1.1"

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

RCFC & WCD
HYDROLOGY MANUA

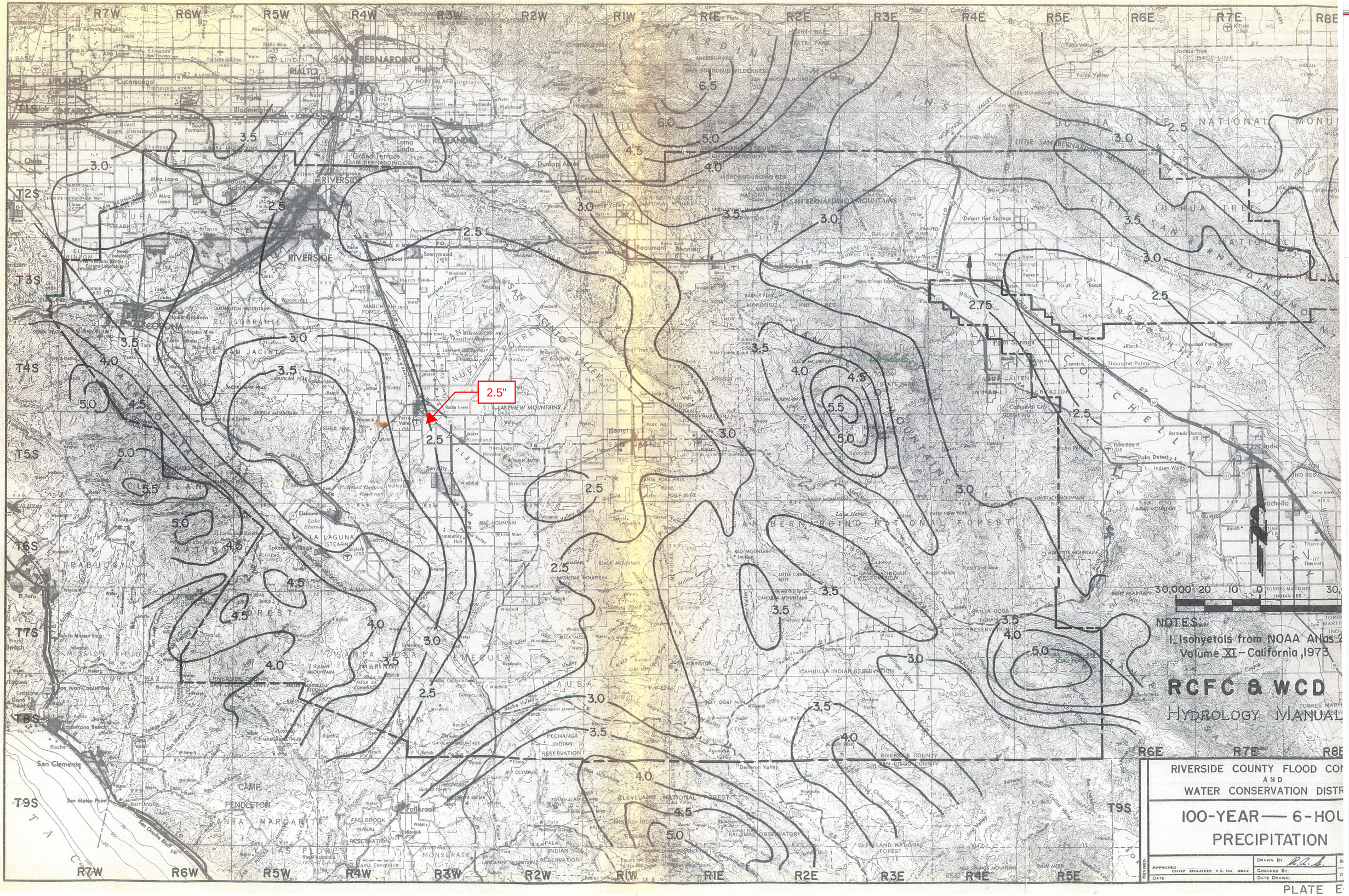
RIVERSIDE COUNTY FLOOD C
AND
WATER CONSERVATION DIS

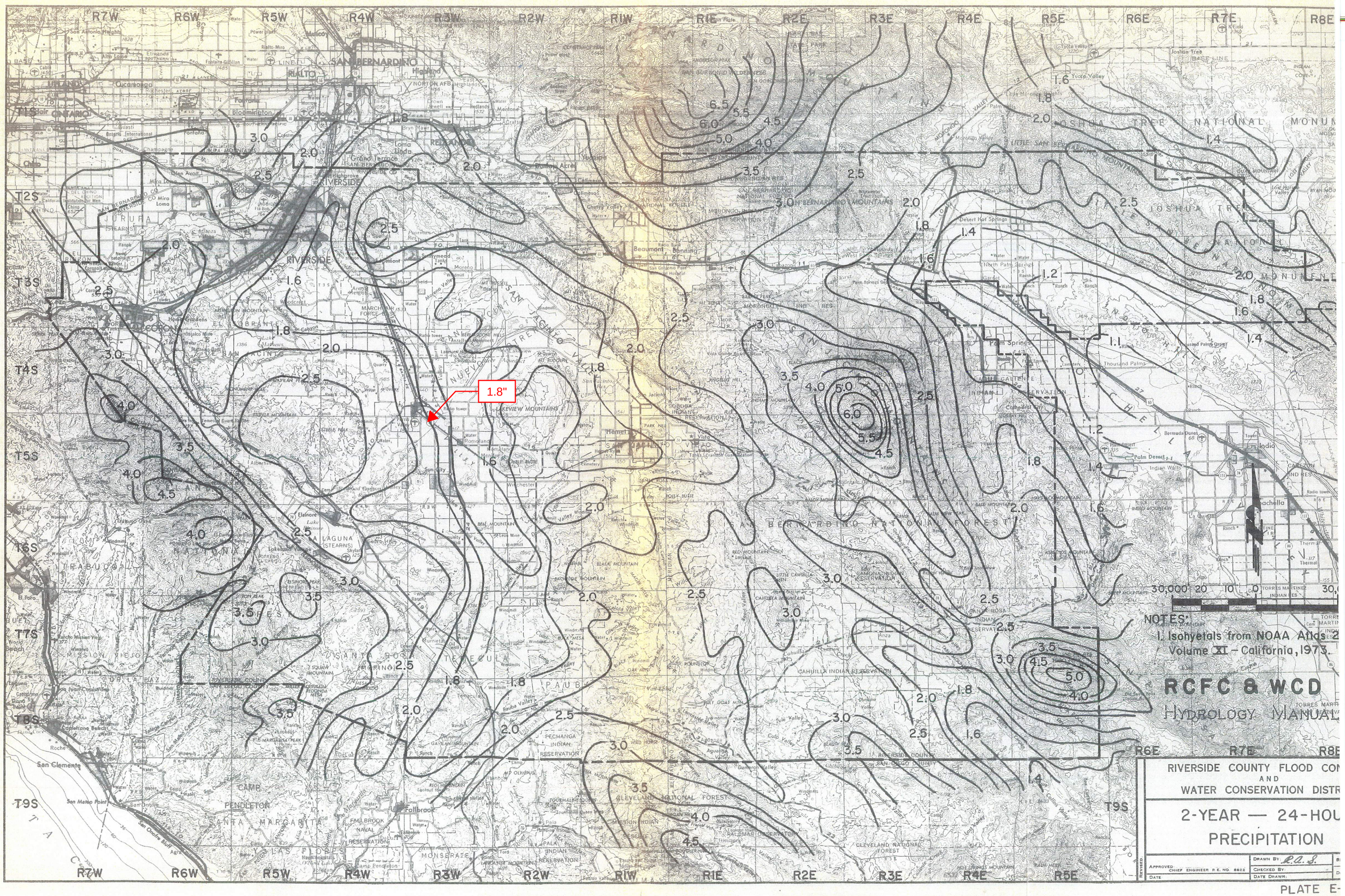
2-YEAR — 6-HOU
PRECIPITATION

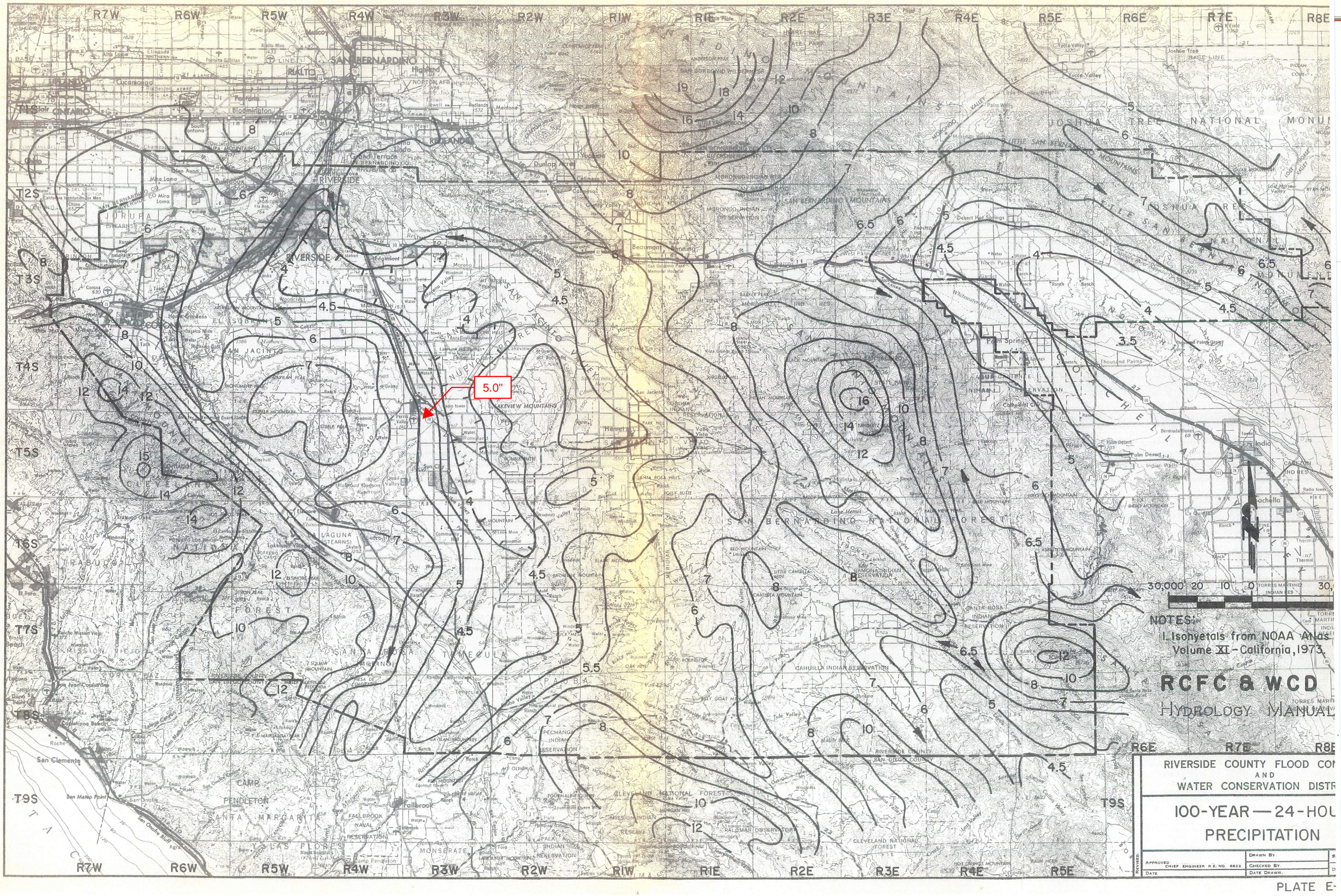
APPROVED: CHIEF ENGINEER R.E. NO. 6822	DRAWN BY:
DATE	CHECKED BY:
	DATE DRAWN:

REVISED:

PLATE


2.5"
NOTES:
1. Isohyetals from NOAA Atlas 2
Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CO
AND
WATER CONSERVATION DISTR
100-YEAR — 6-HOU
PRECIPITATION
APPROVED CHIEF ENGINEER R.E. NO. 8822
DATE
DRAWN BY: R.A.S.
CHECKED BY:
DATE DRAWN:
REVISED
PLATE E


1.8"
NOTES:
1. Isohyetals from NOAA Atlas 2
Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CON
AND
WATER CONSERVATION DISTR
2-YEAR — 24-HOU
PRECIPITATION
PLATE E-


5.0"
NOTES:
1. Isohyetals from NOAA Atlas
Volume XI - California, 1973.
RCFC & WCD
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RIVERSIDE COUNTY FLOOD CO
AND
WATER CONSERVATION DISTR
100-YEAR — 24-HOU
PRECIPITATION
APPROVED CHIEF ENGINEER R.E. NO. 8822
DATE
DRAWN BY
CHECKED BY
DATE DRAWN
REVISED

PLATE E-

10-YEAR ONSITE HYDROLOGY (RATIONAL METHOD)

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 06/21/23 File:PROP10WEST.out

21-0235 - PERRIS AIRPORT LOGISTICS CENTER - WEST
ONSITE RATIONAL METHOD HYDROLOGY
10 YEAR STORM EVENT
FN: PROP10WEST.OUT AV 2023-06-21

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

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

Program License Serial Number 4010

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

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

Standard intensity-duration curves data (Plate D-4.1)
For the [Perris Valley] area used.
10 year storm 10 minute intensity = 1.880(In/Hr)
10 year storm 60 minute intensity = 0.780(In/Hr)
100 year storm 10 minute intensity = 2.690(In/Hr)
100 year storm 60 minute intensity = 1.120(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.780(In/Hr)
Slope of intensity duration curve = 0.4900

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

Initial area flow distance = 907.000(Ft.)
Top (of initial area) elevation = 1424.300(Ft.)
Bottom (of initial area) elevation = 1418.900(Ft.)
Difference in elevation = 5.400(Ft.)
Slope = 0.00595 s(percent)= 0.60
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 12.741 min.
Rainfall intensity = 1.667(In/Hr) for a 10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.876
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 69.00
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 11.828(CFS)
Total initial stream area = 8.100(Ac.)
Pervious area fraction = 0.100

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      102.000 to Point/Station      103.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1413.900(Ft.)
Downstream point/station elevation =  1411.600(Ft.)
Pipe length  =   777.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    11.828(CFS)
Nearest computed pipe diameter  =     24.00(In.)
Calculated individual pipe flow  =    11.828(CFS)
Normal flow depth in pipe =   18.89(In.)
Flow top width inside pipe =   19.65(In.)
Critical Depth =   14.83(In.)
Pipe flow velocity =      4.46(Ft/s)
Travel time through pipe =    2.90 min.
Time of concentration (TC) =    15.64 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      102.000 to Point/Station      103.000
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.874
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    15.64 min.
Rainfall intensity =      1.507(In/Hr) for a    10.0 year storm
Subarea runoff =     11.070(CFS) for      8.400(Ac.)
Total runoff =     22.899(CFS)      Total area =      16.500(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      103.000 to Point/Station      104.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1411.600(Ft.)
Downstream point/station elevation =  1408.200(Ft.)
Pipe length  =  1042.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    22.899(CFS)
Nearest computed pipe diameter  =     30.00(In.)
Calculated individual pipe flow  =    22.899(CFS)
Normal flow depth in pipe =   24.00(In.)
Flow top width inside pipe =   24.00(In.)
Critical Depth =   19.52(In.)
Pipe flow velocity =      5.44(Ft/s)
Travel time through pipe =    3.19 min.
Time of concentration (TC) =    18.84 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      104.000 to Point/Station      304.000
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
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```
In Main Stream number: 1
Stream flow area =     16.500(Ac.)
Runoff from this stream =     22.899(CFS)
Time of concentration =   18.84 min.
Rainfall intensity =     1.376(In/Hr)
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      201.000 to Point/Station      202.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Initial area flow distance =   985.000(Ft.)
Top (of initial area) elevation =  1424.100(Ft.)
Bottom (of initial area) elevation =  1422.000(Ft.)
Difference in elevation =     2.100(Ft.)
Slope =    0.00213  s(percent)=       0.21
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   16.171 min.
Rainfall intensity =      1.483(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.874
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      6.870(CFS)
Total initial stream area =        5.300(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      202.000 to Point/Station      203.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =  1414.900(Ft.)
Downstream point/station elevation =  1411.500(Ft.)
Pipe length  =  1102.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     6.870(CFS)
Nearest computed pipe diameter  =     21.00(In.)
Calculated individual pipe flow  =     6.870(CFS)
Normal flow depth in pipe =   13.96(In.)
Flow top width inside pipe =   19.83(In.)
Critical Depth =   11.63(In.)
Pipe flow velocity =      4.05(Ft/s)
Travel time through pipe =    4.54 min.
Time of concentration (TC) =    20.71 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      202.000 to Point/Station      203.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.872
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
```

```
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    20.71 min.
Rainfall intensity =      1.314(In/Hr) for a    10.0 year storm
Subarea runoff =      6.871(CFS) for      6.000(Ac.)
Total runoff =     13.741(CFS)      Total area =      11.300(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      203.000 to Point/Station      204.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1411.500(Ft.)
Downstream point/station elevation =  1408.500(Ft.)
Pipe length  =  1064.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    13.741(CFS)
Nearest computed pipe diameter  =     27.00(In.)
Calculated individual pipe flow  =    13.741(CFS)
Normal flow depth in pipe =   18.87(In.)
Flow top width inside pipe =   24.77(In.)
Critical Depth =   15.46(In.)
Pipe flow velocity =      4.63(Ft/s)
Travel time through pipe =    3.83 min.
Time of concentration (TC) =    24.54 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      203.000 to Point/Station      204.000
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.870
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    24.54 min.
Rainfall intensity =      1.209(In/Hr) for a    10.0 year storm
Subarea runoff =      2.524(CFS) for      2.400(Ac.)
Total runoff =     16.266(CFS)      Total area =      13.700(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      203.000 to Point/Station      204.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 2 in normal stream number 1
Stream flow area =     13.700(Ac.)
Runoff from this stream =     16.266(CFS)
Time of concentration =   24.54 min.
Rainfall intensity =     1.209(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      211.000 to Point/Station      212.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   405.000(Ft.)
Top (of initial area) elevation =  1424.000(Ft.)
```

```
Bottom (of initial area) elevation =  1419.200(Ft.)
Difference in elevation =     4.800(Ft.)
Slope =    0.01185  s(percent)=       1.19
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    8.042 min.
Rainfall intensity =      2.088(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.880
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      3.307(CFS)
Total initial stream area =        1.800(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      212.000 to Point/Station      204.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1414.200(Ft.)
Downstream point/station elevation =  1408.500(Ft.)
Pipe length  =   784.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     3.307(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =     3.307(CFS)
Normal flow depth in pipe =    8.38(In.)
Flow top width inside pipe =   14.90(In.)
Critical Depth =    8.80(In.)
Pipe flow velocity =      4.69(Ft/s)
Travel time through pipe =    2.78 min.
Time of concentration (TC) =    10.83 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      213.000 to Point/Station      214.000
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.878
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    10.83 min.
Rainfall intensity =      1.805(In/Hr) for a    10.0 year storm
Subarea runoff =      5.227(CFS) for      3.300(Ac.)
Total runoff =      8.535(CFS)      Total area =       5.100(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      213.000 to Point/Station      214.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 2 in normal stream number 2
Stream flow area =      5.100(Ac.)
```

```
Runoff from this stream =      8.535(CFS)
Time of concentration =   10.83 min.
Rainfall intensity =     1.805(In/Hr)
Summary of stream data:

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


1       16.266     24.54                1.209
2        8.535     10.83                1.805
Largest stream flow has longer time of concentration
Qp =     16.266 + sum of
         Qb         Ia/Ib
          8.535 *    0.670 =      5.716
Qp =     21.981

Total of 2 streams to confluence:
Flow rates before confluence point:
      16.266       8.535
Area of streams before confluence:
       13.700        5.100
Results of confluence:
Total flow rate =     21.981(CFS)
Time of concentration =    24.540 min.
Effective stream area after confluence =     18.800(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      204.000 to Point/Station      205.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1408.500(Ft.)
Downstream point/station elevation =  1408.200(Ft.)
Pipe length  =   150.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    21.981(CFS)
Nearest computed pipe diameter  =     33.00(In.)
Calculated individual pipe flow  =    21.981(CFS)
Normal flow depth in pipe =   25.17(In.)
Flow top width inside pipe =   28.07(In.)
Critical Depth =   18.59(In.)
Pipe flow velocity =      4.52(Ft/s)
Travel time through pipe =    0.55 min.
Time of concentration (TC) =    25.09 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      205.000 to Point/Station      304.000
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     18.800(Ac.)
Runoff from this stream =     21.981(CFS)
Time of concentration =   25.09 min.
Rainfall intensity =     1.196(In/Hr)
Program is now starting with Main Stream No. 3


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      301.000 to Point/Station      302.000
```

```
**** INITIAL AREA EVALUATION ****
------------------------------------------------------------------------
Initial area flow distance =   420.000(Ft.)
Top (of initial area) elevation =  1424.100(Ft.)
Bottom (of initial area) elevation =  1418.900(Ft.)
Difference in elevation =     5.200(Ft.)
Slope =    0.01238  s(percent)=       1.24
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    8.089 min.
Rainfall intensity =      2.082(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.880
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     10.626(CFS)
Total initial stream area =        5.800(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      302.000 to Point/Station      302.000
**** SUBAREA FLOW ADDITION ****
------------------------------------------------------------------------
COMMERCIAL subarea type
Runoff Coefficient = 0.880
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =     8.09 min.
Rainfall intensity =      2.082(In/Hr) for a    10.0 year storm
Subarea runoff =      9.894(CFS) for      5.400(Ac.)
Total runoff =     20.520(CFS)      Total area =      11.200(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      302.000 to Point/Station      303.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------
Upstream point/station elevation =  1413.900(Ft.)
Downstream point/station elevation =  1408.200(Ft.)
Pipe length  =   451.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    20.520(CFS)
Nearest computed pipe diameter  =     24.00(In.)
Calculated individual pipe flow  =    20.520(CFS)
Normal flow depth in pipe =   16.34(In.)
Flow top width inside pipe =   22.38(In.)
Critical Depth =   19.50(In.)
Pipe flow velocity =      9.01(Ft/s)
Travel time through pipe =    0.83 min.
Time of concentration (TC) =     8.92 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      303.000 to Point/Station      304.000
```

```
**** SUBAREA FLOW ADDITION ****
_____________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.879
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =     8.92 min.
Rainfall intensity =      1.984(In/Hr) for a    10.0 year storm
Subarea runoff =      4.536(CFS) for      2.600(Ac.)
Total runoff =     25.056(CFS)      Total area =      13.800(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      303.000 to Point/Station      304.000
**** CONFLUENCE OF MAIN STREAMS ****
_____________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 3
Stream flow area =     13.800(Ac.)
Runoff from this stream =     25.056(CFS)
Time of concentration =    8.92 min.
Rainfall intensity =     1.984(In/Hr)
Summary of stream data:

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


1       22.899     18.84              1.376
2       21.981     25.09              1.196
3       25.056      8.92              1.984
Largest stream flow has longer or shorter time of concentration
Qp =     25.056 + sum of
          Qa          Tb/Ta
          22.899 *    0.474 =     10.848
          Qa          Tb/Ta
          21.981 *    0.356 =      7.817
Qp =     43.720

Total of 3 main streams to confluence:
Flow rates before confluence point:
      22.899      21.981      25.056
Area of streams before confluence:
       16.500       18.800       13.800


Results of confluence:
Total flow rate =     43.720(CFS)
Time of concentration =     8.923 min.
Effective stream area after confluence  =     49.100(Ac.)
End of computations, total study area =           49.10 (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 =  69.0
```

100-YEAR ONSITE HYDROLOGY (RATIONAL METHOD)

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 06/21/23 File:PROP100WEST.out

21-0235 - PERRIS AIRPORT LOGISTICS CENTER - WEST
ONSITE RATIONAL METHOD HYDROLOGY
100 YEAR STORM EVENT
FN: PROP100WEST.OUT AV 2023-06-21

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

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

Program License Serial Number 4010

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

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

Standard intensity-duration curves data (Plate D-4.1)
For the [Perris Valley] area used.
10 year storm 10 minute intensity = 1.880(In/Hr)
10 year storm 60 minute intensity = 0.780(In/Hr)
100 year storm 10 minute intensity = 2.690(In/Hr)
100 year storm 60 minute intensity = 1.120(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.120(In/Hr)
Slope of intensity duration curve = 0.4900

++

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

Initial area flow distance = 907.000(Ft.)
Top (of initial area) elevation = 1424.300(Ft.)
Bottom (of initial area) elevation = 1418.900(Ft.)
Difference in elevation = 5.400(Ft.)
Slope = 0.00595 s(percent)= 0.60
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 12.741 min.
Rainfall intensity = 2.393(In/Hr) for a 100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.882
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 69.00
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 17.096(CFS)
Total initial stream area = 8.100(Ac.)
Pervious area fraction = 0.100

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      102.000 to Point/Station      103.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1413.900(Ft.)
Downstream point/station elevation =  1411.600(Ft.)
Pipe length  =   777.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    17.096(CFS)
Nearest computed pipe diameter  =     27.00(In.)
Calculated individual pipe flow  =    17.096(CFS)
Normal flow depth in pipe =   22.50(In.)
Flow top width inside pipe =   20.12(In.)
Critical Depth =   17.32(In.)
Pipe flow velocity =      4.83(Ft/s)
Travel time through pipe =    2.68 min.
Time of concentration (TC) =    15.42 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      102.000 to Point/Station      103.000
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.881
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    15.42 min.
Rainfall intensity =      2.179(In/Hr) for a   100.0 year storm
Subarea runoff =     16.120(CFS) for      8.400(Ac.)
Total runoff =     33.216(CFS)      Total area =      16.500(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      103.000 to Point/Station      104.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1411.600(Ft.)
Downstream point/station elevation =  1408.200(Ft.)
Pipe length  =  1042.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    33.216(CFS)
Nearest computed pipe diameter  =     36.00(In.)
Calculated individual pipe flow  =    33.216(CFS)
Normal flow depth in pipe =   26.02(In.)
Flow top width inside pipe =   32.23(In.)
Critical Depth =   22.47(In.)
Pipe flow velocity =      6.07(Ft/s)
Travel time through pipe =    2.86 min.
Time of concentration (TC) =    18.28 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      104.000 to Point/Station      304.000
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
```

```
Stream flow area =     16.500(Ac.)
Runoff from this stream =     33.216(CFS)
Time of concentration =   18.28 min.
Rainfall intensity =     2.005(In/Hr)
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      201.000 to Point/Station      202.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   985.000(Ft.)
Top (of initial area) elevation =  1424.100(Ft.)
Bottom (of initial area) elevation =  1422.000(Ft.)
Difference in elevation =     2.100(Ft.)
Slope =    0.00213  s(percent)=       0.21
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   16.171 min.
Rainfall intensity =      2.129(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.880
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      9.934(CFS)
Total initial stream area =        5.300(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      202.000 to Point/Station      203.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1414.900(Ft.)
Downstream point/station elevation =  1411.500(Ft.)
Pipe length  =  1102.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     9.934(CFS)
Nearest computed pipe diameter  =     24.00(In.)
Calculated individual pipe flow  =     9.934(CFS)
Normal flow depth in pipe =   16.10(In.)
Flow top width inside pipe =   22.55(In.)
Critical Depth =   13.52(In.)
Pipe flow velocity =      4.43(Ft/s)
Travel time through pipe =    4.14 min.
Time of concentration (TC) =    20.31 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      202.000 to Point/Station      203.000
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.878
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
```

```
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    20.31 min.
Rainfall intensity =      1.904(In/Hr) for a   100.0 year storm
Subarea runoff =     10.036(CFS) for      6.000(Ac.)
Total runoff =     19.970(CFS)      Total area =      11.300(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      203.000 to Point/Station      204.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1411.500(Ft.)
Downstream point/station elevation =  1408.500(Ft.)
Pipe length  =  1064.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    19.970(CFS)
Nearest computed pipe diameter  =     30.00(In.)
Calculated individual pipe flow  =    19.970(CFS)
Normal flow depth in pipe =   22.59(In.)
Flow top width inside pipe =   25.87(In.)
Critical Depth =   18.21(In.)
Pipe flow velocity =      5.03(Ft/s)
Travel time through pipe =    3.52 min.
Time of concentration (TC) =    23.84 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      203.000 to Point/Station      204.000
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.877
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    23.84 min.
Rainfall intensity =      1.761(In/Hr) for a   100.0 year storm
Subarea runoff =      3.706(CFS) for      2.400(Ac.)
Total runoff =     23.676(CFS)      Total area =      13.700(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      203.000 to Point/Station      204.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 2 in normal stream number 1
Stream flow area =     13.700(Ac.)
Runoff from this stream =     23.676(CFS)
Time of concentration =   23.84 min.
Rainfall intensity =     1.761(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      211.000 to Point/Station      212.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   405.000(Ft.)
Top (of initial area) elevation =  1424.000(Ft.)
Bottom (of initial area) elevation =  1419.200(Ft.)
```

```
Difference in elevation =     4.800(Ft.)
Slope =    0.01185  s(percent)=       1.19
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    8.042 min.
Rainfall intensity =      2.998(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.885
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      4.777(CFS)
Total initial stream area =        1.800(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      212.000 to Point/Station      204.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  1414.200(Ft.)
Downstream point/station elevation =  1408.500(Ft.)
Pipe length  =   784.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     4.777(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =     4.777(CFS)
Normal flow depth in pipe =   10.79(In.)
Flow top width inside pipe =   13.48(In.)
Critical Depth =   10.63(In.)
Pipe flow velocity =      5.05(Ft/s)
Travel time through pipe =    2.59 min.
Time of concentration (TC) =    10.63 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      213.000 to Point/Station      214.000
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________________
COMMERCIAL subarea type
Runoff Coefficient = 0.883
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =    10.63 min.
Rainfall intensity =      2.616(In/Hr) for a   100.0 year storm
Subarea runoff =      7.623(CFS) for      3.300(Ac.)
Total runoff =     12.400(CFS)      Total area =       5.100(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      213.000 to Point/Station      214.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 2 in normal stream number 2
Stream flow area =      5.100(Ac.)
Runoff from this stream =     12.400(CFS)
```

```
Time of concentration =   10.63 min.
Rainfall intensity =     2.616(In/Hr)
Summary of stream data:

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


1       23.676     23.84                1.761
2       12.400     10.63                2.616
Largest stream flow has longer time of concentration
Qp =     23.676 + sum of
          Qb         Ia/Ib
          12.400 *    0.673 =      8.347
Qp =     32.023

Total of 2 streams to confluence:
Flow rates before confluence point:
      23.676      12.400
Area of streams before confluence:
       13.700        5.100
Results of confluence:
Total flow rate =     32.023(CFS)
Time of concentration =    23.837 min.
Effective stream area after confluence =     18.800(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      204.000 to Point/Station      205.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =  1408.500(Ft.)
Downstream point/station elevation =  1408.200(Ft.)
Pipe length  =   150.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    32.023(CFS)
Nearest computed pipe diameter  =     39.00(In.)
Calculated individual pipe flow  =    32.023(CFS)
Normal flow depth in pipe =   28.08(In.)
Flow top width inside pipe =   35.02(In.)
Critical Depth =   21.48(In.)
Pipe flow velocity =      5.01(Ft/s)
Travel time through pipe =    0.50 min.
Time of concentration (TC) =    24.34 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      205.000 to Point/Station      304.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     18.800(Ac.)
Runoff from this stream =     32.023(CFS)
Time of concentration =   24.34 min.
Rainfall intensity =     1.743(In/Hr)
Program is now starting with Main Stream No. 3


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

```
Initial area flow distance =   420.000(Ft.)
Top (of initial area) elevation =  1424.100(Ft.)
Bottom (of initial area) elevation =  1418.900(Ft.)
Difference in elevation =     5.200(Ft.)
Slope =    0.01238  s(percent)=       1.24
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    8.089 min.
Rainfall intensity =      2.990(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.885
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     15.347(CFS)
Total initial stream area =        5.800(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      302.000 to Point/Station      302.000
**** SUBAREA FLOW ADDITION ****
------------------------------------------------------------------------------
COMMERCIAL subarea type
Runoff Coefficient = 0.885
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =     8.09 min.
Rainfall intensity =      2.990(In/Hr) for a   100.0 year storm
Subarea runoff =     14.288(CFS) for      5.400(Ac.)
Total runoff =     29.635(CFS)      Total area =      11.200(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      302.000 to Point/Station      303.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  1413.900(Ft.)
Downstream point/station elevation =  1408.200(Ft.)
Pipe length  =   451.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    29.635(CFS)
Nearest computed pipe diameter  =     27.00(In.)
Calculated individual pipe flow  =    29.635(CFS)
Normal flow depth in pipe =   19.15(In.)
Flow top width inside pipe =   24.52(In.)
Critical Depth =   22.63(In.)
Pipe flow velocity =      9.83(Ft/s)
Travel time through pipe =    0.76 min.
Time of concentration (TC) =     8.85 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      303.000 to Point/Station      304.000
**** SUBAREA FLOW ADDITION ****
```

```
COMMERCIAL subarea type
Runoff Coefficient = 0.884
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  69.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Time of concentration =     8.85 min.
Rainfall intensity =      2.860(In/Hr) for a   100.0 year storm
Subarea runoff =      6.578(CFS) for      2.600(Ac.)
Total runoff =     36.213(CFS)      Total area =      13.800(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      303.000 to Point/Station      304.000
**** CONFLUENCE OF MAIN STREAMS ****
------------------------------------------------------------------------------
The following data inside Main Stream is listed:
In Main Stream number: 3
Stream flow area =     13.800(Ac.)
Runoff from this stream =     36.213(CFS)
Time of concentration =    8.85 min.
Rainfall intensity =     2.860(In/Hr)
Summary of stream data:

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

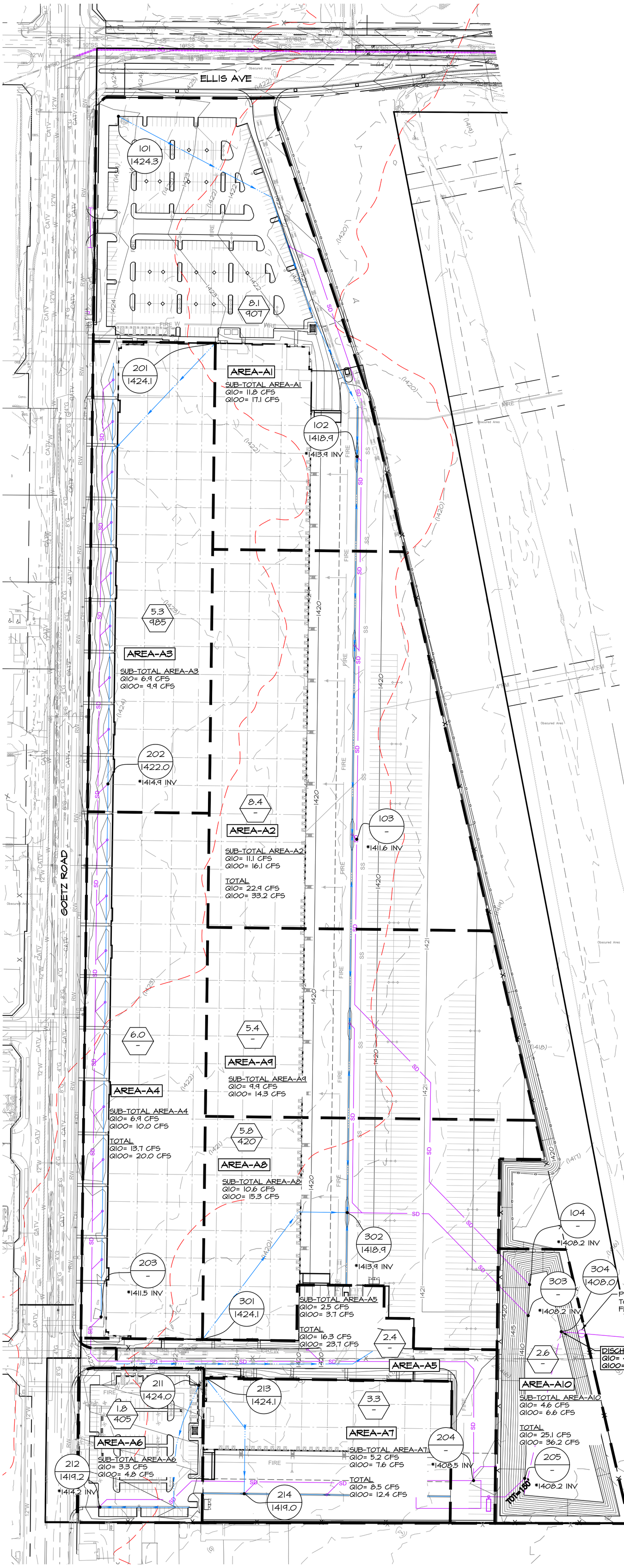

1       33.216     18.28              2.005
2       32.023     24.34              1.743
3       36.213      8.85              2.860
Largest stream flow has longer or shorter time of concentration
Qp =     36.213 + sum of
          Qa          Tb/Ta
          33.216 *    0.484 =     16.084
          Qa          Tb/Ta
          32.023 *    0.364 =     11.649
Qp =     63.946

Total of 3 main streams to confluence:
Flow rates before confluence point:
      33.216      32.023      36.213
Area of streams before confluence:
       16.500       18.800       13.800


Results of confluence:
Total flow rate =     63.946(CFS)
Time of concentration =     8.853 min.
Effective stream area after confluence  =     49.100(Ac.)
End of computations, total study area =           49.10 (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 =  69.0
```

RATIONAL METHOD HYDROLOGY MAPS



LEGEND

- DRAINAGE MANAGEMENT BOUNDARY
- FLOW DIRECTION
- LANDSCAPING
- 101 / 14xx — NODE DESIGNATION / NODE ELEVATION
- *14xx — *INVERT ELEVATION
- 5.0 / 1000' — WATERSHED AREA (ACRES) / LONGEST WATER PATH (FT)

BASIS OF BEARINGS

THE BASIS OF BEARINGS IS THE CALIFORNIA STATE PLAN COORDINATE SYSTEM, CCS83, ZONE 6, BASED LOCALLY ON CONTROL STATIONS "MLFP" AND "PPBF" NAD 83(NSRS2007)

BENCHMARK DATA

NGS DESIGNATION: 435
PID: DX5442

DESCRIBED BY METRO WATER DISTR. SO. CALIFORNIA 1992 PERRIS, 1300 FEET (396.2 M) WEST OF ATSF RAILROAD ALONG RIDER ST, ON TOP OF NORTH CURB FACE OF RIDER ST. 28 FEET (8.5 M) NORTH OF RIDER ST, 6 FEET (1.8 M) SOUTH OF A GTE TELEPHONE BOX (DAMAGED). A STANDARD 3-1/4 INCH ALUMINUM DIST SET FLUSH IN TOP OF CURB.

ELEVATION = 1515.12' (NAVD88)

FROM CITY OF SUN CITY BM Z 10989 (RCFC & WCD)
FS. 2-1/4 INCH BRASS DISK FLUSH STAMPED "CAL DOT 9/10/16/15 REPL. GR. STONE FD. 1950" ON ETHANAC AC BRIDGE DECK OVER I-215 FREEWAY

ELEVATION = 1450.319' (NAVD88)

(CONVERSION FACTO TO NGVD 29 IS -2.63' PER RCFC & WCD)

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PRELIMINARY

CITY OF PERRIS

PRELIMINARY REPORT (P22-00005)
RATIONAL METHOD HYDROLOGY
PROPOSED CONDITION HYDROLOGY MAP, WEST PERRIS AIRPORT LOGISTICS CENTER

SCALE: 1" = 100'	ALBERT A. WEBB ASSOCIATES	W.O. 21-0235
DATE: 2023-06-21	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	SHEET 1
DESIGNED: ABE		OF 1 SHEETS
CHECKED: SKK		
PLN CK REF:		DWG. NO.
F.B.		

H:\2021\21-0235\DRAINAGE\HYD\DWG FOLDER\21-0235-PHYD-RATIONAL.DWG 6/21/2023 5:14:19 PM

APPENDIX B – HYDRAULIC ANALYSIS

LINE A

Hydraulic Analysis Report

Project Data

Project Title: 21-0235 MC Blackacre - Perris Airport Site

Designer:

Project Date: Wednesday, January 26, 2022

Project Units: U.S. Customary Units

Notes:

Channel Analysis: Area A, Node 104

Notes:

Input Parameters

Channel Type: Circular

Pipe Diameter: 3.0000 ft

Longitudinal Slope: 0.0030 ft/ft

Manning's n: 0.0120

Flow: 38.9000 cfs

Result Parameters

Depth: 2.4138 ft

Area of Flow: 6.0951 ft^2

Wetted Perimeter: 6.6775 ft

Hydraulic Radius: 0.9128 ft

Average Velocity: 6.3822 ft/s

Top Width: 2.3791 ft

Froude Number: 0.7027

Critical Depth: 2.0303 ft

Critical Velocity: 7.6404 ft/s

Critical Slope: 0.0045 ft/ft

Critical Top Width: 2.81 ft

Calculated Max Shear Stress: 0.4519 lb/ft^2

Calculated Avg Shear Stress: 0.1709 lb/ft^2

Channel Analysis: Area A, Node 205

Notes:

Input Parameters

Channel Type: Circular

Pipe Diameter: 2.5000 ft

Longitudinal Slope: 0.0030 ft/ft

Manning's n: 0.0120

Flow: 21.6000 cfs

Result Parameters

Depth: 1.8327 ft

Area of Flow: 3.8565 ft^2

Wetted Perimeter: 5.1394 ft

Hydraulic Radius: 0.7504 ft

Average Velocity: 5.6009 ft/s

Top Width: 2.2117 ft

Froude Number: 0.7475

Critical Depth: 1.5796 ft

Critical Velocity: 6.6081 ft/s

Critical Slope: 0.0045 ft/ft

Critical Top Width: 2.41 ft

Calculated Max Shear Stress: 0.3431 lb/ft^2

Calculated Avg Shear Stress: 0.1405 lb/ft^2

Channel Analysis: Area A, Node 304

Notes:

Input Parameters

Channel Type: Circular

Pipe Diameter: 3.0000 ft

Longitudinal Slope: 0.0030 ft/ft

Manning's n: 0.0120

Flow: 31.0000 cfs

Result Parameters

Depth: 1.9989 ft

Area of Flow: 5.0030 ft^2

Wetted Perimeter: 5.7296 ft

Hydraulic Radius: 0.8732 ft

Average Velocity: 6.1963 ft/s

Top Width: 2.8292 ft

Froude Number: 0.8212

Critical Depth: 1.8047 ft

Critical Velocity: 6.9788 ft/s

Critical Slope: 0.0040 ft/ft

Critical Top Width: 2.94 ft

Calculated Max Shear Stress: 0.3742 lb/ft^2

Calculated Avg Shear Stress: 0.1635 lb/ft^2

Channel Analysis: Area A, Node 304, Basin Outflow

Notes:

Input Parameters

Channel Type: Circular

Pipe Diameter: 4.0000 ft

Longitudinal Slope: 0.0030 ft/ft

Manning's n: 0.0120

Flow: 77.6000 cfs

Result Parameters

Depth: 2.9960 ft

Area of Flow: 10.0957 ft^2

Wetted Perimeter: 8.3683 ft

Hydraulic Radius: 1.2064 ft

Average Velocity: 7.6865 ft/s

Top Width: 3.4687 ft

Froude Number: 0.7940

Critical Depth: 2.6680 ft

Critical Velocity: 8.7147 ft/s

Critical Slope: 0.0040 ft/ft

Critical Top Width: 3.77 ft

Calculated Max Shear Stress: 0.5608 lb/ft^2

Calculated Avg Shear Stress: 0.2258 lb/ft^2

APPENDIX C – BASIN ANALYSIS

EXISTING CONDITION UNIT HYDROGRAPHS

EXISTING CONDITION
2-YEAR, 24-HOUR UNIT HYDROGRAPH

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

Study date 11/17/22 File: ONSITEEXWEST242.out

++

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

Program License Serial Number 4010

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

English Units used in output format

21-0235 - MC BLACKACRE PERRIS AIRPORT SITE
ONSITE UNIT HYDROGRAPH ANALYSIS
EXISTING CONDITION, 2 YEAR
FN: ONSITEEXWEST, ABE, 2022-11-17

Drainage Area = 60.20(Ac.) = 0.094 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.20(Ac.) = 0.094 Sq. Mi.
Length along longest watercourse = 1896.00(Ft.)
Length along longest watercourse measured to centroid = 1177.00(Ft.)
Length along longest watercourse = 0.359 Mi.
Length along longest watercourse measured to centroid = 0.223 Mi.
Difference in elevation = 9.70(Ft.)
Slope along watercourse = 27.0127 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.147 Hr.
Lag time = 8.85 Min.
25% of lag time = 2.21 Min.
40% of lag time = 3.54 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]
60.20	1.80	108.36

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
60.20	5.00	301.00

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 5.000(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
60.200	91.00	0.000

Total Area Entered = 60.20(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

91.0	91.0	0.117	0.000	0.117	1.000	0.117
					Sum (F) =	0.117

Area averaged mean soil loss (F) (In/Hr) = 0.117
Minimum soil loss rate ((In/Hr)) = 0.059
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	56.521	7.445	4.517
2	0.167	113.043	31.410	19.057
3	0.250	169.564	27.637	16.767
4	0.333	226.085	11.012	6.681
5	0.417	282.607	6.310	3.828
6	0.500	339.128	4.306	2.613
7	0.583	395.649	3.128	1.898
8	0.667	452.170	2.215	1.344
9	0.750	508.692	1.745	1.058
10	0.833	565.213	1.397	0.848
11	0.917	621.734	1.061	0.644
12	1.000	678.256	0.806	0.489
13	1.083	734.777	0.593	0.360
14	1.167	791.298	0.565	0.343
15	1.250	847.820	0.370	0.224
			Sum = 100.000	Sum= 60.670

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.014	(0.207)	0.013	0.001
2	0.17	0.07	0.014	(0.207)	0.013	0.001
3	0.25	0.07	0.014	(0.206)	0.013	0.001
4	0.33	0.10	0.022	(0.205)	0.019	0.002
5	0.42	0.10	0.022	(0.204)	0.019	0.002
6	0.50	0.10	0.022	(0.203)	0.019	0.002
7	0.58	0.10	0.022	(0.203)	0.019	0.002
8	0.67	0.10	0.022	(0.202)	0.019	0.002
9	0.75	0.10	0.022	(0.201)	0.019	0.002
10	0.83	0.13	0.029	(0.200)	0.026	0.003
11	0.92	0.13	0.029	(0.199)	0.026	0.003
12	1.00	0.13	0.029	(0.199)	0.026	0.003
13	1.08	0.10	0.022	(0.198)	0.019	0.002
14	1.17	0.10	0.022	(0.197)	0.019	0.002
15	1.25	0.10	0.022	(0.196)	0.019	0.002
16	1.33	0.10	0.022	(0.196)	0.019	0.002
17	1.42	0.10	0.022	(0.195)	0.019	0.002
18	1.50	0.10	0.022	(0.194)	0.019	0.002
19	1.58	0.10	0.022	(0.193)	0.019	0.002
20	1.67	0.10	0.022	(0.192)	0.019	0.002
21	1.75	0.10	0.022	(0.192)	0.019	0.002
22	1.83	0.13	0.029	(0.191)	0.026	0.003
23	1.92	0.13	0.029	(0.190)	0.026	0.003
24	2.00	0.13	0.029	(0.189)	0.026	0.003
25	2.08	0.13	0.029	(0.189)	0.026	0.003
26	2.17	0.13	0.029	(0.188)	0.026	0.003
27	2.25	0.13	0.029	(0.187)	0.026	0.003
28	2.33	0.13	0.029	(0.186)	0.026	0.003
29	2.42	0.13	0.029	(0.186)	0.026	0.003
30	2.50	0.13	0.029	(0.185)	0.026	0.003
31	2.58	0.17	0.036	(0.184)	0.032	0.004
32	2.67	0.17	0.036	(0.183)	0.032	0.004
33	2.75	0.17	0.036	(0.183)	0.032	0.004
34	2.83	0.17	0.036	(0.182)	0.032	0.004
35	2.92	0.17	0.036	(0.181)	0.032	0.004

36	3.00	0.17	0.036	(0.180)	0.032	0.004
37	3.08	0.17	0.036	(0.180)	0.032	0.004
38	3.17	0.17	0.036	(0.179)	0.032	0.004
39	3.25	0.17	0.036	(0.178)	0.032	0.004
40	3.33	0.17	0.036	(0.177)	0.032	0.004
41	3.42	0.17	0.036	(0.177)	0.032	0.004
42	3.50	0.17	0.036	(0.176)	0.032	0.004
43	3.58	0.17	0.036	(0.175)	0.032	0.004
44	3.67	0.17	0.036	(0.174)	0.032	0.004
45	3.75	0.17	0.036	(0.174)	0.032	0.004
46	3.83	0.20	0.043	(0.173)	0.039	0.004
47	3.92	0.20	0.043	(0.172)	0.039	0.004
48	4.00	0.20	0.043	(0.171)	0.039	0.004
49	4.08	0.20	0.043	(0.171)	0.039	0.004
50	4.17	0.20	0.043	(0.170)	0.039	0.004
51	4.25	0.20	0.043	(0.169)	0.039	0.004
52	4.33	0.23	0.050	(0.169)	0.045	0.005
53	4.42	0.23	0.050	(0.168)	0.045	0.005
54	4.50	0.23	0.050	(0.167)	0.045	0.005
55	4.58	0.23	0.050	(0.166)	0.045	0.005
56	4.67	0.23	0.050	(0.166)	0.045	0.005
57	4.75	0.23	0.050	(0.165)	0.045	0.005
58	4.83	0.27	0.058	(0.164)	0.052	0.006
59	4.92	0.27	0.058	(0.164)	0.052	0.006
60	5.00	0.27	0.058	(0.163)	0.052	0.006
61	5.08	0.20	0.043	(0.162)	0.039	0.004
62	5.17	0.20	0.043	(0.161)	0.039	0.004
63	5.25	0.20	0.043	(0.161)	0.039	0.004
64	5.33	0.23	0.050	(0.160)	0.045	0.005
65	5.42	0.23	0.050	(0.159)	0.045	0.005
66	5.50	0.23	0.050	(0.159)	0.045	0.005
67	5.58	0.27	0.058	(0.158)	0.052	0.006
68	5.67	0.27	0.058	(0.157)	0.052	0.006
69	5.75	0.27	0.058	(0.157)	0.052	0.006
70	5.83	0.27	0.058	(0.156)	0.052	0.006
71	5.92	0.27	0.058	(0.155)	0.052	0.006
72	6.00	0.27	0.058	(0.154)	0.052	0.006
73	6.08	0.30	0.065	(0.154)	0.058	0.006
74	6.17	0.30	0.065	(0.153)	0.058	0.006
75	6.25	0.30	0.065	(0.152)	0.058	0.006
76	6.33	0.30	0.065	(0.152)	0.058	0.006
77	6.42	0.30	0.065	(0.151)	0.058	0.006
78	6.50	0.30	0.065	(0.150)	0.058	0.006
79	6.58	0.33	0.072	(0.150)	0.065	0.007
80	6.67	0.33	0.072	(0.149)	0.065	0.007
81	6.75	0.33	0.072	(0.148)	0.065	0.007
82	6.83	0.33	0.072	(0.148)	0.065	0.007
83	6.92	0.33	0.072	(0.147)	0.065	0.007
84	7.00	0.33	0.072	(0.146)	0.065	0.007
85	7.08	0.33	0.072	(0.146)	0.065	0.007
86	7.17	0.33	0.072	(0.145)	0.065	0.007
87	7.25	0.33	0.072	(0.144)	0.065	0.007
88	7.33	0.37	0.079	(0.144)	0.071	0.008
89	7.42	0.37	0.079	(0.143)	0.071	0.008
90	7.50	0.37	0.079	(0.142)	0.071	0.008
91	7.58	0.40	0.086	(0.142)	0.078	0.009
92	7.67	0.40	0.086	(0.141)	0.078	0.009
93	7.75	0.40	0.086	(0.140)	0.078	0.009
94	7.83	0.43	0.094	(0.140)	0.084	0.009
95	7.92	0.43	0.094	(0.139)	0.084	0.009
96	8.00	0.43	0.094	(0.138)	0.084	0.009
97	8.08	0.50	0.108	(0.138)	0.097	0.011
98	8.17	0.50	0.108	(0.137)	0.097	0.011
99	8.25	0.50	0.108	(0.137)	0.097	0.011
100	8.33	0.50	0.108	(0.136)	0.097	0.011
101	8.42	0.50	0.108	(0.135)	0.097	0.011
102	8.50	0.50	0.108	(0.135)	0.097	0.011
103	8.58	0.53	0.115	(0.134)	0.104	0.012
104	8.67	0.53	0.115	(0.133)	0.104	0.012
105	8.75	0.53	0.115	(0.133)	0.104	0.012
106	8.83	0.57	0.122	(0.132)	0.110	0.012
107	8.92	0.57	0.122	(0.131)	0.110	0.012
108	9.00	0.57	0.122	(0.131)	0.110	0.012
109	9.08	0.63	0.137	(0.130)	0.123	0.014
110	9.17	0.63	0.137	(0.130)	0.123	0.014

111	9.25	0.63	0.137	(	0.129)	0.123	0.014
112	9.33	0.67	0.144		0.128	(0.130)	0.016
113	9.42	0.67	0.144		0.128	(0.130)	0.016
114	9.50	0.67	0.144		0.127	(0.130)	0.017
115	9.58	0.70	0.151		0.127	(0.136)	0.025
116	9.67	0.70	0.151		0.126	(0.136)	0.025
117	9.75	0.70	0.151		0.125	(0.136)	0.026
118	9.83	0.73	0.158		0.125	(0.143)	0.034
119	9.92	0.73	0.158		0.124	(0.143)	0.034
120	10.00	0.73	0.158		0.124	(0.143)	0.035
121	10.08	0.50	0.108	(	0.123)	0.097	0.011
122	10.17	0.50	0.108	(	0.122)	0.097	0.011
123	10.25	0.50	0.108	(	0.122)	0.097	0.011
124	10.33	0.50	0.108	(	0.121)	0.097	0.011
125	10.42	0.50	0.108	(	0.121)	0.097	0.011
126	10.50	0.50	0.108	(	0.120)	0.097	0.011
127	10.58	0.67	0.144		0.119	(0.130)	0.025
128	10.67	0.67	0.144		0.119	(0.130)	0.025
129	10.75	0.67	0.144		0.118	(0.130)	0.026
130	10.83	0.67	0.144		0.118	(0.130)	0.026
131	10.92	0.67	0.144		0.117	(0.130)	0.027
132	11.00	0.67	0.144		0.117	(0.130)	0.027
133	11.08	0.63	0.137		0.116	(0.123)	0.021
134	11.17	0.63	0.137		0.115	(0.123)	0.021
135	11.25	0.63	0.137		0.115	(0.123)	0.022
136	11.33	0.63	0.137		0.114	(0.123)	0.023
137	11.42	0.63	0.137		0.114	(0.123)	0.023
138	11.50	0.63	0.137		0.113	(0.123)	0.024
139	11.58	0.57	0.122	(	0.113)	0.110	0.012
140	11.67	0.57	0.122	(	0.112)	0.110	0.012
141	11.75	0.57	0.122	(	0.111)	0.110	0.012
142	11.83	0.60	0.130		0.111	(0.117)	0.019
143	11.92	0.60	0.130		0.110	(0.117)	0.019
144	12.00	0.60	0.130		0.110	(0.117)	0.020
145	12.08	0.83	0.180		0.109	(0.162)	0.071
146	12.17	0.83	0.180		0.109	(0.162)	0.071
147	12.25	0.83	0.180		0.108	(0.162)	0.072
148	12.33	0.87	0.187		0.108	(0.168)	0.080
149	12.42	0.87	0.187		0.107	(0.168)	0.080
150	12.50	0.87	0.187		0.107	(0.168)	0.081
151	12.58	0.93	0.202		0.106	(0.181)	0.096
152	12.67	0.93	0.202		0.105	(0.181)	0.096
153	12.75	0.93	0.202		0.105	(0.181)	0.097
154	12.83	0.97	0.209		0.104	(0.188)	0.104
155	12.92	0.97	0.209		0.104	(0.188)	0.105
156	13.00	0.97	0.209		0.103	(0.188)	0.105
157	13.08	1.13	0.245		0.103	(0.220)	0.142
158	13.17	1.13	0.245		0.102	(0.220)	0.142
159	13.25	1.13	0.245		0.102	(0.220)	0.143
160	13.33	1.13	0.245		0.101	(0.220)	0.144
161	13.42	1.13	0.245		0.101	(0.220)	0.144
162	13.50	1.13	0.245		0.100	(0.220)	0.145
163	13.58	0.77	0.166		0.100	(0.149)	0.066
164	13.67	0.77	0.166		0.099	(0.149)	0.066
165	13.75	0.77	0.166		0.099	(0.149)	0.067
166	13.83	0.77	0.166		0.098	(0.149)	0.067
167	13.92	0.77	0.166		0.098	(0.149)	0.068
168	14.00	0.77	0.166		0.097	(0.149)	0.068
169	14.08	0.90	0.194		0.097	(0.175)	0.098
170	14.17	0.90	0.194		0.096	(0.175)	0.098
171	14.25	0.90	0.194		0.096	(0.175)	0.099
172	14.33	0.87	0.187		0.095	(0.168)	0.092
173	14.42	0.87	0.187		0.095	(0.168)	0.092
174	14.50	0.87	0.187		0.094	(0.168)	0.093
175	14.58	0.87	0.187		0.094	(0.168)	0.093
176	14.67	0.87	0.187		0.093	(0.168)	0.094
177	14.75	0.87	0.187		0.093	(0.168)	0.094
178	14.83	0.83	0.180		0.092	(0.162)	0.088
179	14.92	0.83	0.180		0.092	(0.162)	0.088
180	15.00	0.83	0.180		0.091	(0.162)	0.089
181	15.08	0.80	0.173		0.091	(0.156)	0.082
182	15.17	0.80	0.173		0.090	(0.156)	0.082
183	15.25	0.80	0.173		0.090	(0.156)	0.083
184	15.33	0.77	0.166		0.090	(0.149)	0.076
185	15.42	0.77	0.166		0.089	(0.149)	0.077

186	15.50	0.77	0.166	0.089	(0.149)	0.077
187	15.58	0.63	0.137	0.088	(0.123)	0.049
188	15.67	0.63	0.137	0.088	(0.123)	0.049
189	15.75	0.63	0.137	0.087	(0.123)	0.050
190	15.83	0.63	0.137	0.087	(0.123)	0.050
191	15.92	0.63	0.137	0.086	(0.123)	0.050
192	16.00	0.63	0.137	0.086	(0.123)	0.051
193	16.08	0.13	0.029	(0.085)	0.026	0.003
194	16.17	0.13	0.029	(0.085)	0.026	0.003
195	16.25	0.13	0.029	(0.085)	0.026	0.003
196	16.33	0.13	0.029	(0.084)	0.026	0.003
197	16.42	0.13	0.029	(0.084)	0.026	0.003
198	16.50	0.13	0.029	(0.083)	0.026	0.003
199	16.58	0.10	0.022	(0.083)	0.019	0.002
200	16.67	0.10	0.022	(0.082)	0.019	0.002
201	16.75	0.10	0.022	(0.082)	0.019	0.002
202	16.83	0.10	0.022	(0.082)	0.019	0.002
203	16.92	0.10	0.022	(0.081)	0.019	0.002
204	17.00	0.10	0.022	(0.081)	0.019	0.002
205	17.08	0.17	0.036	(0.080)	0.032	0.004
206	17.17	0.17	0.036	(0.080)	0.032	0.004
207	17.25	0.17	0.036	(0.080)	0.032	0.004
208	17.33	0.17	0.036	(0.079)	0.032	0.004
209	17.42	0.17	0.036	(0.079)	0.032	0.004
210	17.50	0.17	0.036	(0.078)	0.032	0.004
211	17.58	0.17	0.036	(0.078)	0.032	0.004
212	17.67	0.17	0.036	(0.078)	0.032	0.004
213	17.75	0.17	0.036	(0.077)	0.032	0.004
214	17.83	0.13	0.029	(0.077)	0.026	0.003
215	17.92	0.13	0.029	(0.076)	0.026	0.003
216	18.00	0.13	0.029	(0.076)	0.026	0.003
217	18.08	0.13	0.029	(0.076)	0.026	0.003
218	18.17	0.13	0.029	(0.075)	0.026	0.003
219	18.25	0.13	0.029	(0.075)	0.026	0.003
220	18.33	0.13	0.029	(0.075)	0.026	0.003
221	18.42	0.13	0.029	(0.074)	0.026	0.003
222	18.50	0.13	0.029	(0.074)	0.026	0.003
223	18.58	0.10	0.022	(0.074)	0.019	0.002
224	18.67	0.10	0.022	(0.073)	0.019	0.002
225	18.75	0.10	0.022	(0.073)	0.019	0.002
226	18.83	0.07	0.014	(0.072)	0.013	0.001
227	18.92	0.07	0.014	(0.072)	0.013	0.001
228	19.00	0.07	0.014	(0.072)	0.013	0.001
229	19.08	0.10	0.022	(0.071)	0.019	0.002
230	19.17	0.10	0.022	(0.071)	0.019	0.002
231	19.25	0.10	0.022	(0.071)	0.019	0.002
232	19.33	0.13	0.029	(0.070)	0.026	0.003
233	19.42	0.13	0.029	(0.070)	0.026	0.003
234	19.50	0.13	0.029	(0.070)	0.026	0.003
235	19.58	0.10	0.022	(0.069)	0.019	0.002
236	19.67	0.10	0.022	(0.069)	0.019	0.002
237	19.75	0.10	0.022	(0.069)	0.019	0.002
238	19.83	0.07	0.014	(0.069)	0.013	0.001
239	19.92	0.07	0.014	(0.068)	0.013	0.001
240	20.00	0.07	0.014	(0.068)	0.013	0.001
241	20.08	0.10	0.022	(0.068)	0.019	0.002
242	20.17	0.10	0.022	(0.067)	0.019	0.002
243	20.25	0.10	0.022	(0.067)	0.019	0.002
244	20.33	0.10	0.022	(0.067)	0.019	0.002
245	20.42	0.10	0.022	(0.066)	0.019	0.002
246	20.50	0.10	0.022	(0.066)	0.019	0.002
247	20.58	0.10	0.022	(0.066)	0.019	0.002
248	20.67	0.10	0.022	(0.066)	0.019	0.002
249	20.75	0.10	0.022	(0.065)	0.019	0.002
250	20.83	0.07	0.014	(0.065)	0.013	0.001
251	20.92	0.07	0.014	(0.065)	0.013	0.001
252	21.00	0.07	0.014	(0.065)	0.013	0.001
253	21.08	0.10	0.022	(0.064)	0.019	0.002
254	21.17	0.10	0.022	(0.064)	0.019	0.002
255	21.25	0.10	0.022	(0.064)	0.019	0.002
256	21.33	0.07	0.014	(0.064)	0.013	0.001
257	21.42	0.07	0.014	(0.063)	0.013	0.001
258	21.50	0.07	0.014	(0.063)	0.013	0.001
259	21.58	0.10	0.022	(0.063)	0.019	0.002
260	21.67	0.10	0.022	(0.063)	0.019	0.002

261	21.75	0.10	0.022	(0.062)	0.019	0.002
262	21.83	0.07	0.014	(0.062)	0.013	0.001
263	21.92	0.07	0.014	(0.062)	0.013	0.001
264	22.00	0.07	0.014	(0.062)	0.013	0.001
265	22.08	0.10	0.022	(0.062)	0.019	0.002
266	22.17	0.10	0.022	(0.061)	0.019	0.002
267	22.25	0.10	0.022	(0.061)	0.019	0.002
268	22.33	0.07	0.014	(0.061)	0.013	0.001
269	22.42	0.07	0.014	(0.061)	0.013	0.001
270	22.50	0.07	0.014	(0.061)	0.013	0.001
271	22.58	0.07	0.014	(0.060)	0.013	0.001
272	22.67	0.07	0.014	(0.060)	0.013	0.001
273	22.75	0.07	0.014	(0.060)	0.013	0.001
274	22.83	0.07	0.014	(0.060)	0.013	0.001
275	22.92	0.07	0.014	(0.060)	0.013	0.001
276	23.00	0.07	0.014	(0.060)	0.013	0.001
277	23.08	0.07	0.014	(0.060)	0.013	0.001
278	23.17	0.07	0.014	(0.059)	0.013	0.001
279	23.25	0.07	0.014	(0.059)	0.013	0.001
280	23.33	0.07	0.014	(0.059)	0.013	0.001
281	23.42	0.07	0.014	(0.059)	0.013	0.001
282	23.50	0.07	0.014	(0.059)	0.013	0.001
283	23.58	0.07	0.014	(0.059)	0.013	0.001
284	23.67	0.07	0.014	(0.059)	0.013	0.001
285	23.75	0.07	0.014	(0.059)	0.013	0.001
286	23.83	0.07	0.014	(0.059)	0.013	0.001
287	23.92	0.07	0.014	(0.059)	0.013	0.001
288	24.00	0.07	0.014	(0.059)	0.013	0.001

(Loss Rate Not Used)

Sum = 100.0 Sum = 5.7

Flood volume = Effective rainfall 0.48(In)
times area 60.2(Ac.)/[(In)/(Ft.)] = 2.4(Ac.Ft)
Total soil loss = 1.32(In)
Total soil loss = 6.639(Ac.Ft)
Total rainfall = 1.80(In)
Flood volume = 104094.8 Cubic Feet
Total soil loss = 289205.8 Cubic Feet

Peak flow rate of this hydrograph = 8.397(CFS)

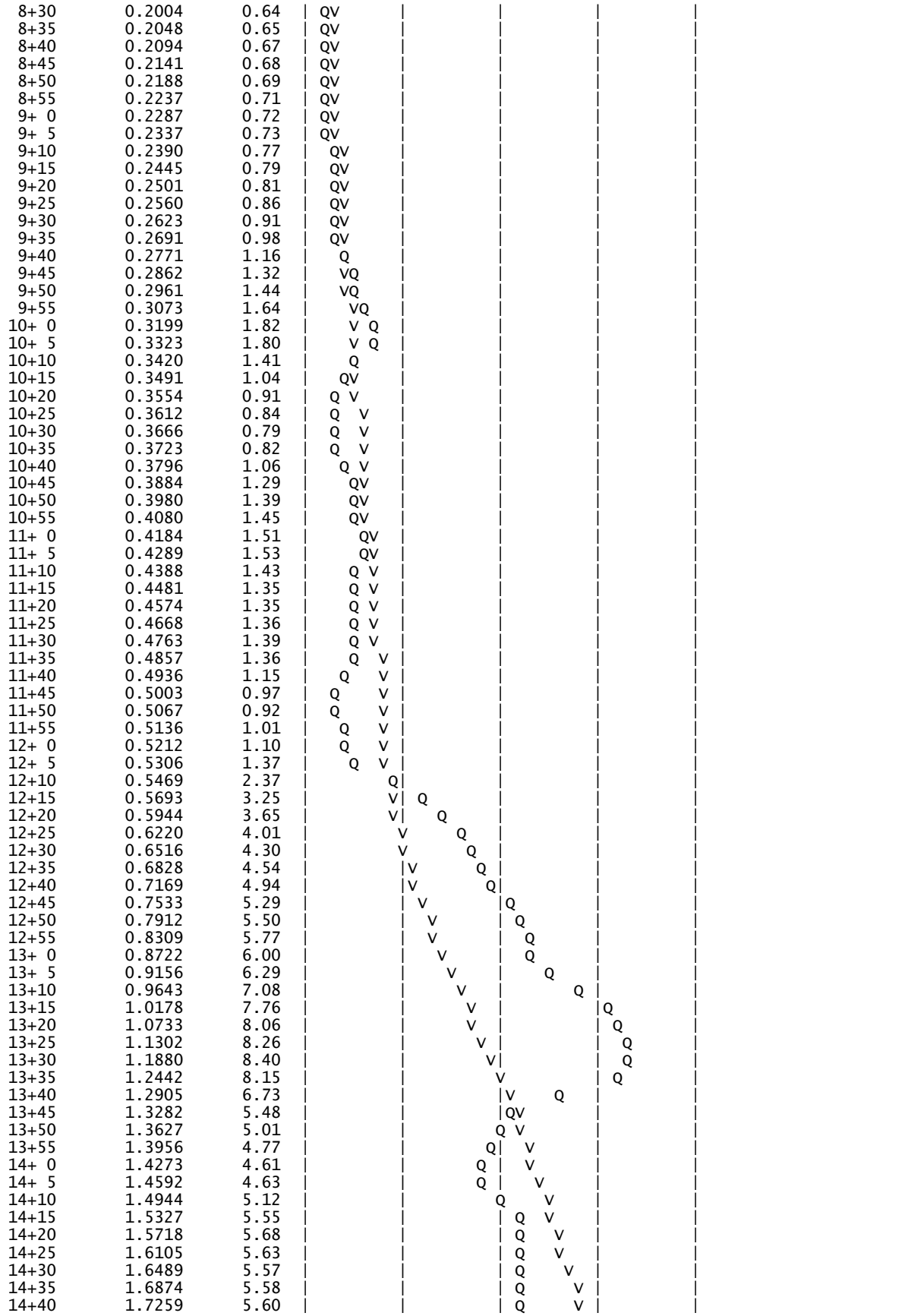
++

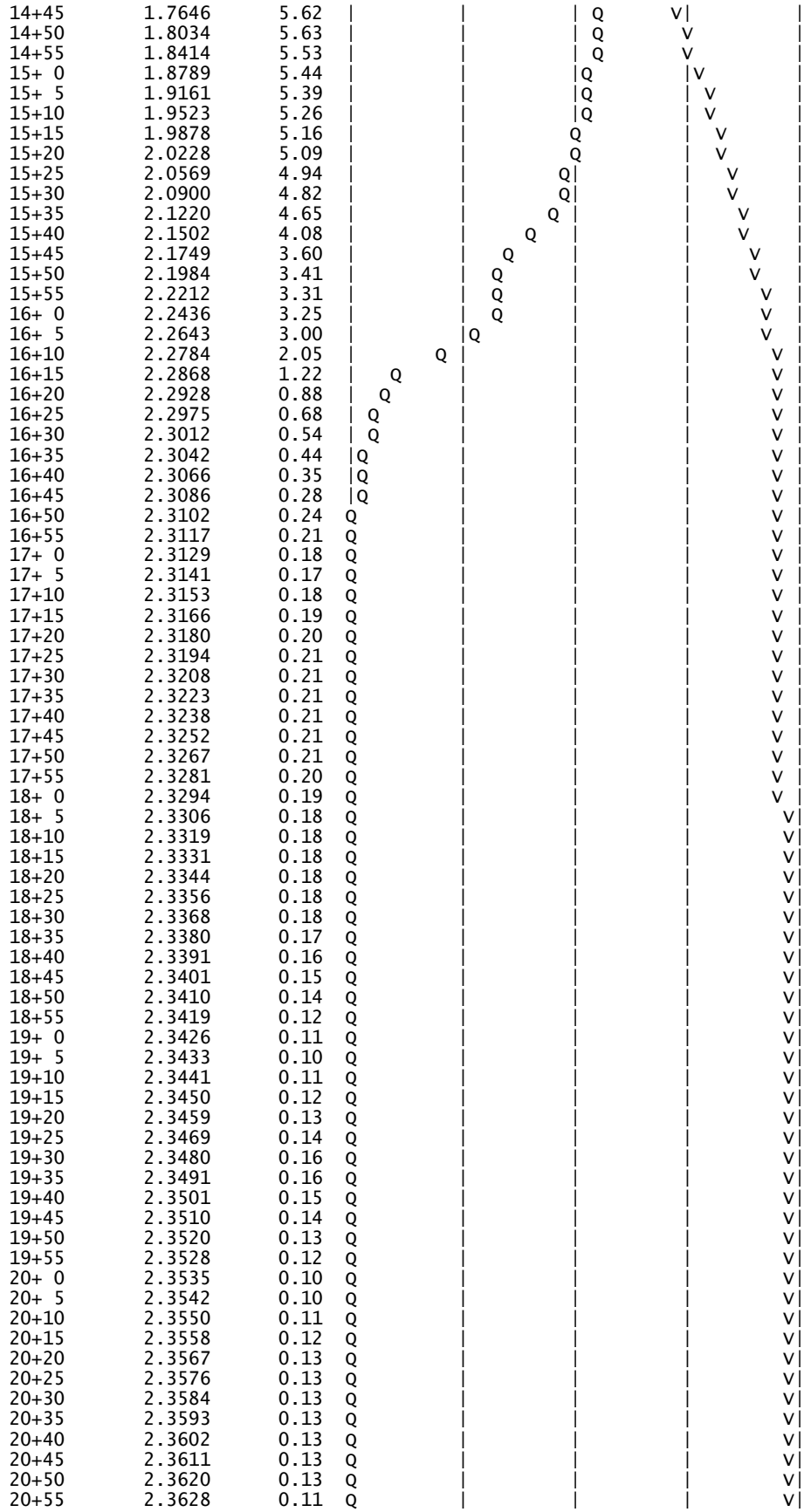
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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	0.0000	0.01	Q	|	|	|	|
0+10	0.0003	0.03	Q	|	|	|	|
0+15	0.0007	0.06	Q	|	|	|	|
0+20	0.0012	0.07	Q	|	|	|	|
0+25	0.0018	0.09	Q	|	|	|	|
0+30	0.0025	0.11	Q	|	|	|	|
0+35	0.0033	0.11	Q	|	|	|	|
0+40	0.0041	0.12	Q	|	|	|	|
0+45	0.0050	0.12	Q	|	|	|	|
0+50	0.0058	0.13	Q	|	|	|	|
0+55	0.0068	0.14	Q	|	|	|	|
1+ 0	0.0079	0.16	Q	|	|	|	|
1+ 5	0.0090	0.16	Q	|	|	|	|
1+10	0.0100	0.15	Q	|	|	|	|
1+15	0.0110	0.14	Q	|	|	|	|
1+20	0.0119	0.14	Q	|	|	|	|
1+25	0.0129	0.14	Q	|	|	|	|
1+30	0.0138	0.13	Q	|	|	|	|
1+35	0.0147	0.13	Q	|	|	|	|
1+40	0.0156	0.13	Q	|	|	|	|
1+45	0.0165	0.13	Q	|	|	|	|
1+50	0.0175	0.14	Q	|	|	|	|
1+55	0.0185	0.15	Q	|	|	|	|
2+ 0	0.0196	0.16	Q	|	|	|	|
2+ 5	0.0207	0.17	Q	|	|	|	|
2+10	0.0219	0.17	Q	|	|	|	|

2+15	0.0231	0.17	Q				
2+20	0.0242	0.17	Q				
2+25	0.0254	0.17	Q				
2+30	0.0266	0.17	Q				
2+35	0.0278	0.18	Q				
2+40	0.0291	0.19	Q				
2+45	0.0305	0.20	Q				
2+50	0.0320	0.21	Q				
2+55	0.0334	0.21	Q				
3+ 0	0.0349	0.21	Q				
3+ 5	0.0364	0.21	Q				
3+10	0.0379	0.22	Q				
3+15	0.0394	0.22	Q				
3+20	0.0409	0.22	Q				
3+25	0.0423	0.22	Q				
3+30	0.0438	0.22	Q				
3+35	0.0454	0.22	Q				
3+40	0.0469	0.22	Q				
3+45	0.0484	0.22	Q				
3+50	0.0499	0.22	Q				
3+55	0.0515	0.24	Q				
4+ 0	0.0532	0.25	Q				
4+ 5	0.0550	0.25	VQ				
4+10	0.0567	0.26	VQ				
4+15	0.0585	0.26	VQ				
4+20	0.0603	0.26	|Q				
4+25	0.0622	0.28	|Q				
4+30	0.0642	0.29	|Q				
4+35	0.0662	0.29	|Q				
4+40	0.0683	0.30	|Q				
4+45	0.0703	0.30	|Q				
4+50	0.0724	0.30	|Q				
4+55	0.0746	0.32	|Q				
5+ 0	0.0769	0.33	|Q				
5+ 5	0.0792	0.33	|Q				
5+10	0.0813	0.31	|Q				
5+15	0.0833	0.29	|Q				
5+20	0.0852	0.28	|Q				
5+25	0.0872	0.29	|Q				
5+30	0.0893	0.30	|Q				
5+35	0.0914	0.31	|Q				
5+40	0.0936	0.32	|Q				
5+45	0.0959	0.33	|Q				
5+50	0.0982	0.34	|Q				
5+55	0.1006	0.34	|Q				
6+ 0	0.1029	0.34	|Q				
6+ 5	0.1053	0.35	|Q				
6+10	0.1078	0.36	|Q				
6+15	0.1104	0.38	|Q				
6+20	0.1131	0.38	|Q				
6+25	0.1157	0.39	|Q				
6+30	0.1184	0.39	|Q				
6+35	0.1211	0.39	|QV				
6+40	0.1239	0.41	|QV				
6+45	0.1268	0.42	|QV				
6+50	0.1297	0.43	|QV				
6+55	0.1327	0.43	|QV				
7+ 0	0.1356	0.43	|QV				
7+ 5	0.1386	0.43	|QV				
7+10	0.1416	0.43	|QV				
7+15	0.1446	0.43	|QV				
7+20	0.1476	0.44	|QV				
7+25	0.1507	0.45	|QV				
7+30	0.1539	0.47	|QV				
7+35	0.1572	0.47	|QV				
7+40	0.1606	0.49	|QV				
7+45	0.1641	0.50	| Q				
7+50	0.1676	0.51	| Q				
7+55	0.1713	0.53	| Q				
8+ 0	0.1750	0.55	| Q				
8+ 5	0.1789	0.56	| Q				
8+10	0.1829	0.59	| QV				
8+15	0.1872	0.62	| QV				
8+20	0.1915	0.63	| QV				
8+25	0.1959	0.64	| QV				





```
   21+ 0       2.3635      0.10  Q         |         |         |         v|
   21+ 5       2.3642      0.10  Q         |         |         |         v|
   21+10       2.3649      0.11  Q         |         |         |         v|
   21+15       2.3658      0.12  Q         |         |         |         v|
   21+20       2.3666      0.12  Q         |         |         |         v|
   21+25       2.3674      0.11  Q         |         |         |         v|
   21+30       2.3680      0.10  Q         |         |         |         v|
   21+35       2.3687      0.10  Q         |         |         |         v|
   21+40       2.3695      0.11  Q         |         |         |         v|
   21+45       2.3703      0.12  Q         |         |         |         v|
   21+50       2.3711      0.12  Q         |         |         |         v|
   21+55       2.3719      0.11  Q         |         |         |         v|
   22+ 0       2.3726      0.10  Q         |         |         |         v|
   22+ 5       2.3732      0.10  Q         |         |         |         v|
   22+10       2.3740      0.11  Q         |         |         |         v|
   22+15       2.3748      0.12  Q         |         |         |         v|
   22+20       2.3756      0.12  Q         |         |         |         v|
   22+25       2.3764      0.11  Q         |         |         |         v|
   22+30       2.3771      0.10  Q         |         |         |         v|
   22+35       2.3777      0.09  Q         |         |         |         v|
   22+40       2.3784      0.09  Q         |         |         |         v|
   22+45       2.3790      0.09  Q         |         |         |         v|
   22+50       2.3796      0.09  Q         |         |         |         v|
   22+55       2.3802      0.09  Q         |         |         |         v|
   23+ 0       2.3808      0.09  Q         |         |         |         v|
   23+ 5       2.3814      0.09  Q         |         |         |         v|
   23+10       2.3821      0.09  Q         |         |         |         v|
   23+15       2.3827      0.09  Q         |         |         |         v|
   23+20       2.3833      0.09  Q         |         |         |         v|
   23+25       2.3839      0.09  Q         |         |         |         v|
   23+30       2.3845      0.09  Q         |         |         |         v|
   23+35       2.3851      0.09  Q         |         |         |         v|
   23+40       2.3857      0.09  Q         |         |         |         v|
   23+45       2.3863      0.09  Q         |         |         |         v|
   23+50       2.3869      0.09  Q         |         |         |         v|
   23+55       2.3875      0.09  Q         |         |         |         v|
   24+ 0       2.3881      0.09  Q         |         |         |         v|
   24+ 5       2.3886      0.08  Q         |         |         |         v|
   24+10       2.3890      0.05  Q         |         |         |         v|
   24+15       2.3892      0.03  Q         |         |         |         v|
   24+20       2.3893      0.02  Q         |         |         |         v|
   24+25       2.3894      0.01  Q         |         |         |         v|
   24+30       2.3895      0.01  Q         |         |         |         v|
   24+35       2.3896      0.01  Q         |         |         |         v|
   24+40       2.3896      0.01  Q         |         |         |         v|
   24+45       2.3896      0.00  Q         |         |         |         v|
   24+50       2.3897      0.00  Q         |         |         |         v|
   24+55       2.3897      0.00  Q         |         |         |         v|
   25+ 0       2.3897      0.00  Q         |         |         |         v|
   25+ 5       2.3897      0.00  Q         |         |         |         v|
   25+10       2.3897      0.00  Q         |         |         |          v
-------------------------------------------------------------------------
```

EXISTING CONDITION
100-YEAR, 1-HOUR UNIT HYDROGRAPH

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

Study date 11/17/22 File: ONSITEEXWEST1100.out

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

Program License Serial Number 4010

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

English Units used in output format

21-0235 - MC BLACKACRE PERRIS AIRPORT SITE
ONSITE UNIT HYDROGRAPH ANALYSIS
EXISTING CONDITION, 100 YEAR
FN: ONSITEEXWEST, ABE, 2022-11-17

Drainage Area = 60.20(Ac.) = 0.094 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.20(Ac.) = 0.094 Sq. Mi.
Length along longest watercourse = 1896.00(Ft.)
Length along longest watercourse measured to centroid = 1177.00(Ft.)
Length along longest watercourse = 0.359 Mi.
Length along longest watercourse measured to centroid = 0.223 Mi.
Difference in elevation = 9.70(Ft.)
Slope along watercourse = 27.0127 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.147 Hr.
Lag time = 8.85 Min.
25% of lag time = 2.21 Min.
40% of lag time = 3.54 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]
60.20	0.48	28.90

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
60.20	1.25	75.25

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.480(In)
Area Averaged 100-Year Rainfall = 1.250(In)

Point rain (area averaged) = 1.250(In)
Areal adjustment factor = 99.95 %
Adjusted average point rain = 1.249(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
60.200	91.00	0.000

Total Area Entered = 60.20(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

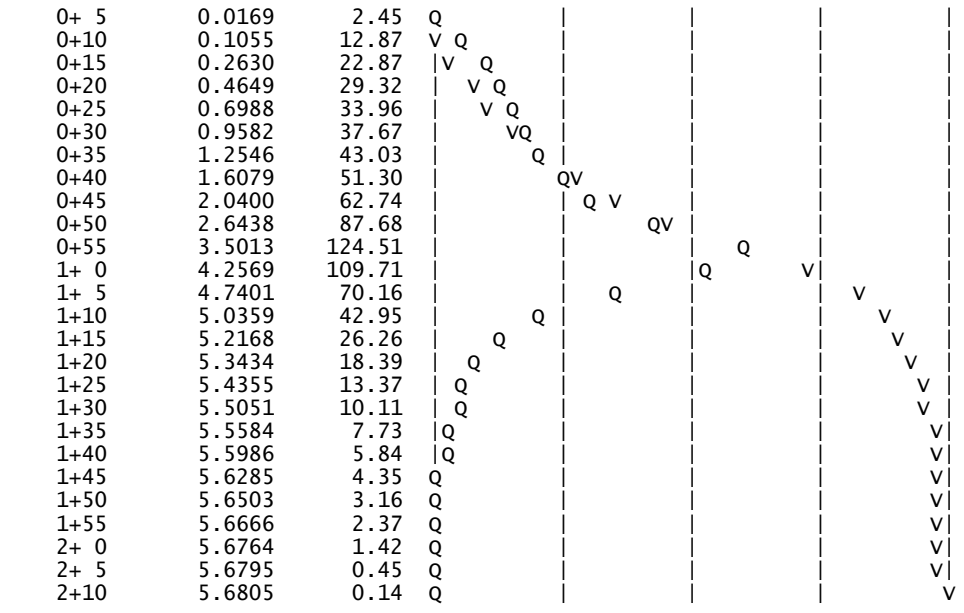
```
      91.0  91.0      0.117     0.000        0.117       1.000      0.117
                                                        Sum (F) =   0.117
      Area averaged mean soil loss (F) (In/Hr) =  0.117
      Minimum soil loss rate ((In/Hr)) =  0.059
      (for 24 hour storm duration)
      Soil low loss rate (decimal) =   0.900
      ------------------------------------------------------------------------
      Slope of intensity-duration curve for a 1 hour storm =0.4800
      ------------------------------------------------------------------------

                  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         56.521          7.445             4.517
          2   0.167        113.043         31.410            19.057
          3   0.250        169.564         27.637            16.767
          4   0.333        226.085         11.012             6.681
          5   0.417        282.607          6.310             3.828
          6   0.500        339.128          4.306             2.613
          7   0.583        395.649          3.128             1.898
          8   0.667        452.170          2.215             1.344
          9   0.750        508.692          1.745             1.058
         10   0.833        565.213          1.397             0.848
         11   0.917        621.734          1.061             0.644
         12   1.000        678.256          0.806             0.489
         13   1.083        734.777          0.593             0.360
         14   1.167        791.298          0.565             0.343
         15   1.250        847.820          0.370             0.224
                                  Sum = 100.000   Sum=      60.670
------------------------------------------------------------------------

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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     4.40      0.660          0.117    (  0.594)        0.543
   2   0.17     4.50      0.675          0.117    (  0.607)        0.558
   3   0.25     5.40      0.810          0.117    (  0.729)        0.693
   4   0.33     5.40      0.810          0.117    (  0.729)        0.693
   5   0.42     5.70      0.855          0.117    (  0.769)        0.738
   6   0.50     6.40      0.959          0.117    (  0.864)        0.842
   7   0.58     7.90      1.184          0.117    (  1.066)        1.067
   8   0.67     9.10      1.364          0.117    (  1.228)        1.247
   9   0.75    12.80      1.919          0.117    (  1.727)        1.802
  10   0.83    25.60      3.838          0.117    (  3.454)        3.721
  11   0.92     7.90      1.184          0.117    (  1.066)        1.067
  12   1.00     4.90      0.735          0.117    (  0.661)        0.618
             (Loss Rate Not Used)
     Sum =     100.0                                 Sum =    13.6
       Flood volume = Effective rainfall      1.13(In)
        times area      60.2(Ac.)/[(In)/(Ft.)] =       5.7(Ac.Ft)
       Total soil loss =      0.12(In)
       Total soil loss =     0.587(Ac.Ft)
       Total rainfall =      1.25(In)
       Flood volume =      247440.9 Cubic Feet
       Total soil loss =       25567.5 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =    124.512(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       50.0     100.0     150.0     200.0
  ---------------------------------------------------------------------
```


0+ 5 0.0169 2.45
0+10 0.1055 12.87
0+15 0.2630 22.87
0+20 0.4649 29.32
0+25 0.6988 33.96
0+30 0.9582 37.67
0+35 1.2546 43.03
0+40 1.6079 51.30
0+45 2.0400 62.74
0+50 2.6438 87.68
0+55 3.5013 124.51
1+ 0 4.2569 109.71
1+ 5 4.7401 70.16
1+10 5.0359 42.95
1+15 5.2168 26.26
1+20 5.3434 18.39
1+25 5.4355 13.37
1+30 5.5051 10.11
1+35 5.5584 7.73
1+40 5.5986 5.84
1+45 5.6285 4.35
1+50 5.6503 3.16
1+55 5.6666 2.37
2+ 0 5.6764 1.42
2+ 5 5.6795 0.45
2+10 5.6805 0.14

EXISTING CONDITION
100-YEAR, 3-HOUR UNIT HYDROGRAPH

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

Study date 11/17/22 File: ONSITEEXWEST3100.out

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

Program License Serial Number 4010

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

English Units used in output format

21-0235 - MC BLACKACRE PERRIS AIRPORT SITE
ONSITE UNIT HYDROGRAPH ANALYSIS
EXISTING CONDITION, 100 YEAR
FN: ONSITEEXWEST, ABE, 2022-11-17

Drainage Area = 60.20(Ac.) = 0.094 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.20(Ac.) = 0.094 Sq. Mi.
Length along longest watercourse = 1896.00(Ft.)
Length along longest watercourse measured to centroid = 1177.00(Ft.)
Length along longest watercourse = 0.359 Mi.
Length along longest watercourse measured to centroid = 0.223 Mi.
Difference in elevation = 9.70(Ft.)
Slope along watercourse = 27.0127 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.147 Hr.
Lag time = 8.85 Min.
25% of lag time = 2.21 Min.
40% of lag time = 3.54 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
60.20	0.80	48.16

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
60.20	1.90	114.38

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.900(In)

Point rain (area averaged) = 1.900(In)
Areal adjustment factor = 99.97 %
Adjusted average point rain = 1.899(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
60.200	91.00	0.000

Total Area Entered = 60.20(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

91.0	91.0	0.117	0.000	0.117	1.000	0.117
					Sum (F) =	0.117

Area averaged mean soil loss (F) (In/Hr) = 0.117
Minimum soil loss rate ((In/Hr)) = 0.059
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	56.521	7.445	4.517
2	0.167	113.043	31.410	19.057
3	0.250	169.564	27.637	16.767
4	0.333	226.085	11.012	6.681
5	0.417	282.607	6.310	3.828
6	0.500	339.128	4.306	2.613
7	0.583	395.649	3.128	1.898
8	0.667	452.170	2.215	1.344
9	0.750	508.692	1.745	1.058
10	0.833	565.213	1.397	0.848
11	0.917	621.734	1.061	0.644
12	1.000	678.256	0.806	0.489
13	1.083	734.777	0.593	0.360
14	1.167	791.298	0.565	0.343
15	1.250	847.820	0.370	0.224
			Sum = 100.000	Sum= 60.670

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.296	0.117	(0.267)	0.179
2	0.17	1.30	0.296	0.117	(0.267)	0.179
3	0.25	1.10	0.251	0.117	(0.226)	0.134
4	0.33	1.50	0.342	0.117	(0.308)	0.225
5	0.42	1.50	0.342	0.117	(0.308)	0.225
6	0.50	1.80	0.410	0.117	(0.369)	0.293
7	0.58	1.50	0.342	0.117	(0.308)	0.225
8	0.67	1.80	0.410	0.117	(0.369)	0.293
9	0.75	1.80	0.410	0.117	(0.369)	0.293
10	0.83	1.50	0.342	0.117	(0.308)	0.225
11	0.92	1.60	0.365	0.117	(0.328)	0.248
12	1.00	1.80	0.410	0.117	(0.369)	0.293
13	1.08	2.20	0.501	0.117	(0.451)	0.384
14	1.17	2.20	0.501	0.117	(0.451)	0.384
15	1.25	2.20	0.501	0.117	(0.451)	0.384
16	1.33	2.00	0.456	0.117	(0.410)	0.339
17	1.42	2.60	0.593	0.117	(0.533)	0.476
18	1.50	2.70	0.615	0.117	(0.554)	0.498
19	1.58	2.40	0.547	0.117	(0.492)	0.430
20	1.67	2.70	0.615	0.117	(0.554)	0.498
21	1.75	3.30	0.752	0.117	(0.677)	0.635
22	1.83	3.10	0.707	0.117	(0.636)	0.590
23	1.92	2.90	0.661	0.117	(0.595)	0.544
24	2.00	3.00	0.684	0.117	(0.615)	0.567
25	2.08	3.10	0.707	0.117	(0.636)	0.590
26	2.17	4.20	0.957	0.117	(0.862)	0.840
27	2.25	5.00	1.140	0.117	(1.026)	1.023
28	2.33	3.50	0.798	0.117	(0.718)	0.681
29	2.42	6.80	1.550	0.117	(1.395)	1.433
30	2.50	7.30	1.664	0.117	(1.498)	1.547
31	2.58	8.20	1.869	0.117	(1.682)	1.752
32	2.67	5.90	1.345	0.117	(1.210)	1.228
33	2.75	2.00	0.456	0.117	(0.410)	0.339
34	2.83	1.80	0.410	0.117	(0.369)	0.293
35	2.92	1.80	0.410	0.117	(0.369)	0.293

```
 36   3.00     0.60      0.137          0.117    (  0.123)        0.020
              (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    18.6
       Flood volume = Effective rainfall      1.55(In)
        times area      60.2(Ac.)/[(In)/(Ft.)] =       7.8(Ac.Ft)
       Total soil loss =      0.35(In)
       Total soil loss =     1.761(Ac.Ft)
       Total rainfall =      1.90(In)
       Flood volume =      338387.4 Cubic Feet
       Total soil loss =       76702.6 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =     84.346(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R    S T O R M
                     R u n o f f     H y d r o g r a p h
       ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0       22.5      45.0      67.5      90.0
  ------------------------------------------------------------------------
    0+ 5       0.0056      0.81  Q         |         |         |         |
    0+10       0.0347      4.23  VQ        |         |         |         |
    0+15       0.0831      7.03  V  Q      |         |         |         |
    0+20       0.1367      7.77  V  Q      |         |         |         |
    0+25       0.2016      9.43  |V  Q     |         |         |         |
    0+30       0.2804     11.44  |V   Q    |         |         |         |
    0+35       0.3714     13.21  |V   Q    |         |         |         |
    0+40       0.4666     13.83  | V   Q   |         |         |         |
    0+45       0.5684     14.79  | V   Q   |         |         |         |
    0+50       0.6765     15.69  |  V  Q   |         |         |         |
    0+55       0.7802     15.06  |   V Q   |         |         |         |
    1+ 0       0.8829     14.91  |   V Q   |         |         |         |
    1+ 5       0.9956     16.37  |    V Q  |         |         |         |
    1+10       1.1262     18.97  |    V  Q |         |         |         |
    1+15       1.2699     20.86  |     V  Q|         |         |         |
    1+20       1.4175     21.44  |      V Q|         |         |         |
    1+25       1.5668     21.68  |       VQ|         |         |         |
    1+30       1.7319     23.96  |       V Q         |         |         |
    1+35       1.9131     26.31  |        V|Q        |         |         |
    1+40       2.0963     26.60  |         VQ        |         |         |
    1+45       2.2895     28.06  |         |VQ       |         |         |
    1+50       2.5073     31.62  |         | V Q     |         |         |
    1+55       2.7370     33.35  |         |   Q     |         |         |
    2+ 0       2.9646     33.05  |         |   QV    |         |         |
    2+ 5       3.1938     33.28  |         |   Q V   |         |         |
    2+10       3.4369     35.30  |         |    Q V  |         |         |
    2+15       3.7230     41.53  |         |       QV|         |         |
    2+20       4.0533     47.97  |         |         VQ        |         |
    2+25       4.3962     49.79  |         |         | Q       |         |
    2+30       4.8181     61.25  |         |         |   V  Q  |         |
    2+35       5.3426     76.16  |         |         |      V  |  Q      |
    2+40       5.9235     84.35  |         |         |         V      Q  |
    2+45       6.4556     77.26  |         |         |         |  VQ     |
    2+50       6.8343     55.00  |         |         |   Q     |    V    |
    2+55       7.0974     38.19  |         |      Q  |         |     V   |
    3+ 0       7.3037     29.96  |         |   Q     |         |      V  |
    3+ 5       7.4474     20.87  |        Q|         |         |       V |
    3+10       7.5398     13.41  |    Q    |         |         |       V |
    3+15       7.6054      9.53  |   Q     |         |         |        V|
    3+20       7.6544      7.12  |  Q      |         |         |        V|
    3+25       7.6907      5.27  | Q       |         |         |        V|
    3+30       7.7174      3.88  |Q        |         |         |        V|
    3+35       7.7373      2.89  |Q        |         |         |        V|
    3+40       7.7512      2.01  Q         |         |         |        V|
    3+45       7.7601      1.29  Q         |         |         |        V|
    3+50       7.7646      0.65  Q         |         |         |        V|
    3+55       7.7666      0.29  Q         |         |         |        V|
    4+ 0       7.7678      0.17  Q         |         |         |        V|
    4+ 5       7.7683      0.07  Q         |         |         |        V|
    4+10       7.7683      0.00  Q         |         |         |         V
  ------------------------------------------------------------------------
```

EXISTING CONDITION
100-YEAR, 6-HOUR UNIT HYDROGRAPH

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

Study date 11/17/22 File: ONSITEEXWEST6100.out

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

Program License Serial Number 4010

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

English Units used in output format

21-0235 - MC BLACKACRE PERRIS AIRPORT SITE
ONSITE UNIT HYDROGRAPH ANALYSIS
EXISTING CONDITION, 100 YEAR
FN: ONSITEEXWEST, ABE, 2022-11-17

Drainage Area = 60.20(Ac.) = 0.094 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.20(Ac.) = 0.094 Sq. Mi.
Length along longest watercourse = 1896.00(Ft.)
Length along longest watercourse measured to centroid = 1177.00(Ft.)
Length along longest watercourse = 0.359 Mi.
Length along longest watercourse measured to centroid = 0.223 Mi.
Difference in elevation = 9.70(Ft.)
Slope along watercourse = 27.0127 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.147 Hr.
Lag time = 8.85 Min.
25% of lag time = 2.21 Min.
40% of lag time = 3.54 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
60.20	1.10	66.22

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
60.20	2.50	150.50

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.100(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 2.499(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
60.200	91.00	0.000

Total Area Entered = 60.20(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

91.0	91.0	0.117	0.000	0.117	1.000	0.117
					Sum (F) =	0.117

Area averaged mean soil loss (F) (In/Hr) = 0.117
Minimum soil loss rate ((In/Hr)) = 0.059
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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

Unit Hydrograph Data

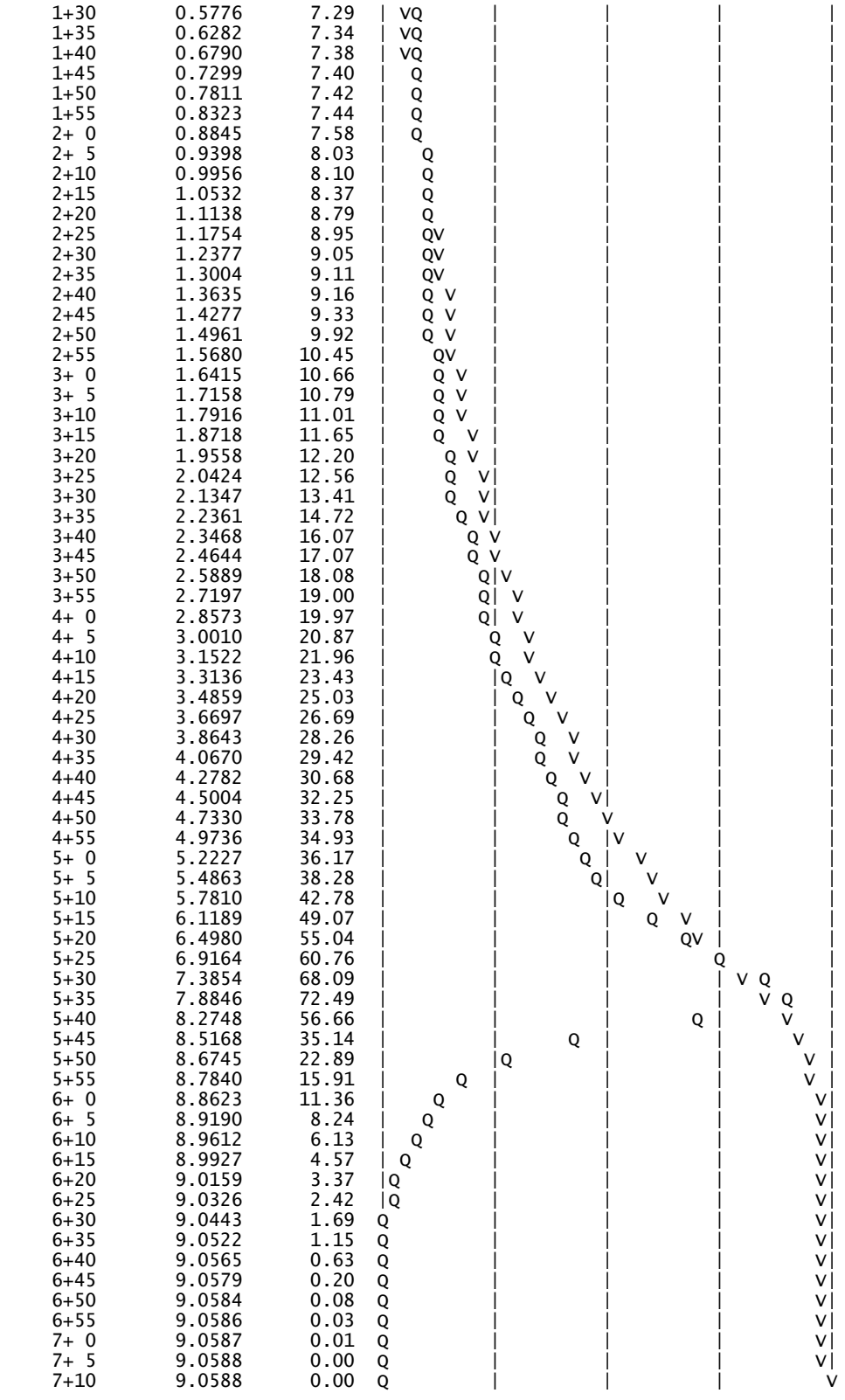
Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	56.521	7.445	4.517
2	0.167	113.043	31.410	19.057
3	0.250	169.564	27.637	16.767
4	0.333	226.085	11.012	6.681
5	0.417	282.607	6.310	3.828
6	0.500	339.128	4.306	2.613
7	0.583	395.649	3.128	1.898
8	0.667	452.170	2.215	1.344
9	0.750	508.692	1.745	1.058
10	0.833	565.213	1.397	0.848
11	0.917	621.734	1.061	0.644
12	1.000	678.256	0.806	0.489
13	1.083	734.777	0.593	0.360
14	1.167	791.298	0.565	0.343
15	1.250	847.820	0.370	0.224
			Sum = 100.000	Sum= 60.670

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.150	0.117	(0.135)	0.033
2	0.17	0.60	0.180	0.117	(0.162)	0.063
3	0.25	0.60	0.180	0.117	(0.162)	0.063
4	0.33	0.60	0.180	0.117	(0.162)	0.063
5	0.42	0.60	0.180	0.117	(0.162)	0.063
6	0.50	0.70	0.210	0.117	(0.189)	0.093
7	0.58	0.70	0.210	0.117	(0.189)	0.093
8	0.67	0.70	0.210	0.117	(0.189)	0.093
9	0.75	0.70	0.210	0.117	(0.189)	0.093
10	0.83	0.70	0.210	0.117	(0.189)	0.093
11	0.92	0.70	0.210	0.117	(0.189)	0.093
12	1.00	0.80	0.240	0.117	(0.216)	0.123
13	1.08	0.80	0.240	0.117	(0.216)	0.123
14	1.17	0.80	0.240	0.117	(0.216)	0.123
15	1.25	0.80	0.240	0.117	(0.216)	0.123
16	1.33	0.80	0.240	0.117	(0.216)	0.123
17	1.42	0.80	0.240	0.117	(0.216)	0.123
18	1.50	0.80	0.240	0.117	(0.216)	0.123
19	1.58	0.80	0.240	0.117	(0.216)	0.123
20	1.67	0.80	0.240	0.117	(0.216)	0.123
21	1.75	0.80	0.240	0.117	(0.216)	0.123
22	1.83	0.80	0.240	0.117	(0.216)	0.123
23	1.92	0.80	0.240	0.117	(0.216)	0.123
24	2.00	0.90	0.270	0.117	(0.243)	0.153
25	2.08	0.80	0.240	0.117	(0.216)	0.123
26	2.17	0.90	0.270	0.117	(0.243)	0.153
27	2.25	0.90	0.270	0.117	(0.243)	0.153
28	2.33	0.90	0.270	0.117	(0.243)	0.153
29	2.42	0.90	0.270	0.117	(0.243)	0.153
30	2.50	0.90	0.270	0.117	(0.243)	0.153
31	2.58	0.90	0.270	0.117	(0.243)	0.153
32	2.67	0.90	0.270	0.117	(0.243)	0.153
33	2.75	1.00	0.300	0.117	(0.270)	0.183
34	2.83	1.00	0.300	0.117	(0.270)	0.183
35	2.92	1.00	0.300	0.117	(0.270)	0.183

```
36   3.00     1.00      0.300          0.117    (  0.270)        0.183
37   3.08     1.00      0.300          0.117    (  0.270)        0.183
38   3.17     1.10      0.330          0.117    (  0.297)        0.213
39   3.25     1.10      0.330          0.117    (  0.297)        0.213
40   3.33     1.10      0.330          0.117    (  0.297)        0.213
41   3.42     1.20      0.360          0.117    (  0.324)        0.243
42   3.50     1.30      0.390          0.117    (  0.351)        0.273
43   3.58     1.40      0.420          0.117    (  0.378)        0.303
44   3.67     1.40      0.420          0.117    (  0.378)        0.303
45   3.75     1.50      0.450          0.117    (  0.405)        0.333
46   3.83     1.50      0.450          0.117    (  0.405)        0.333
47   3.92     1.60      0.480          0.117    (  0.432)        0.363
48   4.00     1.60      0.480          0.117    (  0.432)        0.363
49   4.08     1.70      0.510          0.117    (  0.459)        0.393
50   4.17     1.80      0.540          0.117    (  0.486)        0.423
51   4.25     1.90      0.570          0.117    (  0.513)        0.453
52   4.33     2.00      0.600          0.117    (  0.540)        0.483
53   4.42     2.10      0.630          0.117    (  0.567)        0.513
54   4.50     2.10      0.630          0.117    (  0.567)        0.513
55   4.58     2.20      0.660          0.117    (  0.594)        0.543
56   4.67     2.30      0.690          0.117    (  0.621)        0.573
57   4.75     2.40      0.720          0.117    (  0.648)        0.603
58   4.83     2.40      0.720          0.117    (  0.648)        0.603
59   4.92     2.50      0.750          0.117    (  0.675)        0.633
60   5.00     2.60      0.780          0.117    (  0.702)        0.663
61   5.08     3.10      0.930          0.117    (  0.837)        0.813
62   5.17     3.60      1.080          0.117    (  0.972)        0.963
63   5.25     3.90      1.170          0.117    (  1.053)        1.053
64   5.33     4.20      1.260          0.117    (  1.134)        1.143
65   5.42     4.70      1.410          0.117    (  1.269)        1.293
66   5.50     5.60      1.680          0.117    (  1.512)        1.563
67   5.58     1.90      0.570          0.117    (  0.513)        0.453
68   5.67     0.90      0.270          0.117    (  0.243)        0.153
69   5.75     0.60      0.180          0.117    (  0.162)        0.063
70   5.83     0.50      0.150          0.117    (  0.135)        0.033
71   5.92     0.30      0.090       (  0.117)       0.081        0.009
72   6.00     0.20      0.060       (  0.117)       0.054        0.006
              (Loss Rate Not Used)
   Sum =     100.0                                  Sum =    21.7
     Flood volume = Effective rainfall      1.81(In)
      times area      60.2(Ac.)/[(In)/(Ft.)] =       9.1(Ac.Ft)
     Total soil loss =      0.69(In)
     Total soil loss =     3.480(Ac.Ft)
     Total rainfall =      2.50(In)
     Flood volume =      394600.0 Cubic Feet
     Total soil loss =      151601.9 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =     72.486(CFS)
     ---------------------------------------------------------------------
     +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                     R u n o f f     H y d r o g r a p h
     ---------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))

     ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0       20.0      40.0      60.0      80.0
---------------------------------------------------------------------------
  0+ 5       0.0010      0.15  Q          |         |         |         |
  0+10       0.0073      0.91  Q          |         |         |         |
  0+15       0.0214      2.04  VQ         |         |         |         |
  0+20       0.0404      2.76  VQ         |         |         |         |
  0+25       0.0616      3.09  VQ         |         |         |         |
  0+30       0.0852      3.43  VQ         |         |         |         |
  0+35       0.1137      4.14  V Q        |         |         |         |
  0+40       0.1464      4.74  V Q        |         |         |         |
  0+45       0.1809      5.02  V Q        |         |         |         |
  0+50       0.2167      5.19  V Q        |         |         |         |
  0+55       0.2533      5.32  |VQ        |         |         |         |
  1+ 0       0.2915      5.55  |VQ        |         |         |         |
  1+ 5       0.3341      6.18  |V Q       |         |         |         |
  1+10       0.3806      6.74  |V Q       |         |         |         |
  1+15       0.4287      6.99  |V Q       |         |         |         |
  1+20       0.4777      7.13  | VQ       |         |         |         |
  1+25       0.5275      7.22  | VQ       |         |         |         |
```



EXISTING CONDITION
100-YEAR, 24-HOUR UNIT HYDROGRAPH

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

Study date 11/17/22 File: ONSITEEXWEST24100.out

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

Program License Serial Number 4010

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

English Units used in output format

21-0235 - MC BLACKACRE PERRIS AIRPORT SITE
ONSITE UNIT HYDROGRAPH ANALYSIS
EXISTING CONDITION, 100 YEAR
FN: ONSITEEXWEST, ABE, 2022-11-17

Drainage Area = 60.20(Ac.) = 0.094 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.20(Ac.) = 0.094 Sq. Mi.
Length along longest watercourse = 1896.00(Ft.)
Length along longest watercourse measured to centroid = 1177.00(Ft.)
Length along longest watercourse = 0.359 Mi.
Length along longest watercourse measured to centroid = 0.223 Mi.
Difference in elevation = 9.70(Ft.)
Slope along watercourse = 27.0127 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.147 Hr.
Lag time = 8.85 Min.
25% of lag time = 2.21 Min.
40% of lag time = 3.54 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]
60.20	1.80	108.36

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
60.20	5.00	301.00

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 5.000(In)

Point rain (area averaged) = 5.000(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.999(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
60.200	91.00	0.000

Total Area Entered = 60.20(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

91.0	91.0	0.117	0.000	0.117	1.000	0.117
					Sum (F) =	0.117

Area averaged mean soil loss (F) (In/Hr) = 0.117
Minimum soil loss rate ((In/Hr)) = 0.059
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	56.521	7.445	4.517
2	0.167	113.043	31.410	19.057
3	0.250	169.564	27.637	16.767
4	0.333	226.085	11.012	6.681
5	0.417	282.607	6.310	3.828
6	0.500	339.128	4.306	2.613
7	0.583	395.649	3.128	1.898
8	0.667	452.170	2.215	1.344
9	0.750	508.692	1.745	1.058
10	0.833	565.213	1.397	0.848
11	0.917	621.734	1.061	0.644
12	1.000	678.256	0.806	0.489
13	1.083	734.777	0.593	0.360
14	1.167	791.298	0.565	0.343
15	1.250	847.820	0.370	0.224
			Sum = 100.000	Sum= 60.670

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.040	(0.207)	0.036	0.004
2	0.17	0.07	0.040	(0.207)	0.036	0.004
3	0.25	0.07	0.040	(0.206)	0.036	0.004
4	0.33	0.10	0.060	(0.205)	0.054	0.006
5	0.42	0.10	0.060	(0.204)	0.054	0.006
6	0.50	0.10	0.060	(0.203)	0.054	0.006
7	0.58	0.10	0.060	(0.203)	0.054	0.006
8	0.67	0.10	0.060	(0.202)	0.054	0.006
9	0.75	0.10	0.060	(0.201)	0.054	0.006
10	0.83	0.13	0.080	(0.200)	0.072	0.008
11	0.92	0.13	0.080	(0.199)	0.072	0.008
12	1.00	0.13	0.080	(0.199)	0.072	0.008
13	1.08	0.10	0.060	(0.198)	0.054	0.006
14	1.17	0.10	0.060	(0.197)	0.054	0.006
15	1.25	0.10	0.060	(0.196)	0.054	0.006
16	1.33	0.10	0.060	(0.196)	0.054	0.006
17	1.42	0.10	0.060	(0.195)	0.054	0.006
18	1.50	0.10	0.060	(0.194)	0.054	0.006
19	1.58	0.10	0.060	(0.193)	0.054	0.006
20	1.67	0.10	0.060	(0.192)	0.054	0.006
21	1.75	0.10	0.060	(0.192)	0.054	0.006
22	1.83	0.13	0.080	(0.191)	0.072	0.008
23	1.92	0.13	0.080	(0.190)	0.072	0.008
24	2.00	0.13	0.080	(0.189)	0.072	0.008
25	2.08	0.13	0.080	(0.189)	0.072	0.008
26	2.17	0.13	0.080	(0.188)	0.072	0.008
27	2.25	0.13	0.080	(0.187)	0.072	0.008
28	2.33	0.13	0.080	(0.186)	0.072	0.008
29	2.42	0.13	0.080	(0.186)	0.072	0.008
30	2.50	0.13	0.080	(0.185)	0.072	0.008
31	2.58	0.17	0.100	(0.184)	0.090	0.010
32	2.67	0.17	0.100	(0.183)	0.090	0.010
33	2.75	0.17	0.100	(0.183)	0.090	0.010
34	2.83	0.17	0.100	(0.182)	0.090	0.010
35	2.92	0.17	0.100	(0.181)	0.090	0.010

36	3.00	0.17	0.100	(	0.180)	0.090		0.010
37	3.08	0.17	0.100	(	0.180)	0.090		0.010
38	3.17	0.17	0.100	(	0.179)	0.090		0.010
39	3.25	0.17	0.100	(	0.178)	0.090		0.010
40	3.33	0.17	0.100	(	0.177)	0.090		0.010
41	3.42	0.17	0.100	(	0.177)	0.090		0.010
42	3.50	0.17	0.100	(	0.176)	0.090		0.010
43	3.58	0.17	0.100	(	0.175)	0.090		0.010
44	3.67	0.17	0.100	(	0.174)	0.090		0.010
45	3.75	0.17	0.100	(	0.174)	0.090		0.010
46	3.83	0.20	0.120	(	0.173)	0.108		0.012
47	3.92	0.20	0.120	(	0.172)	0.108		0.012
48	4.00	0.20	0.120	(	0.171)	0.108		0.012
49	4.08	0.20	0.120	(	0.171)	0.108		0.012
50	4.17	0.20	0.120	(	0.170)	0.108		0.012
51	4.25	0.20	0.120	(	0.169)	0.108		0.012
52	4.33	0.23	0.140	(	0.169)	0.126		0.014
53	4.42	0.23	0.140	(	0.168)	0.126		0.014
54	4.50	0.23	0.140	(	0.167)	0.126		0.014
55	4.58	0.23	0.140	(	0.166)	0.126		0.014
56	4.67	0.23	0.140	(	0.166)	0.126		0.014
57	4.75	0.23	0.140	(	0.165)	0.126		0.014
58	4.83	0.27	0.160	(	0.164)	0.144		0.016
59	4.92	0.27	0.160	(	0.164)	0.144		0.016
60	5.00	0.27	0.160	(	0.163)	0.144		0.016
61	5.08	0.20	0.120	(	0.162)	0.108		0.012
62	5.17	0.20	0.120	(	0.161)	0.108		0.012
63	5.25	0.20	0.120	(	0.161)	0.108		0.012
64	5.33	0.23	0.140	(	0.160)	0.126		0.014
65	5.42	0.23	0.140	(	0.159)	0.126		0.014
66	5.50	0.23	0.140	(	0.159)	0.126		0.014
67	5.58	0.27	0.160	(	0.158)	0.144		0.016
68	5.67	0.27	0.160	(	0.157)	0.144		0.016
69	5.75	0.27	0.160	(	0.157)	0.144		0.016
70	5.83	0.27	0.160	(	0.156)	0.144		0.016
71	5.92	0.27	0.160	(	0.155)	0.144		0.016
72	6.00	0.27	0.160	(	0.154)	0.144		0.016
73	6.08	0.30	0.180		0.154	(	0.162)	0.026
74	6.17	0.30	0.180		0.153	(	0.162)	0.027
75	6.25	0.30	0.180		0.152	(	0.162)	0.028
76	6.33	0.30	0.180		0.152	(	0.162)	0.028
77	6.42	0.30	0.180		0.151	(	0.162)	0.029
78	6.50	0.30	0.180		0.150	(	0.162)	0.030
79	6.58	0.33	0.200		0.150	(	0.180)	0.050
80	6.67	0.33	0.200		0.149	(	0.180)	0.051
81	6.75	0.33	0.200		0.148	(	0.180)	0.052
82	6.83	0.33	0.200		0.148	(	0.180)	0.052
83	6.92	0.33	0.200		0.147	(	0.180)	0.053
84	7.00	0.33	0.200		0.146	(	0.180)	0.054
85	7.08	0.33	0.200		0.146	(	0.180)	0.054
86	7.17	0.33	0.200		0.145	(	0.180)	0.055
87	7.25	0.33	0.200		0.144	(	0.180)	0.056
88	7.33	0.37	0.220		0.144	(	0.198)	0.076
89	7.42	0.37	0.220		0.143	(	0.198)	0.077
90	7.50	0.37	0.220		0.142	(	0.198)	0.078
91	7.58	0.40	0.240		0.142	(	0.216)	0.098
92	7.67	0.40	0.240		0.141	(	0.216)	0.099
93	7.75	0.40	0.240		0.140	(	0.216)	0.100
94	7.83	0.43	0.260		0.140	(	0.234)	0.120
95	7.92	0.43	0.260		0.139	(	0.234)	0.121
96	8.00	0.43	0.260		0.138	(	0.234)	0.122
97	8.08	0.50	0.300		0.138	(	0.270)	0.162
98	8.17	0.50	0.300		0.137	(	0.270)	0.163
99	8.25	0.50	0.300		0.137	(	0.270)	0.163
100	8.33	0.50	0.300		0.136	(	0.270)	0.164
101	8.42	0.50	0.300		0.135	(	0.270)	0.165
102	8.50	0.50	0.300		0.135	(	0.270)	0.165
103	8.58	0.53	0.320		0.134	(	0.288)	0.186
104	8.67	0.53	0.320		0.133	(	0.288)	0.187
105	8.75	0.53	0.320		0.133	(	0.288)	0.187
106	8.83	0.57	0.340		0.132	(	0.306)	0.208
107	8.92	0.57	0.340		0.131	(	0.306)	0.208
108	9.00	0.57	0.340		0.131	(	0.306)	0.209
109	9.08	0.63	0.380		0.130	(	0.342)	0.250
110	9.17	0.63	0.380		0.130	(	0.342)	0.250

111	9.25	0.63	0.380	0.129	(	0.342)	0.251
112	9.33	0.67	0.400	0.128	(	0.360)	0.272
113	9.42	0.67	0.400	0.128	(	0.360)	0.272
114	9.50	0.67	0.400	0.127	(	0.360)	0.273
115	9.58	0.70	0.420	0.127	(	0.378)	0.293
116	9.67	0.70	0.420	0.126	(	0.378)	0.294
117	9.75	0.70	0.420	0.125	(	0.378)	0.295
118	9.83	0.73	0.440	0.125	(	0.396)	0.315
119	9.92	0.73	0.440	0.124	(	0.396)	0.316
120	10.00	0.73	0.440	0.124	(	0.396)	0.316
121	10.08	0.50	0.300	0.123	(	0.270)	0.177
122	10.17	0.50	0.300	0.122	(	0.270)	0.178
123	10.25	0.50	0.300	0.122	(	0.270)	0.178
124	10.33	0.50	0.300	0.121	(	0.270)	0.179
125	10.42	0.50	0.300	0.121	(	0.270)	0.179
126	10.50	0.50	0.300	0.120	(	0.270)	0.180
127	10.58	0.67	0.400	0.119	(	0.360)	0.281
128	10.67	0.67	0.400	0.119	(	0.360)	0.281
129	10.75	0.67	0.400	0.118	(	0.360)	0.282
130	10.83	0.67	0.400	0.118	(	0.360)	0.282
131	10.92	0.67	0.400	0.117	(	0.360)	0.283
132	11.00	0.67	0.400	0.117	(	0.360)	0.283
133	11.08	0.63	0.380	0.116	(	0.342)	0.264
134	11.17	0.63	0.380	0.115	(	0.342)	0.265
135	11.25	0.63	0.380	0.115	(	0.342)	0.265
136	11.33	0.63	0.380	0.114	(	0.342)	0.266
137	11.42	0.63	0.380	0.114	(	0.342)	0.266
138	11.50	0.63	0.380	0.113	(	0.342)	0.267
139	11.58	0.57	0.340	0.113	(	0.306)	0.227
140	11.67	0.57	0.340	0.112	(	0.306)	0.228
141	11.75	0.57	0.340	0.111	(	0.306)	0.229
142	11.83	0.60	0.360	0.111	(	0.324)	0.249
143	11.92	0.60	0.360	0.110	(	0.324)	0.250
144	12.00	0.60	0.360	0.110	(	0.324)	0.250
145	12.08	0.83	0.500	0.109	(	0.450)	0.391
146	12.17	0.83	0.500	0.109	(	0.450)	0.391
147	12.25	0.83	0.500	0.108	(	0.450)	0.392
148	12.33	0.87	0.520	0.108	(	0.468)	0.412
149	12.42	0.87	0.520	0.107	(	0.468)	0.413
150	12.50	0.87	0.520	0.107	(	0.468)	0.413
151	12.58	0.93	0.560	0.106	(	0.504)	0.454
152	12.67	0.93	0.560	0.105	(	0.504)	0.455
153	12.75	0.93	0.560	0.105	(	0.504)	0.455
154	12.83	0.97	0.580	0.104	(	0.522)	0.476
155	12.92	0.97	0.580	0.104	(	0.522)	0.476
156	13.00	0.97	0.580	0.103	(	0.522)	0.477
157	13.08	1.13	0.680	0.103	(	0.612)	0.577
158	13.17	1.13	0.680	0.102	(	0.612)	0.578
159	13.25	1.13	0.680	0.102	(	0.612)	0.578
160	13.33	1.13	0.680	0.101	(	0.612)	0.579
161	13.42	1.13	0.680	0.101	(	0.612)	0.579
162	13.50	1.13	0.680	0.100	(	0.612)	0.580
163	13.58	0.77	0.460	0.100	(	0.414)	0.360
164	13.67	0.77	0.460	0.099	(	0.414)	0.361
165	13.75	0.77	0.460	0.099	(	0.414)	0.361
166	13.83	0.77	0.460	0.098	(	0.414)	0.362
167	13.92	0.77	0.460	0.098	(	0.414)	0.362
168	14.00	0.77	0.460	0.097	(	0.414)	0.363
169	14.08	0.90	0.540	0.097	(	0.486)	0.443
170	14.17	0.90	0.540	0.096	(	0.486)	0.444
171	14.25	0.90	0.540	0.096	(	0.486)	0.444
172	14.33	0.87	0.520	0.095	(	0.468)	0.425
173	14.42	0.87	0.520	0.095	(	0.468)	0.425
174	14.50	0.87	0.520	0.094	(	0.468)	0.426
175	14.58	0.87	0.520	0.094	(	0.468)	0.426
176	14.67	0.87	0.520	0.093	(	0.468)	0.427
177	14.75	0.87	0.520	0.093	(	0.468)	0.427
178	14.83	0.83	0.500	0.092	(	0.450)	0.408
179	14.92	0.83	0.500	0.092	(	0.450)	0.408
180	15.00	0.83	0.500	0.091	(	0.450)	0.409
181	15.08	0.80	0.480	0.091	(	0.432)	0.389
182	15.17	0.80	0.480	0.090	(	0.432)	0.389
183	15.25	0.80	0.480	0.090	(	0.432)	0.390
184	15.33	0.77	0.460	0.090	(	0.414)	0.370
185	15.42	0.77	0.460	0.089	(	0.414)	0.371

186	15.50	0.77	0.460		0.089	(0.414)	0.371
187	15.58	0.63	0.380		0.088	(0.342)	0.292
188	15.67	0.63	0.380		0.088	(0.342)	0.292
189	15.75	0.63	0.380		0.087	(0.342)	0.293
190	15.83	0.63	0.380		0.087	(0.342)	0.293
191	15.92	0.63	0.380		0.086	(0.342)	0.294
192	16.00	0.63	0.380		0.086	(0.342)	0.294
193	16.08	0.13	0.080	(0.085)		0.072	0.008
194	16.17	0.13	0.080	(0.085)		0.072	0.008
195	16.25	0.13	0.080	(0.085)		0.072	0.008
196	16.33	0.13	0.080	(0.084)		0.072	0.008
197	16.42	0.13	0.080	(0.084)		0.072	0.008
198	16.50	0.13	0.080	(0.083)		0.072	0.008
199	16.58	0.10	0.060	(0.083)		0.054	0.006
200	16.67	0.10	0.060	(0.082)		0.054	0.006
201	16.75	0.10	0.060	(0.082)		0.054	0.006
202	16.83	0.10	0.060	(0.082)		0.054	0.006
203	16.92	0.10	0.060	(0.081)		0.054	0.006
204	17.00	0.10	0.060	(0.081)		0.054	0.006
205	17.08	0.17	0.100		0.080	(0.090)	0.020
206	17.17	0.17	0.100		0.080	(0.090)	0.020
207	17.25	0.17	0.100		0.080	(0.090)	0.020
208	17.33	0.17	0.100		0.079	(0.090)	0.021
209	17.42	0.17	0.100		0.079	(0.090)	0.021
210	17.50	0.17	0.100		0.078	(0.090)	0.022
211	17.58	0.17	0.100		0.078	(0.090)	0.022
212	17.67	0.17	0.100		0.078	(0.090)	0.022
213	17.75	0.17	0.100		0.077	(0.090)	0.023
214	17.83	0.13	0.080	(0.077)		0.072	0.008
215	17.92	0.13	0.080	(0.076)		0.072	0.008
216	18.00	0.13	0.080	(0.076)		0.072	0.008
217	18.08	0.13	0.080	(0.076)		0.072	0.008
218	18.17	0.13	0.080	(0.075)		0.072	0.008
219	18.25	0.13	0.080	(0.075)		0.072	0.008
220	18.33	0.13	0.080	(0.075)		0.072	0.008
221	18.42	0.13	0.080	(0.074)		0.072	0.008
222	18.50	0.13	0.080	(0.074)		0.072	0.008
223	18.58	0.10	0.060	(0.074)		0.054	0.006
224	18.67	0.10	0.060	(0.073)		0.054	0.006
225	18.75	0.10	0.060	(0.073)		0.054	0.006
226	18.83	0.07	0.040	(0.072)		0.036	0.004
227	18.92	0.07	0.040	(0.072)		0.036	0.004
228	19.00	0.07	0.040	(0.072)		0.036	0.004
229	19.08	0.10	0.060	(0.071)		0.054	0.006
230	19.17	0.10	0.060	(0.071)		0.054	0.006
231	19.25	0.10	0.060	(0.071)		0.054	0.006
232	19.33	0.13	0.080		0.070	(0.072)	0.010
233	19.42	0.13	0.080		0.070	(0.072)	0.010
234	19.50	0.13	0.080		0.070	(0.072)	0.010
235	19.58	0.10	0.060	(0.069)		0.054	0.006
236	19.67	0.10	0.060	(0.069)		0.054	0.006
237	19.75	0.10	0.060	(0.069)		0.054	0.006
238	19.83	0.07	0.040	(0.069)		0.036	0.004
239	19.92	0.07	0.040	(0.068)		0.036	0.004
240	20.00	0.07	0.040	(0.068)		0.036	0.004
241	20.08	0.10	0.060	(0.068)		0.054	0.006
242	20.17	0.10	0.060	(0.067)		0.054	0.006
243	20.25	0.10	0.060	(0.067)		0.054	0.006
244	20.33	0.10	0.060	(0.067)		0.054	0.006
245	20.42	0.10	0.060	(0.066)		0.054	0.006
246	20.50	0.10	0.060	(0.066)		0.054	0.006
247	20.58	0.10	0.060	(0.066)		0.054	0.006
248	20.67	0.10	0.060	(0.066)		0.054	0.006
249	20.75	0.10	0.060	(0.065)		0.054	0.006
250	20.83	0.07	0.040	(0.065)		0.036	0.004
251	20.92	0.07	0.040	(0.065)		0.036	0.004
252	21.00	0.07	0.040	(0.065)		0.036	0.004
253	21.08	0.10	0.060	(0.064)		0.054	0.006
254	21.17	0.10	0.060	(0.064)		0.054	0.006
255	21.25	0.10	0.060	(0.064)		0.054	0.006
256	21.33	0.07	0.040	(0.064)		0.036	0.004
257	21.42	0.07	0.040	(0.063)		0.036	0.004
258	21.50	0.07	0.040	(0.063)		0.036	0.004
259	21.58	0.10	0.060	(0.063)		0.054	0.006
260	21.67	0.10	0.060	(0.063)		0.054	0.006

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261  21.75     0.10      0.060       (  0.062)       0.054        0.006
262  21.83     0.07      0.040       (  0.062)       0.036        0.004
263  21.92     0.07      0.040       (  0.062)       0.036        0.004
264  22.00     0.07      0.040       (  0.062)       0.036        0.004
265  22.08     0.10      0.060       (  0.062)       0.054        0.006
266  22.17     0.10      0.060       (  0.061)       0.054        0.006
267  22.25     0.10      0.060       (  0.061)       0.054        0.006
268  22.33     0.07      0.040       (  0.061)       0.036        0.004
269  22.42     0.07      0.040       (  0.061)       0.036        0.004
270  22.50     0.07      0.040       (  0.061)       0.036        0.004
271  22.58     0.07      0.040       (  0.060)       0.036        0.004
272  22.67     0.07      0.040       (  0.060)       0.036        0.004
273  22.75     0.07      0.040       (  0.060)       0.036        0.004
274  22.83     0.07      0.040       (  0.060)       0.036        0.004
275  22.92     0.07      0.040       (  0.060)       0.036        0.004
276  23.00     0.07      0.040       (  0.060)       0.036        0.004
277  23.08     0.07      0.040       (  0.060)       0.036        0.004
278  23.17     0.07      0.040       (  0.059)       0.036        0.004
279  23.25     0.07      0.040       (  0.059)       0.036        0.004
280  23.33     0.07      0.040       (  0.059)       0.036        0.004
281  23.42     0.07      0.040       (  0.059)       0.036        0.004
282  23.50     0.07      0.040       (  0.059)       0.036        0.004
283  23.58     0.07      0.040       (  0.059)       0.036        0.004
284  23.67     0.07      0.040       (  0.059)       0.036        0.004
285  23.75     0.07      0.040       (  0.059)       0.036        0.004
286  23.83     0.07      0.040       (  0.059)       0.036        0.004
287  23.92     0.07      0.040       (  0.059)       0.036        0.004
288  24.00     0.07      0.040       (  0.059)       0.036        0.004
                (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    34.3
      Flood volume = Effective rainfall      2.86(In)
       times area      60.2(Ac.)/[(In)/(Ft.)] =      14.3(Ac.Ft)
      Total soil loss =      2.14(In)
      Total soil loss =    10.746(Ac.Ft)
      Total rainfall =      5.00(In)
      Flood volume =      624419.8 Cubic Feet
      Total soil loss =      468081.7 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     34.289(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       10.0      20.0      30.0      40.0
 ---------------------------------------------------------------------------
   0+ 5       0.0001      0.02  Q         |         |         |         |
   0+10       0.0008      0.09  Q         |         |         |         |
   0+15       0.0019      0.16  Q         |         |         |         |
   0+20       0.0032      0.20  Q         |         |         |         |
   0+25       0.0050      0.25  Q         |         |         |         |
   0+30       0.0070      0.29  Q         |         |         |         |
   0+35       0.0092      0.32  Q         |         |         |         |
   0+40       0.0114      0.33  Q         |         |         |         |
   0+45       0.0138      0.34  Q         |         |         |         |
   0+50       0.0162      0.35  Q         |         |         |         |
   0+55       0.0189      0.40  Q         |         |         |         |
   1+ 0       0.0219      0.44  Q         |         |         |         |
   1+ 5       0.0250      0.44  Q         |         |         |         |
   1+10       0.0279      0.42  Q         |         |         |         |
   1+15       0.0305      0.39  Q         |         |         |         |
   1+20       0.0331      0.38  Q         |         |         |         |
   1+25       0.0357      0.38  Q         |         |         |         |
   1+30       0.0383      0.37  Q         |         |         |         |
   1+35       0.0408      0.37  Q         |         |         |         |
   1+40       0.0434      0.37  Q         |         |         |         |
   1+45       0.0459      0.37  Q         |         |         |         |
   1+50       0.0485      0.38  Q         |         |         |         |
   1+55       0.0514      0.41  Q         |         |         |         |
   2+ 0       0.0544      0.45  Q         |         |         |         |
   2+ 5       0.0576      0.46  Q         |         |         |         |
   2+10       0.0608      0.47  Q         |         |         |         |
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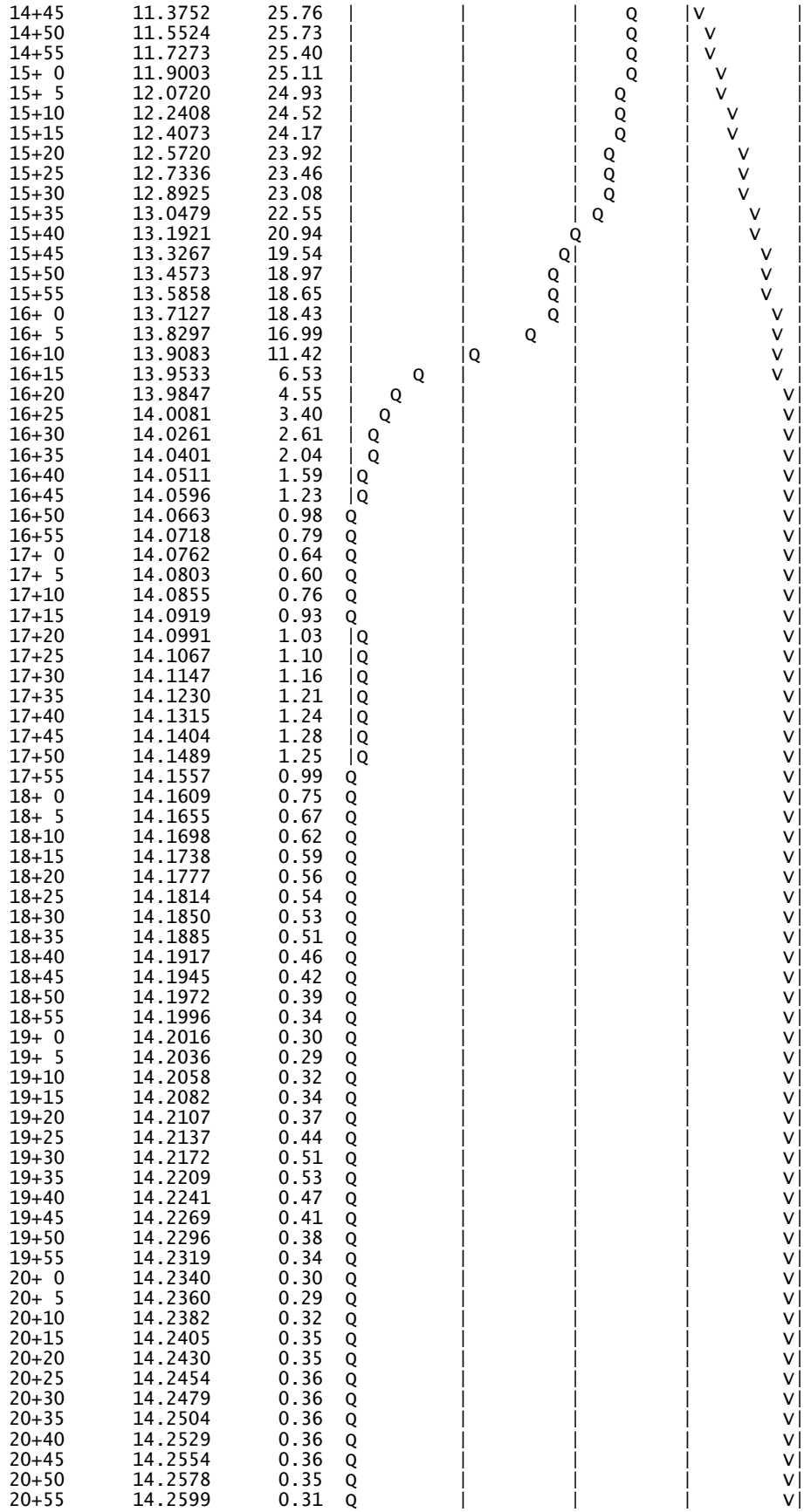
2+15       0.0641      0.47  Q          |          |          |          |
2+20       0.0673      0.47  Q          |          |          |          |
2+25       0.0706      0.48  Q          |          |          |          |
2+30       0.0739      0.48  Q          |          |          |          |
2+35       0.0773      0.49  Q          |          |          |          |
2+40       0.0810      0.53  Q          |          |          |          |
2+45       0.0848      0.56  Q          |          |          |          |
2+50       0.0888      0.58  Q          |          |          |          |
2+55       0.0929      0.59  Q          |          |          |          |
3+ 0       0.0969      0.59  Q          |          |          |          |
3+ 5       0.1011      0.60  Q          |          |          |          |
3+10       0.1052      0.60  Q          |          |          |          |
3+15       0.1093      0.60  Q          |          |          |          |
3+20       0.1135      0.60  Q          |          |          |          |
3+25       0.1176      0.60  Q          |          |          |          |
3+30       0.1218      0.61  Q          |          |          |          |
3+35       0.1260      0.61  Q          |          |          |          |
3+40       0.1301      0.61  Q          |          |          |          |
3+45       0.1343      0.61  Q          |          |          |          |
3+50       0.1386      0.62  Q          |          |          |          |
3+55       0.1431      0.65  Q          |          |          |          |
4+ 0       0.1478      0.69  Q          |          |          |          |
4+ 5       0.1526      0.70  Q          |          |          |          |
4+10       0.1575      0.71  Q          |          |          |          |
4+15       0.1624      0.71  Q          |          |          |          |
4+20       0.1674      0.73  Q          |          |          |          |
4+25       0.1727      0.77  Q          |          |          |          |
4+30       0.1783      0.80  Q          |          |          |          |
4+35       0.1839      0.82  Q          |          |          |          |
4+40       0.1896      0.83  Q          |          |          |          |
4+45       0.1953      0.83  Q          |          |          |          |
4+50       0.2012      0.85  Q          |          |          |          |
4+55       0.2073      0.89  Q          |          |          |          |
5+ 0       0.2137      0.92  Q          |          |          |          |
5+ 5       0.2200      0.92  Q          |          |          |          |
5+10       0.2259      0.85  Q          |          |          |          |
5+15       0.2314      0.79  Q          |          |          |          |
5+20       0.2367      0.78  Q          |          |          |          |
5+25       0.2423      0.81  Q          |          |          |          |
5+30       0.2480      0.83  Q          |          |          |          |
5+35       0.2539      0.85  Q          |          |          |          |
5+40       0.2600      0.89  Q          |          |          |          |
5+45       0.2664      0.93  Q          |          |          |          |
5+50       0.2728      0.94  Q          |          |          |          |
5+55       0.2794      0.95  Q          |          |          |          |
6+ 0       0.2859      0.95  Q          |          |          |          |
6+ 5       0.2929      1.00  VQ         |          |          |          |
6+10       0.3012      1.21  VQ         |          |          |          |
6+15       0.3108      1.40  VQ         |          |          |          |
6+20       0.3211      1.49  VQ         |          |          |          |
6+25       0.3319      1.57  VQ         |          |          |          |
6+30       0.3431      1.63  VQ         |          |          |          |
6+35       0.3553      1.78  VQ         |          |          |          |
6+40       0.3705      2.21  |VQ        |          |          |          |
6+45       0.3884      2.60  |VQ        |          |          |          |
6+50       0.4075      2.78  |VQ        |          |          |          |
6+55       0.4275      2.90  |VQ        |          |          |          |
7+ 0       0.4481      3.00  |VQ        |          |          |          |
7+ 5       0.4693      3.08  |V Q       |          |          |          |
7+10       0.4910      3.15  |V Q       |          |          |          |
7+15       0.5131      3.21  |V Q       |          |          |          |
7+20       0.5363      3.36  |V Q       |          |          |          |
7+25       0.5624      3.79  |V Q       |          |          |          |
7+30       0.5912      4.18  |V  Q      |          |          |          |
7+35       0.6218      4.45  |V  Q      |          |          |          |
7+40       0.6560      4.96  |V  Q      |          |          |          |
7+45       0.6931      5.39  |V   Q     |          |          |          |
7+50       0.7322      5.69  | V  Q     |          |          |          |
7+55       0.7750      6.21  | V   Q    |          |          |          |
8+ 0       0.8209      6.66  | V   Q    |          |          |          |
8+ 5       0.8696      7.07  | V    Q   |          |          |          |
8+10       0.9246      7.99  | V    Q   |          |          |          |
8+15       0.9851      8.78  | V     Q  |          |          |          |
8+20       1.0481      9.15  | V      Q|          |          |          |
8+25       1.1128      9.39  |  V     Q|          |          |          |
```

8+30	1.1787	9.57	V Q				
8+35	1.2461	9.80	V Q				
8+40	1.3170	10.29	V Q				
8+45	1.3908	10.72	V Q				
8+50	1.4668	11.02	V Q				
8+55	1.5463	11.55	V Q				
9+ 0	1.6290	12.00	V Q				
9+ 5	1.7144	12.41	V Q				
9+10	1.8062	13.33	V Q				
9+15	1.9034	14.12	V Q				
9+20	2.0037	14.57	V Q				
9+25	2.1083	15.18	V Q				
9+30	2.2163	15.69	V Q				
9+35	2.3268	16.05	V Q				
9+40	2.4413	16.62	V Q				
9+45	2.5590	17.10	V Q				
9+50	2.6791	17.44	V Q				
9+55	2.8030	17.99	V Q				
10+ 0	2.9302	18.46	V Q				
10+ 5	3.0546	18.07	V Q				
10+10	3.1618	15.57	V Q				
10+15	3.2538	13.35	V Q				
10+20	3.3399	12.51	V Q				
10+25	3.4229	12.06	V Q				
10+30	3.5039	11.76	V Q				
10+35	3.5866	12.01	V Q				
10+40	3.6816	13.78	V Q				
10+45	3.7873	15.36	V Q				
10+50	3.8972	15.95	V Q				
10+55	4.0094	16.29	V Q				
11+ 0	4.1232	16.52	V Q				
11+ 5	4.2375	16.60	V Q				
11+10	4.3501	16.34	V Q				
11+15	4.4611	16.12	V Q				
11+20	4.5720	16.10	V Q				
11+25	4.6831	16.13	V Q				
11+30	4.7943	16.16	V Q				
11+35	4.9046	16.01	V Q				
11+40	5.0099	15.29	V Q				
11+45	5.1108	14.65	Q				
11+50	5.2106	14.49	Q				
11+55	5.3122	14.74	Q				
12+ 0	5.4155	15.00	QV				
12+ 5	5.5237	15.71	Q				
12+10	5.6506	18.43	V Q				
12+15	5.7940	20.82	V Q				
12+20	5.9447	21.88	V Q				
12+25	6.1020	22.84	V Q				
12+30	6.2643	23.57	V Q				
12+35	6.4309	24.19	V Q				
12+40	6.6048	25.25	V Q				
12+45	6.7849	26.15	V Q				
12+50	6.9688	26.71	V Q				
12+55	7.1575	27.40	V Q				
13+ 0	7.3501	27.96	V Q				
13+ 5	7.5479	28.72	V Q				
13+10	7.7604	30.85	V Q				
13+15	7.9856	32.70	V Q				
13+20	8.2161	33.48	V Q				
13+25	8.4499	33.95	V Q				
13+30	8.6861	34.29	V Q				
13+35	8.9171	33.55	V Q				
13+40	9.1206	29.55	V Q				
13+45	9.2998	26.01	VQ				
13+50	9.4696	24.66	Q V				
13+55	9.6344	23.92	Q V				
14+ 0	9.7958	23.43	Q V				
14+ 5	9.9572	23.44	Q V				
14+10	10.1276	24.74	Q V				
14+15	10.3059	25.90	Q V				
14+20	10.4863	26.19	Q V				
14+25	10.6653	26.00	Q V				
14+30	10.8430	25.80	Q V				
14+35	11.0204	25.76	Q V				
14+40	11.1978	25.75	Q V				



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  21+ 0      14.2619      0.28  Q          |          |          |         v|
  21+ 5      14.2638      0.28  Q          |          |          |         v|
  21+10      14.2659      0.31  Q          |          |          |         v|
  21+15      14.2683      0.34  Q          |          |          |         v|
  21+20      14.2706      0.34  Q          |          |          |         v|
  21+25      14.2727      0.31  Q          |          |          |         v|
  21+30      14.2746      0.27  Q          |          |          |         v|
  21+35      14.2765      0.27  Q          |          |          |         v|
  21+40      14.2786      0.30  Q          |          |          |         v|
  21+45      14.2809      0.33  Q          |          |          |         v|
  21+50      14.2832      0.34  Q          |          |          |         v|
  21+55      14.2853      0.30  Q          |          |          |         v|
  22+ 0      14.2871      0.27  Q          |          |          |         v|
  22+ 5      14.2890      0.27  Q          |          |          |         v|
  22+10      14.2911      0.30  Q          |          |          |         v|
  22+15      14.2934      0.33  Q          |          |          |         v|
  22+20      14.2957      0.34  Q          |          |          |         v|
  22+25      14.2978      0.30  Q          |          |          |         v|
  22+30      14.2997      0.27  Q          |          |          |         v|
  22+35      14.3015      0.26  Q          |          |          |         v|
  22+40      14.3032      0.26  Q          |          |          |         v|
  22+45      14.3050      0.25  Q          |          |          |         v|
  22+50      14.3067      0.25  Q          |          |          |         v|
  22+55      14.3084      0.25  Q          |          |          |         v|
  23+ 0      14.3101      0.25  Q          |          |          |         v|
  23+ 5      14.3118      0.25  Q          |          |          |         v|
  23+10      14.3135      0.25  Q          |          |          |         v|
  23+15      14.3152      0.24  Q          |          |          |         v|
  23+20      14.3169      0.24  Q          |          |          |         v|
  23+25      14.3185      0.24  Q          |          |          |         v|
  23+30      14.3202      0.24  Q          |          |          |         v|
  23+35      14.3219      0.24  Q          |          |          |         v|
  23+40      14.3236      0.24  Q          |          |          |         v|
  23+45      14.3252      0.24  Q          |          |          |         v|
  23+50      14.3269      0.24  Q          |          |          |         v|
  23+55      14.3286      0.24  Q          |          |          |         v|
  24+ 0      14.3303      0.24  Q          |          |          |         v|
  24+ 5      14.3318      0.22  Q          |          |          |         v|
  24+10      14.3328      0.15  Q          |          |          |         v|
  24+15      14.3334      0.08  Q          |          |          |         v|
  24+20      14.3338      0.05  Q          |          |          |         v|
  24+25      14.3340      0.04  Q          |          |          |         v|
  24+30      14.3342      0.03  Q          |          |          |         v|
  24+35      14.3344      0.02  Q          |          |          |         v|
  24+40      14.3345      0.02  Q          |          |          |         v|
  24+45      14.3346      0.01  Q          |          |          |         v|
  24+50      14.3346      0.01  Q          |          |          |         v|
  24+55      14.3347      0.01  Q          |          |          |         v|
  25+ 0      14.3347      0.00  Q          |          |          |         v|
  25+ 5      14.3347      0.00  Q          |          |          |         v|
  25+10      14.3347      0.00  Q          |          |          |          v
-------------------------------------------------------------------------
```

PROPOSED CONDITION UNIT HYDROGRAPHS

PROPOSED CONDITION
2-YEAR, 24-HOUR UNIT HYDROGRAPH

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

Study date 11/17/22 File: ONSITEPROPWEST242.out

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

Program License Serial Number 4010

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

English Units used in output format

21-0235 - PERRIS AIRPORT LOGISTICS CENTER
ONSITE UNIT HYDROGRAPH ANALYSIS
PROPOSED CONDITION, 2-YEAR
FN: ONSITEPROPWEST, ABE, 2022-11-17

Drainage Area = 60.20(Ac.) = 0.094 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.20(Ac.) = 0.094 Sq. Mi.
Length along longest watercourse = 2740.00(Ft.)
Length along longest watercourse measured to centroid = 1139.00(Ft.)
Length along longest watercourse = 0.519 Mi.
Length along longest watercourse measured to centroid = 0.216 Mi.
Difference in elevation = 16.00(Ft.)
Slope along watercourse = 30.8321 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.082 Hr.
Lag time = 4.90 Min.
25% of lag time = 1.22 Min.
40% of lag time = 1.96 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]
60.20	1.80	108.36

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
60.20	5.00	301.00

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 5.000(In)

Point rain (area averaged) = 1.800(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.800(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
60.200	69.00	0.900

Total Area Entered = 60.20(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

69.0	69.0	0.373	0.900	0.071	1.000	0.071
					Sum (F) =	0.071

Area averaged mean soil loss (F) (In/Hr) = 0.071
Minimum soil loss rate ((In/Hr)) = 0.035
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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	102.048	19.829	12.030
2	0.167	204.096	48.543	29.451
3	0.250	306.144	15.333	9.303
4	0.333	408.192	6.955	4.220
5	0.417	510.240	3.895	2.363
6	0.500	612.288	2.514	1.525
7	0.583	714.336	1.536	0.932
8	0.667	816.384	1.395	0.846
			Sum = 100.000	Sum= 60.670

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.014	(0.126)	0.003	0.012
2	0.17	0.07	0.014	(0.125)	0.003	0.012
3	0.25	0.07	0.014	(0.125)	0.003	0.012
4	0.33	0.10	0.022	(0.124)	0.004	0.017
5	0.42	0.10	0.022	(0.124)	0.004	0.017
6	0.50	0.10	0.022	(0.123)	0.004	0.017
7	0.58	0.10	0.022	(0.123)	0.004	0.017
8	0.67	0.10	0.022	(0.122)	0.004	0.017
9	0.75	0.10	0.022	(0.122)	0.004	0.017
10	0.83	0.13	0.029	(0.121)	0.006	0.023
11	0.92	0.13	0.029	(0.121)	0.006	0.023
12	1.00	0.13	0.029	(0.120)	0.006	0.023
13	1.08	0.10	0.022	(0.120)	0.004	0.017
14	1.17	0.10	0.022	(0.119)	0.004	0.017
15	1.25	0.10	0.022	(0.119)	0.004	0.017
16	1.33	0.10	0.022	(0.118)	0.004	0.017
17	1.42	0.10	0.022	(0.118)	0.004	0.017
18	1.50	0.10	0.022	(0.117)	0.004	0.017
19	1.58	0.10	0.022	(0.117)	0.004	0.017
20	1.67	0.10	0.022	(0.117)	0.004	0.017
21	1.75	0.10	0.022	(0.116)	0.004	0.017
22	1.83	0.13	0.029	(0.116)	0.006	0.023
23	1.92	0.13	0.029	(0.115)	0.006	0.023
24	2.00	0.13	0.029	(0.115)	0.006	0.023
25	2.08	0.13	0.029	(0.114)	0.006	0.023
26	2.17	0.13	0.029	(0.114)	0.006	0.023
27	2.25	0.13	0.029	(0.113)	0.006	0.023
28	2.33	0.13	0.029	(0.113)	0.006	0.023
29	2.42	0.13	0.029	(0.112)	0.006	0.023
30	2.50	0.13	0.029	(0.112)	0.006	0.023
31	2.58	0.17	0.036	(0.111)	0.007	0.029
32	2.67	0.17	0.036	(0.111)	0.007	0.029
33	2.75	0.17	0.036	(0.110)	0.007	0.029
34	2.83	0.17	0.036	(0.110)	0.007	0.029
35	2.92	0.17	0.036	(0.110)	0.007	0.029
36	3.00	0.17	0.036	(0.109)	0.007	0.029
37	3.08	0.17	0.036	(0.109)	0.007	0.029
38	3.17	0.17	0.036	(0.108)	0.007	0.029
39	3.25	0.17	0.036	(0.108)	0.007	0.029
40	3.33	0.17	0.036	(0.107)	0.007	0.029
41	3.42	0.17	0.036	(0.107)	0.007	0.029
42	3.50	0.17	0.036	(0.106)	0.007	0.029

43	3.58	0.17	0.036	(0.106)	0.007	0.029
44	3.67	0.17	0.036	(0.106)	0.007	0.029
45	3.75	0.17	0.036	(0.105)	0.007	0.029
46	3.83	0.20	0.043	(0.105)	0.009	0.035
47	3.92	0.20	0.043	(0.104)	0.009	0.035
48	4.00	0.20	0.043	(0.104)	0.009	0.035
49	4.08	0.20	0.043	(0.103)	0.009	0.035
50	4.17	0.20	0.043	(0.103)	0.009	0.035
51	4.25	0.20	0.043	(0.102)	0.009	0.035
52	4.33	0.23	0.050	(0.102)	0.010	0.040
53	4.42	0.23	0.050	(0.102)	0.010	0.040
54	4.50	0.23	0.050	(0.101)	0.010	0.040
55	4.58	0.23	0.050	(0.101)	0.010	0.040
56	4.67	0.23	0.050	(0.100)	0.010	0.040
57	4.75	0.23	0.050	(0.100)	0.010	0.040
58	4.83	0.27	0.058	(0.099)	0.012	0.046
59	4.92	0.27	0.058	(0.099)	0.012	0.046
60	5.00	0.27	0.058	(0.099)	0.012	0.046
61	5.08	0.20	0.043	(0.098)	0.009	0.035
62	5.17	0.20	0.043	(0.098)	0.009	0.035
63	5.25	0.20	0.043	(0.097)	0.009	0.035
64	5.33	0.23	0.050	(0.097)	0.010	0.040
65	5.42	0.23	0.050	(0.096)	0.010	0.040
66	5.50	0.23	0.050	(0.096)	0.010	0.040
67	5.58	0.27	0.058	(0.096)	0.012	0.046
68	5.67	0.27	0.058	(0.095)	0.012	0.046
69	5.75	0.27	0.058	(0.095)	0.012	0.046
70	5.83	0.27	0.058	(0.094)	0.012	0.046
71	5.92	0.27	0.058	(0.094)	0.012	0.046
72	6.00	0.27	0.058	(0.093)	0.012	0.046
73	6.08	0.30	0.065	(0.093)	0.013	0.052
74	6.17	0.30	0.065	(0.093)	0.013	0.052
75	6.25	0.30	0.065	(0.092)	0.013	0.052
76	6.33	0.30	0.065	(0.092)	0.013	0.052
77	6.42	0.30	0.065	(0.091)	0.013	0.052
78	6.50	0.30	0.065	(0.091)	0.013	0.052
79	6.58	0.33	0.072	(0.091)	0.014	0.058
80	6.67	0.33	0.072	(0.090)	0.014	0.058
81	6.75	0.33	0.072	(0.090)	0.014	0.058
82	6.83	0.33	0.072	(0.089)	0.014	0.058
83	6.92	0.33	0.072	(0.089)	0.014	0.058
84	7.00	0.33	0.072	(0.089)	0.014	0.058
85	7.08	0.33	0.072	(0.088)	0.014	0.058
86	7.17	0.33	0.072	(0.088)	0.014	0.058
87	7.25	0.33	0.072	(0.087)	0.014	0.058
88	7.33	0.37	0.079	(0.087)	0.016	0.063
89	7.42	0.37	0.079	(0.087)	0.016	0.063
90	7.50	0.37	0.079	(0.086)	0.016	0.063
91	7.58	0.40	0.086	(0.086)	0.017	0.069
92	7.67	0.40	0.086	(0.085)	0.017	0.069
93	7.75	0.40	0.086	(0.085)	0.017	0.069
94	7.83	0.43	0.094	(0.085)	0.019	0.075
95	7.92	0.43	0.094	(0.084)	0.019	0.075
96	8.00	0.43	0.094	(0.084)	0.019	0.075
97	8.08	0.50	0.108	(0.083)	0.022	0.086
98	8.17	0.50	0.108	(0.083)	0.022	0.086
99	8.25	0.50	0.108	(0.083)	0.022	0.086
100	8.33	0.50	0.108	(0.082)	0.022	0.086
101	8.42	0.50	0.108	(0.082)	0.022	0.086
102	8.50	0.50	0.108	(0.082)	0.022	0.086
103	8.58	0.53	0.115	(0.081)	0.023	0.092
104	8.67	0.53	0.115	(0.081)	0.023	0.092
105	8.75	0.53	0.115	(0.080)	0.023	0.092
106	8.83	0.57	0.122	(0.080)	0.024	0.098
107	8.92	0.57	0.122	(0.080)	0.024	0.098
108	9.00	0.57	0.122	(0.079)	0.024	0.098
109	9.08	0.63	0.137	(0.079)	0.027	0.109
110	9.17	0.63	0.137	(0.078)	0.027	0.109
111	9.25	0.63	0.137	(0.078)	0.027	0.109
112	9.33	0.67	0.144	(0.078)	0.029	0.115
113	9.42	0.67	0.144	(0.077)	0.029	0.115
114	9.50	0.67	0.144	(0.077)	0.029	0.115
115	9.58	0.70	0.151	(0.077)	0.030	0.121
116	9.67	0.70	0.151	(0.076)	0.030	0.121
117	9.75	0.70	0.151	(0.076)	0.030	0.121

118	9.83	0.73	0.158	(0.076)	0.032	0.127
119	9.92	0.73	0.158	(0.075)	0.032	0.127
120	10.00	0.73	0.158	(0.075)	0.032	0.127
121	10.08	0.50	0.108	(0.074)	0.022	0.086
122	10.17	0.50	0.108	(0.074)	0.022	0.086
123	10.25	0.50	0.108	(0.074)	0.022	0.086
124	10.33	0.50	0.108	(0.073)	0.022	0.086
125	10.42	0.50	0.108	(0.073)	0.022	0.086
126	10.50	0.50	0.108	(0.073)	0.022	0.086
127	10.58	0.67	0.144	(0.072)	0.029	0.115
128	10.67	0.67	0.144	(0.072)	0.029	0.115
129	10.75	0.67	0.144	(0.072)	0.029	0.115
130	10.83	0.67	0.144	(0.071)	0.029	0.115
131	10.92	0.67	0.144	(0.071)	0.029	0.115
132	11.00	0.67	0.144	(0.071)	0.029	0.115
133	11.08	0.63	0.137	(0.070)	0.027	0.109
134	11.17	0.63	0.137	(0.070)	0.027	0.109
135	11.25	0.63	0.137	(0.069)	0.027	0.109
136	11.33	0.63	0.137	(0.069)	0.027	0.109
137	11.42	0.63	0.137	(0.069)	0.027	0.109
138	11.50	0.63	0.137	(0.068)	0.027	0.109
139	11.58	0.57	0.122	(0.068)	0.024	0.098
140	11.67	0.57	0.122	(0.068)	0.024	0.098
141	11.75	0.57	0.122	(0.067)	0.024	0.098
142	11.83	0.60	0.130	(0.067)	0.026	0.104
143	11.92	0.60	0.130	(0.067)	0.026	0.104
144	12.00	0.60	0.130	(0.066)	0.026	0.104
145	12.08	0.83	0.180	(0.066)	0.036	0.144
146	12.17	0.83	0.180	(0.066)	0.036	0.144
147	12.25	0.83	0.180	(0.065)	0.036	0.144
148	12.33	0.87	0.187	(0.065)	0.037	0.150
149	12.42	0.87	0.187	(0.065)	0.037	0.150
150	12.50	0.87	0.187	(0.064)	0.037	0.150
151	12.58	0.93	0.202	(0.064)	0.040	0.161
152	12.67	0.93	0.202	(0.064)	0.040	0.161
153	12.75	0.93	0.202	(0.064)	0.040	0.161
154	12.83	0.97	0.209	(0.063)	0.042	0.167
155	12.92	0.97	0.209	(0.063)	0.042	0.167
156	13.00	0.97	0.209	(0.063)	0.042	0.167
157	13.08	1.13	0.245	(0.062)	0.049	0.196
158	13.17	1.13	0.245	(0.062)	0.049	0.196
159	13.25	1.13	0.245	(0.062)	0.049	0.196
160	13.33	1.13	0.245	(0.061)	0.049	0.196
161	13.42	1.13	0.245	(0.061)	0.049	0.196
162	13.50	1.13	0.245	(0.061)	0.049	0.196
163	13.58	0.77	0.166	(0.060)	0.033	0.132
164	13.67	0.77	0.166	(0.060)	0.033	0.132
165	13.75	0.77	0.166	(0.060)	0.033	0.132
166	13.83	0.77	0.166	(0.059)	0.033	0.132
167	13.92	0.77	0.166	(0.059)	0.033	0.132
168	14.00	0.77	0.166	(0.059)	0.033	0.132
169	14.08	0.90	0.194	(0.059)	0.039	0.156
170	14.17	0.90	0.194	(0.058)	0.039	0.156
171	14.25	0.90	0.194	(0.058)	0.039	0.156
172	14.33	0.87	0.187	(0.058)	0.037	0.150
173	14.42	0.87	0.187	(0.057)	0.037	0.150
174	14.50	0.87	0.187	(0.057)	0.037	0.150
175	14.58	0.87	0.187	(0.057)	0.037	0.150
176	14.67	0.87	0.187	(0.056)	0.037	0.150
177	14.75	0.87	0.187	(0.056)	0.037	0.150
178	14.83	0.83	0.180	(0.056)	0.036	0.144
179	14.92	0.83	0.180	(0.056)	0.036	0.144
180	15.00	0.83	0.180	(0.055)	0.036	0.144
181	15.08	0.80	0.173	(0.055)	0.035	0.138
182	15.17	0.80	0.173	(0.055)	0.035	0.138
183	15.25	0.80	0.173	(0.054)	0.035	0.138
184	15.33	0.77	0.166	(0.054)	0.033	0.132
185	15.42	0.77	0.166	(0.054)	0.033	0.132
186	15.50	0.77	0.166	(0.054)	0.033	0.132
187	15.58	0.63	0.137	(0.053)	0.027	0.109
188	15.67	0.63	0.137	(0.053)	0.027	0.109
189	15.75	0.63	0.137	(0.053)	0.027	0.109
190	15.83	0.63	0.137	(0.053)	0.027	0.109
191	15.92	0.63	0.137	(0.052)	0.027	0.109
192	16.00	0.63	0.137	(0.052)	0.027	0.109

193	16.08	0.13	0.029	(0.052)	0.006	0.023
194	16.17	0.13	0.029	(0.051)	0.006	0.023
195	16.25	0.13	0.029	(0.051)	0.006	0.023
196	16.33	0.13	0.029	(0.051)	0.006	0.023
197	16.42	0.13	0.029	(0.051)	0.006	0.023
198	16.50	0.13	0.029	(0.050)	0.006	0.023
199	16.58	0.10	0.022	(0.050)	0.004	0.017
200	16.67	0.10	0.022	(0.050)	0.004	0.017
201	16.75	0.10	0.022	(0.050)	0.004	0.017
202	16.83	0.10	0.022	(0.049)	0.004	0.017
203	16.92	0.10	0.022	(0.049)	0.004	0.017
204	17.00	0.10	0.022	(0.049)	0.004	0.017
205	17.08	0.17	0.036	(0.049)	0.007	0.029
206	17.17	0.17	0.036	(0.048)	0.007	0.029
207	17.25	0.17	0.036	(0.048)	0.007	0.029
208	17.33	0.17	0.036	(0.048)	0.007	0.029
209	17.42	0.17	0.036	(0.048)	0.007	0.029
210	17.50	0.17	0.036	(0.047)	0.007	0.029
211	17.58	0.17	0.036	(0.047)	0.007	0.029
212	17.67	0.17	0.036	(0.047)	0.007	0.029
213	17.75	0.17	0.036	(0.047)	0.007	0.029
214	17.83	0.13	0.029	(0.047)	0.006	0.023
215	17.92	0.13	0.029	(0.046)	0.006	0.023
216	18.00	0.13	0.029	(0.046)	0.006	0.023
217	18.08	0.13	0.029	(0.046)	0.006	0.023
218	18.17	0.13	0.029	(0.046)	0.006	0.023
219	18.25	0.13	0.029	(0.045)	0.006	0.023
220	18.33	0.13	0.029	(0.045)	0.006	0.023
221	18.42	0.13	0.029	(0.045)	0.006	0.023
222	18.50	0.13	0.029	(0.045)	0.006	0.023
223	18.58	0.10	0.022	(0.045)	0.004	0.017
224	18.67	0.10	0.022	(0.044)	0.004	0.017
225	18.75	0.10	0.022	(0.044)	0.004	0.017
226	18.83	0.07	0.014	(0.044)	0.003	0.012
227	18.92	0.07	0.014	(0.044)	0.003	0.012
228	19.00	0.07	0.014	(0.043)	0.003	0.012
229	19.08	0.10	0.022	(0.043)	0.004	0.017
230	19.17	0.10	0.022	(0.043)	0.004	0.017
231	19.25	0.10	0.022	(0.043)	0.004	0.017
232	19.33	0.13	0.029	(0.043)	0.006	0.023
233	19.42	0.13	0.029	(0.042)	0.006	0.023
234	19.50	0.13	0.029	(0.042)	0.006	0.023
235	19.58	0.10	0.022	(0.042)	0.004	0.017
236	19.67	0.10	0.022	(0.042)	0.004	0.017
237	19.75	0.10	0.022	(0.042)	0.004	0.017
238	19.83	0.07	0.014	(0.041)	0.003	0.012
239	19.92	0.07	0.014	(0.041)	0.003	0.012
240	20.00	0.07	0.014	(0.041)	0.003	0.012
241	20.08	0.10	0.022	(0.041)	0.004	0.017
242	20.17	0.10	0.022	(0.041)	0.004	0.017
243	20.25	0.10	0.022	(0.041)	0.004	0.017
244	20.33	0.10	0.022	(0.040)	0.004	0.017
245	20.42	0.10	0.022	(0.040)	0.004	0.017
246	20.50	0.10	0.022	(0.040)	0.004	0.017
247	20.58	0.10	0.022	(0.040)	0.004	0.017
248	20.67	0.10	0.022	(0.040)	0.004	0.017
249	20.75	0.10	0.022	(0.040)	0.004	0.017
250	20.83	0.07	0.014	(0.039)	0.003	0.012
251	20.92	0.07	0.014	(0.039)	0.003	0.012
252	21.00	0.07	0.014	(0.039)	0.003	0.012
253	21.08	0.10	0.022	(0.039)	0.004	0.017
254	21.17	0.10	0.022	(0.039)	0.004	0.017
255	21.25	0.10	0.022	(0.039)	0.004	0.017
256	21.33	0.07	0.014	(0.038)	0.003	0.012
257	21.42	0.07	0.014	(0.038)	0.003	0.012
258	21.50	0.07	0.014	(0.038)	0.003	0.012
259	21.58	0.10	0.022	(0.038)	0.004	0.017
260	21.67	0.10	0.022	(0.038)	0.004	0.017
261	21.75	0.10	0.022	(0.038)	0.004	0.017
262	21.83	0.07	0.014	(0.038)	0.003	0.012
263	21.92	0.07	0.014	(0.038)	0.003	0.012
264	22.00	0.07	0.014	(0.037)	0.003	0.012
265	22.08	0.10	0.022	(0.037)	0.004	0.017
266	22.17	0.10	0.022	(0.037)	0.004	0.017
267	22.25	0.10	0.022	(0.037)	0.004	0.017

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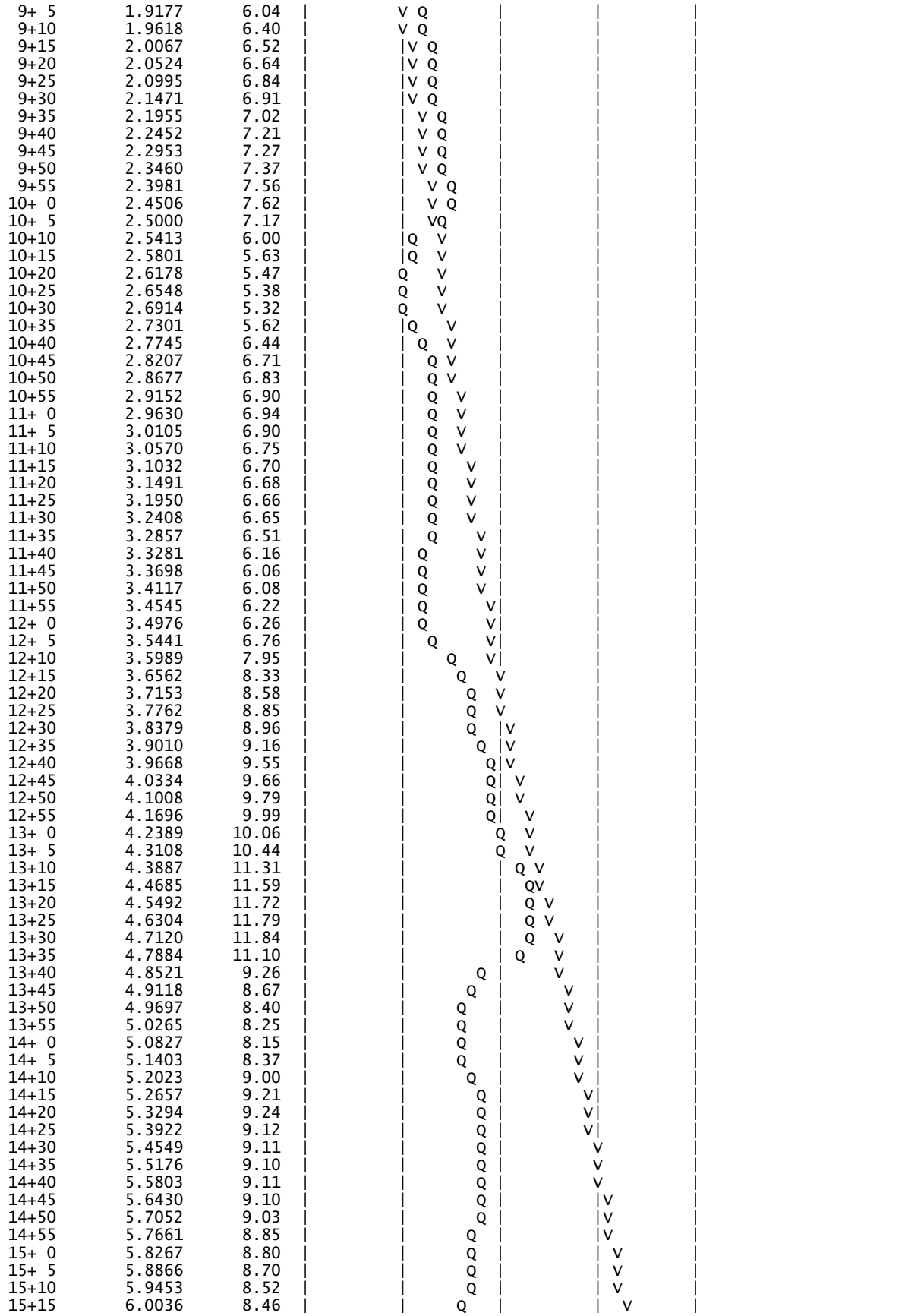
268  22.33     0.07      0.014       (  0.037)       0.003        0.012
269  22.42     0.07      0.014       (  0.037)       0.003        0.012
270  22.50     0.07      0.014       (  0.037)       0.003        0.012
271  22.58     0.07      0.014       (  0.037)       0.003        0.012
272  22.67     0.07      0.014       (  0.036)       0.003        0.012
273  22.75     0.07      0.014       (  0.036)       0.003        0.012
274  22.83     0.07      0.014       (  0.036)       0.003        0.012
275  22.92     0.07      0.014       (  0.036)       0.003        0.012
276  23.00     0.07      0.014       (  0.036)       0.003        0.012
277  23.08     0.07      0.014       (  0.036)       0.003        0.012
278  23.17     0.07      0.014       (  0.036)       0.003        0.012
279  23.25     0.07      0.014       (  0.036)       0.003        0.012
280  23.33     0.07      0.014       (  0.036)       0.003        0.012
281  23.42     0.07      0.014       (  0.036)       0.003        0.012
282  23.50     0.07      0.014       (  0.036)       0.003        0.012
283  23.58     0.07      0.014       (  0.036)       0.003        0.012
284  23.67     0.07      0.014       (  0.036)       0.003        0.012
285  23.75     0.07      0.014       (  0.036)       0.003        0.012
286  23.83     0.07      0.014       (  0.035)       0.003        0.012
287  23.92     0.07      0.014       (  0.035)       0.003        0.012
288  24.00     0.07      0.014       (  0.035)       0.003        0.012
               (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    17.3
      Flood volume = Effective rainfall      1.44(In)
       times area      60.2(Ac.)/[(In)/(Ft.)] =       7.2(Ac.Ft)
      Total soil loss =      0.36(In)
      Total soil loss =     1.806(Ac.Ft)
      Total rainfall =      1.80(In)
      Flood volume =      314640.4 Cubic Feet
      Total soil loss =       78660.1 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     11.835(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        5.0      10.0      15.0      20.0
 ---------------------------------------------------------------------------
   0+ 5       0.0010      0.14  Q         |          |          |          |
   0+10       0.0042      0.48  Q         |          |          |          |
   0+15       0.0083      0.59  VQ        |          |          |          |
   0+20       0.0131      0.70  VQ        |          |          |          |
   0+25       0.0193      0.90  VQ        |          |          |          |
   0+30       0.0260      0.97  VQ        |          |          |          |
   0+35       0.0329      1.01  V Q       |          |          |          |
   0+40       0.0400      1.03  V Q       |          |          |          |
   0+45       0.0472      1.04  V Q       |          |          |          |
   0+50       0.0549      1.11  V Q       |          |          |          |
   0+55       0.0637      1.29  V Q       |          |          |          |
   1+ 0       0.0730      1.34  V Q       |          |          |          |
   1+ 5       0.0819      1.30  V Q       |          |          |          |
   1+10       0.0897      1.14  V Q       |          |          |          |
   1+15       0.0973      1.10  V Q       |          |          |          |
   1+20       0.1047      1.08  V Q       |          |          |          |
   1+25       0.1121      1.07  V Q       |          |          |          |
   1+30       0.1194      1.06  V Q       |          |          |          |
   1+35       0.1266      1.05  V Q       |          |          |          |
   1+40       0.1338      1.05  V Q       |          |          |          |
   1+45       0.1411      1.05  V Q       |          |          |          |
   1+50       0.1488      1.12  V Q       |          |          |          |
   1+55       0.1576      1.29  V Q       |          |          |          |
   2+ 0       0.1669      1.34  V Q       |          |          |          |
   2+ 5       0.1763      1.37  V Q       |          |          |          |
   2+10       0.1858      1.38  |VQ       |          |          |          |
   2+15       0.1953      1.39  |VQ       |          |          |          |
   2+20       0.2049      1.39  |VQ       |          |          |          |
   2+25       0.2146      1.40  |VQ       |          |          |          |
   2+30       0.2242      1.40  |VQ       |          |          |          |
   2+35       0.2343      1.47  |VQ       |          |          |          |
   2+40       0.2456      1.64  |V Q      |          |          |          |
   2+45       0.2572      1.69  |V Q      |          |          |          |
```

```
2+50       0.2690      1.72  |V Q      |         |         |         |
2+55       0.2809      1.73  |V Q      |         |         |         |
3+ 0       0.2929      1.74  |V Q      |         |         |         |
3+ 5       0.3049      1.74  |V Q      |         |         |         |
3+10       0.3170      1.75  |V Q      |         |         |         |
3+15       0.3290      1.75  |V Q      |         |         |         |
3+20       0.3410      1.75  |V Q      |         |         |         |
3+25       0.3531      1.75  |V Q      |         |         |         |
3+30       0.3651      1.75  | VQ      |         |         |         |
3+35       0.3771      1.75  | VQ      |         |         |         |
3+40       0.3892      1.75  | VQ      |         |         |         |
3+45       0.4012      1.75  | VQ      |         |         |         |
3+50       0.4137      1.82  | VQ      |         |         |         |
3+55       0.4274      1.99  | VQ      |         |         |         |
4+ 0       0.4415      2.04  | V Q     |         |         |         |
4+ 5       0.4557      2.06  | V Q     |         |         |         |
4+10       0.4700      2.08  | V Q     |         |         |         |
4+15       0.4844      2.09  | V Q     |         |         |         |
4+20       0.4993      2.16  | V Q     |         |         |         |
4+25       0.5154      2.34  | V Q     |         |         |         |
4+30       0.5318      2.39  | V Q     |         |         |         |
4+35       0.5485      2.41  |  VQ     |         |         |         |
4+40       0.5652      2.43  |  VQ     |         |         |         |
4+45       0.5820      2.44  |  VQ     |         |         |         |
4+50       0.5993      2.51  |  V Q    |         |         |         |
4+55       0.6178      2.69  |  V Q    |         |         |         |
5+ 0       0.6366      2.74  |  V Q    |         |         |         |
5+ 5       0.6547      2.63  |  V Q    |         |         |         |
5+10       0.6706      2.30  |  VQ     |         |         |         |
5+15       0.6857      2.20  |  VQ     |         |         |         |
5+20       0.7011      2.23  |  VQ     |         |         |         |
5+25       0.7174      2.37  |  VQ     |         |         |         |
5+30       0.7340      2.41  |   Q     |         |         |         |
5+35       0.7512      2.49  |   Q     |         |         |         |
5+40       0.7696      2.67  |   VQ    |         |         |         |
5+45       0.7884      2.73  |   VQ    |         |         |         |
5+50       0.8074      2.76  |   VQ    |         |         |         |
5+55       0.8265      2.78  |   VQ    |         |         |         |
6+ 0       0.8457      2.79  |   VQ    |         |         |         |
6+ 5       0.8654      2.86  |   VQ    |         |         |         |
6+10       0.8863      3.04  |   V Q   |         |         |         |
6+15       0.9076      3.09  |    VQ   |         |         |         |
6+20       0.9290      3.11  |    VQ   |         |         |         |
6+25       0.9506      3.13  |    VQ   |         |         |         |
6+30       0.9722      3.14  |    VQ   |         |         |         |
6+35       0.9943      3.21  |    VQ   |         |         |         |
6+40       1.0176      3.39  |    VQ   |         |         |         |
6+45       1.0413      3.44  |    VQ   |         |         |         |
6+50       1.0651      3.46  |    VQ   |         |         |         |
6+55       1.0891      3.48  |     Q   |         |         |         |
7+ 0       1.1131      3.49  |     Q   |         |         |         |
7+ 5       1.1371      3.49  |     Q   |         |         |         |
7+10       1.1612      3.50  |     Q   |         |         |         |
7+15       1.1853      3.50  |     Q   |         |         |         |
7+20       1.2098      3.57  |     VQ  |         |         |         |
7+25       1.2355      3.74  |     VQ  |         |         |         |
7+30       1.2616      3.79  |     VQ  |         |         |         |
7+35       1.2884      3.88  |      Q  |         |         |         |
7+40       1.3164      4.07  |      VQ |         |         |         |
7+45       1.3448      4.13  |      VQ |         |         |         |
7+50       1.3739      4.23  |      VQ |         |         |         |
7+55       1.4043      4.42  |      VQ |         |         |         |
8+ 0       1.4352      4.48  |      VQ |         |         |         |
8+ 5       1.4672      4.65  |       VQ|         |         |         |
8+10       1.5016      5.00  |       V Q         |         |         |
8+15       1.5369      5.12  |       V Q         |         |         |
8+20       1.5725      5.17  |       V Q         |         |         |
8+25       1.6084      5.21  |       V Q         |         |         |
8+30       1.6443      5.22  |        VQ         |         |         |
8+35       1.6809      5.30  |        VQ         |         |         |
8+40       1.7186      5.48  |        VQ         |         |         |
8+45       1.7568      5.54  |        V|Q        |         |         |
8+50       1.7955      5.63  |        V|Q        |         |         |
8+55       1.8356      5.81  |         VQ        |         |         |
9+ 0       1.8760      5.88  |         VQ        |         |         |
```



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15+20       6.0611      8.36  |          |      Q   |          |  V       |
15+25       6.1174      8.17  |          |      Q   |          |  V       |
15+30       6.1732      8.11  |          |      Q   |          |   V      |
15+35       6.2270      7.80  |          |     Q    |          |   V      |
15+40       6.2759      7.10  |          |    Q     |          |   V      |
15+45       6.3233      6.88  |          |  Q       |          |    V     |
15+50       6.3700      6.78  |          |  Q       |          |    V     |
15+55       6.4162      6.72  |          |  Q       |          |    V     |
16+ 0       6.4623      6.68  |          |  Q       |          |    V     |
16+ 5       6.5010      5.62  |          |Q         |          |     V    |
16+10       6.5220      3.06  |      Q   |          |          |     V    |
16+15       6.5375      2.25  |    Q     |          |          |     V    |
16+20       6.5505      1.89  |  Q       |          |          |     V    |
16+25       6.5621      1.68  |  Q       |          |          |     V    |
16+30       6.5728      1.55  |  Q       |          |          |     V    |
16+35       6.5825      1.40  | Q        |          |          |     V    |
16+40       6.5905      1.16  | Q        |          |          |     V    |
16+45       6.5981      1.11  | Q        |          |          |     V    |
16+50       6.6055      1.08  | Q        |          |          |     V    |
16+55       6.6129      1.07  | Q        |          |          |     V    |
17+ 0       6.6202      1.06  | Q        |          |          |     V    |
17+ 5       6.6284      1.19  | Q        |          |          |     V    |
17+10       6.6389      1.53  |  Q       |          |          |     V    |
17+15       6.6502      1.63  |  Q       |          |          |     V    |
17+20       6.6618      1.68  |  Q       |          |          |     V    |
17+25       6.6735      1.71  |  Q       |          |          |     V    |
17+30       6.6854      1.73  |  Q       |          |          |      V   |
17+35       6.6974      1.74  |  Q       |          |          |      V   |
17+40       6.7094      1.75  |  Q       |          |          |      V   |
17+45       6.7215      1.75  |  Q       |          |          |      V   |
17+50       6.7330      1.68  |  Q       |          |          |      V   |
17+55       6.7434      1.51  |  Q       |          |          |      V   |
18+ 0       6.7535      1.46  | Q        |          |          |      V   |
18+ 5       6.7633      1.43  | Q        |          |          |      V   |
18+10       6.7731      1.42  | Q        |          |          |      V   |
18+15       6.7828      1.41  | Q        |          |          |      V   |
18+20       6.7924      1.40  | Q        |          |          |      V   |
18+25       6.8021      1.40  | Q        |          |          |      V   |
18+30       6.8117      1.40  | Q        |          |          |      V   |
18+35       6.8209      1.33  | Q        |          |          |      V   |
18+40       6.8288      1.16  | Q        |          |          |      V   |
18+45       6.8365      1.11  | Q        |          |          |      V   |
18+50       6.8434      1.01  | Q        |          |          |      V   |
18+55       6.8491      0.83  |Q         |          |          |      V   |
19+ 0       6.8544      0.77  |Q         |          |          |      V   |
19+ 5       6.8600      0.81  |Q         |          |          |      V   |
19+10       6.8666      0.96  |Q         |          |          |       V  |
19+15       6.8735      1.00  | Q        |          |          |       V  |
19+20       6.8810      1.09  | Q        |          |          |       V  |
19+25       6.8897      1.27  | Q        |          |          |       V  |
19+30       6.8989      1.33  | Q        |          |          |       V  |
19+35       6.9078      1.29  | Q        |          |          |       V  |
19+40       6.9156      1.14  | Q        |          |          |       V  |
19+45       6.9232      1.10  | Q        |          |          |       V  |
19+50       6.9301      1.01  | Q        |          |          |       V  |
19+55       6.9358      0.83  |Q         |          |          |       V  |
20+ 0       6.9411      0.77  |Q         |          |          |       V  |
20+ 5       6.9466      0.81  |Q         |          |          |       V  |
20+10       6.9532      0.96  |Q         |          |          |       V  |
20+15       6.9601      1.00  | Q        |          |          |       V  |
20+20       6.9672      1.02  | Q        |          |          |       V  |
20+25       6.9743      1.03  | Q        |          |          |       V  |
20+30       6.9814      1.04  | Q        |          |          |       V  |
20+35       6.9886      1.04  | Q        |          |          |       V  |
20+40       6.9958      1.05  | Q        |          |          |       V  |
20+45       7.0030      1.05  | Q        |          |          |       V  |
20+50       7.0098      0.98  |Q         |          |          |       V  |
20+55       7.0154      0.81  |Q         |          |          |       V  |
21+ 0       7.0206      0.76  |Q         |          |          |       V  |
21+ 5       7.0261      0.80  |Q         |          |          |       V  |
21+10       7.0327      0.96  |Q         |          |          |       V  |
21+15       7.0396      1.00  | Q        |          |          |       V  |
21+20       7.0461      0.95  |Q         |          |          |        V |
21+25       7.0516      0.79  |Q         |          |          |        V |
21+30       7.0567      0.75  |Q         |          |          |        V |
```

```
   21+35       7.0622      0.80  |Q        |         |         |        V|
   21+40       7.0688      0.96  |Q        |         |         |        V|
   21+45       7.0757      1.00  | Q       |         |         |        V|
   21+50       7.0823      0.95  |Q        |         |         |        V|
   21+55       7.0877      0.79  |Q        |         |         |        V|
   22+ 0       7.0928      0.75  |Q        |         |         |        V|
   22+ 5       7.0983      0.80  |Q        |         |         |        V|
   22+10       7.1049      0.96  |Q        |         |         |        V|
   22+15       7.1118      1.00  | Q       |         |         |        V|
   22+20       7.1184      0.95  |Q        |         |         |        V|
   22+25       7.1238      0.79  |Q        |         |         |        V|
   22+30       7.1290      0.75  |Q        |         |         |        V|
   22+35       7.1340      0.73  |Q        |         |         |        V|
   22+40       7.1389      0.72  |Q        |         |         |        V|
   22+45       7.1438      0.71  |Q        |         |         |        V|
   22+50       7.1486      0.70  |Q        |         |         |        V|
   22+55       7.1535      0.70  |Q        |         |         |        V|
   23+ 0       7.1583      0.70  |Q        |         |         |        V|
   23+ 5       7.1631      0.70  |Q        |         |         |        V|
   23+10       7.1679      0.70  |Q        |         |         |        V|
   23+15       7.1727      0.70  |Q        |         |         |        V|
   23+20       7.1775      0.70  |Q        |         |         |        V|
   23+25       7.1824      0.70  |Q        |         |         |        V|
   23+30       7.1872      0.70  |Q        |         |         |        V|
   23+35       7.1920      0.70  |Q        |         |         |        V|
   23+40       7.1968      0.70  |Q        |         |         |        V|
   23+45       7.2016      0.70  |Q        |         |         |        V|
   23+50       7.2064      0.70  |Q        |         |         |        V|
   23+55       7.2112      0.70  |Q        |         |         |        V|
   24+ 0       7.2161      0.70  |Q        |         |         |        V|
   24+ 5       7.2199      0.56  |Q        |         |         |        V|
   24+10       7.2214      0.22  Q         |         |         |        V|
   24+15       7.2222      0.11  Q         |         |         |        V|
   24+20       7.2227      0.07  Q         |         |         |        V|
   24+25       7.2229      0.04  Q         |         |         |        V|
   24+30       7.2231      0.02  Q         |         |         |        V|
   24+35       7.2232      0.01  Q         |         |         |         V
---------------------------------------------------------------------------
```

PROPOSED CONDITION
100-YEAR, 1-HOUR UNIT HYDROGRAPH

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

Study date 11/17/22 File: ONSITEPROPWEST1100.out

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

Program License Serial Number 4010

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

English Units used in output format

21-0235 - PERRIS AIRPORT LOGISTICS CENTER
ONSITE UNIT HYDROGRAPH ANALYSIS
PROPOSED CONDITION, 100-YEAR
FN: ONSITEPROPWEST, ABE, 2022-11-17

Drainage Area = 60.20(Ac.) = 0.094 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.20(Ac.) = 0.094 Sq. Mi.
Length along longest watercourse = 2740.00(Ft.)
Length along longest watercourse measured to centroid = 1139.00(Ft.)
Length along longest watercourse = 0.519 Mi.
Length along longest watercourse measured to centroid = 0.216 Mi.
Difference in elevation = 16.00(Ft.)
Slope along watercourse = 30.8321 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.082 Hr.
Lag time = 4.90 Min.
25% of lag time = 1.22 Min.
40% of lag time = 1.96 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]
60.20	0.48	28.90

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
60.20	1.25	75.25

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.480(In)
Area Averaged 100-Year Rainfall = 1.250(In)

Point rain (area averaged) = 1.250(In)
Areal adjustment factor = 99.95 %
Adjusted average point rain = 1.249(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
60.200	69.00	0.900

Total Area Entered = 60.20(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

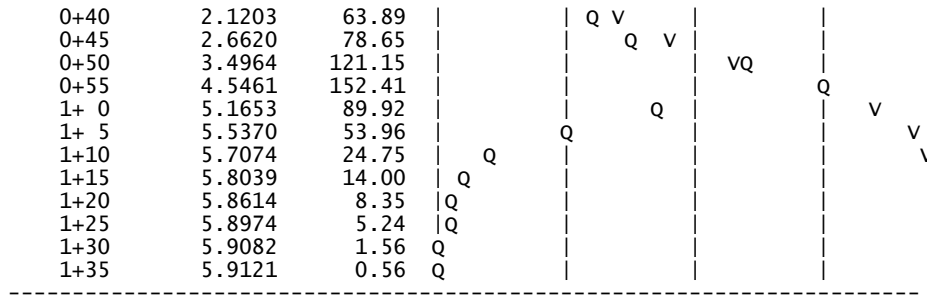
```
      69.0  69.0      0.373     0.900        0.071       1.000      0.071
                                                        Sum (F) =   0.071
      Area averaged mean soil loss (F) (In/Hr) =  0.071
      Minimum soil loss rate ((In/Hr)) =  0.035
      (for 24 hour storm duration)
      Soil low loss rate (decimal) =   0.200
      ------------------------------------------------------------------------
      Slope of intensity-duration curve for a 1 hour storm =0.4800
      ------------------------------------------------------------------------

                  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        102.048         19.829             12.030
          2   0.167        204.096         48.543             29.451
          3   0.250        306.144         15.333              9.303
          4   0.333        408.192          6.955              4.220
          5   0.417        510.240          3.895              2.363
          6   0.500        612.288          2.514              1.525
          7   0.583        714.336          1.536              0.932
          8   0.667        816.384          1.395              0.846
                                   Sum = 100.000    Sum=      60.670
------------------------------------------------------------------------

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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low         (In/Hr)
   1   0.08     4.40      0.660          0.071    (  0.132)        0.589
   2   0.17     4.50      0.675          0.071    (  0.135)        0.604
   3   0.25     5.40      0.810          0.071    (  0.162)        0.739
   4   0.33     5.40      0.810          0.071    (  0.162)        0.739
   5   0.42     5.70      0.855          0.071    (  0.171)        0.784
   6   0.50     6.40      0.959          0.071    (  0.192)        0.889
   7   0.58     7.90      1.184          0.071    (  0.237)        1.114
   8   0.67     9.10      1.364          0.071    (  0.273)        1.293
   9   0.75    12.80      1.919          0.071    (  0.384)        1.848
  10   0.83    25.60      3.838          0.071    (  0.768)        3.767
  11   0.92     7.90      1.184          0.071    (  0.237)        1.114
  12   1.00     4.90      0.735          0.071    (  0.147)        0.664
               (Loss Rate Not Used)
     Sum =     100.0                                 Sum =    14.1
        Flood volume = Effective rainfall      1.18(In)
         times area      60.2(Ac.)/[(In)/(Ft.)] =       5.9(Ac.Ft)
        Total soil loss =      0.07(In)
        Total soil loss =     0.355(Ac.Ft)
        Total rainfall =      1.25(In)
        Flood volume =      257529.8 Cubic Feet
        Total soil loss =       15478.6 Cubic Feet
        ------------------------------------------------------------------------
         Peak flow rate of this hydrograph =    152.412(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       50.0     100.0     150.0     200.0
  ------------------------------------------------------------------------
    0+ 5       0.0488      7.09  VQ        |         |         |         |
    0+10       0.2184     24.62  |V  Q     |         |         |         |
    0+15       0.4399     32.16  | V   Q   |         |         |         |
    0+20       0.7068     38.77  |   V  Q  |         |         |         |
    0+25       0.9962     42.02  |     V Q |         |         |         |
    0+30       1.3138     46.11  |       VQ|         |         |         |
    0+35       1.6803     53.22  |         QV        |         |         |
```


0+40 2.1203 63.89
0+45 2.6620 78.65
0+50 3.4964 121.15
0+55 4.5461 152.41
1+ 0 5.1653 89.92
1+ 5 5.5370 53.96
1+10 5.7074 24.75
1+15 5.8039 14.00
1+20 5.8614 8.35
1+25 5.8974 5.24
1+30 5.9082 1.56
1+35 5.9121 0.56

PROPOSED CONDITION
100-YEAR, 3-HOUR UNIT HYDROGRAPH

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

Study date 11/17/22 File: ONSITEPROPWEST3100.out

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

Program License Serial Number 4010

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

English Units used in output format

21-0235 - PERRIS AIRPORT LOGISTICS CENTER
ONSITE UNIT HYDROGRAPH ANALYSIS
PROPOSED CONDITION, 100-YEAR
FN: ONSITEPROPWEST, ABE, 2022-11-17

Drainage Area = 60.20(Ac.) = 0.094 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.20(Ac.) = 0.094 Sq. Mi.
Length along longest watercourse = 2740.00(Ft.)
Length along longest watercourse measured to centroid = 1139.00(Ft.)
Length along longest watercourse = 0.519 Mi.
Length along longest watercourse measured to centroid = 0.216 Mi.
Difference in elevation = 16.00(Ft.)
Slope along watercourse = 30.8321 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.082 Hr.
Lag time = 4.90 Min.
25% of lag time = 1.22 Min.
40% of lag time = 1.96 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
60.20	0.80	48.16

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
60.20	1.90	114.38

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.900(In)

Point rain (area averaged) = 1.900(In)
Areal adjustment factor = 99.97 %
Adjusted average point rain = 1.899(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
60.200	69.00	0.900

Total Area Entered = 60.20(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

```
      69.0  69.0      0.373     0.900        0.071       1.000      0.071
                                                        Sum (F) =   0.071
      Area averaged mean soil loss (F) (In/Hr) =  0.071
      Minimum soil loss rate ((In/Hr)) =  0.035
      (for 24 hour storm duration)
      Soil low loss rate (decimal) =   0.200
      ------------------------------------------------------------------------

                  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        102.048         19.829             12.030
          2   0.167        204.096         48.543             29.451
          3   0.250        306.144         15.333              9.303
          4   0.333        408.192          6.955              4.220
          5   0.417        510.240          3.895              2.363
          6   0.500        612.288          2.514              1.525
          7   0.583        714.336          1.536              0.932
          8   0.667        816.384          1.395              0.846
                                   Sum = 100.000    Sum=      60.670
------------------------------------------------------------------------

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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     1.30      0.296       (  0.071)       0.059        0.237
   2   0.17     1.30      0.296       (  0.071)       0.059        0.237
   3   0.25     1.10      0.251       (  0.071)       0.050        0.201
   4   0.33     1.50      0.342       (  0.071)       0.068        0.274
   5   0.42     1.50      0.342       (  0.071)       0.068        0.274
   6   0.50     1.80      0.410          0.071    (  0.082)        0.339
   7   0.58     1.50      0.342       (  0.071)       0.068        0.274
   8   0.67     1.80      0.410          0.071    (  0.082)        0.339
   9   0.75     1.80      0.410          0.071    (  0.082)        0.339
  10   0.83     1.50      0.342       (  0.071)       0.068        0.274
  11   0.92     1.60      0.365          0.071    (  0.073)        0.294
  12   1.00     1.80      0.410          0.071    (  0.082)        0.339
  13   1.08     2.20      0.501          0.071    (  0.100)        0.431
  14   1.17     2.20      0.501          0.071    (  0.100)        0.431
  15   1.25     2.20      0.501          0.071    (  0.100)        0.431
  16   1.33     2.00      0.456          0.071    (  0.091)        0.385
  17   1.42     2.60      0.593          0.071    (  0.119)        0.522
  18   1.50     2.70      0.615          0.071    (  0.123)        0.545
  19   1.58     2.40      0.547          0.071    (  0.109)        0.476
  20   1.67     2.70      0.615          0.071    (  0.123)        0.545
  21   1.75     3.30      0.752          0.071    (  0.150)        0.681
  22   1.83     3.10      0.707          0.071    (  0.141)        0.636
  23   1.92     2.90      0.661          0.071    (  0.132)        0.590
  24   2.00     3.00      0.684          0.071    (  0.137)        0.613
  25   2.08     3.10      0.707          0.071    (  0.141)        0.636
  26   2.17     4.20      0.957          0.071    (  0.191)        0.887
  27   2.25     5.00      1.140          0.071    (  0.228)        1.069
  28   2.33     3.50      0.798          0.071    (  0.160)        0.727
  29   2.42     6.80      1.550          0.071    (  0.310)        1.479
  30   2.50     7.30      1.664          0.071    (  0.333)        1.593
  31   2.58     8.20      1.869          0.071    (  0.374)        1.798
  32   2.67     5.90      1.345          0.071    (  0.269)        1.274
  33   2.75     2.00      0.456          0.071    (  0.091)        0.385
  34   2.83     1.80      0.410          0.071    (  0.082)        0.339
  35   2.92     1.80      0.410          0.071    (  0.082)        0.339
  36   3.00     0.60      0.137       (  0.071)       0.027        0.109
               (Loss Rate Not Used)
     Sum =     100.0                                  Sum =    20.3
       Flood volume = Effective rainfall      1.70(In)
        times area      60.2(Ac.)/[(In)/(Ft.)] =       8.5(Ac.Ft)
       Total soil loss =      0.20(In)
       Total soil loss =     1.025(Ac.Ft)
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Total rainfall = 1.90(In)
Flood volume = 370422.4 Cubic Feet
Total soil loss = 44667.7 Cubic Feet

Peak flow rate of this hydrograph = 94.111(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 25.0 50.0 75.0 100.0
0+ 5	0.0197	2.85	VQ
0+10	0.0874	9.84	V Q
0+15	0.1673	11.61	V Q
0+20	0.2528	12.41	V Q
0+25	0.3546	14.78	V Q
0+30	0.4680	16.46	V Q
0+35	0.5923	18.05	V Q
0+40	0.7151	17.83	V Q
0+45	0.8496	19.52	V Q
0+50	0.9822	19.25	V Q
0+55	1.1050	17.84	V Q
1+ 0	1.2324	18.49	V Q
1+ 5	1.3766	20.94	V Q
1+10	1.5418	23.99	V Q
1+15	1.7142	25.03	V Q
1+20	1.8860	24.94	VQ
1+25	2.0616	25.49	VQ
1+30	2.2652	29.57	VQ
1+35	2.4762	30.63	VQ
1+40	2.6841	30.19	Q
1+45	2.9153	33.57	Q
1+50	3.1744	37.62	VQ
1+55	3.4309	37.25	Q V
2+ 0	3.6824	36.53	Q V
2+ 5	3.9389	37.24	Q V
2+10	4.2217	41.06	Q V
2+15	4.5726	50.96	QV
2+20	4.9493	54.70	Q V
2+25	5.3381	56.44	Q V
2+30	5.8765	78.18	V Q
2+35	6.4992	90.42	V Q
2+40	7.1473	94.11	V Q
2+45	7.6431	71.99	Q V
2+50	7.9358	42.49	Q V
2+55	8.1543	31.73	Q V
3+ 0	8.3237	24.60	Q V
3+ 5	8.4180	13.70	Q V
3+10	8.4631	6.55	Q V
3+15	8.4853	3.22	Q V
3+20	8.4951	1.42	Q V
3+25	8.5004	0.77	Q V
3+30	8.5031	0.39	Q V
3+35	8.5037	0.09	Q V

PROPOSED CONDITION
100-YEAR, 6-HOUR UNIT HYDROGRAPH

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

Study date 11/17/22 File: ONSITEPROPWEST6100.out

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

Program License Serial Number 4010

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

English Units used in output format

21-0235 - PERRIS AIRPORT LOGISTICS CENTER
ONSITE UNIT HYDROGRAPH ANALYSIS
PROPOSED CONDITION, 100-YEAR
FN: ONSITEPROPWEST, ABE, 2022-11-17

Drainage Area = 60.20(Ac.) = 0.094 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 60.20(Ac.) = 0.094 Sq. Mi.
Length along longest watercourse = 2740.00(Ft.)
Length along longest watercourse measured to centroid = 1139.00(Ft.)
Length along longest watercourse = 0.519 Mi.
Length along longest watercourse measured to centroid = 0.216 Mi.
Difference in elevation = 16.00(Ft.)
Slope along watercourse = 30.8321 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.082 Hr.
Lag time = 4.90 Min.
25% of lag time = 1.22 Min.
40% of lag time = 1.96 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
60.20	1.10	66.22

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
60.20	2.50	150.50

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.100(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 2.499(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
60.200	69.00	0.900

Total Area Entered = 60.20(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

69.0 69.0 0.373 0.900 0.071 1.000 0.071
Sum (F) = 0.071

Area averaged mean soil loss (F) (In/Hr) = 0.071
Minimum soil loss rate ((In/Hr)) = 0.035
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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	102.048	19.829	12.030
2	0.167	204.096	48.543	29.451
3	0.250	306.144	15.333	9.303
4	0.333	408.192	6.955	4.220
5	0.417	510.240	3.895	2.363
6	0.500	612.288	2.514	1.525
7	0.583	714.336	1.536	0.932
8	0.667	816.384	1.395	0.846
			Sum = 100.000	Sum= 60.670

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.150	(0.071)	0.030	0.120
2	0.17	0.60	0.180	(0.071)	0.036	0.144
3	0.25	0.60	0.180	(0.071)	0.036	0.144
4	0.33	0.60	0.180	(0.071)	0.036	0.144
5	0.42	0.60	0.180	(0.071)	0.036	0.144
6	0.50	0.70	0.210	(0.071)	0.042	0.168
7	0.58	0.70	0.210	(0.071)	0.042	0.168
8	0.67	0.70	0.210	(0.071)	0.042	0.168
9	0.75	0.70	0.210	(0.071)	0.042	0.168
10	0.83	0.70	0.210	(0.071)	0.042	0.168
11	0.92	0.70	0.210	(0.071)	0.042	0.168
12	1.00	0.80	0.240	(0.071)	0.048	0.192
13	1.08	0.80	0.240	(0.071)	0.048	0.192
14	1.17	0.80	0.240	(0.071)	0.048	0.192
15	1.25	0.80	0.240	(0.071)	0.048	0.192
16	1.33	0.80	0.240	(0.071)	0.048	0.192
17	1.42	0.80	0.240	(0.071)	0.048	0.192
18	1.50	0.80	0.240	(0.071)	0.048	0.192
19	1.58	0.80	0.240	(0.071)	0.048	0.192
20	1.67	0.80	0.240	(0.071)	0.048	0.192
21	1.75	0.80	0.240	(0.071)	0.048	0.192
22	1.83	0.80	0.240	(0.071)	0.048	0.192
23	1.92	0.80	0.240	(0.071)	0.048	0.192
24	2.00	0.90	0.270	(0.071)	0.054	0.216
25	2.08	0.80	0.240	(0.071)	0.048	0.192
26	2.17	0.90	0.270	(0.071)	0.054	0.216
27	2.25	0.90	0.270	(0.071)	0.054	0.216
28	2.33	0.90	0.270	(0.071)	0.054	0.216
29	2.42	0.90	0.270	(0.071)	0.054	0.216
30	2.50	0.90	0.270	(0.071)	0.054	0.216
31	2.58	0.90	0.270	(0.071)	0.054	0.216
32	2.67	0.90	0.270	(0.071)	0.054	0.216
33	2.75	1.00	0.300	(0.071)	0.060	0.240
34	2.83	1.00	0.300	(0.071)	0.060	0.240
35	2.92	1.00	0.300	(0.071)	0.060	0.240
36	3.00	1.00	0.300	(0.071)	0.060	0.240
37	3.08	1.00	0.300	(0.071)	0.060	0.240
38	3.17	1.10	0.330	(0.071)	0.066	0.264
39	3.25	1.10	0.330	(0.071)	0.066	0.264
40	3.33	1.10	0.330	(0.071)	0.066	0.264
41	3.42	1.20	0.360	0.071	(0.072)	0.289
42	3.50	1.30	0.390	0.071	(0.078)	0.319

```
43   3.58     1.40      0.420          0.071    (  0.084)        0.349
44   3.67     1.40      0.420          0.071    (  0.084)        0.349
45   3.75     1.50      0.450          0.071    (  0.090)        0.379
46   3.83     1.50      0.450          0.071    (  0.090)        0.379
47   3.92     1.60      0.480          0.071    (  0.096)        0.409
48   4.00     1.60      0.480          0.071    (  0.096)        0.409
49   4.08     1.70      0.510          0.071    (  0.102)        0.439
50   4.17     1.80      0.540          0.071    (  0.108)        0.469
51   4.25     1.90      0.570          0.071    (  0.114)        0.499
52   4.33     2.00      0.600          0.071    (  0.120)        0.529
53   4.42     2.10      0.630          0.071    (  0.126)        0.559
54   4.50     2.10      0.630          0.071    (  0.126)        0.559
55   4.58     2.20      0.660          0.071    (  0.132)        0.589
56   4.67     2.30      0.690          0.071    (  0.138)        0.619
57   4.75     2.40      0.720          0.071    (  0.144)        0.649
58   4.83     2.40      0.720          0.071    (  0.144)        0.649
59   4.92     2.50      0.750          0.071    (  0.150)        0.679
60   5.00     2.60      0.780          0.071    (  0.156)        0.709
61   5.08     3.10      0.930          0.071    (  0.186)        0.859
62   5.17     3.60      1.080          0.071    (  0.216)        1.009
63   5.25     3.90      1.170          0.071    (  0.234)        1.099
64   5.33     4.20      1.260          0.071    (  0.252)        1.189
65   5.42     4.70      1.410          0.071    (  0.282)        1.339
66   5.50     5.60      1.680          0.071    (  0.336)        1.609
67   5.58     1.90      0.570          0.071    (  0.114)        0.499
68   5.67     0.90      0.270       (  0.071)       0.054        0.216
69   5.75     0.60      0.180       (  0.071)       0.036        0.144
70   5.83     0.50      0.150       (  0.071)       0.030        0.120
71   5.92     0.30      0.090       (  0.071)       0.018        0.072
72   6.00     0.20      0.060       (  0.071)       0.012        0.048
              (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    26.0
      Flood volume = Effective rainfall      2.16(In)
       times area      60.2(Ac.)/[(In)/(Ft.)] =      10.8(Ac.Ft)
      Total soil loss =      0.34(In)
      Total soil loss =     1.690(Ac.Ft)
      Total rainfall =      2.50(In)
      Flood volume =      472594.7 Cubic Feet
      Total soil loss =       73607.3 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     79.454(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                     R u n o f f     H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0       20.0      40.0      60.0      80.0
-------------------------------------------------------------------------
  0+ 5       0.0099      1.44  Q          |         |         |         |
  0+10       0.0462      5.27  V Q        |         |         |         |
  0+15       0.0951      7.09  V  Q       |         |         |         |
  0+20       0.1489      7.82  V  Q       |         |         |         |
  0+25       0.2055      8.21  V   Q      |         |         |         |
  0+30       0.2656      8.74  V   Q      |         |         |         |
  0+35       0.3317      9.59  |V  Q      |         |         |         |
  0+40       0.4001      9.94  |V  Q      |         |         |         |
  0+45       0.4694     10.06  |V   Q     |         |         |         |
  0+50       0.5391     10.12  |V   Q     |         |         |         |
  0+55       0.6090     10.15  | V  Q     |         |         |         |
  1+ 0       0.6811     10.46  | V  Q     |         |         |         |
  1+ 5       0.7581     11.19  | V  Q     |         |         |         |
  1+10       0.8368     11.41  |  V Q     |         |         |         |
  1+15       0.9161     11.52  |  V Q     |         |         |         |
  1+20       0.9958     11.57  |  V Q     |         |         |         |
  1+25       1.0757     11.61  |  V Q     |         |         |         |
  1+30       1.1558     11.63  |   VQ     |         |         |         |
  1+35       1.2361     11.65  |   VQ     |         |         |         |
  1+40       1.3163     11.65  |   VQ     |         |         |         |
  1+45       1.3966     11.65  |    Q     |         |         |         |
  1+50       1.4768     11.65  |    Q     |         |         |         |
  1+55       1.5571     11.65  |    Q     |         |         |         |
  2+ 0       1.6393     11.94  |    QV    |         |         |         |
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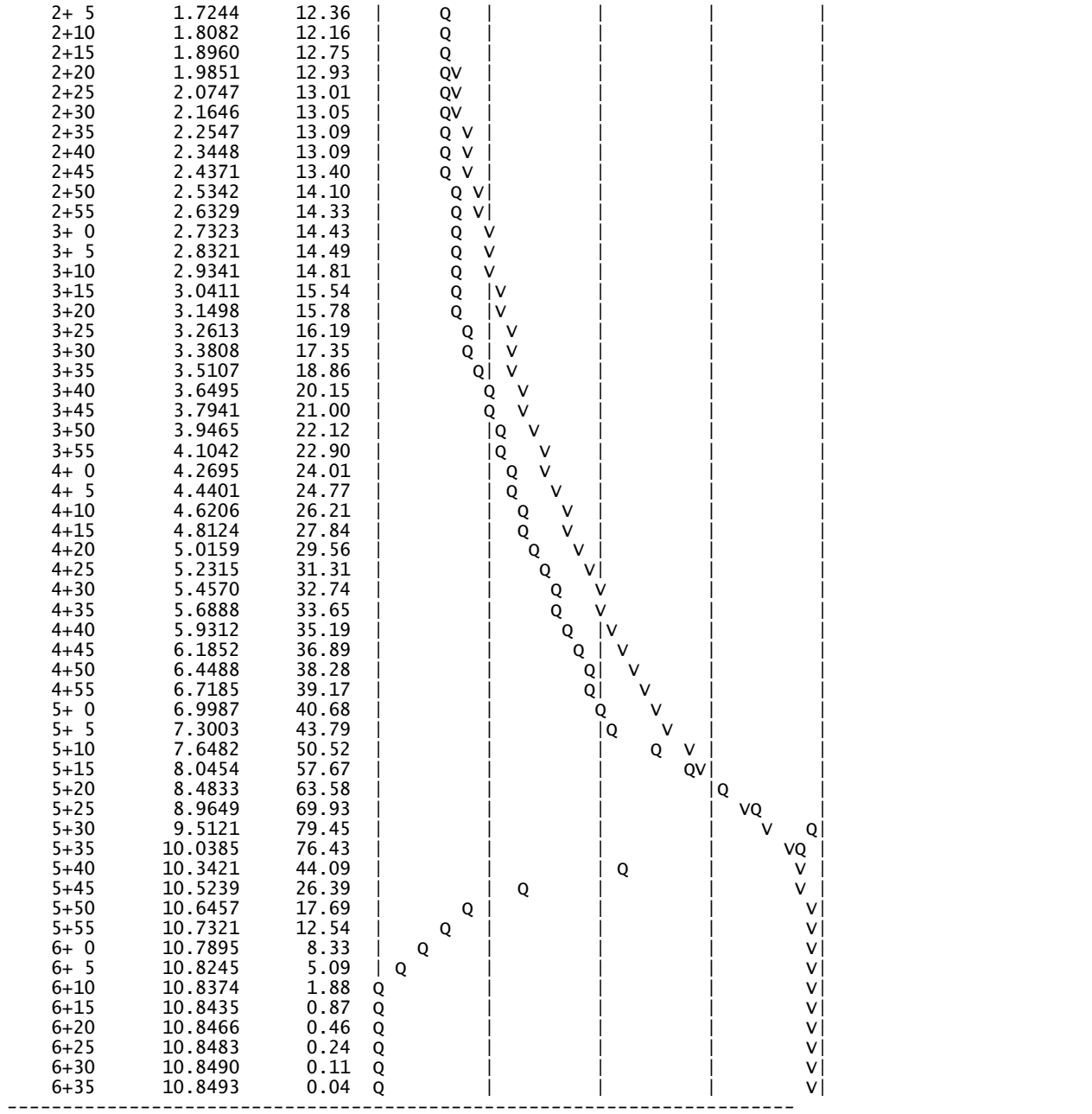

PROPOSED CONDITION
100-YEAR, 24-HOUR UNIT HYDROGRAPH

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

Study date 11/17/22 File: ONSITEPROPWEST24100.out

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

Program License Serial Number 4010

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

English Units used in output format

21-0235 - PERRIS AIRPORT LOGISTICS CENTER
ONSITE UNIT HYDROGRAPH ANALYSIS
PROPOSED CONDITION, 100-YEAR
FN: ONSITEPROPWEST, ABE, 2022-11-17

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Length along longest watercourse = 0.519 Mi.
Length along longest watercourse measured to centroid = 0.216 Mi.
Difference in elevation = 16.00(Ft.)
Slope along watercourse = 30.8321 Ft./Mi.
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Lag time = 0.082 Hr.
Lag time = 4.90 Min.
25% of lag time = 1.22 Min.
40% of lag time = 1.96 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]
60.20	1.80	108.36

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
60.20	5.00	301.00

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.800(In)
Area Averaged 100-Year Rainfall = 5.000(In)

Point rain (area averaged) = 5.000(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.999(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
60.200	69.00	0.900

Total Area Entered = 60.20(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

69.0	69.0	0.373	0.900	0.071	1.000	0.071
					Sum (F) =	0.071

Area averaged mean soil loss (F) (In/Hr) = 0.071
Minimum soil loss rate ((In/Hr)) = 0.035
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.200

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	102.048	19.829	12.030
2	0.167	204.096	48.543	29.451
3	0.250	306.144	15.333	9.303
4	0.333	408.192	6.955	4.220
5	0.417	510.240	3.895	2.363
6	0.500	612.288	2.514	1.525
7	0.583	714.336	1.536	0.932
8	0.667	816.384	1.395	0.846
			Sum = 100.000	Sum= 60.670

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.040	(0.126)	0.008	0.032
2	0.17	0.07	0.040	(0.125)	0.008	0.032
3	0.25	0.07	0.040	(0.125)	0.008	0.032
4	0.33	0.10	0.060	(0.124)	0.012	0.048
5	0.42	0.10	0.060	(0.124)	0.012	0.048
6	0.50	0.10	0.060	(0.123)	0.012	0.048
7	0.58	0.10	0.060	(0.123)	0.012	0.048
8	0.67	0.10	0.060	(0.122)	0.012	0.048
9	0.75	0.10	0.060	(0.122)	0.012	0.048
10	0.83	0.13	0.080	(0.121)	0.016	0.064
11	0.92	0.13	0.080	(0.121)	0.016	0.064
12	1.00	0.13	0.080	(0.120)	0.016	0.064
13	1.08	0.10	0.060	(0.120)	0.012	0.048
14	1.17	0.10	0.060	(0.119)	0.012	0.048
15	1.25	0.10	0.060	(0.119)	0.012	0.048
16	1.33	0.10	0.060	(0.118)	0.012	0.048
17	1.42	0.10	0.060	(0.118)	0.012	0.048
18	1.50	0.10	0.060	(0.117)	0.012	0.048
19	1.58	0.10	0.060	(0.117)	0.012	0.048
20	1.67	0.10	0.060	(0.117)	0.012	0.048
21	1.75	0.10	0.060	(0.116)	0.012	0.048
22	1.83	0.13	0.080	(0.116)	0.016	0.064
23	1.92	0.13	0.080	(0.115)	0.016	0.064
24	2.00	0.13	0.080	(0.115)	0.016	0.064
25	2.08	0.13	0.080	(0.114)	0.016	0.064
26	2.17	0.13	0.080	(0.114)	0.016	0.064
27	2.25	0.13	0.080	(0.113)	0.016	0.064
28	2.33	0.13	0.080	(0.113)	0.016	0.064
29	2.42	0.13	0.080	(0.112)	0.016	0.064
30	2.50	0.13	0.080	(0.112)	0.016	0.064
31	2.58	0.17	0.100	(0.111)	0.020	0.080
32	2.67	0.17	0.100	(0.111)	0.020	0.080
33	2.75	0.17	0.100	(0.110)	0.020	0.080
34	2.83	0.17	0.100	(0.110)	0.020	0.080
35	2.92	0.17	0.100	(0.110)	0.020	0.080
36	3.00	0.17	0.100	(0.109)	0.020	0.080
37	3.08	0.17	0.100	(0.109)	0.020	0.080
38	3.17	0.17	0.100	(0.108)	0.020	0.080
39	3.25	0.17	0.100	(0.108)	0.020	0.080
40	3.33	0.17	0.100	(0.107)	0.020	0.080
41	3.42	0.17	0.100	(0.107)	0.020	0.080
42	3.50	0.17	0.100	(0.106)	0.020	0.080

43	3.58	0.17	0.100	(0.106)	0.020	0.080
44	3.67	0.17	0.100	(0.106)	0.020	0.080
45	3.75	0.17	0.100	(0.105)	0.020	0.080
46	3.83	0.20	0.120	(0.105)	0.024	0.096
47	3.92	0.20	0.120	(0.104)	0.024	0.096
48	4.00	0.20	0.120	(0.104)	0.024	0.096
49	4.08	0.20	0.120	(0.103)	0.024	0.096
50	4.17	0.20	0.120	(0.103)	0.024	0.096
51	4.25	0.20	0.120	(0.102)	0.024	0.096
52	4.33	0.23	0.140	(0.102)	0.028	0.112
53	4.42	0.23	0.140	(0.102)	0.028	0.112
54	4.50	0.23	0.140	(0.101)	0.028	0.112
55	4.58	0.23	0.140	(0.101)	0.028	0.112
56	4.67	0.23	0.140	(0.100)	0.028	0.112
57	4.75	0.23	0.140	(0.100)	0.028	0.112
58	4.83	0.27	0.160	(0.099)	0.032	0.128
59	4.92	0.27	0.160	(0.099)	0.032	0.128
60	5.00	0.27	0.160	(0.099)	0.032	0.128
61	5.08	0.20	0.120	(0.098)	0.024	0.096
62	5.17	0.20	0.120	(0.098)	0.024	0.096
63	5.25	0.20	0.120	(0.097)	0.024	0.096
64	5.33	0.23	0.140	(0.097)	0.028	0.112
65	5.42	0.23	0.140	(0.096)	0.028	0.112
66	5.50	0.23	0.140	(0.096)	0.028	0.112
67	5.58	0.27	0.160	(0.096)	0.032	0.128
68	5.67	0.27	0.160	(0.095)	0.032	0.128
69	5.75	0.27	0.160	(0.095)	0.032	0.128
70	5.83	0.27	0.160	(0.094)	0.032	0.128
71	5.92	0.27	0.160	(0.094)	0.032	0.128
72	6.00	0.27	0.160	(0.093)	0.032	0.128
73	6.08	0.30	0.180	(0.093)	0.036	0.144
74	6.17	0.30	0.180	(0.093)	0.036	0.144
75	6.25	0.30	0.180	(0.092)	0.036	0.144
76	6.33	0.30	0.180	(0.092)	0.036	0.144
77	6.42	0.30	0.180	(0.091)	0.036	0.144
78	6.50	0.30	0.180	(0.091)	0.036	0.144
79	6.58	0.33	0.200	(0.091)	0.040	0.160
80	6.67	0.33	0.200	(0.090)	0.040	0.160
81	6.75	0.33	0.200	(0.090)	0.040	0.160
82	6.83	0.33	0.200	(0.089)	0.040	0.160
83	6.92	0.33	0.200	(0.089)	0.040	0.160
84	7.00	0.33	0.200	(0.089)	0.040	0.160
85	7.08	0.33	0.200	(0.088)	0.040	0.160
86	7.17	0.33	0.200	(0.088)	0.040	0.160
87	7.25	0.33	0.200	(0.087)	0.040	0.160
88	7.33	0.37	0.220	(0.087)	0.044	0.176
89	7.42	0.37	0.220	(0.087)	0.044	0.176
90	7.50	0.37	0.220	(0.086)	0.044	0.176
91	7.58	0.40	0.240	(0.086)	0.048	0.192
92	7.67	0.40	0.240	(0.085)	0.048	0.192
93	7.75	0.40	0.240	(0.085)	0.048	0.192
94	7.83	0.43	0.260	(0.085)	0.052	0.208
95	7.92	0.43	0.260	(0.084)	0.052	0.208
96	8.00	0.43	0.260	(0.084)	0.052	0.208
97	8.08	0.50	0.300	(0.083)	0.060	0.240
98	8.17	0.50	0.300	(0.083)	0.060	0.240
99	8.25	0.50	0.300	(0.083)	0.060	0.240
100	8.33	0.50	0.300	(0.082)	0.060	0.240
101	8.42	0.50	0.300	(0.082)	0.060	0.240
102	8.50	0.50	0.300	(0.082)	0.060	0.240
103	8.58	0.53	0.320	(0.081)	0.064	0.256
104	8.67	0.53	0.320	(0.081)	0.064	0.256
105	8.75	0.53	0.320	(0.080)	0.064	0.256
106	8.83	0.57	0.340	(0.080)	0.068	0.272
107	8.92	0.57	0.340	(0.080)	0.068	0.272
108	9.00	0.57	0.340	(0.079)	0.068	0.272
109	9.08	0.63	0.380	(0.079)	0.076	0.304
110	9.17	0.63	0.380	(0.078)	0.076	0.304
111	9.25	0.63	0.380	(0.078)	0.076	0.304
112	9.33	0.67	0.400	0.078	(0.080)	0.322
113	9.42	0.67	0.400	0.077	(0.080)	0.323
114	9.50	0.67	0.400	0.077	(0.080)	0.323
115	9.58	0.70	0.420	0.077	(0.084)	0.343
116	9.67	0.70	0.420	0.076	(0.084)	0.344
117	9.75	0.70	0.420	0.076	(0.084)	0.344

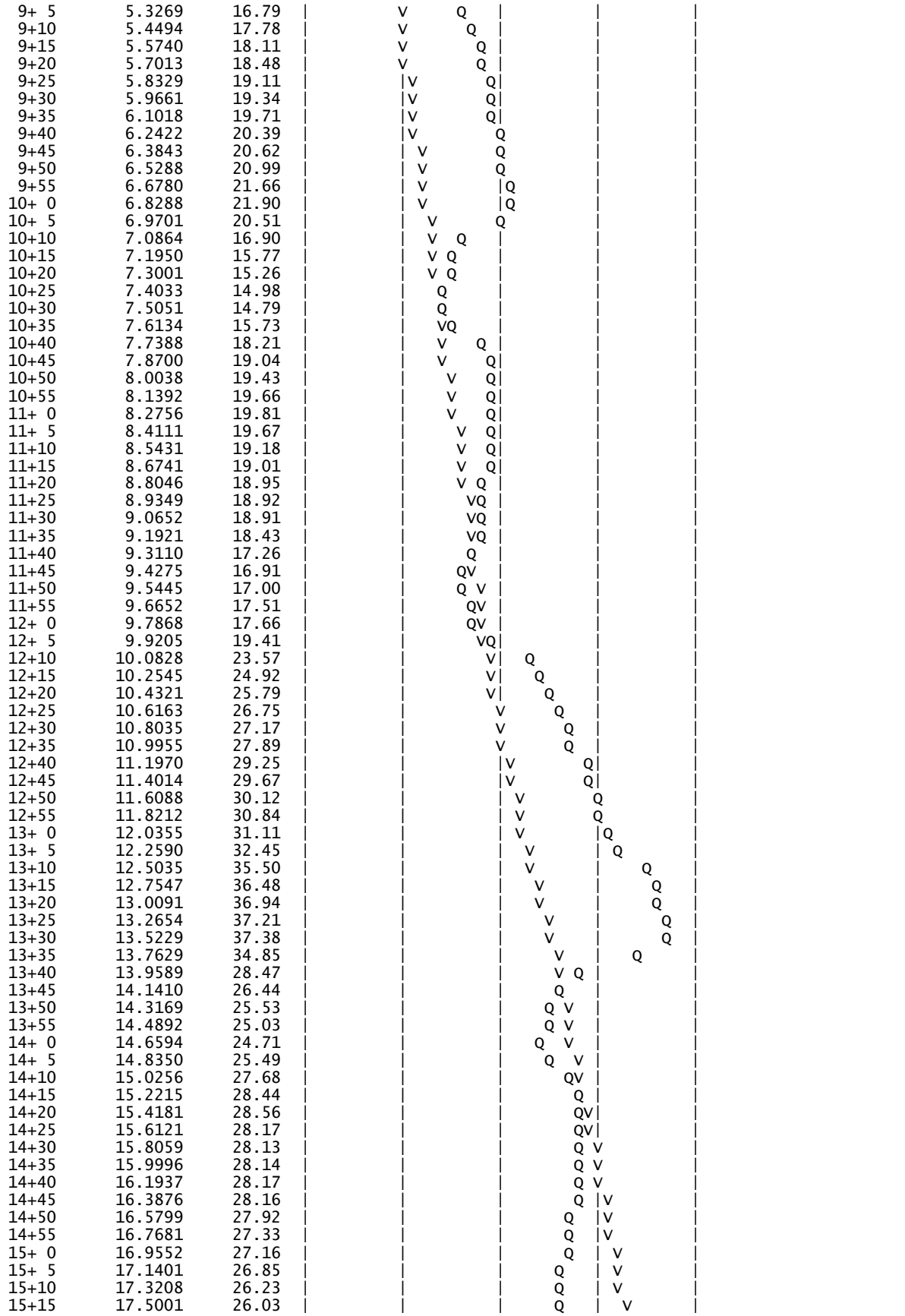
118	9.83	0.73	0.440		0.076	(0.088)	0.364
119	9.92	0.73	0.440		0.075	(0.088)	0.365
120	10.00	0.73	0.440		0.075	(0.088)	0.365
121	10.08	0.50	0.300	(0.074)		0.060	0.240
122	10.17	0.50	0.300	(0.074)		0.060	0.240
123	10.25	0.50	0.300	(0.074)		0.060	0.240
124	10.33	0.50	0.300	(0.073)		0.060	0.240
125	10.42	0.50	0.300	(0.073)		0.060	0.240
126	10.50	0.50	0.300	(0.073)		0.060	0.240
127	10.58	0.67	0.400		0.072	(0.080)	0.328
128	10.67	0.67	0.400		0.072	(0.080)	0.328
129	10.75	0.67	0.400		0.072	(0.080)	0.328
130	10.83	0.67	0.400		0.071	(0.080)	0.329
131	10.92	0.67	0.400		0.071	(0.080)	0.329
132	11.00	0.67	0.400		0.071	(0.080)	0.329
133	11.08	0.63	0.380		0.070	(0.076)	0.310
134	11.17	0.63	0.380		0.070	(0.076)	0.310
135	11.25	0.63	0.380		0.069	(0.076)	0.310
136	11.33	0.63	0.380		0.069	(0.076)	0.311
137	11.42	0.63	0.380		0.069	(0.076)	0.311
138	11.50	0.63	0.380		0.068	(0.076)	0.311
139	11.58	0.57	0.340	(0.068)		0.068	0.272
140	11.67	0.57	0.340		0.068	(0.068)	0.272
141	11.75	0.57	0.340		0.067	(0.068)	0.273
142	11.83	0.60	0.360		0.067	(0.072)	0.293
143	11.92	0.60	0.360		0.067	(0.072)	0.293
144	12.00	0.60	0.360		0.066	(0.072)	0.294
145	12.08	0.83	0.500		0.066	(0.100)	0.434
146	12.17	0.83	0.500		0.066	(0.100)	0.434
147	12.25	0.83	0.500		0.065	(0.100)	0.434
148	12.33	0.87	0.520		0.065	(0.104)	0.455
149	12.42	0.87	0.520		0.065	(0.104)	0.455
150	12.50	0.87	0.520		0.064	(0.104)	0.455
151	12.58	0.93	0.560		0.064	(0.112)	0.496
152	12.67	0.93	0.560		0.064	(0.112)	0.496
153	12.75	0.93	0.560		0.064	(0.112)	0.496
154	12.83	0.97	0.580		0.063	(0.116)	0.517
155	12.92	0.97	0.580		0.063	(0.116)	0.517
156	13.00	0.97	0.580		0.063	(0.116)	0.517
157	13.08	1.13	0.680		0.062	(0.136)	0.618
158	13.17	1.13	0.680		0.062	(0.136)	0.618
159	13.25	1.13	0.680		0.062	(0.136)	0.618
160	13.33	1.13	0.680		0.061	(0.136)	0.619
161	13.42	1.13	0.680		0.061	(0.136)	0.619
162	13.50	1.13	0.680		0.061	(0.136)	0.619
163	13.58	0.77	0.460		0.060	(0.092)	0.400
164	13.67	0.77	0.460		0.060	(0.092)	0.400
165	13.75	0.77	0.460		0.060	(0.092)	0.400
166	13.83	0.77	0.460		0.059	(0.092)	0.401
167	13.92	0.77	0.460		0.059	(0.092)	0.401
168	14.00	0.77	0.460		0.059	(0.092)	0.401
169	14.08	0.90	0.540		0.059	(0.108)	0.481
170	14.17	0.90	0.540		0.058	(0.108)	0.482
171	14.25	0.90	0.540		0.058	(0.108)	0.482
172	14.33	0.87	0.520		0.058	(0.104)	0.462
173	14.42	0.87	0.520		0.057	(0.104)	0.463
174	14.50	0.87	0.520		0.057	(0.104)	0.463
175	14.58	0.87	0.520		0.057	(0.104)	0.463
176	14.67	0.87	0.520		0.056	(0.104)	0.463
177	14.75	0.87	0.520		0.056	(0.104)	0.464
178	14.83	0.83	0.500		0.056	(0.100)	0.444
179	14.92	0.83	0.500		0.056	(0.100)	0.444
180	15.00	0.83	0.500		0.055	(0.100)	0.445
181	15.08	0.80	0.480		0.055	(0.096)	0.425
182	15.17	0.80	0.480		0.055	(0.096)	0.425
183	15.25	0.80	0.480		0.054	(0.096)	0.425
184	15.33	0.77	0.460		0.054	(0.092)	0.406
185	15.42	0.77	0.460		0.054	(0.092)	0.406
186	15.50	0.77	0.460		0.054	(0.092)	0.406
187	15.58	0.63	0.380		0.053	(0.076)	0.327
188	15.67	0.63	0.380		0.053	(0.076)	0.327
189	15.75	0.63	0.380		0.053	(0.076)	0.327
190	15.83	0.63	0.380		0.053	(0.076)	0.327
191	15.92	0.63	0.380		0.052	(0.076)	0.328
192	16.00	0.63	0.380		0.052	(0.076)	0.328

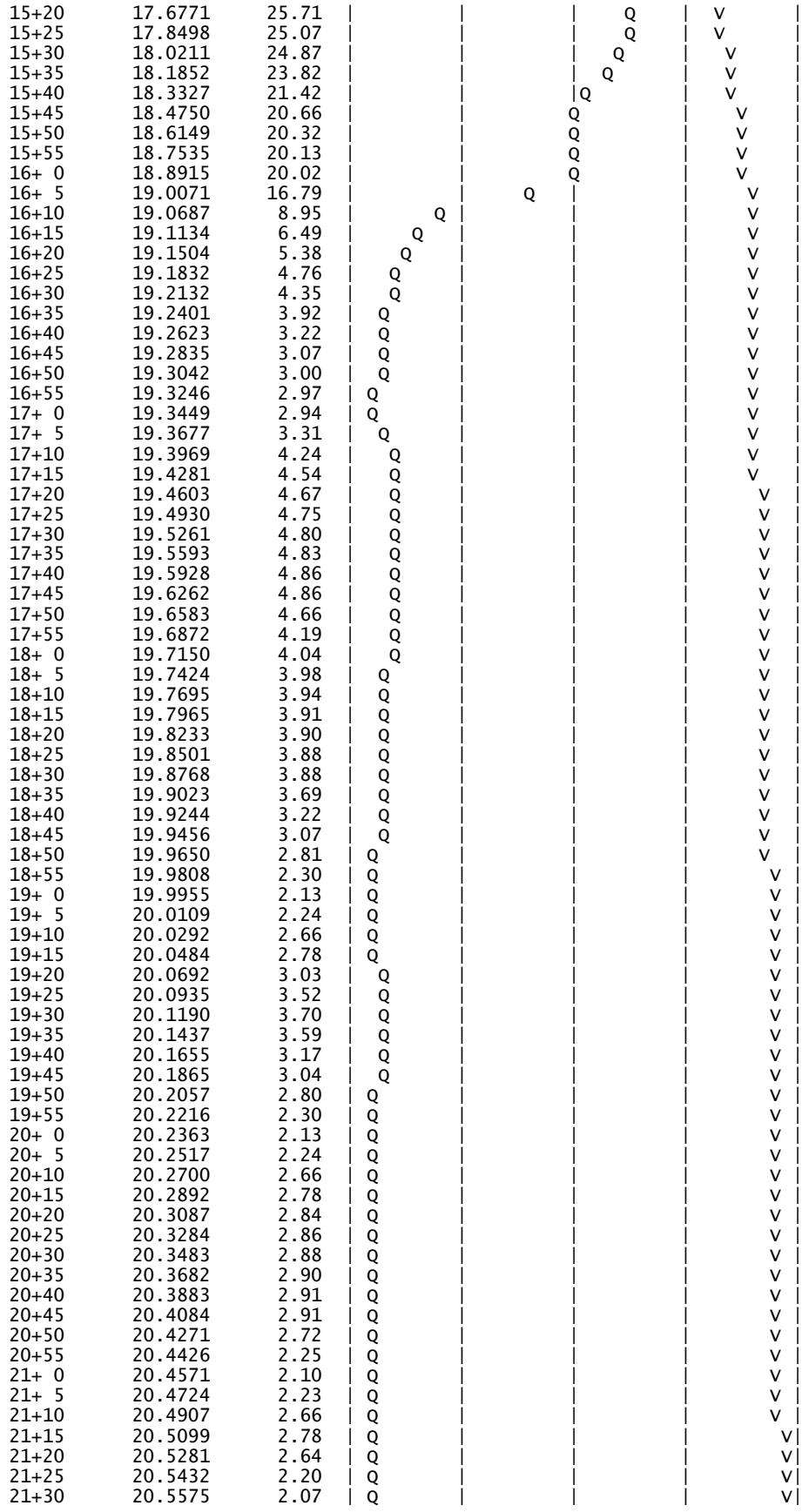
193	16.08	0.13	0.080	(0.052)	0.016	0.064
194	16.17	0.13	0.080	(0.051)	0.016	0.064
195	16.25	0.13	0.080	(0.051)	0.016	0.064
196	16.33	0.13	0.080	(0.051)	0.016	0.064
197	16.42	0.13	0.080	(0.051)	0.016	0.064
198	16.50	0.13	0.080	(0.050)	0.016	0.064
199	16.58	0.10	0.060	(0.050)	0.012	0.048
200	16.67	0.10	0.060	(0.050)	0.012	0.048
201	16.75	0.10	0.060	(0.050)	0.012	0.048
202	16.83	0.10	0.060	(0.049)	0.012	0.048
203	16.92	0.10	0.060	(0.049)	0.012	0.048
204	17.00	0.10	0.060	(0.049)	0.012	0.048
205	17.08	0.17	0.100	(0.049)	0.020	0.080
206	17.17	0.17	0.100	(0.048)	0.020	0.080
207	17.25	0.17	0.100	(0.048)	0.020	0.080
208	17.33	0.17	0.100	(0.048)	0.020	0.080
209	17.42	0.17	0.100	(0.048)	0.020	0.080
210	17.50	0.17	0.100	(0.047)	0.020	0.080
211	17.58	0.17	0.100	(0.047)	0.020	0.080
212	17.67	0.17	0.100	(0.047)	0.020	0.080
213	17.75	0.17	0.100	(0.047)	0.020	0.080
214	17.83	0.13	0.080	(0.047)	0.016	0.064
215	17.92	0.13	0.080	(0.046)	0.016	0.064
216	18.00	0.13	0.080	(0.046)	0.016	0.064
217	18.08	0.13	0.080	(0.046)	0.016	0.064
218	18.17	0.13	0.080	(0.046)	0.016	0.064
219	18.25	0.13	0.080	(0.045)	0.016	0.064
220	18.33	0.13	0.080	(0.045)	0.016	0.064
221	18.42	0.13	0.080	(0.045)	0.016	0.064
222	18.50	0.13	0.080	(0.045)	0.016	0.064
223	18.58	0.10	0.060	(0.045)	0.012	0.048
224	18.67	0.10	0.060	(0.044)	0.012	0.048
225	18.75	0.10	0.060	(0.044)	0.012	0.048
226	18.83	0.07	0.040	(0.044)	0.008	0.032
227	18.92	0.07	0.040	(0.044)	0.008	0.032
228	19.00	0.07	0.040	(0.043)	0.008	0.032
229	19.08	0.10	0.060	(0.043)	0.012	0.048
230	19.17	0.10	0.060	(0.043)	0.012	0.048
231	19.25	0.10	0.060	(0.043)	0.012	0.048
232	19.33	0.13	0.080	(0.043)	0.016	0.064
233	19.42	0.13	0.080	(0.042)	0.016	0.064
234	19.50	0.13	0.080	(0.042)	0.016	0.064
235	19.58	0.10	0.060	(0.042)	0.012	0.048
236	19.67	0.10	0.060	(0.042)	0.012	0.048
237	19.75	0.10	0.060	(0.042)	0.012	0.048
238	19.83	0.07	0.040	(0.041)	0.008	0.032
239	19.92	0.07	0.040	(0.041)	0.008	0.032
240	20.00	0.07	0.040	(0.041)	0.008	0.032
241	20.08	0.10	0.060	(0.041)	0.012	0.048
242	20.17	0.10	0.060	(0.041)	0.012	0.048
243	20.25	0.10	0.060	(0.041)	0.012	0.048
244	20.33	0.10	0.060	(0.040)	0.012	0.048
245	20.42	0.10	0.060	(0.040)	0.012	0.048
246	20.50	0.10	0.060	(0.040)	0.012	0.048
247	20.58	0.10	0.060	(0.040)	0.012	0.048
248	20.67	0.10	0.060	(0.040)	0.012	0.048
249	20.75	0.10	0.060	(0.040)	0.012	0.048
250	20.83	0.07	0.040	(0.039)	0.008	0.032
251	20.92	0.07	0.040	(0.039)	0.008	0.032
252	21.00	0.07	0.040	(0.039)	0.008	0.032
253	21.08	0.10	0.060	(0.039)	0.012	0.048
254	21.17	0.10	0.060	(0.039)	0.012	0.048
255	21.25	0.10	0.060	(0.039)	0.012	0.048
256	21.33	0.07	0.040	(0.038)	0.008	0.032
257	21.42	0.07	0.040	(0.038)	0.008	0.032
258	21.50	0.07	0.040	(0.038)	0.008	0.032
259	21.58	0.10	0.060	(0.038)	0.012	0.048
260	21.67	0.10	0.060	(0.038)	0.012	0.048
261	21.75	0.10	0.060	(0.038)	0.012	0.048
262	21.83	0.07	0.040	(0.038)	0.008	0.032
263	21.92	0.07	0.040	(0.038)	0.008	0.032
264	22.00	0.07	0.040	(0.037)	0.008	0.032
265	22.08	0.10	0.060	(0.037)	0.012	0.048
266	22.17	0.10	0.060	(0.037)	0.012	0.048
267	22.25	0.10	0.060	(0.037)	0.012	0.048

```
268  22.33     0.07      0.040       (  0.037)       0.008        0.032
269  22.42     0.07      0.040       (  0.037)       0.008        0.032
270  22.50     0.07      0.040       (  0.037)       0.008        0.032
271  22.58     0.07      0.040       (  0.037)       0.008        0.032
272  22.67     0.07      0.040       (  0.036)       0.008        0.032
273  22.75     0.07      0.040       (  0.036)       0.008        0.032
274  22.83     0.07      0.040       (  0.036)       0.008        0.032
275  22.92     0.07      0.040       (  0.036)       0.008        0.032
276  23.00     0.07      0.040       (  0.036)       0.008        0.032
277  23.08     0.07      0.040       (  0.036)       0.008        0.032
278  23.17     0.07      0.040       (  0.036)       0.008        0.032
279  23.25     0.07      0.040       (  0.036)       0.008        0.032
280  23.33     0.07      0.040       (  0.036)       0.008        0.032
281  23.42     0.07      0.040       (  0.036)       0.008        0.032
282  23.50     0.07      0.040       (  0.036)       0.008        0.032
283  23.58     0.07      0.040       (  0.036)       0.008        0.032
284  23.67     0.07      0.040       (  0.036)       0.008        0.032
285  23.75     0.07      0.040       (  0.036)       0.008        0.032
286  23.83     0.07      0.040       (  0.035)       0.008        0.032
287  23.92     0.07      0.040       (  0.035)       0.008        0.032
288  24.00     0.07      0.040       (  0.035)       0.008        0.032
               (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    50.3
      Flood volume = Effective rainfall      4.19(In)
       times area      60.2(Ac.)/[(In)/(Ft.)] =      21.0(Ac.Ft)
      Total soil loss =      0.81(In)
      Total soil loss =     4.061(Ac.Ft)
      Total rainfall =      5.00(In)
      Flood volume =      915620.7 Cubic Feet
      Total soil loss =      176880.9 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     37.384(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       10.0      20.0      30.0      40.0
 ---------------------------------------------------------------------------
   0+ 5       0.0027      0.39  Q         |         |         |         |
   0+10       0.0118      1.33  VQ        |         |         |         |
   0+15       0.0230      1.63  VQ        |         |         |         |
   0+20       0.0364      1.95  VQ        |         |         |         |
   0+25       0.0537      2.50  V Q       |         |         |         |
   0+30       0.0723      2.70  V Q       |         |         |         |
   0+35       0.0915      2.80  V Q       |         |         |         |
   0+40       0.1112      2.86  V Q       |         |         |         |
   0+45       0.1311      2.88  V Q       |         |         |         |
   0+50       0.1524      3.09  V  Q      |         |         |         |
   0+55       0.1770      3.58  V  Q      |         |         |         |
   1+ 0       0.2027      3.73  V  Q      |         |         |         |
   1+ 5       0.2275      3.60  V  Q      |         |         |         |
   1+10       0.2493      3.17  V  Q      |         |         |         |
   1+15       0.2702      3.04  V  Q      |         |         |         |
   1+20       0.2908      2.99  V Q       |         |         |         |
   1+25       0.3113      2.97  V Q       |         |         |         |
   1+30       0.3315      2.94  V Q       |         |         |         |
   1+35       0.3517      2.93  V Q       |         |         |         |
   1+40       0.3718      2.91  V Q       |         |         |         |
   1+45       0.3918      2.91  V Q       |         |         |         |
   1+50       0.4132      3.11  V  Q      |         |         |         |
   1+55       0.4378      3.58  V  Q      |         |         |         |
   2+ 0       0.4635      3.73  V  Q      |         |         |         |
   2+ 5       0.4896      3.79  V  Q      |         |         |         |
   2+10       0.5160      3.83  V  Q      |         |         |         |
   2+15       0.5426      3.86  |V Q       |         |         |         |
   2+20       0.5692      3.87  |V Q       |         |         |         |
   2+25       0.5960      3.88  |V Q       |         |         |         |
   2+30       0.6227      3.88  |V Q       |         |         |         |
   2+35       0.6508      4.08  |V  Q      |         |         |         |
   2+40       0.6821      4.55  |V  Q      |         |         |         |
   2+45       0.7145      4.70  |V  Q      |         |         |         |
```

2+50	0.7473	4.76	V Q			
2+55	0.7804	4.80	V Q			
3+ 0	0.8136	4.83	V Q			
3+ 5	0.8470	4.84	V Q			
3+10	0.8804	4.86	V Q			
3+15	0.9139	4.86	V Q			
3+20	0.9473	4.86	V Q			
3+25	0.9807	4.86	V Q			
3+30	1.0142	4.86	V Q			
3+35	1.0476	4.86	V Q			
3+40	1.0811	4.86	V Q			
3+45	1.1145	4.86	V Q			
3+50	1.1493	5.05	V Q			
3+55	1.1873	5.52	V Q			
4+ 0	1.2263	5.67	V Q			
4+ 5	1.2658	5.74	V Q			
4+10	1.3056	5.77	V Q			
4+15	1.3455	5.80	V Q			
4+20	1.3869	6.01	V Q			
4+25	1.4316	6.49	V Q			
4+30	1.4773	6.64	V Q			
4+35	1.5235	6.71	V Q			
4+40	1.5700	6.74	V Q			
4+45	1.6166	6.77	V Q			
4+50	1.6646	6.98	V Q			
4+55	1.7160	7.46	V Q			
5+ 0	1.7684	7.61	V Q			
5+ 5	1.8187	7.29	V Q			
5+10	1.8627	6.39	V Q			
5+15	1.9048	6.11	V Q			
5+20	1.9474	6.19	V Q			
5+25	1.9928	6.60	V Q			
5+30	2.0389	6.70	V Q			
5+35	2.0866	6.93	V Q			
5+40	2.1377	7.41	V Q			
5+45	2.1899	7.58	V Q			
5+50	2.2427	7.66	V Q			
5+55	2.2958	7.72	V Q			
6+ 0	2.3491	7.74	V Q			
6+ 5	2.4039	7.95	V Q			
6+10	2.4619	8.43	V Q			
6+15	2.5210	8.58	V Q			
6+20	2.5806	8.65	V Q			
6+25	2.6404	8.69	V Q			
6+30	2.7004	8.71	V Q			
6+35	2.7619	8.92	V Q			
6+40	2.8266	9.40	V Q			
6+45	2.8924	9.55	V Q			
6+50	2.9587	9.62	V Q			
6+55	3.0252	9.66	V Q			
7+ 0	3.0919	9.68	V Q			
7+ 5	3.1587	9.70	V Q			
7+10	3.2255	9.71	V Q			
7+15	3.2924	9.71	V Q			
7+20	3.3606	9.90	V Q			
7+25	3.4321	10.38	V Q			
7+30	3.5046	10.52	V Q			
7+35	3.5788	10.78	V Q			
7+40	3.6566	11.29	V Q			
7+45	3.7356	11.47	V Q			
7+50	3.8164	11.74	V Q			
7+55	3.9009	12.26	V Q			
8+ 0	3.9866	12.44	V Q			
8+ 5	4.0754	12.91	V Q			
8+10	4.1712	13.90	V Q			
8+15	4.2691	14.22	V Q			
8+20	4.3681	14.37	V Q			
8+25	4.4677	14.46	V Q			
8+30	4.5676	14.51	V Q			
8+35	4.6691	14.73	V Q			
8+40	4.7740	15.23	V Q			
8+45	4.8799	15.38	V Q			
8+50	4.9876	15.64	V Q			
8+55	5.0988	16.15	V Q			
9+ 0	5.2112	16.32	V Q			





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   21+35      20.5727      2.21  | Q       |         |         |        V|
   21+40      20.5910      2.66  | Q       |         |         |        V|
   21+45      20.6102      2.78  | Q       |         |         |        V|
   21+50      20.6284      2.64  | Q       |         |         |        V|
   21+55      20.6435      2.20  | Q       |         |         |        V|
   22+ 0      20.6578      2.07  | Q       |         |         |        V|
   22+ 5      20.6730      2.21  | Q       |         |         |        V|
   22+10      20.6913      2.66  | Q       |         |         |        V|
   22+15      20.7105      2.78  | Q       |         |         |        V|
   22+20      20.7287      2.64  | Q       |         |         |        V|
   22+25      20.7438      2.20  | Q       |         |         |        V|
   22+30      20.7581      2.07  | Q       |         |         |        V|
   22+35      20.7720      2.02  | Q       |         |         |        V|
   22+40      20.7858      2.00  |Q        |         |         |        V|
   22+45      20.7993      1.97  |Q        |         |         |        V|
   22+50      20.8128      1.96  |Q        |         |         |        V|
   22+55      20.8262      1.94  |Q        |         |         |        V|
   23+ 0      20.8396      1.94  |Q        |         |         |        V|
   23+ 5      20.8529      1.94  |Q        |         |         |        V|
   23+10      20.8663      1.94  |Q        |         |         |        V|
   23+15      20.8797      1.94  |Q        |         |         |        V|
   23+20      20.8931      1.94  |Q        |         |         |        V|
   23+25      20.9064      1.94  |Q        |         |         |        V|
   23+30      20.9198      1.94  |Q        |         |         |        V|
   23+35      20.9332      1.94  |Q        |         |         |        V|
   23+40      20.9466      1.94  |Q        |         |         |        V|
   23+45      20.9599      1.94  |Q        |         |         |        V|
   23+50      20.9733      1.94  |Q        |         |         |        V|
   23+55      20.9867      1.94  |Q        |         |         |        V|
   24+ 0      21.0001      1.94  |Q        |         |         |        V|
   24+ 5      21.0108      1.56  |Q        |         |         |        V|
   24+10      21.0150      0.61  Q         |         |         |        V|
   24+15      21.0172      0.32  Q         |         |         |        V|
   24+20      21.0185      0.18  Q         |         |         |        V|
   24+25      21.0192      0.11  Q         |         |         |        V|
   24+30      21.0196      0.06  Q         |         |         |        V|
   24+35      21.0198      0.03  Q         |         |         |        V|
-------------------------------------------------------------------------
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STAGE-STORAGE/OUTFLOW TABLE

ALBERT A. WEBB ASSOCIATES

Basin Stage-Storage-Outflow Table

21-0235 Perris Airport Logistics Center - Site 1 - West Building off Goetz

Bioretention Basin (BMP-W)

Basin Information: Bio-Retenion Basin			2-Year 24 Hour Orifice		Q_{out} Pump	100-year Basin Outlet	
Vbmp:	54,015	CF	Q 2-YR 24-HR	7.223		Peak Q-100-YR	152.41
	1.240	AC-FT	Opening (IN)	4.25		Number of Grates	2
Bottom Elevation:	1408.7	FT	Opening (FT)	0.354		Length (FT)	14.5
Bottom Length:	480	FT	AREA (SF)	0.099		C	3
Bottom Width:	140	FT	# of Orifices	5		% Clogging	25
Bottom Area:	44,800	SF	Total Area (SF)	0.493			
Bottom Slope:	0	%	G (FT/s^2)	32.2			
Side Slope:	4	:1	Cd	0.66			
			Invert H (FT)	1403.3		Top of Grates	1409.7

#	Elevation (FT)	Depth (FT)	Storage (AC-FT)	h (FT)	Q** (CFS)	Q (CFS)	h (FT)	Q*** (CFS)	Qtotal (CFS)
1.00	1,408.70	0.00	0.000	5.223	0.000	0.000	0.00	0.000	0.000
2.00	1,409.00	0.30	0.329	5.523	6.131	0.000	0.00	0.000	6.131
3.00	1,409.70	1.00	1.133	6.223	6.508	0.000	0.00	0.000	6.508
4.00	1,410.00	1.30	1.494	6.523	6.663	4.000	0.30	5.361	16.024
5.00	1,411.00	2.30	2.767	7.523	7.156	4.000	1.30	48.358	59.513
6.00	1,412.00	3.30	4.151	8.523	7.617	4.000	2.30	113.800	125.417
7.00	1,413.00	4.30	5.649	9.523	8.051	4.000	3.30	195.579	207.630
8.00	1,414.00	5.30	7.265	10.523	8.463	4.000	4.30	290.906	303.369

*The water quality volume is considered to be dead storage and it is not included in this analysis.

**Q determined using orifice equation, Q=CA(2gh)^0.5

***Q determined using weir equation, Q=CL(h)^3/2

BASIN ROUTING
2-YEAR, 24-HOUR STORM EVENT

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005
Study date: 03/29/23

21-0235 PERRIS AIRPORT LOGISTICS CENTER - WEST
BASIN ROUTING CALCULATIONS
2-YEAR, 24-HOUR STORM EVENT
FN: BMPW.OUT ABE 2023-03-29

Program License Serial Number 4010

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

From study/file name: ONSITEPROPWEST242.rte
**********HYDROGRAPH DATA**********
Number of intervals = 295
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 11.835 (CFS)
Total volume = 7.223 (Ac.Ft)

Status of hydrographs being held in storage

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

****

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Process from Point/Station 101.000 to Point/Station 102.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 295
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
0.300	0.329	6.131	0.308	0.350
1.000	1.133	6.508	1.111	1.155
1.300	1.494	16.024	1.439	1.549
2.300	2.767	59.513	2.562	2.972
3.300	4.151	125.417	3.719	4.583
4.300	5.649	207.630	4.934	6.364
5.300	7.265	303.369	6.220	8.310

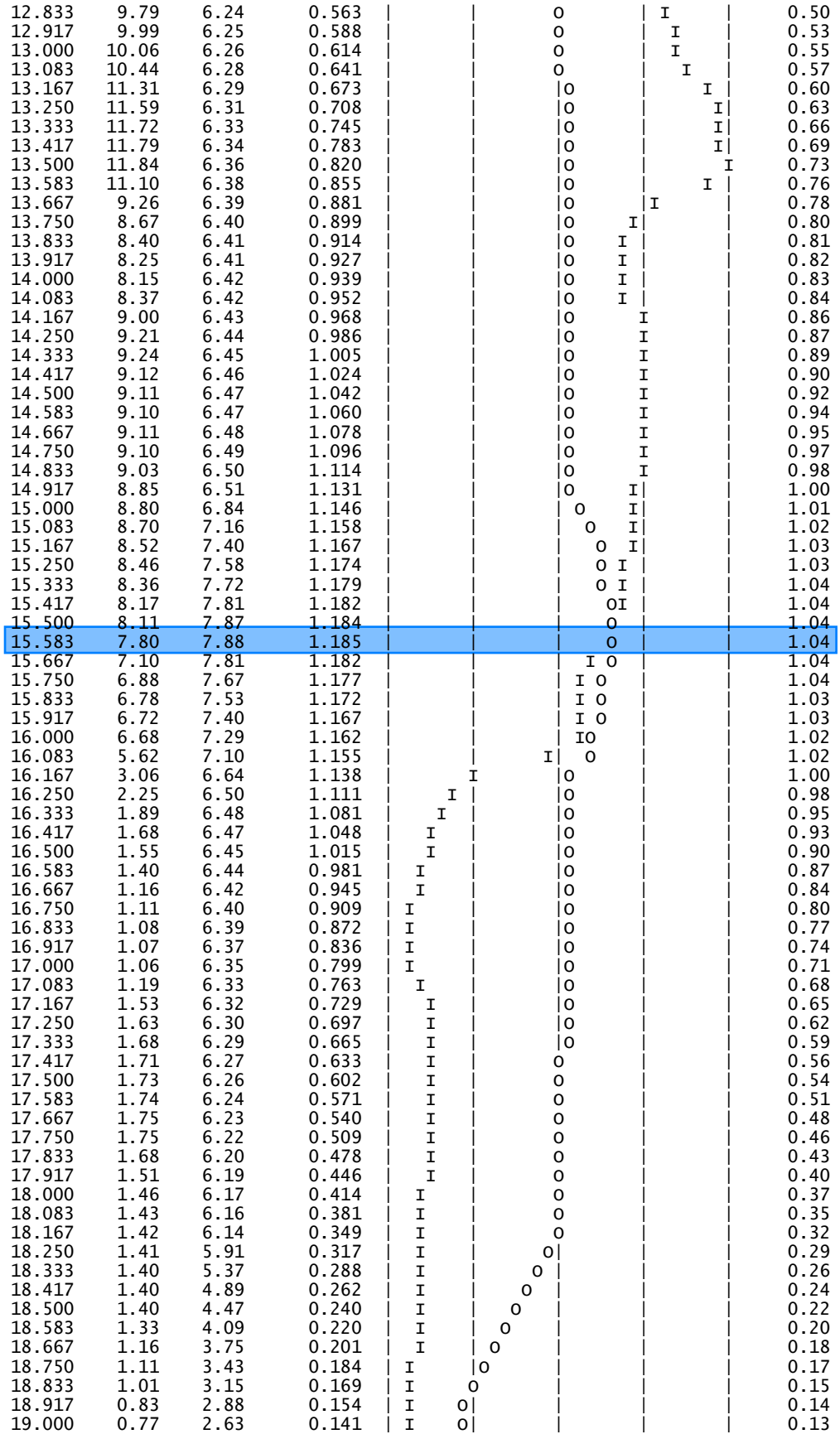
Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	3.0	5.92	8.88	11.84	Depth (Ft.)
0.083	0.14	0.01	0.000	O	|	|	|	|	0.00
0.167	0.48	0.04	0.002	OI	|	|	|	|	0.00
0.250	0.59	0.10	0.006	OI	|	|	|	|	0.01

0.333	0.70	0.17	0.009	OI				0.01
0.417	0.90	0.24	0.013	O I				0.01
0.500	0.97	0.33	0.018	O I				0.02
0.583	1.01	0.41	0.022	|OI				0.02
0.667	1.03	0.48	0.026	|OI				0.02
0.750	1.04	0.55	0.029	|OI				0.03
0.833	1.11	0.61	0.033	|O I				0.03
0.917	1.29	0.68	0.037	|O I				0.03
1.000	1.34	0.76	0.041	| OI				0.04
1.083	1.30	0.83	0.044	| OI				0.04
1.167	1.14	0.87	0.047	| OI				0.04
1.250	1.10	0.90	0.048	| O				0.04
1.333	1.08	0.93	0.050	| O				0.05
1.417	1.07	0.94	0.051	| O				0.05
1.500	1.06	0.96	0.051	| O				0.05
1.583	1.05	0.97	0.052	| O				0.05
1.667	1.05	0.98	0.053	| O				0.05
1.750	1.05	0.99	0.053	| O				0.05
1.833	1.12	1.00	0.054	| OI				0.05
1.917	1.29	1.02	0.055	| OI				0.05
2.000	1.34	1.06	0.057	| OI				0.05
2.083	1.37	1.09	0.059	| OI				0.05
2.167	1.38	1.13	0.061	| O				0.06
2.250	1.39	1.16	0.062	| O				0.06
2.333	1.39	1.19	0.064	| O				0.06
2.417	1.40	1.21	0.065	| O				0.06
2.500	1.40	1.23	0.066	| O				0.06
2.583	1.47	1.26	0.068	| O				0.06
2.667	1.64	1.29	0.069	| OI				0.06
2.750	1.69	1.34	0.072	| OI				0.07
2.833	1.72	1.38	0.074	| OI				0.07
2.917	1.73	1.42	0.076	| OI				0.07
3.000	1.74	1.46	0.078	| OI				0.07
3.083	1.74	1.49	0.080	| O				0.07
3.167	1.75	1.52	0.082	| O				0.07
3.250	1.75	1.55	0.083	| O				0.08
3.333	1.75	1.58	0.085	| O				0.08
3.417	1.75	1.60	0.086	| O				0.08
3.500	1.75	1.61	0.087	| O				0.08
3.583	1.75	1.63	0.088	| O				0.08
3.667	1.75	1.64	0.088	| O				0.08
3.750	1.75	1.66	0.089	| O				0.08
3.833	1.82	1.67	0.090	| O				0.08
3.917	1.99	1.70	0.091	| OI				0.08
4.000	2.04	1.74	0.093	| OI				0.09
4.083	2.06	1.78	0.095	| OI				0.09
4.167	2.08	1.81	0.097	| OI				0.09
4.250	2.09	1.84	0.099	| OI				0.09
4.333	2.16	1.88	0.101	| O				0.09
4.417	2.34	1.92	0.103	| OI				0.09
4.500	2.39	1.98	0.106	| OI				0.10
4.583	2.41	2.03	0.109	| OI				0.10
4.667	2.43	2.07	0.111	| OI				0.10
4.750	2.44	2.12	0.114	| OI				0.10
4.833	2.51	2.16	0.116	| OI				0.11
4.917	2.69	2.21	0.119	| O I|			0.11
5.000	2.74	2.27	0.122	| OI|			0.11
5.083	2.63	2.32	0.125	| OI|			0.11
5.167	2.30	2.34	0.126	| O |			0.11
5.250	2.20	2.33	0.125	| IO |			0.11
5.333	2.23	2.32	0.124	| O |			0.11
5.417	2.37	2.31	0.124	| O |			0.11
5.500	2.41	2.32	0.125	| O |			0.11
5.583	2.49	2.34	0.126	| O |			0.11
5.667	2.67	2.37	0.127	| OI|			0.12
5.750	2.73	2.41	0.129	| OI|			0.12
5.833	2.76	2.45	0.131	| OI|			0.12
5.917	2.78	2.49	0.133	| OI|			0.12
6.000	2.79	2.52	0.135	| OI|			0.12
6.083	2.86	2.56	0.137	| OI|			0.13
6.167	3.04	2.61	0.140	| OI				0.13
6.250	3.09	2.66	0.143	| OI				0.13
6.333	3.11	2.71	0.146	| OI				0.13
6.417	3.13	2.76	0.148	| OI				0.14
6.500	3.14	2.81	0.151	| OI				0.14

6.583	3.21	2.85	0.153	|	OI	|	|	0.14
6.667	3.39	2.91	0.156	|	O|I	|	|	0.14
6.750	3.44	2.97	0.159	|	OI	|	|	0.15
6.833	3.46	3.03	0.162	|	OI	|	|	0.15
6.917	3.48	3.08	0.165	|	OI	|	|	0.15
7.000	3.49	3.13	0.168	|	OI	|	|	0.15
7.083	3.49	3.17	0.170	|	OI	|	|	0.16
7.167	3.50	3.21	0.172	|	OI	|	|	0.16
7.250	3.50	3.24	0.174	|	OI	|	|	0.16
7.333	3.57	3.28	0.176	|	OI	|	|	0.16
7.417	3.74	3.32	0.178	|	O I	|	|	0.16
7.500	3.79	3.38	0.181	|	|OI	|	|	0.17
7.583	3.88	3.43	0.184	|	|OI	|	|	0.17
7.667	4.07	3.50	0.188	|	|OI	|	|	0.17
7.750	4.13	3.57	0.192	|	|O I	|	|	0.17
7.833	4.23	3.64	0.195	|	|O I	|	|	0.18
7.917	4.42	3.72	0.200	|	| OI	|	|	0.18
8.000	4.48	3.81	0.205	|	| O I	|	|	0.19
8.083	4.65	3.90	0.209	|	| O I	|	|	0.19
8.167	5.00	4.01	0.215	|	| O I	|	|	0.20
8.250	5.12	4.14	0.222	|	| O I	|	|	0.20
8.333	5.17	4.26	0.229	|	| O I	|	|	0.21
8.417	5.21	4.37	0.235	|	| O I	|	|	0.21
8.500	5.22	4.47	0.240	|	| O I	|	|	0.22
8.583	5.30	4.57	0.245	|	| O I	|	|	0.22
8.667	5.48	4.67	0.251	|	| O I	|	|	0.23
8.750	5.54	4.77	0.256	|	| O I	|	|	0.23
8.833	5.63	4.87	0.261	|	| O I|	|	|	0.24
8.917	5.81	4.97	0.267	|	| O I|	|	|	0.24
9.000	5.88	5.08	0.272	|	| O I|	|	|	0.25
9.083	6.04	5.18	0.278	|	| O I	|	|	0.25
9.167	6.40	5.31	0.285	|	| O |I	|	|	0.26
9.250	6.52	5.45	0.292	|	| O |I	|	|	0.27
9.333	6.64	5.58	0.300	|	| O|I	|	|	0.27
9.417	6.84	5.72	0.307	|	| O| I	|	|	0.28
9.500	6.91	5.86	0.315	|	| O| I	|	|	0.29
9.583	7.02	6.00	0.322	|	| O I	|	|	0.29
9.667	7.21	6.13	0.329	|	| O I	|	|	0.30
9.750	7.27	6.13	0.337	|	| O I	|	|	0.31
9.833	7.37	6.14	0.345	|	| O I	|	|	0.31
9.917	7.56	6.14	0.354	|	| O I	|	|	0.32
10.000	7.62	6.15	0.364	|	| O I	|	|	0.33
10.083	7.17	6.15	0.373	|	| O I	|	|	0.34
10.167	6.00	6.15	0.376	|	| O	|	|	0.34
10.250	5.63	6.15	0.373	|	| IO	|	|	0.34
10.333	5.47	6.15	0.369	|	| I O	|	|	0.33
10.417	5.38	6.15	0.364	|	| I O	|	|	0.33
10.500	5.32	6.14	0.359	|	| I O	|	|	0.33
10.583	5.62	6.14	0.354	|	| IO	|	|	0.32
10.667	6.44	6.14	0.353	|	| OI	|	|	0.32
10.750	6.71	6.14	0.356	|	| O I	|	|	0.32
10.833	6.83	6.15	0.360	|	| O I	|	|	0.33
10.917	6.90	6.15	0.365	|	| O I	|	|	0.33
11.000	6.94	6.15	0.371	|	| O I	|	|	0.34
11.083	6.90	6.15	0.376	|	| O I	|	|	0.34
11.167	6.75	6.16	0.381	|	| O I	|	|	0.34
11.250	6.70	6.16	0.384	|	| O I	|	|	0.35
11.333	6.68	6.16	0.388	|	| O I	|	|	0.35
11.417	6.66	6.16	0.392	|	| O I	|	|	0.35
11.500	6.65	6.16	0.395	|	| OI	|	|	0.36
11.583	6.51	6.16	0.398	|	| OI	|	|	0.36
11.667	6.16	6.16	0.399	|	| O	|	|	0.36
11.750	6.06	6.16	0.399	|	| O	|	|	0.36
11.833	6.08	6.16	0.398	|	| O	|	|	0.36
11.917	6.22	6.16	0.398	|	| O	|	|	0.36
12.000	6.26	6.16	0.398	|	| O	|	|	0.36
12.083	6.76	6.16	0.401	|	| O I	|	|	0.36
12.167	7.95	6.17	0.409	|	| O I	|	|	0.37
12.250	8.33	6.17	0.423	|	| O I	|	|	0.38
12.333	8.58	6.18	0.438	|	| O I|	|	|	0.40
12.417	8.85	6.19	0.456	|	| O I|	|	|	0.41
12.500	8.96	6.20	0.474	|	| O I	|	|	0.43
12.583	9.16	6.21	0.494	|	| O I	|	|	0.44
12.667	9.55	6.22	0.516	|	| O |I	|	|	0.46
12.750	9.66	6.23	0.539	|	| O | I	|	|	0.48



19.083	0.81	2.41	0.129	I O				0.12
19.167	0.96	2.22	0.119	I O				0.11
19.250	1.00	2.07	0.111	I O				0.10
19.333	1.09	1.95	0.105	I O				0.10
19.417	1.27	1.86	0.100	I O				0.09
19.500	1.33	1.79	0.096	IO				0.09
19.583	1.29	1.73	0.093	IO				0.08
19.667	1.14	1.67	0.090	IO				0.08
19.750	1.10	1.60	0.086	I O				0.08
19.833	1.01	1.54	0.082	I O				0.08
19.917	0.83	1.46	0.078	IO				0.07
20.000	0.77	1.38	0.074	IO				0.07
20.083	0.81	1.31	0.070	IO				0.06
20.167	0.96	1.26	0.068	IO				0.06
20.250	1.00	1.22	0.066	IO				0.06
20.333	1.02	1.20	0.064	IO				0.06
20.417	1.03	1.18	0.063	IO				0.06
20.500	1.04	1.16	0.062	IO				0.06
20.583	1.04	1.15	0.062	IO				0.06
20.667	1.05	1.13	0.061	IO				0.06
20.750	1.05	1.12	0.060	IO				0.05
20.833	0.98	1.11	0.060	IO				0.05
20.917	0.81	1.08	0.058	O				0.05
21.000	0.76	1.05	0.056	O				0.05
21.083	0.80	1.02	0.055	O				0.05
21.167	0.96	1.00	0.054	O				0.05
21.250	1.00	1.00	0.053	O				0.05
21.333	0.95	0.99	0.053	O				0.05
21.417	0.79	0.98	0.053	O				0.05
21.500	0.75	0.95	0.051	O				0.05
21.583	0.80	0.93	0.050	O				0.05
21.667	0.96	0.93	0.050	O				0.05
21.750	1.00	0.93	0.050	O				0.05
21.833	0.95	0.94	0.050	O				0.05
21.917	0.79	0.93	0.050	O				0.05
22.000	0.75	0.91	0.049	O				0.04
22.083	0.80	0.89	0.048	O				0.04
22.167	0.96	0.89	0.048	O				0.04
22.250	1.00	0.90	0.048	O				0.04
22.333	0.95	0.91	0.049	O				0.04
22.417	0.79	0.91	0.049	O				0.04
22.500	0.75	0.89	0.048	O				0.04
22.583	0.73	0.87	0.047	IO				0.04
22.667	0.72	0.85	0.046	IO				0.04
22.750	0.71	0.84	0.045	IO				0.04
22.833	0.70	0.82	0.044	IO				0.04
22.917	0.70	0.81	0.043	IO				0.04
23.000	0.70	0.79	0.043	IO				0.04
23.083	0.70	0.78	0.042	IO				0.04
23.167	0.70	0.77	0.041	IO				0.04
23.250	0.70	0.76	0.041	IO				0.04
23.333	0.70	0.76	0.041	IO				0.04
23.417	0.70	0.75	0.040	IO				0.04
23.500	0.70	0.74	0.040	IO				0.04
23.583	0.70	0.74	0.040	O				0.04
23.667	0.70	0.73	0.039	O				0.04
23.750	0.70	0.73	0.039	O				0.04
23.833	0.70	0.73	0.039	O				0.04
23.917	0.70	0.72	0.039	O				0.04
24.000	0.70	0.72	0.039	O				0.04
24.083	0.56	0.71	0.038	O				0.03
24.167	0.22	0.67	0.036	IO				0.03
24.250	0.11	0.61	0.033	IO				0.03
24.333	0.07	0.55	0.029	IO				0.03
24.417	0.04	0.49	0.026	IO				0.02
24.500	0.02	0.43	0.023	IO				0.02
24.583	0.01	0.38	0.020	IO				0.02
24.667	0.00	0.34	0.018	O				0.02
24.750	0.00	0.30	0.016	O				0.01
24.833	0.00	0.26	0.014	O				0.01
24.917	0.00	0.23	0.012	O				0.01
25.000	0.00	0.20	0.011	O				0.01
25.083	0.00	0.18	0.009	O				0.01
25.167	0.00	0.16	0.008	O				0.01
25.250	0.00	0.14	0.007	O				0.01

25.333	0.00	0.12	0.006	o	|	|	|	0.01
25.417	0.00	0.11	0.006	o	|	|	|	0.01
25.500	0.00	0.09	0.005	o	|	|	|	0.00
25.583	0.00	0.08	0.004	o	|	|	|	0.00
25.667	0.00	0.07	0.004	o	|	|	|	0.00
25.750	0.00	0.06	0.003	o	|	|	|	0.00
25.833	0.00	0.06	0.003	o	|	|	|	0.00
25.917	0.00	0.05	0.003	o	|	|	|	0.00
26.000	0.00	0.04	0.002	o	|	|	|	0.00
26.083	0.00	0.04	0.002	o	|	|	|	0.00
26.167	0.00	0.03	0.002	o	|	|	|	0.00
26.250	0.00	0.03	0.002	o	|	|	|	0.00
26.333	0.00	0.03	0.001	o	|	|	|	0.00
26.417	0.00	0.02	0.001	o	|	|	|	0.00
26.500	0.00	0.02	0.001	o	|	|	|	0.00

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

Number of intervals = 318
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 7.880 (CFS)
Total volume = 7.222 (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

****

BASIN ROUTING
100-YEAR, 1-HOUR STORM EVENT

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005
Study date: 03/29/23

21-0235 PERRIS AIRPORT LOGISTICS CENTER - WEST
BASIN ROUTING CALCULATIONS
100-YEAR, 1-HOUR STORM EVENT
FN: BMPW1100.OUT ABE 2023-03-29

Program License Serial Number 4010

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

From study/file name: ONSITEPROPWEST1100.rte
**********HYDROGRAPH DATA**********
Number of intervals = 19
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 152.412 (CFS)
Total volume = 5.912 (Ac.Ft)
Status of hydrographs being held in storage

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

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Process from Point/Station 101.000 to Point/Station 102.000
**** RETARDING BASIN ROUTING ****
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User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 19
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
0.300	0.329	6.131	0.308	0.350
1.000	1.133	6.508	1.111	1.155
1.300	1.494	16.024	1.439	1.549
2.300	2.767	59.513	2.562	2.972
3.300	4.151	125.417	3.719	4.583
4.300	5.649	207.630	4.934	6.364
5.300	7.265	303.369	6.220	8.310

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0 38.1 76.21 114.31 152.41	Depth (Ft.)
0.083	7.09	0.43	0.023	OI | | | | |	0.02
0.167	24.62	2.29	0.123	O I | | | |	0.11
0.250	32.16	5.44	0.292	|O I | | | |	0.27

0.333	38.77	6.21	0.496	|O	I	|	|	|	0.45
0.417	42.02	6.32	0.731	|O	I	|	|	|	0.65
0.500	46.11	6.44	0.990	|O	|I	|	|	|	0.88
0.583	53.22	10.25	1.275	| O	| I	|	|	|	1.12
0.667	63.89	18.89	1.578	| O	| I	|	|	|	1.37
0.750	78.65	29.92	1.901	| O	| I	|	|	|	1.62
0.833	121.15	44.65	2.332	|	|O	|	|I	|	1.96
0.917	152.41	65.58	2.894	|	| O	|	|	I	2.39
1.000	89.92	81.24	3.223	|	|	|OI	|	|	2.63
1.083	53.96	78.62	3.168	|	| I	O	|	|	2.59
1.167	24.75	67.56	2.936	| I	|	O |	|	|	2.42
1.250	14.00	55.38	2.646	| I	| O	|	|	|	2.20
1.333	8.35	46.07	2.374	|I	|O	|	|	|	1.99
1.417	5.24	37.81	2.132	|I	O|	|	|	|	1.80
1.500	1.56	30.56	1.920	I	O |	|	|	|	1.63
1.583	0.56	24.35	1.738	I	O |	|	|	|	1.49
1.667	0.00	19.28	1.589	I	O |	|	|	|	1.37
1.750	0.00	15.39	1.470	I O	|	|	|	|	1.28
1.833	0.00	12.83	1.373	I O	|	|	|	|	1.20
1.917	0.00	10.70	1.292	I O	|	|	|	|	1.13
2.000	0.00	8.92	1.224	IO	|	|	|	|	1.08
2.083	0.00	7.43	1.168	IO	|	|	|	|	1.03
2.167	0.00	6.50	1.120	IO	|	|	|	|	0.99
2.250	0.00	6.48	1.075	IO	|	|	|	|	0.95
2.333	0.00	6.46	1.031	IO	|	|	|	|	0.91
2.417	0.00	6.44	0.986	IO	|	|	|	|	0.87
2.500	0.00	6.42	0.942	IO	|	|	|	|	0.83
2.583	0.00	6.40	0.898	IO	|	|	|	|	0.80
2.667	0.00	6.38	0.854	IO	|	|	|	|	0.76
2.750	0.00	6.36	0.810	IO	|	|	|	|	0.72
2.833	0.00	6.34	0.766	IO	|	|	|	|	0.68
2.917	0.00	6.32	0.723	IO	|	|	|	|	0.64
3.000	0.00	6.30	0.679	IO	|	|	|	|	0.61
3.083	0.00	6.28	0.636	IO	|	|	|	|	0.57
3.167	0.00	6.25	0.593	IO	|	|	|	|	0.53
3.250	0.00	6.23	0.550	IO	|	|	|	|	0.49
3.333	0.00	6.21	0.507	IO	|	|	|	|	0.46
3.417	0.00	6.19	0.464	IO	|	|	|	|	0.42
3.500	0.00	6.17	0.422	IO	|	|	|	|	0.38
3.583	0.00	6.15	0.379	IO	|	|	|	|	0.34
3.667	0.00	6.13	0.337	IO	|	|	|	|	0.31
3.750	0.00	5.53	0.297	IO	|	|	|	|	0.27
3.833	0.00	4.86	0.261	IO	|	|	|	|	0.24
3.917	0.00	4.28	0.230	O	|	|	|	|	0.21
4.000	0.00	3.76	0.202	O	|	|	|	|	0.18
4.083	0.00	3.31	0.178	O	|	|	|	|	0.16
4.167	0.00	2.91	0.156	O	|	|	|	|	0.14
4.250	0.00	2.56	0.137	O	|	|	|	|	0.13
4.333	0.00	2.25	0.121	O	|	|	|	|	0.11
4.417	0.00	1.98	0.106	O	|	|	|	|	0.10
4.500	0.00	1.74	0.093	O	|	|	|	|	0.09
4.583	0.00	1.53	0.082	O	|	|	|	|	0.07
4.667	0.00	1.35	0.072	O	|	|	|	|	0.07
4.750	0.00	1.18	0.063	O	|	|	|	|	0.06
4.833	0.00	1.04	0.056	O	|	|	|	|	0.05
4.917	0.00	0.92	0.049	O	|	|	|	|	0.04
5.000	0.00	0.80	0.043	O	|	|	|	|	0.04
5.083	0.00	0.71	0.038	O	|	|	|	|	0.03
5.167	0.00	0.62	0.033	O	|	|	|	|	0.03
5.250	0.00	0.55	0.029	O	|	|	|	|	0.03
5.333	0.00	0.48	0.026	O	|	|	|	|	0.02
5.417	0.00	0.42	0.023	O	|	|	|	|	0.02
5.500	0.00	0.37	0.020	O	|	|	|	|	0.02
5.583	0.00	0.33	0.018	O	|	|	|	|	0.02
5.667	0.00	0.29	0.015	O	|	|	|	|	0.01
5.750	0.00	0.25	0.014	O	|	|	|	|	0.01
5.833	0.00	0.22	0.012	O	|	|	|	|	0.01
5.917	0.00	0.20	0.011	O	|	|	|	|	0.01
6.000	0.00	0.17	0.009	O	|	|	|	|	0.01
6.083	0.00	0.15	0.008	O	|	|	|	|	0.01
6.167	0.00	0.13	0.007	O	|	|	|	|	0.01
6.250	0.00	0.12	0.006	O	|	|	|	|	0.01
6.333	0.00	0.10	0.006	O	|	|	|	|	0.01
6.417	0.00	0.09	0.005	O	|	|	|	|	0.00
6.500	0.00	0.08	0.004	O	|	|	|	|	0.00

6.583	0.00	0.07	0.004	o	|	|	|	0.00
6.667	0.00	0.06	0.003	o	|	|	|	0.00
6.750	0.00	0.05	0.003	o	|	|	|	0.00
6.833	0.00	0.05	0.003	o	|	|	|	0.00
6.917	0.00	0.04	0.002	o	|	|	|	0.00
7.000	0.00	0.04	0.002	o	|	|	|	0.00
7.083	0.00	0.03	0.002	o	|	|	|	0.00
7.167	0.00	0.03	0.002	o	|	|	|	0.00
7.250	0.00	0.03	0.001	o	|	|	|	0.00
7.333	0.00	0.02	0.001	o	|	|	|	0.00
7.417	0.00	0.02	0.001	o	|	|	|	0.00

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

Number of intervals = 89
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 81.240 (CFS)
Total volume = 5.911 (Ac.Ft)

Status of hydrographs being held in storage

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

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BASIN ROUTING
100-YEAR, 3-HOUR STORM EVENT

FLOOD HYDROGRAPH ROUTING PROGRAM

Study date: 03/29/23

21-0235 PERRIS AIRPORT LOGISTICS CENTER - WEST
BASIN ROUTING CALCULATIONS
100-YEAR, 3-HOUR STORM EVENT
FN: BMPW3100.OUT ABE 2023-03-29

Program License Serial Number 4010

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

From study/file name: ONSITEPROPWEST3100.rte
**********HYDROGRAPH DATA**********
Number of intervals = 43
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 94.111 (CFS)
Total volume = 8.504 (Ac.Ft)
Status of hydrographs being held in storage

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

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Process from Point/Station 101.000 to Point/Station 102.000
**** RETARDING BASIN ROUTING ****
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User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 43
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
0.300	0.329	6.131	0.308	0.350
1.000	1.133	6.508	1.111	1.155
1.300	1.494	16.024	1.439	1.549
2.300	2.767	59.513	2.562	2.972
3.300	4.151	125.417	3.719	4.583
4.300	5.649	207.630	4.934	6.364
5.300	7.265	303.369	6.220	8.310

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	23.5	47.06	70.58	94.11	Depth (Ft.)
0.083	2.85	0.17	0.009	O	|	|	|	|	0.01
0.167	9.84	0.92	0.049	O I	|	|	|	|	0.04
0.250	11.61	2.10	0.113	O I	|	|	|	|	0.10

0.333	12.41	3.29	0.177	O I					0.16
0.417	14.78	4.54	0.243	O I					0.22
0.500	16.46	5.87	0.315	O I					0.29
0.583	18.05	6.16	0.393	O I					0.36
0.667	17.83	6.20	0.474	O I					0.43
0.750	19.52	6.24	0.559	O I					0.50
0.833	19.25	6.28	0.650	O I					0.58
0.917	17.84	6.32	0.734	O I					0.65
1.000	18.49	6.36	0.816	O I					0.72
1.083	20.94	6.40	0.907	O I					0.80
1.167	23.99	6.45	1.018	O I					0.90
1.250	25.03	6.73	1.141	O I					1.01
1.333	24.94	9.77	1.257	O I					1.10
1.417	25.49	12.34	1.354	O I					1.18
1.500	29.57	14.87	1.450	O I					1.26
1.583	30.63	17.77	1.545	O I					1.34
1.667	30.19	20.43	1.623	O I					1.40
1.750	33.57	22.84	1.693	O I					1.46
1.833	37.62	25.52	1.772	O I					1.52
1.917	37.25	28.03	1.845	O I					1.58
2.000	36.53	29.90	1.900	O I					1.62
2.083	37.24	31.37	1.943	O I					1.65
2.167	41.06	33.00	1.991	O I					1.69
2.250	50.96	35.74	2.071	O	I				1.75
2.333	54.70	39.34	2.176	O	I				1.84
2.417	56.44	42.76	2.276	O	I				1.91
2.500	78.18	47.93	2.428	O		I			2.03
2.583	90.42	55.58	2.652	O		I			2.21
2.667	94.11	64.59	2.874	O			I		2.38
2.750	71.99	69.79	2.983	OI					2.46
2.833	42.49	66.25	2.909	I	O				2.40
2.917	31.73	58.41	2.735	I	O				2.27
3.000	24.60	52.05	2.548	I	O				2.13
3.083	13.70	45.12	2.346	I	O				1.97
3.167	6.55	37.75	2.130	I	O				1.80
3.250	3.22	30.83	1.928	I	O				1.64
3.333	1.42	24.83	1.752	I	O				1.50
3.417	0.77	19.83	1.606	I	O				1.39
3.500	0.39	15.83	1.487	I	O				1.29
3.583	0.09	13.24	1.388	I	O				1.21
3.667	0.00	11.04	1.305	I	O				1.14
3.750	0.00	9.20	1.235	I	O				1.08
3.833	0.00	7.67	1.177	I	O				1.04
3.917	0.00	6.51	1.128	I	O				1.00
4.000	0.00	6.48	1.084	I	O				0.96
4.083	0.00	6.46	1.039	I	O				0.92
4.167	0.00	6.44	0.995	I	O				0.88
4.250	0.00	6.42	0.950	I	O				0.84
4.333	0.00	6.40	0.906	I	O				0.80
4.417	0.00	6.38	0.862	I	O				0.76
4.500	0.00	6.36	0.818	I	O				0.73
4.583	0.00	6.34	0.774	I	O				0.69
4.667	0.00	6.32	0.731	I	O				0.65
4.750	0.00	6.30	0.687	I	O				0.61
4.833	0.00	6.28	0.644	I	O				0.57
4.917	0.00	6.26	0.601	I	O				0.54
5.000	0.00	6.24	0.558	I	O				0.50
5.083	0.00	6.22	0.515	I	O				0.46
5.167	0.00	6.20	0.472	I	O				0.42
5.250	0.00	6.18	0.430	I	O				0.39
5.333	0.00	6.16	0.387	I	O				0.35
5.417	0.00	6.14	0.345	I	O				0.31
5.500	0.00	5.67	0.304	I	O				0.28
5.583	0.00	4.98	0.267	I	O				0.24
5.667	0.00	4.38	0.235	I	O				0.21
5.750	0.00	3.85	0.207	I	O				0.19
5.833	0.00	3.39	0.182	I	O				0.17
5.917	0.00	2.98	0.160	I	O				0.15
6.000	0.00	2.62	0.141	O					0.13
6.083	0.00	2.31	0.124	O					0.11
6.167	0.00	2.03	0.109	O					0.10
6.250	0.00	1.78	0.096	O					0.09
6.333	0.00	1.57	0.084	O					0.08
6.417	0.00	1.38	0.074	O					0.07
6.500	0.00	1.21	0.065	O					0.06

6.583	0.00	1.07	0.057	o	|	|	|	0.05
6.667	0.00	0.94	0.050	o	|	|	|	0.05
6.750	0.00	0.82	0.044	o	|	|	|	0.04
6.833	0.00	0.73	0.039	o	|	|	|	0.04
6.917	0.00	0.64	0.034	o	|	|	|	0.03
7.000	0.00	0.56	0.030	o	|	|	|	0.03
7.083	0.00	0.49	0.026	o	|	|	|	0.02
7.167	0.00	0.43	0.023	o	|	|	|	0.02
7.250	0.00	0.38	0.020	o	|	|	|	0.02
7.333	0.00	0.34	0.018	o	|	|	|	0.02
7.417	0.00	0.29	0.016	o	|	|	|	0.01
7.500	0.00	0.26	0.014	o	|	|	|	0.01
7.583	0.00	0.23	0.012	o	|	|	|	0.01
7.667	0.00	0.20	0.011	o	|	|	|	0.01
7.750	0.00	0.18	0.009	o	|	|	|	0.01
7.833	0.00	0.16	0.008	o	|	|	|	0.01
7.917	0.00	0.14	0.007	o	|	|	|	0.01
8.000	0.00	0.12	0.006	o	|	|	|	0.01
8.083	0.00	0.11	0.006	o	|	|	|	0.01
8.167	0.00	0.09	0.005	o	|	|	|	0.00
8.250	0.00	0.08	0.004	o	|	|	|	0.00
8.333	0.00	0.07	0.004	o	|	|	|	0.00
8.417	0.00	0.06	0.003	o	|	|	|	0.00
8.500	0.00	0.06	0.003	o	|	|	|	0.00
8.583	0.00	0.05	0.003	o	|	|	|	0.00
8.667	0.00	0.04	0.002	o	|	|	|	0.00
8.750	0.00	0.04	0.002	o	|	|	|	0.00
8.833	0.00	0.03	0.002	o	|	|	|	0.00
8.917	0.00	0.03	0.002	o	|	|	|	0.00
9.000	0.00	0.03	0.001	o	|	|	|	0.00
9.083	0.00	0.02	0.001	o	|	|	|	0.00
9.167	0.00	0.02	0.001	o	|	|	|	0.00

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

Number of intervals = 110
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 69.789 (CFS)
Total volume = 8.503 (Ac.Ft)

Status of hydrographs being held in storage

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

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BASIN ROUTING
100-YEAR, 6-HOUR STORM EVENT

FLOOD HYDROGRAPH ROUTING PROGRAM
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Study date: 03/29/23

21-0235 PERRIS AIRPORT LOGISTICS CENTER - WEST
BASIN ROUTING CALCULATIONS
100-YEAR, 6-HOUR STORM EVENT
FN: BMPW6100.OUT ABE 2023-03-29

Program License Serial Number 4010

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

From study/file name: ONSITEPROPWEST6100.rte
**********HYDROGRAPH DATA**********
Number of intervals = 79
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 79.454 (CFS)
Total volume = 10.849 (Ac.Ft)
Status of hydrographs being held in storage

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

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Process from Point/Station 101.000 to Point/Station 102.000
**** RETARDING BASIN ROUTING ****
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User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 79
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
0.300	0.329	6.131	0.308	0.350
1.000	1.133	6.508	1.111	1.155
1.300	1.494	16.024	1.439	1.549
2.300	2.767	59.513	2.562	2.972
3.300	4.151	125.417	3.719	4.583
4.300	5.649	207.630	4.934	6.364
5.300	7.265	303.369	6.220	8.310

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	19.9	39.73	59.59	79.45	Depth (Ft.)
0.083	1.44	0.09	0.005	O	|	|	|	|	0.00
0.167	5.27	0.48	0.026	O I	|	|	|	|	0.02
0.250	7.09	1.17	0.063	O I	|	|	|	|	0.06

0.333	7.82	1.93	0.103	O I	|	|	|	0.09
0.417	8.21	2.66	0.143	|O I	|	|	|	0.13
0.500	8.74	3.36	0.180	|O I	|	|	|	0.16
0.583	9.59	4.06	0.218	|O I	|	|	|	0.20
0.667	9.94	4.75	0.255	|O I	|	|	|	0.23
0.750	10.06	5.38	0.289	| O I	|	|	|	0.26
0.833	10.12	5.95	0.319	| O I	|	|	|	0.29
0.917	10.15	6.14	0.347	| O I	|	|	|	0.32
1.000	10.46	6.15	0.376	| O I	|	|	|	0.34
1.083	11.19	6.17	0.408	| O I	|	|	|	0.37
1.167	11.41	6.18	0.444	| O I	|	|	|	0.40
1.250	11.52	6.20	0.480	| O I	|	|	|	0.43
1.333	11.57	6.22	0.517	| O I	|	|	|	0.46
1.417	11.61	6.24	0.554	| O I	|	|	|	0.50
1.500	11.63	6.25	0.591	| O I	|	|	|	0.53
1.583	11.65	6.27	0.628	| O I	|	|	|	0.56
1.667	11.65	6.29	0.665	| O I	|	|	|	0.59
1.750	11.65	6.31	0.702	| O I	|	|	|	0.62
1.833	11.65	6.32	0.738	| O I	|	|	|	0.66
1.917	11.65	6.34	0.775	| O I	|	|	|	0.69
2.000	11.94	6.36	0.812	| O I	|	|	|	0.72
2.083	12.36	6.38	0.852	| O I	|	|	|	0.76
2.167	12.16	6.40	0.893	| O I	|	|	|	0.79
2.250	12.75	6.41	0.934	| O I	|	|	|	0.83
2.333	12.93	6.44	0.979	| O I	|	|	|	0.87
2.417	13.01	6.46	1.024	| O I	|	|	|	0.90
2.500	13.05	6.48	1.069	| O I	|	|	|	0.94
2.583	13.09	6.50	1.114	| O I	|	|	|	0.98
2.667	13.09	7.15	1.157	| O I	|	|	|	1.02
2.750	13.40	8.16	1.196	| O I	|	|	|	1.05
2.833	14.10	9.09	1.231	| O I	|	|	|	1.08
2.917	14.33	9.94	1.263	| OI	|	|	|	1.11
3.000	14.43	10.68	1.291	| OI	|	|	|	1.13
3.083	14.49	11.31	1.315	| OI	|	|	|	1.15
3.167	14.81	11.87	1.336	| OI	|	|	|	1.17
3.250	15.54	12.42	1.357	| OI	|	|	|	1.19
3.333	15.78	12.96	1.378	| OI	|	|	|	1.20
3.417	16.19	13.46	1.397	| OI	|	|	|	1.22
3.500	17.35	14.01	1.418	| OI	|	|	|	1.24
3.583	18.86	14.69	1.444	| O I|	|	|	|	1.26
3.667	20.15	15.49	1.474	| O I	|	|	|	1.28
3.750	21.00	16.42	1.506	| O I	|	|	|	1.31
3.833	22.12	17.51	1.537	| OI	|	|	|	1.33
3.917	22.90	18.56	1.568	| O|I	|	|	|	1.36
4.000	24.01	19.59	1.598	| O|I	|	|	|	1.38
4.083	24.77	20.60	1.628	| OI	|	|	|	1.41
4.167	26.21	21.63	1.658	| O I	|	|	|	1.43
4.250	27.84	22.77	1.691	| |O I	|	|	|	1.46
4.333	29.56	24.01	1.728	| |O I	|	|	|	1.48
4.417	31.31	25.37	1.767	| | O I	|	|	|	1.51
4.500	32.74	26.77	1.808	| | O I	|	|	|	1.55
4.583	33.65	28.12	1.848	| | O I	|	|	|	1.58
4.667	35.19	29.45	1.887	| | O I|	|	|	|	1.61
4.750	36.89	30.83	1.928	| | O I|	|	|	|	1.64
4.833	38.28	32.25	1.969	| | O I|	|	|	|	1.67
4.917	39.17	33.62	2.009	| | O I|	|	|	|	1.70
5.000	40.68	34.94	2.048	| | O I	|	|	|	1.74
5.083	43.79	36.48	2.093	| | O |I	|	|	|	1.77
5.167	50.52	38.73	2.159	| | O| I	|	|	|	1.82
5.250	57.67	41.96	2.253	| | O I|	|	|	|	1.90
5.333	63.58	45.89	2.368	| | | O I|	|	|	|	1.99
5.417	69.93	50.28	2.497	| | | O I|	|	|	|	2.09
5.500	79.45	55.42	2.647	| | | O I|	|	|	|	2.21
5.583	76.43	60.38	2.785	| | | O I|	|	|	|	2.31
5.667	44.09	60.35	2.785	| | |I O I|	|	|	|	2.31
5.750	26.39	54.85	2.631	| | I O I|	|	|	|	2.19
5.833	17.69	47.94	2.428	| | I| O I|	|	|	|	2.03
5.917	12.54	41.03	2.226	| | I | O I|	|	|	|	1.88
6.000	8.33	34.59	2.038	| I | O |	|	|	|	1.73
6.083	5.09	28.72	1.866	| I | O |	|	|	|	1.59
6.167	1.88	23.41	1.710	I | |O |	|	|	|	1.47
6.250	0.87	18.77	1.574	I | O|	|	|	|	1.36
6.333	0.46	15.18	1.462	I | O |	|	|	|	1.27
6.417	0.24	12.71	1.368	I | O |	|	|	|	1.20
6.500	0.11	10.63	1.289	I | O |	|	|	|	1.13

6.583	0.04	8.87	1.223	I O	|	|	|	1.07
6.667	0.00	7.40	1.167	I O	|	|	|	1.03
6.750	0.00	6.50	1.119	I O	|	|	|	0.99
6.833	0.00	6.48	1.074	I O	|	|	|	0.95
6.917	0.00	6.46	1.030	I O	|	|	|	0.91
7.000	0.00	6.44	0.985	I O	|	|	|	0.87
7.083	0.00	6.42	0.941	I O	|	|	|	0.83
7.167	0.00	6.40	0.897	I O	|	|	|	0.79
7.250	0.00	6.38	0.853	I O	|	|	|	0.76
7.333	0.00	6.36	0.809	I O	|	|	|	0.72
7.417	0.00	6.34	0.765	I O	|	|	|	0.68
7.500	0.00	6.32	0.722	I O	|	|	|	0.64
7.583	0.00	6.29	0.678	I O	|	|	|	0.60
7.667	0.00	6.27	0.635	I O	|	|	|	0.57
7.750	0.00	6.25	0.592	I O	|	|	|	0.53
7.833	0.00	6.23	0.549	I O	|	|	|	0.49
7.917	0.00	6.21	0.506	I O	|	|	|	0.45
8.000	0.00	6.19	0.463	I O	|	|	|	0.42
8.083	0.00	6.17	0.421	I O	|	|	|	0.38
8.167	0.00	6.15	0.378	I O	|	|	|	0.34
8.250	0.00	6.13	0.336	I O	|	|	|	0.31
8.333	0.00	5.51	0.296	I O	|	|	|	0.27
8.417	0.00	4.85	0.260	IO	|	|	|	0.24
8.500	0.00	4.26	0.229	IO	|	|	|	0.21
8.583	0.00	3.75	0.201	IO	|	|	|	0.18
8.667	0.00	3.30	0.177	IO	|	|	|	0.16
8.750	0.00	2.90	0.156	IO	|	|	|	0.14
8.833	0.00	2.55	0.137	IO	|	|	|	0.12
8.917	0.00	2.24	0.120	O	|	|	|	0.11
9.000	0.00	1.97	0.106	O	|	|	|	0.10
9.083	0.00	1.73	0.093	O	|	|	|	0.08
9.167	0.00	1.52	0.082	O	|	|	|	0.07
9.250	0.00	1.34	0.072	O	|	|	|	0.07
9.333	0.00	1.18	0.063	O	|	|	|	0.06
9.417	0.00	1.04	0.056	O	|	|	|	0.05
9.500	0.00	0.91	0.049	O	|	|	|	0.04
9.583	0.00	0.80	0.043	O	|	|	|	0.04
9.667	0.00	0.71	0.038	O	|	|	|	0.03
9.750	0.00	0.62	0.033	O	|	|	|	0.03
9.833	0.00	0.55	0.029	O	|	|	|	0.03
9.917	0.00	0.48	0.026	O	|	|	|	0.02
10.000	0.00	0.42	0.023	O	|	|	|	0.02
10.083	0.00	0.37	0.020	O	|	|	|	0.02
10.167	0.00	0.33	0.018	O	|	|	|	0.02
10.250	0.00	0.29	0.015	O	|	|	|	0.01
10.333	0.00	0.25	0.014	O	|	|	|	0.01
10.417	0.00	0.22	0.012	O	|	|	|	0.01
10.500	0.00	0.20	0.010	O	|	|	|	0.01
10.583	0.00	0.17	0.009	O	|	|	|	0.01
10.667	0.00	0.15	0.008	O	|	|	|	0.01
10.750	0.00	0.13	0.007	O	|	|	|	0.01
10.833	0.00	0.12	0.006	O	|	|	|	0.01
10.917	0.00	0.10	0.006	O	|	|	|	0.01
11.000	0.00	0.09	0.005	O	|	|	|	0.00
11.083	0.00	0.08	0.004	O	|	|	|	0.00
11.167	0.00	0.07	0.004	O	|	|	|	0.00
11.250	0.00	0.06	0.003	O	|	|	|	0.00
11.333	0.00	0.05	0.003	O	|	|	|	0.00
11.417	0.00	0.05	0.003	O	|	|	|	0.00
11.500	0.00	0.04	0.002	O	|	|	|	0.00
11.583	0.00	0.04	0.002	O	|	|	|	0.00
11.667	0.00	0.03	0.002	O	|	|	|	0.00
11.750	0.00	0.03	0.002	O	|	|	|	0.00
11.833	0.00	0.02	0.001	O	|	|	|	0.00
11.917	0.00	0.02	0.001	O	|	|	|	0.00
12.000	0.00	0.02	0.001	O	|	|	|	0.00

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

Number of intervals = 144
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 60.382 (CFS)
Total volume = 10.848 (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

****

BASIN ROUTING
100-YEAR, 24-HOUR STORM EVENT

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005
Study date: 03/29/23

21-0235 PERRIS AIRPORT LOGISTICS CENTER - WEST
BASIN ROUTING CALCULATIONS
100-YEAR, 24-HOUR STORM EVENT
FN: BMPW24100.OUT ABE 2023-03-29

Program License Serial Number 4010

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

From study/file name: ONSITEPROPWEST24100.rte
**********HYDROGRAPH DATA**********
Number of intervals = 295
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 37.384 (CFS)
Total volume = 21.020 (Ac.Ft)
Status of hydrographs being held in storage

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

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Process from Point/Station 101.000 to Point/Station 102.000
**** RETARDING BASIN ROUTING ****
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User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 295
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
0.300	0.329	6.131	0.308	0.350
1.000	1.133	6.508	1.111	1.155
1.300	1.494	16.024	1.439	1.549
2.300	2.767	59.513	2.562	2.972
3.300	4.151	125.417	3.719	4.583
4.300	5.649	207.630	4.934	6.364
5.300	7.265	303.369	6.220	8.310

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	9.3	18.69	28.04	37.38	Depth (Ft.)
0.083	0.39	0.02	0.001	O	|	|	|	|	0.00
0.167	1.33	0.12	0.007	OI	|	|	|	|	0.01
0.250	1.63	0.29	0.015	OI	|	|	|	|	0.01

0.333	1.95	0.47	0.025	OI	|	|	|	0.02
0.417	2.50	0.68	0.037	O I	|	|	|	0.03
0.500	2.70	0.91	0.049	O I	|	|	|	0.04
0.583	2.80	1.13	0.061	O I	|	|	|	0.06
0.667	2.86	1.34	0.072	|OI	|	|	|	0.07
0.750	2.88	1.52	0.082	|OI	|	|	|	0.07
0.833	3.09	1.70	0.091	|OI	|	|	|	0.08
0.917	3.58	1.90	0.102	|O I	|	|	|	0.09
1.000	3.73	2.11	0.113	|O I	|	|	|	0.10
1.083	3.60	2.30	0.123	|O I	|	|	|	0.11
1.167	3.17	2.43	0.130	| O	|	|	|	0.12
1.250	3.04	2.51	0.135	| O	|	|	|	0.12
1.333	2.99	2.57	0.138	| O	|	|	|	0.13
1.417	2.97	2.62	0.141	| O	|	|	|	0.13
1.500	2.94	2.66	0.143	| O	|	|	|	0.13
1.583	2.93	2.69	0.145	| O	|	|	|	0.13
1.667	2.91	2.72	0.146	| O	|	|	|	0.13
1.750	2.91	2.74	0.147	| O	|	|	|	0.13
1.833	3.11	2.78	0.149	| O	|	|	|	0.14
1.917	3.58	2.84	0.153	| OI	|	|	|	0.14
2.000	3.73	2.94	0.158	| OI	|	|	|	0.14
2.083	3.79	3.04	0.163	| OI	|	|	|	0.15
2.167	3.83	3.13	0.168	| OI	|	|	|	0.15
2.250	3.86	3.22	0.173	| OI	|	|	|	0.16
2.333	3.87	3.30	0.177	| OI	|	|	|	0.16
2.417	3.88	3.37	0.181	| OI	|	|	|	0.16
2.500	3.88	3.43	0.184	| OI	|	|	|	0.17
2.583	4.08	3.50	0.188	| OI	|	|	|	0.17
2.667	4.55	3.59	0.193	| O	|	|	|	0.18
2.750	4.70	3.72	0.200	| OI	|	|	|	0.18
2.833	4.76	3.84	0.206	| OI	|	|	|	0.19
2.917	4.80	3.95	0.212	| OI	|	|	|	0.19
3.000	4.83	4.06	0.218	| OI	|	|	|	0.20
3.083	4.84	4.15	0.223	| OI	|	|	|	0.20
3.167	4.86	4.24	0.227	| OI	|	|	|	0.21
3.250	4.86	4.31	0.231	| OI	|	|	|	0.21
3.333	4.86	4.38	0.235	| OI	|	|	|	0.21
3.417	4.86	4.43	0.238	| OI	|	|	|	0.22
3.500	4.86	4.48	0.241	| OI	|	|	|	0.22
3.583	4.86	4.53	0.243	| OI	|	|	|	0.22
3.667	4.86	4.57	0.245	| OI	|	|	|	0.22
3.750	4.86	4.60	0.247	| OI	|	|	|	0.23
3.833	5.05	4.65	0.249	| OI	|	|	|	0.23
3.917	5.52	4.72	0.253	| O	|	|	|	0.23
4.000	5.67	4.83	0.259	| O	|	|	|	0.24
4.083	5.74	4.93	0.265	| O	|	|	|	0.24
4.167	5.77	5.03	0.270	| O	|	|	|	0.25
4.250	5.80	5.12	0.275	| O	|	|	|	0.25
4.333	6.01	5.22	0.280	| OI	|	|	|	0.26
4.417	6.49	5.34	0.287	| OI	|	|	|	0.26
4.500	6.64	5.49	0.295	| OI	|	|	|	0.27
4.583	6.71	5.63	0.302	| OI	|	|	|	0.28
4.667	6.74	5.76	0.309	| OI	|	|	|	0.28
4.750	6.77	5.88	0.316	| O	|	|	|	0.29
4.833	6.98	6.00	0.322	| O	|	|	|	0.29
4.917	7.46	6.13	0.330	| OI	|	|	|	0.30
5.000	7.61	6.14	0.340	| OI	|	|	|	0.31
5.083	7.29	6.14	0.349	| OI	|	|	|	0.32
5.167	6.39	6.14	0.354	| O	|	|	|	0.32
5.250	6.11	6.14	0.354	| O	|	|	|	0.32
5.333	6.19	6.14	0.354	| O	|	|	|	0.32
5.417	6.60	6.14	0.356	| O	|	|	|	0.32
5.500	6.70	6.15	0.360	| O	|	|	|	0.33
5.583	6.93	6.15	0.364	| O	|	|	|	0.33
5.667	7.41	6.15	0.371	| OI	|	|	|	0.34
5.750	7.58	6.16	0.380	| OI	|	|	|	0.34
5.833	7.66	6.16	0.390	| OI	|	|	|	0.35
5.917	7.72	6.16	0.401	| OI	|	|	|	0.36
6.000	7.74	6.17	0.412	| OI	|	|	|	0.37
6.083	7.95	6.18	0.423	| OI	|	|	|	0.38
6.167	8.43	6.18	0.437	| O I|	|	|	|	0.39
6.250	8.58	6.19	0.453	| O I|	|	|	|	0.41
6.333	8.65	6.20	0.470	| O I|	|	|	|	0.42
6.417	8.69	6.20	0.487	| O I|	|	|	|	0.44
6.500	8.71	6.21	0.504	| O I|	|	|	|	0.45

6.583	8.92	6.22	0.522	O I				0.47
6.667	9.40	6.23	0.542	O I				0.49
6.750	9.55	6.24	0.564	O I				0.50
6.833	9.62	6.25	0.587	O I				0.52
6.917	9.66	6.26	0.611	O I				0.55
7.000	9.68	6.27	0.634	O I				0.57
7.083	9.70	6.29	0.658	O I				0.59
7.167	9.71	6.30	0.681	O I				0.61
7.250	9.71	6.31	0.705	O I				0.63
7.333	9.90	6.32	0.729	O I				0.65
7.417	10.38	6.33	0.755	O I				0.67
7.500	10.52	6.34	0.783	O I				0.70
7.583	10.78	6.36	0.813	O I				0.72
7.667	11.29	6.37	0.845	O I				0.75
7.750	11.47	6.39	0.880	O I				0.78
7.833	11.74	6.41	0.915	O I				0.81
7.917	12.26	6.42	0.954	O I				0.84
8.000	12.44	6.44	0.995	O I				0.88
8.083	12.91	6.46	1.037	O I				0.92
8.167	13.90	6.49	1.085	O I				0.96
8.250	14.22	6.61	1.137	O I				1.00
8.333	14.37	7.89	1.185	O I				1.04
8.417	14.46	8.98	1.227	O I				1.08
8.500	14.51	9.89	1.261	O I				1.11
8.583	14.73	10.68	1.291	O I				1.13
8.667	15.23	11.40	1.318	O I				1.15
8.750	15.38	12.05	1.343	O I				1.17
8.833	15.64	12.62	1.365	O I				1.19
8.917	16.15	13.17	1.386	O I				1.21
9.000	16.32	13.68	1.405	O I				1.23
9.083	16.79	14.16	1.423	O I				1.24
9.167	17.78	14.68	1.443	O I				1.26
9.250	18.11	15.22	1.464	O I				1.27
9.333	18.48	15.73	1.483	O I				1.29
9.417	19.11	16.30	1.502	O I				1.31
9.500	19.34	16.92	1.520	O I				1.32
9.583	19.71	17.46	1.536	O I				1.33
9.667	20.39	18.01	1.552	O I				1.35
9.750	20.62	18.53	1.567	O I				1.36
9.833	20.99	19.01	1.581	OI				1.37
9.917	21.66	19.50	1.596	O I				1.38
10.000	21.90	19.98	1.610	OI				1.39
10.083	20.51	20.24	1.617	O				1.40
10.167	16.90	19.91	1.608	I O				1.39
10.250	15.77	19.16	1.586	I O				1.37
10.333	15.26	18.39	1.563	I O				1.35
10.417	14.98	17.70	1.543	I O				1.34
10.500	14.79	17.11	1.526	I O				1.32
10.583	15.73	16.72	1.514	IO				1.32
10.667	18.21	16.77	1.516	OI				1.32
10.750	19.04	17.16	1.527	O I				1.33
10.833	19.43	17.60	1.540	OI				1.34
10.917	19.66	18.01	1.552	OI				1.35
11.000	19.81	18.37	1.563	OI				1.35
11.083	19.67	18.66	1.571	OI				1.36
11.167	19.18	18.82	1.576	O				1.36
11.250	19.01	18.88	1.578	O				1.37
11.333	18.95	18.90	1.578	O				1.37
11.417	18.92	18.91	1.578	O				1.37
11.500	18.91	18.91	1.578	O				1.37
11.583	18.43	18.86	1.577	IO				1.37
11.667	17.26	18.65	1.571	IO				1.36
11.750	16.91	18.32	1.561	IO				1.35
11.833	17.00	18.03	1.553	IO				1.35
11.917	17.51	17.87	1.548	IO				1.34
12.000	17.66	17.81	1.546	O				1.34
12.083	19.41	17.96	1.551	OI				1.34
12.167	23.57	18.71	1.572	O I				1.36
12.250	24.92	19.87	1.607	O I				1.39
12.333	25.79	21.03	1.640	O I				1.42
12.417	26.75	22.13	1.673	O I				1.44
12.500	27.17	23.15	1.703	O I				1.46
12.583	27.89	24.07	1.730	O I				1.49
12.667	29.25	25.02	1.757	O	I			1.51
12.750	29.67	25.95	1.785	O	I			1.53

12.833	30.12	26.78	1.809	|	|	| O |I |	1.55
12.917	30.84	27.56	1.832	|	|	| O| I |	1.57
13.000	31.11	28.28	1.853	|	|	| O I |	1.58
13.083	32.45	29.02	1.874	|	|	| O I |	1.60
13.167	35.50	30.06	1.905	|	|	| O I |	1.62
13.250	36.48	31.31	1.941	|	|	| O I|	1.65
13.333	36.94	32.45	1.975	|	|	| O I|	1.68
13.417	37.21	33.42	2.003	|	|	| O I|	1.70
13.500	37.38	34.24	2.027	|	|	| O I	1.72
13.583	34.85	34.63	2.039	|	|	| O |	1.73
13.667	28.47	34.01	2.020	|	|	| I O |	1.71
13.750	26.44	32.63	1.980	|	|	| I | O |	1.68
13.833	25.53	31.23	1.939	|	|	| I | O |	1.65
13.917	25.03	29.98	1.902	|	|	| I |O |	1.62
14.000	24.71	28.90	1.871	|	|	| I O |	1.60
14.083	25.49	28.10	1.848	|	|	| I O |	1.58
14.167	27.68	27.78	1.838	|	|	| O| |	1.57
14.250	28.44	27.84	1.840	|	|	| OI |	1.57
14.333	28.56	27.98	1.844	|	|	| OI |	1.57
14.417	28.17	28.06	1.846	|	|	| O |	1.58
14.500	28.13	28.08	1.847	|	|	| O |	1.58
14.583	28.14	28.09	1.847	|	|	| O |	1.58
14.667	28.17	28.10	1.848	|	|	| O |	1.58
14.750	28.16	28.12	1.848	|	|	| O |	1.58
14.833	27.92	28.10	1.847	|	|	| IO |	1.58
14.917	27.33	28.00	1.845	|	|	| O| |	1.58
15.000	27.16	27.84	1.840	|	|	| O| |	1.57
15.083	26.85	27.67	1.835	|	|	| IO| |	1.57
15.167	26.23	27.43	1.828	|	|	| IO| |	1.56
15.250	26.03	27.16	1.820	|	|	| IO| |	1.56
15.333	25.71	26.89	1.812	|	|	| IO| |	1.55
15.417	25.07	26.57	1.803	|	|	| IO | |	1.54
15.500	24.87	26.23	1.793	|	|	| IO | |	1.53
15.583	23.82	25.84	1.781	|	|	| I O | |	1.53
15.667	21.42	25.16	1.761	|	|	| I O | |	1.51
15.750	20.66	24.29	1.736	|	|	|I O | |	1.49
15.833	20.32	23.49	1.713	|	|	|I O | |	1.47
15.917	20.13	22.80	1.692	|	|	|I O | |	1.46
16.000	20.02	22.23	1.676	|	|	|I O | |	1.44
16.083	16.79	21.43	1.652	|	| I | O | |	1.42
16.167	8.95	19.62	1.599	|	I | O | |	1.38
16.250	6.49	17.12	1.526	| I | O | |	1.33
16.333	5.38	15.03	1.456	| I | O | |	1.27
16.417	4.76	13.37	1.393	| I | O | |	1.22
16.500	4.35	11.90	1.338	| I | O | |	1.17
16.583	3.92	10.61	1.289	| I |O | |	1.13
16.667	3.22	9.44	1.244	| I O | |	1.09
16.750	3.07	8.39	1.204	| I O| |	1.06
16.833	3.00	7.50	1.171	| I O | |	1.03
16.917	2.97	6.75	1.142	| I O | |	1.01
17.000	2.94	6.50	1.117	| I O | |	0.99
17.083	3.31	6.49	1.094	| I O | |	0.97
17.167	4.24	6.48	1.075	| I O | |	0.95
17.250	4.54	6.47	1.061	| I O | |	0.94
17.333	4.67	6.47	1.048	| IO | |	0.93
17.417	4.75	6.46	1.036	| IO | |	0.92
17.500	4.80	6.46	1.024	| IO | |	0.91
17.583	4.83	6.45	1.013	| IO | |	0.90
17.667	4.86	6.45	1.002	| IO | |	0.89
17.750	4.86	6.44	0.991	| IO | |	0.88
17.833	4.66	6.44	0.979	| I O | |	0.87
17.917	4.19	6.43	0.965	| I O | |	0.85
18.000	4.04	6.42	0.950	| I O | |	0.84
18.083	3.98	6.41	0.933	| I O | |	0.83
18.167	3.94	6.41	0.916	| I O | |	0.81
18.250	3.91	6.40	0.899	| I O | |	0.80
18.333	3.90	6.39	0.882	| I O | |	0.78
18.417	3.88	6.38	0.865	| I O | |	0.77
18.500	3.88	6.37	0.847	| I O | |	0.75
18.583	3.69	6.37	0.830	| I O | |	0.74
18.667	3.22	6.36	0.810	| I O | |	0.72
18.750	3.07	6.35	0.788	| I O | |	0.70
18.833	2.81	6.34	0.764	| I O | |	0.68
18.917	2.30	6.32	0.738	|I O | |	0.66
19.000	2.13	6.31	0.710	|I O | |	0.63

19.083	2.24	6.30	0.682	I O				0.61
19.167	2.66	6.28	0.655	I O				0.58
19.250	2.78	6.27	0.631	I O				0.56
19.333	3.03	6.26	0.608	I O				0.54
19.417	3.52	6.25	0.587	I O				0.52
19.500	3.70	6.24	0.569	I O				0.51
19.583	3.59	6.24	0.551	I O				0.49
19.667	3.17	6.23	0.531	I O				0.48
19.750	3.04	6.22	0.510	I O				0.46
19.833	2.80	6.21	0.487	I O				0.44
19.917	2.30	6.19	0.462	I O				0.42
20.000	2.13	6.18	0.435	I O				0.39
20.083	2.24	6.17	0.407	I O				0.37
20.167	2.66	6.16	0.382	I O				0.35
20.250	2.78	6.14	0.358	I O				0.33
20.333	2.84	6.13	0.335	I O				0.31
20.417	2.86	5.84	0.313	I O				0.29
20.500	2.88	5.48	0.294	I O				0.27
20.583	2.90	5.17	0.277	I O				0.25
20.667	2.91	4.90	0.263	I O				0.24
20.750	2.91	4.66	0.250	IO				0.23
20.833	2.72	4.44	0.238	IO				0.22
20.917	2.25	4.20	0.225	I O				0.21
21.000	2.10	3.96	0.212	I O				0.19
21.083	2.23	3.74	0.201	I O				0.18
21.167	2.66	3.58	0.192	IO				0.18
21.250	2.78	3.48	0.187	O				0.17
21.333	2.64	3.39	0.182	O				0.17
21.417	2.20	3.27	0.176	IO				0.16
21.500	2.07	3.13	0.168	IO				0.15
21.583	2.21	3.01	0.162	IO				0.15
21.667	2.66	2.94	0.158	O				0.14
21.750	2.78	2.92	0.157	O				0.14
21.833	2.64	2.89	0.155	O				0.14
21.917	2.20	2.84	0.152	IO				0.14
22.000	2.07	2.75	0.148	IO				0.13
22.083	2.21	2.68	0.144	IO				0.13
22.167	2.66	2.65	0.142	O				0.13
22.250	2.78	2.66	0.143	O				0.13
22.333	2.64	2.66	0.143	O				0.13
22.417	2.20	2.63	0.141	IO				0.13
22.500	2.07	2.57	0.138	IO				0.13
22.583	2.02	2.51	0.135	IO				0.12
22.667	2.00	2.45	0.131	IO				0.12
22.750	1.97	2.39	0.128	IO				0.12
22.833	1.96	2.34	0.126	IO				0.11
22.917	1.94	2.29	0.123	O				0.11
23.000	1.94	2.25	0.121	O				0.11
23.083	1.94	2.21	0.119	O				0.11
23.167	1.94	2.18	0.117	O				0.11
23.250	1.94	2.15	0.116	O				0.11
23.333	1.94	2.13	0.114	O				0.10
23.417	1.94	2.11	0.113	O				0.10
23.500	1.94	2.09	0.112	O				0.10
23.583	1.94	2.07	0.111	O				0.10
23.667	1.94	2.05	0.110	O				0.10
23.750	1.94	2.04	0.109	O				0.10
23.833	1.94	2.03	0.109	O				0.10
23.917	1.94	2.02	0.108	O				0.10
24.000	1.94	2.01	0.108	O				0.10
24.083	1.56	1.98	0.106	O				0.10
24.167	0.61	1.87	0.100	IO				0.09
24.250	0.32	1.70	0.091	IO				0.08
24.333	0.18	1.53	0.082	IO				0.07
24.417	0.11	1.36	0.073	IO				0.07
24.500	0.06	1.20	0.065	IO				0.06
24.583	0.03	1.06	0.057	O				0.05
24.667	0.00	0.94	0.050	O				0.05
24.750	0.00	0.82	0.044	O				0.04
24.833	0.00	0.73	0.039	O				0.04
24.917	0.00	0.64	0.034	O				0.03
25.000	0.00	0.56	0.030	O				0.03
25.083	0.00	0.49	0.026	O				0.02
25.167	0.00	0.43	0.023	O				0.02
25.250	0.00	0.38	0.020	O				0.02

25.333	0.00	0.34	0.018	o	|	|	|	0.02
25.417	0.00	0.29	0.016	o	|	|	|	0.01
25.500	0.00	0.26	0.014	o	|	|	|	0.01
25.583	0.00	0.23	0.012	o	|	|	|	0.01
25.667	0.00	0.20	0.011	o	|	|	|	0.01
25.750	0.00	0.18	0.009	o	|	|	|	0.01
25.833	0.00	0.16	0.008	o	|	|	|	0.01
25.917	0.00	0.14	0.007	o	|	|	|	0.01
26.000	0.00	0.12	0.006	o	|	|	|	0.01
26.083	0.00	0.11	0.006	o	|	|	|	0.01
26.167	0.00	0.09	0.005	o	|	|	|	0.00
26.250	0.00	0.08	0.004	o	|	|	|	0.00
26.333	0.00	0.07	0.004	o	|	|	|	0.00
26.417	0.00	0.06	0.003	o	|	|	|	0.00
26.500	0.00	0.06	0.003	o	|	|	|	0.00
26.583	0.00	0.05	0.003	o	|	|	|	0.00
26.667	0.00	0.04	0.002	o	|	|	|	0.00
26.750	0.00	0.04	0.002	o	|	|	|	0.00
26.833	0.00	0.03	0.002	o	|	|	|	0.00
26.917	0.00	0.03	0.002	o	|	|	|	0.00
27.000	0.00	0.03	0.001	o	|	|	|	0.00
27.083	0.00	0.02	0.001	o	|	|	|	0.00
27.167	0.00	0.02	0.001	o	|	|	|	0.00

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

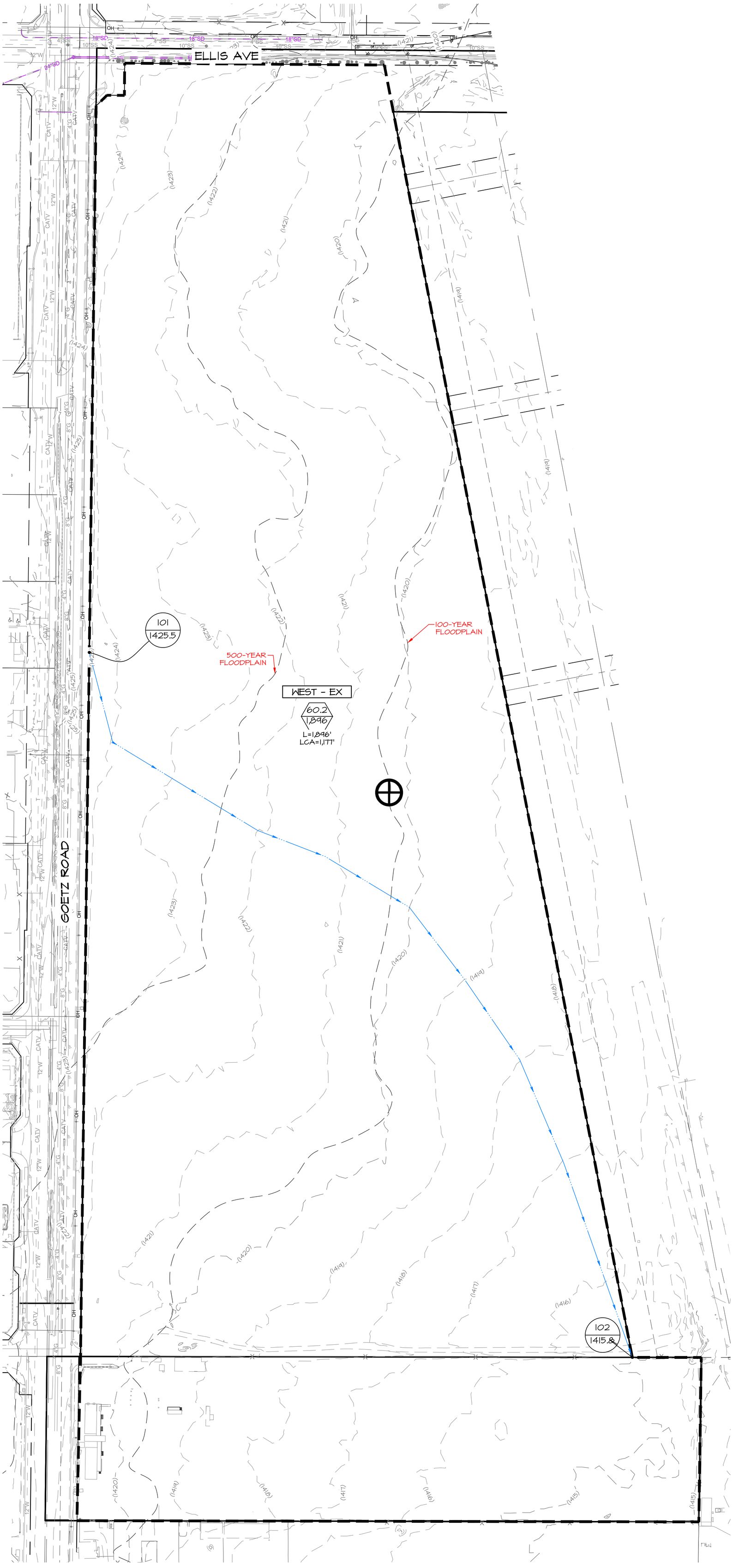
Number of intervals = 326
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 34.633 (CFS)
Total volume = 21.019 (Ac.Ft)

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

****

UNIT HYDROGRAPH HYDROLOGY MAPS



LEGEND

- DRAINAGE MANAGEMENT BOUNDARY
- FLOW DIRECTION
- L=14XX' / LCA=1000' — LONGEST FLOW PATH CENTROIDAL LENGTH
- 101 / 14xx — NODE DESIGNATION, NODE ELEVATION
- *14XX — *INVERT ELEVATION
- 5.0 / 1000' — WATERSHED AREA (ACRES), LONGEST WATER PATH (FT)
- CENTROID

BASIS OF BEARINGS

THE BASIS OF BEARINGS IS THE CALIFORNIA STATE PLAN COORDINATE SYSTEM, CCS83, ZONE 6, BASED LOCALLY ON CONTROL STATIONS "MLFP" AND "PPBF" NAD 83(NSRS2007)

BENCHMARK DATA

NGS DESIGNATION: 435
PID: DX5442

DESCRIBED BY METRO WATER DISTR. SO. CALIFORNIA 1992 PERRIS, 1300 FEET (396.2 M) WEST OF ATSF RAILROAD ALONG RIDER ST, ON TOP OF NORTH CURB FACE OF RIDER ST. 28 FEET (8.5 M) NORTH OF RIDER ST, 6 FEET (1.8 M) SOUTH OF A GTE TELEPHONE BOX (DAMAGED). A STANDARD 3-1/4 INCH ALUMINUM DIST SET FLUSH IN TOP OF CURB.

ELEVATION = 1515.12' (NAVD88)

FROM CITY OF SUN CITY BM Z 10989 (RCFC & WCD)
FS. 2-1/4 INCH BRASS DISK FLUSH STAMPED "CAL DOT 9/10/16/15 REPL. GR. STONE FD. 1950" ON ETHANAC AC BRIDGE DECK OVER I-215 FREEWAY

ELEVATION = 1450.319' (NAVD88)

(CONVERSION FACTO TO NGVD 29 IS -2.63' PER RCFC & WCD)

N / W WEBB E / S

1" = 100'
50 0 100 200 300

PRELIMINARY

CITY OF PERRIS

PRELIMINARY REPORT (P22-00005)
UNIT HYDROGRAPH HYDROLOGY
EXISTING UNIT HYDROGRAPH, WEST
PERRIS AIRPORT LOGISTICS CENTER

SCALE: 1" = 100'	ALBERT A. WEBB ASSOCIATES	W.O. 21-0235
DATE:2023-06-22	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	SHEET 1 OF 1 SHEETS
DESIGNED: ABE		
CHECKED: SKK		
PLN CK REF:		DWG. NO.
F.B.		

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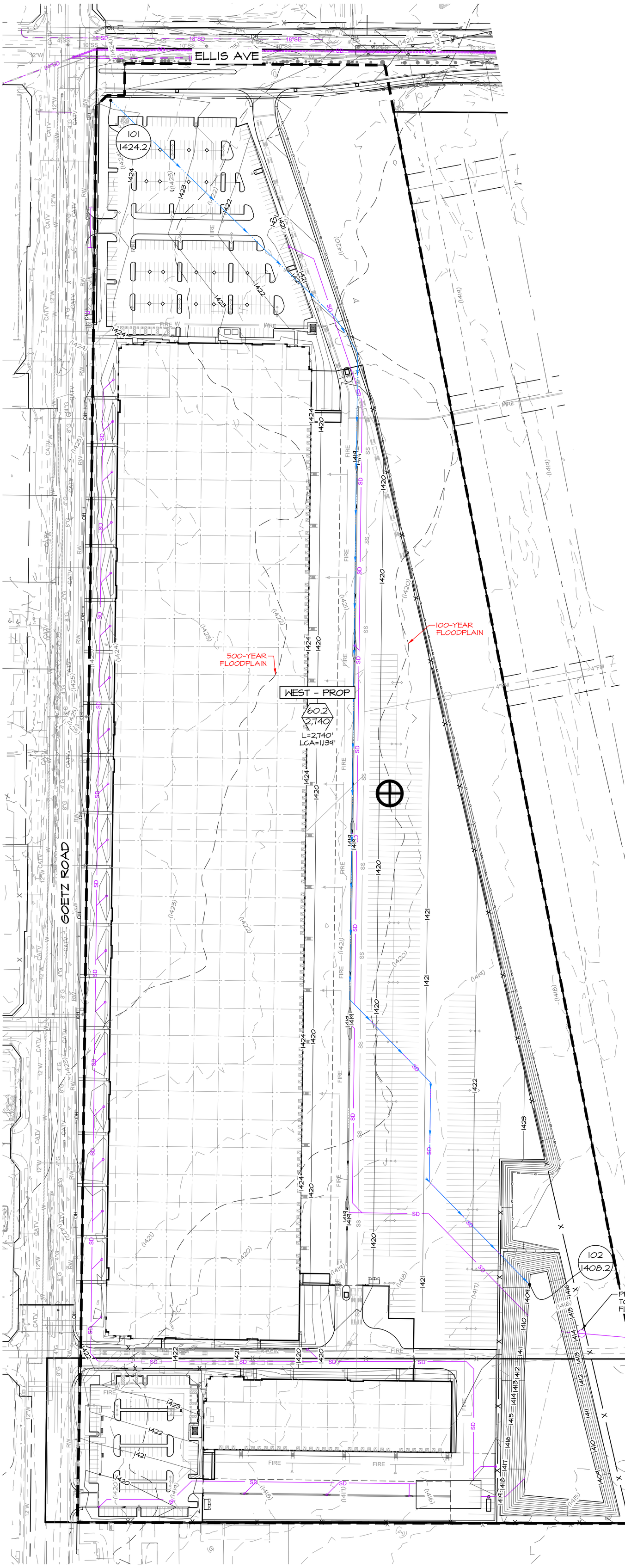

LEGEND

- DRAINAGE MANAGEMENT BOUNDARY
- FLOW DIRECTION
- L=14XX' / LCA=1000' — LONGEST FLOW PATH CENTROIDAL LENGTH
- 101 / 14XX — NODE DESIGNATION, NODE ELEVATION
- *14XX — *INVERT ELEVATION
- 5.0 / 1000' — WATERSHED AREA (ACRES), LONGEST WATER PATH (FT)
- CENTROID

BASIS OF BEARINGS

THE BASIS OF BEARINGS IS THE CALIFORNIA STATE PLAN COORDINATE SYSTEM, CCS83, ZONE 6, BASED LOCALLY ON CONTROL STATIONS "MLFP" AND "PPBF" NAD 83(NSRS2007)

BENCHMARK DATA

NGS DESIGNATION: 435
PID: DX5442

DESCRIBED BY METRO WATER DISTR. SO. CALIFORNIA 1992 PERRIS, 1300 FEET (396.2 M) WEST OF ATSF RAILROAD ALONG RIDER ST, ON TOP OF NORTH CURB FACE OF RIDER ST. 28 FEET (8.5 M) NORTH OF RIDER ST, 6 FEET (1.8 M) SOUTH OF A GTE TELEPHONE BOX (DAMAGED). A STANDARD 3-1/4 INCH ALUMINUM DIST SET FLUSH IN TOP OF CURB.

ELEVATION = 1515.12' (NAVD88)

FROM CITY OF SUN CITY BM Z 10989 (RCFC & WCD)
FS. 2-1/4 INCH BRASS DISK FLUSH STAMPED "CAL DOT 9/10/16/15 REPL. GR. STONE FD. 1950" ON ETHANAC AC BRIDGE DECK OVER I-215 FREEWAY

ELEVATION = 1450.319' (NAVD88)

(CONVERSION FACTO TO NGVD 29 IS -2.63' PER RCFC & WCD)

N / W WEBB E / S

1" = 100'
50 0 100 200 300

PRELIMINARY

CITY OF PERRIS

PRELIMINARY REPORT (P22-00005)
UNIT HYDROGRAPH HYDROLOGY
PROPOSED UNIT HYDROGRAPH, WEST
PERRIS AIRPORT LOGISTICS CENTER

SCALE: 1" = 100'	ALBERT A. WEBB ASSOCIATES — ENGINEERING CONSULTANTS, 3788 McCRAY STREET, RIVERSIDE CA. 92506, PH. (951) 686-1070, FAX (951) 788-1256	W.O. 21-0235
DATE:2023-06-22		SHEET 1
DESIGNED: ABE		OF 1 SHEETS
CHECKED: SKK		
PLN CK REF:		DWG. NO.
F.B.		

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APPENDIX D – REFERENCES

PERRIS AIRPORT LOMR 2019

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	City of Perris Riverside County California	NO PROJECT	FLOODWAY HYDRAULIC ANALYSIS UPDATED TOPOGRAPHIC DATA
	COMMUNITY NO.: 060258		
IDENTIFIER	Tract 36988 - Green Valley CLOMR	APPROXIMATE LATITUDE & LONGITUDE: 33.745, -117.209 SOURCE: USGS QUADRANGLE DATUM: NAD 83	

ANNOTATED MAPPING ENCLOSURES	ANNOTATED STUDY ENCLOSURES
TYPE: FIRM* NO.: 06065C2055H DATE: August 18, 2014 TYPE: FIRM* NO.: 06065C1440H DATE: August 18, 2014	DATE OF EFFECTIVE FLOOD INSURANCE STUDY: March 6, 2018 FLOODWAY DATA TABLE: TABLE 24

Enclosures reflect changes to flooding sources affected by this revision.
* FIRM - Flood Insurance Rate Map

FLOODING SOURCE(S) & REVISED REACH(ES)

San Jacinto River - from approximately 1,250 feet downstream of Goetz Road to approximately 1,310 feet downstream of Case Road

SUMMARY OF REVISIONS

Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
San Jacinto River	Floodway	Floodway	YES	YES

DETERMINATION

This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional Information about the NFIP is available on our website at http://www.fema.gov/nfip.

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION

APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION

We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the FIS report and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.

We provide the floodway designation to your community as a tool to regulate floodplain development. Therefore, the floodway revision we have described in this letter, while acceptable to us, must also be acceptable to your community and adopted by appropriate community action, as specified in Paragraph 60.3(d) of the NFIP regulations.

COMMUNITY REMINDERS

We based this determination on the 1-percent-annual-chance flood discharges computed in the FIS for your community without considering subsequent changes in watershed characteristics that could increase flood discharges. Future development of projects upstream could cause increased flood discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on flood discharges subsequent to the publication of the FIS report for your community and could, therefore, establish greater flood hazards in this area.

Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State/Commonwealth law have been obtained. State/Commonwealth or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State/Commonwealth or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional Information about the NFIP is available on our website at http://www.fema.gov/nfip.

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Engineering Services Branch
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)

We have designated a Consultation Coordination Officer (CCO) to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:

Ms. Juliette Hayes
Director, Mitigation Division
Federal Emergency Management Agency, Region IX
1111 Broadway, Suite 1200
Oakland, CA 94607-4052
(510) 627-7211

STATUS OF THE COMMUNITY NFIP MAPS

We will not physically revise and republish the FIRM and FIS report for your community to reflect the modifications made by this LOMR at this time. When changes to the previously cited FIRM panel(s) and FIS report warrant physical revision and republication in the future, we will incorporate the modifications made by this LOMR at that time.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional Information about the NFIP is available on our website at http://www.fema.gov/nfip.

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)

PUBLIC NOTIFICATION OF REVISION

A notice of changes will be published in the *Federal Register*. This information also will be published in your local newspaper on or about the dates listed below, and through FEMA's Flood Hazard Mapping website at https://www.floodmaps.fema.gov/fhm/bfe_status/bfe_main.asp

LOCAL NEWSPAPER
Name: *The Perris Progress*
Dates: August 29, 2018 and September 5, 2018

Within 90 days of the second publication in the local newspaper, any interested party may request that we reconsider this determination. Any request for reconsideration must be based on scientific or technical data. Therefore, this letter will be effective only after the 90-day appeal period has elapsed and we have resolved any appeals that we receive during this appeal period. Until this LOMR is effective, the revised flood hazard determination presented in this LOMR may be changed.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional Information about the NFIP is available on our website at http://www.fema.gov/nfip.

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

Table 24: Floodway Data, Continued

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
San Jacinto River (continued)								
AC	13,350 [1]	165	2,027	12.1	1,310.9	1,310.9	1,311.2	0.3
AD	58,831 [2]	271	2,616	9.4	1,415.6	1,415.6	1,415.8	0.2
AE	59,821 [2]	473	4,021	6.1	1,417.5	1,417.5	1,418.1	0.6
AF	60,821 [2]	427	3,985	6.2	1,418.3	1,418.3	1,419.1	0.8
AG	61,820 [2]	1,204	10,895	2.3	1,419.2	1,419.2	1,420.1	0.9
AH	63,818 [2]	1,410	11,034	2.3	1,419.5	1,419.5	1,420.3	0.8
AI	65,817 [2]	1,504	12,448	2.0	1,419.8	1,419.8	1,420.7	0.9
AJ	66,817 [2]	2,078	17,092	1.5	1,419.9	1,419.9	1,420.8	0.9
AK	67,317 [2]	2,296	18,345	1.5	1,420.0	1,420.0	1,420.9	0.9
AL	68,817 [2]	4,317	33,590	0.8	1,420.0	1,420.0	1,420.9	0.9
AM	70,817 [2]	6,280	43,971	0.6	1,420.0	1,420.0	1,421.0	1.0
AN	72,317 [2]	6,729	44,919	0.6	1,420.1	1,420.1	1,421.0	0.9
AO	73,782 [2]	5,770	42,603	0.6	1,420.1	1,420.1	1,420.9	0.8
AP	73,997 [2]	5,941	39,822	0.7	1,420.1	1,420.1	1,420.9	0.8
AQ	75,318 [2]	6,422	42,319	0.6	1,420.1	1,420.1	1,421.0	0.9
AR	77,494 [2]	5,994	41,480	0.6	1,420.1	1,420.1	1,421.0	0.9
AS	77,828 [2]	5,753	47,345	0.7	1,420.2	1,420.2	1,421.0	0.8
AT	79,828 [2]	7,400	51,973	0.5	1,420.3	1,420.3	1,421.1	0.8
AU	81,828 [2]	7,986	41,501	0.6	1,420.3	1,420.3	1,421.1	0.8
AV	83,828 [2]	5,818	33,667	0.7	1,420.4	1,420.4	1,421.2	0.8
AW	85,828 [2]	5,402	28,453	0.9	1,420.5	1,420.5	1,421.2	0.7
AX	87,328 [2]	3,913	14,717	1.8	1,420.6	1,420.6	1,421.3	0.7

REVISED DATA

[1] Feet above Lake Elsinore Levee

[2] Feet above confluence with Lake Elsinore

TABLE 24

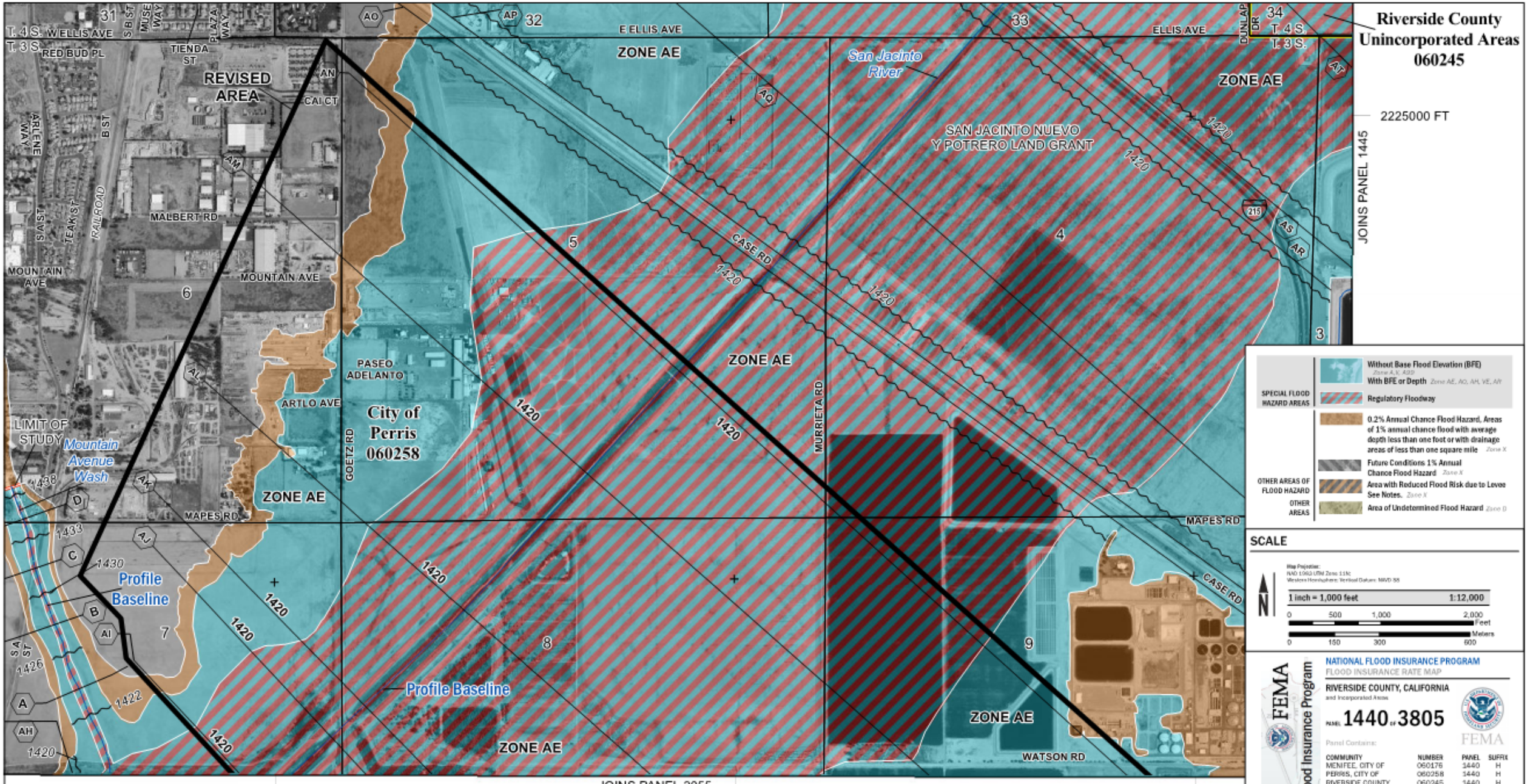
FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERSIDE COUNTY, CA
AND INCORPORATED AREAS

FLOODWAY DATA

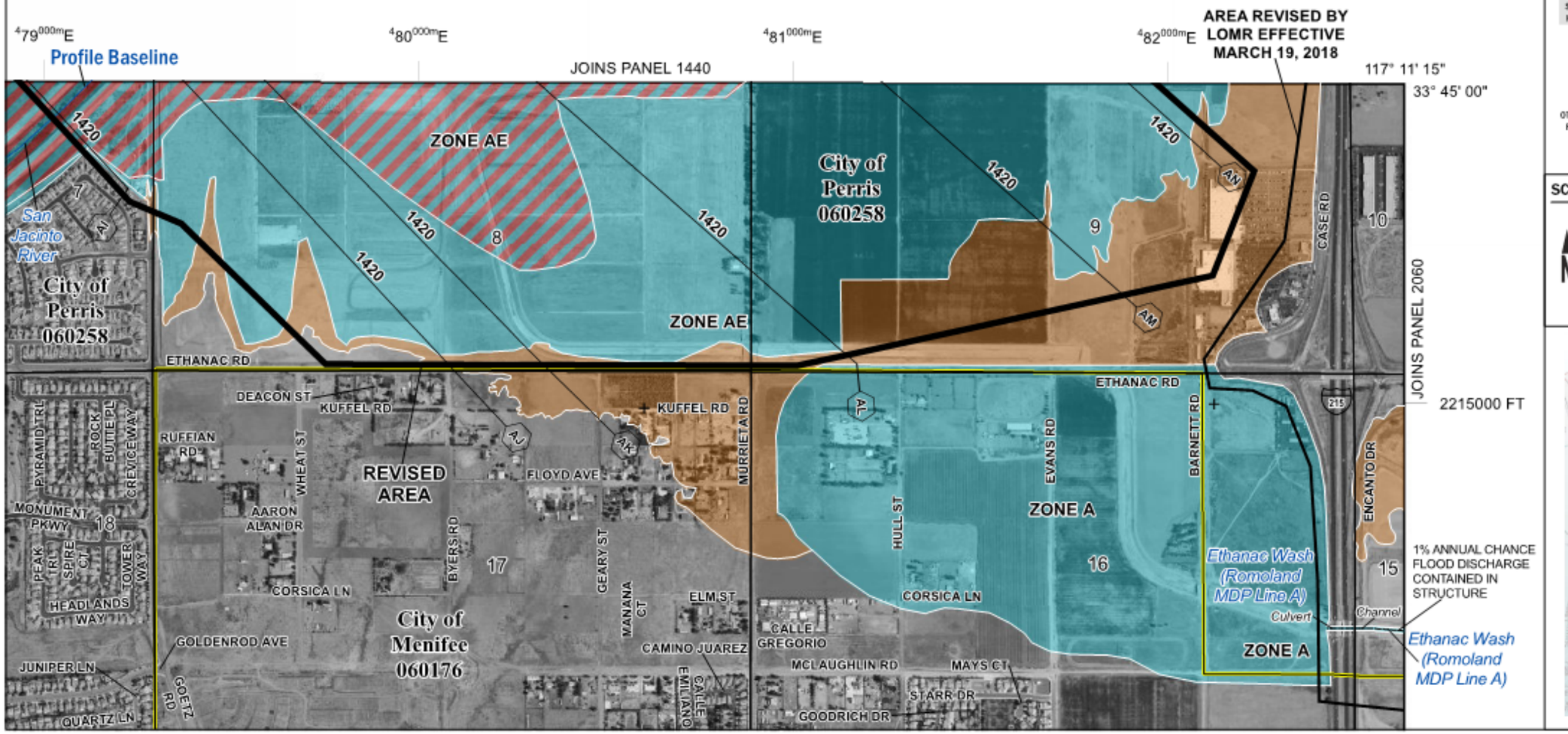
SAN JACINTO RIVER

REVISED TO
REFLECT LOMR
EFFECTIVE: January 3, 2019



NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 5 SOUTH, RANGE 3 WEST AND TOWNSHIP 5 SOUTH, RANGE 4 WEST.

NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 5 SOUTH, RANGE 3 WEST AND TOWNSHIP 5 SOUTH, RANGE 4 WEST.



SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) Zone A, V, A99
- With BFE or Depth Zone AE, AO, AH, VE, AR
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
- Future Conditions 1% Annual Chance Flood Hazard Zone X
- Area with Reduced Flood Risk due to Levee See Notes. Zone X

OTHER AREAS
- Area of Undetermined Flood Hazard Zone D

SCALE

Map Projection: NAD 1983 UTM Zone 11N; Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 1,000 feet 1:12,000

0 500 1,000 2,000 Feet

0 150 300 600 Meters

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

RIVERSIDE COUNTY, CALIFORNIA
and Incorporated Areas

PANEL 2055 OF 3805

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CANYON LAKE, CITY OF	060753	2055	H
MENIFEE, CITY OF	060178	2055	H
PERRIS, CITY OF	060258	2055	H
RIVERSIDE COUNTY	060245	2055	H

REVISED TO REFLECT LOMR EFFECTIVE: January 3, 2019

VERSION NUMBER
2.3.3.2

MAP NUMBER
06065C2055H

EFFECTIVE DATE
AUGUST 18, 2014