# PRELIMINARY DRAINAGE REPORT

For

## Orchard Logistics Center

**APN: 417-020-070**

**PROJECT LOCATION**

NE Corner of Prosperity at Distribution Way

**PREPARED FOR**

Orchard Logistics Venture, LLC
3501 Jamboree Road, Suite 230
Newport Beach, CA 92660
(949) 283-5713

**PREPARED BY**

HUITT-ZOLLARS

Huitt-Zollars, Inc.
3990 Concours, Suite 330
Ontario, CA 91764
Ph: (909) 941-7799
Fax: (909) 941-7789

REGISTERED PROFESSIONAL ENGINEER
MANUEL DE JESUS GONZALES
No. 65195
CIVIL
STATE OF CALIFORNIA

Manuel Gonzales, PE 06/06/22
C65195, Exp 09/30/2023

**PREPARATION DATE**

Prepared: 2/14/2022
Revised: 6/3/2022

**HZ PROJECT NUMBER**

R312838.01

# Table of Contents

# List of Appendices

## Introduction

This project is a new development consisting of an industrial facility located at the northeast corner of Prosperity Way and Distribution Way, west of Nicholas Road and south of the 60-freeway in the City of Beaumont. Proposed building is approximately 600,000 SF on 30.91 acres of a partially improved lot.

## Purpose

The purpose of this preliminary report is to present drainage patterns, design flow rates, and storm drain components for the proposed development. Drainage maps (Appendix A) and hydraulic analyses reflect the tributary drainage areas and 100-year storm event runoff flows ($Q_{100}$).

## Existing Condition

The existing site is a rectangular-shaped lot and partially developed. The site's northwest corner is developed with a produce store and sheds; the rest of the site is used for agriculture. From the highpoint located on the northeast corner of the lot, the site's elevation decreases with an average slope of 4.1%. Existing drainage patterns direct runoff to four discharge points. Discharge Point (DP) 1 is on the northeast corner of the lot. Discharge Point 2 is on the south mid area of the lot. Discharge Point 3 is on the southwest corner of the lot. Discharge Point 4 is on the northwest corner of the lot. Runoff from DP-1 is directed to San Timoteo Creek Reach 3, 2, & 1A; Santa Ana River Reach 4 & 3; and Prado Flood Control Basin. Runoff from DP's 2-4 is directed to detention basins at Distribution Way and W 4$^{th}$ St. After detention, runoff is discharged to the existing stream south of W 4$^{th}$ St. From the stream, runoff is directed to San Timoteo Creek Reach 3, 2, & 1A; Santa Ana River Reach 4 & 3; and Prado Flood Control Basin. The FEMA designation is unshaded Zone X. An area determined to be outside of the 0.2% annual chance of flood plain.

## Proposed Condition

In the proposed condition, runoff from the site's parking lots, driveways, and roof drains will be directed to catch basins number 1-9 (CB#1-9) and conveyed by storm drain lines A & B to the proposed bioretention basin located along the westerly edge of the project. Low flow runoff from the southwest corner of the lot will be intercepted by a series of two three-inch parkway pipes then conveyed into a gravel filtration trench. Higher event runoff will flow by to catch basin number 10 (CB#10). Overflow from the bioretention basin and gravel filtration trench will be conveyed by the proposed storm drain to the existing 42-inch public storm drain lateral C-4 in Prosperity Way. See Proposed Drainage Map in Appendix A. See storm drain lateral C-4 plans in Appendix H.

Although lateral C-4 was designed to accept and convey runoff from a 100-year storm, peak storm mitigation is recommended. There appears to be limitations due to a lack of downstream storm drain improvements. In addition, this project needed to comply with HCOC 2-yr

mitigation that required a controlled discharge rate in order not to exceed existing historic discharge from the site.

**Hydrologic Analyses**

Hydrologic analyses were prepared using the methodology outlined in the Riverside County Flood Control & Water Conservation District (RCFC&WCD) Hydrology Manual dated April 1978. Rational Method analyses were completed for existing and proposed 100-year storm events using Civild software, version 7.1. Unit hydrograph and basin routing analyses were also completed using Civild software.

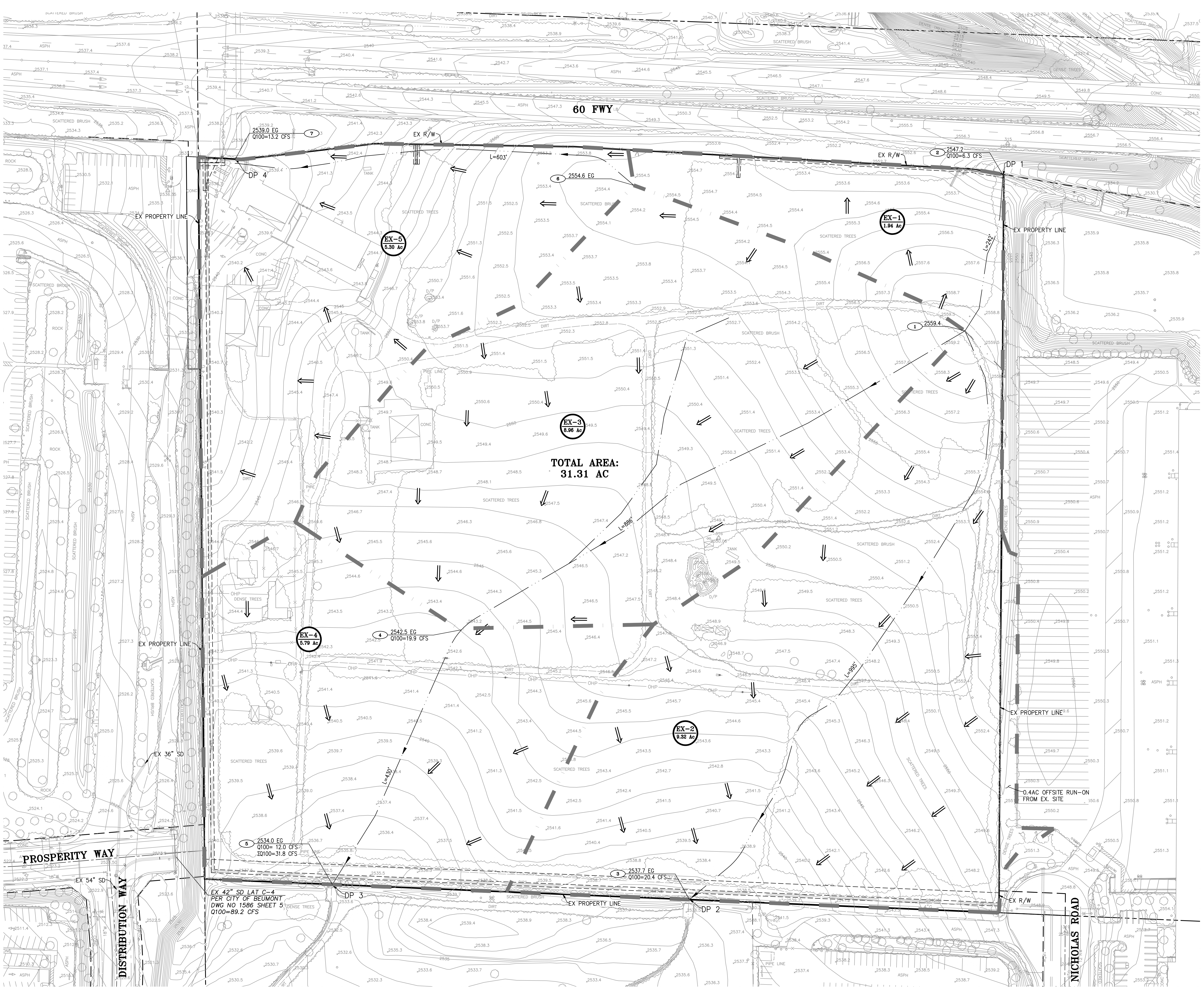
The 100-year 1-hour storm depth was taken from the isohyetal maps in the Hydrology Manual. The site's hydrologic soils group type is "D" and was taken from Riverside County's Stormwater & Water Conservation Tracking Tool. For the proposed development's hydrologic analyses, a commercial land use was used with an AMC of 3. See hydrologic soils group type & isohyetal maps in Appendix G.

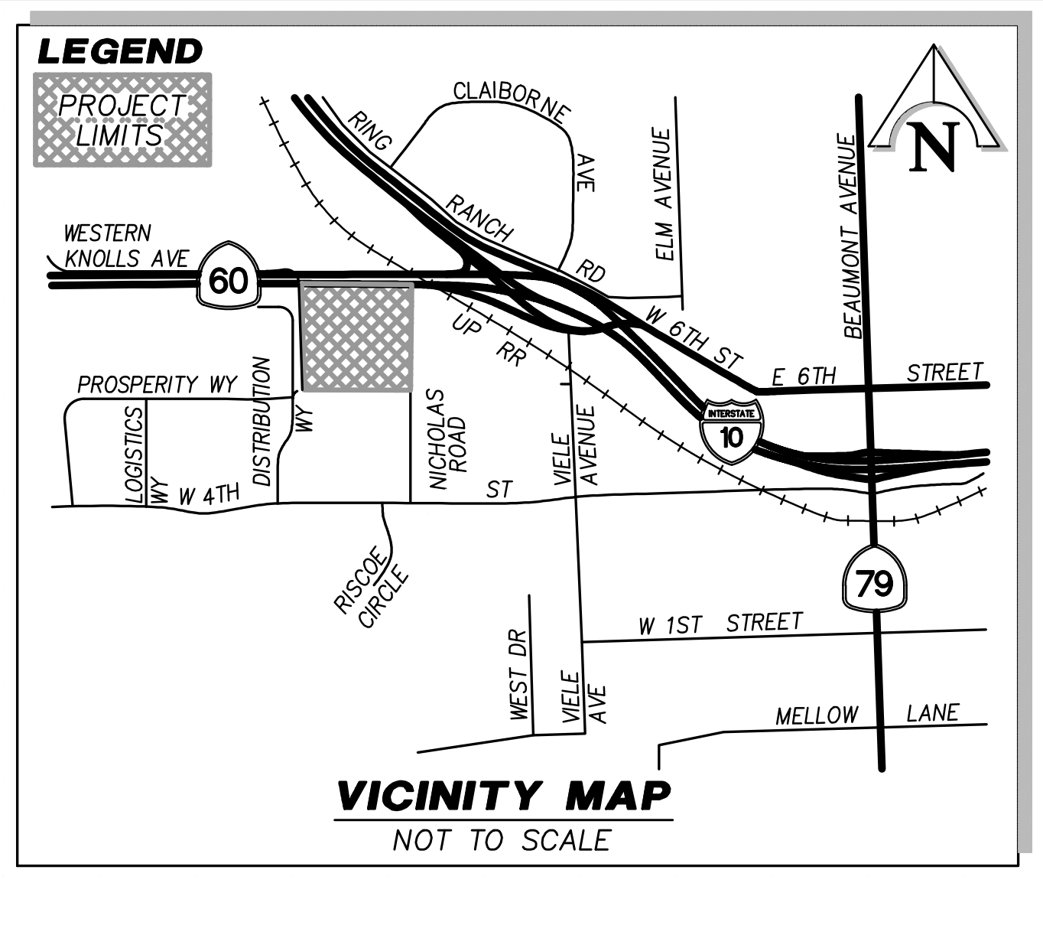
**Results**

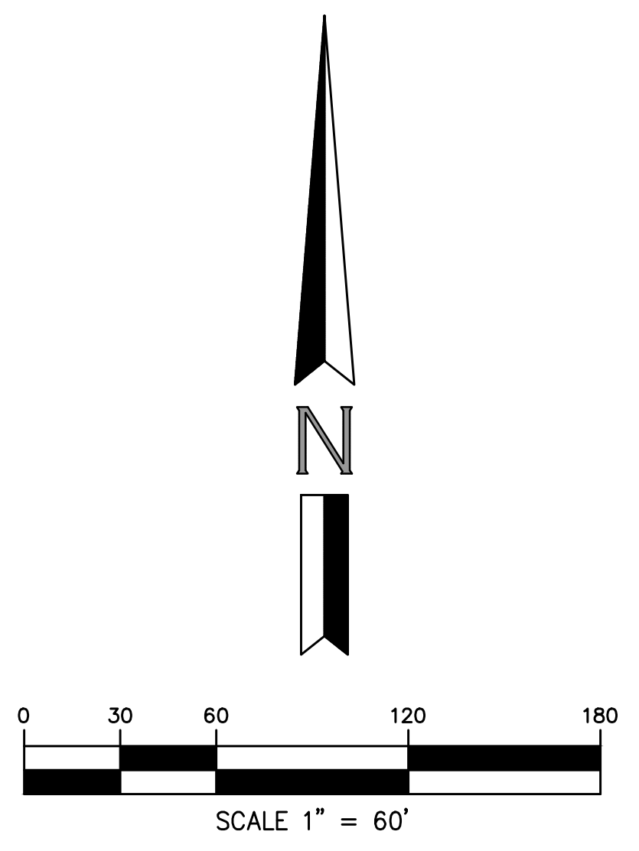
Existing condition unit hydrograph analyses were prepared to determine the allowable 100-year flow ($Q_{100}$) discharge for the 30.91 acres of partially improved land. Unit hydrograph analyses for the proposed development were prepared to determine the post development $Q_{100}$. Existing & proposed unit hydrographs were used in the basin routing analysis. Results from the basin routing analysis show the proposed post development $Q_{100}$ is less than the existing $Q_{100}$. The highest water surface elevation (WSE) occurs during the 100-yr 1-hour storm event and is only 1.30 feet (2533.8) above the bottom (2532.5) elevation of the proposed bioretention basin. The proposed bioretention basin is designed with 1 feet of freeboard and drains within 48 hours in the storm events analyzed. See basin routing analysis in Appendix D.

All proposed onsite surface drainage and storm drain components are sized adequately for 100-year storm event. Onsite storm drain hydraulics will be provided in final design documents.

# Appendix A
## Existing & Proposed Hydrology Maps







## LEGEND

| | |
|---|---|
| EX-1 7.4 Ac | TRIBUTARY AREA IN ACRES |
| L=600' | LENGTH OF FLOW |
| DP | DISCHARGE POINT |
| — · · — | DRAINAGE BOUNDARY |
| —···— | FLOWLINE |
| ⇐ | FLOW DIRECTION |

FLOOD ZONE

1. THE PROPERTY SHOWN HEREON IS LOCATED WITHIN UNSHADED FLOOD ZONE X. PANEL 06065C0811G EFF. 08/28/2008.

**OWNER**

ORCHARD LOGISTICS VENTURE LLC
C/O TRAMMEL CROW SO CAL DEVELOPMENT INC.
3501 JAMBOREE ROAD, SUITE 230
NEWPORT BEACH, CA 92660
PHONE: (949) 283-5713
CONTACT: KYLE DORAND

**ENGINEER**

HUITT-ZOLLARS
3990 CONCOURS, SUITE 330
ONTARIO, CA 91764
PHONE: (909) 941-7799
CONTACT: JOHNNY MURAD OR
MANNY GONZALES

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3990 CONCOURS, SUITE 330 * ONTARIO, CALIFORNIA 91764 * (909) 941-7799

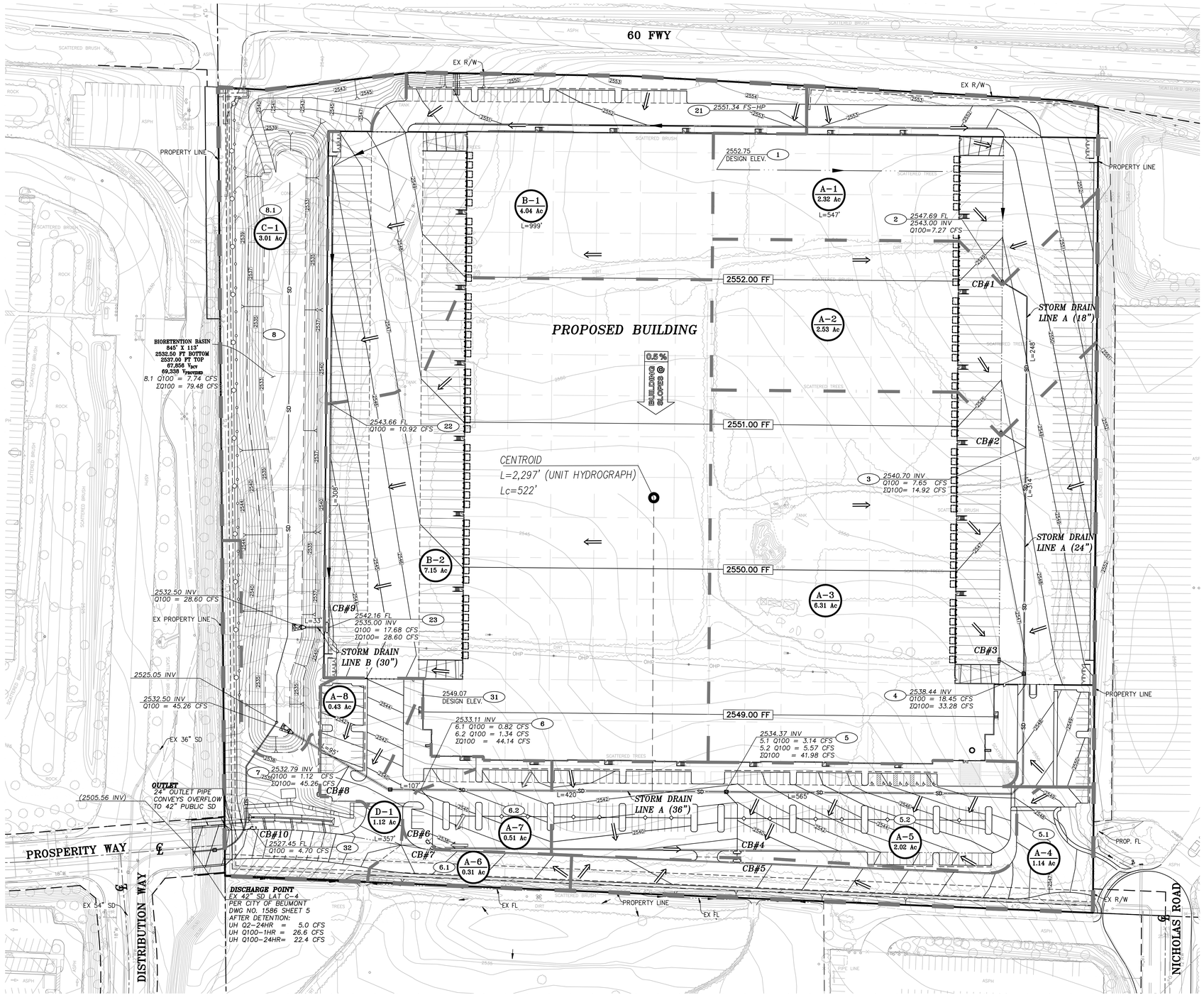
# CITY OF BEAUMONT

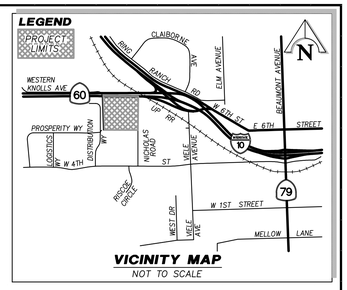
**PRELIMINARY DRAINAGE MAP**
**EXISTING CONDITION**

**ORCHARD LOGISTICS CENTER**

SHEET 1 NO. 1

H:\proj\R312838.01 - TCC - Dowling Ind\05 Design\05.2 H&H\LHYD-EX-RATIONAL.dwg, Layout: EX, Jun 03 2022 5:39pm




N

0 30 60 120 180

SCALE 1" = 60'

## LEGEND

| | |
|---|---|
| NO. | HYDROLOGY MODEL NODE NUMBER |
| A-11 7.40 Ac | TRIBUTARY AREA IN ACRES |
| L=673' | LENGTH OF FLOW |
| SD | PROPOSED STORM DRAIN |
| | DRAINAGE BOUNDARY |
| | FLOWLINE |
| | FLOW DIRECTION |

FLOOD ZONE

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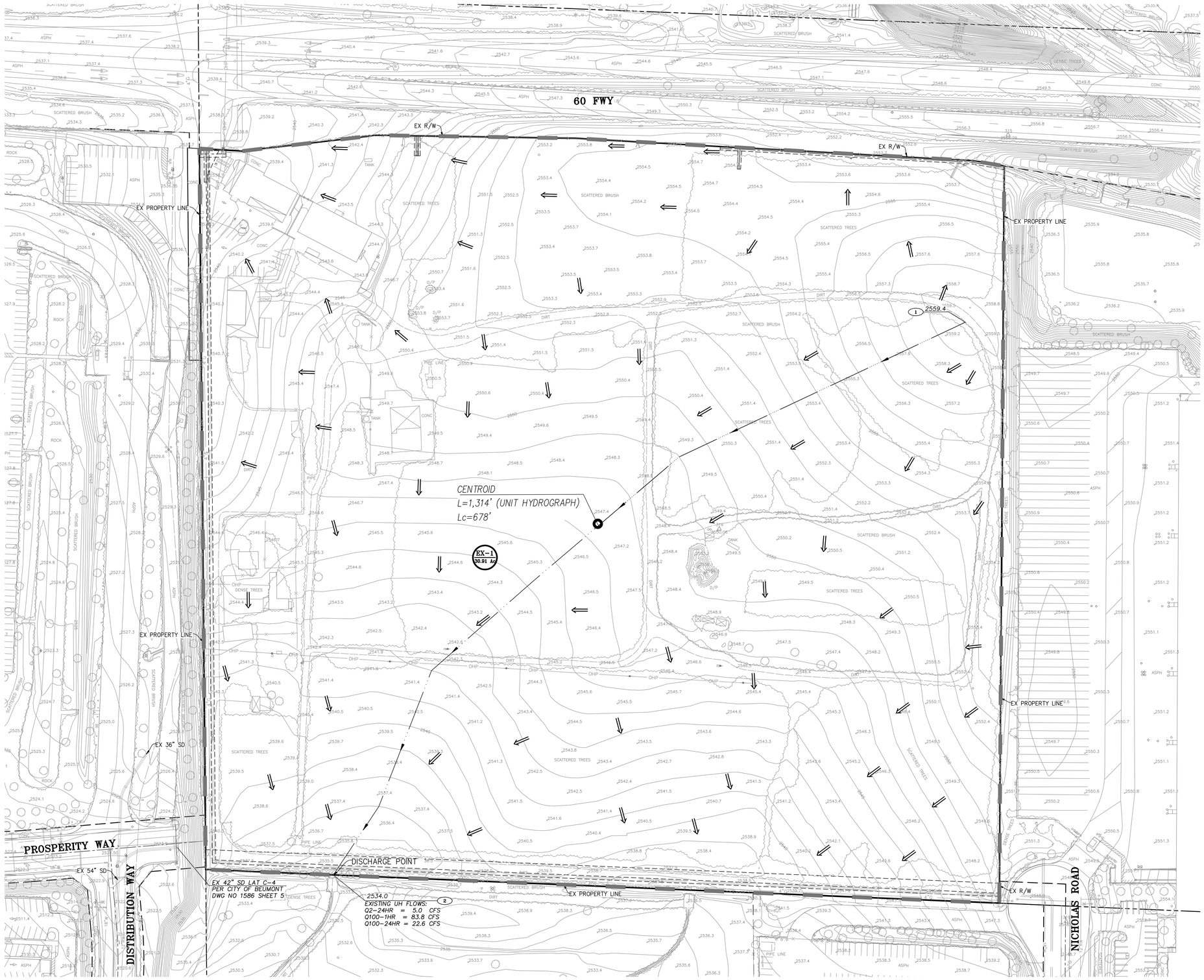
# CITY OF BEAUMONT

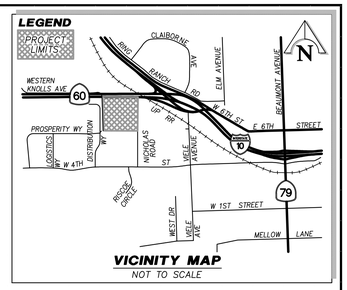
## PRELIMINARY DRAINAGE MAP PROPOSED CONDITION

## ORCHARD LOGISTICS CENTER

SHEET 1 NO. 1

Manny.Gonzales@HZ-1LLC, Drawing: H:\2019 Projects\HZ-1\PLOT\Exhibits\Prelim Drainage\HZ-1PRELIMDRAIN.dwg, Layout: 1, Jun 16, 2020 2:04pm




**VICINITY MAP**
NOT TO SCALE

N

0 30 60 120 180
SCALE 1" = 60'

## LEGEND

| | |
|---|---|
| EX-1 / 7.4 Ac | TRIBUTARY AREA IN ACRES |
| DP | DISCHARGE POINT |
| — · · — | DRAINAGE BOUNDARY |
| —··· — | FLOWLINE |
| ⟸ | FLOW DIRECTION |

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# CITY OF BEAUMONT

**PRELIMINARY UNIT HYDROGRAPH**
**EXISTING CONDITION**

**ORCHARD LOGISTICS CENTER**

SHEET 1 NO. 1

60 FWY

EX R/W

EX PROPERTY LINE

CENTROID
L=2,297' (UNIT HYDROGRAPH)
Lc=522'

A-1
30.91 AC

L=2297

L=2297

EX 36" SD

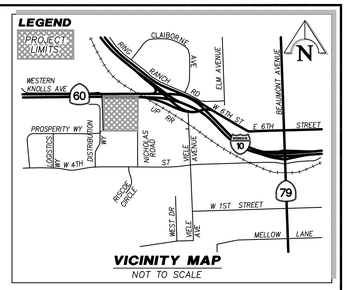
EX 54" SD

PROSPERITY WAY

DISTRIBUTION WAY

NICHOLAS ROAD

**DISCHARGE POINT**
EX 42" SD LAT C-4
PER CITY OF BEUMONT
DWG NO. 1586 SHEET 5
AFTER DETENTION:
UH Q2-24HR = 5.0 CFS
UH Q100-1HR = 26.6 CFS
UH Q100-24HR= 22.4 CFS




**VICINITY MAP**
NOT TO SCALE

N

0 30 60 120 180
SCALE 1" = 60'

## LEGEND

| | |
|---|---|
| EX-1 / 7.4 Ac | TRIBUTARY AREA IN ACRES |
| DP | DISCHARGE POINT |
| — · · — | DRAINAGE BOUNDARY |
| —— ··· —— | FLOWLINE |
| ⟸ | FLOW DIRECTION |

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# CITY OF BEAUMONT

## PRELIMINARY UNIT HYDROGRAPH PROPOSED CONDITION

## ORCHARD LOGISTICS CENTER

SHEET 1 NO. 1

# Appendix B
## 100-year Rational Method Analyses

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              Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2005 Version 7.1
       Rational Hydrology Study        Date: 05/31/22  File:2838Q100EX.out
------------------------------------------------------------------------
ORCHARD LOGISTICS  CENTER
100 YR STORM EVENT - EXISTING CONDITION
2838Q100EX
SD
------------------------------------------------------------------------
 *********   Hydrology Study Control Information **********

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

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

Program License Serial Number 6145

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

Storm event (year) =  100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)
For the [ Beaumont ] area used.
10 year storm 10 minute intensity =  2.300(In/Hr)
10 year storm 60 minute intensity =  0.890(In/Hr)
100 year storm 10 minute intensity =  3.410(In/Hr)
100 year storm 60 minute intensity =  1.320(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity =  1.320(In/Hr)
Slope of intensity duration curve = 0.5300

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       1.000 to Point/Station        2.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________
Initial area flow distance =   242.000(Ft.)
Top (of initial area) elevation =  2559.400(Ft.)
Bottom (of initial area) elevation =  2547.200(Ft.)
Difference in elevation =    12.200(Ft.)
Slope =    0.05041  s(percent)=       5.04
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    8.656 min.
Rainfall intensity =      3.683(In/Hr) for a   100.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.885
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  95.60
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =     6.326(CFS)
Total initial stream area =        1.940(Ac.)
Pervious area fraction = 1.000


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Process from Point/Station       1.000 to Point/Station        3.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________
Initial area flow distance =   995.000(Ft.)
Top (of initial area) elevation =  2559.400(Ft.)
Bottom (of initial area) elevation =  2537.700(Ft.)
Difference in elevation =    21.700(Ft.)
Slope =    0.02181  s(percent)=       2.18
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   18.017 min.
Rainfall intensity =      2.497(In/Hr) for a   100.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.878
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  95.60
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =     20.446(CFS)
Total initial stream area =        9.320(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        1.000 to Point/Station        4.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________
Initial area flow distance =   886.000(Ft.)
Top (of initial area) elevation =  2559.400(Ft.)
Bottom (of initial area) elevation =  2542.500(Ft.)
Difference in elevation =    16.900(Ft.)
Slope =    0.01907  s(percent)=       1.91
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   17.667 min.
Rainfall intensity =      2.523(In/Hr) for a   100.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.879
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  95.60
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =     19.866(CFS)
Total initial stream area =        8.960(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       4.000 to Point/Station        5.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________
Upstream point elevation =  2542.500(Ft.)
Downstream point elevation =  2534.000(Ft.)
Channel length thru subarea  =   430.000(Ft.)
Channel base width  =    2.000(Ft.)
Slope or 'Z' of left channel bank = 100.000
Slope or 'Z' of right channel bank = 100.000
Estimated mean flow rate at midpoint of channel =     25.876(CFS)
Manning's 'N'    = 0.020
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     25.876(CFS)
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Depth of flow =   0.287(Ft.), Average velocity =   2.930(Ft/s)
Channel flow top width =   59.474(Ft.)
Flow Velocity =    2.93(Ft/s)
Travel time  =    2.45 min.
Time of concentration =   20.11 min.

Sub-Channel No. 1 Critical depth =      0.324(Ft.)
  '     '       '     Critical flow top width =     66.844(Ft.)
  '     '       '     Critical flow velocity=    2.319(Ft/s)
  '     '       '     Critical flow area =     11.160(Sq.Ft)

 Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.877
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  95.60
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      2.356(In/Hr) for a   100.0 year storm
Subarea runoff =     11.965(CFS) for      5.790(Ac.)
Total runoff =     31.831(CFS)   Total area =      14.750(Ac.)
Depth of flow =   0.311(Ft.), Average velocity =   3.085(Ft/s)

Sub-Channel No. 1 Critical depth =      0.354(Ft.)
  '     '       '     Critical flow top width =     72.703(Ft.)
  '     '       '     Critical flow velocity=    2.411(Ft/s)
  '     '       '     Critical flow area =     13.204(Sq.Ft)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       6.000 to Point/Station        7.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________
Initial area flow distance =   603.000(Ft.)
Top (of initial area) elevation =  2554.600(Ft.)
Bottom (of initial area) elevation =  2539.000(Ft.)
Difference in elevation =    15.600(Ft.)
Slope =    0.02587  s(percent)=       2.59
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   14.251 min.
Rainfall intensity =      2.828(In/Hr) for a   100.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.881
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  95.60
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =     13.202(CFS)
Total initial stream area =        5.300(Ac.)
Pervious area fraction = 1.000
End of computations, total study area =          31.31 (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 =  89.0
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              Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2005 Version 7.1
       Rational Hydrology Study        Date: 02/09/22  File:2838q100p.out
------------------------------------------------------------------------
ORCHARD LOGISTICS CENTER
100 YR STORM EVENT - PROPOSED CONDITION
2838Q100P
SD
------------------------------------------------------------------------
 *********   Hydrology Study Control Information **********

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

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

Program License Serial Number 6145

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

Storm event (year) =  100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)
For the [ Beaumont ] area used.
10 year storm 10 minute intensity =  2.300(In/Hr)
10 year storm 60 minute intensity =  0.890(In/Hr)
100 year storm 10 minute intensity =  3.410(In/Hr)
100 year storm 60 minute intensity =  1.320(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity =  1.320(In/Hr)
Slope of intensity duration curve = 0.5300


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        1.000 to Point/Station        2.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________
Initial area flow distance =   547.000(Ft.)
Top (of initial area) elevation =  2552.750(Ft.)
Bottom (of initial area) elevation =  2547.690(Ft.)
Difference in elevation =     5.060(Ft.)
Slope =    0.00925  s(percent)=       0.93
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.530 min.
Rainfall intensity =      3.500(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.896
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  88.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      7.272(CFS)
Total initial stream area =        2.320(Ac.)
Pervious area fraction = 0.100
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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 =  2543.000(Ft.)
Downstream point/station elevation =  2540.700(Ft.)
Pipe length  =   248.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     7.272(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =     7.272(CFS)
Normal flow depth in pipe =   11.30(In.)
Flow top width inside pipe =   17.40(In.)
Critical Depth =   12.53(In.)
Pipe flow velocity =      6.23(Ft/s)
Travel time through pipe =    0.66 min.
Time of concentration (TC) =    10.19 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       3.000 to Point/Station       3.000
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.895
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  88.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    10.19 min.
Rainfall intensity =      3.377(In/Hr) for a   100.0 year storm
Subarea runoff =      7.651(CFS) for      2.530(Ac.)
Total runoff =     14.923(CFS)   Total area =       4.850(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       3.000 to Point/Station       4.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________
Upstream point/station elevation =  2540.700(Ft.)
Downstream point/station elevation =  2538.440(Ft.)
Pipe length  =   314.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    14.923(CFS)
Nearest computed pipe diameter  =     24.00(In.)
Calculated individual pipe flow  =    14.923(CFS)
Normal flow depth in pipe =   15.91(In.)
Flow top width inside pipe =   22.69(In.)
Critical Depth =   16.71(In.)
Pipe flow velocity =      6.75(Ft/s)
Travel time through pipe =    0.78 min.
Time of concentration (TC) =    10.97 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       4.000 to Point/Station       4.000
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.895
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
```

```
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  88.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    10.97 min.
Rainfall intensity =      3.249(In/Hr) for a   100.0 year storm
Subarea runoff =     18.352(CFS) for      6.310(Ac.)
Total runoff =     33.275(CFS)   Total area =      11.160(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        5.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________
Upstream point/station elevation =  2538.440(Ft.)
Downstream point/station elevation =  2534.370(Ft.)
Pipe length  =   565.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    33.275(CFS)
Nearest computed pipe diameter  =     30.00(In.)
Calculated individual pipe flow  =    33.275(CFS)
Normal flow depth in pipe =   23.48(In.)
Flow top width inside pipe =   24.74(In.)
Critical Depth =   23.55(In.)
Pipe flow velocity =      8.07(Ft/s)
Travel time through pipe =    1.17 min.
Time of concentration (TC) =    12.13 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        5.100 to Point/Station        5.100
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.895
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  88.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    12.13 min.
Rainfall intensity =      3.079(In/Hr) for a   100.0 year storm
Subarea runoff =      3.142(CFS) for      1.140(Ac.)
Total runoff =     36.417(CFS)   Total area =      12.300(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        5.200 to Point/Station        5.200
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.895
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  88.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    12.13 min.
Rainfall intensity =      3.079(In/Hr) for a   100.0 year storm
Subarea runoff =      5.567(CFS) for      2.020(Ac.)
Total runoff =     41.984(CFS)   Total area =      14.320(Ac.)
```

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        5.000 to Point/Station        6.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________
Upstream point/station elevation =  2534.370(Ft.)
Downstream point/station elevation =  2533.110(Ft.)
Pipe length  =   420.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    41.984(CFS)
Nearest computed pipe diameter  =     39.00(In.)
Calculated individual pipe flow  =    41.984(CFS)
Normal flow depth in pipe =   29.72(In.)
Flow top width inside pipe =   33.22(In.)
Critical Depth =   24.77(In.)
Pipe flow velocity =      6.19(Ft/s)
Travel time through pipe =    1.13 min.
Time of concentration (TC) =    13.27 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        6.100 to Point/Station        6.100
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.895
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  88.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    13.27 min.
Rainfall intensity =      2.937(In/Hr) for a   100.0 year storm
Subarea runoff =      0.815(CFS) for      0.310(Ac.)
Total runoff =     42.799(CFS)   Total area =      14.630(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        6.200 to Point/Station        6.200
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.895
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  88.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    13.27 min.
Rainfall intensity =      2.937(In/Hr) for a   100.0 year storm
Subarea runoff =      1.340(CFS) for      0.510(Ac.)
Total runoff =     44.139(CFS)   Total area =      15.140(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        6.000 to Point/Station        7.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________
Upstream point/station elevation =  2533.110(Ft.)
Downstream point/station elevation =  2532.790(Ft.)
Pipe length  =   107.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    44.139(CFS)
Nearest computed pipe diameter  =     39.00(In.)
```

```
Calculated individual pipe flow  =    44.139(CFS)
Normal flow depth in pipe =   31.22(In.)
Flow top width inside pipe =   31.17(In.)
Critical Depth =   25.41(In.)
Pipe flow velocity =      6.20(Ft/s)
Travel time through pipe =    0.29 min.
Time of concentration (TC) =    13.55 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        7.000 to Point/Station        7.000
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.895
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  88.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    13.55 min.
Rainfall intensity =      2.904(In/Hr) for a   100.0 year storm
Subarea runoff =      1.117(CFS) for      0.430(Ac.)
Total runoff =     45.256(CFS)   Total area =      15.570(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        7.000 to Point/Station        8.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________
Upstream point/station elevation =  2532.790(Ft.)
Downstream point/station elevation =  2532.500(Ft.)
Pipe length  =    95.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    45.256(CFS)
Nearest computed pipe diameter  =     39.00(In.)
Calculated individual pipe flow  =    45.256(CFS)
Normal flow depth in pipe =   31.69(In.)
Flow top width inside pipe =   30.44(In.)
Critical Depth =   25.75(In.)
Pipe flow velocity =      6.27(Ft/s)
Travel time through pipe =    0.25 min.
Time of concentration (TC) =    13.81 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        8.000 to Point/Station        8.000
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =     15.570(Ac.)
Runoff from this stream =     45.256(CFS)
Time of concentration =   13.81 min.
Rainfall intensity =     2.876(In/Hr)
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       21.000 to Point/Station       22.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________
Initial area flow distance =   999.000(Ft.)
```

```
Top (of initial area) elevation =  2551.340(Ft.)
Bottom (of initial area) elevation =  2543.660(Ft.)
Difference in elevation =     7.680(Ft.)
Slope =    0.00769  s(percent)=       0.77
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   12.583 min.
Rainfall intensity =      3.021(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.895
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  88.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     10.921(CFS)
Total initial stream area =        4.040(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       22.000 to Point/Station       23.000
**** IMPROVED CHANNEL TRAVEL TIME ****
______________________________________________________________________
Upstream point elevation =  2543.660(Ft.)
Downstream point elevation =  2542.160(Ft.)
Channel length thru subarea  =   308.000(Ft.)
Channel base width  =   40.000(Ft.)
Slope or 'Z' of left channel bank =  40.000
Slope or 'Z' of right channel bank =   0.000
Estimated mean flow rate at midpoint of channel =     19.785(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    1.000(Ft.)
Flow(q) thru subarea =     19.785(CFS)
Depth of flow =   0.201(Ft.), Average velocity =   2.233(Ft/s)
Channel flow top width =   48.049(Ft.)
Flow Velocity =    2.23(Ft/s)
Travel time  =    2.30 min.
Time of concentration =   14.88 min.

Sub-Channel No. 1 Critical depth =      0.191(Ft.)
  '     '       '     Critical flow top width =     47.656(Ft.)
  '     '       '     Critical flow velocity=    2.359(Ft/s)
  '     '       '     Critical flow area =      8.389(Sq.Ft)

 Adding area flow to channel
COMMERCIAL subarea type
Runoff Coefficient = 0.894
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  88.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Rainfall intensity =      2.764(In/Hr) for a   100.0 year storm
Subarea runoff =     17.675(CFS) for      7.150(Ac.)
Total runoff =     28.595(CFS)   Total area =      11.190(Ac.)
Depth of flow =   0.250(Ft.), Average velocity =   2.546(Ft/s)

Sub-Channel No. 1 Critical depth =      0.242(Ft.)
  '     '       '     Critical flow top width =     49.688(Ft.)
  '     '       '     Critical flow velocity=    2.633(Ft/s)
  '     '       '     Critical flow area =     10.861(Sq.Ft)
```

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       23.000 to Point/Station        8.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________
Upstream point/station elevation =  2535.000(Ft.)
Downstream point/station elevation =  2532.500(Ft.)
Pipe length  =    33.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    28.595(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =    28.595(CFS)
Normal flow depth in pipe =   14.58(In.)
Flow top width inside pipe =   14.13(In.)
Critical depth could not be calculated.
Pipe flow velocity =     18.65(Ft/s)
Travel time through pipe =    0.03 min.
Time of concentration (TC) =    14.91 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        8.000 to Point/Station        8.000
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     11.190(Ac.)
Runoff from this stream =     28.595(CFS)
Time of concentration =   14.91 min.
Rainfall intensity =     2.761(In/Hr)
Summary of stream data:

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


1       45.256     13.81            2.876
2       28.595     14.91            2.761
Largest stream flow has longer or shorter time of concentration
Qp =     45.256 + sum of
         Qa          Tb/Ta
         28.595 *    0.926 =     26.475
Qp =     71.731

Total of 2 main streams to confluence:
Flow rates before confluence point:
      45.256      28.595
Area of streams before confluence:
       15.570       11.190


Results of confluence:
Total flow rate =     71.731(CFS)
Time of concentration =    13.805 min.
Effective stream area after confluence  =     26.760(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        8.100 to Point/Station        8.100
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________
COMMERCIAL subarea type
```

```
Runoff Coefficient = 0.895
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  88.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    13.81 min.
Rainfall intensity =      2.876(In/Hr) for a   100.0 year storm
Subarea runoff =      7.744(CFS) for      3.010(Ac.)
Total runoff =     79.476(CFS)   Total area =      29.770(Ac.)
End of computations, total study area =           29.77 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  75.0
```

```
              Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2005 Version 7.1
       Rational Hydrology Study        Date: 02/09/22  File:2838q100psw.out
------------------------------------------------------------------------
ORCHARD LOGISTICS CENTER
100 YR STORM EVENT - PROPOSED CONDITION SOUTHWEST CORNER
2838Q100PSW
SD
------------------------------------------------------------------------
 *********   Hydrology Study Control Information **********

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

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

Program License Serial Number 6145

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

Storm event (year) =  100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)
For the [ Beaumont ] area used.
10 year storm 10 minute intensity =  2.300(In/Hr)
10 year storm 60 minute intensity =  0.890(In/Hr)
100 year storm 10 minute intensity =  3.410(In/Hr)
100 year storm 60 minute intensity =  1.320(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity =  1.320(In/Hr)
Slope of intensity duration curve = 0.5300

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       31.000 to Point/Station       32.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________
Initial area flow distance =   357.000(Ft.)
Top (of initial area) elevation =  2549.070(Ft.)
Bottom (of initial area) elevation =  2527.450(Ft.)
Difference in elevation =    21.620(Ft.)
Slope =    0.06056  s(percent)=       6.06
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    5.518 min.
Rainfall intensity =      4.676(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.897
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  88.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      4.696(CFS)
Total initial stream area =        1.120(Ac.)
Pervious area fraction = 0.100
End of computations, total study area =            1.12 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
```

```
Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  75.0
```

# Appendix C

## 2- & 100-year Unit Hydrograph Analyses

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

      Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2004, Version 7.0
             Study date  02/04/22 File: 2838QUHEX242.out


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

Program License Serial Number 6145
---------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

---------------------------------------------------------------------
ORCHARD LOGISTICS CENTER
2 YR STORM EVENT - EXISTING CONDITION
2838QUHEX
SD
---------------------------------------------------------------------
Drainage Area =      30.91(Ac.)  =      0.048 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =    30.91(Ac.)  = 0.048 Sq. Mi.
Length along longest watercourse =    1314.00(Ft.)
Length along longest watercourse measured to centroid =     678.00(Ft.)
Length along longest watercourse =      0.249 Mi.
Length along longest watercourse measured to centroid =      0.128 Mi.
Difference in elevation =      25.40(Ft.)
Slope along watercourse =    102.0639 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time =    0.081 Hr.
Lag time =     4.85 Min.
25% of lag time =     1.21 Min.
40% of lag time =     1.94 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]
       30.91         2.25                69.55

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       30.91         5.80               179.28

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    2.250(In)
Area Averaged 100-Year Rainfall =    5.800(In)

Point rain (area averaged) =    2.250(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    2.250(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
```

30.910 86.00 0.050
Total Area Entered = 30.91(Ac.)

| RI AMC2 | RI AMC-2 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 86.0 | 86.0 | 0.176 | 0.050 | 0.168 | 1.000 | 0.168 |
| | | | | | Sum (F) = | 0.168 |

Area averaged mean soil loss (F) (In/Hr) = 0.168
Minimum soil loss rate ((In/Hr)) = 0.084
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.860

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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 | 103.143 | 20.164 | 6.281 |
| 2 | 0.167 | 206.286 | 48.607 | 15.142 |
| 3 | 0.250 | 309.429 | 15.179 | 4.728 |
| 4 | 0.333 | 412.572 | 6.898 | 2.149 |
| 5 | 0.417 | 515.716 | 3.854 | 1.201 |
| 6 | 0.500 | 618.859 | 2.480 | 0.773 |
| 7 | 0.583 | 722.002 | 1.504 | 0.469 |
| 8 | 0.667 | 825.145 | 1.315 | 0.409 |
| | | | Sum = 100.000 | Sum= 31.151 |

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.018 | 0.297 | 0.015 | 0.00 |
| 2 | 0.17 | 0.07 | 0.018 | 0.296 | 0.015 | 0.00 |
| 3 | 0.25 | 0.07 | 0.018 | 0.295 | 0.015 | 0.00 |
| 4 | 0.33 | 0.10 | 0.027 | 0.294 | 0.023 | 0.00 |
| 5 | 0.42 | 0.10 | 0.027 | 0.293 | 0.023 | 0.00 |
| 6 | 0.50 | 0.10 | 0.027 | 0.292 | 0.023 | 0.00 |
| 7 | 0.58 | 0.10 | 0.027 | 0.290 | 0.023 | 0.00 |
| 8 | 0.67 | 0.10 | 0.027 | 0.289 | 0.023 | 0.00 |
| 9 | 0.75 | 0.10 | 0.027 | 0.288 | 0.023 | 0.00 |
| 10 | 0.83 | 0.13 | 0.036 | 0.287 | 0.031 | 0.01 |
| 11 | 0.92 | 0.13 | 0.036 | 0.286 | 0.031 | 0.01 |
| 12 | 1.00 | 0.13 | 0.036 | 0.285 | 0.031 | 0.01 |
| 13 | 1.08 | 0.10 | 0.027 | 0.284 | 0.023 | 0.00 |
| 14 | 1.17 | 0.10 | 0.027 | 0.283 | 0.023 | 0.00 |
| 15 | 1.25 | 0.10 | 0.027 | 0.281 | 0.023 | 0.00 |
| 16 | 1.33 | 0.10 | 0.027 | 0.280 | 0.023 | 0.00 |
| 17 | 1.42 | 0.10 | 0.027 | 0.279 | 0.023 | 0.00 |
| 18 | 1.50 | 0.10 | 0.027 | 0.278 | 0.023 | 0.00 |
| 19 | 1.58 | 0.10 | 0.027 | 0.277 | 0.023 | 0.00 |
| 20 | 1.67 | 0.10 | 0.027 | 0.276 | 0.023 | 0.00 |
| 21 | 1.75 | 0.10 | 0.027 | 0.275 | 0.023 | 0.00 |
| 22 | 1.83 | 0.13 | 0.036 | 0.274 | 0.031 | 0.01 |
| 23 | 1.92 | 0.13 | 0.036 | 0.273 | 0.031 | 0.01 |
| 24 | 2.00 | 0.13 | 0.036 | 0.271 | 0.031 | 0.01 |
| 25 | 2.08 | 0.13 | 0.036 | 0.270 | 0.031 | 0.01 |
| 26 | 2.17 | 0.13 | 0.036 | 0.269 | 0.031 | 0.01 |
| 27 | 2.25 | 0.13 | 0.036 | 0.268 | 0.031 | 0.01 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 28 | 2.33 | 0.13 | 0.036 | 0.267 | 0.031 | 0.01 |
| 29 | 2.42 | 0.13 | 0.036 | 0.266 | 0.031 | 0.01 |
| 30 | 2.50 | 0.13 | 0.036 | 0.265 | 0.031 | 0.01 |
| 31 | 2.58 | 0.17 | 0.045 | 0.264 | 0.039 | 0.01 |
| 32 | 2.67 | 0.17 | 0.045 | 0.263 | 0.039 | 0.01 |
| 33 | 2.75 | 0.17 | 0.045 | 0.262 | 0.039 | 0.01 |
| 34 | 2.83 | 0.17 | 0.045 | 0.261 | 0.039 | 0.01 |
| 35 | 2.92 | 0.17 | 0.045 | 0.259 | 0.039 | 0.01 |
| 36 | 3.00 | 0.17 | 0.045 | 0.258 | 0.039 | 0.01 |
| 37 | 3.08 | 0.17 | 0.045 | 0.257 | 0.039 | 0.01 |
| 38 | 3.17 | 0.17 | 0.045 | 0.256 | 0.039 | 0.01 |
| 39 | 3.25 | 0.17 | 0.045 | 0.255 | 0.039 | 0.01 |
| 40 | 3.33 | 0.17 | 0.045 | 0.254 | 0.039 | 0.01 |
| 41 | 3.42 | 0.17 | 0.045 | 0.253 | 0.039 | 0.01 |
| 42 | 3.50 | 0.17 | 0.045 | 0.252 | 0.039 | 0.01 |
| 43 | 3.58 | 0.17 | 0.045 | 0.251 | 0.039 | 0.01 |
| 44 | 3.67 | 0.17 | 0.045 | 0.250 | 0.039 | 0.01 |
| 45 | 3.75 | 0.17 | 0.045 | 0.249 | 0.039 | 0.01 |
| 46 | 3.83 | 0.20 | 0.054 | 0.248 | 0.046 | 0.01 |
| 47 | 3.92 | 0.20 | 0.054 | 0.247 | 0.046 | 0.01 |
| 48 | 4.00 | 0.20 | 0.054 | 0.246 | 0.046 | 0.01 |
| 49 | 4.08 | 0.20 | 0.054 | 0.245 | 0.046 | 0.01 |
| 50 | 4.17 | 0.20 | 0.054 | 0.244 | 0.046 | 0.01 |
| 51 | 4.25 | 0.20 | 0.054 | 0.243 | 0.046 | 0.01 |
| 52 | 4.33 | 0.23 | 0.063 | 0.242 | 0.054 | 0.01 |
| 53 | 4.42 | 0.23 | 0.063 | 0.241 | 0.054 | 0.01 |
| 54 | 4.50 | 0.23 | 0.063 | 0.239 | 0.054 | 0.01 |
| 55 | 4.58 | 0.23 | 0.063 | 0.238 | 0.054 | 0.01 |
| 56 | 4.67 | 0.23 | 0.063 | 0.237 | 0.054 | 0.01 |
| 57 | 4.75 | 0.23 | 0.063 | 0.236 | 0.054 | 0.01 |
| 58 | 4.83 | 0.27 | 0.072 | 0.235 | 0.062 | 0.01 |
| 59 | 4.92 | 0.27 | 0.072 | 0.234 | 0.062 | 0.01 |
| 60 | 5.00 | 0.27 | 0.072 | 0.233 | 0.062 | 0.01 |
| 61 | 5.08 | 0.20 | 0.054 | 0.232 | 0.046 | 0.01 |
| 62 | 5.17 | 0.20 | 0.054 | 0.231 | 0.046 | 0.01 |
| 63 | 5.25 | 0.20 | 0.054 | 0.230 | 0.046 | 0.01 |
| 64 | 5.33 | 0.23 | 0.063 | 0.229 | 0.054 | 0.01 |
| 65 | 5.42 | 0.23 | 0.063 | 0.228 | 0.054 | 0.01 |
| 66 | 5.50 | 0.23 | 0.063 | 0.227 | 0.054 | 0.01 |
| 67 | 5.58 | 0.27 | 0.072 | 0.226 | 0.062 | 0.01 |
| 68 | 5.67 | 0.27 | 0.072 | 0.225 | 0.062 | 0.01 |
| 69 | 5.75 | 0.27 | 0.072 | 0.224 | 0.062 | 0.01 |
| 70 | 5.83 | 0.27 | 0.072 | 0.223 | 0.062 | 0.01 |
| 71 | 5.92 | 0.27 | 0.072 | 0.222 | 0.062 | 0.01 |
| 72 | 6.00 | 0.27 | 0.072 | 0.221 | 0.062 | 0.01 |
| 73 | 6.08 | 0.30 | 0.081 | 0.220 | 0.070 | 0.01 |
| 74 | 6.17 | 0.30 | 0.081 | 0.219 | 0.070 | 0.01 |
| 75 | 6.25 | 0.30 | 0.081 | 0.218 | 0.070 | 0.01 |
| 76 | 6.33 | 0.30 | 0.081 | 0.217 | 0.070 | 0.01 |
| 77 | 6.42 | 0.30 | 0.081 | 0.216 | 0.070 | 0.01 |
| 78 | 6.50 | 0.30 | 0.081 | 0.215 | 0.070 | 0.01 |
| 79 | 6.58 | 0.33 | 0.090 | 0.215 | 0.077 | 0.01 |
| 80 | 6.67 | 0.33 | 0.090 | 0.214 | 0.077 | 0.01 |
| 81 | 6.75 | 0.33 | 0.090 | 0.213 | 0.077 | 0.01 |
| 82 | 6.83 | 0.33 | 0.090 | 0.212 | 0.077 | 0.01 |
| 83 | 6.92 | 0.33 | 0.090 | 0.211 | 0.077 | 0.01 |
| 84 | 7.00 | 0.33 | 0.090 | 0.210 | 0.077 | 0.01 |
| 85 | 7.08 | 0.33 | 0.090 | 0.209 | 0.077 | 0.01 |
| 86 | 7.17 | 0.33 | 0.090 | 0.208 | 0.077 | 0.01 |
| 87 | 7.25 | 0.33 | 0.090 | 0.207 | 0.077 | 0.01 |
| 88 | 7.33 | 0.37 | 0.099 | 0.206 | 0.085 | 0.01 |
| 89 | 7.42 | 0.37 | 0.099 | 0.205 | 0.085 | 0.01 |
| 90 | 7.50 | 0.37 | 0.099 | 0.204 | 0.085 | 0.01 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 91 | 7.58 | 0.40 | 0.108 | 0.203 | 0.093 | 0.02 |
| 92 | 7.67 | 0.40 | 0.108 | 0.202 | 0.093 | 0.02 |
| 93 | 7.75 | 0.40 | 0.108 | 0.201 | 0.093 | 0.02 |
| 94 | 7.83 | 0.43 | 0.117 | 0.200 | 0.101 | 0.02 |
| 95 | 7.92 | 0.43 | 0.117 | 0.199 | 0.101 | 0.02 |
| 96 | 8.00 | 0.43 | 0.117 | 0.198 | 0.101 | 0.02 |
| 97 | 8.08 | 0.50 | 0.135 | 0.198 | 0.116 | 0.02 |
| 98 | 8.17 | 0.50 | 0.135 | 0.197 | 0.116 | 0.02 |
| 99 | 8.25 | 0.50 | 0.135 | 0.196 | 0.116 | 0.02 |
| 100 | 8.33 | 0.50 | 0.135 | 0.195 | 0.116 | 0.02 |
| 101 | 8.42 | 0.50 | 0.135 | 0.194 | 0.116 | 0.02 |
| 102 | 8.50 | 0.50 | 0.135 | 0.193 | 0.116 | 0.02 |
| 103 | 8.58 | 0.53 | 0.144 | 0.192 | 0.124 | 0.02 |
| 104 | 8.67 | 0.53 | 0.144 | 0.191 | 0.124 | 0.02 |
| 105 | 8.75 | 0.53 | 0.144 | 0.190 | 0.124 | 0.02 |
| 106 | 8.83 | 0.57 | 0.153 | 0.189 | 0.132 | 0.02 |
| 107 | 8.92 | 0.57 | 0.153 | 0.188 | 0.132 | 0.02 |
| 108 | 9.00 | 0.57 | 0.153 | 0.188 | 0.132 | 0.02 |
| 109 | 9.08 | 0.63 | 0.171 | 0.187 | 0.147 | 0.02 |
| 110 | 9.17 | 0.63 | 0.171 | 0.186 | 0.147 | 0.02 |
| 111 | 9.25 | 0.63 | 0.171 | 0.185 | 0.147 | 0.02 |
| 112 | 9.33 | 0.67 | 0.180 | 0.184 | 0.155 | 0.03 |
| 113 | 9.42 | 0.67 | 0.180 | 0.183 | 0.155 | 0.03 |
| 114 | 9.50 | 0.67 | 0.180 | 0.182 | 0.155 | 0.03 |
| 115 | 9.58 | 0.70 | 0.189 | 0.181 | --- | 0.01 |
| 116 | 9.67 | 0.70 | 0.189 | 0.181 | --- | 0.01 |
| 117 | 9.75 | 0.70 | 0.189 | 0.180 | --- | 0.01 |
| 118 | 9.83 | 0.73 | 0.198 | 0.179 | --- | 0.02 |
| 119 | 9.92 | 0.73 | 0.198 | 0.178 | --- | 0.02 |
| 120 | 10.00 | 0.73 | 0.198 | 0.177 | --- | 0.02 |
| 121 | 10.08 | 0.50 | 0.135 | 0.176 | 0.116 | 0.02 |
| 122 | 10.17 | 0.50 | 0.135 | 0.175 | 0.116 | 0.02 |
| 123 | 10.25 | 0.50 | 0.135 | 0.175 | 0.116 | 0.02 |
| 124 | 10.33 | 0.50 | 0.135 | 0.174 | 0.116 | 0.02 |
| 125 | 10.42 | 0.50 | 0.135 | 0.173 | 0.116 | 0.02 |
| 126 | 10.50 | 0.50 | 0.135 | 0.172 | 0.116 | 0.02 |
| 127 | 10.58 | 0.67 | 0.180 | 0.171 | --- | 0.01 |
| 128 | 10.67 | 0.67 | 0.180 | 0.170 | --- | 0.01 |
| 129 | 10.75 | 0.67 | 0.180 | 0.169 | --- | 0.01 |
| 130 | 10.83 | 0.67 | 0.180 | 0.169 | --- | 0.01 |
| 131 | 10.92 | 0.67 | 0.180 | 0.168 | --- | 0.01 |
| 132 | 11.00 | 0.67 | 0.180 | 0.167 | --- | 0.01 |
| 133 | 11.08 | 0.63 | 0.171 | 0.166 | --- | 0.00 |
| 134 | 11.17 | 0.63 | 0.171 | 0.165 | --- | 0.01 |
| 135 | 11.25 | 0.63 | 0.171 | 0.165 | --- | 0.01 |
| 136 | 11.33 | 0.63 | 0.171 | 0.164 | --- | 0.01 |
| 137 | 11.42 | 0.63 | 0.171 | 0.163 | --- | 0.01 |
| 138 | 11.50 | 0.63 | 0.171 | 0.162 | --- | 0.01 |
| 139 | 11.58 | 0.57 | 0.153 | 0.161 | 0.132 | 0.02 |
| 140 | 11.67 | 0.57 | 0.153 | 0.161 | 0.132 | 0.02 |
| 141 | 11.75 | 0.57 | 0.153 | 0.160 | 0.132 | 0.02 |
| 142 | 11.83 | 0.60 | 0.162 | 0.159 | --- | 0.00 |
| 143 | 11.92 | 0.60 | 0.162 | 0.158 | --- | 0.00 |
| 144 | 12.00 | 0.60 | 0.162 | 0.157 | --- | 0.00 |
| 145 | 12.08 | 0.83 | 0.225 | 0.157 | --- | 0.07 |
| 146 | 12.17 | 0.83 | 0.225 | 0.156 | --- | 0.07 |
| 147 | 12.25 | 0.83 | 0.225 | 0.155 | --- | 0.07 |
| 148 | 12.33 | 0.87 | 0.234 | 0.154 | --- | 0.08 |
| 149 | 12.42 | 0.87 | 0.234 | 0.153 | --- | 0.08 |
| 150 | 12.50 | 0.87 | 0.234 | 0.153 | --- | 0.08 |
| 151 | 12.58 | 0.93 | 0.252 | 0.152 | --- | 0.10 |
| 152 | 12.67 | 0.93 | 0.252 | 0.151 | --- | 0.10 |
| 153 | 12.75 | 0.93 | 0.252 | 0.150 | --- | 0.10 |

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|---|---|---|---|---|---|---|
| 154 | 12.83 | 0.97 | 0.261 | 0.150 | --- | 0.11 |
| 155 | 12.92 | 0.97 | 0.261 | 0.149 | --- | 0.11 |
| 156 | 13.00 | 0.97 | 0.261 | 0.148 | --- | 0.11 |
| 157 | 13.08 | 1.13 | 0.306 | 0.147 | --- | 0.16 |
| 158 | 13.17 | 1.13 | 0.306 | 0.147 | --- | 0.16 |
| 159 | 13.25 | 1.13 | 0.306 | 0.146 | --- | 0.16 |
| 160 | 13.33 | 1.13 | 0.306 | 0.145 | --- | 0.16 |
| 161 | 13.42 | 1.13 | 0.306 | 0.144 | --- | 0.16 |
| 162 | 13.50 | 1.13 | 0.306 | 0.144 | --- | 0.16 |
| 163 | 13.58 | 0.77 | 0.207 | 0.143 | --- | 0.06 |
| 164 | 13.67 | 0.77 | 0.207 | 0.142 | --- | 0.06 |
| 165 | 13.75 | 0.77 | 0.207 | 0.141 | --- | 0.07 |
| 166 | 13.83 | 0.77 | 0.207 | 0.141 | --- | 0.07 |
| 167 | 13.92 | 0.77 | 0.207 | 0.140 | --- | 0.07 |
| 168 | 14.00 | 0.77 | 0.207 | 0.139 | --- | 0.07 |
| 169 | 14.08 | 0.90 | 0.243 | 0.139 | --- | 0.10 |
| 170 | 14.17 | 0.90 | 0.243 | 0.138 | --- | 0.11 |
| 171 | 14.25 | 0.90 | 0.243 | 0.137 | --- | 0.11 |
| 172 | 14.33 | 0.87 | 0.234 | 0.136 | --- | 0.10 |
| 173 | 14.42 | 0.87 | 0.234 | 0.136 | --- | 0.10 |
| 174 | 14.50 | 0.87 | 0.234 | 0.135 | --- | 0.10 |
| 175 | 14.58 | 0.87 | 0.234 | 0.134 | --- | 0.10 |
| 176 | 14.67 | 0.87 | 0.234 | 0.134 | --- | 0.10 |
| 177 | 14.75 | 0.87 | 0.234 | 0.133 | --- | 0.10 |
| 178 | 14.83 | 0.83 | 0.225 | 0.132 | --- | 0.09 |
| 179 | 14.92 | 0.83 | 0.225 | 0.132 | --- | 0.09 |
| 180 | 15.00 | 0.83 | 0.225 | 0.131 | --- | 0.09 |
| 181 | 15.08 | 0.80 | 0.216 | 0.130 | --- | 0.09 |
| 182 | 15.17 | 0.80 | 0.216 | 0.130 | --- | 0.09 |
| 183 | 15.25 | 0.80 | 0.216 | 0.129 | --- | 0.09 |
| 184 | 15.33 | 0.77 | 0.207 | 0.128 | --- | 0.08 |
| 185 | 15.42 | 0.77 | 0.207 | 0.128 | --- | 0.08 |
| 186 | 15.50 | 0.77 | 0.207 | 0.127 | --- | 0.08 |
| 187 | 15.58 | 0.63 | 0.171 | 0.126 | --- | 0.04 |
| 188 | 15.67 | 0.63 | 0.171 | 0.126 | --- | 0.05 |
| 189 | 15.75 | 0.63 | 0.171 | 0.125 | --- | 0.05 |
| 190 | 15.83 | 0.63 | 0.171 | 0.124 | --- | 0.05 |
| 191 | 15.92 | 0.63 | 0.171 | 0.124 | --- | 0.05 |
| 192 | 16.00 | 0.63 | 0.171 | 0.123 | --- | 0.05 |
| 193 | 16.08 | 0.13 | 0.036 | 0.123 | 0.031 | 0.01 |
| 194 | 16.17 | 0.13 | 0.036 | 0.122 | 0.031 | 0.01 |
| 195 | 16.25 | 0.13 | 0.036 | 0.121 | 0.031 | 0.01 |
| 196 | 16.33 | 0.13 | 0.036 | 0.121 | 0.031 | 0.01 |
| 197 | 16.42 | 0.13 | 0.036 | 0.120 | 0.031 | 0.01 |
| 198 | 16.50 | 0.13 | 0.036 | 0.119 | 0.031 | 0.01 |
| 199 | 16.58 | 0.10 | 0.027 | 0.119 | 0.023 | 0.00 |
| 200 | 16.67 | 0.10 | 0.027 | 0.118 | 0.023 | 0.00 |
| 201 | 16.75 | 0.10 | 0.027 | 0.118 | 0.023 | 0.00 |
| 202 | 16.83 | 0.10 | 0.027 | 0.117 | 0.023 | 0.00 |
| 203 | 16.92 | 0.10 | 0.027 | 0.116 | 0.023 | 0.00 |
| 204 | 17.00 | 0.10 | 0.027 | 0.116 | 0.023 | 0.00 |
| 205 | 17.08 | 0.17 | 0.045 | 0.115 | 0.039 | 0.01 |
| 206 | 17.17 | 0.17 | 0.045 | 0.115 | 0.039 | 0.01 |
| 207 | 17.25 | 0.17 | 0.045 | 0.114 | 0.039 | 0.01 |
| 208 | 17.33 | 0.17 | 0.045 | 0.114 | 0.039 | 0.01 |
| 209 | 17.42 | 0.17 | 0.045 | 0.113 | 0.039 | 0.01 |
| 210 | 17.50 | 0.17 | 0.045 | 0.112 | 0.039 | 0.01 |
| 211 | 17.58 | 0.17 | 0.045 | 0.112 | 0.039 | 0.01 |
| 212 | 17.67 | 0.17 | 0.045 | 0.111 | 0.039 | 0.01 |
| 213 | 17.75 | 0.17 | 0.045 | 0.111 | 0.039 | 0.01 |
| 214 | 17.83 | 0.13 | 0.036 | 0.110 | 0.031 | 0.01 |
| 215 | 17.92 | 0.13 | 0.036 | 0.110 | 0.031 | 0.01 |
| 216 | 18.00 | 0.13 | 0.036 | 0.109 | 0.031 | 0.01 |

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|---|---|---|---|---|---|---|
| 217 | 18.08 | 0.13 | 0.036 | 0.109 | 0.031 | 0.01 |
| 218 | 18.17 | 0.13 | 0.036 | 0.108 | 0.031 | 0.01 |
| 219 | 18.25 | 0.13 | 0.036 | 0.107 | 0.031 | 0.01 |
| 220 | 18.33 | 0.13 | 0.036 | 0.107 | 0.031 | 0.01 |
| 221 | 18.42 | 0.13 | 0.036 | 0.106 | 0.031 | 0.01 |
| 222 | 18.50 | 0.13 | 0.036 | 0.106 | 0.031 | 0.01 |
| 223 | 18.58 | 0.10 | 0.027 | 0.105 | 0.023 | 0.00 |
| 224 | 18.67 | 0.10 | 0.027 | 0.105 | 0.023 | 0.00 |
| 225 | 18.75 | 0.10 | 0.027 | 0.104 | 0.023 | 0.00 |
| 226 | 18.83 | 0.07 | 0.018 | 0.104 | 0.015 | 0.00 |
| 227 | 18.92 | 0.07 | 0.018 | 0.103 | 0.015 | 0.00 |
| 228 | 19.00 | 0.07 | 0.018 | 0.103 | 0.015 | 0.00 |
| 229 | 19.08 | 0.10 | 0.027 | 0.102 | 0.023 | 0.00 |
| 230 | 19.17 | 0.10 | 0.027 | 0.102 | 0.023 | 0.00 |
| 231 | 19.25 | 0.10 | 0.027 | 0.101 | 0.023 | 0.00 |
| 232 | 19.33 | 0.13 | 0.036 | 0.101 | 0.031 | 0.01 |
| 233 | 19.42 | 0.13 | 0.036 | 0.101 | 0.031 | 0.01 |
| 234 | 19.50 | 0.13 | 0.036 | 0.100 | 0.031 | 0.01 |
| 235 | 19.58 | 0.10 | 0.027 | 0.100 | 0.023 | 0.00 |
| 236 | 19.67 | 0.10 | 0.027 | 0.099 | 0.023 | 0.00 |
| 237 | 19.75 | 0.10 | 0.027 | 0.099 | 0.023 | 0.00 |
| 238 | 19.83 | 0.07 | 0.018 | 0.098 | 0.015 | 0.00 |
| 239 | 19.92 | 0.07 | 0.018 | 0.098 | 0.015 | 0.00 |
| 240 | 20.00 | 0.07 | 0.018 | 0.097 | 0.015 | 0.00 |
| 241 | 20.08 | 0.10 | 0.027 | 0.097 | 0.023 | 0.00 |
| 242 | 20.17 | 0.10 | 0.027 | 0.097 | 0.023 | 0.00 |
| 243 | 20.25 | 0.10 | 0.027 | 0.096 | 0.023 | 0.00 |
| 244 | 20.33 | 0.10 | 0.027 | 0.096 | 0.023 | 0.00 |
| 245 | 20.42 | 0.10 | 0.027 | 0.095 | 0.023 | 0.00 |
| 246 | 20.50 | 0.10 | 0.027 | 0.095 | 0.023 | 0.00 |
| 247 | 20.58 | 0.10 | 0.027 | 0.094 | 0.023 | 0.00 |
| 248 | 20.67 | 0.10 | 0.027 | 0.094 | 0.023 | 0.00 |
| 249 | 20.75 | 0.10 | 0.027 | 0.094 | 0.023 | 0.00 |
| 250 | 20.83 | 0.07 | 0.018 | 0.093 | 0.015 | 0.00 |
| 251 | 20.92 | 0.07 | 0.018 | 0.093 | 0.015 | 0.00 |
| 252 | 21.00 | 0.07 | 0.018 | 0.093 | 0.015 | 0.00 |
| 253 | 21.08 | 0.10 | 0.027 | 0.092 | 0.023 | 0.00 |
| 254 | 21.17 | 0.10 | 0.027 | 0.092 | 0.023 | 0.00 |
| 255 | 21.25 | 0.10 | 0.027 | 0.091 | 0.023 | 0.00 |
| 256 | 21.33 | 0.07 | 0.018 | 0.091 | 0.015 | 0.00 |
| 257 | 21.42 | 0.07 | 0.018 | 0.091 | 0.015 | 0.00 |
| 258 | 21.50 | 0.07 | 0.018 | 0.090 | 0.015 | 0.00 |
| 259 | 21.58 | 0.10 | 0.027 | 0.090 | 0.023 | 0.00 |
| 260 | 21.67 | 0.10 | 0.027 | 0.090 | 0.023 | 0.00 |
| 261 | 21.75 | 0.10 | 0.027 | 0.089 | 0.023 | 0.00 |
| 262 | 21.83 | 0.07 | 0.018 | 0.089 | 0.015 | 0.00 |
| 263 | 21.92 | 0.07 | 0.018 | 0.089 | 0.015 | 0.00 |
| 264 | 22.00 | 0.07 | 0.018 | 0.089 | 0.015 | 0.00 |
| 265 | 22.08 | 0.10 | 0.027 | 0.088 | 0.023 | 0.00 |
| 266 | 22.17 | 0.10 | 0.027 | 0.088 | 0.023 | 0.00 |
| 267 | 22.25 | 0.10 | 0.027 | 0.088 | 0.023 | 0.00 |
| 268 | 22.33 | 0.07 | 0.018 | 0.087 | 0.015 | 0.00 |
| 269 | 22.42 | 0.07 | 0.018 | 0.087 | 0.015 | 0.00 |
| 270 | 22.50 | 0.07 | 0.018 | 0.087 | 0.015 | 0.00 |
| 271 | 22.58 | 0.07 | 0.018 | 0.087 | 0.015 | 0.00 |
| 272 | 22.67 | 0.07 | 0.018 | 0.086 | 0.015 | 0.00 |
| 273 | 22.75 | 0.07 | 0.018 | 0.086 | 0.015 | 0.00 |
| 274 | 22.83 | 0.07 | 0.018 | 0.086 | 0.015 | 0.00 |
| 275 | 22.92 | 0.07 | 0.018 | 0.086 | 0.015 | 0.00 |
| 276 | 23.00 | 0.07 | 0.018 | 0.086 | 0.015 | 0.00 |
| 277 | 23.08 | 0.07 | 0.018 | 0.085 | 0.015 | 0.00 |
| 278 | 23.17 | 0.07 | 0.018 | 0.085 | 0.015 | 0.00 |
| 279 | 23.25 | 0.07 | 0.018 | 0.085 | 0.015 | 0.00 |

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|---|---|---|---|---|---|---|
| 280 | 23.33 | 0.07 | 0.018 | 0.085 | 0.015 | 0.00 |
| 281 | 23.42 | 0.07 | 0.018 | 0.085 | 0.015 | 0.00 |
| 282 | 23.50 | 0.07 | 0.018 | 0.084 | 0.015 | 0.00 |
| 283 | 23.58 | 0.07 | 0.018 | 0.084 | 0.015 | 0.00 |
| 284 | 23.67 | 0.07 | 0.018 | 0.084 | 0.015 | 0.00 |
| 285 | 23.75 | 0.07 | 0.018 | 0.084 | 0.015 | 0.00 |
| 286 | 23.83 | 0.07 | 0.018 | 0.084 | 0.015 | 0.00 |
| 287 | 23.92 | 0.07 | 0.018 | 0.084 | 0.015 | 0.00 |
| 288 | 24.00 | 0.07 | 0.018 | 0.084 | 0.015 | 0.00 |
| | Sum = | 100.0 | | | Sum = | 6.3 |

Flood volume = Effective rainfall 0.53(In)
times area 30.9(Ac.)/[(In)/(Ft.)] = 1.4(Ac.Ft)
Total soil loss = 1.72(In)
Total soil loss = 4.439(Ac.Ft)
Total rainfall = 2.25(In)
Flood volume = 59061.8 Cubic Feet
Total soil loss = 193380.4 Cubic Feet

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Peak flow rate of this hydrograph = 4.987(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

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Hydrograph in 5 Minute intervals ((CFS))

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| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 2.5 | 5.0 | 7.5 | 10.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0001 | 0.02 | Q | \| | \| | \| | \| |
| 0+10 | 0.0005 | 0.05 | Q | \| | \| | \| | \| |
| 0+15 | 0.0009 | 0.07 | Q | \| | \| | \| | \| |
| 0+20 | 0.0015 | 0.08 | Q | \| | \| | \| | \| |
| 0+25 | 0.0022 | 0.10 | Q | \| | \| | \| | \| |
| 0+30 | 0.0029 | 0.11 | Q | \| | \| | \| | \| |
| 0+35 | 0.0037 | 0.11 | Q | \| | \| | \| | \| |
| 0+40 | 0.0045 | 0.12 | Q | \| | \| | \| | \| |
| 0+45 | 0.0053 | 0.12 | Q | \| | \| | \| | \| |
| 0+50 | 0.0062 | 0.13 | Q | \| | \| | \| | \| |
| 0+55 | 0.0072 | 0.14 | Q | \| | \| | \| | \| |
| 1+ 0 | 0.0082 | 0.15 | Q | \| | \| | \| | \| |
| 1+ 5 | 0.0092 | 0.15 | Q | \| | \| | \| | \| |
| 1+10 | 0.0101 | 0.13 | Q | \| | \| | \| | \| |
| 1+15 | 0.0109 | 0.12 | Q | \| | \| | \| | \| |
| 1+20 | 0.0118 | 0.12 | Q | \| | \| | \| | \| |
| 1+25 | 0.0126 | 0.12 | Q | \| | \| | \| | \| |
| 1+30 | 0.0134 | 0.12 | Q | \| | \| | \| | \| |
| 1+35 | 0.0142 | 0.12 | Q | \| | \| | \| | \| |
| 1+40 | 0.0150 | 0.12 | Q | \| | \| | \| | \| |
| 1+45 | 0.0159 | 0.12 | Q | \| | \| | \| | \| |
| 1+50 | 0.0167 | 0.13 | Q | \| | \| | \| | \| |
| 1+55 | 0.0177 | 0.14 | Q | \| | \| | \| | \| |
| 2+ 0 | 0.0188 | 0.15 | Q | \| | \| | \| | \| |
| 2+ 5 | 0.0198 | 0.15 | Q | \| | \| | \| | \| |
| 2+10 | 0.0209 | 0.15 | Q | \| | \| | \| | \| |
| 2+15 | 0.0220 | 0.16 | Q | \| | \| | \| | \| |
| 2+20 | 0.0230 | 0.16 | Q | \| | \| | \| | \| |
| 2+25 | 0.0241 | 0.16 | Q | \| | \| | \| | \| |
| 2+30 | 0.0252 | 0.16 | Q | \| | \| | \| | \| |
| 2+35 | 0.0263 | 0.16 | Q | \| | \| | \| | \| |
| 2+40 | 0.0276 | 0.18 | Q | \| | \| | \| | \| |
| 2+45 | 0.0289 | 0.19 | Q | \| | \| | \| | \| |
| 2+50 | 0.0302 | 0.19 | Q | \| | \| | \| | \| |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2+55 | 0.0316 | 0.19 | Q | \| | \| | \| | \| |
| 3+ 0 | 0.0329 | 0.20 | Q | \| | \| | \| | \| |
| 3+ 5 | 0.0343 | 0.20 | QV | \| | \| | \| | \| |
| 3+10 | 0.0356 | 0.20 | QV | \| | \| | \| | \| |
| 3+15 | 0.0370 | 0.20 | QV | \| | \| | \| | \| |
| 3+20 | 0.0383 | 0.20 | QV | \| | \| | \| | \| |
| 3+25 | 0.0397 | 0.20 | QV | \| | \| | \| | \| |
| 3+30 | 0.0410 | 0.20 | QV | \| | \| | \| | \| |
| 3+35 | 0.0424 | 0.20 | QV | \| | \| | \| | \| |
| 3+40 | 0.0437 | 0.20 | QV | \| | \| | \| | \| |
| 3+45 | 0.0451 | 0.20 | QV | \| | \| | \| | \| |
| 3+50 | 0.0465 | 0.20 | QV | \| | \| | \| | \| |
| 3+55 | 0.0480 | 0.22 | QV | \| | \| | \| | \| |
| 4+ 0 | 0.0496 | 0.23 | QV | \| | \| | \| | \| |
| 4+ 5 | 0.0512 | 0.23 | QV | \| | \| | \| | \| |
| 4+10 | 0.0528 | 0.23 | QV | \| | \| | \| | \| |
| 4+15 | 0.0544 | 0.23 | QV | \| | \| | \| | \| |
| 4+20 | 0.0561 | 0.24 | QV | \| | \| | \| | \| |
| 4+25 | 0.0579 | 0.26 | \|Q | \| | \| | \| | \| |
| 4+30 | 0.0598 | 0.27 | \|Q | \| | \| | \| | \| |
| 4+35 | 0.0616 | 0.27 | \|Q | \| | \| | \| | \| |
| 4+40 | 0.0635 | 0.27 | \|Q | \| | \| | \| | \| |
| 4+45 | 0.0654 | 0.27 | \|Q | \| | \| | \| | \| |
| 4+50 | 0.0673 | 0.28 | \|Q | \| | \| | \| | \| |
| 4+55 | 0.0694 | 0.30 | \|QV | \| | \| | \| | \| |
| 5+ 0 | 0.0715 | 0.31 | \|QV | \| | \| | \| | \| |
| 5+ 5 | 0.0736 | 0.29 | \|QV | \| | \| | \| | \| |
| 5+10 | 0.0753 | 0.26 | \|QV | \| | \| | \| | \| |
| 5+15 | 0.0770 | 0.25 | Q V | \| | \| | \| | \| |
| 5+20 | 0.0788 | 0.25 | \|QV | \| | \| | \| | \| |
| 5+25 | 0.0806 | 0.27 | \|QV | \| | \| | \| | \| |
| 5+30 | 0.0825 | 0.27 | \|QV | \| | \| | \| | \| |
| 5+35 | 0.0844 | 0.28 | \|QV | \| | \| | \| | \| |
| 5+40 | 0.0865 | 0.30 | \|QV | \| | \| | \| | \| |
| 5+45 | 0.0886 | 0.31 | \|QV | \| | \| | \| | \| |
| 5+50 | 0.0907 | 0.31 | \|QV | \| | \| | \| | \| |
| 5+55 | 0.0929 | 0.31 | \|QV | \| | \| | \| | \| |
| 6+ 0 | 0.0950 | 0.31 | \|QV | \| | \| | \| | \| |
| 6+ 5 | 0.0972 | 0.32 | \|QV | \| | \| | \| | \| |
| 6+10 | 0.0996 | 0.34 | \|QV | \| | \| | \| | \| |
| 6+15 | 0.1020 | 0.35 | \|Q V | \| | \| | \| | \| |
| 6+20 | 0.1044 | 0.35 | \|Q V | \| | \| | \| | \| |
| 6+25 | 0.1068 | 0.35 | \|Q V | \| | \| | \| | \| |
| 6+30 | 0.1092 | 0.35 | \|Q V | \| | \| | \| | \| |
| 6+35 | 0.1117 | 0.36 | \|Q V | \| | \| | \| | \| |
| 6+40 | 0.1143 | 0.38 | \|Q V | \| | \| | \| | \| |
| 6+45 | 0.1170 | 0.39 | \|Q V | \| | \| | \| | \| |
| 6+50 | 0.1197 | 0.39 | \|Q V | \| | \| | \| | \| |
| 6+55 | 0.1224 | 0.39 | \|Q V | \| | \| | \| | \| |
| 7+ 0 | 0.1251 | 0.39 | \|Q V | \| | \| | \| | \| |
| 7+ 5 | 0.1278 | 0.39 | \|Q V | \| | \| | \| | \| |
| 7+10 | 0.1305 | 0.39 | \|Q V | \| | \| | \| | \| |
| 7+15 | 0.1332 | 0.39 | \|Q V | \| | \| | \| | \| |
| 7+20 | 0.1359 | 0.40 | \|Q  V | \| | \| | \| | \| |
| 7+25 | 0.1388 | 0.42 | \|Q  V | \| | \| | \| | \| |
| 7+30 | 0.1418 | 0.43 | \|Q  V | \| | \| | \| | \| |
| 7+35 | 0.1448 | 0.44 | \|Q  V | \| | \| | \| | \| |
| 7+40 | 0.1479 | 0.46 | \|Q  V | \| | \| | \| | \| |
| 7+45 | 0.1511 | 0.46 | \|Q  V | \| | \| | \| | \| |
| 7+50 | 0.1544 | 0.48 | \|Q  V | \| | \| | \| | \| |
| 7+55 | 0.1578 | 0.50 | \|Q  V | \| | \| | \| | \| |
| 8+ 0 | 0.1613 | 0.50 | \| Q V | \| | \| | \| | \| |
| 8+ 5 | 0.1649 | 0.52 | \| Q V | \| | \| | \| | \| |

```
 8+10       0.1687      0.56  | Q V     |         |         |         |
 8+15       0.1727      0.58  | Q  V    |         |         |         |
 8+20       0.1767      0.58  | Q  V    |         |         |         |
 8+25       0.1807      0.58  | Q  V    |         |         |         |
 8+30       0.1848      0.59  | Q  V    |         |         |         |
 8+35       0.1889      0.60  | Q  V    |         |         |         |
 8+40       0.1931      0.62  | Q  V    |         |         |         |
 8+45       0.1974      0.62  | Q  V    |         |         |         |
 8+50       0.2017      0.63  | Q  V    |         |         |         |
 8+55       0.2062      0.65  | Q   V   |         |         |         |
 9+ 0       0.2108      0.66  | Q   V   |         |         |         |
 9+ 5       0.2155      0.68  | Q   V   |         |         |         |
 9+10       0.2204      0.72  | Q   V   |         |         |         |
 9+15       0.2255      0.73  | Q   V   |         |         |         |
 9+20       0.2306      0.75  | Q   V   |         |         |         |
 9+25       0.2359      0.77  |  Q  V   |         |         |         |
 9+30       0.2413      0.78  |  Q   V  |         |         |         |
 9+35       0.2459      0.67  | Q    V  |         |         |         |
 9+40       0.2487      0.41  |Q     V  |         |         |         |
 9+45       0.2511      0.35  |Q     V  |         |         |         |
 9+50       0.2538      0.39  |Q     V  |         |         |         |
 9+55       0.2574      0.53  | Q    V  |         |         |         |
10+ 0       0.2614      0.58  | Q    V  |         |         |         |
10+ 5       0.2656      0.60  | Q    V  |         |         |         |
10+10       0.2696      0.58  | Q    V  |         |         |         |
10+15       0.2737      0.59  | Q     V |         |         |         |
10+20       0.2777      0.59  | Q     V |         |         |         |
10+25       0.2818      0.59  | Q     V |         |         |         |
10+30       0.2858      0.59  | Q     V |         |         |         |
10+35       0.2895      0.53  | Q     V |         |         |         |
10+40       0.2921      0.38  |Q      V |         |         |         |
10+45       0.2945      0.35  |Q      V |         |         |         |
10+50       0.2969      0.35  |Q      V |         |         |         |
10+55       0.2994      0.36  |Q      V |         |         |         |
11+ 0       0.3020      0.38  |Q      V |         |         |         |
11+ 5       0.3043      0.34  |Q      V |         |         |         |
11+10       0.3059      0.23  Q        V|         |         |         |
11+15       0.3073      0.21  Q        V|         |         |         |
11+20       0.3088      0.21  Q        V|         |         |         |
11+25       0.3104      0.23  Q        V|         |         |         |
11+30       0.3121      0.25  Q        V|         |         |         |
11+35       0.3144      0.34  |Q       V|         |         |         |
11+40       0.3181      0.54  | Q      V|         |         |         |
11+45       0.3223      0.60  | Q      V|         |         |         |
11+50       0.3258      0.51  | Q      V|         |         |         |
11+55       0.3276      0.26  |Q       V|         |         |         |
12+ 0       0.3289      0.20  Q        V|         |         |         |
12+ 5       0.3330      0.58  | Q      V|         |         |         |
12+10       0.3436      1.54  |     Q   V         |         |         |
12+15       0.3563      1.85  |      Q  V         |         |         |
12+20       0.3705      2.06  |       Q V         |         |         |
12+25       0.3862      2.28  |        Q|V        |         |         |
12+30       0.4027      2.40  |        Q|V        |         |         |
12+35       0.4205      2.59  |         Q V       |         |         |
12+40       0.4406      2.92  |         |QV       |         |         |
12+45       0.4615      3.03  |         | QV      |         |         |
12+50       0.4833      3.16  |         | Q V     |         |         |
12+55       0.5063      3.34  |         |  QV     |         |         |
13+ 0       0.5299      3.42  |         |  Q V    |         |         |
13+ 5       0.5557      3.76  |         |    QV   |         |         |
13+10       0.5866      4.48  |         |      Q  |         |         |
13+15       0.6191      4.72  |         |       Q |         |         |
13+20       0.6525      4.85  |         |        Q|         |         |
```

```
13+25       0.6865      4.93  |         |        QV         |         |
13+30       0.7208      4.99  |         |        Q|V        |         |
13+35       0.7512      4.41  |         |      Q  | V       |         |
13+40       0.7715      2.95  |         |Q        | V       |         |
13+45       0.7888      2.50  |         Q         |  V      |         |
13+50       0.8047      2.31  |        Q|         |  V      |         |
13+55       0.8200      2.22  |       Q |         |   V     |         |
14+ 0       0.8349      2.16  |       Q |         |   V     |         |
14+ 5       0.8512      2.37  |        Q|         |    V    |         |
14+10       0.8711      2.89  |         |Q        |    V    |         |
14+15       0.8924      3.09  |         | Q       |     V   |         |
14+20       0.9139      3.13  |         | Q       |     V   |         |
14+25       0.9350      3.06  |         | Q       |      V  |         |
14+30       0.9561      3.06  |         | Q       |       V |         |
14+35       0.9773      3.08  |         | Q       |       V |         |
14+40       0.9987      3.11  |         | Q       |        V|         |
14+45       1.0202      3.12  |         | Q       |         V         |
14+50       1.0415      3.08  |         | Q       |         V         |
14+55       1.0619      2.97  |         |Q        |         |V        |
15+ 0       1.0822      2.94  |         |Q        |         |V        |
15+ 5       1.1021      2.89  |         |Q        |         | V       |
15+10       1.1211      2.76  |         |Q        |         |  V      |
15+15       1.1399      2.73  |         Q         |         |  V      |
15+20       1.1584      2.68  |         Q         |         |   V     |
15+25       1.1759      2.55  |         Q         |         |   V     |
15+30       1.1932      2.52  |         Q         |         |    V    |
15+35       1.2090      2.29  |        Q|         |         |    V    |
15+40       1.2210      1.75  |     Q   |         |         |     V   |
15+45       1.2319      1.59  |     Q   |         |         |     V   |
15+50       1.2425      1.53  |     Q   |         |         |     V   |
15+55       1.2528      1.50  |     Q   |         |         |     V   |
16+ 0       1.2631      1.49  |    Q    |         |         |      V  |
16+ 5       1.2715      1.22  |   Q     |         |         |      V  |
16+10       1.2754      0.57  | Q       |         |         |      V  |
16+15       1.2780      0.37  |Q        |         |         |      V  |
16+20       1.2799      0.28  |Q        |         |         |      V  |
16+25       1.2814      0.23  Q         |         |         |      V  |
16+30       1.2828      0.19  Q         |         |         |      V  |
16+35       1.2839      0.17  Q         |         |         |      V  |
16+40       1.2848      0.13  Q         |         |         |      V  |
16+45       1.2857      0.12  Q         |         |         |      V  |
16+50       1.2865      0.12  Q         |         |         |      V  |
16+55       1.2873      0.12  Q         |         |         |      V  |
17+ 0       1.2882      0.12  Q         |         |         |       V |
17+ 5       1.2891      0.13  Q         |         |         |       V |
17+10       1.2903      0.17  Q         |         |         |       V |
17+15       1.2915      0.18  Q         |         |         |       V |
17+20       1.2928      0.19  Q         |         |         |       V |
17+25       1.2942      0.19  Q         |         |         |       V |
17+30       1.2955      0.19  Q         |         |         |       V |
17+35       1.2968      0.20  Q         |         |         |       V |
17+40       1.2982      0.20  Q         |         |         |       V |
17+45       1.2995      0.20  Q         |         |         |       V |
17+50       1.3008      0.19  Q         |         |         |       V |
17+55       1.3020      0.17  Q         |         |         |       V |
18+ 0       1.3031      0.16  Q         |         |         |       V |
18+ 5       1.3042      0.16  Q         |         |         |       V |
18+10       1.3053      0.16  Q         |         |         |       V |
18+15       1.3064      0.16  Q         |         |         |       V |
18+20       1.3075      0.16  Q         |         |         |       V |
18+25       1.3086      0.16  Q         |         |         |       V |
18+30       1.3097      0.16  Q         |         |         |       V |
18+35       1.3107      0.15  Q         |         |         |       V |
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 18+40 | 1.3116 | 0.13 | Q | \| | \| | \| | V \| |
| 18+45 | 1.3124 | 0.12 | Q | \| | \| | \| | V \| |
| 18+50 | 1.3132 | 0.11 | Q | \| | \| | \| | V \| |
| 18+55 | 1.3139 | 0.09 | Q | \| | \| | \| | V \| |
| 19+ 0 | 1.3145 | 0.09 | Q | \| | \| | \| | V \| |
| 19+ 5 | 1.3151 | 0.09 | Q | \| | \| | \| | V \| |
| 19+10 | 1.3158 | 0.11 | Q | \| | \| | \| | V \| |
| 19+15 | 1.3166 | 0.11 | Q | \| | \| | \| | V \| |
| 19+20 | 1.3174 | 0.12 | Q | \| | \| | \| | V \| |
| 19+25 | 1.3184 | 0.14 | Q | \| | \| | \| | V \| |
| 19+30 | 1.3195 | 0.15 | Q | \| | \| | \| | V \| |
| 19+35 | 1.3205 | 0.15 | Q | \| | \| | \| | V \| |
| 19+40 | 1.3213 | 0.13 | Q | \| | \| | \| | V \| |
| 19+45 | 1.3222 | 0.12 | Q | \| | \| | \| | V\| |
| 19+50 | 1.3230 | 0.11 | Q | \| | \| | \| | V\| |
| 19+55 | 1.3236 | 0.09 | Q | \| | \| | \| | V\| |
| 20+ 0 | 1.3242 | 0.09 | Q | \| | \| | \| | V\| |
| 20+ 5 | 1.3248 | 0.09 | Q | \| | \| | \| | V\| |
| 20+10 | 1.3256 | 0.11 | Q | \| | \| | \| | V\| |
| 20+15 | 1.3263 | 0.11 | Q | \| | \| | \| | V\| |
| 20+20 | 1.3271 | 0.11 | Q | \| | \| | \| | V\| |
| 20+25 | 1.3279 | 0.12 | Q | \| | \| | \| | V\| |
| 20+30 | 1.3287 | 0.12 | Q | \| | \| | \| | V\| |
| 20+35 | 1.3295 | 0.12 | Q | \| | \| | \| | V\| |
| 20+40 | 1.3303 | 0.12 | Q | \| | \| | \| | V\| |
| 20+45 | 1.3312 | 0.12 | Q | \| | \| | \| | V\| |
| 20+50 | 1.3319 | 0.11 | Q | \| | \| | \| | V\| |
| 20+55 | 1.3325 | 0.09 | Q | \| | \| | \| | V\| |
| 21+ 0 | 1.3331 | 0.08 | Q | \| | \| | \| | V\| |
| 21+ 5 | 1.3337 | 0.09 | Q | \| | \| | \| | V\| |
| 21+10 | 1.3345 | 0.11 | Q | \| | \| | \| | V\| |
| 21+15 | 1.3353 | 0.11 | Q | \| | \| | \| | V\| |
| 21+20 | 1.3360 | 0.11 | Q | \| | \| | \| | V\| |
| 21+25 | 1.3366 | 0.09 | Q | \| | \| | \| | V\| |
| 21+30 | 1.3372 | 0.08 | Q | \| | \| | \| | V\| |
| 21+35 | 1.3378 | 0.09 | Q | \| | \| | \| | V\| |
| 21+40 | 1.3385 | 0.11 | Q | \| | \| | \| | V\| |
| 21+45 | 1.3393 | 0.11 | Q | \| | \| | \| | V\| |
| 21+50 | 1.3401 | 0.11 | Q | \| | \| | \| | V\| |
| 21+55 | 1.3407 | 0.09 | Q | \| | \| | \| | V\| |
| 22+ 0 | 1.3412 | 0.08 | Q | \| | \| | \| | V\| |
| 22+ 5 | 1.3419 | 0.09 | Q | \| | \| | \| | V\| |
| 22+10 | 1.3426 | 0.11 | Q | \| | \| | \| | V\| |
| 22+15 | 1.3434 | 0.11 | Q | \| | \| | \| | V\| |
| 22+20 | 1.3441 | 0.11 | Q | \| | \| | \| | V\| |
| 22+25 | 1.3447 | 0.09 | Q | \| | \| | \| | V\| |
| 22+30 | 1.3453 | 0.08 | Q | \| | \| | \| | V\| |
| 22+35 | 1.3459 | 0.08 | Q | \| | \| | \| | V\| |
| 22+40 | 1.3464 | 0.08 | Q | \| | \| | \| | V\| |
| 22+45 | 1.3470 | 0.08 | Q | \| | \| | \| | V\| |
| 22+50 | 1.3475 | 0.08 | Q | \| | \| | \| | V\| |
| 22+55 | 1.3481 | 0.08 | Q | \| | \| | \| | V\| |
| 23+ 0 | 1.3486 | 0.08 | Q | \| | \| | \| | V\| |
| 23+ 5 | 1.3491 | 0.08 | Q | \| | \| | \| | V\| |
| 23+10 | 1.3497 | 0.08 | Q | \| | \| | \| | V\| |
| 23+15 | 1.3502 | 0.08 | Q | \| | \| | \| | V\| |
| 23+20 | 1.3508 | 0.08 | Q | \| | \| | \| | V\| |
| 23+25 | 1.3513 | 0.08 | Q | \| | \| | \| | V\| |
| 23+30 | 1.3518 | 0.08 | Q | \| | \| | \| | V\| |
| 23+35 | 1.3524 | 0.08 | Q | \| | \| | \| | V\| |
| 23+40 | 1.3529 | 0.08 | Q | \| | \| | \| | V\| |
| 23+45 | 1.3535 | 0.08 | Q | \| | \| | \| | V\| |
| 23+50 | 1.3540 | 0.08 | Q | \| | \| | \| | V\| |

```
   23+55       1.3545      0.08  Q         |         |         |        V|
   24+ 0       1.3551      0.08  Q         |         |         |        V|
   24+ 5       1.3555      0.06  Q         |         |         |        V|
   24+10       1.3557      0.02  Q         |         |         |        V|
   24+15       1.3558      0.01  Q         |         |         |        V|
   24+20       1.3558      0.01  Q         |         |         |        V|
   24+25       1.3558      0.00  Q         |         |         |        V|
   24+30       1.3559      0.00  Q         |         |         |        V|
   24+35       1.3559      0.00  Q         |         |         |         V
-----------------------------------------------------------------------
```

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

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2004, Version 7.0
Study date 02/04/22 File: 2838quhex1100.out

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


Program License Serial Number 6145
---------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format
---------------------------------------------------------------------
ORCHARD LOGISTICS CENTER
100 YR STORM EVENT - EXISTING CONTIDION
2838QUHEX
SD
---------------------------------------------------------------------
Drainage Area =      30.91(Ac.)  =      0.048 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =  30.91(Ac.)  = 0.048 Sq. Mi.
Length along longest watercourse =    1314.00(Ft.)
Length along longest watercourse measured to centroid =     678.00(Ft.)
Length along longest watercourse =      0.249 Mi.
Length along longest watercourse measured to centroid =      0.128 Mi.
Difference in elevation =      25.40(Ft.)
Slope along watercourse =    102.0639 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time =    0.081 Hr.
Lag time =     4.85 Min.
25% of lag time =     1.21 Min.
40% of lag time =     1.94 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       30.91          0.53                16.38

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       30.91          1.20                37.09

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.530(In)
Area Averaged 100-Year Rainfall =    1.200(In)

Point rain (area averaged) =    1.200(In)
Areal adjustment factor =   99.97 %
Adjusted average point rain =    1.200(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
```

```
    30.910          86.00         0.050
 Total Area Entered =     30.91(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)      (In/Hr)       (Dec.)    (In/Hr)
86.0  94.4      0.073     0.050        0.070        1.000      0.070
                                                    Sum (F) =   0.070
Area averaged mean soil loss (F) (In/Hr) =  0.070
Minimum soil loss rate ((In/Hr)) =  0.035
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.860
---------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5300
---------------------------------------------------------------------

             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        103.143         20.164              6.281
    2   0.167        206.286         48.607             15.142
    3   0.250        309.429         15.179              4.728
    4   0.333        412.572          6.898              2.149
    5   0.417        515.716          3.854              1.201
    6   0.500        618.859          2.480              0.773
    7   0.583        722.002          1.504              0.469
    8   0.667        825.145          1.315              0.409
                               Sum = 100.000   Sum=      31.151
---------------------------------------------------------------------


 Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
      (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
  1   0.08     3.40      0.489         0.070      ---          0.42
  2   0.17     4.70      0.677         0.070      ---          0.61
  3   0.25     4.70      0.677         0.070      ---          0.61
  4   0.33     5.10      0.734         0.070      ---          0.66
  5   0.42     5.80      0.835         0.070      ---          0.77
  6   0.50     5.90      0.849         0.070      ---          0.78
  7   0.58     7.10      1.022         0.070      ---          0.95
  8   0.67     8.70      1.252         0.070      ---          1.18
  9   0.75    13.20      1.900         0.070      ---          1.83
 10   0.83    29.70      4.276         0.070      ---          4.21
 11   0.92     7.70      1.108         0.070      ---          1.04
 12   1.00     4.00      0.576         0.070      ---          0.51
    Sum =     100.0                                     Sum =    13.6
     Flood volume = Effective rainfall      1.13(In)
      times area      30.9(Ac.)/[(In)/(Ft.)] =       2.9(Ac.Ft)
     Total soil loss =      0.07(In)
     Total soil loss =     0.179(Ac.Ft)
     Total rainfall =      1.20(In)
     Flood volume =      126805.4 Cubic Feet
     Total soil loss =        7800.8 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =     83.832(CFS)
     ---------------------------------------------------------------------
     ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         1 - H O U R    S T O R M
```

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

Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume Ac.Ft | Q(CFS) | 0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0182 | 2.64 | VQ | | | | |
| 0+10 | 0.0883 | 10.18 | V Q | | | | |
| 0+15 | 0.1916 | 15.00 | V Q | | | | |
| 0+20 | 0.3097 | 17.15 | V Q | | | | |
| 0+25 | 0.4444 | 19.56 | V Q | | | | |
| 0+30 | 0.5959 | 22.00 | VQ | | | | |
| 0+35 | 0.7629 | 24.25 | Q | | | | |
| 0+40 | 0.9621 | 28.92 | QV | | | | |
| 0+45 | 1.2209 | 37.58 | Q | | | | |
| 0+50 | 1.6610 | 63.90 | V Q | | | | |
| 0+55 | 2.2383 | 83.83 | V Q | | | | |
| 1+ 0 | 2.5523 | 45.59 | Q V | | | | |
| 1+ 5 | 2.7280 | 25.51 | Q V | | | | |
| 1+10 | 2.8109 | 12.04 | Q V | | | | |
| 1+15 | 2.8587 | 6.93 | Q V | | | | |
| 1+20 | 2.8871 | 4.13 | Q V | | | | |
| 1+25 | 2.9051 | 2.60 | Q V | | | | |
| 1+30 | 2.9096 | 0.66 | Q V | | | | |
| 1+35 | 2.9111 | 0.21 | Q V | | | | |

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

      Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2004, Version 7.0
             Study date  02/04/22 File: 2838quhex24100.out


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


Program License Serial Number 6145
---------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format
---------------------------------------------------------------------
ORCHARD LOGISTICS CENTER
100 YR STORM EVENT - EXISTING CONTIDION
2838QUHEX
SD
--------------------------------------------------------------------
Drainage Area =      30.91(Ac.)  =      0.048 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 30.91(Ac.)  = 0.048 Sq. Mi.
Length along longest watercourse =    1314.00(Ft.)
Length along longest watercourse measured to centroid =     678.00(Ft.)
Length along longest watercourse =      0.249 Mi.
Length along longest watercourse measured to centroid =      0.128 Mi.
Difference in elevation =      25.40(Ft.)
Slope along watercourse =    102.0639 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time =    0.081 Hr.
Lag time =     4.85 Min.
25% of lag time =     1.21 Min.
40% of lag time =     1.94 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]
       30.91         2.25                69.55

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       30.91         5.80               179.28

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    2.250(In)
Area Averaged 100-Year Rainfall =    5.800(In)

Point rain (area averaged) =    5.800(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    5.800(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
```

30.910 86.00 0.050

Total Area Entered = 30.91(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 86.0 | 94.4 | 0.073 | 0.050 | 0.070 | 1.000 | 0.070 |
| | | | | | Sum (F) = | 0.070 |

Area averaged mean soil loss (F) (In/Hr) = 0.070

Minimum soil loss rate ((In/Hr)) = 0.035

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.860

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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 | 103.143 | 20.164 | 6.281 |
| 2 | 0.167 | 206.286 | 48.607 | 15.142 |
| 3 | 0.250 | 309.429 | 15.179 | 4.728 |
| 4 | 0.333 | 412.572 | 6.898 | 2.149 |
| 5 | 0.417 | 515.716 | 3.854 | 1.201 |
| 6 | 0.500 | 618.859 | 2.480 | 0.773 |
| 7 | 0.583 | 722.002 | 1.504 | 0.469 |
| 8 | 0.667 | 825.145 | 1.315 | 0.409 |
| | | | Sum = 100.000 | Sum= 31.151 |

---

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.046 | 0.123 | 0.040 | 0.01 |
| 2 | 0.17 | 0.07 | 0.046 | 0.123 | 0.040 | 0.01 |
| 3 | 0.25 | 0.07 | 0.046 | 0.122 | 0.040 | 0.01 |
| 4 | 0.33 | 0.10 | 0.070 | 0.122 | 0.060 | 0.01 |
| 5 | 0.42 | 0.10 | 0.070 | 0.121 | 0.060 | 0.01 |
| 6 | 0.50 | 0.10 | 0.070 | 0.121 | 0.060 | 0.01 |
| 7 | 0.58 | 0.10 | 0.070 | 0.120 | 0.060 | 0.01 |
| 8 | 0.67 | 0.10 | 0.070 | 0.120 | 0.060 | 0.01 |
| 9 | 0.75 | 0.10 | 0.070 | 0.119 | 0.060 | 0.01 |
| 10 | 0.83 | 0.13 | 0.093 | 0.119 | 0.080 | 0.01 |
| 11 | 0.92 | 0.13 | 0.093 | 0.119 | 0.080 | 0.01 |
| 12 | 1.00 | 0.13 | 0.093 | 0.118 | 0.080 | 0.01 |
| 13 | 1.08 | 0.10 | 0.070 | 0.118 | 0.060 | 0.01 |
| 14 | 1.17 | 0.10 | 0.070 | 0.117 | 0.060 | 0.01 |
| 15 | 1.25 | 0.10 | 0.070 | 0.117 | 0.060 | 0.01 |
| 16 | 1.33 | 0.10 | 0.070 | 0.116 | 0.060 | 0.01 |
| 17 | 1.42 | 0.10 | 0.070 | 0.116 | 0.060 | 0.01 |
| 18 | 1.50 | 0.10 | 0.070 | 0.115 | 0.060 | 0.01 |
| 19 | 1.58 | 0.10 | 0.070 | 0.115 | 0.060 | 0.01 |
| 20 | 1.67 | 0.10 | 0.070 | 0.114 | 0.060 | 0.01 |
| 21 | 1.75 | 0.10 | 0.070 | 0.114 | 0.060 | 0.01 |
| 22 | 1.83 | 0.13 | 0.093 | 0.113 | 0.080 | 0.01 |
| 23 | 1.92 | 0.13 | 0.093 | 0.113 | 0.080 | 0.01 |
| 24 | 2.00 | 0.13 | 0.093 | 0.113 | 0.080 | 0.01 |
| 25 | 2.08 | 0.13 | 0.093 | 0.112 | 0.080 | 0.01 |
| 26 | 2.17 | 0.13 | 0.093 | 0.112 | 0.080 | 0.01 |
| 27 | 2.25 | 0.13 | 0.093 | 0.111 | 0.080 | 0.01 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 28 | 2.33 | 0.13 | 0.093 | 0.111 | 0.080 | 0.01 |
| 29 | 2.42 | 0.13 | 0.093 | 0.110 | 0.080 | 0.01 |
| 30 | 2.50 | 0.13 | 0.093 | 0.110 | 0.080 | 0.01 |
| 31 | 2.58 | 0.17 | 0.116 | 0.109 | --- | 0.01 |
| 32 | 2.67 | 0.17 | 0.116 | 0.109 | --- | 0.01 |
| 33 | 2.75 | 0.17 | 0.116 | 0.108 | --- | 0.01 |
| 34 | 2.83 | 0.17 | 0.116 | 0.108 | --- | 0.01 |
| 35 | 2.92 | 0.17 | 0.116 | 0.108 | --- | 0.01 |
| 36 | 3.00 | 0.17 | 0.116 | 0.107 | --- | 0.01 |
| 37 | 3.08 | 0.17 | 0.116 | 0.107 | --- | 0.01 |
| 38 | 3.17 | 0.17 | 0.116 | 0.106 | --- | 0.01 |
| 39 | 3.25 | 0.17 | 0.116 | 0.106 | --- | 0.01 |
| 40 | 3.33 | 0.17 | 0.116 | 0.105 | --- | 0.01 |
| 41 | 3.42 | 0.17 | 0.116 | 0.105 | --- | 0.01 |
| 42 | 3.50 | 0.17 | 0.116 | 0.104 | --- | 0.01 |
| 43 | 3.58 | 0.17 | 0.116 | 0.104 | --- | 0.01 |
| 44 | 3.67 | 0.17 | 0.116 | 0.104 | --- | 0.01 |
| 45 | 3.75 | 0.17 | 0.116 | 0.103 | --- | 0.01 |
| 46 | 3.83 | 0.20 | 0.139 | 0.103 | --- | 0.04 |
| 47 | 3.92 | 0.20 | 0.139 | 0.102 | --- | 0.04 |
| 48 | 4.00 | 0.20 | 0.139 | 0.102 | --- | 0.04 |
| 49 | 4.08 | 0.20 | 0.139 | 0.101 | --- | 0.04 |
| 50 | 4.17 | 0.20 | 0.139 | 0.101 | --- | 0.04 |
| 51 | 4.25 | 0.20 | 0.139 | 0.101 | --- | 0.04 |
| 52 | 4.33 | 0.23 | 0.162 | 0.100 | --- | 0.06 |
| 53 | 4.42 | 0.23 | 0.162 | 0.100 | --- | 0.06 |
| 54 | 4.50 | 0.23 | 0.162 | 0.099 | --- | 0.06 |
| 55 | 4.58 | 0.23 | 0.162 | 0.099 | --- | 0.06 |
| 56 | 4.67 | 0.23 | 0.162 | 0.098 | --- | 0.06 |
| 57 | 4.75 | 0.23 | 0.162 | 0.098 | --- | 0.06 |
| 58 | 4.83 | 0.27 | 0.186 | 0.098 | --- | 0.09 |
| 59 | 4.92 | 0.27 | 0.186 | 0.097 | --- | 0.09 |
| 60 | 5.00 | 0.27 | 0.186 | 0.097 | --- | 0.09 |
| 61 | 5.08 | 0.20 | 0.139 | 0.096 | --- | 0.04 |
| 62 | 5.17 | 0.20 | 0.139 | 0.096 | --- | 0.04 |
| 63 | 5.25 | 0.20 | 0.139 | 0.095 | --- | 0.04 |
| 64 | 5.33 | 0.23 | 0.162 | 0.095 | --- | 0.07 |
| 65 | 5.42 | 0.23 | 0.162 | 0.095 | --- | 0.07 |
| 66 | 5.50 | 0.23 | 0.162 | 0.094 | --- | 0.07 |
| 67 | 5.58 | 0.27 | 0.186 | 0.094 | --- | 0.09 |
| 68 | 5.67 | 0.27 | 0.186 | 0.093 | --- | 0.09 |
| 69 | 5.75 | 0.27 | 0.186 | 0.093 | --- | 0.09 |
| 70 | 5.83 | 0.27 | 0.186 | 0.093 | --- | 0.09 |
| 71 | 5.92 | 0.27 | 0.186 | 0.092 | --- | 0.09 |
| 72 | 6.00 | 0.27 | 0.186 | 0.092 | --- | 0.09 |
| 73 | 6.08 | 0.30 | 0.209 | 0.091 | --- | 0.12 |
| 74 | 6.17 | 0.30 | 0.209 | 0.091 | --- | 0.12 |
| 75 | 6.25 | 0.30 | 0.209 | 0.091 | --- | 0.12 |
| 76 | 6.33 | 0.30 | 0.209 | 0.090 | --- | 0.12 |
| 77 | 6.42 | 0.30 | 0.209 | 0.090 | --- | 0.12 |
| 78 | 6.50 | 0.30 | 0.209 | 0.089 | --- | 0.12 |
| 79 | 6.58 | 0.33 | 0.232 | 0.089 | --- | 0.14 |
| 80 | 6.67 | 0.33 | 0.232 | 0.089 | --- | 0.14 |
| 81 | 6.75 | 0.33 | 0.232 | 0.088 | --- | 0.14 |
| 82 | 6.83 | 0.33 | 0.232 | 0.088 | --- | 0.14 |
| 83 | 6.92 | 0.33 | 0.232 | 0.087 | --- | 0.14 |
| 84 | 7.00 | 0.33 | 0.232 | 0.087 | --- | 0.15 |
| 85 | 7.08 | 0.33 | 0.232 | 0.087 | --- | 0.15 |
| 86 | 7.17 | 0.33 | 0.232 | 0.086 | --- | 0.15 |
| 87 | 7.25 | 0.33 | 0.232 | 0.086 | --- | 0.15 |
| 88 | 7.33 | 0.37 | 0.255 | 0.085 | --- | 0.17 |
| 89 | 7.42 | 0.37 | 0.255 | 0.085 | --- | 0.17 |
| 90 | 7.50 | 0.37 | 0.255 | 0.085 | --- | 0.17 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 91 | 7.58 | 0.40 | 0.278 | 0.084 | --- | 0.19 |
| 92 | 7.67 | 0.40 | 0.278 | 0.084 | --- | 0.19 |
| 93 | 7.75 | 0.40 | 0.278 | 0.083 | --- | 0.19 |
| 94 | 7.83 | 0.43 | 0.302 | 0.083 | --- | 0.22 |
| 95 | 7.92 | 0.43 | 0.302 | 0.083 | --- | 0.22 |
| 96 | 8.00 | 0.43 | 0.302 | 0.082 | --- | 0.22 |
| 97 | 8.08 | 0.50 | 0.348 | 0.082 | --- | 0.27 |
| 98 | 8.17 | 0.50 | 0.348 | 0.082 | --- | 0.27 |
| 99 | 8.25 | 0.50 | 0.348 | 0.081 | --- | 0.27 |
| 100 | 8.33 | 0.50 | 0.348 | 0.081 | --- | 0.27 |
| 101 | 8.42 | 0.50 | 0.348 | 0.080 | --- | 0.27 |
| 102 | 8.50 | 0.50 | 0.348 | 0.080 | --- | 0.27 |
| 103 | 8.58 | 0.53 | 0.371 | 0.080 | --- | 0.29 |
| 104 | 8.67 | 0.53 | 0.371 | 0.079 | --- | 0.29 |
| 105 | 8.75 | 0.53 | 0.371 | 0.079 | --- | 0.29 |
| 106 | 8.83 | 0.57 | 0.394 | 0.079 | --- | 0.32 |
| 107 | 8.92 | 0.57 | 0.394 | 0.078 | --- | 0.32 |
| 108 | 9.00 | 0.57 | 0.394 | 0.078 | --- | 0.32 |
| 109 | 9.08 | 0.63 | 0.441 | 0.077 | --- | 0.36 |
| 110 | 9.17 | 0.63 | 0.441 | 0.077 | --- | 0.36 |
| 111 | 9.25 | 0.63 | 0.441 | 0.077 | --- | 0.36 |
| 112 | 9.33 | 0.67 | 0.464 | 0.076 | --- | 0.39 |
| 113 | 9.42 | 0.67 | 0.464 | 0.076 | --- | 0.39 |
| 114 | 9.50 | 0.67 | 0.464 | 0.076 | --- | 0.39 |
| 115 | 9.58 | 0.70 | 0.487 | 0.075 | --- | 0.41 |
| 116 | 9.67 | 0.70 | 0.487 | 0.075 | --- | 0.41 |
| 117 | 9.75 | 0.70 | 0.487 | 0.074 | --- | 0.41 |
| 118 | 9.83 | 0.73 | 0.510 | 0.074 | --- | 0.44 |
| 119 | 9.92 | 0.73 | 0.510 | 0.074 | --- | 0.44 |
| 120 | 10.00 | 0.73 | 0.510 | 0.073 | --- | 0.44 |
| 121 | 10.08 | 0.50 | 0.348 | 0.073 | --- | 0.27 |
| 122 | 10.17 | 0.50 | 0.348 | 0.073 | --- | 0.28 |
| 123 | 10.25 | 0.50 | 0.348 | 0.072 | --- | 0.28 |
| 124 | 10.33 | 0.50 | 0.348 | 0.072 | --- | 0.28 |
| 125 | 10.42 | 0.50 | 0.348 | 0.072 | --- | 0.28 |
| 126 | 10.50 | 0.50 | 0.348 | 0.071 | --- | 0.28 |
| 127 | 10.58 | 0.67 | 0.464 | 0.071 | --- | 0.39 |
| 128 | 10.67 | 0.67 | 0.464 | 0.071 | --- | 0.39 |
| 129 | 10.75 | 0.67 | 0.464 | 0.070 | --- | 0.39 |
| 130 | 10.83 | 0.67 | 0.464 | 0.070 | --- | 0.39 |
| 131 | 10.92 | 0.67 | 0.464 | 0.070 | --- | 0.39 |
| 132 | 11.00 | 0.67 | 0.464 | 0.069 | --- | 0.39 |
| 133 | 11.08 | 0.63 | 0.441 | 0.069 | --- | 0.37 |
| 134 | 11.17 | 0.63 | 0.441 | 0.069 | --- | 0.37 |
| 135 | 11.25 | 0.63 | 0.441 | 0.068 | --- | 0.37 |
| 136 | 11.33 | 0.63 | 0.441 | 0.068 | --- | 0.37 |
| 137 | 11.42 | 0.63 | 0.441 | 0.068 | --- | 0.37 |
| 138 | 11.50 | 0.63 | 0.441 | 0.067 | --- | 0.37 |
| 139 | 11.58 | 0.57 | 0.394 | 0.067 | --- | 0.33 |
| 140 | 11.67 | 0.57 | 0.394 | 0.067 | --- | 0.33 |
| 141 | 11.75 | 0.57 | 0.394 | 0.066 | --- | 0.33 |
| 142 | 11.83 | 0.60 | 0.418 | 0.066 | --- | 0.35 |
| 143 | 11.92 | 0.60 | 0.418 | 0.066 | --- | 0.35 |
| 144 | 12.00 | 0.60 | 0.418 | 0.065 | --- | 0.35 |
| 145 | 12.08 | 0.83 | 0.580 | 0.065 | --- | 0.52 |
| 146 | 12.17 | 0.83 | 0.580 | 0.065 | --- | 0.52 |
| 147 | 12.25 | 0.83 | 0.580 | 0.064 | --- | 0.52 |
| 148 | 12.33 | 0.87 | 0.603 | 0.064 | --- | 0.54 |
| 149 | 12.42 | 0.87 | 0.603 | 0.064 | --- | 0.54 |
| 150 | 12.50 | 0.87 | 0.603 | 0.063 | --- | 0.54 |
| 151 | 12.58 | 0.93 | 0.650 | 0.063 | --- | 0.59 |
| 152 | 12.67 | 0.93 | 0.650 | 0.063 | --- | 0.59 |
| 153 | 12.75 | 0.93 | 0.650 | 0.062 | --- | 0.59 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 154 | 12.83 | 0.97 | 0.673 | 0.062 | --- | 0.61 |
| 155 | 12.92 | 0.97 | 0.673 | 0.062 | --- | 0.61 |
| 156 | 13.00 | 0.97 | 0.673 | 0.061 | --- | 0.61 |
| 157 | 13.08 | 1.13 | 0.789 | 0.061 | --- | 0.73 |
| 158 | 13.17 | 1.13 | 0.789 | 0.061 | --- | 0.73 |
| 159 | 13.25 | 1.13 | 0.789 | 0.060 | --- | 0.73 |
| 160 | 13.33 | 1.13 | 0.789 | 0.060 | --- | 0.73 |
| 161 | 13.42 | 1.13 | 0.789 | 0.060 | --- | 0.73 |
| 162 | 13.50 | 1.13 | 0.789 | 0.060 | --- | 0.73 |
| 163 | 13.58 | 0.77 | 0.534 | 0.059 | --- | 0.47 |
| 164 | 13.67 | 0.77 | 0.534 | 0.059 | --- | 0.47 |
| 165 | 13.75 | 0.77 | 0.534 | 0.059 | --- | 0.47 |
| 166 | 13.83 | 0.77 | 0.534 | 0.058 | --- | 0.48 |
| 167 | 13.92 | 0.77 | 0.534 | 0.058 | --- | 0.48 |
| 168 | 14.00 | 0.77 | 0.534 | 0.058 | --- | 0.48 |
| 169 | 14.08 | 0.90 | 0.626 | 0.057 | --- | 0.57 |
| 170 | 14.17 | 0.90 | 0.626 | 0.057 | --- | 0.57 |
| 171 | 14.25 | 0.90 | 0.626 | 0.057 | --- | 0.57 |
| 172 | 14.33 | 0.87 | 0.603 | 0.057 | --- | 0.55 |
| 173 | 14.42 | 0.87 | 0.603 | 0.056 | --- | 0.55 |
| 174 | 14.50 | 0.87 | 0.603 | 0.056 | --- | 0.55 |
| 175 | 14.58 | 0.87 | 0.603 | 0.056 | --- | 0.55 |
| 176 | 14.67 | 0.87 | 0.603 | 0.055 | --- | 0.55 |
| 177 | 14.75 | 0.87 | 0.603 | 0.055 | --- | 0.55 |
| 178 | 14.83 | 0.83 | 0.580 | 0.055 | --- | 0.53 |
| 179 | 14.92 | 0.83 | 0.580 | 0.055 | --- | 0.53 |
| 180 | 15.00 | 0.83 | 0.580 | 0.054 | --- | 0.53 |
| 181 | 15.08 | 0.80 | 0.557 | 0.054 | --- | 0.50 |
| 182 | 15.17 | 0.80 | 0.557 | 0.054 | --- | 0.50 |
| 183 | 15.25 | 0.80 | 0.557 | 0.053 | --- | 0.50 |
| 184 | 15.33 | 0.77 | 0.534 | 0.053 | --- | 0.48 |
| 185 | 15.42 | 0.77 | 0.534 | 0.053 | --- | 0.48 |
| 186 | 15.50 | 0.77 | 0.534 | 0.053 | --- | 0.48 |
| 187 | 15.58 | 0.63 | 0.441 | 0.052 | --- | 0.39 |
| 188 | 15.67 | 0.63 | 0.441 | 0.052 | --- | 0.39 |
| 189 | 15.75 | 0.63 | 0.441 | 0.052 | --- | 0.39 |
| 190 | 15.83 | 0.63 | 0.441 | 0.052 | --- | 0.39 |
| 191 | 15.92 | 0.63 | 0.441 | 0.051 | --- | 0.39 |
| 192 | 16.00 | 0.63 | 0.441 | 0.051 | --- | 0.39 |
| 193 | 16.08 | 0.13 | 0.093 | 0.051 | --- | 0.04 |
| 194 | 16.17 | 0.13 | 0.093 | 0.051 | --- | 0.04 |
| 195 | 16.25 | 0.13 | 0.093 | 0.050 | --- | 0.04 |
| 196 | 16.33 | 0.13 | 0.093 | 0.050 | --- | 0.04 |
| 197 | 16.42 | 0.13 | 0.093 | 0.050 | --- | 0.04 |
| 198 | 16.50 | 0.13 | 0.093 | 0.050 | --- | 0.04 |
| 199 | 16.58 | 0.10 | 0.070 | 0.049 | --- | 0.02 |
| 200 | 16.67 | 0.10 | 0.070 | 0.049 | --- | 0.02 |
| 201 | 16.75 | 0.10 | 0.070 | 0.049 | --- | 0.02 |
| 202 | 16.83 | 0.10 | 0.070 | 0.049 | --- | 0.02 |
| 203 | 16.92 | 0.10 | 0.070 | 0.048 | --- | 0.02 |
| 204 | 17.00 | 0.10 | 0.070 | 0.048 | --- | 0.02 |
| 205 | 17.08 | 0.17 | 0.116 | 0.048 | --- | 0.07 |
| 206 | 17.17 | 0.17 | 0.116 | 0.048 | --- | 0.07 |
| 207 | 17.25 | 0.17 | 0.116 | 0.047 | --- | 0.07 |
| 208 | 17.33 | 0.17 | 0.116 | 0.047 | --- | 0.07 |
| 209 | 17.42 | 0.17 | 0.116 | 0.047 | --- | 0.07 |
| 210 | 17.50 | 0.17 | 0.116 | 0.047 | --- | 0.07 |
| 211 | 17.58 | 0.17 | 0.116 | 0.046 | --- | 0.07 |
| 212 | 17.67 | 0.17 | 0.116 | 0.046 | --- | 0.07 |
| 213 | 17.75 | 0.17 | 0.116 | 0.046 | --- | 0.07 |
| 214 | 17.83 | 0.13 | 0.093 | 0.046 | --- | 0.05 |
| 215 | 17.92 | 0.13 | 0.093 | 0.045 | --- | 0.05 |
| 216 | 18.00 | 0.13 | 0.093 | 0.045 | --- | 0.05 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 217 | 18.08 | 0.13 | 0.093 | 0.045 | --- | 0.05 |
| 218 | 18.17 | 0.13 | 0.093 | 0.045 | --- | 0.05 |
| 219 | 18.25 | 0.13 | 0.093 | 0.045 | --- | 0.05 |
| 220 | 18.33 | 0.13 | 0.093 | 0.044 | --- | 0.05 |
| 221 | 18.42 | 0.13 | 0.093 | 0.044 | --- | 0.05 |
| 222 | 18.50 | 0.13 | 0.093 | 0.044 | --- | 0.05 |
| 223 | 18.58 | 0.10 | 0.070 | 0.044 | --- | 0.03 |
| 224 | 18.67 | 0.10 | 0.070 | 0.043 | --- | 0.03 |
| 225 | 18.75 | 0.10 | 0.070 | 0.043 | --- | 0.03 |
| 226 | 18.83 | 0.07 | 0.046 | 0.043 | --- | 0.00 |
| 227 | 18.92 | 0.07 | 0.046 | 0.043 | --- | 0.00 |
| 228 | 19.00 | 0.07 | 0.046 | 0.043 | --- | 0.00 |
| 229 | 19.08 | 0.10 | 0.070 | 0.042 | --- | 0.03 |
| 230 | 19.17 | 0.10 | 0.070 | 0.042 | --- | 0.03 |
| 231 | 19.25 | 0.10 | 0.070 | 0.042 | --- | 0.03 |
| 232 | 19.33 | 0.13 | 0.093 | 0.042 | --- | 0.05 |
| 233 | 19.42 | 0.13 | 0.093 | 0.042 | --- | 0.05 |
| 234 | 19.50 | 0.13 | 0.093 | 0.041 | --- | 0.05 |
| 235 | 19.58 | 0.10 | 0.070 | 0.041 | --- | 0.03 |
| 236 | 19.67 | 0.10 | 0.070 | 0.041 | --- | 0.03 |
| 237 | 19.75 | 0.10 | 0.070 | 0.041 | --- | 0.03 |
| 238 | 19.83 | 0.07 | 0.046 | 0.041 | --- | 0.01 |
| 239 | 19.92 | 0.07 | 0.046 | 0.041 | --- | 0.01 |
| 240 | 20.00 | 0.07 | 0.046 | 0.040 | --- | 0.01 |
| 241 | 20.08 | 0.10 | 0.070 | 0.040 | --- | 0.03 |
| 242 | 20.17 | 0.10 | 0.070 | 0.040 | --- | 0.03 |
| 243 | 20.25 | 0.10 | 0.070 | 0.040 | --- | 0.03 |
| 244 | 20.33 | 0.10 | 0.070 | 0.040 | --- | 0.03 |
| 245 | 20.42 | 0.10 | 0.070 | 0.040 | --- | 0.03 |
| 246 | 20.50 | 0.10 | 0.070 | 0.039 | --- | 0.03 |
| 247 | 20.58 | 0.10 | 0.070 | 0.039 | --- | 0.03 |
| 248 | 20.67 | 0.10 | 0.070 | 0.039 | --- | 0.03 |
| 249 | 20.75 | 0.10 | 0.070 | 0.039 | --- | 0.03 |
| 250 | 20.83 | 0.07 | 0.046 | 0.039 | --- | 0.01 |
| 251 | 20.92 | 0.07 | 0.046 | 0.039 | --- | 0.01 |
| 252 | 21.00 | 0.07 | 0.046 | 0.038 | --- | 0.01 |
| 253 | 21.08 | 0.10 | 0.070 | 0.038 | --- | 0.03 |
| 254 | 21.17 | 0.10 | 0.070 | 0.038 | --- | 0.03 |
| 255 | 21.25 | 0.10 | 0.070 | 0.038 | --- | 0.03 |
| 256 | 21.33 | 0.07 | 0.046 | 0.038 | --- | 0.01 |
| 257 | 21.42 | 0.07 | 0.046 | 0.038 | --- | 0.01 |
| 258 | 21.50 | 0.07 | 0.046 | 0.037 | --- | 0.01 |
| 259 | 21.58 | 0.10 | 0.070 | 0.037 | --- | 0.03 |
| 260 | 21.67 | 0.10 | 0.070 | 0.037 | --- | 0.03 |
| 261 | 21.75 | 0.10 | 0.070 | 0.037 | --- | 0.03 |
| 262 | 21.83 | 0.07 | 0.046 | 0.037 | --- | 0.01 |
| 263 | 21.92 | 0.07 | 0.046 | 0.037 | --- | 0.01 |
| 264 | 22.00 | 0.07 | 0.046 | 0.037 | --- | 0.01 |
| 265 | 22.08 | 0.10 | 0.070 | 0.037 | --- | 0.03 |
| 266 | 22.17 | 0.10 | 0.070 | 0.036 | --- | 0.03 |
| 267 | 22.25 | 0.10 | 0.070 | 0.036 | --- | 0.03 |
| 268 | 22.33 | 0.07 | 0.046 | 0.036 | --- | 0.01 |
| 269 | 22.42 | 0.07 | 0.046 | 0.036 | --- | 0.01 |
| 270 | 22.50 | 0.07 | 0.046 | 0.036 | --- | 0.01 |
| 271 | 22.58 | 0.07 | 0.046 | 0.036 | --- | 0.01 |
| 272 | 22.67 | 0.07 | 0.046 | 0.036 | --- | 0.01 |
| 273 | 22.75 | 0.07 | 0.046 | 0.036 | --- | 0.01 |
| 274 | 22.83 | 0.07 | 0.046 | 0.036 | --- | 0.01 |
| 275 | 22.92 | 0.07 | 0.046 | 0.036 | --- | 0.01 |
| 276 | 23.00 | 0.07 | 0.046 | 0.035 | --- | 0.01 |
| 277 | 23.08 | 0.07 | 0.046 | 0.035 | --- | 0.01 |
| 278 | 23.17 | 0.07 | 0.046 | 0.035 | --- | 0.01 |
| 279 | 23.25 | 0.07 | 0.046 | 0.035 | --- | 0.01 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 280 | 23.33 | 0.07 | 0.046 | 0.035 | --- | 0.01 |
| 281 | 23.42 | 0.07 | 0.046 | 0.035 | --- | 0.01 |
| 282 | 23.50 | 0.07 | 0.046 | 0.035 | --- | 0.01 |
| 283 | 23.58 | 0.07 | 0.046 | 0.035 | --- | 0.01 |
| 284 | 23.67 | 0.07 | 0.046 | 0.035 | --- | 0.01 |
| 285 | 23.75 | 0.07 | 0.046 | 0.035 | --- | 0.01 |
| 286 | 23.83 | 0.07 | 0.046 | 0.035 | --- | 0.01 |
| 287 | 23.92 | 0.07 | 0.046 | 0.035 | --- | 0.01 |
| 288 | 24.00 | 0.07 | 0.046 | 0.035 | --- | 0.01 |
| | Sum = | 100.0 | | | Sum = | 51.1 |

Flood volume = Effective rainfall 4.26(In)
times area 30.9(Ac.)/[(In)/(Ft.)] = 11.0(Ac.Ft)
Total soil loss = 1.54(In)
Total soil loss = 3.974(Ac.Ft)
Total rainfall = 5.80(In)
Flood volume = 477635.8 Cubic Feet
Total soil loss = 173104.0 Cubic Feet

---

Peak flow rate of this hydrograph = 22.612(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 | 7.5 | 15.0 | 22.5 | 30.0 |
|---|---|---|---|---|---|---|---|
| 0+ 5 | 0.0003 | 0.04 | Q | \| | \| | \| | \| |
| 0+10 | 0.0012 | 0.14 | Q | \| | \| | \| | \| |
| 0+15 | 0.0024 | 0.17 | Q | \| | \| | \| | \| |
| 0+20 | 0.0038 | 0.20 | Q | \| | \| | \| | \| |
| 0+25 | 0.0056 | 0.26 | Q | \| | \| | \| | \| |
| 0+30 | 0.0076 | 0.28 | Q | \| | \| | \| | \| |
| 0+35 | 0.0096 | 0.29 | Q | \| | \| | \| | \| |
| 0+40 | 0.0116 | 0.30 | Q | \| | \| | \| | \| |
| 0+45 | 0.0137 | 0.30 | Q | \| | \| | \| | \| |
| 0+50 | 0.0159 | 0.32 | Q | \| | \| | \| | \| |
| 0+55 | 0.0185 | 0.37 | Q | \| | \| | \| | \| |
| 1+ 0 | 0.0212 | 0.39 | Q | \| | \| | \| | \| |
| 1+ 5 | 0.0237 | 0.38 | Q | \| | \| | \| | \| |
| 1+10 | 0.0260 | 0.33 | Q | \| | \| | \| | \| |
| 1+15 | 0.0282 | 0.32 | Q | \| | \| | \| | \| |
| 1+20 | 0.0304 | 0.31 | Q | \| | \| | \| | \| |
| 1+25 | 0.0325 | 0.31 | Q | \| | \| | \| | \| |
| 1+30 | 0.0346 | 0.31 | Q | \| | \| | \| | \| |
| 1+35 | 0.0367 | 0.31 | Q | \| | \| | \| | \| |
| 1+40 | 0.0388 | 0.30 | Q | \| | \| | \| | \| |
| 1+45 | 0.0409 | 0.30 | Q | \| | \| | \| | \| |
| 1+50 | 0.0431 | 0.32 | Q | \| | \| | \| | \| |
| 1+55 | 0.0457 | 0.37 | Q | \| | \| | \| | \| |
| 2+ 0 | 0.0484 | 0.39 | Q | \| | \| | \| | \| |
| 2+ 5 | 0.0511 | 0.40 | Q | \| | \| | \| | \| |
| 2+10 | 0.0538 | 0.40 | Q | \| | \| | \| | \| |
| 2+15 | 0.0566 | 0.40 | Q | \| | \| | \| | \| |
| 2+20 | 0.0594 | 0.40 | Q | \| | \| | \| | \| |
| 2+25 | 0.0622 | 0.40 | Q | \| | \| | \| | \| |
| 2+30 | 0.0650 | 0.40 | Q | \| | \| | \| | \| |
| 2+35 | 0.0675 | 0.36 | Q | \| | \| | \| | \| |
| 2+40 | 0.0693 | 0.27 | Q | \| | \| | \| | \| |
| 2+45 | 0.0711 | 0.25 | Q | \| | \| | \| | \| |
| 2+50 | 0.0728 | 0.25 | Q | \| | \| | \| | \| |

```
2+55       0.0745      0.25  Q         |         |         |         |
3+ 0       0.0763      0.26  Q         |         |         |         |
3+ 5       0.0782      0.27  Q         |         |         |         |
3+10       0.0802      0.28  Q         |         |         |         |
3+15       0.0822      0.30  Q         |         |         |         |
3+20       0.0844      0.31  Q         |         |         |         |
3+25       0.0866      0.33  Q         |         |         |         |
3+30       0.0890      0.34  Q         |         |         |         |
3+35       0.0914      0.35  Q         |         |         |         |
3+40       0.0939      0.37  Q         |         |         |         |
3+45       0.0965      0.38  Q         |         |         |         |
3+50       0.1002      0.54  Q         |         |         |         |
3+55       0.1065      0.90  VQ        |         |         |         |
4+ 0       0.1135      1.03  VQ        |         |         |         |
4+ 5       0.1211      1.09  VQ        |         |         |         |
4+10       0.1289      1.13  VQ        |         |         |         |
4+15       0.1369      1.16  VQ        |         |         |         |
4+20       0.1461      1.33  VQ        |         |         |         |
4+25       0.1578      1.71  V Q       |         |         |         |
4+30       0.1704      1.83  V Q       |         |         |         |
4+35       0.1835      1.89  V Q       |         |         |         |
4+40       0.1968      1.94  V Q       |         |         |         |
4+45       0.2104      1.97  V Q       |         |         |         |
4+50       0.2251      2.14  V Q       |         |         |         |
4+55       0.2424      2.51  V  Q      |         |         |         |
5+ 0       0.2605      2.63  V  Q      |         |         |         |
5+ 5       0.2771      2.41  |V Q      |         |         |         |
5+10       0.2891      1.74  |VQ       |         |         |         |
5+15       0.2998      1.55  |VQ       |         |         |         |
5+20       0.3110      1.62  |VQ       |         |         |         |
5+25       0.3244      1.94  |VQ       |         |         |         |
5+30       0.3384      2.03  |VQ       |         |         |         |
5+35       0.3536      2.22  |VQ       |         |         |         |
5+40       0.3715      2.59  |V Q      |         |         |         |
5+45       0.3903      2.73  |V Q      |         |         |         |
5+50       0.4096      2.80  |V Q      |         |         |         |
5+55       0.4292      2.85  |V Q      |         |         |         |
6+ 0       0.4491      2.89  |V Q      |         |         |         |
6+ 5       0.4701      3.05  |V  Q     |         |         |         |
6+10       0.4938      3.43  |V  Q     |         |         |         |
6+15       0.5182      3.55  |V  Q     |         |         |         |
6+20       0.5431      3.61  |V  Q     |         |         |         |
6+25       0.5683      3.65  | V Q     |         |         |         |
6+30       0.5936      3.68  | V Q     |         |         |         |
6+35       0.6202      3.85  | V  Q    |         |         |         |
6+40       0.6493      4.23  | V  Q    |         |         |         |
6+45       0.6792      4.35  | V  Q    |         |         |         |
6+50       0.7096      4.41  | V  Q    |         |         |         |
6+55       0.7403      4.45  | V  Q    |         |         |         |
7+ 0       0.7711      4.48  | V  Q    |         |         |         |
7+ 5       0.8022      4.51  | V   Q   |         |         |         |
7+10       0.8333      4.53  |  V  Q   |         |         |         |
7+15       0.8646      4.54  |  V  Q   |         |         |         |
7+20       0.8970      4.70  |  V  Q   |         |         |         |
7+25       0.9318      5.06  |  V  Q   |         |         |         |
7+30       0.9675      5.18  |  V  Q   |         |         |         |
7+35       1.0046      5.39  |  V   Q  |         |         |         |
7+40       1.0445      5.78  |  V   Q  |         |         |         |
7+45       1.0853      5.92  |  V   Q  |         |         |         |
7+50       1.1275      6.14  |   V   Q |         |         |         |
7+55       1.1726      6.54  |   V   Q |         |         |         |
8+ 0       1.2186      6.68  |   V   Q |         |         |         |
8+ 5       1.2671      7.05  |   V    Q|         |         |         |
```

```
 8+10       1.3208      7.80  |   V     Q         |         |         |
 8+15       1.3763      8.05  |    V    Q         |         |         |
 8+20       1.4325      8.17  |    V    Q         |         |         |
 8+25       1.4893      8.25  |    V    Q         |         |         |
 8+30       1.5464      8.29  |    V    |Q        |         |         |
 8+35       1.6048      8.47  |    V    |Q        |         |         |
 8+40       1.6658      8.86  |     V   |Q        |         |         |
 8+45       1.7276      8.98  |     V   |Q        |         |         |
 8+50       1.7909      9.18  |     V   | Q       |         |         |
 8+55       1.8568      9.58  |     V   | Q       |         |         |
 9+ 0       1.9237      9.71  |      V  | Q       |         |         |
 9+ 5       1.9931     10.08  |      V  |  Q      |         |         |
 9+10       2.0677     10.83  |      V  |   Q     |         |         |
 9+15       2.1440     11.08  |      V  |   Q     |         |         |
 9+20       2.2222     11.35  |       V |    Q    |         |         |
 9+25       2.3033     11.78  |       V |    Q    |         |         |
 9+30       2.3854     11.93  |       V |    Q    |         |         |
 9+35       2.4692     12.16  |        V|     Q   |         |         |
 9+40       2.5558     12.57  |        V|     Q   |         |         |
 9+45       2.6433     12.71  |        V|     Q   |         |         |
 9+50       2.7323     12.93  |        V|      Q  |         |         |
 9+55       2.8241     13.33  |         V      Q  |         |         |
10+ 0       2.9169     13.47  |         V      Q  |         |         |
10+ 5       3.0031     12.52  |         V     Q   |         |         |
10+10       3.0727     10.11  |         |V Q      |         |         |
10+15       3.1372      9.37  |         |VQ       |         |         |
10+20       3.1994      9.04  |         |VQ       |         |         |
10+25       3.2605      8.86  |         |Q        |         |         |
10+30       3.3207      8.75  |         |QV       |         |         |
10+35       3.3856      9.41  |         | Q       |         |         |
10+40       3.4621     11.12  |         | V Q     |         |         |
10+45       3.5425     11.67  |         | V  Q    |         |         |
10+50       3.6247     11.94  |         |  V Q    |         |         |
10+55       3.7080     12.09  |         |  V  Q   |         |         |
11+ 0       3.7919     12.19  |         |  V  Q   |         |         |
11+ 5       3.8752     12.10  |         |   V Q   |         |         |
11+10       3.9566     11.81  |         |   VQ    |         |         |
11+15       4.0373     11.71  |         |   VQ    |         |         |
11+20       4.1176     11.67  |         |    Q    |         |         |
11+25       4.1979     11.66  |         |    Q    |         |         |
11+30       4.2781     11.65  |         |    Q    |         |         |
11+35       4.3564     11.36  |         |    Q    |         |         |
11+40       4.4297     10.65  |         |   Q V   |         |         |
11+45       4.5017     10.45  |         |  Q  V   |         |         |
11+50       4.5740     10.50  |         |   Q V   |         |         |
11+55       4.6484     10.81  |         |   Q V   |         |         |
12+ 0       4.7234     10.89  |         |   Q  V  |         |         |
12+ 5       4.8057     11.95  |         |    Q V  |         |         |
12+10       4.9051     14.43  |         |      V Q|         |         |
12+15       5.0100     15.23  |         |       V Q         |         |
12+20       5.1184     15.74  |         |       V Q         |         |
12+25       5.2307     16.31  |         |        V|Q        |         |
12+30       5.3447     16.55  |         |        V| Q       |         |
12+35       5.4617     16.98  |         |        V| Q       |         |
12+40       5.5842     17.79  |         |         V  Q      |         |
12+45       5.7084     18.04  |         |         V   Q     |         |
12+50       5.8344     18.30  |         |         |V  Q     |         |
12+55       5.9634     18.73  |         |         |V  Q     |         |
13+ 0       6.0935     18.88  |         |         | V  Q    |         |
13+ 5       6.2291     19.69  |         |         | V   Q   |         |
13+10       6.3772     21.51  |         |         |  V    Q |         |
13+15       6.5293     22.08  |         |         |  V     Q|         |
13+20       6.6833     22.35  |         |         |   V    Q|         |
```

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13+25       6.8383     22.51  |         |         |   V     Q         |
13+30       6.9940     22.61  |         |         |    V    Q         |
13+35       7.1392     21.07  |         |         |     V Q |         |
13+40       7.2581     17.26  |         |         |  Q  V   |         |
13+45       7.3687     16.07  |         |         |Q    V   |         |
13+50       7.4756     15.53  |         |         Q      V  |         |
13+55       7.5805     15.23  |         |         Q      V  |         |
14+ 0       7.6841     15.04  |         |         Q       V |         |
14+ 5       7.7909     15.51  |         |         Q       V |         |
14+10       7.9068     16.82  |         |         | Q     V |         |
14+15       8.0258     17.27  |         |         |  Q     V|         |
14+20       8.1451     17.34  |         |         |  Q     V|         |
14+25       8.2629     17.10  |         |         | Q       V         |
14+30       8.3805     17.08  |         |         | Q       V         |
14+35       8.4982     17.08  |         |         | Q       |V        |
14+40       8.6159     17.10  |         |         | Q       |V        |
14+45       8.7336     17.09  |         |         | Q       |V        |
14+50       8.8503     16.94  |         |         | Q       | V       |
14+55       8.9645     16.59  |         |         | Q       | V       |
15+ 0       9.0780     16.49  |         |         |Q        |  V      |
15+ 5       9.1903     16.30  |         |         |Q        |  V      |
15+10       9.3000     15.93  |         |         |Q        |  V      |
15+15       9.4089     15.81  |         |         |Q        |   V     |
15+20       9.5164     15.61  |         |         Q         |   V     |
15+25       9.6213     15.23  |         |         Q         |    V    |
15+30       9.7254     15.11  |         |         Q         |    V    |
15+35       9.8251     14.48  |         |        Q|         |    V    |
15+40       9.9149     13.04  |         |      Q  |         |     V   |
15+45      10.0017     12.59  |         |     Q   |         |     V   |
15+50      10.0870     12.39  |         |     Q   |         |     V   |
15+55      10.1716     12.28  |         |     Q   |         |      V  |
16+ 0      10.2557     12.22  |         |     Q   |         |      V  |
16+ 5      10.3246      9.99  |         |  Q      |         |      V  |
16+10      10.3569      4.69  |     Q   |         |         |      V  |
16+15      10.3779      3.05  |   Q     |         |         |      V  |
16+20      10.3939      2.31  |  Q      |         |         |      V  |
16+25      10.4070      1.90  | Q       |         |         |      V  |
16+30      10.4183      1.64  | Q       |         |         |       V |
16+35      10.4275      1.34  |Q        |         |         |       V |
16+40      10.4334      0.86  |Q        |         |         |       V |
16+45      10.4386      0.75  |Q        |         |         |       V |
16+50      10.4435      0.71  Q         |         |         |       V |
16+55      10.4483      0.69  Q         |         |         |       V |
17+ 0      10.4530      0.68  Q         |         |         |       V |
17+ 5      10.4597      0.97  |Q        |         |         |       V |
17+10      10.4712      1.67  | Q       |         |         |       V |
17+15      10.4842      1.90  | Q       |         |         |       V |
17+20      10.4980      2.01  | Q       |         |         |       V |
17+25      10.5123      2.07  | Q       |         |         |       V |
17+30      10.5268      2.11  | Q       |         |         |       V |
17+35      10.5416      2.14  | Q       |         |         |       V |
17+40      10.5565      2.17  | Q       |         |         |       V |
17+45      10.5715      2.17  | Q       |         |         |       V |
17+50      10.5855      2.04  | Q       |         |         |       V |
17+55      10.5971      1.69  | Q       |         |         |       V |
18+ 0      10.6081      1.59  | Q       |         |         |       V |
18+ 5      10.6187      1.55  | Q       |         |         |       V |
18+10      10.6292      1.52  | Q       |         |         |       V |
18+15      10.6396      1.51  | Q       |         |         |       V |
18+20      10.6500      1.51  | Q       |         |         |       V |
18+25      10.6604      1.51  | Q       |         |         |       V |
18+30      10.6709      1.51  | Q       |         |         |       V |
18+35      10.6803      1.37  |Q        |         |         |       V |
```

```
18+40      10.6874      1.03  |Q        |         |         |        V |
18+45      10.6938      0.93  |Q        |         |         |         V|
18+50      10.6989      0.74  Q         |         |         |         V|
18+55      10.7014      0.36  Q         |         |         |         V|
19+ 0      10.7031      0.24  Q         |         |         |         V|
19+ 5      10.7054      0.33  Q         |         |         |         V|
19+10      10.7099      0.66  Q         |         |         |         V|
19+15      10.7151      0.75  |Q        |         |         |         V|
19+20      10.7216      0.94  |Q        |         |         |         V|
19+25      10.7307      1.32  |Q        |         |         |         V|
19+30      10.7407      1.45  |Q        |         |         |         V|
19+35      10.7502      1.38  |Q        |         |         |         V|
19+40      10.7575      1.07  |Q        |         |         |         V|
19+45      10.7643      0.98  |Q        |         |         |         V|
19+50      10.7698      0.80  |Q        |         |         |         V|
19+55      10.7728      0.44  Q         |         |         |         V|
20+ 0      10.7750      0.32  Q         |         |         |         V|
20+ 5      10.7778      0.41  Q         |         |         |         V|
20+10      10.7828      0.73  Q         |         |         |         V|
20+15      10.7884      0.82  |Q        |         |         |         V|
20+20      10.7944      0.87  |Q        |         |         |         V|
20+25      10.8006      0.89  |Q        |         |         |         V|
20+30      10.8069      0.92  |Q        |         |         |         V|
20+35      10.8133      0.93  |Q        |         |         |         V|
20+40      10.8198      0.95  |Q        |         |         |         V|
20+45      10.8264      0.95  |Q        |         |         |         V|
20+50      10.8319      0.81  |Q        |         |         |         V|
20+55      10.8351      0.46  Q         |         |         |         V|
21+ 0      10.8376      0.36  Q         |         |         |         V|
21+ 5      10.8408      0.46  Q         |         |         |         V|
21+10      10.8462      0.79  |Q        |         |         |         V|
21+15      10.8523      0.88  |Q        |         |         |         V|
21+20      10.8577      0.78  |Q        |         |         |         V|
21+25      10.8608      0.45  Q         |         |         |         V|
21+30      10.8633      0.37  Q         |         |         |         V|
21+35      10.8666      0.48  Q         |         |         |         V|
21+40      10.8722      0.82  |Q        |         |         |         V|
21+45      10.8785      0.91  |Q        |         |         |         V|
21+50      10.8841      0.81  |Q        |         |         |         V|
21+55      10.8874      0.48  Q         |         |         |         V|
22+ 0      10.8901      0.39  Q         |         |         |         V|
22+ 5      10.8935      0.50  Q         |         |         |         V|
22+10      10.8993      0.84  |Q        |         |         |         V|
22+15      10.9058      0.94  |Q        |         |         |         V|
22+20      10.9115      0.83  |Q        |         |         |         V|
22+25      10.9150      0.50  Q         |         |         |         V|
22+30      10.9178      0.41  Q         |         |         |         V|
22+35      10.9204      0.38  Q         |         |         |         V|
22+40      10.9229      0.36  Q         |         |         |         V|
22+45      10.9253      0.35  Q         |         |         |         V|
22+50      10.9277      0.34  Q         |         |         |         V|
22+55      10.9300      0.33  Q         |         |         |         V|
23+ 0      10.9323      0.34  Q         |         |         |         V|
23+ 5      10.9346      0.34  Q         |         |         |         V|
23+10      10.9370      0.34  Q         |         |         |         V|
23+15      10.9394      0.35  Q         |         |         |         V|
23+20      10.9418      0.35  Q         |         |         |         V|
23+25      10.9442      0.35  Q         |         |         |         V|
23+30      10.9466      0.35  Q         |         |         |         V|
23+35      10.9490      0.35  Q         |         |         |         V|
23+40      10.9515      0.36  Q         |         |         |         V|
23+45      10.9539      0.36  Q         |         |         |         V|
23+50      10.9564      0.36  Q         |         |         |         V|
```

```
   23+55      10.9589      0.36  Q         |         |         |        V|
   24+ 0      10.9614      0.36  Q         |         |         |        V|
   24+ 5      10.9634      0.29  Q         |         |         |        V|
   24+10      10.9641      0.11  Q         |         |         |        V|
   24+15      10.9645      0.06  Q         |         |         |        V|
   24+20      10.9648      0.03  Q         |         |         |        V|
   24+25      10.9649      0.02  Q         |         |         |        V|
   24+30      10.9650      0.01  Q         |         |         |        V|
   24+35      10.9650      0.00  Q         |         |         |         V
----------------------------------------------------------------------
```

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

      Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2004, Version 7.0
             Study date  02/04/22 File: 2838QUHP242.out


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


Program License Serial Number 6145
---------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format
---------------------------------------------------------------------
ORCHARD LOGISTICS CENTER
2 YR STORM EVENT - PROPOSED CONDITION
2838QUHP
SD
--------------------------------------------------------------------
Drainage Area =      30.91(Ac.)  =      0.048 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =  30.91(Ac.)  =   0.048 Sq. Mi.
Length along longest watercourse =    2297.00(Ft.)
Length along longest watercourse measured to centroid =     522.00(Ft.)
Length along longest watercourse =      0.435 Mi.
Length along longest watercourse measured to centroid =      0.099 Mi.
Difference in elevation =      20.25(Ft.)
Slope along watercourse =     46.5477 Ft./Mi.
Average Manning's 'N' = 0.013
Lag time =    0.045 Hr.
Lag time =     2.73 Min.
25% of lag time =     0.68 Min.
40% of lag time =     1.09 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]
       30.91         2.25                69.55

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       30.91         5.80               179.28

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    2.250(In)
Area Averaged 100-Year Rainfall =    5.800(In)

Point rain (area averaged) =    2.250(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    2.250(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
```

30.910 75.00 0.900

Total Area Entered = 30.91(Ac.)

| RI AMC2 | RI AMC-2 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 75.0 | 75.0 | 0.303 | 0.900 | 0.058 | 1.000 | 0.058 |
| | | | | | Sum (F) = | 0.058 |

Area averaged mean soil loss (F) (In/Hr) = 0.058

Minimum soil loss rate ((In/Hr)) = 0.029

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.100

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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 | 183.152 | 40.333 | 12.564 |
| 2 | 0.167 | 366.303 | 44.559 | 13.881 |
| 3 | 0.250 | 549.455 | 9.515 | 2.964 |
| 4 | 0.333 | 732.606 | 3.865 | 1.204 |
| 5 | 0.417 | 915.758 | 1.728 | 0.538 |
| | | | Sum = 100.000 | Sum= 31.151 |

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.018 | 0.102 | 0.002 | 0.02 |
| 2 | 0.17 | 0.07 | 0.018 | 0.102 | 0.002 | 0.02 |
| 3 | 0.25 | 0.07 | 0.018 | 0.101 | 0.002 | 0.02 |
| 4 | 0.33 | 0.10 | 0.027 | 0.101 | 0.003 | 0.02 |
| 5 | 0.42 | 0.10 | 0.027 | 0.100 | 0.003 | 0.02 |
| 6 | 0.50 | 0.10 | 0.027 | 0.100 | 0.003 | 0.02 |
| 7 | 0.58 | 0.10 | 0.027 | 0.100 | 0.003 | 0.02 |
| 8 | 0.67 | 0.10 | 0.027 | 0.099 | 0.003 | 0.02 |
| 9 | 0.75 | 0.10 | 0.027 | 0.099 | 0.003 | 0.02 |
| 10 | 0.83 | 0.13 | 0.036 | 0.099 | 0.004 | 0.03 |
| 11 | 0.92 | 0.13 | 0.036 | 0.098 | 0.004 | 0.03 |
| 12 | 1.00 | 0.13 | 0.036 | 0.098 | 0.004 | 0.03 |
| 13 | 1.08 | 0.10 | 0.027 | 0.097 | 0.003 | 0.02 |
| 14 | 1.17 | 0.10 | 0.027 | 0.097 | 0.003 | 0.02 |
| 15 | 1.25 | 0.10 | 0.027 | 0.097 | 0.003 | 0.02 |
| 16 | 1.33 | 0.10 | 0.027 | 0.096 | 0.003 | 0.02 |
| 17 | 1.42 | 0.10 | 0.027 | 0.096 | 0.003 | 0.02 |
| 18 | 1.50 | 0.10 | 0.027 | 0.095 | 0.003 | 0.02 |
| 19 | 1.58 | 0.10 | 0.027 | 0.095 | 0.003 | 0.02 |
| 20 | 1.67 | 0.10 | 0.027 | 0.095 | 0.003 | 0.02 |
| 21 | 1.75 | 0.10 | 0.027 | 0.094 | 0.003 | 0.02 |
| 22 | 1.83 | 0.13 | 0.036 | 0.094 | 0.004 | 0.03 |
| 23 | 1.92 | 0.13 | 0.036 | 0.094 | 0.004 | 0.03 |
| 24 | 2.00 | 0.13 | 0.036 | 0.093 | 0.004 | 0.03 |
| 25 | 2.08 | 0.13 | 0.036 | 0.093 | 0.004 | 0.03 |
| 26 | 2.17 | 0.13 | 0.036 | 0.092 | 0.004 | 0.03 |
| 27 | 2.25 | 0.13 | 0.036 | 0.092 | 0.004 | 0.03 |
| 28 | 2.33 | 0.13 | 0.036 | 0.092 | 0.004 | 0.03 |
| 29 | 2.42 | 0.13 | 0.036 | 0.091 | 0.004 | 0.03 |
| 30 | 2.50 | 0.13 | 0.036 | 0.091 | 0.004 | 0.03 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 31 | 2.58 | 0.17 | 0.045 | 0.091 | 0.004 | 0.04 |
| 32 | 2.67 | 0.17 | 0.045 | 0.090 | 0.004 | 0.04 |
| 33 | 2.75 | 0.17 | 0.045 | 0.090 | 0.004 | 0.04 |
| 34 | 2.83 | 0.17 | 0.045 | 0.089 | 0.004 | 0.04 |
| 35 | 2.92 | 0.17 | 0.045 | 0.089 | 0.004 | 0.04 |
| 36 | 3.00 | 0.17 | 0.045 | 0.089 | 0.004 | 0.04 |
| 37 | 3.08 | 0.17 | 0.045 | 0.088 | 0.004 | 0.04 |
| 38 | 3.17 | 0.17 | 0.045 | 0.088 | 0.004 | 0.04 |
| 39 | 3.25 | 0.17 | 0.045 | 0.088 | 0.004 | 0.04 |
| 40 | 3.33 | 0.17 | 0.045 | 0.087 | 0.004 | 0.04 |
| 41 | 3.42 | 0.17 | 0.045 | 0.087 | 0.004 | 0.04 |
| 42 | 3.50 | 0.17 | 0.045 | 0.087 | 0.004 | 0.04 |
| 43 | 3.58 | 0.17 | 0.045 | 0.086 | 0.004 | 0.04 |
| 44 | 3.67 | 0.17 | 0.045 | 0.086 | 0.004 | 0.04 |
| 45 | 3.75 | 0.17 | 0.045 | 0.085 | 0.004 | 0.04 |
| 46 | 3.83 | 0.20 | 0.054 | 0.085 | 0.005 | 0.05 |
| 47 | 3.92 | 0.20 | 0.054 | 0.085 | 0.005 | 0.05 |
| 48 | 4.00 | 0.20 | 0.054 | 0.084 | 0.005 | 0.05 |
| 49 | 4.08 | 0.20 | 0.054 | 0.084 | 0.005 | 0.05 |
| 50 | 4.17 | 0.20 | 0.054 | 0.084 | 0.005 | 0.05 |
| 51 | 4.25 | 0.20 | 0.054 | 0.083 | 0.005 | 0.05 |
| 52 | 4.33 | 0.23 | 0.063 | 0.083 | 0.006 | 0.06 |
| 53 | 4.42 | 0.23 | 0.063 | 0.083 | 0.006 | 0.06 |
| 54 | 4.50 | 0.23 | 0.063 | 0.082 | 0.006 | 0.06 |
| 55 | 4.58 | 0.23 | 0.063 | 0.082 | 0.006 | 0.06 |
| 56 | 4.67 | 0.23 | 0.063 | 0.082 | 0.006 | 0.06 |
| 57 | 4.75 | 0.23 | 0.063 | 0.081 | 0.006 | 0.06 |
| 58 | 4.83 | 0.27 | 0.072 | 0.081 | 0.007 | 0.06 |
| 59 | 4.92 | 0.27 | 0.072 | 0.080 | 0.007 | 0.06 |
| 60 | 5.00 | 0.27 | 0.072 | 0.080 | 0.007 | 0.06 |
| 61 | 5.08 | 0.20 | 0.054 | 0.080 | 0.005 | 0.05 |
| 62 | 5.17 | 0.20 | 0.054 | 0.079 | 0.005 | 0.05 |
| 63 | 5.25 | 0.20 | 0.054 | 0.079 | 0.005 | 0.05 |
| 64 | 5.33 | 0.23 | 0.063 | 0.079 | 0.006 | 0.06 |
| 65 | 5.42 | 0.23 | 0.063 | 0.078 | 0.006 | 0.06 |
| 66 | 5.50 | 0.23 | 0.063 | 0.078 | 0.006 | 0.06 |
| 67 | 5.58 | 0.27 | 0.072 | 0.078 | 0.007 | 0.06 |
| 68 | 5.67 | 0.27 | 0.072 | 0.077 | 0.007 | 0.06 |
| 69 | 5.75 | 0.27 | 0.072 | 0.077 | 0.007 | 0.06 |
| 70 | 5.83 | 0.27 | 0.072 | 0.077 | 0.007 | 0.06 |
| 71 | 5.92 | 0.27 | 0.072 | 0.076 | 0.007 | 0.06 |
| 72 | 6.00 | 0.27 | 0.072 | 0.076 | 0.007 | 0.06 |
| 73 | 6.08 | 0.30 | 0.081 | 0.076 | --- | 0.01 |
| 74 | 6.17 | 0.30 | 0.081 | 0.075 | --- | 0.01 |
| 75 | 6.25 | 0.30 | 0.081 | 0.075 | --- | 0.01 |
| 76 | 6.33 | 0.30 | 0.081 | 0.075 | --- | 0.01 |
| 77 | 6.42 | 0.30 | 0.081 | 0.074 | --- | 0.01 |
| 78 | 6.50 | 0.30 | 0.081 | 0.074 | --- | 0.01 |
| 79 | 6.58 | 0.33 | 0.090 | 0.074 | --- | 0.02 |
| 80 | 6.67 | 0.33 | 0.090 | 0.073 | --- | 0.02 |
| 81 | 6.75 | 0.33 | 0.090 | 0.073 | --- | 0.02 |
| 82 | 6.83 | 0.33 | 0.090 | 0.073 | --- | 0.02 |
| 83 | 6.92 | 0.33 | 0.090 | 0.072 | --- | 0.02 |
| 84 | 7.00 | 0.33 | 0.090 | 0.072 | --- | 0.02 |
| 85 | 7.08 | 0.33 | 0.090 | 0.072 | --- | 0.02 |
| 86 | 7.17 | 0.33 | 0.090 | 0.071 | --- | 0.02 |
| 87 | 7.25 | 0.33 | 0.090 | 0.071 | --- | 0.02 |
| 88 | 7.33 | 0.37 | 0.099 | 0.071 | --- | 0.03 |
| 89 | 7.42 | 0.37 | 0.099 | 0.070 | --- | 0.03 |
| 90 | 7.50 | 0.37 | 0.099 | 0.070 | --- | 0.03 |
| 91 | 7.58 | 0.40 | 0.108 | 0.070 | --- | 0.04 |
| 92 | 7.67 | 0.40 | 0.108 | 0.069 | --- | 0.04 |
| 93 | 7.75 | 0.40 | 0.108 | 0.069 | --- | 0.04 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 94 | 7.83 | 0.43 | 0.117 | 0.069 | --- | 0.05 |
| 95 | 7.92 | 0.43 | 0.117 | 0.068 | --- | 0.05 |
| 96 | 8.00 | 0.43 | 0.117 | 0.068 | --- | 0.05 |
| 97 | 8.08 | 0.50 | 0.135 | 0.068 | --- | 0.07 |
| 98 | 8.17 | 0.50 | 0.135 | 0.067 | --- | 0.07 |
| 99 | 8.25 | 0.50 | 0.135 | 0.067 | --- | 0.07 |
| 100 | 8.33 | 0.50 | 0.135 | 0.067 | --- | 0.07 |
| 101 | 8.42 | 0.50 | 0.135 | 0.067 | --- | 0.07 |
| 102 | 8.50 | 0.50 | 0.135 | 0.066 | --- | 0.07 |
| 103 | 8.58 | 0.53 | 0.144 | 0.066 | --- | 0.08 |
| 104 | 8.67 | 0.53 | 0.144 | 0.066 | --- | 0.08 |
| 105 | 8.75 | 0.53 | 0.144 | 0.065 | --- | 0.08 |
| 106 | 8.83 | 0.57 | 0.153 | 0.065 | --- | 0.09 |
| 107 | 8.92 | 0.57 | 0.153 | 0.065 | --- | 0.09 |
| 108 | 9.00 | 0.57 | 0.153 | 0.064 | --- | 0.09 |
| 109 | 9.08 | 0.63 | 0.171 | 0.064 | --- | 0.11 |
| 110 | 9.17 | 0.63 | 0.171 | 0.064 | --- | 0.11 |
| 111 | 9.25 | 0.63 | 0.171 | 0.063 | --- | 0.11 |
| 112 | 9.33 | 0.67 | 0.180 | 0.063 | --- | 0.12 |
| 113 | 9.42 | 0.67 | 0.180 | 0.063 | --- | 0.12 |
| 114 | 9.50 | 0.67 | 0.180 | 0.063 | --- | 0.12 |
| 115 | 9.58 | 0.70 | 0.189 | 0.062 | --- | 0.13 |
| 116 | 9.67 | 0.70 | 0.189 | 0.062 | --- | 0.13 |
| 117 | 9.75 | 0.70 | 0.189 | 0.062 | --- | 0.13 |
| 118 | 9.83 | 0.73 | 0.198 | 0.061 | --- | 0.14 |
| 119 | 9.92 | 0.73 | 0.198 | 0.061 | --- | 0.14 |
| 120 | 10.00 | 0.73 | 0.198 | 0.061 | --- | 0.14 |
| 121 | 10.08 | 0.50 | 0.135 | 0.060 | --- | 0.07 |
| 122 | 10.17 | 0.50 | 0.135 | 0.060 | --- | 0.07 |
| 123 | 10.25 | 0.50 | 0.135 | 0.060 | --- | 0.08 |
| 124 | 10.33 | 0.50 | 0.135 | 0.060 | --- | 0.08 |
| 125 | 10.42 | 0.50 | 0.135 | 0.059 | --- | 0.08 |
| 126 | 10.50 | 0.50 | 0.135 | 0.059 | --- | 0.08 |
| 127 | 10.58 | 0.67 | 0.180 | 0.059 | --- | 0.12 |
| 128 | 10.67 | 0.67 | 0.180 | 0.058 | --- | 0.12 |
| 129 | 10.75 | 0.67 | 0.180 | 0.058 | --- | 0.12 |
| 130 | 10.83 | 0.67 | 0.180 | 0.058 | --- | 0.12 |
| 131 | 10.92 | 0.67 | 0.180 | 0.058 | --- | 0.12 |
| 132 | 11.00 | 0.67 | 0.180 | 0.057 | --- | 0.12 |
| 133 | 11.08 | 0.63 | 0.171 | 0.057 | --- | 0.11 |
| 134 | 11.17 | 0.63 | 0.171 | 0.057 | --- | 0.11 |
| 135 | 11.25 | 0.63 | 0.171 | 0.056 | --- | 0.11 |
| 136 | 11.33 | 0.63 | 0.171 | 0.056 | --- | 0.11 |
| 137 | 11.42 | 0.63 | 0.171 | 0.056 | --- | 0.12 |
| 138 | 11.50 | 0.63 | 0.171 | 0.056 | --- | 0.12 |
| 139 | 11.58 | 0.57 | 0.153 | 0.055 | --- | 0.10 |
| 140 | 11.67 | 0.57 | 0.153 | 0.055 | --- | 0.10 |
| 141 | 11.75 | 0.57 | 0.153 | 0.055 | --- | 0.10 |
| 142 | 11.83 | 0.60 | 0.162 | 0.055 | --- | 0.11 |
| 143 | 11.92 | 0.60 | 0.162 | 0.054 | --- | 0.11 |
| 144 | 12.00 | 0.60 | 0.162 | 0.054 | --- | 0.11 |
| 145 | 12.08 | 0.83 | 0.225 | 0.054 | --- | 0.17 |
| 146 | 12.17 | 0.83 | 0.225 | 0.053 | --- | 0.17 |
| 147 | 12.25 | 0.83 | 0.225 | 0.053 | --- | 0.17 |
| 148 | 12.33 | 0.87 | 0.234 | 0.053 | --- | 0.18 |
| 149 | 12.42 | 0.87 | 0.234 | 0.053 | --- | 0.18 |
| 150 | 12.50 | 0.87 | 0.234 | 0.052 | --- | 0.18 |
| 151 | 12.58 | 0.93 | 0.252 | 0.052 | --- | 0.20 |
| 152 | 12.67 | 0.93 | 0.252 | 0.052 | --- | 0.20 |
| 153 | 12.75 | 0.93 | 0.252 | 0.052 | --- | 0.20 |
| 154 | 12.83 | 0.97 | 0.261 | 0.051 | --- | 0.21 |
| 155 | 12.92 | 0.97 | 0.261 | 0.051 | --- | 0.21 |
| 156 | 13.00 | 0.97 | 0.261 | 0.051 | --- | 0.21 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 157 | 13.08 | 1.13 | 0.306 | 0.051 | --- | 0.26 |
| 158 | 13.17 | 1.13 | 0.306 | 0.050 | --- | 0.26 |
| 159 | 13.25 | 1.13 | 0.306 | 0.050 | --- | 0.26 |
| 160 | 13.33 | 1.13 | 0.306 | 0.050 | --- | 0.26 |
| 161 | 13.42 | 1.13 | 0.306 | 0.050 | --- | 0.26 |
| 162 | 13.50 | 1.13 | 0.306 | 0.049 | --- | 0.26 |
| 163 | 13.58 | 0.77 | 0.207 | 0.049 | --- | 0.16 |
| 164 | 13.67 | 0.77 | 0.207 | 0.049 | --- | 0.16 |
| 165 | 13.75 | 0.77 | 0.207 | 0.049 | --- | 0.16 |
| 166 | 13.83 | 0.77 | 0.207 | 0.048 | --- | 0.16 |
| 167 | 13.92 | 0.77 | 0.207 | 0.048 | --- | 0.16 |
| 168 | 14.00 | 0.77 | 0.207 | 0.048 | --- | 0.16 |
| 169 | 14.08 | 0.90 | 0.243 | 0.048 | --- | 0.20 |
| 170 | 14.17 | 0.90 | 0.243 | 0.047 | --- | 0.20 |
| 171 | 14.25 | 0.90 | 0.243 | 0.047 | --- | 0.20 |
| 172 | 14.33 | 0.87 | 0.234 | 0.047 | --- | 0.19 |
| 173 | 14.42 | 0.87 | 0.234 | 0.047 | --- | 0.19 |
| 174 | 14.50 | 0.87 | 0.234 | 0.046 | --- | 0.19 |
| 175 | 14.58 | 0.87 | 0.234 | 0.046 | --- | 0.19 |
| 176 | 14.67 | 0.87 | 0.234 | 0.046 | --- | 0.19 |
| 177 | 14.75 | 0.87 | 0.234 | 0.046 | --- | 0.19 |
| 178 | 14.83 | 0.83 | 0.225 | 0.045 | --- | 0.18 |
| 179 | 14.92 | 0.83 | 0.225 | 0.045 | --- | 0.18 |
| 180 | 15.00 | 0.83 | 0.225 | 0.045 | --- | 0.18 |
| 181 | 15.08 | 0.80 | 0.216 | 0.045 | --- | 0.17 |
| 182 | 15.17 | 0.80 | 0.216 | 0.045 | --- | 0.17 |
| 183 | 15.25 | 0.80 | 0.216 | 0.044 | --- | 0.17 |
| 184 | 15.33 | 0.77 | 0.207 | 0.044 | --- | 0.16 |
| 185 | 15.42 | 0.77 | 0.207 | 0.044 | --- | 0.16 |
| 186 | 15.50 | 0.77 | 0.207 | 0.044 | --- | 0.16 |
| 187 | 15.58 | 0.63 | 0.171 | 0.043 | --- | 0.13 |
| 188 | 15.67 | 0.63 | 0.171 | 0.043 | --- | 0.13 |
| 189 | 15.75 | 0.63 | 0.171 | 0.043 | --- | 0.13 |
| 190 | 15.83 | 0.63 | 0.171 | 0.043 | --- | 0.13 |
| 191 | 15.92 | 0.63 | 0.171 | 0.042 | --- | 0.13 |
| 192 | 16.00 | 0.63 | 0.171 | 0.042 | --- | 0.13 |
| 193 | 16.08 | 0.13 | 0.036 | 0.042 | 0.004 | 0.03 |
| 194 | 16.17 | 0.13 | 0.036 | 0.042 | 0.004 | 0.03 |
| 195 | 16.25 | 0.13 | 0.036 | 0.042 | 0.004 | 0.03 |
| 196 | 16.33 | 0.13 | 0.036 | 0.041 | 0.004 | 0.03 |
| 197 | 16.42 | 0.13 | 0.036 | 0.041 | 0.004 | 0.03 |
| 198 | 16.50 | 0.13 | 0.036 | 0.041 | 0.004 | 0.03 |
| 199 | 16.58 | 0.10 | 0.027 | 0.041 | 0.003 | 0.02 |
| 200 | 16.67 | 0.10 | 0.027 | 0.041 | 0.003 | 0.02 |
| 201 | 16.75 | 0.10 | 0.027 | 0.040 | 0.003 | 0.02 |
| 202 | 16.83 | 0.10 | 0.027 | 0.040 | 0.003 | 0.02 |
| 203 | 16.92 | 0.10 | 0.027 | 0.040 | 0.003 | 0.02 |
| 204 | 17.00 | 0.10 | 0.027 | 0.040 | 0.003 | 0.02 |
| 205 | 17.08 | 0.17 | 0.045 | 0.040 | --- | 0.01 |
| 206 | 17.17 | 0.17 | 0.045 | 0.039 | --- | 0.01 |
| 207 | 17.25 | 0.17 | 0.045 | 0.039 | --- | 0.01 |
| 208 | 17.33 | 0.17 | 0.045 | 0.039 | --- | 0.01 |
| 209 | 17.42 | 0.17 | 0.045 | 0.039 | --- | 0.01 |
| 210 | 17.50 | 0.17 | 0.045 | 0.039 | --- | 0.01 |
| 211 | 17.58 | 0.17 | 0.045 | 0.038 | --- | 0.01 |
| 212 | 17.67 | 0.17 | 0.045 | 0.038 | --- | 0.01 |
| 213 | 17.75 | 0.17 | 0.045 | 0.038 | --- | 0.01 |
| 214 | 17.83 | 0.13 | 0.036 | 0.038 | 0.004 | 0.03 |
| 215 | 17.92 | 0.13 | 0.036 | 0.038 | 0.004 | 0.03 |
| 216 | 18.00 | 0.13 | 0.036 | 0.037 | 0.004 | 0.03 |
| 217 | 18.08 | 0.13 | 0.036 | 0.037 | 0.004 | 0.03 |
| 218 | 18.17 | 0.13 | 0.036 | 0.037 | 0.004 | 0.03 |
| 219 | 18.25 | 0.13 | 0.036 | 0.037 | 0.004 | 0.03 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 220 | 18.33 | 0.13 | 0.036 | 0.037 | 0.004 | 0.03 |
| 221 | 18.42 | 0.13 | 0.036 | 0.037 | 0.004 | 0.03 |
| 222 | 18.50 | 0.13 | 0.036 | 0.036 | 0.004 | 0.03 |
| 223 | 18.58 | 0.10 | 0.027 | 0.036 | 0.003 | 0.02 |
| 224 | 18.67 | 0.10 | 0.027 | 0.036 | 0.003 | 0.02 |
| 225 | 18.75 | 0.10 | 0.027 | 0.036 | 0.003 | 0.02 |
| 226 | 18.83 | 0.07 | 0.018 | 0.036 | 0.002 | 0.02 |
| 227 | 18.92 | 0.07 | 0.018 | 0.035 | 0.002 | 0.02 |
| 228 | 19.00 | 0.07 | 0.018 | 0.035 | 0.002 | 0.02 |
| 229 | 19.08 | 0.10 | 0.027 | 0.035 | 0.003 | 0.02 |
| 230 | 19.17 | 0.10 | 0.027 | 0.035 | 0.003 | 0.02 |
| 231 | 19.25 | 0.10 | 0.027 | 0.035 | 0.003 | 0.02 |
| 232 | 19.33 | 0.13 | 0.036 | 0.035 | --- | 0.00 |
| 233 | 19.42 | 0.13 | 0.036 | 0.035 | --- | 0.00 |
| 234 | 19.50 | 0.13 | 0.036 | 0.034 | --- | 0.00 |
| 235 | 19.58 | 0.10 | 0.027 | 0.034 | 0.003 | 0.02 |
| 236 | 19.67 | 0.10 | 0.027 | 0.034 | 0.003 | 0.02 |
| 237 | 19.75 | 0.10 | 0.027 | 0.034 | 0.003 | 0.02 |
| 238 | 19.83 | 0.07 | 0.018 | 0.034 | 0.002 | 0.02 |
| 239 | 19.92 | 0.07 | 0.018 | 0.034 | 0.002 | 0.02 |
| 240 | 20.00 | 0.07 | 0.018 | 0.033 | 0.002 | 0.02 |
| 241 | 20.08 | 0.10 | 0.027 | 0.033 | 0.003 | 0.02 |
| 242 | 20.17 | 0.10 | 0.027 | 0.033 | 0.003 | 0.02 |
| 243 | 20.25 | 0.10 | 0.027 | 0.033 | 0.003 | 0.02 |
| 244 | 20.33 | 0.10 | 0.027 | 0.033 | 0.003 | 0.02 |
| 245 | 20.42 | 0.10 | 0.027 | 0.033 | 0.003 | 0.02 |
| 246 | 20.50 | 0.10 | 0.027 | 0.033 | 0.003 | 0.02 |
| 247 | 20.58 | 0.10 | 0.027 | 0.032 | 0.003 | 0.02 |
| 248 | 20.67 | 0.10 | 0.027 | 0.032 | 0.003 | 0.02 |
| 249 | 20.75 | 0.10 | 0.027 | 0.032 | 0.003 | 0.02 |
| 250 | 20.83 | 0.07 | 0.018 | 0.032 | 0.002 | 0.02 |
| 251 | 20.92 | 0.07 | 0.018 | 0.032 | 0.002 | 0.02 |
| 252 | 21.00 | 0.07 | 0.018 | 0.032 | 0.002 | 0.02 |
| 253 | 21.08 | 0.10 | 0.027 | 0.032 | 0.003 | 0.02 |
| 254 | 21.17 | 0.10 | 0.027 | 0.032 | 0.003 | 0.02 |
| 255 | 21.25 | 0.10 | 0.027 | 0.031 | 0.003 | 0.02 |
| 256 | 21.33 | 0.07 | 0.018 | 0.031 | 0.002 | 0.02 |
| 257 | 21.42 | 0.07 | 0.018 | 0.031 | 0.002 | 0.02 |
| 258 | 21.50 | 0.07 | 0.018 | 0.031 | 0.002 | 0.02 |
| 259 | 21.58 | 0.10 | 0.027 | 0.031 | 0.003 | 0.02 |
| 260 | 21.67 | 0.10 | 0.027 | 0.031 | 0.003 | 0.02 |
| 261 | 21.75 | 0.10 | 0.027 | 0.031 | 0.003 | 0.02 |
| 262 | 21.83 | 0.07 | 0.018 | 0.031 | 0.002 | 0.02 |
| 263 | 21.92 | 0.07 | 0.018 | 0.030 | 0.002 | 0.02 |
| 264 | 22.00 | 0.07 | 0.018 | 0.030 | 0.002 | 0.02 |
| 265 | 22.08 | 0.10 | 0.027 | 0.030 | 0.003 | 0.02 |
| 266 | 22.17 | 0.10 | 0.027 | 0.030 | 0.003 | 0.02 |
| 267 | 22.25 | 0.10 | 0.027 | 0.030 | 0.003 | 0.02 |
| 268 | 22.33 | 0.07 | 0.018 | 0.030 | 0.002 | 0.02 |
| 269 | 22.42 | 0.07 | 0.018 | 0.030 | 0.002 | 0.02 |
| 270 | 22.50 | 0.07 | 0.018 | 0.030 | 0.002 | 0.02 |
| 271 | 22.58 | 0.07 | 0.018 | 0.030 | 0.002 | 0.02 |
| 272 | 22.67 | 0.07 | 0.018 | 0.030 | 0.002 | 0.02 |
| 273 | 22.75 | 0.07 | 0.018 | 0.030 | 0.002 | 0.02 |
| 274 | 22.83 | 0.07 | 0.018 | 0.029 | 0.002 | 0.02 |
| 275 | 22.92 | 0.07 | 0.018 | 0.029 | 0.002 | 0.02 |
| 276 | 23.00 | 0.07 | 0.018 | 0.029 | 0.002 | 0.02 |
| 277 | 23.08 | 0.07 | 0.018 | 0.029 | 0.002 | 0.02 |
| 278 | 23.17 | 0.07 | 0.018 | 0.029 | 0.002 | 0.02 |
| 279 | 23.25 | 0.07 | 0.018 | 0.029 | 0.002 | 0.02 |
| 280 | 23.33 | 0.07 | 0.018 | 0.029 | 0.002 | 0.02 |
| 281 | 23.42 | 0.07 | 0.018 | 0.029 | 0.002 | 0.02 |
| 282 | 23.50 | 0.07 | 0.018 | 0.029 | 0.002 | 0.02 |

```
283  23.58     0.07      0.018         0.029     0.002         0.02
284  23.67     0.07      0.018         0.029     0.002         0.02
285  23.75     0.07      0.018         0.029     0.002         0.02
286  23.83     0.07      0.018         0.029     0.002         0.02
287  23.92     0.07      0.018         0.029     0.002         0.02
288  24.00     0.07      0.018         0.029     0.002         0.02
    Sum =     100.0                                   Sum =    19.1
      Flood volume = Effective rainfall      1.59(In)
       times area      30.9(Ac.)/[(In)/(Ft.)] =       4.1(Ac.Ft)
      Total soil loss =      0.66(In)
      Total soil loss =     1.700(Ac.Ft)
      Total rainfall =      2.25(In)
      Flood volume =      178370.9 Cubic Feet
      Total soil loss =       74071.3 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      7.993(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       0.0014      0.20  Q         |         |         |         |
   0+10       0.0044      0.43  VQ        |         |         |         |
   0+15       0.0076      0.48  VQ        |         |         |         |
   0+20       0.0118      0.60  V Q       |         |         |         |
   0+25       0.0167      0.72  V Q       |         |         |         |
   0+30       0.0218      0.74  V Q       |         |         |         |
   0+35       0.0270      0.75  V  Q      |         |         |         |
   0+40       0.0322      0.76  V  Q      |         |         |         |
   0+45       0.0374      0.76  V  Q      |         |         |         |
   0+50       0.0434      0.86  V  Q      |         |         |         |
   0+55       0.0501      0.97  V  Q      |         |         |         |
   1+ 0       0.0569      1.00  V  Q      |         |         |         |
   1+ 5       0.0631      0.90  V  Q      |         |         |         |
   1+10       0.0686      0.80  V  Q      |         |         |         |
   1+15       0.0739      0.77  V  Q      |         |         |         |
   1+20       0.0792      0.76  V  Q      |         |         |         |
   1+25       0.0844      0.76  V  Q      |         |         |         |
   1+30       0.0896      0.76  V  Q      |         |         |         |
   1+35       0.0948      0.76  V  Q      |         |         |         |
   1+40       0.1000      0.76  V  Q      |         |         |         |
   1+45       0.1052      0.76  |V Q      |         |         |         |
   1+50       0.1112      0.86  |V Q      |         |         |         |
   1+55       0.1179      0.97  |V Q      |         |         |         |
   2+ 0       0.1247      1.00  |V Q      |         |         |         |
   2+ 5       0.1316      1.01  |V  Q     |         |         |         |
   2+10       0.1386      1.01  |V  Q     |         |         |         |
   2+15       0.1455      1.01  |V  Q     |         |         |         |
   2+20       0.1525      1.01  |V  Q     |         |         |         |
   2+25       0.1595      1.01  |V  Q     |         |         |         |
   2+30       0.1664      1.01  |V  Q     |         |         |         |
   2+35       0.1741      1.11  |V  Q     |         |         |         |
   2+40       0.1825      1.22  |V  Q     |         |         |         |
   2+45       0.1911      1.25  |V  Q     |         |         |         |
   2+50       0.1998      1.26  |V   Q    |         |         |         |
   2+55       0.2084      1.26  | V  Q    |         |         |         |
   3+ 0       0.2171      1.26  | V  Q    |         |         |         |
   3+ 5       0.2258      1.26  | V  Q    |         |         |         |
```

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3+10       0.2345      1.26  | V  Q    |          |          |          |
3+15       0.2432      1.26  | V  Q    |          |          |          |
3+20       0.2519      1.26  | V  Q    |          |          |          |
3+25       0.2606      1.26  | V  Q    |          |          |          |
3+30       0.2693      1.26  | V  Q    |          |          |          |
3+35       0.2780      1.26  | V  Q    |          |          |          |
3+40       0.2867      1.26  | V  Q    |          |          |          |
3+45       0.2954      1.26  | V  Q    |          |          |          |
3+50       0.3048      1.36  | V  Q    |          |          |          |
3+55       0.3149      1.48  |  V Q    |          |          |          |
4+ 0       0.3253      1.50  |  V  Q   |          |          |          |
4+ 5       0.3357      1.51  |  V  Q   |          |          |          |
4+10       0.3461      1.51  |  V  Q   |          |          |          |
4+15       0.3565      1.51  |  V  Q   |          |          |          |
4+20       0.3677      1.62  |  V  Q   |          |          |          |
4+25       0.3796      1.73  |  V  Q   |          |          |          |
4+30       0.3917      1.75  |  V   Q  |          |          |          |
4+35       0.4038      1.76  |  V   Q  |          |          |          |
4+40       0.4160      1.77  |   V  Q  |          |          |          |
4+45       0.4281      1.77  |   V  Q  |          |          |          |
4+50       0.4410      1.87  |   V  Q  |          |          |          |
4+55       0.4546      1.98  |   V  Q  |          |          |          |
5+ 0       0.4685      2.01  |   V   Q |          |          |          |
5+ 5       0.4809      1.81  |   V  Q  |          |          |          |
5+10       0.4919      1.59  |   V Q   |          |          |          |
5+15       0.5025      1.54  |   V Q   |          |          |          |
5+20       0.5137      1.63  |    VQ   |          |          |          |
5+25       0.5256      1.73  |    VQ   |          |          |          |
5+30       0.5377      1.75  |    V Q  |          |          |          |
5+35       0.5505      1.86  |    V Q  |          |          |          |
5+40       0.5642      1.98  |    V Q  |          |          |          |
5+45       0.5780      2.01  |    V  Q |          |          |          |
5+50       0.5919      2.02  |    V  Q |          |          |          |
5+55       0.6058      2.02  |    V  Q |          |          |          |
6+ 0       0.6197      2.02  |     V Q |          |          |          |
6+ 5       0.6284      1.27  |    QV   |          |          |          |
6+10       0.6316      0.45  |Q    V   |          |          |          |
6+15       0.6335      0.28  |Q    V   |          |          |          |
6+20       0.6350      0.22  Q     V   |          |          |          |
6+25       0.6364      0.20  Q     V   |          |          |          |
6+30       0.6379      0.21  Q     V   |          |          |          |
6+35       0.6401      0.33  |Q    V   |          |          |          |
6+40       0.6434      0.47  |Q    V   |          |          |          |
6+45       0.6469      0.51  | Q   V   |          |          |          |
6+50       0.6505      0.53  | Q   V   |          |          |          |
6+55       0.6542      0.54  | Q   V   |          |          |          |
7+ 0       0.6580      0.55  | Q   V   |          |          |          |
7+ 5       0.6619      0.56  | Q   V   |          |          |          |
7+10       0.6659      0.57  | Q   V   |          |          |          |
7+15       0.6699      0.58  | Q   V   |          |          |          |
7+20       0.6747      0.71  | Q   V   |          |          |          |
7+25       0.6805      0.84  |  Q  V   |          |          |          |
7+30       0.6866      0.88  |  Q  V   |          |          |          |
7+35       0.6935      1.01  |   Q V   |          |          |          |
7+40       0.7015      1.15  |   Q V   |          |          |          |
7+45       0.7097      1.19  |   Q V   |          |          |          |
7+50       0.7188      1.32  |    Q V  |          |          |          |
7+55       0.7289      1.46  |    Q V  |          |          |          |
8+ 0       0.7392      1.50  |    Q V  |          |          |          |
8+ 5       0.7512      1.75  |     QV  |          |          |          |
8+10       0.7650      2.01  |      VQ |          |          |          |
8+15       0.7793      2.07  |      VQ |          |          |          |
8+20       0.7938      2.11  |      VQ |          |          |          |
```

```
 8+25       0.8085      2.12  |      VQ |         |         |         |
 8+30       0.8232      2.13  |       Q |         |         |         |
 8+35       0.8387      2.26  |       VQ|         |         |         |
 8+40       0.8552      2.39  |       VQ|         |         |         |
 8+45       0.8719      2.43  |       VQ|         |         |         |
 8+50       0.8896      2.56  |       V Q         |         |         |
 8+55       0.9082      2.70  |       V Q         |         |         |
 9+ 0       0.9270      2.74  |        VQ         |         |         |
 9+ 5       0.9476      2.98  |        V|Q        |         |         |
 9+10       0.9699      3.25  |        V| Q       |         |         |
 9+15       0.9928      3.31  |        V|  Q      |         |         |
 9+20       1.0166      3.46  |        V|  Q      |         |         |
 9+25       1.0414      3.60  |         V   Q     |         |         |
 9+30       1.0664      3.64  |         V   Q     |         |         |
 9+35       1.0924      3.77  |         V    Q    |         |         |
 9+40       1.1193      3.91  |         V    Q    |         |         |
 9+45       1.1464      3.94  |         |V   Q    |         |         |
 9+50       1.1745      4.08  |         |V    Q   |         |         |
 9+55       1.2036      4.22  |         |V    Q   |         |         |
10+ 0       1.2329      4.25  |         | V    Q  |         |         |
10+ 5       1.2568      3.48  |         | VQ      |         |         |
10+10       1.2749      2.62  |         Q V       |         |         |
10+15       1.2917      2.44  |        Q| V       |         |         |
10+20       1.3080      2.38  |        Q| V       |         |         |
10+25       1.3242      2.35  |        Q| V       |         |         |
10+30       1.3405      2.36  |        Q|  V      |         |         |
10+35       1.3607      2.93  |         |Q V      |         |         |
10+40       1.3853      3.57  |         |  VQ     |         |         |
10+45       1.4108      3.71  |         |  VQ     |         |         |
10+50       1.4368      3.77  |         |   VQ    |         |         |
10+55       1.4630      3.81  |         |   VQ    |         |         |
11+ 0       1.4893      3.82  |         |   VQ    |         |         |
11+ 5       1.5149      3.71  |         |   Q     |         |         |
11+10       1.5396      3.60  |         |   QV    |         |         |
11+15       1.5643      3.58  |         |   QV    |         |         |
11+20       1.5889      3.58  |         |   QV    |         |         |
11+25       1.6135      3.58  |         |   QV    |         |         |
11+30       1.6383      3.59  |         |   Q V   |         |         |
11+35       1.6615      3.37  |         |  Q  V   |         |         |
11+40       1.6830      3.13  |         | Q   V   |         |         |
11+45       1.7042      3.08  |         | Q   V   |         |         |
11+50       1.7262      3.18  |         | Q   V   |         |         |
11+55       1.7490      3.31  |         |  Q   V  |         |         |
12+ 0       1.7720      3.34  |         |  Q   V  |         |         |
12+ 5       1.8006      4.15  |         |     QV  |         |         |
12+10       1.8353      5.04  |         |      V  Q         |         |
12+15       1.8714      5.24  |         |       V Q         |         |
12+20       1.9088      5.43  |         |       V |Q        |         |
12+25       1.9474      5.60  |         |        V| Q       |         |
12+30       1.9862      5.64  |         |        V| Q       |         |
12+35       2.0267      5.88  |         |        V|  Q      |         |
12+40       2.0691      6.15  |         |         V   Q     |         |
12+45       2.1118      6.21  |         |         V   Q     |         |
12+50       2.1555      6.35  |         |         |V   Q    |         |
12+55       2.2002      6.49  |         |         |V   Q    |         |
13+ 0       2.2452      6.53  |         |         |V    Q   |         |
13+ 5       2.2942      7.11  |         |         | V     Q |         |
13+10       2.3476      7.75  |         |         | V       Q         |
13+15       2.4019      7.89  |         |         |  V      |Q        |
13+20       2.4567      7.95  |         |         |  V      |Q        |
13+25       2.5117      7.99  |         |         |   V     |Q        |
13+30       2.5667      7.99  |         |         |    V    |Q        |
13+35       2.6133      6.76  |         |         |    V Q  |         |
```

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13+40       2.6504      5.39  |         |         |Q   V    |         |
13+45       2.6855      5.10  |         |         Q     V   |         |
13+50       2.7199      4.99  |         |        Q|     V   |         |
13+55       2.7540      4.95  |         |        Q|     V   |         |
14+ 0       2.7881      4.95  |         |        Q|      V  |         |
14+ 5       2.8254      5.41  |         |         |Q     V  |         |
14+10       2.8662      5.92  |         |         |  Q   V  |         |
14+15       2.9078      6.04  |         |         |   Q   V |         |
14+20       2.9489      5.97  |         |         |  Q    V |         |
14+25       2.9894      5.88  |         |         |  Q     V|         |
14+30       3.0297      5.86  |         |         |  Q     V|         |
14+35       3.0700      5.85  |         |         |  Q     V|         |
14+40       3.1104      5.86  |         |         |  Q      V         |
14+45       3.1507      5.86  |         |         |  Q      V         |
14+50       3.1904      5.76  |         |         |  Q      |V        |
14+55       3.2292      5.64  |         |         | Q       |V        |
15+ 0       3.2679      5.62  |         |         | Q       |V        |
15+ 5       3.3058      5.50  |         |         | Q       | V       |
15+10       3.3429      5.38  |         |         |Q        | V       |
15+15       3.3798      5.36  |         |         |Q        |  V      |
15+20       3.4160      5.24  |         |         Q         |  V      |
15+25       3.4512      5.12  |         |         Q         |  V      |
15+30       3.4864      5.10  |         |         Q         |   V     |
15+35       3.5184      4.65  |         |       Q |         |   V     |
15+40       3.5469      4.15  |         |     Q   |         |   V     |
15+45       3.5748      4.05  |         |     Q   |         |   V     |
15+50       3.6024      4.01  |         |     Q   |         |    V    |
15+55       3.6300      4.00  |         |    Q    |         |    V    |
16+ 0       3.6576      4.01  |         |     Q   |         |    V    |
16+ 5       3.6769      2.80  |         |Q        |         |    V    |
16+10       3.6869      1.46  |    Q    |         |         |     V   |
16+15       3.6950      1.18  |   Q     |         |         |     V   |
16+20       3.7024      1.06  |   Q     |         |         |     V   |
16+25       3.7093      1.01  |   Q     |         |         |     V   |
16+30       3.7163      1.01  |   Q     |         |         |     V   |
16+35       3.7225      0.91  |  Q      |         |         |     V   |
16+40       3.7280      0.80  |  Q      |         |         |     V   |
16+45       3.7333      0.77  |  Q      |         |         |     V   |
16+50       3.7386      0.76  |  Q      |         |         |     V   |
16+55       3.7438      0.76  |  Q      |         |         |     V   |
17+ 0       3.7490      0.76  |  Q      |         |         |     V   |
17+ 5       3.7526      0.52  | Q       |         |         |     V   |
17+10       3.7544      0.26  |Q        |         |         |     V   |
17+15       3.7558      0.21  Q         |         |         |     V   |
17+20       3.7571      0.19  Q         |         |         |     V   |
17+25       3.7584      0.19  Q         |         |         |     V   |
17+30       3.7598      0.19  Q         |         |         |     V   |
17+35       3.7612      0.20  Q         |         |         |     V   |
17+40       3.7626      0.21  Q         |         |         |     V   |
17+45       3.7641      0.21  Q         |         |         |     V   |
17+50       3.7678      0.54  | Q       |         |         |     V   |
17+55       3.7739      0.89  |  Q      |         |         |     V   |
18+ 0       3.7805      0.97  |  Q      |         |         |     V   |
18+ 5       3.7874      1.00  |  Q      |         |         |     V   |
18+10       3.7943      1.01  |   Q     |         |         |      V  |
18+15       3.8013      1.01  |   Q     |         |         |      V  |
18+20       3.8083      1.01  |   Q     |         |         |      V  |
18+25       3.8152      1.01  |   Q     |         |         |      V  |
18+30       3.8222      1.01  |   Q     |         |         |      V  |
18+35       3.8284      0.91  |  Q      |         |         |      V  |
18+40       3.8339      0.80  |  Q      |         |         |      V  |
18+45       3.8392      0.77  |  Q      |         |         |      V  |
18+50       3.8437      0.66  | Q       |         |         |      V  |
```

```
18+55       3.8475      0.54  | Q       |         |         |      V  |
19+ 0       3.8511      0.52  | Q       |         |         |      V  |
19+ 5       3.8553      0.61  | Q       |         |         |      V  |
19+10       3.8602      0.72  | Q       |         |         |      V  |
19+15       3.8653      0.74  | Q       |         |         |      V  |
19+20       3.8685      0.46  |Q        |         |         |      V  |
19+25       3.8696      0.15  Q         |         |         |      V  |
19+30       3.8702      0.09  Q         |         |         |      V  |
19+35       3.8726      0.35  |Q        |         |         |      V  |
19+40       3.8771      0.65  | Q       |         |         |      V  |
19+45       3.8820      0.72  | Q       |         |         |      V  |
19+50       3.8864      0.64  | Q       |         |         |      V  |
19+55       3.8902      0.54  | Q       |         |         |       V |
20+ 0       3.8937      0.52  | Q       |         |         |       V |
20+ 5       3.8980      0.61  | Q       |         |         |       V |
20+10       3.9029      0.72  | Q       |         |         |       V |
20+15       3.9080      0.74  | Q       |         |         |       V |
20+20       3.9132      0.75  |  Q      |         |         |       V |
20+25       3.9184      0.76  |  Q      |         |         |       V |
20+30       3.9236      0.76  |  Q      |         |         |       V |
20+35       3.9289      0.76  |  Q      |         |         |       V |
20+40       3.9341      0.76  |  Q      |         |         |       V |
20+45       3.9393      0.76  |  Q      |         |         |       V |
20+50       3.9438      0.66  | Q       |         |         |       V |
20+55       3.9475      0.54  | Q       |         |         |       V |
21+ 0       3.9511      0.52  | Q       |         |         |       V |
21+ 5       3.9553      0.61  | Q       |         |         |       V |
21+10       3.9603      0.72  | Q       |         |         |       V |
21+15       3.9654      0.74  | Q       |         |         |       V |
21+20       3.9699      0.65  | Q       |         |         |       V |
21+25       3.9736      0.54  | Q       |         |         |       V |
21+30       3.9772      0.52  | Q       |         |         |       V |
21+35       3.9814      0.61  | Q       |         |         |       V |
21+40       3.9864      0.72  | Q       |         |         |       V |
21+45       3.9915      0.74  | Q       |         |         |       V |
21+50       3.9960      0.65  | Q       |         |         |        V|
21+55       3.9997      0.54  | Q       |         |         |        V|
22+ 0       4.0033      0.52  | Q       |         |         |        V|
22+ 5       4.0075      0.61  | Q       |         |         |        V|
22+10       4.0124      0.72  | Q       |         |         |        V|
22+15       4.0176      0.74  | Q       |         |         |        V|
22+20       4.0220      0.65  | Q       |         |         |        V|
22+25       4.0258      0.54  | Q       |         |         |        V|
22+30       4.0294      0.52  | Q       |         |         |        V|
22+35       4.0329      0.51  | Q       |         |         |        V|
22+40       4.0363      0.50  | Q       |         |         |        V|
22+45       4.0398      0.50  | Q       |         |         |        V|
22+50       4.0433      0.50  | Q       |         |         |        V|
22+55       4.0468      0.50  | Q       |         |         |        V|
23+ 0       4.0503      0.50  | Q       |         |         |        V|
23+ 5       4.0537      0.50  | Q       |         |         |        V|
23+10       4.0572      0.50  | Q       |         |         |        V|
23+15       4.0607      0.50  | Q       |         |         |        V|
23+20       4.0642      0.50  | Q       |         |         |        V|
23+25       4.0676      0.50  | Q       |         |         |        V|
23+30       4.0711      0.50  | Q       |         |         |        V|
23+35       4.0746      0.50  | Q       |         |         |        V|
23+40       4.0781      0.50  | Q       |         |         |        V|
23+45       4.0815      0.50  | Q       |         |         |        V|
23+50       4.0850      0.50  | Q       |         |         |        V|
23+55       4.0885      0.50  | Q       |         |         |        V|
24+ 0       4.0920      0.50  | Q       |         |         |        V|
24+ 5       4.0941      0.30  |Q        |         |         |        V|
```

```
   24+10       4.0946      0.08  Q         |         |         |        V|
   24+15       4.0948      0.03  Q         |         |         |        V|
   24+20       4.0948      0.01  Q         |         |         |         V
----------------------------------------------------------------------
```

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

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             Study date  02/04/22 File: 2838QUHP1100.out


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


Program License Serial Number 6145
---------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format
---------------------------------------------------------------------
ORCHARD LOGISTICS CENTER
100 YR STORM EVENT - PROPOSED CONDITION
2838QUHP
SD
--------------------------------------------------------------------
Drainage Area =      30.91(Ac.)  =      0.048 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =  30.91(Ac.)  =  0.048 Sq. Mi.
Length along longest watercourse =    2297.00(Ft.)
Length along longest watercourse measured to centroid =     522.00(Ft.)
Length along longest watercourse =      0.435 Mi.
Length along longest watercourse measured to centroid =      0.099 Mi.
Difference in elevation =      20.25(Ft.)
Slope along watercourse =     46.5477 Ft./Mi.
Average Manning's 'N' = 0.013
Lag time =    0.045 Hr.
Lag time =     2.73 Min.
25% of lag time =     0.68 Min.
40% of lag time =     1.09 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       30.91         0.53               16.38

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       30.91         1.20               37.09

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.530(In)
Area Averaged 100-Year Rainfall =    1.200(In)

Point rain (area averaged) =    1.200(In)
Areal adjustment factor =   99.97 %
Adjusted average point rain =    1.200(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
```

```
    30.910          75.00         0.900
 Total Area Entered =     30.91(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
75.0  88.0      0.153     0.900        0.029       1.000      0.029
                                                   Sum (F) =   0.029
Area averaged mean soil loss (F) (In/Hr) =  0.029
Minimum soil loss rate ((In/Hr)) =  0.015
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.100
---------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5300
---------------------------------------------------------------------

             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        183.152         40.333             12.564
    2   0.167        366.303         44.559             13.881
    3   0.250        549.455          9.515              2.964
    4   0.333        732.606          3.865              1.204
    5   0.417        915.758          1.728              0.538
                                Sum = 100.000   Sum=      31.151
---------------------------------------------------------------------


 Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
      (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
  1   0.08     3.40      0.489         0.029      ---          0.46
  2   0.17     4.70      0.677         0.029      ---          0.65
  3   0.25     4.70      0.677         0.029      ---          0.65
  4   0.33     5.10      0.734         0.029      ---          0.71
  5   0.42     5.80      0.835         0.029      ---          0.81
  6   0.50     5.90      0.849         0.029      ---          0.82
  7   0.58     7.10      1.022         0.029      ---          0.99
  8   0.67     8.70      1.252         0.029      ---          1.22
  9   0.75    13.20      1.900         0.029      ---          1.87
 10   0.83    29.70      4.276         0.029      ---          4.25
 11   0.92     7.70      1.108         0.029      ---          1.08
 12   1.00     4.00      0.576         0.029      ---          0.55
    Sum =     100.0                                   Sum =    14.0
      Flood volume = Effective rainfall      1.17(In)
       times area      30.9(Ac.)/[(In)/(Ft.)] =       3.0(Ac.Ft)
      Total soil loss =      0.03(In)
      Total soil loss =     0.075(Ac.Ft)
      Total rainfall =      1.20(In)
      Flood volume =      131348.8 Cubic Feet
      Total soil loss =        3257.5 Cubic Feet
---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     84.637(CFS)
---------------------------------------------------------------------
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                     1 - H O U R    S T O R M
                R u n o f f      H y d r o g r a p h
---------------------------------------------------------------------
             Hydrograph in   5   Minute intervals ((CFS))
```

```
     ----------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0       22.5      45.0      67.5      90.0
  ----------------------------------------------------------------------
    0+ 5       0.0399      5.79  V Q       |         |         |         |
    0+10       0.1400     14.54  |V    Q   |         |         |         |
    0+15       0.2674     18.50  |  V    Q |         |         |         |
    0+20       0.4074     20.33  |    V   Q|         |         |         |
    0+25       0.5649     22.87  |      V  Q         |         |         |
    0+30       0.7352     24.73  |        VQ         |         |         |
    0+35       0.9244     27.46  |         | Q       |         |         |
    0+40       1.1513     32.95  |         |   QV    |         |         |
    0+45       1.4604     44.88  |         |        Q|         |         |
    0+50       2.0433     84.64  |         |         |      V  |      Q  |
    0+55       2.5950     80.10  |         |         |         |   VQ    |
    1+ 0       2.8524     37.37  |         |     Q   |         |      V  |
    1+ 5       2.9689     16.92  |      Q  |         |         |        V|
    1+10       3.0048      5.21  | Q       |         |         |        V|
    1+15       3.0133      1.24  Q         |         |         |        V|
    1+20       3.0154      0.29  Q         |         |         |        V|
----------------------------------------------------------------------
```

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

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             Study date  02/04/22 File: 2838QUHP24100.out


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


Program License Serial Number 6145
---------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format
---------------------------------------------------------------------
ORCHARD LOGISTICS CENTER
100 YR STORM EVENT - PROPOSED CONDITION
2838QUHP
SD
--------------------------------------------------------------------
Drainage Area =      30.91(Ac.)  =      0.048 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 30.91(Ac.)  = 0.048 Sq. Mi.
Length along longest watercourse =    2297.00(Ft.)
Length along longest watercourse measured to centroid =     522.00(Ft.)
Length along longest watercourse =      0.435 Mi.
Length along longest watercourse measured to centroid =      0.099 Mi.
Difference in elevation =      20.25(Ft.)
Slope along watercourse =     46.5477 Ft./Mi.
Average Manning's 'N' = 0.013
Lag time =    0.045 Hr.
Lag time =     2.73 Min.
25% of lag time =     0.68 Min.
40% of lag time =     1.09 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]
       30.91         2.25                69.55

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       30.91         5.80               179.28

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    2.250(In)
Area Averaged 100-Year Rainfall =    5.800(In)

Point rain (area averaged) =    5.800(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    5.800(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
```

30.910 75.00 0.900

Total Area Entered = 30.91(Ac.)

| RI AMC2 | RI AMC-3 | Infil. Rate (In/Hr) | Impervious (Dec.%) | Adj. Infil. Rate (In/Hr) | Area% (Dec.) | F (In/Hr) |
|---|---|---|---|---|---|---|
| 75.0 | 88.0 | 0.153 | 0.900 | 0.029 | 1.000 | 0.029 |
| | | | | | Sum (F) = | 0.029 |

Area averaged mean soil loss (F) (In/Hr) = 0.029

Minimum soil loss rate ((In/Hr)) = 0.015

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.100

---

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 | 183.152 | 40.333 | 12.564 |
| 2 | 0.167 | 366.303 | 44.559 | 13.881 |
| 3 | 0.250 | 549.455 | 9.515 | 2.964 |
| 4 | 0.333 | 732.606 | 3.865 | 1.204 |
| 5 | 0.417 | 915.758 | 1.728 | 0.538 |
| | | | Sum = 100.000 | Sum= 31.151 |

---

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.046 | 0.051 | 0.005 | 0.04 |
| 2 | 0.17 | 0.07 | 0.046 | 0.051 | 0.005 | 0.04 |
| 3 | 0.25 | 0.07 | 0.046 | 0.051 | 0.005 | 0.04 |
| 4 | 0.33 | 0.10 | 0.070 | 0.051 | --- | 0.02 |
| 5 | 0.42 | 0.10 | 0.070 | 0.051 | --- | 0.02 |
| 6 | 0.50 | 0.10 | 0.070 | 0.050 | --- | 0.02 |
| 7 | 0.58 | 0.10 | 0.070 | 0.050 | --- | 0.02 |
| 8 | 0.67 | 0.10 | 0.070 | 0.050 | --- | 0.02 |
| 9 | 0.75 | 0.10 | 0.070 | 0.050 | --- | 0.02 |
| 10 | 0.83 | 0.13 | 0.093 | 0.050 | --- | 0.04 |
| 11 | 0.92 | 0.13 | 0.093 | 0.049 | --- | 0.04 |
| 12 | 1.00 | 0.13 | 0.093 | 0.049 | --- | 0.04 |
| 13 | 1.08 | 0.10 | 0.070 | 0.049 | --- | 0.02 |
| 14 | 1.17 | 0.10 | 0.070 | 0.049 | --- | 0.02 |
| 15 | 1.25 | 0.10 | 0.070 | 0.049 | --- | 0.02 |
| 16 | 1.33 | 0.10 | 0.070 | 0.049 | --- | 0.02 |
| 17 | 1.42 | 0.10 | 0.070 | 0.048 | --- | 0.02 |
| 18 | 1.50 | 0.10 | 0.070 | 0.048 | --- | 0.02 |
| 19 | 1.58 | 0.10 | 0.070 | 0.048 | --- | 0.02 |
| 20 | 1.67 | 0.10 | 0.070 | 0.048 | --- | 0.02 |
| 21 | 1.75 | 0.10 | 0.070 | 0.048 | --- | 0.02 |
| 22 | 1.83 | 0.13 | 0.093 | 0.047 | --- | 0.05 |
| 23 | 1.92 | 0.13 | 0.093 | 0.047 | --- | 0.05 |
| 24 | 2.00 | 0.13 | 0.093 | 0.047 | --- | 0.05 |
| 25 | 2.08 | 0.13 | 0.093 | 0.047 | --- | 0.05 |
| 26 | 2.17 | 0.13 | 0.093 | 0.047 | --- | 0.05 |
| 27 | 2.25 | 0.13 | 0.093 | 0.046 | --- | 0.05 |
| 28 | 2.33 | 0.13 | 0.093 | 0.046 | --- | 0.05 |
| 29 | 2.42 | 0.13 | 0.093 | 0.046 | --- | 0.05 |
| 30 | 2.50 | 0.13 | 0.093 | 0.046 | --- | 0.05 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 31 | 2.58 | 0.17 | 0.116 | 0.046 | --- | 0.07 |
| 32 | 2.67 | 0.17 | 0.116 | 0.045 | --- | 0.07 |
| 33 | 2.75 | 0.17 | 0.116 | 0.045 | --- | 0.07 |
| 34 | 2.83 | 0.17 | 0.116 | 0.045 | --- | 0.07 |
| 35 | 2.92 | 0.17 | 0.116 | 0.045 | --- | 0.07 |
| 36 | 3.00 | 0.17 | 0.116 | 0.045 | --- | 0.07 |
| 37 | 3.08 | 0.17 | 0.116 | 0.045 | --- | 0.07 |
| 38 | 3.17 | 0.17 | 0.116 | 0.044 | --- | 0.07 |
| 39 | 3.25 | 0.17 | 0.116 | 0.044 | --- | 0.07 |
| 40 | 3.33 | 0.17 | 0.116 | 0.044 | --- | 0.07 |
| 41 | 3.42 | 0.17 | 0.116 | 0.044 | --- | 0.07 |
| 42 | 3.50 | 0.17 | 0.116 | 0.044 | --- | 0.07 |
| 43 | 3.58 | 0.17 | 0.116 | 0.043 | --- | 0.07 |
| 44 | 3.67 | 0.17 | 0.116 | 0.043 | --- | 0.07 |
| 45 | 3.75 | 0.17 | 0.116 | 0.043 | --- | 0.07 |
| 46 | 3.83 | 0.20 | 0.139 | 0.043 | --- | 0.10 |
| 47 | 3.92 | 0.20 | 0.139 | 0.043 | --- | 0.10 |
| 48 | 4.00 | 0.20 | 0.139 | 0.043 | --- | 0.10 |
| 49 | 4.08 | 0.20 | 0.139 | 0.042 | --- | 0.10 |
| 50 | 4.17 | 0.20 | 0.139 | 0.042 | --- | 0.10 |
| 51 | 4.25 | 0.20 | 0.139 | 0.042 | --- | 0.10 |
| 52 | 4.33 | 0.23 | 0.162 | 0.042 | --- | 0.12 |
| 53 | 4.42 | 0.23 | 0.162 | 0.042 | --- | 0.12 |
| 54 | 4.50 | 0.23 | 0.162 | 0.041 | --- | 0.12 |
| 55 | 4.58 | 0.23 | 0.162 | 0.041 | --- | 0.12 |
| 56 | 4.67 | 0.23 | 0.162 | 0.041 | --- | 0.12 |
| 57 | 4.75 | 0.23 | 0.162 | 0.041 | --- | 0.12 |
| 58 | 4.83 | 0.27 | 0.186 | 0.041 | --- | 0.14 |
| 59 | 4.92 | 0.27 | 0.186 | 0.041 | --- | 0.15 |
| 60 | 5.00 | 0.27 | 0.186 | 0.040 | --- | 0.15 |
| 61 | 5.08 | 0.20 | 0.139 | 0.040 | --- | 0.10 |
| 62 | 5.17 | 0.20 | 0.139 | 0.040 | --- | 0.10 |
| 63 | 5.25 | 0.20 | 0.139 | 0.040 | --- | 0.10 |
| 64 | 5.33 | 0.23 | 0.162 | 0.040 | --- | 0.12 |
| 65 | 5.42 | 0.23 | 0.162 | 0.040 | --- | 0.12 |
| 66 | 5.50 | 0.23 | 0.162 | 0.039 | --- | 0.12 |
| 67 | 5.58 | 0.27 | 0.186 | 0.039 | --- | 0.15 |
| 68 | 5.67 | 0.27 | 0.186 | 0.039 | --- | 0.15 |
| 69 | 5.75 | 0.27 | 0.186 | 0.039 | --- | 0.15 |
| 70 | 5.83 | 0.27 | 0.186 | 0.039 | --- | 0.15 |
| 71 | 5.92 | 0.27 | 0.186 | 0.038 | --- | 0.15 |
| 72 | 6.00 | 0.27 | 0.186 | 0.038 | --- | 0.15 |
| 73 | 6.08 | 0.30 | 0.209 | 0.038 | --- | 0.17 |
| 74 | 6.17 | 0.30 | 0.209 | 0.038 | --- | 0.17 |
| 75 | 6.25 | 0.30 | 0.209 | 0.038 | --- | 0.17 |
| 76 | 6.33 | 0.30 | 0.209 | 0.038 | --- | 0.17 |
| 77 | 6.42 | 0.30 | 0.209 | 0.037 | --- | 0.17 |
| 78 | 6.50 | 0.30 | 0.209 | 0.037 | --- | 0.17 |
| 79 | 6.58 | 0.33 | 0.232 | 0.037 | --- | 0.19 |
| 80 | 6.67 | 0.33 | 0.232 | 0.037 | --- | 0.20 |
| 81 | 6.75 | 0.33 | 0.232 | 0.037 | --- | 0.20 |
| 82 | 6.83 | 0.33 | 0.232 | 0.037 | --- | 0.20 |
| 83 | 6.92 | 0.33 | 0.232 | 0.036 | --- | 0.20 |
| 84 | 7.00 | 0.33 | 0.232 | 0.036 | --- | 0.20 |
| 85 | 7.08 | 0.33 | 0.232 | 0.036 | --- | 0.20 |
| 86 | 7.17 | 0.33 | 0.232 | 0.036 | --- | 0.20 |
| 87 | 7.25 | 0.33 | 0.232 | 0.036 | --- | 0.20 |
| 88 | 7.33 | 0.37 | 0.255 | 0.036 | --- | 0.22 |
| 89 | 7.42 | 0.37 | 0.255 | 0.035 | --- | 0.22 |
| 90 | 7.50 | 0.37 | 0.255 | 0.035 | --- | 0.22 |
| 91 | 7.58 | 0.40 | 0.278 | 0.035 | --- | 0.24 |
| 92 | 7.67 | 0.40 | 0.278 | 0.035 | --- | 0.24 |
| 93 | 7.75 | 0.40 | 0.278 | 0.035 | --- | 0.24 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 94 | 7.83 | 0.43 | 0.302 | 0.035 | --- | 0.27 |
| 95 | 7.92 | 0.43 | 0.302 | 0.035 | --- | 0.27 |
| 96 | 8.00 | 0.43 | 0.302 | 0.034 | --- | 0.27 |
| 97 | 8.08 | 0.50 | 0.348 | 0.034 | --- | 0.31 |
| 98 | 8.17 | 0.50 | 0.348 | 0.034 | --- | 0.31 |
| 99 | 8.25 | 0.50 | 0.348 | 0.034 | --- | 0.31 |
| 100 | 8.33 | 0.50 | 0.348 | 0.034 | --- | 0.31 |
| 101 | 8.42 | 0.50 | 0.348 | 0.034 | --- | 0.31 |
| 102 | 8.50 | 0.50 | 0.348 | 0.033 | --- | 0.31 |
| 103 | 8.58 | 0.53 | 0.371 | 0.033 | --- | 0.34 |
| 104 | 8.67 | 0.53 | 0.371 | 0.033 | --- | 0.34 |
| 105 | 8.75 | 0.53 | 0.371 | 0.033 | --- | 0.34 |
| 106 | 8.83 | 0.57 | 0.394 | 0.033 | --- | 0.36 |
| 107 | 8.92 | 0.57 | 0.394 | 0.033 | --- | 0.36 |
| 108 | 9.00 | 0.57 | 0.394 | 0.032 | --- | 0.36 |
| 109 | 9.08 | 0.63 | 0.441 | 0.032 | --- | 0.41 |
| 110 | 9.17 | 0.63 | 0.441 | 0.032 | --- | 0.41 |
| 111 | 9.25 | 0.63 | 0.441 | 0.032 | --- | 0.41 |
| 112 | 9.33 | 0.67 | 0.464 | 0.032 | --- | 0.43 |
| 113 | 9.42 | 0.67 | 0.464 | 0.032 | --- | 0.43 |
| 114 | 9.50 | 0.67 | 0.464 | 0.032 | --- | 0.43 |
| 115 | 9.58 | 0.70 | 0.487 | 0.031 | --- | 0.46 |
| 116 | 9.67 | 0.70 | 0.487 | 0.031 | --- | 0.46 |
| 117 | 9.75 | 0.70 | 0.487 | 0.031 | --- | 0.46 |
| 118 | 9.83 | 0.73 | 0.510 | 0.031 | --- | 0.48 |
| 119 | 9.92 | 0.73 | 0.510 | 0.031 | --- | 0.48 |
| 120 | 10.00 | 0.73 | 0.510 | 0.031 | --- | 0.48 |
| 121 | 10.08 | 0.50 | 0.348 | 0.031 | --- | 0.32 |
| 122 | 10.17 | 0.50 | 0.348 | 0.030 | --- | 0.32 |
| 123 | 10.25 | 0.50 | 0.348 | 0.030 | --- | 0.32 |
| 124 | 10.33 | 0.50 | 0.348 | 0.030 | --- | 0.32 |
| 125 | 10.42 | 0.50 | 0.348 | 0.030 | --- | 0.32 |
| 126 | 10.50 | 0.50 | 0.348 | 0.030 | --- | 0.32 |
| 127 | 10.58 | 0.67 | 0.464 | 0.030 | --- | 0.43 |
| 128 | 10.67 | 0.67 | 0.464 | 0.029 | --- | 0.43 |
| 129 | 10.75 | 0.67 | 0.464 | 0.029 | --- | 0.43 |
| 130 | 10.83 | 0.67 | 0.464 | 0.029 | --- | 0.43 |
| 131 | 10.92 | 0.67 | 0.464 | 0.029 | --- | 0.43 |
| 132 | 11.00 | 0.67 | 0.464 | 0.029 | --- | 0.44 |
| 133 | 11.08 | 0.63 | 0.441 | 0.029 | --- | 0.41 |
| 134 | 11.17 | 0.63 | 0.441 | 0.029 | --- | 0.41 |
| 135 | 11.25 | 0.63 | 0.441 | 0.028 | --- | 0.41 |
| 136 | 11.33 | 0.63 | 0.441 | 0.028 | --- | 0.41 |
| 137 | 11.42 | 0.63 | 0.441 | 0.028 | --- | 0.41 |
| 138 | 11.50 | 0.63 | 0.441 | 0.028 | --- | 0.41 |
| 139 | 11.58 | 0.57 | 0.394 | 0.028 | --- | 0.37 |
| 140 | 11.67 | 0.57 | 0.394 | 0.028 | --- | 0.37 |
| 141 | 11.75 | 0.57 | 0.394 | 0.028 | --- | 0.37 |
| 142 | 11.83 | 0.60 | 0.418 | 0.028 | --- | 0.39 |
| 143 | 11.92 | 0.60 | 0.418 | 0.027 | --- | 0.39 |
| 144 | 12.00 | 0.60 | 0.418 | 0.027 | --- | 0.39 |
| 145 | 12.08 | 0.83 | 0.580 | 0.027 | --- | 0.55 |
| 146 | 12.17 | 0.83 | 0.580 | 0.027 | --- | 0.55 |
| 147 | 12.25 | 0.83 | 0.580 | 0.027 | --- | 0.55 |
| 148 | 12.33 | 0.87 | 0.603 | 0.027 | --- | 0.58 |
| 149 | 12.42 | 0.87 | 0.603 | 0.027 | --- | 0.58 |
| 150 | 12.50 | 0.87 | 0.603 | 0.026 | --- | 0.58 |
| 151 | 12.58 | 0.93 | 0.650 | 0.026 | --- | 0.62 |
| 152 | 12.67 | 0.93 | 0.650 | 0.026 | --- | 0.62 |
| 153 | 12.75 | 0.93 | 0.650 | 0.026 | --- | 0.62 |
| 154 | 12.83 | 0.97 | 0.673 | 0.026 | --- | 0.65 |
| 155 | 12.92 | 0.97 | 0.673 | 0.026 | --- | 0.65 |
| 156 | 13.00 | 0.97 | 0.673 | 0.026 | --- | 0.65 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 157 | 13.08 | 1.13 | 0.789 | 0.026 | --- | 0.76 |
| 158 | 13.17 | 1.13 | 0.789 | 0.025 | --- | 0.76 |
| 159 | 13.25 | 1.13 | 0.789 | 0.025 | --- | 0.76 |
| 160 | 13.33 | 1.13 | 0.789 | 0.025 | --- | 0.76 |
| 161 | 13.42 | 1.13 | 0.789 | 0.025 | --- | 0.76 |
| 162 | 13.50 | 1.13 | 0.789 | 0.025 | --- | 0.76 |
| 163 | 13.58 | 0.77 | 0.534 | 0.025 | --- | 0.51 |
| 164 | 13.67 | 0.77 | 0.534 | 0.025 | --- | 0.51 |
| 165 | 13.75 | 0.77 | 0.534 | 0.024 | --- | 0.51 |
| 166 | 13.83 | 0.77 | 0.534 | 0.024 | --- | 0.51 |
| 167 | 13.92 | 0.77 | 0.534 | 0.024 | --- | 0.51 |
| 168 | 14.00 | 0.77 | 0.534 | 0.024 | --- | 0.51 |
| 169 | 14.08 | 0.90 | 0.626 | 0.024 | --- | 0.60 |
| 170 | 14.17 | 0.90 | 0.626 | 0.024 | --- | 0.60 |
| 171 | 14.25 | 0.90 | 0.626 | 0.024 | --- | 0.60 |
| 172 | 14.33 | 0.87 | 0.603 | 0.024 | --- | 0.58 |
| 173 | 14.42 | 0.87 | 0.603 | 0.024 | --- | 0.58 |
| 174 | 14.50 | 0.87 | 0.603 | 0.023 | --- | 0.58 |
| 175 | 14.58 | 0.87 | 0.603 | 0.023 | --- | 0.58 |
| 176 | 14.67 | 0.87 | 0.603 | 0.023 | --- | 0.58 |
| 177 | 14.75 | 0.87 | 0.603 | 0.023 | --- | 0.58 |
| 178 | 14.83 | 0.83 | 0.580 | 0.023 | --- | 0.56 |
| 179 | 14.92 | 0.83 | 0.580 | 0.023 | --- | 0.56 |
| 180 | 15.00 | 0.83 | 0.580 | 0.023 | --- | 0.56 |
| 181 | 15.08 | 0.80 | 0.557 | 0.023 | --- | 0.53 |
| 182 | 15.17 | 0.80 | 0.557 | 0.022 | --- | 0.53 |
| 183 | 15.25 | 0.80 | 0.557 | 0.022 | --- | 0.53 |
| 184 | 15.33 | 0.77 | 0.534 | 0.022 | --- | 0.51 |
| 185 | 15.42 | 0.77 | 0.534 | 0.022 | --- | 0.51 |
| 186 | 15.50 | 0.77 | 0.534 | 0.022 | --- | 0.51 |
| 187 | 15.58 | 0.63 | 0.441 | 0.022 | --- | 0.42 |
| 188 | 15.67 | 0.63 | 0.441 | 0.022 | --- | 0.42 |
| 189 | 15.75 | 0.63 | 0.441 | 0.022 | --- | 0.42 |
| 190 | 15.83 | 0.63 | 0.441 | 0.022 | --- | 0.42 |
| 191 | 15.92 | 0.63 | 0.441 | 0.021 | --- | 0.42 |
| 192 | 16.00 | 0.63 | 0.441 | 0.021 | --- | 0.42 |
| 193 | 16.08 | 0.13 | 0.093 | 0.021 | --- | 0.07 |
| 194 | 16.17 | 0.13 | 0.093 | 0.021 | --- | 0.07 |
| 195 | 16.25 | 0.13 | 0.093 | 0.021 | --- | 0.07 |
| 196 | 16.33 | 0.13 | 0.093 | 0.021 | --- | 0.07 |
| 197 | 16.42 | 0.13 | 0.093 | 0.021 | --- | 0.07 |
| 198 | 16.50 | 0.13 | 0.093 | 0.021 | --- | 0.07 |
| 199 | 16.58 | 0.10 | 0.070 | 0.021 | --- | 0.05 |
| 200 | 16.67 | 0.10 | 0.070 | 0.020 | --- | 0.05 |
| 201 | 16.75 | 0.10 | 0.070 | 0.020 | --- | 0.05 |
| 202 | 16.83 | 0.10 | 0.070 | 0.020 | --- | 0.05 |
| 203 | 16.92 | 0.10 | 0.070 | 0.020 | --- | 0.05 |
| 204 | 17.00 | 0.10 | 0.070 | 0.020 | --- | 0.05 |
| 205 | 17.08 | 0.17 | 0.116 | 0.020 | --- | 0.10 |
| 206 | 17.17 | 0.17 | 0.116 | 0.020 | --- | 0.10 |
| 207 | 17.25 | 0.17 | 0.116 | 0.020 | --- | 0.10 |
| 208 | 17.33 | 0.17 | 0.116 | 0.020 | --- | 0.10 |
| 209 | 17.42 | 0.17 | 0.116 | 0.020 | --- | 0.10 |
| 210 | 17.50 | 0.17 | 0.116 | 0.019 | --- | 0.10 |
| 211 | 17.58 | 0.17 | 0.116 | 0.019 | --- | 0.10 |
| 212 | 17.67 | 0.17 | 0.116 | 0.019 | --- | 0.10 |
| 213 | 17.75 | 0.17 | 0.116 | 0.019 | --- | 0.10 |
| 214 | 17.83 | 0.13 | 0.093 | 0.019 | --- | 0.07 |
| 215 | 17.92 | 0.13 | 0.093 | 0.019 | --- | 0.07 |
| 216 | 18.00 | 0.13 | 0.093 | 0.019 | --- | 0.07 |
| 217 | 18.08 | 0.13 | 0.093 | 0.019 | --- | 0.07 |
| 218 | 18.17 | 0.13 | 0.093 | 0.019 | --- | 0.07 |
| 219 | 18.25 | 0.13 | 0.093 | 0.019 | --- | 0.07 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 220 | 18.33 | 0.13 | 0.093 | 0.019 | --- | 0.07 |
| 221 | 18.42 | 0.13 | 0.093 | 0.018 | --- | 0.07 |
| 222 | 18.50 | 0.13 | 0.093 | 0.018 | --- | 0.07 |
| 223 | 18.58 | 0.10 | 0.070 | 0.018 | --- | 0.05 |
| 224 | 18.67 | 0.10 | 0.070 | 0.018 | --- | 0.05 |
| 225 | 18.75 | 0.10 | 0.070 | 0.018 | --- | 0.05 |
| 226 | 18.83 | 0.07 | 0.046 | 0.018 | --- | 0.03 |
| 227 | 18.92 | 0.07 | 0.046 | 0.018 | --- | 0.03 |
| 228 | 19.00 | 0.07 | 0.046 | 0.018 | --- | 0.03 |
| 229 | 19.08 | 0.10 | 0.070 | 0.018 | --- | 0.05 |
| 230 | 19.17 | 0.10 | 0.070 | 0.018 | --- | 0.05 |
| 231 | 19.25 | 0.10 | 0.070 | 0.018 | --- | 0.05 |
| 232 | 19.33 | 0.13 | 0.093 | 0.017 | --- | 0.08 |
| 233 | 19.42 | 0.13 | 0.093 | 0.017 | --- | 0.08 |
| 234 | 19.50 | 0.13 | 0.093 | 0.017 | --- | 0.08 |
| 235 | 19.58 | 0.10 | 0.070 | 0.017 | --- | 0.05 |
| 236 | 19.67 | 0.10 | 0.070 | 0.017 | --- | 0.05 |
| 237 | 19.75 | 0.10 | 0.070 | 0.017 | --- | 0.05 |
| 238 | 19.83 | 0.07 | 0.046 | 0.017 | --- | 0.03 |
| 239 | 19.92 | 0.07 | 0.046 | 0.017 | --- | 0.03 |
| 240 | 20.00 | 0.07 | 0.046 | 0.017 | --- | 0.03 |
| 241 | 20.08 | 0.10 | 0.070 | 0.017 | --- | 0.05 |
| 242 | 20.17 | 0.10 | 0.070 | 0.017 | --- | 0.05 |
| 243 | 20.25 | 0.10 | 0.070 | 0.017 | --- | 0.05 |
| 244 | 20.33 | 0.10 | 0.070 | 0.017 | --- | 0.05 |
| 245 | 20.42 | 0.10 | 0.070 | 0.016 | --- | 0.05 |
| 246 | 20.50 | 0.10 | 0.070 | 0.016 | --- | 0.05 |
| 247 | 20.58 | 0.10 | 0.070 | 0.016 | --- | 0.05 |
| 248 | 20.67 | 0.10 | 0.070 | 0.016 | --- | 0.05 |
| 249 | 20.75 | 0.10 | 0.070 | 0.016 | --- | 0.05 |
| 250 | 20.83 | 0.07 | 0.046 | 0.016 | --- | 0.03 |
| 251 | 20.92 | 0.07 | 0.046 | 0.016 | --- | 0.03 |
| 252 | 21.00 | 0.07 | 0.046 | 0.016 | --- | 0.03 |
| 253 | 21.08 | 0.10 | 0.070 | 0.016 | --- | 0.05 |
| 254 | 21.17 | 0.10 | 0.070 | 0.016 | --- | 0.05 |
| 255 | 21.25 | 0.10 | 0.070 | 0.016 | --- | 0.05 |
| 256 | 21.33 | 0.07 | 0.046 | 0.016 | --- | 0.03 |
| 257 | 21.42 | 0.07 | 0.046 | 0.016 | --- | 0.03 |
| 258 | 21.50 | 0.07 | 0.046 | 0.016 | --- | 0.03 |
| 259 | 21.58 | 0.10 | 0.070 | 0.016 | --- | 0.05 |
| 260 | 21.67 | 0.10 | 0.070 | 0.016 | --- | 0.05 |
| 261 | 21.75 | 0.10 | 0.070 | 0.015 | --- | 0.05 |
| 262 | 21.83 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 263 | 21.92 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 264 | 22.00 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 265 | 22.08 | 0.10 | 0.070 | 0.015 | --- | 0.05 |
| 266 | 22.17 | 0.10 | 0.070 | 0.015 | --- | 0.05 |
| 267 | 22.25 | 0.10 | 0.070 | 0.015 | --- | 0.05 |
| 268 | 22.33 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 269 | 22.42 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 270 | 22.50 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 271 | 22.58 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 272 | 22.67 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 273 | 22.75 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 274 | 22.83 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 275 | 22.92 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 276 | 23.00 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 277 | 23.08 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 278 | 23.17 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 279 | 23.25 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 280 | 23.33 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 281 | 23.42 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 282 | 23.50 | 0.07 | 0.046 | 0.015 | --- | 0.03 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 283 | 23.58 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 284 | 23.67 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 285 | 23.75 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 286 | 23.83 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 287 | 23.92 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| 288 | 24.00 | 0.07 | 0.046 | 0.015 | --- | 0.03 |
| Sum = | | 100.0 | | | Sum = | 61.4 |

```
  Flood volume = Effective rainfall      5.11(In)
   times area      30.9(Ac.)/[(In)/(Ft.)] =      13.2(Ac.Ft)
  Total soil loss =      0.69(In)
  Total soil loss =     1.766(Ac.Ft)
  Total rainfall =      5.80(In)
  Flood volume =      573832.8 Cubic Feet
  Total soil loss =       76907.1 Cubic Feet
  ---------------------------------------------------------------------
   Peak flow rate of this hydrograph =     23.805(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        7.5      15.0      22.5      30.0
 ---------------------------------------------------------------------
   0+ 5       0.0036      0.52  Q         |         |         |         |
   0+10       0.0112      1.10  VQ        |         |         |         |
   0+15       0.0197      1.23  VQ        |         |         |         |
   0+20       0.0265      0.99  VQ        |         |         |         |
   0+25       0.0313      0.69  Q         |         |         |         |
   0+30       0.0356      0.63  Q         |         |         |         |
   0+35       0.0398      0.61  Q         |         |         |         |
   0+40       0.0440      0.60  Q         |         |         |         |
   0+45       0.0482      0.61  Q         |         |         |         |
   0+50       0.0544      0.91  VQ        |         |         |         |
   0+55       0.0629      1.24  VQ        |         |         |         |
   1+ 0       0.0720      1.31  VQ        |         |         |         |
   1+ 5       0.0792      1.05  VQ        |         |         |         |
   1+10       0.0844      0.75  Q         |         |         |         |
   1+15       0.0891      0.69  Q         |         |         |         |
   1+20       0.0937      0.66  Q         |         |         |         |
   1+25       0.0982      0.66  Q         |         |         |         |
   1+30       0.1028      0.66  Q         |         |         |         |
   1+35       0.1074      0.67  Q         |         |         |         |
   1+40       0.1120      0.68  Q         |         |         |         |
   1+45       0.1167      0.68  Q         |         |         |         |
   1+50       0.1235      0.98  VQ        |         |         |         |
   1+55       0.1325      1.31  VQ        |         |         |         |
   2+ 0       0.1420      1.38  VQ        |         |         |         |
   2+ 5       0.1518      1.42  VQ        |         |         |         |
   2+10       0.1617      1.43  VQ        |         |         |         |
   2+15       0.1716      1.44  VQ        |         |         |         |
   2+20       0.1815      1.45  VQ        |         |         |         |
   2+25       0.1915      1.45  VQ        |         |         |         |
   2+30       0.2016      1.46  VQ        |         |         |         |
   2+35       0.2137      1.76  V Q       |         |         |         |
   2+40       0.2280      2.08  V Q       |         |         |         |
   2+45       0.2429      2.16  V Q       |         |         |         |
   2+50       0.2580      2.19  V Q       |         |         |         |
   2+55       0.2732      2.21  V Q       |         |         |         |
   3+ 0       0.2885      2.22  V Q       |         |         |         |
   3+ 5       0.3038      2.22  V Q       |         |         |         |
```

```
3+10       0.3191      2.23  V Q       |          |          |          |
3+15       0.3345      2.23  |VQ       |          |          |          |
3+20       0.3499      2.24  |VQ       |          |          |          |
3+25       0.3654      2.25  |VQ       |          |          |          |
3+30       0.3809      2.25  |V Q      |          |          |          |
3+35       0.3964      2.26  |V Q      |          |          |          |
3+40       0.4120      2.26  |V Q      |          |          |          |
3+45       0.4276      2.27  |V Q      |          |          |          |
3+50       0.4453      2.57  |V Q      |          |          |          |
3+55       0.4652      2.89  |V Q      |          |          |          |
4+ 0       0.4857      2.97  |V Q      |          |          |          |
4+ 5       0.5063      3.00  |V  Q     |          |          |          |
4+10       0.5271      3.02  |V  Q     |          |          |          |
4+15       0.5480      3.02  |V  Q     |          |          |          |
4+20       0.5708      3.32  |V  Q     |          |          |          |
4+25       0.5960      3.65  |V  Q     |          |          |          |
4+30       0.6216      3.72  |V  Q     |          |          |          |
4+35       0.6475      3.76  |V   Q    |          |          |          |
4+40       0.6735      3.78  | V  Q    |          |          |          |
4+45       0.6995      3.78  | V  Q    |          |          |          |
4+50       0.7276      4.08  | V  Q    |          |          |          |
4+55       0.7580      4.41  | V  Q    |          |          |          |
5+ 0       0.7888      4.48  | V  Q    |          |          |          |
5+ 5       0.8159      3.93  | V  Q    |          |          |          |
5+10       0.8387      3.30  | V Q     |          |          |          |
5+15       0.8605      3.17  | V Q     |          |          |          |
5+20       0.8840      3.41  | V Q     |          |          |          |
5+25       0.9096      3.72  | V Q     |          |          |          |
5+30       0.9357      3.79  | V  Q    |          |          |          |
5+35       0.9640      4.11  | V  Q    |          |          |          |
5+40       0.9947      4.45  |  V Q    |          |          |          |
5+45       1.0259      4.53  |  V  Q   |          |          |          |
5+50       1.0573      4.56  |  V  Q   |          |          |          |
5+55       1.0889      4.58  |  V  Q   |          |          |          |
6+ 0       1.1205      4.59  |  V  Q   |          |          |          |
6+ 5       1.1541      4.88  |  V  Q   |          |          |          |
6+10       1.1900      5.21  |  V  Q   |          |          |          |
6+15       1.2264      5.28  |  V   Q  |          |          |          |
6+20       1.2630      5.32  |  V   Q  |          |          |          |
6+25       1.2997      5.34  |  V   Q  |          |          |          |
6+30       1.3365      5.34  |   V  Q  |          |          |          |
6+35       1.3753      5.64  |   V  Q  |          |          |          |
6+40       1.4164      5.96  |   V  Q  |          |          |          |
6+45       1.4580      6.04  |   V   Q |          |          |          |
6+50       1.4998      6.07  |   V   Q |          |          |          |
6+55       1.5417      6.09  |   V   Q |          |          |          |
7+ 0       1.5837      6.09  |   V   Q |          |          |          |
7+ 5       1.6257      6.10  |   V   Q |          |          |          |
7+10       1.6678      6.10  |    V  Q |          |          |          |
7+15       1.7099      6.11  |    V  Q |          |          |          |
7+20       1.7540      6.41  |    V  Q |          |          |          |
7+25       1.8004      6.73  |    V  Q |          |          |          |
7+30       1.8472      6.81  |    V   Q|          |          |          |
7+35       1.8964      7.13  |    V   Q|          |          |          |
7+40       1.9478      7.47  |    V   Q|          |          |          |
7+45       1.9998      7.55  |     V   Q          |          |          |
7+50       2.0540      7.87  |     V   Q          |          |          |
7+55       2.1105      8.21  |     V   Q          |          |          |
8+ 0       2.1676      8.28  |     V   |Q         |          |          |
8+ 5       2.2289      8.90  |     V   |Q         |          |          |
8+10       2.2947      9.56  |     V   | Q        |          |          |
8+15       2.3616      9.70  |      V  | Q        |          |          |
8+20       2.4288      9.77  |      V  |  Q       |          |          |
```

```
 8+25       2.4963      9.80  |      V  |  Q      |         |         |
 8+30       2.5638      9.80  |      V  |  Q      |         |         |
 8+35       2.6333     10.10  |      V  |  Q      |         |         |
 8+40       2.7051     10.42  |       V |  Q      |         |         |
 8+45       2.7774     10.50  |       V |  Q      |         |         |
 8+50       2.8520     10.82  |       V |   Q     |         |         |
 8+55       2.9288     11.16  |       V |   Q     |         |         |
 9+ 0       3.0062     11.24  |        V|   Q     |         |         |
 9+ 5       3.0878     11.85  |        V|    Q    |         |         |
 9+10       3.1740     12.51  |        V|     Q   |         |         |
 9+15       3.2612     12.66  |        V|     Q   |         |         |
 9+20       3.3507     13.01  |         V      Q  |         |         |
 9+25       3.4428     13.36  |         V      Q  |         |         |
 9+30       3.5353     13.43  |         V      Q  |         |         |
 9+35       3.6300     13.76  |         |V      Q |         |         |
 9+40       3.7271     14.10  |         |V      Q |         |         |
 9+45       3.8247     14.17  |         |V      Q |         |         |
 9+50       3.9245     14.49  |         |V       Q|         |         |
 9+55       4.0267     14.83  |         | V      Q|         |         |
10+ 0       4.1293     14.91  |         | V      Q|         |         |
10+ 5       4.2182     12.90  |         | V    Q  |         |         |
10+10       4.2916     10.66  |         |  VQ     |         |         |
10+15       4.3617     10.18  |         |  Q      |         |         |
10+20       4.4305      9.99  |         |  Q      |         |         |
10+25       4.4988      9.91  |         |  Q      |         |         |
10+30       4.5671      9.91  |         |  Q      |         |         |
10+35       4.6454     11.38  |         |   VQ    |         |         |
10+40       4.7349     12.99  |         |   V  Q  |         |         |
10+45       4.8268     13.34  |         |   V  Q  |         |         |
10+50       4.9196     13.48  |         |   V  Q  |         |         |
10+55       5.0130     13.55  |         |    V  Q |         |         |
11+ 0       5.1063     13.56  |         |    V  Q |         |         |
11+ 5       5.1977     13.27  |         |    V Q  |         |         |
11+10       5.2869     12.95  |         |     VQ  |         |         |
11+15       5.3757     12.89  |         |     VQ  |         |         |
11+20       5.4643     12.86  |         |     VQ  |         |         |
11+25       5.5528     12.86  |         |     VQ  |         |         |
11+30       5.6413     12.86  |         |      Q  |         |         |
11+35       5.7259     12.28  |         |     QV  |         |         |
11+40       5.8061     11.64  |         |    Q V  |         |         |
11+45       5.8853     11.51  |         |    Q V  |         |         |
11+50       5.9663     11.75  |         |    Q  V |         |         |
11+55       6.0492     12.05  |         |     Q V |         |         |
12+ 0       6.1327     12.12  |         |     Q V |         |         |
12+ 5       6.2305     14.20  |         |       Q |         |         |
12+10       6.3439     16.47  |         |        V|Q        |         |
12+15       6.4607     16.95  |         |        V| Q       |         |
12+20       6.5808     17.44  |         |        V|  Q      |         |
12+25       6.7038     17.86  |         |         V  Q      |         |
12+30       6.8273     17.93  |         |         V  Q      |         |
12+35       6.9550     18.55  |         |         |V  Q     |         |
12+40       7.0873     19.21  |         |         |V   Q    |         |
12+45       7.2206     19.35  |         |         |V   Q    |         |
12+50       7.3563     19.70  |         |         | V   Q   |         |
12+55       7.4944     20.05  |         |         | V   Q   |         |
13+ 0       7.6330     20.13  |         |         |  V  Q   |         |
13+ 5       7.7818     21.62  |         |         |  V    Q |         |
13+10       7.9419     23.24  |         |         |   V     Q         |
13+15       8.1044     23.59  |         |         |   V     |Q        |
13+20       8.2678     23.73  |         |         |    V    |Q        |
13+25       8.4318     23.80  |         |         |    V    |Q        |
13+30       8.5957     23.81  |         |         |     V   |Q        |
13+35       8.7376     20.60  |         |         |     VQ  |         |
```

```
13+40       8.8551     17.06  |         |         | Q   V   |         |
13+45       8.9674     16.31  |         |         |Q     V  |         |
13+50       9.0776     16.00  |         |         |Q     V  |         |
13+55       9.1869     15.87  |         |         |Q     V  |         |
14+ 0       9.2963     15.88  |         |         |Q      V |         |
14+ 5       9.4137     17.05  |         |         | Q     V |         |
14+10       9.5400     18.34  |         |         |   Q   V |         |
14+15       9.6682     18.62  |         |         |   Q    V|         |
14+20       9.7952     18.44  |         |         |   Q    V|         |
14+25       9.9203     18.17  |         |         |   Q     V         |
14+30      10.0451     18.11  |         |         |   Q     V         |
14+35      10.1696     18.08  |         |         |   Q     V         |
14+40      10.2941     18.07  |         |         |   Q     |V        |
14+45      10.4186     18.08  |         |         |   Q     |V        |
14+50      10.5411     17.79  |         |         |  Q      | V       |
14+55      10.6614     17.47  |         |         |  Q      | V       |
15+ 0      10.7813     17.41  |         |         |  Q      | V       |
15+ 5      10.8990     17.09  |         |         | Q       |  V      |
15+10      11.0145     16.76  |         |         | Q       |  V      |
15+15      11.1294     16.69  |         |         | Q       |  V      |
15+20      11.2422     16.38  |         |         |Q        |   V     |
15+25      11.3527     16.05  |         |         |Q        |   V     |
15+30      11.4628     15.98  |         |         |Q        |   V     |
15+35      11.5647     14.79  |         |        Q|         |    V    |
15+40      11.6576     13.49  |         |      Q  |         |    V    |
15+45      11.7487     13.22  |         |      Q  |         |    V    |
15+50      11.8390     13.11  |         |      Q  |         |    V    |
15+55      11.9290     13.07  |         |      Q  |         |     V   |
16+ 0      12.0190     13.07  |         |      Q  |         |     V   |
16+ 5      12.0789      8.70  |         |Q        |         |     V   |
16+10      12.1056      3.87  |    Q    |         |         |     V   |
16+15      12.1251      2.84  |  Q      |         |         |     V   |
16+20      12.1419      2.43  |  Q      |         |         |     V   |
16+25      12.1573      2.24  | Q       |         |         |     V   |
16+30      12.1728      2.25  | Q       |         |         |     V   |
16+35      12.1862      1.96  | Q       |         |         |      V  |
16+40      12.1975      1.64  | Q       |         |         |      V  |
16+45      12.2083      1.57  | Q       |         |         |      V  |
16+50      12.2190      1.55  | Q       |         |         |      V  |
16+55      12.2296      1.54  | Q       |         |         |      V  |
17+ 0      12.2402      1.54  | Q       |         |         |      V  |
17+ 5      12.2549      2.13  | Q       |         |         |      V  |
17+10      12.2740      2.78  |  Q      |         |         |      V  |
17+15      12.2941      2.92  |  Q      |         |         |      V  |
17+20      12.3145      2.98  |  Q      |         |         |      V  |
17+25      12.3352      3.00  |   Q     |         |         |      V  |
17+30      12.3559      3.01  |   Q     |         |         |      V  |
17+35      12.3767      3.01  |   Q     |         |         |      V  |
17+40      12.3974      3.01  |   Q     |         |         |      V  |
17+45      12.4182      3.02  |   Q     |         |         |      V  |
17+50      12.4370      2.73  |  Q      |         |         |      V  |
17+55      12.4535      2.41  |  Q      |         |         |      V  |
18+ 0      12.4697      2.34  |  Q      |         |         |      V  |
18+ 5      12.4856      2.32  |  Q      |         |         |      V  |
18+10      12.5015      2.31  |  Q      |         |         |      V  |
18+15      12.5174      2.31  |  Q      |         |         |       V |
18+20      12.5333      2.31  |  Q      |         |         |       V |
18+25      12.5493      2.32  |  Q      |         |         |       V |
18+30      12.5653      2.32  |  Q      |         |         |       V |
18+35      12.5792      2.03  | Q       |         |         |       V |
18+40      12.5910      1.71  | Q       |         |         |       V |
18+45      12.6023      1.64  | Q       |         |         |       V |
18+50      12.6115      1.33  |Q        |         |         |       V |
```

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18+55      12.6183      1.00  |Q        |         |         |       V |
19+ 0      12.6247      0.93  |Q        |         |         |       V |
19+ 5      12.6330      1.20  |Q        |         |         |       V |
19+10      12.6433      1.51  | Q       |         |         |       V |
19+15      12.6542      1.58  | Q       |         |         |       V |
19+20      12.6673      1.90  | Q       |         |         |       V |
19+25      12.6827      2.24  | Q       |         |         |       V |
19+30      12.6986      2.31  |  Q      |         |         |       V |
19+35      12.7127      2.05  | Q       |         |         |       V |
19+40      12.7247      1.74  | Q       |         |         |       V |
19+45      12.7363      1.68  | Q       |         |         |       V |
19+50      12.7456      1.36  |Q        |         |         |       V |
19+55      12.7527      1.03  |Q        |         |         |       V |
20+ 0      12.7593      0.96  |Q        |         |         |       V |
20+ 5      12.7677      1.23  |Q        |         |         |       V |
20+10      12.7783      1.54  | Q       |         |         |       V |
20+15      12.7894      1.61  | Q       |         |         |       V |
20+20      12.8007      1.64  | Q       |         |         |       V |
20+25      12.8121      1.65  | Q       |         |         |       V |
20+30      12.8235      1.66  | Q       |         |         |       V |
20+35      12.8349      1.66  | Q       |         |         |       V |
20+40      12.8463      1.66  | Q       |         |         |        V|
20+45      12.8578      1.66  | Q       |         |         |        V|
20+50      12.8672      1.37  |Q        |         |         |        V|
20+55      12.8745      1.05  |Q        |         |         |        V|
21+ 0      12.8812      0.99  |Q        |         |         |        V|
21+ 5      12.8899      1.25  |Q        |         |         |        V|
21+10      12.9006      1.56  | Q       |         |         |        V|
21+15      12.9119      1.63  | Q       |         |         |        V|
21+20      12.9213      1.37  |Q        |         |         |        V|
21+25      12.9287      1.06  |Q        |         |         |        V|
21+30      12.9355      1.00  |Q        |         |         |        V|
21+35      12.9442      1.26  |Q        |         |         |        V|
21+40      12.9551      1.57  | Q       |         |         |        V|
21+45      12.9664      1.64  | Q       |         |         |        V|
21+50      12.9759      1.38  |Q        |         |         |        V|
21+55      12.9833      1.07  |Q        |         |         |        V|
22+ 0      12.9902      1.01  |Q        |         |         |        V|
22+ 5      12.9990      1.27  |Q        |         |         |        V|
22+10      13.0099      1.58  | Q       |         |         |        V|
22+15      13.0213      1.65  | Q       |         |         |        V|
22+20      13.0309      1.39  |Q        |         |         |        V|
22+25      13.0384      1.08  |Q        |         |         |        V|
22+30      13.0454      1.02  |Q        |         |         |        V|
22+35      13.0522      0.99  |Q        |         |         |        V|
22+40      13.0589      0.98  |Q        |         |         |        V|
22+45      13.0657      0.98  |Q        |         |         |        V|
22+50      13.0724      0.98  |Q        |         |         |        V|
22+55      13.0792      0.98  |Q        |         |         |        V|
23+ 0      13.0860      0.98  |Q        |         |         |        V|
23+ 5      13.0928      0.98  |Q        |         |         |        V|
23+10      13.0995      0.99  |Q        |         |         |        V|
23+15      13.1063      0.99  |Q        |         |         |        V|
23+20      13.1131      0.99  |Q        |         |         |        V|
23+25      13.1200      0.99  |Q        |         |         |        V|
23+30      13.1268      0.99  |Q        |         |         |        V|
23+35      13.1336      0.99  |Q        |         |         |        V|
23+40      13.1404      0.99  |Q        |         |         |        V|
23+45      13.1473      0.99  |Q        |         |         |        V|
23+50      13.1541      0.99  |Q        |         |         |        V|
23+55      13.1609      0.99  |Q        |         |         |        V|
24+ 0      13.1678      0.99  |Q        |         |         |        V|
24+ 5      13.1719      0.59  Q         |         |         |        V|
```

```
   24+10      13.1729      0.15  Q         |         |         |        V|
   24+15      13.1733      0.06  Q         |         |         |        V|
   24+20      13.1734      0.02  Q         |         |         |        V|
----------------------------------------------------------------------
```

# Appendix D
## Basin Routing Analysis

# Project: Orchard Logistics Center

## Bioretention System Routing Study

| Stage Storage Number | Storage Depth (ft) | Elevation (ft) | Area ($ft^2$) | Incremental volume ($ft^3$) | Total Volume ($ft^3$) | Total Volume (acre-ft) | Outflow Q (cfs) | Notes |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.00 | 2528.50 | 38,021 | 0 | 0 | 0 | 0.0 | **6-INCH OUTLET** |
| 2 | 1.00 | 2529.50 | 38,021 | 15,208 | 15,208 | 0.3491 | 0.82 | **TOP OF ROCK/BOTTOM OF MEDIA** |
| 3 | 2.00 | 2530.50 | 38,021 | 11,406 | 26,615 | 0.6110 | 1.25 | |
| 4 | 3.00 | 2531.50 | 38,021 | 11,406 | 38,021 | 0.8728 | 1.57 | |
| 5 | 4.00 | 2532.50 | 38,021 | 11,406 | 49,427 | 1.1347 | 1.83 | **TOP OF MEDIA/BOTTOM OF BASIN** |
| 6 | 4.50 | 2533.00 | 41,232 | 19,813 | 69,241 | 1.5895 | 1.95 | **WQMP 6" PONDING DEPTH** |
| 7 | 5.00 | 2533.50 | 44,285 | 21,379 | 90,620 | 2.0803 | 13.06 | |
| 8 | 5.50 | 2534.00 | 47,734 | 23,005 | 113,625 | 2.6085 | 33.27 | |
| 9 | 6.50 | 2535.00 | 54,363 | 51,049 | 164,673 | 3.7804 | 50.50 | |
| 10 | 7.50 | 2536.00 | 61,129 | 57,746 | 222,419 | 5.1060 | 61.50 | |
| 11 | 8.50 | 2537.00 | 68,056 | 64,593 | 287,012 | 6.5889 | 70.79 | **TOP OF BASIN 2538 W/ 1 FT FREEBOARD** |

*WQMP Design Capture Volume (DCV) is 67,856 CF

**Basin Routing Summary Table**

| | 2 YR 24 HR | 100 YR 1 HR | 100 YR 24 HR |
|---|---|---|---|
| **Existing Q (cfs) 30.91 ac** | 5.0 | 83.8 | 22.6 |
| **Proposed Q(cfs) 30.91 ac** | 8.0 | 84.6 | 23.8 |
| **Q (cfs) after Routing** | 5.0 | 26.6 | 22.4 |
| **WSE (ft)** | 2533.16 | 2533.84 | 2533.73 |

HUITT-ZOLLARS

```
                    FLOOD HYDROGRAPH ROUTING PROGRAM
            Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005
                        Study date: 05/31/22

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

ORCHARD LOGISTICS CENTER
2 YR 24 HR STORM EVENT
2838Q2R
SD
-----------------------------------------------------------------

Program License Serial Number 6145

-----------------------------------------------------------------
******************** HYDROGRAPH INFORMATION *********************

                From study/file name: 2838QUHP242.rte
****************************HYDROGRAPH DATA***************************
                Number of intervals =   292
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =        7.993 (CFS)
                Total volume =       4.095 (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        8.000 to Point/Station        9.000
**** 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  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
-----------------------------------------------------------------
```

| | | | | |
|---|---|---|---|---|
| 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1.000 | 0.349 | 0.820 | 0.346 | 0.352 |
| 2.000 | 0.611 | 1.250 | 0.607 | 0.615 |
| 3.000 | 0.873 | 1.570 | 0.868 | 0.878 |
| 4.000 | 1.135 | 1.820 | 1.129 | 1.141 |
| 4.500 | 1.589 | 1.950 | 1.582 | 1.596 |
| 5.000 | 2.080 | 13.060 | 2.035 | 2.125 |
| 5.500 | 2.608 | 33.270 | 2.493 | 2.723 |
| 6.500 | 3.780 | 50.500 | 3.606 | 3.954 |
| 7.500 | 5.106 | 61.500 | 4.894 | 5.318 |
| 8.500 | 6.589 | 70.790 | 6.345 | 6.833 |

Hydrograph Detention Basin Routing

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

| Time (Hours) | Inflow (CFS) | Outflow (CFS) | Storage (Ac.Ft) | .0 2.0 4.00 6.00 7.99 | Depth (Ft.) |
|---|---|---|---|---|---|
| 0.083 | 0.20 | 0.00 | 0.001 | O \| \| \| \| | 0.00 |
| 0.167 | 0.43 | 0.01 | 0.003 | OI \| \| \| \| | 0.01 |
| 0.250 | 0.48 | 0.01 | 0.006 | OI \| \| \| \| | 0.02 |
| 0.333 | 0.60 | 0.02 | 0.009 | O I \| \| \| \| | 0.03 |
| 0.417 | 0.72 | 0.03 | 0.014 | O I \| \| \| \| | 0.04 |
| 0.500 | 0.74 | 0.04 | 0.019 | O I \| \| \| \| | 0.05 |
| 0.583 | 0.75 | 0.05 | 0.023 | O I \| \| \| \| | 0.07 |
| 0.667 | 0.76 | 0.07 | 0.028 | O I \| \| \| \| | 0.08 |
| 0.750 | 0.76 | 0.08 | 0.033 | O I \| \| \| \| | 0.09 |
| 0.833 | 0.86 | 0.09 | 0.038 | O I \| \| \| \| | 0.11 |
| 0.917 | 0.97 | 0.10 | 0.044 | O I \| \| \| \| | 0.12 |
| 1.000 | 1.00 | 0.12 | 0.050 | O I \| \| \| \| | 0.14 |
| 1.083 | 0.90 | 0.13 | 0.055 | O I \| \| \| \| | 0.16 |
| 1.167 | 0.80 | 0.14 | 0.060 | O I \| \| \| \| | 0.17 |
| 1.250 | 0.77 | 0.15 | 0.065 | O I \| \| \| \| | 0.18 |
| 1.333 | 0.76 | 0.16 | 0.069 | O I \| \| \| \| | 0.20 |
| 1.417 | 0.76 | 0.17 | 0.073 | O I \| \| \| \| | 0.21 |
| 1.500 | 0.76 | 0.18 | 0.077 | O I \| \| \| \| | 0.22 |
| 1.583 | 0.76 | 0.19 | 0.081 | O I \| \| \| \| | 0.23 |
| 1.667 | 0.76 | 0.20 | 0.085 | O I \| \| \| \| | 0.24 |
| 1.750 | 0.76 | 0.21 | 0.088 | O I \| \| \| \| | 0.25 |
| 1.833 | 0.86 | 0.22 | 0.093 | O I \| \| \| \| | 0.27 |
| 1.917 | 0.97 | 0.23 | 0.097 | O I \| \| \| \| | 0.28 |
| 2.000 | 1.00 | 0.24 | 0.103 | O I \| \| \| \| | 0.29 |
| 2.083 | 1.01 | 0.25 | 0.108 | \|O I \| \| \| \| | 0.31 |
| 2.167 | 1.01 | 0.27 | 0.113 | \|O I \| \| \| \| | 0.32 |
| 2.250 | 1.01 | 0.28 | 0.118 | \|O I \| \| \| \| | 0.34 |
| 2.333 | 1.01 | 0.29 | 0.123 | \|O I \| \| \| \| | 0.35 |
| 2.417 | 1.01 | 0.30 | 0.128 | \|O I \| \| \| \| | 0.37 |
| 2.500 | 1.01 | 0.31 | 0.133 | \|O I \| \| \| \| | 0.38 |
| 2.583 | 1.11 | 0.32 | 0.138 | \|O I \| \| \| \| | 0.39 |

```
2.667    1.22    0.34      0.144  |O  I   |        |        |        |     0.41
2.750    1.25    0.35      0.150  |O  I   |        |        |        |     0.43
2.833    1.26    0.37      0.156  |O   I  |        |        |        |     0.45
2.917    1.26    0.38      0.162  |O   I  |        |        |        |     0.46
3.000    1.26    0.39      0.168  |O   I  |        |        |        |     0.48
3.083    1.26    0.41      0.174  |O   I  |        |        |        |     0.50
3.167    1.26    0.42      0.180  |O   I  |        |        |        |     0.52
3.250    1.26    0.44      0.186  |O   I  |        |        |        |     0.53
3.333    1.26    0.45      0.191  |O   I  |        |        |        |     0.55
3.417    1.26    0.46      0.197  |O   I  |        |        |        |     0.56
3.500    1.26    0.48      0.202  |O   I  |        |        |        |     0.58
3.583    1.26    0.49      0.208  |O   I  |        |        |        |     0.59
3.667    1.26    0.50      0.213  | O  I  |        |        |        |     0.61
3.750    1.26    0.51      0.218  | O  I  |        |        |        |     0.62
3.833    1.36    0.53      0.224  | O  I  |        |        |        |     0.64
3.917    1.48    0.54      0.230  | O  I  |        |        |        |     0.66
4.000    1.50    0.55      0.236  | O   I |        |        |        |     0.68
4.083    1.51    0.57      0.243  | O   I |        |        |        |     0.70
4.167    1.51    0.59      0.249  | O   I |        |        |        |     0.71
4.250    1.51    0.60      0.255  | O   I |        |        |        |     0.73
4.333    1.62    0.62      0.262  | O   I |        |        |        |     0.75
4.417    1.73    0.63      0.269  | O   I |        |        |        |     0.77
4.500    1.75    0.65      0.277  | O    I|        |        |        |     0.79
4.583    1.76    0.67      0.284  | O    I|        |        |        |     0.81
4.667    1.77    0.69      0.292  | O    I|        |        |        |     0.84
4.750    1.77    0.70      0.299  | O    I|        |        |        |     0.86
4.833    1.87    0.72      0.307  | O    I|        |        |        |     0.88
4.917    1.98    0.74      0.315  | O    I|        |        |        |     0.90
5.000    2.01    0.76      0.324  |  O    I        |        |        |     0.93
5.083    1.81    0.78      0.331  |  O   I|        |        |        |     0.95
5.167    1.59    0.79      0.338  |  O  I |        |        |        |     0.97
5.250    1.54    0.81      0.343  |  O  I |        |        |        |     0.98
5.333    1.63    0.82      0.348  |  O  I |        |        |        |     1.00
5.417    1.73    0.83      0.354  |  O  I |        |        |        |     1.02
5.500    1.75    0.84      0.361  |  O   I|        |        |        |     1.04
5.583    1.86    0.85      0.367  |  O   I|        |        |        |     1.07
5.667    1.98    0.86      0.375  |  O   I|        |        |        |     1.10
5.750    2.01    0.87      0.382  |  O    I        |        |        |     1.13
5.833    2.02    0.89      0.390  |  O    I        |        |        |     1.16
5.917    2.02    0.90      0.398  |  O    I        |        |        |     1.19
6.000    2.02    0.91      0.405  |  O    I        |        |        |     1.22
6.083    1.27    0.92      0.410  |  O I  |        |        |        |     1.23
6.167    0.45    0.92      0.410  |I O    |        |        |        |     1.23
6.250    0.28    0.91      0.406  |I O    |        |        |        |     1.22
6.333    0.22    0.91      0.402  I  O    |        |        |        |     1.20
6.417    0.20    0.90      0.397  I  O    |        |        |        |     1.18
6.500    0.21    0.89      0.392  I  O    |        |        |        |     1.16
6.583    0.33    0.88      0.388  |I O    |        |        |        |     1.15
6.667    0.47    0.88      0.385  |I O    |        |        |        |     1.14
6.750    0.51    0.87      0.382  | IO    |        |        |        |     1.13
```

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6.833 | 0.53 | 0.87 | 0.380 | IO | | | | 1.12 |
| 6.917 | 0.54 | 0.87 | 0.377 | IO | | | | 1.11 |
| 7.000 | 0.55 | 0.86 | 0.375 | IO | | | | 1.10 |
| 7.083 | 0.56 | 0.86 | 0.373 | IO | | | | 1.09 |
| 7.167 | 0.57 | 0.86 | 0.371 | IO | | | | 1.08 |
| 7.250 | 0.58 | 0.85 | 0.369 | IO | | | | 1.08 |
| 7.333 | 0.71 | 0.85 | 0.368 | IO | | | | 1.07 |
| 7.417 | 0.84 | 0.85 | 0.367 | O | | | | 1.07 |
| 7.500 | 0.88 | 0.85 | 0.367 | O | | | | 1.07 |
| 7.583 | 1.01 | 0.85 | 0.368 | OI | | | | 1.07 |
| 7.667 | 1.15 | 0.85 | 0.369 | OI | | | | 1.08 |
| 7.750 | 1.19 | 0.86 | 0.372 | OI | | | | 1.09 |
| 7.833 | 1.32 | 0.86 | 0.374 | O I | | | | 1.10 |
| 7.917 | 1.46 | 0.87 | 0.378 | O I | | | | 1.11 |
| 8.000 | 1.50 | 0.87 | 0.382 | O I | | | | 1.13 |
| 8.083 | 1.75 | 0.88 | 0.387 | O I | | | | 1.15 |
| 8.167 | 2.01 | 0.89 | 0.394 | O I | | | | 1.17 |
| 8.250 | 2.07 | 0.91 | 0.402 | O I | | | | 1.20 |
| 8.333 | 2.11 | 0.92 | 0.410 | O I | | | | 1.23 |
| 8.417 | 2.12 | 0.93 | 0.418 | O I | | | | 1.26 |
| 8.500 | 2.13 | 0.95 | 0.426 | O I | | | | 1.30 |
| 8.583 | 2.26 | 0.96 | 0.435 | O I | | | | 1.33 |
| 8.667 | 2.39 | 0.98 | 0.444 | O I | | | | 1.36 |
| 8.750 | 2.43 | 0.99 | 0.454 | O I | | | | 1.40 |
| 8.833 | 2.56 | 1.01 | 0.464 | O I | | | | 1.44 |
| 8.917 | 2.70 | 1.03 | 0.476 | O I | | | | 1.48 |
| 9.000 | 2.74 | 1.05 | 0.487 | O I | | | | 1.53 |
| 9.083 | 2.98 | 1.07 | 0.500 | O I | | | | 1.57 |
| 9.167 | 3.25 | 1.09 | 0.514 | O I | | | | 1.63 |
| 9.250 | 3.31 | 1.11 | 0.529 | O I | | | | 1.69 |
| 9.333 | 3.46 | 1.14 | 0.544 | O I | | | | 1.74 |
| 9.417 | 3.60 | 1.17 | 0.560 | O I | | | | 1.81 |
| 9.500 | 3.64 | 1.19 | 0.577 | O I | | | | 1.87 |
| 9.583 | 3.77 | 1.22 | 0.594 | O I | | | | 1.94 |
| 9.667 | 3.91 | 1.25 | 0.612 | O I | | | | 2.01 |
| 9.750 | 3.94 | 1.27 | 0.631 | O I | | | | 2.08 |
| 9.833 | 4.08 | 1.30 | 0.649 | O I | | | | 2.15 |
| 9.917 | 4.22 | 1.32 | 0.669 | O I | | | | 2.22 |
| 10.000 | 4.25 | 1.35 | 0.689 | O I | | | | 2.30 |
| 10.083 | 3.48 | 1.37 | 0.706 | O I | | | | 2.36 |
| 10.167 | 2.62 | 1.38 | 0.718 | O I | | | | 2.41 |
| 10.250 | 2.44 | 1.39 | 0.726 | O I | | | | 2.44 |
| 10.333 | 2.38 | 1.40 | 0.733 | O I | | | | 2.46 |
| 10.417 | 2.35 | 1.41 | 0.739 | O I | | | | 2.49 |
| 10.500 | 2.36 | 1.41 | 0.746 | O I | | | | 2.51 |
| 10.583 | 2.93 | 1.43 | 0.754 | O I | | | | 2.55 |
| 10.667 | 3.57 | 1.44 | 0.767 | O I | | | | 2.59 |
| 10.750 | 3.71 | 1.46 | 0.782 | O I | | | | 2.65 |
| 10.833 | 3.77 | 1.48 | 0.798 | O I | | | | 2.71 |
| 10.917 | 3.81 | 1.50 | 0.813 | O I | | | | 2.77 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.000 | 3.82 | 1.52 | 0.829 | O | I | | | | 2.83 |
| 11.083 | 3.71 | 1.54 | 0.845 | O | I | | | | 2.89 |
| 11.167 | 3.60 | 1.55 | 0.859 | O | I | | | | 2.95 |
| 11.250 | 3.58 | 1.57 | 0.873 | O | I | | | | 3.00 |
| 11.333 | 3.58 | 1.58 | 0.887 | O | I | | | | 3.05 |
| 11.417 | 3.58 | 1.60 | 0.901 | O | I | | | | 3.11 |
| 11.500 | 3.59 | 1.61 | 0.914 | O | I | | | | 3.16 |
| 11.583 | 3.37 | 1.62 | 0.927 | O | I | | | | 3.21 |
| 11.667 | 3.13 | 1.63 | 0.938 | O | I | | | | 3.25 |
| 11.750 | 3.08 | 1.64 | 0.948 | O | I | | | | 3.29 |
| 11.833 | 3.18 | 1.65 | 0.959 | O | I | | | | 3.33 |
| 11.917 | 3.31 | 1.66 | 0.970 | O | I | | | | 3.37 |
| 12.000 | 3.34 | 1.67 | 0.981 | O | I | | | | 3.41 |
| 12.083 | 4.15 | 1.69 | 0.995 | O | I | | | | 3.47 |
| 12.167 | 5.04 | 1.71 | 1.015 | O | | I | | | 3.54 |
| 12.250 | 5.24 | 1.73 | 1.039 | O | | I | | | 3.63 |
| 12.333 | 5.43 | 1.75 | 1.064 | O | | I | | | 3.73 |
| 12.417 | 5.60 | 1.78 | 1.089 | O | | I | | | 3.83 |
| 12.500 | 5.64 | 1.80 | 1.116 | O | | I | | | 3.93 |
| 12.583 | 5.88 | 1.82 | 1.143 | O | | I | | | 4.01 |
| 12.667 | 6.15 | 1.83 | 1.172 | O | | I | | | 4.04 |
| 12.750 | 6.21 | 1.84 | 1.202 | O | | I | | | 4.07 |
| 12.833 | 6.35 | 1.85 | 1.232 | O | | I | | | 4.11 |
| 12.917 | 6.49 | 1.86 | 1.264 | O | | I | | | 4.14 |
| 13.000 | 6.53 | 1.87 | 1.296 | O | | I | | | 4.18 |
| 13.083 | 7.11 | 1.88 | 1.330 | O | | I | | | 4.21 |
| 13.167 | 7.75 | 1.89 | 1.368 | O | | | | I | 4.26 |
| 13.250 | 7.89 | 1.90 | 1.409 | O | | | | I | 4.30 |
| 13.333 | 7.95 | 1.91 | 1.450 | O | | | | I | 4.35 |
| 13.417 | 7.99 | 1.92 | 1.492 | O | | | | I | 4.39 |
| 13.500 | 7.99 | 1.93 | 1.534 | O | | | | I | 4.44 |
| 13.583 | 6.76 | 1.94 | 1.571 | O | | | | | 4.48 |
| 13.667 | 5.39 | 2.17 | 1.599 | O | | I | | | 4.51 |
| 13.750 | 5.10 | 2.62 | 1.618 | O | | I | | | 4.53 |
| 13.833 | 4.99 | 2.97 | 1.634 | O | I | | | | 4.55 |
| 13.917 | 4.95 | 3.26 | 1.647 | O | I | | | | 4.56 |
| 14.000 | 4.95 | 3.50 | 1.658 | O | I | | | | 4.57 |
| 14.083 | 5.41 | 3.75 | 1.668 | O | I | | | | 4.58 |
| 14.167 | 5.92 | 4.02 | 1.681 | O | I | | | | 4.59 |
| 14.250 | 6.04 | 4.31 | 1.693 | O | I | | | | 4.61 |
| 14.333 | 5.97 | 4.55 | 1.704 | O | I | | | | 4.62 |
| 14.417 | 5.88 | 4.75 | 1.713 | O | I | | | | 4.63 |
| 14.500 | 5.86 | 4.91 | 1.720 | O | I | | | | 4.63 |
| 14.583 | 5.85 | 4.92 | 1.726 | O | I | | | | 4.64 |
| 14.667 | 5.86 | 4.99 | 1.731 | O | I | | | | 4.64 |
| 14.750 | 5.86 | 5.00 | 1.736 | O | I | | | | 4.65 |
| 14.833 | 5.76 | 5.01 | 1.739 | O | I | | | | 4.65 |
| 14.917 | 5.64 | 5.02 | 1.741 | O | I | | | | 4.66 |
| 15.000 | 5.62 | 5.03 | 1.743 | O | I | | | | 4.66 |
| 15.083 | 5.50 | 5.04 | 1.744 | O | I | | | | 4.66 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 15.167 | 5.38 | 5.04 | 1.744 | \| | \| | \| O | \| | \| | 4.66 |
| 15.250 | 5.36 | 5.03 | 1.743 | \| | \| | \| O | \| | \| | 4.66 |
| 15.333 | 5.24 | 5.02 | 1.742 | \| | \| | \| IO | \| | \| | 4.66 |
| 15.417 | 5.12 | 5.02 | 1.741 | \| | \| | \| IO | \| | \| | 4.65 |
| 15.500 | 5.10 | 5.01 | 1.739 | \| | \| | \| IO | \| | \| | 4.65 |
| 15.583 | 4.65 | 5.00 | 1.736 | \| | \| | \| I O | \| | \| | 4.65 |
| 15.667 | 4.15 | 4.99 | 1.730 | \| | \| | I O | \| | \| | 4.64 |
| 15.750 | 4.05 | 4.92 | 1.724 | \| | \| | I O | \| | \| | 4.64 |
| 15.833 | 4.01 | 4.86 | 1.717 | \| | \| | I O | \| | \| | 4.63 |
| 15.917 | 4.00 | 4.73 | 1.712 | \| | \| | I O | \| | \| | 4.63 |
| 16.000 | 4.01 | 4.63 | 1.707 | \| | \| | I O | \| | \| | 4.62 |
| 16.083 | 2.80 | 4.45 | 1.700 | \| | \| I | \|O | \| | \| | 4.61 |
| 16.167 | 1.46 | 4.12 | 1.685 | \| I | \| | O | \| | \| | 4.60 |
| 16.250 | 1.18 | 3.71 | 1.667 | \| I | \| O | \| | \| | \| | 4.58 |
| 16.333 | 1.06 | 3.34 | 1.650 | \| I | \| O | \| | \| | \| | 4.56 |
| 16.417 | 1.01 | 3.00 | 1.636 | \| I | \| O | \| | \| | \| | 4.55 |
| 16.500 | 1.01 | 2.72 | 1.623 | \| I | \| O | \| | \| | \| | 4.53 |
| 16.583 | 0.91 | 2.46 | 1.612 | \| I | \|O | \| | \| | \| | 4.52 |
| 16.667 | 0.80 | 2.23 | 1.601 | \| I | O | \| | \| | \| | 4.51 |
| 16.750 | 0.77 | 2.02 | 1.592 | \| I | O | \| | \| | \| | 4.50 |
| 16.833 | 0.76 | 1.95 | 1.584 | \| I | O\| | \| | \| | \| | 4.49 |
| 16.917 | 0.76 | 1.95 | 1.576 | \| I | O\| | \| | \| | \| | 4.49 |
| 17.000 | 0.76 | 1.94 | 1.567 | \| I | O\| | \| | \| | \| | 4.48 |
| 17.083 | 0.52 | 1.94 | 1.558 | \| I | O\| | \| | \| | \| | 4.47 |
| 17.167 | 0.26 | 1.94 | 1.548 | \|I | O\| | \| | \| | \| | 4.45 |
| 17.250 | 0.21 | 1.93 | 1.536 | I | O\| | \| | \| | \| | 4.44 |
| 17.333 | 0.19 | 1.93 | 1.524 | I | O\| | \| | \| | \| | 4.43 |
| 17.417 | 0.19 | 1.93 | 1.512 | I | O\| | \| | \| | \| | 4.42 |
| 17.500 | 0.19 | 1.92 | 1.500 | I | O\| | \| | \| | \| | 4.40 |
| 17.583 | 0.20 | 1.92 | 1.488 | I | O\| | \| | \| | \| | 4.39 |
| 17.667 | 0.21 | 1.92 | 1.476 | I | O\| | \| | \| | \| | 4.38 |
| 17.750 | 0.21 | 1.91 | 1.465 | I | O\| | \| | \| | \| | 4.36 |
| 17.833 | 0.54 | 1.91 | 1.454 | \| I | O\| | \| | \| | \| | 4.35 |
| 17.917 | 0.89 | 1.91 | 1.446 | \| I | O\| | \| | \| | \| | 4.34 |
| 18.000 | 0.97 | 1.91 | 1.439 | \| I | O\| | \| | \| | \| | 4.33 |
| 18.083 | 1.00 | 1.91 | 1.433 | \| I | O\| | \| | \| | \| | 4.33 |
| 18.167 | 1.01 | 1.90 | 1.427 | \| I | O\| | \| | \| | \| | 4.32 |
| 18.250 | 1.01 | 1.90 | 1.420 | \| I | O\| | \| | \| | \| | 4.31 |
| 18.333 | 1.01 | 1.90 | 1.414 | \| I | O\| | \| | \| | \| | 4.31 |
| 18.417 | 1.01 | 1.90 | 1.408 | \| I | O\| | \| | \| | \| | 4.30 |
| 18.500 | 1.01 | 1.90 | 1.402 | \| I | O\| | \| | \| | \| | 4.29 |
| 18.583 | 0.91 | 1.89 | 1.396 | \| I | O\| | \| | \| | \| | 4.29 |
| 18.667 | 0.80 | 1.89 | 1.388 | \| I | O\| | \| | \| | \| | 4.28 |
| 18.750 | 0.77 | 1.89 | 1.381 | \| I | O\| | \| | \| | \| | 4.27 |
| 18.833 | 0.66 | 1.89 | 1.373 | \| I | O\| | \| | \| | \| | 4.26 |
| 18.917 | 0.54 | 1.89 | 1.364 | \| I | O\| | \| | \| | \| | 4.25 |
| 19.000 | 0.52 | 1.88 | 1.354 | \| I | O\| | \| | \| | \| | 4.24 |
| 19.083 | 0.61 | 1.88 | 1.345 | \| I | O\| | \| | \| | \| | 4.23 |
| 19.167 | 0.72 | 1.88 | 1.337 | \| I | O\| | \| | \| | \| | 4.22 |
| 19.250 | 0.74 | 1.88 | 1.329 | \| I | O\| | \| | \| | \| | 4.21 |

```
19.333    0.46    1.87      1.320  |I     O|        |        |        |     4.20
19.417    0.15    1.87      1.310  I      O|        |        |        |     4.19
19.500    0.09    1.87      1.298  I      O|        |        |        |     4.18
19.583    0.35    1.86      1.286  |I     O|        |        |        |     4.17
19.667    0.65    1.86      1.277  | I    O|        |        |        |     4.16
19.750    0.72    1.86      1.269  | I    O|        |        |        |     4.15
19.833    0.64    1.86      1.261  | I    O|        |        |        |     4.14
19.917    0.54    1.85      1.252  | I    O|        |        |        |     4.13
20.000    0.52    1.85      1.243  | I    O|        |        |        |     4.12
20.083    0.61    1.85      1.234  | I    O|        |        |        |     4.11
20.167    0.72    1.85      1.226  | I    O|        |        |        |     4.10
20.250    0.74    1.84      1.218  | I    O|        |        |        |     4.09
20.333    0.75    1.84      1.211  |  I   O|        |        |        |     4.08
20.417    0.76    1.84      1.203  |  I   O|        |        |        |     4.08
20.500    0.76    1.84      1.196  |  I   O|        |        |        |     4.07
20.583    0.76    1.84      1.188  |  I   O|        |        |        |     4.06
20.667    0.76    1.83      1.181  |  I   O|        |        |        |     4.05
20.750    0.76    1.83      1.174  |  I   O|        |        |        |     4.04
20.833    0.66    1.83      1.166  | I    O|        |        |        |     4.03
20.917    0.54    1.83      1.157  | I    O|        |        |        |     4.02
21.000    0.52    1.82      1.148  | I    O|        |        |        |     4.01
21.083    0.61    1.82      1.140  | I    O|        |        |        |     4.01
21.167    0.72    1.82      1.132  | I    O|        |        |        |     3.99
21.250    0.74    1.81      1.124  | I    O|        |        |        |     3.96
21.333    0.65    1.80      1.117  | I    O|        |        |        |     3.93
21.417    0.54    1.79      1.108  | I    O|        |        |        |     3.90
21.500    0.52    1.79      1.100  | I    O|        |        |        |     3.87
21.583    0.61    1.78      1.091  | I    O|        |        |        |     3.83
21.667    0.72    1.77      1.084  | I    O|        |        |        |     3.80
21.750    0.74    1.76      1.077  | I    O|        |        |        |     3.78
21.833    0.65    1.76      1.069  | I    O|        |        |        |     3.75
21.917    0.54    1.75      1.061  | I    O|        |        |        |     3.72
22.000    0.52    1.74      1.053  | I   O |        |        |        |     3.69
22.083    0.61    1.73      1.045  | I   O |        |        |        |     3.66
22.167    0.72    1.73      1.038  | I   O |        |        |        |     3.63
22.250    0.74    1.72      1.031  | I   O |        |        |        |     3.60
22.333    0.65    1.71      1.024  | I   O |        |        |        |     3.58
22.417    0.54    1.71      1.016  | I   O |        |        |        |     3.55
22.500    0.52    1.70      1.008  | I   O |        |        |        |     3.52
22.583    0.51    1.69      1.000  | I   O |        |        |        |     3.48
22.667    0.50    1.68      0.992  | I   O |        |        |        |     3.45
22.750    0.50    1.68      0.984  | I   O |        |        |        |     3.42
22.833    0.50    1.67      0.976  | I   O |        |        |        |     3.39
22.917    0.50    1.66      0.968  | I   O |        |        |        |     3.36
23.000    0.50    1.65      0.960  | I   O |        |        |        |     3.33
23.083    0.50    1.65      0.952  | I   O |        |        |        |     3.30
23.167    0.50    1.64      0.944  | I   O |        |        |        |     3.27
23.250    0.50    1.63      0.936  | I   O |        |        |        |     3.24
23.333    0.50    1.62      0.928  | I   O |        |        |        |     3.21
23.417    0.50    1.62      0.921  | I   O |        |        |        |     3.18
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23.500    0.50    1.61      0.913  | I   O |        |        |        |      3.15
23.583    0.50    1.60      0.906  | I   O |        |        |        |      3.12
23.667    0.50    1.59      0.898  | I   O |        |        |        |      3.10
23.750    0.50    1.59      0.891  | I   O |        |        |        |      3.07
23.833    0.50    1.58      0.883  | I   O |        |        |        |      3.04
23.917    0.50    1.57      0.876  | I   O |        |        |        |      3.01
24.000    0.50    1.56      0.868  | I   O |        |        |        |      2.98
24.083    0.30    1.55      0.860  |I    O |        |        |        |      2.95
24.167    0.08    1.54      0.851  I     O |        |        |        |      2.92
24.250    0.03    1.53      0.841  I     O |        |        |        |      2.88
24.333    0.01    1.52      0.830  I     O |        |        |        |      2.84
24.417    0.00    1.51      0.820  I     O |        |        |        |      2.80
24.500    0.00    1.49      0.810  I    O  |        |        |        |      2.76
24.583    0.00    1.48      0.800  I    O  |        |        |        |      2.72
24.667    0.00    1.47      0.789  I    O  |        |        |        |      2.68
24.750    0.00    1.46      0.779  I    O  |        |        |        |      2.64
24.833    0.00    1.44      0.769  I    O  |        |        |        |      2.60
24.917    0.00    1.43      0.759  I    O  |        |        |        |      2.57
25.000    0.00    1.42      0.750  I    O  |        |        |        |      2.53
25.083    0.00    1.41      0.740  I    O  |        |        |        |      2.49
25.167    0.00    1.40      0.730  I    O  |        |        |        |      2.46
25.250    0.00    1.38      0.721  I    O  |        |        |        |      2.42
25.333    0.00    1.37      0.711  I    O  |        |        |        |      2.38
25.417    0.00    1.36      0.702  I    O  |        |        |        |      2.35
25.500    0.00    1.35      0.692  I    O  |        |        |        |      2.31
25.583    0.00    1.34      0.683  I    O  |        |        |        |      2.28
25.667    0.00    1.33      0.674  I    O  |        |        |        |      2.24
25.750    0.00    1.32      0.665  I    O  |        |        |        |      2.21
25.833    0.00    1.30      0.656  I    O  |        |        |        |      2.17
25.917    0.00    1.29      0.647  I    O  |        |        |        |      2.14
26.000    0.00    1.28      0.638  I    O  |        |        |        |      2.10
26.083    0.00    1.27      0.629  I    O  |        |        |        |      2.07
26.167    0.00    1.26      0.621  I    O  |        |        |        |      2.04
26.250    0.00    1.25      0.612  I    O  |        |        |        |      2.00
26.333    0.00    1.24      0.603  I   O   |        |        |        |      1.97
26.417    0.00    1.22      0.595  I   O   |        |        |        |      1.94
26.500    0.00    1.21      0.586  I   O   |        |        |        |      1.91
26.583    0.00    1.20      0.578  I   O   |        |        |        |      1.87
26.667    0.00    1.18      0.570  I   O   |        |        |        |      1.84
26.750    0.00    1.17      0.562  I   O   |        |        |        |      1.81
26.833    0.00    1.16      0.554  I   O   |        |        |        |      1.78
26.917    0.00    1.14      0.546  I   O   |        |        |        |      1.75
27.000    0.00    1.13      0.538  I   O   |        |        |        |      1.72
27.083    0.00    1.12      0.530  I   O   |        |        |        |      1.69
27.167    0.00    1.11      0.523  I   O   |        |        |        |      1.66
27.250    0.00    1.09      0.515  I   O   |        |        |        |      1.63
27.333    0.00    1.08      0.508  I   O   |        |        |        |      1.61
27.417    0.00    1.07      0.500  I   O   |        |        |        |      1.58
27.500    0.00    1.06      0.493  I   O   |        |        |        |      1.55
27.583    0.00    1.04      0.486  I   O   |        |        |        |      1.52
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 27.667 | 0.00 | 1.03 | 0.479 | I | O | | | | 1.49 |
| 27.750 | 0.00 | 1.02 | 0.472 | I | O | | | | 1.47 |
| 27.833 | 0.00 | 1.01 | 0.465 | I | O | | | | 1.44 |
| 27.917 | 0.00 | 1.00 | 0.458 | I | O | | | | 1.41 |
| 28.000 | 0.00 | 0.99 | 0.451 | I | O | | | | 1.39 |
| 28.083 | 0.00 | 0.98 | 0.444 | I | O | | | | 1.36 |
| 28.167 | 0.00 | 0.96 | 0.437 | I | O | | | | 1.34 |
| 28.250 | 0.00 | 0.95 | 0.431 | I | O | | | | 1.31 |
| 28.333 | 0.00 | 0.94 | 0.424 | I | O | | | | 1.29 |
| 28.417 | 0.00 | 0.93 | 0.418 | I | O | | | | 1.26 |
| 28.500 | 0.00 | 0.92 | 0.411 | I | O | | | | 1.24 |
| 28.583 | 0.00 | 0.91 | 0.405 | I | O | | | | 1.21 |
| 28.667 | 0.00 | 0.90 | 0.399 | I | O | | | | 1.19 |
| 28.750 | 0.00 | 0.89 | 0.393 | I | O | | | | 1.17 |
| 28.833 | 0.00 | 0.88 | 0.386 | I | O | | | | 1.14 |
| 28.917 | 0.00 | 0.87 | 0.380 | I | O | | | | 1.12 |
| 29.000 | 0.00 | 0.86 | 0.374 | I | O | | | | 1.10 |
| 29.083 | 0.00 | 0.85 | 0.369 | I | O | | | | 1.07 |
| 29.167 | 0.00 | 0.84 | 0.363 | I | O | | | | 1.05 |
| 29.250 | 0.00 | 0.83 | 0.357 | I | O | | | | 1.03 |
| 29.333 | 0.00 | 0.82 | 0.351 | I | O | | | | 1.01 |
| 29.417 | 0.00 | 0.81 | 0.346 | I | O | | | | 0.99 |
| 29.500 | 0.00 | 0.80 | 0.340 | I | O | | | | 0.97 |
| 29.583 | 0.00 | 0.79 | 0.335 | I | O | | | | 0.96 |
| 29.667 | 0.00 | 0.77 | 0.329 | I | O | | | | 0.94 |
| 29.750 | 0.00 | 0.76 | 0.324 | I | O | | | | 0.93 |
| 29.833 | 0.00 | 0.75 | 0.319 | I | O | | | | 0.91 |
| 29.917 | 0.00 | 0.74 | 0.314 | I | O | | | | 0.90 |
| 30.000 | 0.00 | 0.73 | 0.309 | I | O | | | | 0.88 |
| 30.083 | 0.00 | 0.71 | 0.304 | I | O | | | | 0.87 |
| 30.167 | 0.00 | 0.70 | 0.299 | I | O | | | | 0.86 |
| 30.250 | 0.00 | 0.69 | 0.294 | I | O | | | | 0.84 |
| 30.333 | 0.00 | 0.68 | 0.289 | I | O | | | | 0.83 |
| 30.417 | 0.00 | 0.67 | 0.285 | I | O | | | | 0.82 |
| 30.500 | 0.00 | 0.66 | 0.280 | I | O | | | | 0.80 |
| 30.583 | 0.00 | 0.65 | 0.276 | I | O | | | | 0.79 |
| 30.667 | 0.00 | 0.64 | 0.271 | I | O | | | | 0.78 |
| 30.750 | 0.00 | 0.63 | 0.267 | I | O | | | | 0.76 |
| 30.833 | 0.00 | 0.62 | 0.263 | I | O | | | | 0.75 |
| 30.917 | 0.00 | 0.61 | 0.258 | I | O | | | | 0.74 |
| 31.000 | 0.00 | 0.60 | 0.254 | I | O | | | | 0.73 |
| 31.083 | 0.00 | 0.59 | 0.250 | I | O | | | | 0.72 |
| 31.167 | 0.00 | 0.58 | 0.246 | I | O | | | | 0.71 |
| 31.250 | 0.00 | 0.57 | 0.242 | I | O | | | | 0.69 |
| 31.333 | 0.00 | 0.56 | 0.238 | I | O | | | | 0.68 |
| 31.417 | 0.00 | 0.55 | 0.234 | I | O | | | | 0.67 |
| 31.500 | 0.00 | 0.54 | 0.231 | I | O | | | | 0.66 |
| 31.583 | 0.00 | 0.53 | 0.227 | I | O | | | | 0.65 |
| 31.667 | 0.00 | 0.52 | 0.223 | I | O | | | | 0.64 |
| 31.750 | 0.00 | 0.52 | 0.220 | I | O | | | | 0.63 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 31.833 | 0.00 | 0.51 | 0.216 | I O | | | | 0.62 |
| 31.917 | 0.00 | 0.50 | 0.213 | I O | | | | 0.61 |
| 32.000 | 0.00 | 0.49 | 0.209 | IO | | | | 0.60 |
| 32.083 | 0.00 | 0.48 | 0.206 | IO | | | | 0.59 |
| 32.167 | 0.00 | 0.48 | 0.203 | IO | | | | 0.58 |
| 32.250 | 0.00 | 0.47 | 0.199 | IO | | | | 0.57 |
| 32.333 | 0.00 | 0.46 | 0.196 | IO | | | | 0.56 |
| 32.417 | 0.00 | 0.45 | 0.193 | IO | | | | 0.55 |
| 32.500 | 0.00 | 0.45 | 0.190 | IO | | | | 0.54 |
| 32.583 | 0.00 | 0.44 | 0.187 | IO | | | | 0.54 |
| 32.667 | 0.00 | 0.43 | 0.184 | IO | | | | 0.53 |
| 32.750 | 0.00 | 0.43 | 0.181 | IO | | | | 0.52 |
| 32.833 | 0.00 | 0.42 | 0.178 | IO | | | | 0.51 |
| 32.917 | 0.00 | 0.41 | 0.175 | IO | | | | 0.50 |
| 33.000 | 0.00 | 0.40 | 0.172 | IO | | | | 0.49 |
| 33.083 | 0.00 | 0.40 | 0.170 | IO | | | | 0.49 |
| 33.167 | 0.00 | 0.39 | 0.167 | IO | | | | 0.48 |
| 33.250 | 0.00 | 0.39 | 0.164 | IO | | | | 0.47 |
| 33.333 | 0.00 | 0.38 | 0.162 | IO | | | | 0.46 |
| 33.417 | 0.00 | 0.37 | 0.159 | IO | | | | 0.46 |
| 33.500 | 0.00 | 0.37 | 0.156 | IO | | | | 0.45 |
| 33.583 | 0.00 | 0.36 | 0.154 | IO | | | | 0.44 |
| 33.667 | 0.00 | 0.36 | 0.151 | IO | | | | 0.43 |
| 33.750 | 0.00 | 0.35 | 0.149 | IO | | | | 0.43 |
| 33.833 | 0.00 | 0.34 | 0.147 | IO | | | | 0.42 |
| 33.917 | 0.00 | 0.34 | 0.144 | IO | | | | 0.41 |
| 34.000 | 0.00 | 0.33 | 0.142 | IO | | | | 0.41 |
| 34.083 | 0.00 | 0.33 | 0.140 | IO | | | | 0.40 |
| 34.167 | 0.00 | 0.32 | 0.137 | IO | | | | 0.39 |
| 34.250 | 0.00 | 0.32 | 0.135 | IO | | | | 0.39 |
| 34.333 | 0.00 | 0.31 | 0.133 | IO | | | | 0.38 |
| 34.417 | 0.00 | 0.31 | 0.131 | IO | | | | 0.38 |
| 34.500 | 0.00 | 0.30 | 0.129 | IO | | | | 0.37 |
| 34.583 | 0.00 | 0.30 | 0.127 | IO | | | | 0.36 |
| 34.667 | 0.00 | 0.29 | 0.125 | IO | | | | 0.36 |
| 34.750 | 0.00 | 0.29 | 0.123 | IO | | | | 0.35 |
| 34.833 | 0.00 | 0.28 | 0.121 | IO | | | | 0.35 |
| 34.917 | 0.00 | 0.28 | 0.119 | IO | | | | 0.34 |
| 35.000 | 0.00 | 0.27 | 0.117 | IO | | | | 0.33 |
| 35.083 | 0.00 | 0.27 | 0.115 | IO | | | | 0.33 |
| 35.167 | 0.00 | 0.27 | 0.113 | IO | | | | 0.32 |
| 35.250 | 0.00 | 0.26 | 0.111 | IO | | | | 0.32 |
| 35.333 | 0.00 | 0.26 | 0.110 | IO | | | | 0.31 |
| 35.417 | 0.00 | 0.25 | 0.108 | IO | | | | 0.31 |
| 35.500 | 0.00 | 0.25 | 0.106 | O | | | | 0.30 |
| 35.583 | 0.00 | 0.25 | 0.104 | O | | | | 0.30 |
| 35.667 | 0.00 | 0.24 | 0.103 | O | | | | 0.29 |
| 35.750 | 0.00 | 0.24 | 0.101 | O | | | | 0.29 |
| 35.833 | 0.00 | 0.23 | 0.099 | O | | | | 0.28 |
| 35.917 | 0.00 | 0.23 | 0.098 | O | | | | 0.28 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 36.000 | 0.00 | 0.23 | 0.096 | O | \| | \| | \| | 0.28 |
| 36.083 | 0.00 | 0.22 | 0.095 | O | \| | \| | \| | 0.27 |
| 36.167 | 0.00 | 0.22 | 0.093 | O | \| | \| | \| | 0.27 |
| 36.250 | 0.00 | 0.22 | 0.092 | O | \| | \| | \| | 0.26 |
| 36.333 | 0.00 | 0.21 | 0.090 | O | \| | \| | \| | 0.26 |
| 36.417 | 0.00 | 0.21 | 0.089 | O | \| | \| | \| | 0.25 |
| 36.500 | 0.00 | 0.21 | 0.087 | O | \| | \| | \| | 0.25 |
| 36.583 | 0.00 | 0.20 | 0.086 | O | \| | \| | \| | 0.25 |
| 36.667 | 0.00 | 0.20 | 0.085 | O | \| | \| | \| | 0.24 |
| 36.750 | 0.00 | 0.20 | 0.083 | O | \| | \| | \| | 0.24 |
| 36.833 | 0.00 | 0.19 | 0.082 | O | \| | \| | \| | 0.23 |
| 36.917 | 0.00 | 0.19 | 0.081 | O | \| | \| | \| | 0.23 |
| 37.000 | 0.00 | 0.19 | 0.079 | O | \| | \| | \| | 0.23 |
| 37.083 | 0.00 | 0.18 | 0.078 | O | \| | \| | \| | 0.22 |
| 37.167 | 0.00 | 0.18 | 0.077 | O | \| | \| | \| | 0.22 |
| 37.250 | 0.00 | 0.18 | 0.076 | O | \| | \| | \| | 0.22 |
| 37.333 | 0.00 | 0.17 | 0.074 | O | \| | \| | \| | 0.21 |
| 37.417 | 0.00 | 0.17 | 0.073 | O | \| | \| | \| | 0.21 |
| 37.500 | 0.00 | 0.17 | 0.072 | O | \| | \| | \| | 0.21 |
| 37.583 | 0.00 | 0.17 | 0.071 | O | \| | \| | \| | 0.20 |
| 37.667 | 0.00 | 0.16 | 0.070 | O | \| | \| | \| | 0.20 |
| 37.750 | 0.00 | 0.16 | 0.069 | O | \| | \| | \| | 0.20 |
| 37.833 | 0.00 | 0.16 | 0.067 | O | \| | \| | \| | 0.19 |
| 37.917 | 0.00 | 0.16 | 0.066 | O | \| | \| | \| | 0.19 |
| 38.000 | 0.00 | 0.15 | 0.065 | O | \| | \| | \| | 0.19 |
| 38.083 | 0.00 | 0.15 | 0.064 | O | \| | \| | \| | 0.18 |
| 38.167 | 0.00 | 0.15 | 0.063 | O | \| | \| | \| | 0.18 |
| 38.250 | 0.00 | 0.15 | 0.062 | O | \| | \| | \| | 0.18 |
| 38.333 | 0.00 | 0.14 | 0.061 | O | \| | \| | \| | 0.18 |
| 38.417 | 0.00 | 0.14 | 0.060 | O | \| | \| | \| | 0.17 |
| 38.500 | 0.00 | 0.14 | 0.059 | O | \| | \| | \| | 0.17 |
| 38.583 | 0.00 | 0.14 | 0.058 | O | \| | \| | \| | 0.17 |
| 38.667 | 0.00 | 0.13 | 0.057 | O | \| | \| | \| | 0.16 |
| 38.750 | 0.00 | 0.13 | 0.056 | O | \| | \| | \| | 0.16 |
| 38.833 | 0.00 | 0.13 | 0.056 | O | \| | \| | \| | 0.16 |
| 38.917 | 0.00 | 0.13 | 0.055 | O | \| | \| | \| | 0.16 |
| 39.000 | 0.00 | 0.13 | 0.054 | O | \| | \| | \| | 0.15 |
| 39.083 | 0.00 | 0.12 | 0.053 | O | \| | \| | \| | 0.15 |
| 39.167 | 0.00 | 0.12 | 0.052 | O | \| | \| | \| | 0.15 |
| 39.250 | 0.00 | 0.12 | 0.051 | O | \| | \| | \| | 0.15 |
| 39.333 | 0.00 | 0.12 | 0.050 | O | \| | \| | \| | 0.14 |
| 39.417 | 0.00 | 0.12 | 0.050 | O | \| | \| | \| | 0.14 |
| 39.500 | 0.00 | 0.11 | 0.049 | O | \| | \| | \| | 0.14 |
| 39.583 | 0.00 | 0.11 | 0.048 | O | \| | \| | \| | 0.14 |
| 39.667 | 0.00 | 0.11 | 0.047 | O | \| | \| | \| | 0.14 |
| 39.750 | 0.00 | 0.11 | 0.046 | O | \| | \| | \| | 0.13 |
| 39.833 | 0.00 | 0.11 | 0.046 | O | \| | \| | \| | 0.13 |
| 39.917 | 0.00 | 0.11 | 0.045 | O | \| | \| | \| | 0.13 |
| 40.000 | 0.00 | 0.10 | 0.044 | O | \| | \| | \| | 0.13 |
| 40.083 | 0.00 | 0.10 | 0.044 | O | \| | \| | \| | 0.12 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 40.167 | 0.00 | 0.10 | 0.043 | O | | | | 0.12 |
| 40.250 | 0.00 | 0.10 | 0.042 | O | | | | 0.12 |
| 40.333 | 0.00 | 0.10 | 0.041 | O | | | | 0.12 |
| 40.417 | 0.00 | 0.10 | 0.041 | O | | | | 0.12 |
| 40.500 | 0.00 | 0.09 | 0.040 | O | | | | 0.12 |
| 40.583 | 0.00 | 0.09 | 0.040 | O | | | | 0.11 |
| 40.667 | 0.00 | 0.09 | 0.039 | O | | | | 0.11 |
| 40.750 | 0.00 | 0.09 | 0.038 | O | | | | 0.11 |
| 40.833 | 0.00 | 0.09 | 0.038 | O | | | | 0.11 |
| 40.917 | 0.00 | 0.09 | 0.037 | O | | | | 0.11 |
| 41.000 | 0.00 | 0.09 | 0.036 | O | | | | 0.10 |
| 41.083 | 0.00 | 0.08 | 0.036 | O | | | | 0.10 |
| 41.167 | 0.00 | 0.08 | 0.035 | O | | | | 0.10 |
| 41.250 | 0.00 | 0.08 | 0.035 | O | | | | 0.10 |
| 41.333 | 0.00 | 0.08 | 0.034 | O | | | | 0.10 |
| 41.417 | 0.00 | 0.08 | 0.034 | O | | | | 0.10 |
| 41.500 | 0.00 | 0.08 | 0.033 | O | | | | 0.09 |
| 41.583 | 0.00 | 0.08 | 0.033 | O | | | | 0.09 |
| 41.667 | 0.00 | 0.08 | 0.032 | O | | | | 0.09 |
| 41.750 | 0.00 | 0.07 | 0.032 | O | | | | 0.09 |
| 41.833 | 0.00 | 0.07 | 0.031 | O | | | | 0.09 |
| 41.917 | 0.00 | 0.07 | 0.031 | O | | | | 0.09 |
| 42.000 | 0.00 | 0.07 | 0.030 | O | | | | 0.09 |
| 42.083 | 0.00 | 0.07 | 0.030 | O | | | | 0.08 |
| 42.167 | 0.00 | 0.07 | 0.029 | O | | | | 0.08 |
| 42.250 | 0.00 | 0.07 | 0.029 | O | | | | 0.08 |
| 42.333 | 0.00 | 0.07 | 0.028 | O | | | | 0.08 |
| 42.417 | 0.00 | 0.07 | 0.028 | O | | | | 0.08 |
| 42.500 | 0.00 | 0.06 | 0.027 | O | | | | 0.08 |
| 42.583 | 0.00 | 0.06 | 0.027 | O | | | | 0.08 |
| 42.667 | 0.00 | 0.06 | 0.026 | O | | | | 0.08 |
| 42.750 | 0.00 | 0.06 | 0.026 | O | | | | 0.07 |
| 42.833 | 0.00 | 0.06 | 0.026 | O | | | | 0.07 |
| 42.917 | 0.00 | 0.06 | 0.025 | O | | | | 0.07 |
| 43.000 | 0.00 | 0.06 | 0.025 | O | | | | 0.07 |
| 43.083 | 0.00 | 0.06 | 0.024 | O | | | | 0.07 |
| 43.167 | 0.00 | 0.06 | 0.024 | O | | | | 0.07 |
| 43.250 | 0.00 | 0.06 | 0.024 | O | | | | 0.07 |
| 43.333 | 0.00 | 0.05 | 0.023 | O | | | | 0.07 |
| 43.417 | 0.00 | 0.05 | 0.023 | O | | | | 0.07 |
| 43.500 | 0.00 | 0.05 | 0.022 | O | | | | 0.06 |
| 43.583 | 0.00 | 0.05 | 0.022 | O | | | | 0.06 |
| 43.667 | 0.00 | 0.05 | 0.022 | O | | | | 0.06 |
| 43.750 | 0.00 | 0.05 | 0.021 | O | | | | 0.06 |
| 43.833 | 0.00 | 0.05 | 0.021 | O | | | | 0.06 |
| 43.917 | 0.00 | 0.05 | 0.021 | O | | | | 0.06 |
| 44.000 | 0.00 | 0.05 | 0.020 | O | | | | 0.06 |
| 44.083 | 0.00 | 0.05 | 0.020 | O | | | | 0.06 |
| 44.167 | 0.00 | 0.05 | 0.020 | O | | | | 0.06 |
| 44.250 | 0.00 | 0.05 | 0.019 | O | | | | 0.06 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 44.333 | 0.00 | 0.04 | 0.019 | O | | | | 0.05 |
| 44.417 | 0.00 | 0.04 | 0.019 | O | | | | 0.05 |
| 44.500 | 0.00 | 0.04 | 0.018 | O | | | | 0.05 |
| 44.583 | 0.00 | 0.04 | 0.018 | O | | | | 0.05 |
| 44.667 | 0.00 | 0.04 | 0.018 | O | | | | 0.05 |
| 44.750 | 0.00 | 0.04 | 0.018 | O | | | | 0.05 |
| 44.833 | 0.00 | 0.04 | 0.017 | O | | | | 0.05 |
| 44.917 | 0.00 | 0.04 | 0.017 | O | | | | 0.05 |
| 45.000 | 0.00 | 0.04 | 0.017 | O | | | | 0.05 |
| 45.083 | 0.00 | 0.04 | 0.016 | O | | | | 0.05 |
| 45.167 | 0.00 | 0.04 | 0.016 | O | | | | 0.05 |
| 45.250 | 0.00 | 0.04 | 0.016 | O | | | | 0.05 |
| 45.333 | 0.00 | 0.04 | 0.016 | O | | | | 0.05 |
| 45.417 | 0.00 | 0.04 | 0.015 | O | | | | 0.04 |
| 45.500 | 0.00 | 0.04 | 0.015 | O | | | | 0.04 |
| 45.583 | 0.00 | 0.04 | 0.015 | O | | | | 0.04 |
| 45.667 | 0.00 | 0.03 | 0.015 | O | | | | 0.04 |
| 45.750 | 0.00 | 0.03 | 0.014 | O | | | | 0.04 |
| 45.833 | 0.00 | 0.03 | 0.014 | O | | | | 0.04 |
| 45.917 | 0.00 | 0.03 | 0.014 | O | | | | 0.04 |
| 46.000 | 0.00 | 0.03 | 0.014 | O | | | | 0.04 |
| 46.083 | 0.00 | 0.03 | 0.014 | O | | | | 0.04 |
| 46.167 | 0.00 | 0.03 | 0.013 | O | | | | 0.04 |
| 46.250 | 0.00 | 0.03 | 0.013 | O | | | | 0.04 |
| 46.333 | 0.00 | 0.03 | 0.013 | O | | | | 0.04 |
| 46.417 | 0.00 | 0.03 | 0.013 | O | | | | 0.04 |
| 46.500 | 0.00 | 0.03 | 0.013 | O | | | | 0.04 |
| 46.583 | 0.00 | 0.03 | 0.012 | O | | | | 0.04 |
| 46.667 | 0.00 | 0.03 | 0.012 | O | | | | 0.03 |
| 46.750 | 0.00 | 0.03 | 0.012 | O | | | | 0.03 |
| 46.833 | 0.00 | 0.03 | 0.012 | O | | | | 0.03 |
| 46.917 | 0.00 | 0.03 | 0.012 | O | | | | 0.03 |
| 47.000 | 0.00 | 0.03 | 0.011 | O | | | | 0.03 |
| 47.083 | 0.00 | 0.03 | 0.011 | O | | | | 0.03 |
| 47.167 | 0.00 | 0.03 | 0.011 | O | | | | 0.03 |
| 47.250 | 0.00 | 0.03 | 0.011 | O | | | | 0.03 |
| 47.333 | 0.00 | 0.03 | 0.011 | O | | | | 0.03 |
| 47.417 | 0.00 | 0.02 | 0.010 | O | | | | 0.03 |
| 47.500 | 0.00 | 0.02 | 0.010 | O | | | | 0.03 |
| 47.583 | 0.00 | 0.02 | 0.010 | O | | | | 0.03 |
| 47.667 | 0.00 | 0.02 | 0.010 | O | | | | 0.03 |
| 47.750 | 0.00 | 0.02 | 0.010 | O | | | | 0.03 |
| 47.833 | 0.00 | 0.02 | 0.010 | O | | | | 0.03 |
| 47.917 | 0.00 | 0.02 | 0.010 | O | | | | 0.03 |
| 48.000 | 0.00 | 0.02 | 0.009 | O | | | | 0.03 |
| 48.083 | 0.00 | 0.02 | 0.009 | O | | | | 0.03 |
| 48.167 | 0.00 | 0.02 | 0.009 | O | | | | 0.03 |
| 48.250 | 0.00 | 0.02 | 0.009 | O | | | | 0.03 |
| 48.333 | 0.00 | 0.02 | 0.009 | O | | | | 0.03 |
| 48.417 | 0.00 | 0.02 | 0.009 | O | | | | 0.02 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 48.500 | 0.00 | 0.02 | 0.008 | O | | | | | 0.02 |
| 48.583 | 0.00 | 0.02 | 0.008 | O | | | | | 0.02 |
| 48.667 | 0.00 | 0.02 | 0.008 | O | | | | | 0.02 |
| 48.750 | 0.00 | 0.02 | 0.008 | O | | | | | 0.02 |
| 48.833 | 0.00 | 0.02 | 0.008 | O | | | | | 0.02 |
| 48.917 | 0.00 | 0.02 | 0.008 | O | | | | | 0.02 |
| 49.000 | 0.00 | 0.02 | 0.008 | O | | | | | 0.02 |
| 49.083 | 0.00 | 0.02 | 0.008 | O | | | | | 0.02 |
| 49.167 | 0.00 | 0.02 | 0.007 | O | | | | | 0.02 |
| 49.250 | 0.00 | 0.02 | 0.007 | O | | | | | 0.02 |
| 49.333 | 0.00 | 0.02 | 0.007 | O | | | | | 0.02 |
| 49.417 | 0.00 | 0.02 | 0.007 | O | | | | | 0.02 |
| 49.500 | 0.00 | 0.02 | 0.007 | O | | | | | 0.02 |
| 49.583 | 0.00 | 0.02 | 0.007 | O | | | | | 0.02 |
| 49.667 | 0.00 | 0.02 | 0.007 | O | | | | | 0.02 |
| 49.750 | 0.00 | 0.02 | 0.007 | O | | | | | 0.02 |
| 49.833 | 0.00 | 0.02 | 0.007 | O | | | | | 0.02 |
| 49.917 | 0.00 | 0.02 | 0.006 | O | | | | | 0.02 |
| 50.000 | 0.00 | 0.01 | 0.006 | O | | | | | 0.02 |
| 50.083 | 0.00 | 0.01 | 0.006 | O | | | | | 0.02 |
| 50.167 | 0.00 | 0.01 | 0.006 | O | | | | | 0.02 |
| 50.250 | 0.00 | 0.01 | 0.006 | O | | | | | 0.02 |
| 50.333 | 0.00 | 0.01 | 0.006 | O | | | | | 0.02 |
| 50.417 | 0.00 | 0.01 | 0.006 | O | | | | | 0.02 |
| 50.500 | 0.00 | 0.01 | 0.006 | O | | | | | 0.02 |
| 50.583 | 0.00 | 0.01 | 0.006 | O | | | | | 0.02 |
| 50.667 | 0.00 | 0.01 | 0.006 | O | | | | | 0.02 |
| 50.750 | 0.00 | 0.01 | 0.005 | O | | | | | 0.02 |
| 50.833 | 0.00 | 0.01 | 0.005 | O | | | | | 0.02 |
| 50.917 | 0.00 | 0.01 | 0.005 | O | | | | | 0.02 |
| 51.000 | 0.00 | 0.01 | 0.005 | O | | | | | 0.01 |
| 51.083 | 0.00 | 0.01 | 0.005 | O | | | | | 0.01 |
| 51.167 | 0.00 | 0.01 | 0.005 | O | | | | | 0.01 |
| 51.250 | 0.00 | 0.01 | 0.005 | O | | | | | 0.01 |
| 51.333 | 0.00 | 0.01 | 0.005 | O | | | | | 0.01 |
| 51.417 | 0.00 | 0.01 | 0.005 | O | | | | | 0.01 |
| 51.500 | 0.00 | 0.01 | 0.005 | O | | | | | 0.01 |
| 51.583 | 0.00 | 0.01 | 0.005 | O | | | | | 0.01 |
| 51.667 | 0.00 | 0.01 | 0.005 | O | | | | | 0.01 |
| 51.750 | 0.00 | 0.01 | 0.005 | O | | | | | 0.01 |
| 51.833 | 0.00 | 0.01 | 0.004 | O | | | | | 0.01 |
| 51.917 | 0.00 | 0.01 | 0.004 | O | | | | | 0.01 |
| 52.000 | 0.00 | 0.01 | 0.004 | O | | | | | 0.01 |
| 52.083 | 0.00 | 0.01 | 0.004 | O | | | | | 0.01 |
| 52.167 | 0.00 | 0.01 | 0.004 | O | | | | | 0.01 |
| 52.250 | 0.00 | 0.01 | 0.004 | O | | | | | 0.01 |
| 52.333 | 0.00 | 0.01 | 0.004 | O | | | | | 0.01 |
| 52.417 | 0.00 | 0.01 | 0.004 | O | | | | | 0.01 |
| 52.500 | 0.00 | 0.01 | 0.004 | O | | | | | 0.01 |
| 52.583 | 0.00 | 0.01 | 0.004 | O | | | | | 0.01 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 52.667 | 0.00 | 0.01 | 0.004 | O | | | | | 0.01 |
| 52.750 | 0.00 | 0.01 | 0.004 | O | | | | | 0.01 |
| 52.833 | 0.00 | 0.01 | 0.004 | O | | | | | 0.01 |
| 52.917 | 0.00 | 0.01 | 0.004 | O | | | | | 0.01 |
| 53.000 | 0.00 | 0.01 | 0.004 | O | | | | | 0.01 |
| 53.083 | 0.00 | 0.01 | 0.003 | O | | | | | 0.01 |
| 53.167 | 0.00 | 0.01 | 0.003 | O | | | | | 0.01 |
| 53.250 | 0.00 | 0.01 | 0.003 | O | | | | | 0.01 |
| 53.333 | 0.00 | 0.01 | 0.003 | O | | | | | 0.01 |
| 53.417 | 0.00 | 0.01 | 0.003 | O | | | | | 0.01 |
| 53.500 | 0.00 | 0.01 | 0.003 | O | | | | | 0.01 |
| 53.583 | 0.00 | 0.01 | 0.003 | O | | | | | 0.01 |
| 53.667 | 0.00 | 0.01 | 0.003 | O | | | | | 0.01 |
| 53.750 | 0.00 | 0.01 | 0.003 | O | | | | | 0.01 |
| 53.833 | 0.00 | 0.01 | 0.003 | O | | | | | 0.01 |
| 53.917 | 0.00 | 0.01 | 0.003 | O | | | | | 0.01 |
| 54.000 | 0.00 | 0.01 | 0.003 | O | | | | | 0.01 |
| 54.083 | 0.00 | 0.01 | 0.003 | O | | | | | 0.01 |
| 54.167 | 0.00 | 0.01 | 0.003 | O | | | | | 0.01 |
| 54.250 | 0.00 | 0.01 | 0.003 | O | | | | | 0.01 |
| 54.333 | 0.00 | 0.01 | 0.003 | O | | | | | 0.01 |
| 54.417 | 0.00 | 0.01 | 0.003 | O | | | | | 0.01 |
| 54.500 | 0.00 | 0.01 | 0.003 | O | | | | | 0.01 |
| 54.583 | 0.00 | 0.01 | 0.003 | O | | | | | 0.01 |
| 54.667 | 0.00 | 0.01 | 0.003 | O | | | | | 0.01 |
| 54.750 | 0.00 | 0.01 | 0.003 | O | | | | | 0.01 |
| 54.833 | 0.00 | 0.01 | 0.002 | O | | | | | 0.01 |
| 54.917 | 0.00 | 0.01 | 0.002 | O | | | | | 0.01 |
| 55.000 | 0.00 | 0.01 | 0.002 | O | | | | | 0.01 |
| 55.083 | 0.00 | 0.01 | 0.002 | O | | | | | 0.01 |
| 55.167 | 0.00 | 0.01 | 0.002 | O | | | | | 0.01 |
| 55.250 | 0.00 | 0.01 | 0.002 | O | | | | | 0.01 |
| 55.333 | 0.00 | 0.01 | 0.002 | O | | | | | 0.01 |
| 55.417 | 0.00 | 0.01 | 0.002 | O | | | | | 0.01 |
| 55.500 | 0.00 | 0.01 | 0.002 | O | | | | | 0.01 |
| 55.583 | 0.00 | 0.01 | 0.002 | O | | | | | 0.01 |
| 55.667 | 0.00 | 0.00 | 0.002 | O | | | | | 0.01 |
| 55.750 | 0.00 | 0.00 | 0.002 | O | | | | | 0.01 |
| 55.833 | 0.00 | 0.00 | 0.002 | O | | | | | 0.01 |
| 55.917 | 0.00 | 0.00 | 0.002 | O | | | | | 0.01 |
| 56.000 | 0.00 | 0.00 | 0.002 | O | | | | | 0.01 |
| 56.083 | 0.00 | 0.00 | 0.002 | O | | | | | 0.01 |
| 56.167 | 0.00 | 0.00 | 0.002 | O | | | | | 0.01 |
| 56.250 | 0.00 | 0.00 | 0.002 | O | | | | | 0.01 |
| 56.333 | 0.00 | 0.00 | 0.002 | O | | | | | 0.01 |
| 56.417 | 0.00 | 0.00 | 0.002 | O | | | | | 0.01 |
| 56.500 | 0.00 | 0.00 | 0.002 | O | | | | | 0.01 |
| 56.583 | 0.00 | 0.00 | 0.002 | O | | | | | 0.01 |
| 56.667 | 0.00 | 0.00 | 0.002 | O | | | | | 0.00 |
| 56.750 | 0.00 | 0.00 | 0.002 | O | | | | | 0.00 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 56.833 | 0.00 | 0.00 | 0.002 | O | | | | 0.00 |
| 56.917 | 0.00 | 0.00 | 0.002 | O | | | | 0.00 |
| 57.000 | 0.00 | 0.00 | 0.002 | O | | | | 0.00 |
| 57.083 | 0.00 | 0.00 | 0.002 | O | | | | 0.00 |
| 57.167 | 0.00 | 0.00 | 0.002 | O | | | | 0.00 |
| 57.250 | 0.00 | 0.00 | 0.002 | O | | | | 0.00 |
| 57.333 | 0.00 | 0.00 | 0.002 | O | | | | 0.00 |
| 57.417 | 0.00 | 0.00 | 0.002 | O | | | | 0.00 |
| 57.500 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 57.583 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 57.667 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 57.750 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 57.833 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 57.917 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 58.000 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 58.083 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 58.167 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 58.250 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 58.333 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 58.417 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 58.500 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 58.583 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 58.667 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 58.750 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 58.833 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 58.917 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 59.000 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 59.083 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 59.167 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 59.250 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 59.333 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 59.417 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 59.500 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 59.583 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 59.667 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 59.750 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 59.833 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 59.917 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 60.000 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 60.083 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 60.167 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 60.250 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 60.333 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 60.417 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 60.500 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 60.583 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 60.667 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 60.750 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 60.833 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |
| 60.917 | 0.00 | 0.00 | 0.001 | O | | | | 0.00 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 61.000 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 61.083 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 61.167 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 61.250 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 61.333 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 61.417 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 61.500 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 61.583 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 61.667 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 61.750 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 61.833 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 61.917 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 62.000 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 62.083 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 62.167 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 62.250 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 62.333 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 62.417 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 62.500 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 62.583 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 62.667 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 62.750 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 62.833 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 62.917 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 63.000 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 63.083 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | 0.00 |
| 63.167 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | 0.00 |
| 63.250 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | 0.00 |
| 63.333 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | 0.00 |
| 63.417 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | 0.00 |
| 63.500 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | 0.00 |
| 63.583 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | 0.00 |
| 63.667 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | 0.00 |
| 63.750 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | 0.00 |
| 63.833 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | 0.00 |
| 63.917 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | 0.00 |
| 64.000 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | 0.00 |

```
****************************HYDROGRAPH DATA****************************
                Number of intervals =   768
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =        5.449 (CFS)
                Total volume =       4.094 (Ac.Ft)
        Status of hydrographs being held in storage
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
*********************************************************************

---------------------------------------------------------------------
```

```
                    FLOOD HYDROGRAPH ROUTING PROGRAM
            Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005
                        Study date: 05/31/22

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

ORCHARD LOGISTICS CENTER
100 YR 1 HR STORM EVENT
2838Q100R
SD
---------------------------------------------------------------------

Program License Serial Number 6145

---------------------------------------------------------------------
********************* HYDROGRAPH INFORMATION **********************

             From study/file name: 2838QUHP1100.rte
****************************HYDROGRAPH DATA****************************
             Number of intervals =    16
             Time interval =    5.0 (Min.)
             Maximum/Peak flow rate =       84.637 (CFS)
             Total volume =       3.015 (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        8.000 to Point/Station        9.000
**** RETARDING BASIN ROUTING ****
______________________________________________________________________

User entry of depth-outflow-storage data
---------------------------------------------------------------------
Total number of inflow hydrograph intervals = 16
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
---------------------------------------------------------------------
---------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
---------------------------------------------------------------------
---------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)     (Ac.Ft)
---------------------------------------------------------------------
   0.000      0.000      0.000      0.000       0.000
   1.000      0.349      0.820      0.346       0.352
   2.000      0.611      1.250      0.607       0.615
   3.000      0.873      1.570      0.868       0.878
   4.000      1.135      1.830      1.129       1.141
   4.500      1.589      1.950      1.582       1.596
   5.000      2.080     13.060      2.035       2.125
   5.500      2.608     33.270      2.493       2.723
   6.500      3.780     50.500      3.606       3.954
   7.500      5.106     61.500      4.894       5.318
   8.500      6.589     70.790      6.345       6.833
---------------------------------------------------------------------
             Hydrograph Detention Basin Routing
```

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

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| Time (Hours) | Inflow (CFS) | Outflow (CFS) | Storage (Ac.Ft) | .0 21.2 42.32 63.48 84.64 | Depth (Ft.) |
|---|---|---|---|---|---|
| 0.083 | 5.79 | 0.05 | 0.020 | O I | 0.06 |
| 0.167 | 14.54 | 0.21 | 0.089 | O I | 0.25 |
| 0.250 | 18.50 | 0.47 | 0.200 | O I | 0.57 |
| 0.333 | 20.33 | 0.77 | 0.330 | O I | 0.94 |
| 0.417 | 22.87 | 1.02 | 0.472 | O I | 1.47 |
| 0.500 | 24.73 | 1.27 | 0.628 | O I | 2.07 |
| 0.583 | 27.46 | 1.48 | 0.799 | O I | 2.72 |
| 0.667 | 32.95 | 1.69 | 0.996 | O I | 3.47 |
| 0.750 | 44.88 | 1.86 | 1.252 | O I | 4.13 |
| 0.833 | 84.64 | 3.95 | 1.677 | O I | 4.59 |
| 0.917 | 80.10 | 16.65 | 2.174 | O I | 5.09 |
| 1.000 | 37.37 | 26.45 | 2.430 | O I | 5.33 |
| 1.083 | 16.92 | 26.61 | 2.434 | O I | 5.34 |
| 1.167 | 5.21 | 22.99 | 2.340 | I O | 5.25 |
| 1.250 | 1.24 | 18.39 | 2.219 | I O | 5.13 |
| 1.333 | 0.29 | 14.28 | 2.112 | I O | 5.03 |
| 1.417 | 0.00 | 11.78 | 2.023 | I O | 4.94 |
| 1.500 | 0.00 | 10.07 | 1.948 | I O | 4.87 |
| 1.583 | 0.00 | 8.62 | 1.884 | I O | 4.80 |
| 1.667 | 0.00 | 7.37 | 1.829 | I O | 4.74 |
| 1.750 | 0.00 | 6.31 | 1.782 | I O | 4.70 |
| 1.833 | 0.00 | 5.39 | 1.741 | I O | 4.66 |
| 1.917 | 0.00 | 4.61 | 1.707 | IO | 4.62 |
| 2.000 | 0.00 | 3.95 | 1.677 | IO | 4.59 |
| 2.083 | 0.00 | 3.38 | 1.652 | IO | 4.56 |
| 2.167 | 0.00 | 2.89 | 1.630 | IO | 4.54 |
| 2.250 | 0.00 | 2.47 | 1.612 | O | 4.52 |
| 2.333 | 0.00 | 2.11 | 1.596 | O | 4.51 |
| 2.417 | 0.00 | 1.95 | 1.582 | O | 4.49 |
| 2.500 | 0.00 | 1.94 | 1.569 | O | 4.48 |
| 2.583 | 0.00 | 1.94 | 1.555 | O | 4.46 |
| 2.667 | 0.00 | 1.94 | 1.542 | O | 4.45 |
| 2.750 | 0.00 | 1.93 | 1.529 | O | 4.43 |
| 2.833 | 0.00 | 1.93 | 1.515 | O | 4.42 |
| 2.917 | 0.00 | 1.93 | 1.502 | O | 4.40 |
| 3.000 | 0.00 | 1.92 | 1.489 | O | 4.39 |
| 3.083 | 0.00 | 1.92 | 1.476 | O | 4.38 |
| 3.167 | 0.00 | 1.92 | 1.462 | O | 4.36 |
| 3.250 | 0.00 | 1.91 | 1.449 | O | 4.35 |
| 3.333 | 0.00 | 1.91 | 1.436 | O | 4.33 |
| 3.417 | 0.00 | 1.91 | 1.423 | O | 4.32 |
| 3.500 | 0.00 | 1.90 | 1.410 | O | 4.30 |
| 3.583 | 0.00 | 1.90 | 1.397 | O | 4.29 |
| 3.667 | 0.00 | 1.90 | 1.384 | O | 4.27 |
| 3.750 | 0.00 | 1.89 | 1.371 | O | 4.26 |
| 3.833 | 0.00 | 1.89 | 1.358 | O | 4.25 |
| 3.917 | 0.00 | 1.89 | 1.345 | O | 4.23 |
| 4.000 | 0.00 | 1.88 | 1.332 | O | 4.22 |
| 4.083 | 0.00 | 1.88 | 1.319 | O | 4.20 |
| 4.167 | 0.00 | 1.88 | 1.306 | O | 4.19 |
| 4.250 | 0.00 | 1.87 | 1.293 | O | 4.17 |
| 4.333 | 0.00 | 1.87 | 1.280 | O | 4.16 |
| 4.417 | 0.00 | 1.86 | 1.267 | O | 4.15 |
| 4.500 | 0.00 | 1.86 | 1.254 | O | 4.13 |
| 4.583 | 0.00 | 1.86 | 1.242 | O | 4.12 |
| 4.667 | 0.00 | 1.85 | 1.229 | O | 4.10 |
| 4.750 | 0.00 | 1.85 | 1.216 | O | 4.09 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.833 | 0.00 | 1.85 | 1.203 | O | \| | \| | \| | \| | 4.08 |
| 4.917 | 0.00 | 1.84 | 1.191 | O | \| | \| | \| | \| | 4.06 |
| 5.000 | 0.00 | 1.84 | 1.178 | O | \| | \| | \| | \| | 4.05 |
| 5.083 | 0.00 | 1.84 | 1.165 | O | \| | \| | \| | \| | 4.03 |
| 5.167 | 0.00 | 1.83 | 1.153 | O | \| | \| | \| | \| | 4.02 |
| 5.250 | 0.00 | 1.83 | 1.140 | O | \| | \| | \| | \| | 4.01 |
| 5.333 | 0.00 | 1.82 | 1.127 | O | \| | \| | \| | \| | 3.97 |
| 5.417 | 0.00 | 1.81 | 1.115 | O | \| | \| | \| | \| | 3.92 |
| 5.500 | 0.00 | 1.80 | 1.102 | O | \| | \| | \| | \| | 3.88 |
| 5.583 | 0.00 | 1.79 | 1.090 | O | \| | \| | \| | \| | 3.83 |
| 5.667 | 0.00 | 1.77 | 1.078 | O | \| | \| | \| | \| | 3.78 |
| 5.750 | 0.00 | 1.76 | 1.066 | O | \| | \| | \| | \| | 3.74 |
| 5.833 | 0.00 | 1.75 | 1.054 | O | \| | \| | \| | \| | 3.69 |
| 5.917 | 0.00 | 1.74 | 1.042 | O | \| | \| | \| | \| | 3.64 |
| 6.000 | 0.00 | 1.73 | 1.030 | O | \| | \| | \| | \| | 3.60 |
| 6.083 | 0.00 | 1.71 | 1.018 | O | \| | \| | \| | \| | 3.55 |
| 6.167 | 0.00 | 1.70 | 1.006 | O | \| | \| | \| | \| | 3.51 |
| 6.250 | 0.00 | 1.69 | 0.994 | O | \| | \| | \| | \| | 3.46 |
| 6.333 | 0.00 | 1.68 | 0.983 | O | \| | \| | \| | \| | 3.42 |
| 6.417 | 0.00 | 1.67 | 0.971 | O | \| | \| | \| | \| | 3.37 |
| 6.500 | 0.00 | 1.66 | 0.960 | O | \| | \| | \| | \| | 3.33 |
| 6.583 | 0.00 | 1.64 | 0.948 | O | \| | \| | \| | \| | 3.29 |
| 6.667 | 0.00 | 1.63 | 0.937 | O | \| | \| | \| | \| | 3.24 |
| 6.750 | 0.00 | 1.62 | 0.926 | O | \| | \| | \| | \| | 3.20 |
| 6.833 | 0.00 | 1.61 | 0.915 | O | \| | \| | \| | \| | 3.16 |
| 6.917 | 0.00 | 1.60 | 0.904 | O | \| | \| | \| | \| | 3.12 |
| 7.000 | 0.00 | 1.59 | 0.893 | O | \| | \| | \| | \| | 3.08 |
| 7.083 | 0.00 | 1.58 | 0.882 | O | \| | \| | \| | \| | 3.03 |
| 7.167 | 0.00 | 1.57 | 0.871 | O | \| | \| | \| | \| | 2.99 |
| 7.250 | 0.00 | 1.55 | 0.860 | O | \| | \| | \| | \| | 2.95 |
| 7.333 | 0.00 | 1.54 | 0.850 | O | \| | \| | \| | \| | 2.91 |
| 7.417 | 0.00 | 1.53 | 0.839 | O | \| | \| | \| | \| | 2.87 |
| 7.500 | 0.00 | 1.52 | 0.828 | O | \| | \| | \| | \| | 2.83 |
| 7.583 | 0.00 | 1.50 | 0.818 | O | \| | \| | \| | \| | 2.79 |
| 7.667 | 0.00 | 1.49 | 0.808 | O | \| | \| | \| | \| | 2.75 |
| 7.750 | 0.00 | 1.48 | 0.798 | O | \| | \| | \| | \| | 2.71 |
| 7.833 | 0.00 | 1.47 | 0.787 | O | \| | \| | \| | \| | 2.67 |
| 7.917 | 0.00 | 1.45 | 0.777 | O | \| | \| | \| | \| | 2.63 |
| 8.000 | 0.00 | 1.44 | 0.767 | O | \| | \| | \| | \| | 2.60 |
| 8.083 | 0.00 | 1.43 | 0.758 | O | \| | \| | \| | \| | 2.56 |
| 8.167 | 0.00 | 1.42 | 0.748 | O | \| | \| | \| | \| | 2.52 |
| 8.250 | 0.00 | 1.41 | 0.738 | O | \| | \| | \| | \| | 2.48 |
| 8.333 | 0.00 | 1.39 | 0.728 | O | \| | \| | \| | \| | 2.45 |
| 8.417 | 0.00 | 1.38 | 0.719 | O | \| | \| | \| | \| | 2.41 |
| 8.500 | 0.00 | 1.37 | 0.709 | O | \| | \| | \| | \| | 2.38 |
| 8.583 | 0.00 | 1.36 | 0.700 | O | \| | \| | \| | \| | 2.34 |
| 8.667 | 0.00 | 1.35 | 0.691 | O | \| | \| | \| | \| | 2.30 |
| 8.750 | 0.00 | 1.34 | 0.681 | O | \| | \| | \| | \| | 2.27 |
| 8.833 | 0.00 | 1.32 | 0.672 | O | \| | \| | \| | \| | 2.23 |
| 8.917 | 0.00 | 1.31 | 0.663 | O | \| | \| | \| | \| | 2.20 |
| 9.000 | 0.00 | 1.30 | 0.654 | O | \| | \| | \| | \| | 2.16 |
| 9.083 | 0.00 | 1.29 | 0.645 | O | \| | \| | \| | \| | 2.13 |
| 9.167 | 0.00 | 1.28 | 0.636 | O | \| | \| | \| | \| | 2.10 |
| 9.250 | 0.00 | 1.27 | 0.628 | O | \| | \| | \| | \| | 2.06 |
| 9.333 | 0.00 | 1.26 | 0.619 | O | \| | \| | \| | \| | 2.03 |
| 9.417 | 0.00 | 1.25 | 0.610 | O | \| | \| | \| | \| | 2.00 |
| 9.500 | 0.00 | 1.23 | 0.602 | O | \| | \| | \| | \| | 1.96 |
| 9.583 | 0.00 | 1.22 | 0.593 | O | \| | \| | \| | \| | 1.93 |
| 9.667 | 0.00 | 1.21 | 0.585 | O | \| | \| | \| | \| | 1.90 |
| 9.750 | 0.00 | 1.19 | 0.577 | O | \| | \| | \| | \| | 1.87 |
| 9.833 | 0.00 | 1.18 | 0.568 | O | \| | \| | \| | \| | 1.84 |
| 9.917 | 0.00 | 1.17 | 0.560 | O | \| | \| | \| | \| | 1.81 |
| 10.000 | 0.00 | 1.15 | 0.552 | O | \| | \| | \| | \| | 1.78 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.083 | 0.00 | 1.14 | 0.544 | O | \| | \| | \| | \| | 1.75 |
| 10.167 | 0.00 | 1.13 | 0.537 | O | \| | \| | \| | \| | 1.72 |
| 10.250 | 0.00 | 1.12 | 0.529 | O | \| | \| | \| | \| | 1.69 |
| 10.333 | 0.00 | 1.10 | 0.521 | O | \| | \| | \| | \| | 1.66 |
| 10.417 | 0.00 | 1.09 | 0.514 | O | \| | \| | \| | \| | 1.63 |
| 10.500 | 0.00 | 1.08 | 0.506 | O | \| | \| | \| | \| | 1.60 |
| 10.583 | 0.00 | 1.07 | 0.499 | O | \| | \| | \| | \| | 1.57 |
| 10.667 | 0.00 | 1.05 | 0.492 | O | \| | \| | \| | \| | 1.54 |
| 10.750 | 0.00 | 1.04 | 0.484 | O | \| | \| | \| | \| | 1.52 |
| 10.833 | 0.00 | 1.03 | 0.477 | O | \| | \| | \| | \| | 1.49 |
| 10.917 | 0.00 | 1.02 | 0.470 | O | \| | \| | \| | \| | 1.46 |
| 11.000 | 0.00 | 1.01 | 0.463 | O | \| | \| | \| | \| | 1.44 |
| 11.083 | 0.00 | 1.00 | 0.456 | O | \| | \| | \| | \| | 1.41 |
| 11.167 | 0.00 | 0.98 | 0.449 | O | \| | \| | \| | \| | 1.38 |
| 11.250 | 0.00 | 0.97 | 0.443 | O | \| | \| | \| | \| | 1.36 |
| 11.333 | 0.00 | 0.96 | 0.436 | O | \| | \| | \| | \| | 1.33 |
| 11.417 | 0.00 | 0.95 | 0.429 | O | \| | \| | \| | \| | 1.31 |
| 11.500 | 0.00 | 0.94 | 0.423 | O | \| | \| | \| | \| | 1.28 |
| 11.583 | 0.00 | 0.93 | 0.416 | O | \| | \| | \| | \| | 1.26 |
| 11.667 | 0.00 | 0.92 | 0.410 | O | \| | \| | \| | \| | 1.23 |
| 11.750 | 0.00 | 0.91 | 0.404 | O | \| | \| | \| | \| | 1.21 |
| 11.833 | 0.00 | 0.90 | 0.398 | O | \| | \| | \| | \| | 1.19 |
| 11.917 | 0.00 | 0.89 | 0.391 | O | \| | \| | \| | \| | 1.16 |
| 12.000 | 0.00 | 0.88 | 0.385 | O | \| | \| | \| | \| | 1.14 |
| 12.083 | 0.00 | 0.87 | 0.379 | O | \| | \| | \| | \| | 1.12 |
| 12.167 | 0.00 | 0.86 | 0.373 | O | \| | \| | \| | \| | 1.09 |
| 12.250 | 0.00 | 0.85 | 0.367 | O | \| | \| | \| | \| | 1.07 |
| 12.333 | 0.00 | 0.84 | 0.362 | O | \| | \| | \| | \| | 1.05 |
| 12.417 | 0.00 | 0.83 | 0.356 | O | \| | \| | \| | \| | 1.03 |
| 12.500 | 0.00 | 0.82 | 0.350 | O | \| | \| | \| | \| | 1.00 |
| 12.583 | 0.00 | 0.81 | 0.345 | O | \| | \| | \| | \| | 0.99 |
| 12.667 | 0.00 | 0.80 | 0.339 | O | \| | \| | \| | \| | 0.97 |
| 12.750 | 0.00 | 0.78 | 0.334 | O | \| | \| | \| | \| | 0.96 |
| 12.833 | 0.00 | 0.77 | 0.328 | O | \| | \| | \| | \| | 0.94 |
| 12.917 | 0.00 | 0.76 | 0.323 | O | \| | \| | \| | \| | 0.93 |
| 13.000 | 0.00 | 0.75 | 0.318 | O | \| | \| | \| | \| | 0.91 |
| 13.083 | 0.00 | 0.73 | 0.313 | O | \| | \| | \| | \| | 0.90 |
| 13.167 | 0.00 | 0.72 | 0.308 | O | \| | \| | \| | \| | 0.88 |
| 13.250 | 0.00 | 0.71 | 0.303 | O | \| | \| | \| | \| | 0.87 |
| 13.333 | 0.00 | 0.70 | 0.298 | O | \| | \| | \| | \| | 0.85 |
| 13.417 | 0.00 | 0.69 | 0.293 | O | \| | \| | \| | \| | 0.84 |
| 13.500 | 0.00 | 0.68 | 0.288 | O | \| | \| | \| | \| | 0.83 |
| 13.583 | 0.00 | 0.67 | 0.284 | O | \| | \| | \| | \| | 0.81 |
| 13.667 | 0.00 | 0.66 | 0.279 | O | \| | \| | \| | \| | 0.80 |
| 13.750 | 0.00 | 0.65 | 0.275 | O | \| | \| | \| | \| | 0.79 |
| 13.833 | 0.00 | 0.64 | 0.270 | O | \| | \| | \| | \| | 0.77 |
| 13.917 | 0.00 | 0.62 | 0.266 | O | \| | \| | \| | \| | 0.76 |
| 14.000 | 0.00 | 0.61 | 0.262 | O | \| | \| | \| | \| | 0.75 |
| 14.083 | 0.00 | 0.60 | 0.257 | O | \| | \| | \| | \| | 0.74 |
| 14.167 | 0.00 | 0.60 | 0.253 | O | \| | \| | \| | \| | 0.73 |
| 14.250 | 0.00 | 0.59 | 0.249 | O | \| | \| | \| | \| | 0.71 |
| 14.333 | 0.00 | 0.58 | 0.245 | O | \| | \| | \| | \| | 0.70 |
| 14.417 | 0.00 | 0.57 | 0.241 | O | \| | \| | \| | \| | 0.69 |
| 14.500 | 0.00 | 0.56 | 0.237 | O | \| | \| | \| | \| | 0.68 |
| 14.583 | 0.00 | 0.55 | 0.234 | O | \| | \| | \| | \| | 0.67 |
| 14.667 | 0.00 | 0.54 | 0.230 | O | \| | \| | \| | \| | 0.66 |
| 14.750 | 0.00 | 0.53 | 0.226 | O | \| | \| | \| | \| | 0.65 |
| 14.833 | 0.00 | 0.52 | 0.223 | O | \| | \| | \| | \| | 0.64 |
| 14.917 | 0.00 | 0.51 | 0.219 | O | \| | \| | \| | \| | 0.63 |
| 15.000 | 0.00 | 0.51 | 0.215 | O | \| | \| | \| | \| | 0.62 |
| 15.083 | 0.00 | 0.50 | 0.212 | O | \| | \| | \| | \| | 0.61 |
| 15.167 | 0.00 | 0.49 | 0.209 | O | \| | \| | \| | \| | 0.60 |
| 15.250 | 0.00 | 0.48 | 0.205 | O | \| | \| | \| | \| | 0.59 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 15.333 | 0.00 | 0.47 | 0.202 | O | \| | \| | \| | \| | 0.58 |
| 15.417 | 0.00 | 0.47 | 0.199 | O | \| | \| | \| | \| | 0.57 |
| 15.500 | 0.00 | 0.46 | 0.196 | O | \| | \| | \| | \| | 0.56 |
| 15.583 | 0.00 | 0.45 | 0.192 | O | \| | \| | \| | \| | 0.55 |
| 15.667 | 0.00 | 0.44 | 0.189 | O | \| | \| | \| | \| | 0.54 |
| 15.750 | 0.00 | 0.44 | 0.186 | O | \| | \| | \| | \| | 0.53 |
| 15.833 | 0.00 | 0.43 | 0.183 | O | \| | \| | \| | \| | 0.53 |
| 15.917 | 0.00 | 0.42 | 0.180 | O | \| | \| | \| | \| | 0.52 |
| 16.000 | 0.00 | 0.42 | 0.177 | O | \| | \| | \| | \| | 0.51 |
| 16.083 | 0.00 | 0.41 | 0.175 | O | \| | \| | \| | \| | 0.50 |
| 16.167 | 0.00 | 0.40 | 0.172 | O | \| | \| | \| | \| | 0.49 |
| 16.250 | 0.00 | 0.40 | 0.169 | O | \| | \| | \| | \| | 0.48 |
| 16.333 | 0.00 | 0.39 | 0.166 | O | \| | \| | \| | \| | 0.48 |
| 16.417 | 0.00 | 0.38 | 0.164 | O | \| | \| | \| | \| | 0.47 |
| 16.500 | 0.00 | 0.38 | 0.161 | O | \| | \| | \| | \| | 0.46 |
| 16.583 | 0.00 | 0.37 | 0.158 | O | \| | \| | \| | \| | 0.45 |
| 16.667 | 0.00 | 0.37 | 0.156 | O | \| | \| | \| | \| | 0.45 |
| 16.750 | 0.00 | 0.36 | 0.153 | O | \| | \| | \| | \| | 0.44 |
| 16.833 | 0.00 | 0.35 | 0.151 | O | \| | \| | \| | \| | 0.43 |
| 16.917 | 0.00 | 0.35 | 0.149 | O | \| | \| | \| | \| | 0.43 |
| 17.000 | 0.00 | 0.34 | 0.146 | O | \| | \| | \| | \| | 0.42 |
| 17.083 | 0.00 | 0.34 | 0.144 | O | \| | \| | \| | \| | 0.41 |
| 17.167 | 0.00 | 0.33 | 0.141 | O | \| | \| | \| | \| | 0.41 |
| 17.250 | 0.00 | 0.33 | 0.139 | O | \| | \| | \| | \| | 0.40 |
| 17.333 | 0.00 | 0.32 | 0.137 | O | \| | \| | \| | \| | 0.39 |
| 17.417 | 0.00 | 0.32 | 0.135 | O | \| | \| | \| | \| | 0.39 |
| 17.500 | 0.00 | 0.31 | 0.133 | O | \| | \| | \| | \| | 0.38 |
| 17.583 | 0.00 | 0.31 | 0.130 | O | \| | \| | \| | \| | 0.37 |
| 17.667 | 0.00 | 0.30 | 0.128 | O | \| | \| | \| | \| | 0.37 |
| 17.750 | 0.00 | 0.30 | 0.126 | O | \| | \| | \| | \| | 0.36 |
| 17.833 | 0.00 | 0.29 | 0.124 | O | \| | \| | \| | \| | 0.36 |
| 17.917 | 0.00 | 0.29 | 0.122 | O | \| | \| | \| | \| | 0.35 |
| 18.000 | 0.00 | 0.28 | 0.120 | O | \| | \| | \| | \| | 0.34 |
| 18.083 | 0.00 | 0.28 | 0.118 | O | \| | \| | \| | \| | 0.34 |
| 18.167 | 0.00 | 0.27 | 0.117 | O | \| | \| | \| | \| | 0.33 |
| 18.250 | 0.00 | 0.27 | 0.115 | O | \| | \| | \| | \| | 0.33 |
| 18.333 | 0.00 | 0.27 | 0.113 | O | \| | \| | \| | \| | 0.32 |
| 18.417 | 0.00 | 0.26 | 0.111 | O | \| | \| | \| | \| | 0.32 |
| 18.500 | 0.00 | 0.26 | 0.109 | O | \| | \| | \| | \| | 0.31 |
| 18.583 | 0.00 | 0.25 | 0.107 | O | \| | \| | \| | \| | 0.31 |
| 18.667 | 0.00 | 0.25 | 0.106 | O | \| | \| | \| | \| | 0.30 |
| 18.750 | 0.00 | 0.24 | 0.104 | O | \| | \| | \| | \| | 0.30 |
| 18.833 | 0.00 | 0.24 | 0.102 | O | \| | \| | \| | \| | 0.29 |
| 18.917 | 0.00 | 0.24 | 0.101 | O | \| | \| | \| | \| | 0.29 |
| 19.000 | 0.00 | 0.23 | 0.099 | O | \| | \| | \| | \| | 0.28 |
| 19.083 | 0.00 | 0.23 | 0.098 | O | \| | \| | \| | \| | 0.28 |
| 19.167 | 0.00 | 0.23 | 0.096 | O | \| | \| | \| | \| | 0.27 |
| 19.250 | 0.00 | 0.22 | 0.094 | O | \| | \| | \| | \| | 0.27 |
| 19.333 | 0.00 | 0.22 | 0.093 | O | \| | \| | \| | \| | 0.27 |
| 19.417 | 0.00 | 0.21 | 0.091 | O | \| | \| | \| | \| | 0.26 |
| 19.500 | 0.00 | 0.21 | 0.090 | O | \| | \| | \| | \| | 0.26 |
| 19.583 | 0.00 | 0.21 | 0.088 | O | \| | \| | \| | \| | 0.25 |
| 19.667 | 0.00 | 0.20 | 0.087 | O | \| | \| | \| | \| | 0.25 |
| 19.750 | 0.00 | 0.20 | 0.086 | O | \| | \| | \| | \| | 0.25 |
| 19.833 | 0.00 | 0.20 | 0.084 | O | \| | \| | \| | \| | 0.24 |
| 19.917 | 0.00 | 0.19 | 0.083 | O | \| | \| | \| | \| | 0.24 |
| 20.000 | 0.00 | 0.19 | 0.082 | O | \| | \| | \| | \| | 0.23 |
| 20.083 | 0.00 | 0.19 | 0.080 | O | \| | \| | \| | \| | 0.23 |
| 20.167 | 0.00 | 0.19 | 0.079 | O | \| | \| | \| | \| | 0.23 |
| 20.250 | 0.00 | 0.18 | 0.078 | O | \| | \| | \| | \| | 0.22 |
| 20.333 | 0.00 | 0.18 | 0.076 | O | \| | \| | \| | \| | 0.22 |
| 20.417 | 0.00 | 0.18 | 0.075 | O | \| | \| | \| | \| | 0.22 |
| 20.500 | 0.00 | 0.17 | 0.074 | O | \| | \| | \| | \| | 0.21 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 20.583 | 0.00 | 0.17 | 0.073 | O | \| | \| | \| | \| | 0.21 |
| 20.667 | 0.00 | 0.17 | 0.072 | O | \| | \| | \| | \| | 0.21 |
| 20.750 | 0.00 | 0.17 | 0.071 | O | \| | \| | \| | \| | 0.20 |
| 20.833 | 0.00 | 0.16 | 0.069 | O | \| | \| | \| | \| | 0.20 |
| 20.917 | 0.00 | 0.16 | 0.068 | O | \| | \| | \| | \| | 0.20 |
| 21.000 | 0.00 | 0.16 | 0.067 | O | \| | \| | \| | \| | 0.19 |
| 21.083 | 0.00 | 0.16 | 0.066 | O | \| | \| | \| | \| | 0.19 |
| 21.167 | 0.00 | 0.15 | 0.065 | O | \| | \| | \| | \| | 0.19 |
| 21.250 | 0.00 | 0.15 | 0.064 | O | \| | \| | \| | \| | 0.18 |
| 21.333 | 0.00 | 0.15 | 0.063 | O | \| | \| | \| | \| | 0.18 |
| 21.417 | 0.00 | 0.15 | 0.062 | O | \| | \| | \| | \| | 0.18 |
| 21.500 | 0.00 | 0.14 | 0.061 | O | \| | \| | \| | \| | 0.17 |
| 21.583 | 0.00 | 0.14 | 0.060 | O | \| | \| | \| | \| | 0.17 |
| 21.667 | 0.00 | 0.14 | 0.059 | O | \| | \| | \| | \| | 0.17 |
| 21.750 | 0.00 | 0.14 | 0.058 | O | \| | \| | \| | \| | 0.17 |
| 21.833 | 0.00 | 0.13 | 0.057 | O | \| | \| | \| | \| | 0.16 |
| 21.917 | 0.00 | 0.13 | 0.056 | O | \| | \| | \| | \| | 0.16 |
| 22.000 | 0.00 | 0.13 | 0.055 | O | \| | \| | \| | \| | 0.16 |
| 22.083 | 0.00 | 0.13 | 0.054 | O | \| | \| | \| | \| | 0.16 |
| 22.167 | 0.00 | 0.13 | 0.054 | O | \| | \| | \| | \| | 0.15 |
| 22.250 | 0.00 | 0.12 | 0.053 | O | \| | \| | \| | \| | 0.15 |
| 22.333 | 0.00 | 0.12 | 0.052 | O | \| | \| | \| | \| | 0.15 |
| 22.417 | 0.00 | 0.12 | 0.051 | O | \| | \| | \| | \| | 0.15 |
| 22.500 | 0.00 | 0.12 | 0.050 | O | \| | \| | \| | \| | 0.14 |
| 22.583 | 0.00 | 0.12 | 0.049 | O | \| | \| | \| | \| | 0.14 |
| 22.667 | 0.00 | 0.11 | 0.049 | O | \| | \| | \| | \| | 0.14 |
| 22.750 | 0.00 | 0.11 | 0.048 | O | \| | \| | \| | \| | 0.14 |
| 22.833 | 0.00 | 0.11 | 0.047 | O | \| | \| | \| | \| | 0.13 |
| 22.917 | 0.00 | 0.11 | 0.046 | O | \| | \| | \| | \| | 0.13 |
| 23.000 | 0.00 | 0.11 | 0.046 | O | \| | \| | \| | \| | 0.13 |
| 23.083 | 0.00 | 0.11 | 0.045 | O | \| | \| | \| | \| | 0.13 |
| 23.167 | 0.00 | 0.10 | 0.044 | O | \| | \| | \| | \| | 0.13 |
| 23.250 | 0.00 | 0.10 | 0.043 | O | \| | \| | \| | \| | 0.12 |
| 23.333 | 0.00 | 0.10 | 0.043 | O | \| | \| | \| | \| | 0.12 |
| 23.417 | 0.00 | 0.10 | 0.042 | O | \| | \| | \| | \| | 0.12 |
| 23.500 | 0.00 | 0.10 | 0.041 | O | \| | \| | \| | \| | 0.12 |
| 23.583 | 0.00 | 0.10 | 0.041 | O | \| | \| | \| | \| | 0.12 |
| 23.667 | 0.00 | 0.09 | 0.040 | O | \| | \| | \| | \| | 0.11 |
| 23.750 | 0.00 | 0.09 | 0.039 | O | \| | \| | \| | \| | 0.11 |
| 23.833 | 0.00 | 0.09 | 0.039 | O | \| | \| | \| | \| | 0.11 |
| 23.917 | 0.00 | 0.09 | 0.038 | O | \| | \| | \| | \| | 0.11 |
| 24.000 | 0.00 | 0.09 | 0.038 | O | \| | \| | \| | \| | 0.11 |
| 24.083 | 0.00 | 0.09 | 0.037 | O | \| | \| | \| | \| | 0.11 |
| 24.167 | 0.00 | 0.09 | 0.036 | O | \| | \| | \| | \| | 0.10 |
| 24.250 | 0.00 | 0.08 | 0.036 | O | \| | \| | \| | \| | 0.10 |
| 24.333 | 0.00 | 0.08 | 0.035 | O | \| | \| | \| | \| | 0.10 |
| 24.417 | 0.00 | 0.08 | 0.035 | O | \| | \| | \| | \| | 0.10 |
| 24.500 | 0.00 | 0.08 | 0.034 | O | \| | \| | \| | \| | 0.10 |
| 24.583 | 0.00 | 0.08 | 0.034 | O | \| | \| | \| | \| | 0.10 |
| 24.667 | 0.00 | 0.08 | 0.033 | O | \| | \| | \| | \| | 0.09 |
| 24.750 | 0.00 | 0.08 | 0.032 | O | \| | \| | \| | \| | 0.09 |
| 24.833 | 0.00 | 0.08 | 0.032 | O | \| | \| | \| | \| | 0.09 |
| 24.917 | 0.00 | 0.07 | 0.031 | O | \| | \| | \| | \| | 0.09 |
| 25.000 | 0.00 | 0.07 | 0.031 | O | \| | \| | \| | \| | 0.09 |
| 25.083 | 0.00 | 0.07 | 0.030 | O | \| | \| | \| | \| | 0.09 |
| 25.167 | 0.00 | 0.07 | 0.030 | O | \| | \| | \| | \| | 0.09 |
| 25.250 | 0.00 | 0.07 | 0.029 | O | \| | \| | \| | \| | 0.08 |
| 25.333 | 0.00 | 0.07 | 0.029 | O | \| | \| | \| | \| | 0.08 |
| 25.417 | 0.00 | 0.07 | 0.029 | O | \| | \| | \| | \| | 0.08 |
| 25.500 | 0.00 | 0.07 | 0.028 | O | \| | \| | \| | \| | 0.08 |
| 25.583 | 0.00 | 0.06 | 0.028 | O | \| | \| | \| | \| | 0.08 |
| 25.667 | 0.00 | 0.06 | 0.027 | O | \| | \| | \| | \| | 0.08 |
| 25.750 | 0.00 | 0.06 | 0.027 | O | \| | \| | \| | \| | 0.08 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 25.833 | 0.00 | 0.06 | 0.026 | O | \| | \| | \| | \| | 0.08 |
| 25.917 | 0.00 | 0.06 | 0.026 | O | \| | \| | \| | \| | 0.07 |
| 26.000 | 0.00 | 0.06 | 0.025 | O | \| | \| | \| | \| | 0.07 |
| 26.083 | 0.00 | 0.06 | 0.025 | O | \| | \| | \| | \| | 0.07 |
| 26.167 | 0.00 | 0.06 | 0.025 | O | \| | \| | \| | \| | 0.07 |
| 26.250 | 0.00 | 0.06 | 0.024 | O | \| | \| | \| | \| | 0.07 |
| 26.333 | 0.00 | 0.06 | 0.024 | O | \| | \| | \| | \| | 0.07 |
| 26.417 | 0.00 | 0.06 | 0.023 | O | \| | \| | \| | \| | 0.07 |
| 26.500 | 0.00 | 0.05 | 0.023 | O | \| | \| | \| | \| | 0.07 |
| 26.583 | 0.00 | 0.05 | 0.023 | O | \| | \| | \| | \| | 0.07 |
| 26.667 | 0.00 | 0.05 | 0.022 | O | \| | \| | \| | \| | 0.06 |
| 26.750 | 0.00 | 0.05 | 0.022 | O | \| | \| | \| | \| | 0.06 |
| 26.833 | 0.00 | 0.05 | 0.022 | O | \| | \| | \| | \| | 0.06 |
| 26.917 | 0.00 | 0.05 | 0.021 | O | \| | \| | \| | \| | 0.06 |
| 27.000 | 0.00 | 0.05 | 0.021 | O | \| | \| | \| | \| | 0.06 |
| 27.083 | 0.00 | 0.05 | 0.021 | O | \| | \| | \| | \| | 0.06 |
| 27.167 | 0.00 | 0.05 | 0.020 | O | \| | \| | \| | \| | 0.06 |
| 27.250 | 0.00 | 0.05 | 0.020 | O | \| | \| | \| | \| | 0.06 |
| 27.333 | 0.00 | 0.05 | 0.020 | O | \| | \| | \| | \| | 0.06 |
| 27.417 | 0.00 | 0.05 | 0.019 | O | \| | \| | \| | \| | 0.06 |
| 27.500 | 0.00 | 0.04 | 0.019 | O | \| | \| | \| | \| | 0.05 |
| 27.583 | 0.00 | 0.04 | 0.019 | O | \| | \| | \| | \| | 0.05 |
| 27.667 | 0.00 | 0.04 | 0.018 | O | \| | \| | \| | \| | 0.05 |
| 27.750 | 0.00 | 0.04 | 0.018 | O | \| | \| | \| | \| | 0.05 |
| 27.833 | 0.00 | 0.04 | 0.018 | O | \| | \| | \| | \| | 0.05 |
| 27.917 | 0.00 | 0.04 | 0.018 | O | \| | \| | \| | \| | 0.05 |
| 28.000 | 0.00 | 0.04 | 0.017 | O | \| | \| | \| | \| | 0.05 |
| 28.083 | 0.00 | 0.04 | 0.017 | O | \| | \| | \| | \| | 0.05 |
| 28.167 | 0.00 | 0.04 | 0.017 | O | \| | \| | \| | \| | 0.05 |
| 28.250 | 0.00 | 0.04 | 0.016 | O | \| | \| | \| | \| | 0.05 |
| 28.333 | 0.00 | 0.04 | 0.016 | O | \| | \| | \| | \| | 0.05 |
| 28.417 | 0.00 | 0.04 | 0.016 | O | \| | \| | \| | \| | 0.05 |
| 28.500 | 0.00 | 0.04 | 0.016 | O | \| | \| | \| | \| | 0.04 |
| 28.583 | 0.00 | 0.04 | 0.015 | O | \| | \| | \| | \| | 0.04 |
| 28.667 | 0.00 | 0.04 | 0.015 | O | \| | \| | \| | \| | 0.04 |
| 28.750 | 0.00 | 0.04 | 0.015 | O | \| | \| | \| | \| | 0.04 |
| 28.833 | 0.00 | 0.03 | 0.015 | O | \| | \| | \| | \| | 0.04 |
| 28.917 | 0.00 | 0.03 | 0.014 | O | \| | \| | \| | \| | 0.04 |
| 29.000 | 0.00 | 0.03 | 0.014 | O | \| | \| | \| | \| | 0.04 |
| 29.083 | 0.00 | 0.03 | 0.014 | O | \| | \| | \| | \| | 0.04 |
| 29.167 | 0.00 | 0.03 | 0.014 | O | \| | \| | \| | \| | 0.04 |
| 29.250 | 0.00 | 0.03 | 0.014 | O | \| | \| | \| | \| | 0.04 |
| 29.333 | 0.00 | 0.03 | 0.013 | O | \| | \| | \| | \| | 0.04 |
| 29.417 | 0.00 | 0.03 | 0.013 | O | \| | \| | \| | \| | 0.04 |
| 29.500 | 0.00 | 0.03 | 0.013 | O | \| | \| | \| | \| | 0.04 |
| 29.583 | 0.00 | 0.03 | 0.013 | O | \| | \| | \| | \| | 0.04 |
| 29.667 | 0.00 | 0.03 | 0.012 | O | \| | \| | \| | \| | 0.04 |
| 29.750 | 0.00 | 0.03 | 0.012 | O | \| | \| | \| | \| | 0.04 |
| 29.833 | 0.00 | 0.03 | 0.012 | O | \| | \| | \| | \| | 0.03 |
| 29.917 | 0.00 | 0.03 | 0.012 | O | \| | \| | \| | \| | 0.03 |
| 30.000 | 0.00 | 0.03 | 0.012 | O | \| | \| | \| | \| | 0.03 |
| 30.083 | 0.00 | 0.03 | 0.012 | O | \| | \| | \| | \| | 0.03 |
| 30.167 | 0.00 | 0.03 | 0.011 | O | \| | \| | \| | \| | 0.03 |
| 30.250 | 0.00 | 0.03 | 0.011 | O | \| | \| | \| | \| | 0.03 |
| 30.333 | 0.00 | 0.03 | 0.011 | O | \| | \| | \| | \| | 0.03 |
| 30.417 | 0.00 | 0.03 | 0.011 | O | \| | \| | \| | \| | 0.03 |
| 30.500 | 0.00 | 0.02 | 0.011 | O | \| | \| | \| | \| | 0.03 |
| 30.583 | 0.00 | 0.02 | 0.010 | O | \| | \| | \| | \| | 0.03 |
| 30.667 | 0.00 | 0.02 | 0.010 | O | \| | \| | \| | \| | 0.03 |
| 30.750 | 0.00 | 0.02 | 0.010 | O | \| | \| | \| | \| | 0.03 |
| 30.833 | 0.00 | 0.02 | 0.010 | O | \| | \| | \| | \| | 0.03 |
| 30.917 | 0.00 | 0.02 | 0.010 | O | \| | \| | \| | \| | 0.03 |
| 31.000 | 0.00 | 0.02 | 0.010 | O | \| | \| | \| | \| | 0.03 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 31.083 | 0.00 | 0.02 | 0.009 | O | \| | \| | \| | \| | 0.03 |
| 31.167 | 0.00 | 0.02 | 0.009 | O | \| | \| | \| | \| | 0.03 |
| 31.250 | 0.00 | 0.02 | 0.009 | O | \| | \| | \| | \| | 0.03 |
| 31.333 | 0.00 | 0.02 | 0.009 | O | \| | \| | \| | \| | 0.03 |
| 31.417 | 0.00 | 0.02 | 0.009 | O | \| | \| | \| | \| | 0.03 |
| 31.500 | 0.00 | 0.02 | 0.009 | O | \| | \| | \| | \| | 0.03 |
| 31.583 | 0.00 | 0.02 | 0.009 | O | \| | \| | \| | \| | 0.02 |
| 31.667 | 0.00 | 0.02 | 0.008 | O | \| | \| | \| | \| | 0.02 |
| 31.750 | 0.00 | 0.02 | 0.008 | O | \| | \| | \| | \| | 0.02 |
| 31.833 | 0.00 | 0.02 | 0.008 | O | \| | \| | \| | \| | 0.02 |
| 31.917 | 0.00 | 0.02 | 0.008 | O | \| | \| | \| | \| | 0.02 |
| 32.000 | 0.00 | 0.02 | 0.008 | O | \| | \| | \| | \| | 0.02 |
| 32.083 | 0.00 | 0.02 | 0.008 | O | \| | \| | \| | \| | 0.02 |
| 32.167 | 0.00 | 0.02 | 0.008 | O | \| | \| | \| | \| | 0.02 |
| 32.250 | 0.00 | 0.02 | 0.008 | O | \| | \| | \| | \| | 0.02 |
| 32.333 | 0.00 | 0.02 | 0.007 | O | \| | \| | \| | \| | 0.02 |
| 32.417 | 0.00 | 0.02 | 0.007 | O | \| | \| | \| | \| | 0.02 |
| 32.500 | 0.00 | 0.02 | 0.007 | O | \| | \| | \| | \| | 0.02 |
| 32.583 | 0.00 | 0.02 | 0.007 | O | \| | \| | \| | \| | 0.02 |
| 32.667 | 0.00 | 0.02 | 0.007 | O | \| | \| | \| | \| | 0.02 |
| 32.750 | 0.00 | 0.02 | 0.007 | O | \| | \| | \| | \| | 0.02 |
| 32.833 | 0.00 | 0.02 | 0.007 | O | \| | \| | \| | \| | 0.02 |
| 32.917 | 0.00 | 0.02 | 0.007 | O | \| | \| | \| | \| | 0.02 |
| 33.000 | 0.00 | 0.02 | 0.007 | O | \| | \| | \| | \| | 0.02 |
| 33.083 | 0.00 | 0.02 | 0.006 | O | \| | \| | \| | \| | 0.02 |
| 33.167 | 0.00 | 0.01 | 0.006 | O | \| | \| | \| | \| | 0.02 |
| 33.250 | 0.00 | 0.01 | 0.006 | O | \| | \| | \| | \| | 0.02 |
| 33.333 | 0.00 | 0.01 | 0.006 | O | \| | \| | \| | \| | 0.02 |
| 33.417 | 0.00 | 0.01 | 0.006 | O | \| | \| | \| | \| | 0.02 |
| 33.500 | 0.00 | 0.01 | 0.006 | O | \| | \| | \| | \| | 0.02 |
| 33.583 | 0.00 | 0.01 | 0.006 | O | \| | \| | \| | \| | 0.02 |
| 33.667 | 0.00 | 0.01 | 0.006 | O | \| | \| | \| | \| | 0.02 |
| 33.750 | 0.00 | 0.01 | 0.006 | O | \| | \| | \| | \| | 0.02 |
| 33.833 | 0.00 | 0.01 | 0.006 | O | \| | \| | \| | \| | 0.02 |
| 33.917 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.02 |
| 34.000 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.02 |
| 34.083 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.02 |
| 34.167 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.01 |
| 34.250 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.01 |
| 34.333 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.01 |
| 34.417 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.01 |
| 34.500 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.01 |
| 34.583 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.01 |
| 34.667 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.01 |
| 34.750 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.01 |
| 34.833 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.01 |
| 34.917 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.01 |
| 35.000 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 35.083 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 35.167 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 35.250 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 35.333 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 35.417 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 35.500 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 35.583 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 35.667 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 35.750 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 35.833 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 35.917 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 36.000 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 36.083 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 36.167 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 36.250 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |

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|---|---|---|---|---|---|---|---|---|---|
| 36.333 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 36.417 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 36.500 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 36.583 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 36.667 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 36.750 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 36.833 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 36.917 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 37.000 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 37.083 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 37.167 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 37.250 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 37.333 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 37.417 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 37.500 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 37.583 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 37.667 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 37.750 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 37.833 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 37.917 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 38.000 | 0.00 | 0.01 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 38.083 | 0.00 | 0.01 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 38.167 | 0.00 | 0.01 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 38.250 | 0.00 | 0.01 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 38.333 | 0.00 | 0.01 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 38.417 | 0.00 | 0.01 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 38.500 | 0.00 | 0.01 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 38.583 | 0.00 | 0.01 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 38.667 | 0.00 | 0.01 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 38.750 | 0.00 | 0.01 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 38.833 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 38.917 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 39.000 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 39.083 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 39.167 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 39.250 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 39.333 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 39.417 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 39.500 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 39.583 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 39.667 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 39.750 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 39.833 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.00 |
| 39.917 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.00 |
| 40.000 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.00 |
| 40.083 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.00 |
| 40.167 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.00 |
| 40.250 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.00 |
| 40.333 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.00 |
| 40.417 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.00 |
| 40.500 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.00 |
| 40.583 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 40.667 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 40.750 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 40.833 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 40.917 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 41.000 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 41.083 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 41.167 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 41.250 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 41.333 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 41.417 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 41.500 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 41.583 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 41.667 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 41.750 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 41.833 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 41.917 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 42.000 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 42.083 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 42.167 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 42.250 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 42.333 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 42.417 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 42.500 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 42.583 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 42.667 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 42.750 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 42.833 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 42.917 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 43.000 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 43.083 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 43.167 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 43.250 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 43.333 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 43.417 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 43.500 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 43.583 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 43.667 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 43.750 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 43.833 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 43.917 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 44.000 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 44.083 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 44.167 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 44.250 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 44.333 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 44.417 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 44.500 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 44.583 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 44.667 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 44.750 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 44.833 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 44.917 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 45.000 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 45.083 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 45.167 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 45.250 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 45.333 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 45.417 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 45.500 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 45.583 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 45.667 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 45.750 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 45.833 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 45.917 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 46.000 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 46.083 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 46.167 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 46.250 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | \| | 0.00 |
| 46.333 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | \| | 0.00 |
| 46.417 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | \| | 0.00 |
| 46.500 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | \| | 0.00 |
| 46.583 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | \| | 0.00 |
| 46.667 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | \| | 0.00 |
| 46.750 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | \| | 0.00 |

```
46.833    0.00    0.00      0.000  O       |       |       |       |     0.00
46.917    0.00    0.00      0.000  O       |       |       |       |     0.00
47.000    0.00    0.00      0.000  O       |       |       |       |     0.00
47.083    0.00    0.00      0.000  O       |       |       |       |     0.00

      ****************************HYDROGRAPH DATA****************************
                   Number of intervals =   565
                   Time interval =    5.0 (Min.)
                   Maximum/Peak flow rate =       26.615 (CFS)
                   Total volume =       3.015 (Ac.Ft)
            Status of hydrographs being held in storage
                       Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
            Peak (CFS)      0.000     0.000     0.000     0.000     0.000
            Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
      ***********************************************************************

      ----------------------------------------------------------------------
```

FLOOD HYDROGRAPH ROUTING PROGRAM

Study date: 05/31/22

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ORCHARD LOGISTICS CENTER
100 YR 24 HR STORM EVENT
2838Q100R24
SD
---

Program License Serial Number 6145

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

From study/file name: 2838QUHP24100.rte
**********HYDROGRAPH DATA**********
Number of intervals = 292
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 23.805 (CFS)
Total volume = 13.173 (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 8.000 to Point/Station 9.000
**** 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 | 0.349 | 0.820 | 0.346 | 0.352 |
| 2.000 | 0.611 | 1.250 | 0.607 | 0.615 |
| 3.000 | 0.873 | 1.570 | 0.868 | 0.878 |
| 4.000 | 1.135 | 1.830 | 1.129 | 1.141 |
| 4.500 | 1.589 | 1.950 | 1.582 | 1.596 |
| 5.000 | 2.080 | 13.060 | 2.035 | 2.125 |
| 5.500 | 2.608 | 33.270 | 2.493 | 2.723 |
| 6.500 | 3.780 | 50.500 | 3.606 | 3.954 |
| 7.500 | 5.106 | 61.500 | 4.894 | 5.318 |
| 8.500 | 6.589 | 70.790 | 6.345 | 6.833 |

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Hydrograph Detention Basin Routing

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

| Time (Hours) | Inflow (CFS) | Outflow (CFS) | Storage (Ac.Ft) | .0 | 6.0 | 11.90 | 17.85 | 23.81 | Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 0.083 | 0.52 | 0.00 | 0.002 | O | | | | | 0.01 |
| 0.167 | 1.10 | 0.02 | 0.007 | OI | | | | | 0.02 |
| 0.250 | 1.23 | 0.04 | 0.015 | OI | | | | | 0.04 |
| 0.333 | 0.99 | 0.05 | 0.023 | OI | | | | | 0.06 |
| 0.417 | 0.69 | 0.07 | 0.028 | O | | | | | 0.08 |
| 0.500 | 0.63 | 0.08 | 0.032 | O | | | | | 0.09 |
| 0.583 | 0.61 | 0.08 | 0.036 | O | | | | | 0.10 |
| 0.667 | 0.60 | 0.09 | 0.039 | O | | | | | 0.11 |
| 0.750 | 0.61 | 0.10 | 0.043 | O | | | | | 0.12 |
| 0.833 | 0.91 | 0.11 | 0.047 | OI | | | | | 0.14 |
| 0.917 | 1.24 | 0.13 | 0.054 | OI | | | | | 0.15 |
| 1.000 | 1.31 | 0.14 | 0.062 | OI | | | | | 0.18 |
| 1.083 | 1.05 | 0.16 | 0.069 | OI | | | | | 0.20 |
| 1.167 | 0.75 | 0.17 | 0.074 | OI | | | | | 0.21 |
| 1.250 | 0.69 | 0.18 | 0.078 | O | | | | | 0.22 |
| 1.333 | 0.66 | 0.19 | 0.081 | O | | | | | 0.23 |
| 1.417 | 0.66 | 0.20 | 0.084 | O | | | | | 0.24 |
| 1.500 | 0.66 | 0.21 | 0.087 | O | | | | | 0.25 |
| 1.583 | 0.67 | 0.21 | 0.090 | O | | | | | 0.26 |
| 1.667 | 0.68 | 0.22 | 0.094 | O | | | | | 0.27 |
| 1.750 | 0.68 | 0.23 | 0.097 | O | | | | | 0.28 |
| 1.833 | 0.98 | 0.24 | 0.101 | OI | | | | | 0.29 |
| 1.917 | 1.31 | 0.25 | 0.107 | OI | | | | | 0.31 |
| 2.000 | 1.38 | 0.27 | 0.115 | OI | | | | | 0.33 |
| 2.083 | 1.42 | 0.29 | 0.122 | OI | | | | | 0.35 |
| 2.167 | 1.43 | 0.31 | 0.130 | OI | | | | | 0.37 |
| 2.250 | 1.44 | 0.32 | 0.138 | OI | | | | | 0.39 |
| 2.333 | 1.45 | 0.34 | 0.145 | OI | | | | | 0.42 |
| 2.417 | 1.45 | 0.36 | 0.153 | OI | | | | | 0.44 |
| 2.500 | 1.46 | 0.38 | 0.160 | OI | | | | | 0.46 |
| 2.583 | 1.76 | 0.40 | 0.169 | O I | | | | | 0.48 |
| 2.667 | 2.08 | 0.42 | 0.179 | O I | | | | | 0.51 |
| 2.750 | 2.16 | 0.45 | 0.191 | O I | | | | | 0.55 |
| 2.833 | 2.19 | 0.48 | 0.203 | O I | | | | | 0.58 |
| 2.917 | 2.21 | 0.50 | 0.214 | O I | | | | | 0.61 |
| 3.000 | 2.22 | 0.53 | 0.226 | O I | | | | | 0.65 |
| 3.083 | 2.22 | 0.56 | 0.238 | O I | | | | | 0.68 |
| 3.167 | 2.23 | 0.59 | 0.249 | O I | | | | | 0.71 |
| 3.250 | 2.23 | 0.61 | 0.260 | O I | | | | | 0.75 |
| 3.333 | 2.24 | 0.64 | 0.271 | O I | | | | | 0.78 |
| 3.417 | 2.25 | 0.66 | 0.282 | O I | | | | | 0.81 |
| 3.500 | 2.25 | 0.69 | 0.293 | O I | | | | | 0.84 |
| 3.583 | 2.26 | 0.71 | 0.304 | O I | | | | | 0.87 |
| 3.667 | 2.26 | 0.74 | 0.314 | O I | | | | | 0.90 |
| 3.750 | 2.27 | 0.76 | 0.325 | \|O I | | | | | 0.93 |
| 3.833 | 2.57 | 0.79 | 0.336 | \|O I | | | | | 0.96 |
| 3.917 | 2.89 | 0.82 | 0.349 | \|O I | | | | | 1.00 |
| 4.000 | 2.97 | 0.84 | 0.364 | \|O I | | | | | 1.06 |
| 4.083 | 3.00 | 0.87 | 0.379 | \|O I | | | | | 1.11 |
| 4.167 | 3.02 | 0.89 | 0.393 | \|O I | | | | | 1.17 |
| 4.250 | 3.02 | 0.92 | 0.408 | \|O I | | | | | 1.22 |
| 4.333 | 3.32 | 0.94 | 0.423 | \|O I | | | | | 1.28 |
| 4.417 | 3.65 | 0.97 | 0.441 | \|O I | | | | | 1.35 |
| 4.500 | 3.72 | 1.00 | 0.459 | \|O I | | | | | 1.42 |
| 4.583 | 3.76 | 1.03 | 0.478 | \|O I | | | | | 1.49 |
| 4.667 | 3.78 | 1.06 | 0.497 | \|O I | | | | | 1.56 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 4.750 | 3.78 | 1.09 | 0.515 | \|O I \| | \| | \| | \| | 1.63 |
| 4.833 | 4.08 | 1.12 | 0.535 | \|O I \| | \| | \| | \| | 1.71 |
| 4.917 | 4.41 | 1.16 | 0.556 | \|O I \| | \| | \| | \| | 1.79 |
| 5.000 | 4.48 | 1.20 | 0.579 | \|O I \| | \| | \| | \| | 1.88 |
| 5.083 | 3.93 | 1.23 | 0.599 | \|O I \| | \| | \| | \| | 1.95 |
| 5.167 | 3.30 | 1.26 | 0.616 | \|O I \| | \| | \| | \| | 2.02 |
| 5.250 | 3.17 | 1.27 | 0.629 | \|O I \| | \| | \| | \| | 2.07 |
| 5.333 | 3.41 | 1.29 | 0.643 | \|O I \| | \| | \| | \| | 2.12 |
| 5.417 | 3.72 | 1.31 | 0.659 | \|O I \| | \| | \| | \| | 2.18 |
| 5.500 | 3.79 | 1.33 | 0.675 | \|O I \| | \| | \| | \| | 2.25 |
| 5.583 | 4.11 | 1.35 | 0.693 | \|O I \| | \| | \| | \| | 2.31 |
| 5.667 | 4.45 | 1.38 | 0.713 | \|O I \| | \| | \| | \| | 2.39 |
| 5.750 | 4.53 | 1.40 | 0.735 | \|O I \| | \| | \| | \| | 2.47 |
| 5.833 | 4.56 | 1.43 | 0.756 | \|O I \| | \| | \| | \| | 2.56 |
| 5.917 | 4.58 | 1.45 | 0.778 | \|O I \| | \| | \| | \| | 2.64 |
| 6.000 | 4.59 | 1.48 | 0.799 | \|O I \| | \| | \| | \| | 2.72 |
| 6.083 | 4.88 | 1.51 | 0.822 | \| O I \| | \| | \| | \| | 2.80 |
| 6.167 | 5.21 | 1.54 | 0.846 | \| O I\| | \| | \| | \| | 2.90 |
| 6.250 | 5.28 | 1.57 | 0.871 | \| O I\| | \| | \| | \| | 2.99 |
| 6.333 | 5.32 | 1.59 | 0.897 | \| O I\| | \| | \| | \| | 3.09 |
| 6.417 | 5.34 | 1.62 | 0.923 | \| O I\| | \| | \| | \| | 3.19 |
| 6.500 | 5.34 | 1.64 | 0.948 | \| O I\| | \| | \| | \| | 3.29 |
| 6.583 | 5.64 | 1.67 | 0.975 | \| O I\| | \| | \| | \| | 3.39 |
| 6.667 | 5.96 | 1.70 | 1.003 | \| O I | \| | \| | \| | 3.50 |
| 6.750 | 6.04 | 1.73 | 1.032 | \| O I | \| | \| | \| | 3.61 |
| 6.833 | 6.07 | 1.76 | 1.062 | \| O I | \| | \| | \| | 3.72 |
| 6.917 | 6.09 | 1.79 | 1.092 | \| O I | \| | \| | \| | 3.84 |
| 7.000 | 6.09 | 1.82 | 1.121 | \| O I | \| | \| | \| | 3.95 |
| 7.083 | 6.10 | 1.83 | 1.151 | \| O I | \| | \| | \| | 4.02 |
| 7.167 | 6.10 | 1.84 | 1.180 | \| O I | \| | \| | \| | 4.05 |
| 7.250 | 6.11 | 1.85 | 1.210 | \| O I | \| | \| | \| | 4.08 |
| 7.333 | 6.41 | 1.86 | 1.240 | \| O I | \| | \| | \| | 4.12 |
| 7.417 | 6.73 | 1.87 | 1.272 | \| O \|I | \| | \| | \| | 4.15 |
| 7.500 | 6.81 | 1.88 | 1.306 | \| O \|I | \| | \| | \| | 4.19 |
| 7.583 | 7.13 | 1.88 | 1.341 | \| O \|I | \| | \| | \| | 4.23 |
| 7.667 | 7.47 | 1.89 | 1.378 | \| O \| I | \| | \| | \| | 4.27 |
| 7.750 | 7.55 | 1.90 | 1.417 | \| O \| I | \| | \| | \| | 4.31 |
| 7.833 | 7.87 | 1.92 | 1.457 | \| O \| I | \| | \| | \| | 4.35 |
| 7.917 | 8.21 | 1.93 | 1.499 | \| O \| I | \| | \| | \| | 4.40 |
| 8.000 | 8.28 | 1.94 | 1.543 | \| O \| I | \| | \| | \| | 4.45 |
| 8.083 | 8.90 | 1.95 | 1.588 | \| O \| I | \| | \| | \| | 4.50 |
| 8.167 | 9.56 | 2.99 | 1.635 | \| O \| I | \| | \| | \| | 4.55 |
| 8.250 | 9.70 | 3.95 | 1.677 | \| O \| I | \| | \| | \| | 4.59 |
| 8.333 | 9.77 | 4.79 | 1.714 | \| O \| I | \| | \| | \| | 4.63 |
| 8.417 | 9.80 | 5.51 | 1.746 | \| O\| I | \| | \| | \| | 4.66 |
| 8.500 | 9.80 | 6.13 | 1.774 | \| O I | \| | \| | \| | 4.69 |
| 8.583 | 10.10 | 6.68 | 1.798 | \| O I | \| | \| | \| | 4.71 |
| 8.667 | 10.42 | 7.20 | 1.821 | \| \|O I \| | \| | \| | \| | 4.74 |
| 8.750 | 10.50 | 7.67 | 1.842 | \| \| O I \| | \| | \| | \| | 4.76 |
| 8.833 | 10.82 | 8.10 | 1.861 | \| \| O I \| | \| | \| | \| | 4.78 |
| 8.917 | 11.16 | 8.52 | 1.879 | \| \| O I\| | \| | \| | \| | 4.80 |
| 9.000 | 11.24 | 8.91 | 1.896 | \| \| O I\| | \| | \| | \| | 4.81 |
| 9.083 | 11.85 | 9.29 | 1.913 | \| \| O I\| | \| | \| | \| | 4.83 |
| 9.167 | 12.51 | 9.71 | 1.932 | \| \| O I | \| | \| | \| | 4.85 |
| 9.250 | 12.66 | 10.12 | 1.950 | \| \| O \|I | \| | \| | \| | 4.87 |
| 9.333 | 13.01 | 10.51 | 1.967 | \| \| O \|I | \| | \| | \| | 4.89 |
| 9.417 | 13.36 | 10.90 | 1.985 | \| \| O \|I | \| | \| | \| | 4.90 |
| 9.500 | 13.43 | 11.26 | 2.000 | \| \| O\| I | \| | \| | \| | 4.92 |
| 9.583 | 13.76 | 11.60 | 2.015 | \| \| O\| I | \| | \| | \| | 4.93 |
| 9.667 | 14.10 | 11.94 | 2.030 | \| \| O I | \| | \| | \| | 4.95 |
| 9.750 | 14.17 | 12.25 | 2.044 | \| \| O I | \| | \| | \| | 4.96 |
| 9.833 | 14.49 | 12.55 | 2.058 | \| \| O I | \| | \| | \| | 4.98 |
| 9.917 | 14.83 | 12.86 | 2.071 | \| \| \|O I | \| | \| | \| | 4.99 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.000 | 14.91 | 13.20 | 2.084 | \| | \| | \|O I \| | \| | 5.00 |
| 10.083 | 12.90 | 13.37 | 2.088 | \| | \| | \|O \| | \| | 5.01 |
| 10.167 | 10.66 | 13.02 | 2.078 | \| | \| | I \|O \| | \| | 5.00 |
| 10.250 | 10.18 | 12.65 | 2.062 | \| | \| | I O \| | \| | 4.98 |
| 10.333 | 9.99 | 12.28 | 2.045 | \| | \| | I O \| | \| | 4.96 |
| 10.417 | 9.91 | 11.94 | 2.030 | \| | \| | I O \| | \| | 4.95 |
| 10.500 | 9.91 | 11.65 | 2.018 | \| | \| | I O\| \| | \| | 4.94 |
| 10.583 | 11.38 | 11.50 | 2.011 | \| | \| | O\| \| | \| | 4.93 |
| 10.667 | 12.99 | 11.60 | 2.015 | \| | \| | O\|I \| | \| | 4.93 |
| 10.750 | 13.34 | 11.83 | 2.025 | \| | \| | O\|I \| | \| | 4.94 |
| 10.833 | 13.48 | 12.06 | 2.036 | \| | \| | O I \| | \| | 4.95 |
| 10.917 | 13.55 | 12.27 | 2.045 | \| | \| | O I \| | \| | 4.96 |
| 11.000 | 13.56 | 12.45 | 2.053 | \| | \| | O I \| | \| | 4.97 |
| 11.083 | 13.27 | 12.59 | 2.059 | \| | \| | OI \| | \| | 4.98 |
| 11.167 | 12.95 | 12.67 | 2.063 | \| | \| | \|O \| | \| | 4.98 |
| 11.250 | 12.89 | 12.70 | 2.064 | \| | \| | \|O \| | \| | 4.98 |
| 11.333 | 12.86 | 12.73 | 2.065 | \| | \| | \|O \| | \| | 4.99 |
| 11.417 | 12.86 | 12.75 | 2.066 | \| | \| | \|O \| | \| | 4.99 |
| 11.500 | 12.86 | 12.76 | 2.067 | \| | \| | \|O \| | \| | 4.99 |
| 11.583 | 12.28 | 12.74 | 2.066 | \| | \| | IO \| | \| | 4.99 |
| 11.667 | 11.64 | 12.62 | 2.061 | \| | \| | IO \| | \| | 4.98 |
| 11.750 | 11.51 | 12.47 | 2.054 | \| | \| | IO \| | \| | 4.97 |
| 11.833 | 11.75 | 12.35 | 2.049 | \| | \| | IO \| | \| | 4.97 |
| 11.917 | 12.05 | 12.28 | 2.046 | \| | \| | O \| | \| | 4.97 |
| 12.000 | 12.12 | 12.26 | 2.044 | \| | \| | O \| | \| | 4.96 |
| 12.083 | 14.20 | 12.39 | 2.050 | \| | \| | O I \| | \| | 4.97 |
| 12.167 | 16.47 | 12.81 | 2.069 | \| | \| | \|O I \| | \| | 4.99 |
| 12.250 | 16.95 | 13.57 | 2.093 | \| | \| | \| O I \| | \| | 5.01 |
| 12.333 | 17.44 | 14.41 | 2.115 | \| | \| | \| O I\| | \| | 5.03 |
| 12.417 | 17.86 | 15.17 | 2.135 | \| | \| | \| O I \| | \| | 5.05 |
| 12.500 | 17.93 | 15.80 | 2.152 | \| | \| | \| O I \| | \| | 5.07 |
| 12.583 | 18.55 | 16.37 | 2.166 | \| | \| | \| O I \| | \| | 5.08 |
| 12.667 | 19.21 | 16.95 | 2.182 | \| | \| | \| O \|I \| | \| | 5.10 |
| 12.750 | 19.35 | 17.50 | 2.196 | \| | \| | \| O\| I \| | \| | 5.11 |
| 12.833 | 19.70 | 17.97 | 2.208 | \| | \| | \| O I \| | \| | 5.12 |
| 12.917 | 20.05 | 18.41 | 2.220 | \| | \| | \| O I \| | \| | 5.13 |
| 13.000 | 20.13 | 18.80 | 2.230 | \| | \| | \| \|O I \| | \| | 5.14 |
| 13.083 | 21.62 | 19.28 | 2.243 | \| | \| | \| \|O I \| | \| | 5.15 |
| 13.167 | 23.24 | 20.02 | 2.262 | \| | \| | \| \| O I\| | \| | 5.17 |
| 13.250 | 23.59 | 20.81 | 2.282 | \| | \| | \| \| O I\| | \| | 5.19 |
| 13.333 | 23.73 | 21.47 | 2.300 | \| | \| | \| \| O I\| | \| | 5.21 |
| 13.417 | 23.80 | 22.01 | 2.314 | \| | \| | \| \| O I\| | \| | 5.22 |
| 13.500 | 23.81 | 22.43 | 2.325 | \| | \| | \| \| O I | \| | 5.23 |
| 13.583 | 20.60 | 22.37 | 2.323 | \| | \| | \| \| I O \| | \| | 5.23 |
| 13.667 | 17.06 | 21.55 | 2.302 | \| | \| | \| I \| O \| | \| | 5.21 |
| 13.750 | 16.31 | 20.42 | 2.272 | \| | \| | \| I \| O \| | \| | 5.18 |
| 13.833 | 16.00 | 19.42 | 2.246 | \| | \| | \| I \| O \| | \| | 5.16 |
| 13.917 | 15.87 | 18.61 | 2.225 | \| | \| | \| I \|O \| | \| | 5.14 |
| 14.000 | 15.88 | 17.97 | 2.208 | \| | \| | \| I O \| | \| | 5.12 |
| 14.083 | 17.05 | 17.62 | 2.199 | \| | \| | \| IO\| \| | \| | 5.11 |
| 14.167 | 18.34 | 17.64 | 2.200 | \| | \| | \| OI \| | \| | 5.11 |
| 14.250 | 18.62 | 17.83 | 2.205 | \| | \| | \| O\|I \| | \| | 5.12 |
| 14.333 | 18.44 | 18.00 | 2.209 | \| | \| | \| O \| | \| | 5.12 |
| 14.417 | 18.17 | 18.07 | 2.211 | \| | \| | \| O \| | \| | 5.12 |
| 14.500 | 18.11 | 18.08 | 2.211 | \| | \| | \| O \| | \| | 5.12 |
| 14.583 | 18.08 | 18.09 | 2.211 | \| | \| | \| O \| | \| | 5.12 |
| 14.667 | 18.07 | 18.09 | 2.211 | \| | \| | \| O \| | \| | 5.12 |
| 14.750 | 18.08 | 18.08 | 2.211 | \| | \| | \| O \| | \| | 5.12 |
| 14.833 | 17.79 | 18.05 | 2.210 | \| | \| | \| IO \| | \| | 5.12 |
| 14.917 | 17.47 | 17.95 | 2.208 | \| | \| | \| IO \| | \| | 5.12 |
| 15.000 | 17.41 | 17.83 | 2.205 | \| | \| | \| O\| \| | \| | 5.12 |
| 15.083 | 17.09 | 17.70 | 2.201 | \| | \| | \| IO\| \| | \| | 5.11 |
| 15.167 | 16.76 | 17.52 | 2.196 | \| | \| | \| IO\| \| | \| | 5.11 |

```
15.250   16.69   17.33      2.192  |       |       |     IO|       |     5.11
15.333   16.38   17.15      2.187  |       |       |     IO|       |     5.10
15.417   16.05   16.93      2.181  |       |       |    IO |       |     5.10
15.500   15.98   16.72      2.176  |       |       |    IO |       |     5.09
15.583   14.79   16.41      2.167  |       |       |  I  O |       |     5.08
15.667   13.49   15.88      2.154  |       |       | I  O  |       |     5.07
15.750   13.22   15.29      2.138  |       |       |I  O   |       |     5.06
15.833   13.11   14.80      2.125  |       |       |I O    |       |     5.04
15.917   13.07   14.40      2.115  |       |       |I O    |       |     5.03
16.000   13.07   14.09      2.107  |       |       |IO     |       |     5.03
16.083    8.70   13.34      2.087  |       |  I    |O      |       |     5.01
16.167    3.87   12.22      2.043  |    I  |       O       |       |     4.96
16.250    2.84   10.93      1.986  |  I    |     O |       |       |     4.90
16.333    2.43    9.73      1.933  |  I    |    O  |       |       |     4.85
16.417    2.24    8.66      1.886  |  I    |  O    |       |       |     4.80
16.500    2.25    7.74      1.845  |  I    | O     |       |       |     4.76
16.583    1.96    6.92      1.809  | I     |O      |       |       |     4.72
16.667    1.64    6.18      1.776  | I     O       |       |       |     4.69
16.750    1.57    5.52      1.747  | I    O|       |       |       |     4.66
16.833    1.55    4.95      1.721  | I   O |       |       |       |     4.63
16.917    1.54    4.45      1.700  | I  O  |       |       |       |     4.61
17.000    1.54    4.03      1.681  | I  O  |       |       |       |     4.59
17.083    2.13    3.72      1.667  | I O   |       |       |       |     4.58
17.167    2.78    3.53      1.659  |  IO   |       |       |       |     4.57
17.250    2.92    3.43      1.655  |  IO   |       |       |       |     4.57
17.333    2.98    3.36      1.651  |  IO   |       |       |       |     4.56
17.417    3.00    3.31      1.649  |   O   |       |       |       |     4.56
17.500    3.01    3.26      1.647  |   O   |       |       |       |     4.56
17.583    3.01    3.23      1.645  |   O   |       |       |       |     4.56
17.667    3.01    3.20      1.644  |   O   |       |       |       |     4.56
17.750    3.02    3.17      1.643  |   O   |       |       |       |     4.55
17.833    2.73    3.13      1.641  |  IO   |       |       |       |     4.55
17.917    2.41    3.05      1.637  |  IO   |       |       |       |     4.55
18.000    2.34    2.95      1.633  |  O    |       |       |       |     4.54
18.083    2.32    2.86      1.629  |  O    |       |       |       |     4.54
18.167    2.31    2.78      1.626  |  O    |       |       |       |     4.54
18.250    2.31    2.71      1.623  |  O    |       |       |       |     4.53
18.333    2.31    2.65      1.620  |  O    |       |       |       |     4.53
18.417    2.32    2.60      1.618  |  O    |       |       |       |     4.53
18.500    2.32    2.56      1.616  |  O    |       |       |       |     4.53
18.583    2.03    2.51      1.614  | IO    |       |       |       |     4.53
18.667    1.71    2.41      1.610  | IO    |       |       |       |     4.52
18.750    1.64    2.31      1.605  | IO    |       |       |       |     4.52
18.833    1.33    2.19      1.600  |IO     |       |       |       |     4.51
18.917    1.00    2.04      1.593  |IO     |       |       |       |     4.50
19.000    0.93    1.95      1.586  |IO     |       |       |       |     4.50
19.083    1.20    1.95      1.580  |IO     |       |       |       |     4.49
19.167    1.51    1.95      1.576  | O     |       |       |       |     4.49
19.250    1.58    1.95      1.573  | O     |       |       |       |     4.48
19.333    1.90    1.95      1.572  | O     |       |       |       |     4.48
19.417    2.24    1.95      1.572  | OI    |       |       |       |     4.48
19.500    2.31    1.95      1.575  | OI    |       |       |       |     4.48
19.583    2.05    1.95      1.576  | O     |       |       |       |     4.49
19.667    1.74    1.95      1.576  | O     |       |       |       |     4.49
19.750    1.68    1.95      1.574  | O     |       |       |       |     4.48
19.833    1.36    1.95      1.571  |IO     |       |       |       |     4.48
19.917    1.03    1.94      1.566  |IO     |       |       |       |     4.47
20.000    0.96    1.94      1.560  |IO     |       |       |       |     4.47
20.083    1.23    1.94      1.554  |IO     |       |       |       |     4.46
20.167    1.54    1.94      1.550  | O     |       |       |       |     4.46
20.250    1.61    1.94      1.547  | O     |       |       |       |     4.45
20.333    1.64    1.94      1.545  | O     |       |       |       |     4.45
20.417    1.65    1.94      1.543  | O     |       |       |       |     4.45
```

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 20.500 | 1.66 | 1.94 | 1.541 | \| O | \| | \| | \| | 4.45 |
| 20.583 | 1.66 | 1.94 | 1.539 | \| O | \| | \| | \| | 4.45 |
| 20.667 | 1.66 | 1.94 | 1.537 | \| O | \| | \| | \| | 4.44 |
| 20.750 | 1.66 | 1.94 | 1.535 | \| O | \| | \| | \| | 4.44 |
| 20.833 | 1.37 | 1.94 | 1.533 | \|IO | \| | \| | \| | 4.44 |
| 20.917 | 1.05 | 1.93 | 1.528 | \|IO | \| | \| | \| | 4.43 |
| 21.000 | 0.99 | 1.93 | 1.521 | \|IO | \| | \| | \| | 4.43 |
| 21.083 | 1.25 | 1.93 | 1.516 | \|IO | \| | \| | \| | 4.42 |
| 21.167 | 1.56 | 1.93 | 1.512 | \| O | \| | \| | \| | 4.42 |
| 21.250 | 1.63 | 1.93 | 1.510 | \| O | \| | \| | \| | 4.41 |
| 21.333 | 1.37 | 1.93 | 1.507 | \|IO | \| | \| | \| | 4.41 |
| 21.417 | 1.06 | 1.93 | 1.502 | \|IO | \| | \| | \| | 4.40 |
| 21.500 | 1.00 | 1.93 | 1.496 | \|IO | \| | \| | \| | 4.40 |
| 21.583 | 1.26 | 1.92 | 1.490 | \|IO | \| | \| | \| | 4.39 |
| 21.667 | 1.57 | 1.92 | 1.487 | \| O | \| | \| | \| | 4.39 |
| 21.750 | 1.64 | 1.92 | 1.485 | \| O | \| | \| | \| | 4.39 |
| 21.833 | 1.38 | 1.92 | 1.482 | \|IO | \| | \| | \| | 4.38 |
| 21.917 | 1.07 | 1.92 | 1.477 | \|IO | \| | \| | \| | 4.38 |
| 22.000 | 1.01 | 1.92 | 1.471 | \|IO | \| | \| | \| | 4.37 |
| 22.083 | 1.27 | 1.92 | 1.466 | \|IO | \| | \| | \| | 4.36 |
| 22.167 | 1.58 | 1.92 | 1.462 | \| O | \| | \| | \| | 4.36 |
| 22.250 | 1.65 | 1.92 | 1.460 | \| O | \| | \| | \| | 4.36 |
| 22.333 | 1.39 | 1.92 | 1.458 | \|IO | \| | \| | \| | 4.36 |
| 22.417 | 1.08 | 1.91 | 1.453 | \|IO | \| | \| | \| | 4.35 |
| 22.500 | 1.02 | 1.91 | 1.447 | \|IO | \| | \| | \| | 4.34 |
| 22.583 | 0.99 | 1.91 | 1.441 | \|IO | \| | \| | \| | 4.34 |
| 22.667 | 0.98 | 1.91 | 1.434 | \|IO | \| | \| | \| | 4.33 |
| 22.750 | 0.98 | 1.91 | 1.428 | \|IO | \| | \| | \| | 4.32 |
| 22.833 | 0.98 | 1.91 | 1.422 | \|IO | \| | \| | \| | 4.32 |
| 22.917 | 0.98 | 1.90 | 1.415 | \|IO | \| | \| | \| | 4.31 |
| 23.000 | 0.98 | 1.90 | 1.409 | \|IO | \| | \| | \| | 4.30 |
| 23.083 | 0.98 | 1.90 | 1.403 | \|IO | \| | \| | \| | 4.29 |
| 23.167 | 0.99 | 1.90 | 1.396 | \|IO | \| | \| | \| | 4.29 |
| 23.250 | 0.99 | 1.90 | 1.390 | \|IO | \| | \| | \| | 4.28 |
| 23.333 | 0.99 | 1.90 | 1.384 | \|IO | \| | \| | \| | 4.27 |
| 23.417 | 0.99 | 1.89 | 1.377 | \|IO | \| | \| | \| | 4.27 |
| 23.500 | 0.99 | 1.89 | 1.371 | \|IO | \| | \| | \| | 4.26 |
| 23.583 | 0.99 | 1.89 | 1.365 | \|IO | \| | \| | \| | 4.25 |
| 23.667 | 0.99 | 1.89 | 1.359 | \|IO | \| | \| | \| | 4.25 |
| 23.750 | 0.99 | 1.89 | 1.353 | \|IO | \| | \| | \| | 4.24 |
| 23.833 | 0.99 | 1.89 | 1.347 | \|IO | \| | \| | \| | 4.23 |
| 23.917 | 0.99 | 1.88 | 1.340 | \|IO | \| | \| | \| | 4.23 |
| 24.000 | 0.99 | 1.88 | 1.334 | \|IO | \| | \| | \| | 4.22 |
| 24.083 | 0.59 | 1.88 | 1.327 | I O | \| | \| | \| | 4.21 |
| 24.167 | 0.15 | 1.88 | 1.316 | I O | \| | \| | \| | 4.20 |
| 24.250 | 0.06 | 1.87 | 1.304 | I O | \| | \| | \| | 4.19 |
| 24.333 | 0.02 | 1.87 | 1.292 | I O | \| | \| | \| | 4.17 |
| 24.417 | 0.00 | 1.87 | 1.279 | I O | \| | \| | \| | 4.16 |
| 24.500 | 0.00 | 1.86 | 1.266 | I O | \| | \| | \| | 4.14 |
| 24.583 | 0.00 | 1.86 | 1.253 | I O | \| | \| | \| | 4.13 |
| 24.667 | 0.00 | 1.86 | 1.240 | I O | \| | \| | \| | 4.12 |
| 24.750 | 0.00 | 1.85 | 1.227 | I O | \| | \| | \| | 4.10 |
| 24.833 | 0.00 | 1.85 | 1.215 | I O | \| | \| | \| | 4.09 |
| 24.917 | 0.00 | 1.85 | 1.202 | I O | \| | \| | \| | 4.07 |
| 25.000 | 0.00 | 1.84 | 1.189 | I O | \| | \| | \| | 4.06 |
| 25.083 | 0.00 | 1.84 | 1.177 | I O | \| | \| | \| | 4.05 |
| 25.167 | 0.00 | 1.84 | 1.164 | I O | \| | \| | \| | 4.03 |
| 25.250 | 0.00 | 1.83 | 1.151 | I O | \| | \| | \| | 4.02 |
| 25.333 | 0.00 | 1.83 | 1.139 | I O | \| | \| | \| | 4.00 |
| 25.417 | 0.00 | 1.82 | 1.126 | I O | \| | \| | \| | 3.97 |
| 25.500 | 0.00 | 1.81 | 1.114 | I O | \| | \| | \| | 3.92 |
| 25.583 | 0.00 | 1.80 | 1.101 | I O | \| | \| | \| | 3.87 |
| 25.667 | 0.00 | 1.78 | 1.089 | I O | \| | \| | \| | 3.82 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 25.750 | 0.00 | 1.77 | 1.077 | I O | \| | \| | \| | \| | 3.78 |
| 25.833 | 0.00 | 1.76 | 1.064 | I O | \| | \| | \| | \| | 3.73 |
| 25.917 | 0.00 | 1.75 | 1.052 | I O | \| | \| | \| | \| | 3.68 |
| 26.000 | 0.00 | 1.74 | 1.040 | I O | \| | \| | \| | \| | 3.64 |
| 26.083 | 0.00 | 1.72 | 1.028 | I O | \| | \| | \| | \| | 3.59 |
| 26.167 | 0.00 | 1.71 | 1.017 | I O | \| | \| | \| | \| | 3.55 |
| 26.250 | 0.00 | 1.70 | 1.005 | I O | \| | \| | \| | \| | 3.50 |
| 26.333 | 0.00 | 1.69 | 0.993 | I O | \| | \| | \| | \| | 3.46 |
| 26.417 | 0.00 | 1.68 | 0.982 | I O | \| | \| | \| | \| | 3.41 |
| 26.500 | 0.00 | 1.67 | 0.970 | I O | \| | \| | \| | \| | 3.37 |
| 26.583 | 0.00 | 1.65 | 0.959 | I O | \| | \| | \| | \| | 3.33 |
| 26.667 | 0.00 | 1.64 | 0.947 | I O | \| | \| | \| | \| | 3.28 |
| 26.750 | 0.00 | 1.63 | 0.936 | I O | \| | \| | \| | \| | 3.24 |
| 26.833 | 0.00 | 1.62 | 0.925 | I O | \| | \| | \| | \| | 3.20 |
| 26.917 | 0.00 | 1.61 | 0.914 | I O | \| | \| | \| | \| | 3.15 |
| 27.000 | 0.00 | 1.60 | 0.903 | I O | \| | \| | \| | \| | 3.11 |
| 27.083 | 0.00 | 1.59 | 0.892 | I O | \| | \| | \| | \| | 3.07 |
| 27.167 | 0.00 | 1.58 | 0.881 | I O | \| | \| | \| | \| | 3.03 |
| 27.250 | 0.00 | 1.57 | 0.870 | I O | \| | \| | \| | \| | 2.99 |
| 27.333 | 0.00 | 1.55 | 0.859 | I O | \| | \| | \| | \| | 2.95 |
| 27.417 | 0.00 | 1.54 | 0.848 | I O | \| | \| | \| | \| | 2.91 |
| 27.500 | 0.00 | 1.53 | 0.838 | I O | \| | \| | \| | \| | 2.87 |
| 27.583 | 0.00 | 1.51 | 0.827 | I O | \| | \| | \| | \| | 2.83 |
| 27.667 | 0.00 | 1.50 | 0.817 | I O | \| | \| | \| | \| | 2.79 |
| 27.750 | 0.00 | 1.49 | 0.807 | I O | \| | \| | \| | \| | 2.75 |
| 27.833 | 0.00 | 1.48 | 0.797 | IO | \| | \| | \| | \| | 2.71 |
| 27.917 | 0.00 | 1.46 | 0.786 | IO | \| | \| | \| | \| | 2.67 |
| 28.000 | 0.00 | 1.45 | 0.776 | IO | \| | \| | \| | \| | 2.63 |
| 28.083 | 0.00 | 1.44 | 0.766 | IO | \| | \| | \| | \| | 2.59 |
| 28.167 | 0.00 | 1.43 | 0.757 | IO | \| | \| | \| | \| | 2.56 |
| 28.250 | 0.00 | 1.42 | 0.747 | IO | \| | \| | \| | \| | 2.52 |
| 28.333 | 0.00 | 1.40 | 0.737 | IO | \| | \| | \| | \| | 2.48 |
| 28.417 | 0.00 | 1.39 | 0.727 | IO | \| | \| | \| | \| | 2.44 |
| 28.500 | 0.00 | 1.38 | 0.718 | IO | \| | \| | \| | \| | 2.41 |
| 28.583 | 0.00 | 1.37 | 0.708 | IO | \| | \| | \| | \| | 2.37 |
| 28.667 | 0.00 | 1.36 | 0.699 | IO | \| | \| | \| | \| | 2.34 |
| 28.750 | 0.00 | 1.35 | 0.690 | IO | \| | \| | \| | \| | 2.30 |
| 28.833 | 0.00 | 1.33 | 0.680 | IO | \| | \| | \| | \| | 2.27 |
| 28.917 | 0.00 | 1.32 | 0.671 | IO | \| | \| | \| | \| | 2.23 |
| 29.000 | 0.00 | 1.31 | 0.662 | IO | \| | \| | \| | \| | 2.20 |
| 29.083 | 0.00 | 1.30 | 0.653 | IO | \| | \| | \| | \| | 2.16 |
| 29.167 | 0.00 | 1.29 | 0.644 | IO | \| | \| | \| | \| | 2.13 |
| 29.250 | 0.00 | 1.28 | 0.635 | IO | \| | \| | \| | \| | 2.09 |
| 29.333 | 0.00 | 1.27 | 0.627 | IO | \| | \| | \| | \| | 2.06 |
| 29.417 | 0.00 | 1.26 | 0.618 | IO | \| | \| | \| | \| | 2.03 |
| 29.500 | 0.00 | 1.25 | 0.609 | IO | \| | \| | \| | \| | 1.99 |
| 29.583 | 0.00 | 1.23 | 0.601 | IO | \| | \| | \| | \| | 1.96 |
| 29.667 | 0.00 | 1.22 | 0.592 | IO | \| | \| | \| | \| | 1.93 |
| 29.750 | 0.00 | 1.21 | 0.584 | IO | \| | \| | \| | \| | 1.90 |
| 29.833 | 0.00 | 1.19 | 0.576 | IO | \| | \| | \| | \| | 1.87 |
| 29.917 | 0.00 | 1.18 | 0.568 | IO | \| | \| | \| | \| | 1.83 |
| 30.000 | 0.00 | 1.17 | 0.559 | IO | \| | \| | \| | \| | 1.80 |
| 30.083 | 0.00 | 1.15 | 0.552 | IO | \| | \| | \| | \| | 1.77 |
| 30.167 | 0.00 | 1.14 | 0.544 | IO | \| | \| | \| | \| | 1.74 |
| 30.250 | 0.00 | 1.13 | 0.536 | IO | \| | \| | \| | \| | 1.71 |
| 30.333 | 0.00 | 1.11 | 0.528 | IO | \| | \| | \| | \| | 1.68 |
| 30.417 | 0.00 | 1.10 | 0.520 | IO | \| | \| | \| | \| | 1.65 |
| 30.500 | 0.00 | 1.09 | 0.513 | IO | \| | \| | \| | \| | 1.63 |
| 30.583 | 0.00 | 1.08 | 0.505 | IO | \| | \| | \| | \| | 1.60 |
| 30.667 | 0.00 | 1.06 | 0.498 | IO | \| | \| | \| | \| | 1.57 |
| 30.750 | 0.00 | 1.05 | 0.491 | IO | \| | \| | \| | \| | 1.54 |
| 30.833 | 0.00 | 1.04 | 0.484 | IO | \| | \| | \| | \| | 1.51 |
| 30.917 | 0.00 | 1.03 | 0.476 | IO | \| | \| | \| | \| | 1.49 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 31.000 | 0.00 | 1.02 | 0.469 | IO | \| | \| | \| | \| | 1.46 |
| 31.083 | 0.00 | 1.01 | 0.462 | IO | \| | \| | \| | \| | 1.43 |
| 31.167 | 0.00 | 0.99 | 0.456 | IO | \| | \| | \| | \| | 1.41 |
| 31.250 | 0.00 | 0.98 | 0.449 | IO | \| | \| | \| | \| | 1.38 |
| 31.333 | 0.00 | 0.97 | 0.442 | IO | \| | \| | \| | \| | 1.35 |
| 31.417 | 0.00 | 0.96 | 0.435 | IO | \| | \| | \| | \| | 1.33 |
| 31.500 | 0.00 | 0.95 | 0.429 | IO | \| | \| | \| | \| | 1.30 |
| 31.583 | 0.00 | 0.94 | 0.422 | IO | \| | \| | \| | \| | 1.28 |
| 31.667 | 0.00 | 0.93 | 0.416 | IO | \| | \| | \| | \| | 1.25 |
| 31.750 | 0.00 | 0.92 | 0.409 | IO | \| | \| | \| | \| | 1.23 |
| 31.833 | 0.00 | 0.91 | 0.403 | IO | \| | \| | \| | \| | 1.21 |
| 31.917 | 0.00 | 0.90 | 0.397 | IO | \| | \| | \| | \| | 1.18 |
| 32.000 | 0.00 | 0.89 | 0.391 | IO | \| | \| | \| | \| | 1.16 |
| 32.083 | 0.00 | 0.88 | 0.385 | IO | \| | \| | \| | \| | 1.14 |
| 32.167 | 0.00 | 0.87 | 0.379 | IO | \| | \| | \| | \| | 1.11 |
| 32.250 | 0.00 | 0.86 | 0.373 | IO | \| | \| | \| | \| | 1.09 |
| 32.333 | 0.00 | 0.85 | 0.367 | IO | \| | \| | \| | \| | 1.07 |
| 32.417 | 0.00 | 0.84 | 0.361 | IO | \| | \| | \| | \| | 1.05 |
| 32.500 | 0.00 | 0.83 | 0.355 | IO | \| | \| | \| | \| | 1.02 |
| 32.583 | 0.00 | 0.82 | 0.350 | IO | \| | \| | \| | \| | 1.00 |
| 32.667 | 0.00 | 0.81 | 0.344 | IO | \| | \| | \| | \| | 0.99 |
| 32.750 | 0.00 | 0.80 | 0.338 | IO | \| | \| | \| | \| | 0.97 |
| 32.833 | 0.00 | 0.78 | 0.333 | IO | \| | \| | \| | \| | 0.95 |
| 32.917 | 0.00 | 0.77 | 0.328 | IO | \| | \| | \| | \| | 0.94 |
| 33.000 | 0.00 | 0.76 | 0.322 | IO | \| | \| | \| | \| | 0.92 |
| 33.083 | 0.00 | 0.75 | 0.317 | IO | \| | \| | \| | \| | 0.91 |
| 33.167 | 0.00 | 0.73 | 0.312 | O | \| | \| | \| | \| | 0.89 |
| 33.250 | 0.00 | 0.72 | 0.307 | O | \| | \| | \| | \| | 0.88 |
| 33.333 | 0.00 | 0.71 | 0.302 | O | \| | \| | \| | \| | 0.87 |
| 33.417 | 0.00 | 0.70 | 0.297 | O | \| | \| | \| | \| | 0.85 |
| 33.500 | 0.00 | 0.69 | 0.293 | O | \| | \| | \| | \| | 0.84 |
| 33.583 | 0.00 | 0.68 | 0.288 | O | \| | \| | \| | \| | 0.82 |
| 33.667 | 0.00 | 0.67 | 0.283 | O | \| | \| | \| | \| | 0.81 |
| 33.750 | 0.00 | 0.65 | 0.279 | O | \| | \| | \| | \| | 0.80 |
| 33.833 | 0.00 | 0.64 | 0.274 | O | \| | \| | \| | \| | 0.79 |
| 33.917 | 0.00 | 0.63 | 0.270 | O | \| | \| | \| | \| | 0.77 |
| 34.000 | 0.00 | 0.62 | 0.266 | O | \| | \| | \| | \| | 0.76 |
| 34.083 | 0.00 | 0.61 | 0.261 | O | \| | \| | \| | \| | 0.75 |
| 34.167 | 0.00 | 0.60 | 0.257 | O | \| | \| | \| | \| | 0.74 |
| 34.250 | 0.00 | 0.59 | 0.253 | O | \| | \| | \| | \| | 0.72 |
| 34.333 | 0.00 | 0.58 | 0.249 | O | \| | \| | \| | \| | 0.71 |
| 34.417 | 0.00 | 0.58 | 0.245 | O | \| | \| | \| | \| | 0.70 |
| 34.500 | 0.00 | 0.57 | 0.241 | O | \| | \| | \| | \| | 0.69 |
| 34.583 | 0.00 | 0.56 | 0.237 | O | \| | \| | \| | \| | 0.68 |
| 34.667 | 0.00 | 0.55 | 0.233 | O | \| | \| | \| | \| | 0.67 |
| 34.750 | 0.00 | 0.54 | 0.230 | O | \| | \| | \| | \| | 0.66 |
| 34.833 | 0.00 | 0.53 | 0.226 | O | \| | \| | \| | \| | 0.65 |
| 34.917 | 0.00 | 0.52 | 0.222 | O | \| | \| | \| | \| | 0.64 |
| 35.000 | 0.00 | 0.51 | 0.219 | O | \| | \| | \| | \| | 0.63 |
| 35.083 | 0.00 | 0.51 | 0.215 | O | \| | \| | \| | \| | 0.62 |
| 35.167 | 0.00 | 0.50 | 0.212 | O | \| | \| | \| | \| | 0.61 |
| 35.250 | 0.00 | 0.49 | 0.208 | O | \| | \| | \| | \| | 0.60 |
| 35.333 | 0.00 | 0.48 | 0.205 | O | \| | \| | \| | \| | 0.59 |
| 35.417 | 0.00 | 0.47 | 0.202 | O | \| | \| | \| | \| | 0.58 |
| 35.500 | 0.00 | 0.47 | 0.198 | O | \| | \| | \| | \| | 0.57 |
| 35.583 | 0.00 | 0.46 | 0.195 | O | \| | \| | \| | \| | 0.56 |
| 35.667 | 0.00 | 0.45 | 0.192 | O | \| | \| | \| | \| | 0.55 |
| 35.750 | 0.00 | 0.44 | 0.189 | O | \| | \| | \| | \| | 0.54 |
| 35.833 | 0.00 | 0.44 | 0.186 | O | \| | \| | \| | \| | 0.53 |
| 35.917 | 0.00 | 0.43 | 0.183 | O | \| | \| | \| | \| | 0.52 |
| 36.000 | 0.00 | 0.42 | 0.180 | O | \| | \| | \| | \| | 0.52 |
| 36.083 | 0.00 | 0.42 | 0.177 | O | \| | \| | \| | \| | 0.51 |
| 36.167 | 0.00 | 0.41 | 0.174 | O | \| | \| | \| | \| | 0.50 |

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|---|---|---|---|---|---|---|---|---|---|
| 36.250 | 0.00 | 0.40 | 0.172 | O | \| | \| | \| | \| | 0.49 |
| 36.333 | 0.00 | 0.40 | 0.169 | O | \| | \| | \| | \| | 0.48 |
| 36.417 | 0.00 | 0.39 | 0.166 | O | \| | \| | \| | \| | 0.48 |
| 36.500 | 0.00 | 0.38 | 0.163 | O | \| | \| | \| | \| | 0.47 |
| 36.583 | 0.00 | 0.38 | 0.161 | O | \| | \| | \| | \| | 0.46 |
| 36.667 | 0.00 | 0.37 | 0.158 | O | \| | \| | \| | \| | 0.45 |
| 36.750 | 0.00 | 0.37 | 0.156 | O | \| | \| | \| | \| | 0.45 |
| 36.833 | 0.00 | 0.36 | 0.153 | O | \| | \| | \| | \| | 0.44 |
| 36.917 | 0.00 | 0.35 | 0.151 | O | \| | \| | \| | \| | 0.43 |
| 37.000 | 0.00 | 0.35 | 0.148 | O | \| | \| | \| | \| | 0.42 |
| 37.083 | 0.00 | 0.34 | 0.146 | O | \| | \| | \| | \| | 0.42 |
| 37.167 | 0.00 | 0.34 | 0.144 | O | \| | \| | \| | \| | 0.41 |
| 37.250 | 0.00 | 0.33 | 0.141 | O | \| | \| | \| | \| | 0.40 |
| 37.333 | 0.00 | 0.33 | 0.139 | O | \| | \| | \| | \| | 0.40 |
| 37.417 | 0.00 | 0.32 | 0.137 | O | \| | \| | \| | \| | 0.39 |
| 37.500 | 0.00 | 0.32 | 0.135 | O | \| | \| | \| | \| | 0.39 |
| 37.583 | 0.00 | 0.31 | 0.132 | O | \| | \| | \| | \| | 0.38 |
| 37.667 | 0.00 | 0.31 | 0.130 | O | \| | \| | \| | \| | 0.37 |
| 37.750 | 0.00 | 0.30 | 0.128 | O | \| | \| | \| | \| | 0.37 |
| 37.833 | 0.00 | 0.30 | 0.126 | O | \| | \| | \| | \| | 0.36 |
| 37.917 | 0.00 | 0.29 | 0.124 | O | \| | \| | \| | \| | 0.36 |
| 38.000 | 0.00 | 0.29 | 0.122 | O | \| | \| | \| | \| | 0.35 |
| 38.083 | 0.00 | 0.28 | 0.120 | O | \| | \| | \| | \| | 0.34 |
| 38.167 | 0.00 | 0.28 | 0.118 | O | \| | \| | \| | \| | 0.34 |
| 38.250 | 0.00 | 0.27 | 0.116 | O | \| | \| | \| | \| | 0.33 |
| 38.333 | 0.00 | 0.27 | 0.114 | O | \| | \| | \| | \| | 0.33 |
| 38.417 | 0.00 | 0.26 | 0.113 | O | \| | \| | \| | \| | 0.32 |
| 38.500 | 0.00 | 0.26 | 0.111 | O | \| | \| | \| | \| | 0.32 |
| 38.583 | 0.00 | 0.26 | 0.109 | O | \| | \| | \| | \| | 0.31 |
| 38.667 | 0.00 | 0.25 | 0.107 | O | \| | \| | \| | \| | 0.31 |
| 38.750 | 0.00 | 0.25 | 0.106 | O | \| | \| | \| | \| | 0.30 |
| 38.833 | 0.00 | 0.24 | 0.104 | O | \| | \| | \| | \| | 0.30 |
| 38.917 | 0.00 | 0.24 | 0.102 | O | \| | \| | \| | \| | 0.29 |
| 39.000 | 0.00 | 0.24 | 0.101 | O | \| | \| | \| | \| | 0.29 |
| 39.083 | 0.00 | 0.23 | 0.099 | O | \| | \| | \| | \| | 0.28 |
| 39.167 | 0.00 | 0.23 | 0.097 | O | \| | \| | \| | \| | 0.28 |
| 39.250 | 0.00 | 0.23 | 0.096 | O | \| | \| | \| | \| | 0.27 |
| 39.333 | 0.00 | 0.22 | 0.094 | O | \| | \| | \| | \| | 0.27 |
| 39.417 | 0.00 | 0.22 | 0.093 | O | \| | \| | \| | \| | 0.27 |
| 39.500 | 0.00 | 0.21 | 0.091 | O | \| | \| | \| | \| | 0.26 |
| 39.583 | 0.00 | 0.21 | 0.090 | O | \| | \| | \| | \| | 0.26 |
| 39.667 | 0.00 | 0.21 | 0.088 | O | \| | \| | \| | \| | 0.25 |
| 39.750 | 0.00 | 0.20 | 0.087 | O | \| | \| | \| | \| | 0.25 |
| 39.833 | 0.00 | 0.20 | 0.086 | O | \| | \| | \| | \| | 0.25 |
| 39.917 | 0.00 | 0.20 | 0.084 | O | \| | \| | \| | \| | 0.24 |
| 40.000 | 0.00 | 0.19 | 0.083 | O | \| | \| | \| | \| | 0.24 |
| 40.083 | 0.00 | 0.19 | 0.081 | O | \| | \| | \| | \| | 0.23 |
| 40.167 | 0.00 | 0.19 | 0.080 | O | \| | \| | \| | \| | 0.23 |
| 40.250 | 0.00 | 0.19 | 0.079 | O | \| | \| | \| | \| | 0.23 |
| 40.333 | 0.00 | 0.18 | 0.078 | O | \| | \| | \| | \| | 0.22 |
| 40.417 | 0.00 | 0.18 | 0.076 | O | \| | \| | \| | \| | 0.22 |
| 40.500 | 0.00 | 0.18 | 0.075 | O | \| | \| | \| | \| | 0.22 |
| 40.583 | 0.00 | 0.17 | 0.074 | O | \| | \| | \| | \| | 0.21 |
| 40.667 | 0.00 | 0.17 | 0.073 | O | \| | \| | \| | \| | 0.21 |
| 40.750 | 0.00 | 0.17 | 0.072 | O | \| | \| | \| | \| | 0.21 |
| 40.833 | 0.00 | 0.17 | 0.070 | O | \| | \| | \| | \| | 0.20 |
| 40.917 | 0.00 | 0.16 | 0.069 | O | \| | \| | \| | \| | 0.20 |
| 41.000 | 0.00 | 0.16 | 0.068 | O | \| | \| | \| | \| | 0.20 |
| 41.083 | 0.00 | 0.16 | 0.067 | O | \| | \| | \| | \| | 0.19 |
| 41.167 | 0.00 | 0.16 | 0.066 | O | \| | \| | \| | \| | 0.19 |
| 41.250 | 0.00 | 0.15 | 0.065 | O | \| | \| | \| | \| | 0.19 |
| 41.333 | 0.00 | 0.15 | 0.064 | O | \| | \| | \| | \| | 0.18 |
| 41.417 | 0.00 | 0.15 | 0.063 | O | \| | \| | \| | \| | 0.18 |

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|---|---|---|---|---|---|---|---|---|---|
| 41.500 | 0.00 | 0.15 | 0.062 | O | \| | \| | \| | \| | 0.18 |
| 41.583 | 0.00 | 0.14 | 0.061 | O | \| | \| | \| | \| | 0.17 |
| 41.667 | 0.00 | 0.14 | 0.060 | O | \| | \| | \| | \| | 0.17 |
| 41.750 | 0.00 | 0.14 | 0.059 | O | \| | \| | \| | \| | 0.17 |
| 41.833 | 0.00 | 0.14 | 0.058 | O | \| | \| | \| | \| | 0.17 |
| 41.917 | 0.00 | 0.13 | 0.057 | O | \| | \| | \| | \| | 0.16 |
| 42.000 | 0.00 | 0.13 | 0.056 | O | \| | \| | \| | \| | 0.16 |
| 42.083 | 0.00 | 0.13 | 0.055 | O | \| | \| | \| | \| | 0.16 |
| 42.167 | 0.00 | 0.13 | 0.054 | O | \| | \| | \| | \| | 0.16 |
| 42.250 | 0.00 | 0.13 | 0.053 | O | \| | \| | \| | \| | 0.15 |
| 42.333 | 0.00 | 0.12 | 0.053 | O | \| | \| | \| | \| | 0.15 |
| 42.417 | 0.00 | 0.12 | 0.052 | O | \| | \| | \| | \| | 0.15 |
| 42.500 | 0.00 | 0.12 | 0.051 | O | \| | \| | \| | \| | 0.15 |
| 42.583 | 0.00 | 0.12 | 0.050 | O | \| | \| | \| | \| | 0.14 |
| 42.667 | 0.00 | 0.12 | 0.049 | O | \| | \| | \| | \| | 0.14 |
| 42.750 | 0.00 | 0.11 | 0.049 | O | \| | \| | \| | \| | 0.14 |
| 42.833 | 0.00 | 0.11 | 0.048 | O | \| | \| | \| | \| | 0.14 |
| 42.917 | 0.00 | 0.11 | 0.047 | O | \| | \| | \| | \| | 0.13 |
| 43.000 | 0.00 | 0.11 | 0.046 | O | \| | \| | \| | \| | 0.13 |
| 43.083 | 0.00 | 0.11 | 0.046 | O | \| | \| | \| | \| | 0.13 |
| 43.167 | 0.00 | 0.11 | 0.045 | O | \| | \| | \| | \| | 0.13 |
| 43.250 | 0.00 | 0.10 | 0.044 | O | \| | \| | \| | \| | 0.13 |
| 43.333 | 0.00 | 0.10 | 0.043 | O | \| | \| | \| | \| | 0.12 |
| 43.417 | 0.00 | 0.10 | 0.043 | O | \| | \| | \| | \| | 0.12 |
| 43.500 | 0.00 | 0.10 | 0.042 | O | \| | \| | \| | \| | 0.12 |
| 43.583 | 0.00 | 0.10 | 0.041 | O | \| | \| | \| | \| | 0.12 |
| 43.667 | 0.00 | 0.10 | 0.041 | O | \| | \| | \| | \| | 0.12 |
| 43.750 | 0.00 | 0.09 | 0.040 | O | \| | \| | \| | \| | 0.11 |
| 43.833 | 0.00 | 0.09 | 0.039 | O | \| | \| | \| | \| | 0.11 |
| 43.917 | 0.00 | 0.09 | 0.039 | O | \| | \| | \| | \| | 0.11 |
| 44.000 | 0.00 | 0.09 | 0.038 | O | \| | \| | \| | \| | 0.11 |
| 44.083 | 0.00 | 0.09 | 0.037 | O | \| | \| | \| | \| | 0.11 |
| 44.167 | 0.00 | 0.09 | 0.037 | O | \| | \| | \| | \| | 0.11 |
| 44.250 | 0.00 | 0.09 | 0.036 | O | \| | \| | \| | \| | 0.10 |
| 44.333 | 0.00 | 0.08 | 0.036 | O | \| | \| | \| | \| | 0.10 |
| 44.417 | 0.00 | 0.08 | 0.035 | O | \| | \| | \| | \| | 0.10 |
| 44.500 | 0.00 | 0.08 | 0.035 | O | \| | \| | \| | \| | 0.10 |
| 44.583 | 0.00 | 0.08 | 0.034 | O | \| | \| | \| | \| | 0.10 |
| 44.667 | 0.00 | 0.08 | 0.033 | O | \| | \| | \| | \| | 0.10 |
| 44.750 | 0.00 | 0.08 | 0.033 | O | \| | \| | \| | \| | 0.09 |
| 44.833 | 0.00 | 0.08 | 0.032 | O | \| | \| | \| | \| | 0.09 |
| 44.917 | 0.00 | 0.07 | 0.032 | O | \| | \| | \| | \| | 0.09 |
| 45.000 | 0.00 | 0.07 | 0.031 | O | \| | \| | \| | \| | 0.09 |
| 45.083 | 0.00 | 0.07 | 0.031 | O | \| | \| | \| | \| | 0.09 |
| 45.167 | 0.00 | 0.07 | 0.030 | O | \| | \| | \| | \| | 0.09 |
| 45.250 | 0.00 | 0.07 | 0.030 | O | \| | \| | \| | \| | 0.09 |
| 45.333 | 0.00 | 0.07 | 0.029 | O | \| | \| | \| | \| | 0.08 |
| 45.417 | 0.00 | 0.07 | 0.029 | O | \| | \| | \| | \| | 0.08 |
| 45.500 | 0.00 | 0.07 | 0.028 | O | \| | \| | \| | \| | 0.08 |
| 45.583 | 0.00 | 0.07 | 0.028 | O | \| | \| | \| | \| | 0.08 |
| 45.667 | 0.00 | 0.06 | 0.028 | O | \| | \| | \| | \| | 0.08 |
| 45.750 | 0.00 | 0.06 | 0.027 | O | \| | \| | \| | \| | 0.08 |
| 45.833 | 0.00 | 0.06 | 0.027 | O | \| | \| | \| | \| | 0.08 |
| 45.917 | 0.00 | 0.06 | 0.026 | O | \| | \| | \| | \| | 0.08 |
| 46.000 | 0.00 | 0.06 | 0.026 | O | \| | \| | \| | \| | 0.07 |
| 46.083 | 0.00 | 0.06 | 0.025 | O | \| | \| | \| | \| | 0.07 |
| 46.167 | 0.00 | 0.06 | 0.025 | O | \| | \| | \| | \| | 0.07 |
| 46.250 | 0.00 | 0.06 | 0.025 | O | \| | \| | \| | \| | 0.07 |
| 46.333 | 0.00 | 0.06 | 0.024 | O | \| | \| | \| | \| | 0.07 |
| 46.417 | 0.00 | 0.06 | 0.024 | O | \| | \| | \| | \| | 0.07 |
| 46.500 | 0.00 | 0.06 | 0.023 | O | \| | \| | \| | \| | 0.07 |
| 46.583 | 0.00 | 0.05 | 0.023 | O | \| | \| | \| | \| | 0.07 |
| 46.667 | 0.00 | 0.05 | 0.023 | O | \| | \| | \| | \| | 0.07 |

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|---|---|---|---|---|---|---|---|---|---|
| 46.750 | 0.00 | 0.05 | 0.022 | O | \| | \| | \| | \| | 0.06 |
| 46.833 | 0.00 | 0.05 | 0.022 | O | \| | \| | \| | \| | 0.06 |
| 46.917 | 0.00 | 0.05 | 0.022 | O | \| | \| | \| | \| | 0.06 |
| 47.000 | 0.00 | 0.05 | 0.021 | O | \| | \| | \| | \| | 0.06 |
| 47.083 | 0.00 | 0.05 | 0.021 | O | \| | \| | \| | \| | 0.06 |
| 47.167 | 0.00 | 0.05 | 0.021 | O | \| | \| | \| | \| | 0.06 |
| 47.250 | 0.00 | 0.05 | 0.020 | O | \| | \| | \| | \| | 0.06 |
| 47.333 | 0.00 | 0.05 | 0.020 | O | \| | \| | \| | \| | 0.06 |
| 47.417 | 0.00 | 0.05 | 0.020 | O | \| | \| | \| | \| | 0.06 |
| 47.500 | 0.00 | 0.05 | 0.019 | O | \| | \| | \| | \| | 0.06 |
| 47.583 | 0.00 | 0.04 | 0.019 | O | \| | \| | \| | \| | 0.05 |
| 47.667 | 0.00 | 0.04 | 0.019 | O | \| | \| | \| | \| | 0.05 |
| 47.750 | 0.00 | 0.04 | 0.018 | O | \| | \| | \| | \| | 0.05 |
| 47.833 | 0.00 | 0.04 | 0.018 | O | \| | \| | \| | \| | 0.05 |
| 47.917 | 0.00 | 0.04 | 0.018 | O | \| | \| | \| | \| | 0.05 |
| 48.000 | 0.00 | 0.04 | 0.018 | O | \| | \| | \| | \| | 0.05 |
| 48.083 | 0.00 | 0.04 | 0.017 | O | \| | \| | \| | \| | 0.05 |
| 48.167 | 0.00 | 0.04 | 0.017 | O | \| | \| | \| | \| | 0.05 |
| 48.250 | 0.00 | 0.04 | 0.017 | O | \| | \| | \| | \| | 0.05 |
| 48.333 | 0.00 | 0.04 | 0.016 | O | \| | \| | \| | \| | 0.05 |
| 48.417 | 0.00 | 0.04 | 0.016 | O | \| | \| | \| | \| | 0.05 |
| 48.500 | 0.00 | 0.04 | 0.016 | O | \| | \| | \| | \| | 0.05 |
| 48.583 | 0.00 | 0.04 | 0.016 | O | \| | \| | \| | \| | 0.04 |
| 48.667 | 0.00 | 0.04 | 0.015 | O | \| | \| | \| | \| | 0.04 |
| 48.750 | 0.00 | 0.04 | 0.015 | O | \| | \| | \| | \| | 0.04 |
| 48.833 | 0.00 | 0.04 | 0.015 | O | \| | \| | \| | \| | 0.04 |
| 48.917 | 0.00 | 0.03 | 0.015 | O | \| | \| | \| | \| | 0.04 |
| 49.000 | 0.00 | 0.03 | 0.014 | O | \| | \| | \| | \| | 0.04 |
| 49.083 | 0.00 | 0.03 | 0.014 | O | \| | \| | \| | \| | 0.04 |
| 49.167 | 0.00 | 0.03 | 0.014 | O | \| | \| | \| | \| | 0.04 |
| 49.250 | 0.00 | 0.03 | 0.014 | O | \| | \| | \| | \| | 0.04 |
| 49.333 | 0.00 | 0.03 | 0.014 | O | \| | \| | \| | \| | 0.04 |
| 49.417 | 0.00 | 0.03 | 0.013 | O | \| | \| | \| | \| | 0.04 |
| 49.500 | 0.00 | 0.03 | 0.013 | O | \| | \| | \| | \| | 0.04 |
| 49.583 | 0.00 | 0.03 | 0.013 | O | \| | \| | \| | \| | 0.04 |
| 49.667 | 0.00 | 0.03 | 0.013 | O | \| | \| | \| | \| | 0.04 |
| 49.750 | 0.00 | 0.03 | 0.012 | O | \| | \| | \| | \| | 0.04 |
| 49.833 | 0.00 | 0.03 | 0.012 | O | \| | \| | \| | \| | 0.04 |
| 49.917 | 0.00 | 0.03 | 0.012 | O | \| | \| | \| | \| | 0.03 |
| 50.000 | 0.00 | 0.03 | 0.012 | O | \| | \| | \| | \| | 0.03 |
| 50.083 | 0.00 | 0.03 | 0.012 | O | \| | \| | \| | \| | 0.03 |
| 50.167 | 0.00 | 0.03 | 0.011 | O | \| | \| | \| | \| | 0.03 |
| 50.250 | 0.00 | 0.03 | 0.011 | O | \| | \| | \| | \| | 0.03 |
| 50.333 | 0.00 | 0.03 | 0.011 | O | \| | \| | \| | \| | 0.03 |
| 50.417 | 0.00 | 0.03 | 0.011 | O | \| | \| | \| | \| | 0.03 |
| 50.500 | 0.00 | 0.03 | 0.011 | O | \| | \| | \| | \| | 0.03 |
| 50.583 | 0.00 | 0.02 | 0.011 | O | \| | \| | \| | \| | 0.03 |
| 50.667 | 0.00 | 0.02 | 0.010 | O | \| | \| | \| | \| | 0.03 |
| 50.750 | 0.00 | 0.02 | 0.010 | O | \| | \| | \| | \| | 0.03 |
| 50.833 | 0.00 | 0.02 | 0.010 | O | \| | \| | \| | \| | 0.03 |
| 50.917 | 0.00 | 0.02 | 0.010 | O | \| | \| | \| | \| | 0.03 |
| 51.000 | 0.00 | 0.02 | 0.010 | O | \| | \| | \| | \| | 0.03 |
| 51.083 | 0.00 | 0.02 | 0.010 | O | \| | \| | \| | \| | 0.03 |
| 51.167 | 0.00 | 0.02 | 0.009 | O | \| | \| | \| | \| | 0.03 |
| 51.250 | 0.00 | 0.02 | 0.009 | O | \| | \| | \| | \| | 0.03 |
| 51.333 | 0.00 | 0.02 | 0.009 | O | \| | \| | \| | \| | 0.03 |
| 51.417 | 0.00 | 0.02 | 0.009 | O | \| | \| | \| | \| | 0.03 |
| 51.500 | 0.00 | 0.02 | 0.009 | O | \| | \| | \| | \| | 0.03 |
| 51.583 | 0.00 | 0.02 | 0.009 | O | \| | \| | \| | \| | 0.03 |
| 51.667 | 0.00 | 0.02 | 0.009 | O | \| | \| | \| | \| | 0.02 |
| 51.750 | 0.00 | 0.02 | 0.008 | O | \| | \| | \| | \| | 0.02 |
| 51.833 | 0.00 | 0.02 | 0.008 | O | \| | \| | \| | \| | 0.02 |
| 51.917 | 0.00 | 0.02 | 0.008 | O | \| | \| | \| | \| | 0.02 |

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|---|---|---|---|---|---|---|---|---|---|
| 52.000 | 0.00 | 0.02 | 0.008 | O | \| | \| | \| | \| | 0.02 |
| 52.083 | 0.00 | 0.02 | 0.008 | O | \| | \| | \| | \| | 0.02 |
| 52.167 | 0.00 | 0.02 | 0.008 | O | \| | \| | \| | \| | 0.02 |
| 52.250 | 0.00 | 0.02 | 0.008 | O | \| | \| | \| | \| | 0.02 |
| 52.333 | 0.00 | 0.02 | 0.008 | O | \| | \| | \| | \| | 0.02 |
| 52.417 | 0.00 | 0.02 | 0.007 | O | \| | \| | \| | \| | 0.02 |
| 52.500 | 0.00 | 0.02 | 0.007 | O | \| | \| | \| | \| | 0.02 |
| 52.583 | 0.00 | 0.02 | 0.007 | O | \| | \| | \| | \| | 0.02 |
| 52.667 | 0.00 | 0.02 | 0.007 | O | \| | \| | \| | \| | 0.02 |
| 52.750 | 0.00 | 0.02 | 0.007 | O | \| | \| | \| | \| | 0.02 |
| 52.833 | 0.00 | 0.02 | 0.007 | O | \| | \| | \| | \| | 0.02 |
| 52.917 | 0.00 | 0.02 | 0.007 | O | \| | \| | \| | \| | 0.02 |
| 53.000 | 0.00 | 0.02 | 0.007 | O | \| | \| | \| | \| | 0.02 |
| 53.083 | 0.00 | 0.02 | 0.007 | O | \| | \| | \| | \| | 0.02 |
| 53.167 | 0.00 | 0.02 | 0.006 | O | \| | \| | \| | \| | 0.02 |
| 53.250 | 0.00 | 0.01 | 0.006 | O | \| | \| | \| | \| | 0.02 |
| 53.333 | 0.00 | 0.01 | 0.006 | O | \| | \| | \| | \| | 0.02 |
| 53.417 | 0.00 | 0.01 | 0.006 | O | \| | \| | \| | \| | 0.02 |
| 53.500 | 0.00 | 0.01 | 0.006 | O | \| | \| | \| | \| | 0.02 |
| 53.583 | 0.00 | 0.01 | 0.006 | O | \| | \| | \| | \| | 0.02 |
| 53.667 | 0.00 | 0.01 | 0.006 | O | \| | \| | \| | \| | 0.02 |
| 53.750 | 0.00 | 0.01 | 0.006 | O | \| | \| | \| | \| | 0.02 |
| 53.833 | 0.00 | 0.01 | 0.006 | O | \| | \| | \| | \| | 0.02 |
| 53.917 | 0.00 | 0.01 | 0.006 | O | \| | \| | \| | \| | 0.02 |
| 54.000 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.02 |
| 54.083 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.02 |
| 54.167 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.02 |
| 54.250 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.01 |
| 54.333 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.01 |
| 54.417 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.01 |
| 54.500 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.01 |
| 54.583 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.01 |
| 54.667 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.01 |
| 54.750 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.01 |
| 54.833 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.01 |
| 54.917 | 0.00 | 0.01 | 0.005 | O | \| | \| | \| | \| | 0.01 |
| 55.000 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 55.083 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 55.167 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 55.250 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 55.333 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 55.417 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 55.500 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 55.583 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 55.667 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 55.750 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 55.833 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 55.917 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 56.000 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 56.083 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 56.167 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 56.250 | 0.00 | 0.01 | 0.004 | O | \| | \| | \| | \| | 0.01 |
| 56.333 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 56.417 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 56.500 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 56.583 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 56.667 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 56.750 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 56.833 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 56.917 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 57.000 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 57.083 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 57.167 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 57.250 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 57.333 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 57.417 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 57.500 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 57.583 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 57.667 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 57.750 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 57.833 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 57.917 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 58.000 | 0.00 | 0.01 | 0.003 | O | \| | \| | \| | \| | 0.01 |
| 58.083 | 0.00 | 0.01 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 58.167 | 0.00 | 0.01 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 58.250 | 0.00 | 0.01 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 58.333 | 0.00 | 0.01 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 58.417 | 0.00 | 0.01 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 58.500 | 0.00 | 0.01 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 58.583 | 0.00 | 0.01 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 58.667 | 0.00 | 0.01 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 58.750 | 0.00 | 0.01 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 58.833 | 0.00 | 0.01 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 58.917 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 59.000 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 59.083 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 59.167 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 59.250 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 59.333 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 59.417 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 59.500 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 59.583 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 59.667 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 59.750 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 59.833 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.01 |
| 59.917 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.00 |
| 60.000 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.00 |
| 60.083 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.00 |
| 60.167 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.00 |
| 60.250 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.00 |
| 60.333 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.00 |
| 60.417 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.00 |
| 60.500 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.00 |
| 60.583 | 0.00 | 0.00 | 0.002 | O | \| | \| | \| | \| | 0.00 |
| 60.667 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 60.750 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 60.833 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 60.917 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 61.000 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 61.083 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 61.167 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 61.250 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 61.333 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 61.417 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 61.500 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 61.583 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 61.667 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 61.750 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 61.833 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 61.917 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 62.000 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 62.083 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 62.167 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 62.250 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 62.333 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 62.417 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 62.500 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 62.583 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 62.667 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 62.750 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 62.833 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 62.917 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 63.000 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 63.083 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 63.167 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 63.250 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 63.333 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 63.417 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 63.500 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 63.583 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 63.667 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 63.750 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 63.833 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 63.917 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 64.000 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 64.083 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 64.167 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 64.250 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 64.333 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 64.417 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 64.500 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 64.583 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 64.667 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 64.750 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 64.833 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 64.917 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 65.000 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 65.083 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 65.167 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 65.250 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 65.333 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 65.417 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 65.500 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 65.583 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 65.667 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 65.750 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 65.833 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 65.917 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 66.000 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 66.083 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 66.167 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 66.250 | 0.00 | 0.00 | 0.001 | O | \| | \| | \| | \| | 0.00 |
| 66.333 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | \| | 0.00 |
| 66.417 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | \| | 0.00 |
| 66.500 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | \| | 0.00 |
| 66.583 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | \| | 0.00 |
| 66.667 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | \| | 0.00 |
| 66.750 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | \| | 0.00 |
| 66.833 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | \| | 0.00 |
| 66.917 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | \| | 0.00 |
| 67.000 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | \| | 0.00 |
| 67.083 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | \| | 0.00 |
| 67.167 | 0.00 | 0.00 | 0.000 | O | \| | \| | \| | \| | 0.00 |

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

Number of intervals = 806
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 22.426 (CFS)
Total volume = 13.173 (Ac.Ft)

```
       Status of hydrographs being held in storage
                  Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
       Peak (CFS)      0.000     0.000     0.000     0.000     0.000
       Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
**********************************************************************

----------------------------------------------------------------------
```

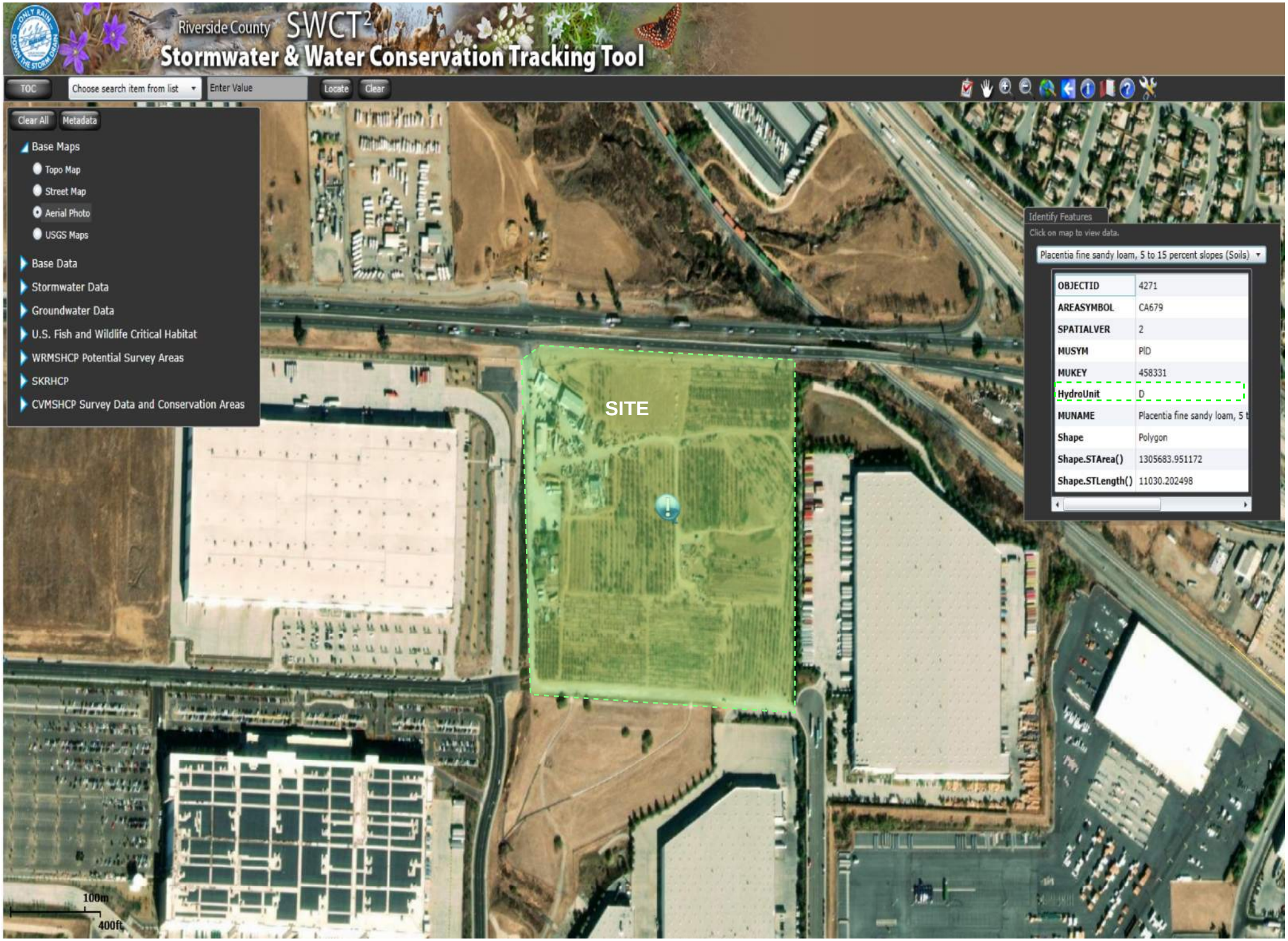
# Appendix E
## Hydraulic Analysis (WSPG)

Will be provided in Final Drainage report

# Appendix F
## Catch Basin Calculations

Will be provided in Final Drainage report

# Appendix G
## Hydrologic Soils Group and Isohyetal Map


Riverside County SWCT²
Stormwater & Water Conservation Tracking Tool
TOC
Choose search item from list
Enter Value
Locate
Clear
Clear All
Metadata
Base Maps
Topo Map
Street Map
Aerial Photo
USGS Maps
Base Data
Stormwater Data
Groundwater Data
U.S. Fish and Wildlife Critical Habitat
WRMSHCP Potential Survey Areas
SKRHCP
CVMSHCP Survey Data and Conservation Areas
SITE
Identify Features
Click on map to view data.
Placentia fine sandy loam, 5 to 15 percent slopes (Soils)
OBJECTID 4271
AREASYMBOL CA679
SPATIALVER 2
MUSYM PID
MUKEY 458331
HydroUnit D
MUNAME Placentia fine sandy loam, 5 t
Shape Polygon
Shape.STArea() 1305683.951172
Shape.STLength() 11030.202498
100m
400ft

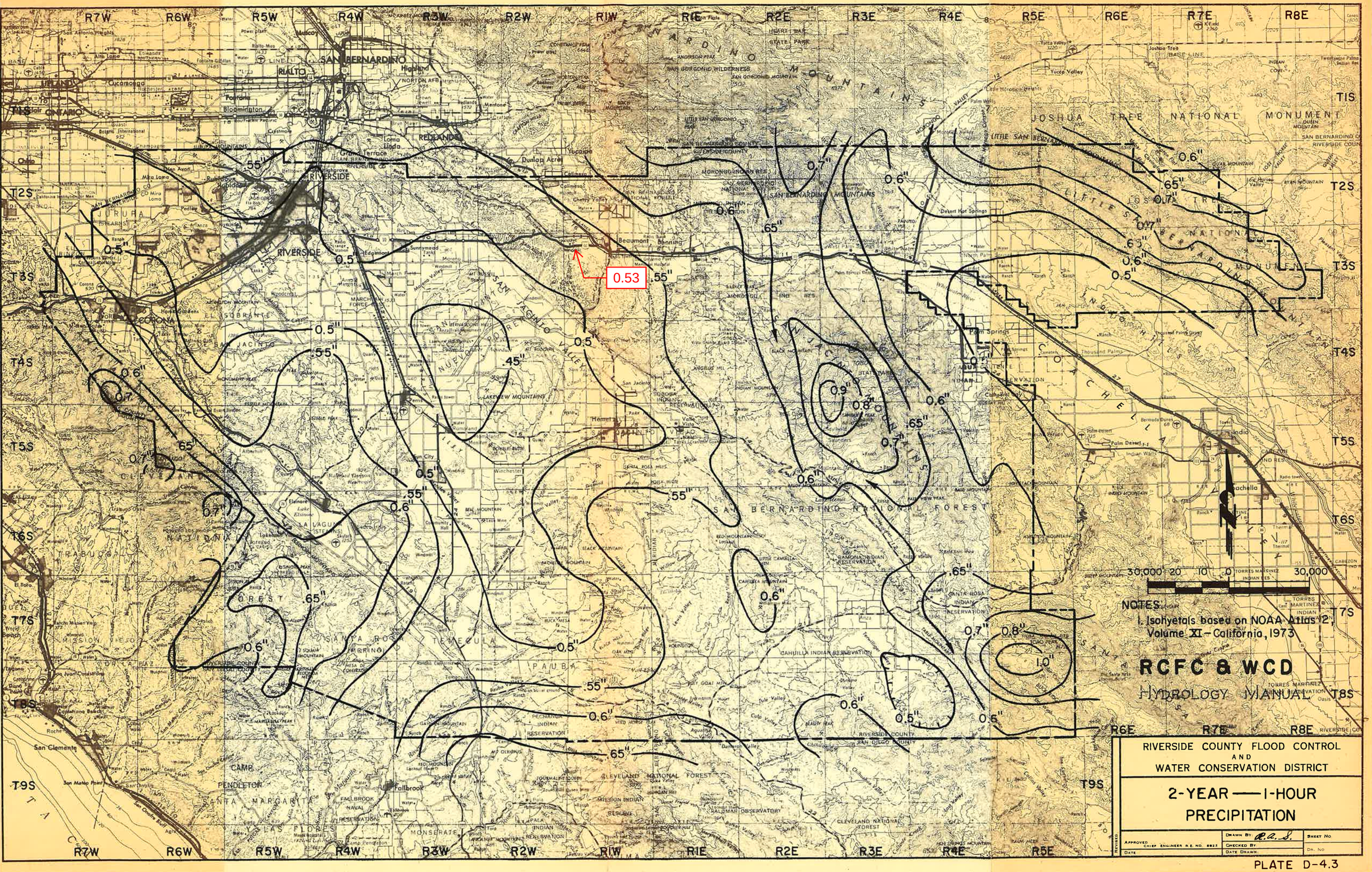
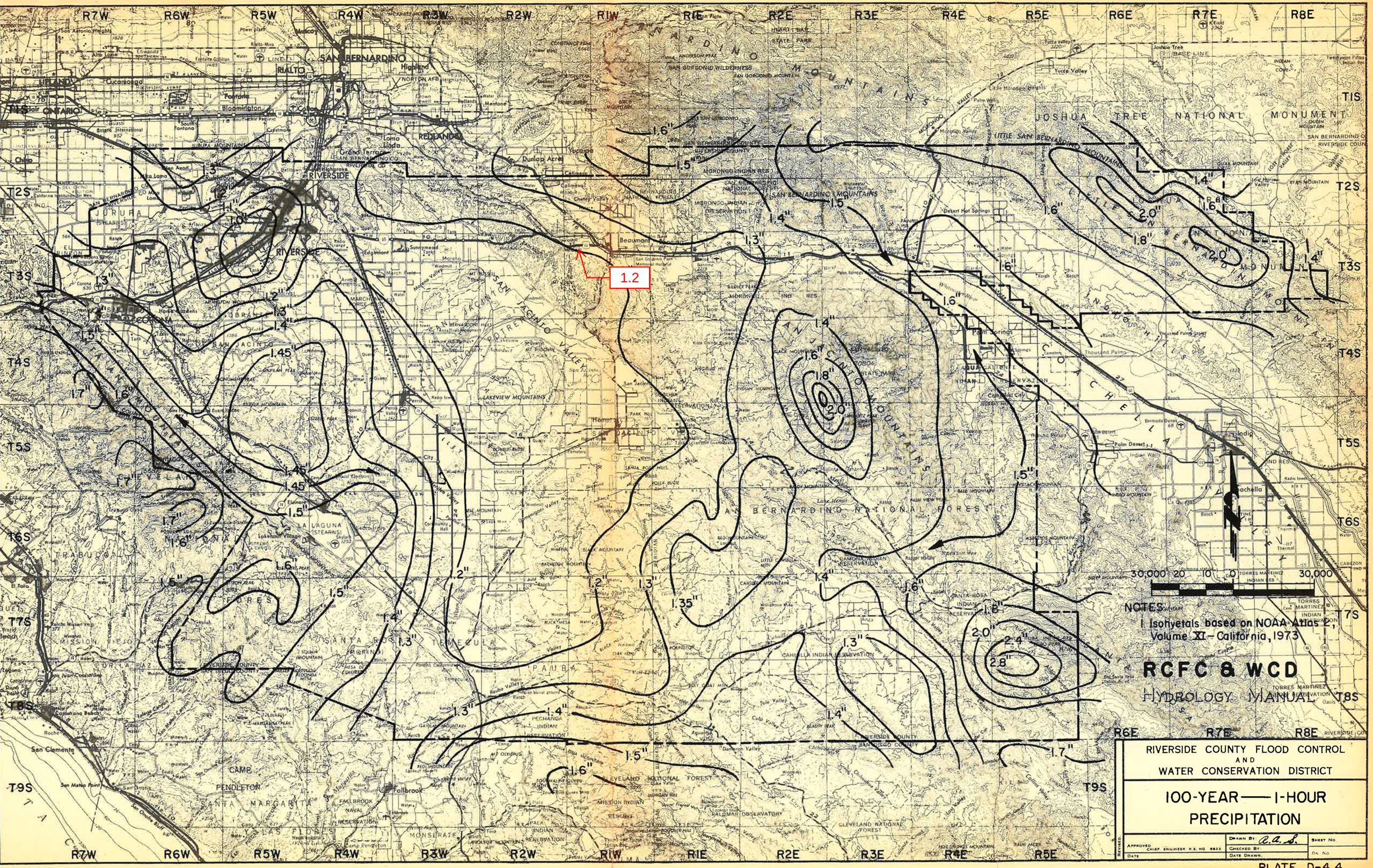

R7W
R6W
R5W
R4W
R3W
R2W
R1W
R1E
R2E
R3E
R4E
R5E
R6E
R7E
R8E
T1S
T2S
T3S
T4S
T5S
T6S
T7S
T8S
T9S
SAN BERNARDINO
RIALTO
ONTARIO
Fontana
Bloomington
REDLANDS
RIVERSIDE
Beaumont
Banning
Hemet
San Jacinto
Perris
Corona
Elsinore
Fallbrook
San Clemente
Palm Springs
Indio
Coachella
Yucca Valley
Joshua Tree
JOSHUA TREE NATIONAL MONUMENT
SAN BERNARDINO MOUNTAINS
SAN BERNARDINO NATIONAL FOREST
CLEVELAND NATIONAL FOREST
CAMP PENDLETON
0.53
0.5"
.55"
0.6"
.65"
0.7"
.45"
0.9"
0.8"
1.0"
30,000 20 10 0 30,000
NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 1-HOUR PRECIPITATION
DRAWN BY
CHECKED BY
DATE DRAWN
SHEET NO
DR. NO
APPROVED CHIEF ENGINEER R.E. NO. 8822
DATE
REVISED

PLATE D-4.3


R7W
R6W
R5W
R4W
R3W
R2W
R1W
R1E
R2E
R3E
R4E
R5E
R6E
R7E
R8E
T1S
T2S
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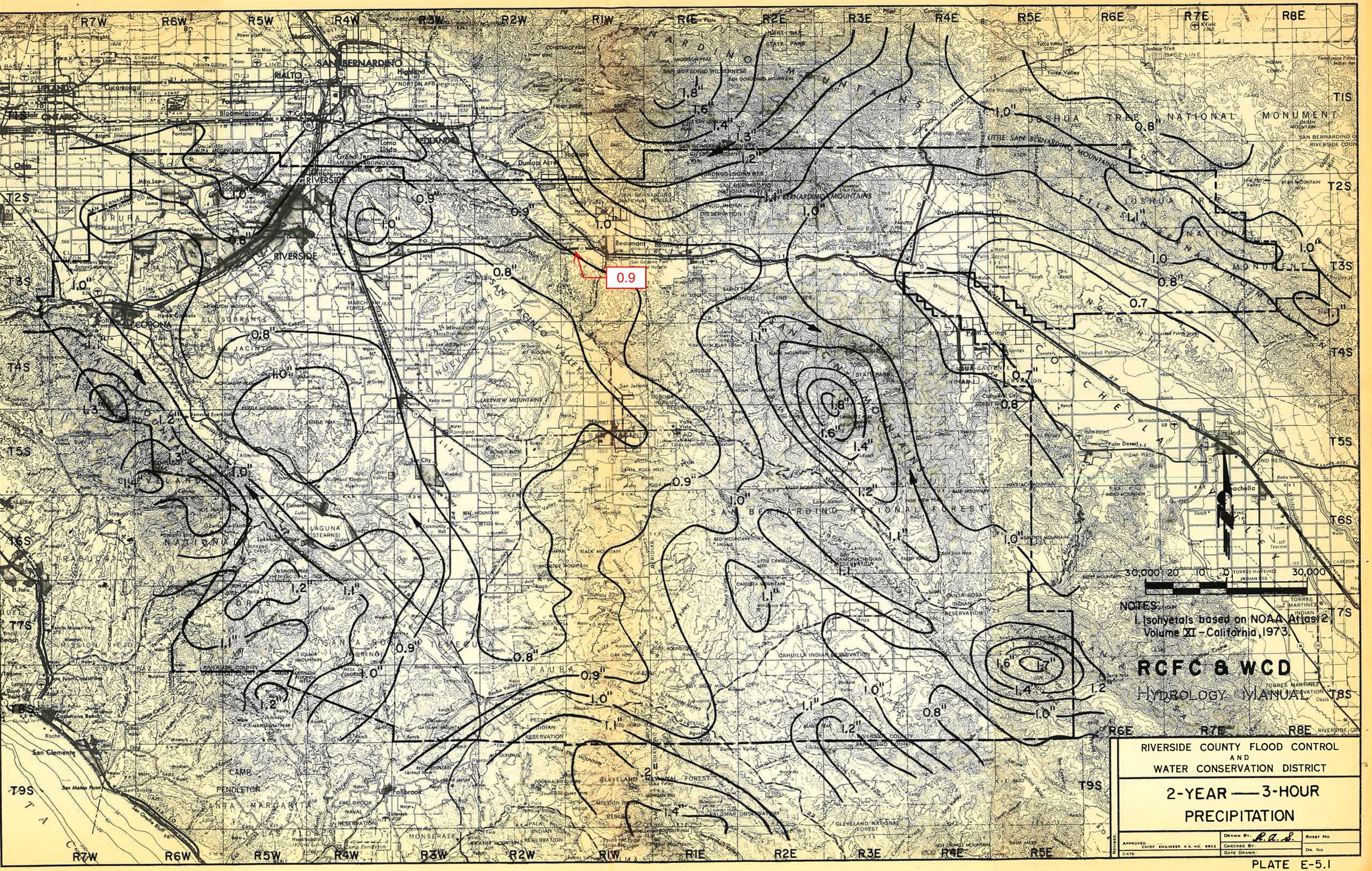
T7S
T8S
T9S
SAN BERNARDINO
RIALTO
UPLAND
ONTARIO
Ontario
Chino
Fontana
Bloomington
Colton
REDLANDS
Loma Linda
Grand Terrace
RIVERSIDE
Highgrove
Mira Loma
Jurupa
Norco
Corona
Sunnymead
Edgemont
Moreno
Beaumont
Banning
Cabazon
Palm Springs
Desert Hot Springs
Yucca Valley
Joshua Tree
Indio
Coachella
Hemet
San Jacinto
Perris
Menifee
Temecula
Murrieta
Fallbrook
San Clemente
Elsinore
Lake Elsinore
Lake Mathews
Lake Perris
Diamond Valley Lake
Vail Lake
Lake Cahuilla
Salton Sea
Bermuda Dunes
Palm Desert
Thousand Palms
Cathedral City
Rancho Mirage
Indian Wells
Mecca
Thermal
Oasis
Coachella Canal
Colorado River
Aqueduct
Mission Creek
Morongo Valley
Little Morongo Valley
Joshua Tree National Monument
Little San Bernardino Mountains
San Bernardino Mountains
San Gorgonio Wilderness
San Gorgonio Mountain
Heart Bar State Park
Morongo Indian Res.
Morongo Indian Reservation
Agua Caliente Indian Reservation
Cahuilla Indian Reservation
Santa Rosa Indian Reservation
Torres Martinez Indian Reservation
Pechanga Indian Reservation
Pala Indian Reservation
Mission Indian Reserve
Cleveland National Forest
San Bernardino National Forest
Palomar Observatory
Lake Elsinore
Lake Mathews
Lake Perris
Diamond Valley Lake
Vail Lake
Lake Cahuilla
Salton Sea
Santa Ana River
San Jacinto River
San Jacinto Valley
Temecula Valley
Pauba Valley
Santa Rosa Plateau
Lake Elsinore
Lake Mathews
Lake Perris
Diamond Valley Lake
Vail Lake
Lake Cahuilla
Salton Sea
Santa Ana River
San Jacinto River
San Jacinto Valley
Temecula Valley
Pauba Valley
Santa Rosa Plateau
1.2
1.6"
1.5"
1.4"
1.3"
1.2"
1.0"
1.45"
1.7"
1.8"
2.0"
2.4"
2.8"
1.35"
30,000 20 10 0 30,000
NOTES
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 1-HOUR PRECIPITATION
DRAWN BY
CHECKED BY
DATE DRAWN
SHEET NO
DR. NO
APPROVED
CHIEF ENGINEER R.E. NO. 8822
DATE
REVISED

PLATE D-4.4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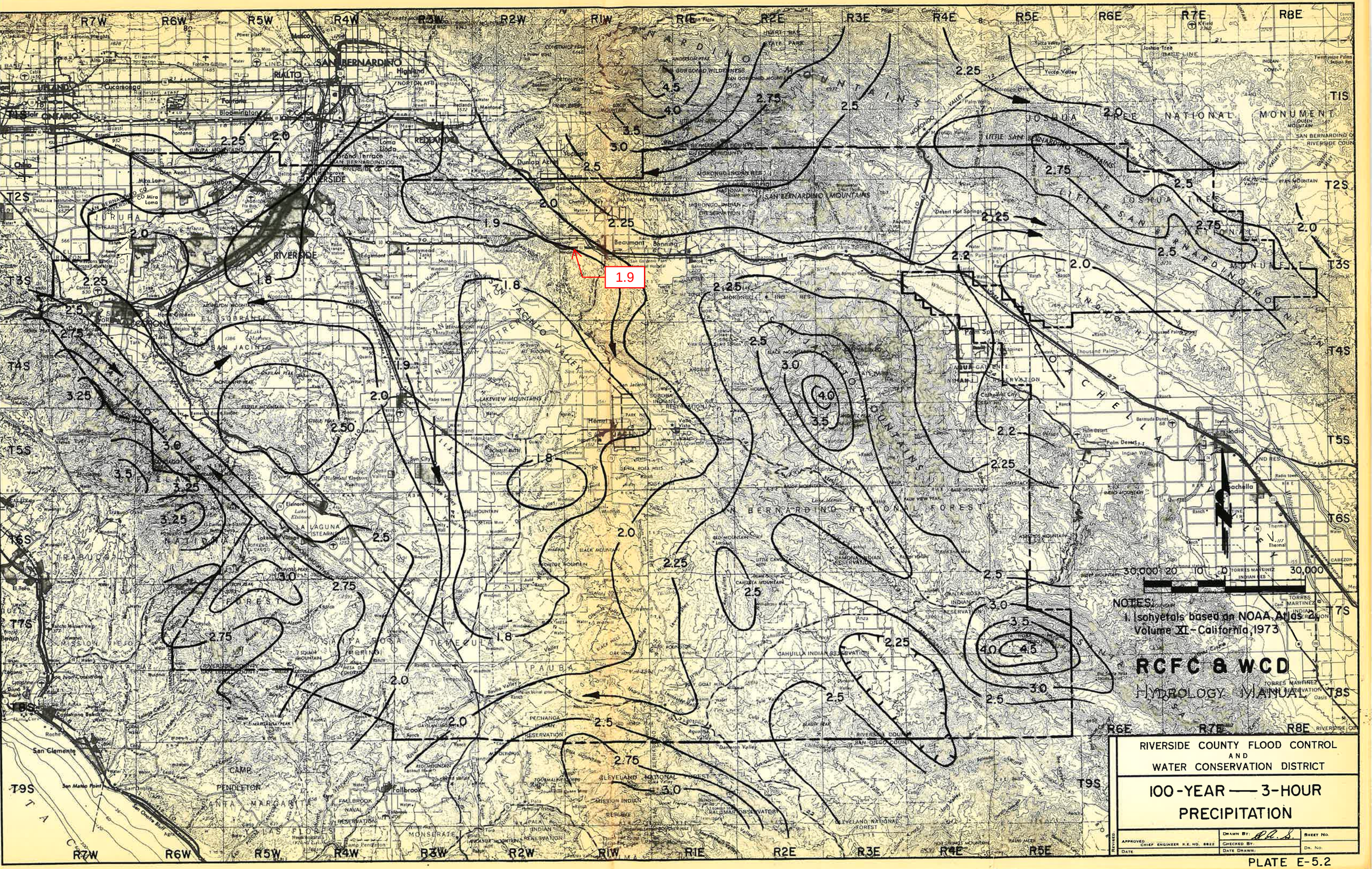
NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT
2-YEAR — 3-HOUR
PRECIPITATION
DRAWN BY: R.A.S.
CHECKED BY:
DATE DRAWN:
SHEET NO.
DR. NO.
APPROVED CHIEF ENGINEER R.E. NO. 6822
DATE
REVISED:
PLATE E-5.1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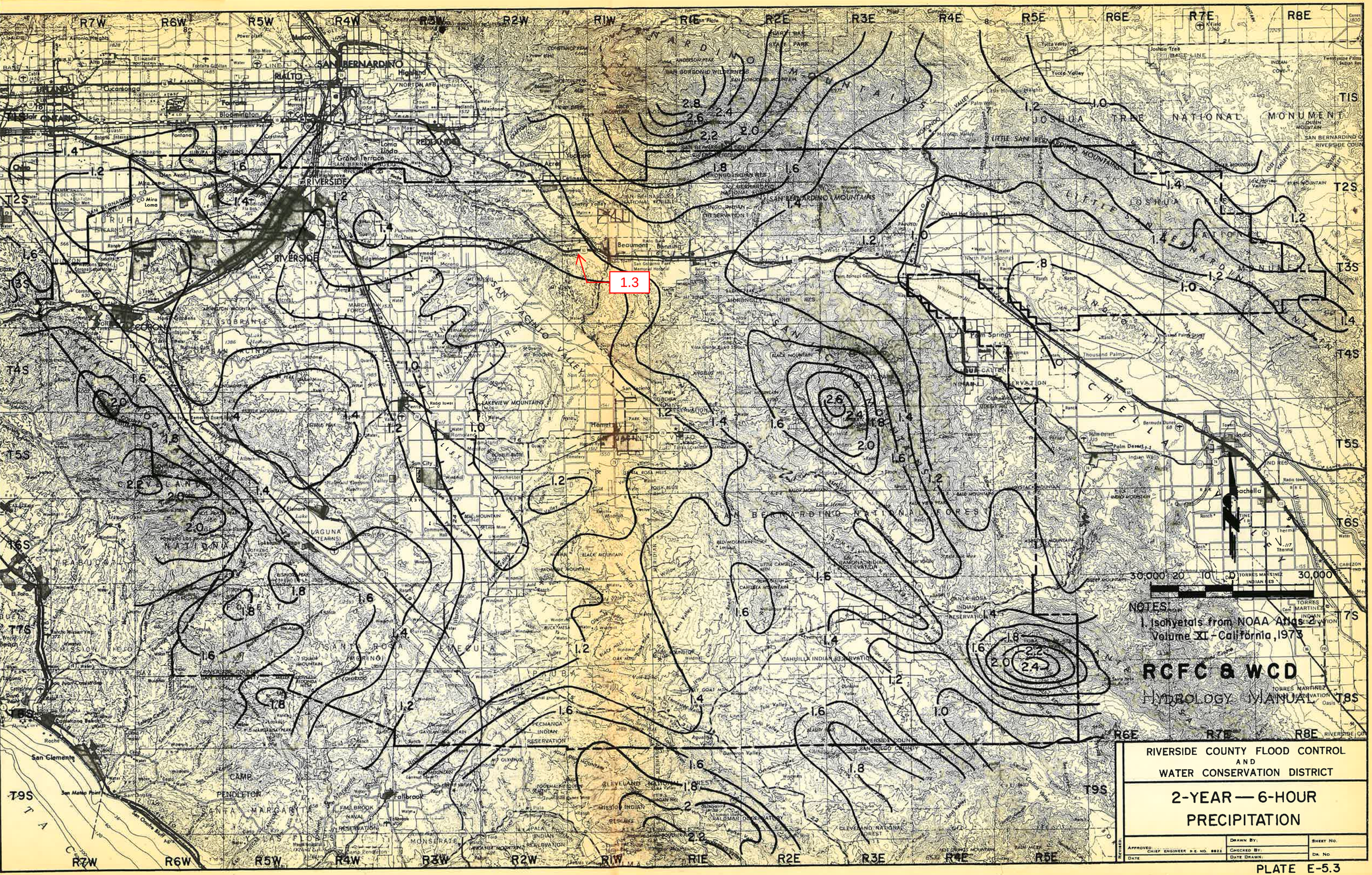
NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT
100-YEAR — 3-HOUR
PRECIPITATION
DRAWN BY:
CHECKED BY:
DATE DRAWN:
SHEET NO.
DR. NO.
APPROVED
CHIEF ENGINEER R.E. NO.
DATE
REVISED
PLATE E-5.2



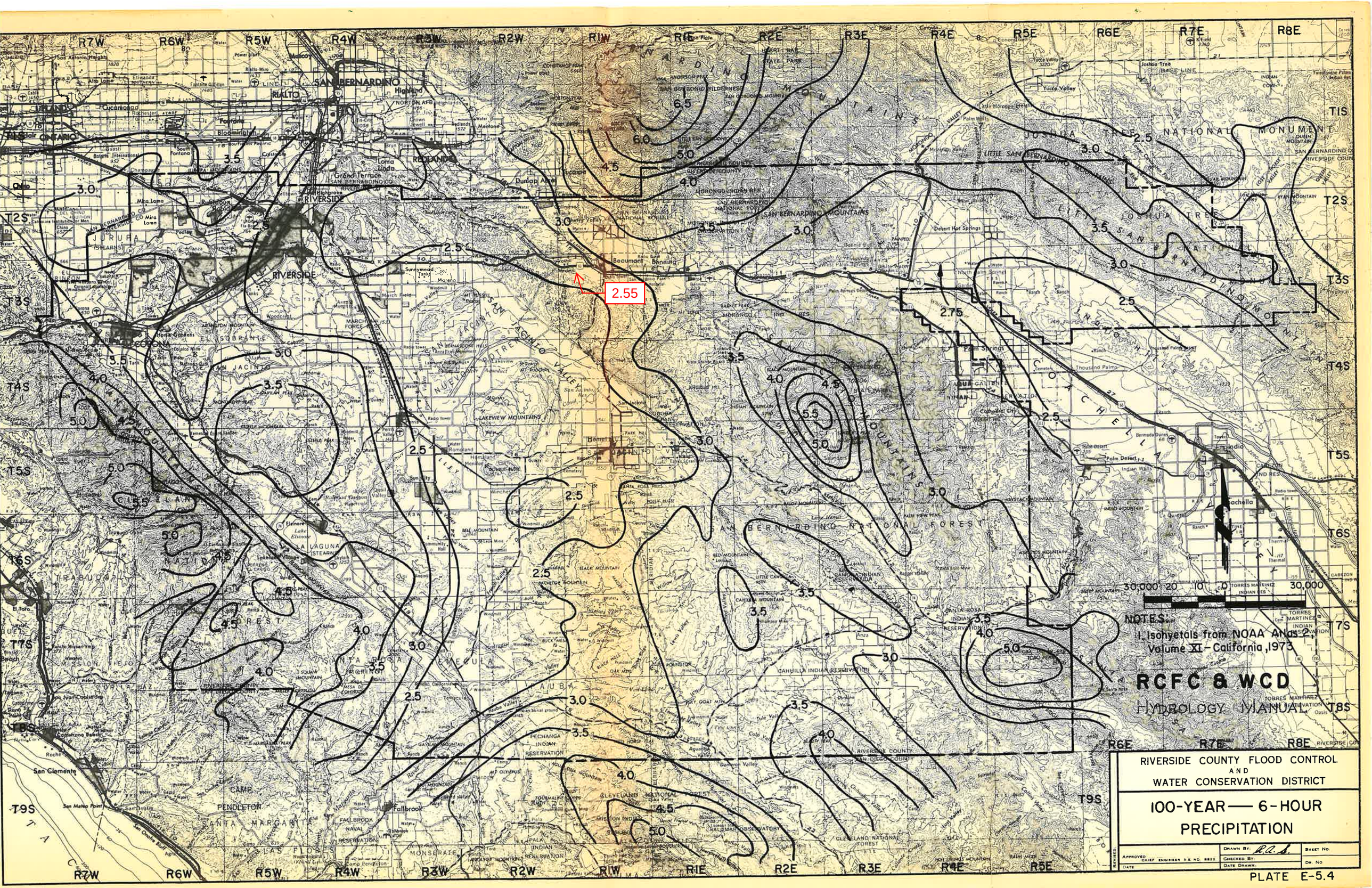

RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT

2-YEAR — 6-HOUR
PRECIPITATION

| | | |
|---|---|---|
| APPROVED: CHIEF ENGINEER R.E. NO. 8822 | DRAWN BY: | SHEET NO. |
| DATE | CHECKED BY: | DR. NO. |
| | DATE DRAWN: | |

REVISED

PLATE E-5.3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NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 6-HOUR PRECIPITATION
DRAWN BY: R.A.S.
CHECKED BY:
DATE DRAWN:
APPROVED CHIEF ENGINEER R.E. NO. 8822
DATE
REVISED
SHEET NO.
DR. NO.
PLATE E-5.4

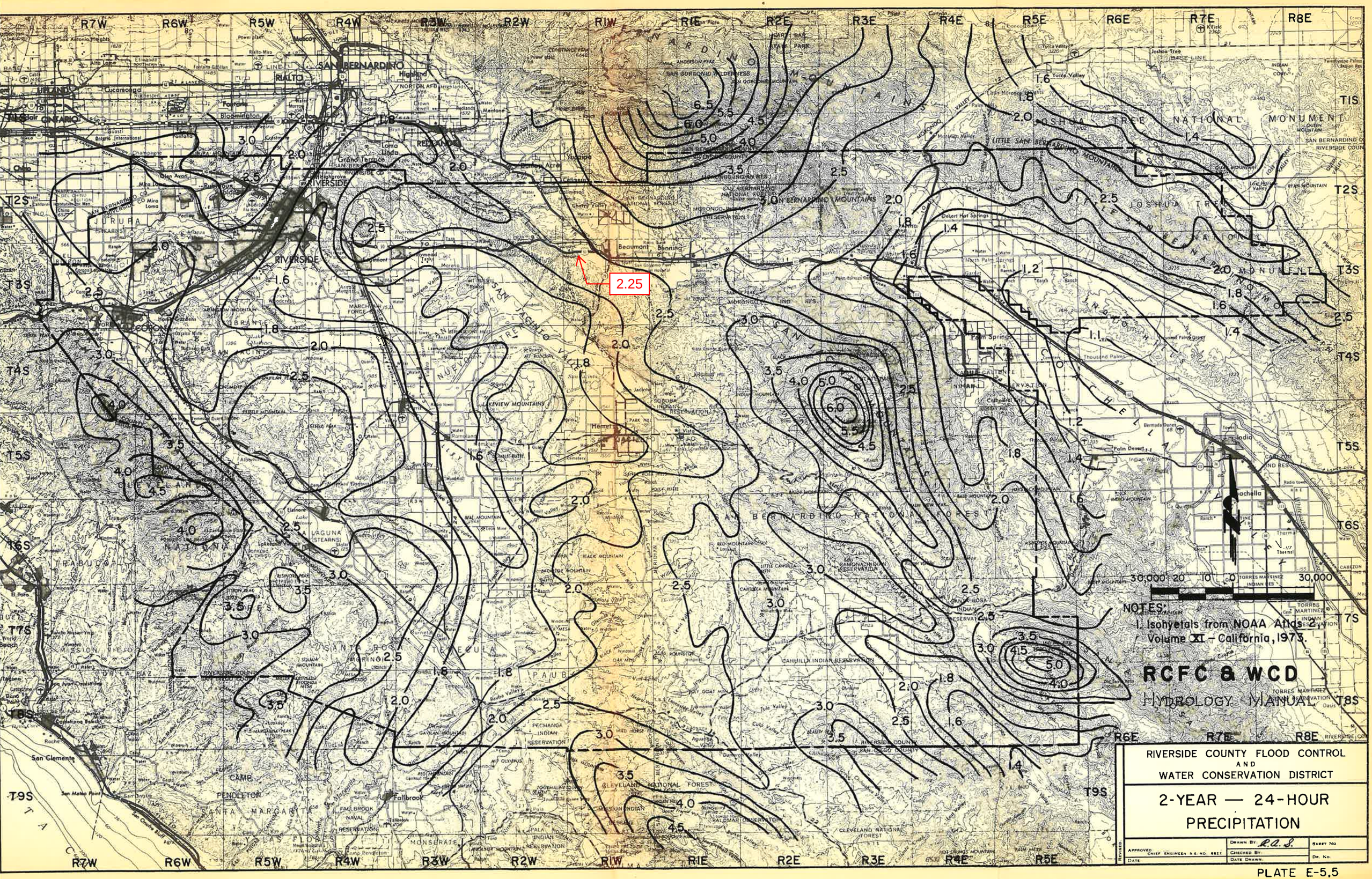
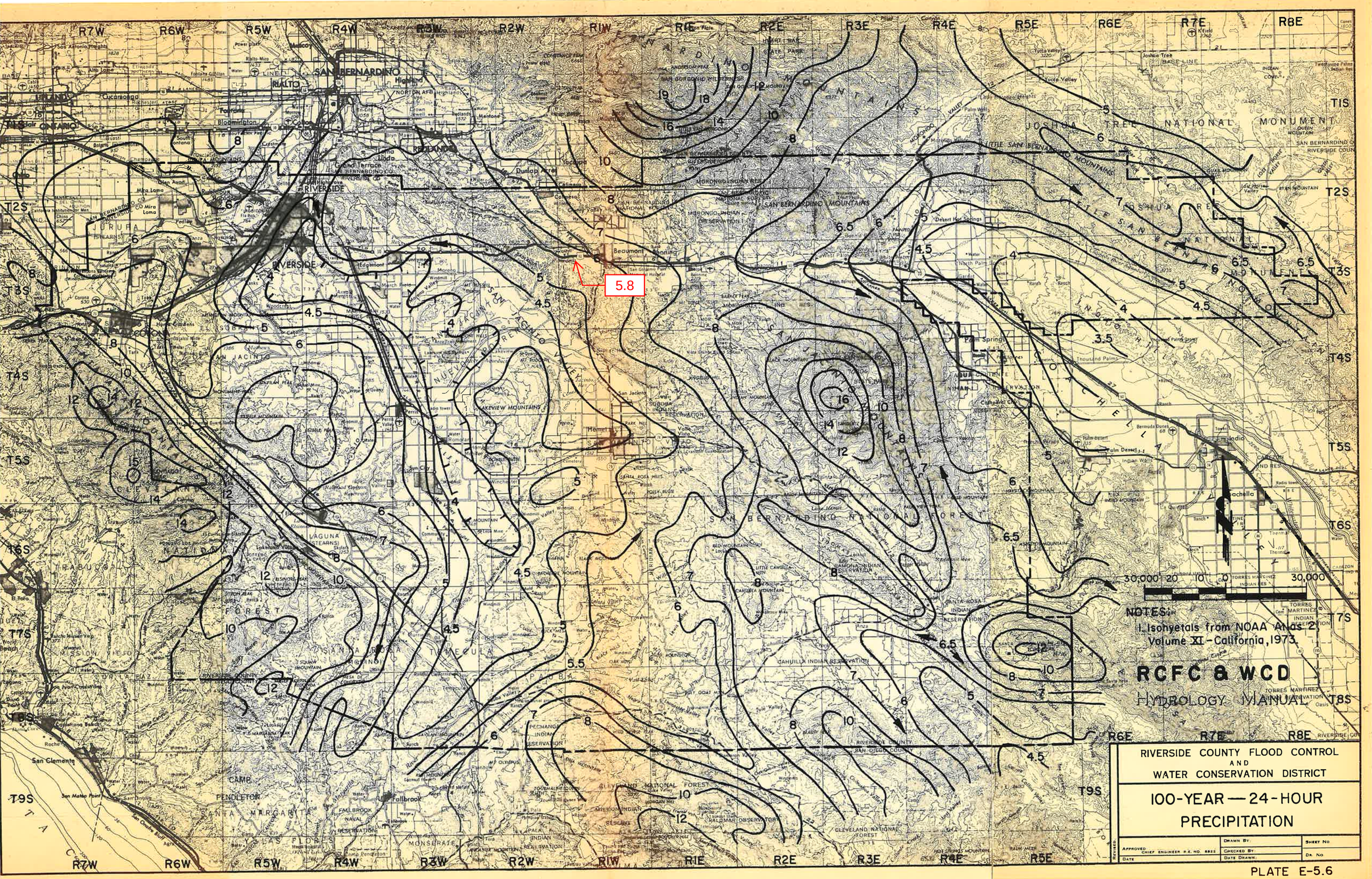

R7W
R6W
R5W
R4W
R3W
R2W
R1W
R1E
R2E
R3E
R4E
R5E
R6E
R7E
R8E
T1S
T2S
T3S
T4S
T5S
T6S
T7S
T8S
T9S
SAN BERNARDINO
RIALTO
ONTARIO
RIVERSIDE
Beaumont
Banning
Palm Springs
Hemet
San Jacinto
Indio
Coachella
Fallbrook
San Clemente
JOSHUA TREE NATIONAL MONUMENT
SAN BERNARDINO MOUNTAINS
SAN JACINTO MOUNTAINS
SAN BERNARDINO NATIONAL FOREST
CLEVELAND NATIONAL FOREST
2.25
NOTES:
1. Isohyetals from NOAA Atlas 2 Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 24-HOUR PRECIPITATION
DRAWN BY R.A.S.
CHECKED BY
DATE DRAWN
APPROVED CHIEF ENGINEER R.E. NO. 8822
DATE
REVISED
SHEET NO
DR. NO.

PLATE E-5.5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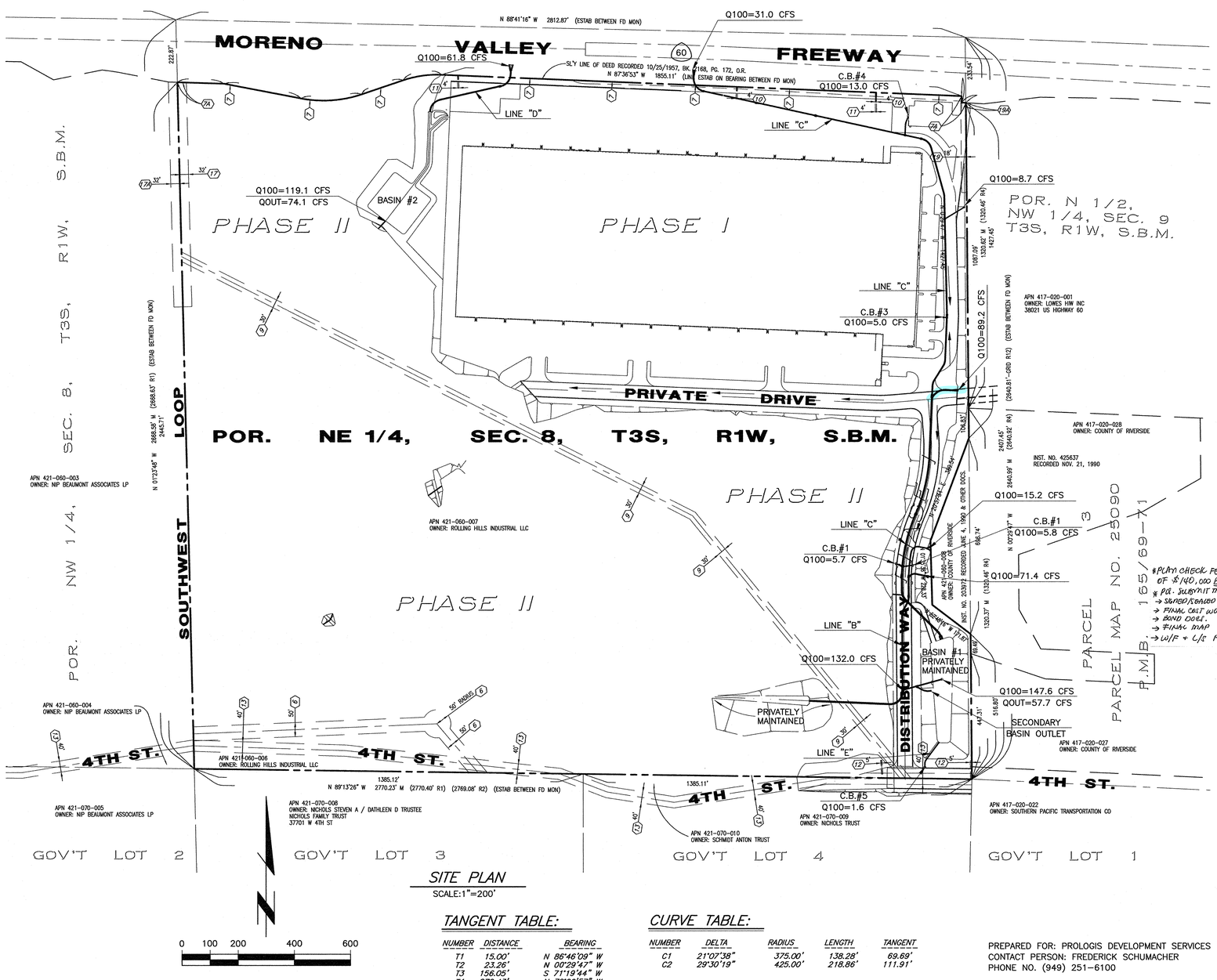
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
30,000 20 10 0 30,000
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 24-HOUR PRECIPITATION
DRAWN BY:
CHECKED BY:
DATE DRAWN:
SHEET NO
DR. NO
APPROVED CHIEF ENGINEER R.E. NO. 8822
DATE
REVISED:

PLATE E-5.6

# Appendix H
## Reference Plan

# CROSSROADS LOGISTICS CENTER
## PLOT PLAN No. 04-PP-18
# STORM DRAIN IMPROVEMENT PLAN




SITE PLAN
SCALE:1"=200'

## TANGENT TABLE:

| NUMBER | DISTANCE | BEARING |
|---|---|---|
| T1 | 15.00' | N 86°46'09" W |
| T2 | 23.26' | N 00°29'47" W |
| T3 | 156.05' | S 71°19'44" W |
| T4 | 279.43' | N 79°09'57" W |
| T5 | 166.25' | N 88°06'53" W |

## CURVE TABLE:

| NUMBER | DELTA | RADIUS | LENGTH | TANGENT |
|---|---|---|---|---|
| C1 | 21°07'38" | 375.00' | 138.28' | 69.69' |
| C2 | 29°30'19" | 425.00' | 218.86' | 111.91' |

PREPARED FOR: PROLOGIS DEVELOPMENT SERVICES
CONTACT PERSON: FREDERICK SCHUMACHER
PHONE NO. (949) 251-6100

## TITLE REPORT:

THE FOLLOWING EASEMENTS, STATEMENTS AND MATTERS AS DISCLOSED IN FIRST AMERICAN TITLE INSURANCE COMPANY PRELIMINARY REPORT, ORDER NO: NCS-116755RIV, DATED AS OF SEPTEMBER 09, 2004.

NO RESPONSIBILITY FOR COMPLETENESS, ACCURACY OR CONTENT OF SAID PRELIMINARY TITLE REPORT IS ASSUMED BY THIS MAP.

(NO.) INDICATES ITEM NUMBER PER EXCEPTIONS TO COVERAGE OF ABOVE REPORT.

(1)(4) PERTAINS TO TAXES, ASSESSMENTS AND LIEN OF SUPPLEMENTAL TAXES, IF ANY.

(5) PERTAINS TO WATER RIGHTS, CLAIMS OR TITLE TO WATER, WHETHER OR NOT SHOWN BY THE PUBLIC RECORDS.

(6) AN EASEMENT FOR ELECTRIC TRANSMISSION LINE OR LINES CONSISTING OF STEEL OR WOODEN TOWERS OR STEEL OR WOODEN POLES WITH NECESSARY GUYS AND ANCHORS TOGETHER WITH TRANSMISSION, DISTRIBUTION, TELEPHONE AND TELEGRAPH WIRES AND INCIDENTAL PURPOSES IN FAVOR OF METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, RECORDED OCTOBER 19, 1933 IN BK. 143 PG. 291, O.R.
(EASEMENT PLOTTED HEREON).

(7) PERTAINS TO THE FACT THAT ABUTTER'S RIGHTS OF INGRESS AND EGRESS TO AND FROM THE MORENO VALLEY (STATE 60) FREEWAY ABUTTING SAID LAND HAVE BEEN RELINQUISHED IN THE DOCUMENT RECORDED OCTOBER 25, 1957 IN BK. 2168 PG. 172, O.R.
(AT THIS TIME ACCESS STILL EXISTS OVER A PORTION OF THE BOUNDARY OF SAID FREEWAY WITH SAID LAND AND WILL CONTINUE TO EXIST UNTIL SUCH TIME AS A FRONTAGE ROAD IS CONSTRUCTED).
(SAID BOUNDARY OF SAID FREEWAY WITH SAID LAND IS PLOTTED HEREON AS 7, EXCEPT FOR THAT PORTION WHERE ACCESS STILL EXISTS. THAT PORTION WHERE ACCESS STILL EXISTS IS PLOTTED HEREON AS 7A).

(8) PERTAINS TO A WAIVER OF ANY CLAIMS FOR DAMAGES TO SAID PROPERTY BY REASON OF THE LOCATION, CONSTRUCTION, LANDSCAPING OR MAINTENANCE OF THE MORENO VALLEY (STATE 60) FREEWAY ADJOINING SAID PROPERTY, AS CONTAINED IN THE DEED TO THE STATE OF CALIFORNIA, RECORDED OCTOBER 25, 1957, BK. 2168 PG. 172, O.R.

(9) AN EASEMENT FOR PIPE LINES AND INCIDENTAL PURPOSES IN FAVOR OF FOUR CORNERS PIPELINE COMPANY, RECORDED NOVEMBER 14, 1957 IN BK. 2177 PG. 572, O.R.
(EASEMENT PLOTTED HEREON).

(10) AN EASEMENT FOR TELEPHONE FACILITIES AND INCIDENTAL PURPOSES, IN FAVOR OF CALIFORNIA WATER AND TELEPHONE COMPANY, A CORPORATION, RECORDED AUGUST 13, 1958 IN BK. 2317, PG. 223, O.R.
(EASEMENT PLOTTED HEREON).

(11) AN EASEMENT FOR AN ELECTRIC LINE AND INCIDENTAL PURPOSES IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY, A CORPORATION, RECORDED AUGUST 25, 1958 IN BK. 2323, PG. 291, O.R.
(EASEMENT PLOTTED HEREON).

(12) AN EASEMENT FOR STUB POLES, GUY WIRES AND ANCHORS AND INCIDENTAL PURPOSES IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY, A CORPORATION, RECORDED JANUARY 21, 1970 AS INST. NO. 6063, O.R.
(EASEMENT PLOTTED HEREON).

(13) PERTAINS TO RIGHTS OF THE PUBLIC AS TO ANY PORTION OF THE LAND LYING WITHIN THE AREA COMMONLY KNOWN AS 4th STREET.
(4th STREET PLOTTED HEREON).

(14) PERTAINS TO CC & R's AND EASEMENTS IN THE DOCUMENT RECORDED NOVEMBER 28, 1989 AS INST. NO. 414488, O.R.
(PLOTTABLE EASEMENTS ARE NOT DESCRIBED IN SAID DOCUMENT).

(16) PERTAINS TO A DOCUMENT ENTITLED "EASEMENT AGREEMENT", EXECUTED BY AND BETWEEN HI-SIXTY ASSOCIATES, L.P., AND THE COUNTY OF RIVERSIDE, RECORDED JUNE 4, 1990 AS INST. NO. 203973, O.R.
(EASEMENT NOT PLOTTABLE)

PERTAINS TO A DOCUMENT ENTITLED "RESOLUTION NO. F91-21", RECORDED JUNE 10, 1991 AS INST. NO. 193749, O.R.

PERTAINS TO A DOCUMENT ENTITLED "RECIPROCAL EASEMENT AGREEMENT" EXECUTED BY AND BETWEEN INLAND PACIFIC REAL ESTATE, INC., A CALIFORNIA CORPORATION, AND HI-SIXTY ASSOCIATES L.P., A CALIFORNIA LIMITED PARTNERSHIP RECORDED SEPTEMBER 28, 1992 AS INST. NO. 361272, O.R.
A DOCUMENT ENTITLED "REAFFIRMATION AGREEMENT" RECORDED MAY 24, 1994 AS INST. NO. 210792, O.R.
(EASEMENT OVER SAID LAND PLOTTED HEREON AS 17).
(EASEMENT OVER ADJACENT PROPERTY PLOTTED HEREON AS 17A).

(18) PERTAINS TO A DOCUMENT ENTITLED "HI-SIXTY ASSOCIATES L.P., A CALIFORNIA LIMITED PARTNERSHIP DEVELOPMENT AGREEMENT" RECORDED FEBRUARY 9, 1994 AS INST. NO. 56818, O.R.
A DOCUMENT ENTITLED "AMENDMENT AND RESTATEMENT OF DEVELOPMENT AGREEMENT" RECORDED AUGUST 17, 2004 AS INST. NO. 2004-0644858, O.R.
(NOT PLOTTABLE)

(19) PERTAINS TO A DOCUMENT ENTITLED "RECIPROCAL EASEMENT AGREEMENT AND DEED" RECORDED MAY 17, 1994 AS INST. NO. 201445, O.R.
(HI-SIXTY PROPERTY INGRESS AND EGRESS EASEMENT PLOTTED HEREON AS 19 ).
(DOWLING PROPERTY INGRESS AND EGRESS EASEMENT PLOTTED HEREON AS 19A ).

(20) PERTAINS TO A DOCUMENT ENTITLED "REIMBURSEMENT AGREEMENT" RECORDED NOVEMBER 3, 1995 AS INST. NO. 369494, O.R.

(21) PERTAINS TO A DOCUMENT ENTITLED "RESOLUTION NO. 1999-43" RECORDED JANUARY 11, 2000 AS INST. NO. 2000-10972, O.R.

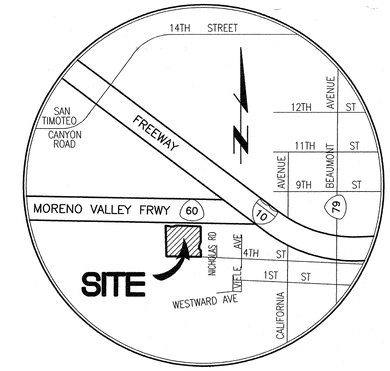
(22) PERTAINS TO THE EFFECT OF A MAP PURPORTING TO SHOW THE LAND AND OTHER PROPERTY, FILED IN BK. 97, PG. 77, RECORD OF SURVEYS.

(23) PERTAINS TO THE EFFECT OF A DEED EXECUTED BY JOHN WESSMAN, A MARRIED MAN AS HIS SOLE AND SEPARATE PROPERTY TO JOHN WESSMAN, TRUSTEE OF THE WESSMAN FAMILY TRUST DATED NOVEMBER 16, 1998, RECORDED JANUARY 14, 2002 AS INST. NO. 2002-022293, O.R. AT THE DATE OF RECORDING OF THE DOCUMENT, THE GRANTOR HAD NO RECORD INTEREST IN THE LAND.

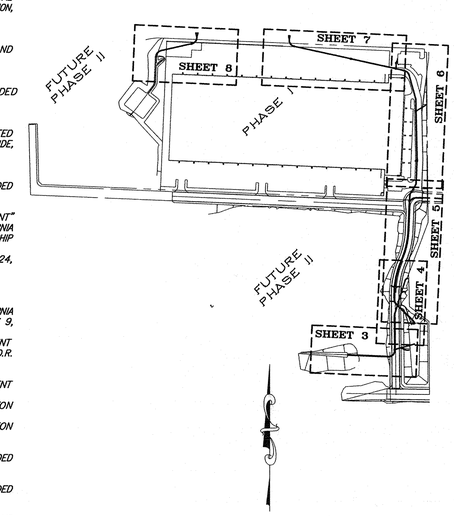
(24) PERTAINS TO A DEED OF TRUST RECORDED JANUARY 14, 2002 AS INST. NO. 2002-022295, O.R.
ASSIGNMENT OF RENTS RECORDED JANUARY 14, 2002 AS INSTRUMENT NO. 2002-022296, O.R.

(25) PERTAINS TO A DEED OF TRUST RECORDED JULY 6, 2004 AS INST. NO. 2004-0521254, O.R.

(26) PERTAINS TO RIGHTS OF PARTIES IN POSSESSION.




VICINITY MAP
N.T.S.




SHEET INDEX
NTS

Last Update: 10/18/06
N:\2524\Storm drain\SD-SHT1.dwg

**BASIS OF BEARING**

THE BEARINGS SHOWN HEREON ARE BASED ON THE NORTH LINE OF THE NORTHWEST 1/4 OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 1 WEST, SAN BERNARDINO MERIDIAN, BEING N 89°06'53" W AS PER RECORD OF SURVEY R.S.B. 65 / 20-25, RECORDS OF COUNTY OF RIVERSIDE, STATE OF CALIFORNIA.

**BENCHMARK:**

U.S.C. & G.S. BENCHMARK No. 0 71 (RIVERSIDE COUNTY DESIGNATION 603-99-68)
0.8 MILES WEST ALONG THE SOUTHERN PACIFIC RAILROAD FROM THE STATION AT BEAUMONT, AT THE U.S. HWY. BRIDGE OVER THE RAILROAD, SET VERTICALLY IN THE NORTHWEST END OF THE SOUTHWEST PIER, 5.3 FT. SOUTHWEST OF THE SOUTHWEST RAIL OF THE SOUTHWEST TRACK AND 2.4 FT. ABOVE THE GROUND. THIS MARK HAS BEEN HAMMERED AND BATTERED BUT IS STILL SOLID. THE RAIL BED HAS BEEN WIDENED AND IS NOW DOUBLE TRACKED.
ELEVATION = 2523.981 (NGVD 29 DATUM -- 1970 ADJ.)

1"=40'

| DESIGNED | DRAWN |
|---|---|
| B.W. | B.W. |
| CHECKED | APPROVED |
| R.S. | |

| REV. | BY | REVISION DESCRIPTION | APPV'D | DATE |
|---|---|---|---|---|

REVIEWED BY: STAFF ENGINEER DATE 10/25/06
RECOMMENDED FOR APPROVAL BY: ADMINISTRATIVE ENGINEER DATE 11/28/06
APPROVED BY: DIR. OF PUBLIC WORKS DATE 11-28-06
CITY OF BEAUMONT PUBLIC WORKS DEPT., ENGINEERING DIVISION

REGISTERED PROFESSIONAL ENGINEER REINHARD STENZEL R.C.E. NO. 56155 Exp. 12-31-06 CIVIL STATE OF CALIFORNIA

PREPARED BY:
Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH.(714)521-4811 FAX(714)521-4173
REINHARD STENZEL R.C.E. NO. 56155 DATE: 10-18-06 EXPIRES 12-31-06

CITY OF BEAUMONT
STORM DRAIN IMPROVEMENT PLAN
BEAUMONT LOGISTIC CENTER
TITLE SHEET

SHEET 1 OF 9

1586

## GENERAL NOTES

1. THE CONTRACTOR SHALL CONSTRUCT THE DRAINAGE IMPROVEMENT SHOWN ON THE DRAWINGS IN CONFORMANCE WITH THE REQUIREMENTS OF THE CITY OF BEAUMONT RECENT EDITION, AND IN CONFORMANCE WITH THE REQUIREMENTS OF THE BEAUMONT DRAINAGE MANAGEMENT PLAN.
2. THE CONTRACTOR IS REQUIRED TO CONTACT ALL UTILITY AGENCIES REGARDING TEMPORARY SUPPORT AND SHORING REQUIREMENTS FOR THE VARIOUS UTILITIES SHOWN IN THE PLANS.
3. CONSTRUCTION INSPECTION WILL BE PERFORMED BY CITY OF BEAUMONT. CONTACT (951) 769-8520. THE CITY MUST BE NOTIFIED ONE WEEK PRIOR TO CONSTRUCTION.
4. ALL STATIONING REFERS TO THE CENTERLINE OR CONSTRUCTION UNLESS OTHERWISE NOTED.
5. STATIONING FOR LATERALS AND CONNECTOR PIPE REFER TO THE CENTERLINE-CENTERLINE-INTERSECTION STATION.
6. FORTY-EIGHT HOURS BEFORE EXCAVATION CALL UNDERGROUND SERVICE ALERT 1-800-227-2600.
7. ALL CROSS SECTIONS ARE TAKEN LOOKING UPSTREAM.
8. ELEVATIONS AND LOCATIONS OF UTILITIES SHOWN ARE APPROXIMATE UNLESS OTHERWISE NOTED. ALL UTILITIES SHOWN ARE TO BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
9. OPENINGS RESULTING FROM THE CUTTING OR PARTIAL REMOVAL OF EXISTING CULVERTS PIPES OR SIMILAR STRUCTURES TO BE ABANDONED SHALL BE SEALED WITH 6 INCHES OR CLASS 'B' CONCRETE.
10. PIPE CONNECTED TO THE MAINLINE PIPE SHALL CONFORM TO JUNCTION STRUCTURE NO 4 (J5 229) UNLESS OTHERWISE NOTED.
11. PIPE BEDDING SHALL CONFORM TO R.C.F.D. & W.C.D. STD. DWG. M 815
12. 'V' IS THE DEPTH OF INLET AT THE CATCH BASIN MEASURED FROM THE TOP OR THE CURB TO THE INVERT OR CONNECTOR PIPE.
13. ALL CURBS, GUTTERS, SIDEWALKS, DRIVEWAYS, AND OTHER EXISTING IMPROVEMENTS TO BE RECONSTRUCTED IN KIND PER LATEST COUNTY STANDARD AND AT THE SAME ELEVATION AND LOCATION AS THE EXISTING IMPROVEMENTS UNLESS OTHERWISE NOTED. FOR PAVEMENT OVERLAY, 0.10' MIN. FOR FULL LANE WIDTH IS REQUIRED.
14. HYDRAULIC GRADE LINES SHOWN IN PROFILES ARC FOR 100 YEAR FREQUENCY FLOWS. UNLESS OTHERWISE NOTED.
15. THE CONTRACTOR SHALL COMPLY WITH THE STATE AND LOCAL SAFETY CODES DURING THE PROGRESS OF WORK.
16. THE CONTRACTOR SHALL MAINTAIN ADJACENT STREETS IN NEAT, SAFETY, CLEAN AND SANITARY CONDITION AT ALL TIMES AND TO THE SATISFACTION OF THE CITY INSPECTOR. THE ADJACENT STREETS SHALL BE KEPT CLEAN OF DEBRIS WITH DUST AND OTHER NUISANCE BEING CONTROLLED AT ALL TIMES. THE DEVELOPER SMALL BE RESPONSIBLE FOR ANY CLEAN UP ON ADJACENT STREETS AFFECTED BY HIS CONSTRUCTION. METHOD OR STREET CLEANING SHALL BE DRY SWEEPING OF ALL PAVED AREAS.
17. THE CONTRACTOR AGREES THAT HE/SHE/ SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OR CONSTRUCTION OF THIS PROJECT. INCLUDING SAFETY OF ALL PERSONS AND PROPERTY THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND THAT THE CONTRACTOR SHALL DEFEND. INDEMNIFY, AND HOLD THE OWNER, CITY OR BEAUMONT, AND THE DEVELOPER'S ENGINEER, HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED. IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OR THE OWNERS OR THE DEVELOPER'S ENGINEER.
18. ALL PIPE LENGTHS ARE HORIZONTAL PROJECTIONS (NOT TRUE LENGTHS OF PIPE) AND ARE THE BASIS OR THE ESTIMATES OF QUANTITIES. THE CONTRACTOR SHALL DETERMINE THE TRUE QUANTITY OF PIPE REQUIRED FOR THIS PROJECT TO PLACING THE ORDER.
19. ALL ELEVATIONS SHOWN ARE TO THE INVERTS OF PIPE. EXCEPT WHERE OTHERWISE NOTED.
20. AT THE DISCRETION OF THE ENGINEER AND THE CITY OF BEAUMONT, THE CONTRACTOR MAY BE REQUIRED TO VERIFY, BY POTHOLING, THE LOCATION OF POTENTIALLY AFFECTED UTILITIES.
21. CONTRACTOR SHALL DISPOSE OF ALL EXCESS EXCAVATED MATERIAL AT MANDATORY DISPOSAL SITE.
22. ALL BACKFILL AND BEDDING AROUND STRUCTURES AND PIPES SHALL BE COMPACTED TO NOT LESS THAN 90 PERCENT RELATIVE COMPACTION EXCEPT WHERE SUCH MATERIAL IS PLACED UNDER EXISITING PAVED ROADWAY. THE TOP 3 FEET, MEASURED FROM THE FINISH PAVING, SHALL BE COMPACTED TO 95 PERCENT RELATIVE COMPACTION.
23. ALL SURVEY MONUMENTS SHALL BE REPLACED AS REQUIRED. MONUMENTS SHALL BE TIED OUT PRIOR TO CONSTRUCTION AND REPLACED UPON COMPLETION OF CONSTRUCTION.
24. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER/OWNER OR CONTRACTOR TO APPLY TO THE DIRECTOR OF PUBIC WORKS, CITY OR BEAUMONT FOR AN ENCROACHMENT PERMIT FOR ALL WORK PERFORMED WITHIN PUBLIC RIGHT-OF-WAY, DEDICATED AND ACCEPTED FOR PUBLIC USE, AND TO BE RESPONSIBLE FOR SATISFACTORY COMPLIANCE FOR ALL CURRENT ENVIRONMENTAL REGULATIONS DURING THE LIFE OF CONSTRUCTION ACTIVITIES FOR THIS PROJECT. ADDITIONAL STUDIES AND/OR PERMITS MAYBE REQUIRED.
25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEARING OF THE PROPOSED WORK AREA, AND RELOCATION COSTS OF ALL EXISTING UTILITIES. PERMITTEE MUST INFORM CITY OF CONSTRUCTION SCHEDULE AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
26. ALL UNDERGROUND FACILITIES WITH LATERALS SHALL BE IN PLACE PRIOR TO PAVING THE STREET. INCLUDING BUT NOT LIMITED TO, THE FOLLOWING SEWER, WATER, ELECTRIC. STORM DRAINS.
27. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER OR CONTRACTOR TO INSTALL AND MAINTAIN DURING CONSTRUCTION REGULATORY GUIDE AND WARNING SIGNS WITHIN THE PROJECT LIMITS AND ITS SURROUNDINGS TO PROVIDE SAFE PASSAGE FOR THE TRAVELING PUBLIC AND WORKERS UNTIL THE FINAL COMPLETION AND ACCEPTANCE OF THE PROJECT BY THE CITY OF BEAUMONT.
28. CONSTRUCTION PROJECTS THAT DISTURB MORE THAN ONE ACRE MUST OBTAIN A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (INPDES) PERMIT. OWNER/DEVELOPERS ARE REQUIRED TO FILE A NOTICE OF INTENT (NOI) WITH THE STATE WATER RESOURCES CONTROL BOARD (SWRCB) AND COMPLY WITH ALL REQUIREMENTS OF THE BEAUMONT DRAINAGE MANAGEMENT PLAN. BEAUMONT IS CO-PERMITTEE WITH R.C.F.C. & W.C.D.
29. ALL STORM DRAINS, CATCH BASIN, AND STORM WATER RUNOFF STRUCTURES VILE BE PROVIDED WITH ADEQUATE CAPABILITIES TO FILTER AND RETAIN SEDIMENT AND DIRT, OIL, AND GREASE TO PREVENT POLLUTION IN STORM WATER RUNOFF IN COMPLIANCE WITH THE CITY OF BEAUMONT'S BEST MANAGEMENT PRACTICES AND THE BEAUMONT DRAINAGE MASTER PLAN FOR STORM WATER AS WELL AS BEST MANAGEMENT PRACTICES IDENTIFIED IN THE CURRENT REPORT OF WASTE DISCHARGE FOR RIVERSIDE COUNTY PERMITTEES.
30. DEVELOPER SHALL BE FULLY RESPONSIBLE IN ASSURING THAT PROPOSED IMPROVEMENTS CONFORM TO THE APPROVED PLANS SPECIFICATIONS AND CITY OF BEAUMONT STANDARDS. WHERE DEVIATIONS EXIST, DEVELOPER SHALL PROPOSE CORRECTIVE MEASURES FOR REVIEW AND APPROVAL BY THE CITY.
31. THE DEVELOPER SHALL HAVE GEOTECHNICAL/SOILS ENGINEERING FIRM OBSERVE TRENCHING, BACKFILLING AND SOIL COMPACTION OF ALL UTILITY TRENCHES WITHIN ALL EASEMENT AND ROAD RIGHT OF WAY. TWO SETS OF COMPACTION REPORTS CERTIFYING THAT WORKS WERE DONE IN CONFORMANCE TO STANDARDS AND GEOTECHNICAL REPORT SHALL BE SUBMITTED AFTER EACH UTILITY TRENCH IS COMPLETED AND CERTIFIED. COMPACTION REPORT MUST BE SUBMITTED TO THE DEPARTMENT OF PUBLIC WORKS AT LEAST TWO WORKING DAYS BEFORE AGGREGATE BASE MATERIALS ARE PLACED OUTSIDE.
32. THE CITY RESERVES THE RIGHT TO REQUIRE REVISION OF THE APPROVED PLANS TO CONFORM WITH CURRENT STANDARDS AND TO POST A NEW BOND IF CONSTRUCTION HAS NOT COMMENCED WITHIN TWO YEARS AFTER PLANS WERE APPROVED.
33. TRENCHING FOR UTILITIES AND STRUCTURES IS NOT ALLOWED UNTIL SOIL COMPACTION REPORT IS SUBMITTED TO AND APPROVED BY THE PUBLIC WORKS DEPARTMENT.

## PRIVATE ENGINEER'S NOTICE TO CONTRACTORS:

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND PIPES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF AVAILABLE DATA. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN AND ANY OTHER LINES OR STRUCTURES NOT SHOWN ON THESE PLANS.

## NOTICE TO CONTRACTOR:

ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT ALL EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. THEY MUST OBEY THE OCCUPATIONAL SAFETY AND HEALTH REGULATIONS OF THE U.S. DEPARTMENT OF LABOR AND CALIFORNIA STATE INDUSTRIAL RELATIONS "CONSTRUCTION AND SAFETY ORDERS" AND KEEP THE ENGINEER HARMLESS FROM ANY PROBLEMS.

THE CONTRACTOR FURTHER AGREES THAT HE SHALL ASSUME SOLE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY, THIS CONDITION SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING FOR LIABILITY ARISING FROM THE NEGLIGENCE OF THE OWNER OR ENGINEER.

## UNDERGROUND PIPELINE NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND PIPELINE SHOWN HEREON WERE OBTAINED FROM AVAILABLE RECORDS. THEIR EXACT LOCATIONS AND DEPTHS ARE NOT KNOWN. THERE MAY BE OTHER LINES NOT OF RECORD. THE CONTRACTOR SHALL MAKE A THOROUGH SEARCH TO LOCATE ALL EXISTING UNDERGROUND PIPELINES PRIOR TO DOING ANY WORK.
2. THE CONTRACTOR SHALL PROTECT ALL EXISTING UNDERGROUND PIPELINES DURING CONSTRUCTION. WHEN A PIPELINE IS FOUND TO INTERFERE WITH THE PROPOSED CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE OWNER OF THE PIPE AND:
   (A) WHEN THE PIPE IS DETERMINED TO BE ACTIVE, CONTRACTOR SHALL REQUEST THE OWNER TO RELOCATE THE LINE AND COORDINATE HIS WORK WITH RELOCATION.
   (B) WHEN THE PIPELINE IS DETERMINED ABANDONED, THE CONTRACTOR SHALL REMOVE THE ABANDONED LINE IN CONFORMANCE WITH THE REQUIREMENTS OF THE CITY OF CARSON BUILDING OFFICIAL.
3. IN THE EVENT THE OWNER OF THE PIPELINE CANNOT BE DETERMINED, THE CONTRACTOR SHALL REMOVE THE LINE IF ABANDONED OR RELOCATE THE LINE IF ACTIVE PRIOR TO RELOCATION THE CONTRACTOR SHALL SUBMIT DETAILS OR RELOCATION TO CITY ENGINEER FOR APPROVAL.

## DECLARATION OF ENGINEER OF RECORD:

I HEREBY DECLARE THAT IN MY PROFESSIONAL OPINION, THE DESIGN OF THE IMPROVEMENTS AS SHOWN ON THESE PLANS COMPLIES WITH THE CURRENT PROFESSIONAL ENGINEERING STANDARDS AND PRACTICES. AS THE ENGINEER IN RESPONSIBLE CHARGE OF THE DESIGN OF THESE IMPROVEMENTS, I ACCEPT FULL RESPONSIBILITY FOR SUCH DESIGN. I UNDERSTAND AND ACKNOWLEDGE THAT THE PLAN CHECK OF THESE PLANS BY THE CITY OF BEAUMONT IS A REVIEW FOR THE LIMITED PURPOSE OF ENSURING THAT THESE PLANS COMPLY WITH CITY PROCEDURES AND OTHER APPLICABLE CODES AND ORDINANCES. THE PLAN REVIEW PROCESS IS NOT A DETERMINATION OF THE TECHNICAL ADEQUACY OF THE DESIGN OF THE IMPROVEMENTS. SUCH PLAN CHECK DOES NOT THEREFORE RELIEVE ME OF MY DESIGN RESPONSIBILITY.

AS THE ENGINEER OF RECORD, I AGREE TO DEFEND AND INDEMNIFY THE CITY OF BEAUMONT, ITS OFFICERS, ITS AGENTS, AND ITS EMPLOYEES FROM ANY AND ALL LIABILITY, CLAIMS, DAMAGES, OR INJURIES TO ANY PERSON OR PROPERTY ARISING FROM NEGLIGENT ACTS, ERRORS OR OMISSIONS OF THE ENGINEER OF RECORD, HIS EMPLOYEES, HIS AGENTS OR HIS CONSULTANTS.

SIGNATURE: _____ DATE: 10-18-06

LICENSE No. 56155 EXP: 12-31-06

## STORM DRAIN CONSTRUCTION NOTES — QUANTITY

| | | QUANTITY |
|---|---|---|
| 1 | CONSTRUCT CURB INLET CATCH BASIN PER COUNTY OF RIVERSIDE STD. NO. 300(A), W PER PLAN. | 2 EA. |
| 2 | CONSTRUCT GUTTER DEPRESSION FOR CURB OPENING CATCH BASIN PER COUNTY OF RIVERSIDE STD. NO. 311. | 2 EA. |
| 3 | CONSTRUCT MANHOLE PER A.P.W.A. STD. PLAN NO. 320-1. | 7 EA. |
| 4 | CONSTRUCT HEADWALL PER CALTRANS STD. PLAN NO D89. | 1 EA. |
| 5 | CONSTRUCT CONCRETE COLLAR PER A.P.W.A. STD. PLAN NO. 380-3. | 5 EA. |
| 6 | CONSTRUCT 18" R.C.P., D PER PLAN. | 371 L.F. |
| 7 | CONSTRUCT 24" R.C.P., D PER PLAN. | 152 L.F. |
| 8 | CONSTRUCT 30" R.C.P., D PER PLAN. | 1035 L.F. |
| 9 | CONSTRUCT 36" R.C.P., D PER PLAN. | 1349 L.F. |
| 10 | CONSTRUCT 42" R.C.P., D PER PLAN. | 496 L.F. |
| 11 | CONSTRUCT JUNCTION STRUCTURE #6 PER RIVERSIDE COUNTY FLOOD CONTROL DISTRICT STD. PLAN NO. JS231. | 2 EA. |
| 12 | CONSTRUCT 54" R.C.P., D PER PLAN. | 1268 L.F. |
| 13 | CONSTRUCT INLET TYPE X PER RIVERSIDE COUNTY FLOOD CONTROL DISTRICT STD. PLAN NO. CB108, MODIFIED PER DETAIL ON SHT. NO. 9. | 1 EA. |
| 14 | CONSTRUCT MANHOLE PER A.P.W.A. STD. PLAN NO. 322-1. | 2 EA. |
| 15 | CONSTRUCT JUNCTION STRUCTURE PER A.P.W.A. STD. PLAN NO. 340-1. | 2 EA. |
| 16 | CONSTRUCT HEADWALL PER CALTRANS STD. DWG. D86B. | 2 EA. |
| 17 | CONSTRUCT TRANSITION STRUCTURE #1 PER R.C.F.C.&W.C.D. STD. DWG. TS301. | 2 EA. |
| 18 | SEAL END OF PIPE PER DETAIL ON SHT. NO. 9. | 2 EA. |
| 19 | CONSTRUCT MANHOLE PER A.P.W.A. STD. PLAN NO. 321-1. | 2 EA. |
| 20 | CONSTRUCT JUNCTION STRUCTURE PER A.P.W.A. STD. PLAN NO. 332-1. | 3 EA. |
| 21 | CONSTRUCT JUNCTION STRUCTURE PER A.P.W.A. STD. PLAN NO. 331-1. | 1 EA. |
| 22 | CONSTRUCT SAFETY LEDGE PER A.P.W.A. STD. PLAN NO. 330-1. | 2 EA. |
| 23 | CONSTRUCT 12" H.D.P.E. N-12 PIPE. | 243 L.F. |
| 24 | CONSTRUCT GRATE INLET PER A.P.W.A. STD. PLAN NO. 304-2. SEE DETAIL ON SHT. NO. 9. | 6 EA. |
| 25 | CONSTRUCT MONOLITHIC CONNECTION PER A.P.W.A. STD. PLAN NO. 308-1. | 2 EA. |
| 26 | INSTALL 3' THICK 1/4 TON GROUTED RIPRAP. | 1400 C.F. |
| ■-27 | CONSTRUCT PIPE ANCHOR PER A.P.W.A. STD. PLAN NO. 221-1. NOTE: PIPE ANCHORS ARE REQUIRED AT 7' INTERVALS WHEN SLOPE EXCEEDS 5:1 (20%) | 14 EA. |

## LEGEND

| | |
|---|---|
| FH | EXIST. FIRE HYDRANT |
| WM | EXIST. WATER METER |
| WV | EXIST. WATER VALVE |
| GAS V. | EXIST. GAS VALVE |
| | GUY WIRE/DEADMAN |
| PP | EXIST. POWER POLE |
| | EXIST. TRAFFIC SIGNAL |
| | EXIST. CROSSWALK SIGNAL |
| SLB | STREET LIGHTING BOX |
| | EXIST. STREET LIGHT |
| SDMH | EXIST. STORMDRAIN MANHOLE |
| SMH | EXIST. SEWER MANHOLE |
| VLT. | EXIST. VAULT |
| | EXIST. SIGN |
| | TREE |
| TSB | EXIST. TRAFFIC SIGNAL BOX |
| GM | EXIST. GAS METER |
| MB | EXIST. MAIL BOX |
| TMH | EXIST. TELEPHONE MANHOLE |
| X 1854.69 | EXIST. GRADE ELEVATION |
| CATV | EXIST. CABLE TV CONDUIT |
| | EXIST. EDGE OF A.C. PAVEMENT |
| | EXIST. CURB AND GUTTER |
| S 8" | EXIST. SANITARY SEWER |
| 24" SD | EXIST. STORM DRAIN |
| G 3" | EXIST. GAS LINE |
| T | EXIST. TELEPHONE CONDUIT |
| W 10" | EXIST. WATER LINE |
| (1800) | EXIST. CONTOUR |
| | NEW PIPE LINE |
| | PROPERTY LINE |
| | NEW FIRE HYDRANT |
| | NEW WATER METER |
| | NEW WATER VALVE |
| | NEW THRUST BLOCK |
| | NEW SEWER MANHOLE |
| | NEW SEWER CLEAN OUT |
| | NEW SEWER MANHOLE |
| | NEW CATCH BASIN |
| 3 | CONSTRUCTION NOTES BUBBLE |
| 1800 | PROPOSED CONTOUR |

Last Update: 10/18/06
N:\2524\Storm drain\SD-SHT2.dwg

### BASIS OF BEARING

THE BEARINGS SHOWN HEREON ARE BASED ON THE NORTH LINE OF THE NORTHWEST 1/4 OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 1 WEST, SAN BERNARDINO MERIDIAN, BEING N 89°06'52" W AS PER RECORD OF SURVEY R.S.B. 85 / 20-25, RECORDS OF COUNTY OF RIVERSIDE, STATE OF CALIFORNIA.

### BENCHMARK:

U.S.C. & G.S. BENCHMARK No. 0 71 (RIVERSIDE COUNTY DESIGNATION 603-99-68)
0.8 MILES WEST ALONG THE SOUTHERN PACIFIC RAILROAD FROM THE STATION AT BEAUMONT, AT THE U.S. HWY. BRIDGE OVER THE RAILROAD, SET VERTICALLY IN THE NORTHWEST END OF THE SOUTHWEST PIER, 5.3 FT. SOUTHWEST OF THE SOUTHWEST RAIL OF THE SOUTHWEST TRACK AND 2.4 FT. ABOVE THE GROUND. THIS MARK HAS BEEN HAMMERED AND AND SHITTERED BUT IS STILL SOLID. THE RAIL BED HAS BEEN WIDENED AND IS NOW DOUBLE TRACKED.
ELEVATION = 2523.981 (NGVD 29 DATUM -- 1970 ADJ.)

1"=40'

| DESIGNED B.W. | DRAWN B.W. |
|---|---|
| CHECKED R.S. | APPROVED |

| REV. | BY | REVISION DESCRIPTION | APPV'D | DATE |
|---|---|---|---|---|

REVIEWED BY: _____ STAFF ENGINEER DATE 10/25/06

RECOMMENDED FOR APPROVAL BY: _____ ADMINISTRATIVE ENGINEER DATE 11/28/06

APPROVED BY: _____ DIR. OF PUBLIC WORKS DATE 11-28-06

CITY OF BEAUMONT PUBLIC WORKS DEPT., ENGINEERING DIVISION

REGISTERED PROFESSIONAL ENGINEER REINHARD STENZEL R.C.E. NO. 56155 Exp. 12-31-06 CIVIL STATE OF CALIFORNIA

PREPARED BY:
Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH.(714)521-4811 FAX(714)521-4173

_____ 10-18-06
REINHARD STENZEL DATE:
R.C.E. NO. 56155 EXPIRES 12-31-06

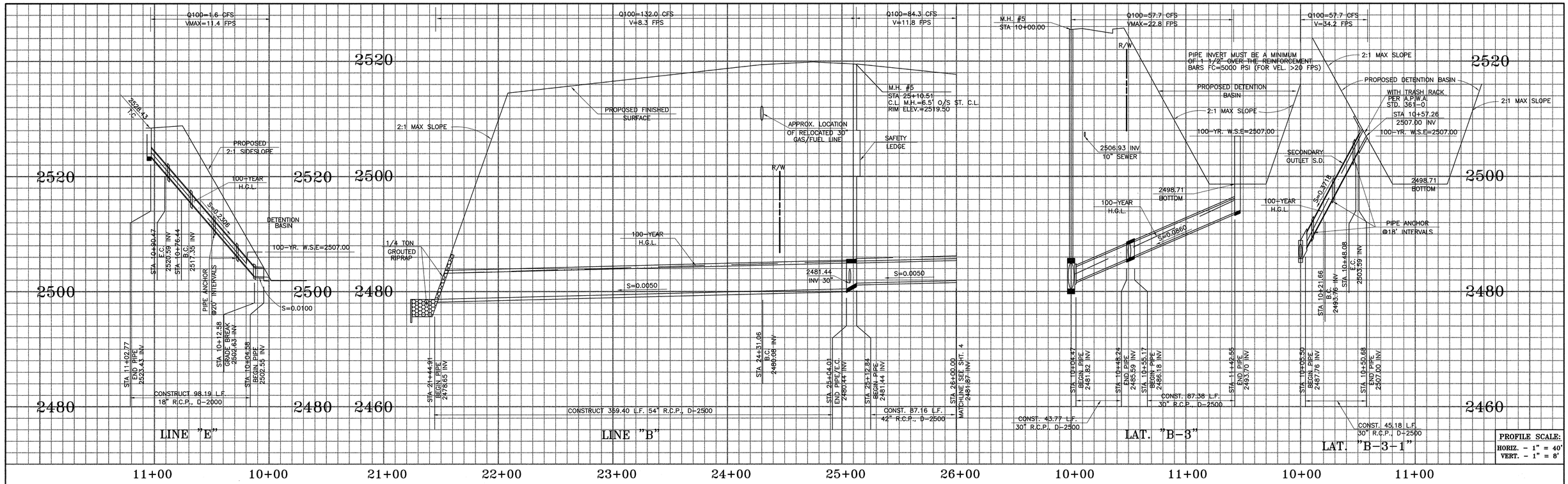
# CITY OF BEAUMONT

## STORM DRAIN IMPROVEMENT PLAN
## BEAUMONT LOGISTIC CENTER

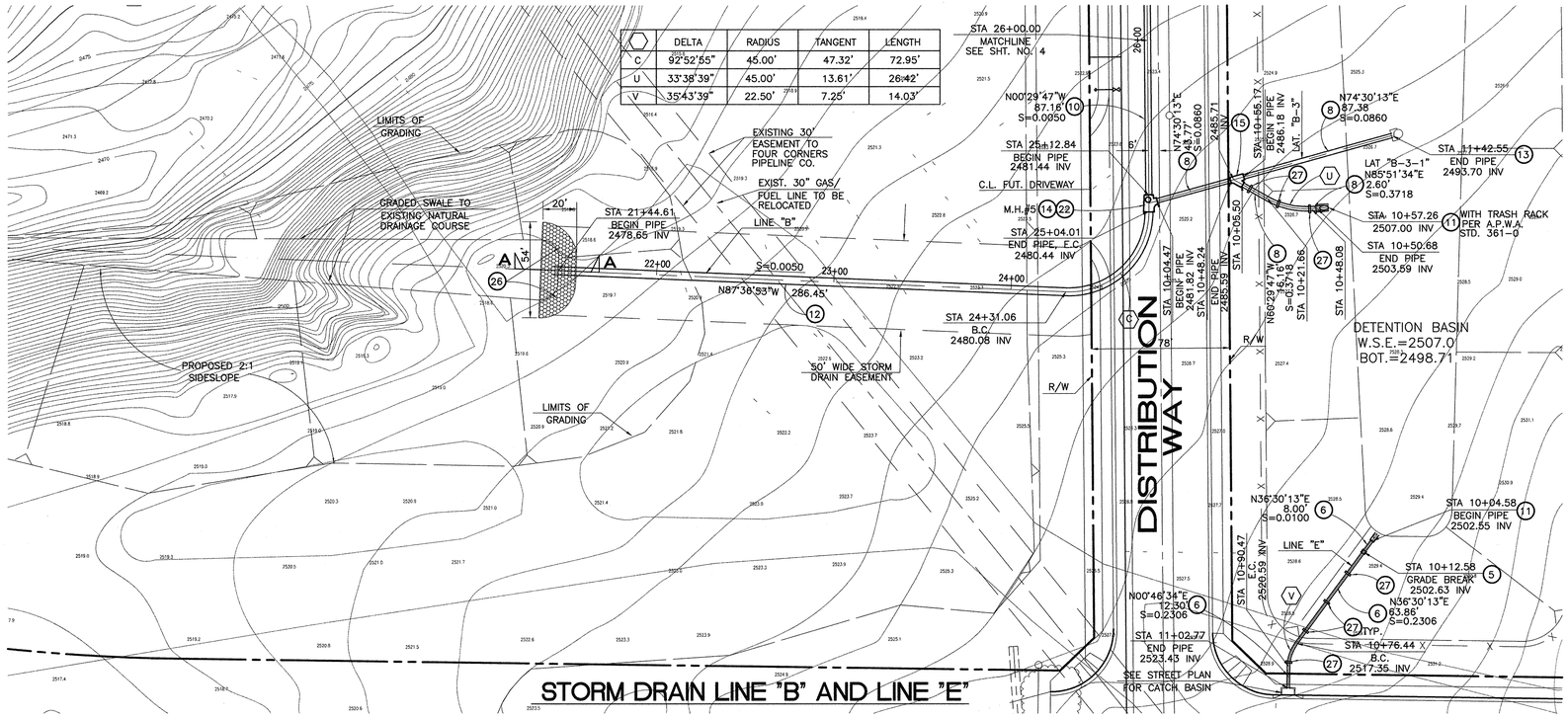
## GENERAL NOTES

SHEET 2 OF 9

1586




SEE SHEET NO. 4




| | DELTA | RADIUS | TANGENT | LENGTH |
|---|---|---|---|---|
| C | 92°52'55" | 45.00' | 47.32' | 72.95' |
| U | 33°38'39" | 45.00' | 13.61' | 26.42' |
| V | 35°43'39" | 22.50' | 7.25' | 14.03' |

STORM DRAIN LINE "B" AND LINE "E"

## STORM DRAIN CONSTRUCTION NOTES

1. CONSTRUCT CURB INLET CATCH BASIN PER COUNTY OF RIVERSIDE STD. NO. 300(A), W PER PLAN.
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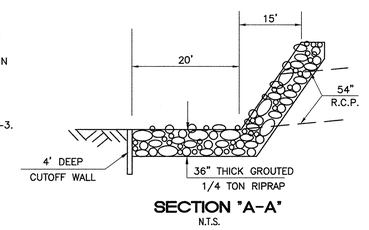
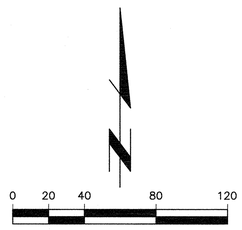
■ FOR CITY USE ONLY




SECTION "A-A"
N.T.S.




Last Update: 10/18/06
N:\2524\Storm drain\SD-SHT3.dwg

**BASIS OF BEARING**

THE BEARINGS SHOWN HEREON ARE BASED ON THE NORTH LINE OF THE NORTHWEST 1/4 OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 1 WEST, SAN BERNARDINO MERIDIAN, BEING N 89°06'52" W AS PER RECORD OF SURVEY R.S.B. 85 / 20-23, RECORDS OF COUNTY OF RIVERSIDE, STATE OF CALIFORNIA.

**BENCHMARK:**

U.S.C. & G.S. BENCHMARK No. O 71 (RIVERSIDE COUNTY DESIGNATION 603-99-68)
0.8 MILES WEST ALONG THE SOUTHERN PACIFIC RAILROAD FROM THE STATION AT BEAUMONT, AT THE U.S. HWY. BRIDGE OVER THE RAILROAD, SET VERTICALLY IN THE NORTHWEST END OF THE SOUTHWEST PIER, 5.3 FT. SOUTHWEST OF THE SOUTHWEST RAIL OF THE SOUTHWEST TRACK AND 2.4 FT. ABOVE THE GROUND. THIS MARK HAS BEEN HAMMERED AND BATTERED BUT IS STILL SOLID. THE RAIL BED HAS BEEN WIDENED AND IS NOW DOUBLE TRACKED.
ELEVATION = 2523.981 (NGVD 29 DATUM -- 1970 ADJ.)

1"=40'

| DESIGNED B.W. | DRAWN B.W. |
|---|---|
| CHECKED R.S. | APPROVED |

| REV. | BY | REVISION DESCRIPTION | APPV'D | DATE |
|---|---|---|---|---|

REVIEWED BY: _____ STAFF ENGINEER DATE 10/25/06

RECOMMENDED FOR APPROVAL BY: _____ ADMINISTRATIVE ENGINEER DATE 11/20/06

APPROVED BY: _____ DIR. OF PUBLIC WORKS DATE 11-28-06

CITY OF BEAUMONT PUBLIC WORKS DEPT., ENGINEERING DIVISION

REGISTERED PROFESSIONAL ENGINEER REINHARD STENZEL R.C.E. NO. 56155 Exp. 12-31-06 CIVIL STATE OF CALIFORNIA

PREPARED BY:

Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH.(714)521-4811 FAX(714)521-4173

REINHARD STENZEL R.C.E. NO. 56155 DATE: 10-18-06 EXPIRES 12-31-06

# CITY OF BEAUMONT

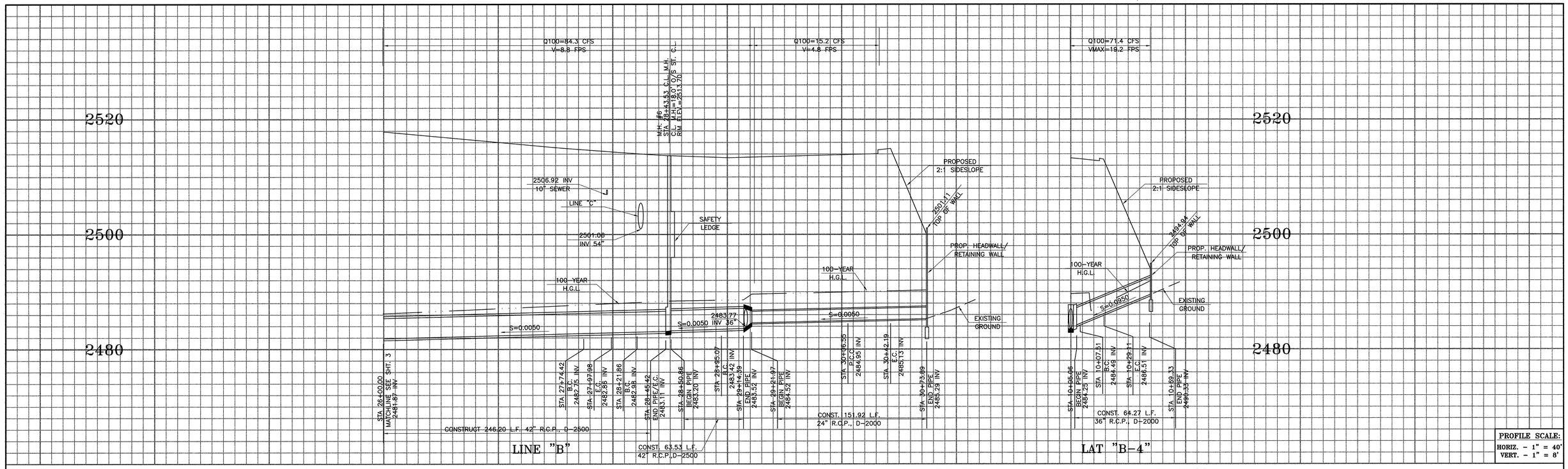
STORM DRAIN IMPROVEMENT PLAN
BEAUMONT LOGISTIC CENTER

## LINE "B" AND LINE "E"

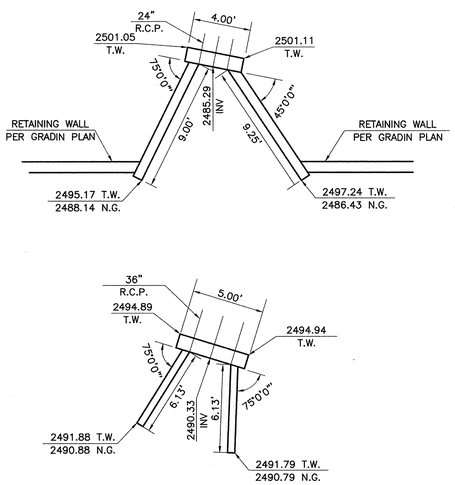
STA: 21+00.00 - 26+00.00 + 10+00.00 - 14+00.00

SHEET 3 OF 9

1586

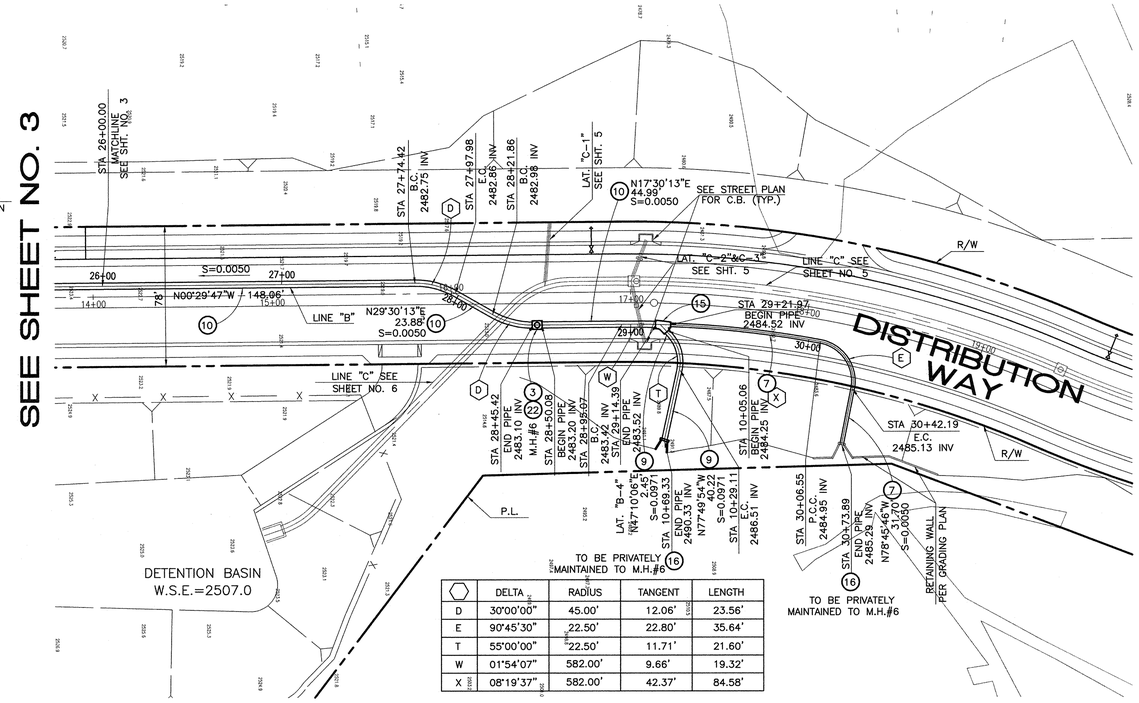



PROFILE SCALE:
HORIZ. - 1" = 40'
VERT. - 1" = 8'




## HEADWALL DETAILS

SCALE:1"=5'




| | DELTA | RADIUS | TANGENT | LENGTH |
|---|---|---|---|---|
| D | 30°00'00" | 45.00' | 12.06' | 23.56' |
| E | 90°45'30" | 22.50' | 22.80' | 35.64' |
| T | 55°00'00" | 22.50' | 11.71' | 21.60' |
| W | 01°54'07" | 582.00' | 9.66' | 19.32' |
| X | 08°19'37" | 582.00' | 42.37' | 84.58' |

## STORM DRAIN LINE "B"

## STORM DRAIN CONSTRUCTION NOTES

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■ FOR CITY USE ONLY

0 20 40 80 120
SCALE:1"=40'

Last Update: 10/18/06
H:\2524\Storm drain\SD-SHT4.dwg

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DESIGNED B.W. | DRAWN B.W.
CHECKED R.S. | APPROVED

| REV. | BY | REVISION DESCRIPTION | APPV'D | DATE |
|---|---|---|---|---|

REVIEWED BY: STAFF ENGINEER — DATE 10/25/06
RECOMMENDED FOR APPROVAL BY: ADMINISTRATIVE ENGINEER — DATE 11/28/06
APPROVED BY: DIR. OF PUBLIC WORKS — DATE 11-28-06
CITY OF BEAUMONT PUBLIC WORKS DEPT., ENGINEERING DIVISION

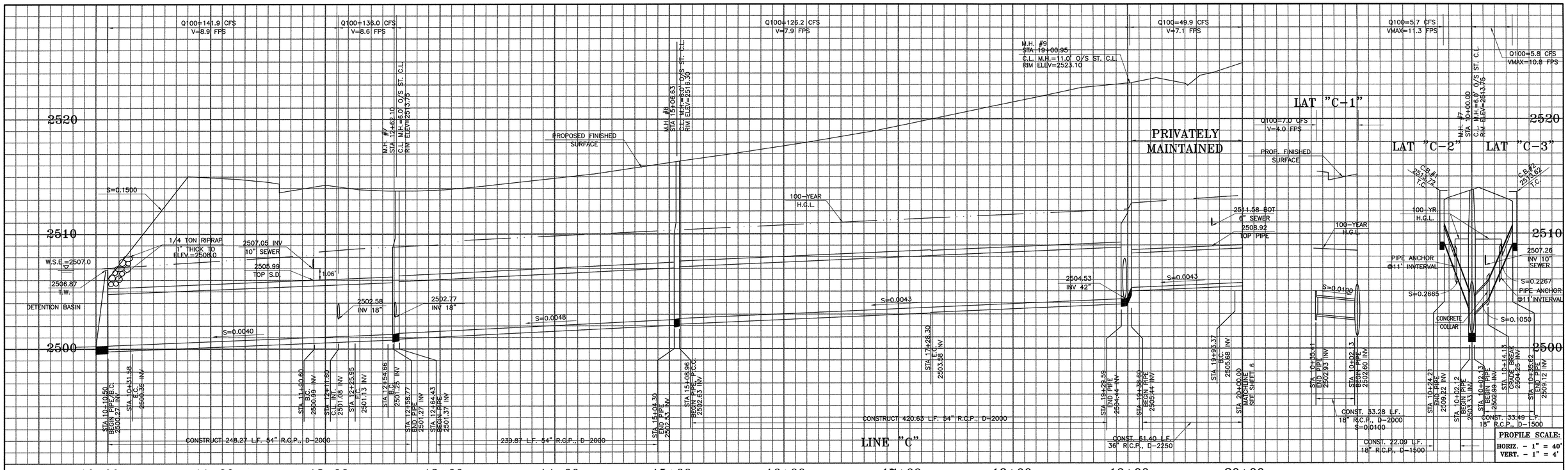
REGISTERED PROFESSIONAL ENGINEER REINHARD STENZEL R.C.E. NO. 56155 Exp. 12-31-06 CIVIL STATE OF CALIFORNIA

PREPARED BY:
Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH.(714)521-4811 FAX(714)521-4173
REINHARD STENZEL R.C.E. NO. 56155 — DATE: 10-18-06 EXPIRES 12-31-06

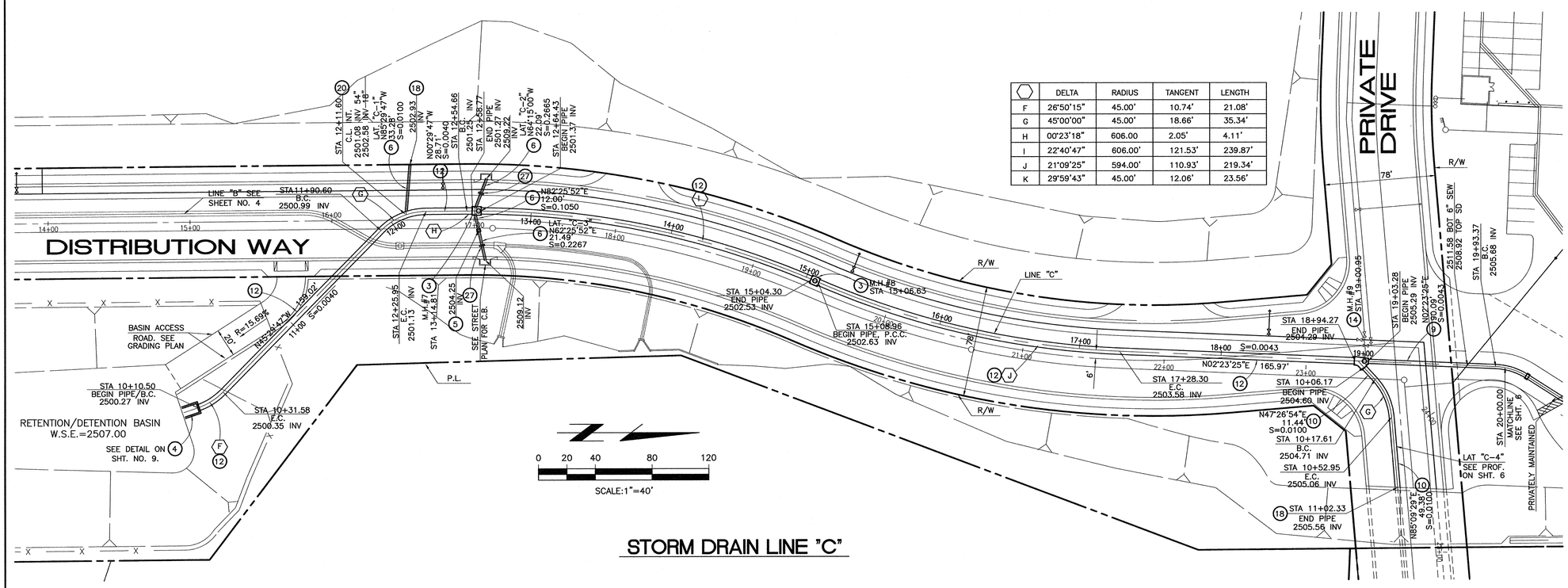
CITY OF BEAUMONT
STORM DRAIN IMPROVEMENT PLAN
BEAUMONT LOGISTIC CENTER
LINE "B"

SHEET 4 OF 9

1586




| | DELTA | RADIUS | TANGENT | LENGTH |
|---|---|---|---|---|
| F | 26°50'15" | 45.00' | 10.74' | 21.08' |
| G | 45°00'00" | 45.00' | 18.66' | 35.34' |
| H | 00°23'18" | 606.00 | 2.05' | 4.11' |
| I | 22°40'47" | 606.00' | 121.53' | 239.87' |
| J | 21°09'25" | 594.00' | 110.93' | 219.34' |
| K | 29°59'43" | 45.00' | 12.06' | 23.56' |




## STORM DRAIN LINE "C"

## STORM DRAIN CONSTRUCTION NOTES

1. CONSTRUCT CURB INLET CATCH BASIN PER COUNTY OF RIVERSIDE STD. NO. 300(A), W PER PLAN.
2. CONSTRUCT GUTTER DEPRESSION FOR CURB OPENING CATCH BASIN PER COUNTY OF RIVERSIDE STD. NO. 311.
3. ■ CONSTRUCT MANHOLE PER A.P.W.A. STD. PLAN NO. 320-1.
4. ■ CONSTRUCT HEADWALL PER CALTRANS STD. PLAN NO D89.
5. ■ CONSTRUCT CONCRETE COLLAR PER A.P.W.A. STD. PLAN NO. 380-3.
6. ■ CONSTRUCT 18" R.C.P., D PER PLAN.
7. CONSTRUCT 24" R.C.P., D PER PLAN.
8. CONSTRUCT 30" R.C.P., D PER PLAN.
9. ■ CONSTRUCT 36" R.C.P., D PER PLAN.
10. ■ CONSTRUCT 42" R.C.P., D PER PLAN.
11. CONSTRUCT JUNCTION STRUCTURE #6 PER RIVERSIDE COUNTY FLOOD CONTROL DISTRICT STD. PLAN NO. JS231.
12. ■ CONSTRUCT 54" R.C.P., D PER PLAN.
13. CONSTRUCT INLET TYPE X PER RIVERSIDE COUNTY FLOOD CONTROL DISTRICT STD. PLAN NO. CB108, MODIFIED PER DETAIL ON SHT. NO. 9.
14. ■ CONSTRUCT MANHOLE PER A.P.W.A. STD. PLAN NO. 322-1.
15. CONSTRUCT JUNCTION STRUCTURE PER A.P.W.A. STD. PLAN NO. 340-1.
16. CONSTRUCT HEADWALL PER CALTRANS STD. DWG. D86B.
17. CONSTRUCT TRANSITION STRUCTURE #1 PER R.C.F.C.&W.C.D. STD. DWG. TS301.
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24. CONSTRUCT GRATE INLET PER A.P.W.A. STD. PLAN NO. 304-2. SEE DETAIL ON SHT. NO. 9.
25. CONSTRUCT MONOLITHIC CONNECTION PER A.P.W.A. STD. PLAN NO. 308-1.
26. INSTALL 3' THICK 1/4 TON GROUTED RIPRAP.
27. ■ CONSTRUCT PIPE ANCHOR PER A.P.W.A. STD. PLAN NO. 221-1.

■ FOR CITY USE ONLY

Last Update: 10/18/06
H:\2524\Storm drain\SD-SHT5.dwg

**BASIS OF BEARING**

THE BEARINGS SHOWN HEREON ARE BASED ON THE NORTH LINE OF THE NORTHWEST 1/4 OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 1 WEST, SAN BERNARDINO MERIDIAN, BEING N 89°06'52" W AS PER RECORD OF SURVEY R.S.B. 85 / 20-25, RECORDS OF COUNTY OF RIVERSIDE, STATE OF CALIFORNIA.

**BENCHMARK:**

U.S.C. & G.S. BENCHMARK No. 0 71 (RIVERSIDE COUNTY DESIGNATION 603-99-68)
0.8 MILES WEST ALONG THE SOUTHERN PACIFIC RAILROAD FROM THE STATION AT BEAUMONT, AT THE U.S. HWY. BRIDGE OVER THE RAILROAD. SET VERTICALLY IN THE NORTHWEST END OF THE SOUTHWEST PIER, 5.3 FT. SOUTHWEST OF THE SOUTHWEST RAIL OF THE SOUTHWEST TRACK AND 2.4 FT. ABOVE THE GROUND. THIS MARK HAS BEEN HAMMERED AND AND BATTERED BUT IS STILL SOLID. THE RAIL BED HAS BEEN WIDENED AND IS NOW DOUBLE TRACKED.
ELEVATION = 2523.981 (NGVD 29 DATUM --- 1970 ADJ.)

1"=40'

DESIGNED B.W. | DRAWN B.W.
CHECKED R.S. | APPROVED

| REV. | BY | REVISION DESCRIPTION | APPV'D | DATE |
|---|---|---|---|---|

REVIEWED BY: STAFF ENGINEER DATE 10/25/06
RECOMMENDED FOR APPROVAL BY: ADMINISTRATIVE ENGINEER DATE 11/28/06
APPROVED BY: DIR. OF PUBLIC WORKS DATE 11-28-06
CITY OF BEAUMONT PUBLIC WORKS DEPT., ENGINEERING DIVISION

REGISTERED PROFESSIONAL ENGINEER REINHARD STENZEL R.C.E. NO. 56155 Exp. 12-31-06 CIVIL STATE OF CALIFORNIA

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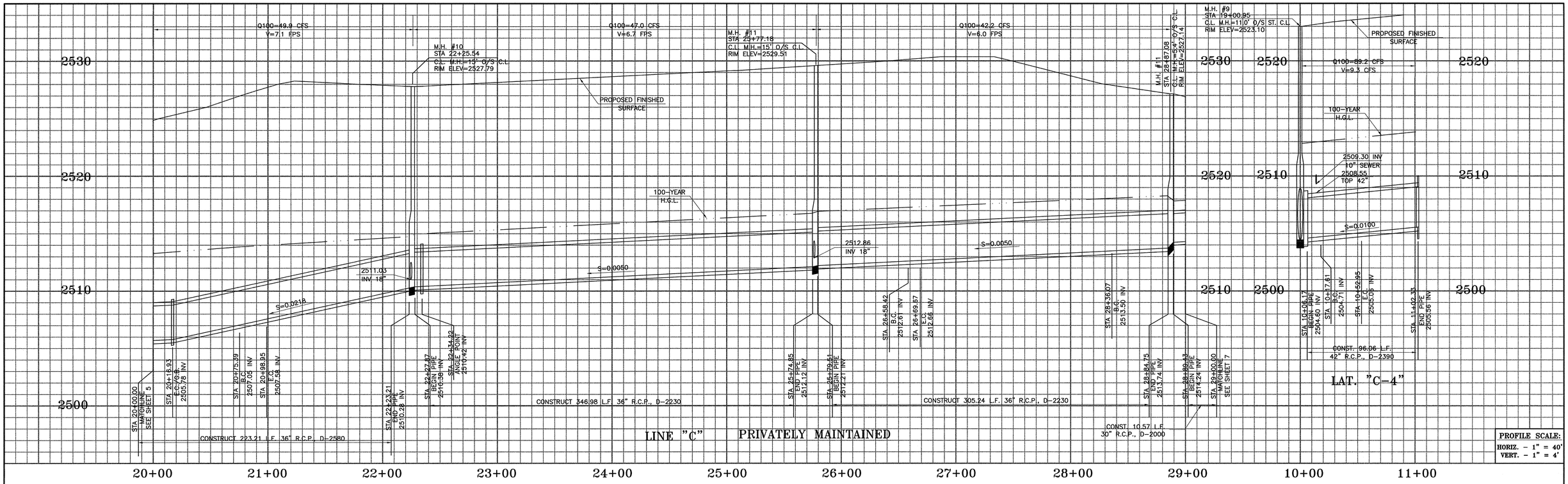
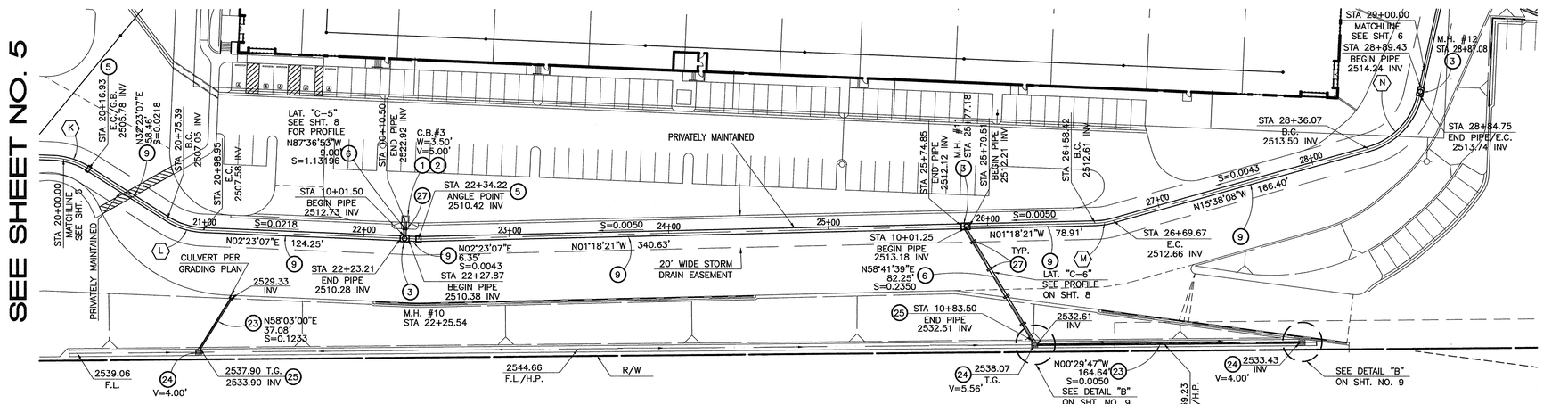
REINHARD STENZEL R.C.E. NO. 56155 DATE: 10-18-06 EXPIRES 12-31-06

CITY OF BEAUMONT
STORM DRAIN IMPROVEMENT PLAN
BEAUMONT LOGISTIC CENTER
LINE "C"
STA. 10+00.00 - 20+00.00 +

SHEET 5 OF 9

1586




| | DELTA | RADIUS | TANGENT | LENGTH |
|---|---|---|---|---|
| L | 30°00'00" | 45.00' | 12.06' | 23.56' |
| M | 14°19'47" | 45.00' | 5.66' | 11.25' |
| N | 61°58'46" | 45.00' | 27.03' | 48.68' |

## STORM DRAIN LINE "C"

## STORM DRAIN CONSTRUCTION NOTES

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■ FOR CITY USE ONLY

Last Update: 10/18/06
N:\2524\Storm drain\SD-SHT6.dwg

### BASIS OF BEARING

THE BEARINGS SHOWN HEREON ARE BASED ON THE NORTH LINE OF THE NORTHWEST 1/4 OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 1 WEST, SAN BERNARDINO MERIDIAN, BEING N 89°06'52" W AS PER RECORD OF SURVEY R.S.B. 85 / 20-25, RECORDS OF COUNTY OF RIVERSIDE, STATE OF CALIFORNIA.

### BENCHMARK:

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ELEVATION = 2523.981 (NGVD 29 DATUM --- 1970 ADJ.)

1"=40'

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|---|---|---|---|---|

REVIEWED BY: STAFF ENGINEER DATE 10/25/06
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PH.(714)521-4811 FAX(714)521-4173
REINHARD STENZEL DATE: 10-18-06
R.C.E. NO. 56155 EXPIRES 12-31-06

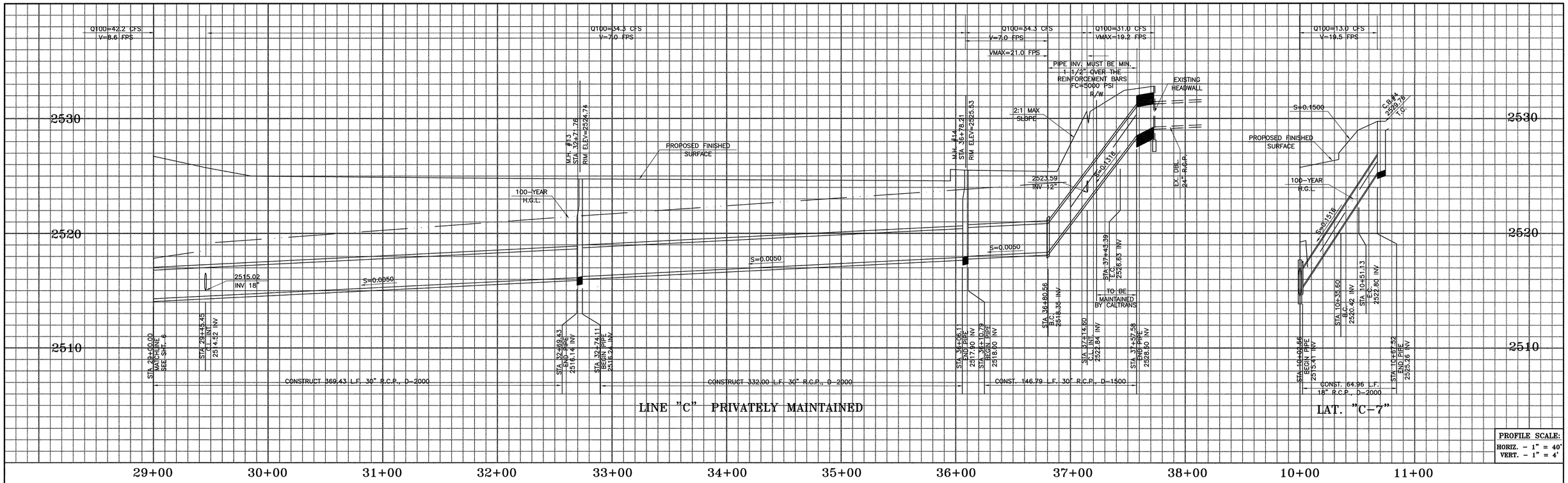
# CITY OF BEAUMONT

## STORM DRAIN IMPROVEMENT PLAN
## BEAUMONT LOGISTIC CENTER

## LINE "C"

SHEET 6 OF 9

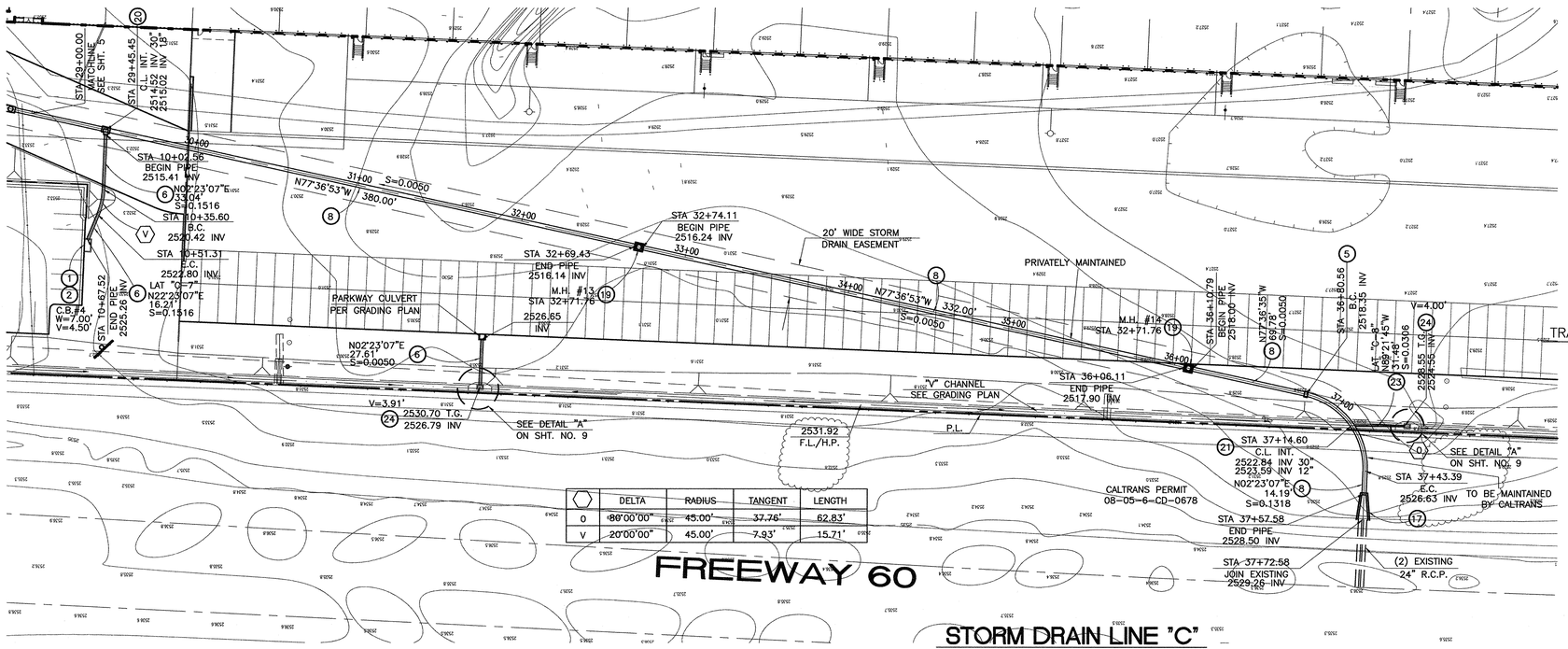
1586




LINE "C" PRIVATELY MAINTAINED

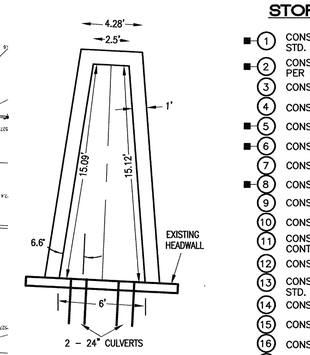
LAT. "C-7"

PROFILE SCALE:
HORIZ. - 1" = 40'
VERT. - 1" = 4'

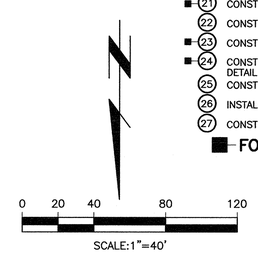



| | DELTA | RADIUS | TANGENT | LENGTH |
|---|---|---|---|---|
| 0 | 80°00'00" | 45.00' | 37.76' | 62.83' |
| V | 20°00'00" | 45.00' | 7.93' | 15.71' |

STORM DRAIN LINE "C"




TRANSITION STRUCTURE DETAIL
SCALE:1"=5'




SCALE:1"=40'

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■ FOR CITY USE ONLY

Last Update: 10/18/06
N:\2524\Storm drain\SD-SHT7.dwg

**BASIS OF BEARING**

THE BEARINGS SHOWN HEREON ARE BASED ON THE NORTH LINE OF THE NORTHWEST 1/4 OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 1 WEST, SAN BERNARDINO MERIDIAN, BEING N 89°36'52" W AS PER RECORD OF SURVEY R.S.B. 85 / 20-25, RECORDS OF COUNTY OF RIVERSIDE, STATE OF CALIFORNIA.

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REINHARD STENZEL R.C.E. NO. 56155 DATE: 10-18-06 EXPIRES 12-31-06

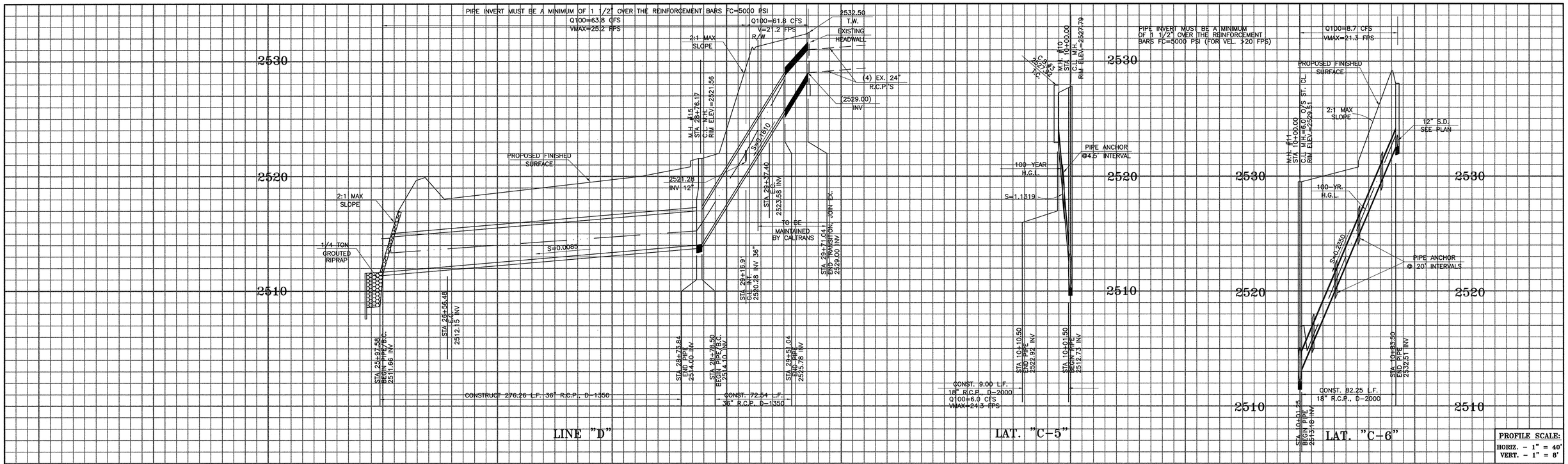
# CITY OF BEAUMONT

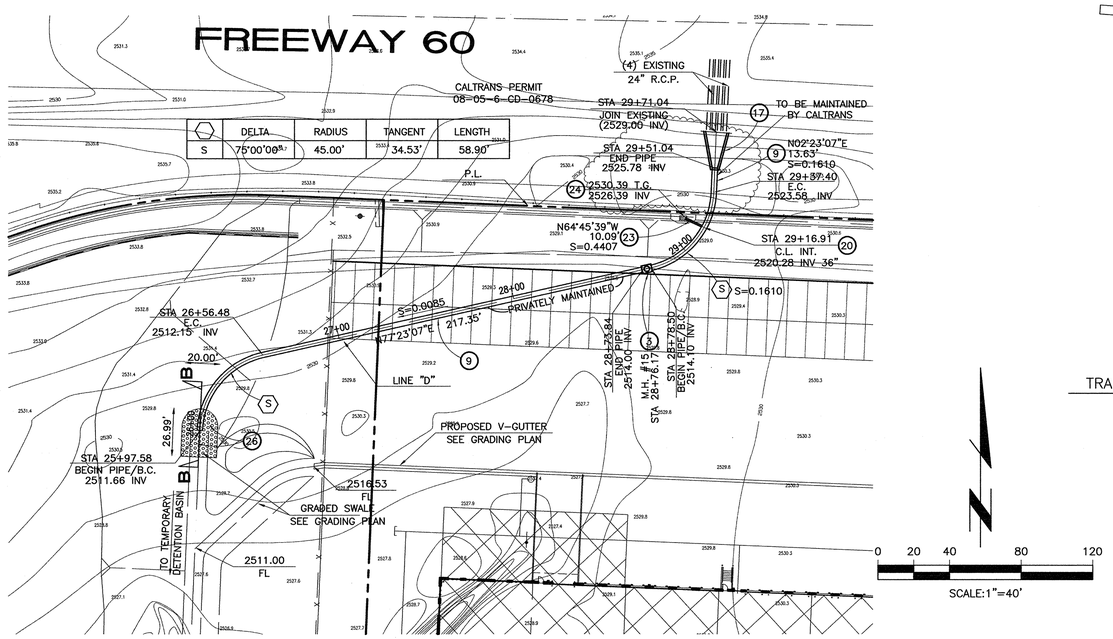
## STORM DRAIN IMPROVEMENT PLAN
## BEAUMONT LOGISTIC CENTER
## LINE "C"

STA. 29+00.00 - 38+00.00 + 10+00.00 - 11+00.00

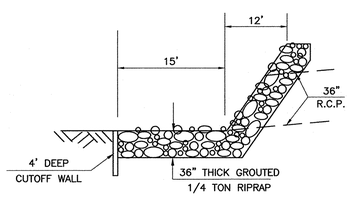
SHEET 7 OF 9

1586



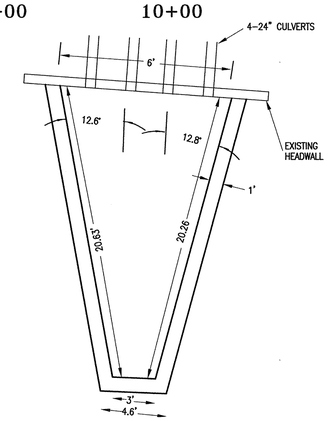




| DELTA | RADIUS | TANGENT | LENGTH |
|---|---|---|---|
| S 75°00'00" | 45.00' | 34.53' | 58.90' |




SECTION "B-B"
N.T.S.

STORM DRAIN LINE "D"




TRANSITION STRUCTURE DETAIL
SCALE:1"=5'

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Last Update: 10/18/06
N:\2524\Storm drain\SD-SHT8.dwg

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THE BEARINGS SHOWN HEREON ARE BASED ON THE NORTH LINE OF THE NORTHWEST 1/4 OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 1 WEST, SAN BERNARDINO MERIDIAN, BEING N 89°06'52" W AS PER RECORD OF SURVEY R.S.B. 85 / 20-25, RECORDS OF COUNTY OF RIVERSIDE, STATE OF CALIFORNIA.

**BENCHMARK:**

U.S.C. & C.S. BENCHMARK No. 0 71 (RIVERSIDE COUNTY DESIGNATION 623-99-68)
0.8 MILES WEST ALONG THE SOUTHERN PACIFIC RAILROAD FROM THE STATION AT BEAUMONT, AT THE U.S. HWY. BRIDGE OVER THE RAILROAD, SET VERTICALLY IN THE NORTHWEST END OF THE SOUTHWEST PIER, 5.3 FT. SOUTHWEST OF THE SOUTHWEST RAIL OF THE SOUTHWEST TRACK AND 2.4 FT. ABOVE THE GROUND. THIS MARK HAS BEEN HAMMERED AND AND BATTERED BUT IS STILL SOLID. THE RAIL BED HAS BEEN WIDENED AND IS NOW DOUBLE TRACKED.
ELEVATION = 2523.981 (NGVD 29 DATUM -- 1970 ADJ.)

1"=40'

DESIGNED B.W. | DRAWN B.W.
CHECKED R.S. | APPROVED

| REV. | BY | REVISION DESCRIPTION | APPV'D | DATE |
|---|---|---|---|---|

REVIEWED BY: STAFF ENGINEER — DATE 10/25/06
RECOMMENDED FOR APPROVAL BY: ADMINISTRATIVE ENGINEER — DATE 11-20-06
APPROVED BY: DIR. OF PUBLIC WORKS — DATE 11-28-06
CITY OF BEAUMONT PUBLIC WORKS DEPT., ENGINEERING DIVISION

REGISTERED PROFESSIONAL ENGINEER REINHARD STENZEL R.C.E. NO. 56155 Exp. 12-31-06 CIVIL STATE OF CALIFORNIA

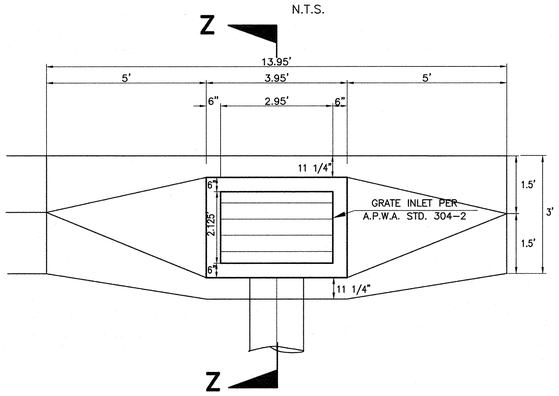
PREPARED BY:
Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH.(714)521-4811 FAX(714)521-4173
REINHARD STENZEL R.C.E. NO. 56155 — DATE: 10-18-06 EXPIRES 12-31-06

# CITY OF BEAUMONT

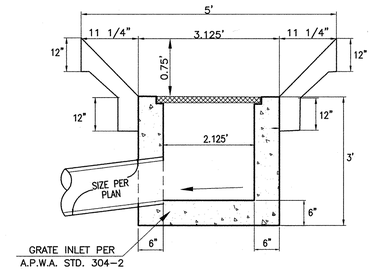
STORM DRAIN IMPROVEMENT PLAN
BEAUMONT LOGISTIC CENTER
LINE "D"
STA. 26+00.00 - 30+00.00 + 10+00.00 - 11+00.00

SHEET 8 OF 9

1586

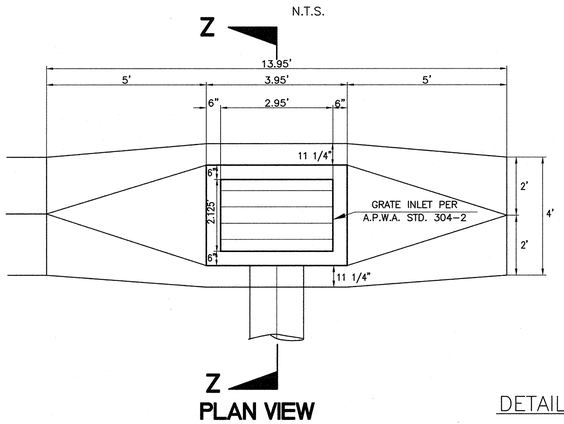



PLAN VIEW

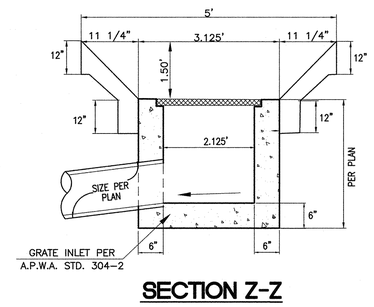



SECTION Z-Z

DETAIL "A"



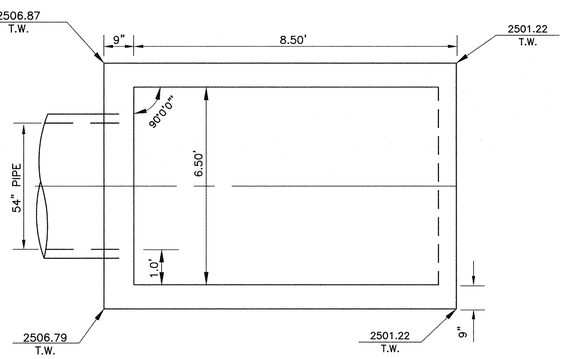

PLAN VIEW




SECTION Z-Z

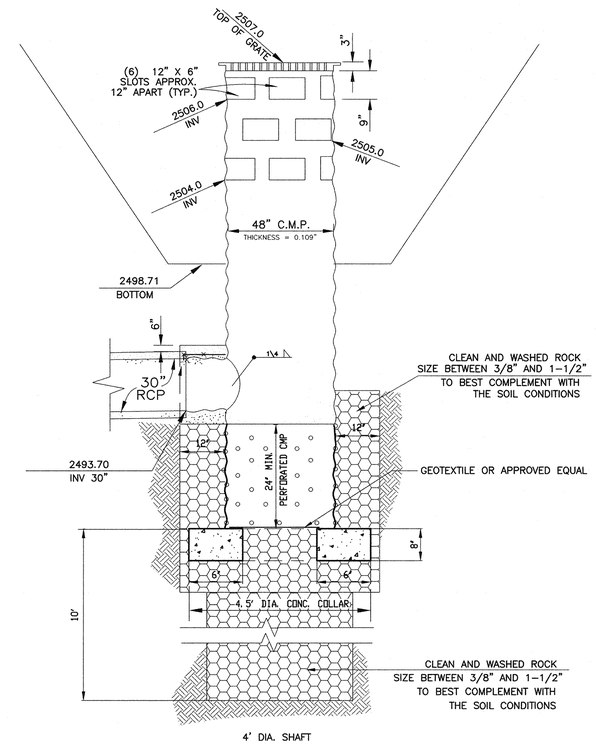
DETAIL "B"

(24) GRATE INLET DETAIL
N.T.S.

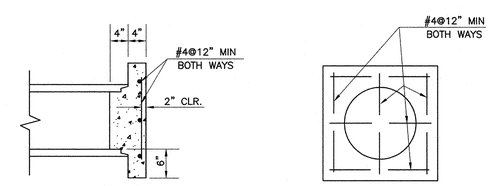



PLAN VIEW
DETENTION BASIN
INLET STRUCTURE
N.T.S.

(4) BASIN INLET STRUCTURE




(13) MODIFIED CMP RISER DETAIL
N.T.S.




(18) PIPE SEAL DETAIL
N.T.S.

Last Update: 10/18/06
N:\2524\Storm drain\SD-SHT9.dwg

**BASIS OF BEARING**

THE BEARINGS SHOWN HEREON ARE BASED ON THE NORTH LINE OF THE NORTHWEST 1/4 OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 1 WEST, SAN BERNARDINO MERIDIAN, BEING N 89°06'52" W AS PER RECORD OF SURVEY R.S.B. 85 / 20-25, RECORDS OF COUNTY OF RIVERSIDE, STATE OF CALIFORNIA.

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ELEVATION = 2523.981 (NGVD 29 DATUM -- 1970 ADJ.)

1"=40'

| DESIGNED | DRAWN |
|---|---|
| B.W. | B.W. |
| CHECKED | APPROVED |
| R.S. | |

| REV. | BY | REVISION DESCRIPTION | APPV'D | DATE |
|---|---|---|---|---|

REVIEWED BY: STAFF ENGINEER DATE 10/26/06
RECOMMENDED FOR APPROVAL BY: ADMINISTRATIVE ENGINEER DATE 11/28/06
APPROVED BY: DIR. OF PUBLIC WORKS DATE 11-28-06
CITY OF BEAUMONT PUBLIC WORKS DEPT., ENGINEERING DIVISION

REGISTERED PROFESSIONAL ENGINEER REINHARD STENZEL R.C.E. NO. 56155 Exp. 12-31-06 CIVIL STATE OF CALIFORNIA

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REINHARD STENZEL DATE: 10-18-06
R.C.E. NO. 56155 EXPIRES 12-31-06

CITY OF BEAUMONT
STORM DRAIN IMPROVEMENT PLAN
BEAUMONT LOGISTIC CENTER
DETAILS

SHEET 9 OF 9

1586

# NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

**Coastal Base Flood Elevations** shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

**Base map** information shown on this FIRM was derived from U.S. Geological Survey Digital Orthophoto Quadrangles produced at a scale of 1:12,000 from photography dated 1994 or later.

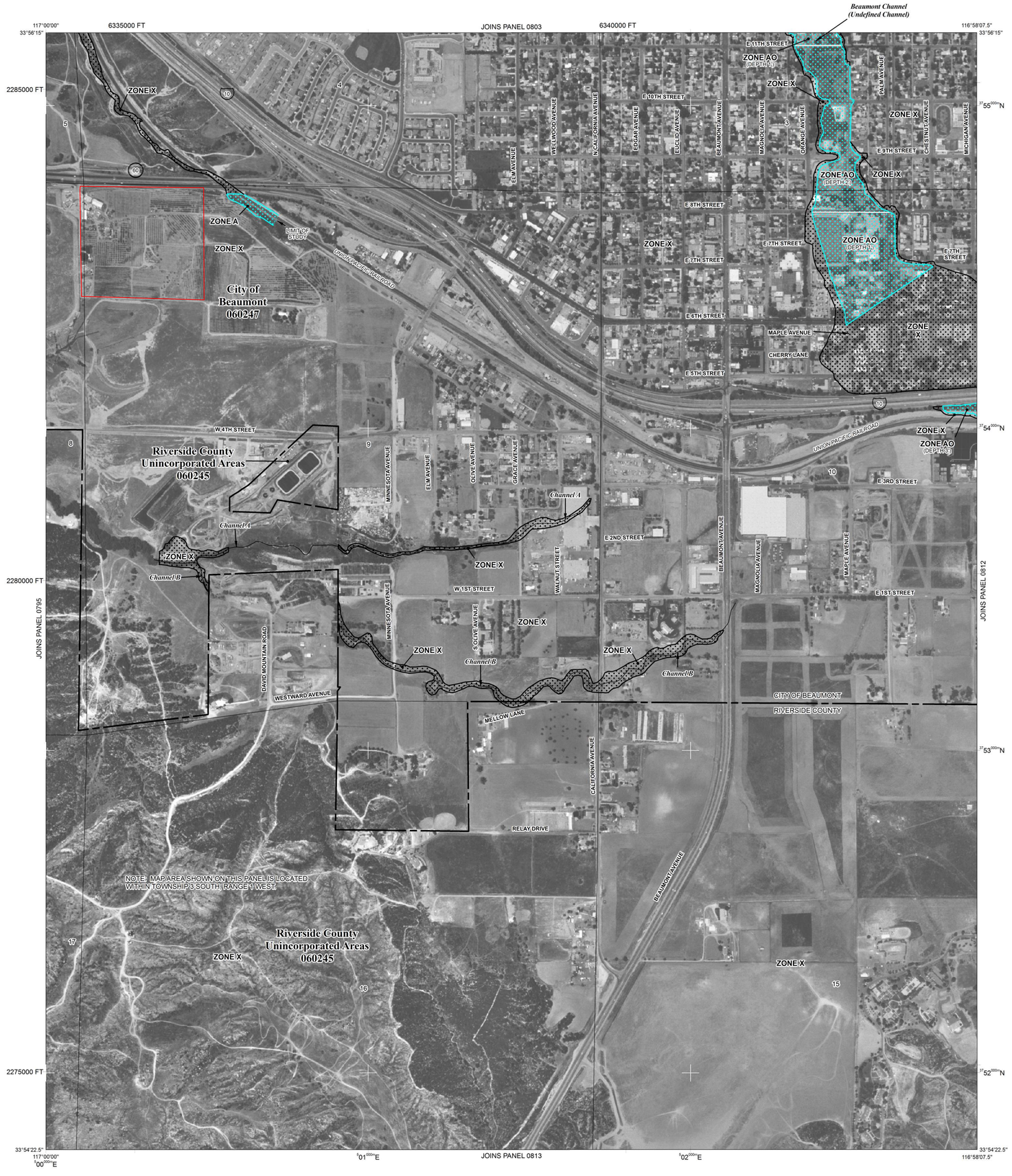
This map may reflect more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

**Corporate limits** shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.




# LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

| | |
|---|---|
| **ZONE A** | No Base Flood Elevations determined. |
| **ZONE AE** | Base Flood Elevations determined. |
| **ZONE AH** | Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined. |
| **ZONE AO** | Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined. |
| **ZONE AR** | Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood. |
| **ZONE A99** | Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined. |
| **ZONE V** | Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined. |
| **ZONE VE** | Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined. |

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

**ZONE X** — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

**ZONE X** — Areas determined to be outside the 0.2% annual chance floodplain.

**ZONE D** — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

| | |
|---|---|
| 513 | Base Flood Elevation line and value; elevation in feet* |
| (EL 987) | Base Flood Elevation value where uniform within zone; elevation in feet* |

* Referenced to the North American Vertical Datum of 1988

| | |
|---|---|
| (A)———(A) | Cross section line |
| (23)- - - - -(23) | Transect line |
| 87°07'45", 32°22'30" | Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere |
| $^{24}76^{000m}$N | 1000-meter Universal Transverse Mercator grid values, zone 11N |
| 600000 FT | 5000-foot grid ticks: California State Plane coordinate system, zone VI (FIPSZONE 0406), Lambert Conformal Conic projection |
| DX5510 × | Bench mark (see explanation in Notes to Users section of this FIRM panel) |
| ● M1.5 | River Mile |

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
August 28, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

**MAP SCALE 1" = 500'**

250 0 500 1000 FEET

150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

**PANEL 0811G**

# FIRM

## FLOOD INSURANCE RATE MAP

## RIVERSIDE COUNTY, CALIFORNIA
AND INCORPORATED AREAS

**PANEL 811 OF 3805**

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|---|---|---|---|
| BEAUMONT, CITY OF | 060247 | 0811 | G |
| RIVERSIDE COUNTY | 060245 | 0811 | G |

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

**MAP NUMBER**
**06065C0811G**

**EFFECTIVE DATE**
**AUGUST 28, 2008**

Federal Emergency Management Agency