.083	0.15	0.01	0.001	O	|	|	|	|	0.01
0.167	0.32	0.02	0.002	OI	|	|	|	|	0.02
0.250	0.36	0.04	0.004	OI	|	|	|	|	0.05
0.333	0.45	0.07	0.007	O I	|	|	|	|	0.07
0.417	0.54	0.09	0.009	O I	|	|	|	|	0.11
0.500	0.56	0.12	0.013	O I	|	|	|	|	0.14
0.583	0.57	0.15	0.015	O I	|	|	|	|	0.17
0.667	0.57	0.18	0.018	O I	|	|	|	|	0.20
0.750	0.57	0.21	0.021	|OI	|	|	|	|	0.23
0.833	0.65	0.23	0.024	|O I	|	|	|	|	0.26
0.917	0.73	0.26	0.027	|O I	|	|	|	|	0.30
1.000	0.75	0.29	0.030	|O I	|	|	|	|	0.33
1.083	0.68	0.32	0.033	|O I	|	|	|	|	0.36
1.167	0.60	0.34	0.035	|OI	|	|	|	|	0.39
1.250	0.58	0.36	0.036	|OI	|	|	|	|	0.40
1.333	0.58	0.37	0.038	|OI	|	|	|	|	0.42
1.417	0.57	0.39	0.039	|OI	|	|	|	|	0.44
1.500	0.57	0.40	0.040	|OI	|	|	|	|	0.45
1.583	0.57	0.41	0.042	| O	|	|	|	|	0.46
1.667	0.57	0.42	0.043	| O	|	|	|	|	0.47
1.750	0.57	0.43	0.044	| O	|	|	|	|	0.49
1.833	0.65	0.44	0.045	| OI	|	|	|	|	0.50
1.917	0.73	0.46	0.047	| OI	|	|	|	|	0.52
2.000	0.75	0.48	0.048	| OI	|	|	|	|	0.54
2.083	0.76	0.50	0.050	| OI	|	|	|	|	0.56
2.167	0.76	0.51	0.052	| OI	|	|	|	|	0.58
2.250	0.76	0.53	0.054	| OI	|	|	|	|	0.60
2.333	0.76	0.55	0.055	| OI	|	|	|	|	0.61
2.417	0.76	0.56	0.057	| OI	|	|	|	|	0.63
2.500	0.76	0.57	0.058	| OI	|	|	|	|	0.64
2.583	0.84	0.59	0.060	| O I	|	|	|	|	0.66
2.667	0.92	0.61	0.061	| O I	|	|	|	|	0.68
2.750	0.94	0.63	0.064	| OI	|	|	|	|	0.71
2.833	0.95	0.65	0.066	| OI	|	|	|	|	0.73
2.917	0.95	0.67	0.068	| OI	|	|	|	|	0.75
3.000	0.95	0.69	0.070	| OI	|	|	|	|	0.77
3.083	0.95	0.71	0.071	| OI	|	|	|	|	0.79
3.167	0.95	0.72	0.073	| OI	|	|	|	|	0.81
3.250	0.95	0.74	0.075	| OI	|	|	|	|	0.83
3.333	0.95	0.75	0.076	| OI	|	|	|	|	0.85
3.417	0.95	0.77	0.077	| OI	|	|	|	|	0.86
3.500	0.95	0.78	0.079	| OI	|	|	|	|	0.87
3.583	0.95	0.79	0.080	| OI	|	|	|	|	0.89
3.667	0.95	0.80	0.081	| OI	|	|	|	|	0.90
3.750	0.95	0.81	0.082	| OI	|	|	|	|	0.91
3.833	1.03	0.82	0.083	| OI	|	|	|	|	0.92
3.917	1.12	0.84	0.085	| OI	|	|	|	|	0.94
4.000	1.13	0.86	0.087	| OI	|	|	|	|	0.96
4.083	1.14	0.88	0.089	| OI	|	|	|	|	0.98
4.167	1.14	0.89	0.090	| OI	|	|	|	|	1.00
4.250	1.14	0.89	0.092	| OI	|	|	|	|	1.02
4.333	1.22	0.89	0.094	| OI	|	|	|	|	1.05
4.417	1.31	0.89	0.097	| O I	|	|	|	|	1.07
4.500	1.32	0.89	0.100	| O I	|	|	|	|	1.11
4.583	1.33	0.89	0.103	| O I	|	|	|	|	1.14
4.667	1.34	0.89	0.106	| O I	|	|	|	|	1.18
4.750	1.34	0.89	0.109	| O I	|	|	|	|	1.21
4.833	1.41	0.89	0.112	| O I	|	|	|	|	1.25

4.917	1.50	0.89	0.116	O I				1.29
5.000	1.52	0.89	0.120	O I				1.34
5.083	1.37	0.89	0.124	O I				1.38
5.167	1.20	0.89	0.127	OI				1.41
5.250	1.17	0.89	0.129	OI				1.43
5.333	1.23	0.89	0.131	O I				1.46
5.417	1.31	0.89	0.134	O I				1.48
5.500	1.32	0.89	0.137	O I				1.52
5.583	1.41	0.89	0.140	O I				1.55
5.667	1.50	0.89	0.144	O I				1.60
5.750	1.52	0.89	0.148	O I				1.64
5.833	1.52	0.89	0.152	O I				1.69
5.917	1.53	0.89	0.157	O I				1.74
6.000	1.53	0.89	0.161	O I				1.79
6.083	1.60	0.89	0.166	O I				1.84
6.167	1.69	0.89	0.171	O I				1.90
6.250	1.71	0.89	0.176	O I				1.96
6.333	1.71	0.89	0.182	O I				2.03
6.417	1.72	0.89	0.188	O I				2.10
6.500	1.72	0.89	0.193	O I				2.17
6.583	1.79	0.89	0.199	O I				2.24
6.667	1.88	0.89	0.206	O I				2.32
6.750	1.90	0.89	0.213	O I				2.41
6.833	1.90	0.89	0.220	O I				2.50
6.917	1.91	0.89	0.227	O I				2.58
7.000	1.91	0.89	0.234	O I				2.67
7.083	1.91	0.89	0.241	O I				2.76
7.167	1.91	0.89	0.248	O I				2.85
7.250	1.91	0.89	0.255	O I				2.94
7.333	1.98	0.89	0.262	O I				3.01
7.417	2.07	0.89	0.270	O I				3.04
7.500	2.09	0.89	0.278	O I				3.08
7.583	2.17	0.89	0.287	O I				3.11
7.667	2.26	0.89	0.296	O I				3.15
7.750	2.28	0.89	0.305	O I				3.19
7.833	2.36	0.89	0.315	O I				3.23
7.917	2.45	0.89	0.326	O I				3.27
8.000	2.47	0.89	0.336	O I				3.32
8.083	2.63	0.89	0.348	O I				3.37
8.167	2.80	0.89	0.360	O I				3.42
8.250	2.84	0.89	0.374	O I				3.47
8.333	2.86	0.89	0.387	O I				3.53
8.417	2.86	0.89	0.401	O I				3.58
8.500	2.86	0.89	0.414	O I				3.63
8.583	2.94	0.89	0.428	O I				3.69
8.667	3.02	0.89	0.443	O I				3.74
8.750	3.04	0.89	0.457	O I				3.80
8.833	3.13	0.89	0.472	O I				3.86
8.917	3.21	0.89	0.488	O I				3.92
9.000	3.23	0.89	0.504	O I				3.98
9.083	3.39	0.89	0.521	O I				4.04
9.167	3.57	0.89	0.539	O I				4.11
9.250	3.60	0.89	0.557	O I				4.18
9.333	3.69	0.89	0.576	O I				4.26
9.417	3.79	0.89	0.596	O I				4.33
9.500	3.81	0.89	0.616	O I				4.41
9.583	3.89	0.89	0.636	O I				4.49
9.667	3.98	1.09	0.657	O I				4.56
9.750	4.00	1.31	0.676	O I				4.62
9.833	4.08	1.53	0.694	O I				4.69
9.917	4.17	1.73	0.711	O I				4.75
10.000	4.19	1.92	0.727	O I				4.80
10.083	3.66	2.08	0.741	O I				4.85
10.167	3.07	2.18	0.749	O I				4.88
10.250	2.94	2.24	0.755	O I				4.89
10.333	2.89	2.29	0.759	O I				4.91

10.417	2.86	2.34	0.763	|	|	O I |	|	|	4.92
10.500	2.86	2.38	0.766	|	|	O I |	|	|	4.94
10.583	3.24	2.43	0.771	|	|	O I|	|	|	4.95
10.667	3.67	2.51	0.778	|	|	O |I	|	|	4.97
10.750	3.76	2.61	0.786	|	|	O | I	|	|	5.00
10.833	3.80	2.70	0.793	|	|	O | I	|	|	5.03
10.917	3.82	2.78	0.801	|	|	O | I	|	|	5.05
11.000	3.82	2.86	0.807	|	|	O | I	|	|	5.08
11.083	3.74	2.94	0.813	|	|	O | I	|	|	5.10
11.167	3.65	3.00	0.819	|	|	O |I	|	|	5.12
11.250	3.64	3.05	0.823	|	|	O |I	|	|	5.13
11.333	3.63	3.09	0.827	|	|	O|I	|	|	5.14
11.417	3.63	3.13	0.830	|	|	O|I	|	|	5.16
11.500	3.63	3.17	0.834	|	|	O|I	|	|	5.17
11.583	3.47	3.20	0.836	|	|	OI	|	|	5.18
11.667	3.30	3.22	0.837	|	|	OI	|	|	5.18
11.750	3.27	3.22	0.838	|	|	O|	|	|	5.18
11.833	3.33	3.23	0.838	|	|	OI	|	|	5.18
11.917	3.41	3.24	0.839	|	|	OI	|	|	5.19
12.000	3.42	3.25	0.840	|	|	OI	|	|	5.19
12.083	3.96	3.29	0.843	|	|	O I	|	|	5.20
12.167	4.57	3.36	0.850	|	|	O I |	|	|	5.22
12.250	4.69	3.46	0.858	|	|	O I |	|	|	5.25
12.333	4.82	3.56	0.867	|	|	|O I|	|	|	5.28
12.417	4.93	3.67	0.875	|	|	|O I	|	|	5.31
12.500	4.95	3.77	0.884	|	|	| O I	|	|	5.34
12.583	5.11	3.86	0.892	|	|	| O |I	|	|	5.37
12.667	5.28	3.97	0.901	|	|	| O |I	|	|	5.40
12.750	5.32	4.07	0.910	|	|	| O | I	|	|	5.43
12.833	5.41	4.17	0.918	|	|	| O | I	|	|	5.46
12.917	5.50	4.27	0.927	|	|	| O | I	|	|	5.49
13.000	5.52	4.33	0.935	|	|	| O | I |	|	|	5.52
13.083	5.92	4.37	0.945	|	|	| O | I |	|	|	5.54
13.167	6.36	4.42	0.957	|	|	| O | I|	|	|	5.58
13.250	6.46	4.48	0.970	|	|	| O | I|	|	|	5.62
13.333	6.51	4.53	0.984	|	|	| O | I|	|	|	5.66
13.417	6.53	4.59	0.997	|	|	| O | I|	|	|	5.70
13.500	6.54	4.64	1.011	|	|	| O | I	|	|	5.74
13.583	5.68	4.69	1.021	|	|	| O | I |	|	|	5.77
13.667	4.72	4.70	1.024	|	|	| OI|	|	|	5.78
13.750	4.51	4.70	1.023	|	|	| O |	|	|	5.77
13.833	4.43	4.69	1.022	|	|	| IO |	|	|	5.77
13.917	4.39	4.68	1.020	|	|	| IO |	|	|	5.76
14.000	4.39	4.68	1.018	|	|	| IO |	|	|	5.76
14.083	4.69	4.67	1.017	|	|	| O |	|	|	5.76
14.167	5.03	4.68	1.018	|	|	| O I	|	|	5.76
14.250	5.11	4.69	1.021	|	|	| O I	|	|	5.77
14.333	5.06	4.70	1.024	|	|	| O I	|	|	5.78
14.417	4.99	4.71	1.026	|	|	| OI	|	|	5.78
14.500	4.97	4.72	1.028	|	|	| OI	|	|	5.79
14.583	4.96	4.72	1.030	|	|	| OI	|	|	5.79
14.667	4.96	4.73	1.031	|	|	| OI	|	|	5.80
14.750	4.96	4.74	1.033	|	|	| OI	|	|	5.80
14.833	4.89	4.74	1.034	|	|	| O|	|	|	5.81
14.917	4.80	4.74	1.035	|	|	| O|	|	|	5.81
15.000	4.78	4.75	1.035	|	|	| O|	|	|	5.81
15.083	4.70	4.75	1.035	|	|	| IO|	|	|	5.81
15.167	4.61	4.74	1.034	|	|	| IO|	|	|	5.81
15.250	4.59	4.74	1.033	|	|	| IO|	|	|	5.80
15.333	4.51	4.73	1.032	|	|	| IO|	|	|	5.80
15.417	4.42	4.73	1.030	|	|	| I O|	|	|	5.79
15.500	4.40	4.72	1.028	|	|	| I O|	|	|	5.79
15.583	4.09	4.70	1.025	|	|	| I O|	|	|	5.78
15.667	3.74	4.68	1.020	|	|	| I O |	|	|	5.76
15.750	3.67	4.65	1.013	|	|	|I O |	|	|	5.74
15.833	3.64	4.63	1.006	|	|	|I O |	|	|	5.72

15.917	3.63	4.60	0.999	|	|	|I O |	|	5.70
16.000	3.63	4.57	0.993	|	|	|I O |	|	5.68
16.083	2.48	4.53	0.983	|	| I |	O |	|	5.65
16.167	1.20	4.45	0.964	| I |	| O |	|	5.60
16.250	0.93	4.36	0.941	| I |	| O |	|	5.53
16.333	0.82	4.17	0.918	| I |	| O |	|	5.46
16.417	0.76	3.90	0.896	| I |	| O |	|	5.38
16.500	0.76	3.66	0.875	| I |	|O |	|	5.31
16.583	0.69	3.43	0.855	| I |	O |	|	5.24
16.667	0.60	3.21	0.837	| I |	O|	|	5.18
16.750	0.58	3.01	0.820	| I |	O |	|	5.12
16.833	0.58	2.82	0.804	| I |	O |	|	5.06
16.917	0.57	2.64	0.789	| I |	O |	|	5.01
17.000	0.57	2.48	0.775	| I |	O |	|	4.97
17.083	0.72	2.34	0.763	| I |	O |	|	4.92
17.167	0.90	2.22	0.753	| I | O |	|	|	4.89
17.250	0.93	2.12	0.744	| I | O |	|	|	4.86
17.333	0.95	2.03	0.736	| I |O |	|	|	4.83
17.417	0.95	1.94	0.729	| I |O |	|	|	4.81
17.500	0.95	1.86	0.723	| I |O |	|	|	4.78
17.583	0.95	1.79	0.717	| I O |	|	|	4.76
17.667	0.95	1.73	0.711	| I O |	|	|	4.75
17.750	0.95	1.67	0.706	| I O |	|	|	4.73
17.833	0.88	1.61	0.701	| I O|	|	|	4.71
17.917	0.79	1.55	0.696	| I O|	|	|	4.69
18.000	0.77	1.49	0.691	| I O|	|	|	4.68
18.083	0.77	1.43	0.686	| I O|	|	|	4.66
18.167	0.76	1.38	0.682	| I O |	|	|	4.64
18.250	0.76	1.33	0.678	| I O |	|	|	4.63
18.333	0.76	1.29	0.674	| I O |	|	|	4.62
18.417	0.76	1.25	0.670	| I O |	|	|	4.60
18.500	0.76	1.21	0.667	| I O |	|	|	4.59
18.583	0.69	1.17	0.664	| I O |	|	|	4.58
18.667	0.60	1.13	0.660	| I O |	|	|	4.57
18.750	0.58	1.09	0.657	| I O |	|	|	4.56
18.833	0.50	1.05	0.653	| I O |	|	|	4.55
18.917	0.41	1.00	0.649	| I O |	|	|	4.53
19.000	0.39	0.95	0.645	|I O |	|	|	4.52
19.083	0.46	0.91	0.642	| I O |	|	|	4.51
19.167	0.54	0.89	0.639	| I O |	|	|	4.50
19.250	0.56	0.89	0.637	| I O |	|	|	4.49
19.333	0.65	0.89	0.635	| IO |	|	|	4.48
19.417	0.73	0.89	0.633	| IO |	|	|	4.47
19.500	0.75	0.89	0.632	| IO |	|	|	4.47
19.583	0.68	0.89	0.631	| IO |	|	|	4.47
19.667	0.60	0.89	0.630	| I O |	|	|	4.46
19.750	0.58	0.89	0.627	| I O |	|	|	4.45
19.833	0.50	0.89	0.625	| I O |	|	|	4.44
19.917	0.41	0.89	0.622	| I O |	|	|	4.43
20.000	0.39	0.89	0.619	|I O |	|	|	4.42
20.083	0.46	0.89	0.616	| I O |	|	|	4.41
20.167	0.54	0.89	0.613	| I O |	|	|	4.40
20.250	0.56	0.89	0.611	| I O |	|	|	4.39
20.333	0.57	0.89	0.608	| I O |	|	|	4.38
20.417	0.57	0.89	0.606	| I O |	|	|	4.37
20.500	0.57	0.89	0.604	| I O |	|	|	4.36
20.583	0.57	0.89	0.602	| I O |	|	|	4.35
20.667	0.57	0.89	0.600	| I O |	|	|	4.34
20.750	0.57	0.89	0.597	| I O |	|	|	4.34
20.833	0.50	0.89	0.595	| I O |	|	|	4.33
20.917	0.41	0.89	0.592	| I O |	|	|	4.32
21.000	0.39	0.89	0.589	|I O |	|	|	4.30
21.083	0.46	0.89	0.585	| I O |	|	|	4.29
21.167	0.54	0.89	0.583	| I O |	|	|	4.28
21.250	0.56	0.89	0.580	| I O |	|	|	4.27
21.333	0.49	0.89	0.578	| I O |	|	|	4.26

21.417	0.41	0.89	0.575	| I O	|	|	|	4.25
21.500	0.39	0.89	0.571	|I O	|	|	|	4.24
21.583	0.46	0.89	0.568	| I O	|	|	|	4.22
21.667	0.54	0.89	0.566	| I O	|	|	|	4.21
21.750	0.56	0.89	0.563	| I O	|	|	|	4.20
21.833	0.49	0.89	0.561	| I O	|	|	|	4.20
21.917	0.41	0.89	0.558	| I O	|	|	|	4.18
22.000	0.39	0.89	0.554	|I O	|	|	|	4.17
22.083	0.46	0.89	0.551	| I O	|	|	|	4.16
22.167	0.54	0.89	0.549	| I O	|	|	|	4.15
22.250	0.56	0.89	0.546	| I O	|	|	|	4.14
22.333	0.49	0.89	0.544	| I O	|	|	|	4.13
22.417	0.41	0.89	0.541	| I O	|	|	|	4.12
22.500	0.39	0.89	0.537	|I O	|	|	|	4.11
22.583	0.39	0.89	0.534	|I O	|	|	|	4.09
22.667	0.38	0.89	0.530	|I O	|	|	|	4.08
22.750	0.38	0.89	0.527	|I O	|	|	|	4.07
22.833	0.38	0.89	0.523	|I O	|	|	|	4.05
22.917	0.38	0.89	0.520	|I O	|	|	|	4.04
23.000	0.38	0.89	0.516	|I O	|	|	|	4.02
23.083	0.38	0.89	0.513	|I O	|	|	|	4.01
23.167	0.38	0.89	0.509	|I O	|	|	|	4.00
23.250	0.38	0.89	0.506	|I O	|	|	|	3.98
23.333	0.38	0.89	0.502	|I O	|	|	|	3.97
23.417	0.38	0.89	0.499	|I O	|	|	|	3.96
23.500	0.38	0.89	0.495	|I O	|	|	|	3.94
23.583	0.38	0.89	0.492	|I O	|	|	|	3.93
23.667	0.38	0.89	0.488	|I O	|	|	|	3.92
23.750	0.38	0.89	0.485	|I O	|	|	|	3.90
23.833	0.38	0.89	0.481	|I O	|	|	|	3.89
23.917	0.38	0.89	0.478	|I O	|	|	|	3.88
24.000	0.38	0.89	0.474	|I O	|	|	|	3.86
24.083	0.23	0.89	0.470	|I O	|	|	|	3.85
24.167	0.06	0.89	0.465	I O	|	|	|	3.83
24.250	0.02	0.89	0.459	I O	|	|	|	3.81
24.333	0.01	0.89	0.453	I O	|	|	|	3.78
24.417	0.00	0.89	0.447	I O	|	|	|	3.76
24.500	0.00	0.89	0.441	I O	|	|	|	3.74
24.583	0.00	0.89	0.435	I O	|	|	|	3.71
24.667	0.00	0.89	0.429	I O	|	|	|	3.69
24.750	0.00	0.89	0.423	I O	|	|	|	3.66
24.833	0.00	0.89	0.417	I O	|	|	|	3.64
24.917	0.00	0.89	0.410	I O	|	|	|	3.62
25.000	0.00	0.89	0.404	I O	|	|	|	3.59
25.083	0.00	0.89	0.398	I O	|	|	|	3.57
25.167	0.00	0.89	0.392	I O	|	|	|	3.55
25.250	0.00	0.89	0.386	I O	|	|	|	3.52
25.333	0.00	0.89	0.380	I O	|	|	|	3.50
25.417	0.00	0.89	0.374	I O	|	|	|	3.47
25.500	0.00	0.89	0.368	I O	|	|	|	3.45
25.583	0.00	0.89	0.361	I O	|	|	|	3.42
25.667	0.00	0.89	0.355	I O	|	|	|	3.40
25.750	0.00	0.89	0.349	I O	|	|	|	3.37
25.833	0.00	0.89	0.343	I O	|	|	|	3.35
25.917	0.00	0.89	0.337	I O	|	|	|	3.32
26.000	0.00	0.89	0.331	I O	|	|	|	3.29
26.083	0.00	0.89	0.325	I O	|	|	|	3.27
26.167	0.00	0.89	0.319	I O	|	|	|	3.24
26.250	0.00	0.89	0.312	I O	|	|	|	3.22
26.333	0.00	0.89	0.306	I O	|	|	|	3.19
26.417	0.00	0.89	0.300	I O	|	|	|	3.17
26.500	0.00	0.89	0.294	I O	|	|	|	3.14
26.583	0.00	0.89	0.288	I O	|	|	|	3.12
26.667	0.00	0.89	0.282	I O	|	|	|	3.09
26.750	0.00	0.89	0.276	I O	|	|	|	3.07
26.833	0.00	0.89	0.269	I O	|	|	|	3.04

26.917	0.00	0.89	0.263	I	O	|	|	|	3.01
27.000	0.00	0.89	0.257	I	O	|	|	|	2.97
27.083	0.00	0.89	0.251	I	O	|	|	|	2.89
27.167	0.00	0.89	0.245	I	O	|	|	|	2.81
27.250	0.00	0.89	0.239	I	O	|	|	|	2.74
27.333	0.00	0.89	0.233	I	O	|	|	|	2.66
27.417	0.00	0.89	0.227	I	O	|	|	|	2.58
27.500	0.00	0.89	0.220	I	O	|	|	|	2.51
27.583	0.00	0.89	0.214	I	O	|	|	|	2.43
27.667	0.00	0.89	0.208	I	O	|	|	|	2.35
27.750	0.00	0.89	0.202	I	O	|	|	|	2.28
27.833	0.00	0.89	0.196	I	O	|	|	|	2.20
27.917	0.00	0.89	0.190	I	O	|	|	|	2.12
28.000	0.00	0.89	0.184	I	O	|	|	|	2.05
28.083	0.00	0.89	0.178	I	O	|	|	|	1.97
28.167	0.00	0.89	0.171	I	O	|	|	|	1.90
28.250	0.00	0.89	0.165	I	O	|	|	|	1.84
28.333	0.00	0.89	0.159	I	O	|	|	|	1.77
28.417	0.00	0.89	0.153	I	O	|	|	|	1.70
28.500	0.00	0.89	0.147	I	O	|	|	|	1.63
28.583	0.00	0.89	0.141	I	O	|	|	|	1.56
28.667	0.00	0.89	0.135	I	O	|	|	|	1.50
28.750	0.00	0.89	0.129	I	O	|	|	|	1.43
28.833	0.00	0.89	0.122	I	O	|	|	|	1.36
28.917	0.00	0.89	0.116	I	O	|	|	|	1.29
29.000	0.00	0.89	0.110	I	O	|	|	|	1.22
29.083	0.00	0.89	0.104	I	O	|	|	|	1.16
29.167	0.00	0.89	0.098	I	O	|	|	|	1.09
29.250	0.00	0.89	0.092	I	O	|	|	|	1.02
29.333	0.00	0.85	0.086	I	O	|	|	|	0.95
29.417	0.00	0.79	0.080	I	O	|	|	|	0.89
29.500	0.00	0.74	0.075	I	O	|	|	|	0.83
29.583	0.00	0.69	0.070	I	O	|	|	|	0.78
29.667	0.00	0.65	0.065	I	O	|	|	|	0.73
29.750	0.00	0.60	0.061	I	O	|	|	|	0.68
29.833	0.00	0.56	0.057	I	O	|	|	|	0.63
29.917	0.00	0.53	0.053	I	O	|	|	|	0.59
30.000	0.00	0.49	0.050	I	O	|	|	|	0.55
30.083	0.00	0.46	0.046	I	O	|	|	|	0.52
30.167	0.00	0.43	0.043	I	O	|	|	|	0.48
30.250	0.00	0.40	0.041	I	O	|	|	|	0.45
30.333	0.00	0.37	0.038	I	O	|	|	|	0.42
30.417	0.00	0.35	0.035	I	O	|	|	|	0.39
30.500	0.00	0.33	0.033	I	O	|	|	|	0.37
30.583	0.00	0.31	0.031	I	O	|	|	|	0.34
30.667	0.00	0.29	0.029	I	O	|	|	|	0.32
30.750	0.00	0.27	0.027	I	O	|	|	|	0.30
30.833	0.00	0.25	0.025	I	O	|	|	|	0.28
30.917	0.00	0.23	0.023	I	O	|	|	|	0.26
31.000	0.00	0.22	0.022	I	O	|	|	|	0.24
31.083	0.00	0.20	0.021	O		|	|	|	0.23
31.167	0.00	0.19	0.019	O		|	|	|	0.21
31.250	0.00	0.18	0.018	O		|	|	|	0.20
31.333	0.00	0.17	0.017	O		|	|	|	0.19
31.417	0.00	0.15	0.016	O		|	|	|	0.17
31.500	0.00	0.14	0.015	O		|	|	|	0.16
31.583	0.00	0.13	0.014	O		|	|	|	0.15
31.667	0.00	0.13	0.013	O		|	|	|	0.14
31.750	0.00	0.12	0.012	O		|	|	|	0.13
31.833	0.00	0.11	0.011	O		|	|	|	0.12
31.917	0.00	0.10	0.010	O		|	|	|	0.12
32.000	0.00	0.10	0.010	O		|	|	|	0.11
32.083	0.00	0.09	0.009	O		|	|	|	0.10
32.167	0.00	0.08	0.008	O		|	|	|	0.09
32.250	0.00	0.08	0.008	O		|	|	|	0.09
32.333	0.00	0.07	0.007	O		|	|	|	0.08

32.417	0.00	0.07	0.007	O	|	|	|	|	0.08
32.500	0.00	0.06	0.006	O	|	|	|	|	0.07
32.583	0.00	0.06	0.006	O	|	|	|	|	0.07
32.667	0.00	0.06	0.006	O	|	|	|	|	0.06
32.750	0.00	0.05	0.005	O	|	|	|	|	0.06
32.833	0.00	0.05	0.005	O	|	|	|	|	0.05
32.917	0.00	0.05	0.005	O	|	|	|	|	0.05
33.000	0.00	0.04	0.004	O	|	|	|	|	0.05
33.083	0.00	0.04	0.004	O	|	|	|	|	0.04
33.167	0.00	0.04	0.004	O	|	|	|	|	0.04
33.250	0.00	0.03	0.003	O	|	|	|	|	0.04
33.333	0.00	0.03	0.003	O	|	|	|	|	0.04
33.417	0.00	0.03	0.003	O	|	|	|	|	0.03
33.500	0.00	0.03	0.003	O	|	|	|	|	0.03
33.583	0.00	0.03	0.003	O	|	|	|	|	0.03
33.667	0.00	0.02	0.002	O	|	|	|	|	0.03
33.750	0.00	0.02	0.002	O	|	|	|	|	0.03
33.833	0.00	0.02	0.002	O	|	|	|	|	0.02
33.917	0.00	0.02	0.002	O	|	|	|	|	0.02
34.000	0.00	0.02	0.002	O	|	|	|	|	0.02
34.083	0.00	0.02	0.002	O	|	|	|	|	0.02
34.167	0.00	0.02	0.002	O	|	|	|	|	0.02
34.250	0.00	0.02	0.002	O	|	|	|	|	0.02
34.333	0.00	0.01	0.001	O	|	|	|	|	0.02
34.417	0.00	0.01	0.001	O	|	|	|	|	0.01
34.500	0.00	0.01	0.001	O	|	|	|	|	0.01
34.583	0.00	0.01	0.001	O	|	|	|	|	0.01
34.667	0.00	0.01	0.001	O	|	|	|	|	0.01
34.750	0.00	0.01	0.001	O	|	|	|	|	0.01
34.833	0.00	0.01	0.001	O	|	|	|	|	0.01
34.917	0.00	0.01	0.001	O	|	|	|	|	0.01
35.000	0.00	0.01	0.001	O	|	|	|	|	0.01
35.083	0.00	0.01	0.001	O	|	|	|	|	0.01
35.167	0.00	0.01	0.001	O	|	|	|	|	0.01
35.250	0.00	0.01	0.001	O	|	|	|	|	0.01
35.333	0.00	0.01	0.001	O	|	|	|	|	0.01
35.417	0.00	0.01	0.001	O	|	|	|	|	0.01
35.500	0.00	0.01	0.001	O	|	|	|	|	0.01
35.583	0.00	0.01	0.001	O	|	|	|	|	0.01
35.667	0.00	0.00	0.000	O	|	|	|	|	0.01
35.750	0.00	0.00	0.000	O	|	|	|	|	0.01
35.833	0.00	0.00	0.000	O	|	|	|	|	0.00
35.917	0.00	0.00	0.000	O	|	|	|	|	0.00
36.000	0.00	0.00	0.000	O	|	|	|	|	0.00
36.083	0.00	0.00	0.000	O	|	|	|	|	0.00
36.167	0.00	0.00	0.000	O	|	|	|	|	0.00
36.250	0.00	0.00	0.000	O	|	|	|	|	0.00
36.333	0.00	0.00	0.000	O	|	|	|	|	0.00
36.417	0.00	0.00	0.000	O	|	|	|	|	0.00
36.500	0.00	0.00	0.000	O	|	|	|	|	0.00
36.583	0.00	0.00	0.000	O	|	|	|	|	0.00
36.667	0.00	0.00	0.000	O	|	|	|	|	0.00
36.750	0.00	0.00	0.000	O	|	|	|	|	0.00
36.833	0.00	0.00	0.000	O	|	|	|	|	0.00
36.917	0.00	0.00	0.000	O	|	|	|	|	0.00
37.000	0.00	0.00	0.000	O	|	|	|	|	0.00
37.083	0.00	0.00	0.000	O	|	|	|	|	0.00
37.167	0.00	0.00	0.000	O	|	|	|	|	0.00
37.250	0.00	0.00	0.000	O	|	|	|	|	0.00
37.333	0.00	0.00	0.000	O	|	|	|	|	0.00
37.417	0.00	0.00	0.000	O	|	|	|	|	0.00
37.500	0.00	0.00	0.000	O	|	|	|	|	0.00
37.583	0.00	0.00	0.000	O	|	|	|	|	0.00

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

Number of intervals = 451

```
               Time interval =    5.0 (Min.)
               Maximum/Peak flow rate =        4.746 (CFS)
               Total volume =       3.944 (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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APPENDIX H

RIVERSIDE COUNTY HYDROLOGY

REFERENCE DATA

Map Scale: 1:2,050 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

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 1:15,800.

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: Western Riverside Area, California
Survey Area Data: Version 14, Sep 13, 2021

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

Date(s) aerial images were photographed: May 25, 2019—Jun 25, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AnC	Arlington fine sandy loam, 2 to 8 percent slopes	C	0.2	1.3%
AoC	Arlington fine sandy loam, deep, 2 to 8 percent slopes	B	5.0	32.3%
GyC2	Greenfield sandy loam, 2 to 8 percent slopes, eroded	A	3.9	24.8%
HgA	Hanford fine sandy loam, 0 to 2 percent slopes	A	6.5	41.5%
Totals for Area of Interest			**15.5**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

NOAA Atlas 14, Volume 6, Version 2
Location name: Perris, California, USA*
Latitude: 33.8567°, Longitude: -117.2597°
Elevation: 1524.71 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_&_aerials

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	**0.087** (0.072-0.105)	**0.120** (0.100-0.145)	**0.166** (0.138-0.201)	**0.204** (0.168-0.250)	**0.259** (0.206-0.328)	**0.302** (0.236-0.392)	**0.348** (0.265-0.463)	**0.397** (0.293-0.544)	**0.467** (0.330-0.667)	**0.524** (0.357-0.776)
10-min	**0.124** (0.104-0.150)	**0.172** (0.144-0.208)	**0.238** (0.198-0.288)	**0.293** (0.241-0.358)	**0.371** (0.295-0.470)	**0.433** (0.338-0.561)	**0.499** (0.379-0.663)	**0.569** (0.420-0.779)	**0.669** (0.473-0.957)	**0.750** (0.512-1.11)
15-min	**0.150** (0.126-0.182)	**0.208** (0.174-0.252)	**0.287** (0.239-0.349)	**0.354** (0.292-0.433)	**0.448** (0.357-0.568)	**0.524** (0.408-0.679)	**0.603** (0.459-0.802)	**0.689** (0.508-0.943)	**0.809** (0.572-1.16)	**0.908** (0.619-1.35)
30-min	**0.241** (0.201-0.291)	**0.334** (0.279-0.404)	**0.461** (0.383-0.559)	**0.567** (0.468-0.695)	**0.719** (0.573-0.911)	**0.840** (0.655-1.09)	**0.967** (0.735-1.29)	**1.10** (0.815-1.51)	**1.30** (0.917-1.86)	**1.46** (0.992-2.15)
60-min	**0.328** (0.274-0.397)	**0.455** (0.380-0.551)	**0.628** (0.522-0.762)	**0.773** (0.638-0.947)	**0.979** (0.780-1.24)	**1.14** (0.892-1.48)	**1.32** (1.00-1.75)	**1.51** (1.11-2.06)	**1.77** (1.25-2.53)	**1.98** (1.35-2.94)
2-hr	**0.490** (0.410-0.593)	**0.651** (0.543-0.787)	**0.865** (0.720-1.05)	**1.04** (0.861-1.28)	**1.29** (1.03-1.64)	**1.49** (1.16-1.93)	**1.69** (1.28-2.24)	**1.90** (1.40-2.60)	**2.19** (1.55-3.13)	**2.43** (1.65-3.59)
3-hr	**0.605** (0.506-0.731)	**0.791** (0.661-0.958)	**1.04** (0.865-1.26)	**1.24** (1.03-1.52)	**1.53** (1.22-1.93)	**1.75** (1.36-2.26)	**1.97** (1.50-2.62)	**2.21** (1.63-3.02)	**2.53** (1.79-3.62)	**2.79** (1.90-4.13)
6-hr	**0.847** (0.708-1.02)	**1.10** (0.915-1.33)	**1.43** (1.19-1.73)	**1.69** (1.40-2.07)	**2.06** (1.64-2.61)	**2.35** (1.83-3.04)	**2.64** (2.00-3.50)	**2.94** (2.17-4.02)	**3.34** (2.36-4.78)	**3.66** (2.50-5.43)
12-hr	**1.10** (0.917-1.33)	**1.44** (1.20-1.74)	**1.88** (1.57-2.28)	**2.24** (1.85-2.75)	**2.74** (2.18-3.47)	**3.11** (2.43-4.03)	**3.50** (2.66-4.65)	**3.89** (2.87-5.33)	**4.43** (3.13-6.33)	**4.84** (3.30-7.18)
24-hr	**1.41** (1.25-1.62)	**1.89** (1.67-2.18)	**2.51** (2.21-2.91)	**3.02** (2.64-3.52)	**3.71** (3.14-4.47)	**4.23** (3.51-5.21)	**4.77** (3.87-6.01)	**5.32** (4.20-6.89)	**6.07** (4.60-8.18)	**6.65** (4.87-9.27)
2-day	**1.64** (1.45-1.89)	**2.23** (1.97-2.57)	**3.01** (2.65-3.48)	**3.65** (3.19-4.25)	**4.51** (3.82-5.44)	**5.18** (4.30-6.38)	**5.87** (4.75-7.39)	**6.58** (5.18-8.51)	**7.54** (5.71-10.2)	**8.28** (6.07-11.5)
3-day	**1.74** (1.54-2.01)	**2.40** (2.12-2.77)	**3.27** (2.88-3.78)	**3.98** (3.48-4.64)	**4.96** (4.20-5.97)	**5.72** (4.74-7.03)	**6.49** (5.26-8.18)	**7.30** (5.75-9.45)	**8.40** (6.36-11.3)	**9.27** (6.79-12.9)
4-day	**1.88** (1.66-2.16)	**2.60** (2.30-3.01)	**3.57** (3.15-4.14)	**4.37** (3.82-5.10)	**5.47** (4.63-6.59)	**6.32** (5.25-7.78)	**7.20** (5.83-9.07)	**8.12** (6.40-10.5)	**9.37** (7.10-12.6)	**10.4** (7.59-14.4)
7-day	**2.04** (1.80-2.35)	**2.87** (2.54-3.32)	**4.00** (3.52-4.63)	**4.93** (4.31-5.75)	**6.22** (5.26-7.50)	**7.23** (5.99-8.89)	**8.27** (6.70-10.4)	**9.35** (7.37-12.1)	**10.8** (8.22-14.6)	**12.0** (8.81-16.8)
10-day	**2.09** (1.85-2.41)	**2.98** (2.64-3.44)	**4.19** (3.69-4.85)	**5.19** (4.54-6.06)	**6.59** (5.58-7.94)	**7.69** (6.38-9.45)	**8.82** (7.15-11.1)	**10.0** (7.90-13.0)	**11.7** (8.83-15.7)	**13.0** (9.50-18.1)
20-day	**2.38** (2.10-2.74)	**3.45** (3.04-3.98)	**4.92** (4.33-5.69)	**6.16** (5.39-7.19)	**7.93** (6.72-9.56)	**9.35** (7.76-11.5)	**10.8** (8.78-13.7)	**12.4** (9.79-16.1)	**14.6** (11.1-19.7)	**16.4** (12.0-22.9)
30-day	**2.69** (2.38-3.11)	**3.90** (3.45-4.51)	**5.60** (4.93-6.48)	**7.05** (6.17-8.23)	**9.15** (7.75-11.0)	**10.9** (9.01-13.4)	**12.7** (10.3-16.0)	**14.6** (11.5-18.9)	**17.4** (13.1-23.4)	**19.6** (14.3-27.3)
45-day	**3.12** (2.76-3.60)	**4.48** (3.96-5.17)	**6.42** (5.65-7.43)	**8.11** (7.09-9.46)	**10.6** (8.97-12.8)	**12.7** (10.5-15.6)	**14.9** (12.0-18.7)	**17.3** (13.6-22.3)	**20.7** (15.7-27.9)	**23.6** (17.3-32.8)
60-day	**3.52** (3.11-4.06)	**4.98** (4.40-5.75)	**7.09** (6.25-8.21)	**8.97** (7.84-10.5)	**11.8** (9.96-14.2)	**14.1** (11.7-17.4)	**16.7** (13.5-21.0)	**19.4** (15.3-25.2)	**23.5** (17.8-31.7)	**26.9** (19.7-37.5)

[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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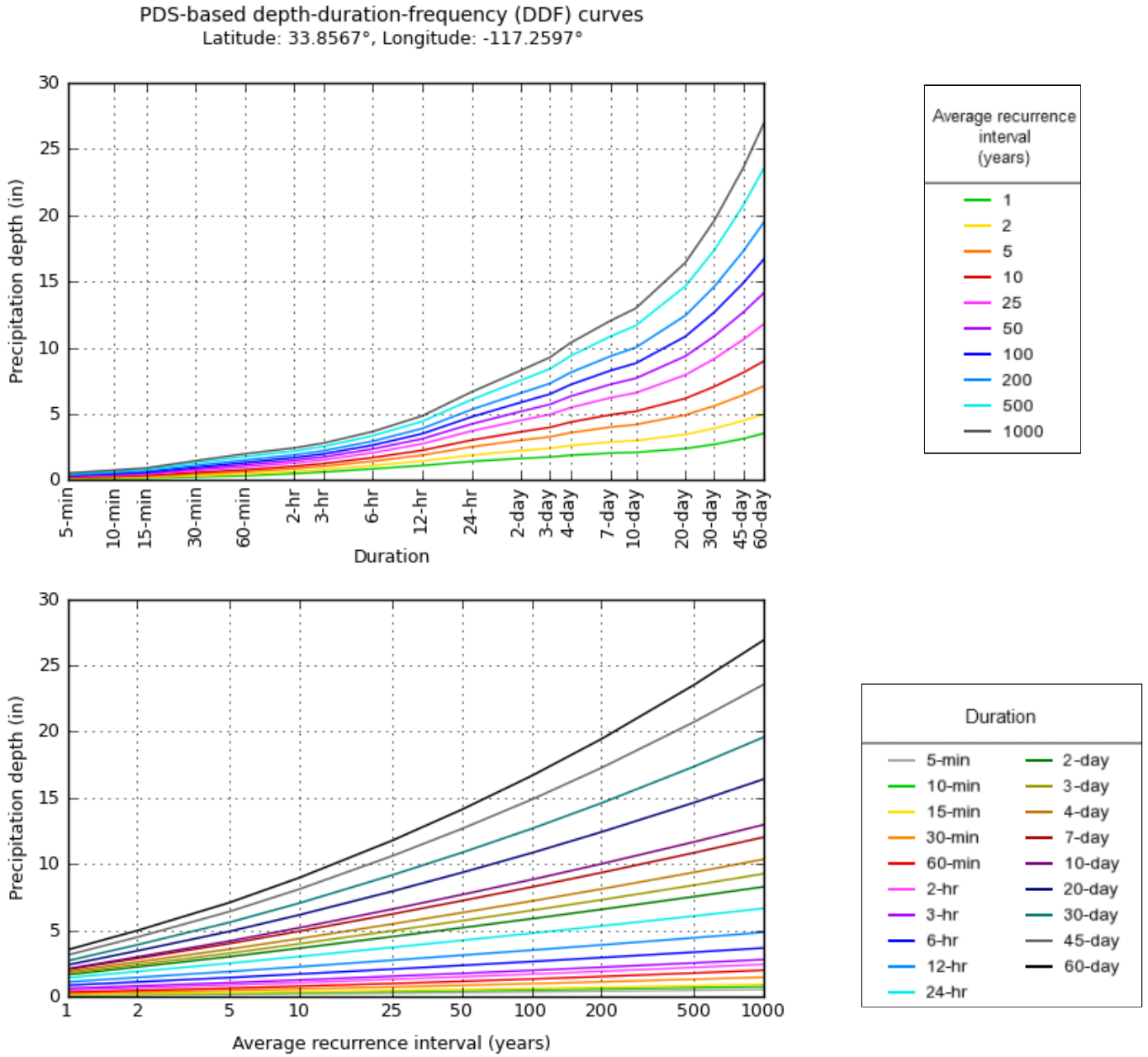
PF graphical



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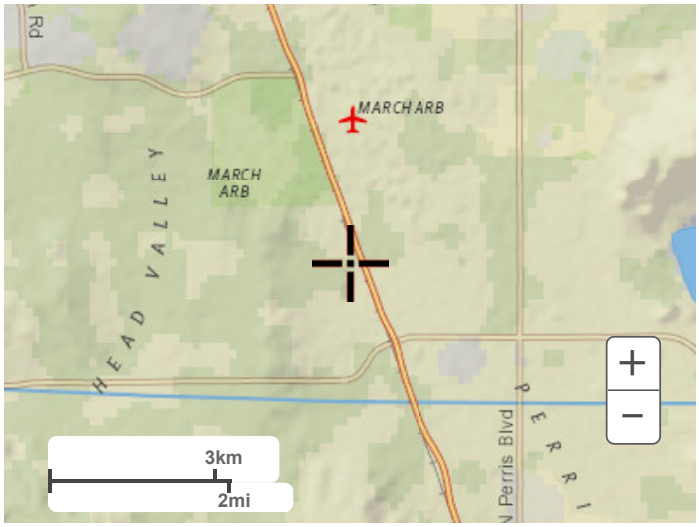
Maps & aerials

Small scale terrain



Large scale terrain

Large scale map

Large scale aerial

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RUNOFF INDEX NUMBERS OF HYDROLOGIC SOIL-COVER COMPLEXES FOR PERVIOUS AREAS-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group A	B	C	D
NATURAL COVERS -					
Barren (Rockland, eroded and graded land)		78	86	91	93
Chaparrel, Broadleaf (Manzonita, ceanothus and scrub oak)	Poor	53	70	80	85
	Fair	40	63	75	81
	Good	31	57	71	78
Chaparrel, Narrowleaf (Chamise and redshank)	Poor	71	82	88	91
	Fair	55	72	81	86
Grass, Annual or Perennial	Poor	67	78	86	89
	Fair	50	69	79	84
	Good	38	61	74	80
Meadows or Cienegas (Areas with seasonally high water table, principal vegetation is sod forming grass)	Poor	63	77	85	88
	Fair	51	70	80	84
	Good	30	58	72	78
Open Brush (Soft wood shrubs - buckwheat, sage, etc.)	Poor	62	76	84	88
	Fair	46	66	77	83
	Good	41	63	75	81
Woodland (Coniferous or broadleaf trees predominate. Canopy density is at least 50 percent)	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	28	55	70	77
Woodland, Grass (Coniferous or broadleaf trees with canopy density from 20 to 50 percent)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
URBAN COVERS -					
Residential or Commercial Landscaping (Lawn, shrubs, etc.)	Good	32	56	69	75
Turf (Irrigated and mowed grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
AGRICULTURAL COVERS -					
Fallow (Land plowed but not tilled or seeded)		76	85	90	92

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RUNOFF INDEX NUMBERS FOR PERVIOUS AREAS

PLATE E-6.1 (1 of 2)

RUNOFF INDEX NUMBERS OF HYDROLOGIC SOIL-COVER COMPLEXES FOR PERVIOUS AREAS-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group A	B	C	D
AGRICULTURAL COVERS (cont.) -					
Legumes, Close Seeded (Alfalfa, sweetclover, timothy, etc.)	Poor	66	77	85	89
	Good	58	72	81	85
Orchards, Deciduous (Apples, apricots, pears, walnuts, etc.)		See Note 4			
Orchards, Evergreen (Citrus, avocados, etc.)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
Pasture, Dryland (Annual grasses)	Poor	67	78	86	89
	Fair	50	69	79	84
	Good	38	61	74	80
Pasture, Irrigated (Legumes and perennial grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
Row Crops (Field crops - tomatoes, sugar beets, etc.)	Poor	72	81	88	91
	Good	67	78	85	89
Small Grain (Wheat, oats, barley, etc.)	Poor	65	76	84	88
	Good	63	75	83	87
Vineyard		See Note 4			

Notes:

1. All runoff index (RI) numbers are for Antecedent Moisture Condition (AMC) II.

2. Quality of cover definitions:
   Poor-Heavily grazed or regularly burned areas. Less than 50 percent of the ground surface is protected by plant cover or brush and tree canopy.
   Fair-Moderate cover with 50 percent to 75 percent of the ground surface protected.
   Good-Heavy or dense cover with more than 75 percent of the ground surface protected.

3. See Plate C-2 for a detailed description of cover types.

4. Use runoff index numbers based on ground cover type. See discussion under "Cover Type Descriptions" on Plate C-2.

5. Reference Bibliography item 17.

ACTUAL IMPERVIOUS COVER

Land Use (1)	Range-Percent	Recommended Value For Average Conditions-Percent(2)
Natural or Agriculture	0 - 10	0
Single Family Residential: (3)		
40,000 S. F. (1 Acre) Lots	10 - 25	20
20,000 S. F. (½ Acre) Lots	30 - 45	40
7,200 - 10,000 S. F. Lots	45 - 55	50
Multiple Family Residential:		
Condominiums	45 - 70	65
Apartments	65 - 90	80
Mobile Home Park	60 - 85	75
Commercial, Downtown Business or Industrial	80 -100	90

Notes:

1. Land use should be based on ultimate development of the watershed. Long range master plans for the County and incorporated cities should be reviewed to insure reasonable land use assumptions.

2. Recommended values are based on average conditions which may not apply to a particular study area. The percentage impervious may vary greatly even on comparable sized lots due to differences in dwelling size, improvements, etc. Landscape practices should also be considered as it is common in some areas to use ornamental gravels underlain by impervious plastic materials in place of lawns and shrubs. A field investigation of a study area should always be made, and a review of aerial photos, where available may assist in estimating the percentage of impervious cover in developed areas.

3. For typical horse ranch subdivisions increase impervious area 5 percent over the values recommended in the table above.

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IMPERVIOUS COVER FOR DEVELOPED AREAS

PLATE D-5.6