

PRELIMINARY HYDROLOGY STUDY

SOUTH OF GOYA

Southeast Corner of Goya Avenue & Indian Street
Moreno Valley, California

PENxxxxx

LSTxxxxx

Prepared for:

Patton Development
41 Corporate Park #250
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RCE# C89859 Exp. 06.30.2023

Date Prepared: 03/16/23

TABLE OF CONTENTS

SECTIONS:

I INTRODUCTION

- 1.1 PURPOSE
- 1.2 PROJECT DESCRIPTION

II. FLOW VOLUMES

- 2.1 METHODOLOGY
- 2.2 DESIGN CRITERIA

III. SUMMARY

APPENDICES:

APPENDIX A: VICINITY MAP

APPENDIX B: REFERENCE RIVERSIDE COUNTY HYDROLOGY MANUAL PLATES

APPENDIX C: HYDROLOGY CALCULATIONS

- **C.1** RATIONAL METHOD POST DEVELOPMENT CALCULATIONS PER CIVILD
- **C.2** SYNTHETIC UNIT HYDROGRAPH CALCULATIONS PER CIVILD
- **C.3** BASIN SIZING CALCULATIONS PER HYDRAFLOW HYDROGRAPHS EXTENSION FOR AUTODESK CIVIL 3D

APPENDIX D: HYDROLOGY MAPS

APPENDIX E: BMP SIZING CALCULATIONS

APPENDIX F: HCOC APPLICABILITY MAP

SECTION I - INTRODUCTION

1.1 PURPOSE

This report presents the hydrologic analysis for the proposed development located at the southeast corner of Goya Avenue & Indian Street, in the City of Moreno Valley, County of Riverside, State of California. The main objective of this report was to analyze the post construction “peak” run-off quantities for the proposed development.

1.2 PROJECT DESCRIPTION

The project is located across APNs 316020020, 316020021, 316020022, 316020023, and 316020014 at the southeast corner of Goya Avenue and Indian St as shown in Appendix A. The existing 13.74-acre site consists of residential tracts. It generally slopes from northeast to southwest at a gradient of approximately 0.8%. No existing underground storm drain facilities exist near the site that is tributary to the project. The site is bordered by Goya Avenue to the north, Indian Street to the west, and Residential development to the south and east. Indian Street are existing improved streets to be widen to add curb and gutter. Along the project site frontage, Goya Avenue is an existing dirt road and is part of street improvements at 0.39-acre and street improvements for southern portion of Iris Avenue at 0.37-acre for the residential tracts site.

The developed site will be residential homes with open space. The site will be graded to generally follow the existing condition drainage patterns to minimize adverse effects to the current topography and minimize the use of import soil.

The basin and storm drain curb inlet will ensure the project detains up to the 100-year stormwater volume exceeding the pre-developed condition while restricting outflow up to the 100-year pre-developed flow rate for the proposed onsite development only. The basin will both detain and infiltrate the project’s onsite runoff as no underground storm drain facilities exist near the site.

The basin will operate as an extended detention: it will detain the onsite flows for the storm events specified herein while also acting as detention basin to treat the project's runoff. While the basin will be 5' deep with 1' of freeboard, it will act as a biotreatment detention basin as determined by the BMP calculation sheets herein. The basin will only store runoff in excess of this in order to attenuate runoff to the pre-development condition.

Please see the Hydrology Map in Appendix D for delineation.

SECTION II - FLOW VOLUMES

2.1 METHODOLOGY

This hydrology study was based on the Riverside County Flood Control and Water Conservation District (RCFC&WCD) Hydrology Manual dated April 1978. This manual allows the use of two methods: the Rational Method and the Synthetic Unit Hydrograph Method.

The Rational Method was used to determine peak flow rates for each tributary area for pipe sizing to ensure that capacity for the 10-year and 100-year storm events were met. The Synthetic Unit Hydrograph Method was used to calculate pre-developed and post-developed runoff volumes and peak flow rates for the 2, 5, 10, and 100-year storm events at durations of 1, 3, 6, and 24 hours.

Basin modeling was performed using the Hydraflow Hydrographs Extension for Autodesk Civil 3D 2022. Synthetic Unit Hydrograph Method storm events were input into the extension to simulate basin depths,

Post-Developed Impervious Calculation

Type	Area (SF)	Area (AC)	% of Total	% Imp.	Impervious Area (SF)	Impervious Area (AC)	Note
Residential Homes	270,934	6.22	45%	80%	270,934	6.2	80% impervious from RCFC&WCD Hydrology Manual Plate E-6.3
Open Space	234,045	5.37	39%	0%	0	0.0	
Residential Street & Sidewalk	93,578	2.14	16%	100%	93,578	2.1	
TOTAL	598,557	13.7				8.3	

Weighted % Impervious: 43%

Stormwater quality volumes were determined in the project water quality management plan (WQMP). See project WQMP for more information.

Please see Appendix C for Riverside County Approved CivilD Bonadiman Software Calculations as well as basin sizing calculations. See Appendix D: Hydrology Map for an illustration of drainage patterns, tributary sub areas, and storm drain pipes to convey runoff to the onsite basin.

2.2 DESIGN CRITERIA

Rational Method

Design Storm: 10 & 100-year

Soil Type: "B" (assumed for all areas).

Runoff Coefficients: A conservative on-site runoff coefficient of 0.90 was used for calculation of the post-developed runoff.

Synthetic Unit Hydrograph Method

Design Storms: 2, 5, 10, 100 year at 1, 3, 6, 24 hours

Antecedent Moisture Condition (AMC):

I (2 & 5-year)

II (10 & 100-year)

SECTION III - SUMMARY



Both the Rational Method and the Synthetic Unit Hydrograph Method were used to evaluate the hydraulic and hydrologic performance of the proposed development using the parameters described in Section 2.2. Peak runoff and storage for the development were calculated and are summarized in the following tables. The results of both calculations show that the proposed basin and storm drains are adequately sized to both convey and detain the runoff in excess of the pre-developed condition for the storm events indicated. Please see Appendices C & D for detailed calculations and locations of facilities.

Please note that Hydromodification and Hydrologic Conditions of Concern (HCOC) criteria do not apply to this project due to the downstream Canyon Lake sump. See the project WQMP for more information.

Rational Method Stormwater Calculations Summary

Condition	t_c	Q_{100}
Pre-Developed	23.91 min	17.17 CFS
Post-Developed	16.60 min	23.86 CFS

Synthetic Unit Hydrograph Method Stormwater Calculations Summary

Condition	$V_{100YR, 24HR}$	$Q_{100YR, 24HR}$
Pre-Developed Runoff	83,051 CF	6.15 CFS
Post-Developed Runoff (Onsite) entering basin	123,851 CF	4.75 CFS

Basin Fill Elevation Summary

Elevation	Note
1492.30 Top of basin	6' deep including 1.0' freeboard
1491.30 100-year water surface elevation	5' deep
1486.30 Bottom of Basin	

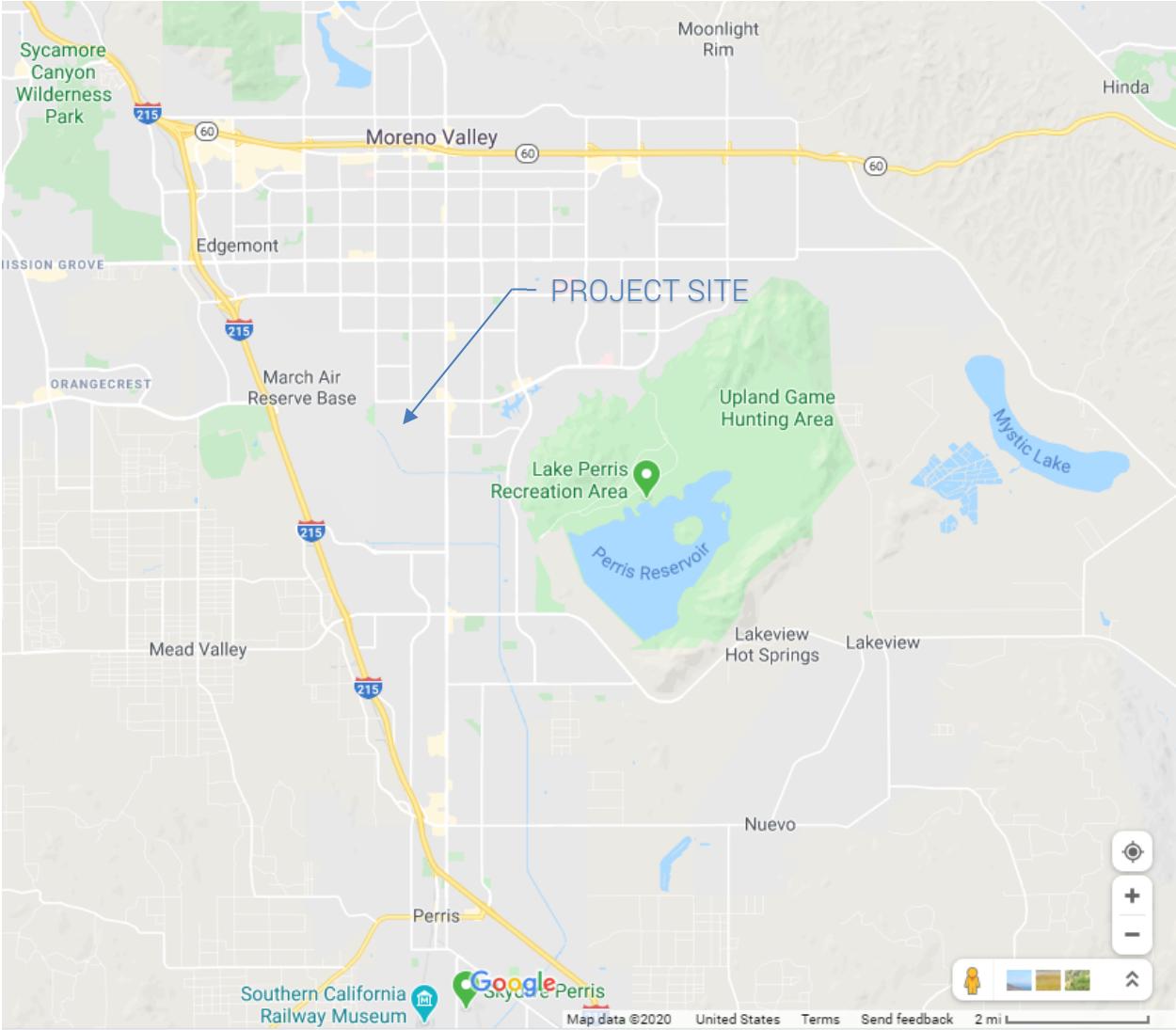
APPENDIX A

Vicinity Map



APPENDIX A

Vicinity Map



APPENDIX B

Reference Riverside County Hydrology Manual Plates

RAINFALL INTENSITY—INCHES PER HOUR

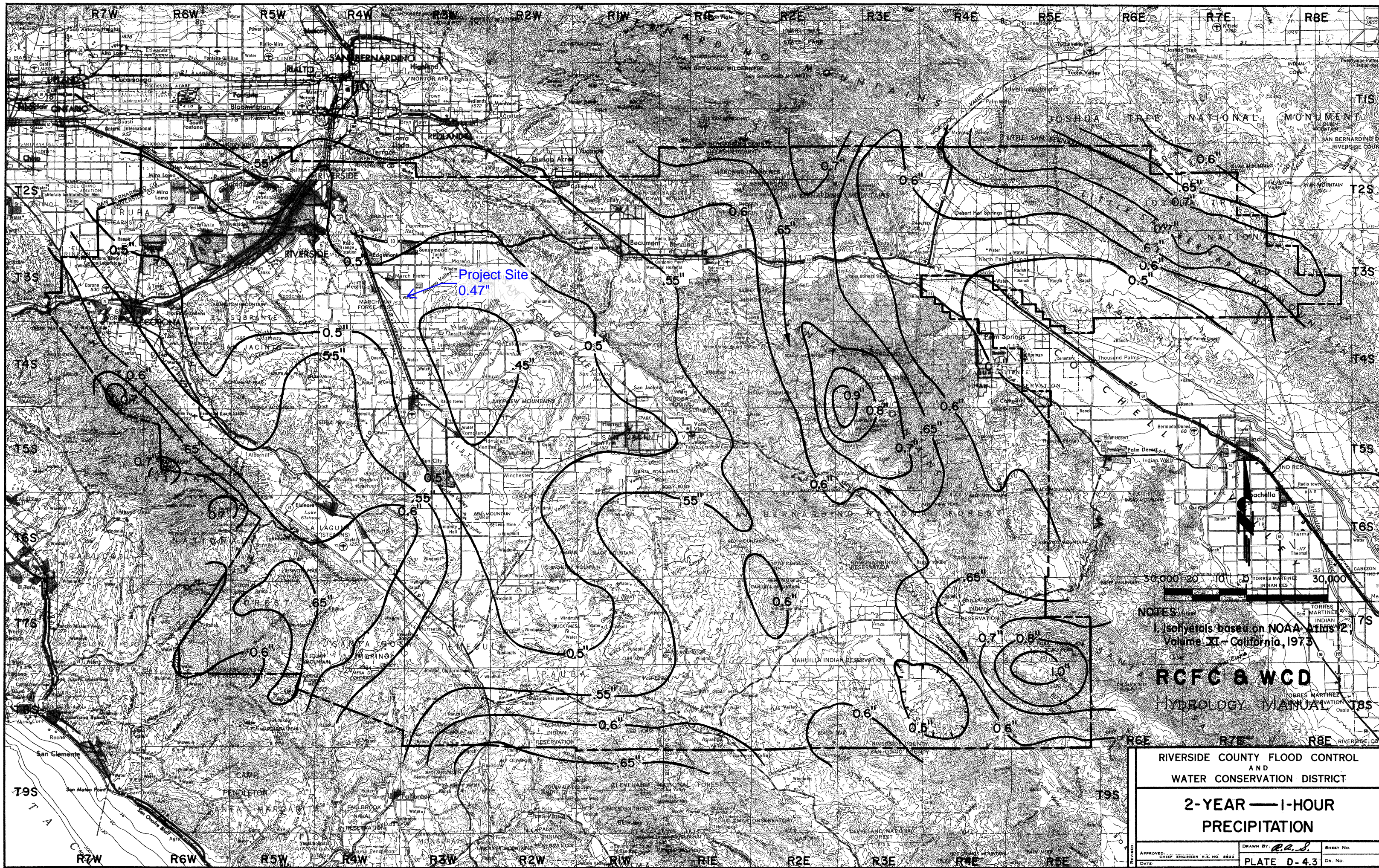
SUNNYMEAD - MORENO

WOODCREST

DURATION MINUTES	FREQUENCY		DURATION MINUTES	FREQUENCY	
	10 YEAR	100 YEAR		10 YEAR	100 YEAR
5	2.84	4.16	5	3.37	5.30
6	2.59	3.79	6	3.05	4.79
7	2.40	3.51	7	2.80	4.40
8	2.25	3.29	8	2.60	4.09
9	2.12	3.10	9	2.44	3.83
10	2.01	2.94	10	2.30	3.62
11	1.92	2.80	11	2.19	3.43
12	1.83	2.68	12	2.08	3.27
13	1.76	2.58	13	1.99	3.13
14	1.70	2.48	14	1.91	3.01
15	1.64	2.40	15	1.84	2.89
16	1.59	2.32	16	1.78	2.79
17	1.54	2.25	17	1.72	2.70
18	1.50	2.19	18	1.67	2.62
19	1.46	2.13	19	1.62	2.54
20	1.42	2.08	20	1.57	2.47
22	1.35	1.98	22	1.49	2.34
24	1.30	1.90	24	1.42	2.23
26	1.25	1.82	26	1.36	2.14
28	1.20	1.76	28	1.31	2.05
30	1.16	1.70	30	1.26	1.98
32	1.12	1.64	32	1.22	1.91
34	1.09	1.59	34	1.19	1.85
36	1.06	1.55	36	1.14	1.79
38	1.03	1.51	38	1.11	1.74
40	1.00	1.47	40	1.07	1.69
45	.95	1.39	45	1.01	1.58
50	.90	1.31	50	.95	1.49
55	.86	1.25	55	.90	1.42
60	.82	1.20	60	.86	1.35
65	.79	1.15	65	.82	1.29
70	.76	1.11	70	.79	1.24
75	.73	1.07	75	.76	1.19
80	.71	1.04	80	.73	1.15
85	.69	1.01	85	.71	1.11

SLOPE = .500

SLOPE = .550



NOTES:
 Isohyets based on NOAA Atlas 2,
 Volume XI - California, 1973



RCFC & WCD
 HYDROLOGY MANUAL

RIVERSIDE COUNTY FLOOD CONTROL
 AND
 WATER CONSERVATION DISTRICT
**2-YEAR — 1-HOUR
 PRECIPITATION**

APPROVED: _____ CHIEF ENGINEER R.E. NO. 8822	DRAWN BY: <i>P.L.S.</i>	SHEET NO. _____
DATE: _____	PLATE D-4.3	DR. NO. _____



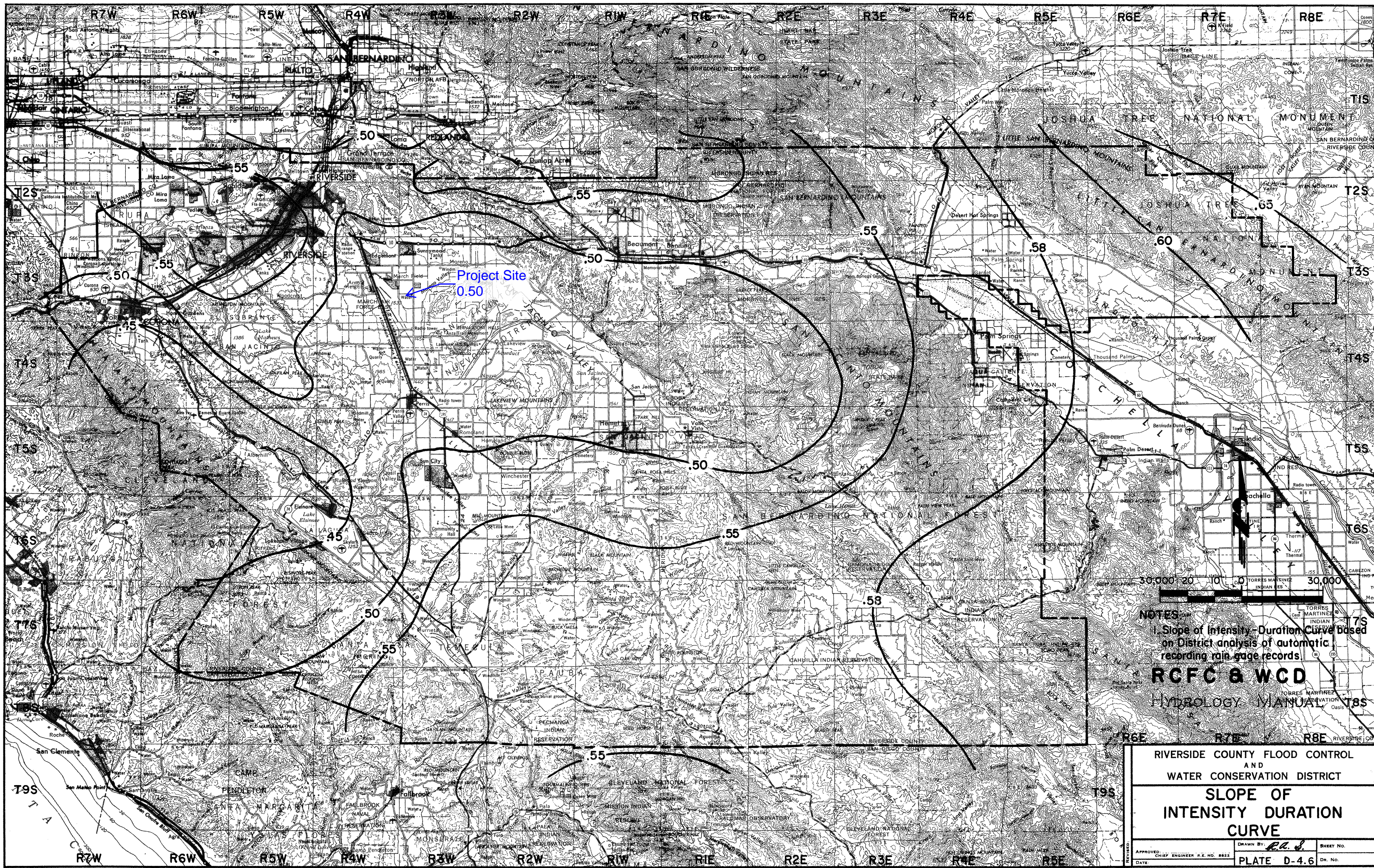
Project Site
1.2"



NOTES:
1 Isohyets based on NOAA Atlas
Volume XI - California, 1973

RCFC & WCD
HYDROLOGY MANUAL

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT		
100-YEAR — 1-HOUR PRECIPITATION		
APPROVED: DATE	CHIEF ENGINEER P.E. NO. 8822	DRAWN BY: <i>C.A.S.</i> SHEET NO.
DATE		PLATE D-4.4 DR. NO.



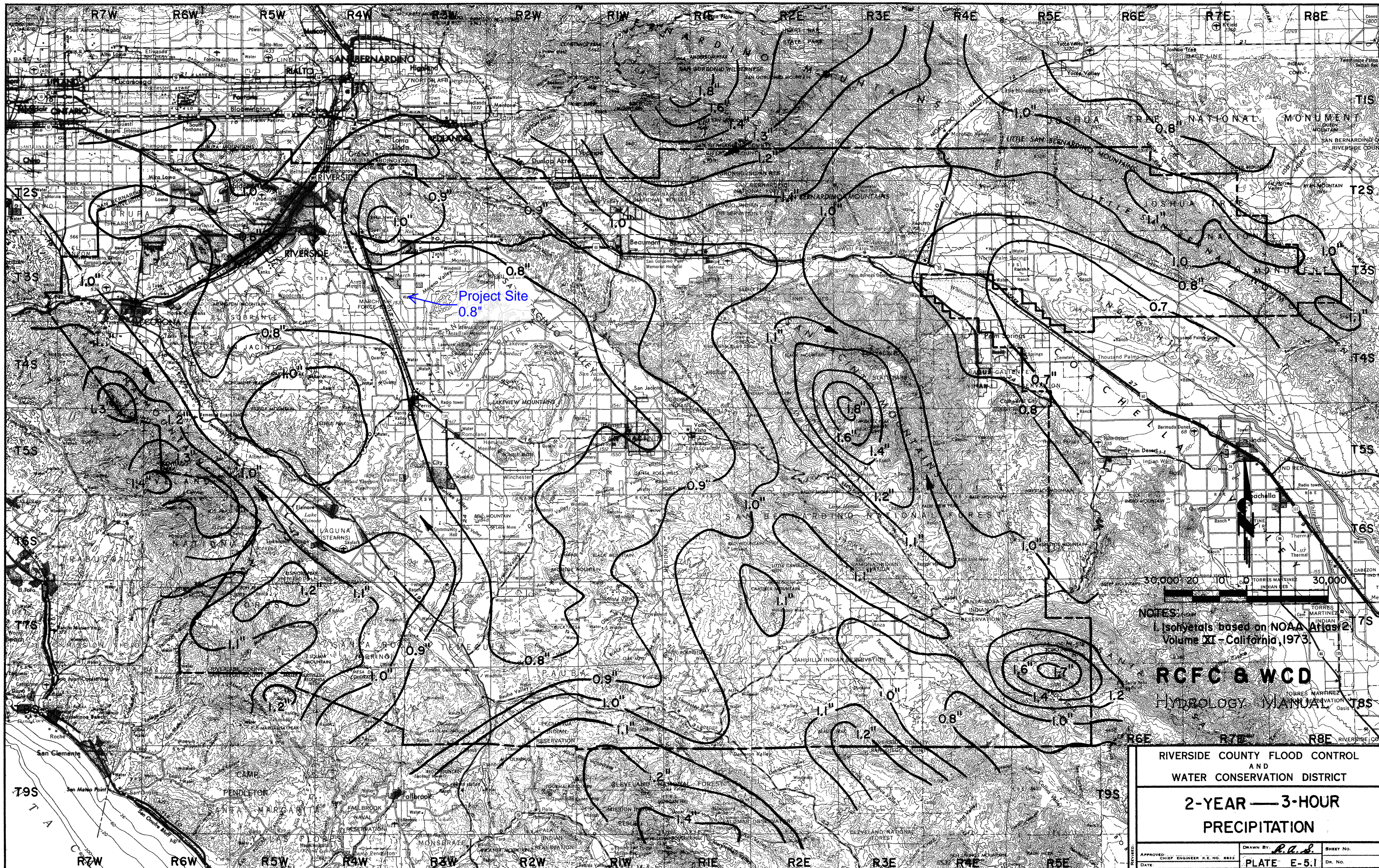
Project Site
0.50



NOTES:
1. Slope of Intensity-Duration Curve Based on District analysis of automatic recording rain-gage records.

RCFC & WCD
HYDROLOGY MANUAL

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT		
SLOPE OF INTENSITY DURATION CURVE		
APPROVED: DATE	CHIEF ENGINEER R.E. NO. 8822	DR. NO.
DRAWN BY: <i>R.C.S.</i>		SHEET NO.
PLATE D-4.6		DR. NO.

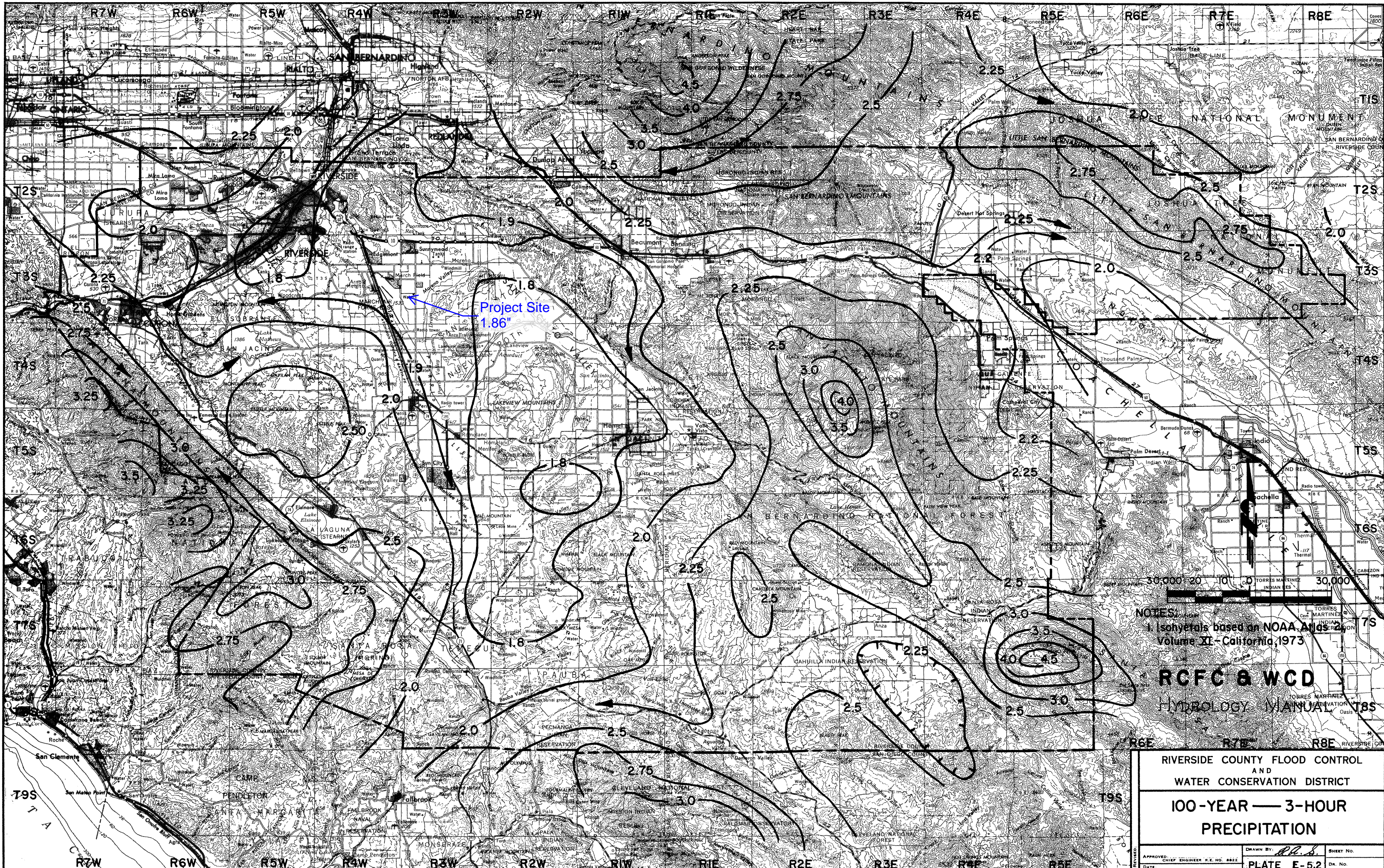


Project Site
0.8"

NOTES:
1. Isohyets based on NOAA Atlas 2,
Volume XI - California, 1973.

RCFC & WCD
HYDROLOGY MANUAL

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT		
2-YEAR — 3-HOUR PRECIPITATION		
APPROVED DATE	CHIEF ENGINEER R.E. NO. 8822	DRAWN BY: <i>R.A.L.</i> SHEET NO.
	PLATE E-5.1	DR. NO.



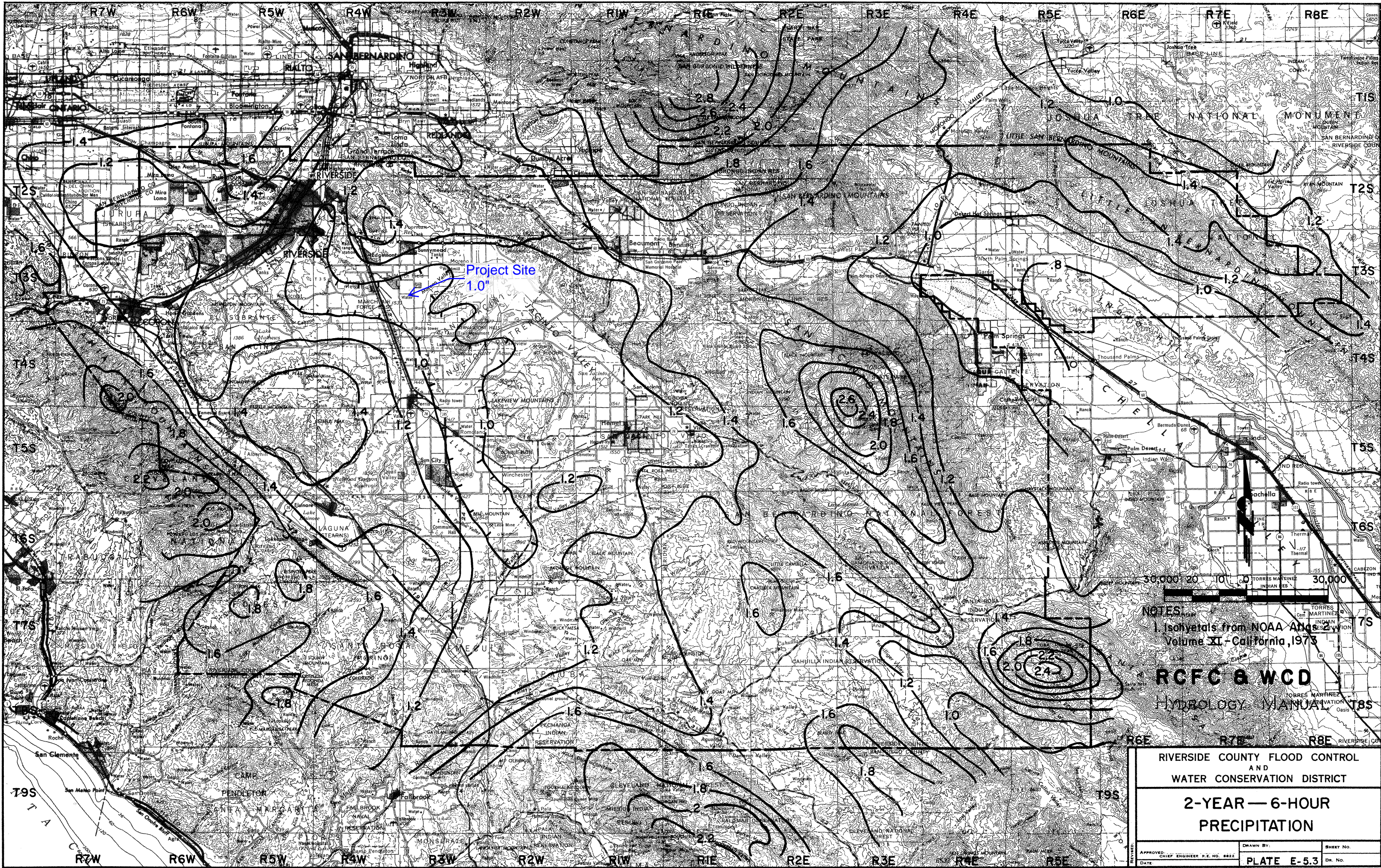
Project Site
1.86"



NOTES:
1 Isohyets based on NOAA Atlas 2
Volume XI - California, 1973

RCFC & WCD
HYDROLOGY MANUAL

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT		
100-YEAR — 3-HOUR PRECIPITATION		
APPROVED: _____ CHIEF ENGINEER R.E. NO. 8822	DRAWN BY: <i>RLB</i>	SHEET NO. _____
DATE: _____	PLATE E-5.2	DR. NO. _____

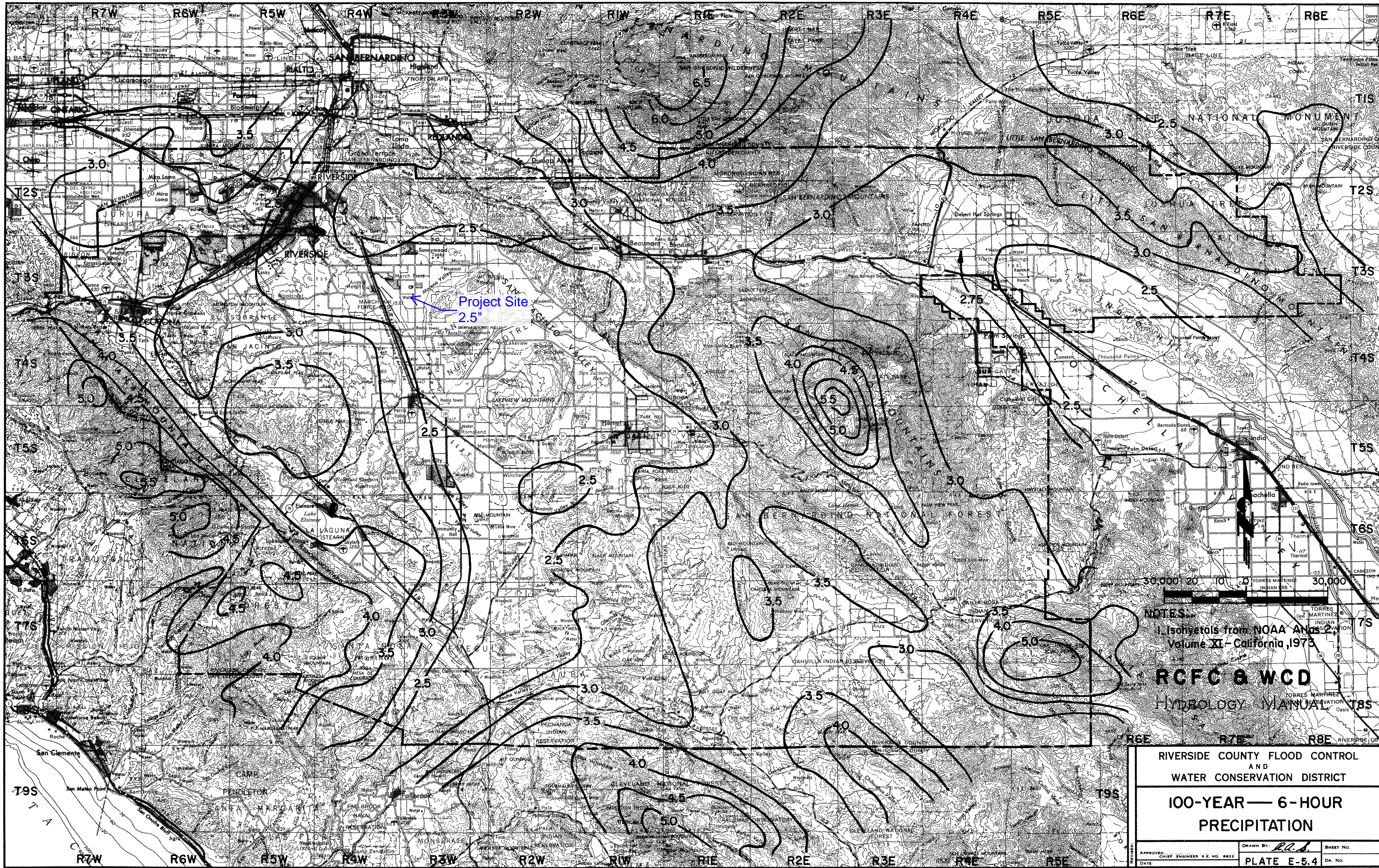


NOTES:
 1. Isohyets from NOAA Atlas 2
 Volume XI - California, 1973

RCFC & WCD
 HYDROLOGY MANUAL

**RIVERSIDE COUNTY FLOOD CONTROL
 AND
 WATER CONSERVATION DISTRICT**
**2-YEAR — 6-HOUR
 PRECIPITATION**

APPROVED: CHIEF ENGINEER R.E. NO. 8822	DRAWN BY:	SHEET NO.
DATE:	PLATE E-5.3	DR. NO.



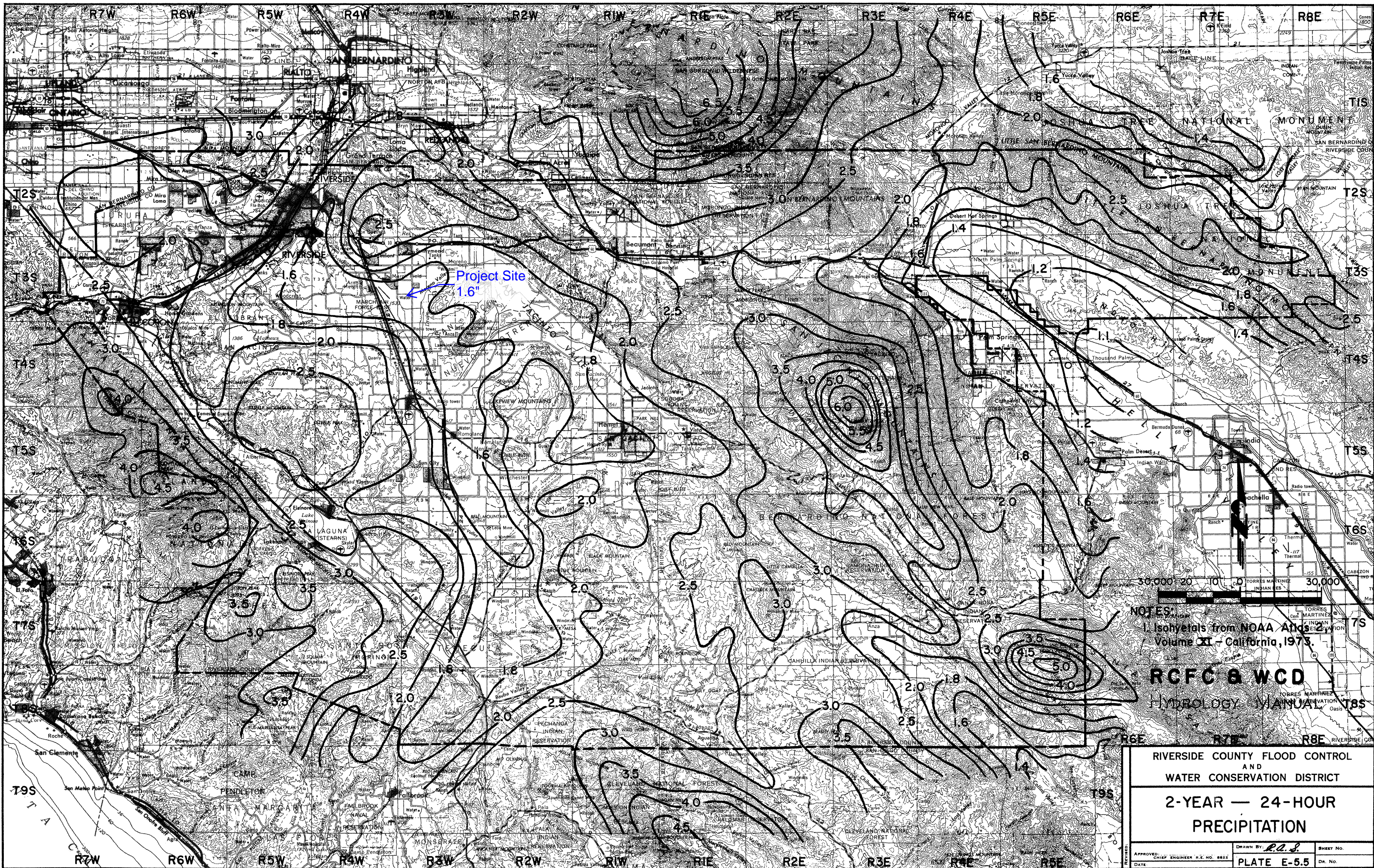
Project Site
2.5"

NOTES:
1. Isohyets from NOAA Atlas 2,
Volume XI - California, 1973

RCFC & WCD
HYDROLOGY MANUAL

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT		
100-YEAR — 6-HOUR PRECIPITATION		
APPROVED DATE	CHIEF ENGINEER P.E. NO. 8822	DRAWN BY: <i>P.A.A.</i> SHEET NO.
		DR. NO.

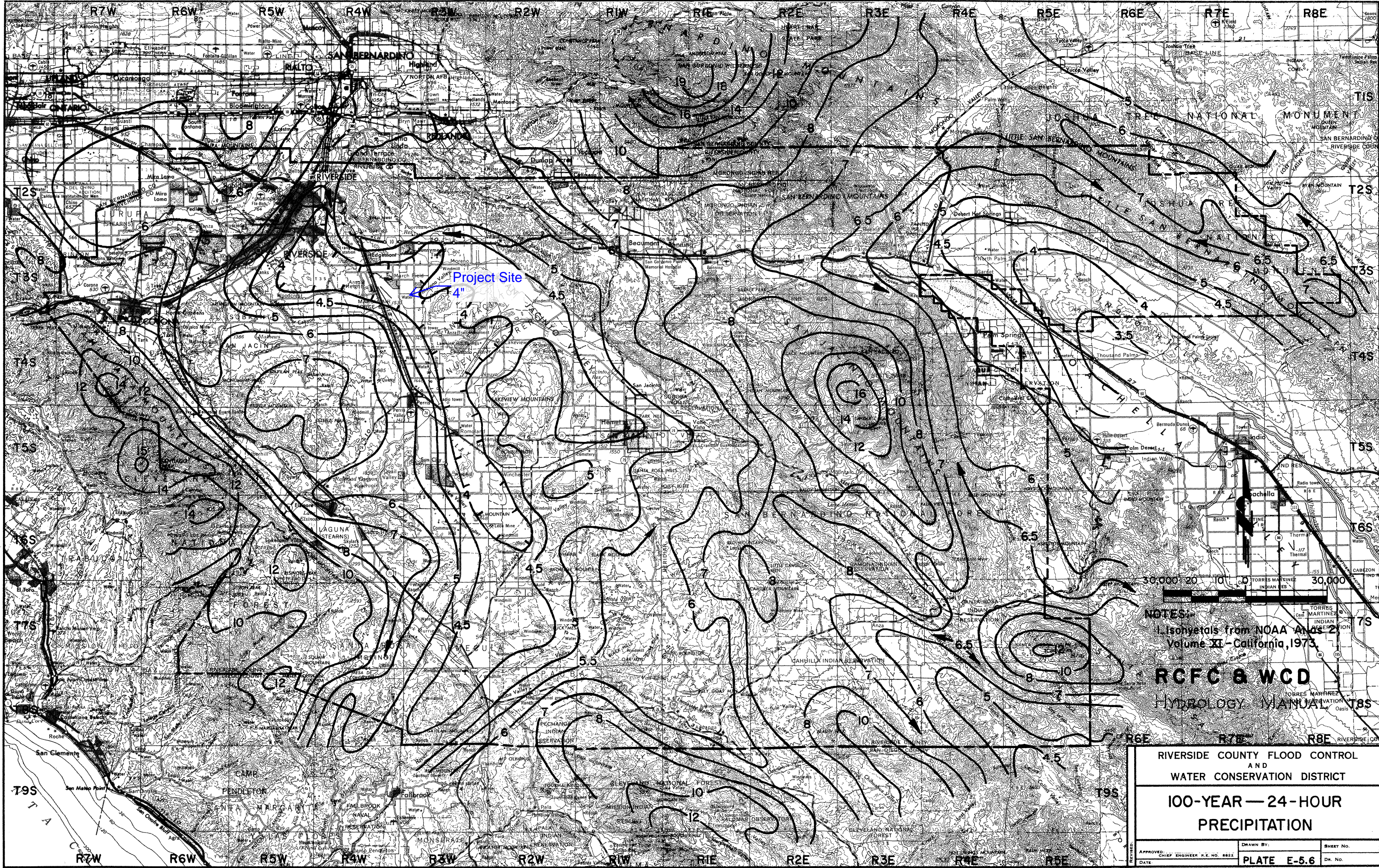




NOTES:
 1. Isohyets from NOAA Atlas 2
 Volume XI - California, 1973.

RCFC & WCD
 HYDROLOGY MANUAL

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT		
2-YEAR — 24-HOUR PRECIPITATION		
APPROVED: _____ CHIEF ENGINEER R.E. NO. 8822	DRAWN BY: <i>R.A.S.</i>	SHEET NO. _____
DATE: _____	PLATE E-5.5	DR. NO. _____



NOTES:
 1. Isohyets from NOAA Atlas 2,
 Volume XI - California, 1973.

RCFC & WCD
 HYDROLOGY MANUAL

**RIVERSIDE COUNTY FLOOD CONTROL
 AND
 WATER CONSERVATION DISTRICT**
**100-YEAR — 24-HOUR
 PRECIPITATION**

APPROVED: CHIEF ENGINEER R.E. NO. 8822	DRAWN BY:	SHEET NO.
DATE:	PLATE E-5.6	DR. NO.

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
<u>NATURAL COVERS -</u>					
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
<u>URBAN COVERS -</u>					
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
<u>AGRICULTURAL COVERS -</u>					
Fallow (Land plowed but not tilled or seeded)		76	85	90	92

RCFC & WCD
HYDROLOGY MANUAL

**RUNOFF INDEX NUMBERS
FOR
PERVIOUS AREAS**

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

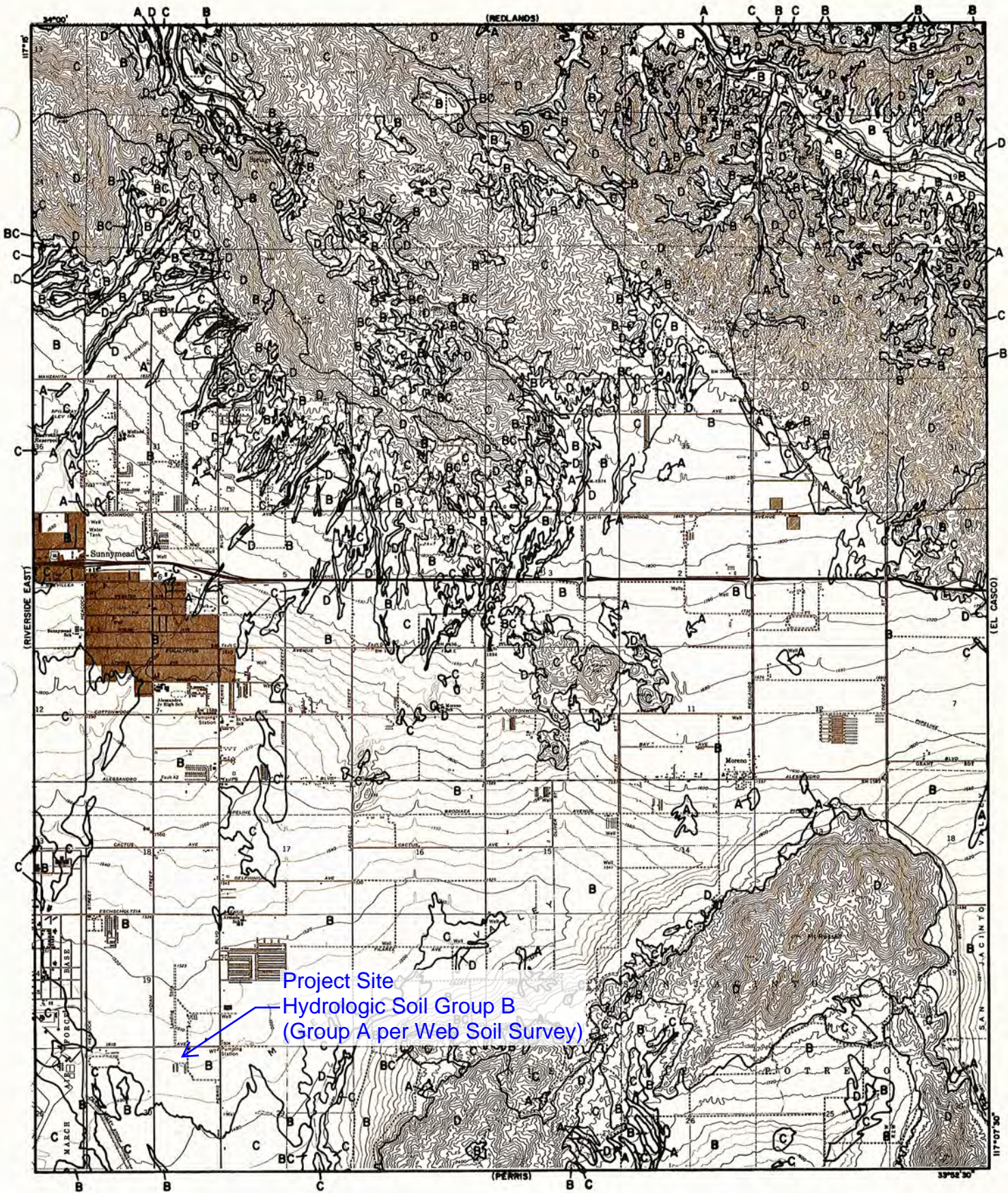
Cover Type (3)	Quality of Cover (2)	Soil Group			
		A	B	C	D
<u>AGRICULTURAL COVERS</u> (cont.) -					
Legumes, Close Seeded (Alfalfa, sweetclover, timothy, etc.)	Poor	66	77	85	89
	Good	58	72	81	85
Orchards, Deciduous (Apples, apricots, pears, walnuts, etc.)	See Note 4				
Orchards, Evergreen (Citrus, 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.

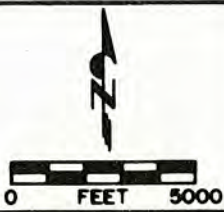
RCFC & WCD
 HYDROLOGY MANUAL

**RUNOFF INDEX NUMBERS
 FOR
 PERVIOUS AREAS**



LEGEND
 — SOILS GROUP BOUNDARY
 A SOILS GROUP DESIGNATION

RCFC & WCD
 HYDROLOGY MANUAL



HYDROLOGIC SOILS GROUP MAP
FOR
SUNNYMEAD

APPENDIX C.1

Rational Method Post Development Calculations

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2005 Version 7.1
Rational Hydrology Study Date: 03/16/23 File:10YRPRE.out

GOYA 10YR PRE

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

English (in-lb) Units used in input data file

Program License Serial Number 6215

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 1

Standard intensity-duration curves data (Plate D-4.1)

For the [Sunnymead-Moreno] area used.

10 year storm 10 minute intensity = 2.010(In/Hr)

10 year storm 60 minute intensity = 0.820(In/Hr)

100 year storm 10 minute intensity = 2.940(In/Hr)

100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 10.0

Calculated rainfall intensity data:

1 hour intensity = 0.820(In/Hr)

Slope of intensity duration curve = 0.5000

++++
Process from Point/Station 401.000 to Point/Station 402.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 422.000(Ft.)

Top (of initial area) elevation = 1496.220(Ft.)
 Bottom (of initial area) elevation = 1495.000(Ft.)
 Difference in elevation = 1.220(Ft.)
 Slope = 0.00289 s(percent)= 0.29
 $TC = k(0.530)*[(length^3)/(elevation\ change)]^{0.2}$
 Initial area time of concentration = 19.151 min.
 Rainfall intensity = 1.451(In/Hr) for a 10.0 year storm
 UNDEVELOPED (poor cover) subarea
 Runoff Coefficient = 0.563
 Decimal fraction soil group A = 0.000
 Decimal fraction soil group B = 1.000
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 RI index for soil(AMC 1) = 60.60
 Pervious area fraction = 1.000; Impervious fraction = 0.000
 Initial subarea runoff = 4.253(CFS)
 Total initial stream area = 5.200(Ac.)
 Pervious area fraction = 1.000

++++++
 Process from Point/Station 402.000 to Point/Station 400.000
 **** NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION ****

Top of natural channel elevation = 1495.000(Ft.)
 End of natural channel elevation = 1491.350(Ft.)
 Length of natural channel = 596.000(Ft.)
 Estimated mean flow rate at midpoint of channel = 7.769(CFS)

Natural valley channel type used
 L.A. County flood control district formula for channel velocity:
 $Velocity(ft/s) = (7 + 8(q(English\ Units)^{.352})(slope^{0.5}))$
 Velocity using mean channel flow = 1.84(Ft/s)

Correction to map slope used on extremely rugged channels with
 drops and waterfalls (Plate D-6.2)
 Normal channel slope = 0.0061
 Corrected/adjusted channel slope = 0.0061
 Travel time = 5.41 min. TC = 24.56 min.

Adding area flow to channel
 UNDEVELOPED (poor cover) subarea
 Runoff Coefficient = 0.537
 Decimal fraction soil group A = 0.000
 Decimal fraction soil group B = 1.000
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 RI index for soil(AMC 1) = 60.60
 Pervious area fraction = 1.000; Impervious fraction = 0.000

Rainfall intensity = 1.282(In/Hr) for a 10.0 year storm
Subarea runoff = 5.917(CFS) for 8.600(Ac.)
Total runoff = 10.170(CFS) Total area = 13.800(Ac.)
End of computations, total study area = 13.80 (Ac.)

The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(A_p) = 1.000

Area averaged RI index number = 78.0

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2005 Version 7.1
Rational Hydrology Study Date: 03/15/23 File:10YRPOST.out

GOYA 10YR POST

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

English (in-lb) Units used in input data file

Program License Serial Number 6215

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 1

Standard intensity-duration curves data (Plate D-4.1)

For the [Sunnymead-Moreno] area used.

10 year storm 10 minute intensity = 2.010(In/Hr)

10 year storm 60 minute intensity = 0.820(In/Hr)

100 year storm 10 minute intensity = 2.940(In/Hr)

100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 10.0

Calculated rainfall intensity data:

1 hour intensity = 0.820(In/Hr)

Slope of intensity duration curve = 0.5000

++++
Process from Point/Station 101.000 to Point/Station 102.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 473.000(Ft.)

Top (of initial area) elevation = 1497.380(Ft.)

Bottom (of initial area) elevation = 1494.390(Ft.)
Difference in elevation = 2.990(Ft.)
Slope = 0.00632 s(percent)= 0.63
TC = $k(0.390)*[(\text{length}^3)/(\text{elevation change})]^{0.2}$
Initial area time of concentration = 12.614 min.
Rainfall intensity = 1.788(In/Hr) for a 10.0 year storm
SINGLE FAMILY (1/4 Acre Lot)
Runoff Coefficient = 0.644
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1) = 36.00
Pervious area fraction = 0.500; Impervious fraction = 0.500
Initial subarea runoff = 3.257(CFS)
Total initial stream area = 2.830(Ac.)
Pervious area fraction = 0.500

++++
Process from Point/Station 102.000 to Point/Station 104.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1489.340(Ft.)
Downstream point/station elevation = 1488.680(Ft.)
Pipe length = 132.00(Ft.) Manning's N = 0.012
No. of pipes = 1 Required pipe flow = 3.257(CFS)
Nearest computed pipe diameter = 15.00(In.)
Calculated individual pipe flow = 3.257(CFS)
Normal flow depth in pipe = 8.88(In.)
Flow top width inside pipe = 14.74(In.)
Critical Depth = 8.73(In.)
Pipe flow velocity = 4.31(Ft/s)
Travel time through pipe = 0.51 min.
Time of concentration (TC) = 13.12 min.

++++
Process from Point/Station 103.000 to Point/Station 104.000
**** SUBAREA FLOW ADDITION ****

SINGLE FAMILY (1/4 Acre Lot)
Runoff Coefficient = 0.641
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1) = 36.00
Pervious area fraction = 0.500; Impervious fraction = 0.500
Time of concentration = 13.12 min.

Rainfall intensity = 1.753(In/Hr) for a 10.0 year storm
Subarea runoff = 0.528(CFS) for 0.470(Ac.)
Total runoff = 3.785(CFS) Total area = 3.300(Ac.)

++++
Process from Point/Station 104.000 to Point/Station 105.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1488.680(Ft.)
Downstream point/station elevation = 1488.160(Ft.)
Pipe length = 104.00(Ft.) Manning's N = 0.012
No. of pipes = 1 Required pipe flow = 3.785(CFS)
Nearest computed pipe diameter = 15.00(In.)
Calculated individual pipe flow = 3.785(CFS)
Normal flow depth in pipe = 9.83(In.)
Flow top width inside pipe = 14.26(In.)
Critical Depth = 9.43(In.)
Pipe flow velocity = 4.44(Ft/s)
Travel time through pipe = 0.39 min.
Time of concentration (TC) = 13.51 min.

++++
Process from Point/Station 106.000 to Point/Station 105.000
**** SUBAREA FLOW ADDITION ****

SINGLE FAMILY (1/4 Acre Lot)
Runoff Coefficient = 0.640
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1) = 36.00
Pervious area fraction = 0.500; Impervious fraction = 0.500
Time of concentration = 13.51 min.
Rainfall intensity = 1.728(In/Hr) for a 10.0 year storm
Subarea runoff = 2.034(CFS) for 1.840(Ac.)
Total runoff = 5.819(CFS) Total area = 5.140(Ac.)

++++
Process from Point/Station 105.000 to Point/Station 107.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1488.160(Ft.)
Downstream point/station elevation = 1486.590(Ft.)
Pipe length = 313.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 5.819(CFS)
Nearest computed pipe diameter = 18.00(In.)

Calculated individual pipe flow = 5.819(CFS)
Normal flow depth in pipe = 11.98(In.)
Flow top width inside pipe = 16.99(In.)
Critical Depth = 11.18(In.)
Pipe flow velocity = 4.66(Ft/s)
Travel time through pipe = 1.12 min.
Time of concentration (TC) = 14.64 min.

++++
Process from Point/Station 108.000 to Point/Station 107.000
**** SUBAREA FLOW ADDITION ****

SINGLE FAMILY (1/4 Acre Lot)
Runoff Coefficient = 0.635
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1) = 36.00
Pervious area fraction = 0.500; Impervious fraction = 0.500
Time of concentration = 14.64 min.
Rainfall intensity = 1.660(In/Hr) for a 10.0 year storm
Subarea runoff = 1.920(CFS) for 1.820(Ac.)
Total runoff = 7.739(CFS) Total area = 6.960(Ac.)

++++
Process from Point/Station 107.000 to Point/Station 109.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1486.590(Ft.)
Downstream point/station elevation = 1486.360(Ft.)
Pipe length = 46.00(Ft.) Manning's N = 0.012
No. of pipes = 1 Required pipe flow = 7.739(CFS)
Nearest computed pipe diameter = 18.00(In.)
Calculated individual pipe flow = 7.739(CFS)
Normal flow depth in pipe = 14.18(In.)
Flow top width inside pipe = 14.72(In.)
Critical Depth = 12.92(In.)
Pipe flow velocity = 5.19(Ft/s)
Travel time through pipe = 0.15 min.
Time of concentration (TC) = 14.78 min.

++++
Process from Point/Station 107.000 to Point/Station 109.000
**** CONFLUENCE OF MINOR STREAMS ****

Along Main Stream number: 1 in normal stream number 1

Stream flow area = 6.960(Ac.)
Runoff from this stream = 7.739(CFS)
Time of concentration = 14.78 min.
Rainfall intensity = 1.652(In/Hr)

++++
Process from Point/Station 201.000 to Point/Station 202.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 263.000(Ft.)
Top (of initial area) elevation = 1493.590(Ft.)
Bottom (of initial area) elevation = 1492.860(Ft.)
Difference in elevation = 0.730(Ft.)
Slope = 0.00278 s(percent)= 0.28
TC = $k(0.390)*[(\text{length}^3)/(\text{elevation change})]^{0.2}$
Initial area time of concentration = 11.759 min.
Rainfall intensity = 1.852(In/Hr) for a 10.0 year storm
SINGLE FAMILY (1/4 Acre Lot)
Runoff Coefficient = 0.647
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1) = 36.00
Pervious area fraction = 0.500; Impervious fraction = 0.500
Initial subarea runoff = 2.890(CFS)
Total initial stream area = 2.410(Ac.)
Pervious area fraction = 0.500

++++
Process from Point/Station 202.000 to Point/Station 203.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1489.100(Ft.)
Downstream point/station elevation = 1487.640(Ft.)
Pipe length = 293.00(Ft.) Manning's N = 0.012
No. of pipes = 1 Required pipe flow = 2.890(CFS)
Nearest computed pipe diameter = 15.00(In.)
Calculated individual pipe flow = 2.890(CFS)
Normal flow depth in pipe = 8.24(In.)
Flow top width inside pipe = 14.93(In.)
Critical Depth = 8.19(In.)
Pipe flow velocity = 4.18(Ft/s)
Travel time through pipe = 1.17 min.
Time of concentration (TC) = 12.93 min.

++++

Process from Point/Station 204.000 to Point/Station 203.000
**** SUBAREA FLOW ADDITION ****

SINGLE FAMILY (1/4 Acre Lot)
Runoff Coefficient = 0.642
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1) = 36.00
Pervious area fraction = 0.500; Impervious fraction = 0.500
Time of concentration = 12.93 min.
Rainfall intensity = 1.767(In/Hr) for a 10.0 year storm
Subarea runoff = 2.677(CFS) for 2.360(Ac.)
Total runoff = 5.567(CFS) Total area = 4.770(Ac.)

++++
Process from Point/Station 203.000 to Point/Station 109.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1487.640(Ft.)
Downstream point/station elevation = 1486.360(Ft.)
Pipe length = 256.00(Ft.) Manning's N = 0.012
No. of pipes = 1 Required pipe flow = 5.567(CFS)
Nearest computed pipe diameter = 18.00(In.)
Calculated individual pipe flow = 5.567(CFS)
Normal flow depth in pipe = 11.02(In.)
Flow top width inside pipe = 17.54(In.)
Critical Depth = 10.93(In.)
Pipe flow velocity = 4.92(Ft/s)
Travel time through pipe = 0.87 min.
Time of concentration (TC) = 13.79 min.

++++
Process from Point/Station 203.000 to Point/Station 109.000
**** CONFLUENCE OF MINOR STREAMS ****

Along Main Stream number: 1 in normal stream number 2
Stream flow area = 4.770(Ac.)
Runoff from this stream = 5.567(CFS)
Time of concentration = 13.79 min.
Rainfall intensity = 1.710(In/Hr)

++++
Process from Point/Station 301.000 to Point/Station 302.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 319.000(Ft.)
Top (of initial area) elevation = 1493.900(Ft.)
Bottom (of initial area) elevation = 1492.020(Ft.)
Difference in elevation = 1.880(Ft.)
Slope = 0.00589 s(percent)= 0.59
TC = $k(0.390)*[(\text{length}^3)/(\text{elevation change})]^{0.2}$
Initial area time of concentration = 10.927 min.
Rainfall intensity = 1.921(In/Hr) for a 10.0 year storm
SINGLE FAMILY (1/4 Acre Lot)
Runoff Coefficient = 0.651
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1) = 36.00
Pervious area fraction = 0.500; Impervious fraction = 0.500
Initial subarea runoff = 1.515(CFS)
Total initial stream area = 1.210(Ac.)
Pervious area fraction = 0.500

++++
Process from Point/Station 302.000 to Point/Station 109.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1486.930(Ft.)
Downstream point/station elevation = 1486.360(Ft.)
Pipe length = 115.00(Ft.) Manning's N = 0.012
No. of pipes = 1 Required pipe flow = 1.515(CFS)
Nearest computed pipe diameter = 12.00(In.)
Calculated individual pipe flow = 1.515(CFS)
Normal flow depth in pipe = 6.40(In.)
Flow top width inside pipe = 11.97(In.)
Critical Depth = 6.26(In.)
Pipe flow velocity = 3.55(Ft/s)
Travel time through pipe = 0.54 min.
Time of concentration (TC) = 11.47 min.

++++
Process from Point/Station 302.000 to Point/Station 109.000
**** CONFLUENCE OF MINOR STREAMS ****

Along Main Stream number: 1 in normal stream number 3
Stream flow area = 1.210(Ac.)
Runoff from this stream = 1.515(CFS)
Time of concentration = 11.47 min.
Rainfall intensity = 1.876(In/Hr)
Summary of stream data:

Stream No.	Flow rate (CFS)	TC (min)	Rainfall Intensity (In/Hr)
1	7.739	14.78	1.652
2	5.567	13.79	1.710
3	1.515	11.47	1.876

Largest stream flow has longer time of concentration

$Q_p = 7.739 + \text{sum of}$
 $Q_b \quad I_a/I_b$
 $5.567 * 0.966 = 5.378$
 $Q_b \quad I_a/I_b$
 $1.515 * 0.881 = 1.334$
 $Q_p = 14.451$

Total of 3 streams to confluence:
 Flow rates before confluence point:
 7.739 5.567 1.515
 Area of streams before confluence:
 6.960 4.770 1.210

Results of confluence:
 Total flow rate = 14.451(CFS)
 Time of concentration = 14.783 min.
 Effective stream area after confluence = 12.940(Ac.)

+++++
 Process from Point/Station 109.000 to Point/Station 111.000
 **** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1486.360(Ft.)
 Downstream point/station elevation = 1486.350(Ft.)
 Pipe length = 151.00(Ft.) Manning's N = 0.012
 No. of pipes = 1 Required pipe flow = 14.451(CFS)
 Nearest computed pipe diameter = 51.00(In.)
 Calculated individual pipe flow = 14.451(CFS)
 Normal flow depth in pipe = 40.50(In.)
 Flow top width inside pipe = 41.24(In.)
 Critical Depth = 13.11(In.)
 Pipe flow velocity = 1.20(Ft/s)
 Travel time through pipe = 2.10 min.
 Time of concentration (TC) = 16.89 min.

+++++
 Process from Point/Station 110.000 to Point/Station 111.000
 **** SUBAREA FLOW ADDITION ****

SINGLE FAMILY (1/4 Acre Lot)
 Runoff Coefficient = 0.628

Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 1) = 36.00
Pervious area fraction = 0.500; Impervious fraction = 0.500
Time of concentration = 16.89 min.
Rainfall intensity = 1.546(In/Hr) for a 10.0 year storm
Subarea runoff = 0.776(CFS) for 0.800(Ac.)
Total runoff = 15.227(CFS) Total area = 13.740(Ac.)

++++
Process from Point/Station 111.000 to Point/Station 100.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1486.350(Ft.)
Downstream point/station elevation = 1486.040(Ft.)
Pipe length = 63.00(Ft.) Manning's N = 0.012
No. of pipes = 1 Required pipe flow = 15.227(CFS)
Nearest computed pipe diameter = 24.00(In.)
Calculated individual pipe flow = 15.227(CFS)
Normal flow depth in pipe = 17.58(In.)
Flow top width inside pipe = 21.25(In.)
Critical Depth = 16.88(In.)
Pipe flow velocity = 6.18(Ft/s)
Travel time through pipe = 0.17 min.
Time of concentration (TC) = 17.06 min.
End of computations, total study area = 13.74 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.500
Area averaged RI index number = 56.0

APPENDIX C.2

Synthetic Unit Hydrograph Calculations per CivilD

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

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1
Study date 03/16/23 File: GOYASUHPRE242.out

+++++

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

Program License Serial Number 6215

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

English Units used in output format

GOYASUHPRE2YR

Drainage Area = 14.00(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.00(Ac.) =
0.022 Sq. Mi.
Length along longest watercourse = 1018.00(Ft.)
Length along longest watercourse measured to centroid = 74.92(Ft.)
Length along longest watercourse = 0.193 Mi.
Length along longest watercourse measured to centroid = 0.014 Mi.
Difference in elevation = 7.94(Ft.)
Slope along watercourse = 41.1819 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.038 Hr.
Lag time = 2.26 Min.
25% of lag time = 0.57 Min.
40% of lag time = 0.91 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]
14.00	1.87	26.18

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
14.00	4.74	66.36

STORM EVENT (YEAR) = 2.00
 Area Averaged 2-Year Rainfall = 1.870(In)
 Area Averaged 100-Year Rainfall = 4.740(In)

Point rain (area averaged) = 1.870(In)
 Areal adjustment factor = 100.00 %
 Adjusted average point rain = 1.870(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
14.000	78.00	0.100
Total Area Entered = 14.00(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
78.0	60.6	0.464	0.100	0.422	1.000	0.422
Sum (F) =						0.422

Area averaged mean soil loss (F) (In/Hr) = 0.422
 Minimum soil loss rate ((In/Hr)) = 0.211
 (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	220.898	46.793
2	0.167	441.795	41.935
3	0.250	662.693	8.007
4	0.333	883.590	3.264
		Sum = 100.000	Sum= 14.109

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)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.015	(0.748)	0.013	0.001
2	0.17	0.07	0.015	(0.745)	0.013	0.001
3	0.25	0.07	0.015	(0.742)	0.013	0.001
4	0.33	0.10	0.022	(0.739)	0.020	0.002
5	0.42	0.10	0.022	(0.736)	0.020	0.002
6	0.50	0.10	0.022	(0.733)	0.020	0.002
7	0.58	0.10	0.022	(0.730)	0.020	0.002
8	0.67	0.10	0.022	(0.728)	0.020	0.002
9	0.75	0.10	0.022	(0.725)	0.020	0.002
10	0.83	0.13	0.030	(0.722)	0.027	0.003
11	0.92	0.13	0.030	(0.719)	0.027	0.003
12	1.00	0.13	0.030	(0.716)	0.027	0.003
13	1.08	0.10	0.022	(0.713)	0.020	0.002
14	1.17	0.10	0.022	(0.711)	0.020	0.002
15	1.25	0.10	0.022	(0.708)	0.020	0.002
16	1.33	0.10	0.022	(0.705)	0.020	0.002
17	1.42	0.10	0.022	(0.702)	0.020	0.002
18	1.50	0.10	0.022	(0.699)	0.020	0.002
19	1.58	0.10	0.022	(0.697)	0.020	0.002
20	1.67	0.10	0.022	(0.694)	0.020	0.002
21	1.75	0.10	0.022	(0.691)	0.020	0.002
22	1.83	0.13	0.030	(0.688)	0.027	0.003
23	1.92	0.13	0.030	(0.685)	0.027	0.003
24	2.00	0.13	0.030	(0.683)	0.027	0.003
25	2.08	0.13	0.030	(0.680)	0.027	0.003
26	2.17	0.13	0.030	(0.677)	0.027	0.003
27	2.25	0.13	0.030	(0.674)	0.027	0.003
28	2.33	0.13	0.030	(0.672)	0.027	0.003
29	2.42	0.13	0.030	(0.669)	0.027	0.003
30	2.50	0.13	0.030	(0.666)	0.027	0.003
31	2.58	0.17	0.037	(0.663)	0.034	0.004
32	2.67	0.17	0.037	(0.661)	0.034	0.004
33	2.75	0.17	0.037	(0.658)	0.034	0.004
34	2.83	0.17	0.037	(0.655)	0.034	0.004
35	2.92	0.17	0.037	(0.653)	0.034	0.004
36	3.00	0.17	0.037	(0.650)	0.034	0.004
37	3.08	0.17	0.037	(0.647)	0.034	0.004
38	3.17	0.17	0.037	(0.645)	0.034	0.004
39	3.25	0.17	0.037	(0.642)	0.034	0.004
40	3.33	0.17	0.037	(0.639)	0.034	0.004
41	3.42	0.17	0.037	(0.636)	0.034	0.004
42	3.50	0.17	0.037	(0.634)	0.034	0.004
43	3.58	0.17	0.037	(0.631)	0.034	0.004
44	3.67	0.17	0.037	(0.629)	0.034	0.004
45	3.75	0.17	0.037	(0.626)	0.034	0.004

46	3.83	0.20	0.045	(0.623)	0.040	0.004
47	3.92	0.20	0.045	(0.621)	0.040	0.004
48	4.00	0.20	0.045	(0.618)	0.040	0.004
49	4.08	0.20	0.045	(0.615)	0.040	0.004
50	4.17	0.20	0.045	(0.613)	0.040	0.004
51	4.25	0.20	0.045	(0.610)	0.040	0.004
52	4.33	0.23	0.052	(0.608)	0.047	0.005
53	4.42	0.23	0.052	(0.605)	0.047	0.005
54	4.50	0.23	0.052	(0.602)	0.047	0.005
55	4.58	0.23	0.052	(0.600)	0.047	0.005
56	4.67	0.23	0.052	(0.597)	0.047	0.005
57	4.75	0.23	0.052	(0.595)	0.047	0.005
58	4.83	0.27	0.060	(0.592)	0.054	0.006
59	4.92	0.27	0.060	(0.589)	0.054	0.006
60	5.00	0.27	0.060	(0.587)	0.054	0.006
61	5.08	0.20	0.045	(0.584)	0.040	0.004
62	5.17	0.20	0.045	(0.582)	0.040	0.004
63	5.25	0.20	0.045	(0.579)	0.040	0.004
64	5.33	0.23	0.052	(0.577)	0.047	0.005
65	5.42	0.23	0.052	(0.574)	0.047	0.005
66	5.50	0.23	0.052	(0.572)	0.047	0.005
67	5.58	0.27	0.060	(0.569)	0.054	0.006
68	5.67	0.27	0.060	(0.567)	0.054	0.006
69	5.75	0.27	0.060	(0.564)	0.054	0.006
70	5.83	0.27	0.060	(0.562)	0.054	0.006
71	5.92	0.27	0.060	(0.559)	0.054	0.006
72	6.00	0.27	0.060	(0.557)	0.054	0.006
73	6.08	0.30	0.067	(0.554)	0.061	0.007
74	6.17	0.30	0.067	(0.552)	0.061	0.007
75	6.25	0.30	0.067	(0.549)	0.061	0.007
76	6.33	0.30	0.067	(0.547)	0.061	0.007
77	6.42	0.30	0.067	(0.544)	0.061	0.007
78	6.50	0.30	0.067	(0.542)	0.061	0.007
79	6.58	0.33	0.075	(0.540)	0.067	0.007
80	6.67	0.33	0.075	(0.537)	0.067	0.007
81	6.75	0.33	0.075	(0.535)	0.067	0.007
82	6.83	0.33	0.075	(0.532)	0.067	0.007
83	6.92	0.33	0.075	(0.530)	0.067	0.007
84	7.00	0.33	0.075	(0.528)	0.067	0.007
85	7.08	0.33	0.075	(0.525)	0.067	0.007
86	7.17	0.33	0.075	(0.523)	0.067	0.007
87	7.25	0.33	0.075	(0.520)	0.067	0.007
88	7.33	0.37	0.082	(0.518)	0.074	0.008
89	7.42	0.37	0.082	(0.516)	0.074	0.008
90	7.50	0.37	0.082	(0.513)	0.074	0.008
91	7.58	0.40	0.090	(0.511)	0.081	0.009
92	7.67	0.40	0.090	(0.509)	0.081	0.009
93	7.75	0.40	0.090	(0.506)	0.081	0.009
94	7.83	0.43	0.097	(0.504)	0.088	0.010
95	7.92	0.43	0.097	(0.502)	0.088	0.010

96	8.00	0.43	0.097	(0.499)	0.088	0.010
97	8.08	0.50	0.112	(0.497)	0.101	0.011
98	8.17	0.50	0.112	(0.495)	0.101	0.011
99	8.25	0.50	0.112	(0.492)	0.101	0.011
100	8.33	0.50	0.112	(0.490)	0.101	0.011
101	8.42	0.50	0.112	(0.488)	0.101	0.011
102	8.50	0.50	0.112	(0.485)	0.101	0.011
103	8.58	0.53	0.120	(0.483)	0.108	0.012
104	8.67	0.53	0.120	(0.481)	0.108	0.012
105	8.75	0.53	0.120	(0.479)	0.108	0.012
106	8.83	0.57	0.127	(0.476)	0.114	0.013
107	8.92	0.57	0.127	(0.474)	0.114	0.013
108	9.00	0.57	0.127	(0.472)	0.114	0.013
109	9.08	0.63	0.142	(0.470)	0.128	0.014
110	9.17	0.63	0.142	(0.467)	0.128	0.014
111	9.25	0.63	0.142	(0.465)	0.128	0.014
112	9.33	0.67	0.150	(0.463)	0.135	0.015
113	9.42	0.67	0.150	(0.461)	0.135	0.015
114	9.50	0.67	0.150	(0.458)	0.135	0.015
115	9.58	0.70	0.157	(0.456)	0.141	0.016
116	9.67	0.70	0.157	(0.454)	0.141	0.016
117	9.75	0.70	0.157	(0.452)	0.141	0.016
118	9.83	0.73	0.165	(0.450)	0.148	0.016
119	9.92	0.73	0.165	(0.448)	0.148	0.016
120	10.00	0.73	0.165	(0.445)	0.148	0.016
121	10.08	0.50	0.112	(0.443)	0.101	0.011
122	10.17	0.50	0.112	(0.441)	0.101	0.011
123	10.25	0.50	0.112	(0.439)	0.101	0.011
124	10.33	0.50	0.112	(0.437)	0.101	0.011
125	10.42	0.50	0.112	(0.435)	0.101	0.011
126	10.50	0.50	0.112	(0.433)	0.101	0.011
127	10.58	0.67	0.150	(0.430)	0.135	0.015
128	10.67	0.67	0.150	(0.428)	0.135	0.015
129	10.75	0.67	0.150	(0.426)	0.135	0.015
130	10.83	0.67	0.150	(0.424)	0.135	0.015
131	10.92	0.67	0.150	(0.422)	0.135	0.015
132	11.00	0.67	0.150	(0.420)	0.135	0.015
133	11.08	0.63	0.142	(0.418)	0.128	0.014
134	11.17	0.63	0.142	(0.416)	0.128	0.014
135	11.25	0.63	0.142	(0.414)	0.128	0.014
136	11.33	0.63	0.142	(0.412)	0.128	0.014
137	11.42	0.63	0.142	(0.410)	0.128	0.014
138	11.50	0.63	0.142	(0.408)	0.128	0.014
139	11.58	0.57	0.127	(0.406)	0.114	0.013
140	11.67	0.57	0.127	(0.404)	0.114	0.013
141	11.75	0.57	0.127	(0.402)	0.114	0.013
142	11.83	0.60	0.135	(0.400)	0.121	0.013
143	11.92	0.60	0.135	(0.398)	0.121	0.013
144	12.00	0.60	0.135	(0.396)	0.121	0.013
145	12.08	0.83	0.187	(0.394)	0.168	0.019

146	12.17	0.83	0.187	(0.392)	0.168	0.019
147	12.25	0.83	0.187	(0.390)	0.168	0.019
148	12.33	0.87	0.194	(0.388)	0.175	0.019
149	12.42	0.87	0.194	(0.386)	0.175	0.019
150	12.50	0.87	0.194	(0.384)	0.175	0.019
151	12.58	0.93	0.209	(0.382)	0.188	0.021
152	12.67	0.93	0.209	(0.380)	0.188	0.021
153	12.75	0.93	0.209	(0.378)	0.188	0.021
154	12.83	0.97	0.217	(0.376)	0.195	0.022
155	12.92	0.97	0.217	(0.374)	0.195	0.022
156	13.00	0.97	0.217	(0.372)	0.195	0.022
157	13.08	1.13	0.254	(0.371)	0.229	0.025
158	13.17	1.13	0.254	(0.369)	0.229	0.025
159	13.25	1.13	0.254	(0.367)	0.229	0.025
160	13.33	1.13	0.254	(0.365)	0.229	0.025
161	13.42	1.13	0.254	(0.363)	0.229	0.025
162	13.50	1.13	0.254	(0.361)	0.229	0.025
163	13.58	0.77	0.172	(0.359)	0.155	0.017
164	13.67	0.77	0.172	(0.358)	0.155	0.017
165	13.75	0.77	0.172	(0.356)	0.155	0.017
166	13.83	0.77	0.172	(0.354)	0.155	0.017
167	13.92	0.77	0.172	(0.352)	0.155	0.017
168	14.00	0.77	0.172	(0.350)	0.155	0.017
169	14.08	0.90	0.202	(0.349)	0.182	0.020
170	14.17	0.90	0.202	(0.347)	0.182	0.020
171	14.25	0.90	0.202	(0.345)	0.182	0.020
172	14.33	0.87	0.194	(0.343)	0.175	0.019
173	14.42	0.87	0.194	(0.342)	0.175	0.019
174	14.50	0.87	0.194	(0.340)	0.175	0.019
175	14.58	0.87	0.194	(0.338)	0.175	0.019
176	14.67	0.87	0.194	(0.336)	0.175	0.019
177	14.75	0.87	0.194	(0.335)	0.175	0.019
178	14.83	0.83	0.187	(0.333)	0.168	0.019
179	14.92	0.83	0.187	(0.331)	0.168	0.019
180	15.00	0.83	0.187	(0.329)	0.168	0.019
181	15.08	0.80	0.180	(0.328)	0.162	0.018
182	15.17	0.80	0.180	(0.326)	0.162	0.018
183	15.25	0.80	0.180	(0.324)	0.162	0.018
184	15.33	0.77	0.172	(0.323)	0.155	0.017
185	15.42	0.77	0.172	(0.321)	0.155	0.017
186	15.50	0.77	0.172	(0.319)	0.155	0.017
187	15.58	0.63	0.142	(0.318)	0.128	0.014
188	15.67	0.63	0.142	(0.316)	0.128	0.014
189	15.75	0.63	0.142	(0.315)	0.128	0.014
190	15.83	0.63	0.142	(0.313)	0.128	0.014
191	15.92	0.63	0.142	(0.311)	0.128	0.014
192	16.00	0.63	0.142	(0.310)	0.128	0.014
193	16.08	0.13	0.030	(0.308)	0.027	0.003
194	16.17	0.13	0.030	(0.307)	0.027	0.003
195	16.25	0.13	0.030	(0.305)	0.027	0.003

196	16.33	0.13	0.030	(0.303)	0.027	0.003
197	16.42	0.13	0.030	(0.302)	0.027	0.003
198	16.50	0.13	0.030	(0.300)	0.027	0.003
199	16.58	0.10	0.022	(0.299)	0.020	0.002
200	16.67	0.10	0.022	(0.297)	0.020	0.002
201	16.75	0.10	0.022	(0.296)	0.020	0.002
202	16.83	0.10	0.022	(0.294)	0.020	0.002
203	16.92	0.10	0.022	(0.293)	0.020	0.002
204	17.00	0.10	0.022	(0.291)	0.020	0.002
205	17.08	0.17	0.037	(0.290)	0.034	0.004
206	17.17	0.17	0.037	(0.288)	0.034	0.004
207	17.25	0.17	0.037	(0.287)	0.034	0.004
208	17.33	0.17	0.037	(0.286)	0.034	0.004
209	17.42	0.17	0.037	(0.284)	0.034	0.004
210	17.50	0.17	0.037	(0.283)	0.034	0.004
211	17.58	0.17	0.037	(0.281)	0.034	0.004
212	17.67	0.17	0.037	(0.280)	0.034	0.004
213	17.75	0.17	0.037	(0.278)	0.034	0.004
214	17.83	0.13	0.030	(0.277)	0.027	0.003
215	17.92	0.13	0.030	(0.276)	0.027	0.003
216	18.00	0.13	0.030	(0.274)	0.027	0.003
217	18.08	0.13	0.030	(0.273)	0.027	0.003
218	18.17	0.13	0.030	(0.272)	0.027	0.003
219	18.25	0.13	0.030	(0.270)	0.027	0.003
220	18.33	0.13	0.030	(0.269)	0.027	0.003
221	18.42	0.13	0.030	(0.268)	0.027	0.003
222	18.50	0.13	0.030	(0.266)	0.027	0.003
223	18.58	0.10	0.022	(0.265)	0.020	0.002
224	18.67	0.10	0.022	(0.264)	0.020	0.002
225	18.75	0.10	0.022	(0.263)	0.020	0.002
226	18.83	0.07	0.015	(0.261)	0.013	0.001
227	18.92	0.07	0.015	(0.260)	0.013	0.001
228	19.00	0.07	0.015	(0.259)	0.013	0.001
229	19.08	0.10	0.022	(0.258)	0.020	0.002
230	19.17	0.10	0.022	(0.256)	0.020	0.002
231	19.25	0.10	0.022	(0.255)	0.020	0.002
232	19.33	0.13	0.030	(0.254)	0.027	0.003
233	19.42	0.13	0.030	(0.253)	0.027	0.003
234	19.50	0.13	0.030	(0.252)	0.027	0.003
235	19.58	0.10	0.022	(0.251)	0.020	0.002
236	19.67	0.10	0.022	(0.249)	0.020	0.002
237	19.75	0.10	0.022	(0.248)	0.020	0.002
238	19.83	0.07	0.015	(0.247)	0.013	0.001
239	19.92	0.07	0.015	(0.246)	0.013	0.001
240	20.00	0.07	0.015	(0.245)	0.013	0.001
241	20.08	0.10	0.022	(0.244)	0.020	0.002
242	20.17	0.10	0.022	(0.243)	0.020	0.002
243	20.25	0.10	0.022	(0.242)	0.020	0.002
244	20.33	0.10	0.022	(0.241)	0.020	0.002
245	20.42	0.10	0.022	(0.240)	0.020	0.002

246	20.50	0.10	0.022	(0.239)	0.020	0.002
247	20.58	0.10	0.022	(0.238)	0.020	0.002
248	20.67	0.10	0.022	(0.237)	0.020	0.002
249	20.75	0.10	0.022	(0.236)	0.020	0.002
250	20.83	0.07	0.015	(0.235)	0.013	0.001
251	20.92	0.07	0.015	(0.234)	0.013	0.001
252	21.00	0.07	0.015	(0.233)	0.013	0.001
253	21.08	0.10	0.022	(0.232)	0.020	0.002
254	21.17	0.10	0.022	(0.231)	0.020	0.002
255	21.25	0.10	0.022	(0.230)	0.020	0.002
256	21.33	0.07	0.015	(0.229)	0.013	0.001
257	21.42	0.07	0.015	(0.228)	0.013	0.001
258	21.50	0.07	0.015	(0.227)	0.013	0.001
259	21.58	0.10	0.022	(0.227)	0.020	0.002
260	21.67	0.10	0.022	(0.226)	0.020	0.002
261	21.75	0.10	0.022	(0.225)	0.020	0.002
262	21.83	0.07	0.015	(0.224)	0.013	0.001
263	21.92	0.07	0.015	(0.223)	0.013	0.001
264	22.00	0.07	0.015	(0.223)	0.013	0.001
265	22.08	0.10	0.022	(0.222)	0.020	0.002
266	22.17	0.10	0.022	(0.221)	0.020	0.002
267	22.25	0.10	0.022	(0.221)	0.020	0.002
268	22.33	0.07	0.015	(0.220)	0.013	0.001
269	22.42	0.07	0.015	(0.219)	0.013	0.001
270	22.50	0.07	0.015	(0.219)	0.013	0.001
271	22.58	0.07	0.015	(0.218)	0.013	0.001
272	22.67	0.07	0.015	(0.217)	0.013	0.001
273	22.75	0.07	0.015	(0.217)	0.013	0.001
274	22.83	0.07	0.015	(0.216)	0.013	0.001
275	22.92	0.07	0.015	(0.216)	0.013	0.001
276	23.00	0.07	0.015	(0.215)	0.013	0.001
277	23.08	0.07	0.015	(0.215)	0.013	0.001
278	23.17	0.07	0.015	(0.214)	0.013	0.001
279	23.25	0.07	0.015	(0.214)	0.013	0.001
280	23.33	0.07	0.015	(0.213)	0.013	0.001
281	23.42	0.07	0.015	(0.213)	0.013	0.001
282	23.50	0.07	0.015	(0.212)	0.013	0.001
283	23.58	0.07	0.015	(0.212)	0.013	0.001
284	23.67	0.07	0.015	(0.212)	0.013	0.001
285	23.75	0.07	0.015	(0.211)	0.013	0.001
286	23.83	0.07	0.015	(0.211)	0.013	0.001
287	23.92	0.07	0.015	(0.211)	0.013	0.001
288	24.00	0.07	0.015	(0.211)	0.013	0.001

(Loss Rate Not Used)

Sum = 100.0

Sum = 2.2

Flood volume = Effective rainfall 0.19(In)
times area 14.0(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)

Total soil loss = 1.68(In)

Total soil loss = 1.963(Ac.Ft)

Total rainfall = 1.87(In)

Flood volume = 9503.1 Cubic Feet
 Total soil loss = 85527.7 Cubic Feet

 Peak flow rate of this hydrograph = 0.359(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	0.0002	0.02	Q				
0+15	0.0003	0.02	Q				
0+20	0.0005	0.03	Q				
0+25	0.0007	0.03	Q				
0+30	0.0009	0.03	Q				
0+35	0.0012	0.03	Q				
0+40	0.0014	0.03	Q				
0+45	0.0016	0.03	Q				
0+50	0.0018	0.04	Q				
0+55	0.0021	0.04	Q				
1+ 0	0.0024	0.04	Q				
1+ 5	0.0027	0.04	Q				
1+10	0.0029	0.03	Q				
1+15	0.0031	0.03	Q				
1+20	0.0033	0.03	Q				
1+25	0.0036	0.03	Q				
1+30	0.0038	0.03	Q				
1+35	0.0040	0.03	Q				
1+40	0.0042	0.03	Q				
1+45	0.0044	0.03	Q				
1+50	0.0047	0.04	Q				
1+55	0.0050	0.04	Q				
2+ 0	0.0053	0.04	Q				
2+ 5	0.0055	0.04	QV				
2+10	0.0058	0.04	QV				
2+15	0.0061	0.04	QV				
2+20	0.0064	0.04	QV				
2+25	0.0067	0.04	QV				
2+30	0.0070	0.04	QV				
2+35	0.0073	0.05	QV				
2+40	0.0077	0.05	QV				
2+45	0.0080	0.05	QV				
2+50	0.0084	0.05	QV				
2+55	0.0088	0.05	QV				
3+ 0	0.0091	0.05	QV				

3+ 5	0.0095	0.05	QV
3+10	0.0099	0.05	QV
3+15	0.0102	0.05	QV
3+20	0.0106	0.05	QV
3+25	0.0110	0.05	Q V
3+30	0.0113	0.05	Q V
3+35	0.0117	0.05	Q V
3+40	0.0120	0.05	Q V
3+45	0.0124	0.05	Q V
3+50	0.0128	0.06	Q V
3+55	0.0132	0.06	Q V
4+ 0	0.0137	0.06	Q V
4+ 5	0.0141	0.06	Q V
4+10	0.0145	0.06	Q V
4+15	0.0150	0.06	Q V
4+20	0.0154	0.07	Q V
4+25	0.0159	0.07	Q V
4+30	0.0165	0.07	Q V
4+35	0.0170	0.07	Q V
4+40	0.0175	0.07	Q V
4+45	0.0180	0.07	Q V
4+50	0.0185	0.08	Q V
4+55	0.0191	0.08	Q V
5+ 0	0.0197	0.08	Q V
5+ 5	0.0202	0.07	Q V
5+10	0.0206	0.07	Q V
5+15	0.0211	0.06	Q V
5+20	0.0216	0.07	Q V
5+25	0.0221	0.07	Q V
5+30	0.0226	0.07	Q V
5+35	0.0231	0.08	Q V
5+40	0.0237	0.08	Q V
5+45	0.0243	0.08	Q V
5+50	0.0248	0.08	Q V
5+55	0.0254	0.08	Q V
6+ 0	0.0260	0.08	Q V
6+ 5	0.0266	0.09	Q V
6+10	0.0273	0.09	Q V
6+15	0.0279	0.09	Q V
6+20	0.0286	0.10	Q V
6+25	0.0292	0.10	Q V
6+30	0.0299	0.10	Q V
6+35	0.0306	0.10	Q V
6+40	0.0313	0.10	Q V
6+45	0.0320	0.11	Q V
6+50	0.0327	0.11	Q V
6+55	0.0335	0.11	Q V
7+ 0	0.0342	0.11	Q V
7+ 5	0.0349	0.11	Q V
7+10	0.0356	0.11	Q V

7+15	0.0364	0.11	Q	V				
7+20	0.0371	0.11	Q	V				
7+25	0.0379	0.11	Q	V				
7+30	0.0387	0.12	Q	V				
7+35	0.0396	0.12	Q	V				
7+40	0.0404	0.13	Q	V				
7+45	0.0413	0.13	Q	V				
7+50	0.0422	0.13	Q	V				
7+55	0.0431	0.14	Q	V				
8+ 0	0.0441	0.14	Q	V				
8+ 5	0.0451	0.15	Q	V				
8+10	0.0462	0.16	Q	V				
8+15	0.0473	0.16	Q	V				
8+20	0.0483	0.16	Q	V				
8+25	0.0494	0.16	Q	V				
8+30	0.0505	0.16	Q	V				
8+35	0.0517	0.16	Q	V				
8+40	0.0528	0.17	Q	V				
8+45	0.0540	0.17	Q	V				
8+50	0.0552	0.17	Q	V				
8+55	0.0564	0.18	Q	V				
9+ 0	0.0576	0.18	Q	V				
9+ 5	0.0589	0.19	Q	V				
9+10	0.0603	0.20	Q	V				
9+15	0.0617	0.20	Q	V				
9+20	0.0631	0.21	Q	V				
9+25	0.0645	0.21	Q	V				
9+30	0.0660	0.21	Q	V				
9+35	0.0675	0.22	Q	V				
9+40	0.0690	0.22	Q	V				
9+45	0.0705	0.22	Q	V				
9+50	0.0721	0.23	Q	V				
9+55	0.0737	0.23	Q	V				
10+ 0	0.0753	0.23	Q	V				
10+ 5	0.0766	0.20	Q	V				
10+10	0.0778	0.17	Q	V				
10+15	0.0789	0.16	Q	V				
10+20	0.0800	0.16	Q	V				
10+25	0.0811	0.16	Q	V				
10+30	0.0822	0.16	Q	V				
10+35	0.0834	0.18	Q	V				
10+40	0.0848	0.21	Q	V				
10+45	0.0863	0.21	Q	V				
10+50	0.0877	0.21	Q	V				
10+55	0.0892	0.21	Q	V				
11+ 0	0.0906	0.21	Q	V				
11+ 5	0.0921	0.21	Q	V				
11+10	0.0935	0.20	Q	V				
11+15	0.0948	0.20	Q	V				
11+20	0.0962	0.20	Q	V				

11+25	0.0976	0.20	Q	V			
11+30	0.0990	0.20	Q	V			
11+35	0.1003	0.19	Q	V			
11+40	0.1015	0.18	Q	V			
11+45	0.1028	0.18	Q	V			
11+50	0.1041	0.18	Q	V			
11+55	0.1054	0.19	Q	V			
12+ 0	0.1067	0.19	Q	V			
12+ 5	0.1082	0.22	Q	V			
12+10	0.1100	0.26	Q	V			
12+15	0.1118	0.26	Q	V			
12+20	0.1136	0.27	Q	V			
12+25	0.1155	0.27	Q	V			
12+30	0.1174	0.27	Q	V			
12+35	0.1194	0.28	Q	V			
12+40	0.1214	0.29	Q	V			
12+45	0.1234	0.29	Q	V			
12+50	0.1255	0.30	Q	V			
12+55	0.1276	0.31	Q	V			
13+ 0	0.1297	0.31	Q	V			
13+ 5	0.1320	0.33	Q	V			
13+10	0.1344	0.35	Q	V			
13+15	0.1369	0.36	Q	V			
13+20	0.1393	0.36	Q	V			
13+25	0.1418	0.36	Q	V			
13+30	0.1443	0.36	Q	V			
13+35	0.1464	0.30	Q	V			
13+40	0.1481	0.26	Q	V			
13+45	0.1498	0.25	Q	V			
13+50	0.1515	0.24	Q	V			
13+55	0.1532	0.24	Q	V			
14+ 0	0.1549	0.24	Q	V			
14+ 5	0.1567	0.26	Q	V			
14+10	0.1586	0.28	Q	V			
14+15	0.1605	0.28	Q	V			
14+20	0.1625	0.28	Q	V			
14+25	0.1644	0.28	Q	V			
14+30	0.1663	0.27	Q	V			
14+35	0.1682	0.27	Q	V			
14+40	0.1700	0.27	Q	V			
14+45	0.1719	0.27	Q	V			
14+50	0.1738	0.27	Q	V			
14+55	0.1756	0.27	Q	V			
15+ 0	0.1774	0.26	Q	V			
15+ 5	0.1792	0.26	Q	V			
15+10	0.1810	0.25	Q	V			
15+15	0.1827	0.25	Q	V			
15+20	0.1844	0.25	Q	V			
15+25	0.1861	0.24	Q	V			
15+30	0.1878	0.24	Q	V			

15+35	0.1893	0.22	Q				V
15+40	0.1907	0.21	Q				V
15+45	0.1921	0.20	Q				V
15+50	0.1935	0.20	Q				V
15+55	0.1949	0.20	Q				V
16+ 0	0.1963	0.20	Q				V
16+ 5	0.1972	0.13	Q				V
16+10	0.1976	0.06	Q				V
16+15	0.1979	0.05	Q				V
16+20	0.1982	0.04	Q				V
16+25	0.1985	0.04	Q				V
16+30	0.1988	0.04	Q				V
16+35	0.1990	0.04	Q				V
16+40	0.1992	0.03	Q				V
16+45	0.1995	0.03	Q				V
16+50	0.1997	0.03	Q				V
16+55	0.1999	0.03	Q				V
17+ 0	0.2001	0.03	Q				V
17+ 5	0.2004	0.04	Q				V
17+10	0.2008	0.05	Q				V
17+15	0.2011	0.05	Q				V
17+20	0.2015	0.05	Q				V
17+25	0.2018	0.05	Q				V
17+30	0.2022	0.05	Q				V
17+35	0.2026	0.05	Q				V
17+40	0.2029	0.05	Q				V
17+45	0.2033	0.05	Q				V
17+50	0.2036	0.05	Q				V
17+55	0.2039	0.04	Q				V
18+ 0	0.2042	0.04	Q				V
18+ 5	0.2045	0.04	Q				V
18+10	0.2048	0.04	Q				V
18+15	0.2051	0.04	Q				V
18+20	0.2054	0.04	Q				V
18+25	0.2057	0.04	Q				V
18+30	0.2060	0.04	Q				V
18+35	0.2062	0.04	Q				V
18+40	0.2064	0.03	Q				V
18+45	0.2067	0.03	Q				V
18+50	0.2069	0.03	Q				V
18+55	0.2070	0.02	Q				V
19+ 0	0.2072	0.02	Q				V
19+ 5	0.2073	0.03	Q				V
19+10	0.2075	0.03	Q				V
19+15	0.2078	0.03	Q				V
19+20	0.2080	0.04	Q				V
19+25	0.2083	0.04	Q				V
19+30	0.2086	0.04	Q				V
19+35	0.2088	0.04	Q				V
19+40	0.2091	0.03	Q				V

19+45	0.2093	0.03	Q				V
19+50	0.2095	0.03	Q				V
19+55	0.2096	0.02	Q				V
20+ 0	0.2098	0.02	Q				V
20+ 5	0.2100	0.03	Q				V
20+10	0.2102	0.03	Q				V
20+15	0.2104	0.03	Q				V
20+20	0.2106	0.03	Q				V
20+25	0.2108	0.03	Q				V
20+30	0.2110	0.03	Q				V
20+35	0.2112	0.03	Q				V
20+40	0.2115	0.03	Q				V
20+45	0.2117	0.03	Q				V
20+50	0.2119	0.03	Q				V
20+55	0.2120	0.02	Q				V
21+ 0	0.2122	0.02	Q				V
21+ 5	0.2124	0.03	Q				V
21+10	0.2126	0.03	Q				V
21+15	0.2128	0.03	Q				V
21+20	0.2130	0.03	Q				V
21+25	0.2131	0.02	Q				V
21+30	0.2133	0.02	Q				V
21+35	0.2134	0.03	Q				V
21+40	0.2137	0.03	Q				V
21+45	0.2139	0.03	Q				V
21+50	0.2141	0.03	Q				V
21+55	0.2142	0.02	Q				V
22+ 0	0.2144	0.02	Q				V
22+ 5	0.2145	0.03	Q				V
22+10	0.2147	0.03	Q				V
22+15	0.2150	0.03	Q				V
22+20	0.2151	0.03	Q				V
22+25	0.2153	0.02	Q				V
22+30	0.2154	0.02	Q				V
22+35	0.2156	0.02	Q				V
22+40	0.2157	0.02	Q				V
22+45	0.2159	0.02	Q				V
22+50	0.2160	0.02	Q				V
22+55	0.2162	0.02	Q				V
23+ 0	0.2163	0.02	Q				V
23+ 5	0.2165	0.02	Q				V
23+10	0.2166	0.02	Q				V
23+15	0.2168	0.02	Q				V
23+20	0.2169	0.02	Q				V
23+25	0.2170	0.02	Q				V
23+30	0.2172	0.02	Q				V
23+35	0.2173	0.02	Q				V
23+40	0.2175	0.02	Q				V
23+45	0.2176	0.02	Q				V
23+50	0.2178	0.02	Q				V

23+55	0.2179	0.02	Q				V
24+ 0	0.2181	0.02	Q				V
24+ 5	0.2181	0.01	Q				V
24+10	0.2182	0.00	Q				V
24+15	0.2182	0.00	Q				V

Unit Hydrograph Analysis

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Study date 03/16/23 File: GOYASUHPOST242.out

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

Program License Serial Number 6215

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

English Units used in output format

GOYASUHPOST2YR

Drainage Area = 13.75(Ac.) = 0.021 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 13.75(Ac.) =
0.021 Sq. Mi.
Length along longest watercourse = 1220.00(Ft.)
Length along longest watercourse measured to centroid = 146.00(Ft.)
Length along longest watercourse = 0.231 Mi.
Length along longest watercourse measured to centroid = 0.028 Mi.
Difference in elevation = 6.10(Ft.)
Slope along watercourse = 26.4000 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.028 Hr.
Lag time = 1.70 Min.
25% of lag time = 0.42 Min.
40% of lag time = 0.68 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]
13.75	1.60	22.00

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
13.75	4.00	55.00

STORM EVENT (YEAR) = 2.00
 Area Averaged 2-Year Rainfall = 1.600(In)
 Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 1.600(In)
 Areal adjustment factor = 100.00 %
 Adjusted average point rain = 1.600(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
13.750	56.00	0.600
Total Area Entered = 13.75(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.600	0.325	1.000	0.325
Sum (F) =						0.325

Area averaged mean soil loss (F) (In/Hr) = 0.325
 Minimum soil loss rate ((In/Hr)) = 0.162
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.380

 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	294.139	56.070	7.770
2	0.167	588.277	37.453	5.190
3	0.250	882.416	6.476	0.897
Sum = 100.000			Sum=	13.857

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)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.013	(0.576)	0.005	0.008
2	0.17	0.07	0.013	(0.573)	0.005	0.008
3	0.25	0.07	0.013	(0.571)	0.005	0.008
4	0.33	0.10	0.019	(0.569)	0.007	0.012
5	0.42	0.10	0.019	(0.567)	0.007	0.012
6	0.50	0.10	0.019	(0.565)	0.007	0.012
7	0.58	0.10	0.019	(0.562)	0.007	0.012
8	0.67	0.10	0.019	(0.560)	0.007	0.012
9	0.75	0.10	0.019	(0.558)	0.007	0.012
10	0.83	0.13	0.026	(0.556)	0.010	0.016
11	0.92	0.13	0.026	(0.554)	0.010	0.016
12	1.00	0.13	0.026	(0.551)	0.010	0.016
13	1.08	0.10	0.019	(0.549)	0.007	0.012
14	1.17	0.10	0.019	(0.547)	0.007	0.012
15	1.25	0.10	0.019	(0.545)	0.007	0.012
16	1.33	0.10	0.019	(0.543)	0.007	0.012
17	1.42	0.10	0.019	(0.541)	0.007	0.012
18	1.50	0.10	0.019	(0.538)	0.007	0.012
19	1.58	0.10	0.019	(0.536)	0.007	0.012
20	1.67	0.10	0.019	(0.534)	0.007	0.012
21	1.75	0.10	0.019	(0.532)	0.007	0.012
22	1.83	0.13	0.026	(0.530)	0.010	0.016
23	1.92	0.13	0.026	(0.528)	0.010	0.016
24	2.00	0.13	0.026	(0.526)	0.010	0.016
25	2.08	0.13	0.026	(0.523)	0.010	0.016
26	2.17	0.13	0.026	(0.521)	0.010	0.016
27	2.25	0.13	0.026	(0.519)	0.010	0.016
28	2.33	0.13	0.026	(0.517)	0.010	0.016
29	2.42	0.13	0.026	(0.515)	0.010	0.016
30	2.50	0.13	0.026	(0.513)	0.010	0.016
31	2.58	0.17	0.032	(0.511)	0.012	0.020
32	2.67	0.17	0.032	(0.509)	0.012	0.020
33	2.75	0.17	0.032	(0.507)	0.012	0.020
34	2.83	0.17	0.032	(0.505)	0.012	0.020
35	2.92	0.17	0.032	(0.502)	0.012	0.020
36	3.00	0.17	0.032	(0.500)	0.012	0.020
37	3.08	0.17	0.032	(0.498)	0.012	0.020
38	3.17	0.17	0.032	(0.496)	0.012	0.020
39	3.25	0.17	0.032	(0.494)	0.012	0.020
40	3.33	0.17	0.032	(0.492)	0.012	0.020
41	3.42	0.17	0.032	(0.490)	0.012	0.020
42	3.50	0.17	0.032	(0.488)	0.012	0.020
43	3.58	0.17	0.032	(0.486)	0.012	0.020
44	3.67	0.17	0.032	(0.484)	0.012	0.020
45	3.75	0.17	0.032	(0.482)	0.012	0.020
46	3.83	0.20	0.038	(0.480)	0.015	0.024

47	3.92	0.20	0.038	(0.478)	0.015	0.024
48	4.00	0.20	0.038	(0.476)	0.015	0.024
49	4.08	0.20	0.038	(0.474)	0.015	0.024
50	4.17	0.20	0.038	(0.472)	0.015	0.024
51	4.25	0.20	0.038	(0.470)	0.015	0.024
52	4.33	0.23	0.045	(0.468)	0.017	0.028
53	4.42	0.23	0.045	(0.466)	0.017	0.028
54	4.50	0.23	0.045	(0.464)	0.017	0.028
55	4.58	0.23	0.045	(0.462)	0.017	0.028
56	4.67	0.23	0.045	(0.460)	0.017	0.028
57	4.75	0.23	0.045	(0.458)	0.017	0.028
58	4.83	0.27	0.051	(0.456)	0.019	0.032
59	4.92	0.27	0.051	(0.454)	0.019	0.032
60	5.00	0.27	0.051	(0.452)	0.019	0.032
61	5.08	0.20	0.038	(0.450)	0.015	0.024
62	5.17	0.20	0.038	(0.448)	0.015	0.024
63	5.25	0.20	0.038	(0.446)	0.015	0.024
64	5.33	0.23	0.045	(0.444)	0.017	0.028
65	5.42	0.23	0.045	(0.442)	0.017	0.028
66	5.50	0.23	0.045	(0.440)	0.017	0.028
67	5.58	0.27	0.051	(0.438)	0.019	0.032
68	5.67	0.27	0.051	(0.436)	0.019	0.032
69	5.75	0.27	0.051	(0.434)	0.019	0.032
70	5.83	0.27	0.051	(0.433)	0.019	0.032
71	5.92	0.27	0.051	(0.431)	0.019	0.032
72	6.00	0.27	0.051	(0.429)	0.019	0.032
73	6.08	0.30	0.058	(0.427)	0.022	0.036
74	6.17	0.30	0.058	(0.425)	0.022	0.036
75	6.25	0.30	0.058	(0.423)	0.022	0.036
76	6.33	0.30	0.058	(0.421)	0.022	0.036
77	6.42	0.30	0.058	(0.419)	0.022	0.036
78	6.50	0.30	0.058	(0.417)	0.022	0.036
79	6.58	0.33	0.064	(0.415)	0.024	0.040
80	6.67	0.33	0.064	(0.414)	0.024	0.040
81	6.75	0.33	0.064	(0.412)	0.024	0.040
82	6.83	0.33	0.064	(0.410)	0.024	0.040
83	6.92	0.33	0.064	(0.408)	0.024	0.040
84	7.00	0.33	0.064	(0.406)	0.024	0.040
85	7.08	0.33	0.064	(0.404)	0.024	0.040
86	7.17	0.33	0.064	(0.402)	0.024	0.040
87	7.25	0.33	0.064	(0.401)	0.024	0.040
88	7.33	0.37	0.070	(0.399)	0.027	0.044
89	7.42	0.37	0.070	(0.397)	0.027	0.044
90	7.50	0.37	0.070	(0.395)	0.027	0.044
91	7.58	0.40	0.077	(0.393)	0.029	0.048
92	7.67	0.40	0.077	(0.392)	0.029	0.048
93	7.75	0.40	0.077	(0.390)	0.029	0.048
94	7.83	0.43	0.083	(0.388)	0.032	0.052
95	7.92	0.43	0.083	(0.386)	0.032	0.052
96	8.00	0.43	0.083	(0.384)	0.032	0.052

97	8.08	0.50	0.096	(0.383)	0.036	0.060
98	8.17	0.50	0.096	(0.381)	0.036	0.060
99	8.25	0.50	0.096	(0.379)	0.036	0.060
100	8.33	0.50	0.096	(0.377)	0.036	0.060
101	8.42	0.50	0.096	(0.375)	0.036	0.060
102	8.50	0.50	0.096	(0.374)	0.036	0.060
103	8.58	0.53	0.102	(0.372)	0.039	0.063
104	8.67	0.53	0.102	(0.370)	0.039	0.063
105	8.75	0.53	0.102	(0.368)	0.039	0.063
106	8.83	0.57	0.109	(0.367)	0.041	0.067
107	8.92	0.57	0.109	(0.365)	0.041	0.067
108	9.00	0.57	0.109	(0.363)	0.041	0.067
109	9.08	0.63	0.122	(0.362)	0.046	0.075
110	9.17	0.63	0.122	(0.360)	0.046	0.075
111	9.25	0.63	0.122	(0.358)	0.046	0.075
112	9.33	0.67	0.128	(0.356)	0.049	0.079
113	9.42	0.67	0.128	(0.355)	0.049	0.079
114	9.50	0.67	0.128	(0.353)	0.049	0.079
115	9.58	0.70	0.134	(0.351)	0.051	0.083
116	9.67	0.70	0.134	(0.350)	0.051	0.083
117	9.75	0.70	0.134	(0.348)	0.051	0.083
118	9.83	0.73	0.141	(0.346)	0.054	0.087
119	9.92	0.73	0.141	(0.345)	0.054	0.087
120	10.00	0.73	0.141	(0.343)	0.054	0.087
121	10.08	0.50	0.096	(0.341)	0.036	0.060
122	10.17	0.50	0.096	(0.340)	0.036	0.060
123	10.25	0.50	0.096	(0.338)	0.036	0.060
124	10.33	0.50	0.096	(0.336)	0.036	0.060
125	10.42	0.50	0.096	(0.335)	0.036	0.060
126	10.50	0.50	0.096	(0.333)	0.036	0.060
127	10.58	0.67	0.128	(0.331)	0.049	0.079
128	10.67	0.67	0.128	(0.330)	0.049	0.079
129	10.75	0.67	0.128	(0.328)	0.049	0.079
130	10.83	0.67	0.128	(0.327)	0.049	0.079
131	10.92	0.67	0.128	(0.325)	0.049	0.079
132	11.00	0.67	0.128	(0.323)	0.049	0.079
133	11.08	0.63	0.122	(0.322)	0.046	0.075
134	11.17	0.63	0.122	(0.320)	0.046	0.075
135	11.25	0.63	0.122	(0.319)	0.046	0.075
136	11.33	0.63	0.122	(0.317)	0.046	0.075
137	11.42	0.63	0.122	(0.316)	0.046	0.075
138	11.50	0.63	0.122	(0.314)	0.046	0.075
139	11.58	0.57	0.109	(0.312)	0.041	0.067
140	11.67	0.57	0.109	(0.311)	0.041	0.067
141	11.75	0.57	0.109	(0.309)	0.041	0.067
142	11.83	0.60	0.115	(0.308)	0.044	0.071
143	11.92	0.60	0.115	(0.306)	0.044	0.071
144	12.00	0.60	0.115	(0.305)	0.044	0.071
145	12.08	0.83	0.160	(0.303)	0.061	0.099
146	12.17	0.83	0.160	(0.302)	0.061	0.099

147	12.25	0.83	0.160	(0.300)	0.061	0.099
148	12.33	0.87	0.166	(0.299)	0.063	0.103
149	12.42	0.87	0.166	(0.297)	0.063	0.103
150	12.50	0.87	0.166	(0.296)	0.063	0.103
151	12.58	0.93	0.179	(0.294)	0.068	0.111
152	12.67	0.93	0.179	(0.293)	0.068	0.111
153	12.75	0.93	0.179	(0.291)	0.068	0.111
154	12.83	0.97	0.186	(0.290)	0.071	0.115
155	12.92	0.97	0.186	(0.288)	0.071	0.115
156	13.00	0.97	0.186	(0.287)	0.071	0.115
157	13.08	1.13	0.218	(0.285)	0.083	0.135
158	13.17	1.13	0.218	(0.284)	0.083	0.135
159	13.25	1.13	0.218	(0.282)	0.083	0.135
160	13.33	1.13	0.218	(0.281)	0.083	0.135
161	13.42	1.13	0.218	(0.280)	0.083	0.135
162	13.50	1.13	0.218	(0.278)	0.083	0.135
163	13.58	0.77	0.147	(0.277)	0.056	0.091
164	13.67	0.77	0.147	(0.275)	0.056	0.091
165	13.75	0.77	0.147	(0.274)	0.056	0.091
166	13.83	0.77	0.147	(0.273)	0.056	0.091
167	13.92	0.77	0.147	(0.271)	0.056	0.091
168	14.00	0.77	0.147	(0.270)	0.056	0.091
169	14.08	0.90	0.173	(0.268)	0.066	0.107
170	14.17	0.90	0.173	(0.267)	0.066	0.107
171	14.25	0.90	0.173	(0.266)	0.066	0.107
172	14.33	0.87	0.166	(0.264)	0.063	0.103
173	14.42	0.87	0.166	(0.263)	0.063	0.103
174	14.50	0.87	0.166	(0.262)	0.063	0.103
175	14.58	0.87	0.166	(0.260)	0.063	0.103
176	14.67	0.87	0.166	(0.259)	0.063	0.103
177	14.75	0.87	0.166	(0.258)	0.063	0.103
178	14.83	0.83	0.160	(0.256)	0.061	0.099
179	14.92	0.83	0.160	(0.255)	0.061	0.099
180	15.00	0.83	0.160	(0.254)	0.061	0.099
181	15.08	0.80	0.154	(0.252)	0.058	0.095
182	15.17	0.80	0.154	(0.251)	0.058	0.095
183	15.25	0.80	0.154	(0.250)	0.058	0.095
184	15.33	0.77	0.147	(0.248)	0.056	0.091
185	15.42	0.77	0.147	(0.247)	0.056	0.091
186	15.50	0.77	0.147	(0.246)	0.056	0.091
187	15.58	0.63	0.122	(0.245)	0.046	0.075
188	15.67	0.63	0.122	(0.243)	0.046	0.075
189	15.75	0.63	0.122	(0.242)	0.046	0.075
190	15.83	0.63	0.122	(0.241)	0.046	0.075
191	15.92	0.63	0.122	(0.240)	0.046	0.075
192	16.00	0.63	0.122	(0.238)	0.046	0.075
193	16.08	0.13	0.026	(0.237)	0.010	0.016
194	16.17	0.13	0.026	(0.236)	0.010	0.016
195	16.25	0.13	0.026	(0.235)	0.010	0.016
196	16.33	0.13	0.026	(0.234)	0.010	0.016

197	16.42	0.13	0.026	(0.232)	0.010	0.016
198	16.50	0.13	0.026	(0.231)	0.010	0.016
199	16.58	0.10	0.019	(0.230)	0.007	0.012
200	16.67	0.10	0.019	(0.229)	0.007	0.012
201	16.75	0.10	0.019	(0.228)	0.007	0.012
202	16.83	0.10	0.019	(0.227)	0.007	0.012
203	16.92	0.10	0.019	(0.225)	0.007	0.012
204	17.00	0.10	0.019	(0.224)	0.007	0.012
205	17.08	0.17	0.032	(0.223)	0.012	0.020
206	17.17	0.17	0.032	(0.222)	0.012	0.020
207	17.25	0.17	0.032	(0.221)	0.012	0.020
208	17.33	0.17	0.032	(0.220)	0.012	0.020
209	17.42	0.17	0.032	(0.219)	0.012	0.020
210	17.50	0.17	0.032	(0.218)	0.012	0.020
211	17.58	0.17	0.032	(0.217)	0.012	0.020
212	17.67	0.17	0.032	(0.215)	0.012	0.020
213	17.75	0.17	0.032	(0.214)	0.012	0.020
214	17.83	0.13	0.026	(0.213)	0.010	0.016
215	17.92	0.13	0.026	(0.212)	0.010	0.016
216	18.00	0.13	0.026	(0.211)	0.010	0.016
217	18.08	0.13	0.026	(0.210)	0.010	0.016
218	18.17	0.13	0.026	(0.209)	0.010	0.016
219	18.25	0.13	0.026	(0.208)	0.010	0.016
220	18.33	0.13	0.026	(0.207)	0.010	0.016
221	18.42	0.13	0.026	(0.206)	0.010	0.016
222	18.50	0.13	0.026	(0.205)	0.010	0.016
223	18.58	0.10	0.019	(0.204)	0.007	0.012
224	18.67	0.10	0.019	(0.203)	0.007	0.012
225	18.75	0.10	0.019	(0.202)	0.007	0.012
226	18.83	0.07	0.013	(0.201)	0.005	0.008
227	18.92	0.07	0.013	(0.200)	0.005	0.008
228	19.00	0.07	0.013	(0.199)	0.005	0.008
229	19.08	0.10	0.019	(0.198)	0.007	0.012
230	19.17	0.10	0.019	(0.197)	0.007	0.012
231	19.25	0.10	0.019	(0.196)	0.007	0.012
232	19.33	0.13	0.026	(0.196)	0.010	0.016
233	19.42	0.13	0.026	(0.195)	0.010	0.016
234	19.50	0.13	0.026	(0.194)	0.010	0.016
235	19.58	0.10	0.019	(0.193)	0.007	0.012
236	19.67	0.10	0.019	(0.192)	0.007	0.012
237	19.75	0.10	0.019	(0.191)	0.007	0.012
238	19.83	0.07	0.013	(0.190)	0.005	0.008
239	19.92	0.07	0.013	(0.189)	0.005	0.008
240	20.00	0.07	0.013	(0.189)	0.005	0.008
241	20.08	0.10	0.019	(0.188)	0.007	0.012
242	20.17	0.10	0.019	(0.187)	0.007	0.012
243	20.25	0.10	0.019	(0.186)	0.007	0.012
244	20.33	0.10	0.019	(0.185)	0.007	0.012
245	20.42	0.10	0.019	(0.185)	0.007	0.012
246	20.50	0.10	0.019	(0.184)	0.007	0.012

247	20.58	0.10	0.019	(0.183)	0.007	0.012
248	20.67	0.10	0.019	(0.182)	0.007	0.012
249	20.75	0.10	0.019	(0.181)	0.007	0.012
250	20.83	0.07	0.013	(0.181)	0.005	0.008
251	20.92	0.07	0.013	(0.180)	0.005	0.008
252	21.00	0.07	0.013	(0.179)	0.005	0.008
253	21.08	0.10	0.019	(0.179)	0.007	0.012
254	21.17	0.10	0.019	(0.178)	0.007	0.012
255	21.25	0.10	0.019	(0.177)	0.007	0.012
256	21.33	0.07	0.013	(0.176)	0.005	0.008
257	21.42	0.07	0.013	(0.176)	0.005	0.008
258	21.50	0.07	0.013	(0.175)	0.005	0.008
259	21.58	0.10	0.019	(0.175)	0.007	0.012
260	21.67	0.10	0.019	(0.174)	0.007	0.012
261	21.75	0.10	0.019	(0.173)	0.007	0.012
262	21.83	0.07	0.013	(0.173)	0.005	0.008
263	21.92	0.07	0.013	(0.172)	0.005	0.008
264	22.00	0.07	0.013	(0.171)	0.005	0.008
265	22.08	0.10	0.019	(0.171)	0.007	0.012
266	22.17	0.10	0.019	(0.170)	0.007	0.012
267	22.25	0.10	0.019	(0.170)	0.007	0.012
268	22.33	0.07	0.013	(0.169)	0.005	0.008
269	22.42	0.07	0.013	(0.169)	0.005	0.008
270	22.50	0.07	0.013	(0.168)	0.005	0.008
271	22.58	0.07	0.013	(0.168)	0.005	0.008
272	22.67	0.07	0.013	(0.167)	0.005	0.008
273	22.75	0.07	0.013	(0.167)	0.005	0.008
274	22.83	0.07	0.013	(0.166)	0.005	0.008
275	22.92	0.07	0.013	(0.166)	0.005	0.008
276	23.00	0.07	0.013	(0.166)	0.005	0.008
277	23.08	0.07	0.013	(0.165)	0.005	0.008
278	23.17	0.07	0.013	(0.165)	0.005	0.008
279	23.25	0.07	0.013	(0.164)	0.005	0.008
280	23.33	0.07	0.013	(0.164)	0.005	0.008
281	23.42	0.07	0.013	(0.164)	0.005	0.008
282	23.50	0.07	0.013	(0.164)	0.005	0.008
283	23.58	0.07	0.013	(0.163)	0.005	0.008
284	23.67	0.07	0.013	(0.163)	0.005	0.008
285	23.75	0.07	0.013	(0.163)	0.005	0.008
286	23.83	0.07	0.013	(0.163)	0.005	0.008
287	23.92	0.07	0.013	(0.162)	0.005	0.008
288	24.00	0.07	0.013	(0.162)	0.005	0.008

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.9

Flood volume = Effective rainfall 0.99(In)
times area 13.8(Ac.)/[(In)/(Ft.)] = 1.1(Ac.Ft)

Total soil loss = 0.61(In)

Total soil loss = 0.697(Ac.Ft)

Total rainfall = 1.60(In)

Flood volume = 49511.9 Cubic Feet

Total soil loss = 30346.0 Cubic Feet

 Peak flow rate of this hydrograph = 1.870(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	0.0004	0.06	Q				
0+10	0.0011	0.10	Q				
0+15	0.0019	0.11	Q				
0+20	0.0029	0.14	Q				
0+25	0.0040	0.16	Q				
0+30	0.0051	0.17	Q				
0+35	0.0062	0.17	Q				
0+40	0.0074	0.17	Q				
0+45	0.0085	0.17	Q				
0+50	0.0099	0.20	Q				
0+55	0.0114	0.22	Q				
1+ 0	0.0129	0.22	Q				
1+ 5	0.0142	0.19	Q				
1+10	0.0153	0.17	Q				
1+15	0.0165	0.17	Q				
1+20	0.0176	0.17	Q				
1+25	0.0187	0.17	Q				
1+30	0.0199	0.17	Q				
1+35	0.0210	0.17	Q				
1+40	0.0222	0.17	Q				
1+45	0.0233	0.17	Q				
1+50	0.0246	0.20	Q				
1+55	0.0261	0.22	Q				
2+ 0	0.0277	0.22	Q				
2+ 5	0.0292	0.22	QV				
2+10	0.0307	0.22	QV				
2+15	0.0322	0.22	QV				
2+20	0.0337	0.22	QV				
2+25	0.0352	0.22	QV				
2+30	0.0367	0.22	QV				
2+35	0.0385	0.25	Q				
2+40	0.0403	0.27	Q				
2+45	0.0422	0.28	Q				
2+50	0.0441	0.28	Q				
2+55	0.0460	0.28	Q				
3+ 0	0.0479	0.28	Q				
3+ 5	0.0498	0.28	Q				

3+10	0.0517	0.28	Q				
3+15	0.0536	0.28	Q				
3+20	0.0555	0.28	Q				
3+25	0.0574	0.28	QV				
3+30	0.0593	0.28	QV				
3+35	0.0612	0.28	QV				
3+40	0.0631	0.28	QV				
3+45	0.0650	0.28	QV				
3+50	0.0671	0.31	QV				
3+55	0.0693	0.33	QV				
4+ 0	0.0716	0.33	QV				
4+ 5	0.0739	0.33	QV				
4+10	0.0761	0.33	QV				
4+15	0.0784	0.33	QV				
4+20	0.0809	0.36	QV				
4+25	0.0835	0.38	QV				
4+30	0.0862	0.39	Q V				
4+35	0.0888	0.39	Q V				
4+40	0.0915	0.39	Q V				
4+45	0.0941	0.39	Q V				
4+50	0.0970	0.42	Q V				
4+55	0.1000	0.44	Q V				
5+ 0	0.1030	0.44	Q V				
5+ 5	0.1056	0.38	Q V				
5+10	0.1080	0.34	Q V				
5+15	0.1102	0.33	Q V				
5+20	0.1127	0.36	Q V				
5+25	0.1154	0.38	Q V				
5+30	0.1180	0.39	Q V				
5+35	0.1209	0.42	Q V				
5+40	0.1239	0.44	Q V				
5+45	0.1269	0.44	Q V				
5+50	0.1299	0.44	Q V				
5+55	0.1330	0.44	Q V				
6+ 0	0.1360	0.44	Q V				
6+ 5	0.1392	0.47	Q V				
6+10	0.1426	0.49	Q V				
6+15	0.1460	0.50	Q V				
6+20	0.1495	0.50	Q V				
6+25	0.1529	0.50	Q V				
6+30	0.1563	0.50	Q V				
6+35	0.1599	0.53	Q V				
6+40	0.1637	0.55	Q V				
6+45	0.1674	0.55	Q V				
6+50	0.1712	0.55	Q V				
6+55	0.1750	0.55	Q V				
7+ 0	0.1788	0.55	Q V				
7+ 5	0.1826	0.55	Q V				
7+10	0.1864	0.55	Q V				
7+15	0.1902	0.55	Q V				

7+20	0.1942	0.58	Q	V				
7+25	0.1983	0.60	Q	V				
7+30	0.2025	0.61	Q	V				
7+35	0.2069	0.64	Q	V				
7+40	0.2114	0.66	Q	V				
7+45	0.2159	0.66	Q	V				
7+50	0.2207	0.69	Q	V				
7+55	0.2256	0.71	Q	V				
8+ 0	0.2305	0.72	Q	V				
8+ 5	0.2359	0.78	Q	V				
8+10	0.2415	0.82	Q	V				
8+15	0.2472	0.83	Q	V				
8+20	0.2529	0.83	Q	V				
8+25	0.2586	0.83	Q	V				
8+30	0.2642	0.83	Q	V				
8+35	0.2701	0.86	Q	V				
8+40	0.2762	0.88	Q	V				
8+45	0.2822	0.88	Q	V				
8+50	0.2885	0.91	Q	V				
8+55	0.2949	0.93	Q	V				
9+ 0	0.3014	0.94	Q	V				
9+ 5	0.3082	1.00	Q	V				
9+10	0.3154	1.04	Q	V				
9+15	0.3226	1.05	Q	V				
9+20	0.3300	1.08	Q	V				
9+25	0.3376	1.10	Q	V				
9+30	0.3451	1.10	Q	V				
9+35	0.3529	1.13	Q	V				
9+40	0.3608	1.15	Q	V				
9+45	0.3688	1.16	Q	V				
9+50	0.3770	1.19	Q	V				
9+55	0.3853	1.21	Q	V				
10+ 0	0.3936	1.21	Q	V				
10+ 5	0.4005	0.99	Q	V				
10+10	0.4063	0.85	Q	V				
10+15	0.4120	0.83	Q	V				
10+20	0.4177	0.83	Q	V				
10+25	0.4234	0.83	Q	V				
10+30	0.4291	0.83	Q	V				
10+35	0.4358	0.98	Q	V				
10+40	0.4433	1.08	Q	V				
10+45	0.4508	1.10	Q	V				
10+50	0.4584	1.10	Q	V				
10+55	0.4660	1.10	Q	V				
11+ 0	0.4736	1.10	Q	V				
11+ 5	0.4809	1.07	Q	V				
11+10	0.4882	1.05	Q	V				
11+15	0.4954	1.05	Q	V				
11+20	0.5026	1.05	Q	V				
11+25	0.5098	1.05	Q	V				

11+30	0.5170	1.05	Q	V		
11+35	0.5237	0.98	Q	V		
11+40	0.5302	0.94	Q	V		
11+45	0.5367	0.94	Q	V		
11+50	0.5433	0.97	Q	V		
11+55	0.5501	0.99	Q	V		
12+ 0	0.5569	0.99	Q	V		
12+ 5	0.5652	1.21	Q	V		
12+10	0.5745	1.35	Q	V		
12+15	0.5840	1.38	Q	V		
12+20	0.5937	1.41	Q	V		
12+25	0.6035	1.43	Q	V		
12+30	0.6134	1.43	Q	V		
12+35	0.6236	1.49	Q	V		
12+40	0.6342	1.53	Q	V		
12+45	0.6448	1.54	Q	V		
12+50	0.6556	1.57	Q	V		
12+55	0.6666	1.59	Q	V		
13+ 0	0.6776	1.60	Q	V		
13+ 5	0.6896	1.75	Q	V		
13+10	0.7024	1.85	Q	V		
13+15	0.7153	1.87	Q	V		
13+20	0.7282	1.87	Q	V		
13+25	0.7410	1.87	Q	V		
13+30	0.7539	1.87	Q	V		
13+35	0.7645	1.53	Q	V		
13+40	0.7734	1.30	Q	V		
13+45	0.7822	1.27	Q	V		
13+50	0.7909	1.27	Q	V		
13+55	0.7996	1.27	Q	V		
14+ 0	0.8083	1.27	Q	V		
14+ 5	0.8179	1.39	Q	V		
14+10	0.8280	1.47	Q	V		
14+15	0.8382	1.49	Q	V		
14+20	0.8482	1.45	Q	V		
14+25	0.8581	1.43	Q	V		
14+30	0.8680	1.43	Q	V		
14+35	0.8778	1.43	Q	V		
14+40	0.8877	1.43	Q	V		
14+45	0.8975	1.43	Q	V		
14+50	0.9072	1.40	Q	V		
14+55	0.9167	1.38	Q	V		
15+ 0	0.9261	1.38	Q	V		
15+ 5	0.9354	1.34	Q	V		
15+10	0.9445	1.32	Q	V		
15+15	0.9536	1.32	Q	V		
15+20	0.9625	1.29	Q	V		
15+25	0.9712	1.27	Q	V		
15+30	0.9799	1.27	Q	V		
15+35	0.9878	1.14	Q	V		

15+40	0.9951	1.06		Q				V	
15+45	1.0023	1.05		Q				V	
15+50	1.0095	1.05		Q				V	
15+55	1.0167	1.05		Q				V	
16+ 0	1.0239	1.05		Q				V	
16+ 5	1.0279	0.58		Q				V	
16+10	1.0298	0.27		Q				V	
16+15	1.0313	0.22		Q				V	
16+20	1.0328	0.22		Q				V	
16+25	1.0343	0.22		Q				V	
16+30	1.0358	0.22		Q				V	
16+35	1.0372	0.19		Q				V	
16+40	1.0383	0.17		Q				V	
16+45	1.0394	0.17		Q				V	
16+50	1.0406	0.17		Q				V	
16+55	1.0417	0.17		Q				V	
17+ 0	1.0429	0.17		Q				V	
17+ 5	1.0444	0.23		Q				V	
17+10	1.0463	0.27		Q				V	
17+15	1.0482	0.28		Q				V	
17+20	1.0501	0.28		Q				V	
17+25	1.0519	0.28		Q				V	
17+30	1.0538	0.28		Q				V	
17+35	1.0557	0.28		Q				V	
17+40	1.0576	0.28		Q				V	
17+45	1.0595	0.28		Q				V	
17+50	1.0612	0.24		Q				V	
17+55	1.0627	0.22		Q				V	
18+ 0	1.0643	0.22		Q				V	
18+ 5	1.0658	0.22		Q				V	
18+10	1.0673	0.22		Q				V	
18+15	1.0688	0.22		Q				V	
18+20	1.0703	0.22		Q				V	
18+25	1.0718	0.22		Q				V	
18+30	1.0734	0.22		Q				V	
18+35	1.0747	0.19		Q				V	
18+40	1.0758	0.17		Q				V	
18+45	1.0770	0.17		Q				V	
18+50	1.0779	0.13		Q				V	
18+55	1.0787	0.11		Q				V	
19+ 0	1.0794	0.11		Q				V	
19+ 5	1.0804	0.14		Q				V	
19+10	1.0815	0.16		Q				V	
19+15	1.0826	0.17		Q				V	
19+20	1.0840	0.20		Q				V	
19+25	1.0855	0.22		Q				V	
19+30	1.0870	0.22		Q				V	
19+35	1.0883	0.19		Q				V	
19+40	1.0895	0.17		Q				V	
19+45	1.0906	0.17		Q				V	

19+50	1.0915	0.13	Q				V
19+55	1.0923	0.11	Q				V
20+ 0	1.0931	0.11	Q				V
20+ 5	1.0940	0.14	Q				V
20+10	1.0951	0.16	Q				V
20+15	1.0963	0.17	Q				V
20+20	1.0974	0.17	Q				V
20+25	1.0986	0.17	Q				V
20+30	1.0997	0.17	Q				V
20+35	1.1008	0.17	Q				V
20+40	1.1020	0.17	Q				V
20+45	1.1031	0.17	Q				V
20+50	1.1040	0.13	Q				V
20+55	1.1048	0.11	Q				V
21+ 0	1.1056	0.11	Q				V
21+ 5	1.1065	0.14	Q				V
21+10	1.1076	0.16	Q				V
21+15	1.1088	0.17	Q				V
21+20	1.1097	0.13	Q				V
21+25	1.1105	0.11	Q				V
21+30	1.1112	0.11	Q				V
21+35	1.1122	0.14	Q				V
21+40	1.1133	0.16	Q				V
21+45	1.1145	0.17	Q				V
21+50	1.1154	0.13	Q				V
21+55	1.1162	0.11	Q				V
22+ 0	1.1169	0.11	Q				V
22+ 5	1.1179	0.14	Q				V
22+10	1.1190	0.16	Q				V
22+15	1.1202	0.17	Q				V
22+20	1.1211	0.13	Q				V
22+25	1.1219	0.11	Q				V
22+30	1.1226	0.11	Q				V
22+35	1.1234	0.11	Q				V
22+40	1.1241	0.11	Q				V
22+45	1.1249	0.11	Q				V
22+50	1.1256	0.11	Q				V
22+55	1.1264	0.11	Q				V
23+ 0	1.1272	0.11	Q				V
23+ 5	1.1279	0.11	Q				V
23+10	1.1287	0.11	Q				V
23+15	1.1294	0.11	Q				V
23+20	1.1302	0.11	Q				V
23+25	1.1309	0.11	Q				V
23+30	1.1317	0.11	Q				V
23+35	1.1325	0.11	Q				V
23+40	1.1332	0.11	Q				V
23+45	1.1340	0.11	Q				V
23+50	1.1347	0.11	Q				V
23+55	1.1355	0.11	Q				V

24+ 0	1.1363	0.11	Q				V
24+ 5	1.1366	0.05	Q				V
24+10	1.1366	0.01	Q				V

Unit Hydrograph Analysis

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Study date 03/16/23 File: GOYASUHPRE245.out

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

Program License Serial Number 6215

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

English Units used in output format

GOYASUHPRE5YR

Drainage Area = 14.00(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.00(Ac.) =
0.022 Sq. Mi.
Length along longest watercourse = 1018.00(Ft.)
Length along longest watercourse measured to centroid = 74.92(Ft.)
Length along longest watercourse = 0.193 Mi.
Length along longest watercourse measured to centroid = 0.014 Mi.
Difference in elevation = 7.94(Ft.)
Slope along watercourse = 41.1819 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.038 Hr.
Lag time = 2.26 Min.
25% of lag time = 0.57 Min.
40% of lag time = 0.91 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]
 14.00 1.87 26.18

100 YEAR Area rainfall data:

Area(Ac.)[1] Rainfall(In)[2] Weighting[1*2]
 14.00 4.74 66.36

STORM EVENT (YEAR) = 5.00
 Area Averaged 2-Year Rainfall = 1.870(In)
 Area Averaged 100-Year Rainfall = 4.740(In)

Point rain (area averaged) = 2.542(In)
 Areal adjustment factor = 100.00 %
 Adjusted average point rain = 2.542(In)

Sub-Area Data:

Area(Ac.) Runoff Index Impervious %
 14.000 78.00 0.100
 Total Area Entered = 14.00(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
78.0	60.6	0.464	0.100	0.422	1.000	0.422
Sum (F) =						0.422

Area averaged mean soil loss (F) (In/Hr) = 0.422
 Minimum soil loss rate ((In/Hr)) = 0.211
 (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	Time % of lag	Distribution	Unit Hydrograph
(hrs)		Graph %	(CFS)
1	0.083	220.898	46.793
2	0.167	441.795	41.935
3	0.250	662.693	8.007
4	0.333	883.590	3.264
		Sum = 100.000	Sum= 14.109

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)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.020	(0.748)	0.018	0.002
2	0.17	0.07	0.020	(0.745)	0.018	0.002
3	0.25	0.07	0.020	(0.742)	0.018	0.002
4	0.33	0.10	0.031	(0.739)	0.027	0.003
5	0.42	0.10	0.031	(0.736)	0.027	0.003
6	0.50	0.10	0.031	(0.733)	0.027	0.003
7	0.58	0.10	0.031	(0.730)	0.027	0.003
8	0.67	0.10	0.031	(0.728)	0.027	0.003
9	0.75	0.10	0.031	(0.725)	0.027	0.003
10	0.83	0.13	0.041	(0.722)	0.037	0.004
11	0.92	0.13	0.041	(0.719)	0.037	0.004
12	1.00	0.13	0.041	(0.716)	0.037	0.004
13	1.08	0.10	0.031	(0.713)	0.027	0.003
14	1.17	0.10	0.031	(0.711)	0.027	0.003
15	1.25	0.10	0.031	(0.708)	0.027	0.003
16	1.33	0.10	0.031	(0.705)	0.027	0.003
17	1.42	0.10	0.031	(0.702)	0.027	0.003
18	1.50	0.10	0.031	(0.699)	0.027	0.003
19	1.58	0.10	0.031	(0.697)	0.027	0.003
20	1.67	0.10	0.031	(0.694)	0.027	0.003
21	1.75	0.10	0.031	(0.691)	0.027	0.003
22	1.83	0.13	0.041	(0.688)	0.037	0.004
23	1.92	0.13	0.041	(0.685)	0.037	0.004
24	2.00	0.13	0.041	(0.683)	0.037	0.004
25	2.08	0.13	0.041	(0.680)	0.037	0.004
26	2.17	0.13	0.041	(0.677)	0.037	0.004
27	2.25	0.13	0.041	(0.674)	0.037	0.004
28	2.33	0.13	0.041	(0.672)	0.037	0.004
29	2.42	0.13	0.041	(0.669)	0.037	0.004
30	2.50	0.13	0.041	(0.666)	0.037	0.004
31	2.58	0.17	0.051	(0.663)	0.046	0.005
32	2.67	0.17	0.051	(0.661)	0.046	0.005
33	2.75	0.17	0.051	(0.658)	0.046	0.005
34	2.83	0.17	0.051	(0.655)	0.046	0.005
35	2.92	0.17	0.051	(0.653)	0.046	0.005
36	3.00	0.17	0.051	(0.650)	0.046	0.005
37	3.08	0.17	0.051	(0.647)	0.046	0.005
38	3.17	0.17	0.051	(0.645)	0.046	0.005
39	3.25	0.17	0.051	(0.642)	0.046	0.005
40	3.33	0.17	0.051	(0.639)	0.046	0.005
41	3.42	0.17	0.051	(0.636)	0.046	0.005
42	3.50	0.17	0.051	(0.634)	0.046	0.005
43	3.58	0.17	0.051	(0.631)	0.046	0.005
44	3.67	0.17	0.051	(0.629)	0.046	0.005
45	3.75	0.17	0.051	(0.626)	0.046	0.005

46	3.83	0.20	0.061	(0.623)	0.055	0.006
47	3.92	0.20	0.061	(0.621)	0.055	0.006
48	4.00	0.20	0.061	(0.618)	0.055	0.006
49	4.08	0.20	0.061	(0.615)	0.055	0.006
50	4.17	0.20	0.061	(0.613)	0.055	0.006
51	4.25	0.20	0.061	(0.610)	0.055	0.006
52	4.33	0.23	0.071	(0.608)	0.064	0.007
53	4.42	0.23	0.071	(0.605)	0.064	0.007
54	4.50	0.23	0.071	(0.602)	0.064	0.007
55	4.58	0.23	0.071	(0.600)	0.064	0.007
56	4.67	0.23	0.071	(0.597)	0.064	0.007
57	4.75	0.23	0.071	(0.595)	0.064	0.007
58	4.83	0.27	0.081	(0.592)	0.073	0.008
59	4.92	0.27	0.081	(0.589)	0.073	0.008
60	5.00	0.27	0.081	(0.587)	0.073	0.008
61	5.08	0.20	0.061	(0.584)	0.055	0.006
62	5.17	0.20	0.061	(0.582)	0.055	0.006
63	5.25	0.20	0.061	(0.579)	0.055	0.006
64	5.33	0.23	0.071	(0.577)	0.064	0.007
65	5.42	0.23	0.071	(0.574)	0.064	0.007
66	5.50	0.23	0.071	(0.572)	0.064	0.007
67	5.58	0.27	0.081	(0.569)	0.073	0.008
68	5.67	0.27	0.081	(0.567)	0.073	0.008
69	5.75	0.27	0.081	(0.564)	0.073	0.008
70	5.83	0.27	0.081	(0.562)	0.073	0.008
71	5.92	0.27	0.081	(0.559)	0.073	0.008
72	6.00	0.27	0.081	(0.557)	0.073	0.008
73	6.08	0.30	0.092	(0.554)	0.082	0.009
74	6.17	0.30	0.092	(0.552)	0.082	0.009
75	6.25	0.30	0.092	(0.549)	0.082	0.009
76	6.33	0.30	0.092	(0.547)	0.082	0.009
77	6.42	0.30	0.092	(0.544)	0.082	0.009
78	6.50	0.30	0.092	(0.542)	0.082	0.009
79	6.58	0.33	0.102	(0.540)	0.092	0.010
80	6.67	0.33	0.102	(0.537)	0.092	0.010
81	6.75	0.33	0.102	(0.535)	0.092	0.010
82	6.83	0.33	0.102	(0.532)	0.092	0.010
83	6.92	0.33	0.102	(0.530)	0.092	0.010
84	7.00	0.33	0.102	(0.528)	0.092	0.010
85	7.08	0.33	0.102	(0.525)	0.092	0.010
86	7.17	0.33	0.102	(0.523)	0.092	0.010
87	7.25	0.33	0.102	(0.520)	0.092	0.010
88	7.33	0.37	0.112	(0.518)	0.101	0.011
89	7.42	0.37	0.112	(0.516)	0.101	0.011
90	7.50	0.37	0.112	(0.513)	0.101	0.011
91	7.58	0.40	0.122	(0.511)	0.110	0.012
92	7.67	0.40	0.122	(0.509)	0.110	0.012
93	7.75	0.40	0.122	(0.506)	0.110	0.012
94	7.83	0.43	0.132	(0.504)	0.119	0.013
95	7.92	0.43	0.132	(0.502)	0.119	0.013

96	8.00	0.43	0.132	(0.499)	0.119	0.013
97	8.08	0.50	0.153	(0.497)	0.137	0.015
98	8.17	0.50	0.153	(0.495)	0.137	0.015
99	8.25	0.50	0.153	(0.492)	0.137	0.015
100	8.33	0.50	0.153	(0.490)	0.137	0.015
101	8.42	0.50	0.153	(0.488)	0.137	0.015
102	8.50	0.50	0.153	(0.485)	0.137	0.015
103	8.58	0.53	0.163	(0.483)	0.146	0.016
104	8.67	0.53	0.163	(0.481)	0.146	0.016
105	8.75	0.53	0.163	(0.479)	0.146	0.016
106	8.83	0.57	0.173	(0.476)	0.156	0.017
107	8.92	0.57	0.173	(0.474)	0.156	0.017
108	9.00	0.57	0.173	(0.472)	0.156	0.017
109	9.08	0.63	0.193	(0.470)	0.174	0.019
110	9.17	0.63	0.193	(0.467)	0.174	0.019
111	9.25	0.63	0.193	(0.465)	0.174	0.019
112	9.33	0.67	0.203	(0.463)	0.183	0.020
113	9.42	0.67	0.203	(0.461)	0.183	0.020
114	9.50	0.67	0.203	(0.458)	0.183	0.020
115	9.58	0.70	0.214	(0.456)	0.192	0.021
116	9.67	0.70	0.214	(0.454)	0.192	0.021
117	9.75	0.70	0.214	(0.452)	0.192	0.021
118	9.83	0.73	0.224	(0.450)	0.201	0.022
119	9.92	0.73	0.224	(0.448)	0.201	0.022
120	10.00	0.73	0.224	(0.445)	0.201	0.022
121	10.08	0.50	0.153	(0.443)	0.137	0.015
122	10.17	0.50	0.153	(0.441)	0.137	0.015
123	10.25	0.50	0.153	(0.439)	0.137	0.015
124	10.33	0.50	0.153	(0.437)	0.137	0.015
125	10.42	0.50	0.153	(0.435)	0.137	0.015
126	10.50	0.50	0.153	(0.433)	0.137	0.015
127	10.58	0.67	0.203	(0.430)	0.183	0.020
128	10.67	0.67	0.203	(0.428)	0.183	0.020
129	10.75	0.67	0.203	(0.426)	0.183	0.020
130	10.83	0.67	0.203	(0.424)	0.183	0.020
131	10.92	0.67	0.203	(0.422)	0.183	0.020
132	11.00	0.67	0.203	(0.420)	0.183	0.020
133	11.08	0.63	0.193	(0.418)	0.174	0.019
134	11.17	0.63	0.193	(0.416)	0.174	0.019
135	11.25	0.63	0.193	(0.414)	0.174	0.019
136	11.33	0.63	0.193	(0.412)	0.174	0.019
137	11.42	0.63	0.193	(0.410)	0.174	0.019
138	11.50	0.63	0.193	(0.408)	0.174	0.019
139	11.58	0.57	0.173	(0.406)	0.156	0.017
140	11.67	0.57	0.173	(0.404)	0.156	0.017
141	11.75	0.57	0.173	(0.402)	0.156	0.017
142	11.83	0.60	0.183	(0.400)	0.165	0.018
143	11.92	0.60	0.183	(0.398)	0.165	0.018
144	12.00	0.60	0.183	(0.396)	0.165	0.018
145	12.08	0.83	0.254	(0.394)	0.229	0.025

146	12.17	0.83	0.254	(0.392)	0.229	0.025
147	12.25	0.83	0.254	(0.390)	0.229	0.025
148	12.33	0.87	0.264	(0.388)	0.238	0.026
149	12.42	0.87	0.264	(0.386)	0.238	0.026
150	12.50	0.87	0.264	(0.384)	0.238	0.026
151	12.58	0.93	0.285	(0.382)	0.256	0.028
152	12.67	0.93	0.285	(0.380)	0.256	0.028
153	12.75	0.93	0.285	(0.378)	0.256	0.028
154	12.83	0.97	0.295	(0.376)	0.265	0.029
155	12.92	0.97	0.295	(0.374)	0.265	0.029
156	13.00	0.97	0.295	(0.372)	0.265	0.029
157	13.08	1.13	0.346	(0.371)	0.311	0.035
158	13.17	1.13	0.346	(0.369)	0.311	0.035
159	13.25	1.13	0.346	(0.367)	0.311	0.035
160	13.33	1.13	0.346	(0.365)	0.311	0.035
161	13.42	1.13	0.346	(0.363)	0.311	0.035
162	13.50	1.13	0.346	(0.361)	0.311	0.035
163	13.58	0.77	0.234	(0.359)	0.210	0.023
164	13.67	0.77	0.234	(0.358)	0.210	0.023
165	13.75	0.77	0.234	(0.356)	0.210	0.023
166	13.83	0.77	0.234	(0.354)	0.210	0.023
167	13.92	0.77	0.234	(0.352)	0.210	0.023
168	14.00	0.77	0.234	(0.350)	0.210	0.023
169	14.08	0.90	0.275	(0.349)	0.247	0.027
170	14.17	0.90	0.275	(0.347)	0.247	0.027
171	14.25	0.90	0.275	(0.345)	0.247	0.027
172	14.33	0.87	0.264	(0.343)	0.238	0.026
173	14.42	0.87	0.264	(0.342)	0.238	0.026
174	14.50	0.87	0.264	(0.340)	0.238	0.026
175	14.58	0.87	0.264	(0.338)	0.238	0.026
176	14.67	0.87	0.264	(0.336)	0.238	0.026
177	14.75	0.87	0.264	(0.335)	0.238	0.026
178	14.83	0.83	0.254	(0.333)	0.229	0.025
179	14.92	0.83	0.254	(0.331)	0.229	0.025
180	15.00	0.83	0.254	(0.329)	0.229	0.025
181	15.08	0.80	0.244	(0.328)	0.220	0.024
182	15.17	0.80	0.244	(0.326)	0.220	0.024
183	15.25	0.80	0.244	(0.324)	0.220	0.024
184	15.33	0.77	0.234	(0.323)	0.210	0.023
185	15.42	0.77	0.234	(0.321)	0.210	0.023
186	15.50	0.77	0.234	(0.319)	0.210	0.023
187	15.58	0.63	0.193	(0.318)	0.174	0.019
188	15.67	0.63	0.193	(0.316)	0.174	0.019
189	15.75	0.63	0.193	(0.315)	0.174	0.019
190	15.83	0.63	0.193	(0.313)	0.174	0.019
191	15.92	0.63	0.193	(0.311)	0.174	0.019
192	16.00	0.63	0.193	(0.310)	0.174	0.019
193	16.08	0.13	0.041	(0.308)	0.037	0.004
194	16.17	0.13	0.041	(0.307)	0.037	0.004
195	16.25	0.13	0.041	(0.305)	0.037	0.004

196	16.33	0.13	0.041	(0.303)	0.037	0.004
197	16.42	0.13	0.041	(0.302)	0.037	0.004
198	16.50	0.13	0.041	(0.300)	0.037	0.004
199	16.58	0.10	0.031	(0.299)	0.027	0.003
200	16.67	0.10	0.031	(0.297)	0.027	0.003
201	16.75	0.10	0.031	(0.296)	0.027	0.003
202	16.83	0.10	0.031	(0.294)	0.027	0.003
203	16.92	0.10	0.031	(0.293)	0.027	0.003
204	17.00	0.10	0.031	(0.291)	0.027	0.003
205	17.08	0.17	0.051	(0.290)	0.046	0.005
206	17.17	0.17	0.051	(0.288)	0.046	0.005
207	17.25	0.17	0.051	(0.287)	0.046	0.005
208	17.33	0.17	0.051	(0.286)	0.046	0.005
209	17.42	0.17	0.051	(0.284)	0.046	0.005
210	17.50	0.17	0.051	(0.283)	0.046	0.005
211	17.58	0.17	0.051	(0.281)	0.046	0.005
212	17.67	0.17	0.051	(0.280)	0.046	0.005
213	17.75	0.17	0.051	(0.278)	0.046	0.005
214	17.83	0.13	0.041	(0.277)	0.037	0.004
215	17.92	0.13	0.041	(0.276)	0.037	0.004
216	18.00	0.13	0.041	(0.274)	0.037	0.004
217	18.08	0.13	0.041	(0.273)	0.037	0.004
218	18.17	0.13	0.041	(0.272)	0.037	0.004
219	18.25	0.13	0.041	(0.270)	0.037	0.004
220	18.33	0.13	0.041	(0.269)	0.037	0.004
221	18.42	0.13	0.041	(0.268)	0.037	0.004
222	18.50	0.13	0.041	(0.266)	0.037	0.004
223	18.58	0.10	0.031	(0.265)	0.027	0.003
224	18.67	0.10	0.031	(0.264)	0.027	0.003
225	18.75	0.10	0.031	(0.263)	0.027	0.003
226	18.83	0.07	0.020	(0.261)	0.018	0.002
227	18.92	0.07	0.020	(0.260)	0.018	0.002
228	19.00	0.07	0.020	(0.259)	0.018	0.002
229	19.08	0.10	0.031	(0.258)	0.027	0.003
230	19.17	0.10	0.031	(0.256)	0.027	0.003
231	19.25	0.10	0.031	(0.255)	0.027	0.003
232	19.33	0.13	0.041	(0.254)	0.037	0.004
233	19.42	0.13	0.041	(0.253)	0.037	0.004
234	19.50	0.13	0.041	(0.252)	0.037	0.004
235	19.58	0.10	0.031	(0.251)	0.027	0.003
236	19.67	0.10	0.031	(0.249)	0.027	0.003
237	19.75	0.10	0.031	(0.248)	0.027	0.003
238	19.83	0.07	0.020	(0.247)	0.018	0.002
239	19.92	0.07	0.020	(0.246)	0.018	0.002
240	20.00	0.07	0.020	(0.245)	0.018	0.002
241	20.08	0.10	0.031	(0.244)	0.027	0.003
242	20.17	0.10	0.031	(0.243)	0.027	0.003
243	20.25	0.10	0.031	(0.242)	0.027	0.003
244	20.33	0.10	0.031	(0.241)	0.027	0.003
245	20.42	0.10	0.031	(0.240)	0.027	0.003

246	20.50	0.10	0.031	(0.239)	0.027	0.003
247	20.58	0.10	0.031	(0.238)	0.027	0.003
248	20.67	0.10	0.031	(0.237)	0.027	0.003
249	20.75	0.10	0.031	(0.236)	0.027	0.003
250	20.83	0.07	0.020	(0.235)	0.018	0.002
251	20.92	0.07	0.020	(0.234)	0.018	0.002
252	21.00	0.07	0.020	(0.233)	0.018	0.002
253	21.08	0.10	0.031	(0.232)	0.027	0.003
254	21.17	0.10	0.031	(0.231)	0.027	0.003
255	21.25	0.10	0.031	(0.230)	0.027	0.003
256	21.33	0.07	0.020	(0.229)	0.018	0.002
257	21.42	0.07	0.020	(0.228)	0.018	0.002
258	21.50	0.07	0.020	(0.227)	0.018	0.002
259	21.58	0.10	0.031	(0.227)	0.027	0.003
260	21.67	0.10	0.031	(0.226)	0.027	0.003
261	21.75	0.10	0.031	(0.225)	0.027	0.003
262	21.83	0.07	0.020	(0.224)	0.018	0.002
263	21.92	0.07	0.020	(0.223)	0.018	0.002
264	22.00	0.07	0.020	(0.223)	0.018	0.002
265	22.08	0.10	0.031	(0.222)	0.027	0.003
266	22.17	0.10	0.031	(0.221)	0.027	0.003
267	22.25	0.10	0.031	(0.221)	0.027	0.003
268	22.33	0.07	0.020	(0.220)	0.018	0.002
269	22.42	0.07	0.020	(0.219)	0.018	0.002
270	22.50	0.07	0.020	(0.219)	0.018	0.002
271	22.58	0.07	0.020	(0.218)	0.018	0.002
272	22.67	0.07	0.020	(0.217)	0.018	0.002
273	22.75	0.07	0.020	(0.217)	0.018	0.002
274	22.83	0.07	0.020	(0.216)	0.018	0.002
275	22.92	0.07	0.020	(0.216)	0.018	0.002
276	23.00	0.07	0.020	(0.215)	0.018	0.002
277	23.08	0.07	0.020	(0.215)	0.018	0.002
278	23.17	0.07	0.020	(0.214)	0.018	0.002
279	23.25	0.07	0.020	(0.214)	0.018	0.002
280	23.33	0.07	0.020	(0.213)	0.018	0.002
281	23.42	0.07	0.020	(0.213)	0.018	0.002
282	23.50	0.07	0.020	(0.212)	0.018	0.002
283	23.58	0.07	0.020	(0.212)	0.018	0.002
284	23.67	0.07	0.020	(0.212)	0.018	0.002
285	23.75	0.07	0.020	(0.211)	0.018	0.002
286	23.83	0.07	0.020	(0.211)	0.018	0.002
287	23.92	0.07	0.020	(0.211)	0.018	0.002
288	24.00	0.07	0.020	(0.211)	0.018	0.002

(Loss Rate Not Used)

Sum = 100.0 Sum = 3.1

Flood volume = Effective rainfall 0.25(In)
times area 14.0(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)

Total soil loss = 2.29(In)

Total soil loss = 2.669(Ac.Ft)

Total rainfall = 2.54(In)

Flood volume = 12919.2 Cubic Feet
 Total soil loss = 116273.0 Cubic Feet

 Peak flow rate of this hydrograph = 0.488(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	0.0003	0.03	Q				
0+15	0.0005	0.03	Q				
0+20	0.0007	0.04	Q				
0+25	0.0010	0.04	Q				
0+30	0.0013	0.04	Q				
0+35	0.0016	0.04	Q				
0+40	0.0019	0.04	Q				
0+45	0.0022	0.04	Q				
0+50	0.0025	0.05	Q				
0+55	0.0029	0.06	Q				
1+ 0	0.0033	0.06	Q				
1+ 5	0.0036	0.05	Q				
1+10	0.0039	0.04	Q				
1+15	0.0042	0.04	Q				
1+20	0.0045	0.04	Q				
1+25	0.0048	0.04	Q				
1+30	0.0051	0.04	Q				
1+35	0.0054	0.04	Q				
1+40	0.0057	0.04	Q				
1+45	0.0060	0.04	Q				
1+50	0.0064	0.05	Q				
1+55	0.0068	0.06	Q				
2+ 0	0.0071	0.06	Q				
2+ 5	0.0075	0.06	QV				
2+10	0.0079	0.06	QV				
2+15	0.0083	0.06	QV				
2+20	0.0087	0.06	QV				
2+25	0.0091	0.06	QV				
2+30	0.0095	0.06	QV				
2+35	0.0100	0.06	QV				
2+40	0.0104	0.07	QV				
2+45	0.0109	0.07	QV				
2+50	0.0114	0.07	QV				
2+55	0.0119	0.07	QV				
3+ 0	0.0124	0.07	QV				

3+ 5	0.0129	0.07	QV
3+10	0.0134	0.07	QV
3+15	0.0139	0.07	QV
3+20	0.0144	0.07	QV
3+25	0.0149	0.07	Q V
3+30	0.0154	0.07	Q V
3+35	0.0159	0.07	Q V
3+40	0.0164	0.07	Q V
3+45	0.0169	0.07	Q V
3+50	0.0174	0.08	Q V
3+55	0.0180	0.08	Q V
4+ 0	0.0186	0.09	Q V
4+ 5	0.0192	0.09	Q V
4+10	0.0198	0.09	Q V
4+15	0.0204	0.09	Q V
4+20	0.0210	0.09	Q V
4+25	0.0217	0.10	Q V
4+30	0.0224	0.10	Q V
4+35	0.0231	0.10	Q V
4+40	0.0238	0.10	Q V
4+45	0.0244	0.10	Q V
4+50	0.0252	0.11	Q V
4+55	0.0260	0.11	Q V
5+ 0	0.0268	0.11	Q V
5+ 5	0.0274	0.10	Q V
5+10	0.0281	0.09	Q V
5+15	0.0287	0.09	Q V
5+20	0.0293	0.09	Q V
5+25	0.0300	0.10	Q V
5+30	0.0307	0.10	Q V
5+35	0.0314	0.11	Q V
5+40	0.0322	0.11	Q V
5+45	0.0330	0.11	Q V
5+50	0.0338	0.11	Q V
5+55	0.0346	0.11	Q V
6+ 0	0.0354	0.11	Q V
6+ 5	0.0362	0.12	Q V
6+10	0.0371	0.13	Q V
6+15	0.0380	0.13	Q V
6+20	0.0388	0.13	Q V
6+25	0.0397	0.13	Q V
6+30	0.0406	0.13	Q V
6+35	0.0416	0.14	Q V
6+40	0.0425	0.14	Q V
6+45	0.0435	0.14	Q V
6+50	0.0445	0.14	Q V
6+55	0.0455	0.14	Q V
7+ 0	0.0465	0.14	Q V
7+ 5	0.0475	0.14	Q V
7+10	0.0485	0.14	Q V

7+15	0.0495	0.14	Q	V				
7+20	0.0505	0.15	Q	V				
7+25	0.0516	0.16	Q	V				
7+30	0.0526	0.16	Q	V				
7+35	0.0538	0.16	Q	V				
7+40	0.0550	0.17	Q	V				
7+45	0.0561	0.17	Q	V				
7+50	0.0574	0.18	Q	V				
7+55	0.0586	0.18	Q	V				
8+ 0	0.0599	0.19	Q	V				
8+ 5	0.0613	0.20	Q	V				
8+10	0.0628	0.21	Q	V				
8+15	0.0642	0.21	Q	V				
8+20	0.0657	0.22	Q	V				
8+25	0.0672	0.22	Q	V				
8+30	0.0687	0.22	Q	V				
8+35	0.0702	0.22	Q	V				
8+40	0.0718	0.23	Q	V				
8+45	0.0734	0.23	Q	V				
8+50	0.0750	0.24	Q	V				
8+55	0.0767	0.24	Q	V				
9+ 0	0.0783	0.24	Q	V				
9+ 5	0.0801	0.26	Q	V				
9+10	0.0820	0.27	Q	V				
9+15	0.0838	0.27	Q	V				
9+20	0.0858	0.28	Q	V				
9+25	0.0877	0.29	Q	V				
9+30	0.0897	0.29	Q	V				
9+35	0.0917	0.29	Q	V				
9+40	0.0938	0.30	Q	V				
9+45	0.0959	0.30	Q	V				
9+50	0.0980	0.31	Q	V				
9+55	0.1002	0.31	Q	V				
10+ 0	0.1023	0.32	Q	V				
10+ 5	0.1042	0.27	Q	V				
10+10	0.1057	0.23	Q	V				
10+15	0.1072	0.22	Q	V				
10+20	0.1087	0.22	Q	V				
10+25	0.1102	0.22	Q	V				
10+30	0.1117	0.22	Q	V				
10+35	0.1134	0.25	Q	V				
10+40	0.1153	0.28	Q	V				
10+45	0.1173	0.28	Q	V				
10+50	0.1193	0.29	Q	V				
10+55	0.1212	0.29	Q	V				
11+ 0	0.1232	0.29	Q	V				
11+ 5	0.1252	0.28	Q	V				
11+10	0.1270	0.27	Q	V				
11+15	0.1289	0.27	Q	V				
11+20	0.1308	0.27	Q	V				

11+25	0.1327	0.27	Q	V			
11+30	0.1346	0.27	Q	V			
11+35	0.1363	0.26	Q	V			
11+40	0.1381	0.25	Q	V			
11+45	0.1397	0.24	Q	V			
11+50	0.1415	0.25	Q	V			
11+55	0.1432	0.26	Q	V			
12+ 0	0.1450	0.26	Q	V			
12+ 5	0.1471	0.31	Q	V			
12+10	0.1495	0.35	Q	V			
12+15	0.1520	0.36	Q	V			
12+20	0.1545	0.37	Q	V			
12+25	0.1570	0.37	Q	V			
12+30	0.1596	0.37	Q	V			
12+35	0.1623	0.39	Q	V			
12+40	0.1650	0.40	Q	V			
12+45	0.1678	0.40	Q	V			
12+50	0.1706	0.41	Q	V			
12+55	0.1734	0.41	Q	V			
13+ 0	0.1763	0.42	Q	V			
13+ 5	0.1794	0.45	Q	V			
13+10	0.1827	0.48	Q	V			
13+15	0.1861	0.49	Q	V			
13+20	0.1894	0.49	Q	V			
13+25	0.1928	0.49	Q	V			
13+30	0.1961	0.49	Q	V			
13+35	0.1990	0.41	Q	V			
13+40	0.2014	0.35	Q	V			
13+45	0.2037	0.34	Q	V			
13+50	0.2060	0.33	Q	V			
13+55	0.2082	0.33	Q	V			
14+ 0	0.2105	0.33	Q	V			
14+ 5	0.2130	0.36	Q	V			
14+10	0.2156	0.38	Q	V			
14+15	0.2183	0.39	Q	V			
14+20	0.2209	0.38	Q	V			
14+25	0.2235	0.37	Q	V			
14+30	0.2260	0.37	Q	V			
14+35	0.2286	0.37	Q	V			
14+40	0.2312	0.37	Q	V			
14+45	0.2337	0.37	Q	V			
14+50	0.2363	0.37	Q	V			
14+55	0.2388	0.36	Q	V			
15+ 0	0.2412	0.36	Q	V			
15+ 5	0.2437	0.35	Q	V			
15+10	0.2460	0.35	Q	V			
15+15	0.2484	0.34	Q	V			
15+20	0.2507	0.34	Q	V			
15+25	0.2530	0.33	Q	V			
15+30	0.2553	0.33	Q	V			

15+35	0.2574	0.30	Q				V
15+40	0.2593	0.28	Q				V
15+45	0.2612	0.27	Q				V
15+50	0.2631	0.27	Q				V
15+55	0.2650	0.27	Q				V
16+ 0	0.2668	0.27	Q				V
16+ 5	0.2680	0.17	Q				V
16+10	0.2686	0.08	Q				V
16+15	0.2690	0.06	Q				V
16+20	0.2694	0.06	Q				V
16+25	0.2698	0.06	Q				V
16+30	0.2702	0.06	Q				V
16+35	0.2706	0.05	Q				V
16+40	0.2709	0.04	Q				V
16+45	0.2712	0.04	Q				V
16+50	0.2715	0.04	Q				V
16+55	0.2718	0.04	Q				V
17+ 0	0.2721	0.04	Q				V
17+ 5	0.2725	0.06	Q				V
17+10	0.2729	0.07	Q				V
17+15	0.2734	0.07	Q				V
17+20	0.2739	0.07	Q				V
17+25	0.2744	0.07	Q				V
17+30	0.2749	0.07	Q				V
17+35	0.2754	0.07	Q				V
17+40	0.2759	0.07	Q				V
17+45	0.2764	0.07	Q				V
17+50	0.2768	0.07	Q				V
17+55	0.2772	0.06	Q				V
18+ 0	0.2776	0.06	Q				V
18+ 5	0.2780	0.06	Q				V
18+10	0.2784	0.06	Q				V
18+15	0.2788	0.06	Q				V
18+20	0.2792	0.06	Q				V
18+25	0.2796	0.06	Q				V
18+30	0.2800	0.06	Q				V
18+35	0.2804	0.05	Q				V
18+40	0.2807	0.04	Q				V
18+45	0.2810	0.04	Q				V
18+50	0.2812	0.04	Q				V
18+55	0.2814	0.03	Q				V
19+ 0	0.2816	0.03	Q				V
19+ 5	0.2819	0.04	Q				V
19+10	0.2822	0.04	Q				V
19+15	0.2824	0.04	Q				V
19+20	0.2828	0.05	Q				V
19+25	0.2832	0.06	Q				V
19+30	0.2836	0.06	Q				V
19+35	0.2839	0.05	Q				V
19+40	0.2842	0.04	Q				V

19+45	0.2845	0.04	Q				V
19+50	0.2848	0.04	Q				V
19+55	0.2850	0.03	Q				V
20+ 0	0.2852	0.03	Q				V
20+ 5	0.2854	0.04	Q				V
20+10	0.2857	0.04	Q				V
20+15	0.2860	0.04	Q				V
20+20	0.2863	0.04	Q				V
20+25	0.2866	0.04	Q				V
20+30	0.2869	0.04	Q				V
20+35	0.2872	0.04	Q				V
20+40	0.2875	0.04	Q				V
20+45	0.2878	0.04	Q				V
20+50	0.2880	0.04	Q				V
20+55	0.2882	0.03	Q				V
21+ 0	0.2884	0.03	Q				V
21+ 5	0.2887	0.04	Q				V
21+10	0.2890	0.04	Q				V
21+15	0.2893	0.04	Q				V
21+20	0.2895	0.04	Q				V
21+25	0.2897	0.03	Q				V
21+30	0.2899	0.03	Q				V
21+35	0.2902	0.04	Q				V
21+40	0.2905	0.04	Q				V
21+45	0.2907	0.04	Q				V
21+50	0.2910	0.04	Q				V
21+55	0.2912	0.03	Q				V
22+ 0	0.2914	0.03	Q				V
22+ 5	0.2917	0.04	Q				V
22+10	0.2919	0.04	Q				V
22+15	0.2922	0.04	Q				V
22+20	0.2925	0.04	Q				V
22+25	0.2927	0.03	Q				V
22+30	0.2929	0.03	Q				V
22+35	0.2931	0.03	Q				V
22+40	0.2933	0.03	Q				V
22+45	0.2935	0.03	Q				V
22+50	0.2937	0.03	Q				V
22+55	0.2939	0.03	Q				V
23+ 0	0.2941	0.03	Q				V
23+ 5	0.2943	0.03	Q				V
23+10	0.2945	0.03	Q				V
23+15	0.2947	0.03	Q				V
23+20	0.2949	0.03	Q				V
23+25	0.2951	0.03	Q				V
23+30	0.2953	0.03	Q				V
23+35	0.2955	0.03	Q				V
23+40	0.2957	0.03	Q				V
23+45	0.2959	0.03	Q				V
23+50	0.2961	0.03	Q				V

23+55	0.2963	0.03	Q				V
24+ 0	0.2965	0.03	Q				V
24+ 5	0.2966	0.02	Q				V
24+10	0.2966	0.00	Q				V
24+15	0.2966	0.00	Q				V

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

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Study date 03/16/23 File: GOYASUHPOST245.out

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

Program License Serial Number 6215

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

English Units used in output format

GOYASUHPOST5YR

Drainage Area = 13.75(Ac.) = 0.021 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 13.75(Ac.) =
0.021 Sq. Mi.
Length along longest watercourse = 1220.00(Ft.)
Length along longest watercourse measured to centroid = 146.00(Ft.)
Length along longest watercourse = 0.231 Mi.
Length along longest watercourse measured to centroid = 0.028 Mi.
Difference in elevation = 6.10(Ft.)
Slope along watercourse = 26.4000 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.028 Hr.
Lag time = 1.70 Min.
25% of lag time = 0.42 Min.
40% of lag time = 0.68 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]
13.75	1.60	22.00

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
13.75	4.00	55.00

STORM EVENT (YEAR) = 5.00
 Area Averaged 2-Year Rainfall = 1.600(In)
 Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 2.162(In)
 Areal adjustment factor = 100.00 %
 Adjusted average point rain = 2.162(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
13.750	56.00	0.600
Total Area Entered = 13.75(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.600	0.325	1.000	0.325
Sum (F) =						0.325

Area averaged mean soil loss (F) (In/Hr) = 0.325
 Minimum soil loss rate ((In/Hr)) = 0.162
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.380

 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	294.139	56.070	7.770
2	0.167	588.277	37.453	5.190
3	0.250	882.416	6.476	0.897
Sum = 100.000			Sum=	13.857

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)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.017	(0.576)	0.007	0.011
2	0.17	0.07	0.017	(0.573)	0.007	0.011
3	0.25	0.07	0.017	(0.571)	0.007	0.011
4	0.33	0.10	0.026	(0.569)	0.010	0.016
5	0.42	0.10	0.026	(0.567)	0.010	0.016
6	0.50	0.10	0.026	(0.565)	0.010	0.016
7	0.58	0.10	0.026	(0.562)	0.010	0.016
8	0.67	0.10	0.026	(0.560)	0.010	0.016
9	0.75	0.10	0.026	(0.558)	0.010	0.016
10	0.83	0.13	0.035	(0.556)	0.013	0.021
11	0.92	0.13	0.035	(0.554)	0.013	0.021
12	1.00	0.13	0.035	(0.551)	0.013	0.021
13	1.08	0.10	0.026	(0.549)	0.010	0.016
14	1.17	0.10	0.026	(0.547)	0.010	0.016
15	1.25	0.10	0.026	(0.545)	0.010	0.016
16	1.33	0.10	0.026	(0.543)	0.010	0.016
17	1.42	0.10	0.026	(0.541)	0.010	0.016
18	1.50	0.10	0.026	(0.538)	0.010	0.016
19	1.58	0.10	0.026	(0.536)	0.010	0.016
20	1.67	0.10	0.026	(0.534)	0.010	0.016
21	1.75	0.10	0.026	(0.532)	0.010	0.016
22	1.83	0.13	0.035	(0.530)	0.013	0.021
23	1.92	0.13	0.035	(0.528)	0.013	0.021
24	2.00	0.13	0.035	(0.526)	0.013	0.021
25	2.08	0.13	0.035	(0.523)	0.013	0.021
26	2.17	0.13	0.035	(0.521)	0.013	0.021
27	2.25	0.13	0.035	(0.519)	0.013	0.021
28	2.33	0.13	0.035	(0.517)	0.013	0.021
29	2.42	0.13	0.035	(0.515)	0.013	0.021
30	2.50	0.13	0.035	(0.513)	0.013	0.021
31	2.58	0.17	0.043	(0.511)	0.016	0.027
32	2.67	0.17	0.043	(0.509)	0.016	0.027
33	2.75	0.17	0.043	(0.507)	0.016	0.027
34	2.83	0.17	0.043	(0.505)	0.016	0.027
35	2.92	0.17	0.043	(0.502)	0.016	0.027
36	3.00	0.17	0.043	(0.500)	0.016	0.027
37	3.08	0.17	0.043	(0.498)	0.016	0.027
38	3.17	0.17	0.043	(0.496)	0.016	0.027
39	3.25	0.17	0.043	(0.494)	0.016	0.027
40	3.33	0.17	0.043	(0.492)	0.016	0.027
41	3.42	0.17	0.043	(0.490)	0.016	0.027
42	3.50	0.17	0.043	(0.488)	0.016	0.027
43	3.58	0.17	0.043	(0.486)	0.016	0.027
44	3.67	0.17	0.043	(0.484)	0.016	0.027
45	3.75	0.17	0.043	(0.482)	0.016	0.027
46	3.83	0.20	0.052	(0.480)	0.020	0.032

47	3.92	0.20	0.052	(0.478)	0.020	0.032
48	4.00	0.20	0.052	(0.476)	0.020	0.032
49	4.08	0.20	0.052	(0.474)	0.020	0.032
50	4.17	0.20	0.052	(0.472)	0.020	0.032
51	4.25	0.20	0.052	(0.470)	0.020	0.032
52	4.33	0.23	0.061	(0.468)	0.023	0.038
53	4.42	0.23	0.061	(0.466)	0.023	0.038
54	4.50	0.23	0.061	(0.464)	0.023	0.038
55	4.58	0.23	0.061	(0.462)	0.023	0.038
56	4.67	0.23	0.061	(0.460)	0.023	0.038
57	4.75	0.23	0.061	(0.458)	0.023	0.038
58	4.83	0.27	0.069	(0.456)	0.026	0.043
59	4.92	0.27	0.069	(0.454)	0.026	0.043
60	5.00	0.27	0.069	(0.452)	0.026	0.043
61	5.08	0.20	0.052	(0.450)	0.020	0.032
62	5.17	0.20	0.052	(0.448)	0.020	0.032
63	5.25	0.20	0.052	(0.446)	0.020	0.032
64	5.33	0.23	0.061	(0.444)	0.023	0.038
65	5.42	0.23	0.061	(0.442)	0.023	0.038
66	5.50	0.23	0.061	(0.440)	0.023	0.038
67	5.58	0.27	0.069	(0.438)	0.026	0.043
68	5.67	0.27	0.069	(0.436)	0.026	0.043
69	5.75	0.27	0.069	(0.434)	0.026	0.043
70	5.83	0.27	0.069	(0.433)	0.026	0.043
71	5.92	0.27	0.069	(0.431)	0.026	0.043
72	6.00	0.27	0.069	(0.429)	0.026	0.043
73	6.08	0.30	0.078	(0.427)	0.030	0.048
74	6.17	0.30	0.078	(0.425)	0.030	0.048
75	6.25	0.30	0.078	(0.423)	0.030	0.048
76	6.33	0.30	0.078	(0.421)	0.030	0.048
77	6.42	0.30	0.078	(0.419)	0.030	0.048
78	6.50	0.30	0.078	(0.417)	0.030	0.048
79	6.58	0.33	0.086	(0.415)	0.033	0.054
80	6.67	0.33	0.086	(0.414)	0.033	0.054
81	6.75	0.33	0.086	(0.412)	0.033	0.054
82	6.83	0.33	0.086	(0.410)	0.033	0.054
83	6.92	0.33	0.086	(0.408)	0.033	0.054
84	7.00	0.33	0.086	(0.406)	0.033	0.054
85	7.08	0.33	0.086	(0.404)	0.033	0.054
86	7.17	0.33	0.086	(0.402)	0.033	0.054
87	7.25	0.33	0.086	(0.401)	0.033	0.054
88	7.33	0.37	0.095	(0.399)	0.036	0.059
89	7.42	0.37	0.095	(0.397)	0.036	0.059
90	7.50	0.37	0.095	(0.395)	0.036	0.059
91	7.58	0.40	0.104	(0.393)	0.039	0.064
92	7.67	0.40	0.104	(0.392)	0.039	0.064
93	7.75	0.40	0.104	(0.390)	0.039	0.064
94	7.83	0.43	0.112	(0.388)	0.043	0.070
95	7.92	0.43	0.112	(0.386)	0.043	0.070
96	8.00	0.43	0.112	(0.384)	0.043	0.070

97	8.08	0.50	0.130	(0.383)	0.049	0.080
98	8.17	0.50	0.130	(0.381)	0.049	0.080
99	8.25	0.50	0.130	(0.379)	0.049	0.080
100	8.33	0.50	0.130	(0.377)	0.049	0.080
101	8.42	0.50	0.130	(0.375)	0.049	0.080
102	8.50	0.50	0.130	(0.374)	0.049	0.080
103	8.58	0.53	0.138	(0.372)	0.053	0.086
104	8.67	0.53	0.138	(0.370)	0.053	0.086
105	8.75	0.53	0.138	(0.368)	0.053	0.086
106	8.83	0.57	0.147	(0.367)	0.056	0.091
107	8.92	0.57	0.147	(0.365)	0.056	0.091
108	9.00	0.57	0.147	(0.363)	0.056	0.091
109	9.08	0.63	0.164	(0.362)	0.062	0.102
110	9.17	0.63	0.164	(0.360)	0.062	0.102
111	9.25	0.63	0.164	(0.358)	0.062	0.102
112	9.33	0.67	0.173	(0.356)	0.066	0.107
113	9.42	0.67	0.173	(0.355)	0.066	0.107
114	9.50	0.67	0.173	(0.353)	0.066	0.107
115	9.58	0.70	0.182	(0.351)	0.069	0.113
116	9.67	0.70	0.182	(0.350)	0.069	0.113
117	9.75	0.70	0.182	(0.348)	0.069	0.113
118	9.83	0.73	0.190	(0.346)	0.072	0.118
119	9.92	0.73	0.190	(0.345)	0.072	0.118
120	10.00	0.73	0.190	(0.343)	0.072	0.118
121	10.08	0.50	0.130	(0.341)	0.049	0.080
122	10.17	0.50	0.130	(0.340)	0.049	0.080
123	10.25	0.50	0.130	(0.338)	0.049	0.080
124	10.33	0.50	0.130	(0.336)	0.049	0.080
125	10.42	0.50	0.130	(0.335)	0.049	0.080
126	10.50	0.50	0.130	(0.333)	0.049	0.080
127	10.58	0.67	0.173	(0.331)	0.066	0.107
128	10.67	0.67	0.173	(0.330)	0.066	0.107
129	10.75	0.67	0.173	(0.328)	0.066	0.107
130	10.83	0.67	0.173	(0.327)	0.066	0.107
131	10.92	0.67	0.173	(0.325)	0.066	0.107
132	11.00	0.67	0.173	(0.323)	0.066	0.107
133	11.08	0.63	0.164	(0.322)	0.062	0.102
134	11.17	0.63	0.164	(0.320)	0.062	0.102
135	11.25	0.63	0.164	(0.319)	0.062	0.102
136	11.33	0.63	0.164	(0.317)	0.062	0.102
137	11.42	0.63	0.164	(0.316)	0.062	0.102
138	11.50	0.63	0.164	(0.314)	0.062	0.102
139	11.58	0.57	0.147	(0.312)	0.056	0.091
140	11.67	0.57	0.147	(0.311)	0.056	0.091
141	11.75	0.57	0.147	(0.309)	0.056	0.091
142	11.83	0.60	0.156	(0.308)	0.059	0.097
143	11.92	0.60	0.156	(0.306)	0.059	0.097
144	12.00	0.60	0.156	(0.305)	0.059	0.097
145	12.08	0.83	0.216	(0.303)	0.082	0.134
146	12.17	0.83	0.216	(0.302)	0.082	0.134

147	12.25	0.83	0.216	(0.300)	0.082	0.134
148	12.33	0.87	0.225	(0.299)	0.085	0.139
149	12.42	0.87	0.225	(0.297)	0.085	0.139
150	12.50	0.87	0.225	(0.296)	0.085	0.139
151	12.58	0.93	0.242	(0.294)	0.092	0.150
152	12.67	0.93	0.242	(0.293)	0.092	0.150
153	12.75	0.93	0.242	(0.291)	0.092	0.150
154	12.83	0.97	0.251	(0.290)	0.095	0.155
155	12.92	0.97	0.251	(0.288)	0.095	0.155
156	13.00	0.97	0.251	(0.287)	0.095	0.155
157	13.08	1.13	0.294	(0.285)	0.112	0.182
158	13.17	1.13	0.294	(0.284)	0.112	0.182
159	13.25	1.13	0.294	(0.282)	0.112	0.182
160	13.33	1.13	0.294	(0.281)	0.112	0.182
161	13.42	1.13	0.294	(0.280)	0.112	0.182
162	13.50	1.13	0.294	(0.278)	0.112	0.182
163	13.58	0.77	0.199	(0.277)	0.076	0.123
164	13.67	0.77	0.199	(0.275)	0.076	0.123
165	13.75	0.77	0.199	(0.274)	0.076	0.123
166	13.83	0.77	0.199	(0.273)	0.076	0.123
167	13.92	0.77	0.199	(0.271)	0.076	0.123
168	14.00	0.77	0.199	(0.270)	0.076	0.123
169	14.08	0.90	0.234	(0.268)	0.089	0.145
170	14.17	0.90	0.234	(0.267)	0.089	0.145
171	14.25	0.90	0.234	(0.266)	0.089	0.145
172	14.33	0.87	0.225	(0.264)	0.085	0.139
173	14.42	0.87	0.225	(0.263)	0.085	0.139
174	14.50	0.87	0.225	(0.262)	0.085	0.139
175	14.58	0.87	0.225	(0.260)	0.085	0.139
176	14.67	0.87	0.225	(0.259)	0.085	0.139
177	14.75	0.87	0.225	(0.258)	0.085	0.139
178	14.83	0.83	0.216	(0.256)	0.082	0.134
179	14.92	0.83	0.216	(0.255)	0.082	0.134
180	15.00	0.83	0.216	(0.254)	0.082	0.134
181	15.08	0.80	0.208	(0.252)	0.079	0.129
182	15.17	0.80	0.208	(0.251)	0.079	0.129
183	15.25	0.80	0.208	(0.250)	0.079	0.129
184	15.33	0.77	0.199	(0.248)	0.076	0.123
185	15.42	0.77	0.199	(0.247)	0.076	0.123
186	15.50	0.77	0.199	(0.246)	0.076	0.123
187	15.58	0.63	0.164	(0.245)	0.062	0.102
188	15.67	0.63	0.164	(0.243)	0.062	0.102
189	15.75	0.63	0.164	(0.242)	0.062	0.102
190	15.83	0.63	0.164	(0.241)	0.062	0.102
191	15.92	0.63	0.164	(0.240)	0.062	0.102
192	16.00	0.63	0.164	(0.238)	0.062	0.102
193	16.08	0.13	0.035	(0.237)	0.013	0.021
194	16.17	0.13	0.035	(0.236)	0.013	0.021
195	16.25	0.13	0.035	(0.235)	0.013	0.021
196	16.33	0.13	0.035	(0.234)	0.013	0.021

197	16.42	0.13	0.035	(0.232)	0.013	0.021
198	16.50	0.13	0.035	(0.231)	0.013	0.021
199	16.58	0.10	0.026	(0.230)	0.010	0.016
200	16.67	0.10	0.026	(0.229)	0.010	0.016
201	16.75	0.10	0.026	(0.228)	0.010	0.016
202	16.83	0.10	0.026	(0.227)	0.010	0.016
203	16.92	0.10	0.026	(0.225)	0.010	0.016
204	17.00	0.10	0.026	(0.224)	0.010	0.016
205	17.08	0.17	0.043	(0.223)	0.016	0.027
206	17.17	0.17	0.043	(0.222)	0.016	0.027
207	17.25	0.17	0.043	(0.221)	0.016	0.027
208	17.33	0.17	0.043	(0.220)	0.016	0.027
209	17.42	0.17	0.043	(0.219)	0.016	0.027
210	17.50	0.17	0.043	(0.218)	0.016	0.027
211	17.58	0.17	0.043	(0.217)	0.016	0.027
212	17.67	0.17	0.043	(0.215)	0.016	0.027
213	17.75	0.17	0.043	(0.214)	0.016	0.027
214	17.83	0.13	0.035	(0.213)	0.013	0.021
215	17.92	0.13	0.035	(0.212)	0.013	0.021
216	18.00	0.13	0.035	(0.211)	0.013	0.021
217	18.08	0.13	0.035	(0.210)	0.013	0.021
218	18.17	0.13	0.035	(0.209)	0.013	0.021
219	18.25	0.13	0.035	(0.208)	0.013	0.021
220	18.33	0.13	0.035	(0.207)	0.013	0.021
221	18.42	0.13	0.035	(0.206)	0.013	0.021
222	18.50	0.13	0.035	(0.205)	0.013	0.021
223	18.58	0.10	0.026	(0.204)	0.010	0.016
224	18.67	0.10	0.026	(0.203)	0.010	0.016
225	18.75	0.10	0.026	(0.202)	0.010	0.016
226	18.83	0.07	0.017	(0.201)	0.007	0.011
227	18.92	0.07	0.017	(0.200)	0.007	0.011
228	19.00	0.07	0.017	(0.199)	0.007	0.011
229	19.08	0.10	0.026	(0.198)	0.010	0.016
230	19.17	0.10	0.026	(0.197)	0.010	0.016
231	19.25	0.10	0.026	(0.196)	0.010	0.016
232	19.33	0.13	0.035	(0.196)	0.013	0.021
233	19.42	0.13	0.035	(0.195)	0.013	0.021
234	19.50	0.13	0.035	(0.194)	0.013	0.021
235	19.58	0.10	0.026	(0.193)	0.010	0.016
236	19.67	0.10	0.026	(0.192)	0.010	0.016
237	19.75	0.10	0.026	(0.191)	0.010	0.016
238	19.83	0.07	0.017	(0.190)	0.007	0.011
239	19.92	0.07	0.017	(0.189)	0.007	0.011
240	20.00	0.07	0.017	(0.189)	0.007	0.011
241	20.08	0.10	0.026	(0.188)	0.010	0.016
242	20.17	0.10	0.026	(0.187)	0.010	0.016
243	20.25	0.10	0.026	(0.186)	0.010	0.016
244	20.33	0.10	0.026	(0.185)	0.010	0.016
245	20.42	0.10	0.026	(0.185)	0.010	0.016
246	20.50	0.10	0.026	(0.184)	0.010	0.016

Total soil loss = 41007.6 Cubic Feet

 Peak flow rate of this hydrograph = 2.528(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	0.0006	0.08	Q				
0+10	0.0015	0.14	Q				
0+15	0.0026	0.15	Q				
0+20	0.0039	0.19	Q				
0+25	0.0054	0.22	Q				
0+30	0.0069	0.22	Q				
0+35	0.0084	0.22	Q				
0+40	0.0100	0.22	Q				
0+45	0.0115	0.22	Q				
0+50	0.0133	0.26	VQ				
0+55	0.0154	0.29	VQ				
1+ 0	0.0174	0.30	VQ				
1+ 5	0.0192	0.26	VQ				
1+10	0.0207	0.23	Q				
1+15	0.0223	0.22	Q				
1+20	0.0238	0.22	Q				
1+25	0.0253	0.22	Q				
1+30	0.0269	0.22	Q				
1+35	0.0284	0.22	Q				
1+40	0.0299	0.22	Q				
1+45	0.0315	0.22	Q				
1+50	0.0333	0.26	VQ				
1+55	0.0353	0.29	VQ				
2+ 0	0.0374	0.30	VQ				
2+ 5	0.0394	0.30	Q				
2+10	0.0415	0.30	Q				
2+15	0.0435	0.30	Q				
2+20	0.0456	0.30	Q				
2+25	0.0476	0.30	Q				
2+30	0.0497	0.30	Q				
2+35	0.0520	0.34	Q				
2+40	0.0545	0.37	Q				
2+45	0.0571	0.37	Q				
2+50	0.0596	0.37	Q				
2+55	0.0622	0.37	Q				
3+ 0	0.0648	0.37	Q				
3+ 5	0.0673	0.37	Q				

3+10	0.0699	0.37	Q				
3+15	0.0724	0.37	Q				
3+20	0.0750	0.37	Q				
3+25	0.0776	0.37	QV				
3+30	0.0801	0.37	QV				
3+35	0.0827	0.37	QV				
3+40	0.0852	0.37	QV				
3+45	0.0878	0.37	QV				
3+50	0.0906	0.41	QV				
3+55	0.0937	0.44	QV				
4+ 0	0.0968	0.45	QV				
4+ 5	0.0998	0.45	QV				
4+10	0.1029	0.45	QV				
4+15	0.1060	0.45	QV				
4+20	0.1093	0.49	QV				
4+25	0.1129	0.52	Q				
4+30	0.1165	0.52	QV				
4+35	0.1200	0.52	QV				
4+40	0.1236	0.52	QV				
4+45	0.1272	0.52	QV				
4+50	0.1311	0.56	QV				
4+55	0.1351	0.59	QV				
5+ 0	0.1392	0.59	QV				
5+ 5	0.1428	0.51	QV				
5+10	0.1459	0.46	Q V				
5+15	0.1490	0.45	Q V				
5+20	0.1523	0.49	Q V				
5+25	0.1559	0.52	Q V				
5+30	0.1595	0.52	Q V				
5+35	0.1633	0.56	Q V				
5+40	0.1674	0.59	Q V				
5+45	0.1715	0.59	Q V				
5+50	0.1756	0.59	Q V				
5+55	0.1797	0.59	Q V				
6+ 0	0.1838	0.59	Q V				
6+ 5	0.1882	0.64	Q V				
6+10	0.1927	0.66	Q V				
6+15	0.1974	0.67	Q V				
6+20	0.2020	0.67	Q V				
6+25	0.2066	0.67	Q V				
6+30	0.2112	0.67	Q V				
6+35	0.2161	0.71	Q V				
6+40	0.2212	0.74	Q V				
6+45	0.2263	0.74	Q V				
6+50	0.2314	0.74	Q V				
6+55	0.2365	0.74	Q V				
7+ 0	0.2416	0.74	Q V				
7+ 5	0.2468	0.74	Q V				
7+10	0.2519	0.74	Q V				
7+15	0.2570	0.74	Q V				

7+20	0.2624	0.79	Q	V				
7+25	0.2680	0.81	Q	V				
7+30	0.2736	0.82	Q	V				
7+35	0.2796	0.86	Q	V				
7+40	0.2857	0.89	Q	V				
7+45	0.2918	0.89	Q	V				
7+50	0.2982	0.93	Q	V				
7+55	0.3049	0.96	Q	V				
8+ 0	0.3115	0.97	Q	V				
8+ 5	0.3188	1.05	Q	V				
8+10	0.3264	1.11	Q	V				
8+15	0.3340	1.12	Q	V				
8+20	0.3417	1.12	Q	V				
8+25	0.3494	1.12	Q	V				
8+30	0.3571	1.12	Q	V				
8+35	0.3651	1.16	Q	V				
8+40	0.3732	1.18	Q	V				
8+45	0.3814	1.19	Q	V				
8+50	0.3899	1.23	Q	V				
8+55	0.3986	1.26	Q	V				
9+ 0	0.4073	1.26	Q	V				
9+ 5	0.4165	1.35	Q	V				
9+10	0.4262	1.40	Q	V				
9+15	0.4359	1.41	Q	V				
9+20	0.4459	1.45	Q	V				
9+25	0.4561	1.48	Q	V				
9+30	0.4664	1.49	Q	V				
9+35	0.4769	1.53	Q	V				
9+40	0.4876	1.56	Q	V				
9+45	0.4984	1.56	Q	V				
9+50	0.5094	1.60	Q	V				
9+55	0.5207	1.63	Q	V				
10+ 0	0.5319	1.64	Q	V				
10+ 5	0.5412	1.34	Q	V				
10+10	0.5491	1.15	Q	V				
10+15	0.5568	1.12	Q	V				
10+20	0.5644	1.12	Q	V				
10+25	0.5721	1.12	Q	V				
10+30	0.5798	1.12	Q	V				
10+35	0.5889	1.32	Q	V				
10+40	0.5990	1.46	Q	V				
10+45	0.6092	1.49	Q	V				
10+50	0.6195	1.49	Q	V				
10+55	0.6297	1.49	Q	V				
11+ 0	0.6399	1.49	Q	V				
11+ 5	0.6499	1.45	Q	V				
11+10	0.6597	1.42	Q	V				
11+15	0.6694	1.41	Q	V				
11+20	0.6791	1.41	Q	V				
11+25	0.6888	1.41	Q	V				

11+30	0.6986	1.41	Q	V
11+35	0.7077	1.33	Q	V
11+40	0.7165	1.27	Q	V
11+45	0.7252	1.26	Q	V
11+50	0.7342	1.31	Q	V
11+55	0.7434	1.33	Q	V
12+ 0	0.7526	1.34	Q	V
12+ 5	0.7638	1.63	Q	V
12+10	0.7764	1.82	Q	V
12+15	0.7892	1.86	Q	V
12+20	0.8023	1.90	Q	V
12+25	0.8156	1.93	Q	V
12+30	0.8289	1.93	Q	V
12+35	0.8427	2.02	Q	V
12+40	0.8570	2.07	Q	V
12+45	0.8714	2.08	Q	V
12+50	0.8860	2.12	Q	V
12+55	0.9008	2.15	Q	V
13+ 0	0.9156	2.16	Q	V
13+ 5	0.9319	2.36	Q	V
13+10	0.9492	2.50	Q	V
13+15	0.9666	2.53	Q	V
13+20	0.9840	2.53	Q	V
13+25	1.0014	2.53	Q	V
13+30	1.0188	2.53	Q	V
13+35	1.0330	2.07	Q	V
13+40	1.0452	1.76	Q	V
13+45	1.0570	1.71	Q	V
13+50	1.0687	1.71	Q	V
13+55	1.0805	1.71	Q	V
14+ 0	1.0923	1.71	Q	V
14+ 5	1.1052	1.88	Q	V
14+10	1.1189	1.99	Q	V
14+15	1.1327	2.01	Q	V
14+20	1.1463	1.97	Q	V
14+25	1.1596	1.94	Q	V
14+30	1.1729	1.93	Q	V
14+35	1.1862	1.93	Q	V
14+40	1.1995	1.93	Q	V
14+45	1.2129	1.93	Q	V
14+50	1.2259	1.89	Q	V
14+55	1.2387	1.86	Q	V
15+ 0	1.2515	1.86	Q	V
15+ 5	1.2640	1.82	Q	V
15+10	1.2763	1.79	Q	V
15+15	1.2886	1.78	Q	V
15+20	1.3006	1.74	Q	V
15+25	1.3124	1.71	Q	V
15+30	1.3242	1.71	Q	V
15+35	1.3348	1.54	Q	V

15+40	1.3447	1.43	Q			V
15+45	1.3544	1.41	Q			V
15+50	1.3642	1.41	Q			V
15+55	1.3739	1.41	Q			V
16+ 0	1.3836	1.41	Q			V
16+ 5	1.3890	0.79	Q			V
16+10	1.3916	0.37	Q			V
16+15	1.3936	0.30	Q			V
16+20	1.3957	0.30	Q			V
16+25	1.3977	0.30	Q			V
16+30	1.3998	0.30	Q			V
16+35	1.4015	0.26	Q			V
16+40	1.4031	0.23	Q			V
16+45	1.4046	0.22	Q			V
16+50	1.4062	0.22	Q			V
16+55	1.4077	0.22	Q			V
17+ 0	1.4093	0.22	Q			V
17+ 5	1.4114	0.31	Q			V
17+10	1.4139	0.36	Q			V
17+15	1.4164	0.37	Q			V
17+20	1.4190	0.37	Q			V
17+25	1.4215	0.37	Q			V
17+30	1.4241	0.37	Q			V
17+35	1.4267	0.37	Q			V
17+40	1.4292	0.37	Q			V
17+45	1.4318	0.37	Q			V
17+50	1.4340	0.33	Q			V
17+55	1.4361	0.30	Q			V
18+ 0	1.4382	0.30	Q			V
18+ 5	1.4402	0.30	Q			V
18+10	1.4423	0.30	Q			V
18+15	1.4443	0.30	Q			V
18+20	1.4464	0.30	Q			V
18+25	1.4484	0.30	Q			V
18+30	1.4505	0.30	Q			V
18+35	1.4522	0.26	Q			V
18+40	1.4538	0.23	Q			V
18+45	1.4553	0.22	Q			V
18+50	1.4566	0.18	Q			V
18+55	1.4576	0.15	Q			V
19+ 0	1.4587	0.15	Q			V
19+ 5	1.4600	0.19	Q			V
19+10	1.4615	0.22	Q			V
19+15	1.4630	0.22	Q			V
19+20	1.4648	0.26	Q			V
19+25	1.4669	0.29	Q			V
19+30	1.4689	0.30	Q			V
19+35	1.4707	0.26	Q			V
19+40	1.4722	0.23	Q			V
19+45	1.4738	0.22	Q			V

19+50	1.4750	0.18	Q				V
19+55	1.4761	0.15	Q				V
20+ 0	1.4771	0.15	Q				V
20+ 5	1.4784	0.19	Q				V
20+10	1.4799	0.22	Q				V
20+15	1.4814	0.22	Q				V
20+20	1.4830	0.22	Q				V
20+25	1.4845	0.22	Q				V
20+30	1.4861	0.22	Q				V
20+35	1.4876	0.22	Q				V
20+40	1.4891	0.22	Q				V
20+45	1.4907	0.22	Q				V
20+50	1.4919	0.18	Q				V
20+55	1.4930	0.15	Q				V
21+ 0	1.4940	0.15	Q				V
21+ 5	1.4953	0.19	Q				V
21+10	1.4968	0.22	Q				V
21+15	1.4983	0.22	Q				V
21+20	1.4996	0.18	Q				V
21+25	1.5006	0.15	Q				V
21+30	1.5017	0.15	Q				V
21+35	1.5030	0.19	Q				V
21+40	1.5045	0.22	Q				V
21+45	1.5060	0.22	Q				V
21+50	1.5073	0.18	Q				V
21+55	1.5083	0.15	Q				V
22+ 0	1.5094	0.15	Q				V
22+ 5	1.5107	0.19	Q				V
22+10	1.5122	0.22	Q				V
22+15	1.5137	0.22	Q				V
22+20	1.5149	0.18	Q				V
22+25	1.5160	0.15	Q				V
22+30	1.5170	0.15	Q				V
22+35	1.5181	0.15	Q				V
22+40	1.5191	0.15	Q				V
22+45	1.5201	0.15	Q				V
22+50	1.5211	0.15	Q				V
22+55	1.5221	0.15	Q				V
23+ 0	1.5232	0.15	Q				V
23+ 5	1.5242	0.15	Q				V
23+10	1.5252	0.15	Q				V
23+15	1.5262	0.15	Q				V
23+20	1.5273	0.15	Q				V
23+25	1.5283	0.15	Q				V
23+30	1.5293	0.15	Q				V
23+35	1.5303	0.15	Q				V
23+40	1.5314	0.15	Q				V
23+45	1.5324	0.15	Q				V
23+50	1.5334	0.15	Q				V
23+55	1.5344	0.15	Q				V

24+ 0	1.5355	0.15	Q				V
24+ 5	1.5359	0.07	Q				V
24+10	1.5360	0.01	Q				V

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

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Study date 03/16/23 File: GoyaSUHPre2410.out

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

Program License Serial Number 6215

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

English Units used in output format

GOYASUHPRE10

Drainage Area = 14.00(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.00(Ac.) =
0.022 Sq. Mi.
Length along longest watercourse = 1018.00(Ft.)
Length along longest watercourse measured to centroid = 74.92(Ft.)
Length along longest watercourse = 0.193 Mi.
Length along longest watercourse measured to centroid = 0.014 Mi.
Difference in elevation = 7.94(Ft.)
Slope along watercourse = 41.1819 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.038 Hr.
Lag time = 2.26 Min.
25% of lag time = 0.57 Min.
40% of lag time = 0.91 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]
14.00	1.87	26.18

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
14.00	4.74	66.36

STORM EVENT (YEAR) = 10.00
 Area Averaged 2-Year Rainfall = 1.870(In)
 Area Averaged 100-Year Rainfall = 4.740(In)

Point rain (area averaged) = 3.051(In)
 Areal adjustment factor = 100.00 %
 Adjusted average point rain = 3.051(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
14.000	78.00	0.100
Total Area Entered = 14.00(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
78.0	78.0	0.268	0.100	0.244	1.000	0.244
Sum (F) =						0.244

Area averaged mean soil loss (F) (In/Hr) = 0.244
 Minimum soil loss rate ((In/Hr)) = 0.122
 (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	220.898	46.793
2	0.167	441.795	41.935
3	0.250	662.693	8.007
4	0.333	883.590	3.264
		Sum = 100.000	Sum= 14.109

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)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.024	(0.432)	0.022	0.002
2	0.17	0.07	0.024	(0.430)	0.022	0.002
3	0.25	0.07	0.024	(0.428)	0.022	0.002
4	0.33	0.10	0.037	(0.427)	0.033	0.004
5	0.42	0.10	0.037	(0.425)	0.033	0.004
6	0.50	0.10	0.037	(0.423)	0.033	0.004
7	0.58	0.10	0.037	(0.422)	0.033	0.004
8	0.67	0.10	0.037	(0.420)	0.033	0.004
9	0.75	0.10	0.037	(0.418)	0.033	0.004
10	0.83	0.13	0.049	(0.417)	0.044	0.005
11	0.92	0.13	0.049	(0.415)	0.044	0.005
12	1.00	0.13	0.049	(0.414)	0.044	0.005
13	1.08	0.10	0.037	(0.412)	0.033	0.004
14	1.17	0.10	0.037	(0.410)	0.033	0.004
15	1.25	0.10	0.037	(0.409)	0.033	0.004
16	1.33	0.10	0.037	(0.407)	0.033	0.004
17	1.42	0.10	0.037	(0.405)	0.033	0.004
18	1.50	0.10	0.037	(0.404)	0.033	0.004
19	1.58	0.10	0.037	(0.402)	0.033	0.004
20	1.67	0.10	0.037	(0.401)	0.033	0.004
21	1.75	0.10	0.037	(0.399)	0.033	0.004
22	1.83	0.13	0.049	(0.397)	0.044	0.005
23	1.92	0.13	0.049	(0.396)	0.044	0.005
24	2.00	0.13	0.049	(0.394)	0.044	0.005
25	2.08	0.13	0.049	(0.393)	0.044	0.005
26	2.17	0.13	0.049	(0.391)	0.044	0.005
27	2.25	0.13	0.049	(0.389)	0.044	0.005
28	2.33	0.13	0.049	(0.388)	0.044	0.005
29	2.42	0.13	0.049	(0.386)	0.044	0.005
30	2.50	0.13	0.049	(0.385)	0.044	0.005
31	2.58	0.17	0.061	(0.383)	0.055	0.006
32	2.67	0.17	0.061	(0.381)	0.055	0.006
33	2.75	0.17	0.061	(0.380)	0.055	0.006
34	2.83	0.17	0.061	(0.378)	0.055	0.006
35	2.92	0.17	0.061	(0.377)	0.055	0.006
36	3.00	0.17	0.061	(0.375)	0.055	0.006
37	3.08	0.17	0.061	(0.374)	0.055	0.006
38	3.17	0.17	0.061	(0.372)	0.055	0.006
39	3.25	0.17	0.061	(0.371)	0.055	0.006
40	3.33	0.17	0.061	(0.369)	0.055	0.006
41	3.42	0.17	0.061	(0.367)	0.055	0.006
42	3.50	0.17	0.061	(0.366)	0.055	0.006
43	3.58	0.17	0.061	(0.364)	0.055	0.006
44	3.67	0.17	0.061	(0.363)	0.055	0.006
45	3.75	0.17	0.061	(0.361)	0.055	0.006

46	3.83	0.20	0.073	(0.360)	0.066	0.007
47	3.92	0.20	0.073	(0.358)	0.066	0.007
48	4.00	0.20	0.073	(0.357)	0.066	0.007
49	4.08	0.20	0.073	(0.355)	0.066	0.007
50	4.17	0.20	0.073	(0.354)	0.066	0.007
51	4.25	0.20	0.073	(0.352)	0.066	0.007
52	4.33	0.23	0.085	(0.351)	0.077	0.009
53	4.42	0.23	0.085	(0.349)	0.077	0.009
54	4.50	0.23	0.085	(0.348)	0.077	0.009
55	4.58	0.23	0.085	(0.346)	0.077	0.009
56	4.67	0.23	0.085	(0.345)	0.077	0.009
57	4.75	0.23	0.085	(0.343)	0.077	0.009
58	4.83	0.27	0.098	(0.342)	0.088	0.010
59	4.92	0.27	0.098	(0.340)	0.088	0.010
60	5.00	0.27	0.098	(0.339)	0.088	0.010
61	5.08	0.20	0.073	(0.337)	0.066	0.007
62	5.17	0.20	0.073	(0.336)	0.066	0.007
63	5.25	0.20	0.073	(0.334)	0.066	0.007
64	5.33	0.23	0.085	(0.333)	0.077	0.009
65	5.42	0.23	0.085	(0.332)	0.077	0.009
66	5.50	0.23	0.085	(0.330)	0.077	0.009
67	5.58	0.27	0.098	(0.329)	0.088	0.010
68	5.67	0.27	0.098	(0.327)	0.088	0.010
69	5.75	0.27	0.098	(0.326)	0.088	0.010
70	5.83	0.27	0.098	(0.324)	0.088	0.010
71	5.92	0.27	0.098	(0.323)	0.088	0.010
72	6.00	0.27	0.098	(0.321)	0.088	0.010
73	6.08	0.30	0.110	(0.320)	0.099	0.011
74	6.17	0.30	0.110	(0.319)	0.099	0.011
75	6.25	0.30	0.110	(0.317)	0.099	0.011
76	6.33	0.30	0.110	(0.316)	0.099	0.011
77	6.42	0.30	0.110	(0.314)	0.099	0.011
78	6.50	0.30	0.110	(0.313)	0.099	0.011
79	6.58	0.33	0.122	(0.312)	0.110	0.012
80	6.67	0.33	0.122	(0.310)	0.110	0.012
81	6.75	0.33	0.122	(0.309)	0.110	0.012
82	6.83	0.33	0.122	(0.307)	0.110	0.012
83	6.92	0.33	0.122	(0.306)	0.110	0.012
84	7.00	0.33	0.122	(0.305)	0.110	0.012
85	7.08	0.33	0.122	(0.303)	0.110	0.012
86	7.17	0.33	0.122	(0.302)	0.110	0.012
87	7.25	0.33	0.122	(0.300)	0.110	0.012
88	7.33	0.37	0.134	(0.299)	0.121	0.013
89	7.42	0.37	0.134	(0.298)	0.121	0.013
90	7.50	0.37	0.134	(0.296)	0.121	0.013
91	7.58	0.40	0.146	(0.295)	0.132	0.015
92	7.67	0.40	0.146	(0.294)	0.132	0.015
93	7.75	0.40	0.146	(0.292)	0.132	0.015
94	7.83	0.43	0.159	(0.291)	0.143	0.016
95	7.92	0.43	0.159	(0.290)	0.143	0.016

96	8.00	0.43	0.159	(0.288)	0.143	0.016
97	8.08	0.50	0.183	(0.287)	0.165	0.018
98	8.17	0.50	0.183	(0.286)	0.165	0.018
99	8.25	0.50	0.183	(0.284)	0.165	0.018
100	8.33	0.50	0.183	(0.283)	0.165	0.018
101	8.42	0.50	0.183	(0.282)	0.165	0.018
102	8.50	0.50	0.183	(0.280)	0.165	0.018
103	8.58	0.53	0.195	(0.279)	0.176	0.020
104	8.67	0.53	0.195	(0.278)	0.176	0.020
105	8.75	0.53	0.195	(0.276)	0.176	0.020
106	8.83	0.57	0.207	(0.275)	0.187	0.021
107	8.92	0.57	0.207	(0.274)	0.187	0.021
108	9.00	0.57	0.207	(0.272)	0.187	0.021
109	9.08	0.63	0.232	(0.271)	0.209	0.023
110	9.17	0.63	0.232	(0.270)	0.209	0.023
111	9.25	0.63	0.232	(0.269)	0.209	0.023
112	9.33	0.67	0.244	(0.267)	0.220	0.024
113	9.42	0.67	0.244	(0.266)	0.220	0.024
114	9.50	0.67	0.244	(0.265)	0.220	0.024
115	9.58	0.70	0.256	(0.263)	0.231	0.026
116	9.67	0.70	0.256	(0.262)	0.231	0.026
117	9.75	0.70	0.256	(0.261)	0.231	0.026
118	9.83	0.73	0.268	(0.260)	0.242	0.027
119	9.92	0.73	0.268	(0.258)	0.242	0.027
120	10.00	0.73	0.268	(0.257)	0.242	0.027
121	10.08	0.50	0.183	(0.256)	0.165	0.018
122	10.17	0.50	0.183	(0.255)	0.165	0.018
123	10.25	0.50	0.183	(0.253)	0.165	0.018
124	10.33	0.50	0.183	(0.252)	0.165	0.018
125	10.42	0.50	0.183	(0.251)	0.165	0.018
126	10.50	0.50	0.183	(0.250)	0.165	0.018
127	10.58	0.67	0.244	(0.249)	0.220	0.024
128	10.67	0.67	0.244	(0.247)	0.220	0.024
129	10.75	0.67	0.244	(0.246)	0.220	0.024
130	10.83	0.67	0.244	(0.245)	0.220	0.024
131	10.92	0.67	0.244	(0.244)	0.220	0.024
132	11.00	0.67	0.244	(0.243)	0.220	0.024
133	11.08	0.63	0.232	(0.241)	0.209	0.023
134	11.17	0.63	0.232	(0.240)	0.209	0.023
135	11.25	0.63	0.232	(0.239)	0.209	0.023
136	11.33	0.63	0.232	(0.238)	0.209	0.023
137	11.42	0.63	0.232	(0.237)	0.209	0.023
138	11.50	0.63	0.232	(0.235)	0.209	0.023
139	11.58	0.57	0.207	(0.234)	0.187	0.021
140	11.67	0.57	0.207	(0.233)	0.187	0.021
141	11.75	0.57	0.207	(0.232)	0.187	0.021
142	11.83	0.60	0.220	(0.231)	0.198	0.022
143	11.92	0.60	0.220	(0.230)	0.198	0.022
144	12.00	0.60	0.220	(0.228)	0.198	0.022
145	12.08	0.83	0.305	0.227 (0.275)		0.078

146	12.17	0.83	0.305	0.226	(0.275)	0.079
147	12.25	0.83	0.305	0.225	(0.275)	0.080
148	12.33	0.87	0.317	0.224	(0.286)	0.093
149	12.42	0.87	0.317	0.223	(0.286)	0.094
150	12.50	0.87	0.317	0.222	(0.286)	0.096
151	12.58	0.93	0.342	0.221	(0.308)	0.121
152	12.67	0.93	0.342	0.219	(0.308)	0.122
153	12.75	0.93	0.342	0.218	(0.308)	0.123
154	12.83	0.97	0.354	0.217	(0.318)	0.137
155	12.92	0.97	0.354	0.216	(0.318)	0.138
156	13.00	0.97	0.354	0.215	(0.318)	0.139
157	13.08	1.13	0.415	0.214	(0.373)	0.201
158	13.17	1.13	0.415	0.213	(0.373)	0.202
159	13.25	1.13	0.415	0.212	(0.373)	0.203
160	13.33	1.13	0.415	0.211	(0.373)	0.204
161	13.42	1.13	0.415	0.210	(0.373)	0.205
162	13.50	1.13	0.415	0.209	(0.373)	0.206
163	13.58	0.77	0.281	0.208	(0.253)	0.073
164	13.67	0.77	0.281	0.206	(0.253)	0.074
165	13.75	0.77	0.281	0.205	(0.253)	0.075
166	13.83	0.77	0.281	0.204	(0.253)	0.076
167	13.92	0.77	0.281	0.203	(0.253)	0.077
168	14.00	0.77	0.281	0.202	(0.253)	0.078
169	14.08	0.90	0.329	0.201	(0.297)	0.128
170	14.17	0.90	0.329	0.200	(0.297)	0.129
171	14.25	0.90	0.329	0.199	(0.297)	0.130
172	14.33	0.87	0.317	0.198	(0.286)	0.119
173	14.42	0.87	0.317	0.197	(0.286)	0.120
174	14.50	0.87	0.317	0.196	(0.286)	0.121
175	14.58	0.87	0.317	0.195	(0.286)	0.122
176	14.67	0.87	0.317	0.194	(0.286)	0.123
177	14.75	0.87	0.317	0.193	(0.286)	0.124
178	14.83	0.83	0.305	0.192	(0.275)	0.113
179	14.92	0.83	0.305	0.191	(0.275)	0.114
180	15.00	0.83	0.305	0.190	(0.275)	0.115
181	15.08	0.80	0.293	0.189	(0.264)	0.104
182	15.17	0.80	0.293	0.188	(0.264)	0.105
183	15.25	0.80	0.293	0.187	(0.264)	0.106
184	15.33	0.77	0.281	0.186	(0.253)	0.094
185	15.42	0.77	0.281	0.185	(0.253)	0.095
186	15.50	0.77	0.281	0.184	(0.253)	0.096
187	15.58	0.63	0.232	0.183	(0.209)	0.048
188	15.67	0.63	0.232	0.183	(0.209)	0.049
189	15.75	0.63	0.232	0.182	(0.209)	0.050
190	15.83	0.63	0.232	0.181	(0.209)	0.051
191	15.92	0.63	0.232	0.180	(0.209)	0.052
192	16.00	0.63	0.232	0.179	(0.209)	0.053
193	16.08	0.13	0.049	(0.178)	0.044	0.005
194	16.17	0.13	0.049	(0.177)	0.044	0.005
195	16.25	0.13	0.049	(0.176)	0.044	0.005

196	16.33	0.13	0.049	(0.175)	0.044	0.005
197	16.42	0.13	0.049	(0.174)	0.044	0.005
198	16.50	0.13	0.049	(0.173)	0.044	0.005
199	16.58	0.10	0.037	(0.173)	0.033	0.004
200	16.67	0.10	0.037	(0.172)	0.033	0.004
201	16.75	0.10	0.037	(0.171)	0.033	0.004
202	16.83	0.10	0.037	(0.170)	0.033	0.004
203	16.92	0.10	0.037	(0.169)	0.033	0.004
204	17.00	0.10	0.037	(0.168)	0.033	0.004
205	17.08	0.17	0.061	(0.167)	0.055	0.006
206	17.17	0.17	0.061	(0.167)	0.055	0.006
207	17.25	0.17	0.061	(0.166)	0.055	0.006
208	17.33	0.17	0.061	(0.165)	0.055	0.006
209	17.42	0.17	0.061	(0.164)	0.055	0.006
210	17.50	0.17	0.061	(0.163)	0.055	0.006
211	17.58	0.17	0.061	(0.162)	0.055	0.006
212	17.67	0.17	0.061	(0.162)	0.055	0.006
213	17.75	0.17	0.061	(0.161)	0.055	0.006
214	17.83	0.13	0.049	(0.160)	0.044	0.005
215	17.92	0.13	0.049	(0.159)	0.044	0.005
216	18.00	0.13	0.049	(0.158)	0.044	0.005
217	18.08	0.13	0.049	(0.158)	0.044	0.005
218	18.17	0.13	0.049	(0.157)	0.044	0.005
219	18.25	0.13	0.049	(0.156)	0.044	0.005
220	18.33	0.13	0.049	(0.155)	0.044	0.005
221	18.42	0.13	0.049	(0.155)	0.044	0.005
222	18.50	0.13	0.049	(0.154)	0.044	0.005
223	18.58	0.10	0.037	(0.153)	0.033	0.004
224	18.67	0.10	0.037	(0.152)	0.033	0.004
225	18.75	0.10	0.037	(0.152)	0.033	0.004
226	18.83	0.07	0.024	(0.151)	0.022	0.002
227	18.92	0.07	0.024	(0.150)	0.022	0.002
228	19.00	0.07	0.024	(0.149)	0.022	0.002
229	19.08	0.10	0.037	(0.149)	0.033	0.004
230	19.17	0.10	0.037	(0.148)	0.033	0.004
231	19.25	0.10	0.037	(0.147)	0.033	0.004
232	19.33	0.13	0.049	(0.147)	0.044	0.005
233	19.42	0.13	0.049	(0.146)	0.044	0.005
234	19.50	0.13	0.049	(0.145)	0.044	0.005
235	19.58	0.10	0.037	(0.145)	0.033	0.004
236	19.67	0.10	0.037	(0.144)	0.033	0.004
237	19.75	0.10	0.037	(0.143)	0.033	0.004
238	19.83	0.07	0.024	(0.143)	0.022	0.002
239	19.92	0.07	0.024	(0.142)	0.022	0.002
240	20.00	0.07	0.024	(0.141)	0.022	0.002
241	20.08	0.10	0.037	(0.141)	0.033	0.004
242	20.17	0.10	0.037	(0.140)	0.033	0.004
243	20.25	0.10	0.037	(0.140)	0.033	0.004
244	20.33	0.10	0.037	(0.139)	0.033	0.004
245	20.42	0.10	0.037	(0.138)	0.033	0.004

246	20.50	0.10	0.037	(0.138)	0.033	0.004
247	20.58	0.10	0.037	(0.137)	0.033	0.004
248	20.67	0.10	0.037	(0.137)	0.033	0.004
249	20.75	0.10	0.037	(0.136)	0.033	0.004
250	20.83	0.07	0.024	(0.135)	0.022	0.002
251	20.92	0.07	0.024	(0.135)	0.022	0.002
252	21.00	0.07	0.024	(0.134)	0.022	0.002
253	21.08	0.10	0.037	(0.134)	0.033	0.004
254	21.17	0.10	0.037	(0.133)	0.033	0.004
255	21.25	0.10	0.037	(0.133)	0.033	0.004
256	21.33	0.07	0.024	(0.132)	0.022	0.002
257	21.42	0.07	0.024	(0.132)	0.022	0.002
258	21.50	0.07	0.024	(0.131)	0.022	0.002
259	21.58	0.10	0.037	(0.131)	0.033	0.004
260	21.67	0.10	0.037	(0.130)	0.033	0.004
261	21.75	0.10	0.037	(0.130)	0.033	0.004
262	21.83	0.07	0.024	(0.129)	0.022	0.002
263	21.92	0.07	0.024	(0.129)	0.022	0.002
264	22.00	0.07	0.024	(0.129)	0.022	0.002
265	22.08	0.10	0.037	(0.128)	0.033	0.004
266	22.17	0.10	0.037	(0.128)	0.033	0.004
267	22.25	0.10	0.037	(0.127)	0.033	0.004
268	22.33	0.07	0.024	(0.127)	0.022	0.002
269	22.42	0.07	0.024	(0.127)	0.022	0.002
270	22.50	0.07	0.024	(0.126)	0.022	0.002
271	22.58	0.07	0.024	(0.126)	0.022	0.002
272	22.67	0.07	0.024	(0.125)	0.022	0.002
273	22.75	0.07	0.024	(0.125)	0.022	0.002
274	22.83	0.07	0.024	(0.125)	0.022	0.002
275	22.92	0.07	0.024	(0.124)	0.022	0.002
276	23.00	0.07	0.024	(0.124)	0.022	0.002
277	23.08	0.07	0.024	(0.124)	0.022	0.002
278	23.17	0.07	0.024	(0.124)	0.022	0.002
279	23.25	0.07	0.024	(0.123)	0.022	0.002
280	23.33	0.07	0.024	(0.123)	0.022	0.002
281	23.42	0.07	0.024	(0.123)	0.022	0.002
282	23.50	0.07	0.024	(0.123)	0.022	0.002
283	23.58	0.07	0.024	(0.122)	0.022	0.002
284	23.67	0.07	0.024	(0.122)	0.022	0.002
285	23.75	0.07	0.024	(0.122)	0.022	0.002
286	23.83	0.07	0.024	(0.122)	0.022	0.002
287	23.92	0.07	0.024	(0.122)	0.022	0.002
288	24.00	0.07	0.024	(0.122)	0.022	0.002

(Loss Rate Not Used)

Sum = 100.0

Sum = 7.5

Flood volume = Effective rainfall 0.62(In)
times area 14.0(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)
Total soil loss = 2.43(In)
Total soil loss = 2.830(Ac.Ft)
Total rainfall = 3.05(In)

Flood volume = 31744.3 Cubic Feet
 Total soil loss = 123290.1 Cubic Feet

 Peak flow rate of this hydrograph = 2.902(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	0.02	Q				
0+10	0.0003	0.03	Q				
0+15	0.0006	0.03	Q				
0+20	0.0008	0.04	Q				
0+25	0.0012	0.05	Q				
0+30	0.0015	0.05	Q				
0+35	0.0019	0.05	Q				
0+40	0.0023	0.05	Q				
0+45	0.0026	0.05	Q				
0+50	0.0030	0.06	Q				
0+55	0.0035	0.07	Q				
1+ 0	0.0039	0.07	Q				
1+ 5	0.0044	0.06	Q				
1+10	0.0047	0.05	Q				
1+15	0.0051	0.05	Q				
1+20	0.0055	0.05	Q				
1+25	0.0058	0.05	Q				
1+30	0.0062	0.05	Q				
1+35	0.0065	0.05	Q				
1+40	0.0069	0.05	Q				
1+45	0.0072	0.05	Q				
1+50	0.0076	0.06	Q				
1+55	0.0081	0.07	Q				
2+ 0	0.0086	0.07	Q				
2+ 5	0.0091	0.07	Q				
2+10	0.0095	0.07	Q				
2+15	0.0100	0.07	Q				
2+20	0.0105	0.07	Q				
2+25	0.0109	0.07	Q				
2+30	0.0114	0.07	Q				
2+35	0.0120	0.08	Q				
2+40	0.0125	0.08	Q				
2+45	0.0131	0.09	Q				
2+50	0.0137	0.09	Q				
2+55	0.0143	0.09	Q				
3+ 0	0.0149	0.09	Q				

3+ 5	0.0155	0.09	Q
3+10	0.0161	0.09	Q
3+15	0.0167	0.09	Q
3+20	0.0173	0.09	Q
3+25	0.0179	0.09	Q
3+30	0.0185	0.09	QV
3+35	0.0191	0.09	QV
3+40	0.0196	0.09	QV
3+45	0.0202	0.09	QV
3+50	0.0209	0.09	QV
3+55	0.0216	0.10	QV
4+ 0	0.0223	0.10	QV
4+ 5	0.0230	0.10	QV
4+10	0.0237	0.10	QV
4+15	0.0244	0.10	QV
4+20	0.0252	0.11	QV
4+25	0.0260	0.12	QV
4+30	0.0268	0.12	QV
4+35	0.0277	0.12	QV
4+40	0.0285	0.12	QV
4+45	0.0293	0.12	QV
4+50	0.0302	0.13	QV
4+55	0.0312	0.14	QV
5+ 0	0.0321	0.14	QV
5+ 5	0.0329	0.12	QV
5+10	0.0337	0.11	QV
5+15	0.0344	0.10	QV
5+20	0.0352	0.11	QV
5+25	0.0360	0.12	QV
5+30	0.0368	0.12	Q V
5+35	0.0377	0.13	Q V
5+40	0.0386	0.14	Q V
5+45	0.0396	0.14	Q V
5+50	0.0405	0.14	Q V
5+55	0.0415	0.14	Q V
6+ 0	0.0424	0.14	Q V
6+ 5	0.0434	0.15	Q V
6+10	0.0445	0.15	Q V
6+15	0.0455	0.15	Q V
6+20	0.0466	0.16	Q V
6+25	0.0477	0.16	Q V
6+30	0.0487	0.16	Q V
6+35	0.0499	0.16	Q V
6+40	0.0510	0.17	Q V
6+45	0.0522	0.17	Q V
6+50	0.0534	0.17	Q V
6+55	0.0546	0.17	Q V
7+ 0	0.0558	0.17	Q V
7+ 5	0.0570	0.17	Q V
7+10	0.0582	0.17	Q V

7+15	0.0593	0.17	Q	V
7+20	0.0606	0.18	Q	V
7+25	0.0619	0.19	Q	V
7+30	0.0632	0.19	Q	V
7+35	0.0645	0.20	Q	V
7+40	0.0660	0.20	Q	V
7+45	0.0674	0.21	Q	V
7+50	0.0688	0.21	Q	V
7+55	0.0704	0.22	Q	V
8+ 0	0.0719	0.22	Q	V
8+ 5	0.0736	0.24	Q	V
8+10	0.0753	0.25	Q	V
8+15	0.0771	0.26	Q	V
8+20	0.0789	0.26	Q	V
8+25	0.0807	0.26	Q	V
8+30	0.0824	0.26	Q	V
8+35	0.0843	0.27	Q	V
8+40	0.0862	0.27	Q	V
8+45	0.0880	0.28	Q	V
8+50	0.0900	0.28	Q	V
8+55	0.0920	0.29	Q	V
9+ 0	0.0940	0.29	Q	V
9+ 5	0.0961	0.31	Q	V
9+10	0.0984	0.32	Q	V
9+15	0.1006	0.33	Q	V
9+20	0.1029	0.34	Q	V
9+25	0.1053	0.34	Q	V
9+30	0.1077	0.34	Q	V
9+35	0.1101	0.35	Q	V
9+40	0.1126	0.36	Q	V
9+45	0.1151	0.36	Q	V
9+50	0.1176	0.37	Q	V
9+55	0.1202	0.38	Q	V
10+ 0	0.1228	0.38	Q	V
10+ 5	0.1250	0.32	Q	V
10+10	0.1269	0.27	Q	V
10+15	0.1287	0.26	Q	V
10+20	0.1305	0.26	Q	V
10+25	0.1323	0.26	Q	V
10+30	0.1340	0.26	Q	V
10+35	0.1361	0.30	Q	V
10+40	0.1384	0.33	Q	V
10+45	0.1408	0.34	Q	V
10+50	0.1431	0.34	Q	V
10+55	0.1455	0.34	Q	V
11+ 0	0.1479	0.34	Q	V
11+ 5	0.1502	0.34	Q	V
11+10	0.1525	0.33	Q	V
11+15	0.1547	0.33	Q	V
11+20	0.1570	0.33	Q	V

11+25	0.1592	0.33	Q	V				
11+30	0.1615	0.33	Q	V				
11+35	0.1636	0.31	Q	V				
11+40	0.1657	0.30	Q	V				
11+45	0.1677	0.29	Q	V				
11+50	0.1698	0.30	Q	V				
11+55	0.1719	0.31	Q	V				
12+ 0	0.1740	0.31	Q	V				
12+ 5	0.1787	0.68	Q	V				
12+10	0.1857	1.02	Q	V				
12+15	0.1932	1.09	Q	V				
12+20	0.2016	1.22	Q	V				
12+25	0.2106	1.30	Q	V				
12+30	0.2198	1.33	Q	V				
12+35	0.2302	1.52	Q	V				
12+40	0.2417	1.68	Q	V				
12+45	0.2536	1.72	Q	V				
12+50	0.2662	1.83	Q	V				
12+55	0.2793	1.91	Q	V				
13+ 0	0.2927	1.94	Q	V				
13+ 5	0.3090	2.37	Q	V				
13+10	0.3279	2.74	Q	V				
13+15	0.3474	2.83	Q	V				
13+20	0.3672	2.87	Q	V				
13+25	0.3871	2.89	Q	V				
13+30	0.4071	2.90	Q	V				
13+35	0.4211	2.03	Q	V				
13+40	0.4297	1.25	Q	V				
13+45	0.4373	1.11	Q	V				
13+50	0.4447	1.07	Q	V				
13+55	0.4521	1.08	Q	V				
14+ 0	0.4597	1.10	Q	V				
14+ 5	0.4696	1.43	Q	V				
14+10	0.4815	1.74	Q	V				
14+15	0.4940	1.81	Q	V				
14+20	0.5061	1.76	Q	V				
14+25	0.5179	1.71	Q	V				
14+30	0.5296	1.71	Q	V				
14+35	0.5414	1.71	Q	V				
14+40	0.5533	1.73	Q	V				
14+45	0.5653	1.74	Q	V				
14+50	0.5769	1.68	Q	V				
14+55	0.5880	1.62	Q	V				
15+ 0	0.5991	1.62	Q	V				
15+ 5	0.6098	1.55	Q	V				
15+10	0.6200	1.49	Q	V				
15+15	0.6303	1.49	Q	V				
15+20	0.6400	1.41	Q	V				
15+25	0.6493	1.36	Q	V				
15+30	0.6587	1.36	Q	V				

15+35	0.6658	1.04	Q	V
15+40	0.6711	0.76	Q	V
15+45	0.6761	0.72	Q	V
15+50	0.6810	0.71	Q	V
15+55	0.6860	0.73	Q	V
16+ 0	0.6911	0.74	Q	V
16+ 5	0.6941	0.43	Q	V
16+10	0.6951	0.15	Q	V
16+15	0.6957	0.09	Q	V
16+20	0.6962	0.07	Q	V
16+25	0.6966	0.07	Q	V
16+30	0.6971	0.07	Q	V
16+35	0.6975	0.06	Q	V
16+40	0.6979	0.05	Q	V
16+45	0.6983	0.05	Q	V
16+50	0.6986	0.05	Q	V
16+55	0.6990	0.05	Q	V
17+ 0	0.6993	0.05	Q	V
17+ 5	0.6998	0.07	Q	V
17+10	0.7004	0.08	Q	V
17+15	0.7009	0.09	Q	V
17+20	0.7015	0.09	Q	V
17+25	0.7021	0.09	Q	V
17+30	0.7027	0.09	Q	V
17+35	0.7033	0.09	Q	V
17+40	0.7039	0.09	Q	V
17+45	0.7045	0.09	Q	V
17+50	0.7050	0.08	Q	V
17+55	0.7055	0.07	Q	V
18+ 0	0.7060	0.07	Q	V
18+ 5	0.7065	0.07	Q	V
18+10	0.7070	0.07	Q	V
18+15	0.7074	0.07	Q	V
18+20	0.7079	0.07	Q	V
18+25	0.7084	0.07	Q	V
18+30	0.7089	0.07	Q	V
18+35	0.7093	0.06	Q	V
18+40	0.7096	0.05	Q	V
18+45	0.7100	0.05	Q	V
18+50	0.7103	0.04	Q	V
18+55	0.7106	0.04	Q	V
19+ 0	0.7108	0.04	Q	V
19+ 5	0.7111	0.04	Q	V
19+10	0.7114	0.05	Q	V
19+15	0.7118	0.05	Q	V
19+20	0.7122	0.06	Q	V
19+25	0.7127	0.07	Q	V
19+30	0.7131	0.07	Q	V
19+35	0.7135	0.06	Q	V
19+40	0.7139	0.05	Q	V

19+45	0.7143	0.05	Q				V
19+50	0.7146	0.04	Q				V
19+55	0.7148	0.04	Q				V
20+ 0	0.7151	0.04	Q				V
20+ 5	0.7154	0.04	Q				V
20+10	0.7157	0.05	Q				V
20+15	0.7161	0.05	Q				V
20+20	0.7164	0.05	Q				V
20+25	0.7168	0.05	Q				V
20+30	0.7171	0.05	Q				V
20+35	0.7175	0.05	Q				V
20+40	0.7178	0.05	Q				V
20+45	0.7182	0.05	Q				V
20+50	0.7185	0.04	Q				V
20+55	0.7187	0.04	Q				V
21+ 0	0.7190	0.04	Q				V
21+ 5	0.7193	0.04	Q				V
21+10	0.7196	0.05	Q				V
21+15	0.7200	0.05	Q				V
21+20	0.7203	0.04	Q				V
21+25	0.7205	0.04	Q				V
21+30	0.7208	0.04	Q				V
21+35	0.7211	0.04	Q				V
21+40	0.7214	0.05	Q				V
21+45	0.7217	0.05	Q				V
21+50	0.7220	0.04	Q				V
21+55	0.7223	0.04	Q				V
22+ 0	0.7225	0.04	Q				V
22+ 5	0.7228	0.04	Q				V
22+10	0.7232	0.05	Q				V
22+15	0.7235	0.05	Q				V
22+20	0.7238	0.04	Q				V
22+25	0.7241	0.04	Q				V
22+30	0.7243	0.04	Q				V
22+35	0.7246	0.03	Q				V
22+40	0.7248	0.03	Q				V
22+45	0.7250	0.03	Q				V
22+50	0.7253	0.03	Q				V
22+55	0.7255	0.03	Q				V
23+ 0	0.7257	0.03	Q				V
23+ 5	0.7260	0.03	Q				V
23+10	0.7262	0.03	Q				V
23+15	0.7265	0.03	Q				V
23+20	0.7267	0.03	Q				V
23+25	0.7269	0.03	Q				V
23+30	0.7272	0.03	Q				V
23+35	0.7274	0.03	Q				V
23+40	0.7276	0.03	Q				V
23+45	0.7279	0.03	Q				V
23+50	0.7281	0.03	Q				V

23+55	0.7284	0.03	Q				V
24+ 0	0.7286	0.03	Q				V
24+ 5	0.7287	0.02	Q				V
24+10	0.7287	0.00	Q				V
24+15	0.7287	0.00	Q				V

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

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Study date 03/16/23 File: GoyaSUHPost2410.out

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

Program License Serial Number 6215

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

English Units used in output format

GOYASUHPOST10

Drainage Area = 13.75(Ac.) = 0.021 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 13.75(Ac.) =
0.021 Sq. Mi.
Length along longest watercourse = 1220.00(Ft.)
Length along longest watercourse measured to centroid = 146.00(Ft.)
Length along longest watercourse = 0.231 Mi.
Length along longest watercourse measured to centroid = 0.028 Mi.
Difference in elevation = 6.10(Ft.)
Slope along watercourse = 26.4000 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.028 Hr.
Lag time = 1.70 Min.
25% of lag time = 0.42 Min.
40% of lag time = 0.68 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]
13.75	1.60	22.00

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
13.75	4.00	55.00

STORM EVENT (YEAR) = 10.00
 Area Averaged 2-Year Rainfall = 1.600(In)
 Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 2.587(In)
 Areal adjustment factor = 100.00 %
 Adjusted average point rain = 2.587(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
13.750	56.00	0.600
Total Area Entered = 13.75(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	56.0	0.511	0.600	0.235	1.000	0.235
Sum (F) =						0.235

Area averaged mean soil loss (F) (In/Hr) = 0.235
 Minimum soil loss rate ((In/Hr)) = 0.117
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.380

 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	294.139	56.070	7.770
2	0.167	588.277	37.453	5.190
3	0.250	882.416	6.476	0.897
Sum = 100.000			Sum=	13.857

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)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.021	(0.417)	0.008	0.013
2	0.17	0.07	0.021	(0.415)	0.008	0.013
3	0.25	0.07	0.021	(0.413)	0.008	0.013
4	0.33	0.10	0.031	(0.412)	0.012	0.019
5	0.42	0.10	0.031	(0.410)	0.012	0.019
6	0.50	0.10	0.031	(0.409)	0.012	0.019
7	0.58	0.10	0.031	(0.407)	0.012	0.019
8	0.67	0.10	0.031	(0.405)	0.012	0.019
9	0.75	0.10	0.031	(0.404)	0.012	0.019
10	0.83	0.13	0.041	(0.402)	0.016	0.026
11	0.92	0.13	0.041	(0.401)	0.016	0.026
12	1.00	0.13	0.041	(0.399)	0.016	0.026
13	1.08	0.10	0.031	(0.397)	0.012	0.019
14	1.17	0.10	0.031	(0.396)	0.012	0.019
15	1.25	0.10	0.031	(0.394)	0.012	0.019
16	1.33	0.10	0.031	(0.393)	0.012	0.019
17	1.42	0.10	0.031	(0.391)	0.012	0.019
18	1.50	0.10	0.031	(0.390)	0.012	0.019
19	1.58	0.10	0.031	(0.388)	0.012	0.019
20	1.67	0.10	0.031	(0.386)	0.012	0.019
21	1.75	0.10	0.031	(0.385)	0.012	0.019
22	1.83	0.13	0.041	(0.383)	0.016	0.026
23	1.92	0.13	0.041	(0.382)	0.016	0.026
24	2.00	0.13	0.041	(0.380)	0.016	0.026
25	2.08	0.13	0.041	(0.379)	0.016	0.026
26	2.17	0.13	0.041	(0.377)	0.016	0.026
27	2.25	0.13	0.041	(0.376)	0.016	0.026
28	2.33	0.13	0.041	(0.374)	0.016	0.026
29	2.42	0.13	0.041	(0.373)	0.016	0.026
30	2.50	0.13	0.041	(0.371)	0.016	0.026
31	2.58	0.17	0.052	(0.370)	0.020	0.032
32	2.67	0.17	0.052	(0.368)	0.020	0.032
33	2.75	0.17	0.052	(0.367)	0.020	0.032
34	2.83	0.17	0.052	(0.365)	0.020	0.032
35	2.92	0.17	0.052	(0.364)	0.020	0.032
36	3.00	0.17	0.052	(0.362)	0.020	0.032
37	3.08	0.17	0.052	(0.361)	0.020	0.032
38	3.17	0.17	0.052	(0.359)	0.020	0.032
39	3.25	0.17	0.052	(0.358)	0.020	0.032
40	3.33	0.17	0.052	(0.356)	0.020	0.032
41	3.42	0.17	0.052	(0.355)	0.020	0.032
42	3.50	0.17	0.052	(0.353)	0.020	0.032
43	3.58	0.17	0.052	(0.352)	0.020	0.032
44	3.67	0.17	0.052	(0.350)	0.020	0.032
45	3.75	0.17	0.052	(0.349)	0.020	0.032
46	3.83	0.20	0.062	(0.347)	0.024	0.038

47	3.92	0.20	0.062	(0.346)	0.024	0.038
48	4.00	0.20	0.062	(0.344)	0.024	0.038
49	4.08	0.20	0.062	(0.343)	0.024	0.038
50	4.17	0.20	0.062	(0.341)	0.024	0.038
51	4.25	0.20	0.062	(0.340)	0.024	0.038
52	4.33	0.23	0.072	(0.338)	0.028	0.045
53	4.42	0.23	0.072	(0.337)	0.028	0.045
54	4.50	0.23	0.072	(0.336)	0.028	0.045
55	4.58	0.23	0.072	(0.334)	0.028	0.045
56	4.67	0.23	0.072	(0.333)	0.028	0.045
57	4.75	0.23	0.072	(0.331)	0.028	0.045
58	4.83	0.27	0.083	(0.330)	0.031	0.051
59	4.92	0.27	0.083	(0.328)	0.031	0.051
60	5.00	0.27	0.083	(0.327)	0.031	0.051
61	5.08	0.20	0.062	(0.326)	0.024	0.038
62	5.17	0.20	0.062	(0.324)	0.024	0.038
63	5.25	0.20	0.062	(0.323)	0.024	0.038
64	5.33	0.23	0.072	(0.321)	0.028	0.045
65	5.42	0.23	0.072	(0.320)	0.028	0.045
66	5.50	0.23	0.072	(0.318)	0.028	0.045
67	5.58	0.27	0.083	(0.317)	0.031	0.051
68	5.67	0.27	0.083	(0.316)	0.031	0.051
69	5.75	0.27	0.083	(0.314)	0.031	0.051
70	5.83	0.27	0.083	(0.313)	0.031	0.051
71	5.92	0.27	0.083	(0.312)	0.031	0.051
72	6.00	0.27	0.083	(0.310)	0.031	0.051
73	6.08	0.30	0.093	(0.309)	0.035	0.058
74	6.17	0.30	0.093	(0.307)	0.035	0.058
75	6.25	0.30	0.093	(0.306)	0.035	0.058
76	6.33	0.30	0.093	(0.305)	0.035	0.058
77	6.42	0.30	0.093	(0.303)	0.035	0.058
78	6.50	0.30	0.093	(0.302)	0.035	0.058
79	6.58	0.33	0.103	(0.301)	0.039	0.064
80	6.67	0.33	0.103	(0.299)	0.039	0.064
81	6.75	0.33	0.103	(0.298)	0.039	0.064
82	6.83	0.33	0.103	(0.297)	0.039	0.064
83	6.92	0.33	0.103	(0.295)	0.039	0.064
84	7.00	0.33	0.103	(0.294)	0.039	0.064
85	7.08	0.33	0.103	(0.293)	0.039	0.064
86	7.17	0.33	0.103	(0.291)	0.039	0.064
87	7.25	0.33	0.103	(0.290)	0.039	0.064
88	7.33	0.37	0.114	(0.289)	0.043	0.071
89	7.42	0.37	0.114	(0.287)	0.043	0.071
90	7.50	0.37	0.114	(0.286)	0.043	0.071
91	7.58	0.40	0.124	(0.285)	0.047	0.077
92	7.67	0.40	0.124	(0.283)	0.047	0.077
93	7.75	0.40	0.124	(0.282)	0.047	0.077
94	7.83	0.43	0.135	(0.281)	0.051	0.083
95	7.92	0.43	0.135	(0.279)	0.051	0.083
96	8.00	0.43	0.135	(0.278)	0.051	0.083

97	8.08	0.50	0.155	(0.277)	0.059	0.096
98	8.17	0.50	0.155	(0.275)	0.059	0.096
99	8.25	0.50	0.155	(0.274)	0.059	0.096
100	8.33	0.50	0.155	(0.273)	0.059	0.096
101	8.42	0.50	0.155	(0.272)	0.059	0.096
102	8.50	0.50	0.155	(0.270)	0.059	0.096
103	8.58	0.53	0.166	(0.269)	0.063	0.103
104	8.67	0.53	0.166	(0.268)	0.063	0.103
105	8.75	0.53	0.166	(0.267)	0.063	0.103
106	8.83	0.57	0.176	(0.265)	0.067	0.109
107	8.92	0.57	0.176	(0.264)	0.067	0.109
108	9.00	0.57	0.176	(0.263)	0.067	0.109
109	9.08	0.63	0.197	(0.262)	0.075	0.122
110	9.17	0.63	0.197	(0.260)	0.075	0.122
111	9.25	0.63	0.197	(0.259)	0.075	0.122
112	9.33	0.67	0.207	(0.258)	0.079	0.128
113	9.42	0.67	0.207	(0.257)	0.079	0.128
114	9.50	0.67	0.207	(0.255)	0.079	0.128
115	9.58	0.70	0.217	(0.254)	0.083	0.135
116	9.67	0.70	0.217	(0.253)	0.083	0.135
117	9.75	0.70	0.217	(0.252)	0.083	0.135
118	9.83	0.73	0.228	(0.251)	0.087	0.141
119	9.92	0.73	0.228	(0.249)	0.087	0.141
120	10.00	0.73	0.228	(0.248)	0.087	0.141
121	10.08	0.50	0.155	(0.247)	0.059	0.096
122	10.17	0.50	0.155	(0.246)	0.059	0.096
123	10.25	0.50	0.155	(0.245)	0.059	0.096
124	10.33	0.50	0.155	(0.243)	0.059	0.096
125	10.42	0.50	0.155	(0.242)	0.059	0.096
126	10.50	0.50	0.155	(0.241)	0.059	0.096
127	10.58	0.67	0.207	(0.240)	0.079	0.128
128	10.67	0.67	0.207	(0.239)	0.079	0.128
129	10.75	0.67	0.207	(0.237)	0.079	0.128
130	10.83	0.67	0.207	(0.236)	0.079	0.128
131	10.92	0.67	0.207	(0.235)	0.079	0.128
132	11.00	0.67	0.207	(0.234)	0.079	0.128
133	11.08	0.63	0.197	(0.233)	0.075	0.122
134	11.17	0.63	0.197	(0.232)	0.075	0.122
135	11.25	0.63	0.197	(0.231)	0.075	0.122
136	11.33	0.63	0.197	(0.229)	0.075	0.122
137	11.42	0.63	0.197	(0.228)	0.075	0.122
138	11.50	0.63	0.197	(0.227)	0.075	0.122
139	11.58	0.57	0.176	(0.226)	0.067	0.109
140	11.67	0.57	0.176	(0.225)	0.067	0.109
141	11.75	0.57	0.176	(0.224)	0.067	0.109
142	11.83	0.60	0.186	(0.223)	0.071	0.115
143	11.92	0.60	0.186	(0.222)	0.071	0.115
144	12.00	0.60	0.186	(0.220)	0.071	0.115
145	12.08	0.83	0.259	(0.219)	0.098	0.160
146	12.17	0.83	0.259	(0.218)	0.098	0.160

147	12.25	0.83	0.259	(0.217)	0.098	0.160
148	12.33	0.87	0.269	(0.216)	0.102	0.167
149	12.42	0.87	0.269	(0.215)	0.102	0.167
150	12.50	0.87	0.269	(0.214)	0.102	0.167
151	12.58	0.93	0.290	(0.213)	0.110	0.180
152	12.67	0.93	0.290	(0.212)	0.110	0.180
153	12.75	0.93	0.290	(0.211)	0.110	0.180
154	12.83	0.97	0.300	(0.210)	0.114	0.186
155	12.92	0.97	0.300	(0.209)	0.114	0.186
156	13.00	0.97	0.300	(0.207)	0.114	0.186
157	13.08	1.13	0.352	(0.206)	0.134	0.218
158	13.17	1.13	0.352	(0.205)	0.134	0.218
159	13.25	1.13	0.352	(0.204)	0.134	0.218
160	13.33	1.13	0.352	(0.203)	0.134	0.218
161	13.42	1.13	0.352	(0.202)	0.134	0.218
162	13.50	1.13	0.352	(0.201)	0.134	0.218
163	13.58	0.77	0.238	(0.200)	0.090	0.148
164	13.67	0.77	0.238	(0.199)	0.090	0.148
165	13.75	0.77	0.238	(0.198)	0.090	0.148
166	13.83	0.77	0.238	(0.197)	0.090	0.148
167	13.92	0.77	0.238	(0.196)	0.090	0.148
168	14.00	0.77	0.238	(0.195)	0.090	0.148
169	14.08	0.90	0.279	(0.194)	0.106	0.173
170	14.17	0.90	0.279	(0.193)	0.106	0.173
171	14.25	0.90	0.279	(0.192)	0.106	0.173
172	14.33	0.87	0.269	(0.191)	0.102	0.167
173	14.42	0.87	0.269	(0.190)	0.102	0.167
174	14.50	0.87	0.269	(0.189)	0.102	0.167
175	14.58	0.87	0.269	(0.188)	0.102	0.167
176	14.67	0.87	0.269	(0.187)	0.102	0.167
177	14.75	0.87	0.269	(0.186)	0.102	0.167
178	14.83	0.83	0.259	(0.185)	0.098	0.160
179	14.92	0.83	0.259	(0.184)	0.098	0.160
180	15.00	0.83	0.259	(0.184)	0.098	0.160
181	15.08	0.80	0.248	(0.183)	0.094	0.154
182	15.17	0.80	0.248	(0.182)	0.094	0.154
183	15.25	0.80	0.248	(0.181)	0.094	0.154
184	15.33	0.77	0.238	(0.180)	0.090	0.148
185	15.42	0.77	0.238	(0.179)	0.090	0.148
186	15.50	0.77	0.238	(0.178)	0.090	0.148
187	15.58	0.63	0.197	(0.177)	0.075	0.122
188	15.67	0.63	0.197	(0.176)	0.075	0.122
189	15.75	0.63	0.197	(0.175)	0.075	0.122
190	15.83	0.63	0.197	(0.174)	0.075	0.122
191	15.92	0.63	0.197	(0.173)	0.075	0.122
192	16.00	0.63	0.197	(0.173)	0.075	0.122
193	16.08	0.13	0.041	(0.172)	0.016	0.026
194	16.17	0.13	0.041	(0.171)	0.016	0.026
195	16.25	0.13	0.041	(0.170)	0.016	0.026
196	16.33	0.13	0.041	(0.169)	0.016	0.026

197	16.42	0.13	0.041	(0.168)	0.016	0.026
198	16.50	0.13	0.041	(0.167)	0.016	0.026
199	16.58	0.10	0.031	(0.166)	0.012	0.019
200	16.67	0.10	0.031	(0.166)	0.012	0.019
201	16.75	0.10	0.031	(0.165)	0.012	0.019
202	16.83	0.10	0.031	(0.164)	0.012	0.019
203	16.92	0.10	0.031	(0.163)	0.012	0.019
204	17.00	0.10	0.031	(0.162)	0.012	0.019
205	17.08	0.17	0.052	(0.161)	0.020	0.032
206	17.17	0.17	0.052	(0.161)	0.020	0.032
207	17.25	0.17	0.052	(0.160)	0.020	0.032
208	17.33	0.17	0.052	(0.159)	0.020	0.032
209	17.42	0.17	0.052	(0.158)	0.020	0.032
210	17.50	0.17	0.052	(0.157)	0.020	0.032
211	17.58	0.17	0.052	(0.157)	0.020	0.032
212	17.67	0.17	0.052	(0.156)	0.020	0.032
213	17.75	0.17	0.052	(0.155)	0.020	0.032
214	17.83	0.13	0.041	(0.154)	0.016	0.026
215	17.92	0.13	0.041	(0.154)	0.016	0.026
216	18.00	0.13	0.041	(0.153)	0.016	0.026
217	18.08	0.13	0.041	(0.152)	0.016	0.026
218	18.17	0.13	0.041	(0.151)	0.016	0.026
219	18.25	0.13	0.041	(0.151)	0.016	0.026
220	18.33	0.13	0.041	(0.150)	0.016	0.026
221	18.42	0.13	0.041	(0.149)	0.016	0.026
222	18.50	0.13	0.041	(0.148)	0.016	0.026
223	18.58	0.10	0.031	(0.148)	0.012	0.019
224	18.67	0.10	0.031	(0.147)	0.012	0.019
225	18.75	0.10	0.031	(0.146)	0.012	0.019
226	18.83	0.07	0.021	(0.146)	0.008	0.013
227	18.92	0.07	0.021	(0.145)	0.008	0.013
228	19.00	0.07	0.021	(0.144)	0.008	0.013
229	19.08	0.10	0.031	(0.144)	0.012	0.019
230	19.17	0.10	0.031	(0.143)	0.012	0.019
231	19.25	0.10	0.031	(0.142)	0.012	0.019
232	19.33	0.13	0.041	(0.142)	0.016	0.026
233	19.42	0.13	0.041	(0.141)	0.016	0.026
234	19.50	0.13	0.041	(0.140)	0.016	0.026
235	19.58	0.10	0.031	(0.140)	0.012	0.019
236	19.67	0.10	0.031	(0.139)	0.012	0.019
237	19.75	0.10	0.031	(0.138)	0.012	0.019
238	19.83	0.07	0.021	(0.138)	0.008	0.013
239	19.92	0.07	0.021	(0.137)	0.008	0.013
240	20.00	0.07	0.021	(0.136)	0.008	0.013
241	20.08	0.10	0.031	(0.136)	0.012	0.019
242	20.17	0.10	0.031	(0.135)	0.012	0.019
243	20.25	0.10	0.031	(0.135)	0.012	0.019
244	20.33	0.10	0.031	(0.134)	0.012	0.019
245	20.42	0.10	0.031	(0.133)	0.012	0.019
246	20.50	0.10	0.031	(0.133)	0.012	0.019

247	20.58	0.10	0.031	(0.132)	0.012	0.019
248	20.67	0.10	0.031	(0.132)	0.012	0.019
249	20.75	0.10	0.031	(0.131)	0.012	0.019
250	20.83	0.07	0.021	(0.131)	0.008	0.013
251	20.92	0.07	0.021	(0.130)	0.008	0.013
252	21.00	0.07	0.021	(0.130)	0.008	0.013
253	21.08	0.10	0.031	(0.129)	0.012	0.019
254	21.17	0.10	0.031	(0.129)	0.012	0.019
255	21.25	0.10	0.031	(0.128)	0.012	0.019
256	21.33	0.07	0.021	(0.128)	0.008	0.013
257	21.42	0.07	0.021	(0.127)	0.008	0.013
258	21.50	0.07	0.021	(0.127)	0.008	0.013
259	21.58	0.10	0.031	(0.126)	0.012	0.019
260	21.67	0.10	0.031	(0.126)	0.012	0.019
261	21.75	0.10	0.031	(0.125)	0.012	0.019
262	21.83	0.07	0.021	(0.125)	0.008	0.013
263	21.92	0.07	0.021	(0.124)	0.008	0.013
264	22.00	0.07	0.021	(0.124)	0.008	0.013
265	22.08	0.10	0.031	(0.124)	0.012	0.019
266	22.17	0.10	0.031	(0.123)	0.012	0.019
267	22.25	0.10	0.031	(0.123)	0.012	0.019
268	22.33	0.07	0.021	(0.122)	0.008	0.013
269	22.42	0.07	0.021	(0.122)	0.008	0.013
270	22.50	0.07	0.021	(0.122)	0.008	0.013
271	22.58	0.07	0.021	(0.121)	0.008	0.013
272	22.67	0.07	0.021	(0.121)	0.008	0.013
273	22.75	0.07	0.021	(0.121)	0.008	0.013
274	22.83	0.07	0.021	(0.120)	0.008	0.013
275	22.92	0.07	0.021	(0.120)	0.008	0.013
276	23.00	0.07	0.021	(0.120)	0.008	0.013
277	23.08	0.07	0.021	(0.120)	0.008	0.013
278	23.17	0.07	0.021	(0.119)	0.008	0.013
279	23.25	0.07	0.021	(0.119)	0.008	0.013
280	23.33	0.07	0.021	(0.119)	0.008	0.013
281	23.42	0.07	0.021	(0.119)	0.008	0.013
282	23.50	0.07	0.021	(0.118)	0.008	0.013
283	23.58	0.07	0.021	(0.118)	0.008	0.013
284	23.67	0.07	0.021	(0.118)	0.008	0.013
285	23.75	0.07	0.021	(0.118)	0.008	0.013
286	23.83	0.07	0.021	(0.118)	0.008	0.013
287	23.92	0.07	0.021	(0.118)	0.008	0.013
288	24.00	0.07	0.021	(0.117)	0.008	0.013

(Loss Rate Not Used)

Sum = 100.0

Sum = 19.2

Flood volume = Effective rainfall 1.60(In)

times area 13.8(Ac.)/[(In)/(Ft.)] = 1.8(Ac.Ft)

Total soil loss = 0.98(In)

Total soil loss = 1.127(Ac.Ft)

Total rainfall = 2.59(In)

Flood volume = 80066.2 Cubic Feet

Total soil loss = 49072.9 Cubic Feet

 Peak flow rate of this hydrograph = 3.025(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	0.0007	0.10	Q				
0+10	0.0018	0.17	Q				
0+15	0.0031	0.18	Q				
0+20	0.0046	0.23	Q				
0+25	0.0064	0.26	VQ				
0+30	0.0083	0.27	VQ				
0+35	0.0101	0.27	VQ				
0+40	0.0119	0.27	VQ				
0+45	0.0138	0.27	VQ				
0+50	0.0160	0.32	VQ				
0+55	0.0184	0.35	VQ				
1+ 0	0.0208	0.36	VQ				
1+ 5	0.0229	0.31	VQ				
1+10	0.0248	0.27	VQ				
1+15	0.0266	0.27	VQ				
1+20	0.0285	0.27	VQ				
1+25	0.0303	0.27	VQ				
1+30	0.0322	0.27	VQ				
1+35	0.0340	0.27	VQ				
1+40	0.0358	0.27	VQ				
1+45	0.0377	0.27	VQ				
1+50	0.0399	0.32	VQ				
1+55	0.0423	0.35	VQ				
2+ 0	0.0447	0.36	VQ				
2+ 5	0.0472	0.36	Q				
2+10	0.0496	0.36	Q				
2+15	0.0521	0.36	Q				
2+20	0.0545	0.36	Q				
2+25	0.0570	0.36	Q				
2+30	0.0594	0.36	Q				
2+35	0.0622	0.41	Q				
2+40	0.0652	0.44	Q				
2+45	0.0683	0.44	Q				
2+50	0.0714	0.44	Q				
2+55	0.0744	0.44	Q				
3+ 0	0.0775	0.44	Q				
3+ 5	0.0806	0.44	Q				

3+10	0.0836	0.44	Q				
3+15	0.0867	0.44	Q				
3+20	0.0897	0.44	Q				
3+25	0.0928	0.44	QV				
3+30	0.0959	0.44	QV				
3+35	0.0989	0.44	QV				
3+40	0.1020	0.44	QV				
3+45	0.1051	0.44	QV				
3+50	0.1085	0.49	QV				
3+55	0.1121	0.53	Q				
4+ 0	0.1158	0.53	Q				
4+ 5	0.1195	0.53	Q				
4+10	0.1231	0.53	Q				
4+15	0.1268	0.53	Q				
4+20	0.1308	0.58	Q				
4+25	0.1351	0.62	Q				
4+30	0.1394	0.62	QV				
4+35	0.1437	0.62	QV				
4+40	0.1479	0.62	QV				
4+45	0.1522	0.62	QV				
4+50	0.1569	0.67	QV				
4+55	0.1617	0.71	QV				
5+ 0	0.1666	0.71	QV				
5+ 5	0.1708	0.61	QV				
5+10	0.1746	0.55	QV				
5+15	0.1783	0.53	QV				
5+20	0.1823	0.58	QV				
5+25	0.1865	0.62	Q V				
5+30	0.1908	0.62	Q V				
5+35	0.1955	0.67	Q V				
5+40	0.2003	0.71	Q V				
5+45	0.2052	0.71	Q V				
5+50	0.2101	0.71	Q V				
5+55	0.2150	0.71	Q V				
6+ 0	0.2199	0.71	Q V				
6+ 5	0.2252	0.76	QV				
6+10	0.2307	0.79	Q V				
6+15	0.2362	0.80	Q V				
6+20	0.2417	0.80	Q V				
6+25	0.2472	0.80	Q V				
6+30	0.2527	0.80	Q V				
6+35	0.2586	0.85	Q V				
6+40	0.2647	0.88	Q V				
6+45	0.2708	0.89	Q V				
6+50	0.2769	0.89	Q V				
6+55	0.2830	0.89	Q V				
7+ 0	0.2892	0.89	Q V				
7+ 5	0.2953	0.89	Q V				
7+10	0.3014	0.89	Q V				
7+15	0.3075	0.89	Q V				

7+20	0.3140	0.94	Q	V				
7+25	0.3207	0.97	Q	V				
7+30	0.3275	0.98	Q	V				
7+35	0.3345	1.03	Q	V				
7+40	0.3419	1.06	Q	V				
7+45	0.3492	1.07	Q	V				
7+50	0.3569	1.12	Q	V				
7+55	0.3648	1.15	Q	V				
8+ 0	0.3728	1.16	Q	V				
8+ 5	0.3814	1.26	Q	V				
8+10	0.3906	1.32	Q	V				
8+15	0.3997	1.33	Q	V				
8+20	0.4089	1.33	Q	V				
8+25	0.4181	1.33	Q	V				
8+30	0.4273	1.33	Q	V				
8+35	0.4368	1.38	Q	V				
8+40	0.4466	1.42	Q	V				
8+45	0.4564	1.42	Q	V				
8+50	0.4666	1.47	Q	V				
8+55	0.4769	1.51	Q	V				
9+ 0	0.4874	1.51	Q	V				
9+ 5	0.4985	1.61	Q	V				
9+10	0.5100	1.68	Q	V				
9+15	0.5217	1.69	Q	V				
9+20	0.5336	1.74	Q	V				
9+25	0.5459	1.77	Q	V				
9+30	0.5581	1.78	Q	V				
9+35	0.5707	1.83	Q	V				
9+40	0.5835	1.86	Q	V				
9+45	0.5964	1.87	Q	V				
9+50	0.6096	1.92	Q	V				
9+55	0.6231	1.95	Q	V				
10+ 0	0.6365	1.96	Q	V				
10+ 5	0.6476	1.61	Q	V				
10+10	0.6571	1.37	Q	V				
10+15	0.6663	1.33	Q	V				
10+20	0.6755	1.33	Q	V				
10+25	0.6846	1.33	Q	V				
10+30	0.6938	1.33	Q	V				
10+35	0.7047	1.58	Q	V				
10+40	0.7168	1.75	Q	V				
10+45	0.7291	1.78	Q	V				
10+50	0.7413	1.78	Q	V				
10+55	0.7536	1.78	Q	V				
11+ 0	0.7658	1.78	Q	V				
11+ 5	0.7777	1.73	Q	V				
11+10	0.7894	1.70	Q	V				
11+15	0.8010	1.69	Q	V				
11+20	0.8127	1.69	Q	V				
11+25	0.8243	1.69	Q	V				

11+30	0.8360	1.69	Q	V		
11+35	0.8469	1.59	Q	V		
11+40	0.8574	1.52	Q	V		
11+45	0.8678	1.51	Q	V		
11+50	0.8786	1.56	Q	V		
11+55	0.8896	1.60	Q	V		
12+ 0	0.9006	1.60	Q	V		
12+ 5	0.9140	1.95	Q	V		
12+10	0.9291	2.18	Q	V		
12+15	0.9444	2.22	Q	V		
12+20	0.9601	2.27	Q	V		
12+25	0.9759	2.31	Q	V		
12+30	0.9919	2.31	Q	V		
12+35	1.0085	2.41	Q	V		
12+40	1.0256	2.48	Q	V		
12+45	1.0427	2.49	Q	V		
12+50	1.0602	2.54	Q	V		
12+55	1.0780	2.57	Q	V		
13+ 0	1.0957	2.58	Q	V		
13+ 5	1.1152	2.83	Q	V		
13+10	1.1358	3.00	Q	V		
13+15	1.1567	3.02	Q	V		
13+20	1.1775	3.02	Q	V		
13+25	1.1983	3.02	Q	V		
13+30	1.2192	3.02	Q	V		
13+35	1.2362	2.48	Q	V		
13+40	1.2507	2.11	Q	V		
13+45	1.2648	2.05	Q	V		
13+50	1.2789	2.05	Q	V		
13+55	1.2930	2.05	Q	V		
14+ 0	1.3071	2.05	Q	V		
14+ 5	1.3226	2.25	Q	V		
14+10	1.3390	2.38	Q	V		
14+15	1.3555	2.40	Q	V		
14+20	1.3717	2.35	Q	V		
14+25	1.3877	2.32	Q	V		
14+30	1.4036	2.31	Q	V		
14+35	1.4195	2.31	Q	V		
14+40	1.4355	2.31	Q	V		
14+45	1.4514	2.31	Q	V		
14+50	1.4670	2.26	Q	V		
14+55	1.4823	2.23	Q	V		
15+ 0	1.4977	2.22	Q	V		
15+ 5	1.5126	2.17	Q	V		
15+10	1.5274	2.14	Q	V		
15+15	1.5421	2.14	Q	V		
15+20	1.5564	2.09	Q	V		
15+25	1.5706	2.05	Q	V		
15+30	1.5847	2.05	Q	V		
15+35	1.5974	1.85	Q	V		

15+40	1.6092	1.71		Q			V
15+45	1.6208	1.69		Q			V
15+50	1.6325	1.69		Q			V
15+55	1.6441	1.69		Q			V
16+ 0	1.6557	1.69		Q			V
16+ 5	1.6622	0.94	Q				V
16+10	1.6653	0.44	Q				V
16+15	1.6677	0.36	Q				V
16+20	1.6702	0.36	Q				V
16+25	1.6726	0.36	Q				V
16+30	1.6751	0.36	Q				V
16+35	1.6772	0.31	Q				V
16+40	1.6791	0.27	Q				V
16+45	1.6809	0.27	Q				V
16+50	1.6827	0.27	Q				V
16+55	1.6846	0.27	Q				V
17+ 0	1.6864	0.27	Q				V
17+ 5	1.6889	0.37	Q				V
17+10	1.6919	0.43	Q				V
17+15	1.6950	0.44	Q				V
17+20	1.6981	0.44	Q				V
17+25	1.7011	0.44	Q				V
17+30	1.7042	0.44	Q				V
17+35	1.7072	0.44	Q				V
17+40	1.7103	0.44	Q				V
17+45	1.7134	0.44	Q				V
17+50	1.7161	0.39	Q				V
17+55	1.7186	0.36	Q				V
18+ 0	1.7210	0.36	Q				V
18+ 5	1.7235	0.36	Q				V
18+10	1.7259	0.36	Q				V
18+15	1.7284	0.36	Q				V
18+20	1.7308	0.36	Q				V
18+25	1.7333	0.36	Q				V
18+30	1.7357	0.36	Q				V
18+35	1.7378	0.31	Q				V
18+40	1.7397	0.27	Q				V
18+45	1.7416	0.27	Q				V
18+50	1.7431	0.22	Q				V
18+55	1.7443	0.18	Q				V
19+ 0	1.7455	0.18	Q				V
19+ 5	1.7471	0.23	Q				V
19+10	1.7489	0.26	Q				V
19+15	1.7508	0.27	Q				V
19+20	1.7529	0.32	Q				V
19+25	1.7553	0.35	Q				V
19+30	1.7578	0.36	Q				V
19+35	1.7599	0.31	Q				V
19+40	1.7618	0.27	Q				V
19+45	1.7636	0.27	Q				V

19+50	1.7651	0.22	Q				V
19+55	1.7664	0.18	Q				V
20+ 0	1.7676	0.18	Q				V
20+ 5	1.7692	0.23	Q				V
20+10	1.7710	0.26	Q				V
20+15	1.7728	0.27	Q				V
20+20	1.7746	0.27	Q				V
20+25	1.7765	0.27	Q				V
20+30	1.7783	0.27	Q				V
20+35	1.7802	0.27	Q				V
20+40	1.7820	0.27	Q				V
20+45	1.7838	0.27	Q				V
20+50	1.7853	0.22	Q				V
20+55	1.7866	0.18	Q				V
21+ 0	1.7878	0.18	Q				V
21+ 5	1.7894	0.23	Q				V
21+10	1.7912	0.26	Q				V
21+15	1.7930	0.27	Q				V
21+20	1.7945	0.22	Q				V
21+25	1.7958	0.18	Q				V
21+30	1.7970	0.18	Q				V
21+35	1.7986	0.23	Q				V
21+40	1.8004	0.26	Q				V
21+45	1.8022	0.27	Q				V
21+50	1.8037	0.22	Q				V
21+55	1.8050	0.18	Q				V
22+ 0	1.8062	0.18	Q				V
22+ 5	1.8078	0.23	Q				V
22+10	1.8096	0.26	Q				V
22+15	1.8114	0.27	Q				V
22+20	1.8129	0.22	Q				V
22+25	1.8142	0.18	Q				V
22+30	1.8154	0.18	Q				V
22+35	1.8166	0.18	Q				V
22+40	1.8178	0.18	Q				V
22+45	1.8191	0.18	Q				V
22+50	1.8203	0.18	Q				V
22+55	1.8215	0.18	Q				V
23+ 0	1.8227	0.18	Q				V
23+ 5	1.8240	0.18	Q				V
23+10	1.8252	0.18	Q				V
23+15	1.8264	0.18	Q				V
23+20	1.8276	0.18	Q				V
23+25	1.8289	0.18	Q				V
23+30	1.8301	0.18	Q				V
23+35	1.8313	0.18	Q				V
23+40	1.8325	0.18	Q				V
23+45	1.8338	0.18	Q				V
23+50	1.8350	0.18	Q				V
23+55	1.8362	0.18	Q				V

24+ 0	1.8375	0.18	Q				V
24+ 5	1.8380	0.08	Q				V
24+10	1.8381	0.01	Q				V

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

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Study date 01/05/23 File: GoyaSUHPre24100.out

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

Program License Serial Number 6215

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

English Units used in output format

GoyaSUHPre24100

Drainage Area = 14.00(Ac.) = 0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.00(Ac.) =
0.022 Sq. Mi.
Length along longest watercourse = 1018.00(Ft.)
Length along longest watercourse measured to centroid = 74.92(Ft.)
Length along longest watercourse = 0.193 Mi.
Length along longest watercourse measured to centroid = 0.014 Mi.
Difference in elevation = 7.94(Ft.)
Slope along watercourse = 41.1819 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.038 Hr.
Lag time = 2.26 Min.
25% of lag time = 0.57 Min.
40% of lag time = 0.91 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]
14.00	1.87	26.18

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
14.00	4.74	66.36

STORM EVENT (YEAR) = 100.00
 Area Averaged 2-Year Rainfall = 1.870(In)
 Area Averaged 100-Year Rainfall = 4.740(In)

Point rain (area averaged) = 4.740(In)
 Areal adjustment factor = 100.00 %
 Adjusted average point rain = 4.740(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
14.000	78.00	0.100
Total Area Entered = 14.00(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
78.0	78.0	0.268	0.100	0.244	1.000	0.244
Sum (F) =						0.244

Area averaged mean soil loss (F) (In/Hr) = 0.244
 Minimum soil loss rate ((In/Hr)) = 0.122
 (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	220.898	46.793	6.602
2	0.167	441.795	41.935	5.917
3	0.250	662.693	8.007	1.130
4	0.333	883.590	3.264	0.461
Sum = 100.000			Sum=	14.109

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)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.038	(0.432)	0.034	0.004
2	0.17	0.07	0.038	(0.430)	0.034	0.004
3	0.25	0.07	0.038	(0.428)	0.034	0.004
4	0.33	0.10	0.057	(0.427)	0.051	0.006
5	0.42	0.10	0.057	(0.425)	0.051	0.006
6	0.50	0.10	0.057	(0.423)	0.051	0.006
7	0.58	0.10	0.057	(0.422)	0.051	0.006
8	0.67	0.10	0.057	(0.420)	0.051	0.006
9	0.75	0.10	0.057	(0.418)	0.051	0.006
10	0.83	0.13	0.076	(0.417)	0.068	0.008
11	0.92	0.13	0.076	(0.415)	0.068	0.008
12	1.00	0.13	0.076	(0.414)	0.068	0.008
13	1.08	0.10	0.057	(0.412)	0.051	0.006
14	1.17	0.10	0.057	(0.410)	0.051	0.006
15	1.25	0.10	0.057	(0.409)	0.051	0.006
16	1.33	0.10	0.057	(0.407)	0.051	0.006
17	1.42	0.10	0.057	(0.405)	0.051	0.006
18	1.50	0.10	0.057	(0.404)	0.051	0.006
19	1.58	0.10	0.057	(0.402)	0.051	0.006
20	1.67	0.10	0.057	(0.401)	0.051	0.006
21	1.75	0.10	0.057	(0.399)	0.051	0.006
22	1.83	0.13	0.076	(0.397)	0.068	0.008
23	1.92	0.13	0.076	(0.396)	0.068	0.008
24	2.00	0.13	0.076	(0.394)	0.068	0.008
25	2.08	0.13	0.076	(0.393)	0.068	0.008
26	2.17	0.13	0.076	(0.391)	0.068	0.008
27	2.25	0.13	0.076	(0.389)	0.068	0.008
28	2.33	0.13	0.076	(0.388)	0.068	0.008
29	2.42	0.13	0.076	(0.386)	0.068	0.008
30	2.50	0.13	0.076	(0.385)	0.068	0.008
31	2.58	0.17	0.095	(0.383)	0.085	0.009
32	2.67	0.17	0.095	(0.381)	0.085	0.009
33	2.75	0.17	0.095	(0.380)	0.085	0.009
34	2.83	0.17	0.095	(0.378)	0.085	0.009
35	2.92	0.17	0.095	(0.377)	0.085	0.009
36	3.00	0.17	0.095	(0.375)	0.085	0.009
37	3.08	0.17	0.095	(0.374)	0.085	0.009
38	3.17	0.17	0.095	(0.372)	0.085	0.009
39	3.25	0.17	0.095	(0.371)	0.085	0.009
40	3.33	0.17	0.095	(0.369)	0.085	0.009
41	3.42	0.17	0.095	(0.367)	0.085	0.009
42	3.50	0.17	0.095	(0.366)	0.085	0.009
43	3.58	0.17	0.095	(0.364)	0.085	0.009
44	3.67	0.17	0.095	(0.363)	0.085	0.009
45	3.75	0.17	0.095	(0.361)	0.085	0.009

46	3.83	0.20	0.114	(0.360)	0.102	0.011
47	3.92	0.20	0.114	(0.358)	0.102	0.011
48	4.00	0.20	0.114	(0.357)	0.102	0.011
49	4.08	0.20	0.114	(0.355)	0.102	0.011
50	4.17	0.20	0.114	(0.354)	0.102	0.011
51	4.25	0.20	0.114	(0.352)	0.102	0.011
52	4.33	0.23	0.133	(0.351)	0.119	0.013
53	4.42	0.23	0.133	(0.349)	0.119	0.013
54	4.50	0.23	0.133	(0.348)	0.119	0.013
55	4.58	0.23	0.133	(0.346)	0.119	0.013
56	4.67	0.23	0.133	(0.345)	0.119	0.013
57	4.75	0.23	0.133	(0.343)	0.119	0.013
58	4.83	0.27	0.152	(0.342)	0.137	0.015
59	4.92	0.27	0.152	(0.340)	0.137	0.015
60	5.00	0.27	0.152	(0.339)	0.137	0.015
61	5.08	0.20	0.114	(0.337)	0.102	0.011
62	5.17	0.20	0.114	(0.336)	0.102	0.011
63	5.25	0.20	0.114	(0.334)	0.102	0.011
64	5.33	0.23	0.133	(0.333)	0.119	0.013
65	5.42	0.23	0.133	(0.332)	0.119	0.013
66	5.50	0.23	0.133	(0.330)	0.119	0.013
67	5.58	0.27	0.152	(0.329)	0.137	0.015
68	5.67	0.27	0.152	(0.327)	0.137	0.015
69	5.75	0.27	0.152	(0.326)	0.137	0.015
70	5.83	0.27	0.152	(0.324)	0.137	0.015
71	5.92	0.27	0.152	(0.323)	0.137	0.015
72	6.00	0.27	0.152	(0.321)	0.137	0.015
73	6.08	0.30	0.171	(0.320)	0.154	0.017
74	6.17	0.30	0.171	(0.319)	0.154	0.017
75	6.25	0.30	0.171	(0.317)	0.154	0.017
76	6.33	0.30	0.171	(0.316)	0.154	0.017
77	6.42	0.30	0.171	(0.314)	0.154	0.017
78	6.50	0.30	0.171	(0.313)	0.154	0.017
79	6.58	0.33	0.190	(0.312)	0.171	0.019
80	6.67	0.33	0.190	(0.310)	0.171	0.019
81	6.75	0.33	0.190	(0.309)	0.171	0.019
82	6.83	0.33	0.190	(0.307)	0.171	0.019
83	6.92	0.33	0.190	(0.306)	0.171	0.019
84	7.00	0.33	0.190	(0.305)	0.171	0.019
85	7.08	0.33	0.190	(0.303)	0.171	0.019
86	7.17	0.33	0.190	(0.302)	0.171	0.019
87	7.25	0.33	0.190	(0.300)	0.171	0.019
88	7.33	0.37	0.209	(0.299)	0.188	0.021
89	7.42	0.37	0.209	(0.298)	0.188	0.021
90	7.50	0.37	0.209	(0.296)	0.188	0.021
91	7.58	0.40	0.228	(0.295)	0.205	0.023
92	7.67	0.40	0.228	(0.294)	0.205	0.023
93	7.75	0.40	0.228	(0.292)	0.205	0.023
94	7.83	0.43	0.246	(0.291)	0.222	0.025
95	7.92	0.43	0.246	(0.290)	0.222	0.025

96	8.00	0.43	0.246	(0.288)	0.222	0.025
97	8.08	0.50	0.284	(0.287)	0.256	0.028
98	8.17	0.50	0.284	(0.286)	0.256	0.028
99	8.25	0.50	0.284	(0.284)	0.256	0.028
100	8.33	0.50	0.284	(0.283)	0.256	0.028
101	8.42	0.50	0.284	(0.282)	0.256	0.028
102	8.50	0.50	0.284	(0.280)	0.256	0.028
103	8.58	0.53	0.303	(0.279)	0.273	0.030
104	8.67	0.53	0.303	(0.278)	0.273	0.030
105	8.75	0.53	0.303	(0.276)	0.273	0.030
106	8.83	0.57	0.322	0.275	(0.290)	0.047
107	8.92	0.57	0.322	0.274	(0.290)	0.049
108	9.00	0.57	0.322	0.272	(0.290)	0.050
109	9.08	0.63	0.360	0.271	(0.324)	0.089
110	9.17	0.63	0.360	0.270	(0.324)	0.090
111	9.25	0.63	0.360	0.269	(0.324)	0.092
112	9.33	0.67	0.379	0.267	(0.341)	0.112
113	9.42	0.67	0.379	0.266	(0.341)	0.113
114	9.50	0.67	0.379	0.265	(0.341)	0.114
115	9.58	0.70	0.398	0.263	(0.358)	0.135
116	9.67	0.70	0.398	0.262	(0.358)	0.136
117	9.75	0.70	0.398	0.261	(0.358)	0.137
118	9.83	0.73	0.417	0.260	(0.375)	0.157
119	9.92	0.73	0.417	0.258	(0.375)	0.159
120	10.00	0.73	0.417	0.257	(0.375)	0.160
121	10.08	0.50	0.284	0.256	(0.256)	0.028
122	10.17	0.50	0.284	0.255	(0.256)	0.030
123	10.25	0.50	0.284	0.253	(0.256)	0.031
124	10.33	0.50	0.284	0.252	(0.256)	0.032
125	10.42	0.50	0.284	0.251	(0.256)	0.033
126	10.50	0.50	0.284	0.250	(0.256)	0.035
127	10.58	0.67	0.379	0.249	(0.341)	0.131
128	10.67	0.67	0.379	0.247	(0.341)	0.132
129	10.75	0.67	0.379	0.246	(0.341)	0.133
130	10.83	0.67	0.379	0.245	(0.341)	0.134
131	10.92	0.67	0.379	0.244	(0.341)	0.135
132	11.00	0.67	0.379	0.243	(0.341)	0.137
133	11.08	0.63	0.360	0.241	(0.324)	0.119
134	11.17	0.63	0.360	0.240	(0.324)	0.120
135	11.25	0.63	0.360	0.239	(0.324)	0.121
136	11.33	0.63	0.360	0.238	(0.324)	0.122
137	11.42	0.63	0.360	0.237	(0.324)	0.124
138	11.50	0.63	0.360	0.235	(0.324)	0.125
139	11.58	0.57	0.322	0.234	(0.290)	0.088
140	11.67	0.57	0.322	0.233	(0.290)	0.089
141	11.75	0.57	0.322	0.232	(0.290)	0.090
142	11.83	0.60	0.341	0.231	(0.307)	0.111
143	11.92	0.60	0.341	0.230	(0.307)	0.112
144	12.00	0.60	0.341	0.228	(0.307)	0.113
145	12.08	0.83	0.474	0.227	(0.427)	0.247

146	12.17	0.83	0.474	0.226	(0.427)	0.248
147	12.25	0.83	0.474	0.225	(0.427)	0.249
148	12.33	0.87	0.493	0.224	(0.444)	0.269
149	12.42	0.87	0.493	0.223	(0.444)	0.270
150	12.50	0.87	0.493	0.222	(0.444)	0.271
151	12.58	0.93	0.531	0.221	(0.478)	0.310
152	12.67	0.93	0.531	0.219	(0.478)	0.311
153	12.75	0.93	0.531	0.218	(0.478)	0.313
154	12.83	0.97	0.550	0.217	(0.495)	0.333
155	12.92	0.97	0.550	0.216	(0.495)	0.334
156	13.00	0.97	0.550	0.215	(0.495)	0.335
157	13.08	1.13	0.645	0.214	(0.580)	0.431
158	13.17	1.13	0.645	0.213	(0.580)	0.432
159	13.25	1.13	0.645	0.212	(0.580)	0.433
160	13.33	1.13	0.645	0.211	(0.580)	0.434
161	13.42	1.13	0.645	0.210	(0.580)	0.435
162	13.50	1.13	0.645	0.209	(0.580)	0.436
163	13.58	0.77	0.436	0.208	(0.392)	0.229
164	13.67	0.77	0.436	0.206	(0.392)	0.230
165	13.75	0.77	0.436	0.205	(0.392)	0.231
166	13.83	0.77	0.436	0.204	(0.392)	0.232
167	13.92	0.77	0.436	0.203	(0.392)	0.233
168	14.00	0.77	0.436	0.202	(0.392)	0.234
169	14.08	0.90	0.512	0.201	(0.461)	0.311
170	14.17	0.90	0.512	0.200	(0.461)	0.312
171	14.25	0.90	0.512	0.199	(0.461)	0.313
172	14.33	0.87	0.493	0.198	(0.444)	0.295
173	14.42	0.87	0.493	0.197	(0.444)	0.296
174	14.50	0.87	0.493	0.196	(0.444)	0.297
175	14.58	0.87	0.493	0.195	(0.444)	0.298
176	14.67	0.87	0.493	0.194	(0.444)	0.299
177	14.75	0.87	0.493	0.193	(0.444)	0.300
178	14.83	0.83	0.474	0.192	(0.427)	0.282
179	14.92	0.83	0.474	0.191	(0.427)	0.283
180	15.00	0.83	0.474	0.190	(0.427)	0.284
181	15.08	0.80	0.455	0.189	(0.410)	0.266
182	15.17	0.80	0.455	0.188	(0.410)	0.267
183	15.25	0.80	0.455	0.187	(0.410)	0.268
184	15.33	0.77	0.436	0.186	(0.392)	0.250
185	15.42	0.77	0.436	0.185	(0.392)	0.251
186	15.50	0.77	0.436	0.184	(0.392)	0.252
187	15.58	0.63	0.360	0.183	(0.324)	0.177
188	15.67	0.63	0.360	0.183	(0.324)	0.178
189	15.75	0.63	0.360	0.182	(0.324)	0.179
190	15.83	0.63	0.360	0.181	(0.324)	0.180
191	15.92	0.63	0.360	0.180	(0.324)	0.180
192	16.00	0.63	0.360	0.179	(0.324)	0.181
193	16.08	0.13	0.076	(0.178)	0.068	0.008
194	16.17	0.13	0.076	(0.177)	0.068	0.008
195	16.25	0.13	0.076	(0.176)	0.068	0.008

196	16.33	0.13	0.076	(0.175)	0.068	0.008
197	16.42	0.13	0.076	(0.174)	0.068	0.008
198	16.50	0.13	0.076	(0.173)	0.068	0.008
199	16.58	0.10	0.057	(0.173)	0.051	0.006
200	16.67	0.10	0.057	(0.172)	0.051	0.006
201	16.75	0.10	0.057	(0.171)	0.051	0.006
202	16.83	0.10	0.057	(0.170)	0.051	0.006
203	16.92	0.10	0.057	(0.169)	0.051	0.006
204	17.00	0.10	0.057	(0.168)	0.051	0.006
205	17.08	0.17	0.095	(0.167)	0.085	0.009
206	17.17	0.17	0.095	(0.167)	0.085	0.009
207	17.25	0.17	0.095	(0.166)	0.085	0.009
208	17.33	0.17	0.095	(0.165)	0.085	0.009
209	17.42	0.17	0.095	(0.164)	0.085	0.009
210	17.50	0.17	0.095	(0.163)	0.085	0.009
211	17.58	0.17	0.095	(0.162)	0.085	0.009
212	17.67	0.17	0.095	(0.162)	0.085	0.009
213	17.75	0.17	0.095	(0.161)	0.085	0.009
214	17.83	0.13	0.076	(0.160)	0.068	0.008
215	17.92	0.13	0.076	(0.159)	0.068	0.008
216	18.00	0.13	0.076	(0.158)	0.068	0.008
217	18.08	0.13	0.076	(0.158)	0.068	0.008
218	18.17	0.13	0.076	(0.157)	0.068	0.008
219	18.25	0.13	0.076	(0.156)	0.068	0.008
220	18.33	0.13	0.076	(0.155)	0.068	0.008
221	18.42	0.13	0.076	(0.155)	0.068	0.008
222	18.50	0.13	0.076	(0.154)	0.068	0.008
223	18.58	0.10	0.057	(0.153)	0.051	0.006
224	18.67	0.10	0.057	(0.152)	0.051	0.006
225	18.75	0.10	0.057	(0.152)	0.051	0.006
226	18.83	0.07	0.038	(0.151)	0.034	0.004
227	18.92	0.07	0.038	(0.150)	0.034	0.004
228	19.00	0.07	0.038	(0.149)	0.034	0.004
229	19.08	0.10	0.057	(0.149)	0.051	0.006
230	19.17	0.10	0.057	(0.148)	0.051	0.006
231	19.25	0.10	0.057	(0.147)	0.051	0.006
232	19.33	0.13	0.076	(0.147)	0.068	0.008
233	19.42	0.13	0.076	(0.146)	0.068	0.008
234	19.50	0.13	0.076	(0.145)	0.068	0.008
235	19.58	0.10	0.057	(0.145)	0.051	0.006
236	19.67	0.10	0.057	(0.144)	0.051	0.006
237	19.75	0.10	0.057	(0.143)	0.051	0.006
238	19.83	0.07	0.038	(0.143)	0.034	0.004
239	19.92	0.07	0.038	(0.142)	0.034	0.004
240	20.00	0.07	0.038	(0.141)	0.034	0.004
241	20.08	0.10	0.057	(0.141)	0.051	0.006
242	20.17	0.10	0.057	(0.140)	0.051	0.006
243	20.25	0.10	0.057	(0.140)	0.051	0.006
244	20.33	0.10	0.057	(0.139)	0.051	0.006
245	20.42	0.10	0.057	(0.138)	0.051	0.006

246	20.50	0.10	0.057	(0.138)	0.051	0.006
247	20.58	0.10	0.057	(0.137)	0.051	0.006
248	20.67	0.10	0.057	(0.137)	0.051	0.006
249	20.75	0.10	0.057	(0.136)	0.051	0.006
250	20.83	0.07	0.038	(0.135)	0.034	0.004
251	20.92	0.07	0.038	(0.135)	0.034	0.004
252	21.00	0.07	0.038	(0.134)	0.034	0.004
253	21.08	0.10	0.057	(0.134)	0.051	0.006
254	21.17	0.10	0.057	(0.133)	0.051	0.006
255	21.25	0.10	0.057	(0.133)	0.051	0.006
256	21.33	0.07	0.038	(0.132)	0.034	0.004
257	21.42	0.07	0.038	(0.132)	0.034	0.004
258	21.50	0.07	0.038	(0.131)	0.034	0.004
259	21.58	0.10	0.057	(0.131)	0.051	0.006
260	21.67	0.10	0.057	(0.130)	0.051	0.006
261	21.75	0.10	0.057	(0.130)	0.051	0.006
262	21.83	0.07	0.038	(0.129)	0.034	0.004
263	21.92	0.07	0.038	(0.129)	0.034	0.004
264	22.00	0.07	0.038	(0.129)	0.034	0.004
265	22.08	0.10	0.057	(0.128)	0.051	0.006
266	22.17	0.10	0.057	(0.128)	0.051	0.006
267	22.25	0.10	0.057	(0.127)	0.051	0.006
268	22.33	0.07	0.038	(0.127)	0.034	0.004
269	22.42	0.07	0.038	(0.127)	0.034	0.004
270	22.50	0.07	0.038	(0.126)	0.034	0.004
271	22.58	0.07	0.038	(0.126)	0.034	0.004
272	22.67	0.07	0.038	(0.125)	0.034	0.004
273	22.75	0.07	0.038	(0.125)	0.034	0.004
274	22.83	0.07	0.038	(0.125)	0.034	0.004
275	22.92	0.07	0.038	(0.124)	0.034	0.004
276	23.00	0.07	0.038	(0.124)	0.034	0.004
277	23.08	0.07	0.038	(0.124)	0.034	0.004
278	23.17	0.07	0.038	(0.124)	0.034	0.004
279	23.25	0.07	0.038	(0.123)	0.034	0.004
280	23.33	0.07	0.038	(0.123)	0.034	0.004
281	23.42	0.07	0.038	(0.123)	0.034	0.004
282	23.50	0.07	0.038	(0.123)	0.034	0.004
283	23.58	0.07	0.038	(0.122)	0.034	0.004
284	23.67	0.07	0.038	(0.122)	0.034	0.004
285	23.75	0.07	0.038	(0.122)	0.034	0.004
286	23.83	0.07	0.038	(0.122)	0.034	0.004
287	23.92	0.07	0.038	(0.122)	0.034	0.004
288	24.00	0.07	0.038	(0.122)	0.034	0.004

(Loss Rate Not Used)

Sum = 100.0

Sum = 19.6

Flood volume = Effective rainfall 1.63(In)

times area 14.0(Ac.)/[(In)/(Ft.)] = 1.9(Ac.Ft)

Total soil loss = 3.11(In)

Total soil loss = 3.623(Ac.Ft)

Total rainfall = 4.74(In)

Flood volume = 83051.2 Cubic Feet
 Total soil loss = 157829.0 Cubic Feet

 Peak flow rate of this hydrograph = 6.145(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	0.0002	0.03	Q				
0+10	0.0005	0.05	Q				
0+15	0.0009	0.05	Q				
0+20	0.0013	0.07	Q				
0+25	0.0018	0.08	Q				
0+30	0.0024	0.08	Q				
0+35	0.0029	0.08	Q				
0+40	0.0035	0.08	Q				
0+45	0.0040	0.08	Q				
0+50	0.0047	0.09	Q				
0+55	0.0054	0.10	Q				
1+ 0	0.0061	0.11	Q				
1+ 5	0.0068	0.09	Q				
1+10	0.0074	0.08	Q				
1+15	0.0079	0.08	Q				
1+20	0.0085	0.08	Q				
1+25	0.0090	0.08	Q				
1+30	0.0096	0.08	Q				
1+35	0.0101	0.08	Q				
1+40	0.0107	0.08	Q				
1+45	0.0112	0.08	Q				
1+50	0.0119	0.09	Q				
1+55	0.0126	0.10	Q				
2+ 0	0.0133	0.11	Q				
2+ 5	0.0141	0.11	Q				
2+10	0.0148	0.11	Q				
2+15	0.0155	0.11	Q				
2+20	0.0163	0.11	Q				
2+25	0.0170	0.11	Q				
2+30	0.0177	0.11	Q				
2+35	0.0186	0.12	Q				
2+40	0.0195	0.13	Q				
2+45	0.0204	0.13	Q				
2+50	0.0213	0.13	Q				
2+55	0.0222	0.13	Q				
3+ 0	0.0232	0.13	Q				

3+ 5	0.0241	0.13	Q
3+10	0.0250	0.13	Q
3+15	0.0259	0.13	Q
3+20	0.0268	0.13	Q
3+25	0.0278	0.13	Q
3+30	0.0287	0.13	Q
3+35	0.0296	0.13	Q
3+40	0.0305	0.13	Q
3+45	0.0314	0.13	Q
3+50	0.0325	0.15	Q
3+55	0.0335	0.16	Q
4+ 0	0.0346	0.16	Q
4+ 5	0.0357	0.16	Q
4+10	0.0369	0.16	Q
4+15	0.0380	0.16	Q
4+20	0.0392	0.17	Q
4+25	0.0404	0.18	Q
4+30	0.0417	0.19	Q
4+35	0.0430	0.19	Q
4+40	0.0443	0.19	Q
4+45	0.0456	0.19	Q
4+50	0.0470	0.20	Q
4+55	0.0484	0.21	QV
5+ 0	0.0499	0.21	QV
5+ 5	0.0512	0.19	QV
5+10	0.0523	0.17	QV
5+15	0.0534	0.16	QV
5+20	0.0546	0.17	QV
5+25	0.0559	0.18	QV
5+30	0.0572	0.19	QV
5+35	0.0586	0.20	QV
5+40	0.0600	0.21	QV
5+45	0.0615	0.21	QV
5+50	0.0630	0.21	QV
5+55	0.0644	0.21	QV
6+ 0	0.0659	0.21	QV
6+ 5	0.0675	0.23	QV
6+10	0.0691	0.24	QV
6+15	0.0708	0.24	QV
6+20	0.0724	0.24	QV
6+25	0.0741	0.24	QV
6+30	0.0757	0.24	QV
6+35	0.0775	0.25	Q
6+40	0.0793	0.26	Q
6+45	0.0811	0.27	Q
6+50	0.0830	0.27	Q
6+55	0.0848	0.27	Q
7+ 0	0.0867	0.27	Q
7+ 5	0.0885	0.27	Q
7+10	0.0904	0.27	Q

7+15	0.0922	0.27	Q				
7+20	0.0941	0.28	Q				
7+25	0.0961	0.29	QV				
7+30	0.0982	0.29	QV				
7+35	0.1003	0.31	QV				
7+40	0.1025	0.32	QV				
7+45	0.1047	0.32	QV				
7+50	0.1070	0.33	QV				
7+55	0.1093	0.34	QV				
8+ 0	0.1117	0.35	QV				
8+ 5	0.1143	0.37	QV				
8+10	0.1170	0.40	QV				
8+15	0.1198	0.40	QV				
8+20	0.1225	0.40	QV				
8+25	0.1253	0.40	QV				
8+30	0.1281	0.40	QV				
8+35	0.1309	0.41	QV				
8+40	0.1339	0.43	QV				
8+45	0.1368	0.43	QV				
8+50	0.1405	0.54	Q				
8+55	0.1450	0.65	QV				
9+ 0	0.1497	0.69	QV				
9+ 5	0.1563	0.96	Q				
9+10	0.1646	1.20	VQ				
9+15	0.1733	1.26	V Q				
9+20	0.1832	1.43	V Q				
9+25	0.1939	1.56	V Q				
9+30	0.2049	1.60	V Q				
9+35	0.2169	1.75	V Q				
9+40	0.2298	1.88	V Q				
9+45	0.2430	1.92	V Q				
9+50	0.2573	2.07	V Q				
9+55	0.2724	2.20	V Q				
10+ 0	0.2878	2.24	V Q				
10+ 5	0.2974	1.39	QV				
10+10	0.3016	0.62	Q V				
10+15	0.3050	0.49	Q V				
10+20	0.3080	0.44	Q V				
10+25	0.3112	0.46	Q V				
10+30	0.3145	0.48	Q V				
10+35	0.3222	1.12	Q V				
10+40	0.3339	1.70	QV				
10+45	0.3465	1.82	Q				
10+50	0.3594	1.88	Q				
10+55	0.3725	1.90	Q				
11+ 0	0.3857	1.92	QV				
11+ 5	0.3982	1.81	QV				
11+10	0.4100	1.71	Q V				
11+15	0.4218	1.71	Q V				
11+20	0.4336	1.72	Q V				

11+25	0.4456	1.73	Q	V				
11+30	0.4576	1.75		Q	V			
11+35	0.4681	1.52	Q	V				
11+40	0.4771	1.31	Q	V				
11+45	0.4859	1.28	Q	V				
11+50	0.4956	1.41	Q	V				
11+55	0.5062	1.54	Q	V				
12+ 0	0.5170	1.57	Q	V				
12+ 5	0.5340	2.47		Q	V			
12+10	0.5566	3.28		V	Q			
12+15	0.5803	3.44		V	Q			
12+20	0.6054	3.64		V	Q			
12+25	0.6314	3.77		V	Q			
12+30	0.6576	3.81		V	Q			
12+35	0.6858	4.09		V	Q			
12+40	0.7156	4.33		V	Q			
12+45	0.7458	4.38		V	Q			
12+50	0.7770	4.54		V	Q			
12+55	0.8092	4.67		V	Q			
13+ 0	0.8416	4.71		V	Q			
13+ 5	0.8785	5.36		V	Q			
13+10	0.9194	5.93		V	Q			
13+15	0.9611	6.06		V	Q			
13+20	1.0032	6.12		V	Q			
13+25	1.0454	6.13		V	Q			
13+30	1.0877	6.15		V	Q			
13+35	1.1207	4.78		Q	V			
13+40	1.1452	3.56		Q	V			
13+45	1.1682	3.34	Q	V	V			
13+50	1.1907	3.26	Q	V	V			
13+55	1.2133	3.28	Q	V	V			
14+ 0	1.2359	3.29	Q	V	V			
14+ 5	1.2621	3.81		Q	V			
14+10	1.2915	4.27		Q	V			
14+15	1.3216	4.37		Q	V			
14+20	1.3512	4.29		Q	V			
14+25	1.3801	4.20		Q	V			
14+30	1.4089	4.19		Q	V			
14+35	1.4378	4.19		Q	V			
14+40	1.4668	4.21		Q	V			
14+45	1.4959	4.22		Q	V			
14+50	1.5242	4.11		Q	V			
14+55	1.5518	4.01		Q	V			
15+ 0	1.5794	4.01		Q	V			
15+ 5	1.6062	3.89		Q	V			
15+10	1.6323	3.79		Q	V			
15+15	1.6583	3.78		Q	V			
15+20	1.6835	3.66		Q	V			
15+25	1.7080	3.56		Q	V			
15+30	1.7325	3.55		Q	V			

15+35	1.7535	3.06			Q			V
15+40	1.7716	2.62			Q			V
15+45	1.7891	2.55			Q			V
15+50	1.8065	2.53			Q			V
15+55	1.8240	2.54			Q			V
16+ 0	1.8416	2.55			Q			V
16+ 5	1.8513	1.41		Q				V
16+10	1.8539	0.38	Q					V
16+15	1.8552	0.19	Q					V
16+20	1.8560	0.11	Q					V
16+25	1.8567	0.11	Q					V
16+30	1.8574	0.11	Q					V
16+35	1.8581	0.09	Q					V
16+40	1.8587	0.08	Q					V
16+45	1.8592	0.08	Q					V
16+50	1.8598	0.08	Q					V
16+55	1.8603	0.08	Q					V
17+ 0	1.8609	0.08	Q					V
17+ 5	1.8616	0.11	Q					V
17+10	1.8625	0.13	Q					V
17+15	1.8634	0.13	Q					V
17+20	1.8643	0.13	Q					V
17+25	1.8652	0.13	Q					V
17+30	1.8662	0.13	Q					V
17+35	1.8671	0.13	Q					V
17+40	1.8680	0.13	Q					V
17+45	1.8689	0.13	Q					V
17+50	1.8698	0.12	Q					V
17+55	1.8705	0.11	Q					V
18+ 0	1.8713	0.11	Q					V
18+ 5	1.8720	0.11	Q					V
18+10	1.8727	0.11	Q					V
18+15	1.8735	0.11	Q					V
18+20	1.8742	0.11	Q					V
18+25	1.8749	0.11	Q					V
18+30	1.8757	0.11	Q					V
18+35	1.8763	0.09	Q					V
18+40	1.8769	0.08	Q					V
18+45	1.8775	0.08	Q					V
18+50	1.8779	0.07	Q					V
18+55	1.8783	0.06	Q					V
19+ 0	1.8787	0.05	Q					V
19+ 5	1.8792	0.07	Q					V
19+10	1.8797	0.08	Q					V
19+15	1.8802	0.08	Q					V
19+20	1.8809	0.09	Q					V
19+25	1.8816	0.10	Q					V
19+30	1.8823	0.11	Q					V
19+35	1.8830	0.09	Q					V
19+40	1.8835	0.08	Q					V

19+45	1.8841	0.08	Q				V
19+50	1.8846	0.07	Q				V
19+55	1.8850	0.06	Q				V
20+ 0	1.8853	0.05	Q				V
20+ 5	1.8858	0.07	Q				V
20+10	1.8863	0.08	Q				V
20+15	1.8869	0.08	Q				V
20+20	1.8874	0.08	Q				V
20+25	1.8880	0.08	Q				V
20+30	1.8885	0.08	Q				V
20+35	1.8891	0.08	Q				V
20+40	1.8896	0.08	Q				V
20+45	1.8902	0.08	Q				V
20+50	1.8906	0.07	Q				V
20+55	1.8910	0.06	Q				V
21+ 0	1.8914	0.05	Q				V
21+ 5	1.8919	0.07	Q				V
21+10	1.8924	0.08	Q				V
21+15	1.8929	0.08	Q				V
21+20	1.8934	0.07	Q				V
21+25	1.8938	0.06	Q				V
21+30	1.8942	0.05	Q				V
21+35	1.8946	0.07	Q				V
21+40	1.8952	0.08	Q				V
21+45	1.8957	0.08	Q				V
21+50	1.8962	0.07	Q				V
21+55	1.8966	0.06	Q				V
22+ 0	1.8969	0.05	Q				V
22+ 5	1.8974	0.07	Q				V
22+10	1.8979	0.08	Q				V
22+15	1.8985	0.08	Q				V
22+20	1.8989	0.07	Q				V
22+25	1.8993	0.06	Q				V
22+30	1.8997	0.05	Q				V
22+35	1.9001	0.05	Q				V
22+40	1.9004	0.05	Q				V
22+45	1.9008	0.05	Q				V
22+50	1.9012	0.05	Q				V
22+55	1.9016	0.05	Q				V
23+ 0	1.9019	0.05	Q				V
23+ 5	1.9023	0.05	Q				V
23+10	1.9027	0.05	Q				V
23+15	1.9030	0.05	Q				V
23+20	1.9034	0.05	Q				V
23+25	1.9038	0.05	Q				V
23+30	1.9041	0.05	Q				V
23+35	1.9045	0.05	Q				V
23+40	1.9049	0.05	Q				V
23+45	1.9052	0.05	Q				V
23+50	1.9056	0.05	Q				V

23+55	1.9060	0.05	Q				V
24+ 0	1.9063	0.05	Q				V
24+ 5	1.9065	0.03	Q				V
24+10	1.9066	0.01	Q				V
24+15	1.9066	0.00	Q				V

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

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Study date 03/08/23 File: GoyaSUHPost24100.out

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

Program License Serial Number 6215

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

English Units used in output format

GoyaSUHPost100

Drainage Area = 13.75(Ac.) = 0.021 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 13.75(Ac.) =
0.021 Sq. Mi.
Length along longest watercourse = 1220.00(Ft.)
Length along longest watercourse measured to centroid = 146.00(Ft.)
Length along longest watercourse = 0.231 Mi.
Length along longest watercourse measured to centroid = 0.028 Mi.
Difference in elevation = 6.10(Ft.)
Slope along watercourse = 26.4000 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.028 Hr.
Lag time = 1.70 Min.
25% of lag time = 0.42 Min.
40% of lag time = 0.68 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]
13.75	1.60	22.00

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
13.75	4.00	55.00

STORM EVENT (YEAR) = 100.00
 Area Averaged 2-Year Rainfall = 1.600(In)
 Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 4.000(In)
 Areal adjustment factor = 100.00 %
 Adjusted average point rain = 4.000(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
13.750	56.00	0.600
Total Area Entered = 13.75(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	56.0	0.511	0.600	0.235	1.000	0.235
Sum (F) =						0.235

Area averaged mean soil loss (F) (In/Hr) = 0.235
 Minimum soil loss rate ((In/Hr)) = 0.117
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.380

 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	294.139	56.070	7.770
2	0.167	588.277	37.453	5.190
3	0.250	882.416	6.476	0.897
Sum = 100.000			Sum=	13.857

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)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.032	(0.417)	0.012	0.020
2	0.17	0.07	0.032	(0.415)	0.012	0.020
3	0.25	0.07	0.032	(0.413)	0.012	0.020
4	0.33	0.10	0.048	(0.412)	0.018	0.030
5	0.42	0.10	0.048	(0.410)	0.018	0.030
6	0.50	0.10	0.048	(0.409)	0.018	0.030
7	0.58	0.10	0.048	(0.407)	0.018	0.030
8	0.67	0.10	0.048	(0.405)	0.018	0.030
9	0.75	0.10	0.048	(0.404)	0.018	0.030
10	0.83	0.13	0.064	(0.402)	0.024	0.040
11	0.92	0.13	0.064	(0.401)	0.024	0.040
12	1.00	0.13	0.064	(0.399)	0.024	0.040
13	1.08	0.10	0.048	(0.397)	0.018	0.030
14	1.17	0.10	0.048	(0.396)	0.018	0.030
15	1.25	0.10	0.048	(0.394)	0.018	0.030
16	1.33	0.10	0.048	(0.393)	0.018	0.030
17	1.42	0.10	0.048	(0.391)	0.018	0.030
18	1.50	0.10	0.048	(0.390)	0.018	0.030
19	1.58	0.10	0.048	(0.388)	0.018	0.030
20	1.67	0.10	0.048	(0.386)	0.018	0.030
21	1.75	0.10	0.048	(0.385)	0.018	0.030
22	1.83	0.13	0.064	(0.383)	0.024	0.040
23	1.92	0.13	0.064	(0.382)	0.024	0.040
24	2.00	0.13	0.064	(0.380)	0.024	0.040
25	2.08	0.13	0.064	(0.379)	0.024	0.040
26	2.17	0.13	0.064	(0.377)	0.024	0.040
27	2.25	0.13	0.064	(0.376)	0.024	0.040
28	2.33	0.13	0.064	(0.374)	0.024	0.040
29	2.42	0.13	0.064	(0.373)	0.024	0.040
30	2.50	0.13	0.064	(0.371)	0.024	0.040
31	2.58	0.17	0.080	(0.370)	0.030	0.050
32	2.67	0.17	0.080	(0.368)	0.030	0.050
33	2.75	0.17	0.080	(0.367)	0.030	0.050
34	2.83	0.17	0.080	(0.365)	0.030	0.050
35	2.92	0.17	0.080	(0.364)	0.030	0.050
36	3.00	0.17	0.080	(0.362)	0.030	0.050
37	3.08	0.17	0.080	(0.361)	0.030	0.050
38	3.17	0.17	0.080	(0.359)	0.030	0.050
39	3.25	0.17	0.080	(0.358)	0.030	0.050
40	3.33	0.17	0.080	(0.356)	0.030	0.050
41	3.42	0.17	0.080	(0.355)	0.030	0.050
42	3.50	0.17	0.080	(0.353)	0.030	0.050
43	3.58	0.17	0.080	(0.352)	0.030	0.050
44	3.67	0.17	0.080	(0.350)	0.030	0.050
45	3.75	0.17	0.080	(0.349)	0.030	0.050
46	3.83	0.20	0.096	(0.347)	0.036	0.060

47	3.92	0.20	0.096	(0.346)	0.036	0.060
48	4.00	0.20	0.096	(0.344)	0.036	0.060
49	4.08	0.20	0.096	(0.343)	0.036	0.060
50	4.17	0.20	0.096	(0.341)	0.036	0.060
51	4.25	0.20	0.096	(0.340)	0.036	0.060
52	4.33	0.23	0.112	(0.338)	0.043	0.069
53	4.42	0.23	0.112	(0.337)	0.043	0.069
54	4.50	0.23	0.112	(0.336)	0.043	0.069
55	4.58	0.23	0.112	(0.334)	0.043	0.069
56	4.67	0.23	0.112	(0.333)	0.043	0.069
57	4.75	0.23	0.112	(0.331)	0.043	0.069
58	4.83	0.27	0.128	(0.330)	0.049	0.079
59	4.92	0.27	0.128	(0.328)	0.049	0.079
60	5.00	0.27	0.128	(0.327)	0.049	0.079
61	5.08	0.20	0.096	(0.326)	0.036	0.060
62	5.17	0.20	0.096	(0.324)	0.036	0.060
63	5.25	0.20	0.096	(0.323)	0.036	0.060
64	5.33	0.23	0.112	(0.321)	0.043	0.069
65	5.42	0.23	0.112	(0.320)	0.043	0.069
66	5.50	0.23	0.112	(0.318)	0.043	0.069
67	5.58	0.27	0.128	(0.317)	0.049	0.079
68	5.67	0.27	0.128	(0.316)	0.049	0.079
69	5.75	0.27	0.128	(0.314)	0.049	0.079
70	5.83	0.27	0.128	(0.313)	0.049	0.079
71	5.92	0.27	0.128	(0.312)	0.049	0.079
72	6.00	0.27	0.128	(0.310)	0.049	0.079
73	6.08	0.30	0.144	(0.309)	0.055	0.089
74	6.17	0.30	0.144	(0.307)	0.055	0.089
75	6.25	0.30	0.144	(0.306)	0.055	0.089
76	6.33	0.30	0.144	(0.305)	0.055	0.089
77	6.42	0.30	0.144	(0.303)	0.055	0.089
78	6.50	0.30	0.144	(0.302)	0.055	0.089
79	6.58	0.33	0.160	(0.301)	0.061	0.099
80	6.67	0.33	0.160	(0.299)	0.061	0.099
81	6.75	0.33	0.160	(0.298)	0.061	0.099
82	6.83	0.33	0.160	(0.297)	0.061	0.099
83	6.92	0.33	0.160	(0.295)	0.061	0.099
84	7.00	0.33	0.160	(0.294)	0.061	0.099
85	7.08	0.33	0.160	(0.293)	0.061	0.099
86	7.17	0.33	0.160	(0.291)	0.061	0.099
87	7.25	0.33	0.160	(0.290)	0.061	0.099
88	7.33	0.37	0.176	(0.289)	0.067	0.109
89	7.42	0.37	0.176	(0.287)	0.067	0.109
90	7.50	0.37	0.176	(0.286)	0.067	0.109
91	7.58	0.40	0.192	(0.285)	0.073	0.119
92	7.67	0.40	0.192	(0.283)	0.073	0.119
93	7.75	0.40	0.192	(0.282)	0.073	0.119
94	7.83	0.43	0.208	(0.281)	0.079	0.129
95	7.92	0.43	0.208	(0.279)	0.079	0.129
96	8.00	0.43	0.208	(0.278)	0.079	0.129

97	8.08	0.50	0.240	(0.277)	0.091	0.149
98	8.17	0.50	0.240	(0.275)	0.091	0.149
99	8.25	0.50	0.240	(0.274)	0.091	0.149
100	8.33	0.50	0.240	(0.273)	0.091	0.149
101	8.42	0.50	0.240	(0.272)	0.091	0.149
102	8.50	0.50	0.240	(0.270)	0.091	0.149
103	8.58	0.53	0.256	(0.269)	0.097	0.159
104	8.67	0.53	0.256	(0.268)	0.097	0.159
105	8.75	0.53	0.256	(0.267)	0.097	0.159
106	8.83	0.57	0.272	(0.265)	0.103	0.169
107	8.92	0.57	0.272	(0.264)	0.103	0.169
108	9.00	0.57	0.272	(0.263)	0.103	0.169
109	9.08	0.63	0.304	(0.262)	0.116	0.188
110	9.17	0.63	0.304	(0.260)	0.116	0.188
111	9.25	0.63	0.304	(0.259)	0.116	0.188
112	9.33	0.67	0.320	(0.258)	0.122	0.198
113	9.42	0.67	0.320	(0.257)	0.122	0.198
114	9.50	0.67	0.320	(0.255)	0.122	0.198
115	9.58	0.70	0.336	(0.254)	0.128	0.208
116	9.67	0.70	0.336	(0.253)	0.128	0.208
117	9.75	0.70	0.336	(0.252)	0.128	0.208
118	9.83	0.73	0.352	(0.251)	0.134	0.218
119	9.92	0.73	0.352	(0.249)	0.134	0.218
120	10.00	0.73	0.352	(0.248)	0.134	0.218
121	10.08	0.50	0.240	(0.247)	0.091	0.149
122	10.17	0.50	0.240	(0.246)	0.091	0.149
123	10.25	0.50	0.240	(0.245)	0.091	0.149
124	10.33	0.50	0.240	(0.243)	0.091	0.149
125	10.42	0.50	0.240	(0.242)	0.091	0.149
126	10.50	0.50	0.240	(0.241)	0.091	0.149
127	10.58	0.67	0.320	(0.240)	0.122	0.198
128	10.67	0.67	0.320	(0.239)	0.122	0.198
129	10.75	0.67	0.320	(0.237)	0.122	0.198
130	10.83	0.67	0.320	(0.236)	0.122	0.198
131	10.92	0.67	0.320	(0.235)	0.122	0.198
132	11.00	0.67	0.320	(0.234)	0.122	0.198
133	11.08	0.63	0.304	(0.233)	0.116	0.188
134	11.17	0.63	0.304	(0.232)	0.116	0.188
135	11.25	0.63	0.304	(0.231)	0.116	0.188
136	11.33	0.63	0.304	(0.229)	0.116	0.188
137	11.42	0.63	0.304	(0.228)	0.116	0.188
138	11.50	0.63	0.304	(0.227)	0.116	0.188
139	11.58	0.57	0.272	(0.226)	0.103	0.169
140	11.67	0.57	0.272	(0.225)	0.103	0.169
141	11.75	0.57	0.272	(0.224)	0.103	0.169
142	11.83	0.60	0.288	(0.223)	0.109	0.179
143	11.92	0.60	0.288	(0.222)	0.109	0.179
144	12.00	0.60	0.288	(0.220)	0.109	0.179
145	12.08	0.83	0.400	(0.219)	0.152	0.248
146	12.17	0.83	0.400	(0.218)	0.152	0.248

147	12.25	0.83	0.400	(0.217)	0.152	0.248
148	12.33	0.87	0.416	(0.216)	0.158	0.258
149	12.42	0.87	0.416	(0.215)	0.158	0.258
150	12.50	0.87	0.416	(0.214)	0.158	0.258
151	12.58	0.93	0.448	(0.213)	0.170	0.278
152	12.67	0.93	0.448	(0.212)	0.170	0.278
153	12.75	0.93	0.448	(0.211)	0.170	0.278
154	12.83	0.97	0.464	(0.210)	0.176	0.288
155	12.92	0.97	0.464	(0.209)	0.176	0.288
156	13.00	0.97	0.464	(0.207)	0.176	0.288
157	13.08	1.13	0.544	0.206 (0.207)		0.338
158	13.17	1.13	0.544	0.205 (0.207)		0.339
159	13.25	1.13	0.544	0.204 (0.207)		0.340
160	13.33	1.13	0.544	0.203 (0.207)		0.341
161	13.42	1.13	0.544	0.202 (0.207)		0.342
162	13.50	1.13	0.544	0.201 (0.207)		0.343
163	13.58	0.77	0.368	(0.200)	0.140	0.228
164	13.67	0.77	0.368	(0.199)	0.140	0.228
165	13.75	0.77	0.368	(0.198)	0.140	0.228
166	13.83	0.77	0.368	(0.197)	0.140	0.228
167	13.92	0.77	0.368	(0.196)	0.140	0.228
168	14.00	0.77	0.368	(0.195)	0.140	0.228
169	14.08	0.90	0.432	(0.194)	0.164	0.268
170	14.17	0.90	0.432	(0.193)	0.164	0.268
171	14.25	0.90	0.432	(0.192)	0.164	0.268
172	14.33	0.87	0.416	(0.191)	0.158	0.258
173	14.42	0.87	0.416	(0.190)	0.158	0.258
174	14.50	0.87	0.416	(0.189)	0.158	0.258
175	14.58	0.87	0.416	(0.188)	0.158	0.258
176	14.67	0.87	0.416	(0.187)	0.158	0.258
177	14.75	0.87	0.416	(0.186)	0.158	0.258
178	14.83	0.83	0.400	(0.185)	0.152	0.248
179	14.92	0.83	0.400	(0.184)	0.152	0.248
180	15.00	0.83	0.400	(0.184)	0.152	0.248
181	15.08	0.80	0.384	(0.183)	0.146	0.238
182	15.17	0.80	0.384	(0.182)	0.146	0.238
183	15.25	0.80	0.384	(0.181)	0.146	0.238
184	15.33	0.77	0.368	(0.180)	0.140	0.228
185	15.42	0.77	0.368	(0.179)	0.140	0.228
186	15.50	0.77	0.368	(0.178)	0.140	0.228
187	15.58	0.63	0.304	(0.177)	0.116	0.188
188	15.67	0.63	0.304	(0.176)	0.116	0.188
189	15.75	0.63	0.304	(0.175)	0.116	0.188
190	15.83	0.63	0.304	(0.174)	0.116	0.188
191	15.92	0.63	0.304	(0.173)	0.116	0.188
192	16.00	0.63	0.304	(0.173)	0.116	0.188
193	16.08	0.13	0.064	(0.172)	0.024	0.040
194	16.17	0.13	0.064	(0.171)	0.024	0.040
195	16.25	0.13	0.064	(0.170)	0.024	0.040
196	16.33	0.13	0.064	(0.169)	0.024	0.040

197	16.42	0.13	0.064	(0.168)	0.024	0.040
198	16.50	0.13	0.064	(0.167)	0.024	0.040
199	16.58	0.10	0.048	(0.166)	0.018	0.030
200	16.67	0.10	0.048	(0.166)	0.018	0.030
201	16.75	0.10	0.048	(0.165)	0.018	0.030
202	16.83	0.10	0.048	(0.164)	0.018	0.030
203	16.92	0.10	0.048	(0.163)	0.018	0.030
204	17.00	0.10	0.048	(0.162)	0.018	0.030
205	17.08	0.17	0.080	(0.161)	0.030	0.050
206	17.17	0.17	0.080	(0.161)	0.030	0.050
207	17.25	0.17	0.080	(0.160)	0.030	0.050
208	17.33	0.17	0.080	(0.159)	0.030	0.050
209	17.42	0.17	0.080	(0.158)	0.030	0.050
210	17.50	0.17	0.080	(0.157)	0.030	0.050
211	17.58	0.17	0.080	(0.157)	0.030	0.050
212	17.67	0.17	0.080	(0.156)	0.030	0.050
213	17.75	0.17	0.080	(0.155)	0.030	0.050
214	17.83	0.13	0.064	(0.154)	0.024	0.040
215	17.92	0.13	0.064	(0.154)	0.024	0.040
216	18.00	0.13	0.064	(0.153)	0.024	0.040
217	18.08	0.13	0.064	(0.152)	0.024	0.040
218	18.17	0.13	0.064	(0.151)	0.024	0.040
219	18.25	0.13	0.064	(0.151)	0.024	0.040
220	18.33	0.13	0.064	(0.150)	0.024	0.040
221	18.42	0.13	0.064	(0.149)	0.024	0.040
222	18.50	0.13	0.064	(0.148)	0.024	0.040
223	18.58	0.10	0.048	(0.148)	0.018	0.030
224	18.67	0.10	0.048	(0.147)	0.018	0.030
225	18.75	0.10	0.048	(0.146)	0.018	0.030
226	18.83	0.07	0.032	(0.146)	0.012	0.020
227	18.92	0.07	0.032	(0.145)	0.012	0.020
228	19.00	0.07	0.032	(0.144)	0.012	0.020
229	19.08	0.10	0.048	(0.144)	0.018	0.030
230	19.17	0.10	0.048	(0.143)	0.018	0.030
231	19.25	0.10	0.048	(0.142)	0.018	0.030
232	19.33	0.13	0.064	(0.142)	0.024	0.040
233	19.42	0.13	0.064	(0.141)	0.024	0.040
234	19.50	0.13	0.064	(0.140)	0.024	0.040
235	19.58	0.10	0.048	(0.140)	0.018	0.030
236	19.67	0.10	0.048	(0.139)	0.018	0.030
237	19.75	0.10	0.048	(0.138)	0.018	0.030
238	19.83	0.07	0.032	(0.138)	0.012	0.020
239	19.92	0.07	0.032	(0.137)	0.012	0.020
240	20.00	0.07	0.032	(0.136)	0.012	0.020
241	20.08	0.10	0.048	(0.136)	0.018	0.030
242	20.17	0.10	0.048	(0.135)	0.018	0.030
243	20.25	0.10	0.048	(0.135)	0.018	0.030
244	20.33	0.10	0.048	(0.134)	0.018	0.030
245	20.42	0.10	0.048	(0.133)	0.018	0.030
246	20.50	0.10	0.048	(0.133)	0.018	0.030

247	20.58	0.10	0.048	(0.132)	0.018	0.030
248	20.67	0.10	0.048	(0.132)	0.018	0.030
249	20.75	0.10	0.048	(0.131)	0.018	0.030
250	20.83	0.07	0.032	(0.131)	0.012	0.020
251	20.92	0.07	0.032	(0.130)	0.012	0.020
252	21.00	0.07	0.032	(0.130)	0.012	0.020
253	21.08	0.10	0.048	(0.129)	0.018	0.030
254	21.17	0.10	0.048	(0.129)	0.018	0.030
255	21.25	0.10	0.048	(0.128)	0.018	0.030
256	21.33	0.07	0.032	(0.128)	0.012	0.020
257	21.42	0.07	0.032	(0.127)	0.012	0.020
258	21.50	0.07	0.032	(0.127)	0.012	0.020
259	21.58	0.10	0.048	(0.126)	0.018	0.030
260	21.67	0.10	0.048	(0.126)	0.018	0.030
261	21.75	0.10	0.048	(0.125)	0.018	0.030
262	21.83	0.07	0.032	(0.125)	0.012	0.020
263	21.92	0.07	0.032	(0.124)	0.012	0.020
264	22.00	0.07	0.032	(0.124)	0.012	0.020
265	22.08	0.10	0.048	(0.124)	0.018	0.030
266	22.17	0.10	0.048	(0.123)	0.018	0.030
267	22.25	0.10	0.048	(0.123)	0.018	0.030
268	22.33	0.07	0.032	(0.122)	0.012	0.020
269	22.42	0.07	0.032	(0.122)	0.012	0.020
270	22.50	0.07	0.032	(0.122)	0.012	0.020
271	22.58	0.07	0.032	(0.121)	0.012	0.020
272	22.67	0.07	0.032	(0.121)	0.012	0.020
273	22.75	0.07	0.032	(0.121)	0.012	0.020
274	22.83	0.07	0.032	(0.120)	0.012	0.020
275	22.92	0.07	0.032	(0.120)	0.012	0.020
276	23.00	0.07	0.032	(0.120)	0.012	0.020
277	23.08	0.07	0.032	(0.120)	0.012	0.020
278	23.17	0.07	0.032	(0.119)	0.012	0.020
279	23.25	0.07	0.032	(0.119)	0.012	0.020
280	23.33	0.07	0.032	(0.119)	0.012	0.020
281	23.42	0.07	0.032	(0.119)	0.012	0.020
282	23.50	0.07	0.032	(0.118)	0.012	0.020
283	23.58	0.07	0.032	(0.118)	0.012	0.020
284	23.67	0.07	0.032	(0.118)	0.012	0.020
285	23.75	0.07	0.032	(0.118)	0.012	0.020
286	23.83	0.07	0.032	(0.118)	0.012	0.020
287	23.92	0.07	0.032	(0.118)	0.012	0.020
288	24.00	0.07	0.032	(0.117)	0.012	0.020

(Loss Rate Not Used)

Sum = 100.0 Sum = 29.8

Flood volume = Effective rainfall 2.48(In)
times area 13.8(Ac.)/[(In)/(Ft.)] = 2.8(Ac.Ft)
Total soil loss = 1.52(In)
Total soil loss = 1.740(Ac.Ft)
Total rainfall = 4.00(In)
Flood volume = 123851.4 Cubic Feet

Total soil loss = 75793.3 Cubic Feet

 Peak flow rate of this hydrograph = 4.745(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	0.0011	0.15	Q				
0+10	0.0028	0.26	VQ				
0+15	0.0047	0.28	VQ				
0+20	0.0072	0.35	VQ				
0+25	0.0099	0.40	VQ				
0+30	0.0128	0.41	VQ				
0+35	0.0156	0.41	VQ				
0+40	0.0185	0.41	VQ				
0+45	0.0213	0.41	VQ				
0+50	0.0247	0.49	VQ				
0+55	0.0284	0.54	V Q				
1+ 0	0.0322	0.55	V Q				
1+ 5	0.0354	0.47	VQ				
1+10	0.0383	0.42	VQ				
1+15	0.0412	0.41	VQ				
1+20	0.0440	0.41	VQ				
1+25	0.0469	0.41	VQ				
1+30	0.0497	0.41	VQ				
1+35	0.0526	0.41	VQ				
1+40	0.0554	0.41	VQ				
1+45	0.0582	0.41	VQ				
1+50	0.0616	0.49	VQ				
1+55	0.0653	0.54	V Q				
2+ 0	0.0691	0.55	V Q				
2+ 5	0.0729	0.55	VQ				
2+10	0.0767	0.55	VQ				
2+15	0.0805	0.55	VQ				
2+20	0.0843	0.55	VQ				
2+25	0.0881	0.55	VQ				
2+30	0.0919	0.55	VQ				
2+35	0.0962	0.63	VQ				
2+40	0.1009	0.68	VQ				
2+45	0.1056	0.69	VQ				
2+50	0.1103	0.69	VQ				
2+55	0.1151	0.69	VQ				
3+ 0	0.1198	0.69	VQ				
3+ 5	0.1245	0.69	VQ				

3+10	0.1293	0.69	VQ				
3+15	0.1340	0.69	VQ				
3+20	0.1387	0.69	VQ				
3+25	0.1435	0.69	Q				
3+30	0.1482	0.69	Q				
3+35	0.1530	0.69	Q				
3+40	0.1577	0.69	Q				
3+45	0.1624	0.69	Q				
3+50	0.1677	0.76	VQ				
3+55	0.1733	0.82	VQ				
4+ 0	0.1790	0.83	VQ				
4+ 5	0.1847	0.83	VQ				
4+10	0.1904	0.83	VQ				
4+15	0.1960	0.83	VQ				
4+20	0.2023	0.90	VQ				
4+25	0.2088	0.95	VQ				
4+30	0.2155	0.96	Q				
4+35	0.2221	0.96	Q				
4+40	0.2287	0.96	Q				
4+45	0.2354	0.96	Q				
4+50	0.2425	1.04	VQ				
4+55	0.2500	1.09	VQ				
5+ 0	0.2576	1.10	VQ				
5+ 5	0.2641	0.95	Q				
5+10	0.2699	0.84	Q				
5+15	0.2756	0.83	Q				
5+20	0.2818	0.90	Q				
5+25	0.2884	0.95	QV				
5+30	0.2950	0.96	QV				
5+35	0.3022	1.04	Q				
5+40	0.3097	1.09	Q				
5+45	0.3173	1.10	Q				
5+50	0.3249	1.10	Q				
5+55	0.3324	1.10	Q				
6+ 0	0.3400	1.10	Q				
6+ 5	0.3481	1.18	Q				
6+10	0.3566	1.23	QV				
6+15	0.3651	1.24	QV				
6+20	0.3736	1.24	QV				
6+25	0.3822	1.24	QV				
6+30	0.3907	1.24	QV				
6+35	0.3997	1.31	Q				
6+40	0.4092	1.37	Q				
6+45	0.4186	1.38	Q				
6+50	0.4281	1.38	QV				
6+55	0.4376	1.38	QV				
7+ 0	0.4470	1.38	QV				
7+ 5	0.4565	1.38	QV				
7+10	0.4660	1.38	QV				
7+15	0.4755	1.38	QV				

7+20	0.4855	1.45	QV			
7+25	0.4958	1.50	Q			
7+30	0.5062	1.51	QV			
7+35	0.5172	1.59	QV			
7+40	0.5285	1.64	QV			
7+45	0.5399	1.65	QV			
7+50	0.5518	1.73	QV			
7+55	0.5640	1.78	Q			
8+ 0	0.5763	1.79	QV			
8+ 5	0.5897	1.94	QV			
8+10	0.6038	2.05	Q			
8+15	0.6180	2.06	Q			
8+20	0.6322	2.06	Q			
8+25	0.6464	2.06	QV			
8+30	0.6606	2.06	QV			
8+35	0.6754	2.14	QV			
8+40	0.6904	2.19	QV			
8+45	0.7056	2.20	QV			
8+50	0.7213	2.28	QV			
8+55	0.7373	2.33	QV			
9+ 0	0.7534	2.34	QV			
9+ 5	0.7706	2.49	QV			
9+10	0.7885	2.60	QV			
9+15	0.8065	2.61	QV			
9+20	0.8250	2.69	QV			
9+25	0.8439	2.74	QV			
9+30	0.8628	2.75	QV			
9+35	0.8823	2.83	QV			
9+40	0.9021	2.88	QV			
9+45	0.9220	2.89	QV			
9+50	0.9424	2.97	Q V			
9+55	0.9632	3.02	QV			
10+ 0	0.9841	3.03	QV			
10+ 5	1.0012	2.49	Q	V		
10+10	1.0158	2.13	Q	V		
10+15	1.0300	2.06	Q	V		
10+20	1.0442	2.06	Q	V		
10+25	1.0584	2.06	Q	V		
10+30	1.0726	2.06	Q	V		
10+35	1.0895	2.45	Q	V		
10+40	1.1081	2.71	Q	V		
10+45	1.1271	2.75	Q	V		
10+50	1.1460	2.75	Q	V		
10+55	1.1650	2.75	Q	V		
11+ 0	1.1839	2.75	Q	V		
11+ 5	1.2023	2.67	Q	V		
11+10	1.2204	2.62	Q	V		
11+15	1.2384	2.61	Q	V		
11+20	1.2564	2.61	Q	V		
11+25	1.2744	2.61	Q	V		

11+30	1.2924	2.61	Q	V		
11+35	1.3093	2.46	Q	V		
11+40	1.3255	2.36	Q	V		
11+45	1.3416	2.34	Q	V		
11+50	1.3583	2.42	Q	V		
11+55	1.3753	2.47	Q	V		
12+ 0	1.3923	2.48	Q	V		
12+ 5	1.4131	3.02	Q	V		
12+10	1.4363	3.38	Q	V		
12+15	1.4600	3.44	Q	V		
12+20	1.4842	3.52	Q	V		
12+25	1.5088	3.57	Q	V		
12+30	1.5334	3.58	Q	V		
12+35	1.5591	3.73	Q	V		
12+40	1.5855	3.83	Q	V		
12+45	1.6120	3.85	Q	V		
12+50	1.6391	3.93	Q	V		
12+55	1.6665	3.98	Q	V		
13+ 0	1.6939	3.99	Q	V		
13+ 5	1.7241	4.38	Q	V		
13+10	1.7561	4.64	Q	V		
13+15	1.7884	4.70	Q	V		
13+20	1.8209	4.72	Q	V		
13+25	1.8535	4.73	Q	V		
13+30	1.8862	4.74	Q	V		
13+35	1.9128	3.86	Q	V		
13+40	1.9353	3.27	Q	V		
13+45	1.9570	3.16	Q	V		
13+50	1.9788	3.16	Q	V		
13+55	2.0006	3.16	Q	V		
14+ 0	2.0224	3.16	Q	V		
14+ 5	2.0463	3.47	Q	V		
14+10	2.0716	3.68	Q	V		
14+15	2.0972	3.71	Q	V		
14+20	2.1223	3.64	Q	V		
14+25	2.1469	3.58	Q	V		
14+30	2.1716	3.58	Q	V		
14+35	2.1962	3.58	Q	V		
14+40	2.2208	3.58	Q	V		
14+45	2.2455	3.58	Q	V		
14+50	2.2696	3.50	Q	V		
14+55	2.2933	3.45	Q	V		
15+ 0	2.3170	3.44	Q	V		
15+ 5	2.3401	3.36	Q	V		
15+10	2.3629	3.31	Q	V		
15+15	2.3856	3.30	Q	V		
15+20	2.4078	3.22	Q	V		
15+25	2.4297	3.17	Q	V		
15+30	2.4515	3.16	Q	V		
15+35	2.4711	2.85	Q	V		

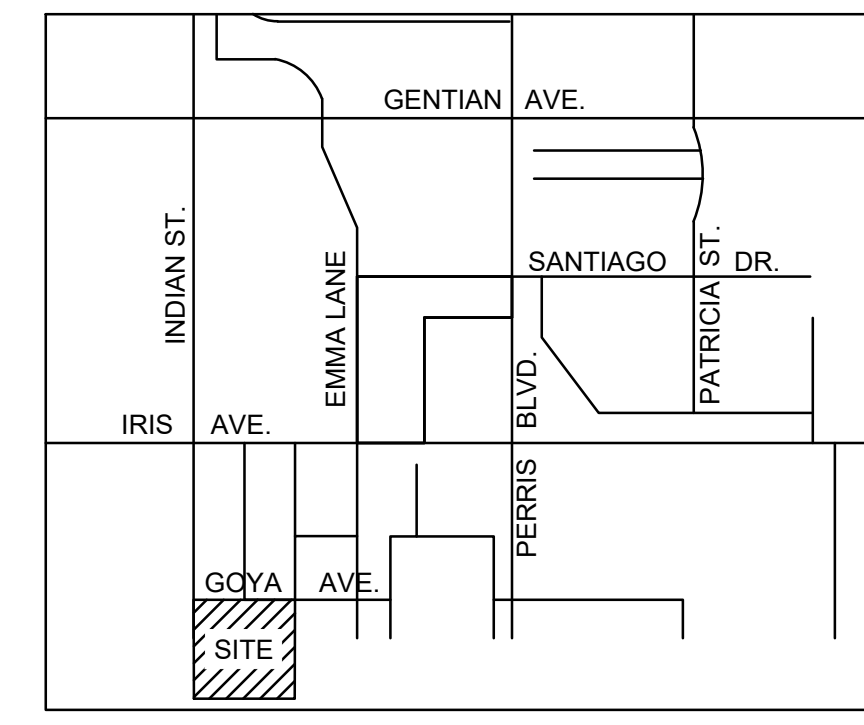
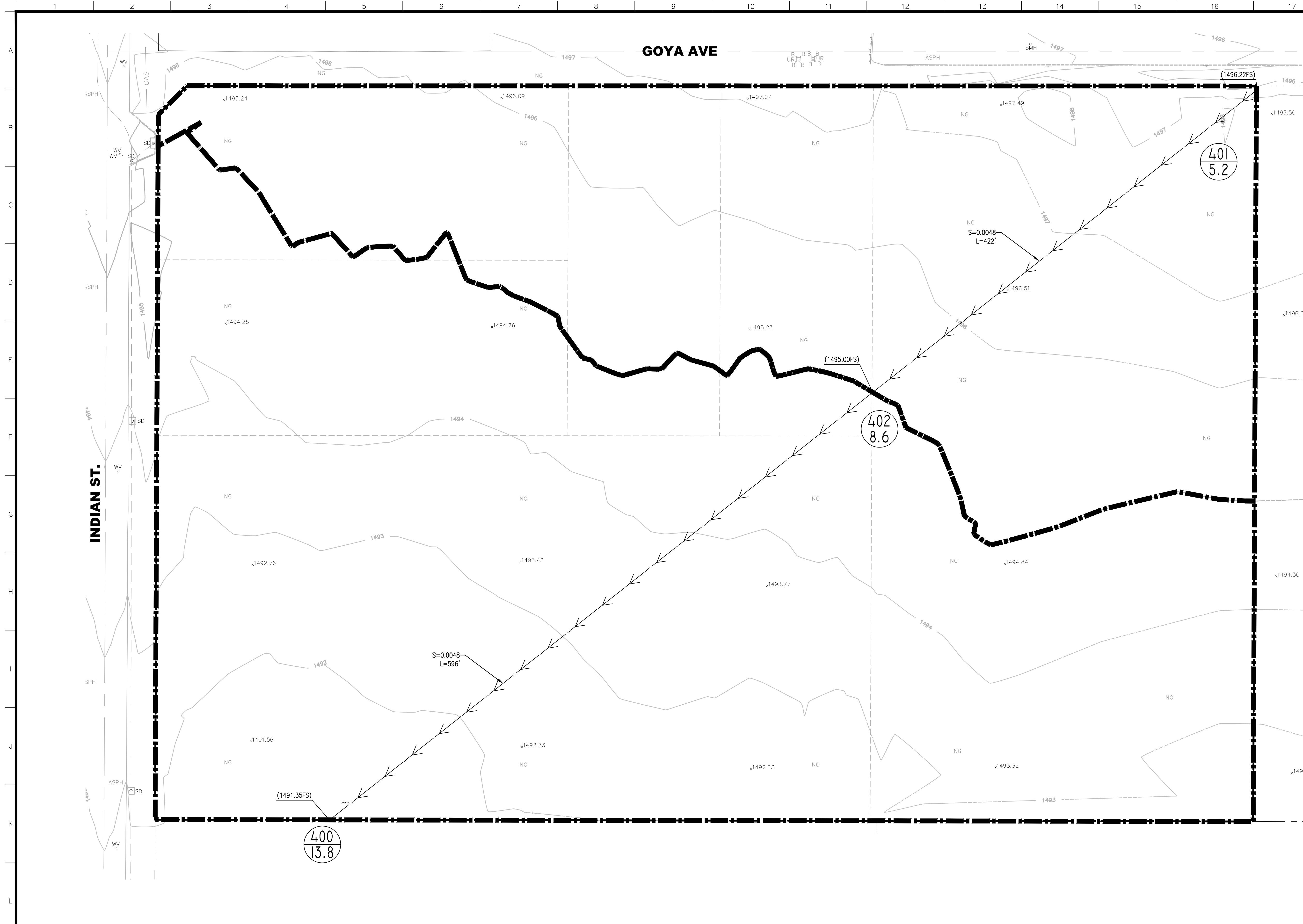
15+40	2.4894	2.65		Q		V
15+45	2.5074	2.61		Q		V
15+50	2.5254	2.61		Q		V
15+55	2.5434	2.61		Q		V
16+ 0	2.5614	2.61		Q		V
16+ 5	2.5714	1.46	Q			V
16+10	2.5761	0.68	Q			V
16+15	2.5799	0.55	Q			V
16+20	2.5837	0.55	Q			V
16+25	2.5875	0.55	Q			V
16+30	2.5913	0.55	Q			V
16+35	2.5945	0.47	Q			V
16+40	2.5974	0.42	Q			V
16+45	2.6003	0.41	Q			V
16+50	2.6031	0.41	Q			V
16+55	2.6060	0.41	Q			V
17+ 0	2.6088	0.41	Q			V
17+ 5	2.6127	0.57	Q			V
17+10	2.6173	0.67	Q			V
17+15	2.6220	0.69	Q			V
17+20	2.6268	0.69	Q			V
17+25	2.6315	0.69	Q			V
17+30	2.6363	0.69	Q			V
17+35	2.6410	0.69	Q			V
17+40	2.6457	0.69	Q			V
17+45	2.6505	0.69	Q			V
17+50	2.6547	0.61	Q			V
17+55	2.6585	0.56	Q			V
18+ 0	2.6623	0.55	Q			V
18+ 5	2.6661	0.55	Q			V
18+10	2.6699	0.55	Q			V
18+15	2.6737	0.55	Q			V
18+20	2.6775	0.55	Q			V
18+25	2.6813	0.55	Q			V
18+30	2.6850	0.55	Q			V
18+35	2.6883	0.47	Q			V
18+40	2.6912	0.42	Q			V
18+45	2.6940	0.41	Q			V
18+50	2.6964	0.34	Q			V
18+55	2.6983	0.28	Q			V
19+ 0	2.7002	0.28	Q			V
19+ 5	2.7026	0.35	Q			V
19+10	2.7054	0.40	Q			V
19+15	2.7082	0.41	Q			V
19+20	2.7116	0.49	Q			V
19+25	2.7153	0.54	Q			V
19+30	2.7191	0.55	Q			V
19+35	2.7224	0.47	Q			V
19+40	2.7253	0.42	Q			V
19+45	2.7281	0.41	Q			V

19+50	2.7305	0.34	Q				V
19+55	2.7324	0.28	Q				V
20+ 0	2.7343	0.28	Q				V
20+ 5	2.7367	0.35	Q				V
20+10	2.7395	0.40	Q				V
20+15	2.7423	0.41	Q				V
20+20	2.7452	0.41	Q				V
20+25	2.7480	0.41	Q				V
20+30	2.7509	0.41	Q				V
20+35	2.7537	0.41	Q				V
20+40	2.7566	0.41	Q				V
20+45	2.7594	0.41	Q				V
20+50	2.7617	0.34	Q				V
20+55	2.7637	0.28	Q				V
21+ 0	2.7656	0.28	Q				V
21+ 5	2.7680	0.35	Q				V
21+10	2.7708	0.40	Q				V
21+15	2.7736	0.41	Q				V
21+20	2.7759	0.34	Q				V
21+25	2.7779	0.28	Q				V
21+30	2.7798	0.28	Q				V
21+35	2.7822	0.35	Q				V
21+40	2.7850	0.40	Q				V
21+45	2.7878	0.41	Q				V
21+50	2.7901	0.34	Q				V
21+55	2.7921	0.28	Q				V
22+ 0	2.7940	0.28	Q				V
22+ 5	2.7964	0.35	Q				V
22+10	2.7992	0.40	Q				V
22+15	2.8020	0.41	Q				V
22+20	2.8043	0.34	Q				V
22+25	2.8063	0.28	Q				V
22+30	2.8082	0.28	Q				V
22+35	2.8101	0.28	Q				V
22+40	2.8120	0.28	Q				V
22+45	2.8139	0.28	Q				V
22+50	2.8158	0.28	Q				V
22+55	2.8177	0.28	Q				V
23+ 0	2.8195	0.28	Q				V
23+ 5	2.8214	0.28	Q				V
23+10	2.8233	0.28	Q				V
23+15	2.8252	0.28	Q				V
23+20	2.8271	0.28	Q				V
23+25	2.8290	0.28	Q				V
23+30	2.8309	0.28	Q				V
23+35	2.8328	0.28	Q				V
23+40	2.8347	0.28	Q				V
23+45	2.8366	0.28	Q				V
23+50	2.8385	0.28	Q				V
23+55	2.8404	0.28	Q				V

24+ 0	2.8423	0.28	Q				V
24+ 5	2.8431	0.12	Q				V
24+10	2.8432	0.02	Q				V

APPENDIX D

Hydrology Maps



SITE LOCATION MAP
NOT TO SCALE

LEGENDS

- SUBAREA WATERSHED NODE
AREA IN ACRES
- HYDROLOGIC SUBAREA WATERSHED BOUNDARY
- FLOWLINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR

AREA QUANTITIES

PROJECT AREA: ±599,050 SQ. FT. (13.75 AC)
ANALYZED DRAINAGE AREA: ±599,050 SQ. FT. (13.75 AC)

UNDERGROUND SERVICE ALERT
CALL: TOLL FREE
1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

NOTE:
WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR A GRADING PERMIT HAS BEEN ISSUED.
THE PRIVATE ENGINEER SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTABILITY OF THE DESIGN HEREON. IN THE EVENT OF DISCREPANCIES ARISING AFTER CITY APPROVAL OR DURING CONSTRUCTION, THE PRIVATE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE CITY.

MARK	BY	DATE	REVISIONS	APPR.	DATE

SEAL-ENGINEER

GreenbergFarrow
30 Executive Park, Suite 100
Irvine, CA 92614
t: 949 296 0450 f: 949 296 0479

PREPARED BY:
BAHAREH SEHATZADEH RCE C89859, EXP. 06/30/2023

JOB NO. 20200259.0

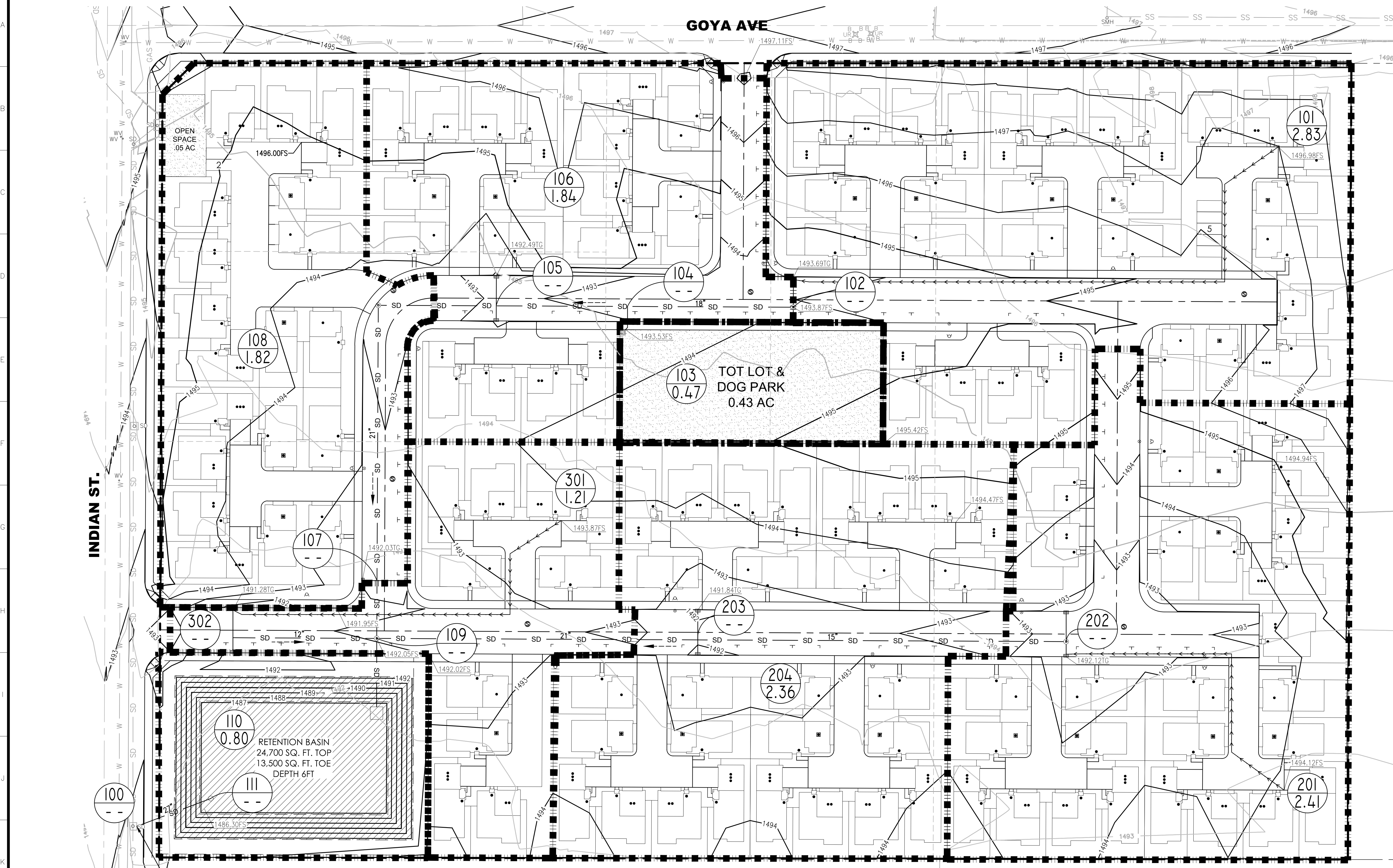
BENCHMARK

CITY OF MORENO VALLEY
PATTON SOUTH OF GOYA

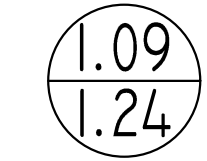

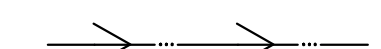

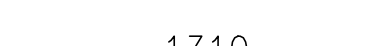



SHEET NO. 2 OF 2 SHEET

INITIAL DESIGN DATE: 03/15/2023

FOR: _____ W.O. _____ CITY FILE NO. _____



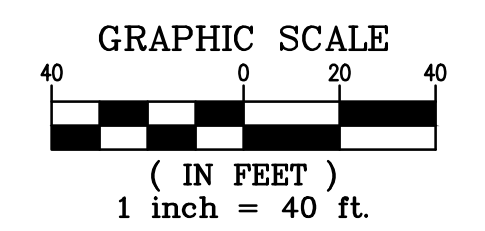
LEGENDS

-  SUBAREA WATERSHED NODE
AREA IN ACRES
-  HYDROLOGIC SUBAREA WATERSHED BOUNDARY
-  FLOWLINE
-  STORM PIPE FLOW DIRECTION
-  PROPOSED MAJOR CONTOUR
-  PROPOSED MINOR CONTOUR
-  EXISTING MAJOR CONTOUR
-  EXISTING MINOR CONTOUR

AREA QUANTITIES

PROJECT AREA: ±599,050 SQ. FT. (13.75 AC)
 ANALYZED DRAINAGE AREA: ±599,050 SQ. FT. (13.75 AC)

(P) CURB INLET
 CONNECTED TO (E) DROP
 INLET ON INDIAN STREET



UNDERGROUND SERVICE ALERT
 CALL-TOLL FREE
 1-800-227-2600
 TWO WORKING DAYS BEFORE YOU DIG

NOTE:
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MARK	BY	DATE	REVISIONS	APPR.	DATE

SEAL-ENGINEER

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 t: 949 296 0450 f: 949 296 0479
 PREPARED BY: BAHAREN SEHATZADEH RCE C89859, EXP. 06/30/2023
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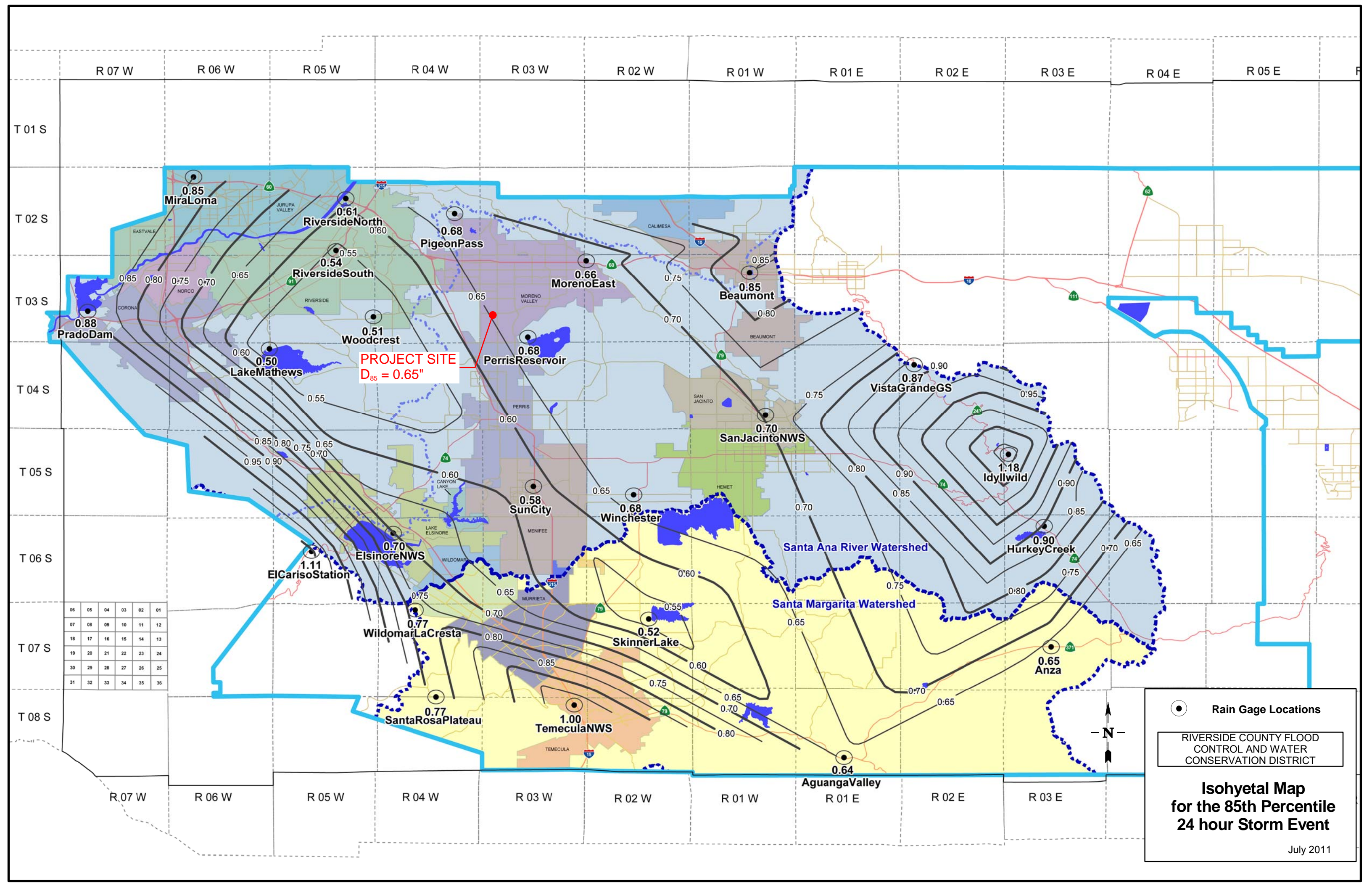
JOB NO. 20200259.0 BENCHMARK

CITY OF MORENO VALLEY
PATTON SOUTH OF GOYA
 SHEET NO. OF 2 SHEET
 INITIAL DESIGN DATE: 03/15/2023
 FOR: _____ W.O. _____ CITY FILE NO. _____

PEN22-XXXX/XXXX
 LST22-XXXX

APPENDIX E

BMP Sizing Calculations



PROJECT SITE
D₈₅ = 0.65"

06	05	04	03	02	01
07	08	09	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

● Rain Gage Locations

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

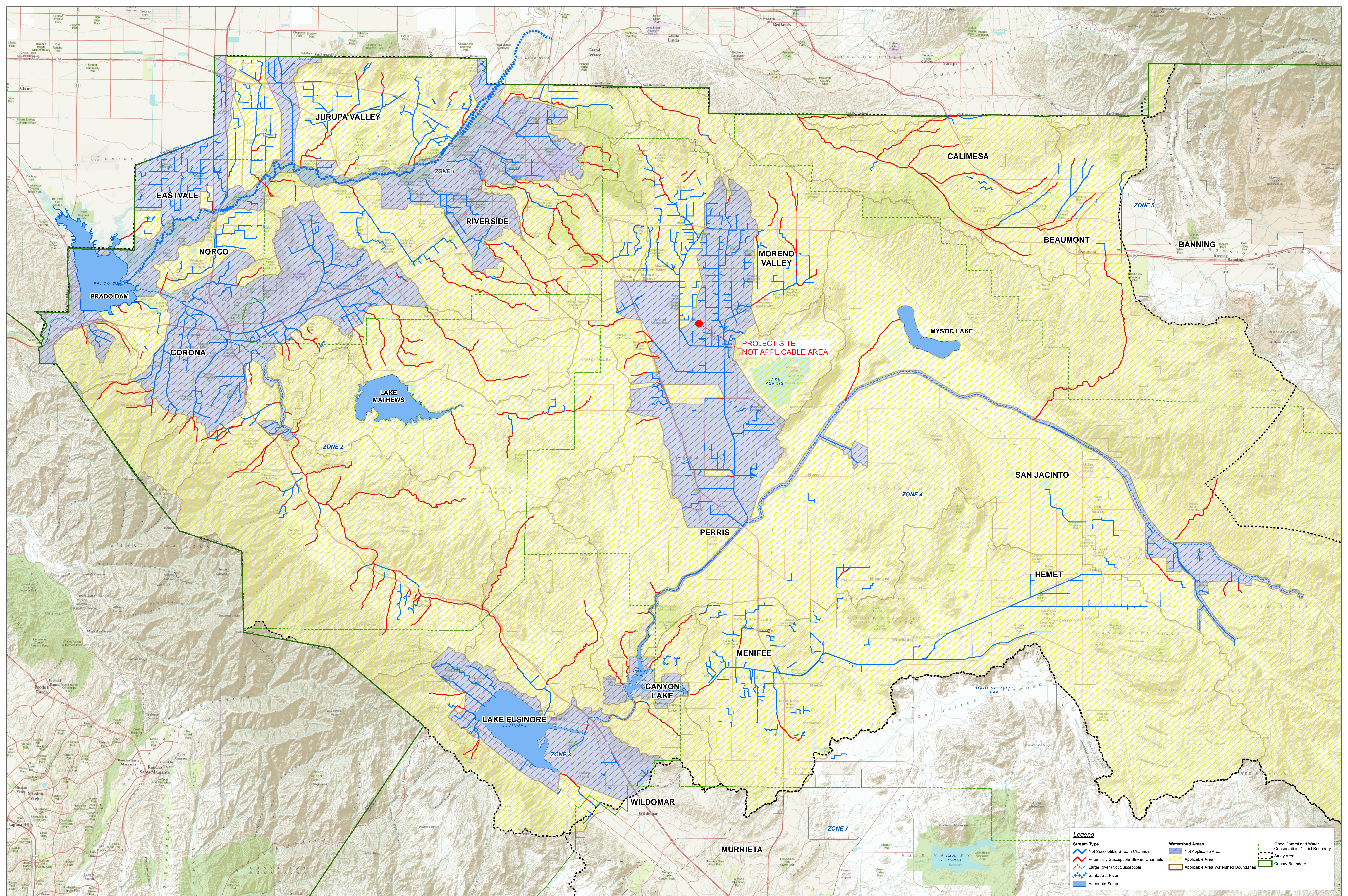
Isohyetal Map for the 85th Percentile 24 hour Storm Event

July 2011

Bioretention Facility - Design Procedure		BMP ID	Legend:	Required Entries
				Calculated Cells
Company Name:	South of Goya		Date: 3/16/2023	
Designed by:	SK		County/City Case No.:	
Design Volume				
Enter the area tributary to this feature			$A_T =$	13.7 acres
Enter V_{BMP} determined from Section 2.1 of this Handbook			$V_{BMP} =$	14,845 ft ³
Type of Bioretention Facility Design				
<input checked="" type="radio"/> Side slopes required (parallel to parking spaces or adjacent to walkways) <input type="radio"/> No side slopes required (perpendicular to parking space or Planter Boxes)				
Bioretention Facility Surface Area				
Depth of Soil Filter Media Layer			$d_S =$	3.0 ft
Top Width of Bioretention Facility, excluding curb			$w_T =$	130.0 ft
Total Effective Depth, d_E $d_E = (0.3) \times d_S + (0.4) \times 1 - (0.7/w_T) + 0.5$			$d_E =$	1.79 ft
Minimum Surface Area, A_m $A_M (ft^2) = \frac{V_{BMP} (ft^3)}{d_E (ft)}$			$A_M =$	8,272 ft ²
Proposed Surface Area			$A =$	13,500 ft ²
Bioretention Facility Properties				
Side Slopes in Bioretention Facility			$z =$	4 :1
Diameter of Underdrain				6 inches
Longitudinal Slope of Site (3% maximum)				0.8 %
6" Check Dam Spacing				0 feet
Describe Vegetation:				
Notes:				

APPENDIX F

HCOC Applicability Map



Legend

Stream Type	Not Applicable Area	Flood Control and Water Conservation District Boundary
Potentially Susceptible Stream Channels	Applicable Area	Study Area
Large River (Not Susceptible)	Applicable Area Watershed Boundaries	County Boundary
Santa Ana River		
Adequate Sump		