HYDROLOGY REPORT
for
TRACT 38955

Located in the City of Moreno Valley
County of Riverside

Prepared For:

FOREMOST COMPANIES

27271 Las Ramblas #100
Mission Viejo, CA 92691
Tel: (949) 748-6714

Prepared by:

adkan ENGINEERS

6879 Airport Drive
Riverside, CA 92504
Tel (951) 688-0241
Fax (951) 688-0599

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adkan ENGINEERS
CIVIL ENGINEERING • SURVEYING • PLANNING
6879 AIRPORT DRIVE, RIVERSIDE, CA 92504
Tel: 951.688.0241 • Fax: 951.688.0599
www.adkan.com

Table of Contents

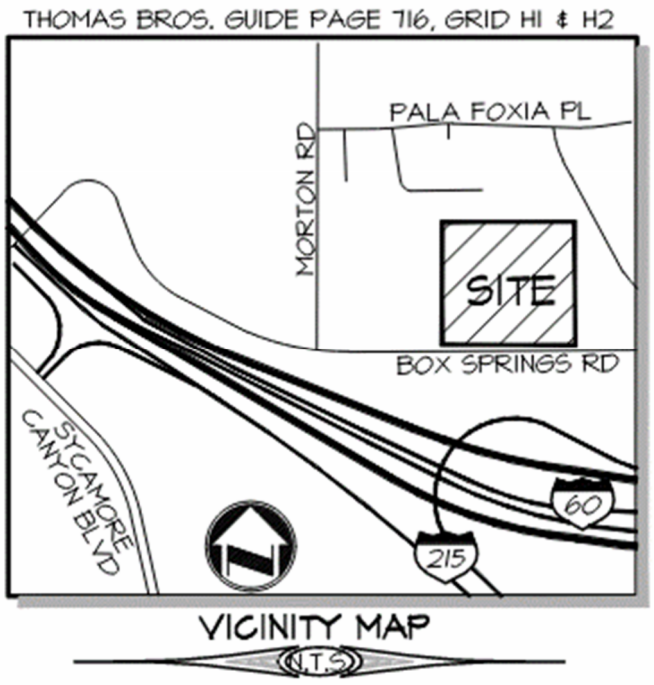
1. Purpose

The purpose of this study is to substantiate the hydrology design of Tract 38955 for the purposes of entitlement approval. Adkan Engineers has prepared this study to ensure that adequate size and proper operation of drainage facilities are incorporated into the Post-Development project site.

2. Project Description

Tract 38955 is located in the City of Moreno Valley at 21160 Box Springs Road, north of Box Springs Road, east of Morton Road, south of Pala Foxia Place and west of Lewisia Avenue. The planned development will consist of 30 condo buildings, totaling with 140 units, as well as a club house/pool area provided on the 9.3± acre site. The proposed development will treat the 2 year 24 hour storm event through the use of a bioretention basin located in the northwest corner, as well as 3 separate bioretention trenches located along the project frontage of Box Springs Road. An existing concrete channel (Channel "B" per storm drain plans for Tract 19520-1) is located just north of the property line, where the rest of the storm events will drain to. The northeast corner of the project site consists of the 100' wide California Aqueduct easement. This area will be left as is, ad considered self-treating.

A. Vicinity Map



3. Pre-Development Hydrology

The site has two buildings with a parking lot area along Box Springs Road and is currently the Riverside County Farm Bureau. The remaining site area is vacant and undeveloped. Half of the site drains to the north west to an existing drainage channel and the southern half drains to the south towards Box Springs Road.

Existing Rational Drainage Areas		
Storm Event	**EX**	**EX1**
Q10 (cfs)	6.06	4.31
Q100 (cfs)	9.35	6.33
Acres	4.70	4.70

4. Post-Development Hydrology

Onsite low flow runoff from the proposed development will flow into 4 onsite stormwater treatment areas (bioretention basins). Three are located along the frontage of Box Springs Road and will be used for treatment of the onsite runoff. The fourth is located at the northwest corner of the site. This bioretention basin will be used to mitigate the 2-year 24-hour storm event and treat the runoff prior to discharging to the existing drainage channel at the north end of the site. Additional storage requirements will be met with the use of a 42" CMP underground storage system to detain flows and outlet them slowly into the existing drainage channel located directly north of the project boundary. Development of the site will reroute drainage from 2 acres +/- that previously drained to Box Springs Rd and direct these flows to the basin at the northwest corner. Proposed flows to the north now total 12.97 CFS compared to the existing 9.35 CFS currently being directed north. The existing channel (453 cfs at Station 18+60.00 per storm drain plans for Tract 19520-1) was analyzed to ensure that the channel has sufficient capacity to accept the proposed runoff (12.97 cfs for a total of 466 cfs) to include the 2 acres of flows diverted from the south. See Section 5 of this report for capacity calculations of the existing channel.

Proposed Rational Drainage Areas				
Storm Event	**Pro**	**Pro1**	**Pro2**	**Pro3**
Q10 (cfs)	8.57	2.68	2.56	0.51
Q100 (cfs)	12.97	4.03	3.86	0.76
Acres	6.17	1.30	1.53	0.23

Underground CMP

Storm Event	Existing		Proposed		Basin Routing		
	Volume ac.ft.	Q cfs	Volume ac.ft.	Q cfs	Volume ac.ft.	Q cfs	Depth ft.
2yr24hr	0.3107	0.511	0.9630	1.585	0.7200	0.372	5.93
10yr24hr	1.0478	3.082	1.7667	3.175	0.8720	3.171	7.53

UNDERGROUND STORAGE SIZE & FLOW CALCULATIONS

	ELEVATION	DEPTH	ROCK/MEDIA VOLUME (CF)	42" PIPE CROSS-SECTIONAL AREA (SF)	42" PIPE VOLUME (CF)	STORAGE IN ONSITE SD SYSTEM	CUMULATIVE STORAGE VOLUME (CF)	CUMULATIVE STORAGE VOLUME (AC-FT)	SYSTEM OUTFLOW			
									ORIFICE (CFS)	WEIR	EMERGENCY SPILLWAY	TOTAL (CFS)
TOP OF BASIN	1538	8.5	7,728.00				45443.36	1.043	0.47	53.28	21.73	75.486
PONDING STORAGE	1537	7.5	5,864.00				37715.36	0.866	0.44	0.00	0.00	0.437
BIORETENTION	1536.5	7	3,477.60				33851.36	0.777	0.42	0.00	0.00	0.418
TOP OF ROCK	1535	5.5	3699.60	0.00	0.00	30373.76	30673.76	0.697	0.35	0.00	0.00	0.353
TOP OF CMP	1534	4.5	2123.79	2.27	3939.52	26674.16	26674.16	0.612	0.30	0.00	0.00	0.302
ORIFICE	1533	3.5	1527.55	3.41	5930.12	20610.85	20610.85	0.473	0.24	0.00	0.00	0.241
ORIFICE	1532	2.5	1549.19	3.10	5376.02	13353.18	13353.18	0.307	0.16	0.00	0.00	0.158
	1531	1.5	1264.08	0.84	1464.29	6427.97	6427.97	0.148	0.00	0.00	0.00	0.000
INVERT OF CMP	1530.5	1	3699.60	0.00	0.00	3699.60	3699.60	0.085	0.00	0.00	0.00	0.000
BOT OF EXCAVATION	1529.5	0					-	0.000	0.00	0.00	0.00	0.000

PIPE DETAILS		BACKFILL DETAILS		BIORETENTION MEDIA	
DIAMETER OF CMP	42 IN	BACKFILL TYPE	CRUSHED ROCK	BACKFILL TYPE	ENGINEERED SOIL
LINEAR FEET OF CMP	1737 FT	WIDTH AT ENDS	12 IN	POROSITY	30%
		ABOVE PIPE	12 IN	BIORETENTION FOOTPRINT	7,728.00 SF
		WIDTH AT SIDES	12 IN		
CORRUGATION	5X1	BELOW PIPE	12 IN		
GAGE	16	ROCK POROSITY	40%		
COATING	ALT2	EXCAVATION WIDTH	FT		
WALL TYPE	PERF	EXCAVATION LENGTH	FT		
BARREL SPACING	21 IN	EXCAVATION FOOT	9,249.00 SF		
SITE DRAINAGE DIA	0 IN				
SITE DRAINAGE LENGTH	0 FT	VBMP	11900		
SITE DRAINAGE VOLUME	- CF				

ORIFICE 1	
NO. OF ORIFICES	1
ORIFICE DIA	2.5 IN
ORIFICE AREA	0.03 SF
ORIFICE INV.	1531.3
ORIFICE COEFF	0.6667

WEIR	
Crest Weir Elev.	1537.00
Q100	15
Weir Length	10 FT
Weir Coeff.	3.33
H Weir	0.4295543
Q100 Elevation	**1537.43**

EMERGENCY SPILLWAY	
Crest Weir Elev.	1537.45
Q100	15
Weir Length	40 FT
Weir Coeff.	3.33
H Weir	0.2331979
Q100 Elevation	**1537.68**

5. Method of Analysis

The site hydrology was based upon Riverside County Flood Control and Water Conversation District Hydrology Manual, from which pertinent soil and rainfall information was obtained.

Storm flows were determined by the "RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM", Riverside County Flood Control & Water Conservation District 1978 Hydrology Manual, produced by Bondamin Engineering.

The site was also analyzed by the "SYNTHETIC UNIT HYDROLOGY METHOD COMPUTER PROGRAM", Riverside County Flood Control & Water Conservation District 1978 Hydrology Manual, produced by Bondamin Engineering.

6. Conclusion

The hydrologic calculations provided herein substantiate the design of the Post-Development project and indicate the following:

- The Post-Development facilities demonstrate the ability to convey the 100 year storm event
- The bioretention basins will adequately treat the required water quality volume associated with the project site.

Based on the Hydrology and Hydraulic analysis conducted and results shown herein and part thereof, it is our conclusion this project **does not** negatively impact the local community or watershed goals.

Section 1

Pre-Development Hydrology 10 & 100 year (Rational Method)

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                Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
        Rational Hydrology Study        Date: 03/20/24  File:ex10.out
------------------------------------------------------------------------
 *********   Hydrology Study Control Information **********

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

------------------------------------------------------------------------


Program License Serial Number 5006

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

Storm event (year) =   10.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation =  0.550(In.)
100 year, 1 hour precipitation =  1.200(In.)

Storm event year =  10.0
Calculated rainfall intensity data:
1 hour intensity =  0.817(In/Hr)
Slope of intensity duration curve = 0.5000




++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        1.000 to Point/Station        2.000
**** INITIAL AREA EVALUATION ****
_____________________________________________________________________________
Initial area flow distance =   765.000(Ft.)
Top (of initial area) elevation =  1565.000(Ft.)
Bottom (of initial area) elevation =  1532.000(Ft.)
Difference in elevation =    33.000(Ft.)
Slope =    0.04314  s(percent)=       4.31
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   14.150 min.
Rainfall intensity =      1.683(In/Hr) for a    10.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.767
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  82.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      6.065(CFS)
Total initial stream area =        4.700(Ac.)
Pervious area fraction = 1.000
End of computations, total study area =            4.70 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  82.0
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                Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
        Rational Hydrology Study        Date: 03/20/24  File:ex110.out
------------------------------------------------------------------------
 *********   Hydrology Study Control Information **********

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

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Program License Serial Number 5006

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

Storm event (year) =   10.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation =  0.550(In.)
100 year, 1 hour precipitation =  1.200(In.)

Storm event year =  10.0
Calculated rainfall intensity data:
1 hour intensity =  0.817(In/Hr)
Slope of intensity duration curve = 0.5000




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Process from Point/Station        1.000 to Point/Station        3.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Initial area flow distance =   682.000(Ft.)
Top (of initial area) elevation =  1565.000(Ft.)
Bottom (of initial area) elevation =  1536.000(Ft.)
Difference in elevation =    29.000(Ft.)
Slope =    0.04252  s(percent)=       4.25
TC = k(0.465)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   11.892 min.
Rainfall intensity =      1.836(In/Hr) for a    10.0 year storm
USER INPUT of soil data for subarea
Runoff Coefficient = 0.500
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  33.30
Pervious area fraction =  0.750; Impervious fraction =  0.250
Initial subarea runoff =      4.315(CFS)
Total initial stream area =        4.700(Ac.)
Pervious area fraction = 0.750
End of computations, total study area =            4.70 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.750
Area averaged RI index number =  33.3
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Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 03/20/24 File:ex100.out

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

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

Program License Serial Number 5006

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

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation = 0.550(In.)
100 year, 1 hour precipitation = 1.200(In.)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.200(In/Hr)
Slope of intensity duration curve = 0.5000

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

Initial area flow distance = 765.000(Ft.)
Top (of initial area) elevation = 1565.000(Ft.)
Bottom (of initial area) elevation = 1532.000(Ft.)
Difference in elevation = 33.000(Ft.)
Slope = 0.04314 s(percent)= 4.31
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 14.150 min.
Rainfall intensity = 2.471(In/Hr) for a 100.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.805
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 82.00
Pervious area fraction = 1.000; Impervious fraction = 0.000
Initial subarea runoff = 9.345(CFS)
Total initial stream area = 4.700(Ac.)
Pervious area fraction = 1.000
End of computations, total study area = 4.70 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number = 82.0

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                Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
        Rational Hydrology Study        Date: 03/20/24  File:ex1100.out
------------------------------------------------------------------------
 *********   Hydrology Study Control Information **********

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

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Program License Serial Number 5006

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

Storm event (year) =  100.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation =  0.550(In.)
100 year, 1 hour precipitation =  1.200(In.)

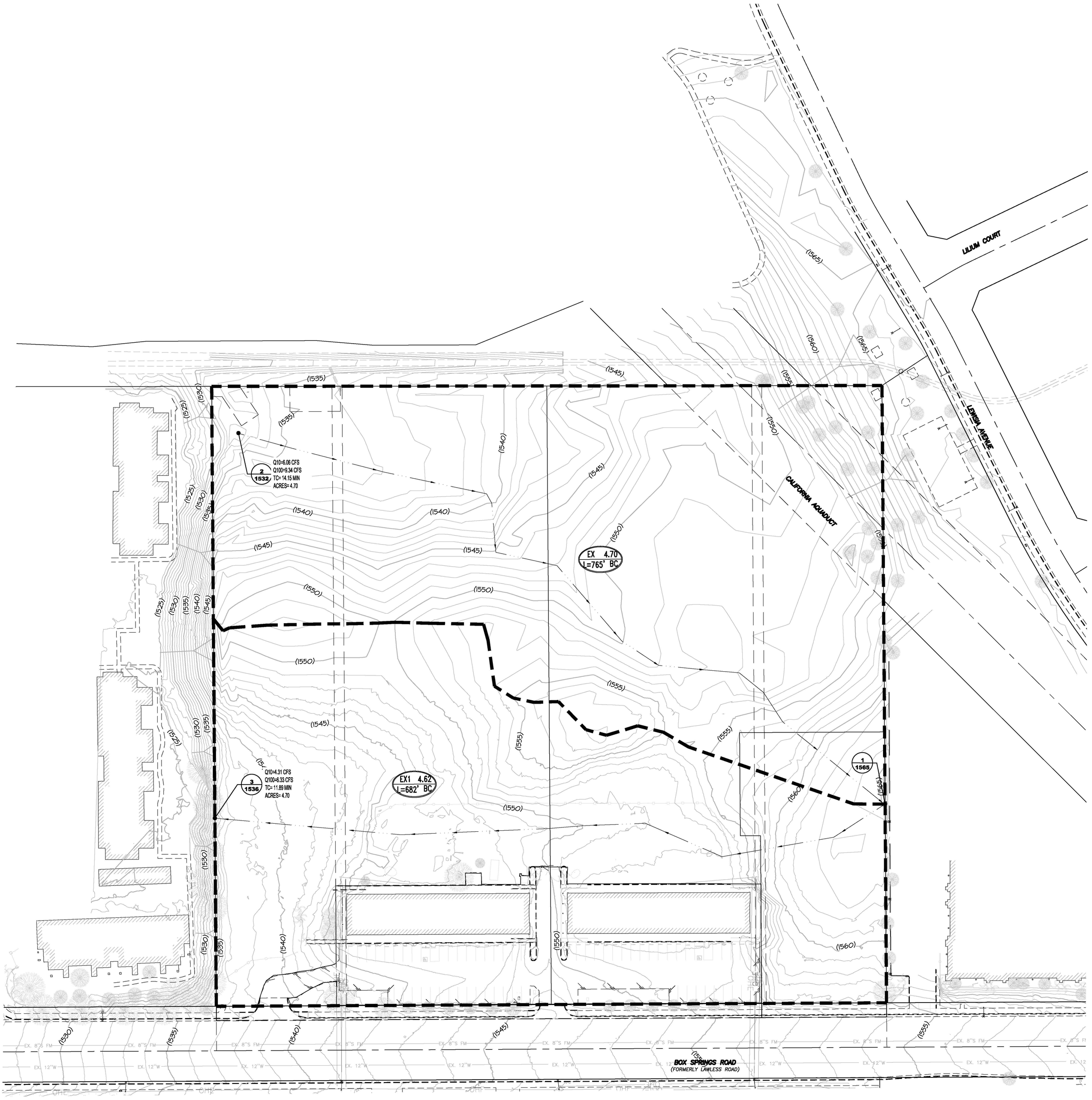
Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity =  1.200(In/Hr)
Slope of intensity duration curve = 0.5000




++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        1.000 to Point/Station        3.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Initial area flow distance =   682.000(Ft.)
Top (of initial area) elevation =  1565.000(Ft.)
Bottom (of initial area) elevation =  1536.000(Ft.)
Difference in elevation =    29.000(Ft.)
Slope =    0.04252  s(percent)=       4.25
TC = k(0.465)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   11.892 min.
Rainfall intensity =      2.695(In/Hr) for a   100.0 year storm
USER INPUT of soil data for subarea
Runoff Coefficient = 0.500
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  25.38
Pervious area fraction =  0.750; Impervious fraction =  0.250
Initial subarea runoff =      6.334(CFS)
Total initial stream area =        4.700(Ac.)
Pervious area fraction = 0.750
End of computations, total study area =            4.70 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.750
Area averaged RI index number =  25.4
```

EXISTING HYDROLOGY MAP



SCALE
SCALE: 1"=50'

LEGEND

NODE / ELEV

AREA ACRES / LENGTH SOIL

WATERSHED BOUNDARY

FLOW PATH

EXISTING
HYDROLOGY MAP
PREPARATION DATE : JUNE 2024

adkan ENGINEERS
Civil Engineering Surveying Planning
6879 Airport Drive, Riverside, CA 92504
Tel:(951) 688-0241 Fax:(951) 688-0599

Section 2

Post-Development Hydrology 10 & 100 year (Rational Method)

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                Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
        Rational Hydrology Study        Date: 06/17/24  File:pro10.out
------------------------------------------------------------------------
 *********   Hydrology Study Control Information **********

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

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Program License Serial Number 5006

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

Storm event (year) =   10.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation =  0.550(In.)
100 year, 1 hour precipitation =  1.200(In.)

Storm event year =  10.0
Calculated rainfall intensity data:
1 hour intensity =  0.817(In/Hr)
Slope of intensity duration curve = 0.5000



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Process from Point/Station        1.000 to Point/Station        2.000
**** INITIAL AREA EVALUATION ****
____________________________________________________________________________
Initial area flow distance =   389.000(Ft.)
Top (of initial area) elevation =  1565.000(Ft.)
Bottom (of initial area) elevation =  1549.800(Ft.)
Difference in elevation =    15.200(Ft.)
Slope =    0.03907  s(percent)=       3.91
TC = k(0.370)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    7.688 min.
Rainfall intensity =      2.284(In/Hr) for a    10.0 year storm
CONDOMINIUM subarea type
Runoff Coefficient = 0.818
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  62.50
Pervious area fraction =  0.350; Impervious fraction =  0.650
Initial subarea runoff =      3.046(CFS)
Total initial stream area =        1.630(Ac.)
Pervious area fraction = 0.350


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Process from Point/Station        2.000 to Point/Station        3.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
____________________________________________________________________________
Upstream point/station elevation =  1549.800(Ft.)
Downstream point/station elevation =  1545.000(Ft.)
Pipe length  =    11.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     3.046(CFS)
Nearest computed pipe diameter  =      6.00(In.)
Calculated individual pipe flow  =     3.046(CFS)
Normal flow depth in pipe =    4.14(In.)
Flow top width inside pipe =    5.55(In.)
Critical depth could not be calculated.
Pipe flow velocity =     21.07(Ft/s)
Travel time through pipe =    0.01 min.
Time of concentration (TC) =     7.70 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        3.000 to Point/Station        3.000
**** CONFLUENCE OF MINOR STREAMS ****
____________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      1.630(Ac.)
Runoff from this stream =      3.046(CFS)
Time of concentration =    7.70 min.
Rainfall intensity =     2.282(In/Hr)
```

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        4.500
**** INITIAL AREA EVALUATION ****
------------------------------------------------------------------------------
Initial area flow distance =    96.000(Ft.)
Top (of initial area) elevation =  1552.900(Ft.)
Bottom (of initial area) elevation =  1550.920(Ft.)
Difference in elevation =     1.980(Ft.)
Slope =    0.02063  s(percent)=       2.06
TC = k(0.370)*[(length^3)/(elevation change)]^0.2
Warning: TC computed to be less than 5 min.; program is assuming the
time of concentration is 5 minutes.
Initial area time of concentration =    5.000 min.
Rainfall intensity =      2.832(In/Hr) for a    10.0 year storm
CONDOMINIUM subarea type
Runoff Coefficient = 0.831
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  62.50
Pervious area fraction =  0.350; Impervious fraction =  0.650
Initial subarea runoff =      0.376(CFS)
Total initial stream area =        0.160(Ac.)
Pervious area fraction = 0.350


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Process from Point/Station        4.500 to Point/Station        3.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  1550.920(Ft.)
Downstream point/station elevation =  1545.000(Ft.)
Pipe length  =   266.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     0.376(CFS)
Nearest computed pipe diameter  =      6.00(In.)
Calculated individual pipe flow  =     0.376(CFS)
Normal flow depth in pipe =    2.82(In.)
Flow top width inside pipe =    5.99(In.)
Critical Depth =    3.74(In.)
Pipe flow velocity =      4.15(Ft/s)
Travel time through pipe =    1.07 min.
Time of concentration (TC) =     6.07 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        3.000 to Point/Station        3.000
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      0.160(Ac.)
Runoff from this stream =      0.376(CFS)
Time of concentration =    6.07 min.
Rainfall intensity =     2.570(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        3.046      7.70                 2.282
2        0.376      6.07                 2.570
Largest stream flow has longer time of concentration
Qp =      3.046 + sum of
          Qb          Ia/Ib
           0.376 *    0.888 =      0.334
Qp =      3.380

Total of 2 streams to confluence:
Flow rates before confluence point:
       3.046       0.376
Area of streams before confluence:
        1.630        0.160
Results of confluence:
Total flow rate =      3.380(CFS)
Time of concentration =     7.697 min.
Effective stream area after confluence =      1.790(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        3.000 to Point/Station        5.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  1545.000(Ft.)
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Downstream point/station elevation =  1537.000(Ft.)
Pipe length  =   398.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     3.380(CFS)
Nearest computed pipe diameter  =     12.00(In.)
Calculated individual pipe flow  =     3.380(CFS)
Normal flow depth in pipe =    7.18(In.)
Flow top width inside pipe =   11.76(In.)
Critical Depth =    9.44(In.)
Pipe flow velocity =      6.89(Ft/s)
Travel time through pipe =    0.96 min.
Time of concentration (TC) =     8.66 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        5.000 to Point/Station        5.000
**** CONFLUENCE OF MAIN STREAMS ****
--------------------------------------------------------------------------------
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =      1.790(Ac.)
Runoff from this stream =      3.380(CFS)
Time of concentration =    8.66 min.
Rainfall intensity =     2.152(In/Hr)
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        6.000 to Point/Station        7.000
**** INITIAL AREA EVALUATION ****
--------------------------------------------------------------------------------
Initial area flow distance =    88.000(Ft.)
Top (of initial area) elevation =  1550.970(Ft.)
Bottom (of initial area) elevation =  1539.500(Ft.)
Difference in elevation =    11.470(Ft.)
Slope =    0.13034  s(percent)=      13.03
TC = k(0.940)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    8.470 min.
Rainfall intensity =      2.176(In/Hr) for a    10.0 year storm
UNDEVELOPED (good cover) subarea
Runoff Coefficient = 0.695
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  67.50
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      0.363(CFS)
Total initial stream area =        0.240(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        7.000 to Point/Station        8.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
--------------------------------------------------------------------------------
Upstream point/station elevation =  1539.500(Ft.)
Downstream point/station elevation =  1537.750(Ft.)
Pipe length  =   350.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     0.363(CFS)
Nearest computed pipe diameter  =      6.00(In.)
Calculated individual pipe flow  =     0.363(CFS)
Normal flow depth in pipe =    4.51(In.)
Flow top width inside pipe =    5.18(In.)
Critical Depth =    3.67(In.)
Pipe flow velocity =      2.29(Ft/s)
Travel time through pipe =    2.55 min.
Time of concentration (TC) =    11.02 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        8.000 to Point/Station        8.000
**** CONFLUENCE OF MINOR STREAMS ****
--------------------------------------------------------------------------------
Along Main Stream number: 2 in normal stream number 1
Stream flow area =      0.240(Ac.)
Runoff from this stream =      0.363(CFS)
Time of concentration =   11.02 min.
Rainfall intensity =     1.908(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        9.000 to Point/Station       10.000
**** INITIAL AREA EVALUATION ****
--------------------------------------------------------------------------------
Initial area flow distance =   292.000(Ft.)
Top (of initial area) elevation =  1550.970(Ft.)
```

```
Bottom (of initial area) elevation =  1547.210(Ft.)
Difference in elevation =     3.760(Ft.)
Slope =    0.01288  s(percent)=       1.29
TC = k(0.370)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    8.558 min.
Rainfall intensity =      2.164(In/Hr) for a    10.0 year storm
CONDOMINIUM subarea type
Runoff Coefficient = 0.815
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  62.50
Pervious area fraction =  0.350; Impervious fraction =  0.650
Initial subarea runoff =      2.663(CFS)
Total initial stream area =        1.510(Ac.)
Pervious area fraction = 0.350


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Process from Point/Station       10.000 to Point/Station        8.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1547.210(Ft.)
Downstream point/station elevation =  1537.750(Ft.)
Pipe length  =    16.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     2.663(CFS)
Nearest computed pipe diameter  =      6.00(In.)
Calculated individual pipe flow  =     2.663(CFS)
Normal flow depth in pipe =    3.41(In.)
Flow top width inside pipe =    5.94(In.)
Critical depth could not be calculated.
Pipe flow velocity =     23.12(Ft/s)
Travel time through pipe =    0.01 min.
Time of concentration (TC) =     8.57 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        8.000 to Point/Station        8.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 2 in normal stream number 2
Stream flow area =      1.510(Ac.)
Runoff from this stream =       2.663(CFS)
Time of concentration =    8.57 min.
Rainfall intensity =     2.163(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        0.363     11.02                 1.908
2        2.663      8.57                 2.163
Largest stream flow has longer or shorter time of concentration
Qp =      2.663 + sum of
          Qa           Tb/Ta
           0.363 *    0.778 =      0.282
Qp =      2.946

Total of 2 streams to confluence:
Flow rates before confluence point:
       0.363       2.663
Area of streams before confluence:
        0.240        1.510
Results of confluence:
Total flow rate =      2.946(CFS)
Time of concentration =     8.570 min.
Effective stream area after confluence =      1.750(Ac.)


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Process from Point/Station        8.000 to Point/Station        5.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1537.750(Ft.)
Downstream point/station elevation =  1537.000(Ft.)
Pipe length  =   140.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     2.946(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =     2.946(CFS)
Normal flow depth in pipe =    8.58(In.)
Flow top width inside pipe =   14.84(In.)
Critical Depth =    8.29(In.)
Pipe flow velocity =      4.06(Ft/s)
Travel time through pipe =    0.57 min.
```

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Time of concentration (TC) =     9.14 min.


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Process from Point/Station        5.000 to Point/Station        5.000
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =      1.750(Ac.)
Runoff from this stream =      2.946(CFS)
Time of concentration =    9.14 min.
Rainfall intensity =     2.094(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        3.380      8.66               2.152
2        2.946      9.14               2.094
Largest stream flow has longer or shorter time of concentration
Qp =      3.380 + sum of
          Qa          Tb/Ta
           2.946 *    0.947 =      2.789
Qp =      6.169

Total of 2 main streams to confluence:
Flow rates before confluence point:
       3.380       2.946
Area of streams before confluence:
        1.790        1.750


Results of confluence:
Total flow rate =      6.169(CFS)
Time of concentration =     8.659 min.
Effective stream area after confluence  =      3.540(Ac.)


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Process from Point/Station        5.000 to Point/Station       11.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1537.000(Ft.)
Downstream point/station elevation =  1536.800(Ft.)
Pipe length  =    16.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     6.169(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =     6.169(CFS)
Normal flow depth in pipe =   10.66(In.)
Flow top width inside pipe =   13.60(In.)
Critical Depth =   12.04(In.)
Pipe flow velocity =      6.61(Ft/s)
Travel time through pipe =    0.04 min.
Time of concentration (TC) =     8.70 min.


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Process from Point/Station       11.000 to Point/Station       11.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      3.540(Ac.)
Runoff from this stream =      6.169(CFS)
Time of concentration =    8.70 min.
Rainfall intensity =     2.147(In/Hr)


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Process from Point/Station        4.000 to Point/Station       12.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   457.000(Ft.)
Top (of initial area) elevation =  1549.800(Ft.)
Bottom (of initial area) elevation =  1546.400(Ft.)
Difference in elevation =     3.400(Ft.)
Slope =    0.00744  s(percent)=       0.74
TC = k(0.370)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   11.425 min.
Rainfall intensity =      1.873(In/Hr) for a    10.0 year storm
CONDOMINIUM subarea type
Runoff Coefficient = 0.806
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
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Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  62.50
Pervious area fraction =  0.350; Impervious fraction =  0.650
Initial subarea runoff =      1.977(CFS)
Total initial stream area =        1.310(Ac.)
Pervious area fraction = 0.350


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Process from Point/Station       12.000 to Point/Station       11.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1546.400(Ft.)
Downstream point/station elevation =  1536.800(Ft.)
Pipe length  =    14.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     1.977(CFS)
Nearest computed pipe diameter  =      6.00(In.)
Calculated individual pipe flow  =     1.977(CFS)
Normal flow depth in pipe =    2.73(In.)
Flow top width inside pipe =    5.98(In.)
Critical depth could not be calculated.
Pipe flow velocity =     22.71(Ft/s)
Travel time through pipe =    0.01 min.
Time of concentration (TC) =    11.44 min.


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Process from Point/Station       11.000 to Point/Station       11.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      1.310(Ac.)
Runoff from this stream =      1.977(CFS)
Time of concentration =   11.44 min.
Rainfall intensity =     1.872(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        6.169      8.70                 2.147
2        1.977     11.44                 1.872
Largest stream flow has longer or shorter time of concentration
Qp =      6.169 + sum of
          Qa           Tb/Ta
           1.977 *    0.761 =      1.504
Qp =      7.674

Total of 2 streams to confluence:
Flow rates before confluence point:
       6.169       1.977
Area of streams before confluence:
        3.540        1.310
Results of confluence:
Total flow rate =      7.674(CFS)
Time of concentration =     8.699 min.
Effective stream area after confluence =      4.850(Ac.)


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Process from Point/Station       11.000 to Point/Station       13.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1536.800(Ft.)
Downstream point/station elevation =  1536.600(Ft.)
Pipe length  =   115.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     7.674(CFS)
Nearest computed pipe diameter  =     24.00(In.)
Calculated individual pipe flow  =     7.674(CFS)
Normal flow depth in pipe =   16.43(In.)
Flow top width inside pipe =   22.30(In.)
Critical Depth =   11.83(In.)
Pipe flow velocity =      3.35(Ft/s)
Travel time through pipe =    0.57 min.
Time of concentration (TC) =     9.27 min.


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Process from Point/Station       13.000 to Point/Station       14.000
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________________
UNDEVELOPED (good cover) subarea
Runoff Coefficient = 0.688
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
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Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  67.50
Pervious area fraction =  1.000; Impervious fraction =  0.000
Time of concentration =     9.27 min.
Rainfall intensity =      2.079(In/Hr) for a    10.0 year storm
Subarea runoff =      0.615(CFS) for      0.430(Ac.)
Total runoff =      8.288(CFS)       Total area =       5.280(Ac.)


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Process from Point/Station       14.000 to Point/Station       15.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1536.600(Ft.)
Downstream point/station elevation =  1530.000(Ft.)
Pipe length  =    43.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     8.288(CFS)
Nearest computed pipe diameter  =     12.00(In.)
Calculated individual pipe flow  =     8.288(CFS)
Normal flow depth in pipe =    6.66(In.)
Flow top width inside pipe =   11.93(In.)
Critical depth could not be calculated.
Pipe flow velocity =     18.53(Ft/s)
Travel time through pipe =    0.04 min.
Time of concentration (TC) =     9.31 min.


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Process from Point/Station       15.000 to Point/Station       15.000
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =      5.280(Ac.)
Runoff from this stream =      8.288(CFS)
Time of concentration =    9.31 min.
Rainfall intensity =     2.075(In/Hr)
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       16.000 to Point/Station       17.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   198.000(Ft.)
Top (of initial area) elevation =  1549.370(Ft.)
Bottom (of initial area) elevation =  1532.000(Ft.)
Difference in elevation =    17.370(Ft.)
Slope =    0.08773  s(percent)=       8.77
TC = k(0.940)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   12.681 min.
Rainfall intensity =      1.778(In/Hr) for a    10.0 year storm
UNDEVELOPED (good cover) subarea
Runoff Coefficient = 0.661
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  67.50
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      0.106(CFS)
Total initial stream area =        0.090(Ac.)
Pervious area fraction = 1.000


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Process from Point/Station       17.000 to Point/Station       17.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 2 in normal stream number 1
Stream flow area =      0.090(Ac.)
Runoff from this stream =      0.106(CFS)
Time of concentration =   12.68 min.
Rainfall intensity =     1.778(In/Hr)


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Process from Point/Station       18.000 to Point/Station       17.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   681.000(Ft.)
Top (of initial area) elevation =  1564.000(Ft.)
Bottom (of initial area) elevation =  1532.000(Ft.)
Difference in elevation =    32.000(Ft.)
Slope =    0.04699  s(percent)=       4.70
```

```
TC = k(0.940)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   23.550 min.
Rainfall intensity =      1.305(In/Hr) for a    10.0 year storm
UNDEVELOPED (good cover) subarea
Runoff Coefficient = 0.603
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  67.50
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      0.630(CFS)
Total initial stream area =        0.800(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       17.000 to Point/Station       17.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 2 in normal stream number 2
Stream flow area =      0.800(Ac.)
Runoff from this stream =      0.630(CFS)
Time of concentration =   23.55 min.
Rainfall intensity =     1.305(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        0.106     12.68                 1.778
2        0.630     23.55                 1.305
Largest stream flow has longer time of concentration
Qp =      0.630 + sum of
          Qb          Ia/Ib
           0.106 *    0.734 =      0.078
Qp =      0.707

Total of 2 streams to confluence:
Flow rates before confluence point:
       0.106       0.630
Area of streams before confluence:
        0.090        0.800
Results of confluence:
Total flow rate =      0.707(CFS)
Time of concentration =    23.550 min.
Effective stream area after confluence =      0.890(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       17.000 to Point/Station       15.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1532.000(Ft.)
Downstream point/station elevation =  1530.000(Ft.)
Pipe length  =    14.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     0.707(CFS)
Nearest computed pipe diameter  =      6.00(In.)
Calculated individual pipe flow  =     0.707(CFS)
Normal flow depth in pipe =    2.39(In.)
Flow top width inside pipe =    5.87(In.)
Critical Depth =    5.09(In.)
Pipe flow velocity =      9.72(Ft/s)
Travel time through pipe =    0.02 min.
Time of concentration (TC) =    23.57 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       15.000 to Point/Station       15.000
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =      0.890(Ac.)
Runoff from this stream =      0.707(CFS)
Time of concentration =   23.57 min.
Rainfall intensity =     1.304(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        8.288      9.31                 2.075
2        0.707     23.57                 1.304
```

```
Largest stream flow has longer or shorter time of concentration
Qp =      8.288 + sum of
          Qa          Tb/Ta
           0.707 *    0.395 =      0.279
Qp =      8.568

Total of 2 main streams to confluence:
Flow rates before confluence point:
       8.288       0.707
Area of streams before confluence:
        5.280        0.890


Results of confluence:
Total flow rate =      8.568(CFS)
Time of concentration =     9.311 min.
Effective stream area after confluence  =      6.170(Ac.)
End of computations, total study area =            6.17 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.514
Area averaged RI index number =  63.8
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                Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
        Rational Hydrology Study        Date: 06/17/24  File:pro110.out
------------------------------------------------------------------------
 *********   Hydrology Study Control Information **********

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

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Program License Serial Number 5006

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

Storm event (year) =   10.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation =  0.550(In.)
100 year, 1 hour precipitation =  1.200(In.)

Storm event year =  10.0
Calculated rainfall intensity data:
1 hour intensity =  0.817(In/Hr)
Slope of intensity duration curve = 0.5000




++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      100.000 to Point/Station      101.000
**** INITIAL AREA EVALUATION ****
____________________________________________________________________________
Initial area flow distance =   225.000(Ft.)
Top (of initial area) elevation =  1553.270(Ft.)
Bottom (of initial area) elevation =  1545.950(Ft.)
Difference in elevation =     7.320(Ft.)
Slope =    0.03253  s(percent)=       3.25
TC = k(0.370)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.406 min.
Rainfall intensity =      2.502(In/Hr) for a    10.0 year storm
CONDOMINIUM subarea type
Runoff Coefficient = 0.824
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  62.50
Pervious area fraction =  0.350; Impervious fraction =  0.650
Initial subarea runoff =      2.679(CFS)
Total initial stream area =        1.300(Ac.)
Pervious area fraction = 0.350
End of computations, total study area =            1.30 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.350
Area averaged RI index number =  62.5
```

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                Riverside County Rational Hydrology Program

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        Rational Hydrology Study        Date: 03/20/24  File:pro210.out
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 *********   Hydrology Study Control Information **********

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

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Program License Serial Number 5006

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

Storm event (year) =   10.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation =  0.550(In.)
100 year, 1 hour precipitation =  1.200(In.)

Storm event year =  10.0
Calculated rainfall intensity data:
1 hour intensity =  0.817(In/Hr)
Slope of intensity duration curve = 0.5000




++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      200.000 to Point/Station      201.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   439.000(Ft.)
Top (of initial area) elevation =  1553.270(Ft.)
Bottom (of initial area) elevation =  1545.500(Ft.)
Difference in elevation =     7.770(Ft.)
Slope =    0.01770  s(percent)=       1.77
TC = k(0.370)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.454 min.
Rainfall intensity =      2.059(In/Hr) for a    10.0 year storm
CONDOMINIUM subarea type
Runoff Coefficient = 0.812
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  62.50
Pervious area fraction =  0.350; Impervious fraction =  0.650
Initial subarea runoff =      2.558(CFS)
Total initial stream area =        1.530(Ac.)
Pervious area fraction = 0.350
End of computations, total study area =            1.53 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.350
Area averaged RI index number =  62.5
```

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                Riverside County Rational Hydrology Program

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        Rational Hydrology Study        Date: 03/20/24  File:pro310.out
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 *********   Hydrology Study Control Information **********

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

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Program License Serial Number 5006

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

Storm event (year) =   10.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation =  0.550(In.)
100 year, 1 hour precipitation =  1.200(In.)

Storm event year =  10.0
Calculated rainfall intensity data:
1 hour intensity =  0.817(In/Hr)
Slope of intensity duration curve = 0.5000




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Process from Point/Station      300.000 to Point/Station      301.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   195.000(Ft.)
Top (of initial area) elevation =  1550.670(Ft.)
Bottom (of initial area) elevation =  1541.500(Ft.)
Difference in elevation =     9.170(Ft.)
Slope =    0.04703  s(percent)=       4.70
TC = k(0.370)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    5.620 min.
Rainfall intensity =      2.671(In/Hr) for a    10.0 year storm
CONDOMINIUM subarea type
Runoff Coefficient = 0.827
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  62.50
Pervious area fraction =  0.350; Impervious fraction =  0.650
Initial subarea runoff =      0.508(CFS)
Total initial stream area =        0.230(Ac.)
Pervious area fraction = 0.350
End of computations, total study area =            0.23 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.350
Area averaged RI index number =  62.5
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                Riverside County Rational Hydrology Program

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        Rational Hydrology Study        Date: 06/17/24  File:pro100.out
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 *********   Hydrology Study Control Information **********

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

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Program License Serial Number 5006

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

Storm event (year) =  100.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation =  0.550(In.)
100 year, 1 hour precipitation =  1.200(In.)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity =  1.200(In/Hr)
Slope of intensity duration curve = 0.5000




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Process from Point/Station        1.000 to Point/Station        2.000
**** INITIAL AREA EVALUATION ****
____________________________________________________________________________
Initial area flow distance =   389.000(Ft.)
Top (of initial area) elevation =  1565.000(Ft.)
Bottom (of initial area) elevation =  1549.800(Ft.)
Difference in elevation =    15.200(Ft.)
Slope =    0.03907  s(percent)=       3.91
TC = k(0.370)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    7.688 min.
Rainfall intensity =      3.352(In/Hr) for a   100.0 year storm
CONDOMINIUM subarea type
Runoff Coefficient = 0.839
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  62.50
Pervious area fraction =  0.350; Impervious fraction =  0.650
Initial subarea runoff =      4.586(CFS)
Total initial stream area =        1.630(Ac.)
Pervious area fraction = 0.350


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Process from Point/Station        2.000 to Point/Station        3.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
____________________________________________________________________________
Upstream point/station elevation =  1549.800(Ft.)
Downstream point/station elevation =  1545.000(Ft.)
Pipe length  =    11.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     4.586(CFS)
Nearest computed pipe diameter  =      9.00(In.)
Calculated individual pipe flow  =     4.586(CFS)
Normal flow depth in pipe =    4.07(In.)
Flow top width inside pipe =    8.96(In.)
Critical depth could not be calculated.
Pipe flow velocity =     23.65(Ft/s)
Travel time through pipe =    0.01 min.
Time of concentration (TC) =     7.70 min.


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Process from Point/Station        3.000 to Point/Station        3.000
**** CONFLUENCE OF MINOR STREAMS ****
____________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      1.630(Ac.)
Runoff from this stream =      4.586(CFS)
Time of concentration =    7.70 min.
Rainfall intensity =     3.351(In/Hr)
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Process from Point/Station        4.000 to Point/Station        4.500
**** INITIAL AREA EVALUATION ****
------------------------------------------------------------------------------
Initial area flow distance =    96.000(Ft.)
Top (of initial area) elevation =  1552.900(Ft.)
Bottom (of initial area) elevation =  1550.920(Ft.)
Difference in elevation =     1.980(Ft.)
Slope =    0.02063  s(percent)=       2.06
TC = k(0.370)*[(length^3)/(elevation change)]^0.2
Warning: TC computed to be less than 5 min.; program is assuming the
time of concentration is 5 minutes.
Initial area time of concentration =    5.000 min.
Rainfall intensity =      4.157(In/Hr) for a   100.0 year storm
CONDOMINIUM subarea type
Runoff Coefficient = 0.849
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  62.50
Pervious area fraction =  0.350; Impervious fraction =  0.650
Initial subarea runoff =      0.565(CFS)
Total initial stream area =        0.160(Ac.)
Pervious area fraction = 0.350


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Process from Point/Station        4.500 to Point/Station        3.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  1550.920(Ft.)
Downstream point/station elevation =  1545.000(Ft.)
Pipe length  =   266.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     0.565(CFS)
Nearest computed pipe diameter  =      6.00(In.)
Calculated individual pipe flow  =     0.565(CFS)
Normal flow depth in pipe =    3.61(In.)
Flow top width inside pipe =    5.87(In.)
Critical Depth =    4.59(In.)
Pipe flow velocity =      4.58(Ft/s)
Travel time through pipe =    0.97 min.
Time of concentration (TC) =     5.97 min.


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Process from Point/Station        3.000 to Point/Station        3.000
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      0.160(Ac.)
Runoff from this stream =      0.565(CFS)
Time of concentration =    5.97 min.
Rainfall intensity =     3.805(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        4.586      7.70                 3.351
2        0.565      5.97                 3.805
Largest stream flow has longer time of concentration
Qp =      4.586 + sum of
          Qb         Ia/Ib
           0.565 *    0.881 =      0.497
Qp =      5.084

Total of 2 streams to confluence:
Flow rates before confluence point:
       4.586       0.565
Area of streams before confluence:
        1.630        0.160
Results of confluence:
Total flow rate =      5.084(CFS)
Time of concentration =     7.696 min.
Effective stream area after confluence =      1.790(Ac.)


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Process from Point/Station        3.000 to Point/Station        5.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  1545.000(Ft.)
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Downstream point/station elevation =  1537.000(Ft.)
Pipe length  =   398.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     5.084(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =     5.084(CFS)
Normal flow depth in pipe =    7.98(In.)
Flow top width inside pipe =   14.97(In.)
Critical Depth =   10.97(In.)
Pipe flow velocity =      7.66(Ft/s)
Travel time through pipe =    0.87 min.
Time of concentration (TC) =     8.56 min.


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Process from Point/Station        5.000 to Point/Station        5.000
**** CONFLUENCE OF MAIN STREAMS ****
--------------------------------------------------------------------------------
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =      1.790(Ac.)
Runoff from this stream =      5.084(CFS)
Time of concentration =    8.56 min.
Rainfall intensity =     3.177(In/Hr)
Program is now starting with Main Stream No. 2


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Process from Point/Station        6.000 to Point/Station        7.000
**** INITIAL AREA EVALUATION ****
--------------------------------------------------------------------------------
Initial area flow distance =    88.000(Ft.)
Top (of initial area) elevation =  1550.970(Ft.)
Bottom (of initial area) elevation =  1539.500(Ft.)
Difference in elevation =    11.470(Ft.)
Slope =    0.13034  s(percent)=      13.03
TC = k(0.940)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    8.470 min.
Rainfall intensity =      3.194(In/Hr) for a   100.0 year storm
UNDEVELOPED (good cover) subarea
Runoff Coefficient = 0.749
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  67.50
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      0.574(CFS)
Total initial stream area =        0.240(Ac.)
Pervious area fraction = 1.000


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Process from Point/Station        7.000 to Point/Station        8.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
--------------------------------------------------------------------------------
Upstream point/station elevation =  1539.500(Ft.)
Downstream point/station elevation =  1537.750(Ft.)
Pipe length  =   350.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     0.574(CFS)
Nearest computed pipe diameter  =      9.00(In.)
Calculated individual pipe flow  =     0.574(CFS)
Normal flow depth in pipe =    4.45(In.)
Flow top width inside pipe =    9.00(In.)
Critical Depth =    4.11(In.)
Pipe flow velocity =      2.64(Ft/s)
Travel time through pipe =    2.21 min.
Time of concentration (TC) =    10.68 min.


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Process from Point/Station        8.000 to Point/Station        8.000
**** CONFLUENCE OF MINOR STREAMS ****
--------------------------------------------------------------------------------
Along Main Stream number: 2 in normal stream number 1
Stream flow area =      0.240(Ac.)
Runoff from this stream =      0.574(CFS)
Time of concentration =   10.68 min.
Rainfall intensity =     2.844(In/Hr)


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Process from Point/Station        9.000 to Point/Station       10.000
**** INITIAL AREA EVALUATION ****
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Initial area flow distance =   292.000(Ft.)
Top (of initial area) elevation =  1550.970(Ft.)
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Bottom (of initial area) elevation =  1547.210(Ft.)
Difference in elevation =     3.760(Ft.)
Slope =    0.01288  s(percent)=       1.29
TC = k(0.370)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    8.558 min.
Rainfall intensity =      3.177(In/Hr) for a   100.0 year storm
CONDOMINIUM subarea type
Runoff Coefficient = 0.837
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  62.50
Pervious area fraction =  0.350; Impervious fraction =  0.650
Initial subarea runoff =      4.014(CFS)
Total initial stream area =        1.510(Ac.)
Pervious area fraction = 0.350


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Process from Point/Station       10.000 to Point/Station        8.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1547.210(Ft.)
Downstream point/station elevation =  1537.750(Ft.)
Pipe length  =    16.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     4.014(CFS)
Nearest computed pipe diameter  =      6.00(In.)
Calculated individual pipe flow  =     4.014(CFS)
Normal flow depth in pipe =    4.58(In.)
Flow top width inside pipe =    5.10(In.)
Critical depth could not be calculated.
Pipe flow velocity =     24.96(Ft/s)
Travel time through pipe =    0.01 min.
Time of concentration (TC) =     8.57 min.


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Process from Point/Station        8.000 to Point/Station        8.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 2 in normal stream number 2
Stream flow area =      1.510(Ac.)
Runoff from this stream =      4.014(CFS)
Time of concentration =    8.57 min.
Rainfall intensity =     3.175(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        0.574     10.68                 2.844
2        4.014      8.57                 3.175
Largest stream flow has longer or shorter time of concentration
Qp =      4.014 + sum of
          Qa           Tb/Ta
           0.574 *    0.802 =      0.461
Qp =      4.475

Total of 2 streams to confluence:
Flow rates before confluence point:
       0.574       4.014
Area of streams before confluence:
        0.240        1.510
Results of confluence:
Total flow rate =      4.475(CFS)
Time of concentration =     8.569 min.
Effective stream area after confluence =      1.750(Ac.)


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Process from Point/Station        8.000 to Point/Station        5.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1537.750(Ft.)
Downstream point/station elevation =  1537.000(Ft.)
Pipe length  =   140.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     4.475(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =     4.475(CFS)
Normal flow depth in pipe =   11.63(In.)
Flow top width inside pipe =   12.53(In.)
Critical Depth =   10.28(In.)
Pipe flow velocity =      4.38(Ft/s)
Travel time through pipe =    0.53 min.
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Time of concentration (TC) =     9.10 min.


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Process from Point/Station        5.000 to Point/Station        5.000
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =      1.750(Ac.)
Runoff from this stream =      4.475(CFS)
Time of concentration =    9.10 min.
Rainfall intensity =     3.081(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        5.084      8.56               3.177
2        4.475      9.10               3.081
Largest stream flow has longer or shorter time of concentration
Qp =      5.084 + sum of
          Qa          Tb/Ta
           4.475 *    0.941 =      4.209
Qp =      9.293

Total of 2 main streams to confluence:
Flow rates before confluence point:
       5.084       4.475
Area of streams before confluence:
        1.790        1.750


Results of confluence:
Total flow rate =      9.293(CFS)
Time of concentration =     8.562 min.
Effective stream area after confluence  =      3.540(Ac.)


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Process from Point/Station        5.000 to Point/Station       11.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1537.000(Ft.)
Downstream point/station elevation =  1536.800(Ft.)
Pipe length  =    16.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     9.293(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =     9.293(CFS)
Normal flow depth in pipe =   12.08(In.)
Flow top width inside pipe =   16.91(In.)
Critical Depth =   14.13(In.)
Pipe flow velocity =      7.37(Ft/s)
Travel time through pipe =    0.04 min.
Time of concentration (TC) =     8.60 min.


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Process from Point/Station       11.000 to Point/Station       11.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      3.540(Ac.)
Runoff from this stream =      9.293(CFS)
Time of concentration =    8.60 min.
Rainfall intensity =     3.170(In/Hr)


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Process from Point/Station        4.000 to Point/Station       12.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   457.000(Ft.)
Top (of initial area) elevation =  1549.800(Ft.)
Bottom (of initial area) elevation =  1546.400(Ft.)
Difference in elevation =     3.400(Ft.)
Slope =    0.00744  s(percent)=       0.74
TC = k(0.370)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   11.425 min.
Rainfall intensity =      2.750(In/Hr) for a   100.0 year storm
CONDOMINIUM subarea type
Runoff Coefficient = 0.829
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
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Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  62.50
Pervious area fraction =  0.350; Impervious fraction =  0.650
Initial subarea runoff =      2.986(CFS)
Total initial stream area =        1.310(Ac.)
Pervious area fraction = 0.350


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Process from Point/Station       12.000 to Point/Station       11.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1546.400(Ft.)
Downstream point/station elevation =  1536.800(Ft.)
Pipe length  =    14.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     2.986(CFS)
Nearest computed pipe diameter  =      6.00(In.)
Calculated individual pipe flow  =     2.986(CFS)
Normal flow depth in pipe =    3.50(In.)
Flow top width inside pipe =    5.92(In.)
Critical depth could not be calculated.
Pipe flow velocity =     25.13(Ft/s)
Travel time through pipe =    0.01 min.
Time of concentration (TC) =    11.43 min.


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Process from Point/Station       11.000 to Point/Station       11.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      1.310(Ac.)
Runoff from this stream =      2.986(CFS)
Time of concentration =   11.43 min.
Rainfall intensity =     2.749(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        9.293      8.60                 3.170
2        2.986     11.43                 2.749
Largest stream flow has longer or shorter time of concentration
Qp =      9.293 + sum of
          Qa           Tb/Ta
           2.986 *    0.752 =      2.246
Qp =     11.539

Total of 2 streams to confluence:
Flow rates before confluence point:
       9.293       2.986
Area of streams before confluence:
        3.540        1.310
Results of confluence:
Total flow rate =     11.539(CFS)
Time of concentration =     8.598 min.
Effective stream area after confluence =      4.850(Ac.)


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Process from Point/Station       11.000 to Point/Station       13.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1536.800(Ft.)
Downstream point/station elevation =  1536.600(Ft.)
Pipe length  =   115.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    11.539(CFS)
Nearest computed pipe diameter  =     27.00(In.)
Calculated individual pipe flow  =    11.539(CFS)
Normal flow depth in pipe =   19.90(In.)
Flow top width inside pipe =   23.77(In.)
Critical Depth =   14.11(In.)
Pipe flow velocity =      3.67(Ft/s)
Travel time through pipe =    0.52 min.
Time of concentration (TC) =     9.12 min.


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Process from Point/Station       13.000 to Point/Station       14.000
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________________
UNDEVELOPED (good cover) subarea
Runoff Coefficient = 0.745
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
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Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  67.50
Pervious area fraction =  1.000; Impervious fraction =  0.000
Time of concentration =     9.12 min.
Rainfall intensity =      3.078(In/Hr) for a   100.0 year storm
Subarea runoff =      0.986(CFS) for      0.430(Ac.)
Total runoff =     12.525(CFS)       Total area =       5.280(Ac.)


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Process from Point/Station       14.000 to Point/Station       15.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1536.600(Ft.)
Downstream point/station elevation =  1530.000(Ft.)
Pipe length  =    43.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    12.525(CFS)
Nearest computed pipe diameter  =     12.00(In.)
Calculated individual pipe flow  =    12.525(CFS)
Normal flow depth in pipe =    8.88(In.)
Flow top width inside pipe =   10.52(In.)
Critical depth could not be calculated.
Pipe flow velocity =     20.11(Ft/s)
Travel time through pipe =    0.04 min.
Time of concentration (TC) =     9.16 min.


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Process from Point/Station       15.000 to Point/Station       15.000
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =      5.280(Ac.)
Runoff from this stream =     12.525(CFS)
Time of concentration =    9.16 min.
Rainfall intensity =     3.072(In/Hr)
Program is now starting with Main Stream No. 2


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Process from Point/Station       16.000 to Point/Station       17.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   198.000(Ft.)
Top (of initial area) elevation =  1549.370(Ft.)
Bottom (of initial area) elevation =  1532.000(Ft.)
Difference in elevation =    17.370(Ft.)
Slope =    0.08773  s(percent)=       8.77
TC = k(0.940)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   12.681 min.
Rainfall intensity =      2.610(In/Hr) for a   100.0 year storm
UNDEVELOPED (good cover) subarea
Runoff Coefficient = 0.722
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  67.50
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      0.170(CFS)
Total initial stream area =        0.090(Ac.)
Pervious area fraction = 1.000


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Process from Point/Station       17.000 to Point/Station       17.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 2 in normal stream number 1
Stream flow area =      0.090(Ac.)
Runoff from this stream =      0.170(CFS)
Time of concentration =   12.68 min.
Rainfall intensity =     2.610(In/Hr)


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Process from Point/Station       18.000 to Point/Station       17.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   681.000(Ft.)
Top (of initial area) elevation =  1564.000(Ft.)
Bottom (of initial area) elevation =  1532.000(Ft.)
Difference in elevation =    32.000(Ft.)
Slope =    0.04699  s(percent)=       4.70
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TC = k(0.940)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   23.550 min.
Rainfall intensity =      1.915(In/Hr) for a   100.0 year storm
UNDEVELOPED (good cover) subarea
Runoff Coefficient = 0.674
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  67.50
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      1.033(CFS)
Total initial stream area =        0.800(Ac.)
Pervious area fraction = 1.000


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Process from Point/Station       17.000 to Point/Station       17.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 2 in normal stream number 2
Stream flow area =      0.800(Ac.)
Runoff from this stream =      1.033(CFS)
Time of concentration =   23.55 min.
Rainfall intensity =     1.915(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        0.170     12.68                 2.610
2        1.033     23.55                 1.915
Largest stream flow has longer time of concentration
Qp =      1.033 + sum of
          Qb          Ia/Ib
           0.170 *    0.734 =      0.125
Qp =      1.157

Total of 2 streams to confluence:
Flow rates before confluence point:
       0.170       1.033
Area of streams before confluence:
        0.090        0.800
Results of confluence:
Total flow rate =      1.157(CFS)
Time of concentration =    23.550 min.
Effective stream area after confluence =      0.890(Ac.)


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Process from Point/Station       17.000 to Point/Station       15.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1532.000(Ft.)
Downstream point/station elevation =  1530.000(Ft.)
Pipe length  =    14.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     1.157(CFS)
Nearest computed pipe diameter  =      6.00(In.)
Calculated individual pipe flow  =     1.157(CFS)
Normal flow depth in pipe =    3.16(In.)
Flow top width inside pipe =    5.99(In.)
Critical depth could not be calculated.
Pipe flow velocity =     11.04(Ft/s)
Travel time through pipe =    0.02 min.
Time of concentration (TC) =    23.57 min.


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Process from Point/Station       15.000 to Point/Station       15.000
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =      0.890(Ac.)
Runoff from this stream =      1.157(CFS)
Time of concentration =   23.57 min.
Rainfall intensity =     1.915(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1       12.525      9.16                 3.072
2        1.157     23.57                 1.915
```

```
Largest stream flow has longer or shorter time of concentration
Qp =     12.525 + sum of
          Qa          Tb/Ta
           1.157 *    0.388 =      0.450
Qp =     12.974

Total of 2 main streams to confluence:
Flow rates before confluence point:
      12.525       1.157
Area of streams before confluence:
        5.280        0.890


Results of confluence:
Total flow rate =     12.974(CFS)
Time of concentration =     9.156 min.
Effective stream area after confluence  =      6.170(Ac.)
End of computations, total study area =            6.17 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.514
Area averaged RI index number =  63.8
```

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                Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
        Rational Hydrology Study        Date: 06/17/24  File:pro1100.out
------------------------------------------------------------------------
 *********   Hydrology Study Control Information **********

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

------------------------------------------------------------------------


Program License Serial Number 5006

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

Storm event (year) =  100.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation =  0.550(In.)
100 year, 1 hour precipitation =  1.200(In.)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity =  1.200(In/Hr)
Slope of intensity duration curve = 0.5000




++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      100.000 to Point/Station      101.000
**** INITIAL AREA EVALUATION ****
____________________________________________________________________________
Initial area flow distance =   225.000(Ft.)
Top (of initial area) elevation =  1553.270(Ft.)
Bottom (of initial area) elevation =  1545.950(Ft.)
Difference in elevation =     7.320(Ft.)
Slope =    0.03253  s(percent)=       3.25
TC = k(0.370)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.406 min.
Rainfall intensity =      3.672(In/Hr) for a   100.0 year storm
CONDOMINIUM subarea type
Runoff Coefficient = 0.844
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  62.50
Pervious area fraction =  0.350; Impervious fraction =  0.650
Initial subarea runoff =      4.028(CFS)
Total initial stream area =        1.300(Ac.)
Pervious area fraction = 0.350
End of computations, total study area =            1.30 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.350
Area averaged RI index number =  62.5
```

```
                Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
        Rational Hydrology Study        Date: 03/20/24  File:pro2100.out
------------------------------------------------------------------------
 *********   Hydrology Study Control Information **********

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

------------------------------------------------------------------------


Program License Serial Number 5006

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

Storm event (year) =  100.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation =  0.550(In.)
100 year, 1 hour precipitation =  1.200(In.)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity =  1.200(In/Hr)
Slope of intensity duration curve = 0.5000




++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      200.000 to Point/Station      201.000
**** INITIAL AREA EVALUATION ****
____________________________________________________________________________
Initial area flow distance =   439.000(Ft.)
Top (of initial area) elevation =  1553.270(Ft.)
Bottom (of initial area) elevation =  1545.500(Ft.)
Difference in elevation =     7.770(Ft.)
Slope =    0.01770  s(percent)=       1.77
TC = k(0.370)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.454 min.
Rainfall intensity =      3.023(In/Hr) for a   100.0 year storm
CONDOMINIUM subarea type
Runoff Coefficient = 0.834
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  62.50
Pervious area fraction =  0.350; Impervious fraction =  0.650
Initial subarea runoff =      3.858(CFS)
Total initial stream area =        1.530(Ac.)
Pervious area fraction = 0.350
End of computations, total study area =            1.53 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.350
Area averaged RI index number =  62.5
```

```
                Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
        Rational Hydrology Study        Date: 03/20/24  File:pro3100.out
------------------------------------------------------------------------
 *********   Hydrology Study Control Information **********

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

------------------------------------------------------------------------


Program License Serial Number 5006

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

Storm event (year) =  100.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation =  0.550(In.)
100 year, 1 hour precipitation =  1.200(In.)

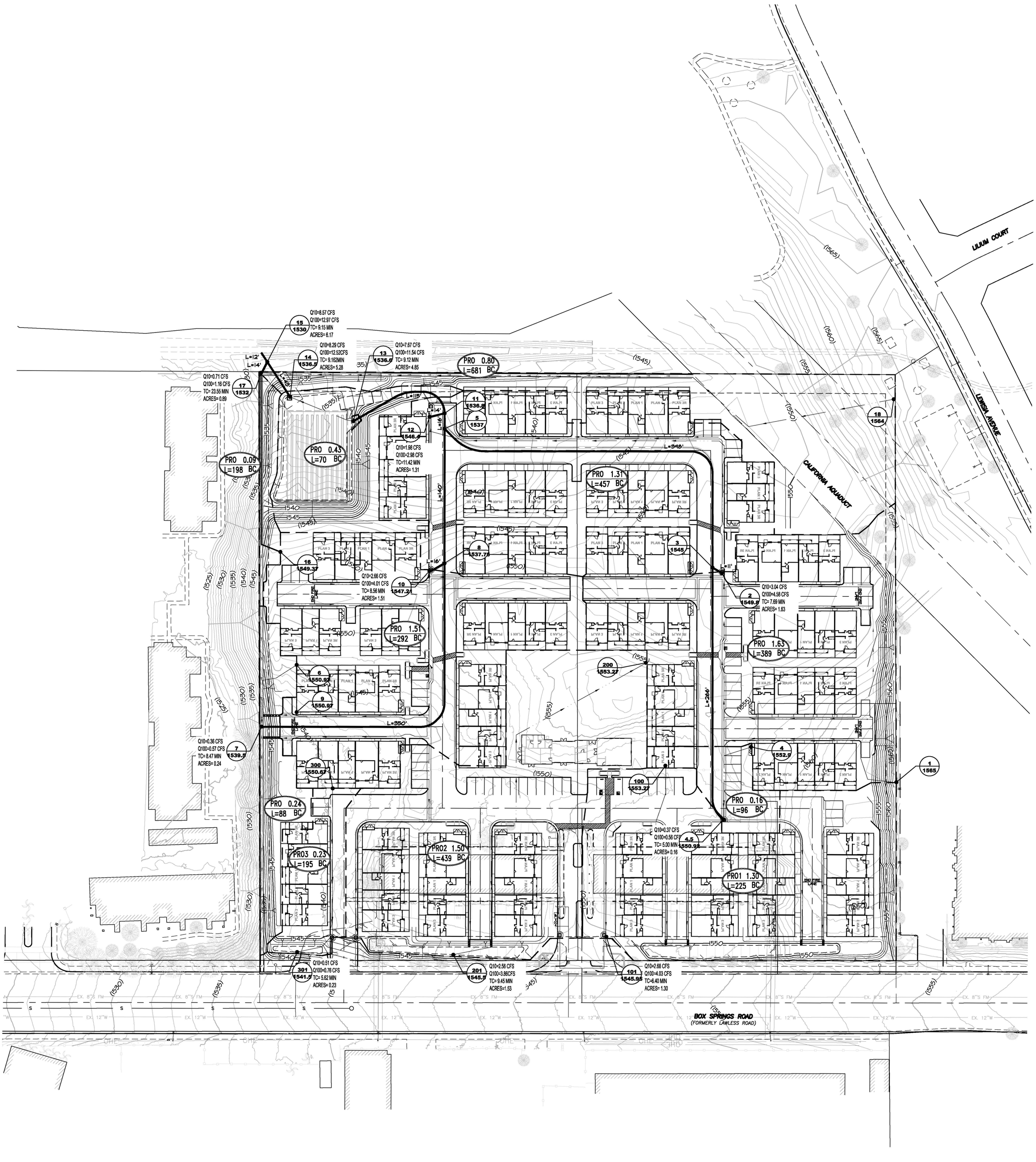
Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity =  1.200(In/Hr)
Slope of intensity duration curve = 0.5000

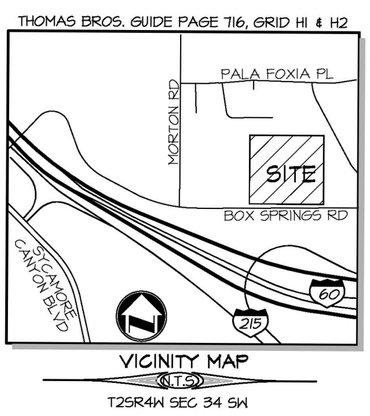


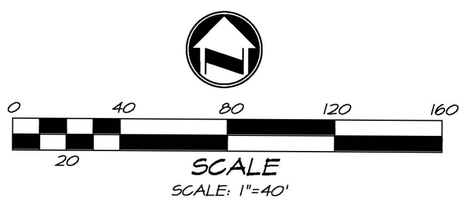

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      300.000 to Point/Station      301.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   195.000(Ft.)
Top (of initial area) elevation =  1550.670(Ft.)
Bottom (of initial area) elevation =  1541.500(Ft.)
Difference in elevation =     9.170(Ft.)
Slope =    0.04703  s(percent)=       4.70
TC = k(0.370)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    5.620 min.
Rainfall intensity =      3.921(In/Hr) for a   100.0 year storm
CONDOMINIUM subarea type
Runoff Coefficient = 0.847
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  62.50
Pervious area fraction =  0.350; Impervious fraction =  0.650
Initial subarea runoff =      0.763(CFS)
Total initial stream area =        0.230(Ac.)
Pervious area fraction = 0.350
End of computations, total study area =            0.23 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.350
Area averaged RI index number =  62.5
```

FARM BUREAU 139
TENTATIVE TRACT 38955
PROPOSED HYDROLOGY MAP







LEGEND

NODE / ELEV

AREA ACRES / LENGTH SOIL

WATERSHED BOUNDARY

FLOW PATH

FARM BUREAU 139
TENTATIVE TRACT 38955
PROPOSED HYDROLOGY MAP
PREPARATION DATE : JUNE 2024

adkan ENGINEERS
Civil Engineering Surveying Planning
6879 Airport Drive, Riverside, CA 92504
Tel:(951) 688-0241 Fax:(951) 688-0599

Section 3

Pre-Development 2 year 24 hour (Unit Hydrograph)

```
       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  11/16/23 File: ex2242.out

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------------------------------------------------------------------------------

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


Program License Serial Number 5006

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

 English Units used in output format



------------------------------------------------------------------------
------------------------------------------------------------------------
Drainage Area =       9.32(Ac.)  =      0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       9.32(Ac.)  =      0.015 Sq. Mi.
Length along longest watercourse =     765.00(Ft.)
Length along longest watercourse measured to centroid =     383.00(Ft.)
Length along longest watercourse =      0.145 Mi.
Length along longest watercourse measured to centroid =      0.073 Mi.
Difference in elevation =      35.00(Ft.)
Slope along watercourse =    241.5686 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time =    0.037 Hr.
Lag time =     2.25 Min.
25% of lag time =     0.56 Min.
40% of lag time =     0.90 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]
        9.32            2.00                 18.64

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        9.32            6.00                 55.92

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    2.000(In)
Area Averaged 100-Year Rainfall =    6.000(In)

Point rain (area averaged) =    2.000(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    2.000(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     9.320           82.00          0.130
 Total Area Entered =      9.32(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
82.0  65.8      0.407     0.130        0.360       1.000      0.360
                                                 Sum (F) =   0.360
Area averaged mean soil loss (F) (In/Hr) =  0.360
Minimum soil loss rate ((In/Hr)) =  0.180
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.800
------------------------------------------------------------------------

               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	222.454	47.030	4.417
2	0.167	444.908	41.831	3.929
3	0.250	667.362	7.953	0.747
4	0.333	889.816	3.187	0.299
			Sum = 100.000 Sum=	9.393

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.016	(0.638)	0.013	0.003
2	0.17	0.07	0.016	(0.635)	0.013	0.003
3	0.25	0.07	0.016	(0.633)	0.013	0.003
4	0.33	0.10	0.024	(0.630)	0.019	0.005
5	0.42	0.10	0.024	(0.628)	0.019	0.005
6	0.50	0.10	0.024	(0.625)	0.019	0.005
7	0.58	0.10	0.024	(0.623)	0.019	0.005
8	0.67	0.10	0.024	(0.620)	0.019	0.005
9	0.75	0.10	0.024	(0.618)	0.019	0.005
10	0.83	0.13	0.032	(0.616)	0.026	0.006
11	0.92	0.13	0.032	(0.613)	0.026	0.006
12	1.00	0.13	0.032	(0.611)	0.026	0.006
13	1.08	0.10	0.024	(0.608)	0.019	0.005
14	1.17	0.10	0.024	(0.606)	0.019	0.005
15	1.25	0.10	0.024	(0.604)	0.019	0.005
16	1.33	0.10	0.024	(0.601)	0.019	0.005
17	1.42	0.10	0.024	(0.599)	0.019	0.005
18	1.50	0.10	0.024	(0.596)	0.019	0.005
19	1.58	0.10	0.024	(0.594)	0.019	0.005
20	1.67	0.10	0.024	(0.592)	0.019	0.005
21	1.75	0.10	0.024	(0.589)	0.019	0.005
22	1.83	0.13	0.032	(0.587)	0.026	0.006
23	1.92	0.13	0.032	(0.585)	0.026	0.006
24	2.00	0.13	0.032	(0.582)	0.026	0.006
25	2.08	0.13	0.032	(0.580)	0.026	0.006
26	2.17	0.13	0.032	(0.577)	0.026	0.006
27	2.25	0.13	0.032	(0.575)	0.026	0.006
28	2.33	0.13	0.032	(0.573)	0.026	0.006
29	2.42	0.13	0.032	(0.570)	0.026	0.006
30	2.50	0.13	0.032	(0.568)	0.026	0.006
31	2.58	0.17	0.040	(0.566)	0.032	0.008
32	2.67	0.17	0.040	(0.563)	0.032	0.008
33	2.75	0.17	0.040	(0.561)	0.032	0.008
34	2.83	0.17	0.040	(0.559)	0.032	0.008
35	2.92	0.17	0.040	(0.557)	0.032	0.008
36	3.00	0.17	0.040	(0.554)	0.032	0.008
37	3.08	0.17	0.040	(0.552)	0.032	0.008
38	3.17	0.17	0.040	(0.550)	0.032	0.008
39	3.25	0.17	0.040	(0.547)	0.032	0.008
40	3.33	0.17	0.040	(0.545)	0.032	0.008
41	3.42	0.17	0.040	(0.543)	0.032	0.008
42	3.50	0.17	0.040	(0.541)	0.032	0.008
43	3.58	0.17	0.040	(0.538)	0.032	0.008
44	3.67	0.17	0.040	(0.536)	0.032	0.008
45	3.75	0.17	0.040	(0.534)	0.032	0.008
46	3.83	0.20	0.048	(0.531)	0.038	0.010
47	3.92	0.20	0.048	(0.529)	0.038	0.010
48	4.00	0.20	0.048	(0.527)	0.038	0.010
49	4.08	0.20	0.048	(0.525)	0.038	0.010
50	4.17	0.20	0.048	(0.523)	0.038	0.010
51	4.25	0.20	0.048	(0.520)	0.038	0.010
52	4.33	0.23	0.056	(0.518)	0.045	0.011
53	4.42	0.23	0.056	(0.516)	0.045	0.011
54	4.50	0.23	0.056	(0.514)	0.045	0.011
55	4.58	0.23	0.056	(0.511)	0.045	0.011
56	4.67	0.23	0.056	(0.509)	0.045	0.011
57	4.75	0.23	0.056	(0.507)	0.045	0.011
58	4.83	0.27	0.064	(0.505)	0.051	0.013
59	4.92	0.27	0.064	(0.503)	0.051	0.013
60	5.00	0.27	0.064	(0.501)	0.051	0.013
61	5.08	0.20	0.048	(0.498)	0.038	0.010
62	5.17	0.20	0.048	(0.496)	0.038	0.010
63	5.25	0.20	0.048	(0.494)	0.038	0.010
64	5.33	0.23	0.056	(0.492)	0.045	0.011
65	5.42	0.23	0.056	(0.490)	0.045	0.011
66	5.50	0.23	0.056	(0.488)	0.045	0.011
67	5.58	0.27	0.064	(0.485)	0.051	0.013
68	5.67	0.27	0.064	(0.483)	0.051	0.013
69	5.75	0.27	0.064	(0.481)	0.051	0.013
70	5.83	0.27	0.064	(0.479)	0.051	0.013
71	5.92	0.27	0.064	(0.477)	0.051	0.013
72	6.00	0.27	0.064	(0.475)	0.051	0.013

73	6.08	0.30	0.072	(0.473)	0.058	0.014
74	6.17	0.30	0.072	(0.471)	0.058	0.014
75	6.25	0.30	0.072	(0.468)	0.058	0.014
76	6.33	0.30	0.072	(0.466)	0.058	0.014
77	6.42	0.30	0.072	(0.464)	0.058	0.014
78	6.50	0.30	0.072	(0.462)	0.058	0.014
79	6.58	0.33	0.080	(0.460)	0.064	0.016
80	6.67	0.33	0.080	(0.458)	0.064	0.016
81	6.75	0.33	0.080	(0.456)	0.064	0.016
82	6.83	0.33	0.080	(0.454)	0.064	0.016
83	6.92	0.33	0.080	(0.452)	0.064	0.016
84	7.00	0.33	0.080	(0.450)	0.064	0.016
85	7.08	0.33	0.080	(0.448)	0.064	0.016
86	7.17	0.33	0.080	(0.446)	0.064	0.016
87	7.25	0.33	0.080	(0.444)	0.064	0.016
88	7.33	0.37	0.088	(0.442)	0.070	0.018
89	7.42	0.37	0.088	(0.440)	0.070	0.018
90	7.50	0.37	0.088	(0.438)	0.070	0.018
91	7.58	0.40	0.096	(0.436)	0.077	0.019
92	7.67	0.40	0.096	(0.434)	0.077	0.019
93	7.75	0.40	0.096	(0.432)	0.077	0.019
94	7.83	0.43	0.104	(0.430)	0.083	0.021
95	7.92	0.43	0.104	(0.428)	0.083	0.021
96	8.00	0.43	0.104	(0.426)	0.083	0.021
97	8.08	0.50	0.120	(0.424)	0.096	0.024
98	8.17	0.50	0.120	(0.422)	0.096	0.024
99	8.25	0.50	0.120	(0.420)	0.096	0.024
100	8.33	0.50	0.120	(0.418)	0.096	0.024
101	8.42	0.50	0.120	(0.416)	0.096	0.024
102	8.50	0.50	0.120	(0.414)	0.096	0.024
103	8.58	0.53	0.128	(0.412)	0.102	0.026
104	8.67	0.53	0.128	(0.410)	0.102	0.026
105	8.75	0.53	0.128	(0.408)	0.102	0.026
106	8.83	0.57	0.136	(0.406)	0.109	0.027
107	8.92	0.57	0.136	(0.404)	0.109	0.027
108	9.00	0.57	0.136	(0.402)	0.109	0.027
109	9.08	0.63	0.152	(0.400)	0.122	0.030
110	9.17	0.63	0.152	(0.399)	0.122	0.030
111	9.25	0.63	0.152	(0.397)	0.122	0.030
112	9.33	0.67	0.160	(0.395)	0.128	0.032
113	9.42	0.67	0.160	(0.393)	0.128	0.032
114	9.50	0.67	0.160	(0.391)	0.128	0.032
115	9.58	0.70	0.168	(0.389)	0.134	0.034
116	9.67	0.70	0.168	(0.387)	0.134	0.034
117	9.75	0.70	0.168	(0.385)	0.134	0.034
118	9.83	0.73	0.176	(0.384)	0.141	0.035
119	9.92	0.73	0.176	(0.382)	0.141	0.035
120	10.00	0.73	0.176	(0.380)	0.141	0.035
121	10.08	0.50	0.120	(0.378)	0.096	0.024
122	10.17	0.50	0.120	(0.376)	0.096	0.024
123	10.25	0.50	0.120	(0.374)	0.096	0.024
124	10.33	0.50	0.120	(0.373)	0.096	0.024
125	10.42	0.50	0.120	(0.371)	0.096	0.024
126	10.50	0.50	0.120	(0.369)	0.096	0.024
127	10.58	0.67	0.160	(0.367)	0.128	0.032
128	10.67	0.67	0.160	(0.365)	0.128	0.032
129	10.75	0.67	0.160	(0.364)	0.128	0.032
130	10.83	0.67	0.160	(0.362)	0.128	0.032
131	10.92	0.67	0.160	(0.360)	0.128	0.032
132	11.00	0.67	0.160	(0.358)	0.128	0.032
133	11.08	0.63	0.152	(0.356)	0.122	0.030
134	11.17	0.63	0.152	(0.355)	0.122	0.030
135	11.25	0.63	0.152	(0.353)	0.122	0.030
136	11.33	0.63	0.152	(0.351)	0.122	0.030
137	11.42	0.63	0.152	(0.349)	0.122	0.030
138	11.50	0.63	0.152	(0.348)	0.122	0.030
139	11.58	0.57	0.136	(0.346)	0.109	0.027
140	11.67	0.57	0.136	(0.344)	0.109	0.027
141	11.75	0.57	0.136	(0.343)	0.109	0.027
142	11.83	0.60	0.144	(0.341)	0.115	0.029
143	11.92	0.60	0.144	(0.339)	0.115	0.029
144	12.00	0.60	0.144	(0.337)	0.115	0.029
145	12.08	0.83	0.200	(0.336)	0.160	0.040
146	12.17	0.83	0.200	(0.334)	0.160	0.040
147	12.25	0.83	0.200	(0.332)	0.160	0.040
148	12.33	0.87	0.208	(0.331)	0.166	0.042
149	12.42	0.87	0.208	(0.329)	0.166	0.042
150	12.50	0.87	0.208	(0.327)	0.166	0.042
151	12.58	0.93	0.224	(0.326)	0.179	0.045
152	12.67	0.93	0.224	(0.324)	0.179	0.045
153	12.75	0.93	0.224	(0.323)	0.179	0.045
154	12.83	0.97	0.232	(0.321)	0.186	0.046
155	12.92	0.97	0.232	(0.319)	0.186	0.046
156	13.00	0.97	0.232	(0.318)	0.186	0.046
157	13.08	1.13	0.272	(0.316)	0.218	0.054
158	13.17	1.13	0.272	(0.314)	0.218	0.054

159	13.25	1.13	0.272	(0.313)	0.218	0.054
160	13.33	1.13	0.272	(0.311)	0.218	0.054
161	13.42	1.13	0.272	(0.310)	0.218	0.054
162	13.50	1.13	0.272	(0.308)	0.218	0.054
163	13.58	0.77	0.184	(0.307)	0.147	0.037
164	13.67	0.77	0.184	(0.305)	0.147	0.037
165	13.75	0.77	0.184	(0.303)	0.147	0.037
166	13.83	0.77	0.184	(0.302)	0.147	0.037
167	13.92	0.77	0.184	(0.300)	0.147	0.037
168	14.00	0.77	0.184	(0.299)	0.147	0.037
169	14.08	0.90	0.216	(0.297)	0.173	0.043
170	14.17	0.90	0.216	(0.296)	0.173	0.043
171	14.25	0.90	0.216	(0.294)	0.173	0.043
172	14.33	0.87	0.208	(0.293)	0.166	0.042
173	14.42	0.87	0.208	(0.291)	0.166	0.042
174	14.50	0.87	0.208	(0.290)	0.166	0.042
175	14.58	0.87	0.208	(0.288)	0.166	0.042
176	14.67	0.87	0.208	(0.287)	0.166	0.042
177	14.75	0.87	0.208	(0.285)	0.166	0.042
178	14.83	0.83	0.200	(0.284)	0.160	0.040
179	14.92	0.83	0.200	(0.282)	0.160	0.040
180	15.00	0.83	0.200	(0.281)	0.160	0.040
181	15.08	0.80	0.192	(0.279)	0.154	0.038
182	15.17	0.80	0.192	(0.278)	0.154	0.038
183	15.25	0.80	0.192	(0.277)	0.154	0.038
184	15.33	0.77	0.184	(0.275)	0.147	0.037
185	15.42	0.77	0.184	(0.274)	0.147	0.037
186	15.50	0.77	0.184	(0.272)	0.147	0.037
187	15.58	0.63	0.152	(0.271)	0.122	0.030
188	15.67	0.63	0.152	(0.270)	0.122	0.030
189	15.75	0.63	0.152	(0.268)	0.122	0.030
190	15.83	0.63	0.152	(0.267)	0.122	0.030
191	15.92	0.63	0.152	(0.266)	0.122	0.030
192	16.00	0.63	0.152	(0.264)	0.122	0.030
193	16.08	0.13	0.032	(0.263)	0.026	0.006
194	16.17	0.13	0.032	(0.261)	0.026	0.006
195	16.25	0.13	0.032	(0.260)	0.026	0.006
196	16.33	0.13	0.032	(0.259)	0.026	0.006
197	16.42	0.13	0.032	(0.257)	0.026	0.006
198	16.50	0.13	0.032	(0.256)	0.026	0.006
199	16.58	0.10	0.024	(0.255)	0.019	0.005
200	16.67	0.10	0.024	(0.254)	0.019	0.005
201	16.75	0.10	0.024	(0.252)	0.019	0.005
202	16.83	0.10	0.024	(0.251)	0.019	0.005
203	16.92	0.10	0.024	(0.250)	0.019	0.005
204	17.00	0.10	0.024	(0.248)	0.019	0.005
205	17.08	0.17	0.040	(0.247)	0.032	0.008
206	17.17	0.17	0.040	(0.246)	0.032	0.008
207	17.25	0.17	0.040	(0.245)	0.032	0.008
208	17.33	0.17	0.040	(0.243)	0.032	0.008
209	17.42	0.17	0.040	(0.242)	0.032	0.008
210	17.50	0.17	0.040	(0.241)	0.032	0.008
211	17.58	0.17	0.040	(0.240)	0.032	0.008
212	17.67	0.17	0.040	(0.239)	0.032	0.008
213	17.75	0.17	0.040	(0.237)	0.032	0.008
214	17.83	0.13	0.032	(0.236)	0.026	0.006
215	17.92	0.13	0.032	(0.235)	0.026	0.006
216	18.00	0.13	0.032	(0.234)	0.026	0.006
217	18.08	0.13	0.032	(0.233)	0.026	0.006
218	18.17	0.13	0.032	(0.232)	0.026	0.006
219	18.25	0.13	0.032	(0.231)	0.026	0.006
220	18.33	0.13	0.032	(0.229)	0.026	0.006
221	18.42	0.13	0.032	(0.228)	0.026	0.006
222	18.50	0.13	0.032	(0.227)	0.026	0.006
223	18.58	0.10	0.024	(0.226)	0.019	0.005
224	18.67	0.10	0.024	(0.225)	0.019	0.005
225	18.75	0.10	0.024	(0.224)	0.019	0.005
226	18.83	0.07	0.016	(0.223)	0.013	0.003
227	18.92	0.07	0.016	(0.222)	0.013	0.003
228	19.00	0.07	0.016	(0.221)	0.013	0.003
229	19.08	0.10	0.024	(0.220)	0.019	0.005
230	19.17	0.10	0.024	(0.219)	0.019	0.005
231	19.25	0.10	0.024	(0.218)	0.019	0.005
232	19.33	0.13	0.032	(0.217)	0.026	0.006
233	19.42	0.13	0.032	(0.216)	0.026	0.006
234	19.50	0.13	0.032	(0.215)	0.026	0.006
235	19.58	0.10	0.024	(0.214)	0.019	0.005
236	19.67	0.10	0.024	(0.213)	0.019	0.005
237	19.75	0.10	0.024	(0.212)	0.019	0.005
238	19.83	0.07	0.016	(0.211)	0.013	0.003
239	19.92	0.07	0.016	(0.210)	0.013	0.003
240	20.00	0.07	0.016	(0.209)	0.013	0.003
241	20.08	0.10	0.024	(0.208)	0.019	0.005
242	20.17	0.10	0.024	(0.207)	0.019	0.005
243	20.25	0.10	0.024	(0.206)	0.019	0.005
244	20.33	0.10	0.024	(0.205)	0.019	0.005

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245  20.42     0.10      0.024       (  0.204)       0.019        0.005
246  20.50     0.10      0.024       (  0.203)       0.019        0.005
247  20.58     0.10      0.024       (  0.203)       0.019        0.005
248  20.67     0.10      0.024       (  0.202)       0.019        0.005
249  20.75     0.10      0.024       (  0.201)       0.019        0.005
250  20.83     0.07      0.016       (  0.200)       0.013        0.003
251  20.92     0.07      0.016       (  0.199)       0.013        0.003
252  21.00     0.07      0.016       (  0.199)       0.013        0.003
253  21.08     0.10      0.024       (  0.198)       0.019        0.005
254  21.17     0.10      0.024       (  0.197)       0.019        0.005
255  21.25     0.10      0.024       (  0.196)       0.019        0.005
256  21.33     0.07      0.016       (  0.195)       0.013        0.003
257  21.42     0.07      0.016       (  0.195)       0.013        0.003
258  21.50     0.07      0.016       (  0.194)       0.013        0.003
259  21.58     0.10      0.024       (  0.193)       0.019        0.005
260  21.67     0.10      0.024       (  0.193)       0.019        0.005
261  21.75     0.10      0.024       (  0.192)       0.019        0.005
262  21.83     0.07      0.016       (  0.191)       0.013        0.003
263  21.92     0.07      0.016       (  0.191)       0.013        0.003
264  22.00     0.07      0.016       (  0.190)       0.013        0.003
265  22.08     0.10      0.024       (  0.189)       0.019        0.005
266  22.17     0.10      0.024       (  0.189)       0.019        0.005
267  22.25     0.10      0.024       (  0.188)       0.019        0.005
268  22.33     0.07      0.016       (  0.187)       0.013        0.003
269  22.42     0.07      0.016       (  0.187)       0.013        0.003
270  22.50     0.07      0.016       (  0.186)       0.013        0.003
271  22.58     0.07      0.016       (  0.186)       0.013        0.003
272  22.67     0.07      0.016       (  0.185)       0.013        0.003
273  22.75     0.07      0.016       (  0.185)       0.013        0.003
274  22.83     0.07      0.016       (  0.184)       0.013        0.003
275  22.92     0.07      0.016       (  0.184)       0.013        0.003
276  23.00     0.07      0.016       (  0.183)       0.013        0.003
277  23.08     0.07      0.016       (  0.183)       0.013        0.003
278  23.17     0.07      0.016       (  0.183)       0.013        0.003
279  23.25     0.07      0.016       (  0.182)       0.013        0.003
280  23.33     0.07      0.016       (  0.182)       0.013        0.003
281  23.42     0.07      0.016       (  0.181)       0.013        0.003
282  23.50     0.07      0.016       (  0.181)       0.013        0.003
283  23.58     0.07      0.016       (  0.181)       0.013        0.003
284  23.67     0.07      0.016       (  0.181)       0.013        0.003
285  23.75     0.07      0.016       (  0.180)       0.013        0.003
286  23.83     0.07      0.016       (  0.180)       0.013        0.003
287  23.92     0.07      0.016       (  0.180)       0.013        0.003
288  24.00     0.07      0.016       (  0.180)       0.013        0.003
                (Loss Rate Not Used)
    Sum =     100.0                                  Sum =     4.8
      Flood volume = Effective rainfall      0.40(In)
       times area       9.3(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
      Total soil loss =      1.60(In)
      Total soil loss =     1.243(Ac.Ft)
      Total rainfall =      2.00(In)
      Flood volume =       13532.4 Cubic Feet
      Total soil loss =       54129.6 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      0.511(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0001      0.01  Q          |         |         |         |
   0+10       0.0003      0.03  Q          |         |         |         |
   0+15       0.0005      0.03  Q          |         |         |         |
   0+20       0.0007      0.04  Q          |         |         |         |
   0+25       0.0010      0.04  Q          |         |         |         |
   0+30       0.0013      0.04  Q          |         |         |         |
   0+35       0.0017      0.05  Q          |         |         |         |
   0+40       0.0020      0.05  Q          |         |         |         |
   0+45       0.0023      0.05  Q          |         |         |         |
   0+50       0.0026      0.05  Q          |         |         |         |
   0+55       0.0030      0.06  Q          |         |         |         |
   1+ 0       0.0034      0.06  Q          |         |         |         |
   1+ 5       0.0038      0.05  Q          |         |         |         |
   1+10       0.0041      0.05  Q          |         |         |         |
   1+15       0.0045      0.05  Q          |         |         |         |
   1+20       0.0048      0.05  Q          |         |         |         |
   1+25       0.0051      0.05  Q          |         |         |         |
   1+30       0.0054      0.05  Q          |         |         |         |
   1+35       0.0057      0.05  Q          |         |         |         |
   1+40       0.0060      0.05  Q          |         |         |         |
   1+45       0.0063      0.05  Q          |         |         |         |
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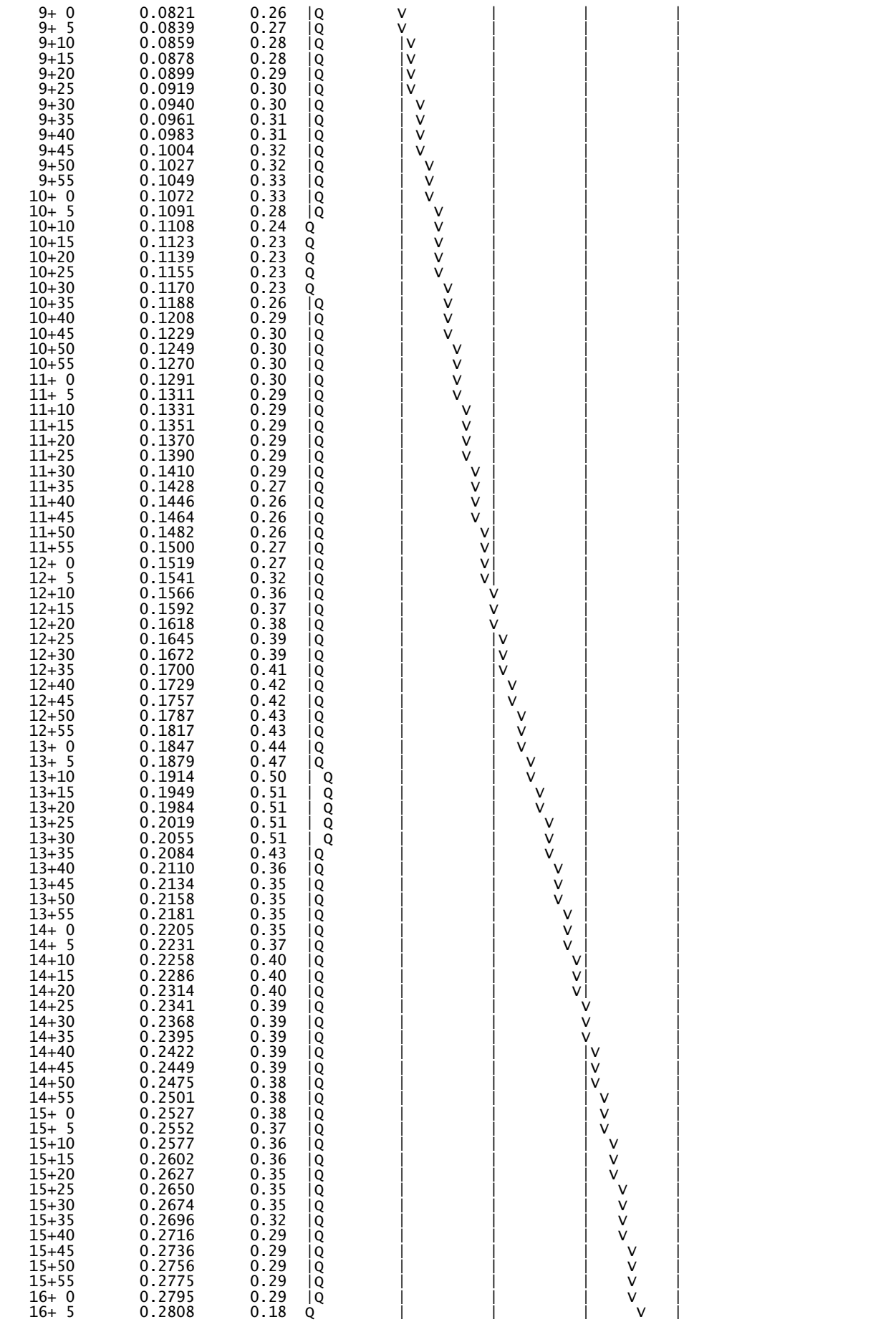
1+50       0.0067      0.05  Q          |          |          |          |
1+55       0.0071      0.06  Q          |          |          |          |
2+ 0       0.0075      0.06  Q          |          |          |          |
2+ 5       0.0079      0.06  QV         |          |          |          |
2+10       0.0083      0.06  QV         |          |          |          |
2+15       0.0087      0.06  QV         |          |          |          |
2+20       0.0091      0.06  QV         |          |          |          |
2+25       0.0096      0.06  QV         |          |          |          |
2+30       0.0100      0.06  QV         |          |          |          |
2+35       0.0104      0.07  QV         |          |          |          |
2+40       0.0109      0.07  QV         |          |          |          |
2+45       0.0115      0.07  QV         |          |          |          |
2+50       0.0120      0.08  QV         |          |          |          |
2+55       0.0125      0.08  QV         |          |          |          |
3+ 0       0.0130      0.08  QV         |          |          |          |
3+ 5       0.0135      0.08  QV         |          |          |          |
3+10       0.0140      0.08  QV         |          |          |          |
3+15       0.0146      0.08  QV         |          |          |          |
3+20       0.0151      0.08  QV         |          |          |          |
3+25       0.0156      0.08  Q V        |          |          |          |
3+30       0.0161      0.08  Q V        |          |          |          |
3+35       0.0166      0.08  Q V        |          |          |          |
3+40       0.0172      0.08  Q V        |          |          |          |
3+45       0.0177      0.08  Q V        |          |          |          |
3+50       0.0182      0.08  Q V        |          |          |          |
3+55       0.0188      0.09  Q V        |          |          |          |
4+ 0       0.0195      0.09  Q V        |          |          |          |
4+ 5       0.0201      0.09  Q V        |          |          |          |
4+10       0.0207      0.09  Q V        |          |          |          |
4+15       0.0213      0.09  Q V        |          |          |          |
4+20       0.0220      0.10  Q V        |          |          |          |
4+25       0.0227      0.10  Q V        |          |          |          |
4+30       0.0234      0.10  Q  V       |          |          |          |
4+35       0.0242      0.11  Q  V       |          |          |          |
4+40       0.0249      0.11  Q  V       |          |          |          |
4+45       0.0256      0.11  Q  V       |          |          |          |
4+50       0.0264      0.11  Q  V       |          |          |          |
4+55       0.0272      0.12  Q  V       |          |          |          |
5+ 0       0.0280      0.12  Q  V       |          |          |          |
5+ 5       0.0288      0.11  Q  V       |          |          |          |
5+10       0.0294      0.09  Q  V       |          |          |          |
5+15       0.0300      0.09  Q  V       |          |          |          |
5+20       0.0307      0.10  Q  V       |          |          |          |
5+25       0.0314      0.10  Q   V      |          |          |          |
5+30       0.0321      0.10  Q   V      |          |          |          |
5+35       0.0329      0.11  Q   V      |          |          |          |
5+40       0.0337      0.12  Q   V      |          |          |          |
5+45       0.0345      0.12  Q   V      |          |          |          |
5+50       0.0354      0.12  Q   V      |          |          |          |
5+55       0.0362      0.12  Q   V      |          |          |          |
6+ 0       0.0370      0.12  Q   V      |          |          |          |
6+ 5       0.0379      0.13  Q   V      |          |          |          |
6+10       0.0388      0.13  Q   V      |          |          |          |
6+15       0.0398      0.13  Q    V     |          |          |          |
6+20       0.0407      0.14  Q    V     |          |          |          |
6+25       0.0416      0.14  Q    V     |          |          |          |
6+30       0.0426      0.14  Q    V     |          |          |          |
6+35       0.0435      0.14  Q    V     |          |          |          |
6+40       0.0446      0.15  Q    V     |          |          |          |
6+45       0.0456      0.15  Q    V     |          |          |          |
6+50       0.0466      0.15  Q     V    |          |          |          |
6+55       0.0477      0.15  Q     V    |          |          |          |
7+ 0       0.0487      0.15  Q     V    |          |          |          |
7+ 5       0.0497      0.15  Q     V    |          |          |          |
7+10       0.0508      0.15  Q     V    |          |          |          |
7+15       0.0518      0.15  Q     V    |          |          |          |
7+20       0.0529      0.16  Q     V    |          |          |          |
7+25       0.0540      0.16  Q     V    |          |          |          |
7+30       0.0552      0.16  Q      V   |          |          |          |
7+35       0.0563      0.17  Q      V   |          |          |          |
7+40       0.0576      0.18  Q      V   |          |          |          |
7+45       0.0588      0.18  Q      V   |          |          |          |
7+50       0.0601      0.19  Q      V   |          |          |          |
7+55       0.0614      0.19  Q      V   |          |          |          |
8+ 0       0.0628      0.19  Q       V  |          |          |          |
8+ 5       0.0642      0.21  Q       V  |          |          |          |
8+10       0.0658      0.22  Q       V  |          |          |          |
8+15       0.0673      0.22  Q       V  |          |          |          |
8+20       0.0689      0.23  Q       V  |          |          |          |
8+25       0.0704      0.23  Q        V|          |          |          |
8+30       0.0720      0.23  Q        V|          |          |          |
8+35       0.0736      0.23  Q        V|          |          |          |
8+40       0.0752      0.24  Q        V|          |          |          |
8+45       0.0769      0.24  Q        V|          |          |          |
8+50       0.0786      0.25  Q         V          |          |          |
8+55       0.0803      0.25  |Q        V          |          |          |
```



9+ 0	0.0821	0.26	
9+ 5	0.0839	0.27	
9+10	0.0859	0.28	
9+15	0.0878	0.28	
9+20	0.0899	0.29	
9+25	0.0919	0.30	
9+30	0.0940	0.30	
9+35	0.0961	0.31	
9+40	0.0983	0.31	
9+45	0.1004	0.32	
9+50	0.1027	0.32	
9+55	0.1049	0.33	
10+ 0	0.1072	0.33	
10+ 5	0.1091	0.28	
10+10	0.1108	0.24	
10+15	0.1123	0.23	
10+20	0.1139	0.23	
10+25	0.1155	0.23	
10+30	0.1170	0.23	
10+35	0.1188	0.26	
10+40	0.1208	0.29	
10+45	0.1229	0.30	
10+50	0.1249	0.30	
10+55	0.1270	0.30	
11+ 0	0.1291	0.30	
11+ 5	0.1311	0.29	
11+10	0.1331	0.29	
11+15	0.1351	0.29	
11+20	0.1370	0.29	
11+25	0.1390	0.29	
11+30	0.1410	0.29	
11+35	0.1428	0.27	
11+40	0.1446	0.26	
11+45	0.1464	0.26	
11+50	0.1482	0.26	
11+55	0.1500	0.27	
12+ 0	0.1519	0.27	
12+ 5	0.1541	0.32	
12+10	0.1566	0.36	
12+15	0.1592	0.37	
12+20	0.1618	0.38	
12+25	0.1645	0.39	
12+30	0.1672	0.39	
12+35	0.1700	0.41	
12+40	0.1729	0.42	
12+45	0.1757	0.42	
12+50	0.1787	0.43	
12+55	0.1817	0.43	
13+ 0	0.1847	0.44	
13+ 5	0.1879	0.47	
13+10	0.1914	0.50	
13+15	0.1949	0.51	
13+20	0.1984	0.51	
13+25	0.2019	0.51	
13+30	0.2055	0.51	
13+35	0.2084	0.43	
13+40	0.2110	0.36	
13+45	0.2134	0.35	
13+50	0.2158	0.35	
13+55	0.2181	0.35	
14+ 0	0.2205	0.35	
14+ 5	0.2231	0.37	
14+10	0.2258	0.40	
14+15	0.2286	0.40	
14+20	0.2314	0.40	
14+25	0.2341	0.39	
14+30	0.2368	0.39	
14+35	0.2395	0.39	
14+40	0.2422	0.39	
14+45	0.2449	0.39	
14+50	0.2475	0.38	
14+55	0.2501	0.38	
15+ 0	0.2527	0.38	
15+ 5	0.2552	0.37	
15+10	0.2577	0.36	
15+15	0.2602	0.36	
15+20	0.2627	0.35	
15+25	0.2650	0.35	
15+30	0.2674	0.35	
15+35	0.2696	0.32	
15+40	0.2716	0.29	
15+45	0.2736	0.29	
15+50	0.2756	0.29	
15+55	0.2775	0.29	
16+ 0	0.2795	0.29	
16+ 5	0.2808	0.18	

16+10	0.2813	0.09	Q				V
16+15	0.2818	0.07	Q				V
16+20	0.2822	0.06	Q				V
16+25	0.2826	0.06	Q				V
16+30	0.2830	0.06	Q				V
16+35	0.2834	0.05	Q				V
16+40	0.2837	0.05	Q				V
16+45	0.2840	0.05	Q				V
16+50	0.2844	0.05	Q				V
16+55	0.2847	0.05	Q				V
17+ 0	0.2850	0.05	Q				V
17+ 5	0.2854	0.06	Q				V
17+10	0.2859	0.07	Q				V
17+15	0.2864	0.07	Q				V
17+20	0.2869	0.08	Q				V
17+25	0.2874	0.08	Q				V
17+30	0.2879	0.08	Q				V
17+35	0.2885	0.08	Q				V
17+40	0.2890	0.08	Q				V
17+45	0.2895	0.08	Q				V
17+50	0.2900	0.07	Q				V
17+55	0.2904	0.06	Q				V
18+ 0	0.2908	0.06	Q				V
18+ 5	0.2912	0.06	Q				V
18+10	0.2916	0.06	Q				V
18+15	0.2921	0.06	Q				V
18+20	0.2925	0.06	Q				V
18+25	0.2929	0.06	Q				V
18+30	0.2933	0.06	Q				V
18+35	0.2937	0.05	Q				V
18+40	0.2940	0.05	Q				V
18+45	0.2943	0.05	Q				V
18+50	0.2946	0.04	Q				V
18+55	0.2948	0.03	Q				V
19+ 0	0.2950	0.03	Q				V
19+ 5	0.2952	0.04	Q				V
19+10	0.2955	0.04	Q				V
19+15	0.2959	0.04	Q				V
19+20	0.2962	0.05	Q				V
19+25	0.2966	0.06	Q				V
19+30	0.2970	0.06	Q				V
19+35	0.2974	0.05	Q				V
19+40	0.2977	0.05	Q				V
19+45	0.2980	0.05	Q				V
19+50	0.2983	0.04	Q				V
19+55	0.2985	0.03	Q				V
20+ 0	0.2987	0.03	Q				V
20+ 5	0.2990	0.04	Q				V
20+10	0.2993	0.04	Q				V
20+15	0.2996	0.04	Q				V
20+20	0.2999	0.05	Q				V
20+25	0.3002	0.05	Q				V
20+30	0.3005	0.05	Q				V
20+35	0.3008	0.05	Q				V
20+40	0.3011	0.05	Q				V
20+45	0.3014	0.05	Q				V
20+50	0.3017	0.04	Q				V
20+55	0.3019	0.03	Q				V
21+ 0	0.3021	0.03	Q				V
21+ 5	0.3024	0.04	Q				V
21+10	0.3027	0.04	Q				V
21+15	0.3030	0.04	Q				V
21+20	0.3033	0.04	Q				V
21+25	0.3035	0.03	Q				V
21+30	0.3037	0.03	Q				V
21+35	0.3039	0.04	Q				V
21+40	0.3042	0.04	Q				V
21+45	0.3045	0.04	Q				V
21+50	0.3048	0.04	Q				V
21+55	0.3050	0.03	Q				V
22+ 0	0.3052	0.03	Q				V
22+ 5	0.3055	0.04	Q				V
22+10	0.3058	0.04	Q				V
22+15	0.3061	0.04	Q				V
22+20	0.3064	0.04	Q				V
22+25	0.3066	0.03	Q				V
22+30	0.3068	0.03	Q				V
22+35	0.3070	0.03	Q				V
22+40	0.3072	0.03	Q				V
22+45	0.3074	0.03	Q				V
22+50	0.3076	0.03	Q				V
22+55	0.3078	0.03	Q				V
23+ 0	0.3080	0.03	Q				V
23+ 5	0.3082	0.03	Q				V
23+10	0.3085	0.03	Q				V
23+15	0.3087	0.03	Q				V

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   23+20       0.3089      0.03  Q          |          |          |         v|
   23+25       0.3091      0.03  Q          |          |          |         v|
   23+30       0.3093      0.03  Q          |          |          |         v|
   23+35       0.3095      0.03  Q          |          |          |         v|
   23+40       0.3097      0.03  Q          |          |          |         v|
   23+45       0.3099      0.03  Q          |          |          |         v|
   23+50       0.3101      0.03  Q          |          |          |         v|
   23+55       0.3103      0.03  Q          |          |          |         v|
   24+ 0       0.3105      0.03  Q          |          |          |         v|
   24+ 5       0.3106      0.02  Q          |          |          |         v|
   24+10       0.3107      0.00  Q          |          |          |         v|
   24+15       0.3107      0.00  Q          |          |          |          v
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U n i t H y d r o g r a p h A n a l y s i s

Study date 11/07/23 File: EX102410.out

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

Program License Serial Number 5006

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

English Units used in output format

Drainage Area = 9.32(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.32(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 765.00(Ft.)
Length along longest watercourse measured to centroid = 383.00(Ft.)
Length along longest watercourse = 0.145 Mi.
Length along longest watercourse measured to centroid = 0.073 Mi.
Difference in elevation = 35.00(Ft.)
Slope along watercourse = 241.5686 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.037 Hr.
Lag time = 2.25 Min.
25% of lag time = 0.56 Min.
40% of lag time = 0.90 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]
9.32	2.00	18.64

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.32	6.00	55.92

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.000(In)
Area Averaged 100-Year Rainfall = 6.000(In)

Point rain (area averaged) = 3.646(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 3.646(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.320	82.00	0.130

Total Area Entered = 9.32(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
82.0	82.0	0.221	0.130	0.195	1.000	0.195
					Sum (F) =	0.195

Area averaged mean soil loss (F) (In/Hr) = 0.195
Minimum soil loss rate ((In/Hr)) = 0.098
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.800

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	222.454	47.030	4.417
2	0.167	444.908	41.831	3.929
3	0.250	667.362	7.953	0.747
4	0.333	889.816	3.187	0.299
			Sum = 100.000 Sum=	9.393

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.029	(0.346)	0.023	0.006
2	0.17	0.07	0.029	(0.345)	0.023	0.006
3	0.25	0.07	0.029	(0.344)	0.023	0.006
4	0.33	0.10	0.044	(0.342)	0.035	0.009
5	0.42	0.10	0.044	(0.341)	0.035	0.009
6	0.50	0.10	0.044	(0.340)	0.035	0.009
7	0.58	0.10	0.044	(0.338)	0.035	0.009
8	0.67	0.10	0.044	(0.337)	0.035	0.009
9	0.75	0.10	0.044	(0.336)	0.035	0.009
10	0.83	0.13	0.058	(0.334)	0.047	0.012
11	0.92	0.13	0.058	(0.333)	0.047	0.012
12	1.00	0.13	0.058	(0.332)	0.047	0.012
13	1.08	0.10	0.044	(0.330)	0.035	0.009
14	1.17	0.10	0.044	(0.329)	0.035	0.009
15	1.25	0.10	0.044	(0.328)	0.035	0.009
16	1.33	0.10	0.044	(0.326)	0.035	0.009
17	1.42	0.10	0.044	(0.325)	0.035	0.009
18	1.50	0.10	0.044	(0.324)	0.035	0.009
19	1.58	0.10	0.044	(0.323)	0.035	0.009
20	1.67	0.10	0.044	(0.321)	0.035	0.009
21	1.75	0.10	0.044	(0.320)	0.035	0.009
22	1.83	0.13	0.058	(0.319)	0.047	0.012
23	1.92	0.13	0.058	(0.317)	0.047	0.012
24	2.00	0.13	0.058	(0.316)	0.047	0.012
25	2.08	0.13	0.058	(0.315)	0.047	0.012
26	2.17	0.13	0.058	(0.314)	0.047	0.012
27	2.25	0.13	0.058	(0.312)	0.047	0.012
28	2.33	0.13	0.058	(0.311)	0.047	0.012
29	2.42	0.13	0.058	(0.310)	0.047	0.012
30	2.50	0.13	0.058	(0.308)	0.047	0.012
31	2.58	0.17	0.073	(0.307)	0.058	0.015
32	2.67	0.17	0.073	(0.306)	0.058	0.015
33	2.75	0.17	0.073	(0.305)	0.058	0.015
34	2.83	0.17	0.073	(0.303)	0.058	0.015
35	2.92	0.17	0.073	(0.302)	0.058	0.015
36	3.00	0.17	0.073	(0.301)	0.058	0.015
37	3.08	0.17	0.073	(0.300)	0.058	0.015
38	3.17	0.17	0.073	(0.298)	0.058	0.015
39	3.25	0.17	0.073	(0.297)	0.058	0.015
40	3.33	0.17	0.073	(0.296)	0.058	0.015
41	3.42	0.17	0.073	(0.295)	0.058	0.015
42	3.50	0.17	0.073	(0.294)	0.058	0.015
43	3.58	0.17	0.073	(0.292)	0.058	0.015
44	3.67	0.17	0.073	(0.291)	0.058	0.015
45	3.75	0.17	0.073	(0.290)	0.058	0.015
46	3.83	0.20	0.087	(0.289)	0.070	0.017
47	3.92	0.20	0.087	(0.287)	0.070	0.017
48	4.00	0.20	0.087	(0.286)	0.070	0.017
49	4.08	0.20	0.087	(0.285)	0.070	0.017
50	4.17	0.20	0.087	(0.284)	0.070	0.017
51	4.25	0.20	0.087	(0.283)	0.070	0.017
52	4.33	0.23	0.102	(0.281)	0.082	0.020
53	4.42	0.23	0.102	(0.280)	0.082	0.020
54	4.50	0.23	0.102	(0.279)	0.082	0.020
55	4.58	0.23	0.102	(0.278)	0.082	0.020
56	4.67	0.23	0.102	(0.277)	0.082	0.020
57	4.75	0.23	0.102	(0.275)	0.082	0.020
58	4.83	0.27	0.117	(0.274)	0.093	0.023
59	4.92	0.27	0.117	(0.273)	0.093	0.023
60	5.00	0.27	0.117	(0.272)	0.093	0.023
61	5.08	0.20	0.087	(0.271)	0.070	0.017
62	5.17	0.20	0.087	(0.269)	0.070	0.017
63	5.25	0.20	0.087	(0.268)	0.070	0.017
64	5.33	0.23	0.102	(0.267)	0.082	0.020
65	5.42	0.23	0.102	(0.266)	0.082	0.020
66	5.50	0.23	0.102	(0.265)	0.082	0.020
67	5.58	0.27	0.117	(0.264)	0.093	0.023
68	5.67	0.27	0.117	(0.262)	0.093	0.023
69	5.75	0.27	0.117	(0.261)	0.093	0.023
70	5.83	0.27	0.117	(0.260)	0.093	0.023
71	5.92	0.27	0.117	(0.259)	0.093	0.023
72	6.00	0.27	0.117	(0.258)	0.093	0.023

73	6.08	0.30	0.131	(	0.257)	0.105		0.026
74	6.17	0.30	0.131	(	0.256)	0.105		0.026
75	6.25	0.30	0.131	(	0.254)	0.105		0.026
76	6.33	0.30	0.131	(	0.253)	0.105		0.026
77	6.42	0.30	0.131	(	0.252)	0.105		0.026
78	6.50	0.30	0.131	(	0.251)	0.105		0.026
79	6.58	0.33	0.146	(	0.250)	0.117		0.029
80	6.67	0.33	0.146	(	0.249)	0.117		0.029
81	6.75	0.33	0.146	(	0.248)	0.117		0.029
82	6.83	0.33	0.146	(	0.246)	0.117		0.029
83	6.92	0.33	0.146	(	0.245)	0.117		0.029
84	7.00	0.33	0.146	(	0.244)	0.117		0.029
85	7.08	0.33	0.146	(	0.243)	0.117		0.029
86	7.17	0.33	0.146	(	0.242)	0.117		0.029
87	7.25	0.33	0.146	(	0.241)	0.117		0.029
88	7.33	0.37	0.160	(	0.240)	0.128		0.032
89	7.42	0.37	0.160	(	0.239)	0.128		0.032
90	7.50	0.37	0.160	(	0.238)	0.128		0.032
91	7.58	0.40	0.175	(	0.237)	0.140		0.035
92	7.67	0.40	0.175	(	0.235)	0.140		0.035
93	7.75	0.40	0.175	(	0.234)	0.140		0.035
94	7.83	0.43	0.190	(	0.233)	0.152		0.038
95	7.92	0.43	0.190	(	0.232)	0.152		0.038
96	8.00	0.43	0.190	(	0.231)	0.152		0.038
97	8.08	0.50	0.219	(	0.230)	0.175		0.044
98	8.17	0.50	0.219	(	0.229)	0.175		0.044
99	8.25	0.50	0.219	(	0.228)	0.175		0.044
100	8.33	0.50	0.219	(	0.227)	0.175		0.044
101	8.42	0.50	0.219	(	0.226)	0.175		0.044
102	8.50	0.50	0.219	(	0.225)	0.175		0.044
103	8.58	0.53	0.233	(	0.224)	0.187		0.047
104	8.67	0.53	0.233	(	0.223)	0.187		0.047
105	8.75	0.53	0.233	(	0.222)	0.187		0.047
106	8.83	0.57	0.248	(	0.221)	0.198		0.050
107	8.92	0.57	0.248	(	0.220)	0.198		0.050
108	9.00	0.57	0.248	(	0.218)	0.198		0.050
109	9.08	0.63	0.277		0.217	(0.222)		0.060
110	9.17	0.63	0.277		0.216	(0.222)		0.061
111	9.25	0.63	0.277		0.215	(0.222)		0.062
112	9.33	0.67	0.292		0.214	(0.233)		0.077
113	9.42	0.67	0.292		0.213	(0.233)		0.078
114	9.50	0.67	0.292		0.212	(0.233)		0.079
115	9.58	0.70	0.306		0.211	(0.245)		0.095
116	9.67	0.70	0.306		0.210	(0.245)		0.096
117	9.75	0.70	0.306		0.209	(0.245)		0.097
118	9.83	0.73	0.321		0.208	(0.257)		0.113
119	9.92	0.73	0.321		0.207	(0.257)		0.114
120	10.00	0.73	0.321		0.206	(0.257)		0.115
121	10.08	0.50	0.219	(	0.205)	0.175		0.044
122	10.17	0.50	0.219	(	0.204)	0.175		0.044
123	10.25	0.50	0.219	(	0.203)	0.175		0.044
124	10.33	0.50	0.219	(	0.202)	0.175		0.044
125	10.42	0.50	0.219	(	0.201)	0.175		0.044
126	10.50	0.50	0.219	(	0.200)	0.175		0.044
127	10.58	0.67	0.292		0.199	(0.233)		0.092
128	10.67	0.67	0.292		0.198	(0.233)		0.093
129	10.75	0.67	0.292		0.197	(0.233)		0.094
130	10.83	0.67	0.292		0.196	(0.233)		0.095
131	10.92	0.67	0.292		0.195	(0.233)		0.096
132	11.00	0.67	0.292		0.195	(0.233)		0.097
133	11.08	0.63	0.277		0.194	(0.222)		0.084
134	11.17	0.63	0.277		0.193	(0.222)		0.084
135	11.25	0.63	0.277		0.192	(0.222)		0.085
136	11.33	0.63	0.277		0.191	(0.222)		0.086
137	11.42	0.63	0.277		0.190	(0.222)		0.087
138	11.50	0.63	0.277		0.189	(0.222)		0.088
139	11.58	0.57	0.248		0.188	(0.198)		0.060
140	11.67	0.57	0.248		0.187	(0.198)		0.061
141	11.75	0.57	0.248		0.186	(0.198)		0.062
142	11.83	0.60	0.262		0.185	(0.210)		0.077
143	11.92	0.60	0.262		0.184	(0.210)		0.078
144	12.00	0.60	0.262		0.183	(0.210)		0.079
145	12.08	0.83	0.365		0.182	(0.292)		0.182
146	12.17	0.83	0.365		0.181	(0.292)		0.183
147	12.25	0.83	0.365		0.181	(0.292)		0.184
148	12.33	0.87	0.379		0.180	(0.303)		0.200
149	12.42	0.87	0.379		0.179	(0.303)		0.200
150	12.50	0.87	0.379		0.178	(0.303)		0.201
151	12.58	0.93	0.408		0.177	(0.327)		0.231
152	12.67	0.93	0.408		0.176	(0.327)		0.232
153	12.75	0.93	0.408		0.175	(0.327)		0.233
154	12.83	0.97	0.423		0.174	(0.338)		0.249
155	12.92	0.97	0.423		0.173	(0.338)		0.250
156	13.00	0.97	0.423		0.172	(0.338)		0.250
157	13.08	1.13	0.496		0.172	(0.397)		0.324
158	13.17	1.13	0.496		0.171	(0.397)		0.325

159	13.25	1.13	0.496		0.170	(0.397)	0.326
160	13.33	1.13	0.496		0.169	(0.397)	0.327
161	13.42	1.13	0.496		0.168	(0.397)	0.328
162	13.50	1.13	0.496		0.167	(0.397)	0.329
163	13.58	0.77	0.335		0.166	(0.268)	0.169
164	13.67	0.77	0.335		0.166	(0.268)	0.170
165	13.75	0.77	0.335		0.165	(0.268)	0.171
166	13.83	0.77	0.335		0.164	(0.268)	0.171
167	13.92	0.77	0.335		0.163	(0.268)	0.172
168	14.00	0.77	0.335		0.162	(0.268)	0.173
169	14.08	0.90	0.394		0.161	(0.315)	0.232
170	14.17	0.90	0.394		0.161	(0.315)	0.233
171	14.25	0.90	0.394		0.160	(0.315)	0.234
172	14.33	0.87	0.379		0.159	(0.303)	0.220
173	14.42	0.87	0.379		0.158	(0.303)	0.221
174	14.50	0.87	0.379		0.157	(0.303)	0.222
175	14.58	0.87	0.379		0.157	(0.303)	0.223
176	14.67	0.87	0.379		0.156	(0.303)	0.223
177	14.75	0.87	0.379		0.155	(0.303)	0.224
178	14.83	0.83	0.365		0.154	(0.292)	0.210
179	14.92	0.83	0.365		0.153	(0.292)	0.211
180	15.00	0.83	0.365		0.153	(0.292)	0.212
181	15.08	0.80	0.350		0.152	(0.280)	0.198
182	15.17	0.80	0.350		0.151	(0.280)	0.199
183	15.25	0.80	0.350		0.150	(0.280)	0.200
184	15.33	0.77	0.335		0.149	(0.268)	0.186
185	15.42	0.77	0.335		0.149	(0.268)	0.187
186	15.50	0.77	0.335		0.148	(0.268)	0.187
187	15.58	0.63	0.277		0.147	(0.222)	0.130
188	15.67	0.63	0.277		0.146	(0.222)	0.131
189	15.75	0.63	0.277		0.146	(0.222)	0.131
190	15.83	0.63	0.277		0.145	(0.222)	0.132
191	15.92	0.63	0.277		0.144	(0.222)	0.133
192	16.00	0.63	0.277		0.143	(0.222)	0.134
193	16.08	0.13	0.058	(	0.143)	0.047	0.012
194	16.17	0.13	0.058	(	0.142)	0.047	0.012
195	16.25	0.13	0.058	(	0.141)	0.047	0.012
196	16.33	0.13	0.058	(	0.141)	0.047	0.012
197	16.42	0.13	0.058	(	0.140)	0.047	0.012
198	16.50	0.13	0.058	(	0.139)	0.047	0.012
199	16.58	0.10	0.044	(	0.138)	0.035	0.009
200	16.67	0.10	0.044	(	0.138)	0.035	0.009
201	16.75	0.10	0.044	(	0.137)	0.035	0.009
202	16.83	0.10	0.044	(	0.136)	0.035	0.009
203	16.92	0.10	0.044	(	0.136)	0.035	0.009
204	17.00	0.10	0.044	(	0.135)	0.035	0.009
205	17.08	0.17	0.073	(	0.134)	0.058	0.015
206	17.17	0.17	0.073	(	0.134)	0.058	0.015
207	17.25	0.17	0.073	(	0.133)	0.058	0.015
208	17.33	0.17	0.073	(	0.132)	0.058	0.015
209	17.42	0.17	0.073	(	0.132)	0.058	0.015
210	17.50	0.17	0.073	(	0.131)	0.058	0.015
211	17.58	0.17	0.073	(	0.130)	0.058	0.015
212	17.67	0.17	0.073	(	0.130)	0.058	0.015
213	17.75	0.17	0.073	(	0.129)	0.058	0.015
214	17.83	0.13	0.058	(	0.128)	0.047	0.012
215	17.92	0.13	0.058	(	0.128)	0.047	0.012
216	18.00	0.13	0.058	(	0.127)	0.047	0.012
217	18.08	0.13	0.058	(	0.126)	0.047	0.012
218	18.17	0.13	0.058	(	0.126)	0.047	0.012
219	18.25	0.13	0.058	(	0.125)	0.047	0.012
220	18.33	0.13	0.058	(	0.125)	0.047	0.012
221	18.42	0.13	0.058	(	0.124)	0.047	0.012
222	18.50	0.13	0.058	(	0.123)	0.047	0.012
223	18.58	0.10	0.044	(	0.123)	0.035	0.009
224	18.67	0.10	0.044	(	0.122)	0.035	0.009
225	18.75	0.10	0.044	(	0.122)	0.035	0.009
226	18.83	0.07	0.029	(	0.121)	0.023	0.006
227	18.92	0.07	0.029	(	0.120)	0.023	0.006
228	19.00	0.07	0.029	(	0.120)	0.023	0.006
229	19.08	0.10	0.044	(	0.119)	0.035	0.009
230	19.17	0.10	0.044	(	0.119)	0.035	0.009
231	19.25	0.10	0.044	(	0.118)	0.035	0.009
232	19.33	0.13	0.058	(	0.118)	0.047	0.012
233	19.42	0.13	0.058	(	0.117)	0.047	0.012
234	19.50	0.13	0.058	(	0.117)	0.047	0.012
235	19.58	0.10	0.044	(	0.116)	0.035	0.009
236	19.67	0.10	0.044	(	0.115)	0.035	0.009
237	19.75	0.10	0.044	(	0.115)	0.035	0.009
238	19.83	0.07	0.029	(	0.114)	0.023	0.006
239	19.92	0.07	0.029	(	0.114)	0.023	0.006
240	20.00	0.07	0.029	(	0.113)	0.023	0.006
241	20.08	0.10	0.044	(	0.113)	0.035	0.009
242	20.17	0.10	0.044	(	0.112)	0.035	0.009
243	20.25	0.10	0.044	(	0.112)	0.035	0.009
244	20.33	0.10	0.044	(	0.111)	0.035	0.009

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245  20.42     0.10      0.044       (  0.111)       0.035        0.009
246  20.50     0.10      0.044       (  0.111)       0.035        0.009
247  20.58     0.10      0.044       (  0.110)       0.035        0.009
248  20.67     0.10      0.044       (  0.110)       0.035        0.009
249  20.75     0.10      0.044       (  0.109)       0.035        0.009
250  20.83     0.07      0.029       (  0.109)       0.023        0.006
251  20.92     0.07      0.029       (  0.108)       0.023        0.006
252  21.00     0.07      0.029       (  0.108)       0.023        0.006
253  21.08     0.10      0.044       (  0.107)       0.035        0.009
254  21.17     0.10      0.044       (  0.107)       0.035        0.009
255  21.25     0.10      0.044       (  0.107)       0.035        0.009
256  21.33     0.07      0.029       (  0.106)       0.023        0.006
257  21.42     0.07      0.029       (  0.106)       0.023        0.006
258  21.50     0.07      0.029       (  0.105)       0.023        0.006
259  21.58     0.10      0.044       (  0.105)       0.035        0.009
260  21.67     0.10      0.044       (  0.105)       0.035        0.009
261  21.75     0.10      0.044       (  0.104)       0.035        0.009
262  21.83     0.07      0.029       (  0.104)       0.023        0.006
263  21.92     0.07      0.029       (  0.103)       0.023        0.006
264  22.00     0.07      0.029       (  0.103)       0.023        0.006
265  22.08     0.10      0.044       (  0.103)       0.035        0.009
266  22.17     0.10      0.044       (  0.102)       0.035        0.009
267  22.25     0.10      0.044       (  0.102)       0.035        0.009
268  22.33     0.07      0.029       (  0.102)       0.023        0.006
269  22.42     0.07      0.029       (  0.101)       0.023        0.006
270  22.50     0.07      0.029       (  0.101)       0.023        0.006
271  22.58     0.07      0.029       (  0.101)       0.023        0.006
272  22.67     0.07      0.029       (  0.101)       0.023        0.006
273  22.75     0.07      0.029       (  0.100)       0.023        0.006
274  22.83     0.07      0.029       (  0.100)       0.023        0.006
275  22.92     0.07      0.029       (  0.100)       0.023        0.006
276  23.00     0.07      0.029       (  0.100)       0.023        0.006
277  23.08     0.07      0.029       (  0.099)       0.023        0.006
278  23.17     0.07      0.029       (  0.099)       0.023        0.006
279  23.25     0.07      0.029       (  0.099)       0.023        0.006
280  23.33     0.07      0.029       (  0.099)       0.023        0.006
281  23.42     0.07      0.029       (  0.099)       0.023        0.006
282  23.50     0.07      0.029       (  0.098)       0.023        0.006
283  23.58     0.07      0.029       (  0.098)       0.023        0.006
284  23.67     0.07      0.029       (  0.098)       0.023        0.006
285  23.75     0.07      0.029       (  0.098)       0.023        0.006
286  23.83     0.07      0.029       (  0.098)       0.023        0.006
287  23.92     0.07      0.029       (  0.098)       0.023        0.006
288  24.00     0.07      0.029       (  0.098)       0.023        0.006
                (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    16.2
      Flood volume = Effective rainfall      1.35(In)
       times area       9.3(Ac.)/[(In)/(Ft.)] =       1.0(Ac.Ft)
      Total soil loss =      2.30(In)
      Total soil loss =     1.784(Ac.Ft)
      Total rainfall =      3.65(In)
      Flood volume =       45641.0 Cubic Feet
      Total soil loss =       77694.3 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      3.082(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0002      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       0.0019      0.08  Q          |         |         |         |
   0+30       0.0025      0.08  Q          |         |         |         |
   0+35       0.0030      0.08  Q          |         |         |         |
   0+40       0.0036      0.08  Q          |         |         |         |
   0+45       0.0041      0.08  Q          |         |         |         |
   0+50       0.0048      0.10  Q          |         |         |         |
   0+55       0.0055      0.11  Q          |         |         |         |
   1+ 0       0.0063      0.11  Q          |         |         |         |
   1+ 5       0.0070      0.10  Q          |         |         |         |
   1+10       0.0075      0.09  Q          |         |         |         |
   1+15       0.0081      0.08  Q          |         |         |         |
   1+20       0.0087      0.08  Q          |         |         |         |
   1+25       0.0092      0.08  Q          |         |         |         |
   1+30       0.0098      0.08  Q          |         |         |         |
   1+35       0.0104      0.08  Q          |         |         |         |
   1+40       0.0109      0.08  Q          |         |         |         |
   1+45       0.0115      0.08  Q          |         |         |         |
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1+50       0.0122      0.10  Q          |          |          |          |
1+55       0.0129      0.11  Q          |          |          |          |
2+ 0       0.0136      0.11  Q          |          |          |          |
2+ 5       0.0144      0.11  Q          |          |          |          |
2+10       0.0152      0.11  Q          |          |          |          |
2+15       0.0159      0.11  Q          |          |          |          |
2+20       0.0167      0.11  Q          |          |          |          |
2+25       0.0174      0.11  Q          |          |          |          |
2+30       0.0182      0.11  Q          |          |          |          |
2+35       0.0190      0.12  Q          |          |          |          |
2+40       0.0199      0.13  Q          |          |          |          |
2+45       0.0209      0.14  Q          |          |          |          |
2+50       0.0218      0.14  Q          |          |          |          |
2+55       0.0228      0.14  Q          |          |          |          |
3+ 0       0.0237      0.14  Q          |          |          |          |
3+ 5       0.0247      0.14  Q          |          |          |          |
3+10       0.0256      0.14  Q          |          |          |          |
3+15       0.0265      0.14  QV         |          |          |          |
3+20       0.0275      0.14  QV         |          |          |          |
3+25       0.0284      0.14  QV         |          |          |          |
3+30       0.0294      0.14  QV         |          |          |          |
3+35       0.0303      0.14  QV         |          |          |          |
3+40       0.0313      0.14  QV         |          |          |          |
3+45       0.0322      0.14  QV         |          |          |          |
3+50       0.0332      0.15  QV         |          |          |          |
3+55       0.0344      0.16  QV         |          |          |          |
4+ 0       0.0355      0.16  QV         |          |          |          |
4+ 5       0.0366      0.16  QV         |          |          |          |
4+10       0.0377      0.16  QV         |          |          |          |
4+15       0.0389      0.16  QV         |          |          |          |
4+20       0.0401      0.18  QV         |          |          |          |
4+25       0.0414      0.19  QV         |          |          |          |
4+30       0.0427      0.19  QV         |          |          |          |
4+35       0.0440      0.19  QV         |          |          |          |
4+40       0.0454      0.19  QV         |          |          |          |
4+45       0.0467      0.19  QV         |          |          |          |
4+50       0.0481      0.20  QV         |          |          |          |
4+55       0.0496      0.22  QV         |          |          |          |
5+ 0       0.0511      0.22  QV         |          |          |          |
5+ 5       0.0524      0.19  Q V        |          |          |          |
5+10       0.0536      0.17  Q V        |          |          |          |
5+15       0.0547      0.17  Q V        |          |          |          |
5+20       0.0560      0.18  Q V        |          |          |          |
5+25       0.0573      0.19  Q V        |          |          |          |
5+30       0.0586      0.19  Q V        |          |          |          |
5+35       0.0600      0.20  Q V        |          |          |          |
5+40       0.0615      0.22  Q V        |          |          |          |
5+45       0.0630      0.22  Q V        |          |          |          |
5+50       0.0645      0.22  Q V        |          |          |          |
5+55       0.0660      0.22  Q V        |          |          |          |
6+ 0       0.0675      0.22  Q V        |          |          |          |
6+ 5       0.0691      0.23  Q V        |          |          |          |
6+10       0.0708      0.24  Q V        |          |          |          |
6+15       0.0725      0.25  Q V        |          |          |          |
6+20       0.0742      0.25  Q V        |          |          |          |
6+25       0.0759      0.25  Q V        |          |          |          |
6+30       0.0776      0.25  Q V        |          |          |          |
6+35       0.0794      0.26  |Q V        |          |          |          |
6+40       0.0812      0.27  |Q V        |          |          |          |
6+45       0.0831      0.27  |Q V        |          |          |          |
6+50       0.0850      0.27  |Q V        |          |          |          |
6+55       0.0869      0.27  |Q V        |          |          |          |
7+ 0       0.0888      0.27  |Q V        |          |          |          |
7+ 5       0.0907      0.27  |Q V        |          |          |          |
7+10       0.0925      0.27  |Q V        |          |          |          |
7+15       0.0944      0.27  |Q V        |          |          |          |
7+20       0.0964      0.29  |Q V        |          |          |          |
7+25       0.0985      0.30  |Q V        |          |          |          |
7+30       0.1005      0.30  |Q V        |          |          |          |
7+35       0.1027      0.31  |Q V        |          |          |          |
7+40       0.1049      0.33  |Q  V       |          |          |          |
7+45       0.1072      0.33  |Q  V       |          |          |          |
7+50       0.1096      0.34  |Q  V       |          |          |          |
7+55       0.1120      0.35  |Q  V       |          |          |          |
8+ 0       0.1144      0.36  |Q  V       |          |          |          |
8+ 5       0.1171      0.38  |Q  V       |          |          |          |
8+10       0.1199      0.41  |Q  V       |          |          |          |
8+15       0.1227      0.41  |Q  V       |          |          |          |
8+20       0.1255      0.41  |Q  V       |          |          |          |
8+25       0.1283      0.41  |Q  V       |          |          |          |
8+30       0.1312      0.41  |Q   V      |          |          |          |
8+35       0.1341      0.42  |Q   V      |          |          |          |
8+40       0.1371      0.44  |Q   V      |          |          |          |
8+45       0.1401      0.44  |Q   V      |          |          |          |
8+50       0.1432      0.45  |Q   V      |          |          |          |
8+55       0.1464      0.46  |Q   V      |          |          |          |
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 9+ 0       0.1496      0.47  |Q   V    |          |          |          |
 9+ 5       0.1531      0.51  | Q  V    |          |          |          |
 9+10       0.1569      0.55  | Q  V    |          |          |          |
 9+15       0.1609      0.57  | Q   V   |          |          |          |
 9+20       0.1653      0.65  | Q   V   |          |          |          |
 9+25       0.1702      0.71  | Q   V   |          |          |          |
 9+30       0.1753      0.73  | Q   V   |          |          |          |
 9+35       0.1809      0.81  |  Q  V   |          |          |          |
 9+40       0.1870      0.88  |  Q   V  |          |          |          |
 9+45       0.1932      0.90  |  Q   V  |          |          |          |
 9+50       0.1999      0.98  |  Q   V  |          |          |          |
 9+55       0.2071      1.05  |   Q  V  |          |          |          |
10+ 0       0.2144      1.07  |   Q   V |          |          |          |
10+ 5       0.2197      0.76  |  Q    V |          |          |          |
10+10       0.2230      0.48  |Q      V |          |          |          |
10+15       0.2260      0.43  |Q      V |          |          |          |
10+20       0.2288      0.41  |Q      V |          |          |          |
10+25       0.2317      0.41  |Q      V |          |          |          |
10+30       0.2345      0.41  |Q      V |          |          |          |
10+35       0.2388      0.63  | Q      V|          |          |          |
10+40       0.2445      0.82  |  Q     V|          |          |          |
10+45       0.2504      0.87  |  Q     V|          |          |          |
10+50       0.2565      0.89  |  Q     V|          |          |          |
10+55       0.2627      0.90  |  Q      V          |          |          |
11+ 0       0.2690      0.91  |  Q      V          |          |          |
11+ 5       0.2748      0.85  |  Q      V          |          |          |
11+10       0.2804      0.80  |  Q      V          |          |          |
11+15       0.2859      0.80  |  Q      V          |          |          |
11+20       0.2914      0.81  |  Q       V         |          |          |
11+25       0.2970      0.81  |  Q       V         |          |          |
11+30       0.3027      0.82  |  Q       V         |          |          |
11+35       0.3076      0.70  | Q        V         |          |          |
11+40       0.3117      0.60  | Q        V         |          |          |
11+45       0.3157      0.58  | Q         V        |          |          |
11+50       0.3202      0.65  | Q         V        |          |          |
11+55       0.3251      0.71  | Q         V        |          |          |
12+ 0       0.3301      0.73  | Q         V        |          |          |
12+ 5       0.3384      1.20  |   Q       V        |          |          |
12+10       0.3495      1.61  |     Q     V        |          |          |
12+15       0.3611      1.69  |     Q     V        |          |          |
12+20       0.3735      1.80  |      Q    V        |          |          |
12+25       0.3863      1.86  |      Q    V        |          |          |
12+30       0.3993      1.88  |      Q     V       |          |          |
12+35       0.4132      2.02  |       Q    V       |          |          |
12+40       0.4280      2.15  |       Q     V      |          |          |
12+45       0.4430      2.18  |       Q     V      |          |          |
12+50       0.4586      2.26  |        Q     V     |          |          |
12+55       0.4746      2.32  |        Q      V    |          |          |
13+ 0       0.4907      2.34  |        Q      V    |          |          |
13+ 5       0.5092      2.68  |         Q      V|  |          |          |
13+10       0.5296      2.97  |          Q       V |          |          |
13+15       0.5506      3.04  |           Q      |V          |          |
13+20       0.5717      3.07  |           Q      |V          |          |
13+25       0.5928      3.07  |           Q      | V         |          |
13+30       0.6141      3.08  |           Q      |  V        |          |
13+35       0.6305      2.38  |       Q          |   V       |          |
13+40       0.6426      1.76  |      Q           |   V       |          |
13+45       0.6539      1.65  |     Q            |   V       |          |
13+50       0.6650      1.61  |     Q            |    V      |          |
13+55       0.6761      1.61  |     Q            |    V      |          |
14+ 0       0.6872      1.62  |     Q            |     V     |          |
14+ 5       0.7002      1.89  |      Q           |     V     |          |
14+10       0.7149      2.12  |       Q          |      V    |          |
14+15       0.7299      2.18  |       Q          |      V    |          |
14+20       0.7446      2.14  |       Q          |       V   |          |
14+25       0.7590      2.09  |       Q          |       V   |          |
14+30       0.7733      2.08  |       Q          |        V| |          |
14+35       0.7877      2.09  |       Q          |         V|          |
14+40       0.8021      2.09  |       Q          |         V|          |
14+45       0.8166      2.10  |       Q          |          |V         |
14+50       0.8307      2.05  |       Q          |          |V         |
14+55       0.8444      2.00  |      Q           |          | V        |
15+ 0       0.8581      1.99  |      Q           |          | V        |
15+ 5       0.8714      1.93  |      Q           |          |  V       |
15+10       0.8844      1.88  |      Q           |          |  V       |
15+15       0.8973      1.88  |      Q           |          |   V      |
15+20       0.9098      1.82  |      Q           |          |   V      |
15+25       0.9220      1.77  |      Q           |          |    V     |
15+30       0.9341      1.76  |      Q           |          |    V     |
15+35       0.9445      1.51  |     Q            |          |     V    |
15+40       0.9533      1.28  |    Q             |          |     V    |
15+45       0.9619      1.25  |    Q             |          |     V    |
15+50       0.9704      1.24  |    Q             |          |      V   |
15+55       0.9790      1.24  |    Q             |          |      V   |
16+ 0       0.9876      1.25  |     Q            |          |      V   |
16+ 5       0.9925      0.72  | Q                |          |      V   |
```

16+10	0.9942	0.24	Q	|	|	|	V |
16+15	0.9952	0.15	Q	|	|	|	V |
16+20	0.9959	0.11	Q	|	|	|	V |
16+25	0.9967	0.11	Q	|	|	|	V |
16+30	0.9974	0.11	Q	|	|	|	V |
16+35	0.9981	0.10	Q	|	|	|	V |
16+40	0.9987	0.09	Q	|	|	|	V |
16+45	0.9993	0.08	Q	|	|	|	V |
16+50	0.9998	0.08	Q	|	|	|	V |
16+55	1.0004	0.08	Q	|	|	|	V |
17+ 0	1.0010	0.08	Q	|	|	|	V |
17+ 5	1.0017	0.11	Q	|	|	|	V |
17+10	1.0026	0.13	Q	|	|	|	V |
17+15	1.0035	0.14	Q	|	|	|	V |
17+20	1.0045	0.14	Q	|	|	|	V |
17+25	1.0054	0.14	Q	|	|	|	V |
17+30	1.0064	0.14	Q	|	|	|	V |
17+35	1.0073	0.14	Q	|	|	|	V |
17+40	1.0083	0.14	Q	|	|	|	V |
17+45	1.0092	0.14	Q	|	|	|	V |
17+50	1.0101	0.12	Q	|	|	|	V |
17+55	1.0108	0.11	Q	|	|	|	V |
18+ 0	1.0116	0.11	Q	|	|	|	V |
18+ 5	1.0123	0.11	Q	|	|	|	V |
18+10	1.0131	0.11	Q	|	|	|	V |
18+15	1.0139	0.11	Q	|	|	|	V |
18+20	1.0146	0.11	Q	|	|	|	V |
18+25	1.0154	0.11	Q	|	|	|	V |
18+30	1.0161	0.11	Q	|	|	|	V |
18+35	1.0168	0.10	Q	|	|	|	V |
18+40	1.0174	0.09	Q	|	|	|	V |
18+45	1.0179	0.08	Q	|	|	|	V |
18+50	1.0184	0.07	Q	|	|	|	V |
18+55	1.0188	0.06	Q	|	|	|	V |
19+ 0	1.0192	0.06	Q	|	|	|	V |
19+ 5	1.0197	0.07	Q	|	|	|	V |
19+10	1.0202	0.08	Q	|	|	|	V |
19+15	1.0208	0.08	Q	|	|	|	V |
19+20	1.0214	0.10	Q	|	|	|	V |
19+25	1.0222	0.11	Q	|	|	|	V|
19+30	1.0229	0.11	Q	|	|	|	V|
19+35	1.0236	0.10	Q	|	|	|	V|
19+40	1.0242	0.09	Q	|	|	|	V|
19+45	1.0247	0.08	Q	|	|	|	V|
19+50	1.0252	0.07	Q	|	|	|	V|
19+55	1.0256	0.06	Q	|	|	|	V|
20+ 0	1.0260	0.06	Q	|	|	|	V|
20+ 5	1.0265	0.07	Q	|	|	|	V|
20+10	1.0270	0.08	Q	|	|	|	V|
20+15	1.0276	0.08	Q	|	|	|	V|
20+20	1.0281	0.08	Q	|	|	|	V|
20+25	1.0287	0.08	Q	|	|	|	V|
20+30	1.0293	0.08	Q	|	|	|	V|
20+35	1.0298	0.08	Q	|	|	|	V|
20+40	1.0304	0.08	Q	|	|	|	V|
20+45	1.0310	0.08	Q	|	|	|	V|
20+50	1.0314	0.07	Q	|	|	|	V|
20+55	1.0318	0.06	Q	|	|	|	V|
21+ 0	1.0322	0.06	Q	|	|	|	V|
21+ 5	1.0327	0.07	Q	|	|	|	V|
21+10	1.0332	0.08	Q	|	|	|	V|
21+15	1.0338	0.08	Q	|	|	|	V|
21+20	1.0343	0.07	Q	|	|	|	V|
21+25	1.0347	0.06	Q	|	|	|	V|
21+30	1.0351	0.06	Q	|	|	|	V|
21+35	1.0355	0.07	Q	|	|	|	V|
21+40	1.0361	0.08	Q	|	|	|	V|
21+45	1.0366	0.08	Q	|	|	|	V|
21+50	1.0371	0.07	Q	|	|	|	V|
21+55	1.0375	0.06	Q	|	|	|	V|
22+ 0	1.0379	0.06	Q	|	|	|	V|
22+ 5	1.0384	0.07	Q	|	|	|	V|
22+10	1.0389	0.08	Q	|	|	|	V|
22+15	1.0395	0.08	Q	|	|	|	V|
22+20	1.0399	0.07	Q	|	|	|	V|
22+25	1.0403	0.06	Q	|	|	|	V|
22+30	1.0407	0.06	Q	|	|	|	V|
22+35	1.0411	0.05	Q	|	|	|	V|
22+40	1.0415	0.05	Q	|	|	|	V|
22+45	1.0419	0.05	Q	|	|	|	V|
22+50	1.0422	0.05	Q	|	|	|	V|
22+55	1.0426	0.05	Q	|	|	|	V|
23+ 0	1.0430	0.05	Q	|	|	|	V|
23+ 5	1.0434	0.05	Q	|	|	|	V|
23+10	1.0437	0.05	Q	|	|	|	V|
23+15	1.0441	0.05	Q	|	|	|	V|

```
   23+20       1.0445      0.05  Q          |          |          |         v|
   23+25       1.0449      0.05  Q          |          |          |         v|
   23+30       1.0453      0.05  Q          |          |          |         v|
   23+35       1.0456      0.05  Q          |          |          |         v|
   23+40       1.0460      0.05  Q          |          |          |         v|
   23+45       1.0464      0.05  Q          |          |          |         v|
   23+50       1.0468      0.05  Q          |          |          |         v|
   23+55       1.0471      0.05  Q          |          |          |         v|
   24+ 0       1.0475      0.05  Q          |          |          |         v|
   24+ 5       1.0477      0.03  Q          |          |          |         v|
   24+10       1.0478      0.01  Q          |          |          |         v|
   24+15       1.0478      0.00  Q          |          |          |          v
-------------------------------------------------------------------------------
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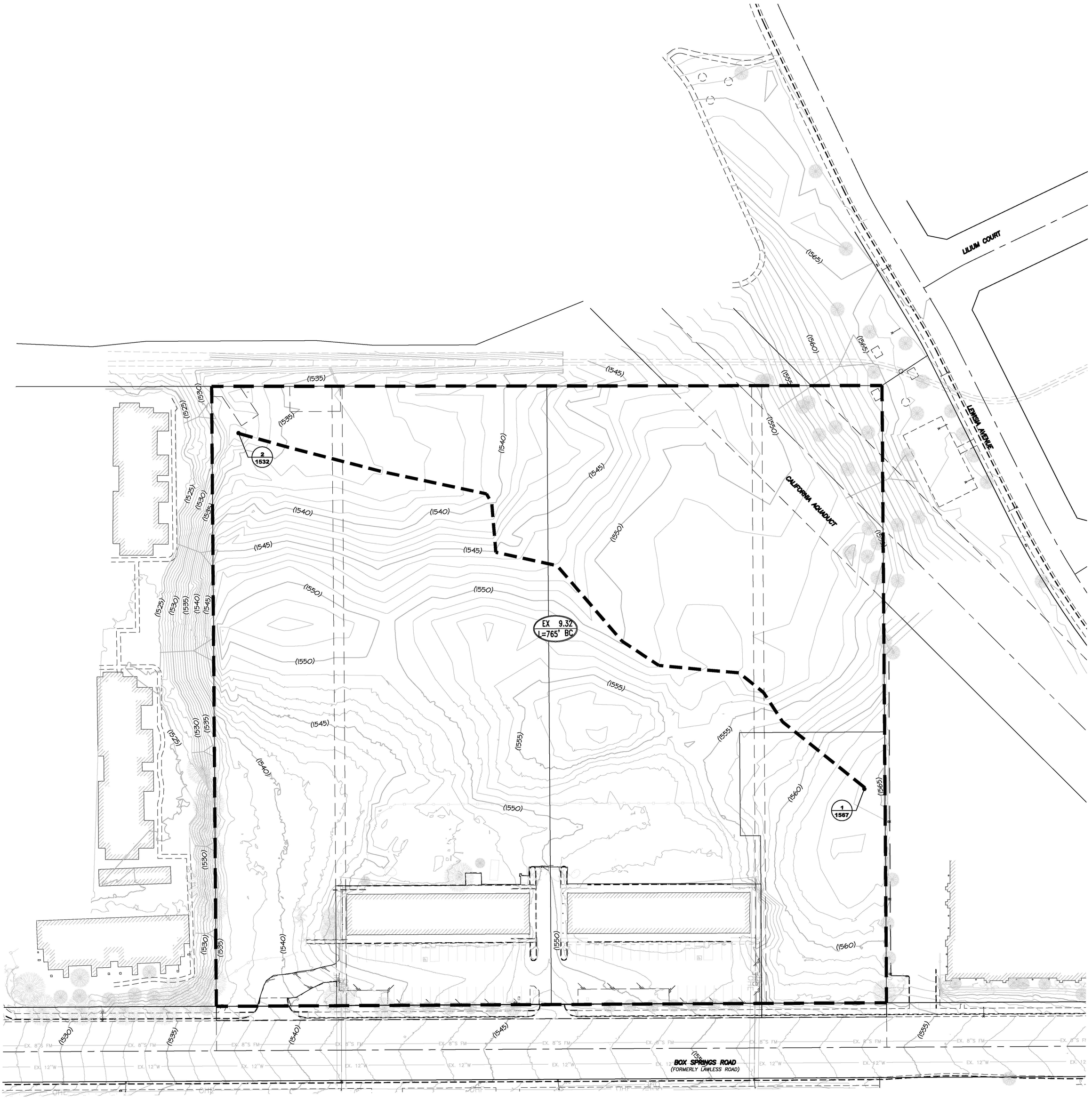
EXISTING UNIT HYDROGRAPH MAP



SCALE
SCALE: 1"=50'

0 50 100 150 200
25

LEGEND

NODE ELEV

AREA ACRES
LENGTH SOIL

WATERSHED BOUNDARY

FLOW PATH

EXISTING UNIT HYDROGRAPH MAP
PREPARATION DATE : JUNE 2024

adkan ENGINEERS
Civil Engineering Surveying Planning
6879 Airport Drive, Riverside, CA 92504
Tel:(951) 688-0241 Fax:(951) 688-0599

Section 4

Post-Development 2 year 24 hour (Unit Hydrograph)

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

Study date 03/10/24 File: pro2242.out

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

Program License Serial Number 5006

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

English Units used in output format

Drainage Area = 9.32(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.32(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 1761.00(Ft.)
Length along longest watercourse measured to centroid = 900.00(Ft.)
Length along longest watercourse = 0.334 Mi.
Length along longest watercourse measured to centroid = 0.170 Mi.
Difference in elevation = 33.00(Ft.)
Slope along watercourse = 98.9438 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.051 Hr.
Lag time = 3.03 Min.
25% of lag time = 0.76 Min.
40% of lag time = 1.21 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]
9.32	2.00	18.64

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.32	6.00	55.92

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.000(In)
Area Averaged 100-Year Rainfall = 6.000(In)

Point rain (area averaged) = 2.000(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.000(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.320	62.50	0.650

Total Area Entered = 9.32(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
62.5	42.5	0.645	0.650	0.268	1.000	0.268
					Sum (F) =	0.268

Area averaged mean soil loss (F) (In/Hr) = 0.268
Minimum soil loss rate ((In/Hr)) = 0.134
(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	164.756	36.565	3.434
2	0.167	329.512	45.909	4.312
3	0.250	494.268	10.393	0.976
4	0.333	659.024	4.431	0.416
5	0.417	823.780	2.702	0.254
			Sum = 100.000	Sum= 9.393

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.016	(0.475)	0.006	0.010
2	0.17	0.07	0.016	(0.473)	0.006	0.010
3	0.25	0.07	0.016	(0.471)	0.006	0.010
4	0.33	0.10	0.024	(0.469)	0.009	0.015
5	0.42	0.10	0.024	(0.468)	0.009	0.015
6	0.50	0.10	0.024	(0.466)	0.009	0.015
7	0.58	0.10	0.024	(0.464)	0.009	0.015
8	0.67	0.10	0.024	(0.462)	0.009	0.015
9	0.75	0.10	0.024	(0.460)	0.009	0.015
10	0.83	0.13	0.032	(0.458)	0.012	0.020
11	0.92	0.13	0.032	(0.457)	0.012	0.020
12	1.00	0.13	0.032	(0.455)	0.012	0.020
13	1.08	0.10	0.024	(0.453)	0.009	0.015
14	1.17	0.10	0.024	(0.451)	0.009	0.015
15	1.25	0.10	0.024	(0.449)	0.009	0.015
16	1.33	0.10	0.024	(0.448)	0.009	0.015
17	1.42	0.10	0.024	(0.446)	0.009	0.015
18	1.50	0.10	0.024	(0.444)	0.009	0.015
19	1.58	0.10	0.024	(0.442)	0.009	0.015
20	1.67	0.10	0.024	(0.441)	0.009	0.015
21	1.75	0.10	0.024	(0.439)	0.009	0.015
22	1.83	0.13	0.032	(0.437)	0.012	0.020
23	1.92	0.13	0.032	(0.435)	0.012	0.020
24	2.00	0.13	0.032	(0.434)	0.012	0.020
25	2.08	0.13	0.032	(0.432)	0.012	0.020
26	2.17	0.13	0.032	(0.430)	0.012	0.020
27	2.25	0.13	0.032	(0.428)	0.012	0.020
28	2.33	0.13	0.032	(0.427)	0.012	0.020
29	2.42	0.13	0.032	(0.425)	0.012	0.020
30	2.50	0.13	0.032	(0.423)	0.012	0.020
31	2.58	0.17	0.040	(0.421)	0.015	0.025
32	2.67	0.17	0.040	(0.420)	0.015	0.025
33	2.75	0.17	0.040	(0.418)	0.015	0.025
34	2.83	0.17	0.040	(0.416)	0.015	0.025
35	2.92	0.17	0.040	(0.414)	0.015	0.025
36	3.00	0.17	0.040	(0.413)	0.015	0.025
37	3.08	0.17	0.040	(0.411)	0.015	0.025
38	3.17	0.17	0.040	(0.409)	0.015	0.025
39	3.25	0.17	0.040	(0.408)	0.015	0.025
40	3.33	0.17	0.040	(0.406)	0.015	0.025
41	3.42	0.17	0.040	(0.404)	0.015	0.025
42	3.50	0.17	0.040	(0.403)	0.015	0.025
43	3.58	0.17	0.040	(0.401)	0.015	0.025
44	3.67	0.17	0.040	(0.399)	0.015	0.025
45	3.75	0.17	0.040	(0.397)	0.015	0.025
46	3.83	0.20	0.048	(0.396)	0.018	0.030
47	3.92	0.20	0.048	(0.394)	0.018	0.030
48	4.00	0.20	0.048	(0.392)	0.018	0.030
49	4.08	0.20	0.048	(0.391)	0.018	0.030
50	4.17	0.20	0.048	(0.389)	0.018	0.030
51	4.25	0.20	0.048	(0.387)	0.018	0.030
52	4.33	0.23	0.056	(0.386)	0.021	0.035
53	4.42	0.23	0.056	(0.384)	0.021	0.035
54	4.50	0.23	0.056	(0.383)	0.021	0.035
55	4.58	0.23	0.056	(0.381)	0.021	0.035
56	4.67	0.23	0.056	(0.379)	0.021	0.035
57	4.75	0.23	0.056	(0.378)	0.021	0.035
58	4.83	0.27	0.064	(0.376)	0.024	0.040
59	4.92	0.27	0.064	(0.374)	0.024	0.040
60	5.00	0.27	0.064	(0.373)	0.024	0.040
61	5.08	0.20	0.048	(0.371)	0.018	0.030

62	5.17	0.20	0.048	(0.370)	0.018	0.030
63	5.25	0.20	0.048	(0.368)	0.018	0.030
64	5.33	0.23	0.056	(0.366)	0.021	0.035
65	5.42	0.23	0.056	(0.365)	0.021	0.035
66	5.50	0.23	0.056	(0.363)	0.021	0.035
67	5.58	0.27	0.064	(0.362)	0.024	0.040
68	5.67	0.27	0.064	(0.360)	0.024	0.040
69	5.75	0.27	0.064	(0.358)	0.024	0.040
70	5.83	0.27	0.064	(0.357)	0.024	0.040
71	5.92	0.27	0.064	(0.355)	0.024	0.040
72	6.00	0.27	0.064	(0.354)	0.024	0.040
73	6.08	0.30	0.072	(0.352)	0.027	0.045
74	6.17	0.30	0.072	(0.350)	0.027	0.045
75	6.25	0.30	0.072	(0.349)	0.027	0.045
76	6.33	0.30	0.072	(0.347)	0.027	0.045
77	6.42	0.30	0.072	(0.346)	0.027	0.045
78	6.50	0.30	0.072	(0.344)	0.027	0.045
79	6.58	0.33	0.080	(0.343)	0.030	0.050
80	6.67	0.33	0.080	(0.341)	0.030	0.050
81	6.75	0.33	0.080	(0.340)	0.030	0.050
82	6.83	0.33	0.080	(0.338)	0.030	0.050
83	6.92	0.33	0.080	(0.337)	0.030	0.050
84	7.00	0.33	0.080	(0.335)	0.030	0.050
85	7.08	0.33	0.080	(0.333)	0.030	0.050
86	7.17	0.33	0.080	(0.332)	0.030	0.050
87	7.25	0.33	0.080	(0.330)	0.030	0.050
88	7.33	0.37	0.088	(0.329)	0.033	0.055
89	7.42	0.37	0.088	(0.327)	0.033	0.055
90	7.50	0.37	0.088	(0.326)	0.033	0.055
91	7.58	0.40	0.096	(0.324)	0.036	0.060
92	7.67	0.40	0.096	(0.323)	0.036	0.060
93	7.75	0.40	0.096	(0.321)	0.036	0.060
94	7.83	0.43	0.104	(0.320)	0.040	0.064
95	7.92	0.43	0.104	(0.319)	0.040	0.064
96	8.00	0.43	0.104	(0.317)	0.040	0.064
97	8.08	0.50	0.120	(0.316)	0.046	0.074
98	8.17	0.50	0.120	(0.314)	0.046	0.074
99	8.25	0.50	0.120	(0.313)	0.046	0.074
100	8.33	0.50	0.120	(0.311)	0.046	0.074
101	8.42	0.50	0.120	(0.310)	0.046	0.074
102	8.50	0.50	0.120	(0.308)	0.046	0.074
103	8.58	0.53	0.128	(0.307)	0.049	0.079
104	8.67	0.53	0.128	(0.305)	0.049	0.079
105	8.75	0.53	0.128	(0.304)	0.049	0.079
106	8.83	0.57	0.136	(0.302)	0.052	0.084
107	8.92	0.57	0.136	(0.301)	0.052	0.084
108	9.00	0.57	0.136	(0.300)	0.052	0.084
109	9.08	0.63	0.152	(0.298)	0.058	0.094
110	9.17	0.63	0.152	(0.297)	0.058	0.094
111	9.25	0.63	0.152	(0.295)	0.058	0.094
112	9.33	0.67	0.160	(0.294)	0.061	0.099
113	9.42	0.67	0.160	(0.293)	0.061	0.099
114	9.50	0.67	0.160	(0.291)	0.061	0.099
115	9.58	0.70	0.168	(0.290)	0.064	0.104
116	9.67	0.70	0.168	(0.288)	0.064	0.104
117	9.75	0.70	0.168	(0.287)	0.064	0.104
118	9.83	0.73	0.176	(0.286)	0.067	0.109
119	9.92	0.73	0.176	(0.284)	0.067	0.109
120	10.00	0.73	0.176	(0.283)	0.067	0.109
121	10.08	0.50	0.120	(0.282)	0.046	0.074
122	10.17	0.50	0.120	(0.280)	0.046	0.074
123	10.25	0.50	0.120	(0.279)	0.046	0.074
124	10.33	0.50	0.120	(0.277)	0.046	0.074
125	10.42	0.50	0.120	(0.276)	0.046	0.074
126	10.50	0.50	0.120	(0.275)	0.046	0.074
127	10.58	0.67	0.160	(0.273)	0.061	0.099
128	10.67	0.67	0.160	(0.272)	0.061	0.099
129	10.75	0.67	0.160	(0.271)	0.061	0.099
130	10.83	0.67	0.160	(0.269)	0.061	0.099
131	10.92	0.67	0.160	(0.268)	0.061	0.099
132	11.00	0.67	0.160	(0.267)	0.061	0.099
133	11.08	0.63	0.152	(0.265)	0.058	0.094
134	11.17	0.63	0.152	(0.264)	0.058	0.094
135	11.25	0.63	0.152	(0.263)	0.058	0.094
136	11.33	0.63	0.152	(0.262)	0.058	0.094
137	11.42	0.63	0.152	(0.260)	0.058	0.094
138	11.50	0.63	0.152	(0.259)	0.058	0.094
139	11.58	0.57	0.136	(0.258)	0.052	0.084
140	11.67	0.57	0.136	(0.256)	0.052	0.084
141	11.75	0.57	0.136	(0.255)	0.052	0.084
142	11.83	0.60	0.144	(0.254)	0.055	0.089

143	11.92	0.60	0.144	(0.253)	0.055	0.089
144	12.00	0.60	0.144	(0.251)	0.055	0.089
145	12.08	0.83	0.200	(0.250)	0.076	0.124
146	12.17	0.83	0.200	(0.249)	0.076	0.124
147	12.25	0.83	0.200	(0.248)	0.076	0.124
148	12.33	0.87	0.208	(0.246)	0.079	0.129
149	12.42	0.87	0.208	(0.245)	0.079	0.129
150	12.50	0.87	0.208	(0.244)	0.079	0.129
151	12.58	0.93	0.224	(0.243)	0.085	0.139
152	12.67	0.93	0.224	(0.241)	0.085	0.139
153	12.75	0.93	0.224	(0.240)	0.085	0.139
154	12.83	0.97	0.232	(0.239)	0.088	0.144
155	12.92	0.97	0.232	(0.238)	0.088	0.144
156	13.00	0.97	0.232	(0.237)	0.088	0.144
157	13.08	1.13	0.272	(0.235)	0.103	0.169
158	13.17	1.13	0.272	(0.234)	0.103	0.169
159	13.25	1.13	0.272	(0.233)	0.103	0.169
160	13.33	1.13	0.272	(0.232)	0.103	0.169
161	13.42	1.13	0.272	(0.231)	0.103	0.169
162	13.50	1.13	0.272	(0.229)	0.103	0.169
163	13.58	0.77	0.184	(0.228)	0.070	0.114
164	13.67	0.77	0.184	(0.227)	0.070	0.114
165	13.75	0.77	0.184	(0.226)	0.070	0.114
166	13.83	0.77	0.184	(0.225)	0.070	0.114
167	13.92	0.77	0.184	(0.224)	0.070	0.114
168	14.00	0.77	0.184	(0.223)	0.070	0.114
169	14.08	0.90	0.216	(0.221)	0.082	0.134
170	14.17	0.90	0.216	(0.220)	0.082	0.134
171	14.25	0.90	0.216	(0.219)	0.082	0.134
172	14.33	0.87	0.208	(0.218)	0.079	0.129
173	14.42	0.87	0.208	(0.217)	0.079	0.129
174	14.50	0.87	0.208	(0.216)	0.079	0.129
175	14.58	0.87	0.208	(0.215)	0.079	0.129
176	14.67	0.87	0.208	(0.214)	0.079	0.129
177	14.75	0.87	0.208	(0.212)	0.079	0.129
178	14.83	0.83	0.200	(0.211)	0.076	0.124
179	14.92	0.83	0.200	(0.210)	0.076	0.124
180	15.00	0.83	0.200	(0.209)	0.076	0.124
181	15.08	0.80	0.192	(0.208)	0.073	0.119
182	15.17	0.80	0.192	(0.207)	0.073	0.119
183	15.25	0.80	0.192	(0.206)	0.073	0.119
184	15.33	0.77	0.184	(0.205)	0.070	0.114
185	15.42	0.77	0.184	(0.204)	0.070	0.114
186	15.50	0.77	0.184	(0.203)	0.070	0.114
187	15.58	0.63	0.152	(0.202)	0.058	0.094
188	15.67	0.63	0.152	(0.201)	0.058	0.094
189	15.75	0.63	0.152	(0.200)	0.058	0.094
190	15.83	0.63	0.152	(0.199)	0.058	0.094
191	15.92	0.63	0.152	(0.198)	0.058	0.094
192	16.00	0.63	0.152	(0.197)	0.058	0.094
193	16.08	0.13	0.032	(0.196)	0.012	0.020
194	16.17	0.13	0.032	(0.195)	0.012	0.020
195	16.25	0.13	0.032	(0.194)	0.012	0.020
196	16.33	0.13	0.032	(0.193)	0.012	0.020
197	16.42	0.13	0.032	(0.192)	0.012	0.020
198	16.50	0.13	0.032	(0.191)	0.012	0.020
199	16.58	0.10	0.024	(0.190)	0.009	0.015
200	16.67	0.10	0.024	(0.189)	0.009	0.015
201	16.75	0.10	0.024	(0.188)	0.009	0.015
202	16.83	0.10	0.024	(0.187)	0.009	0.015
203	16.92	0.10	0.024	(0.186)	0.009	0.015
204	17.00	0.10	0.024	(0.185)	0.009	0.015
205	17.08	0.17	0.040	(0.184)	0.015	0.025
206	17.17	0.17	0.040	(0.183)	0.015	0.025
207	17.25	0.17	0.040	(0.182)	0.015	0.025
208	17.33	0.17	0.040	(0.181)	0.015	0.025
209	17.42	0.17	0.040	(0.180)	0.015	0.025
210	17.50	0.17	0.040	(0.180)	0.015	0.025
211	17.58	0.17	0.040	(0.179)	0.015	0.025
212	17.67	0.17	0.040	(0.178)	0.015	0.025
213	17.75	0.17	0.040	(0.177)	0.015	0.025
214	17.83	0.13	0.032	(0.176)	0.012	0.020
215	17.92	0.13	0.032	(0.175)	0.012	0.020
216	18.00	0.13	0.032	(0.174)	0.012	0.020
217	18.08	0.13	0.032	(0.173)	0.012	0.020
218	18.17	0.13	0.032	(0.173)	0.012	0.020
219	18.25	0.13	0.032	(0.172)	0.012	0.020
220	18.33	0.13	0.032	(0.171)	0.012	0.020
221	18.42	0.13	0.032	(0.170)	0.012	0.020
222	18.50	0.13	0.032	(0.169)	0.012	0.020
223	18.58	0.10	0.024	(0.168)	0.009	0.015

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224  18.67     0.10      0.024       (  0.168)       0.009        0.015
225  18.75     0.10      0.024       (  0.167)       0.009        0.015
226  18.83     0.07      0.016       (  0.166)       0.006        0.010
227  18.92     0.07      0.016       (  0.165)       0.006        0.010
228  19.00     0.07      0.016       (  0.164)       0.006        0.010
229  19.08     0.10      0.024       (  0.164)       0.009        0.015
230  19.17     0.10      0.024       (  0.163)       0.009        0.015
231  19.25     0.10      0.024       (  0.162)       0.009        0.015
232  19.33     0.13      0.032       (  0.161)       0.012        0.020
233  19.42     0.13      0.032       (  0.161)       0.012        0.020
234  19.50     0.13      0.032       (  0.160)       0.012        0.020
235  19.58     0.10      0.024       (  0.159)       0.009        0.015
236  19.67     0.10      0.024       (  0.158)       0.009        0.015
237  19.75     0.10      0.024       (  0.158)       0.009        0.015
238  19.83     0.07      0.016       (  0.157)       0.006        0.010
239  19.92     0.07      0.016       (  0.156)       0.006        0.010
240  20.00     0.07      0.016       (  0.156)       0.006        0.010
241  20.08     0.10      0.024       (  0.155)       0.009        0.015
242  20.17     0.10      0.024       (  0.154)       0.009        0.015
243  20.25     0.10      0.024       (  0.154)       0.009        0.015
244  20.33     0.10      0.024       (  0.153)       0.009        0.015
245  20.42     0.10      0.024       (  0.152)       0.009        0.015
246  20.50     0.10      0.024       (  0.152)       0.009        0.015
247  20.58     0.10      0.024       (  0.151)       0.009        0.015
248  20.67     0.10      0.024       (  0.150)       0.009        0.015
249  20.75     0.10      0.024       (  0.150)       0.009        0.015
250  20.83     0.07      0.016       (  0.149)       0.006        0.010
251  20.92     0.07      0.016       (  0.148)       0.006        0.010
252  21.00     0.07      0.016       (  0.148)       0.006        0.010
253  21.08     0.10      0.024       (  0.147)       0.009        0.015
254  21.17     0.10      0.024       (  0.147)       0.009        0.015
255  21.25     0.10      0.024       (  0.146)       0.009        0.015
256  21.33     0.07      0.016       (  0.146)       0.006        0.010
257  21.42     0.07      0.016       (  0.145)       0.006        0.010
258  21.50     0.07      0.016       (  0.144)       0.006        0.010
259  21.58     0.10      0.024       (  0.144)       0.009        0.015
260  21.67     0.10      0.024       (  0.143)       0.009        0.015
261  21.75     0.10      0.024       (  0.143)       0.009        0.015
262  21.83     0.07      0.016       (  0.142)       0.006        0.010
263  21.92     0.07      0.016       (  0.142)       0.006        0.010
264  22.00     0.07      0.016       (  0.141)       0.006        0.010
265  22.08     0.10      0.024       (  0.141)       0.009        0.015
266  22.17     0.10      0.024       (  0.141)       0.009        0.015
267  22.25     0.10      0.024       (  0.140)       0.009        0.015
268  22.33     0.07      0.016       (  0.140)       0.006        0.010
269  22.42     0.07      0.016       (  0.139)       0.006        0.010
270  22.50     0.07      0.016       (  0.139)       0.006        0.010
271  22.58     0.07      0.016       (  0.138)       0.006        0.010
272  22.67     0.07      0.016       (  0.138)       0.006        0.010
273  22.75     0.07      0.016       (  0.138)       0.006        0.010
274  22.83     0.07      0.016       (  0.137)       0.006        0.010
275  22.92     0.07      0.016       (  0.137)       0.006        0.010
276  23.00     0.07      0.016       (  0.137)       0.006        0.010
277  23.08     0.07      0.016       (  0.136)       0.006        0.010
278  23.17     0.07      0.016       (  0.136)       0.006        0.010
279  23.25     0.07      0.016       (  0.136)       0.006        0.010
280  23.33     0.07      0.016       (  0.135)       0.006        0.010
281  23.42     0.07      0.016       (  0.135)       0.006        0.010
282  23.50     0.07      0.016       (  0.135)       0.006        0.010
283  23.58     0.07      0.016       (  0.135)       0.006        0.010
284  23.67     0.07      0.016       (  0.134)       0.006        0.010
285  23.75     0.07      0.016       (  0.134)       0.006        0.010
286  23.83     0.07      0.016       (  0.134)       0.006        0.010
287  23.92     0.07      0.016       (  0.134)       0.006        0.010
288  24.00     0.07      0.016       (  0.134)       0.006        0.010
               (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    14.9
      Flood volume = Effective rainfall      1.24(In)
       times area       9.3(Ac.)/[(In)/(Ft.)] =       1.0(Ac.Ft)
      Total soil loss =      0.76(In)
      Total soil loss =     0.590(Ac.Ft)
      Total rainfall =      2.00(In)
      Flood volume =       41950.4 Cubic Feet
      Total soil loss =       25711.5 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      1.585(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
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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	0.0008	0.08	Q				
0+15	0.0014	0.09	Q				
0+20	0.0021	0.11	Q				
0+25	0.0030	0.13	Q				
0+30	0.0039	0.14	Q				
0+35	0.0049	0.14	Q				
0+40	0.0059	0.14	Q				
0+45	0.0068	0.14	Q				
0+50	0.0079	0.16	Q				
0+55	0.0091	0.18	Q				
1+ 0	0.0104	0.18	Q				
1+ 5	0.0116	0.17	Q				
1+10	0.0126	0.15	Q				
1+15	0.0136	0.14	Q				
1+20	0.0145	0.14	Q				
1+25	0.0155	0.14	Q				
1+30	0.0165	0.14	Q				
1+35	0.0174	0.14	Q				
1+40	0.0184	0.14	Q				
1+45	0.0193	0.14	Q				
1+50	0.0204	0.16	Q				
1+55	0.0217	0.18	Q				
2+ 0	0.0229	0.18	Q				
2+ 5	0.0242	0.19	QV				
2+10	0.0255	0.19	QV				
2+15	0.0268	0.19	QV				
2+20	0.0280	0.19	QV				
2+25	0.0293	0.19	QV				
2+30	0.0306	0.19	QV				
2+35	0.0320	0.20	QV				
2+40	0.0336	0.22	QV				
2+45	0.0351	0.23	QV				
2+50	0.0367	0.23	QV				
2+55	0.0383	0.23	QV				
3+ 0	0.0400	0.23	QV				
3+ 5	0.0416	0.23	QV				
3+10	0.0432	0.23	QV				
3+15	0.0448	0.23	QV				
3+20	0.0464	0.23	QV				
3+25	0.0480	0.23	QV				
3+30	0.0496	0.23	Q V				
3+35	0.0512	0.23	Q V				
3+40	0.0528	0.23	Q V				
3+45	0.0544	0.23	Q V				
3+50	0.0561	0.25	|QV				
3+55	0.0580	0.27	|QV				
4+ 0	0.0599	0.28	|QV				
4+ 5	0.0618	0.28	|QV				
4+10	0.0637	0.28	|QV				
4+15	0.0657	0.28	|QV				
4+20	0.0677	0.30	|QV				
4+25	0.0699	0.32	|QV				
4+30	0.0721	0.32	|QV				
4+35	0.0744	0.33	|Q V				
4+40	0.0766	0.33	|Q V				
4+45	0.0789	0.33	|Q V				
4+50	0.0812	0.34	|Q V				
4+55	0.0837	0.36	|Q V				
5+ 0	0.0863	0.37	|Q V				
5+ 5	0.0886	0.34	|Q V				
5+10	0.0906	0.30	|Q V				
5+15	0.0926	0.29	|Q V				
5+20	0.0947	0.30	|Q V				
5+25	0.0969	0.32	|Q V				
5+30	0.0991	0.32	|Q V				
5+35	0.1014	0.34	|Q V				
5+40	0.1040	0.36	|Q V				
5+45	0.1065	0.37	|Q V				
5+50	0.1091	0.37	|Q V				
5+55	0.1116	0.37	|Q V				
6+ 0	0.1142	0.37	|Q V				
6+ 5	0.1169	0.39	|Q V				
6+10	0.1197	0.41	|Q V				
6+15	0.1226	0.42	|Q V				
6+20	0.1255	0.42	|Q V				

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  6+25       0.1284      0.42  |Q   V    |          |          |          |
  6+30       0.1312      0.42  |Q   V    |          |          |          |
  6+35       0.1342      0.44  |Q   V    |          |          |          |
  6+40       0.1374      0.46  |Q   V    |          |          |          |
  6+45       0.1406      0.46  |Q   V    |          |          |          |
  6+50       0.1438      0.46  |Q   V    |          |          |          |
  6+55       0.1470      0.47  |Q    V   |          |          |          |
  7+ 0       0.1502      0.47  |Q    V   |          |          |          |
  7+ 5       0.1534      0.47  |Q    V   |          |          |          |
  7+10       0.1566      0.47  |Q    V   |          |          |          |
  7+15       0.1598      0.47  |Q    V   |          |          |          |
  7+20       0.1632      0.48  |Q    V   |          |          |          |
  7+25       0.1666      0.50  | Q   V   |          |          |          |
  7+30       0.1702      0.51  | Q    V  |          |          |          |
  7+35       0.1738      0.53  | Q    V  |          |          |          |
  7+40       0.1776      0.55  | Q    V  |          |          |          |
  7+45       0.1814      0.56  | Q    V  |          |          |          |
  7+50       0.1854      0.58  | Q    V  |          |          |          |
  7+55       0.1895      0.60  | Q    V  |          |          |          |
  8+ 0       0.1936      0.60  | Q     V |          |          |          |
  8+ 5       0.1980      0.64  | Q     V |          |          |          |
  8+10       0.2027      0.68  | Q     V |          |          |          |
  8+15       0.2075      0.69  | Q     V |          |          |          |
  8+20       0.2123      0.70  | Q     V |          |          |          |
  8+25       0.2171      0.70  | Q      V|          |          |          |
  8+30       0.2219      0.70  | Q      V|          |          |          |
  8+35       0.2269      0.72  | Q      V|          |          |          |
  8+40       0.2320      0.74  | Q      V|          |          |          |
  8+45       0.2371      0.74  | Q      V|          |          |          |
  8+50       0.2423      0.76  |  Q      V          |          |          |
  8+55       0.2477      0.78  |  Q      V          |          |          |
  9+ 0       0.2532      0.79  |  Q      V          |          |          |
  9+ 5       0.2588      0.83  |  Q      V          |          |          |
  9+10       0.2648      0.87  |  Q      V          |          |          |
  9+15       0.2709      0.88  |  Q      |V         |          |          |
  9+20       0.2771      0.90  |  Q      |V         |          |          |
  9+25       0.2834      0.92  |  Q      |V         |          |          |
  9+30       0.2898      0.93  |  Q      | V        |          |          |
  9+35       0.2964      0.95  |  Q      | V        |          |          |
  9+40       0.3030      0.97  |  Q      | V        |          |          |
  9+45       0.3098      0.98  |  Q      | V        |          |          |
  9+50       0.3166      0.99  |  Q      |  V       |          |          |
  9+55       0.3236      1.02  |   Q     |  V       |          |          |
 10+ 0       0.3307      1.02  |   Q     |  V       |          |          |
 10+ 5       0.3369      0.90  |  Q      |  V       |          |          |
 10+10       0.3421      0.76  |  Q      |   V      |          |          |
 10+15       0.3471      0.72  | Q       |   V      |          |          |
 10+20       0.3520      0.71  | Q       |   V      |          |          |
 10+25       0.3568      0.70  | Q       |   V      |          |          |
 10+30       0.3616      0.70  | Q       |    V     |          |          |
 10+35       0.3670      0.78  |  Q      |    V     |          |          |
 10+40       0.3731      0.89  |  Q      |    V     |          |          |
 10+45       0.3794      0.92  |  Q      |    V     |          |          |
 10+50       0.3858      0.93  |  Q      |     V    |          |          |
 10+55       0.3922      0.93  |  Q      |     V    |          |          |
 11+ 0       0.3987      0.93  |  Q      |     V    |          |          |
 11+ 5       0.4050      0.92  |  Q      |     V    |          |          |
 11+10       0.4111      0.89  |  Q      |      V   |          |          |
 11+15       0.4172      0.89  |  Q      |      V   |          |          |
 11+20       0.4233      0.89  |  Q      |      V   |          |          |
 11+25       0.4294      0.89  |  Q      |      V   |          |          |
 11+30       0.4355      0.89  |  Q      |       V  |          |          |
 11+35       0.4414      0.85  |  Q      |       V  |          |          |
 11+40       0.4470      0.81  |  Q      |       V  |          |          |
 11+45       0.4525      0.80  |  Q      |       V  |          |          |
 11+50       0.4581      0.81  |  Q      |        V |          |          |
 11+55       0.4638      0.83  |  Q      |        V |          |          |
 12+ 0       0.4695      0.84  |  Q      |        V |          |          |
 12+ 5       0.4761      0.96  |  Q      |        V |          |          |
 12+10       0.4838      1.11  |   Q     |         V          |          |
 12+15       0.4916      1.14  |   Q     |         V          |          |
 12+20       0.4997      1.17  |   Q     |         V          |          |
 12+25       0.5080      1.20  |   Q     |          |V        |          |
 12+30       0.5163      1.21  |   Q     |          |V        |          |
 12+35       0.5249      1.24  |   Q     |          |V        |          |
 12+40       0.5338      1.29  |    Q    |          | V       |          |
 12+45       0.5427      1.30  |    Q    |          | V       |          |
 12+50       0.5518      1.32  |    Q    |          | V       |          |
 12+55       0.5611      1.34  |    Q    |          |  V      |          |
 13+ 0       0.5703      1.35  |    Q    |          |  V      |          |
 13+ 5       0.5802      1.44  |    Q    |          |   V     |          |
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13+10	0.5909	1.54	Q	V		
13+15	0.6017	1.57	Q	V		
13+20	0.6125	1.58	Q	V		
13+25	0.6235	1.58	Q	V		
13+30	0.6344	1.58	Q	V		
13+35	0.6440	1.40	Q	V		
13+40	0.6520	1.16	Q	V		
13+45	0.6596	1.11	Q	V		
13+50	0.6671	1.09	Q	V		
13+55	0.6745	1.07	Q	V		
14+ 0	0.6819	1.07	Q	V		
14+ 5	0.6897	1.14	Q	V		
14+10	0.6982	1.23	Q	V		
14+15	0.7067	1.25	Q	V		
14+20	0.7153	1.24	Q	V		
14+25	0.7237	1.22	Q	V		
14+30	0.7320	1.22	Q	V		
14+35	0.7404	1.21	Q	V		
14+40	0.7487	1.21	Q	V		
14+45	0.7571	1.21	Q	V		
14+50	0.7653	1.19	Q	V		
14+55	0.7734	1.17	Q	V		
15+ 0	0.7814	1.17	Q	V		
15+ 5	0.7894	1.15	Q	V		
15+10	0.7971	1.13	Q	V		
15+15	0.8048	1.12	Q	V		
15+20	0.8124	1.10	Q	V		
15+25	0.8199	1.08	Q	V		
15+30	0.8273	1.08	Q	V		
15+35	0.8342	1.01	Q	V		
15+40	0.8405	0.92	Q	V		
15+45	0.8467	0.90	Q	V		
15+50	0.8529	0.89	Q	V		
15+55	0.8590	0.89	Q	V		
16+ 0	0.8651	0.89	Q	V		
16+ 5	0.8694	0.63	Q	V		
16+10	0.8715	0.31	Q	V		
16+15	0.8732	0.24	Q	V		
16+20	0.8746	0.21	Q	V		
16+25	0.8759	0.19	Q	V		
16+30	0.8771	0.19	Q	V		
16+35	0.8783	0.17	Q	V		
16+40	0.8793	0.15	Q	V		
16+45	0.8803	0.14	Q	V		
16+50	0.8813	0.14	Q	V		
16+55	0.8822	0.14	Q	V		
17+ 0	0.8832	0.14	Q	V		
17+ 5	0.8844	0.17	Q	V		
17+10	0.8859	0.22	Q	V		
17+15	0.8875	0.23	Q	V		
17+20	0.8890	0.23	Q	V		
17+25	0.8906	0.23	Q	V		
17+30	0.8923	0.23	Q	V		
17+35	0.8939	0.23	Q	V		
17+40	0.8955	0.23	Q	V		
17+45	0.8971	0.23	Q	V		
17+50	0.8986	0.22	Q	V		
17+55	0.8999	0.19	Q	V		
18+ 0	0.9012	0.19	Q	V		
18+ 5	0.9025	0.19	Q	V		
18+10	0.9038	0.19	Q	V		
18+15	0.9051	0.19	Q	V		
18+20	0.9063	0.19	Q	V		
18+25	0.9076	0.19	Q	V		
18+30	0.9089	0.19	Q	V		
18+35	0.9101	0.17	Q	V		
18+40	0.9111	0.15	Q	V		
18+45	0.9121	0.14	Q	V		
18+50	0.9129	0.12	Q	V		
18+55	0.9136	0.10	Q	V		
19+ 0	0.9143	0.10	Q	V		
19+ 5	0.9151	0.11	Q	V		
19+10	0.9160	0.13	Q	V		
19+15	0.9169	0.14	Q	V		
19+20	0.9180	0.16	Q	V		
19+25	0.9192	0.18	Q	V		
19+30	0.9205	0.18	Q	V		
19+35	0.9216	0.17	Q	V		
19+40	0.9227	0.15	Q	V		
19+45	0.9236	0.14	Q	V		
19+50	0.9245	0.12	Q	V		

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   19+55       0.9252      0.10  Q          |          |          |        V |
   20+ 0       0.9259      0.10  Q          |          |          |        V |
   20+ 5       0.9266      0.11  Q          |          |          |        V |
   20+10       0.9275      0.13  Q          |          |          |        V |
   20+15       0.9285      0.14  Q          |          |          |        V |
   20+20       0.9294      0.14  Q          |          |          |        V |
   20+25       0.9304      0.14  Q          |          |          |        V |
   20+30       0.9314      0.14  Q          |          |          |        V |
   20+35       0.9323      0.14  Q          |          |          |        V |
   20+40       0.9333      0.14  Q          |          |          |        V |
   20+45       0.9342      0.14  Q          |          |          |        V |
   20+50       0.9351      0.12  Q          |          |          |        V |
   20+55       0.9358      0.10  Q          |          |          |        V |
   21+ 0       0.9365      0.10  Q          |          |          |        V |
   21+ 5       0.9372      0.11  Q          |          |          |        V |
   21+10       0.9381      0.13  Q          |          |          |        V |
   21+15       0.9391      0.14  Q          |          |          |         V|
   21+20       0.9399      0.12  Q          |          |          |         V|
   21+25       0.9406      0.10  Q          |          |          |         V|
   21+30       0.9413      0.10  Q          |          |          |         V|
   21+35       0.9420      0.11  Q          |          |          |         V|
   21+40       0.9429      0.13  Q          |          |          |         V|
   21+45       0.9439      0.14  Q          |          |          |         V|
   21+50       0.9447      0.12  Q          |          |          |         V|
   21+55       0.9454      0.10  Q          |          |          |         V|
   22+ 0       0.9461      0.10  Q          |          |          |         V|
   22+ 5       0.9469      0.11  Q          |          |          |         V|
   22+10       0.9478      0.13  Q          |          |          |         V|
   22+15       0.9487      0.14  Q          |          |          |         V|
   22+20       0.9495      0.12  Q          |          |          |         V|
   22+25       0.9502      0.10  Q          |          |          |         V|
   22+30       0.9509      0.10  Q          |          |          |         V|
   22+35       0.9516      0.09  Q          |          |          |         V|
   22+40       0.9522      0.09  Q          |          |          |         V|
   22+45       0.9528      0.09  Q          |          |          |         V|
   22+50       0.9535      0.09  Q          |          |          |         V|
   22+55       0.9541      0.09  Q          |          |          |         V|
   23+ 0       0.9548      0.09  Q          |          |          |         V|
   23+ 5       0.9554      0.09  Q          |          |          |         V|
   23+10       0.9560      0.09  Q          |          |          |         V|
   23+15       0.9567      0.09  Q          |          |          |         V|
   23+20       0.9573      0.09  Q          |          |          |         V|
   23+25       0.9580      0.09  Q          |          |          |         V|
   23+30       0.9586      0.09  Q          |          |          |         V|
   23+35       0.9593      0.09  Q          |          |          |         V|
   23+40       0.9599      0.09  Q          |          |          |         V|
   23+45       0.9605      0.09  Q          |          |          |         V|
   23+50       0.9612      0.09  Q          |          |          |         V|
   23+55       0.9618      0.09  Q          |          |          |         V|
   24+ 0       0.9625      0.09  Q          |          |          |         V|
   24+ 5       0.9629      0.06  Q          |          |          |         V|
   24+10       0.9630      0.02  Q          |          |          |         V|
   24+15       0.9630      0.01  Q          |          |          |         V|
   24+20       0.9630      0.00  Q          |          |          |          V
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U n i t H y d r o g r a p h A n a l y s i s

Study date 11/08/23 File: pro102410.out

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

Program License Serial Number 5006

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

English Units used in output format

Drainage Area = 9.32(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.32(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 1109.00(Ft.)
Length along longest watercourse measured to centroid = 555.00(Ft.)
Length along longest watercourse = 0.210 Mi.
Length along longest watercourse measured to centroid = 0.105 Mi.
Difference in elevation = 24.00(Ft.)
Slope along watercourse = 114.2651 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.034 Hr.
Lag time = 2.06 Min.
25% of lag time = 0.52 Min.
40% of lag time = 0.82 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]
9.32	2.00	18.64

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.32	6.00	55.92

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.000(In)
Area Averaged 100-Year Rainfall = 6.000(In)

Point rain (area averaged) = 3.646(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 3.646(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.320	62.50	0.650

Total Area Entered = 9.32(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
62.5	62.5	0.443	0.650	0.184	1.000	0.184
					Sum (F) =	0.184

Area averaged mean soil loss (F) (In/Hr) = 0.184
Minimum soil loss rate ((In/Hr)) = 0.092
(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	242.558	49.907	4.688
2	0.167	485.117	40.519	3.806
3	0.250	727.675	7.266	0.683
4	0.333	970.234	2.307	0.217
			Sum = 100.000 Sum=	9.393

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.029	(0.326)	0.011	0.018
2	0.17	0.07	0.029	(0.325)	0.011	0.018
3	0.25	0.07	0.029	(0.323)	0.011	0.018
4	0.33	0.10	0.044	(0.322)	0.017	0.027
5	0.42	0.10	0.044	(0.321)	0.017	0.027
6	0.50	0.10	0.044	(0.320)	0.017	0.027
7	0.58	0.10	0.044	(0.318)	0.017	0.027
8	0.67	0.10	0.044	(0.317)	0.017	0.027
9	0.75	0.10	0.044	(0.316)	0.017	0.027
10	0.83	0.13	0.058	(0.315)	0.022	0.036
11	0.92	0.13	0.058	(0.313)	0.022	0.036
12	1.00	0.13	0.058	(0.312)	0.022	0.036
13	1.08	0.10	0.044	(0.311)	0.017	0.027
14	1.17	0.10	0.044	(0.310)	0.017	0.027
15	1.25	0.10	0.044	(0.308)	0.017	0.027
16	1.33	0.10	0.044	(0.307)	0.017	0.027
17	1.42	0.10	0.044	(0.306)	0.017	0.027
18	1.50	0.10	0.044	(0.305)	0.017	0.027
19	1.58	0.10	0.044	(0.304)	0.017	0.027
20	1.67	0.10	0.044	(0.302)	0.017	0.027
21	1.75	0.10	0.044	(0.301)	0.017	0.027
22	1.83	0.13	0.058	(0.300)	0.022	0.036
23	1.92	0.13	0.058	(0.299)	0.022	0.036
24	2.00	0.13	0.058	(0.298)	0.022	0.036
25	2.08	0.13	0.058	(0.296)	0.022	0.036
26	2.17	0.13	0.058	(0.295)	0.022	0.036
27	2.25	0.13	0.058	(0.294)	0.022	0.036
28	2.33	0.13	0.058	(0.293)	0.022	0.036
29	2.42	0.13	0.058	(0.292)	0.022	0.036
30	2.50	0.13	0.058	(0.290)	0.022	0.036
31	2.58	0.17	0.073	(0.289)	0.028	0.045
32	2.67	0.17	0.073	(0.288)	0.028	0.045
33	2.75	0.17	0.073	(0.287)	0.028	0.045
34	2.83	0.17	0.073	(0.286)	0.028	0.045
35	2.92	0.17	0.073	(0.284)	0.028	0.045
36	3.00	0.17	0.073	(0.283)	0.028	0.045
37	3.08	0.17	0.073	(0.282)	0.028	0.045
38	3.17	0.17	0.073	(0.281)	0.028	0.045
39	3.25	0.17	0.073	(0.280)	0.028	0.045
40	3.33	0.17	0.073	(0.279)	0.028	0.045
41	3.42	0.17	0.073	(0.277)	0.028	0.045
42	3.50	0.17	0.073	(0.276)	0.028	0.045
43	3.58	0.17	0.073	(0.275)	0.028	0.045
44	3.67	0.17	0.073	(0.274)	0.028	0.045
45	3.75	0.17	0.073	(0.273)	0.028	0.045
46	3.83	0.20	0.087	(0.272)	0.033	0.054
47	3.92	0.20	0.087	(0.270)	0.033	0.054
48	4.00	0.20	0.087	(0.269)	0.033	0.054
49	4.08	0.20	0.087	(0.268)	0.033	0.054
50	4.17	0.20	0.087	(0.267)	0.033	0.054
51	4.25	0.20	0.087	(0.266)	0.033	0.054
52	4.33	0.23	0.102	(0.265)	0.039	0.063
53	4.42	0.23	0.102	(0.264)	0.039	0.063
54	4.50	0.23	0.102	(0.263)	0.039	0.063
55	4.58	0.23	0.102	(0.261)	0.039	0.063
56	4.67	0.23	0.102	(0.260)	0.039	0.063
57	4.75	0.23	0.102	(0.259)	0.039	0.063
58	4.83	0.27	0.117	(0.258)	0.044	0.072
59	4.92	0.27	0.117	(0.257)	0.044	0.072
60	5.00	0.27	0.117	(0.256)	0.044	0.072
61	5.08	0.20	0.087	(0.255)	0.033	0.054
62	5.17	0.20	0.087	(0.254)	0.033	0.054
63	5.25	0.20	0.087	(0.252)	0.033	0.054
64	5.33	0.23	0.102	(0.251)	0.039	0.063
65	5.42	0.23	0.102	(0.250)	0.039	0.063
66	5.50	0.23	0.102	(0.249)	0.039	0.063
67	5.58	0.27	0.117	(0.248)	0.044	0.072
68	5.67	0.27	0.117	(0.247)	0.044	0.072
69	5.75	0.27	0.117	(0.246)	0.044	0.072
70	5.83	0.27	0.117	(0.245)	0.044	0.072
71	5.92	0.27	0.117	(0.244)	0.044	0.072
72	6.00	0.27	0.117	(0.243)	0.044	0.072

73	6.08	0.30	0.131	(0.242)	0.050	0.081
74	6.17	0.30	0.131	(0.241)	0.050	0.081
75	6.25	0.30	0.131	(0.239)	0.050	0.081
76	6.33	0.30	0.131	(0.238)	0.050	0.081
77	6.42	0.30	0.131	(0.237)	0.050	0.081
78	6.50	0.30	0.131	(0.236)	0.050	0.081
79	6.58	0.33	0.146	(0.235)	0.055	0.090
80	6.67	0.33	0.146	(0.234)	0.055	0.090
81	6.75	0.33	0.146	(0.233)	0.055	0.090
82	6.83	0.33	0.146	(0.232)	0.055	0.090
83	6.92	0.33	0.146	(0.231)	0.055	0.090
84	7.00	0.33	0.146	(0.230)	0.055	0.090
85	7.08	0.33	0.146	(0.229)	0.055	0.090
86	7.17	0.33	0.146	(0.228)	0.055	0.090
87	7.25	0.33	0.146	(0.227)	0.055	0.090
88	7.33	0.37	0.160	(0.226)	0.061	0.099
89	7.42	0.37	0.160	(0.225)	0.061	0.099
90	7.50	0.37	0.160	(0.224)	0.061	0.099
91	7.58	0.40	0.175	(0.223)	0.066	0.108
92	7.67	0.40	0.175	(0.222)	0.066	0.108
93	7.75	0.40	0.175	(0.221)	0.066	0.108
94	7.83	0.43	0.190	(0.220)	0.072	0.118
95	7.92	0.43	0.190	(0.219)	0.072	0.118
96	8.00	0.43	0.190	(0.218)	0.072	0.118
97	8.08	0.50	0.219	(0.217)	0.083	0.136
98	8.17	0.50	0.219	(0.216)	0.083	0.136
99	8.25	0.50	0.219	(0.215)	0.083	0.136
100	8.33	0.50	0.219	(0.214)	0.083	0.136
101	8.42	0.50	0.219	(0.213)	0.083	0.136
102	8.50	0.50	0.219	(0.212)	0.083	0.136
103	8.58	0.53	0.233	(0.211)	0.089	0.145
104	8.67	0.53	0.233	(0.210)	0.089	0.145
105	8.75	0.53	0.233	(0.209)	0.089	0.145
106	8.83	0.57	0.248	(0.208)	0.094	0.154
107	8.92	0.57	0.248	(0.207)	0.094	0.154
108	9.00	0.57	0.248	(0.206)	0.094	0.154
109	9.08	0.63	0.277	(0.205)	0.105	0.172
110	9.17	0.63	0.277	(0.204)	0.105	0.172
111	9.25	0.63	0.277	(0.203)	0.105	0.172
112	9.33	0.67	0.292	(0.202)	0.111	0.181
113	9.42	0.67	0.292	(0.201)	0.111	0.181
114	9.50	0.67	0.292	(0.200)	0.111	0.181
115	9.58	0.70	0.306	(0.199)	0.116	0.190
116	9.67	0.70	0.306	(0.198)	0.116	0.190
117	9.75	0.70	0.306	(0.197)	0.116	0.190
118	9.83	0.73	0.321	(0.196)	0.122	0.199
119	9.92	0.73	0.321	(0.195)	0.122	0.199
120	10.00	0.73	0.321	(0.194)	0.122	0.199
121	10.08	0.50	0.219	(0.193)	0.083	0.136
122	10.17	0.50	0.219	(0.192)	0.083	0.136
123	10.25	0.50	0.219	(0.191)	0.083	0.136
124	10.33	0.50	0.219	(0.190)	0.083	0.136
125	10.42	0.50	0.219	(0.189)	0.083	0.136
126	10.50	0.50	0.219	(0.189)	0.083	0.136
127	10.58	0.67	0.292	(0.188)	0.111	0.181
128	10.67	0.67	0.292	(0.187)	0.111	0.181
129	10.75	0.67	0.292	(0.186)	0.111	0.181
130	10.83	0.67	0.292	(0.185)	0.111	0.181
131	10.92	0.67	0.292	(0.184)	0.111	0.181
132	11.00	0.67	0.292	(0.183)	0.111	0.181
133	11.08	0.63	0.277	(0.182)	0.105	0.172
134	11.17	0.63	0.277	(0.181)	0.105	0.172
135	11.25	0.63	0.277	(0.180)	0.105	0.172
136	11.33	0.63	0.277	(0.179)	0.105	0.172
137	11.42	0.63	0.277	(0.179)	0.105	0.172
138	11.50	0.63	0.277	(0.178)	0.105	0.172
139	11.58	0.57	0.248	(0.177)	0.094	0.154
140	11.67	0.57	0.248	(0.176)	0.094	0.154
141	11.75	0.57	0.248	(0.175)	0.094	0.154
142	11.83	0.60	0.262	(0.174)	0.100	0.163
143	11.92	0.60	0.262	(0.173)	0.100	0.163
144	12.00	0.60	0.262	(0.172)	0.100	0.163
145	12.08	0.83	0.365	(0.172)	0.139	0.226
146	12.17	0.83	0.365	(0.171)	0.139	0.226
147	12.25	0.83	0.365	(0.170)	0.139	0.226
148	12.33	0.87	0.379	(0.169)	0.144	0.235
149	12.42	0.87	0.379	(0.168)	0.144	0.235
150	12.50	0.87	0.379	(0.167)	0.144	0.235
151	12.58	0.93	0.408	(0.167)	0.155	0.253
152	12.67	0.93	0.408	(0.166)	0.155	0.253
153	12.75	0.93	0.408	(0.165)	0.155	0.253
154	12.83	0.97	0.423	(0.164)	0.161	0.262
155	12.92	0.97	0.423	(0.163)	0.161	0.262
156	13.00	0.97	0.423	(0.162)	0.161	0.262
157	13.08	1.13	0.496	0.162	(0.188)	0.334
158	13.17	1.13	0.496	0.161	(0.188)	0.335

159	13.25	1.13	0.496		0.160	(0.188)	0.336
160	13.33	1.13	0.496		0.159	(0.188)	0.337
161	13.42	1.13	0.496		0.158	(0.188)	0.338
162	13.50	1.13	0.496		0.157	(0.188)	0.338
163	13.58	0.77	0.335	(	0.157)	0.127	0.208
164	13.67	0.77	0.335	(	0.156)	0.127	0.208
165	13.75	0.77	0.335	(	0.155)	0.127	0.208
166	13.83	0.77	0.335	(	0.154)	0.127	0.208
167	13.92	0.77	0.335	(	0.153)	0.127	0.208
168	14.00	0.77	0.335	(	0.153)	0.127	0.208
169	14.08	0.90	0.394	(	0.152)	0.150	0.244
170	14.17	0.90	0.394	(	0.151)	0.150	0.244
171	14.25	0.90	0.394	(	0.150)	0.150	0.244
172	14.33	0.87	0.379	(	0.150)	0.144	0.235
173	14.42	0.87	0.379	(	0.149)	0.144	0.235
174	14.50	0.87	0.379	(	0.148)	0.144	0.235
175	14.58	0.87	0.379	(	0.147)	0.144	0.235
176	14.67	0.87	0.379	(	0.147)	0.144	0.235
177	14.75	0.87	0.379	(	0.146)	0.144	0.235
178	14.83	0.83	0.365	(	0.145)	0.139	0.226
179	14.92	0.83	0.365	(	0.144)	0.139	0.226
180	15.00	0.83	0.365	(	0.144)	0.139	0.226
181	15.08	0.80	0.350	(	0.143)	0.133	0.217
182	15.17	0.80	0.350	(	0.142)	0.133	0.217
183	15.25	0.80	0.350	(	0.141)	0.133	0.217
184	15.33	0.77	0.335	(	0.141)	0.127	0.208
185	15.42	0.77	0.335	(	0.140)	0.127	0.208
186	15.50	0.77	0.335	(	0.139)	0.127	0.208
187	15.58	0.63	0.277	(	0.139)	0.105	0.172
188	15.67	0.63	0.277	(	0.138)	0.105	0.172
189	15.75	0.63	0.277	(	0.137)	0.105	0.172
190	15.83	0.63	0.277	(	0.136)	0.105	0.172
191	15.92	0.63	0.277	(	0.136)	0.105	0.172
192	16.00	0.63	0.277	(	0.135)	0.105	0.172
193	16.08	0.13	0.058	(	0.134)	0.022	0.036
194	16.17	0.13	0.058	(	0.134)	0.022	0.036
195	16.25	0.13	0.058	(	0.133)	0.022	0.036
196	16.33	0.13	0.058	(	0.132)	0.022	0.036
197	16.42	0.13	0.058	(	0.132)	0.022	0.036
198	16.50	0.13	0.058	(	0.131)	0.022	0.036
199	16.58	0.10	0.044	(	0.130)	0.017	0.027
200	16.67	0.10	0.044	(	0.130)	0.017	0.027
201	16.75	0.10	0.044	(	0.129)	0.017	0.027
202	16.83	0.10	0.044	(	0.128)	0.017	0.027
203	16.92	0.10	0.044	(	0.128)	0.017	0.027
204	17.00	0.10	0.044	(	0.127)	0.017	0.027
205	17.08	0.17	0.073	(	0.126)	0.028	0.045
206	17.17	0.17	0.073	(	0.126)	0.028	0.045
207	17.25	0.17	0.073	(	0.125)	0.028	0.045
208	17.33	0.17	0.073	(	0.124)	0.028	0.045
209	17.42	0.17	0.073	(	0.124)	0.028	0.045
210	17.50	0.17	0.073	(	0.123)	0.028	0.045
211	17.58	0.17	0.073	(	0.123)	0.028	0.045
212	17.67	0.17	0.073	(	0.122)	0.028	0.045
213	17.75	0.17	0.073	(	0.121)	0.028	0.045
214	17.83	0.13	0.058	(	0.121)	0.022	0.036
215	17.92	0.13	0.058	(	0.120)	0.022	0.036
216	18.00	0.13	0.058	(	0.120)	0.022	0.036
217	18.08	0.13	0.058	(	0.119)	0.022	0.036
218	18.17	0.13	0.058	(	0.118)	0.022	0.036
219	18.25	0.13	0.058	(	0.118)	0.022	0.036
220	18.33	0.13	0.058	(	0.117)	0.022	0.036
221	18.42	0.13	0.058	(	0.117)	0.022	0.036
222	18.50	0.13	0.058	(	0.116)	0.022	0.036
223	18.58	0.10	0.044	(	0.116)	0.017	0.027
224	18.67	0.10	0.044	(	0.115)	0.017	0.027
225	18.75	0.10	0.044	(	0.114)	0.017	0.027
226	18.83	0.07	0.029	(	0.114)	0.011	0.018
227	18.92	0.07	0.029	(	0.113)	0.011	0.018
228	19.00	0.07	0.029	(	0.113)	0.011	0.018
229	19.08	0.10	0.044	(	0.112)	0.017	0.027
230	19.17	0.10	0.044	(	0.112)	0.017	0.027
231	19.25	0.10	0.044	(	0.111)	0.017	0.027
232	19.33	0.13	0.058	(	0.111)	0.022	0.036
233	19.42	0.13	0.058	(	0.110)	0.022	0.036
234	19.50	0.13	0.058	(	0.110)	0.022	0.036
235	19.58	0.10	0.044	(	0.109)	0.017	0.027
236	19.67	0.10	0.044	(	0.109)	0.017	0.027
237	19.75	0.10	0.044	(	0.108)	0.017	0.027
238	19.83	0.07	0.029	(	0.108)	0.011	0.018
239	19.92	0.07	0.029	(	0.107)	0.011	0.018
240	20.00	0.07	0.029	(	0.107)	0.011	0.018
241	20.08	0.10	0.044	(	0.106)	0.017	0.027
242	20.17	0.10	0.044	(	0.106)	0.017	0.027
243	20.25	0.10	0.044	(	0.105)	0.017	0.027
244	20.33	0.10	0.044	(	0.105)	0.017	0.027

245	20.42	0.10	0.044	(0.104)	0.017	0.027
246	20.50	0.10	0.044	(0.104)	0.017	0.027
247	20.58	0.10	0.044	(0.104)	0.017	0.027
248	20.67	0.10	0.044	(0.103)	0.017	0.027
249	20.75	0.10	0.044	(0.103)	0.017	0.027
250	20.83	0.07	0.029	(0.102)	0.011	0.018
251	20.92	0.07	0.029	(0.102)	0.011	0.018
252	21.00	0.07	0.029	(0.101)	0.011	0.018
253	21.08	0.10	0.044	(0.101)	0.017	0.027
254	21.17	0.10	0.044	(0.101)	0.017	0.027
255	21.25	0.10	0.044	(0.100)	0.017	0.027
256	21.33	0.07	0.029	(0.100)	0.011	0.018
257	21.42	0.07	0.029	(0.100)	0.011	0.018
258	21.50	0.07	0.029	(0.099)	0.011	0.018
259	21.58	0.10	0.044	(0.099)	0.017	0.027
260	21.67	0.10	0.044	(0.098)	0.017	0.027
261	21.75	0.10	0.044	(0.098)	0.017	0.027
262	21.83	0.07	0.029	(0.098)	0.011	0.018
263	21.92	0.07	0.029	(0.097)	0.011	0.018
264	22.00	0.07	0.029	(0.097)	0.011	0.018
265	22.08	0.10	0.044	(0.097)	0.017	0.027
266	22.17	0.10	0.044	(0.096)	0.017	0.027
267	22.25	0.10	0.044	(0.096)	0.017	0.027
268	22.33	0.07	0.029	(0.096)	0.011	0.018
269	22.42	0.07	0.029	(0.096)	0.011	0.018
270	22.50	0.07	0.029	(0.095)	0.011	0.018
271	22.58	0.07	0.029	(0.095)	0.011	0.018
272	22.67	0.07	0.029	(0.095)	0.011	0.018
273	22.75	0.07	0.029	(0.094)	0.011	0.018
274	22.83	0.07	0.029	(0.094)	0.011	0.018
275	22.92	0.07	0.029	(0.094)	0.011	0.018
276	23.00	0.07	0.029	(0.094)	0.011	0.018
277	23.08	0.07	0.029	(0.094)	0.011	0.018
278	23.17	0.07	0.029	(0.093)	0.011	0.018
279	23.25	0.07	0.029	(0.093)	0.011	0.018
280	23.33	0.07	0.029	(0.093)	0.011	0.018
281	23.42	0.07	0.029	(0.093)	0.011	0.018
282	23.50	0.07	0.029	(0.093)	0.011	0.018
283	23.58	0.07	0.029	(0.092)	0.011	0.018
284	23.67	0.07	0.029	(0.092)	0.011	0.018
285	23.75	0.07	0.029	(0.092)	0.011	0.018
286	23.83	0.07	0.029	(0.092)	0.011	0.018
287	23.92	0.07	0.029	(0.092)	0.011	0.018
288	24.00	0.07	0.029	(0.092)	0.011	0.018

(Loss Rate Not Used)

Sum = 100.0 Sum = 27.3

Flood volume = Effective rainfall 2.27(In)
times area 9.3(Ac.)/[(In)/(Ft.)] = 1.8(Ac.Ft)
Total soil loss = 1.37(In)
Total soil loss = 1.065(Ac.Ft)
Total rainfall = 3.65(In)
Flood volume = 76957.0 Cubic Feet
Total soil loss = 46378.4 Cubic Feet

Peak flow rate of this hydrograph = 3.175(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	0.0016	0.15	Q				
0+15	0.0028	0.17	Q				
0+20	0.0042	0.21	Q				
0+25	0.0059	0.25	Q				
0+30	0.0077	0.25	VQ				
0+35	0.0094	0.25	VQ				
0+40	0.0112	0.25	VQ				
0+45	0.0130	0.25	VQ				
0+50	0.0150	0.30	VQ				
0+55	0.0173	0.33	VQ				
1+ 0	0.0196	0.34	VQ				
1+ 5	0.0217	0.30	VQ				
1+10	0.0235	0.26	VQ				
1+15	0.0252	0.26	VQ				
1+20	0.0270	0.25	VQ				
1+25	0.0288	0.25	VQ				
1+30	0.0305	0.25	VQ				
1+35	0.0323	0.25	VQ				
1+40	0.0340	0.25	VQ				
1+45	0.0358	0.25	VQ				

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1+50       0.0378      0.30  VQ        |         |         |         |
1+55       0.0401      0.33  VQ        |         |         |         |
2+ 0       0.0424      0.34  VQ        |         |         |         |
2+ 5       0.0448      0.34  |Q        |         |         |         |
2+10       0.0471      0.34  |Q        |         |         |         |
2+15       0.0495      0.34  |Q        |         |         |         |
2+20       0.0518      0.34  |Q        |         |         |         |
2+25       0.0541      0.34  |Q        |         |         |         |
2+30       0.0565      0.34  |Q        |         |         |         |
2+35       0.0591      0.38  |Q        |         |         |         |
2+40       0.0620      0.42  |Q        |         |         |         |
2+45       0.0649      0.42  |Q        |         |         |         |
2+50       0.0678      0.42  |Q        |         |         |         |
2+55       0.0707      0.42  |Q        |         |         |         |
3+ 0       0.0737      0.42  |Q        |         |         |         |
3+ 5       0.0766      0.42  |Q        |         |         |         |
3+10       0.0795      0.42  |Q        |         |         |         |
3+15       0.0824      0.42  |Q        |         |         |         |
3+20       0.0854      0.42  |Q        |         |         |         |
3+25       0.0883      0.42  |Q        |         |         |         |
3+30       0.0912      0.42  |QV       |         |         |         |
3+35       0.0942      0.42  |QV       |         |         |         |
3+40       0.0971      0.42  |QV       |         |         |         |
3+45       0.1000      0.42  |QV       |         |         |         |
3+50       0.1032      0.47  |QV       |         |         |         |
3+55       0.1067      0.50  | Q       |         |         |         |
4+ 0       0.1102      0.51  | Q       |         |         |         |
4+ 5       0.1137      0.51  | Q       |         |         |         |
4+10       0.1172      0.51  | Q       |         |         |         |
4+15       0.1207      0.51  | Q       |         |         |         |
4+20       0.1245      0.55  | Q       |         |         |         |
4+25       0.1285      0.59  | Q       |         |         |         |
4+30       0.1326      0.59  | QV      |         |         |         |
4+35       0.1367      0.59  | QV      |         |         |         |
4+40       0.1408      0.59  | QV      |         |         |         |
4+45       0.1449      0.59  | QV      |         |         |         |
4+50       0.1493      0.64  | QV      |         |         |         |
4+55       0.1539      0.67  | QV      |         |         |         |
5+ 0       0.1586      0.68  | QV      |         |         |         |
5+ 5       0.1627      0.59  | QV      |         |         |         |
5+10       0.1663      0.53  | QV      |         |         |         |
5+15       0.1699      0.51  | QV      |         |         |         |
5+20       0.1737      0.55  | QV      |         |         |         |
5+25       0.1777      0.59  | Q V     |         |         |         |
5+30       0.1818      0.59  | Q V     |         |         |         |
5+35       0.1862      0.64  | Q V     |         |         |         |
5+40       0.1908      0.67  | Q V     |         |         |         |
5+45       0.1955      0.68  | Q V     |         |         |         |
5+50       0.2001      0.68  | Q V     |         |         |         |
5+55       0.2048      0.68  | Q V     |         |         |         |
6+ 0       0.2095      0.68  | Q V     |         |         |         |
6+ 5       0.2145      0.72  | Q V     |         |         |         |
6+10       0.2197      0.76  |  QV     |         |         |         |
6+15       0.2249      0.76  |  Q V    |         |         |         |
6+20       0.2302      0.76  |  Q V    |         |         |         |
6+25       0.2355      0.76  |  Q V    |         |         |         |
6+30       0.2407      0.76  |  Q V    |         |         |         |
6+35       0.2463      0.81  |  Q V    |         |         |         |
6+40       0.2521      0.84  |  Q V    |         |         |         |
6+45       0.2579      0.85  |  Q V    |         |         |         |
6+50       0.2638      0.85  |  Q V    |         |         |         |
6+55       0.2696      0.85  |  Q  V   |         |         |         |
7+ 0       0.2755      0.85  |  Q  V   |         |         |         |
7+ 5       0.2813      0.85  |  Q  V   |         |         |         |
7+10       0.2872      0.85  |  Q  V   |         |         |         |
7+15       0.2930      0.85  |  Q  V   |         |         |         |
7+20       0.2992      0.89  |  Q  V   |         |         |         |
7+25       0.3056      0.93  |  Q  V   |         |         |         |
7+30       0.3120      0.93  |  Q   V  |         |         |         |
7+35       0.3187      0.98  |  Q   V  |         |         |         |
7+40       0.3257      1.01  |   Q  V  |         |         |         |
7+45       0.3327      1.02  |   Q  V  |         |         |         |
7+50       0.3400      1.06  |   Q  V  |         |         |         |
7+55       0.3476      1.10  |   Q  V  |         |         |         |
8+ 0       0.3552      1.10  |   Q   V |         |         |         |
8+ 5       0.3633      1.19  |   Q   V |         |         |         |
8+10       0.3720      1.26  |    Q  V |         |         |         |
8+15       0.3808      1.27  |    Q  V |         |         |         |
8+20       0.3895      1.27  |    Q  V |         |         |         |
8+25       0.3983      1.27  |    Q   V|         |         |         |
8+30       0.4071      1.27  |    Q   V|         |         |         |
8+35       0.4162      1.32  |    Q   V|         |         |         |
8+40       0.4255      1.35  |    Q   V|         |         |         |
8+45       0.4348      1.36  |    Q   V|         |         |         |
8+50       0.4445      1.40  |    Q    V         |         |         |
8+55       0.4544      1.44  |    Q    V         |         |         |
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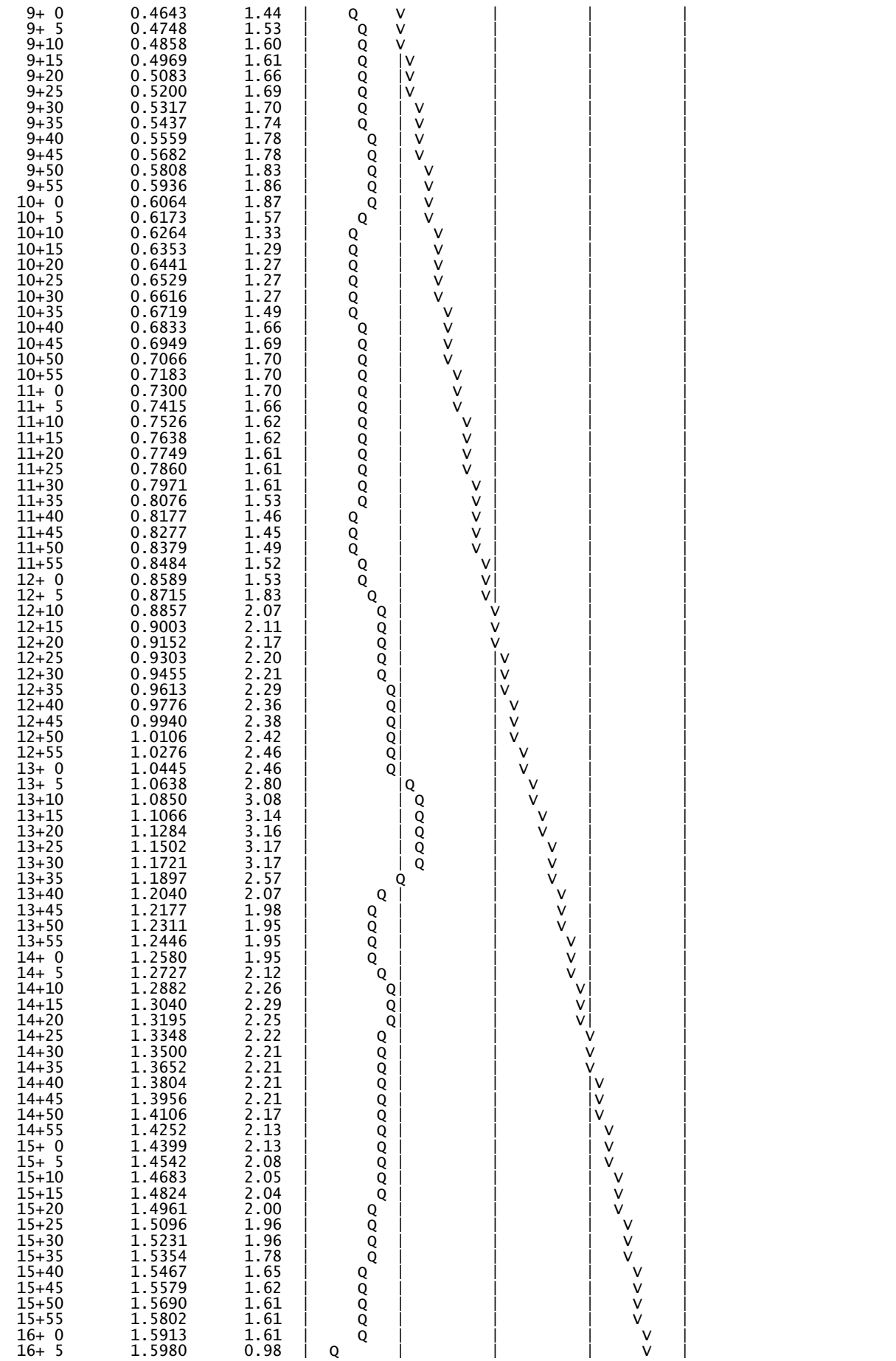

9+ 0	0.4643	1.44	
9+ 5	0.4748	1.53	
9+10	0.4858	1.60	
9+15	0.4969	1.61	
9+20	0.5083	1.66	
9+25	0.5200	1.69	
9+30	0.5317	1.70	
9+35	0.5437	1.74	
9+40	0.5559	1.78	
9+45	0.5682	1.78	
9+50	0.5808	1.83	
9+55	0.5936	1.86	
10+ 0	0.6064	1.87	
10+ 5	0.6173	1.57	
10+10	0.6264	1.33	
10+15	0.6353	1.29	
10+20	0.6441	1.27	
10+25	0.6529	1.27	
10+30	0.6616	1.27	
10+35	0.6719	1.49	
10+40	0.6833	1.66	
10+45	0.6949	1.69	
10+50	0.7066	1.70	
10+55	0.7183	1.70	
11+ 0	0.7300	1.70	
11+ 5	0.7415	1.66	
11+10	0.7526	1.62	
11+15	0.7638	1.62	
11+20	0.7749	1.61	
11+25	0.7860	1.61	
11+30	0.7971	1.61	
11+35	0.8076	1.53	
11+40	0.8177	1.46	
11+45	0.8277	1.45	
11+50	0.8379	1.49	
11+55	0.8484	1.52	
12+ 0	0.8589	1.53	
12+ 5	0.8715	1.83	
12+10	0.8857	2.07	
12+15	0.9003	2.11	
12+20	0.9152	2.17	
12+25	0.9303	2.20	
12+30	0.9455	2.21	
12+35	0.9613	2.29	
12+40	0.9776	2.36	
12+45	0.9940	2.38	
12+50	1.0106	2.42	
12+55	1.0276	2.46	
13+ 0	1.0445	2.46	
13+ 5	1.0638	2.80	
13+10	1.0850	3.08	
13+15	1.1066	3.14	
13+20	1.1284	3.16	
13+25	1.1502	3.17	
13+30	1.1721	3.17	
13+35	1.1897	2.57	
13+40	1.2040	2.07	
13+45	1.2177	1.98	
13+50	1.2311	1.95	
13+55	1.2446	1.95	
14+ 0	1.2580	1.95	
14+ 5	1.2727	2.12	
14+10	1.2882	2.26	
14+15	1.3040	2.29	
14+20	1.3195	2.25	
14+25	1.3348	2.22	
14+30	1.3500	2.21	
14+35	1.3652	2.21	
14+40	1.3804	2.21	
14+45	1.3956	2.21	
14+50	1.4106	2.17	
14+55	1.4252	2.13	
15+ 0	1.4399	2.13	
15+ 5	1.4542	2.08	
15+10	1.4683	2.05	
15+15	1.4824	2.04	
15+20	1.4961	2.00	
15+25	1.5096	1.96	
15+30	1.5231	1.96	
15+35	1.5354	1.78	
15+40	1.5467	1.65	
15+45	1.5579	1.62	
15+50	1.5690	1.61	
15+55	1.5802	1.61	
16+ 0	1.5913	1.61	
16+ 5	1.5980	0.98	

```
16+10       1.6012      0.46  |Q        |         |         |     V   |
16+15       1.6037      0.37  |Q        |         |         |     V   |
16+20       1.6061      0.34  |Q        |         |         |     V   |
16+25       1.6084      0.34  |Q        |         |         |     V   |
16+30       1.6108      0.34  |Q        |         |         |     V   |
16+35       1.6128      0.30  |Q        |         |         |     V   |
16+40       1.6146      0.26  |Q        |         |         |     V   |
16+45       1.6164      0.26  |Q        |         |         |     V   |
16+50       1.6181      0.25  |Q        |         |         |     V   |
16+55       1.6199      0.25  |Q        |         |         |     V   |
17+ 0       1.6217      0.25  |Q        |         |         |     V   |
17+ 5       1.6240      0.34  |Q        |         |         |     V   |
17+10       1.6268      0.41  |Q        |         |         |     V   |
17+15       1.6297      0.42  |Q        |         |         |     V   |
17+20       1.6326      0.42  |Q        |         |         |     V   |
17+25       1.6356      0.42  |Q        |         |         |      V  |
17+30       1.6385      0.42  |Q        |         |         |      V  |
17+35       1.6414      0.42  |Q        |         |         |      V  |
17+40       1.6443      0.42  |Q        |         |         |      V  |
17+45       1.6473      0.42  |Q        |         |         |      V  |
17+50       1.6499      0.38  |Q        |         |         |      V  |
17+55       1.6523      0.35  |Q        |         |         |      V  |
18+ 0       1.6546      0.34  |Q        |         |         |      V  |
18+ 5       1.6570      0.34  |Q        |         |         |      V  |
18+10       1.6593      0.34  |Q        |         |         |      V  |
18+15       1.6617      0.34  |Q        |         |         |      V  |
18+20       1.6640      0.34  |Q        |         |         |      V  |
18+25       1.6663      0.34  |Q        |         |         |      V  |
18+30       1.6687      0.34  |Q        |         |         |      V  |
18+35       1.6707      0.30  |Q        |         |         |      V  |
18+40       1.6725      0.26  |Q        |         |         |      V  |
18+45       1.6743      0.26  |Q        |         |         |      V  |
18+50       1.6758      0.21  Q        |         |         |      V  |
18+55       1.6770      0.18  Q        |         |         |      V  |
19+ 0       1.6782      0.17  Q        |         |         |      V  |
19+ 5       1.6797      0.21  Q        |         |         |       V |
19+10       1.6814      0.25  Q        |         |         |       V |
19+15       1.6831      0.25  |Q       |         |         |       V |
19+20       1.6851      0.30  |Q       |         |         |       V |
19+25       1.6874      0.33  |Q       |         |         |       V |
19+30       1.6898      0.34  |Q       |         |         |       V |
19+35       1.6918      0.30  |Q       |         |         |       V |
19+40       1.6936      0.26  |Q       |         |         |       V |
19+45       1.6954      0.26  |Q       |         |         |       V |
19+50       1.6968      0.21  Q        |         |         |       V |
19+55       1.6981      0.18  Q        |         |         |       V |
20+ 0       1.6993      0.17  Q        |         |         |       V |
20+ 5       1.7007      0.21  Q        |         |         |       V |
20+10       1.7024      0.25  Q        |         |         |       V |
20+15       1.7042      0.25  |Q       |         |         |       V |
20+20       1.7059      0.25  |Q       |         |         |       V |
20+25       1.7077      0.25  |Q       |         |         |       V |
20+30       1.7094      0.25  |Q       |         |         |       V |
20+35       1.7112      0.25  |Q       |         |         |       V |
20+40       1.7129      0.25  |Q       |         |         |       V |
20+45       1.7147      0.25  |Q       |         |         |       V |
20+50       1.7162      0.21  Q        |         |         |       V |
20+55       1.7174      0.18  Q        |         |         |       V |
21+ 0       1.7186      0.17  Q        |         |         |       V |
21+ 5       1.7200      0.21  Q        |         |         |       V |
21+10       1.7217      0.25  Q        |         |         |       V |
21+15       1.7235      0.25  |Q       |         |         |        V|
21+20       1.7249      0.21  Q        |         |         |        V|
21+25       1.7262      0.18  Q        |         |         |        V|
21+30       1.7273      0.17  Q        |         |         |        V|
21+35       1.7288      0.21  Q        |         |         |        V|
21+40       1.7305      0.25  Q        |         |         |        V|
21+45       1.7322      0.25  |Q       |         |         |        V|
21+50       1.7337      0.21  Q        |         |         |        V|
21+55       1.7349      0.18  Q        |         |         |        V|
22+ 0       1.7361      0.17  Q        |         |         |        V|
22+ 5       1.7376      0.21  Q        |         |         |        V|
22+10       1.7393      0.25  Q        |         |         |        V|
22+15       1.7410      0.25  |Q       |         |         |        V|
22+20       1.7425      0.21  Q        |         |         |        V|
22+25       1.7437      0.18  Q        |         |         |        V|
22+30       1.7449      0.17  Q        |         |         |        V|
22+35       1.7461      0.17  Q        |         |         |        V|
22+40       1.7472      0.17  Q        |         |         |        V|
22+45       1.7484      0.17  Q        |         |         |        V|
22+50       1.7496      0.17  Q        |         |         |        V|
22+55       1.7507      0.17  Q        |         |         |        V|
23+ 0       1.7519      0.17  Q        |         |         |        V|
23+ 5       1.7531      0.17  Q        |         |         |        V|
23+10       1.7543      0.17  Q        |         |         |        V|
23+15       1.7554      0.17  Q        |         |         |        V|
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   23+20       1.7566      0.17  Q          |          |          |         v|
   23+25       1.7578      0.17  Q          |          |          |         v|
   23+30       1.7589      0.17  Q          |          |          |         v|
   23+35       1.7601      0.17  Q          |          |          |         v|
   23+40       1.7613      0.17  Q          |          |          |         v|
   23+45       1.7625      0.17  Q          |          |          |         v|
   23+50       1.7636      0.17  Q          |          |          |         v|
   23+55       1.7648      0.17  Q          |          |          |         v|
   24+ 0       1.7660      0.17  Q          |          |          |         v|
   24+ 5       1.7665      0.09  Q          |          |          |         v|
   24+10       1.7667      0.02  Q          |          |          |         v|
   24+15       1.7667      0.00  Q          |          |          |          v
-------------------------------------------------------------------------------
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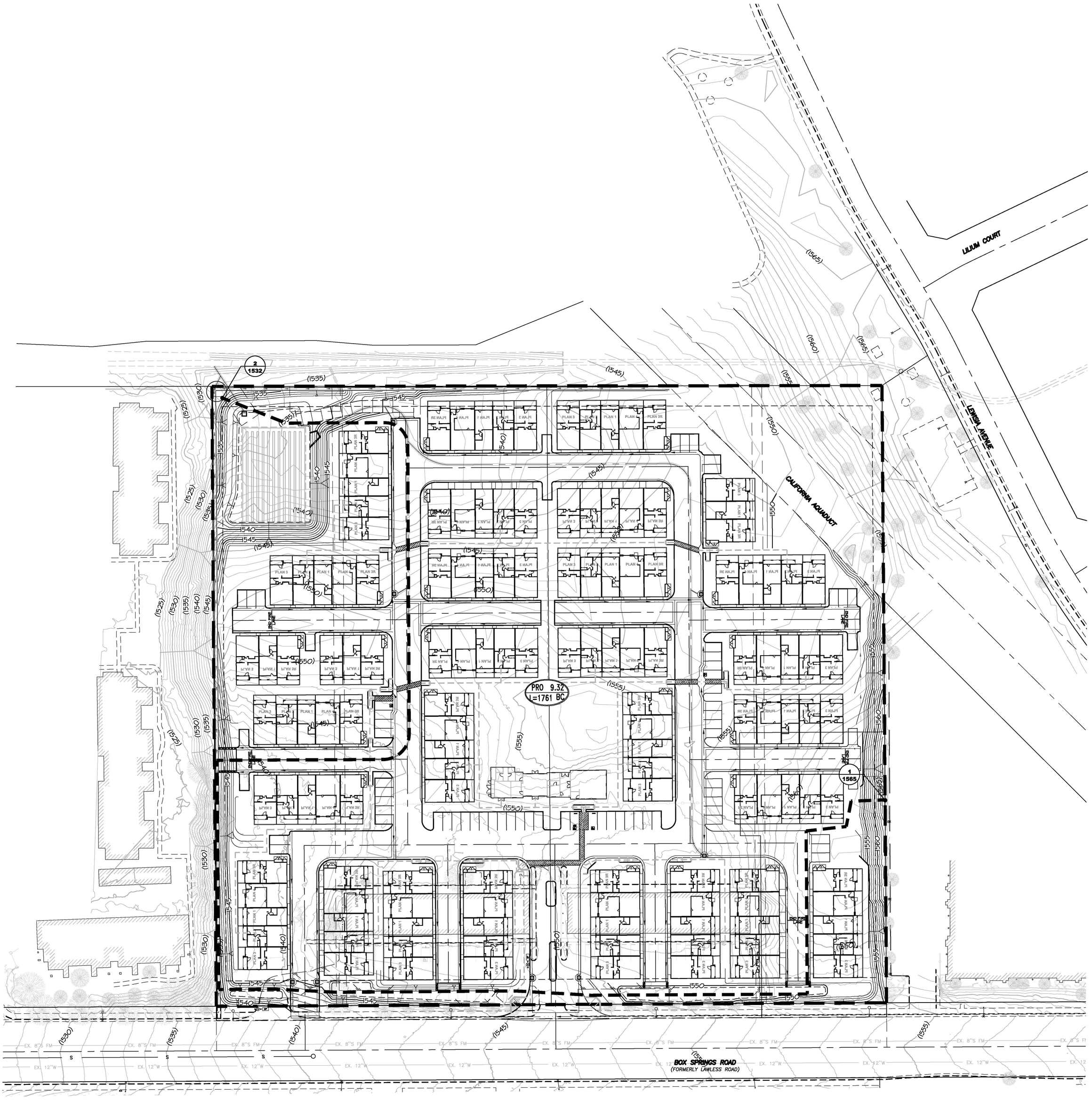
PROPOSED UNIT HYDROGRAPH MAP



0 50 100 150 200

25

SCALE

SCALE: 1"=50'

LEGEND

NODE ELEV

AREA ACRES LENGTH SOIL

WATERSHED BOUNDARY

FLOW PATH

PROPOSED UNIT HYDROGRAPH MAP

PREPARATION DATE : NOVEMBER 2023

REVISION DATE : JUNE 2024

adkan ENGINEERS

Civil Engineering Surveying Planning

6879 Airport Drive, Riverside, CA 92504

Tel:(951) 688-0241 Fax:(951) 688-0599

Underground CMP

Storm Event	Existing		Proposed		Basin Routing		
	Volume ac.ft.	Q cfs	Volume ac.ft.	Q cfs	Volume ac.ft.	Q cfs	Depth ft.
2yr24hr	0.3107	0.511	0.9630	1.585	0.7200	0.372	5.93
10yr24hr	1.0478	3.082	1.7667	3.175	0.8720	3.171	7.53

UNDERGROUND STORAGE SIZE & FLOW CALCULATIONS

	ELEVATION	DEPTH	ROCK/MEDIA VOLUME (CF)	42" PIPE CROSS-SECTIONAL AREA (SF)	42" PIPE VOLUME (CF)	STORAGE IN ONSITE SD SYSTEM	CUMULATIVE STORAGE VOLUME (CF)	CUMULATIVE STORAGE VOLUME (AC-FT)	SYSTEM OUTFLOW			
									ORIFICE (CFS)	WEIR	EMERGENCY SPILLWAY	TOTAL (CFS)
TOP OF BASIN	1538	8.5	7,728.00				45443.36	1.043	0.47	53.28	21.73	75.486
PONDING STORAGE	1537	7.5	3,864.00				37715.36	0.866	0.44	0.00	0.00	0.437
BIORETENTION	1536.5	7	3,477.60				33851.36	0.777	0.42	0.00	0.00	0.418
TOP OF ROCK	1535	5.5	3699.60	0.00	0.00	30373.76	30373.76	0.697	0.35	0.00	0.00	0.353
TOP OF CMP	1534	4.5	2123.79	2.27	3939.52	26674.16	26674.16	0.612	0.30	0.00	0.00	0.302
ORIFICE	1533	3.5	1327.55	3.41	5930.12	20610.85	20610.85	0.473	0.24	0.00	0.00	0.241
ORIFICE	1532	2.5	1549.19	3.10	5376.02	13353.18	13353.18	0.307	0.16	0.00	0.00	0.158
	1531	1.5	1264.08	0.84	1464.29	6427.97	6427.97	0.148	0.00	0.00	0.00	0.000
INVERT OF CMP	1530.5	1	3699.60	0.00	0.00	3699.60	3699.60	0.085	0.00	0.00	0.00	0.000
BOT OF EXCAVATION	1529.5	0					-	0.000	0.00	0.00	0.00	0.000

PIPE DETAILS		
DIAMETER OF CMP	42	IN
LINEAR FEET OF CMP	1737	FT
CORRUGATION	5X1	
GAGE	16	
COATING	ALT2	
WALL TYPE	PERF	
BARREL SPACING	21	IN
SITE DRAINAGE DIA	0	IN
SITE DRAINAGE LENGTH	0	FT
SITE DRAINAGE VOLUME	-	CF

BACKFILL DETAILS		
BACKFILL TYPE	CRUSHED ROCK	
WIDTH AT ENDS	12	IN
ABOVE PIPE	12	IN
WIDTH AT SIDES	12	IN
BELOW PIPE	12	IN
ROCK POROSITY	40%	
EXCAVATION WIDTH		FT
EXCAVATION LENGTH		FT
EXCAVATION FOOT	9,249.00	SF
VBMP	13900	

BIORETENTION MEDIA		
BACKFILL TYPE	ENGINEERED SOIL	
POROSITY	30%	
BIORETENTION FOOTPRINT	7,728.00	SF

ORIFICE 1		
NO. OF ORIFICES	1	
ORIFICE DIA	2.5	IN
ORIFICE AREA	0.03	SF
ORIFICE INV.	1531.3	
ORIFICE COEFF	0.6667	

WEIR		
Crest Wier Elev.	1537.00	
Q100	15	
Weir Length	16	FT
Weir Coeff.	3.33	
H Weir	0.4295543	
Q100 Elevation	**1537.43**	

EMERGENCY SPILLWAY		
Crest Wier Elev.	1537.45	
Q100	15	
Weir Length	40	FT
Weir Coeff.	3.33	
H Weir	0.2331979	
Q100 Elevation	**1537.68**	

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2004
Study date: 10/11/24

Program License Serial Number 5006

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

From study/file name: PRO2242.rte
**********HYDROGRAPH DATA**********
Number of intervals = 292
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1.585 (CFS)
Total volume = 0.963 (Ac.Ft)
Status of hydrographs being held in storage

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

****

++
Process from Point/Station 1.000 to Point/Station 2.000
**** RETARDING BASIN ROUTING ****
_____

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 292
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.085	0.001	0.085	0.085
1.500	0.148	0.002	0.148	0.148
2.500	0.307	0.158	0.306	0.308
3.500	0.473	0.241	0.472	0.474
4.500	0.612	0.302	0.611	0.613
5.500	0.697	0.353	0.696	0.698
7.000	0.777	0.418	0.776	0.778
7.500	0.866	0.437	0.864	0.868
8.500	1.043	75.486	0.783	1.303

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.4	0.79	1.19	1.58	Depth (Ft.)
0.083	0.03	0.00	0.000	O	|	|	|	|	0.00
0.167	0.08	0.00	0.000	OI	|	|	|	|	0.01
0.250	0.09	0.00	0.001	OI	|	|	|	|	0.01
0.333	0.11	0.00	0.002	O I	|	|	|	|	0.02
0.417	0.13	0.00	0.003	O I	|	|	|	|	0.03
0.500	0.14	0.00	0.003	O I	|	|	|	|	0.04
0.583	0.14	0.00	0.004	O I	|	|	|	|	0.05
0.667	0.14	0.00	0.005	O I	|	|	|	|	0.06
0.750	0.14	0.00	0.006	O I	|	|	|	|	0.07
0.833	0.16	0.00	0.007	O I	|	|	|	|	0.09
0.917	0.18	0.00	0.009	O I	|	|	|	|	0.10
1.000	0.18	0.00	0.010	O I	|	|	|	|	0.11

1.083	0.17	0.00	0.011	o I	|	|	|	|	0.13
1.167	0.15	0.00	0.012	o I	|	|	|	|	0.14
1.250	0.14	0.00	0.013	o I	|	|	|	|	0.15
1.333	0.14	0.00	0.014	o I	|	|	|	|	0.17
1.417	0.14	0.00	0.015	o I	|	|	|	|	0.18
1.500	0.14	0.00	0.016	o I	|	|	|	|	0.19
1.583	0.14	0.00	0.017	o I	|	|	|	|	0.20
1.667	0.14	0.00	0.018	o I	|	|	|	|	0.21
1.750	0.14	0.00	0.019	o I	|	|	|	|	0.22
1.833	0.16	0.00	0.020	o I	|	|	|	|	0.23
1.917	0.18	0.00	0.021	o I	|	|	|	|	0.25
2.000	0.18	0.00	0.022	o I	|	|	|	|	0.26
2.083	0.19	0.00	0.024	o I	|	|	|	|	0.28
2.167	0.19	0.00	0.025	o I	|	|	|	|	0.29
2.250	0.19	0.00	0.026	o I	|	|	|	|	0.31
2.333	0.19	0.00	0.027	o I	|	|	|	|	0.32
2.417	0.19	0.00	0.029	o I	|	|	|	|	0.34
2.500	0.19	0.00	0.030	o I	|	|	|	|	0.35
2.583	0.20	0.00	0.031	o I	|	|	|	|	0.37
2.667	0.22	0.00	0.033	o I	|	|	|	|	0.39
2.750	0.23	0.00	0.034	o I	|	|	|	|	0.40
2.833	0.23	0.00	0.036	o I	|	|	|	|	0.42
2.917	0.23	0.00	0.038	o I	|	|	|	|	0.44
3.000	0.23	0.00	0.039	o I	|	|	|	|	0.46
3.083	0.23	0.00	0.041	o I	|	|	|	|	0.48
3.167	0.23	0.00	0.042	o I	|	|	|	|	0.50
3.250	0.23	0.00	0.044	o I	|	|	|	|	0.52
3.333	0.23	0.00	0.046	o I	|	|	|	|	0.54
3.417	0.23	0.00	0.047	o I	|	|	|	|	0.55
3.500	0.23	0.00	0.049	o I	|	|	|	|	0.57
3.583	0.23	0.00	0.050	o I	|	|	|	|	0.59
3.667	0.23	0.00	0.052	o I	|	|	|	|	0.61
3.750	0.23	0.00	0.054	o I	|	|	|	|	0.63
3.833	0.25	0.00	0.055	o I	|	|	|	|	0.65
3.917	0.27	0.00	0.057	o I	|	|	|	|	0.67
4.000	0.28	0.00	0.059	o I	|	|	|	|	0.69
4.083	0.28	0.00	0.061	o I	|	|	|	|	0.71
4.167	0.28	0.00	0.063	o I	|	|	|	|	0.74
4.250	0.28	0.00	0.065	o I	|	|	|	|	0.76
4.333	0.30	0.00	0.067	o I	|	|	|	|	0.78
4.417	0.32	0.00	0.069	o I	|	|	|	|	0.81
4.500	0.32	0.00	0.071	o I	|	|	|	|	0.83
4.583	0.33	0.00	0.073	o I	|	|	|	|	0.86
4.667	0.33	0.00	0.075	o I	|	|	|	|	0.89
4.750	0.33	0.00	0.078	o I	|	|	|	|	0.91
4.833	0.34	0.00	0.080	o I	|	|	|	|	0.94
4.917	0.36	0.00	0.082	o I	|	|	|	|	0.97
5.000	0.37	0.00	0.085	o I	|	|	|	|	1.00
5.083	0.34	0.00	0.087	o I	|	|	|	|	1.02
5.167	0.30	0.00	0.089	o I	|	|	|	|	1.04
5.250	0.29	0.00	0.091	o I	|	|	|	|	1.05
5.333	0.30	0.00	0.093	o I	|	|	|	|	1.07
5.417	0.32	0.00	0.096	o I	|	|	|	|	1.08
5.500	0.32	0.00	0.098	o I	|	|	|	|	1.10
5.583	0.34	0.00	0.100	o I	|	|	|	|	1.12
5.667	0.36	0.00	0.102	o I	|	|	|	|	1.14
5.750	0.37	0.00	0.105	o I	|	|	|	|	1.16
5.833	0.37	0.00	0.108	o I	|	|	|	|	1.18
5.917	0.37	0.00	0.110	o I	|	|	|	|	1.20
6.000	0.37	0.00	0.113	o I	|	|	|	|	1.22
6.083	0.39	0.00	0.115	o I	|	|	|	|	1.24
6.167	0.41	0.00	0.118	o I	|	|	|	|	1.26
6.250	0.42	0.00	0.121	o I	|	|	|	|	1.28
6.333	0.42	0.00	0.124	o I	|	|	|	|	1.31
6.417	0.42	0.00	0.127	o I	|	|	|	|	1.33
6.500	0.42	0.00	0.129	o I	|	|	|	|	1.35
6.583	0.44	0.00	0.132	o I	|	|	|	|	1.38
6.667	0.46	0.00	0.135	o |	I |	|	|	|	1.40
6.750	0.46	0.00	0.139	o |	I |	|	|	|	1.43
6.833	0.46	0.00	0.142	o |	I |	|	|	|	1.45
6.917	0.47	0.00	0.145	o |	I |	|	|	|	1.48
7.000	0.47	0.00	0.148	o |	I |	|	|	|	1.50
7.083	0.47	0.01	0.151	o |	I |	|	|	|	1.52
7.167	0.47	0.01	0.155	o |	I |	|	|	|	1.54
7.250	0.47	0.01	0.158	o |	I |	|	|	|	1.56
7.333	0.48	0.01	0.161	o |	I |	|	|	|	1.58
7.417	0.50	0.02	0.164	o |	I |	|	|	|	1.60
7.500	0.51	0.02	0.168	o |	I |	|	|	|	1.62
7.583	0.53	0.02	0.171	o |	I |	|	|	|	1.64
7.667	0.55	0.03	0.174	o |	I |	|	|	|	1.67
7.750	0.56	0.03	0.178	o |	I |	|	|	|	1.69

7.833	0.58	0.04	0.182	o	I			1.71
7.917	0.60	0.04	0.186	o	I			1.74
8.000	0.60	0.04	0.189	o	I			1.76
8.083	0.64	0.05	0.193	o	I			1.79
8.167	0.68	0.05	0.198	o	I			1.81
8.250	0.69	0.05	0.202	o	I			1.84
8.333	0.70	0.06	0.206	o	I			1.87
8.417	0.70	0.06	0.211	o	I			1.89
8.500	0.70	0.07	0.215	o	I			1.92
8.583	0.72	0.07	0.219	o	I			1.95
8.667	0.74	0.08	0.224	o	I			1.98
8.750	0.74	0.08	0.229	o	I			2.01
8.833	0.76	0.09	0.233	o	I			2.04
8.917	0.78	0.09	0.238	o	I			2.07
9.000	0.79	0.09	0.243	o	I			2.10
9.083	0.83	0.10	0.248	o	I			2.13
9.167	0.87	0.10	0.253	o	I			2.16
9.250	0.88	0.11	0.258	o	I			2.19
9.333	0.90	0.12	0.263	o	I			2.22
9.417	0.92	0.12	0.269	o	I			2.26
9.500	0.93	0.13	0.274	o	I			2.29
9.583	0.95	0.13	0.280	o	I			2.33
9.667	0.97	0.14	0.286	o	I			2.37
9.750	0.98	0.14	0.291	o	I			2.40
9.833	0.99	0.15	0.297	o	I			2.44
9.917	1.02	0.15	0.303	o	I			2.47
10.000	1.02	0.16	0.309	o	I			2.51
10.083	0.90	0.16	0.314	o	I			2.54
10.167	0.76	0.16	0.319	o	I			2.57
10.250	0.72	0.17	0.323	o	I			2.60
10.333	0.71	0.17	0.327	o	I			2.62
10.417	0.70	0.17	0.330	o	I			2.64
10.500	0.70	0.17	0.334	o	I			2.66
10.583	0.78	0.17	0.338	o	I			2.69
10.667	0.89	0.18	0.343	o	I			2.71
10.750	0.92	0.18	0.348	o	I			2.74
10.833	0.93	0.18	0.353	o	I			2.78
10.917	0.93	0.18	0.358	o	I			2.81
11.000	0.93	0.19	0.363	o	I			2.84
11.083	0.92	0.19	0.368	o	I			2.87
11.167	0.89	0.19	0.373	o	I			2.90
11.250	0.89	0.19	0.378	o	I			2.93
11.333	0.89	0.20	0.383	o	I			2.96
11.417	0.89	0.20	0.387	o	I			2.98
11.500	0.89	0.20	0.392	o	I			3.01
11.583	0.85	0.20	0.397	o	I			3.04
11.667	0.81	0.20	0.401	o	I			3.07
11.750	0.80	0.21	0.405	o	I			3.09
11.833	0.81	0.21	0.409	o	I			3.12
11.917	0.83	0.21	0.413	o	I			3.14
12.000	0.84	0.21	0.418	o	I			3.17
12.083	0.96	0.22	0.422	o	I			3.19
12.167	1.11	0.22	0.428	o	I			3.23
12.250	1.14	0.22	0.434	o	I			3.27
12.333	1.17	0.22	0.441	o	I			3.30
12.417	1.20	0.23	0.447	o	I			3.34
12.500	1.21	0.23	0.454	o	I			3.39
12.583	1.24	0.23	0.461	o	I			3.43
12.667	1.29	0.24	0.468	o	I			3.47
12.750	1.30	0.24	0.475	o	I			3.52
12.833	1.32	0.25	0.483	o	I			3.57
12.917	1.34	0.25	0.490	o	I			3.62
13.000	1.35	0.25	0.498	o	I			3.68
13.083	1.44	0.26	0.505	o	I			3.73
13.167	1.54	0.26	0.514	o	I			3.79
13.250	1.57	0.26	0.523	o	I			3.86
13.333	1.58	0.27	0.532	o	I			3.92
13.417	1.58	0.27	0.541	o	I			3.99
13.500	1.58	0.27	0.550	o	I			4.05
13.583	1.40	0.28	0.558	o	I			4.11
13.667	1.16	0.28	0.565	o	I			4.16
13.750	1.11	0.28	0.571	o	I			4.20
13.833	1.09	0.29	0.577	o	I			4.25
13.917	1.07	0.29	0.582	o	I			4.28
14.000	1.07	0.29	0.587	o	I			4.32
14.083	1.14	0.29	0.593	o	I			4.36
14.167	1.23	0.30	0.599	o	I			4.41
14.250	1.25	0.30	0.606	o	I			4.45
14.333	1.24	0.30	0.612	o	I			4.50
14.417	1.22	0.31	0.618	o	I			4.58
14.500	1.22	0.31	0.625	o	I			4.65

14.583	1.21	0.31	0.631	| O |	| |	| I |	|	4.72
14.667	1.21	0.32	0.637	| O |	| |	| I |	|	4.80
14.750	1.21	0.32	0.643	| O |	| |	| I |	|	4.87
14.833	1.19	0.32	0.649	| O |	| |	| I |	|	4.94
14.917	1.17	0.33	0.655	| O |	| |	| I|	|	5.01
15.000	1.17	0.33	0.661	| O |	| |	| I|	|	5.08
15.083	1.15	0.33	0.667	| O |	| |	| I|	|	5.14
15.167	1.13	0.34	0.672	| O |	| |	| I |	|	5.21
15.250	1.12	0.34	0.678	| O |	| |	| I |	|	5.27
15.333	1.10	0.34	0.683	| O |	| |	| I |	|	5.33
15.417	1.08	0.35	0.688	| O|	| |	| I |	|	5.39
15.500	1.08	0.35	0.693	| O|	| |	| I |	|	5.45
15.583	1.01	0.35	0.698	| O|	| |	| I |	|	5.52
15.667	0.92	0.36	0.702	| O|	| |	| I |	|	5.59
15.750	0.90	0.36	0.706	| O|	| |	| I |	|	5.66
15.833	0.89	0.36	0.709	| O|	| |	|I |	|	5.73
15.917	0.89	0.37	0.713	| O|	| |	|I |	|	5.80
16.000	0.89	0.37	0.717	| O|	| |	|I |	|	5.87
16.083	0.63	0.37	0.719	| O|	| I |	| |	|	5.92
16.167	0.31	0.37	0.720	| IO|	| |	| |	|	5.93
16.250	0.24	0.37	0.719	| I O|	| |	| |	|	5.92
16.333	0.21	0.37	0.718	| I O|	| |	| |	|	5.90
16.417	0.19	0.37	0.717	| I O|	| |	| |	|	5.88
16.500	0.19	0.37	0.716	| I O|	| |	| |	|	5.85
16.583	0.17	0.37	0.715	| I O|	| |	| |	|	5.83
16.667	0.15	0.37	0.713	|I O|	| |	| |	|	5.80
16.750	0.14	0.36	0.712	|I O|	| |	| |	|	5.77
16.833	0.14	0.36	0.710	|I O|	| |	| |	|	5.74
16.917	0.14	0.36	0.708	|I O|	| |	| |	|	5.72
17.000	0.14	0.36	0.707	|I O|	| |	| |	|	5.69
17.083	0.17	0.36	0.706	| I O|	| |	| |	|	5.66
17.167	0.22	0.36	0.704	| I O|	| |	| |	|	5.64
17.250	0.23	0.36	0.703	| I O|	| |	| |	|	5.62
17.333	0.23	0.36	0.703	| I O|	| |	| |	|	5.61
17.417	0.23	0.36	0.702	| I O|	| |	| |	|	5.59
17.500	0.23	0.36	0.701	| I O|	| |	| |	|	5.57
17.583	0.23	0.36	0.700	| I O|	| |	| |	|	5.56
17.667	0.23	0.35	0.699	| I O|	| |	| |	|	5.54
17.750	0.23	0.35	0.698	| I O|	| |	| |	|	5.53
17.833	0.22	0.35	0.697	| I O|	| |	| |	|	5.51
17.917	0.19	0.35	0.696	| I O|	| |	| |	|	5.49
18.000	0.19	0.35	0.695	| I O|	| |	| |	|	5.48
18.083	0.19	0.35	0.694	| I O|	| |	| |	|	5.47
18.167	0.19	0.35	0.693	| I O|	| |	| |	|	5.45
18.250	0.19	0.35	0.692	| I O|	| |	| |	|	5.44
18.333	0.19	0.35	0.691	| I O|	| |	| |	|	5.43
18.417	0.19	0.35	0.690	| I O|	| |	| |	|	5.41
18.500	0.19	0.35	0.689	| I O|	| |	| |	|	5.40
18.583	0.17	0.35	0.687	| I O|	| |	| |	|	5.39
18.667	0.15	0.35	0.686	| I O |	| |	| |	|	5.37
18.750	0.14	0.35	0.685	| I O |	| |	| |	|	5.36
18.833	0.12	0.34	0.683	| I O |	| |	| |	|	5.34
18.917	0.10	0.34	0.682	| I O |	| |	| |	|	5.32
19.000	0.10	0.34	0.680	|I O |	| |	| |	|	5.30
19.083	0.11	0.34	0.678	| I O |	| |	| |	|	5.28
19.167	0.13	0.34	0.677	| I O |	| |	| |	|	5.26
19.250	0.14	0.34	0.675	| I O |	| |	| |	|	5.25
19.333	0.16	0.34	0.674	| I O |	| |	| |	|	5.23
19.417	0.18	0.34	0.673	| I O |	| |	| |	|	5.22
19.500	0.18	0.34	0.672	| I O |	| |	| |	|	5.20
19.583	0.17	0.34	0.671	| I O |	| |	| |	|	5.19
19.667	0.15	0.34	0.670	| I O |	| |	| |	|	5.18
19.750	0.14	0.34	0.668	| I O |	| |	| |	|	5.16
19.833	0.12	0.33	0.667	| I O |	| |	| |	|	5.14
19.917	0.10	0.33	0.665	| I O |	| |	| |	|	5.13
20.000	0.10	0.33	0.664	|I O |	| |	| |	|	5.11
20.083	0.11	0.33	0.662	| I O |	| |	| |	|	5.09
20.167	0.13	0.33	0.661	| I O |	| |	| |	|	5.07
20.250	0.14	0.33	0.659	| I O |	| |	| |	|	5.06
20.333	0.14	0.33	0.658	| I O |	| |	| |	|	5.04
20.417	0.14	0.33	0.657	| I O |	| |	| |	|	5.03
20.500	0.14	0.33	0.655	| I O |	| |	| |	|	5.01
20.583	0.14	0.33	0.654	| I O |	| |	| |	|	4.99
20.667	0.14	0.33	0.653	| I O |	| |	| |	|	4.98
20.750	0.14	0.33	0.651	| I O |	| |	| |	|	4.96
20.833	0.12	0.32	0.650	| I O |	| |	| |	|	4.95
20.917	0.10	0.32	0.649	| I O |	| |	| |	|	4.93
21.000	0.10	0.32	0.647	|I O |	| |	| |	|	4.91
21.083	0.11	0.32	0.646	| I O |	| |	| |	|	4.90
21.167	0.13	0.32	0.644	| I O |	| |	| |	|	4.88
21.250	0.14	0.32	0.643	| I O |	| |	| |	|	4.86

21.333	0.12	0.32	0.642	| I o |	|	|	|	4.85
21.417	0.10	0.32	0.640	| I o |	|	|	|	4.83
21.500	0.10	0.32	0.639	|I o |	|	|	|	4.81
21.583	0.11	0.32	0.637	| I o |	|	|	|	4.80
21.667	0.13	0.32	0.636	| I o |	|	|	|	4.78
21.750	0.14	0.32	0.635	| I o |	|	|	|	4.77
21.833	0.12	0.31	0.633	| I o |	|	|	|	4.75
21.917	0.10	0.31	0.632	| I o |	|	|	|	4.73
22.000	0.10	0.31	0.630	|I o |	|	|	|	4.72
22.083	0.11	0.31	0.629	| I o |	|	|	|	4.70
22.167	0.13	0.31	0.628	| I o |	|	|	|	4.69
22.250	0.14	0.31	0.627	| I o |	|	|	|	4.67
22.333	0.12	0.31	0.625	| I o |	|	|	|	4.66
22.417	0.10	0.31	0.624	| I o |	|	|	|	4.64
22.500	0.10	0.31	0.622	|I o |	|	|	|	4.62
22.583	0.09	0.31	0.621	|I o |	|	|	|	4.61
22.667	0.09	0.31	0.620	|I o |	|	|	|	4.59
22.750	0.09	0.31	0.618	|I o |	|	|	|	4.57
22.833	0.09	0.30	0.617	|I o |	|	|	|	4.55
22.917	0.09	0.30	0.615	|I o |	|	|	|	4.54
23.000	0.09	0.30	0.614	|I o |	|	|	|	4.52
23.083	0.09	0.30	0.612	|I o |	|	|	|	4.50
23.167	0.09	0.30	0.611	|I o |	|	|	|	4.49
23.250	0.09	0.30	0.609	|I o |	|	|	|	4.48
23.333	0.09	0.30	0.608	|I o |	|	|	|	4.47
23.417	0.09	0.30	0.607	|I o |	|	|	|	4.46
23.500	0.09	0.30	0.605	|I o |	|	|	|	4.45
23.583	0.09	0.30	0.604	|I o |	|	|	|	4.44
23.667	0.09	0.30	0.602	|I o |	|	|	|	4.43
23.750	0.09	0.30	0.601	|I o |	|	|	|	4.42
23.833	0.09	0.30	0.599	|I o |	|	|	|	4.41
23.917	0.09	0.30	0.598	|I o |	|	|	|	4.40
24.000	0.09	0.30	0.597	|I o |	|	|	|	4.39
24.083	0.06	0.29	0.595	|I o |	|	|	|	4.38
24.167	0.02	0.29	0.593	I o |	|	|	|	4.37
24.250	0.01	0.29	0.591	I o |	|	|	|	4.35
24.333	0.00	0.29	0.590	I o |	|	|	|	4.34
24.417	0.00	0.29	0.588	I o |	|	|	|	4.32
24.500	0.00	0.29	0.586	I o |	|	|	|	4.31
24.583	0.00	0.29	0.584	I o |	|	|	|	4.30
24.667	0.00	0.29	0.582	I o |	|	|	|	4.28
24.750	0.00	0.29	0.580	I o |	|	|	|	4.27
24.833	0.00	0.29	0.578	I o |	|	|	|	4.25
24.917	0.00	0.29	0.576	I o |	|	|	|	4.24
25.000	0.00	0.29	0.574	I o |	|	|	|	4.22
25.083	0.00	0.28	0.572	I o |	|	|	|	4.21
25.167	0.00	0.28	0.570	I o |	|	|	|	4.20
25.250	0.00	0.28	0.568	I o |	|	|	|	4.18
25.333	0.00	0.28	0.566	I o |	|	|	|	4.17
25.417	0.00	0.28	0.564	I o |	|	|	|	4.15
25.500	0.00	0.28	0.562	I o |	|	|	|	4.14
25.583	0.00	0.28	0.560	I o |	|	|	|	4.13
25.667	0.00	0.28	0.558	I o |	|	|	|	4.11
25.750	0.00	0.28	0.556	I o |	|	|	|	4.10
25.833	0.00	0.28	0.554	I o |	|	|	|	4.08
25.917	0.00	0.28	0.552	I o |	|	|	|	4.07
26.000	0.00	0.27	0.550	I o |	|	|	|	4.06
26.083	0.00	0.27	0.549	I o |	|	|	|	4.04
26.167	0.00	0.27	0.547	I o |	|	|	|	4.03
26.250	0.00	0.27	0.545	I o |	|	|	|	4.02
26.333	0.00	0.27	0.543	I o |	|	|	|	4.00
26.417	0.00	0.27	0.541	I o |	|	|	|	3.99
26.500	0.00	0.27	0.539	I o |	|	|	|	3.98
26.583	0.00	0.27	0.537	I o |	|	|	|	3.96
26.667	0.00	0.27	0.536	I o |	|	|	|	3.95
26.750	0.00	0.27	0.534	I o |	|	|	|	3.94
26.833	0.00	0.27	0.532	I o |	|	|	|	3.92
26.917	0.00	0.27	0.530	I o |	|	|	|	3.91
27.000	0.00	0.27	0.528	I o |	|	|	|	3.90
27.083	0.00	0.26	0.526	I o |	|	|	|	3.88
27.167	0.00	0.26	0.525	I o |	|	|	|	3.87
27.250	0.00	0.26	0.523	I o |	|	|	|	3.86
27.333	0.00	0.26	0.521	I o |	|	|	|	3.84
27.417	0.00	0.26	0.519	I o |	|	|	|	3.83
27.500	0.00	0.26	0.517	I o |	|	|	|	3.82
27.583	0.00	0.26	0.515	I o |	|	|	|	3.81
27.667	0.00	0.26	0.514	I o |	|	|	|	3.79
27.750	0.00	0.26	0.512	I o |	|	|	|	3.78
27.833	0.00	0.26	0.510	I o |	|	|	|	3.77
27.917	0.00	0.26	0.508	I o |	|	|	|	3.75
28.000	0.00	0.26	0.507	I o |	|	|	|	3.74

28.083	0.00	0.25	0.505	I	o				3.73
28.167	0.00	0.25	0.503	I	o				3.72
28.250	0.00	0.25	0.501	I	o				3.70
28.333	0.00	0.25	0.500	I	o				3.69
28.417	0.00	0.25	0.498	I	o				3.68
28.500	0.00	0.25	0.496	I	o				3.67
28.583	0.00	0.25	0.494	I	o				3.65
28.667	0.00	0.25	0.493	I	o				3.64
28.750	0.00	0.25	0.491	I	o				3.63
28.833	0.00	0.25	0.489	I	o				3.62
28.917	0.00	0.25	0.488	I	o				3.60
29.000	0.00	0.25	0.486	I	o				3.59
29.083	0.00	0.25	0.484	I	o				3.58
29.167	0.00	0.25	0.482	I	o				3.57
29.250	0.00	0.24	0.481	I	o				3.56
29.333	0.00	0.24	0.479	I	o				3.54
29.417	0.00	0.24	0.477	I	o				3.53
29.500	0.00	0.24	0.476	I	o				3.52
29.583	0.00	0.24	0.474	I	o				3.51
29.667	0.00	0.24	0.472	I	o				3.50
29.750	0.00	0.24	0.471	I	o				3.49
29.833	0.00	0.24	0.469	I	o				3.48
29.917	0.00	0.24	0.467	I	o				3.47
30.000	0.00	0.24	0.466	I	o				3.46
30.083	0.00	0.24	0.464	I	o				3.45
30.167	0.00	0.24	0.463	I	o				3.44
30.250	0.00	0.23	0.461	I	o				3.43
30.333	0.00	0.23	0.459	I	o				3.42
30.417	0.00	0.23	0.458	I	o				3.41
30.500	0.00	0.23	0.456	I	o				3.40
30.583	0.00	0.23	0.455	I	o				3.39
30.667	0.00	0.23	0.453	I	o				3.38
30.750	0.00	0.23	0.451	I	o				3.37
30.833	0.00	0.23	0.450	I	o				3.36
30.917	0.00	0.23	0.448	I	o				3.35
31.000	0.00	0.23	0.447	I	o				3.34
31.083	0.00	0.23	0.445	I	o				3.33
31.167	0.00	0.23	0.444	I	o				3.32
31.250	0.00	0.23	0.442	I	o				3.31
31.333	0.00	0.22	0.440	I	o				3.30
31.417	0.00	0.22	0.439	I	o				3.29
31.500	0.00	0.22	0.437	I	o				3.29
31.583	0.00	0.22	0.436	I	o				3.28
31.667	0.00	0.22	0.434	I	o				3.27
31.750	0.00	0.22	0.433	I	o				3.26
31.833	0.00	0.22	0.431	I	o				3.25
31.917	0.00	0.22	0.430	I	o				3.24
32.000	0.00	0.22	0.428	I	o				3.23
32.083	0.00	0.22	0.427	I	o				3.22
32.167	0.00	0.22	0.425	I	o				3.21
32.250	0.00	0.22	0.424	I	o				3.20
32.333	0.00	0.22	0.422	I	o				3.19
32.417	0.00	0.21	0.421	I	o				3.19
32.500	0.00	0.21	0.419	I	o				3.18
32.583	0.00	0.21	0.418	I	o				3.17
32.667	0.00	0.21	0.416	I	o				3.16
32.750	0.00	0.21	0.415	I	o				3.15
32.833	0.00	0.21	0.413	I	o				3.14
32.917	0.00	0.21	0.412	I	o				3.13
33.000	0.00	0.21	0.410	I	o				3.12
33.083	0.00	0.21	0.409	I	o				3.11
33.167	0.00	0.21	0.408	I	o				3.11
33.250	0.00	0.21	0.406	I	o				3.10
33.333	0.00	0.21	0.405	I	o				3.09
33.417	0.00	0.21	0.403	I	o				3.08
33.500	0.00	0.21	0.402	I	o				3.07
33.583	0.00	0.20	0.401	I	o				3.06
33.667	0.00	0.20	0.399	I	o				3.05
33.750	0.00	0.20	0.398	I	o				3.05
33.833	0.00	0.20	0.396	I	o				3.04
33.917	0.00	0.20	0.395	I	o				3.03
34.000	0.00	0.20	0.394	I	o				3.02
34.083	0.00	0.20	0.392	I	o				3.01
34.167	0.00	0.20	0.391	I	o				3.00
34.250	0.00	0.20	0.389	I	o				3.00
34.333	0.00	0.20	0.388	I	o				2.99
34.417	0.00	0.20	0.387	I	o				2.98
34.500	0.00	0.20	0.385	I	o				2.97
34.583	0.00	0.20	0.384	I	o				2.96
34.667	0.00	0.20	0.383	I	o				2.96
34.750	0.00	0.20	0.381	I	o				2.95

34.833	0.00	0.19	0.380	I	o				2.94
34.917	0.00	0.19	0.379	I	o				2.93
35.000	0.00	0.19	0.377	I	o				2.92
35.083	0.00	0.19	0.376	I	o				2.91
35.167	0.00	0.19	0.375	I	o				2.91
35.250	0.00	0.19	0.373	I	o				2.90
35.333	0.00	0.19	0.372	I	o				2.89
35.417	0.00	0.19	0.371	I	o				2.88
35.500	0.00	0.19	0.369	I	o				2.88
35.583	0.00	0.19	0.368	I	o				2.87
35.667	0.00	0.19	0.367	I	o				2.86
35.750	0.00	0.19	0.365	I	o				2.85
35.833	0.00	0.19	0.364	I	o				2.84
35.917	0.00	0.19	0.363	I	o				2.84
36.000	0.00	0.19	0.362	I	o				2.83
36.083	0.00	0.18	0.360	I	o				2.82
36.167	0.00	0.18	0.359	I	o				2.81
36.250	0.00	0.18	0.358	I	o				2.81
36.333	0.00	0.18	0.357	I	o				2.80
36.417	0.00	0.18	0.355	I	o				2.79
36.500	0.00	0.18	0.354	I	o				2.78
36.583	0.00	0.18	0.353	I	o				2.78
36.667	0.00	0.18	0.352	I	o				2.77
36.750	0.00	0.18	0.350	I	o				2.76
36.833	0.00	0.18	0.349	I	o				2.75
36.917	0.00	0.18	0.348	I	o				2.75
37.000	0.00	0.18	0.347	I	o				2.74
37.083	0.00	0.18	0.345	I	o				2.73
37.167	0.00	0.18	0.344	I	o				2.72
37.250	0.00	0.18	0.343	I	o				2.72
37.333	0.00	0.18	0.342	I	o				2.71
37.417	0.00	0.17	0.341	I	o				2.70
37.500	0.00	0.17	0.339	I	o				2.69
37.583	0.00	0.17	0.338	I	o				2.69
37.667	0.00	0.17	0.337	I	o				2.68
37.750	0.00	0.17	0.336	I	o				2.67
37.833	0.00	0.17	0.335	I	o				2.67
37.917	0.00	0.17	0.333	I	o				2.66
38.000	0.00	0.17	0.332	I	o				2.65
38.083	0.00	0.17	0.331	I	o				2.64
38.167	0.00	0.17	0.330	I	o				2.64
38.250	0.00	0.17	0.329	I	o				2.63
38.333	0.00	0.17	0.328	I	o				2.62
38.417	0.00	0.17	0.326	I	o				2.62
38.500	0.00	0.17	0.325	I	o				2.61
38.583	0.00	0.17	0.324	I	o				2.60
38.667	0.00	0.17	0.323	I	o				2.60
38.750	0.00	0.17	0.322	I	o				2.59
38.833	0.00	0.16	0.321	I	o				2.58
38.917	0.00	0.16	0.320	I	o				2.58
39.000	0.00	0.16	0.318	I	o				2.57
39.083	0.00	0.16	0.317	I	o				2.56
39.167	0.00	0.16	0.316	I	o				2.55
39.250	0.00	0.16	0.315	I	o				2.55
39.333	0.00	0.16	0.314	I	o				2.54
39.417	0.00	0.16	0.313	I	o				2.53
39.500	0.00	0.16	0.312	I	o				2.53
39.583	0.00	0.16	0.311	I	o				2.52
39.667	0.00	0.16	0.309	I	o				2.51
39.750	0.00	0.16	0.308	I	o				2.51
39.833	0.00	0.16	0.307	I	o				2.50
39.917	0.00	0.16	0.306	I	o				2.50
40.000	0.00	0.16	0.305	I	o				2.49
40.083	0.00	0.16	0.304	I	o				2.48
40.167	0.00	0.15	0.303	I	o				2.47
40.250	0.00	0.15	0.302	I	o				2.47
40.333	0.00	0.15	0.301	I	o				2.46
40.417	0.00	0.15	0.300	I	o				2.45
40.500	0.00	0.15	0.299	I	o				2.45
40.583	0.00	0.15	0.298	I	o				2.44
40.667	0.00	0.15	0.297	I	o				2.44
40.750	0.00	0.15	0.296	I	o				2.43
40.833	0.00	0.15	0.295	I	o				2.42
40.917	0.00	0.14	0.294	I	o				2.42
41.000	0.00	0.14	0.293	I	o				2.41
41.083	0.00	0.14	0.292	I	o				2.40
41.167	0.00	0.14	0.291	I	o				2.40
41.250	0.00	0.14	0.290	I	o				2.39
41.333	0.00	0.14	0.289	I	o				2.39
41.417	0.00	0.14	0.288	I	o				2.38
41.500	0.00	0.14	0.287	I	o				2.37

41.583	0.00	0.14	0.286	I O	|	|	|	|	2.37
41.667	0.00	0.14	0.285	I O	|	|	|	|	2.36
41.750	0.00	0.14	0.284	I O	|	|	|	|	2.36
41.833	0.00	0.13	0.283	I O	|	|	|	|	2.35
41.917	0.00	0.13	0.282	I O	|	|	|	|	2.34
42.000	0.00	0.13	0.281	I O	|	|	|	|	2.34
42.083	0.00	0.13	0.280	I O	|	|	|	|	2.33
42.167	0.00	0.13	0.279	I O	|	|	|	|	2.33
42.250	0.00	0.13	0.279	I O	|	|	|	|	2.32
42.333	0.00	0.13	0.278	I O	|	|	|	|	2.32
42.417	0.00	0.13	0.277	I O	|	|	|	|	2.31
42.500	0.00	0.13	0.276	I O	|	|	|	|	2.30
42.583	0.00	0.13	0.275	I O	|	|	|	|	2.30
42.667	0.00	0.13	0.274	I O	|	|	|	|	2.29
42.750	0.00	0.12	0.273	I O	|	|	|	|	2.29
42.833	0.00	0.12	0.272	I O	|	|	|	|	2.28
42.917	0.00	0.12	0.272	I O	|	|	|	|	2.28
43.000	0.00	0.12	0.271	I O	|	|	|	|	2.27
43.083	0.00	0.12	0.270	I O	|	|	|	|	2.27
43.167	0.00	0.12	0.269	I O	|	|	|	|	2.26
43.250	0.00	0.12	0.268	I O	|	|	|	|	2.26
43.333	0.00	0.12	0.267	I O	|	|	|	|	2.25
43.417	0.00	0.12	0.267	I O	|	|	|	|	2.25
43.500	0.00	0.12	0.266	I O	|	|	|	|	2.24
43.583	0.00	0.12	0.265	I O	|	|	|	|	2.24
43.667	0.00	0.12	0.264	I O	|	|	|	|	2.23
43.750	0.00	0.12	0.263	I O	|	|	|	|	2.23
43.833	0.00	0.11	0.263	I O	|	|	|	|	2.22
43.917	0.00	0.11	0.262	I O	|	|	|	|	2.22
44.000	0.00	0.11	0.261	I O	|	|	|	|	2.21
44.083	0.00	0.11	0.260	I O	|	|	|	|	2.21
44.167	0.00	0.11	0.259	I O	|	|	|	|	2.20
44.250	0.00	0.11	0.259	I O	|	|	|	|	2.20
44.333	0.00	0.11	0.258	I O	|	|	|	|	2.19
44.417	0.00	0.11	0.257	I O	|	|	|	|	2.19
44.500	0.00	0.11	0.256	I O	|	|	|	|	2.18
44.583	0.00	0.11	0.256	I O	|	|	|	|	2.18
44.667	0.00	0.11	0.255	I O	|	|	|	|	2.17
44.750	0.00	0.11	0.254	I O	|	|	|	|	2.17
44.833	0.00	0.11	0.254	I O	|	|	|	|	2.16
44.917	0.00	0.10	0.253	I O	|	|	|	|	2.16
45.000	0.00	0.10	0.252	I O	|	|	|	|	2.15
45.083	0.00	0.10	0.251	I O	|	|	|	|	2.15
45.167	0.00	0.10	0.251	I O	|	|	|	|	2.15
45.250	0.00	0.10	0.250	I O	|	|	|	|	2.14
45.333	0.00	0.10	0.249	I O	|	|	|	|	2.14
45.417	0.00	0.10	0.249	I O	|	|	|	|	2.13
45.500	0.00	0.10	0.248	I O	|	|	|	|	2.13

Remaining water in basin = 0.25 (Ac.Ft)

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

Number of intervals = 546
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.372 (CFS)
Total volume = 0.716 (Ac.Ft)

Status of hydrographs being held in storage

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

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FLOOD HYDROGRAPH ROUTING PROGRAM
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Study date: 10/11/24

Program License Serial Number 5006

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

From study/file name: PRO102410.rte
**********HYDROGRAPH DATA**********
Number of intervals = 292
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 3.173 (CFS)
Total volume = 1.767 (Ac.Ft)
Status of hydrographs being held in storage

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

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Process from Point/Station 1.000 to Point/Station 2.000
**** RETARDING BASIN ROUTING ****
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User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 292
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.085	0.001	0.085	0.085
1.500	0.148	0.002	0.148	0.148
2.500	0.307	0.158	0.306	0.308
3.500	0.473	0.241	0.472	0.474
4.500	0.612	0.302	0.611	0.613
5.500	0.697	0.353	0.696	0.698
7.000	0.777	0.418	0.776	0.778
7.500	0.866	0.437	0.864	0.868
8.500	1.043	75.486	0.783	1.303

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.8	1.59	2.38	3.17	Depth (Ft.)
0.083	0.06	0.00	0.000	O	|	|	|	|	0.00
0.167	0.14	0.00	0.001	OI	|	|	|	|	0.01
0.250	0.16	0.00	0.002	OI	|	|	|	|	0.02
0.333	0.20	0.00	0.003	OI	|	|	|	|	0.04
0.417	0.24	0.00	0.005	O I	|	|	|	|	0.05
0.500	0.25	0.00	0.006	O I	|	|	|	|	0.07
0.583	0.25	0.00	0.008	O I	|	|	|	|	0.09
0.667	0.25	0.00	0.010	O I	|	|	|	|	0.12
0.750	0.25	0.00	0.012	O I	|	|	|	|	0.14
0.833	0.29	0.00	0.013	O I	|	|	|	|	0.16
0.917	0.32	0.00	0.016	O I	|	|	|	|	0.18
1.000	0.33	0.00	0.018	O I	|	|	|	|	0.21

1.083	0.31	0.00	0.020	o I	|	|	|	0.24
1.167	0.27	0.00	0.022	o I	|	|	|	0.26
1.250	0.26	0.00	0.024	o I	|	|	|	0.28
1.333	0.26	0.00	0.026	o I	|	|	|	0.30
1.417	0.25	0.00	0.027	o I	|	|	|	0.32
1.500	0.25	0.00	0.029	o I	|	|	|	0.34
1.583	0.25	0.00	0.031	o I	|	|	|	0.36
1.667	0.25	0.00	0.033	o I	|	|	|	0.38
1.750	0.25	0.00	0.034	o I	|	|	|	0.40
1.833	0.29	0.00	0.036	o I	|	|	|	0.43
1.917	0.32	0.00	0.038	o I	|	|	|	0.45
2.000	0.33	0.00	0.041	o I	|	|	|	0.48
2.083	0.34	0.00	0.043	o I	|	|	|	0.50
2.167	0.34	0.00	0.045	o I	|	|	|	0.53
2.250	0.34	0.00	0.048	o I	|	|	|	0.56
2.333	0.34	0.00	0.050	o I	|	|	|	0.59
2.417	0.34	0.00	0.052	o I	|	|	|	0.61
2.500	0.34	0.00	0.055	o I	|	|	|	0.64
2.583	0.37	0.00	0.057	o I	|	|	|	0.67
2.667	0.41	0.00	0.060	o I	|	|	|	0.70
2.750	0.42	0.00	0.063	o I	|	|	|	0.74
2.833	0.42	0.00	0.065	o I	|	|	|	0.77
2.917	0.42	0.00	0.068	o I	|	|	|	0.80
3.000	0.42	0.00	0.071	o I	|	|	|	0.84
3.083	0.42	0.00	0.074	o I	|	|	|	0.87
3.167	0.42	0.00	0.077	o I	|	|	|	0.91
3.250	0.42	0.00	0.080	o I	|	|	|	0.94
3.333	0.42	0.00	0.083	o I	|	|	|	0.98
3.417	0.42	0.00	0.086	o I	|	|	|	1.01
3.500	0.42	0.00	0.089	o I	|	|	|	1.03
3.583	0.42	0.00	0.092	o I	|	|	|	1.05
3.667	0.42	0.00	0.095	o I	|	|	|	1.08
3.750	0.42	0.00	0.098	o I	|	|	|	1.10
3.833	0.46	0.00	0.101	o I	|	|	|	1.12
3.917	0.49	0.00	0.104	o I	|	|	|	1.15
4.000	0.50	0.00	0.107	o I	|	|	|	1.18
4.083	0.51	0.00	0.111	o I	|	|	|	1.20
4.167	0.51	0.00	0.114	o I	|	|	|	1.23
4.250	0.51	0.00	0.118	o I	|	|	|	1.26
4.333	0.54	0.00	0.121	o I	|	|	|	1.29
4.417	0.58	0.00	0.125	o I	|	|	|	1.32
4.500	0.59	0.00	0.129	o I	|	|	|	1.35
4.583	0.59	0.00	0.133	o I	|	|	|	1.38
4.667	0.59	0.00	0.137	o I	|	|	|	1.42
4.750	0.59	0.00	0.141	o I	|	|	|	1.45
4.833	0.63	0.00	0.146	o I	|	|	|	1.48
4.917	0.66	0.00	0.150	o I	|	|	|	1.51
5.000	0.67	0.01	0.155	o I	|	|	|	1.54
5.083	0.62	0.01	0.159	o I	|	|	|	1.57
5.167	0.54	0.02	0.163	o I	|	|	|	1.59
5.250	0.52	0.02	0.166	o I	|	|	|	1.62
5.333	0.55	0.02	0.170	o I	|	|	|	1.64
5.417	0.58	0.03	0.174	o I	|	|	|	1.66
5.500	0.59	0.03	0.177	o I	|	|	|	1.69
5.583	0.62	0.03	0.181	o I	|	|	|	1.71
5.667	0.66	0.04	0.186	o I	|	|	|	1.74
5.750	0.67	0.04	0.190	o I	|	|	|	1.76
5.833	0.68	0.05	0.194	o I	|	|	|	1.79
5.917	0.68	0.05	0.199	o I	|	|	|	1.82
6.000	0.68	0.06	0.203	o I	|	|	|	1.85
6.083	0.71	0.06	0.207	o I	|	|	|	1.87
6.167	0.75	0.06	0.212	o I	|	|	|	1.90
6.250	0.76	0.07	0.217	o I	|	|	|	1.93
6.333	0.76	0.07	0.221	o I	|	|	|	1.96
6.417	0.76	0.08	0.226	o I	|	|	|	1.99
6.500	0.76	0.08	0.231	o I	|	|	|	2.02
6.583	0.80	0.09	0.236	o I	|	|	|	2.05
6.667	0.83	0.09	0.241	o I	|	|	|	2.08
6.750	0.84	0.10	0.246	o I	|	|	|	2.11
6.833	0.85	0.10	0.251	|o I	|	|	|	2.15
6.917	0.85	0.11	0.256	|o I	|	|	|	2.18
7.000	0.85	0.11	0.261	|o I	|	|	|	2.21
7.083	0.85	0.12	0.266	|o I	|	|	|	2.24
7.167	0.85	0.12	0.271	|o I	|	|	|	2.27
7.250	0.85	0.13	0.276	|o I	|	|	|	2.31
7.333	0.88	0.13	0.281	|o I	|	|	|	2.34
7.417	0.92	0.14	0.286	|o |I	|	|	|	2.37
7.500	0.93	0.14	0.292	|o |I	|	|	|	2.40
7.583	0.96	0.15	0.297	|o |I	|	|	|	2.44
7.667	1.00	0.15	0.303	|o | I	|	|	|	2.48
7.750	1.01	0.16	0.309	|o | I	|	|	|	2.51

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 7.833    1.05    0.16      0.315  |O       | I     |       |       |      2.55
 7.917    1.09    0.17      0.321  |O       | I     |       |       |      2.59
 8.000    1.10    0.17      0.328  |O       |  I    |       |       |      2.62
 8.083    1.16    0.17      0.334  |O       |  I    |       |       |      2.66
 8.167    1.24    0.18      0.341  |O       |   I   |       |       |      2.71
 8.250    1.26    0.18      0.349  |O       |   I   |       |       |      2.75
 8.333    1.27    0.18      0.356  |O       |   I   |       |       |      2.80
 8.417    1.27    0.19      0.364  |O       |   I   |       |       |      2.84
 8.500    1.27    0.19      0.371  |O       |   I   |       |       |      2.89
 8.583    1.31    0.19      0.379  |O       |    I  |       |       |      2.93
 8.667    1.34    0.20      0.386  |O       |    I  |       |       |      2.98
 8.750    1.35    0.20      0.394  | O      |    I  |       |       |      3.03
 8.833    1.39    0.21      0.402  | O      |     I |       |       |      3.07
 8.917    1.43    0.21      0.411  | O      |     I |       |       |      3.12
 9.000    1.44    0.21      0.419  | O      |     I |       |       |      3.18
 9.083    1.50    0.22      0.428  | O      |      I|       |       |      3.23
 9.167    1.58    0.22      0.437  | O      |      I|       |       |      3.28
 9.250    1.60    0.23      0.446  | O      |       I       |       |      3.34
 9.333    1.64    0.23      0.456  | O      |       I       |       |      3.40
 9.417    1.68    0.24      0.466  | O      |       I       |       |      3.46
 9.500    1.69    0.24      0.476  | O      |       |I      |       |      3.52
 9.583    1.73    0.25      0.486  | O      |       |I      |       |      3.59
 9.667    1.77    0.25      0.496  | O      |       |I      |       |      3.67
 9.750    1.78    0.26      0.507  | O      |       |I      |       |      3.74
 9.833    1.81    0.26      0.517  | O      |       | I     |       |      3.82
 9.917    1.85    0.27      0.528  | O      |       | I     |       |      3.90
10.000    1.86    0.27      0.539  | O      |       | I     |       |      3.97
10.083    1.65    0.27      0.549  | O      |       I       |       |      4.05
10.167    1.38    0.28      0.558  | O      |    I  |       |       |      4.11
10.250    1.32    0.28      0.565  | O      |    I  |       |       |      4.16
10.333    1.29    0.28      0.572  | O      |    I  |       |       |      4.21
10.417    1.27    0.29      0.579  | O      |   I   |       |       |      4.26
10.500    1.27    0.29      0.586  | O      |   I   |       |       |      4.31
10.583    1.43    0.29      0.593  | O      |     I |       |       |      4.36
10.667    1.62    0.30      0.602  | O      |       I       |       |      4.42
10.750    1.67    0.30      0.611  |  O     |       I       |       |      4.49
10.833    1.69    0.31      0.620  |  O     |       |I      |       |      4.60
10.917    1.70    0.31      0.630  |  O     |       |I      |       |      4.71
11.000    1.70    0.32      0.639  |  O     |       |I      |       |      4.82
11.083    1.67    0.32      0.649  |  O     |       I       |       |      4.93
11.167    1.63    0.33      0.658  |  O     |       I       |       |      5.04
11.250    1.62    0.33      0.667  |  O     |       I       |       |      5.14
11.333    1.62    0.34      0.676  |  O     |       I       |       |      5.25
11.417    1.61    0.35      0.684  |  O     |       I       |       |      5.35
11.500    1.61    0.35      0.693  |  O     |       I       |       |      5.45
11.583    1.55    0.36      0.701  |  O     |      I|       |       |      5.58
11.667    1.47    0.36      0.709  |  O     |     I |       |       |      5.73
11.750    1.46    0.37      0.717  |  O     |     I |       |       |      5.87
11.833    1.48    0.38      0.725  |  O     |     I |       |       |      6.02
11.917    1.51    0.38      0.732  |  O     |      I|       |       |      6.16
12.000    1.52    0.39      0.740  |  O     |      I|       |       |      6.31
12.083    1.74    0.39      0.749  |  O     |       |I      |       |      6.47
12.167    2.02    0.40      0.759  |   O    |       |   I   |       |      6.66
12.250    2.08    0.41      0.770  |   O    |       |   I   |       |      6.87
12.333    2.14    0.42      0.782  |   O    |       |    I  |       |      7.03
12.417    2.19    0.42      0.794  |   O    |       |     I |       |      7.09
12.500    2.20    0.42      0.806  |   O    |       |     I |       |      7.16
12.583    2.27    0.43      0.819  |   O    |       |     I |       |      7.23
12.667    2.35    0.43      0.831  |   O    |       |      I|       |      7.31
12.750    2.37    0.43      0.845  |   O    |       |      I|       |      7.38
12.833    2.41    0.44      0.858  |   O    |       |       I       |      7.46
12.917    2.45    1.46      0.868  |        |     O |       I       |      7.51
13.000    2.46    2.64      0.871  |        |       |       I O     |      7.53
13.083    2.71    2.57      0.871  |        |       |       |O I    |      7.53
13.167    3.03    2.92      0.872  |        |       |       |    OI |      7.53
13.250    3.10    3.09      0.872  |        |       |       |      O|      7.54
13.333    3.14    3.13      0.872  |        |       |       |      O|      7.54
13.417    3.17    3.16      0.872  |        |       |       |      O|      7.54
13.500    3.17    3.17      0.872  |        |       |       |      OI      7.54
13.583    2.73    2.91      0.872  |        |       |       |  I O  |      7.53
13.667    2.17    2.36      0.871  |        |       |    I O|       |      7.53
13.750    2.04    2.06      0.870  |        |       |   O   |       |      7.52
13.833    1.99    2.01      0.870  |        |       |   O   |       |      7.52
13.917    1.95    1.96      0.870  |        |       |  O    |       |      7.52
14.000    1.95    1.95      0.870  |        |       |  O    |       |      7.52
14.083    2.08    2.03      0.870  |        |       |   O   |       |      7.52
14.167    2.23    2.18      0.870  |        |       |    OI |       |      7.52
14.250    2.27    2.27      0.870  |        |       |     O |       |      7.52
14.333    2.25    2.26      0.870  |        |       |     O |       |      7.52
14.417    2.22    2.23      0.870  |        |       |     O |       |      7.52
14.500    2.22    2.22      0.870  |        |       |     O |       |      7.52
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14.583    2.21    2.21     0.870 |        |        |     O  |        |     7.52
14.667    2.21    2.21     0.870 |        |        |     O  |        |     7.52
14.750    2.21    2.21     0.870 |        |        |     O  |        |     7.52
14.833    2.18    2.19     0.870 |        |        |    IO  |        |     7.52
14.917    2.14    2.15     0.870 |        |        |    O   |        |     7.52
15.000    2.13    2.13     0.870 |        |        |    O   |        |     7.52
15.083    2.10    2.11     0.870 |        |        |    O   |        |     7.52
15.167    2.05    2.07     0.870 |        |        |   O    |        |     7.52
15.250    2.05    2.05     0.870 |        |        |   O    |        |     7.52
15.333    2.01    2.02     0.870 |        |        |   O    |        |     7.52
15.417    1.97    1.98     0.870 |        |        |  IO    |        |     7.52
15.500    1.96    1.96     0.870 |        |        |  O     |        |     7.52
15.583    1.83    1.88     0.869 |        |        | IO     |        |     7.52
15.667    1.67    1.73     0.869 |        |       IO       |        |     7.52
15.750    1.64    1.64     0.869 |        |       O        |        |     7.52
15.833    1.62    1.63     0.869 |        |       O        |        |     7.52
15.917    1.61    1.62     0.869 |        |       O        |        |     7.52
16.000    1.61    1.61     0.869 |        |       O        |        |     7.52
16.083    1.15    1.34     0.868 |        |  I O   |       |        |     7.51
16.167    0.56    0.77     0.867 |     I O|        |       |        |     7.50
16.250    0.43    0.45     0.866 |    O   |        |       |        |     7.50
16.333    0.37    0.44     0.866 |   IO   |        |       |        |     7.50
16.417    0.34    0.44     0.865 |   IO   |        |       |        |     7.50
16.500    0.34    0.44     0.865 |   IO   |        |       |        |     7.49
16.583    0.31    0.44     0.864 |   IO   |        |       |        |     7.49
16.667    0.27    0.44     0.863 |  I O   |        |       |        |     7.48
16.750    0.26    0.44     0.862 |  I O   |        |       |        |     7.48
16.833    0.26    0.44     0.860 |  I O   |        |       |        |     7.47
16.917    0.25    0.44     0.859 |  I O   |        |       |        |     7.46
17.000    0.25    0.44     0.858 |  I O   |        |       |        |     7.45
17.083    0.32    0.44     0.857 |   IO   |        |       |        |     7.45
17.167    0.40    0.43     0.856 |   IO   |        |       |        |     7.45
17.250    0.41    0.43     0.856 |    O   |        |       |        |     7.44
17.333    0.42    0.43     0.856 |    O   |        |       |        |     7.44
17.417    0.42    0.43     0.856 |    O   |        |       |        |     7.44
17.500    0.42    0.43     0.856 |    O   |        |       |        |     7.44
17.583    0.42    0.43     0.856 |    O   |        |       |        |     7.44
17.667    0.42    0.43     0.856 |    O   |        |       |        |     7.44
17.750    0.42    0.43     0.856 |    O   |        |       |        |     7.44
17.833    0.39    0.43     0.855 |   IO   |        |       |        |     7.44
17.917    0.35    0.43     0.855 |   IO   |        |       |        |     7.44
18.000    0.35    0.43     0.854 |   IO   |        |       |        |     7.44
18.083    0.34    0.43     0.854 |   IO   |        |       |        |     7.43
18.167    0.34    0.43     0.853 |   IO   |        |       |        |     7.43
18.250    0.34    0.43     0.853 |   IO   |        |       |        |     7.42
18.333    0.34    0.43     0.852 |   IO   |        |       |        |     7.42
18.417    0.34    0.43     0.851 |   IO   |        |       |        |     7.42
18.500    0.34    0.43     0.851 |   IO   |        |       |        |     7.41
18.583    0.31    0.43     0.850 |   IO   |        |       |        |     7.41
18.667    0.27    0.43     0.849 |  I O   |        |       |        |     7.40
18.750    0.26    0.43     0.848 |  I O   |        |       |        |     7.40
18.833    0.23    0.43     0.846 |  I O   |        |       |        |     7.39
18.917    0.18    0.43     0.845 | I  O   |        |       |        |     7.38
19.000    0.18    0.43     0.843 | I  O   |        |       |        |     7.37
19.083    0.20    0.43     0.841 |  I O   |        |       |        |     7.36
19.167    0.24    0.43     0.840 |  I O   |        |       |        |     7.35
19.250    0.25    0.43     0.839 |  I O   |        |       |        |     7.35
19.333    0.28    0.43     0.838 |  I O   |        |       |        |     7.34
19.417    0.32    0.43     0.837 |   IO   |        |       |        |     7.34
19.500    0.33    0.43     0.836 |   IO   |        |       |        |     7.33
19.583    0.31    0.43     0.835 |   IO   |        |       |        |     7.33
19.667    0.27    0.43     0.834 |  I O   |        |       |        |     7.32
19.750    0.26    0.43     0.833 |  I O   |        |       |        |     7.32
19.833    0.23    0.43     0.832 |  I O   |        |       |        |     7.31
19.917    0.18    0.43     0.830 | I  O   |        |       |        |     7.30
20.000    0.18    0.43     0.829 | I  O   |        |       |        |     7.29
20.083    0.20    0.43     0.827 |  I O   |        |       |        |     7.28
20.167    0.24    0.43     0.825 |  I O   |        |       |        |     7.27
20.250    0.25    0.43     0.824 |  I O   |        |       |        |     7.27
20.333    0.25    0.43     0.823 |  I O   |        |       |        |     7.26
20.417    0.25    0.43     0.822 |  I O   |        |       |        |     7.25
20.500    0.25    0.43     0.821 |  I O   |        |       |        |     7.24
20.583    0.25    0.43     0.819 |  I O   |        |       |        |     7.24
20.667    0.25    0.43     0.818 |  I O   |        |       |        |     7.23
20.750    0.25    0.43     0.817 |  I O   |        |       |        |     7.22
20.833    0.22    0.43     0.816 |  I O   |        |       |        |     7.22
20.917    0.18    0.43     0.814 | I  O   |        |       |        |     7.21
21.000    0.18    0.43     0.813 | I  O   |        |       |        |     7.20
21.083    0.20    0.43     0.811 |  I O   |        |       |        |     7.19
21.167    0.24    0.42     0.810 |  I O   |        |       |        |     7.18
21.250    0.25    0.42     0.808 |  I O   |        |       |        |     7.18
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21.333	0.22	0.42	0.807	| I o |	|	|	|	7.17
21.417	0.18	0.42	0.805	|I o |	|	|	|	7.16
21.500	0.18	0.42	0.804	|I o |	|	|	|	7.15
21.583	0.20	0.42	0.802	| I o |	|	|	|	7.14
21.667	0.24	0.42	0.801	| I o |	|	|	|	7.13
21.750	0.25	0.42	0.800	| I o |	|	|	|	7.13
21.833	0.22	0.42	0.798	| I o |	|	|	|	7.12
21.917	0.18	0.42	0.797	|I o |	|	|	|	7.11
22.000	0.18	0.42	0.795	|I o |	|	|	|	7.10
22.083	0.20	0.42	0.793	| I o |	|	|	|	7.09
22.167	0.24	0.42	0.792	| I o |	|	|	|	7.08
22.250	0.25	0.42	0.791	| I o |	|	|	|	7.08
22.333	0.22	0.42	0.790	| I o |	|	|	|	7.07
22.417	0.18	0.42	0.788	|I o |	|	|	|	7.06
22.500	0.18	0.42	0.786	|I o |	|	|	|	7.05
22.583	0.17	0.42	0.785	|I o |	|	|	|	7.04
22.667	0.17	0.42	0.783	|I o |	|	|	|	7.03
22.750	0.17	0.42	0.781	|I o |	|	|	|	7.02
22.833	0.17	0.42	0.780	|I o |	|	|	|	7.01
22.917	0.17	0.42	0.778	|I o |	|	|	|	7.01
23.000	0.17	0.42	0.776	|I o |	|	|	|	6.99
23.083	0.17	0.42	0.775	|I o |	|	|	|	6.95
23.167	0.17	0.41	0.773	|I o |	|	|	|	6.92
23.250	0.17	0.41	0.771	|I o |	|	|	|	6.89
23.333	0.17	0.41	0.769	|I o |	|	|	|	6.86
23.417	0.17	0.41	0.768	|I o |	|	|	|	6.83
23.500	0.17	0.41	0.766	|I o |	|	|	|	6.80
23.583	0.17	0.41	0.765	|I o |	|	|	|	6.77
23.667	0.17	0.41	0.763	|I o |	|	|	|	6.74
23.750	0.17	0.41	0.761	|I o |	|	|	|	6.70
23.833	0.17	0.40	0.760	|I o |	|	|	|	6.67
23.917	0.17	0.40	0.758	|I o |	|	|	|	6.64
24.000	0.17	0.40	0.756	|I o |	|	|	|	6.61
24.083	0.11	0.40	0.755	|I o |	|	|	|	6.58
24.167	0.03	0.40	0.752	I o |	|	|	|	6.54
24.250	0.01	0.40	0.750	I o |	|	|	|	6.49
24.333	0.00	0.39	0.747	I o |	|	|	|	6.44
24.417	0.00	0.39	0.744	I o |	|	|	|	6.39
24.500	0.00	0.39	0.742	I o |	|	|	|	6.34
24.583	0.00	0.39	0.739	I o |	|	|	|	6.29
24.667	0.00	0.39	0.736	I o |	|	|	|	6.24
24.750	0.00	0.38	0.734	I o |	|	|	|	6.19
24.833	0.00	0.38	0.731	I o |	|	|	|	6.14
24.917	0.00	0.38	0.729	I o |	|	|	|	6.09
25.000	0.00	0.38	0.726	I o |	|	|	|	6.04
25.083	0.00	0.37	0.723	I o |	|	|	|	5.99
25.167	0.00	0.37	0.721	I o |	|	|	|	5.95
25.250	0.00	0.37	0.718	I o |	|	|	|	5.90
25.333	0.00	0.37	0.716	I o |	|	|	|	5.85
25.417	0.00	0.37	0.713	I o |	|	|	|	5.80
25.500	0.00	0.36	0.711	I o |	|	|	|	5.76
25.583	0.00	0.36	0.708	I o |	|	|	|	5.71
25.667	0.00	0.36	0.706	I o |	|	|	|	5.66
25.750	0.00	0.36	0.703	I o |	|	|	|	5.62
25.833	0.00	0.36	0.701	I o |	|	|	|	5.57
25.917	0.00	0.35	0.698	I o |	|	|	|	5.52
26.000	0.00	0.35	0.696	I o |	|	|	|	5.49
26.083	0.00	0.35	0.693	I o |	|	|	|	5.46
26.167	0.00	0.35	0.691	I o |	|	|	|	5.43
26.250	0.00	0.35	0.689	I o |	|	|	|	5.40
26.333	0.00	0.35	0.686	I o |	|	|	|	5.37
26.417	0.00	0.35	0.684	I o |	|	|	|	5.34
26.500	0.00	0.34	0.681	I o |	|	|	|	5.32
26.583	0.00	0.34	0.679	I o |	|	|	|	5.29
26.667	0.00	0.34	0.677	I o |	|	|	|	5.26
26.750	0.00	0.34	0.674	I o |	|	|	|	5.23
26.833	0.00	0.34	0.672	I o |	|	|	|	5.21
26.917	0.00	0.34	0.670	I o |	|	|	|	5.18
27.000	0.00	0.34	0.667	I o |	|	|	|	5.15
27.083	0.00	0.33	0.665	I o |	|	|	|	5.12
27.167	0.00	0.33	0.663	I o |	|	|	|	5.10
27.250	0.00	0.33	0.661	I o |	|	|	|	5.07
27.333	0.00	0.33	0.658	I o |	|	|	|	5.04
27.417	0.00	0.33	0.656	I o |	|	|	|	5.02
27.500	0.00	0.33	0.654	I o |	|	|	|	4.99
27.583	0.00	0.33	0.651	I o |	|	|	|	4.96
27.667	0.00	0.32	0.649	I o |	|	|	|	4.94
27.750	0.00	0.32	0.647	I o |	|	|	|	4.91
27.833	0.00	0.32	0.645	I o |	|	|	|	4.89
27.917	0.00	0.32	0.643	I o |	|	|	|	4.86
28.000	0.00	0.32	0.640	I o |	|	|	|	4.83

28.083	0.00	0.32	0.638	I o				4.81
28.167	0.00	0.32	0.636	I o				4.78
28.250	0.00	0.32	0.634	I o				4.76
28.333	0.00	0.31	0.632	I o				4.73
28.417	0.00	0.31	0.630	I o				4.71
28.500	0.00	0.31	0.627	I o				4.68
28.583	0.00	0.31	0.625	I o				4.66
28.667	0.00	0.31	0.623	I o				4.63
28.750	0.00	0.31	0.621	I o				4.61
28.833	0.00	0.31	0.619	I o				4.58
28.917	0.00	0.30	0.617	I o				4.56
29.000	0.00	0.30	0.615	I o				4.53
29.083	0.00	0.30	0.613	I o				4.51
29.167	0.00	0.30	0.610	I o				4.49
29.250	0.00	0.30	0.608	I o				4.47
29.333	0.00	0.30	0.606	I o				4.46
29.417	0.00	0.30	0.604	I o				4.44
29.500	0.00	0.30	0.602	I o				4.43
29.583	0.00	0.30	0.600	I o				4.42
29.667	0.00	0.30	0.598	I o				4.40
29.750	0.00	0.30	0.596	I o				4.39
29.833	0.00	0.29	0.594	I o				4.37
29.917	0.00	0.29	0.592	I o				4.36
30.000	0.00	0.29	0.590	I o				4.34
30.083	0.00	0.29	0.588	I o				4.33
30.167	0.00	0.29	0.586	I o				4.31
30.250	0.00	0.29	0.584	I o				4.30
30.333	0.00	0.29	0.582	I o				4.28
30.417	0.00	0.29	0.580	I o				4.27
30.500	0.00	0.29	0.578	I o				4.26
30.583	0.00	0.29	0.576	I o				4.24
30.667	0.00	0.29	0.574	I o				4.23
30.750	0.00	0.28	0.572	I o				4.21
30.833	0.00	0.28	0.570	I o				4.20
30.917	0.00	0.28	0.568	I o				4.19
31.000	0.00	0.28	0.566	I o				4.17
31.083	0.00	0.28	0.564	I o				4.16
31.167	0.00	0.28	0.562	I o				4.14
31.250	0.00	0.28	0.561	I o				4.13
31.333	0.00	0.28	0.559	I o				4.12
31.417	0.00	0.28	0.557	I o				4.10
31.500	0.00	0.28	0.555	I o				4.09
31.583	0.00	0.28	0.553	I o				4.07
31.667	0.00	0.28	0.551	I o				4.06
31.750	0.00	0.27	0.549	I o				4.05
31.833	0.00	0.27	0.547	I o				4.03
31.917	0.00	0.27	0.545	I o				4.02
32.000	0.00	0.27	0.543	I o				4.01
32.083	0.00	0.27	0.542	I o				3.99
32.167	0.00	0.27	0.540	I o				3.98
32.250	0.00	0.27	0.538	I o				3.97
32.333	0.00	0.27	0.536	I o				3.95
32.417	0.00	0.27	0.534	I o				3.94
32.500	0.00	0.27	0.532	I o				3.93
32.583	0.00	0.27	0.530	I o				3.91
32.667	0.00	0.27	0.529	I o				3.90
32.750	0.00	0.26	0.527	I o				3.89
32.833	0.00	0.26	0.525	I o				3.87
32.917	0.00	0.26	0.523	I o				3.86
33.000	0.00	0.26	0.521	I o				3.85
33.083	0.00	0.26	0.520	I o				3.83
33.167	0.00	0.26	0.518	I o				3.82
33.250	0.00	0.26	0.516	I o				3.81
33.333	0.00	0.26	0.514	I o				3.80
33.417	0.00	0.26	0.512	I o				3.78
33.500	0.00	0.26	0.511	I o				3.77
33.583	0.00	0.26	0.509	I o				3.76
33.667	0.00	0.26	0.507	I o				3.75
33.750	0.00	0.26	0.505	I o				3.73
33.833	0.00	0.25	0.504	I o				3.72
33.917	0.00	0.25	0.502	I o				3.71
34.000	0.00	0.25	0.500	I o				3.69
34.083	0.00	0.25	0.498	I o				3.68
34.167	0.00	0.25	0.497	I o				3.67
34.250	0.00	0.25	0.495	I o				3.66
34.333	0.00	0.25	0.493	I o				3.65
34.417	0.00	0.25	0.491	I o				3.63
34.500	0.00	0.25	0.490	I o				3.62
34.583	0.00	0.25	0.488	I o				3.61
34.667	0.00	0.25	0.486	I o				3.60
34.750	0.00	0.25	0.485	I o				3.58

34.833	0.00	0.25	0.483	I o				3.57
34.917	0.00	0.24	0.481	I o				3.56
35.000	0.00	0.24	0.480	I o				3.55
35.083	0.00	0.24	0.478	I o				3.54
35.167	0.00	0.24	0.476	I o				3.52
35.250	0.00	0.24	0.475	I o				3.51
35.333	0.00	0.24	0.473	I o				3.50
35.417	0.00	0.24	0.471	I o				3.49
35.500	0.00	0.24	0.470	I o				3.48
35.583	0.00	0.24	0.468	I o				3.47
35.667	0.00	0.24	0.466	I o				3.46
35.750	0.00	0.24	0.465	I o				3.45
35.833	0.00	0.24	0.463	I o				3.44
35.917	0.00	0.24	0.461	I o				3.43
36.000	0.00	0.23	0.460	I o				3.42
36.083	0.00	0.23	0.458	I o				3.41
36.167	0.00	0.23	0.457	I o				3.40
36.250	0.00	0.23	0.455	I o				3.39
36.333	0.00	0.23	0.453	I o				3.38
36.417	0.00	0.23	0.452	I o				3.37
36.500	0.00	0.23	0.450	I o				3.36
36.583	0.00	0.23	0.449	I o				3.35
36.667	0.00	0.23	0.447	I o				3.34
36.750	0.00	0.23	0.445	I o				3.33
36.833	0.00	0.23	0.444	I o				3.32
36.917	0.00	0.23	0.442	I o				3.32
37.000	0.00	0.22	0.441	I o				3.31
37.083	0.00	0.22	0.439	I o				3.30
37.167	0.00	0.22	0.438	I o				3.29
37.250	0.00	0.22	0.436	I o				3.28
37.333	0.00	0.22	0.435	I o				3.27
37.417	0.00	0.22	0.433	I o				3.26
37.500	0.00	0.22	0.432	I o				3.25
37.583	0.00	0.22	0.430	I o				3.24
37.667	0.00	0.22	0.429	I o				3.23
37.750	0.00	0.22	0.427	I o				3.22
37.833	0.00	0.22	0.426	I o				3.21
37.917	0.00	0.22	0.424	I o				3.21
38.000	0.00	0.22	0.423	I o				3.20
38.083	0.00	0.22	0.421	I o				3.19
38.167	0.00	0.21	0.420	I o				3.18
38.250	0.00	0.21	0.418	I o				3.17
38.333	0.00	0.21	0.417	I o				3.16
38.417	0.00	0.21	0.415	I o				3.15
38.500	0.00	0.21	0.414	I o				3.14
38.583	0.00	0.21	0.412	I o				3.13
38.667	0.00	0.21	0.411	I o				3.13
38.750	0.00	0.21	0.409	I o				3.12
38.833	0.00	0.21	0.408	I o				3.11
38.917	0.00	0.21	0.407	I o				3.10
39.000	0.00	0.21	0.405	I o				3.09
39.083	0.00	0.21	0.404	I o				3.08
39.167	0.00	0.21	0.402	I o				3.07
39.250	0.00	0.20	0.401	I o				3.07
39.333	0.00	0.20	0.399	I o				3.06
39.417	0.00	0.20	0.398	I o				3.05
39.500	0.00	0.20	0.397	I o				3.04
39.583	0.00	0.20	0.395	I o				3.03
39.667	0.00	0.20	0.394	I o				3.02
39.750	0.00	0.20	0.392	I o				3.02
39.833	0.00	0.20	0.391	I o				3.01
39.917	0.00	0.20	0.390	I o				3.00
40.000	0.00	0.20	0.388	I o				2.99
40.083	0.00	0.20	0.387	IO				2.98
40.167	0.00	0.20	0.386	IO				2.97
40.250	0.00	0.20	0.384	IO				2.97
40.333	0.00	0.20	0.383	IO				2.96
40.417	0.00	0.20	0.382	IO				2.95
40.500	0.00	0.19	0.380	IO				2.94
40.583	0.00	0.19	0.379	IO				2.93
40.667	0.00	0.19	0.378	IO				2.93
40.750	0.00	0.19	0.376	IO				2.92
40.833	0.00	0.19	0.375	IO				2.91
40.917	0.00	0.19	0.374	IO				2.90
41.000	0.00	0.19	0.372	IO				2.89
41.083	0.00	0.19	0.371	IO				2.89
41.167	0.00	0.19	0.370	IO				2.88
41.250	0.00	0.19	0.368	IO				2.87
41.333	0.00	0.19	0.367	IO				2.86
41.417	0.00	0.19	0.366	IO				2.85
41.500	0.00	0.19	0.364	IO				2.85

41.583	0.00	0.19	0.363	IO				2.84
41.667	0.00	0.19	0.362	IO				2.83
41.750	0.00	0.18	0.361	IO				2.82
41.833	0.00	0.18	0.359	IO				2.82
41.917	0.00	0.18	0.358	IO				2.81
42.000	0.00	0.18	0.357	IO				2.80
42.083	0.00	0.18	0.356	IO				2.79
42.167	0.00	0.18	0.354	IO				2.79
42.250	0.00	0.18	0.353	IO				2.78
42.333	0.00	0.18	0.352	IO				2.77
42.417	0.00	0.18	0.351	IO				2.76
42.500	0.00	0.18	0.349	IO				2.76
42.583	0.00	0.18	0.348	IO				2.75
42.667	0.00	0.18	0.347	IO				2.74
42.750	0.00	0.18	0.346	IO				2.73
42.833	0.00	0.18	0.344	IO				2.73
42.917	0.00	0.18	0.343	IO				2.72
43.000	0.00	0.18	0.342	IO				2.71
43.083	0.00	0.17	0.341	IO				2.70
43.167	0.00	0.17	0.340	IO				2.70
43.250	0.00	0.17	0.338	IO				2.69
43.333	0.00	0.17	0.337	IO				2.68
43.417	0.00	0.17	0.336	IO				2.67
43.500	0.00	0.17	0.335	IO				2.67
43.583	0.00	0.17	0.334	IO				2.66
43.667	0.00	0.17	0.332	IO				2.65
43.750	0.00	0.17	0.331	IO				2.65
43.833	0.00	0.17	0.330	IO				2.64
43.917	0.00	0.17	0.329	IO				2.63
44.000	0.00	0.17	0.328	IO				2.63
44.083	0.00	0.17	0.327	IO				2.62
44.167	0.00	0.17	0.326	IO				2.61
44.250	0.00	0.17	0.324	IO				2.60
44.333	0.00	0.17	0.323	IO				2.60
44.417	0.00	0.17	0.322	IO				2.59
44.500	0.00	0.16	0.321	IO				2.58
44.583	0.00	0.16	0.320	IO				2.58
44.667	0.00	0.16	0.319	IO				2.57
44.750	0.00	0.16	0.318	IO				2.56
44.833	0.00	0.16	0.316	IO				2.56
44.917	0.00	0.16	0.315	IO				2.55
45.000	0.00	0.16	0.314	IO				2.54
45.083	0.00	0.16	0.313	IO				2.54
45.167	0.00	0.16	0.312	IO				2.53
45.250	0.00	0.16	0.311	IO				2.52
45.333	0.00	0.16	0.310	IO				2.52
45.417	0.00	0.16	0.309	IO				2.51
45.500	0.00	0.16	0.308	IO				2.50
45.583	0.00	0.16	0.306	IO				2.50
45.667	0.00	0.16	0.305	IO				2.49
45.750	0.00	0.16	0.304	IO				2.48
45.833	0.00	0.15	0.303	IO				2.48
45.917	0.00	0.15	0.302	IO				2.47
46.000	0.00	0.15	0.301	IO				2.46
46.083	0.00	0.15	0.300	IO				2.46
46.167	0.00	0.15	0.299	IO				2.45
46.250	0.00	0.15	0.298	IO				2.44
46.333	0.00	0.15	0.297	IO				2.44
46.417	0.00	0.15	0.296	IO				2.43
46.500	0.00	0.15	0.295	IO				2.42
46.583	0.00	0.15	0.294	IO				2.42
46.667	0.00	0.14	0.293	IO				2.41
46.750	0.00	0.14	0.292	IO				2.41
46.833	0.00	0.14	0.291	IO				2.40
46.917	0.00	0.14	0.290	IO				2.39
47.000	0.00	0.14	0.289	IO				2.39
47.083	0.00	0.14	0.288	IO				2.38
47.167	0.00	0.14	0.287	IO				2.38
47.250	0.00	0.14	0.286	IO				2.37
47.333	0.00	0.14	0.285	IO				2.36
47.417	0.00	0.14	0.284	IO				2.36
47.500	0.00	0.13	0.283	IO				2.35
47.583	0.00	0.13	0.282	IO				2.35
47.667	0.00	0.13	0.282	IO				2.34
47.750	0.00	0.13	0.281	IO				2.33
47.833	0.00	0.13	0.280	IO				2.33
47.917	0.00	0.13	0.279	IO				2.32
48.000	0.00	0.13	0.278	IO				2.32
48.083	0.00	0.13	0.277	IO				2.31
48.167	0.00	0.13	0.276	IO				2.31
48.250	0.00	0.13	0.275	IO				2.30

48.333	0.00	0.13	0.274	IO	|	|	|	|	2.30
48.417	0.00	0.13	0.274	IO	|	|	|	|	2.29
48.500	0.00	0.12	0.273	IO	|	|	|	|	2.28
48.583	0.00	0.12	0.272	IO	|	|	|	|	2.28
48.667	0.00	0.12	0.271	IO	|	|	|	|	2.27
48.750	0.00	0.12	0.270	IO	|	|	|	|	2.27
48.833	0.00	0.12	0.269	IO	|	|	|	|	2.26
48.917	0.00	0.12	0.268	IO	|	|	|	|	2.26
49.000	0.00	0.12	0.268	IO	|	|	|	|	2.25
49.083	0.00	0.12	0.267	IO	|	|	|	|	2.25
49.167	0.00	0.12	0.266	IO	|	|	|	|	2.24
49.250	0.00	0.12	0.265	IO	|	|	|	|	2.24
49.333	0.00	0.12	0.264	IO	|	|	|	|	2.23
49.417	0.00	0.12	0.264	IO	|	|	|	|	2.23
49.500	0.00	0.11	0.263	IO	|	|	|	|	2.22
49.583	0.00	0.11	0.262	IO	|	|	|	|	2.22
49.667	0.00	0.11	0.261	IO	|	|	|	|	2.21
49.750	0.00	0.11	0.260	IO	|	|	|	|	2.21
49.833	0.00	0.11	0.260	IO	|	|	|	|	2.20
49.917	0.00	0.11	0.259	IO	|	|	|	|	2.20
50.000	0.00	0.11	0.258	IO	|	|	|	|	2.19
50.083	0.00	0.11	0.257	IO	|	|	|	|	2.19
50.167	0.00	0.11	0.257	IO	|	|	|	|	2.18
50.250	0.00	0.11	0.256	IO	|	|	|	|	2.18
50.333	0.00	0.11	0.255	IO	|	|	|	|	2.17
50.417	0.00	0.11	0.254	IO	|	|	|	|	2.17
50.500	0.00	0.11	0.254	IO	|	|	|	|	2.16
50.583	0.00	0.11	0.253	IO	|	|	|	|	2.16
50.667	0.00	0.10	0.252	IO	|	|	|	|	2.16
50.750	0.00	0.10	0.252	IO	|	|	|	|	2.15
50.833	0.00	0.10	0.251	IO	|	|	|	|	2.15
50.917	0.00	0.10	0.250	IO	|	|	|	|	2.14
51.000	0.00	0.10	0.249	IO	|	|	|	|	2.14
51.083	0.00	0.10	0.249	IO	|	|	|	|	2.13
51.167	0.00	0.10	0.248	IO	|	|	|	|	2.13
51.250	0.00	0.10	0.247	IO	|	|	|	|	2.12

Remaining water in basin = 0.25 (Ac.Ft)

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

Number of intervals = 615
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 3.171 (CFS)
Total volume = 1.520 (Ac.Ft)

Status of hydrographs being held in storage

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

****

Section 5

Catch Basin and Street Capacity

Grate Inlet 0.5% MAX
Worksheet for Grate Inlet On Grade

Project Description	
Worksheet	GRATE 0.5% MAX
Type	Grate Inlet On Grade
Solve For	Efficiency

Input Data		
Discharge	1.00	cfs
Slope	0.005000	ft/ft
Gutter Width	3.00	ft
Gutter Cross Slope	0.080000	ft/ft
Road Cross Slope	0.020000	ft/ft
Mannings Coefficient	0.013	
Grate Width	2.00	ft
Grate Length	2.00	ft
Grate Type	P-50 mm (P-1-7/8")	
Clogging	50.0	%

Options	
Grate Flow Option	Exclude None

Results		
Efficiency	1.00	
Intercepted Flow	1.00	cfs
Bypass Flow	0.00	cfs
Spread	3.78	ft
Depth	0.26	ft
Flow Area	0.4	ft²
Gutter Depression	2.2	in
Total Depression	2.2	in
Velocity	2.42	ft/s
Splash Over Velocity	5.66	ft/s
Frontal Flow Factor	1.00	
Side Flow Factor	0.03	
Grate Flow Ratio	1.00	
Active Grate Length	1.00	ft

Grate Inlet 1.2% MAX
Worksheet for Grate Inlet On Grade

Project Description	
Worksheet	GRATE 1.2% MAX
Type	Grate Inlet On Grade
Solve For	Efficiency

Input Data		
Discharge	1.50	cfs
Slope	0.012000	ft/ft
Gutter Width	3.00	ft
Gutter Cross Slope	0.080000	ft/ft
Road Cross Slope	0.020000	ft/ft
Mannings Coefficient	0.013	
Grate Width	2.00	ft
Grate Length	2.00	ft
Grate Type	P-50 mm (P-1-7/8")	
Clogging	50.0	%

Options	
Grate Flow Option	Exclude None

Results		
Efficiency	1.00	
Intercepted Flow	1.50	cfs
Bypass Flow	0.00	cfs
Spread	3.63	ft
Depth	0.25	ft
Flow Area	0.4	ft²
Gutter Depression	2.2	in
Total Depression	2.2	in
Velocity	3.73	ft/s
Splash Over Velocity	5.66	ft/s
Frontal Flow Factor	1.00	
Side Flow Factor	0.01	
Grate Flow Ratio	1.00	
Active Grate Length	1.00	ft

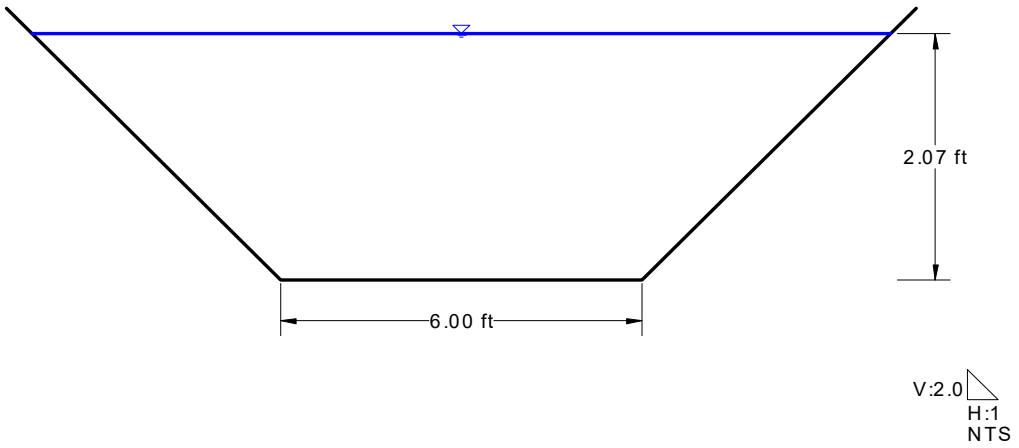
Channel B Capacity Station 18+60
Worksheet for Trapezoidal Channel

Project Description	
Worksheet	Channel B Capacity
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.013	
Slope	0.025000	ft/ft
Left Side Slope	2.00	H : V
Right Side Slope	2.00	H : V
Bottom Width	6.00	ft
Discharge	468.00	cfs

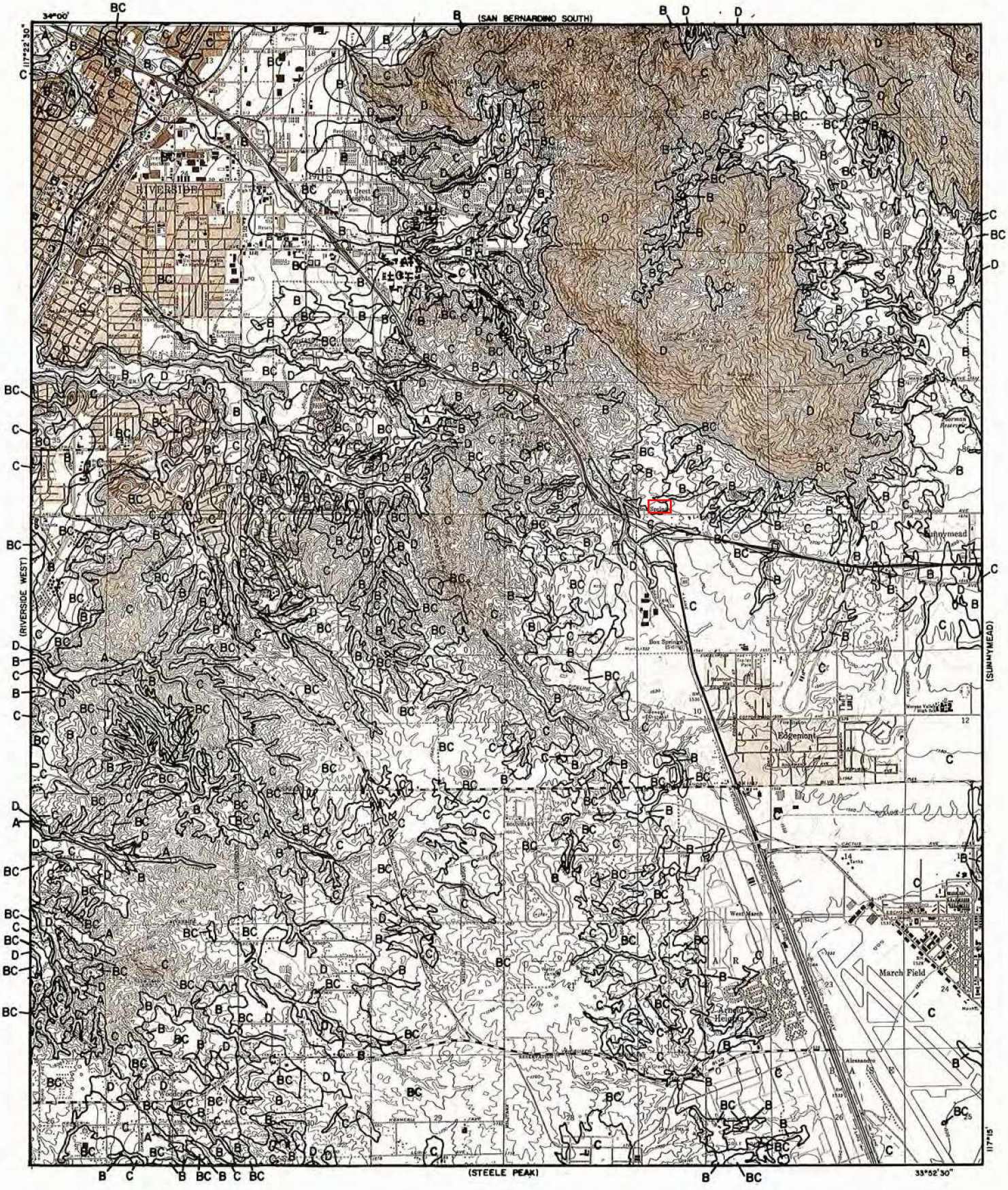
Results		
Depth	2.07	ft
Flow Area	20.9	ft^2
Wetted Perimeter	15.24	ft
Top Width	14.27	ft
Critical Depth	3.84	ft
Critical Slope	0.002033	ft/ft
Velocity	22.34	ft/s
Velocity Head	7.76	ft
Specific Energy	9.82	ft
Froude Number	3.25	
Flow Type	Supercritical	

NOTE: Discharge in Channel 453 cfs + additional runoff from site 15 cfs, total 468 cfs in existing Channel. Existing Channel B is 4’ deep, 2:1 side slope and 6’ bottom.



Section 6

Riverside County Plates



LEGEND

—— SOILS GROUP BOUNDARY

A SOILS GROUP DESIGNATION

RCFC&WCD

HYDROLOGY MANUAL

N

0 FEET 5000

HYDROLOGIC SOILS GROUP MAP FOR B & C RIVERSIDE–EAST

PLATE C-1.16

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

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

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HYDROLOGY MANUAL

RUNOFF INDEX NUMBERS FOR PERVIOUS AREA

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

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

Notes:

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

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

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

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

5. Reference Bibliography item 17.

ACTUAL IMPERVIOUS COVER

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

Notes:

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

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

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

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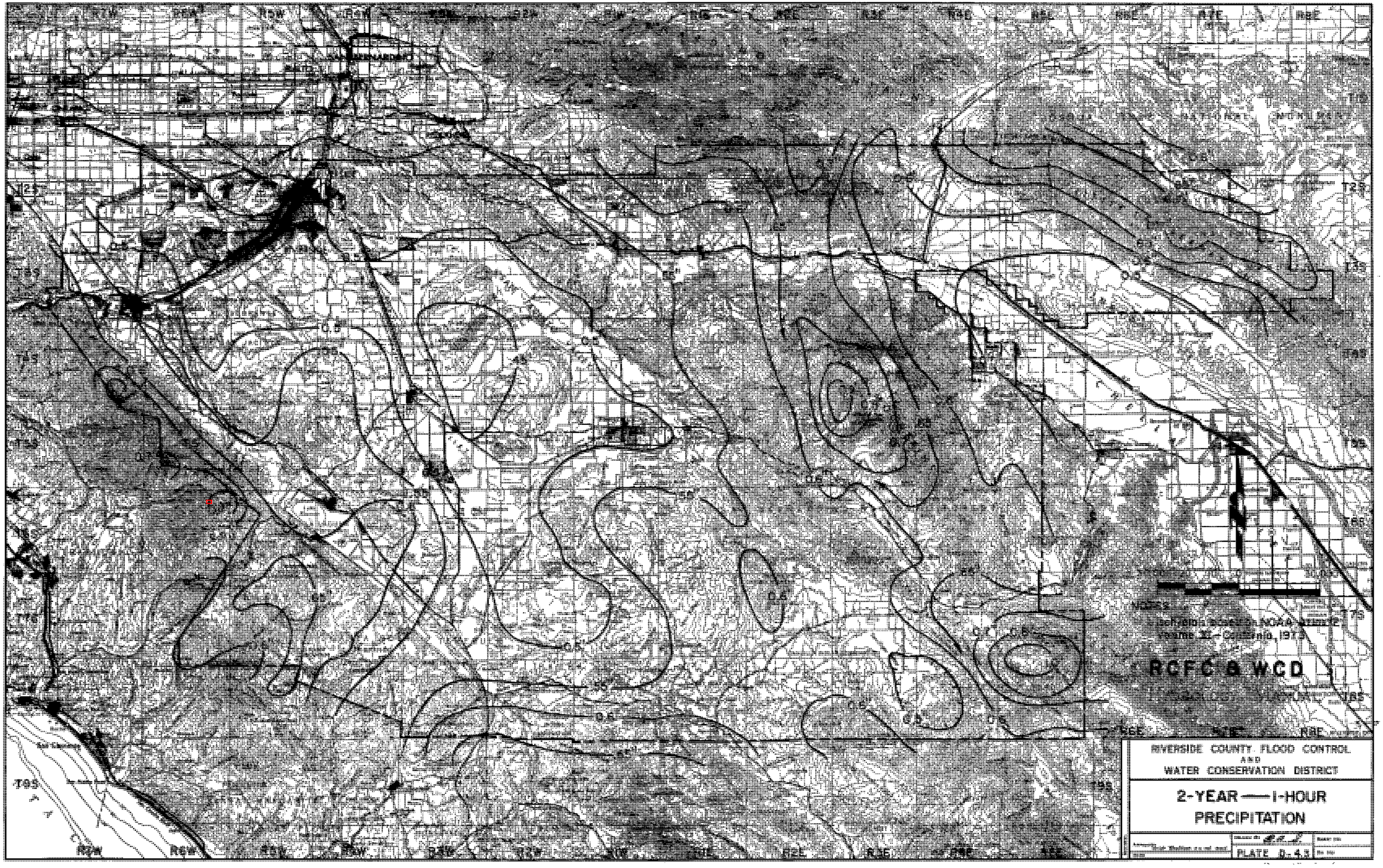
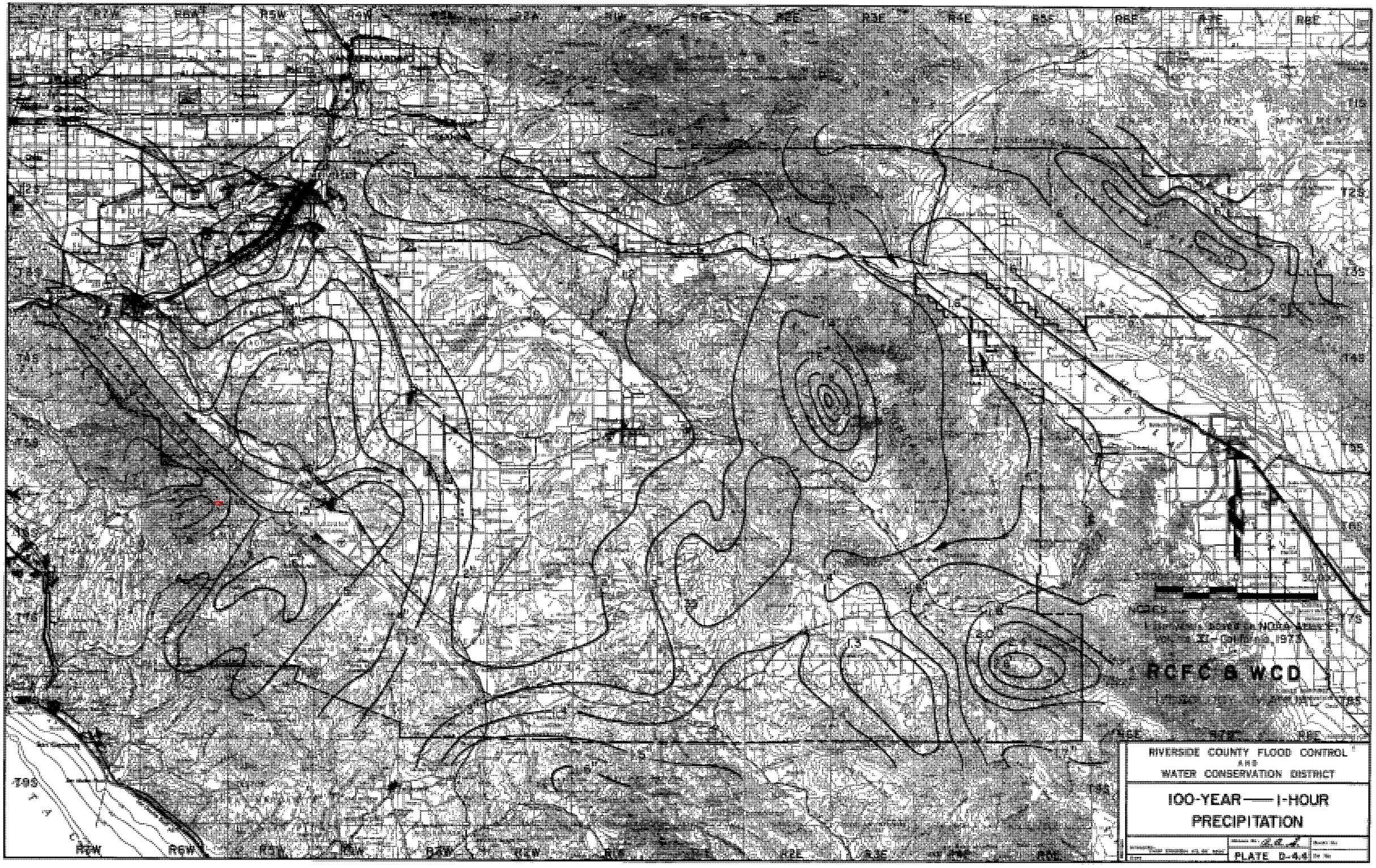
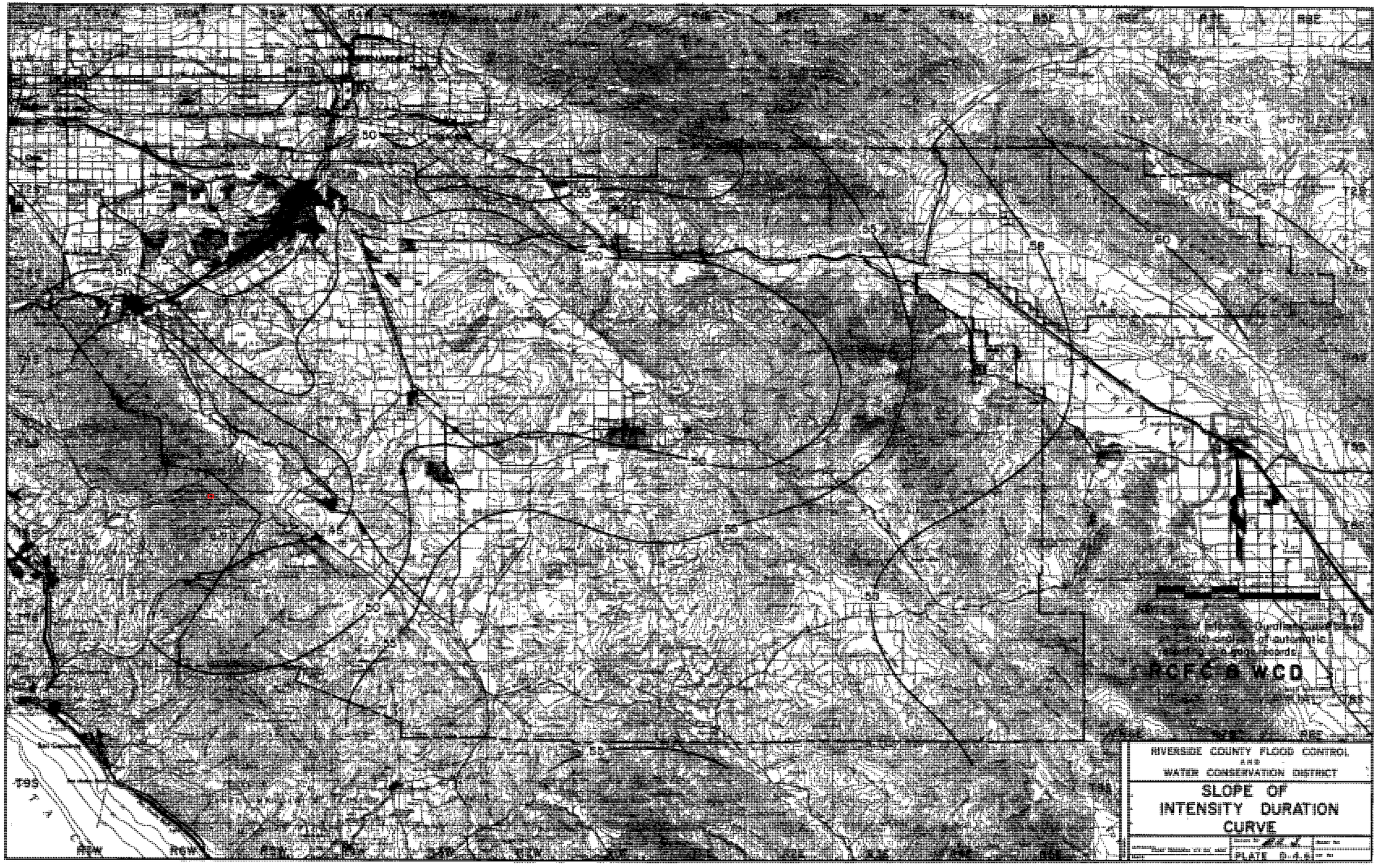
HYDROLOGY MANUAL

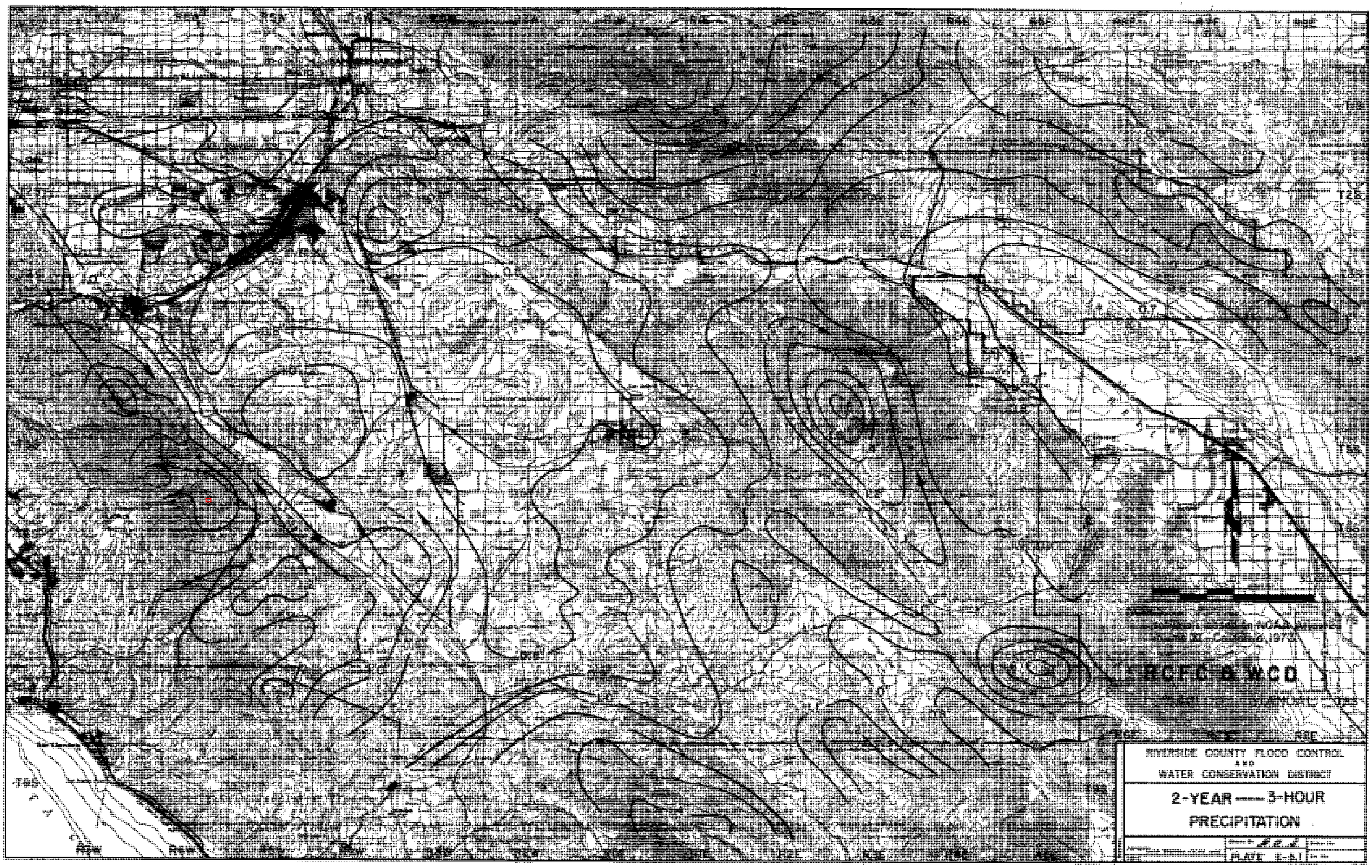
IMPERVIOUS COVER FOR DEVELOPED AREAS

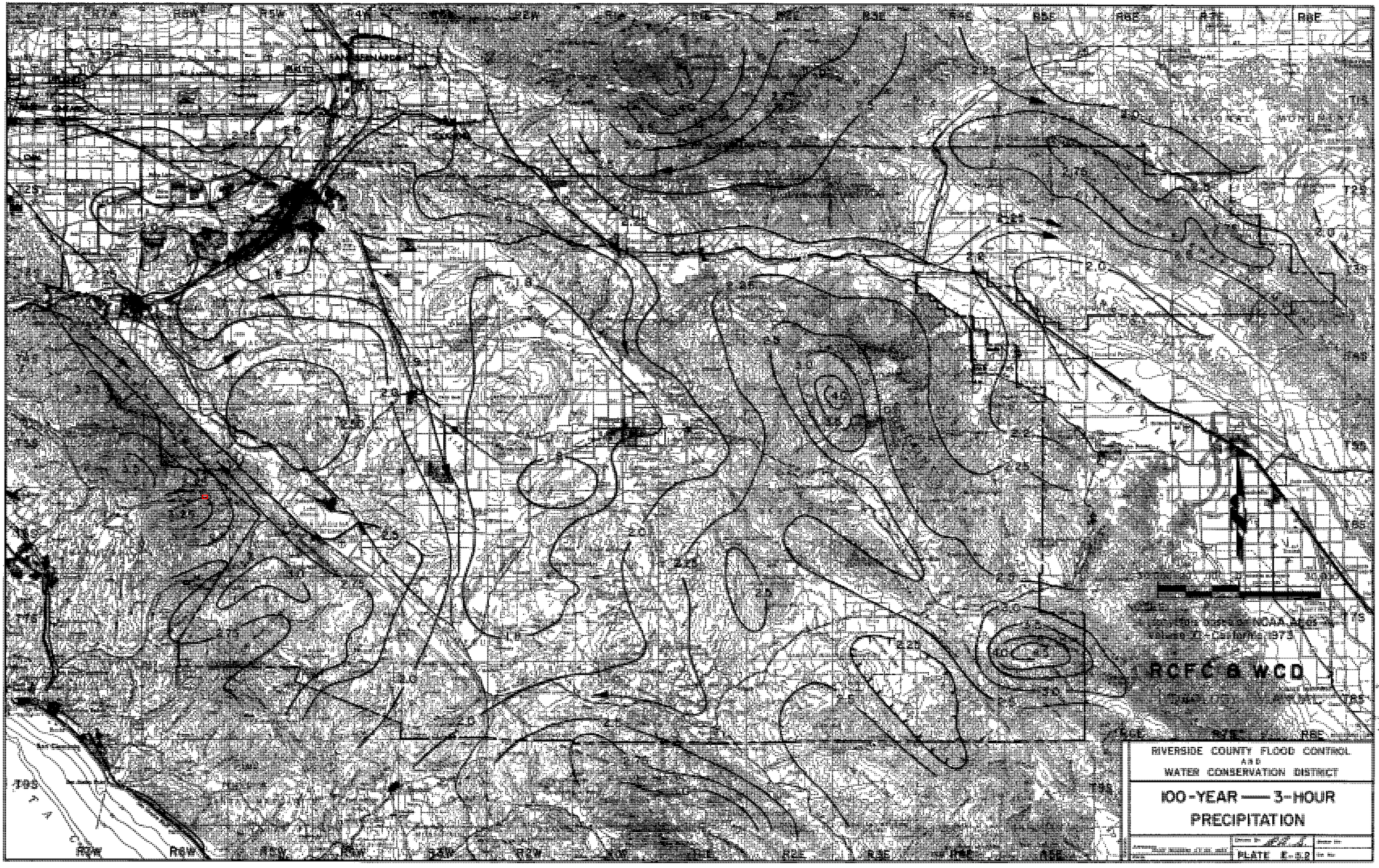
PLATE D-5.6

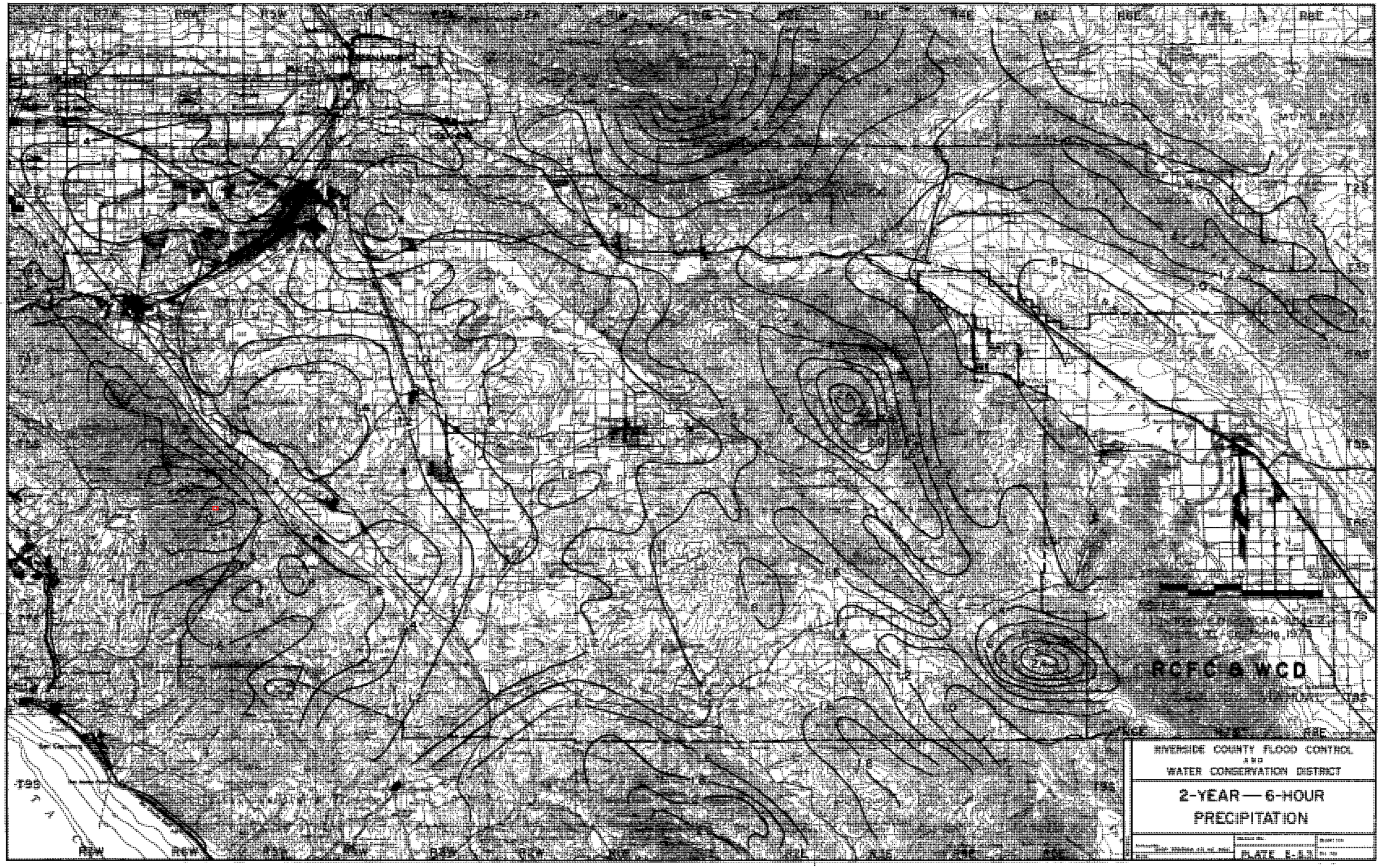

RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT
2-YEAR — 1-HOUR
PRECIPITATION
PLATE D-4.3
RCFC & WCD

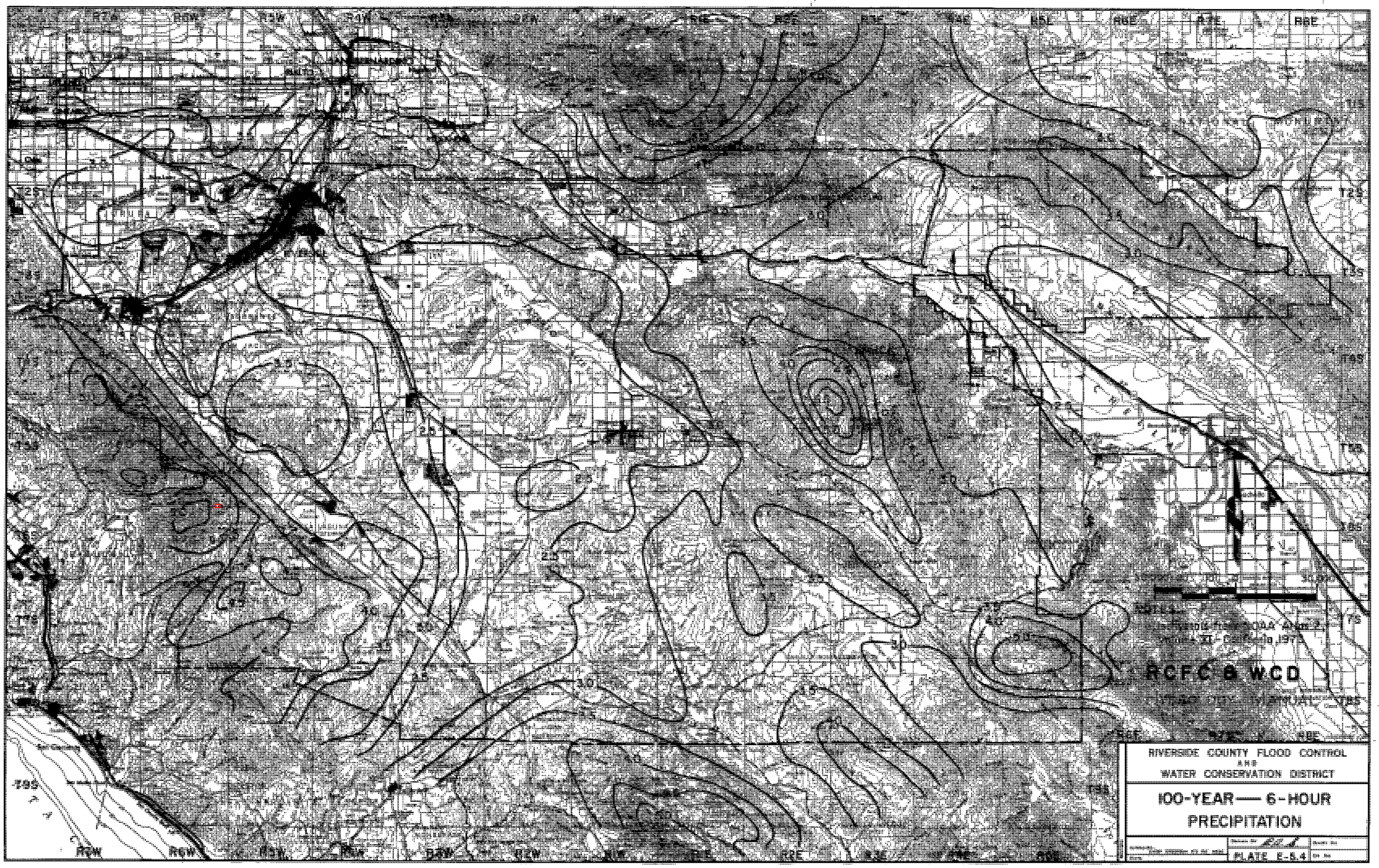

RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT
100-YEAR — 1-HOUR
PRECIPITATION
PLATE D-4.4
RCFC & WCD

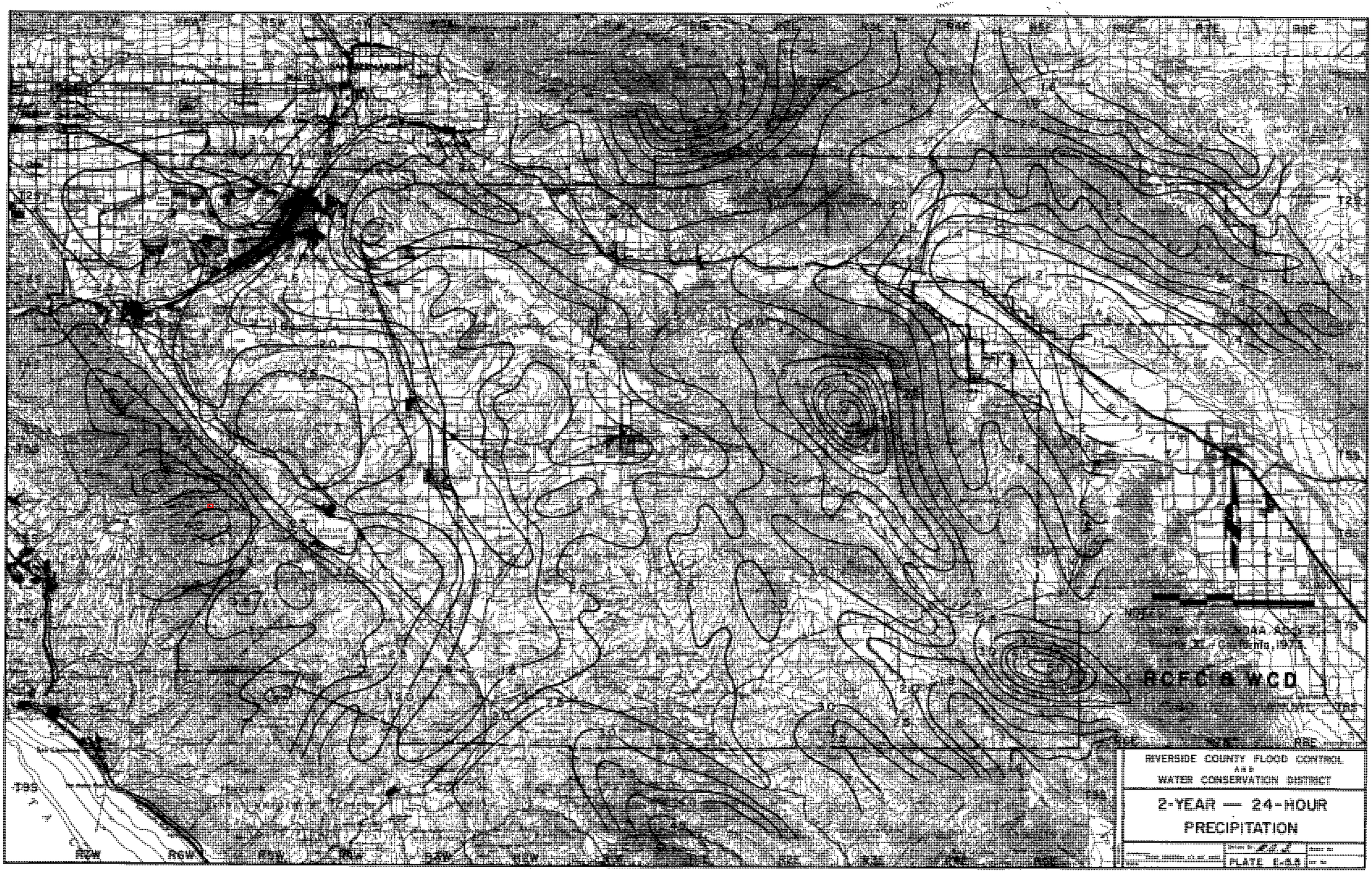

RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT
SLOPE OF
INTENSITY DURATION
CURVE
PLATE D-4.6
RCFC & WCD


RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT
2-YEAR — 3-HOUR
PRECIPITATION
PLATE E-5.1
RCFC & WCD
JANUARY 1978


RCFC & WCD
RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT
100-YEAR — 3-HOUR
PRECIPITATION
PLATE E-6.2


RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT
2-YEAR — 6-HOUR
PRECIPITATION
PLATE E-5.3
RCFC & WCD


RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT
100-YEAR — 6-HOUR
PRECIPITATION
PLATE E-5.4



RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

2-YEAR — 24-HOUR PRECIPITATION

PLATE E-5.5

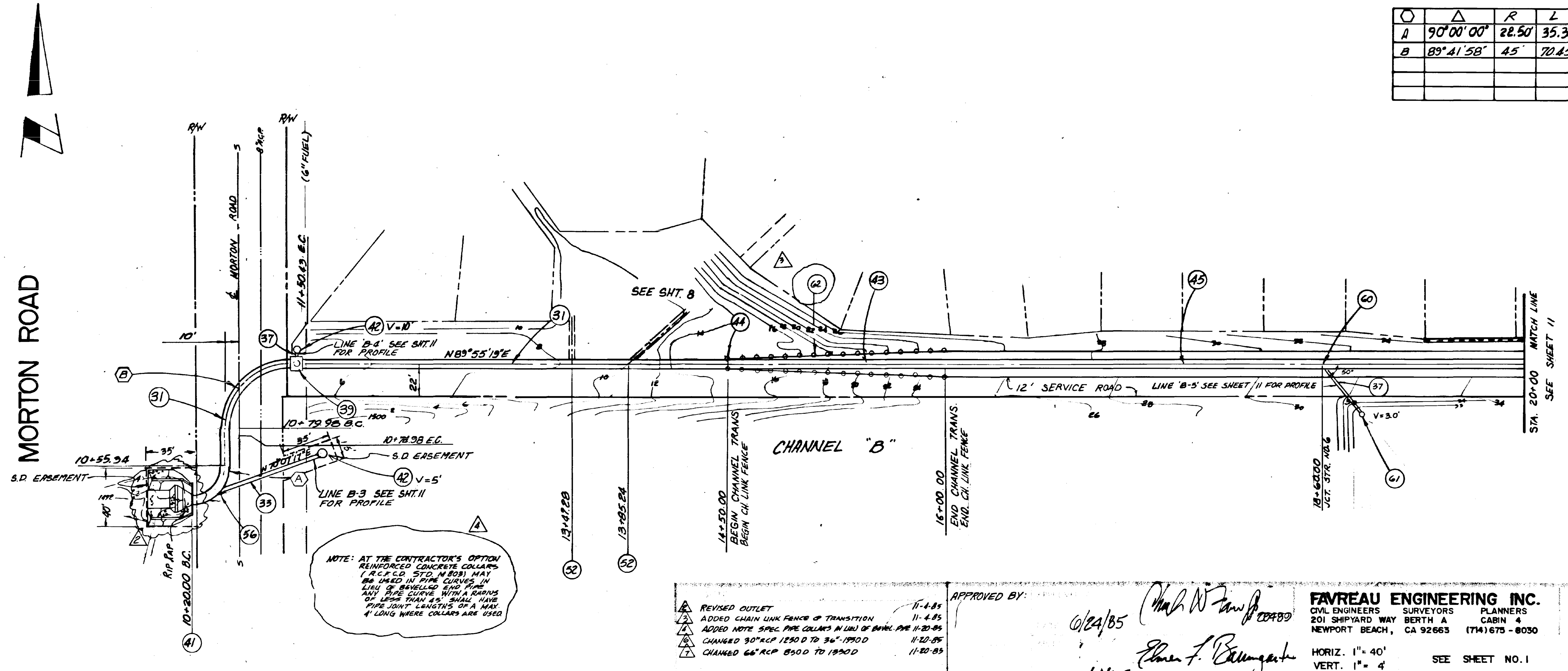
RCFC & WCD

RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT

100-YEAR — 24-HOUR PRECIPITATION

PLATE E-6.6

⬡	△	R	L	T
A	90°00'00"	22.50	35.34	22.50
B	89°41'58"	45	70.45	44.76



1	REVISED OUTLET	11-4-85
3	ADDED CHAIN LINK FENCE & TRANSITION	11-4-85
4	ADDED NOTE SPEC. PIPE COLLARS IN LIEU OF BEVEL. PIPE	11-20-85
6	CHANGED 90" RCP 1250 D TO 36" 1350 D	11-20-85
7	CHANGED 66" RCP 8500 TO 1350 D	11-20-85

APPROVED BY:
6/24/85 [signature] 20489
9/18/85 Elmer F. Baumgarten

FAVREAU ENGINEERING INC.
CIVIL ENGINEERS SURVEYORS PLANNERS
201 SHIPYARD WAY BERTH A CABIN 4
NEWPORT BEACH, CA 92663 (714) 675-8030

HORIZ. 1" = 40'
VERT. 1" = 4'

SEE SHEET NO. 1

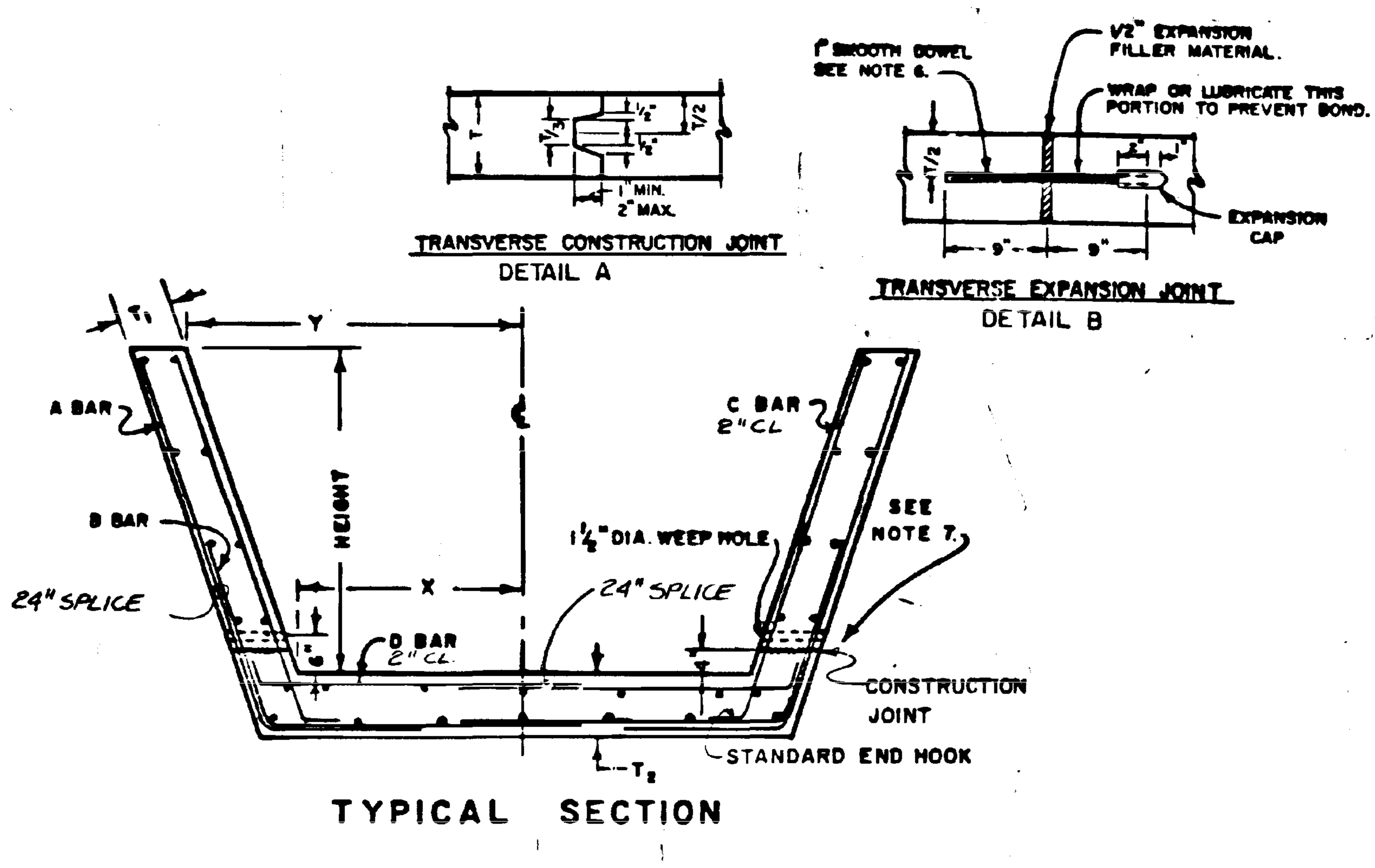
TRACT NO. 19520-1
COUNTY OF RIVERSIDE
STORM DRAIN PLANS

CHANNEL "A"

DATA	DETAIL SCHEDULE			
STATION TO STATION	12[illegible]		13+[illegible]	
X	2.50'	2.25'	2.25'	2.00'
Y	2.50	7.76'	[illegible]	7.[illegible]
HEIGHT	4.00	6.00'	[illegible]	8.50'
WALLS T_1	10"		10"	
BOTTOM SLAB T_2	10"		10'	
A BARS	#5 @ 12"		#5 @ 12"	
HORIZ. LENGTH	18"	18	18"	18"
SLOPE LENGTH	9'6"	8'6"	8'6"	6'0"
B BARS	#6 @ 12"		#4 @ 12"	
HORIZ. LENGTH	48"	48"	[illegible]	[illegible]
SLOPE LENGTH	4'0"	3'0"	3'0	3'0"
C BARS	#6 @ 12"		#[illegible] 12"	
SLOPE LENGTH	9'6"	8'6"	6'6"	[illegible]
D BARS	#5 @ 12"		#4 @ 12"	
HORIZ. LENGTH	4'6"	4'0	4'6"	4'0"
CONCRETE C.Y./L.F.	VARIES			
STEEL LBS./L.F.	VARIES			

CHANNEL "B"

DATA	DETAIL SCHEDULE			
STATION TO STATION	14+50 TO 15+[illegible]		15+[illegible] TO 16+05	
X	3.00'	3.00'	3.00'	3.00'
Y	3.00'	11.[illegible]	11.50'	10.[illegible]
HEIGHT	12.[illegible]	7.[illegible]	7.[illegible]	3.50'
WALLS T_1	12"		10"	
BOTTOM SLAB T_2	12		10"	
A BARS	#5 @ 12"		#4 @ 8"	
HORIZ. LENGTH	[illegible]	[illegible]	24"	24"
SLOPE LENGTH	13'2"	9'7"	9'7"	8'4"
B BARS	#8 @ 12"		#4 @ 12"	
HORIZ. LENGTH	[illegible]	[illegible]	[illegible]	[illegible]
SLOPE LENGTH	4'6"	4'6"	4'6"	2'6"
C BARS	#5 @ 5"		#[illegible] @ 12"	
SLOPE LENGTH	13'2"	9'7"	9'7"	[illegible]
D BARS	#[illegible] @ [illegible]"		#4 @ [illegible]"	
HORIZ. LENGTH	5'8"	5'8"	5'8"	5'10"
CONCRETE C.Y./L.F.	VARIES			
STEEL LBS./L.F.	VARIES			

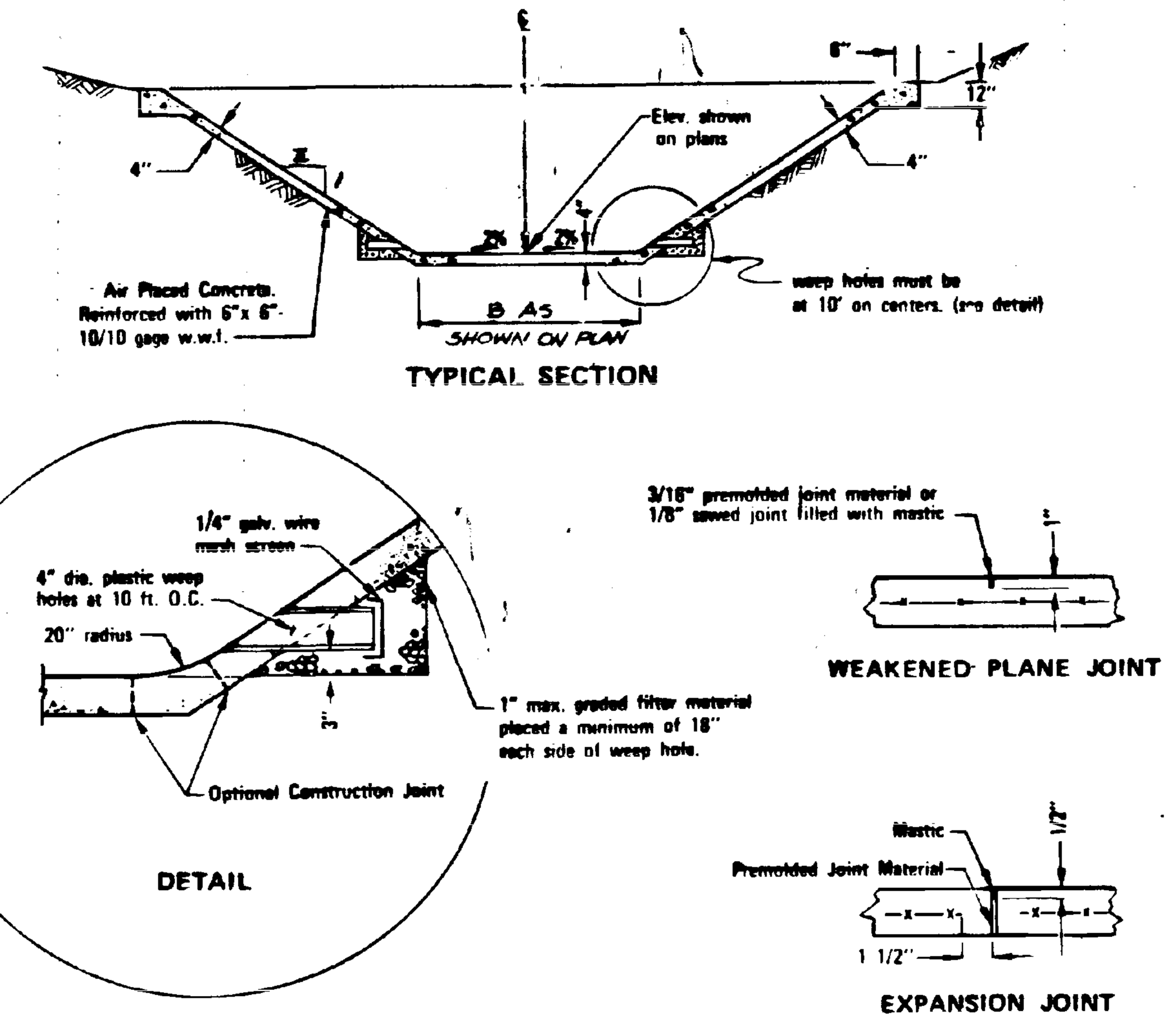


NOTES

1. Structural concrete shall be Class "A".
2. All longitudinal bars shall be #4 @ 18 inches. Place bars in bottom slab symmetrically about centerline. Place bars in walls starting at top with 1¼ inches clear cover.
3. Clear cover for steel shall be 1¼ inches each face for walls and 2 inches each face for bottom slab.
4. Steel is dimensioned to back of bar bend.
5. For construction on curves, straight transverse bars in the slab shall be aligned radially with spacing measured at walls. For L-bars in walls, spacing shall be measured between vertical legs of bars.
6. All transverse construction joints shall be in a vertical plane normal to the centerline. Continuous keyways shall be constructed as shown in detail A. A complete curtain of transverse steel shall be placed 3 inches from each face of the joints and longitudinal steel will not be continuous through the joints. An expansion joint shall be constructed between the reinforced concreta transition and reinforced concrete box sections as shown in detail B. Dowels shall be placed at 12 inch spacing centered in the middle third of the bottom slab and the top third of side walls. A minimum of 3 dowels per slab and walls shall be placed.
7. Weepholes shall be formed as shown in both walls at a spacing of 10 feet with one cubic foot of filter material placed at each hole.
8. All quantities shown are approximate.
9. All splices are subject to approval by the Engineer.

CHANNELS "A" & "B" TRANSITION DETAILS
NOT TO SCALE

RIVERSIDE CO. FLOOD CONTROL DISTRICT STD. CH 329

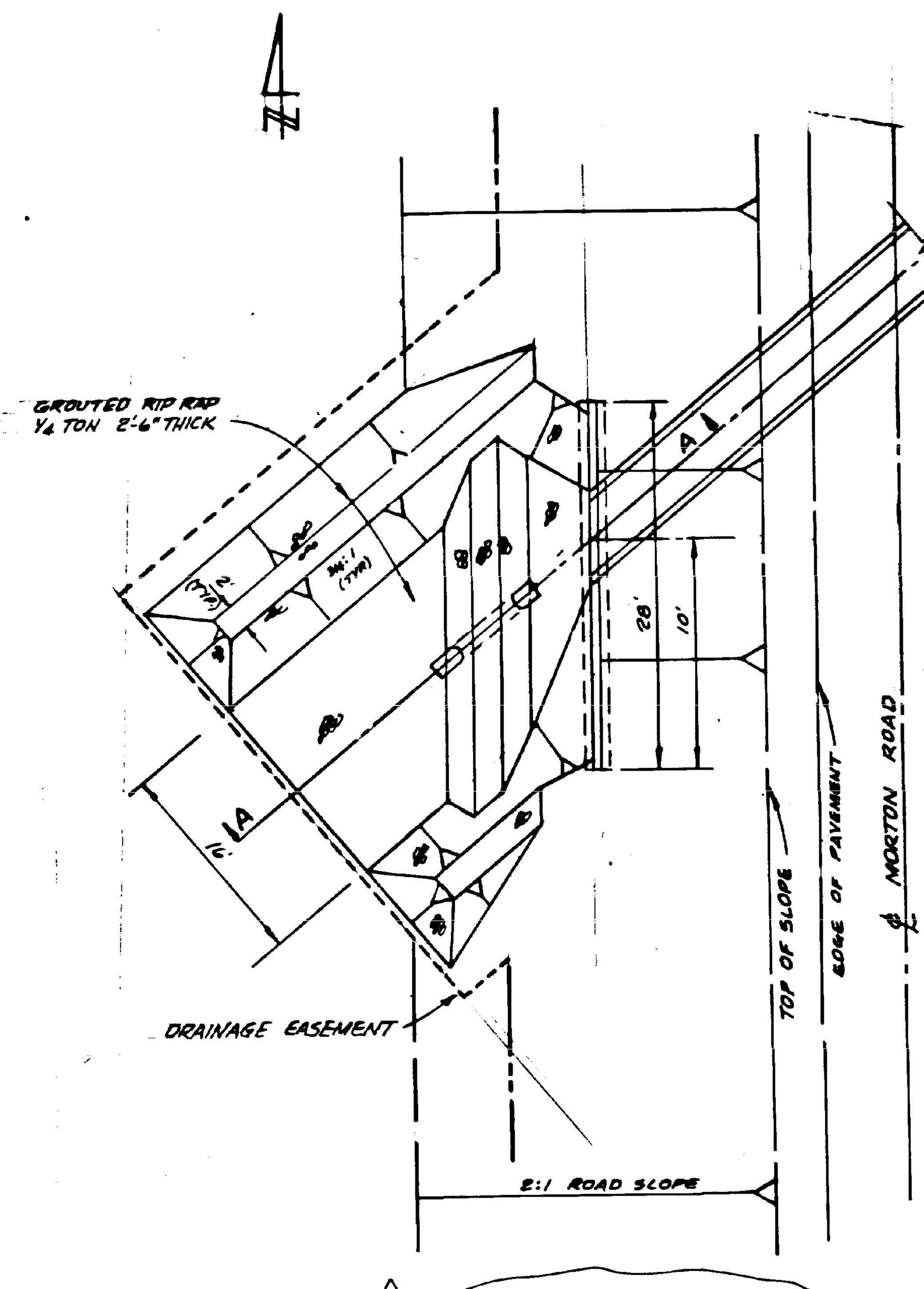


NOTES

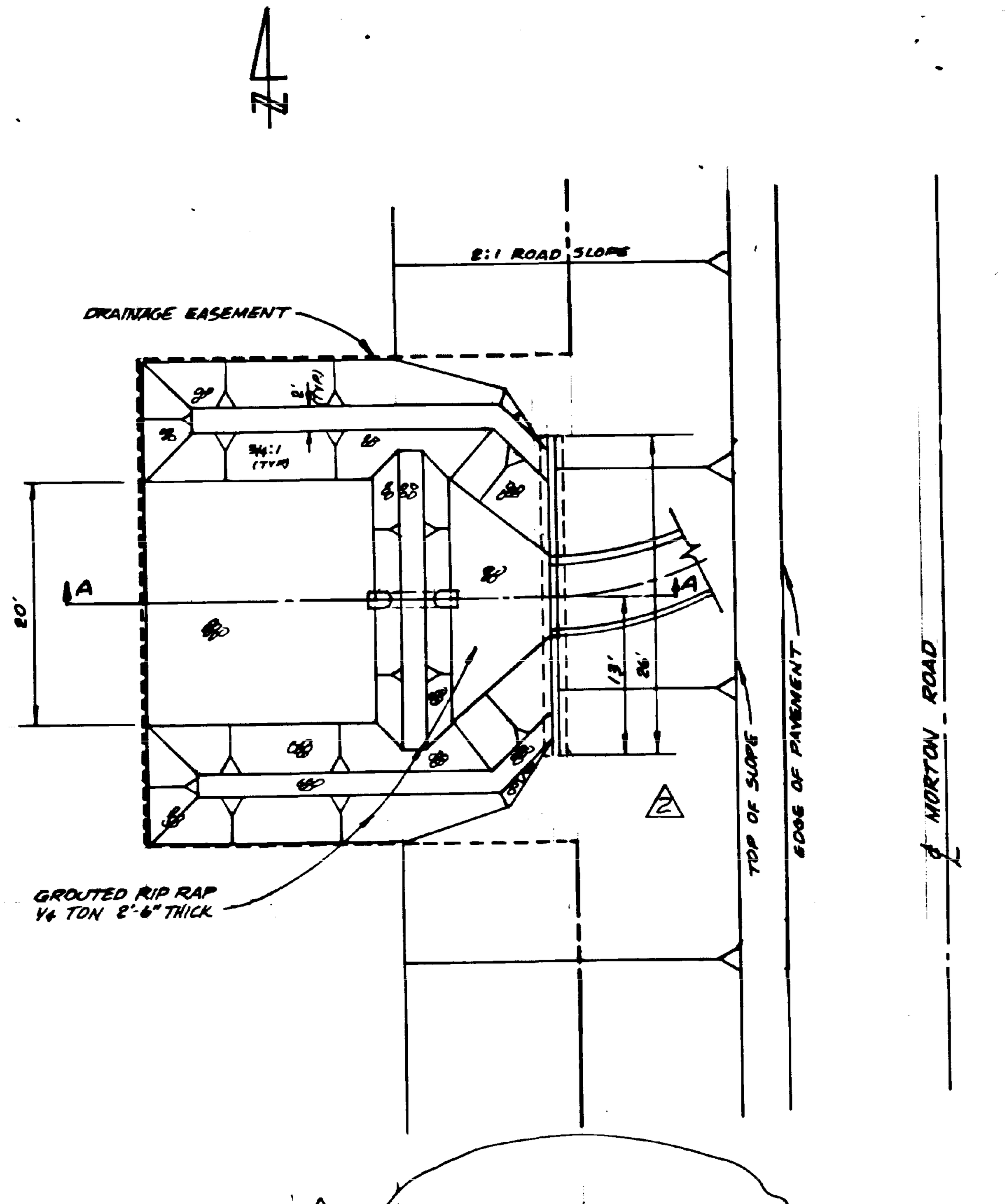
1. A.C. or clay pipe may be substituted for plastic pipe at weep holes.
2. Weakened plane joints shall be placed every 12' to 15'. Expansion joints shall be placed at all changes of section and at ends of curves.

GUNITE CHANNEL DETAILS
NO SCALE

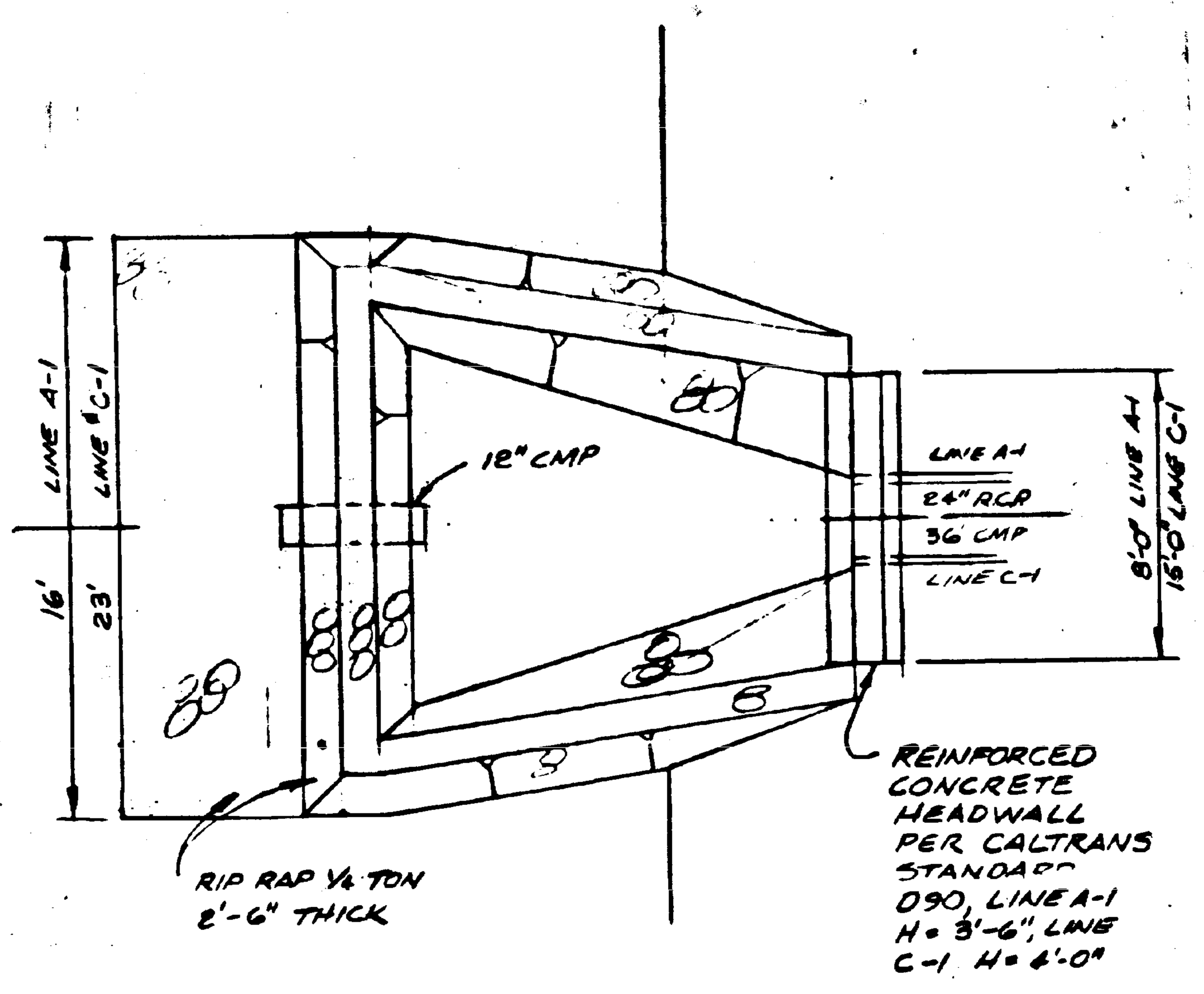
CHANNELS "A" & "B"



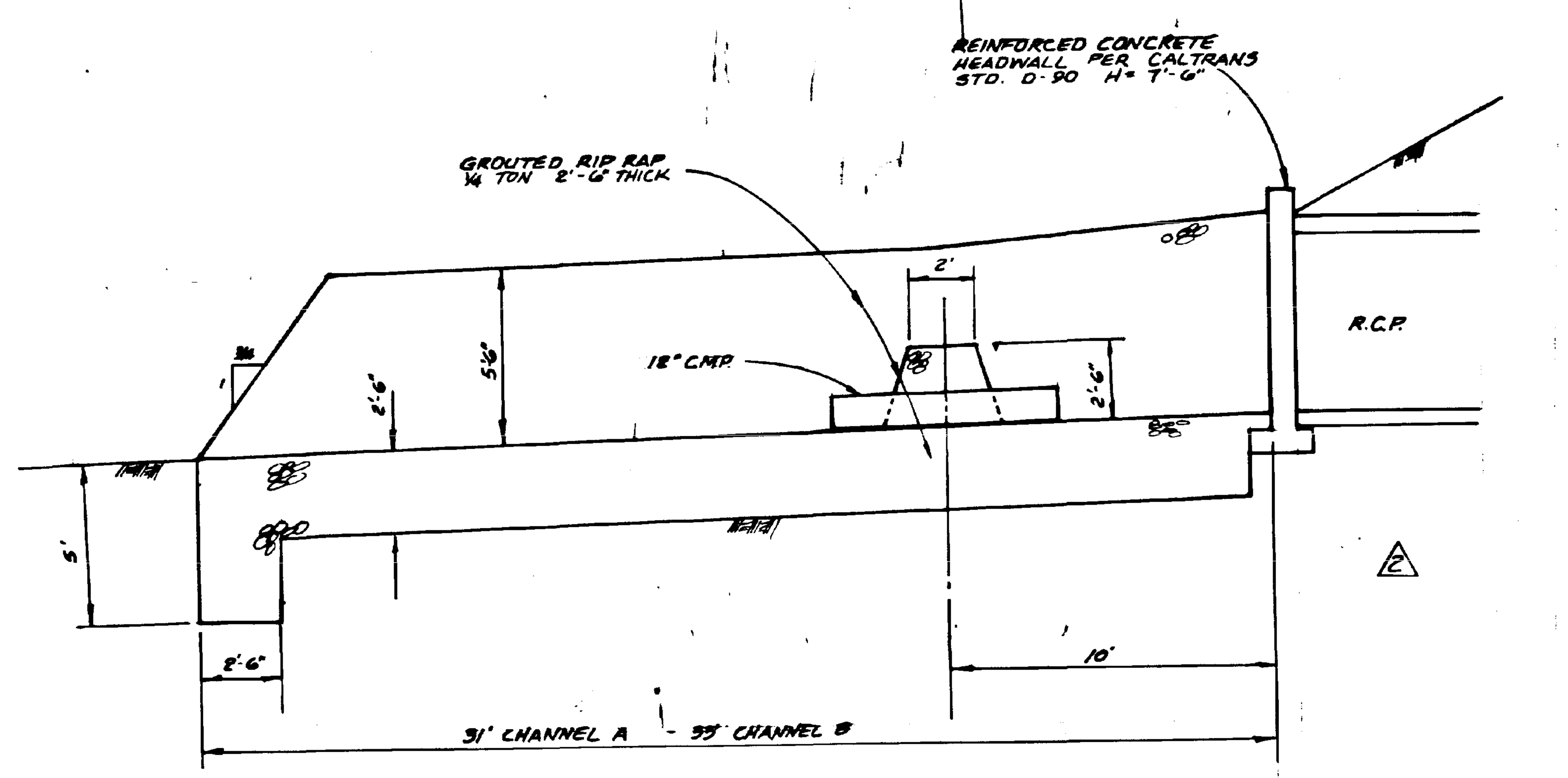
OUTLET DETAIL
CHANNEL A (NORTHERLY)
SCALE 1"=10'



OUTLET DETAIL
CHANNEL B (SOUTHERLY)
SCALE 1"=10'



LINE A-1 AND LINE C-1 OUTLET DETAIL
NOT TO SCALE



SECTION A-A
SCALE 1/8" = 1'-0"

REVISIONS:	
REVISED OUTLETS	11-4-85
INCREASED CH. A & B STEEL & INCREASED CH. B T1 & T2 STA 14+50 TO STA 15+50	
CORRECTED CH. A & B STA'ING & DIMENSIONS TO CONFORM TO PLAN & PROF SHTS.	2-6-86
REVISED CH. A 'X' TO VARY FROM 2.50' TO 2.00'	2-13-86

APPROVED BY: REGISTERED CIVIL ENGINEER NO. 23480
DATE: 6/24/85

APPROVED BY: RIVERSIDE COUNTY, CALIF. FOR ROAD COMMISSIONER
DATE: 9/18/85

FAVREAU ENGINEERING INC.
CIVIL ENGINEERS SURVEYORS PLANNERS
201 SHIPYARD WAY BERTH A CABIN 4
NEWPORT BEACH, CA 92663 (714) 675 - 8030

SCALE: AS SHOWN
DATE
BENCH MARK:

TRACT NO. 19520-1
COUNTY OF RIVERSIDE
STORM DRAIN DETAILS

W.O. FOR: F.B.

12 OF 12 SHEETS
FILE NO.