PRELIMINARY DRAINAGE ANALYSIS

FOR

APN 404-190-001 & 003

BEAUMONT VILLAGE – PROPOSED COMMERCIAL RETAIL CENTER

CITY OF BEAUMONT

RIVERSIDE COUNTY, CALIFORNIA

Prepared for:

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REVISED AUGUST 31, 2023

This report has been prepared by or under the direction of the following registered civil engineer who attests to the technical information contained herein.

Patrick C. Flanagan Jr., P.E.	Date	Seal
Registered Civil Engineer		

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APPENDICES

EXHIBITS

I. PURPOSE AND SCOPE

The purpose of this study is to analyze the flows to and through the site, both pre-development and post-development. Further, the mitigation measures proposed will be discussed to demonstrate that the additional flows from the development will not have a negative impact on the downstream properties.

To achieve the desired goal the following steps will be taken:

1. Determine the 10 and 100 year pre-development flows. Note the pre-development flows currently drain west towards Marshall Creek.
2. Determine the 10 and 100 year post-development flows. Post development flows will be directed southeasterly to one of several proposed infiltration basins. The site has been broken up into 4 areas for the purpose of the analysis.
3. Identify the proposed mitigation and discuss the potential impacts the development of the site would have on the downstream properties. The methodology used in this report to mitigate for increased flow rates caused by the development will be to provide a retention volume equal to or exceeding the difference between the runoff volume produced by the post-development 10-year, 24-hour storm event and the pre-development 10-year, 24 hour storm event. Basin routing calculations will be provided during final engineering. See Appendix C and D for the unit hydrograph analysis.

II. PROJECT DESCRIPTION

The project proposes to develop the currently vacant subject site. The development of the commercial retail center includes the construction of drive-thru restaurants, retail/office buildings, a car wash, a convenience store, and a fuel station. The proposed drive-thru restaurants range in size from approximately 2,304 to 2,800 square feet. An approximate 3,130 square foot convenience store is proposed with a fuel station canopy (approximately 3,096 square feet). The development also includes the construction of parking lots, asphalt paving, and perimeter landscaping and improvements. A total of four driveways are proposed to provide access to the site: two driveways on Oak Valley Parkway and two on Beaumont Avenue. The project site is adjacent to a FEMA regulatory floodway, but the site is located in Zone X, "Area of minimal flood hazard" per Flood Insurance Rate Map Community Pannel Number 06065C0803G, dated August 28, 2008. See page 8 for FIRMette map.

The existing project site is approximately 10.39 net acres in size and consists of two parcels: APN 404-190-001 & 003. The project is located at the northwest corner of Oak Valley Parkway and Beaumont Avenue in the City of Beaumont. Tentative Parcel Map 37440 is being processed concurrently to remove the existing property line, dedicate R/W to Beaumont Avenue, and create seven proposed parcels for the project, totaling 6.70 net acres. These parcels are referred to in this study as Parcel 1, Parcel 2, Parcel 3, etc. No development is proposed on the westerly portion of the site (Lot A), which is 3.62 net acres.

It will remain undisturbed and will continue to drain west toward Marshall Creek as it does historically. The site is currently vacant and poorly covered with native vegetation. The project site currently drains westerly as sheet flow, entering Marshall Creek, which flows southerly.

The site is bordered on the north side by APN 404-190-008. The site's easterly boundary is adjacent to Beaumont Avenue right-of-way. The site's westerly boundary is APN 404-190-002. The site's southerly boundary is adjacent to Oak Valley Parkway right-of-way.

APN 404-190-008 to the north drains west and does not contribute any flows to the subject site.

APN 404-190-002 to the west drains to Marshall Creek and does not contribute any flows to the subject site.

Beaumont Avenue is currently improved with a paved roadway and asphalt sidewalk. It drains south, then west on Oak Valley Parkway to an existing catch basin located on the bridge over Marshall Creek that directs flows to Marshall Creek. The development proposes to improve Beaumont Avenue project frontage by dedicating an additional 5 feet of right of way, and constructing new PCC curb, gutter, and sidewalk, along with the construction of two new PCC driveway approaches.

Lot A of TPM 37440 will remain natural and unimproved and will continue to flow westerly to Marshall Creek as it has historically.

Oak Valley Parkway is currently improved with a paved roadway, asphalt berm, and asphalt sidewalk. It drains west to an existing catch basin located on the bridge over Marshall Creek that directs flows to Marshall Creek. The development proposes to improve Oak Valley Parkway project frontage by constructing new PCC curb, gutter, raised center median, sidewalk, and bus turn-out along with the construction of two new PCC driveway approaches.

The proposed development of the site includes three drive-thru restaurants, a retail building, a car wash, a multi-tenant retail/restaurant/medical office building, convenience store, and a fuel station with related parking, paved access, and landscaping. Flows from the site will be directed southwesterly to one of several proposed infiltration basins. The northerly portion Area 1 includes several depressed landscape areas that will intercept sheet flows and be utilized for water quality. Flows on the southerly portion of Area 1 will be directed to a proposed infiltration basin located on the southerly portion of Parcel 4. In the event the basin reaches capacity, it will overflow via inlet riser and storm drain to the proposed underground infiltration basin located in the parking lot of Parcel 6. Emergency overflow is provided via under sidewalk drain to Oak Valley Pkwy in the event the overflow inlet fails. Flows from area 2 will be directed via sheet flow and ribbon gutter to a proposed drop inlet located near the southeast corner of Parcel 6. The drop inlet will direct flows to the aforementioned underground infiltration basin. In the event the

underground basin reaches capacity, it will overflow to a proposed above ground infiltration basin located at the southwest corner of the development. In the event the basin reaches capacity, it will overflow via under sidewalk drain to Oak Valley Pkwy. Flows generated by Area 3 (Parcel 5) will be directed via sheet flow, ribbon gutter and curb and gutter to a proposed infiltration basin located along the south side of Parcel 5. In the event the basin reaches capacity, it will overflow via inlet riser and storm drain to the underground basin. Emergency overflow is provided to Oak Valley Pkwy. Flows from Area 4 (Parcel 3) will be directed via sheet flow and ribbon gutter to a proposed drop inlet near the south side of Parcel 3. Flows will pass through a pretreatment unit for water quality before entering a proposed infiltration basin. In the event the basin reaches capacity, flows will overflow via inlet riser and storm drain to the underground basin. Emergency overflow is provided via under sidewalk drain to Oak Valley Pkwy.

III. DRAINAGE AREA OVERVIEW

Existing Condition
Pre-development: The entire site currently drains westerly towards Marshall Creek.

Proposed Condition
Post-development: The proposed depressed landscape areas and the proposed above ground infiltration basin located in Area 1 provide a cumulative retention volume of approximately 1,605 cubic feet.

Post-development: The total volume provided by Area 2, which includes the proposed underground basin and the above ground basin near the southwest corner, is approximately 27,306 cubic feet.

Post-development: Area 3 (Parcel 5) includes an above ground basin that provides a retention volume of approximately 1,430 cubic feet.

Post-development: Area 4 (Parcel 3) includes an above ground basin that provides a retention volume of approximately 1,240 cubic feet.

The total retention volume provided by the site is approximately 31,581 cubic feet.

IV. HYDROLOGY

The Riverside County Hydrology Manual (RCFC&WCD) was used to develop the hydrologic parameters for the hydrology analysis. In addition, Hydrologic Soil Groups (HSG) were determined using the Natural Resources Conservation Service Web Soil Survey. The study area consists of soil type “C” (see Appendix G).

The Rational Method was used to determine the peak flow rates and times of concentration under the existing and proposed conditions. Computations were performed using the RSBC computer program developed by Civil Cadd/Civil Design Engineering Software.

V. RESULTS

60 minute Rainfall Values (inches) for unit hydrograph analysis (per reference NOAA Atlas 14 Precipitation Frequency, Appendix F): Y2 = 0.601, Y100 = 1.91

Standard intensity-duration curve data is per Plate D-4.1 of the hydrology manual.

See unit hydrograph analysis and rational method analysis results below:

Unit Hydrograph			
Condition	Drainage Area (acre)	Q_{10} (cfs)	V_{10} (ac-ft)
Existing	6.70	3.29	1.34

Table 5-1: Existing Condition Unit Hydrograph Method Hydrology Results (10-year, 24-hour)

Unit Hydrograph			
Condition	Drainage Area (acre)	Q_{10} (cfs)	V_{10} (ac-ft)
Proposed Area 1&2	5.15	2.79	1.60
Proposed Area 3	0.85	0.46	0.26
Proposed Area 4	0.71	0.39	0.22
Total Proposed	6.71	-	2.08

Table 5-2: Proposed Condition Unit Hydrograph Method Hydrology Results (10-year, 24-hour)

Rational Method			
Condition	Drainage Area (acre)	Q_{10} (cfs)	Q_{100} (cfs)
Existing	6.70	9.73	15.71
Proposed	6.71	15.08	22.64

Table 5-3: Existing & Proposed Condition Rational Method Hydrology Results (10 and 100-year)

VI. STUDY FINDINGS/ANALYSIS

As seen above in Table 5-1, the runoff volume for the entire site during the 10-year, 24-hour storm event for the existing condition is 1.34 acre-feet (ac-ft). As seen in Table 5-2, the total runoff volume for the entire site during the 10-year, 24-hour storm event for the proposed condition is 2.08 ac-ft. The tables also include peak flow rates for the existing and proposed conditions. The proposed infiltration basins onsite will be utilized to mitigate for increased runoff . For preliminary purposes, the total proposed basin volume is based on the difference in runoff between the existing and propose condition 10-year, 24-hour unit hydrograph analysis. The difference is 0.74 ac-ft (32,235 cubic feet), and the proposed total retention volume provided by the above ground and below ground basins is 32,937

cubic feet. Basin routing calculations will be provided during final engineering per the Riverside County Hydrology Manual.

VII. CONCLUSION

The increased post-development flows from the development area will be mitigated by the proposed infiltration basins onsite. All of the proposed infiltration basins will have an overflow condition in the event they reach full capacity, so the site will not flood. Onsite flows will overflow to a proposed under sidewalk drain to Oak Valley Parkway located near the southwest corner of the site. Flows will be directed to Marshall Creek where the site drains historically.

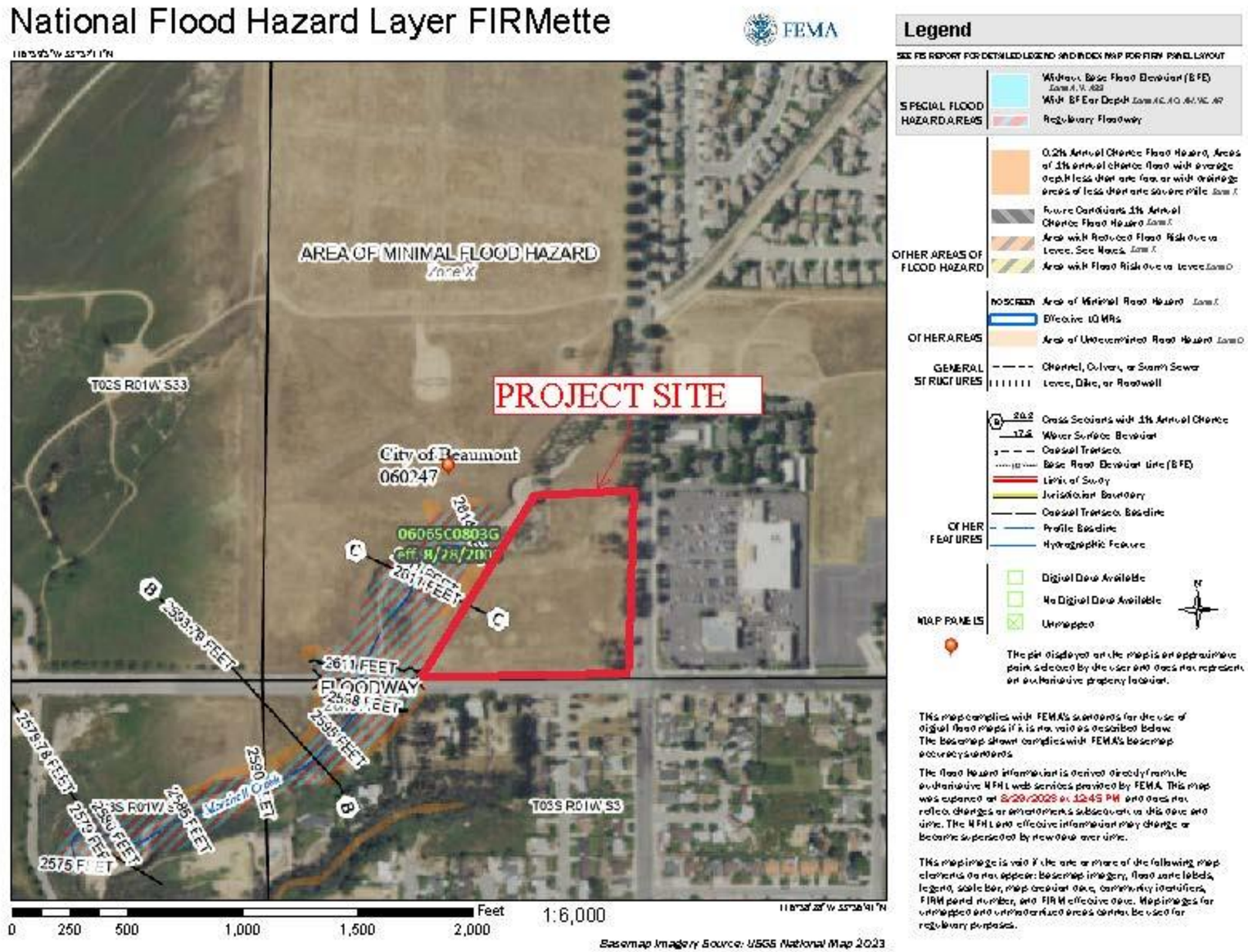
REFERENCES

1. Riverside County; *Riverside County Flood Control & Water Conservation District Hydrology Manual*, April 1978.
2. National Resources Conservation Service; Web Soil Survey. September 13, 2021.
3. NOAA's National Weather Service; NOAA Atlas 14, Volume 6, Version 2. February 9, 2022

FIGURE 1: REGIONAL VICINITY MAP

FIGURE 2: LOCAL VICINITY MAP

FIGURE 3: FEMA FLOODPLAIN MAP



APPENDIX A

PRE-DEVELOPMENT FLOW CALCULATIONS (RATIONAL METHOD)

APPENDIX A.1

10-YEAR HYDROLOGY CALCULATIONS (PRE-DEVELOPMENT)

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 05/25/23 File:10.out

1512-0001 BEAUMONT VILLAGE
PRE-DEVELOPMENT
10-YEAR STORM EVENT

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

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

Program License Serial Number 6522

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 [Beaumont] area used.
10 year storm 10 minute intensity = 2.300(In/Hr)
10 year storm 60 minute intensity = 0.890(In/Hr)
100 year storm 10 minute intensity = 3.410(In/Hr)
100 year storm 60 minute intensity = 1.320(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.890(In/Hr)
Slope of intensity duration curve = 0.5300

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

Initial area flow distance = 826.000(Ft.)
Top (of initial area) elevation = 38.000(Ft.)
Bottom (of initial area) elevation = 13.700(Ft.)
Difference in elevation = 24.300(Ft.)
Slope = 0.02942 s(percent)= 2.94
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 15.752 min.

```
Rainfall intensity =      1.808(In/Hr) for a    10.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.804
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)  =  86.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      9.734(CFS)
Total initial stream area =        6.700(Ac.)
Pervious area fraction = 1.000
End of computations, total study area =            6.70 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  86.0
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APPENDIX A.2

100-YEAR HYDROLOGY CALCULATIONS (PRE-DEVELOPMENT)

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 05/25/23 File:100.out

1512-0001 BEAUMONT VILLAGE
PRE-DEVELOPMENT
100-YEAR STORM EVENT

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

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

Program License Serial Number 6522

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

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

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

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

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

Initial area flow distance = 826.000(Ft.)
Top (of initial area) elevation = 38.000(Ft.)
Bottom (of initial area) elevation = 13.700(Ft.)
Difference in elevation = 24.300(Ft.)
Slope = 0.02942 s(percent)= 2.94
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 15.752 min.

```
Rainfall intensity =      2.682(In/Hr) for a   100.0 year storm
UNDEVELOPED (poor cover) subarea
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 3)  =  94.40
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =     15.707(CFS)
Total initial stream area =        6.700(Ac.)
Pervious area fraction = 1.000
End of computations, total study area =            6.70 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  86.0
```

APPENDIX B

POST-DEVELOPMENT FLOW CALCULATIONS (RATIONAL METHOD)

APPENDIX B.1

10-YEAR HYDROLOGY CALCULATIONS (POST-DEVELOPMENT)

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 08/31/23 File:10.out

1512-0001 BEAUMONT VILLAGE
POST-DEVELOPMENT
10-YEAR STORM EVENT

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

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

Program License Serial Number 6522

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 [Beaumont] area used.
10 year storm 10 minute intensity = 2.300(In/Hr)
10 year storm 60 minute intensity = 0.890(In/Hr)
100 year storm 10 minute intensity = 3.410(In/Hr)
100 year storm 60 minute intensity = 1.320(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.890(In/Hr)
Slope of intensity duration curve = 0.5300

Area 1

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

Initial area flow distance = 603.000(Ft.)
Top (of initial area) elevation = 40.300(Ft.)
Bottom (of initial area) elevation = 24.200(Ft.)
Difference in elevation = 16.100(Ft.)
Slope = 0.02670 s(percent)= 2.67
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 8.016 min.

```
Rainfall intensity =      2.587(In/Hr) for a    10.0 year storm
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
Initial subarea runoff =      7.812(CFS)
Total initial stream area =        3.420(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        2.000 to Point/Station        3.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =    19.200(Ft.)
Downstream point/station elevation =    15.400(Ft.)
Pipe length  =   249.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     7.812(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =     7.812(CFS)
Normal flow depth in pipe =   12.02(In.)
Flow top width inside pipe =   11.96(In.)
Critical Depth =   13.27(In.)
Pipe flow velocity =      7.41(Ft/s)
Travel time through pipe =    0.56 min.
Time of concentration (TC) =     8.58 min.


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Process from Point/Station        3.000 to Point/Station        3.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =      3.420(Ac.)
Runoff from this stream =      7.812(CFS)
Time of concentration =    8.58 min.
Rainfall intensity =     2.496(In/Hr)
Program is now starting with Main Stream No. 2
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Area 2

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Process from Point/Station        4.000 to Point/Station        5.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Initial area flow distance =   383.000(Ft.)
Top (of initial area) elevation =    25.400(Ft.)
Bottom (of initial area) elevation =    18.600(Ft.)
Difference in elevation =     6.800(Ft.)
Slope =    0.01775  s(percent)=       1.78
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```
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    7.253 min.
Rainfall intensity =      2.727(In/Hr) for a    10.0 year storm
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
Initial subarea runoff =      4.170(CFS)
Total initial stream area =        1.730(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        5.000 to Point/Station        3.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =    15.600(Ft.)
Downstream point/station elevation =    15.400(Ft.)
Pipe length  =    21.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     4.170(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =     4.170(CFS)
Normal flow depth in pipe =    8.91(In.)
Flow top width inside pipe =   14.73(In.)
Critical Depth =    9.93(In.)
Pipe flow velocity =      5.49(Ft/s)
Travel time through pipe =    0.06 min.
Time of concentration (TC) =     7.32 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        3.000 to Point/Station        3.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =      1.730(Ac.)
Runoff from this stream =      4.170(CFS)
Time of concentration =    7.32 min.
Rainfall intensity =     2.715(In/Hr)
Program is now starting with Main Stream No. 3
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Area 3

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Process from Point/Station        6.000 to Point/Station        7.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Initial area flow distance =   407.000(Ft.)
Top (of initial area) elevation =    23.400(Ft.)
Bottom (of initial area) elevation =    20.900(Ft.)
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Difference in elevation =     2.500(Ft.)
Slope =    0.00614  s(percent)=       0.61
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.189 min.
Rainfall intensity =      2.406(In/Hr) for a    10.0 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 =      1.804(CFS)
Total initial stream area =        0.850(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        7.000 to Point/Station        3.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =    15.700(Ft.)
Downstream point/station elevation =    15.400(Ft.)
Pipe length  =    66.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     1.804(CFS)
Nearest computed pipe diameter  =     12.00(In.)
Calculated individual pipe flow  =     1.804(CFS)
Normal flow depth in pipe =    7.76(In.)
Flow top width inside pipe =   11.47(In.)
Critical Depth =    6.85(In.)
Pipe flow velocity =      3.36(Ft/s)
Travel time through pipe =    0.33 min.
Time of concentration (TC) =     9.52 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        3.000 to Point/Station        3.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 3
Stream flow area =      0.850(Ac.)
Runoff from this stream =      1.804(CFS)
Time of concentration =    9.52 min.
Rainfall intensity =     2.362(In/Hr)
Program is now starting with Main Stream No. 4
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Area 4

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        8.000 to Point/Station        9.000
**** INITIAL AREA EVALUATION ****

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Initial area flow distance =   240.000(Ft.)
Top (of initial area) elevation =    29.600(Ft.)
Bottom (of initial area) elevation =    26.800(Ft.)
Difference in elevation =     2.800(Ft.)
Slope =    0.01167  s(percent)=       1.17
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.544 min.
Rainfall intensity =      2.880(In/Hr) for a    10.0 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 =      1.809(CFS)
Total initial stream area =        0.710(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        9.000 to Point/Station        3.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

------------------------------------------------------------------------
Upstream point/station elevation =    22.000(Ft.)
Downstream point/station elevation =    15.400(Ft.)
Pipe length  =   585.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     1.809(CFS)
Nearest computed pipe diameter  =     12.00(In.)
Calculated individual pipe flow  =     1.809(CFS)
Normal flow depth in pipe =    5.84(In.)
Flow top width inside pipe =   12.00(In.)
Critical Depth =    6.87(In.)
Pipe flow velocity =      4.76(Ft/s)
Travel time through pipe =    2.05 min.
Time of concentration (TC) =     8.59 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        3.000 to Point/Station        3.000
**** CONFLUENCE OF MAIN STREAMS ****

------------------------------------------------------------------------
The following data inside Main Stream is listed:
In Main Stream number: 4
Stream flow area =      0.710(Ac.)
Runoff from this stream =      1.809(CFS)
Time of concentration =    8.59 min.
Rainfall intensity =     2.493(In/Hr)
```

Summary of stream data:

Stream No.	Flow rate (CFS)	TC (min)	Rainfall Intensity (In/Hr)
1	7.812	8.58	2.496
2	4.170	7.32	2.715
3	1.804	9.52	2.362
4	1.809	8.59	2.493

Largest stream flow has longer or shorter time of concentration
Qp = 7.812 + sum of

Qb	Ia/Ib		
4.170	* 0.919	=	3.833
Qa	Tb/Ta		
1.804	* 0.901	=	1.625
Qa	Tb/Ta		
1.809	* 0.998	=	1.806

Qp = 15.076

Total of 4 main streams to confluence:
Flow rates before confluence point:
7.812 4.170 1.804 1.809
Area of streams before confluence:
3.420 1.730 0.850 0.710

Results of confluence:
Total flow rate = 15.076(CFS)
Time of concentration = 8.576 min.
Effective stream area after confluence = 6.710(Ac.)
End of computations, total study area = 6.71 (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

APPENDIX B.2

100-YEAR HYDROLOGY CALCULATIONS (POST-DEVELOPMENT)

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 09/05/23 File:100.out

1512-0001 BEAUMONT VILLAGE
POST-DEVELOPMENT
100-YEAR STORM EVENT

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

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

Program License Serial Number 6522

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

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

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

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

Area 1

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

Initial area flow distance = 603.000(Ft.)
Top (of initial area) elevation = 40.300(Ft.)
Bottom (of initial area) elevation = 24.200(Ft.)
Difference in elevation = 16.100(Ft.)
Slope = 0.02670 s(percent)= 2.67
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 8.016 min.

```
Rainfall intensity =      3.836(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.895
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  84.40
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     11.737(CFS)
Total initial stream area =        3.420(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        2.000 to Point/Station        3.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =    19.200(Ft.)
Downstream point/station elevation =    15.400(Ft.)
Pipe length  =   249.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    11.737(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =    11.737(CFS)
Normal flow depth in pipe =   13.41(In.)
Flow top width inside pipe =   15.70(In.)
Critical Depth =   15.64(In.)
Pipe flow velocity =      8.32(Ft/s)
Travel time through pipe =    0.50 min.
Time of concentration (TC) =     8.51 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        3.000 to Point/Station        3.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =      3.420(Ac.)
Runoff from this stream =     11.737(CFS)
Time of concentration =    8.51 min.
Rainfall intensity =     3.715(In/Hr)
Program is now starting with Main Stream No. 2
```

Area 2

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        4.000 to Point/Station        5.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Initial area flow distance =   383.000(Ft.)
Top (of initial area) elevation =    25.400(Ft.)
Bottom (of initial area) elevation =    18.600(Ft.)
Difference in elevation =     6.800(Ft.)
Slope =    0.01775  s(percent)=       1.78
```

```
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    7.253 min.
Rainfall intensity =      4.045(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.895
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  84.40
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      6.262(CFS)
Total initial stream area =        1.730(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        5.000 to Point/Station        3.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =    15.600(Ft.)
Downstream point/station elevation =    15.400(Ft.)
Pipe length  =    21.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     6.262(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =     6.262(CFS)
Normal flow depth in pipe =   12.21(In.)
Flow top width inside pipe =   11.67(In.)
Critical Depth =   12.12(In.)
Pipe flow velocity =      5.86(Ft/s)
Travel time through pipe =    0.06 min.
Time of concentration (TC) =     7.31 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        3.000 to Point/Station        3.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =      1.730(Ac.)
Runoff from this stream =      6.262(CFS)
Time of concentration =    7.31 min.
Rainfall intensity =     4.027(In/Hr)
Program is now starting with Main Stream No. 3
```

Area 3

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        6.000 to Point/Station        7.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Initial area flow distance =   407.000(Ft.)
Top (of initial area) elevation =    23.400(Ft.)
Bottom (of initial area) elevation =    20.900(Ft.)
```

```
Difference in elevation =     2.500(Ft.)
Slope =    0.00614  s(percent)=       0.61
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.189 min.
Rainfall intensity =      3.568(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.894
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  84.40
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      2.712(CFS)
Total initial stream area =        0.850(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        7.000 to Point/Station        3.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =    15.700(Ft.)
Downstream point/station elevation =    15.400(Ft.)
Pipe length  =    66.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     2.712(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =     2.712(CFS)
Normal flow depth in pipe =    8.57(In.)
Flow top width inside pipe =   14.85(In.)
Critical Depth =    7.93(In.)
Pipe flow velocity =      3.74(Ft/s)
Travel time through pipe =    0.29 min.
Time of concentration (TC) =     9.48 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        3.000 to Point/Station        3.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 3
Stream flow area =      0.850(Ac.)
Runoff from this stream =      2.712(CFS)
Time of concentration =    9.48 min.
Rainfall intensity =     3.509(In/Hr)
Program is now starting with Main Stream No. 4
```

Area 4

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        8.000 to Point/Station        9.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Initial area flow distance =   240.000(Ft.)
```

```
Top (of initial area) elevation =    29.600(Ft.)
Bottom (of initial area) elevation =    26.800(Ft.)
Difference in elevation =     2.800(Ft.)
Slope =    0.01167  s(percent)=       1.17
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.544 min.
Rainfall intensity =      4.272(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.895
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  84.40
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      2.715(CFS)
Total initial stream area =        0.710(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        9.000 to Point/Station        3.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =    22.000(Ft.)
Downstream point/station elevation =    15.400(Ft.)
Pipe length  =   585.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     2.715(CFS)
Nearest computed pipe diameter  =     12.00(In.)
Calculated individual pipe flow  =     2.715(CFS)
Normal flow depth in pipe =    7.52(In.)
Flow top width inside pipe =   11.61(In.)
Critical Depth =    8.48(In.)
Pipe flow velocity =      5.24(Ft/s)
Travel time through pipe =    1.86 min.
Time of concentration (TC) =     8.40 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        3.000 to Point/Station        3.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 4
Stream flow area =      0.710(Ac.)
Runoff from this stream =      2.715(CFS)
Time of concentration =    8.40 min.
Rainfall intensity =     3.741(In/Hr)
Summary of stream data:

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

```
1       11.737      8.51             3.715
2        6.262      7.31             4.027
3        2.712      9.48             3.509
4        2.715      8.40             3.741
Largest stream flow has longer or shorter time of concentration
Qp =     11.737 + sum of
        Qb         Ia/Ib
         6.262 *    0.923 =      5.777
        Qa          Tb/Ta
         2.712 *    0.898 =      2.435
        Qb         Ia/Ib
         2.715 *    0.993 =      2.696
Qp =     22.644

Total of 4 main streams to confluence:
Flow rates before confluence point:
      11.737       6.262       2.712       2.715
Area of streams before confluence:
        3.420        1.730        0.850        0.710


Results of confluence:
Total flow rate =     22.644(CFS)
Time of concentration =     8.515 min.
Effective stream area after confluence  =      6.710(Ac.)
End of computations, total study area =            6.71 (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
```

APPENDIX C

PRE-DEVELOPMENT FLOW CALCULATIONS (UNIT HYDROGRAPH)

APPENDIX C.1

10-YEAR HYDROLOGY CALCULATIONS (PRE-DEVELOPMENT)

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

Study date 05/30/23 File: 102410.out

++

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

Program License Serial Number 6522

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

English Units used in output format

1512-0001 BEAUMONT VILLAGE
EXISTING CONDITION
10-YEAR, 24-HOUR STORM EVENT

Drainage Area = 6.70(Ac.) = 0.010 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.70(Ac.) = 0.010 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.158 Hr.
Lag time = 9.45 Min.
25% of lag time = 2.36 Min.
40% of lag time = 3.78 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]
6.70	2.79	18.69

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
6.70	6.77	45.36

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.790(In)
Area Averaged 100-Year Rainfall = 6.770(In)

Point rain (area averaged) = 4.427(In)
Areal adjustment factor = 100.00 %

Adjusted average point rain = 4.427(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
6.700	91.00	0.000

Total Area Entered = 6.70(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	52.910	6.691	0.452
2	0.167	105.820	28.574	1.929
3	0.250	158.730	28.446	1.921
4	0.333	211.640	11.992	0.810
5	0.417	264.550	6.549	0.442
6	0.500	317.460	4.550	0.307
7	0.583	370.370	3.271	0.221
8	0.667	423.280	2.427	0.164
9	0.750	476.190	1.780	0.120
10	0.833	529.101	1.537	0.104
11	0.917	582.011	1.168	0.079
12	1.000	634.921	0.923	0.062
13	1.083	687.831	0.699	0.047
14	1.167	740.741	0.538	0.036
15	1.250	793.651	0.529	0.036
16	1.333	846.561	0.328	0.022
		Sum = 100.000	Sum=	6.752

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	0.035	(0.207)	0.032	0.004
2	0.17	0.07	0.035	(0.207)	0.032	0.004
3	0.25	0.07	0.035	(0.206)	0.032	0.004
4	0.33	0.10	0.053	(0.205)	0.048	0.005
5	0.42	0.10	0.053	(0.204)	0.048	0.005
6	0.50	0.10	0.053	(0.203)	0.048	0.005
7	0.58	0.10	0.053	(0.203)	0.048	0.005
8	0.67	0.10	0.053	(0.202)	0.048	0.005
9	0.75	0.10	0.053	(0.201)	0.048	0.005

10	0.83	0.13	0.071	(0.200)	0.064	0.007
11	0.92	0.13	0.071	(0.199)	0.064	0.007
12	1.00	0.13	0.071	(0.199)	0.064	0.007
13	1.08	0.10	0.053	(0.198)	0.048	0.005
14	1.17	0.10	0.053	(0.197)	0.048	0.005
15	1.25	0.10	0.053	(0.196)	0.048	0.005
16	1.33	0.10	0.053	(0.196)	0.048	0.005
17	1.42	0.10	0.053	(0.195)	0.048	0.005
18	1.50	0.10	0.053	(0.194)	0.048	0.005
19	1.58	0.10	0.053	(0.193)	0.048	0.005
20	1.67	0.10	0.053	(0.192)	0.048	0.005
21	1.75	0.10	0.053	(0.192)	0.048	0.005
22	1.83	0.13	0.071	(0.191)	0.064	0.007
23	1.92	0.13	0.071	(0.190)	0.064	0.007
24	2.00	0.13	0.071	(0.189)	0.064	0.007
25	2.08	0.13	0.071	(0.189)	0.064	0.007
26	2.17	0.13	0.071	(0.188)	0.064	0.007
27	2.25	0.13	0.071	(0.187)	0.064	0.007
28	2.33	0.13	0.071	(0.186)	0.064	0.007
29	2.42	0.13	0.071	(0.186)	0.064	0.007
30	2.50	0.13	0.071	(0.185)	0.064	0.007
31	2.58	0.17	0.089	(0.184)	0.080	0.009
32	2.67	0.17	0.089	(0.183)	0.080	0.009
33	2.75	0.17	0.089	(0.183)	0.080	0.009
34	2.83	0.17	0.089	(0.182)	0.080	0.009
35	2.92	0.17	0.089	(0.181)	0.080	0.009
36	3.00	0.17	0.089	(0.180)	0.080	0.009
37	3.08	0.17	0.089	(0.180)	0.080	0.009
38	3.17	0.17	0.089	(0.179)	0.080	0.009
39	3.25	0.17	0.089	(0.178)	0.080	0.009
40	3.33	0.17	0.089	(0.177)	0.080	0.009
41	3.42	0.17	0.089	(0.177)	0.080	0.009
42	3.50	0.17	0.089	(0.176)	0.080	0.009
43	3.58	0.17	0.089	(0.175)	0.080	0.009
44	3.67	0.17	0.089	(0.174)	0.080	0.009
45	3.75	0.17	0.089	(0.174)	0.080	0.009
46	3.83	0.20	0.106	(0.173)	0.096	0.011
47	3.92	0.20	0.106	(0.172)	0.096	0.011
48	4.00	0.20	0.106	(0.171)	0.096	0.011
49	4.08	0.20	0.106	(0.171)	0.096	0.011
50	4.17	0.20	0.106	(0.170)	0.096	0.011
51	4.25	0.20	0.106	(0.169)	0.096	0.011
52	4.33	0.23	0.124	(0.169)	0.112	0.012
53	4.42	0.23	0.124	(0.168)	0.112	0.012
54	4.50	0.23	0.124	(0.167)	0.112	0.012
55	4.58	0.23	0.124	(0.166)	0.112	0.012
56	4.67	0.23	0.124	(0.166)	0.112	0.012
57	4.75	0.23	0.124	(0.165)	0.112	0.012
58	4.83	0.27	0.142	(0.164)	0.128	0.014
59	4.92	0.27	0.142	(0.164)	0.128	0.014
60	5.00	0.27	0.142	(0.163)	0.128	0.014
61	5.08	0.20	0.106	(0.162)	0.096	0.011
62	5.17	0.20	0.106	(0.161)	0.096	0.011
63	5.25	0.20	0.106	(0.161)	0.096	0.011
64	5.33	0.23	0.124	(0.160)	0.112	0.012
65	5.42	0.23	0.124	(0.159)	0.112	0.012
66	5.50	0.23	0.124	(0.159)	0.112	0.012
67	5.58	0.27	0.142	(0.158)	0.128	0.014
68	5.67	0.27	0.142	(0.157)	0.128	0.014
69	5.75	0.27	0.142	(0.157)	0.128	0.014

70	5.83	0.27	0.142	(0.156)	0.128	0.014
71	5.92	0.27	0.142	(0.155)	0.128	0.014
72	6.00	0.27	0.142	(0.154)	0.128	0.014
73	6.08	0.30	0.159	(0.154)	0.143	0.016
74	6.17	0.30	0.159	(0.153)	0.143	0.016
75	6.25	0.30	0.159	(0.152)	0.143	0.016
76	6.33	0.30	0.159	(0.152)	0.143	0.016
77	6.42	0.30	0.159	(0.151)	0.143	0.016
78	6.50	0.30	0.159	(0.150)	0.143	0.016
79	6.58	0.33	0.177	0.150	(0.159)	0.027
80	6.67	0.33	0.177	0.149	(0.159)	0.028
81	6.75	0.33	0.177	0.148	(0.159)	0.029
82	6.83	0.33	0.177	0.148	(0.159)	0.029
83	6.92	0.33	0.177	0.147	(0.159)	0.030
84	7.00	0.33	0.177	0.146	(0.159)	0.031
85	7.08	0.33	0.177	0.146	(0.159)	0.031
86	7.17	0.33	0.177	0.145	(0.159)	0.032
87	7.25	0.33	0.177	0.144	(0.159)	0.033
88	7.33	0.37	0.195	0.144	(0.175)	0.051
89	7.42	0.37	0.195	0.143	(0.175)	0.052
90	7.50	0.37	0.195	0.142	(0.175)	0.052
91	7.58	0.40	0.213	0.142	(0.191)	0.071
92	7.67	0.40	0.213	0.141	(0.191)	0.071
93	7.75	0.40	0.213	0.140	(0.191)	0.072
94	7.83	0.43	0.230	0.140	(0.207)	0.090
95	7.92	0.43	0.230	0.139	(0.207)	0.091
96	8.00	0.43	0.230	0.138	(0.207)	0.092
97	8.08	0.50	0.266	0.138	(0.239)	0.128
98	8.17	0.50	0.266	0.137	(0.239)	0.128
99	8.25	0.50	0.266	0.137	(0.239)	0.129
100	8.33	0.50	0.266	0.136	(0.239)	0.130
101	8.42	0.50	0.266	0.135	(0.239)	0.130
102	8.50	0.50	0.266	0.135	(0.239)	0.131
103	8.58	0.53	0.283	0.134	(0.255)	0.149
104	8.67	0.53	0.283	0.133	(0.255)	0.150
105	8.75	0.53	0.283	0.133	(0.255)	0.151
106	8.83	0.57	0.301	0.132	(0.271)	0.169
107	8.92	0.57	0.301	0.131	(0.271)	0.170
108	9.00	0.57	0.301	0.131	(0.271)	0.170
109	9.08	0.63	0.336	0.130	(0.303)	0.206
110	9.17	0.63	0.336	0.130	(0.303)	0.207
111	9.25	0.63	0.336	0.129	(0.303)	0.207
112	9.33	0.67	0.354	0.128	(0.319)	0.226
113	9.42	0.67	0.354	0.128	(0.319)	0.226
114	9.50	0.67	0.354	0.127	(0.319)	0.227
115	9.58	0.70	0.372	0.127	(0.335)	0.245
116	9.67	0.70	0.372	0.126	(0.335)	0.246
117	9.75	0.70	0.372	0.125	(0.335)	0.247
118	9.83	0.73	0.390	0.125	(0.351)	0.265
119	9.92	0.73	0.390	0.124	(0.351)	0.265
120	10.00	0.73	0.390	0.124	(0.351)	0.266
121	10.08	0.50	0.266	0.123	(0.239)	0.143
122	10.17	0.50	0.266	0.122	(0.239)	0.143
123	10.25	0.50	0.266	0.122	(0.239)	0.144
124	10.33	0.50	0.266	0.121	(0.239)	0.144
125	10.42	0.50	0.266	0.121	(0.239)	0.145
126	10.50	0.50	0.266	0.120	(0.239)	0.146
127	10.58	0.67	0.354	0.119	(0.319)	0.235
128	10.67	0.67	0.354	0.119	(0.319)	0.235
129	10.75	0.67	0.354	0.118	(0.319)	0.236

130	10.83	0.67	0.354	0.118	(	0.319)	0.237
131	10.92	0.67	0.354	0.117	(	0.319)	0.237
132	11.00	0.67	0.354	0.117	(	0.319)	0.238
133	11.08	0.63	0.336	0.116	(	0.303)	0.221
134	11.17	0.63	0.336	0.115	(	0.303)	0.221
135	11.25	0.63	0.336	0.115	(	0.303)	0.222
136	11.33	0.63	0.336	0.114	(	0.303)	0.222
137	11.42	0.63	0.336	0.114	(	0.303)	0.223
138	11.50	0.63	0.336	0.113	(	0.303)	0.223
139	11.58	0.57	0.301	0.113	(	0.271)	0.189
140	11.67	0.57	0.301	0.112	(	0.271)	0.189
141	11.75	0.57	0.301	0.111	(	0.271)	0.190
142	11.83	0.60	0.319	0.111	(	0.287)	0.208
143	11.92	0.60	0.319	0.110	(	0.287)	0.208
144	12.00	0.60	0.319	0.110	(	0.287)	0.209
145	12.08	0.83	0.443	0.109	(	0.398)	0.334
146	12.17	0.83	0.443	0.109	(	0.398)	0.334
147	12.25	0.83	0.443	0.108	(	0.398)	0.335
148	12.33	0.87	0.460	0.108	(	0.414)	0.353
149	12.42	0.87	0.460	0.107	(	0.414)	0.353
150	12.50	0.87	0.460	0.107	(	0.414)	0.354
151	12.58	0.93	0.496	0.106	(	0.446)	0.390
152	12.67	0.93	0.496	0.105	(	0.446)	0.390
153	12.75	0.93	0.496	0.105	(	0.446)	0.391
154	12.83	0.97	0.514	0.104	(	0.462)	0.409
155	12.92	0.97	0.514	0.104	(	0.462)	0.410
156	13.00	0.97	0.514	0.103	(	0.462)	0.410
157	13.08	1.13	0.602	0.103	(	0.542)	0.499
158	13.17	1.13	0.602	0.102	(	0.542)	0.500
159	13.25	1.13	0.602	0.102	(	0.542)	0.500
160	13.33	1.13	0.602	0.101	(	0.542)	0.501
161	13.42	1.13	0.602	0.101	(	0.542)	0.501
162	13.50	1.13	0.602	0.100	(	0.542)	0.502
163	13.58	0.77	0.407	0.100	(	0.367)	0.308
164	13.67	0.77	0.407	0.099	(	0.367)	0.308
165	13.75	0.77	0.407	0.099	(	0.367)	0.309
166	13.83	0.77	0.407	0.098	(	0.367)	0.309
167	13.92	0.77	0.407	0.098	(	0.367)	0.310
168	14.00	0.77	0.407	0.097	(	0.367)	0.310
169	14.08	0.90	0.478	0.097	(	0.430)	0.381
170	14.17	0.90	0.478	0.096	(	0.430)	0.382
171	14.25	0.90	0.478	0.096	(	0.430)	0.382
172	14.33	0.87	0.460	0.095	(	0.414)	0.365
173	14.42	0.87	0.460	0.095	(	0.414)	0.366
174	14.50	0.87	0.460	0.094	(	0.414)	0.366
175	14.58	0.87	0.460	0.094	(	0.414)	0.367
176	14.67	0.87	0.460	0.093	(	0.414)	0.367
177	14.75	0.87	0.460	0.093	(	0.414)	0.368
178	14.83	0.83	0.443	0.092	(	0.398)	0.350
179	14.92	0.83	0.443	0.092	(	0.398)	0.351
180	15.00	0.83	0.443	0.091	(	0.398)	0.351
181	15.08	0.80	0.425	0.091	(	0.383)	0.334
182	15.17	0.80	0.425	0.090	(	0.383)	0.335
183	15.25	0.80	0.425	0.090	(	0.383)	0.335
184	15.33	0.77	0.407	0.090	(	0.367)	0.318
185	15.42	0.77	0.407	0.089	(	0.367)	0.318
186	15.50	0.77	0.407	0.089	(	0.367)	0.319
187	15.58	0.63	0.336	0.088	(	0.303)	0.248
188	15.67	0.63	0.336	0.088	(	0.303)	0.249
189	15.75	0.63	0.336	0.087	(	0.303)	0.249

190	15.83	0.63	0.336	0.087	(0.303)	0.250
191	15.92	0.63	0.336	0.086	(0.303)	0.250
192	16.00	0.63	0.336	0.086	(0.303)	0.251
193	16.08	0.13	0.071	(0.085)	0.064	0.007
194	16.17	0.13	0.071	(0.085)	0.064	0.007
195	16.25	0.13	0.071	(0.085)	0.064	0.007
196	16.33	0.13	0.071	(0.084)	0.064	0.007
197	16.42	0.13	0.071	(0.084)	0.064	0.007
198	16.50	0.13	0.071	(0.083)	0.064	0.007
199	16.58	0.10	0.053	(0.083)	0.048	0.005
200	16.67	0.10	0.053	(0.082)	0.048	0.005
201	16.75	0.10	0.053	(0.082)	0.048	0.005
202	16.83	0.10	0.053	(0.082)	0.048	0.005
203	16.92	0.10	0.053	(0.081)	0.048	0.005
204	17.00	0.10	0.053	(0.081)	0.048	0.005
205	17.08	0.17	0.089	(0.080)	0.080	0.009
206	17.17	0.17	0.089	(0.080)	0.080	0.009
207	17.25	0.17	0.089	0.080	(0.080)	0.009
208	17.33	0.17	0.089	0.079	(0.080)	0.009
209	17.42	0.17	0.089	0.079	(0.080)	0.010
210	17.50	0.17	0.089	0.078	(0.080)	0.010
211	17.58	0.17	0.089	0.078	(0.080)	0.011
212	17.67	0.17	0.089	0.078	(0.080)	0.011
213	17.75	0.17	0.089	0.077	(0.080)	0.011
214	17.83	0.13	0.071	(0.077)	0.064	0.007
215	17.92	0.13	0.071	(0.076)	0.064	0.007
216	18.00	0.13	0.071	(0.076)	0.064	0.007
217	18.08	0.13	0.071	(0.076)	0.064	0.007
218	18.17	0.13	0.071	(0.075)	0.064	0.007
219	18.25	0.13	0.071	(0.075)	0.064	0.007
220	18.33	0.13	0.071	(0.075)	0.064	0.007
221	18.42	0.13	0.071	(0.074)	0.064	0.007
222	18.50	0.13	0.071	(0.074)	0.064	0.007
223	18.58	0.10	0.053	(0.074)	0.048	0.005
224	18.67	0.10	0.053	(0.073)	0.048	0.005
225	18.75	0.10	0.053	(0.073)	0.048	0.005
226	18.83	0.07	0.035	(0.072)	0.032	0.004
227	18.92	0.07	0.035	(0.072)	0.032	0.004
228	19.00	0.07	0.035	(0.072)	0.032	0.004
229	19.08	0.10	0.053	(0.071)	0.048	0.005
230	19.17	0.10	0.053	(0.071)	0.048	0.005
231	19.25	0.10	0.053	(0.071)	0.048	0.005
232	19.33	0.13	0.071	(0.070)	0.064	0.007
233	19.42	0.13	0.071	(0.070)	0.064	0.007
234	19.50	0.13	0.071	(0.070)	0.064	0.007
235	19.58	0.10	0.053	(0.069)	0.048	0.005
236	19.67	0.10	0.053	(0.069)	0.048	0.005
237	19.75	0.10	0.053	(0.069)	0.048	0.005
238	19.83	0.07	0.035	(0.069)	0.032	0.004
239	19.92	0.07	0.035	(0.068)	0.032	0.004
240	20.00	0.07	0.035	(0.068)	0.032	0.004
241	20.08	0.10	0.053	(0.068)	0.048	0.005
242	20.17	0.10	0.053	(0.067)	0.048	0.005
243	20.25	0.10	0.053	(0.067)	0.048	0.005
244	20.33	0.10	0.053	(0.067)	0.048	0.005
245	20.42	0.10	0.053	(0.066)	0.048	0.005
246	20.50	0.10	0.053	(0.066)	0.048	0.005
247	20.58	0.10	0.053	(0.066)	0.048	0.005
248	20.67	0.10	0.053	(0.066)	0.048	0.005
249	20.75	0.10	0.053	(0.065)	0.048	0.005

250	20.83	0.07	0.035	(0.065)	0.032	0.004
251	20.92	0.07	0.035	(0.065)	0.032	0.004
252	21.00	0.07	0.035	(0.065)	0.032	0.004
253	21.08	0.10	0.053	(0.064)	0.048	0.005
254	21.17	0.10	0.053	(0.064)	0.048	0.005
255	21.25	0.10	0.053	(0.064)	0.048	0.005
256	21.33	0.07	0.035	(0.064)	0.032	0.004
257	21.42	0.07	0.035	(0.063)	0.032	0.004
258	21.50	0.07	0.035	(0.063)	0.032	0.004
259	21.58	0.10	0.053	(0.063)	0.048	0.005
260	21.67	0.10	0.053	(0.063)	0.048	0.005
261	21.75	0.10	0.053	(0.062)	0.048	0.005
262	21.83	0.07	0.035	(0.062)	0.032	0.004
263	21.92	0.07	0.035	(0.062)	0.032	0.004
264	22.00	0.07	0.035	(0.062)	0.032	0.004
265	22.08	0.10	0.053	(0.062)	0.048	0.005
266	22.17	0.10	0.053	(0.061)	0.048	0.005
267	22.25	0.10	0.053	(0.061)	0.048	0.005
268	22.33	0.07	0.035	(0.061)	0.032	0.004
269	22.42	0.07	0.035	(0.061)	0.032	0.004
270	22.50	0.07	0.035	(0.061)	0.032	0.004
271	22.58	0.07	0.035	(0.060)	0.032	0.004
272	22.67	0.07	0.035	(0.060)	0.032	0.004
273	22.75	0.07	0.035	(0.060)	0.032	0.004
274	22.83	0.07	0.035	(0.060)	0.032	0.004
275	22.92	0.07	0.035	(0.060)	0.032	0.004
276	23.00	0.07	0.035	(0.060)	0.032	0.004
277	23.08	0.07	0.035	(0.060)	0.032	0.004
278	23.17	0.07	0.035	(0.059)	0.032	0.004
279	23.25	0.07	0.035	(0.059)	0.032	0.004
280	23.33	0.07	0.035	(0.059)	0.032	0.004
281	23.42	0.07	0.035	(0.059)	0.032	0.004
282	23.50	0.07	0.035	(0.059)	0.032	0.004
283	23.58	0.07	0.035	(0.059)	0.032	0.004
284	23.67	0.07	0.035	(0.059)	0.032	0.004
285	23.75	0.07	0.035	(0.059)	0.032	0.004
286	23.83	0.07	0.035	(0.059)	0.032	0.004
287	23.92	0.07	0.035	(0.059)	0.032	0.004
288	24.00	0.07	0.035	(0.059)	0.032	0.004

(Loss Rate Not Used)

Sum = 100.0 Sum = 28.7

Flood volume = Effective rainfall 2.39(In)
times area 6.7(Ac.)/[(In)/(Ft.)] = 1.3(Ac.Ft)
Total soil loss = 2.03(In)
Total soil loss = 1.136(Ac.Ft)
Total rainfall = 4.43(In)
Flood volume = 58206.8 Cubic Feet
Total soil loss = 49470.7 Cubic Feet

Peak flow rate of this hydrograph = 3.290(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

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

0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0001	0.01	Q	|	|	|	|
0+15	0.0002	0.02	Q	|	|	|	|
0+20	0.0003	0.02	Q	|	|	|	|
0+25	0.0005	0.02	Q	|	|	|	|
0+30	0.0007	0.03	Q	|	|	|	|
0+35	0.0009	0.03	Q	|	|	|	|
0+40	0.0011	0.03	Q	|	|	|	|
0+45	0.0013	0.03	Q	|	|	|	|
0+50	0.0016	0.03	Q	|	|	|	|
0+55	0.0018	0.04	Q	|	|	|	|
1+ 0	0.0021	0.04	Q	|	|	|	|
1+ 5	0.0024	0.04	Q	|	|	|	|
1+10	0.0027	0.04	Q	|	|	|	|
1+15	0.0030	0.04	Q	|	|	|	|
1+20	0.0032	0.04	Q	|	|	|	|
1+25	0.0035	0.04	Q	|	|	|	|
1+30	0.0037	0.04	Q	|	|	|	|
1+35	0.0040	0.04	Q	|	|	|	|
1+40	0.0042	0.04	Q	|	|	|	|
1+45	0.0045	0.04	Q	|	|	|	|
1+50	0.0047	0.04	Q	|	|	|	|
1+55	0.0050	0.04	Q	|	|	|	|
2+ 0	0.0053	0.04	Q	|	|	|	|
2+ 5	0.0056	0.05	Q	|	|	|	|
2+10	0.0059	0.05	Q	|	|	|	|
2+15	0.0063	0.05	Q	|	|	|	|
2+20	0.0066	0.05	Q	|	|	|	|
2+25	0.0069	0.05	Q	|	|	|	|
2+30	0.0072	0.05	Q	|	|	|	|
2+35	0.0076	0.05	Q	|	|	|	|
2+40	0.0079	0.05	Q	|	|	|	|
2+45	0.0083	0.06	Q	|	|	|	|
2+50	0.0087	0.06	Q	|	|	|	|
2+55	0.0091	0.06	Q	|	|	|	|
3+ 0	0.0095	0.06	Q	|	|	|	|
3+ 5	0.0099	0.06	Q	|	|	|	|
3+10	0.0103	0.06	Q	|	|	|	|
3+15	0.0107	0.06	Q	|	|	|	|
3+20	0.0111	0.06	Q	|	|	|	|
3+25	0.0115	0.06	Q	|	|	|	|
3+30	0.0119	0.06	Q	|	|	|	|
3+35	0.0123	0.06	Q	|	|	|	|
3+40	0.0128	0.06	Q	|	|	|	|
3+45	0.0132	0.06	Q	|	|	|	|
3+50	0.0136	0.06	Q	|	|	|	|
3+55	0.0140	0.06	Q	|	|	|	|
4+ 0	0.0145	0.07	Q	|	|	|	|
4+ 5	0.0150	0.07	Q	|	|	|	|
4+10	0.0154	0.07	Q	|	|	|	|
4+15	0.0159	0.07	Q	|	|	|	|
4+20	0.0164	0.07	Q	|	|	|	|
4+25	0.0169	0.08	Q	|	|	|	|
4+30	0.0175	0.08	Q	|	|	|	|
4+35	0.0180	0.08	Q	|	|	|	|
4+40	0.0186	0.08	Q	|	|	|	|
4+45	0.0192	0.08	Q	|	|	|	|
4+50	0.0197	0.08	Q	|	|	|	|
4+55	0.0203	0.09	Q	|	|	|	|
5+ 0	0.0209	0.09	Q	|	|	|	|

5+ 5	0.0216	0.09	Q	|	|	|	|
5+10	0.0222	0.08	Q	|	|	|	|
5+15	0.0227	0.08	Q	|	|	|	|
5+20	0.0232	0.08	Q	|	|	|	|
5+25	0.0238	0.08	Q	|	|	|	|
5+30	0.0243	0.08	Q	|	|	|	|
5+35	0.0249	0.08	Q	|	|	|	|
5+40	0.0255	0.09	Q	|	|	|	|
5+45	0.0261	0.09	Q	|	|	|	|
5+50	0.0268	0.09	Q	|	|	|	|
5+55	0.0274	0.09	Q	|	|	|	|
6+ 0	0.0281	0.09	Q	|	|	|	|
6+ 5	0.0287	0.10	Q	|	|	|	|
6+10	0.0294	0.10	Q	|	|	|	|
6+15	0.0301	0.10	Q	|	|	|	|
6+20	0.0308	0.10	Q	|	|	|	|
6+25	0.0316	0.11	Q	|	|	|	|
6+30	0.0323	0.11	Q	|	|	|	|
6+35	0.0330	0.11	Q	|	|	|	|
6+40	0.0340	0.13	QV	|	|	|	|
6+45	0.0351	0.16	QV	|	|	|	|
6+50	0.0362	0.17	QV	|	|	|	|
6+55	0.0375	0.18	QV	|	|	|	|
7+ 0	0.0388	0.19	QV	|	|	|	|
7+ 5	0.0401	0.19	QV	|	|	|	|
7+10	0.0415	0.20	QV	|	|	|	|
7+15	0.0429	0.20	QV	|	|	|	|
7+20	0.0444	0.22	QV	|	|	|	|
7+25	0.0462	0.26	|Q	|	|	|	|
7+30	0.0482	0.30	|Q	|	|	|	|
7+35	0.0504	0.32	|Q	|	|	|	|
7+40	0.0530	0.37	|Q	|	|	|	|
7+45	0.0558	0.42	|Q	|	|	|	|
7+50	0.0589	0.45	|Q	|	|	|	|
7+55	0.0623	0.50	|Q	|	|	|	|
8+ 0	0.0661	0.54	|VQ	|	|	|	|
8+ 5	0.0701	0.58	| Q	|	|	|	|
8+10	0.0747	0.67	| Q	|	|	|	|
8+15	0.0798	0.75	| Q	|	|	|	|
8+20	0.0852	0.79	| VQ	|	|	|	|
8+25	0.0908	0.81	| VQ	|	|	|	|
8+30	0.0965	0.83	| VQ	|	|	|	|
8+35	0.1024	0.85	| Q	|	|	|	|
8+40	0.1086	0.90	| Q	|	|	|	|
8+45	0.1151	0.95	| Q	|	|	|	|
8+50	0.1219	0.98	| Q	|	|	|	|
8+55	0.1289	1.03	| VQ	|	|	|	|
9+ 0	0.1363	1.07	| Q	|	|	|	|
9+ 5	0.1440	1.11	| Q	|	|	|	|
9+10	0.1523	1.20	| Q	|	|	|	|
9+15	0.1611	1.28	| VQ	|	|	|	|
9+20	0.1702	1.33	| Q	|	|	|	|
9+25	0.1797	1.39	| Q	|	|	|	|
9+30	0.1896	1.44	| Q	|	|	|	|
9+35	0.1998	1.47	| Q	|	|	|	|
9+40	0.2103	1.53	| Q	|	|	|	|
9+45	0.2212	1.58	| Q	|	|	|	|
9+50	0.2323	1.61	| Q	|	|	|	|
9+55	0.2438	1.67	| QV	|	|	|	|
10+ 0	0.2556	1.71	| QV	|	|	|	|

10+ 5	0.2672	1.68	| QV |	|	|	|	|
10+10	0.2773	1.46	| Q V |	|	|	|	|
10+15	0.2858	1.24	| Q V |	|	|	|	|
10+20	0.2937	1.15	| Q V |	|	|	|	|
10+25	0.3013	1.10	| Q V|	|	|	|	|
10+30	0.3087	1.07	| Q V|	|	|	|	|
10+35	0.3162	1.09	| Q V|	|	|	|	|
10+40	0.3248	1.25	| Q V|	|	|	|	|
10+45	0.3346	1.41	| Q V	|	|	|	|
10+50	0.3447	1.47	| Q V	|	|	|	|
10+55	0.3551	1.51	| Q V	|	|	|	|
11+ 0	0.3657	1.53	| Q V	|	|	|	|
11+ 5	0.3763	1.54	| Q |V	|	|	|	|
11+10	0.3868	1.52	| Q |V	|	|	|	|
11+15	0.3971	1.50	| Q |V	|	|	|	|
11+20	0.4074	1.49	| Q | V	|	|	|	|
11+25	0.4177	1.50	| Q | V	|	|	|	|
11+30	0.4280	1.50	| Q | V	|	|	|	|
11+35	0.4383	1.49	| Q | V	|	|	|	|
11+40	0.4481	1.43	| Q | V	|	|	|	|
11+45	0.4575	1.36	| Q | V	|	|	|	|
11+50	0.4668	1.35	| Q | V	|	|	|	|
11+55	0.4762	1.37	| Q | V	|	|	|	|
12+ 0	0.4857	1.39	| Q | V	|	|	|	|
12+ 5	0.4958	1.46	| Q | V	|	|	|	|
12+10	0.5075	1.70	| Q | V	|	|	|	|
12+15	0.5209	1.94	| Q | V	|	|	|	|
12+20	0.5351	2.06	| Q | V	|	|	|	|
12+25	0.5499	2.15	| Q | V	|	|	|	|
12+30	0.5652	2.22	| Q | V	|	|	|	|
12+35	0.5809	2.29	| Q| V	|	|	|	|
12+40	0.5974	2.39	| Q| V	|	|	|	|
12+45	0.6144	2.48	| Q| V	|	|	|	|
12+50	0.6319	2.54	| Q V	|	|	|	|
12+55	0.6498	2.60	| Q V|	|	|	|	|
13+ 0	0.6682	2.66	| Q V	|	|	|	|
13+ 5	0.6870	2.74	| Q V	|	|	|	|
13+10	0.7072	2.93	| Q |V	|	|	|	|
13+15	0.7287	3.12	| Q |V	|	|	|	|
13+20	0.7507	3.20	| Q | V	|	|	|	|
13+25	0.7731	3.25	| Q | V	|	|	|	|
13+30	0.7958	3.29	| Q | V	|	|	|	|
13+35	0.8180	3.23	| Q | V	|	|	|	|
13+40	0.8378	2.87	| Q | V	|	|	|	|
13+45	0.8551	2.52	| Q | V	|	|	|	|
13+50	0.8715	2.37	| Q| V	|	|	|	|
13+55	0.8873	2.30	| Q| V	|	|	|	|
14+ 0	0.9028	2.25	| Q | V	|	|	|	|
14+ 5	0.9182	2.24	| Q | V	|	|	|	|
14+10	0.9344	2.35	| Q| V	|	|	|	|
14+15	0.9515	2.47	| Q| V	|	|	|	|
14+20	0.9687	2.51	| Q V	|	|	|	|
14+25	0.9859	2.49	| Q| V	|	|	|	|
14+30	1.0029	2.47	| Q| V	|	|	|	|
14+35	1.0199	2.47	| Q| V	|	|	|	|
14+40	1.0369	2.47	| Q| V	|	|	|	|
14+45	1.0539	2.47	| Q| V	|	|	|	|
14+50	1.0709	2.46	| Q| V	|	|	|	|
14+55	1.0876	2.43	| Q| V	|	|	|	|
15+ 0	1.1042	2.40	| Q| V	|	|	|	|

15+ 5	1.1206	2.39	| Q|	|	|	| V |
15+10	1.1368	2.35	| Q|	|	|	| V |
15+15	1.1528	2.31	| Q|	|	|	| V |
15+20	1.1685	2.29	| Q|	|	|	| V |
15+25	1.1840	2.25	| Q |	|	|	| V |
15+30	1.1993	2.21	| Q |	|	|	| V |
15+35	1.2141	2.16	| Q |	|	|	| V |
15+40	1.2280	2.02	| Q |	|	|	| V |
15+45	1.2409	1.87	| Q |	|	|	| V |
15+50	1.2534	1.81	| Q |	|	|	| V |
15+55	1.2657	1.78	| Q |	|	|	| V |
16+ 0	1.2778	1.76	| Q |	|	|	| V |
16+ 5	1.2890	1.63	| Q |	|	|	| V |
16+10	1.2969	1.15	| Q |	|	|	| V |
16+15	1.3016	0.67	| Q |	|	|	| V |
16+20	1.3048	0.47	|Q |	|	|	| V|
16+25	1.3072	0.35	|Q |	|	|	| V|
16+30	1.3091	0.27	|Q |	|	|	| V|
16+35	1.3106	0.22	Q |	|	|	| V|
16+40	1.3118	0.17	Q |	|	|	| V|
16+45	1.3127	0.14	Q |	|	|	| V|
16+50	1.3134	0.11	Q |	|	|	| V|
16+55	1.3140	0.09	Q |	|	|	| V|
17+ 0	1.3145	0.07	Q |	|	|	| V|
17+ 5	1.3150	0.06	Q |	|	|	| V|
17+10	1.3154	0.06	Q |	|	|	| V|
17+15	1.3158	0.06	Q |	|	|	| V|
17+20	1.3161	0.05	Q |	|	|	| V|
17+25	1.3165	0.06	Q |	|	|	| V|
17+30	1.3170	0.06	Q |	|	|	| V|
17+35	1.3174	0.06	Q |	|	|	| V|
17+40	1.3178	0.07	Q |	|	|	| V|
17+45	1.3183	0.07	Q |	|	|	| V|
17+50	1.3188	0.07	Q |	|	|	| V|
17+55	1.3192	0.06	Q |	|	|	| V|
18+ 0	1.3196	0.06	Q |	|	|	| V|
18+ 5	1.3200	0.05	Q |	|	|	| V|
18+10	1.3203	0.05	Q |	|	|	| V|
18+15	1.3207	0.05	Q |	|	|	| V|
18+20	1.3210	0.05	Q |	|	|	| V|
18+25	1.3214	0.05	Q |	|	|	| V|
18+30	1.3217	0.05	Q |	|	|	| V|
18+35	1.3220	0.05	Q |	|	|	| V|
18+40	1.3223	0.04	Q |	|	|	| V|
18+45	1.3226	0.04	Q |	|	|	| V|
18+50	1.3229	0.04	Q |	|	|	| V|
18+55	1.3231	0.03	Q |	|	|	| V|
19+ 0	1.3233	0.03	Q |	|	|	| V|
19+ 5	1.3235	0.03	Q |	|	|	| V|
19+10	1.3237	0.03	Q |	|	|	| V|
19+15	1.3240	0.03	Q |	|	|	| V|
19+20	1.3242	0.04	Q |	|	|	| V|
19+25	1.3245	0.04	Q |	|	|	| V|
19+30	1.3248	0.04	Q |	|	|	| V|
19+35	1.3251	0.04	Q |	|	|	| V|
19+40	1.3254	0.04	Q |	|	|	| V|
19+45	1.3256	0.04	Q |	|	|	| V|
19+50	1.3259	0.04	Q |	|	|	| V|
19+55	1.3261	0.03	Q |	|	|	| V|
20+ 0	1.3263	0.03	Q |	|	|	| V|

20+ 5	1.3265	0.03	Q	|	|	|	V|
20+10	1.3267	0.03	Q	|	|	|	V|
20+15	1.3269	0.03	Q	|	|	|	V|
20+20	1.3272	0.03	Q	|	|	|	V|
20+25	1.3274	0.03	Q	|	|	|	V|
20+30	1.3276	0.04	Q	|	|	|	V|
20+35	1.3279	0.04	Q	|	|	|	V|
20+40	1.3281	0.04	Q	|	|	|	V|
20+45	1.3284	0.04	Q	|	|	|	V|
20+50	1.3286	0.03	Q	|	|	|	V|
20+55	1.3288	0.03	Q	|	|	|	V|
21+ 0	1.3290	0.03	Q	|	|	|	V|
21+ 5	1.3292	0.03	Q	|	|	|	V|
21+10	1.3294	0.03	Q	|	|	|	V|
21+15	1.3297	0.03	Q	|	|	|	V|
21+20	1.3299	0.03	Q	|	|	|	V|
21+25	1.3301	0.03	Q	|	|	|	V|
21+30	1.3303	0.03	Q	|	|	|	V|
21+35	1.3305	0.03	Q	|	|	|	V|
21+40	1.3307	0.03	Q	|	|	|	V|
21+45	1.3309	0.03	Q	|	|	|	V|
21+50	1.3311	0.03	Q	|	|	|	V|
21+55	1.3313	0.03	Q	|	|	|	V|
22+ 0	1.3315	0.03	Q	|	|	|	V|
22+ 5	1.3317	0.03	Q	|	|	|	V|
22+10	1.3319	0.03	Q	|	|	|	V|
22+15	1.3321	0.03	Q	|	|	|	V|
22+20	1.3324	0.03	Q	|	|	|	V|
22+25	1.3326	0.03	Q	|	|	|	V|
22+30	1.3328	0.03	Q	|	|	|	V|
22+35	1.3329	0.03	Q	|	|	|	V|
22+40	1.3331	0.03	Q	|	|	|	V|
22+45	1.3333	0.03	Q	|	|	|	V|
22+50	1.3335	0.02	Q	|	|	|	V|
22+55	1.3336	0.02	Q	|	|	|	V|
23+ 0	1.3338	0.02	Q	|	|	|	V|
23+ 5	1.3340	0.02	Q	|	|	|	V|
23+10	1.3341	0.02	Q	|	|	|	V|
23+15	1.3343	0.02	Q	|	|	|	V|
23+20	1.3345	0.02	Q	|	|	|	V|
23+25	1.3346	0.02	Q	|	|	|	V|
23+30	1.3348	0.02	Q	|	|	|	V|
23+35	1.3350	0.02	Q	|	|	|	V|
23+40	1.3351	0.02	Q	|	|	|	V|
23+45	1.3353	0.02	Q	|	|	|	V|
23+50	1.3354	0.02	Q	|	|	|	V|
23+55	1.3356	0.02	Q	|	|	|	V|
24+ 0	1.3358	0.02	Q	|	|	|	V|
24+ 5	1.3359	0.02	Q	|	|	|	V|
24+10	1.3360	0.02	Q	|	|	|	V|
24+15	1.3361	0.01	Q	|	|	|	V|
24+20	1.3361	0.01	Q	|	|	|	V|
24+25	1.3362	0.00	Q	|	|	|	V|
24+30	1.3362	0.00	Q	|	|	|	V|
24+35	1.3362	0.00	Q	|	|	|	V|
24+40	1.3362	0.00	Q	|	|	|	V|
24+45	1.3362	0.00	Q	|	|	|	V|
24+50	1.3362	0.00	Q	|	|	|	V|
24+55	1.3362	0.00	Q	|	|	|	V|
25+ 0	1.3362	0.00	Q	|	|	|	V|

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   25+ 5       1.3362      0.00  Q          |          |          |         V|
   25+10       1.3362      0.00  Q          |          |          |         V|
   25+15       1.3362      0.00  Q          |          |          |          V
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APPENDIX D

POST-DEVELOPMENT FLOW CALCULATIONS (UNIT HYDROGRAPH)

APPENDIX D.1

10-YEAR HYDROLOGY CALCULATIONS (POST-DEVELOPMENT)

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

Study date 05/30/23 File: 102410.out

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

Program License Serial Number 6522

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

English Units used in output format

1512-0001 BEAUMONT VILLAGE
PROPOSED CONDITION
10-YEAR, 24-HOUR STORM EVENT
AREA 1 & 2

Drainage Area = 5.15(Ac.) = 0.008 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.15(Ac.) = 0.008 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.086 Hr.
Lag time = 5.15 Min.
25% of lag time = 1.29 Min.
40% of lag time = 2.06 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]
5.15	2.79	14.37

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
5.15	6.77	34.87

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.790(In)
Area Averaged 100-Year Rainfall = 6.770(In)

Point rain (area averaged) = 4.427(In)
Areal adjustment factor = 100.00 %

Adjusted average point rain = 4.427(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
5.150	69.00	0.900

Total Area Entered = 5.15(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) = 0.180

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	97.125	18.319	0.951
2	0.167	194.250	48.142	2.499
3	0.250	291.375	16.091	0.835
4	0.333	388.500	7.218	0.375
5	0.417	485.625	4.095	0.213
6	0.500	582.751	2.657	0.138
7	0.583	679.876	1.692	0.088
8	0.667	777.001	1.071	0.056
9	0.750	874.126	0.716	0.037
			Sum = 100.000	Sum= 5.190

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	0.035	(0.126)		0.006	0.029
2	0.17	0.07	0.035	(0.125)		0.006	0.029
3	0.25	0.07	0.035	(0.125)		0.006	0.029
4	0.33	0.10	0.053	(0.124)		0.010	0.044
5	0.42	0.10	0.053	(0.124)		0.010	0.044
6	0.50	0.10	0.053	(0.123)		0.010	0.044
7	0.58	0.10	0.053	(0.123)		0.010	0.044
8	0.67	0.10	0.053	(0.122)		0.010	0.044
9	0.75	0.10	0.053	(0.122)		0.010	0.044
10	0.83	0.13	0.071	(0.121)		0.013	0.058
11	0.92	0.13	0.071	(0.121)		0.013	0.058
12	1.00	0.13	0.071	(0.120)		0.013	0.058
13	1.08	0.10	0.053	(0.120)		0.010	0.044
14	1.17	0.10	0.053	(0.119)		0.010	0.044
15	1.25	0.10	0.053	(0.119)		0.010	0.044
16	1.33	0.10	0.053	(0.118)		0.010	0.044

17	1.42	0.10	0.053	(0.118)	0.010	0.044
18	1.50	0.10	0.053	(0.117)	0.010	0.044
19	1.58	0.10	0.053	(0.117)	0.010	0.044
20	1.67	0.10	0.053	(0.117)	0.010	0.044
21	1.75	0.10	0.053	(0.116)	0.010	0.044
22	1.83	0.13	0.071	(0.116)	0.013	0.058
23	1.92	0.13	0.071	(0.115)	0.013	0.058
24	2.00	0.13	0.071	(0.115)	0.013	0.058
25	2.08	0.13	0.071	(0.114)	0.013	0.058
26	2.17	0.13	0.071	(0.114)	0.013	0.058
27	2.25	0.13	0.071	(0.113)	0.013	0.058
28	2.33	0.13	0.071	(0.113)	0.013	0.058
29	2.42	0.13	0.071	(0.112)	0.013	0.058
30	2.50	0.13	0.071	(0.112)	0.013	0.058
31	2.58	0.17	0.089	(0.111)	0.016	0.073
32	2.67	0.17	0.089	(0.111)	0.016	0.073
33	2.75	0.17	0.089	(0.110)	0.016	0.073
34	2.83	0.17	0.089	(0.110)	0.016	0.073
35	2.92	0.17	0.089	(0.110)	0.016	0.073
36	3.00	0.17	0.089	(0.109)	0.016	0.073
37	3.08	0.17	0.089	(0.109)	0.016	0.073
38	3.17	0.17	0.089	(0.108)	0.016	0.073
39	3.25	0.17	0.089	(0.108)	0.016	0.073
40	3.33	0.17	0.089	(0.107)	0.016	0.073
41	3.42	0.17	0.089	(0.107)	0.016	0.073
42	3.50	0.17	0.089	(0.106)	0.016	0.073
43	3.58	0.17	0.089	(0.106)	0.016	0.073
44	3.67	0.17	0.089	(0.106)	0.016	0.073
45	3.75	0.17	0.089	(0.105)	0.016	0.073
46	3.83	0.20	0.106	(0.105)	0.019	0.087
47	3.92	0.20	0.106	(0.104)	0.019	0.087
48	4.00	0.20	0.106	(0.104)	0.019	0.087
49	4.08	0.20	0.106	(0.103)	0.019	0.087
50	4.17	0.20	0.106	(0.103)	0.019	0.087
51	4.25	0.20	0.106	(0.102)	0.019	0.087
52	4.33	0.23	0.124	(0.102)	0.022	0.102
53	4.42	0.23	0.124	(0.102)	0.022	0.102
54	4.50	0.23	0.124	(0.101)	0.022	0.102
55	4.58	0.23	0.124	(0.101)	0.022	0.102
56	4.67	0.23	0.124	(0.100)	0.022	0.102
57	4.75	0.23	0.124	(0.100)	0.022	0.102
58	4.83	0.27	0.142	(0.099)	0.026	0.116
59	4.92	0.27	0.142	(0.099)	0.026	0.116
60	5.00	0.27	0.142	(0.099)	0.026	0.116
61	5.08	0.20	0.106	(0.098)	0.019	0.087
62	5.17	0.20	0.106	(0.098)	0.019	0.087
63	5.25	0.20	0.106	(0.097)	0.019	0.087
64	5.33	0.23	0.124	(0.097)	0.022	0.102
65	5.42	0.23	0.124	(0.096)	0.022	0.102
66	5.50	0.23	0.124	(0.096)	0.022	0.102
67	5.58	0.27	0.142	(0.096)	0.026	0.116
68	5.67	0.27	0.142	(0.095)	0.026	0.116
69	5.75	0.27	0.142	(0.095)	0.026	0.116
70	5.83	0.27	0.142	(0.094)	0.026	0.116
71	5.92	0.27	0.142	(0.094)	0.026	0.116
72	6.00	0.27	0.142	(0.093)	0.026	0.116
73	6.08	0.30	0.159	(0.093)	0.029	0.131
74	6.17	0.30	0.159	(0.093)	0.029	0.131
75	6.25	0.30	0.159	(0.092)	0.029	0.131
76	6.33	0.30	0.159	(0.092)	0.029	0.131

77	6.42	0.30	0.159	(0.091)	0.029	0.131
78	6.50	0.30	0.159	(0.091)	0.029	0.131
79	6.58	0.33	0.177	(0.091)	0.032	0.145
80	6.67	0.33	0.177	(0.090)	0.032	0.145
81	6.75	0.33	0.177	(0.090)	0.032	0.145
82	6.83	0.33	0.177	(0.089)	0.032	0.145
83	6.92	0.33	0.177	(0.089)	0.032	0.145
84	7.00	0.33	0.177	(0.089)	0.032	0.145
85	7.08	0.33	0.177	(0.088)	0.032	0.145
86	7.17	0.33	0.177	(0.088)	0.032	0.145
87	7.25	0.33	0.177	(0.087)	0.032	0.145
88	7.33	0.37	0.195	(0.087)	0.035	0.160
89	7.42	0.37	0.195	(0.087)	0.035	0.160
90	7.50	0.37	0.195	(0.086)	0.035	0.160
91	7.58	0.40	0.213	(0.086)	0.038	0.174
92	7.67	0.40	0.213	(0.085)	0.038	0.174
93	7.75	0.40	0.213	(0.085)	0.038	0.174
94	7.83	0.43	0.230	(0.085)	0.041	0.189
95	7.92	0.43	0.230	(0.084)	0.041	0.189
96	8.00	0.43	0.230	(0.084)	0.041	0.189
97	8.08	0.50	0.266	(0.083)	0.048	0.218
98	8.17	0.50	0.266	(0.083)	0.048	0.218
99	8.25	0.50	0.266	(0.083)	0.048	0.218
100	8.33	0.50	0.266	(0.082)	0.048	0.218
101	8.42	0.50	0.266	(0.082)	0.048	0.218
102	8.50	0.50	0.266	(0.082)	0.048	0.218
103	8.58	0.53	0.283	(0.081)	0.051	0.232
104	8.67	0.53	0.283	(0.081)	0.051	0.232
105	8.75	0.53	0.283	(0.080)	0.051	0.232
106	8.83	0.57	0.301	(0.080)	0.054	0.247
107	8.92	0.57	0.301	(0.080)	0.054	0.247
108	9.00	0.57	0.301	(0.079)	0.054	0.247
109	9.08	0.63	0.336	(0.079)	0.061	0.276
110	9.17	0.63	0.336	(0.078)	0.061	0.276
111	9.25	0.63	0.336	(0.078)	0.061	0.276
112	9.33	0.67	0.354	(0.078)	0.064	0.290
113	9.42	0.67	0.354	(0.077)	0.064	0.290
114	9.50	0.67	0.354	(0.077)	0.064	0.290
115	9.58	0.70	0.372	(0.077)	0.067	0.305
116	9.67	0.70	0.372	(0.076)	0.067	0.305
117	9.75	0.70	0.372	(0.076)	0.067	0.305
118	9.83	0.73	0.390	(0.076)	0.070	0.319
119	9.92	0.73	0.390	(0.075)	0.070	0.319
120	10.00	0.73	0.390	(0.075)	0.070	0.319
121	10.08	0.50	0.266	(0.074)	0.048	0.218
122	10.17	0.50	0.266	(0.074)	0.048	0.218
123	10.25	0.50	0.266	(0.074)	0.048	0.218
124	10.33	0.50	0.266	(0.073)	0.048	0.218
125	10.42	0.50	0.266	(0.073)	0.048	0.218
126	10.50	0.50	0.266	(0.073)	0.048	0.218
127	10.58	0.67	0.354	(0.072)	0.064	0.290
128	10.67	0.67	0.354	(0.072)	0.064	0.290
129	10.75	0.67	0.354	(0.072)	0.064	0.290
130	10.83	0.67	0.354	(0.071)	0.064	0.290
131	10.92	0.67	0.354	(0.071)	0.064	0.290
132	11.00	0.67	0.354	(0.071)	0.064	0.290
133	11.08	0.63	0.336	(0.070)	0.061	0.276
134	11.17	0.63	0.336	(0.070)	0.061	0.276
135	11.25	0.63	0.336	(0.069)	0.061	0.276
136	11.33	0.63	0.336	(0.069)	0.061	0.276

137	11.42	0.63	0.336	(0.069)	0.061	0.276
138	11.50	0.63	0.336	(0.068)	0.061	0.276
139	11.58	0.57	0.301	(0.068)	0.054	0.247
140	11.67	0.57	0.301	(0.068)	0.054	0.247
141	11.75	0.57	0.301	(0.067)	0.054	0.247
142	11.83	0.60	0.319	(0.067)	0.057	0.261
143	11.92	0.60	0.319	(0.067)	0.057	0.261
144	12.00	0.60	0.319	(0.066)	0.057	0.261
145	12.08	0.83	0.443	0.066	(0.080)	0.377
146	12.17	0.83	0.443	0.066	(0.080)	0.377
147	12.25	0.83	0.443	0.065	(0.080)	0.377
148	12.33	0.87	0.460	0.065	(0.083)	0.395
149	12.42	0.87	0.460	0.065	(0.083)	0.396
150	12.50	0.87	0.460	0.064	(0.083)	0.396
151	12.58	0.93	0.496	0.064	(0.089)	0.432
152	12.67	0.93	0.496	0.064	(0.089)	0.432
153	12.75	0.93	0.496	0.064	(0.089)	0.432
154	12.83	0.97	0.514	0.063	(0.092)	0.450
155	12.92	0.97	0.514	0.063	(0.092)	0.451
156	13.00	0.97	0.514	0.063	(0.092)	0.451
157	13.08	1.13	0.602	0.062	(0.108)	0.540
158	13.17	1.13	0.602	0.062	(0.108)	0.540
159	13.25	1.13	0.602	0.062	(0.108)	0.541
160	13.33	1.13	0.602	0.061	(0.108)	0.541
161	13.42	1.13	0.602	0.061	(0.108)	0.541
162	13.50	1.13	0.602	0.061	(0.108)	0.541
163	13.58	0.77	0.407	0.060	(0.073)	0.347
164	13.67	0.77	0.407	0.060	(0.073)	0.347
165	13.75	0.77	0.407	0.060	(0.073)	0.348
166	13.83	0.77	0.407	0.059	(0.073)	0.348
167	13.92	0.77	0.407	0.059	(0.073)	0.348
168	14.00	0.77	0.407	0.059	(0.073)	0.348
169	14.08	0.90	0.478	0.059	(0.086)	0.420
170	14.17	0.90	0.478	0.058	(0.086)	0.420
171	14.25	0.90	0.478	0.058	(0.086)	0.420
172	14.33	0.87	0.460	0.058	(0.083)	0.403
173	14.42	0.87	0.460	0.057	(0.083)	0.403
174	14.50	0.87	0.460	0.057	(0.083)	0.403
175	14.58	0.87	0.460	0.057	(0.083)	0.404
176	14.67	0.87	0.460	0.056	(0.083)	0.404
177	14.75	0.87	0.460	0.056	(0.083)	0.404
178	14.83	0.83	0.443	0.056	(0.080)	0.387
179	14.92	0.83	0.443	0.056	(0.080)	0.387
180	15.00	0.83	0.443	0.055	(0.080)	0.387
181	15.08	0.80	0.425	0.055	(0.077)	0.370
182	15.17	0.80	0.425	0.055	(0.077)	0.370
183	15.25	0.80	0.425	0.054	(0.077)	0.371
184	15.33	0.77	0.407	0.054	(0.073)	0.353
185	15.42	0.77	0.407	0.054	(0.073)	0.353
186	15.50	0.77	0.407	0.054	(0.073)	0.354
187	15.58	0.63	0.336	0.053	(0.061)	0.283
188	15.67	0.63	0.336	0.053	(0.061)	0.283
189	15.75	0.63	0.336	0.053	(0.061)	0.284
190	15.83	0.63	0.336	0.053	(0.061)	0.284
191	15.92	0.63	0.336	0.052	(0.061)	0.284
192	16.00	0.63	0.336	0.052	(0.061)	0.284
193	16.08	0.13	0.071	(0.052)	0.013	0.058
194	16.17	0.13	0.071	(0.051)	0.013	0.058
195	16.25	0.13	0.071	(0.051)	0.013	0.058
196	16.33	0.13	0.071	(0.051)	0.013	0.058

197	16.42	0.13	0.071	(0.051)	0.013	0.058
198	16.50	0.13	0.071	(0.050)	0.013	0.058
199	16.58	0.10	0.053	(0.050)	0.010	0.044
200	16.67	0.10	0.053	(0.050)	0.010	0.044
201	16.75	0.10	0.053	(0.050)	0.010	0.044
202	16.83	0.10	0.053	(0.049)	0.010	0.044
203	16.92	0.10	0.053	(0.049)	0.010	0.044
204	17.00	0.10	0.053	(0.049)	0.010	0.044
205	17.08	0.17	0.089	(0.049)	0.016	0.073
206	17.17	0.17	0.089	(0.048)	0.016	0.073
207	17.25	0.17	0.089	(0.048)	0.016	0.073
208	17.33	0.17	0.089	(0.048)	0.016	0.073
209	17.42	0.17	0.089	(0.048)	0.016	0.073
210	17.50	0.17	0.089	(0.047)	0.016	0.073
211	17.58	0.17	0.089	(0.047)	0.016	0.073
212	17.67	0.17	0.089	(0.047)	0.016	0.073
213	17.75	0.17	0.089	(0.047)	0.016	0.073
214	17.83	0.13	0.071	(0.047)	0.013	0.058
215	17.92	0.13	0.071	(0.046)	0.013	0.058
216	18.00	0.13	0.071	(0.046)	0.013	0.058
217	18.08	0.13	0.071	(0.046)	0.013	0.058
218	18.17	0.13	0.071	(0.046)	0.013	0.058
219	18.25	0.13	0.071	(0.045)	0.013	0.058
220	18.33	0.13	0.071	(0.045)	0.013	0.058
221	18.42	0.13	0.071	(0.045)	0.013	0.058
222	18.50	0.13	0.071	(0.045)	0.013	0.058
223	18.58	0.10	0.053	(0.045)	0.010	0.044
224	18.67	0.10	0.053	(0.044)	0.010	0.044
225	18.75	0.10	0.053	(0.044)	0.010	0.044
226	18.83	0.07	0.035	(0.044)	0.006	0.029
227	18.92	0.07	0.035	(0.044)	0.006	0.029
228	19.00	0.07	0.035	(0.043)	0.006	0.029
229	19.08	0.10	0.053	(0.043)	0.010	0.044
230	19.17	0.10	0.053	(0.043)	0.010	0.044
231	19.25	0.10	0.053	(0.043)	0.010	0.044
232	19.33	0.13	0.071	(0.043)	0.013	0.058
233	19.42	0.13	0.071	(0.042)	0.013	0.058
234	19.50	0.13	0.071	(0.042)	0.013	0.058
235	19.58	0.10	0.053	(0.042)	0.010	0.044
236	19.67	0.10	0.053	(0.042)	0.010	0.044
237	19.75	0.10	0.053	(0.042)	0.010	0.044
238	19.83	0.07	0.035	(0.041)	0.006	0.029
239	19.92	0.07	0.035	(0.041)	0.006	0.029
240	20.00	0.07	0.035	(0.041)	0.006	0.029
241	20.08	0.10	0.053	(0.041)	0.010	0.044
242	20.17	0.10	0.053	(0.041)	0.010	0.044
243	20.25	0.10	0.053	(0.041)	0.010	0.044
244	20.33	0.10	0.053	(0.040)	0.010	0.044
245	20.42	0.10	0.053	(0.040)	0.010	0.044
246	20.50	0.10	0.053	(0.040)	0.010	0.044
247	20.58	0.10	0.053	(0.040)	0.010	0.044
248	20.67	0.10	0.053	(0.040)	0.010	0.044
249	20.75	0.10	0.053	(0.040)	0.010	0.044
250	20.83	0.07	0.035	(0.039)	0.006	0.029
251	20.92	0.07	0.035	(0.039)	0.006	0.029
252	21.00	0.07	0.035	(0.039)	0.006	0.029
253	21.08	0.10	0.053	(0.039)	0.010	0.044
254	21.17	0.10	0.053	(0.039)	0.010	0.044
255	21.25	0.10	0.053	(0.039)	0.010	0.044
256	21.33	0.07	0.035	(0.038)	0.006	0.029

257	21.42	0.07	0.035	(0.038)	0.006	0.029
258	21.50	0.07	0.035	(0.038)	0.006	0.029
259	21.58	0.10	0.053	(0.038)	0.010	0.044
260	21.67	0.10	0.053	(0.038)	0.010	0.044
261	21.75	0.10	0.053	(0.038)	0.010	0.044
262	21.83	0.07	0.035	(0.038)	0.006	0.029
263	21.92	0.07	0.035	(0.038)	0.006	0.029
264	22.00	0.07	0.035	(0.037)	0.006	0.029
265	22.08	0.10	0.053	(0.037)	0.010	0.044
266	22.17	0.10	0.053	(0.037)	0.010	0.044
267	22.25	0.10	0.053	(0.037)	0.010	0.044
268	22.33	0.07	0.035	(0.037)	0.006	0.029
269	22.42	0.07	0.035	(0.037)	0.006	0.029
270	22.50	0.07	0.035	(0.037)	0.006	0.029
271	22.58	0.07	0.035	(0.037)	0.006	0.029
272	22.67	0.07	0.035	(0.036)	0.006	0.029
273	22.75	0.07	0.035	(0.036)	0.006	0.029
274	22.83	0.07	0.035	(0.036)	0.006	0.029
275	22.92	0.07	0.035	(0.036)	0.006	0.029
276	23.00	0.07	0.035	(0.036)	0.006	0.029
277	23.08	0.07	0.035	(0.036)	0.006	0.029
278	23.17	0.07	0.035	(0.036)	0.006	0.029
279	23.25	0.07	0.035	(0.036)	0.006	0.029
280	23.33	0.07	0.035	(0.036)	0.006	0.029
281	23.42	0.07	0.035	(0.036)	0.006	0.029
282	23.50	0.07	0.035	(0.036)	0.006	0.029
283	23.58	0.07	0.035	(0.036)	0.006	0.029
284	23.67	0.07	0.035	(0.036)	0.006	0.029
285	23.75	0.07	0.035	(0.036)	0.006	0.029
286	23.83	0.07	0.035	(0.035)	0.006	0.029
287	23.92	0.07	0.035	(0.035)	0.006	0.029
288	24.00	0.07	0.035	(0.035)	0.006	0.029

(Loss Rate Not Used)

Sum = 100.0 Sum = 44.7

Flood volume = Effective rainfall 3.72(In)
times area 5.2(Ac.)/[(In)/(Ft.)] = 1.6(Ac.Ft)
Total soil loss = 0.70(In)
Total soil loss = 0.302(Ac.Ft)
Total rainfall = 4.43(In)
Flood volume = 69593.9 Cubic Feet
Total soil loss = 13173.3 Cubic Feet

Peak flow rate of this hydrograph = 2.793(CFS)

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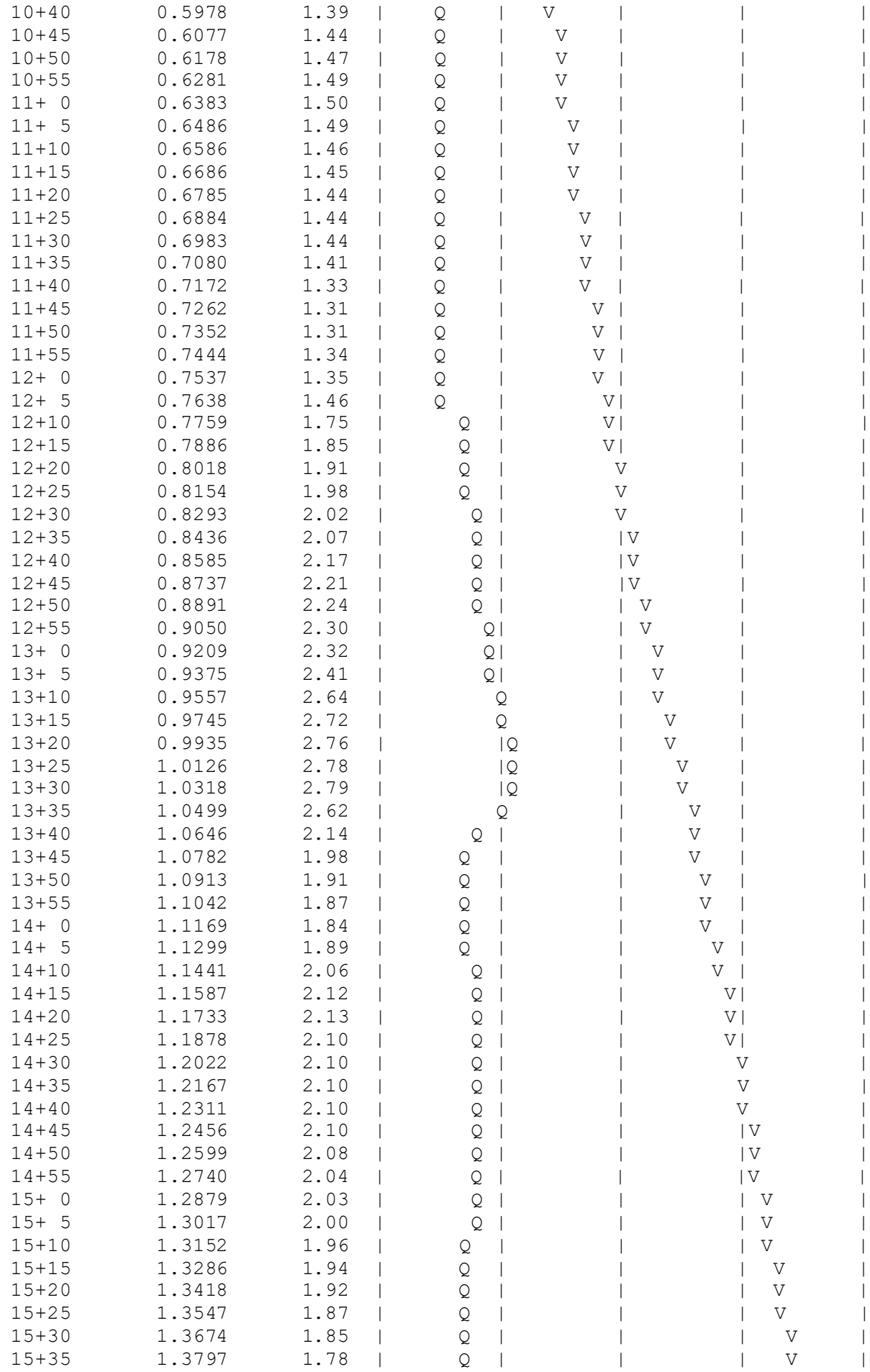
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q	|	|	|	|
0+10	0.0009	0.10	Q	|	|	|	|
0+15	0.0017	0.12	Q	|	|	|	|
0+20	0.0028	0.15	Q	|	|	|	|
0+25	0.0041	0.19	Q	|	|	|	|
0+30	0.0055	0.21	Q	|	|	|	|
0+35	0.0070	0.22	Q	|	|	|	|

0+40	0.0085	0.22	Q	|	|	|	|
0+45	0.0101	0.22	Q	|	|	|	|
0+50	0.0117	0.24	Q	|	|	|	|
0+55	0.0136	0.28	VQ	|	|	|	|
1+ 0	0.0156	0.29	VQ	|	|	|	|
1+ 5	0.0175	0.28	VQ	|	|	|	|
1+10	0.0192	0.25	Q	|	|	|	|
1+15	0.0209	0.24	Q	|	|	|	|
1+20	0.0225	0.23	Q	|	|	|	|
1+25	0.0240	0.23	Q	|	|	|	|
1+30	0.0256	0.23	Q	|	|	|	|
1+35	0.0272	0.23	Q	|	|	|	|
1+40	0.0287	0.23	Q	|	|	|	|
1+45	0.0303	0.23	Q	|	|	|	|
1+50	0.0320	0.24	Q	|	|	|	|
1+55	0.0339	0.28	VQ	|	|	|	|
2+ 0	0.0358	0.29	VQ	|	|	|	|
2+ 5	0.0379	0.29	VQ	|	|	|	|
2+10	0.0399	0.30	VQ	|	|	|	|
2+15	0.0420	0.30	|Q	|	|	|	|
2+20	0.0440	0.30	|Q	|	|	|	|
2+25	0.0461	0.30	|Q	|	|	|	|
2+30	0.0482	0.30	|Q	|	|	|	|
2+35	0.0504	0.32	|Q	|	|	|	|
2+40	0.0528	0.35	|Q	|	|	|	|
2+45	0.0553	0.36	|Q	|	|	|	|
2+50	0.0578	0.37	|Q	|	|	|	|
2+55	0.0604	0.37	|Q	|	|	|	|
3+ 0	0.0630	0.37	|Q	|	|	|	|
3+ 5	0.0656	0.38	|Q	|	|	|	|
3+10	0.0682	0.38	|Q	|	|	|	|
3+15	0.0708	0.38	|Q	|	|	|	|
3+20	0.0734	0.38	|Q	|	|	|	|
3+25	0.0760	0.38	|Q	|	|	|	|
3+30	0.0786	0.38	|Q	|	|	|	|
3+35	0.0811	0.38	|QV	|	|	|	|
3+40	0.0837	0.38	|QV	|	|	|	|
3+45	0.0863	0.38	|QV	|	|	|	|
3+50	0.0890	0.39	|QV	|	|	|	|
3+55	0.0920	0.43	|QV	|	|	|	|
4+ 0	0.0950	0.44	|QV	|	|	|	|
4+ 5	0.0981	0.44	|QV	|	|	|	|
4+10	0.1011	0.45	|QV	|	|	|	|
4+15	0.1042	0.45	|QV	|	|	|	|
4+20	0.1074	0.46	|QV	|	|	|	|
4+25	0.1109	0.50	| Q	|	|	|	|
4+30	0.1145	0.51	| Q	|	|	|	|
4+35	0.1180	0.52	| Q	|	|	|	|
4+40	0.1216	0.52	| QV	|	|	|	|
4+45	0.1253	0.53	| QV	|	|	|	|
4+50	0.1290	0.54	| QV	|	|	|	|
4+55	0.1330	0.58	| QV	|	|	|	|
5+ 0	0.1370	0.59	| QV	|	|	|	|
5+ 5	0.1409	0.57	| QV	|	|	|	|
5+10	0.1444	0.50	|Q V	|	|	|	|
5+15	0.1476	0.48	|Q V	|	|	|	|
5+20	0.1509	0.48	|Q V	|	|	|	|
5+25	0.1545	0.51	| QV	|	|	|	|
5+30	0.1581	0.52	| QV	|	|	|	|
5+35	0.1617	0.54	| Q V	|	|	|	|

5+40	0.1657	0.57	Q V				
5+45	0.1697	0.59	Q V				
5+50	0.1738	0.59	Q V				
5+55	0.1780	0.60	Q V				
6+ 0	0.1821	0.60	Q V				
6+ 5	0.1863	0.62	Q V				
6+10	0.1908	0.65	Q V				
6+15	0.1954	0.67	Q V				
6+20	0.2000	0.67	Q V				
6+25	0.2047	0.67	Q V				
6+30	0.2093	0.68	Q V				
6+35	0.2141	0.69	Q V				
6+40	0.2191	0.73	Q V				
6+45	0.2242	0.74	Q V				
6+50	0.2294	0.75	Q V				
6+55	0.2345	0.75	Q V				
7+ 0	0.2397	0.75	Q V				
7+ 5	0.2449	0.75	Q V				
7+10	0.2501	0.75	Q V				
7+15	0.2553	0.75	Q V				
7+20	0.2606	0.77	Q V				
7+25	0.2661	0.80	Q V				
7+30	0.2717	0.82	Q V				
7+35	0.2775	0.84	Q V				
7+40	0.2835	0.88	Q V				
7+45	0.2896	0.89	Q V				
7+50	0.2959	0.91	Q V				
7+55	0.3024	0.95	Q V				
8+ 0	0.3091	0.96	Q V				
8+ 5	0.3159	1.00	Q V				
8+10	0.3234	1.08	Q V				
8+15	0.3309	1.10	Q V				
8+20	0.3386	1.11	Q V				
8+25	0.3463	1.12	Q V				
8+30	0.3541	1.13	Q V				
8+35	0.3620	1.14	Q V				
8+40	0.3701	1.18	Q V				
8+45	0.3783	1.19	Q V				
8+50	0.3867	1.21	Q V				
8+55	0.3953	1.25	Q V				
9+ 0	0.4040	1.27	Q V				
9+ 5	0.4130	1.30	Q V				
9+10	0.4224	1.38	Q V				
9+15	0.4321	1.40	Q V				
9+20	0.4420	1.43	Q V				
9+25	0.4521	1.47	Q V				
9+30	0.4624	1.49	Q V				
9+35	0.4728	1.51	Q V				
9+40	0.4835	1.55	Q V				
9+45	0.4943	1.57	Q V				
9+50	0.5052	1.59	Q V				
9+55	0.5164	1.63	Q V				
10+ 0	0.5277	1.64	Q V				
10+ 5	0.5384	1.55	Q V				
10+10	0.5474	1.30	Q V				
10+15	0.5558	1.22	Q V				
10+20	0.5640	1.18	Q V				
10+25	0.5720	1.16	Q V				
10+30	0.5799	1.15	Q V				
10+35	0.5882	1.21	Q V				



15+40	1.3907	1.60	| Q |	|	|	| V |
15+45	1.4013	1.54	| Q |	|	|	| V |
15+50	1.4117	1.51	| Q |	|	|	| V |
15+55	1.4220	1.50	| Q |	|	|	| V |
16+ 0	1.4323	1.49	| Q |	|	|	| V |
16+ 5	1.4410	1.27	| Q |	|	|	| V |
16+10	1.4458	0.70	| Q |	|	|	| V |
16+15	1.4493	0.51	| Q |	|	|	| V |
16+20	1.4522	0.42	|Q |	|	|	| V |
16+25	1.4548	0.37	|Q |	|	|	| V |
16+30	1.4571	0.34	|Q |	|	|	| V |
16+35	1.4593	0.31	|Q |	|	|	| V |
16+40	1.4610	0.26	|Q |	|	|	| V |
16+45	1.4627	0.24	Q |	|	|	| V |
16+50	1.4643	0.23	Q |	|	|	| V |
16+55	1.4659	0.23	Q |	|	|	| V |
17+ 0	1.4675	0.23	Q |	|	|	| V |
17+ 5	1.4692	0.26	|Q |	|	|	| V |
17+10	1.4715	0.33	|Q |	|	|	| V |
17+15	1.4739	0.35	|Q |	|	|	| V |
17+20	1.4764	0.36	|Q |	|	|	| V |
17+25	1.4789	0.37	|Q |	|	|	| V |
17+30	1.4815	0.37	|Q |	|	|	| V |
17+35	1.4841	0.37	|Q |	|	|	| V |
17+40	1.4866	0.38	|Q |	|	|	| V |
17+45	1.4892	0.38	|Q |	|	|	| V |
17+50	1.4917	0.36	|Q |	|	|	| V |
17+55	1.4940	0.33	|Q |	|	|	| V |
18+ 0	1.4962	0.31	|Q |	|	|	| V |
18+ 5	1.4983	0.31	|Q |	|	|	| V |
18+10	1.5004	0.31	|Q |	|	|	| V |
18+15	1.5025	0.30	|Q |	|	|	| V |
18+20	1.5046	0.30	|Q |	|	|	| V |
18+25	1.5067	0.30	|Q |	|	|	| V |
18+30	1.5087	0.30	|Q |	|	|	| V |
18+35	1.5107	0.29	|Q |	|	|	| V |
18+40	1.5125	0.25	|Q |	|	|	| V |
18+45	1.5141	0.24	Q |	|	|	| V |
18+50	1.5156	0.22	Q |	|	|	| V |
18+55	1.5169	0.18	Q |	|	|	| V |
19+ 0	1.5180	0.17	Q |	|	|	| V |
19+ 5	1.5192	0.17	Q |	|	|	| V |
19+10	1.5206	0.21	Q |	|	|	| V |
19+15	1.5221	0.22	Q |	|	|	| V |
19+20	1.5237	0.23	Q |	|	|	| V |
19+25	1.5256	0.27	|Q |	|	|	| V |
19+30	1.5276	0.29	|Q |	|	|	| V |
19+35	1.5295	0.28	|Q |	|	|	| V |
19+40	1.5312	0.25	Q |	|	|	| V |
19+45	1.5328	0.24	Q |	|	|	| V |
19+50	1.5343	0.22	Q |	|	|	| V |
19+55	1.5356	0.18	Q |	|	|	| V |
20+ 0	1.5367	0.17	Q |	|	|	| V |
20+ 5	1.5379	0.17	Q |	|	|	| V |
20+10	1.5393	0.21	Q |	|	|	| V |
20+15	1.5408	0.22	Q |	|	|	| V |
20+20	1.5423	0.22	Q |	|	|	| V |
20+25	1.5439	0.22	Q |	|	|	| V |
20+30	1.5454	0.22	Q |	|	|	| V |
20+35	1.5469	0.22	Q |	|	|	| V |

20+40	1.5485	0.23	Q	|	|	|	V |
20+45	1.5501	0.23	Q	|	|	|	V |
20+50	1.5515	0.21	Q	|	|	|	V |
20+55	1.5527	0.18	Q	|	|	|	V |
21+ 0	1.5539	0.16	Q	|	|	|	V |
21+ 5	1.5550	0.17	Q	|	|	|	V |
21+10	1.5565	0.21	Q	|	|	|	V |
21+15	1.5580	0.22	Q	|	|	|	V|
21+20	1.5594	0.21	Q	|	|	|	V|
21+25	1.5606	0.17	Q	|	|	|	V|
21+30	1.5617	0.16	Q	|	|	|	V|
21+35	1.5628	0.17	Q	|	|	|	V|
21+40	1.5643	0.21	Q	|	|	|	V|
21+45	1.5657	0.22	Q	|	|	|	V|
21+50	1.5672	0.21	Q	|	|	|	V|
21+55	1.5683	0.17	Q	|	|	|	V|
22+ 0	1.5695	0.16	Q	|	|	|	V|
22+ 5	1.5706	0.17	Q	|	|	|	V|
22+10	1.5720	0.21	Q	|	|	|	V|
22+15	1.5735	0.22	Q	|	|	|	V|
22+20	1.5750	0.21	Q	|	|	|	V|
22+25	1.5761	0.17	Q	|	|	|	V|
22+30	1.5772	0.16	Q	|	|	|	V|
22+35	1.5783	0.16	Q	|	|	|	V|
22+40	1.5794	0.15	Q	|	|	|	V|
22+45	1.5805	0.15	Q	|	|	|	V|
22+50	1.5815	0.15	Q	|	|	|	V|
22+55	1.5825	0.15	Q	|	|	|	V|
23+ 0	1.5836	0.15	Q	|	|	|	V|
23+ 5	1.5846	0.15	Q	|	|	|	V|
23+10	1.5857	0.15	Q	|	|	|	V|
23+15	1.5867	0.15	Q	|	|	|	V|
23+20	1.5877	0.15	Q	|	|	|	V|
23+25	1.5888	0.15	Q	|	|	|	V|
23+30	1.5898	0.15	Q	|	|	|	V|
23+35	1.5909	0.15	Q	|	|	|	V|
23+40	1.5919	0.15	Q	|	|	|	V|
23+45	1.5929	0.15	Q	|	|	|	V|
23+50	1.5940	0.15	Q	|	|	|	V|
23+55	1.5950	0.15	Q	|	|	|	V|
24+ 0	1.5960	0.15	Q	|	|	|	V|
24+ 5	1.5969	0.12	Q	|	|	|	V|
24+10	1.5972	0.05	Q	|	|	|	V|
24+15	1.5974	0.03	Q	|	|	|	V|
24+20	1.5975	0.02	Q	|	|	|	V|
24+25	1.5976	0.01	Q	|	|	|	V|
24+30	1.5976	0.01	Q	|	|	|	V|
24+35	1.5976	0.00	Q	|	|	|	V|
24+40	1.5977	0.00	Q	|	|	|	V

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

Study date 05/30/23 File: 102410.out

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

Program License Serial Number 6522

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

English Units used in output format

1512-0001 BEAUMONT VILLAGE
PROPOSED CONDITION
10-YEAR, 24-HOUR STORM EVENT
AREA 3

Drainage Area = 0.85(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.85(Ac.) = 0.001 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.092 Hr.
Lag time = 5.51 Min.
25% of lag time = 1.38 Min.
40% of lag time = 2.21 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.85	2.79	2.37

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.85	6.77	5.75

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.790(In)
Area Averaged 100-Year Rainfall = 6.770(In)

Point rain (area averaged) = 4.427(In)
Areal adjustment factor = 100.00 %

Adjusted average point rain = 4.427(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.850	69.00	0.900

Total Area Entered = 0.85(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) = 0.180

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	90.678	16.379	0.140
2	0.167	181.357	47.215	0.404
3	0.250	272.035	17.280	0.148
4	0.333	362.713	7.602	0.065
5	0.417	453.391	4.390	0.038
6	0.500	544.070	2.811	0.024
7	0.583	634.748	1.906	0.016
8	0.667	725.426	1.214	0.010
9	0.750	816.104	1.204	0.010
		Sum =	100.000 Sum=	0.857

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.07	0.035	(0.126)		0.006	0.029
2	0.17	0.07	0.035	(0.125)		0.006	0.029
3	0.25	0.07	0.035	(0.125)		0.006	0.029
4	0.33	0.10	0.053	(0.124)		0.010	0.044
5	0.42	0.10	0.053	(0.124)		0.010	0.044
6	0.50	0.10	0.053	(0.123)		0.010	0.044
7	0.58	0.10	0.053	(0.123)		0.010	0.044
8	0.67	0.10	0.053	(0.122)		0.010	0.044
9	0.75	0.10	0.053	(0.122)		0.010	0.044
10	0.83	0.13	0.071	(0.121)		0.013	0.058
11	0.92	0.13	0.071	(0.121)		0.013	0.058
12	1.00	0.13	0.071	(0.120)		0.013	0.058
13	1.08	0.10	0.053	(0.120)		0.010	0.044
14	1.17	0.10	0.053	(0.119)		0.010	0.044
15	1.25	0.10	0.053	(0.119)		0.010	0.044
16	1.33	0.10	0.053	(0.118)		0.010	0.044

17	1.42	0.10	0.053	(0.118)	0.010	0.044
18	1.50	0.10	0.053	(0.117)	0.010	0.044
19	1.58	0.10	0.053	(0.117)	0.010	0.044
20	1.67	0.10	0.053	(0.117)	0.010	0.044
21	1.75	0.10	0.053	(0.116)	0.010	0.044
22	1.83	0.13	0.071	(0.116)	0.013	0.058
23	1.92	0.13	0.071	(0.115)	0.013	0.058
24	2.00	0.13	0.071	(0.115)	0.013	0.058
25	2.08	0.13	0.071	(0.114)	0.013	0.058
26	2.17	0.13	0.071	(0.114)	0.013	0.058
27	2.25	0.13	0.071	(0.113)	0.013	0.058
28	2.33	0.13	0.071	(0.113)	0.013	0.058
29	2.42	0.13	0.071	(0.112)	0.013	0.058
30	2.50	0.13	0.071	(0.112)	0.013	0.058
31	2.58	0.17	0.089	(0.111)	0.016	0.073
32	2.67	0.17	0.089	(0.111)	0.016	0.073
33	2.75	0.17	0.089	(0.110)	0.016	0.073
34	2.83	0.17	0.089	(0.110)	0.016	0.073
35	2.92	0.17	0.089	(0.110)	0.016	0.073
36	3.00	0.17	0.089	(0.109)	0.016	0.073
37	3.08	0.17	0.089	(0.109)	0.016	0.073
38	3.17	0.17	0.089	(0.108)	0.016	0.073
39	3.25	0.17	0.089	(0.108)	0.016	0.073
40	3.33	0.17	0.089	(0.107)	0.016	0.073
41	3.42	0.17	0.089	(0.107)	0.016	0.073
42	3.50	0.17	0.089	(0.106)	0.016	0.073
43	3.58	0.17	0.089	(0.106)	0.016	0.073
44	3.67	0.17	0.089	(0.106)	0.016	0.073
45	3.75	0.17	0.089	(0.105)	0.016	0.073
46	3.83	0.20	0.106	(0.105)	0.019	0.087
47	3.92	0.20	0.106	(0.104)	0.019	0.087
48	4.00	0.20	0.106	(0.104)	0.019	0.087
49	4.08	0.20	0.106	(0.103)	0.019	0.087
50	4.17	0.20	0.106	(0.103)	0.019	0.087
51	4.25	0.20	0.106	(0.102)	0.019	0.087
52	4.33	0.23	0.124	(0.102)	0.022	0.102
53	4.42	0.23	0.124	(0.102)	0.022	0.102
54	4.50	0.23	0.124	(0.101)	0.022	0.102
55	4.58	0.23	0.124	(0.101)	0.022	0.102
56	4.67	0.23	0.124	(0.100)	0.022	0.102
57	4.75	0.23	0.124	(0.100)	0.022	0.102
58	4.83	0.27	0.142	(0.099)	0.026	0.116
59	4.92	0.27	0.142	(0.099)	0.026	0.116
60	5.00	0.27	0.142	(0.099)	0.026	0.116
61	5.08	0.20	0.106	(0.098)	0.019	0.087
62	5.17	0.20	0.106	(0.098)	0.019	0.087
63	5.25	0.20	0.106	(0.097)	0.019	0.087
64	5.33	0.23	0.124	(0.097)	0.022	0.102
65	5.42	0.23	0.124	(0.096)	0.022	0.102
66	5.50	0.23	0.124	(0.096)	0.022	0.102
67	5.58	0.27	0.142	(0.096)	0.026	0.116
68	5.67	0.27	0.142	(0.095)	0.026	0.116
69	5.75	0.27	0.142	(0.095)	0.026	0.116
70	5.83	0.27	0.142	(0.094)	0.026	0.116
71	5.92	0.27	0.142	(0.094)	0.026	0.116
72	6.00	0.27	0.142	(0.093)	0.026	0.116
73	6.08	0.30	0.159	(0.093)	0.029	0.131
74	6.17	0.30	0.159	(0.093)	0.029	0.131
75	6.25	0.30	0.159	(0.092)	0.029	0.131
76	6.33	0.30	0.159	(0.092)	0.029	0.131

77	6.42	0.30	0.159	(0.091)	0.029	0.131
78	6.50	0.30	0.159	(0.091)	0.029	0.131
79	6.58	0.33	0.177	(0.091)	0.032	0.145
80	6.67	0.33	0.177	(0.090)	0.032	0.145
81	6.75	0.33	0.177	(0.090)	0.032	0.145
82	6.83	0.33	0.177	(0.089)	0.032	0.145
83	6.92	0.33	0.177	(0.089)	0.032	0.145
84	7.00	0.33	0.177	(0.089)	0.032	0.145
85	7.08	0.33	0.177	(0.088)	0.032	0.145
86	7.17	0.33	0.177	(0.088)	0.032	0.145
87	7.25	0.33	0.177	(0.087)	0.032	0.145
88	7.33	0.37	0.195	(0.087)	0.035	0.160
89	7.42	0.37	0.195	(0.087)	0.035	0.160
90	7.50	0.37	0.195	(0.086)	0.035	0.160
91	7.58	0.40	0.213	(0.086)	0.038	0.174
92	7.67	0.40	0.213	(0.085)	0.038	0.174
93	7.75	0.40	0.213	(0.085)	0.038	0.174
94	7.83	0.43	0.230	(0.085)	0.041	0.189
95	7.92	0.43	0.230	(0.084)	0.041	0.189
96	8.00	0.43	0.230	(0.084)	0.041	0.189
97	8.08	0.50	0.266	(0.083)	0.048	0.218
98	8.17	0.50	0.266	(0.083)	0.048	0.218
99	8.25	0.50	0.266	(0.083)	0.048	0.218
100	8.33	0.50	0.266	(0.082)	0.048	0.218
101	8.42	0.50	0.266	(0.082)	0.048	0.218
102	8.50	0.50	0.266	(0.082)	0.048	0.218
103	8.58	0.53	0.283	(0.081)	0.051	0.232
104	8.67	0.53	0.283	(0.081)	0.051	0.232
105	8.75	0.53	0.283	(0.080)	0.051	0.232
106	8.83	0.57	0.301	(0.080)	0.054	0.247
107	8.92	0.57	0.301	(0.080)	0.054	0.247
108	9.00	0.57	0.301	(0.079)	0.054	0.247
109	9.08	0.63	0.336	(0.079)	0.061	0.276
110	9.17	0.63	0.336	(0.078)	0.061	0.276
111	9.25	0.63	0.336	(0.078)	0.061	0.276
112	9.33	0.67	0.354	(0.078)	0.064	0.290
113	9.42	0.67	0.354	(0.077)	0.064	0.290
114	9.50	0.67	0.354	(0.077)	0.064	0.290
115	9.58	0.70	0.372	(0.077)	0.067	0.305
116	9.67	0.70	0.372	(0.076)	0.067	0.305
117	9.75	0.70	0.372	(0.076)	0.067	0.305
118	9.83	0.73	0.390	(0.076)	0.070	0.319
119	9.92	0.73	0.390	(0.075)	0.070	0.319
120	10.00	0.73	0.390	(0.075)	0.070	0.319
121	10.08	0.50	0.266	(0.074)	0.048	0.218
122	10.17	0.50	0.266	(0.074)	0.048	0.218
123	10.25	0.50	0.266	(0.074)	0.048	0.218
124	10.33	0.50	0.266	(0.073)	0.048	0.218
125	10.42	0.50	0.266	(0.073)	0.048	0.218
126	10.50	0.50	0.266	(0.073)	0.048	0.218
127	10.58	0.67	0.354	(0.072)	0.064	0.290
128	10.67	0.67	0.354	(0.072)	0.064	0.290
129	10.75	0.67	0.354	(0.072)	0.064	0.290
130	10.83	0.67	0.354	(0.071)	0.064	0.290
131	10.92	0.67	0.354	(0.071)	0.064	0.290
132	11.00	0.67	0.354	(0.071)	0.064	0.290
133	11.08	0.63	0.336	(0.070)	0.061	0.276
134	11.17	0.63	0.336	(0.070)	0.061	0.276
135	11.25	0.63	0.336	(0.069)	0.061	0.276
136	11.33	0.63	0.336	(0.069)	0.061	0.276

137	11.42	0.63	0.336	(0.069)	0.061	0.276
138	11.50	0.63	0.336	(0.068)	0.061	0.276
139	11.58	0.57	0.301	(0.068)	0.054	0.247
140	11.67	0.57	0.301	(0.068)	0.054	0.247
141	11.75	0.57	0.301	(0.067)	0.054	0.247
142	11.83	0.60	0.319	(0.067)	0.057	0.261
143	11.92	0.60	0.319	(0.067)	0.057	0.261
144	12.00	0.60	0.319	(0.066)	0.057	0.261
145	12.08	0.83	0.443	0.066	(0.080)	0.377
146	12.17	0.83	0.443	0.066	(0.080)	0.377
147	12.25	0.83	0.443	0.065	(0.080)	0.377
148	12.33	0.87	0.460	0.065	(0.083)	0.395
149	12.42	0.87	0.460	0.065	(0.083)	0.396
150	12.50	0.87	0.460	0.064	(0.083)	0.396
151	12.58	0.93	0.496	0.064	(0.089)	0.432
152	12.67	0.93	0.496	0.064	(0.089)	0.432
153	12.75	0.93	0.496	0.064	(0.089)	0.432
154	12.83	0.97	0.514	0.063	(0.092)	0.450
155	12.92	0.97	0.514	0.063	(0.092)	0.451
156	13.00	0.97	0.514	0.063	(0.092)	0.451
157	13.08	1.13	0.602	0.062	(0.108)	0.540
158	13.17	1.13	0.602	0.062	(0.108)	0.540
159	13.25	1.13	0.602	0.062	(0.108)	0.541
160	13.33	1.13	0.602	0.061	(0.108)	0.541
161	13.42	1.13	0.602	0.061	(0.108)	0.541
162	13.50	1.13	0.602	0.061	(0.108)	0.541
163	13.58	0.77	0.407	0.060	(0.073)	0.347
164	13.67	0.77	0.407	0.060	(0.073)	0.347
165	13.75	0.77	0.407	0.060	(0.073)	0.348
166	13.83	0.77	0.407	0.059	(0.073)	0.348
167	13.92	0.77	0.407	0.059	(0.073)	0.348
168	14.00	0.77	0.407	0.059	(0.073)	0.348
169	14.08	0.90	0.478	0.059	(0.086)	0.420
170	14.17	0.90	0.478	0.058	(0.086)	0.420
171	14.25	0.90	0.478	0.058	(0.086)	0.420
172	14.33	0.87	0.460	0.058	(0.083)	0.403
173	14.42	0.87	0.460	0.057	(0.083)	0.403
174	14.50	0.87	0.460	0.057	(0.083)	0.403
175	14.58	0.87	0.460	0.057	(0.083)	0.404
176	14.67	0.87	0.460	0.056	(0.083)	0.404
177	14.75	0.87	0.460	0.056	(0.083)	0.404
178	14.83	0.83	0.443	0.056	(0.080)	0.387
179	14.92	0.83	0.443	0.056	(0.080)	0.387
180	15.00	0.83	0.443	0.055	(0.080)	0.387
181	15.08	0.80	0.425	0.055	(0.077)	0.370
182	15.17	0.80	0.425	0.055	(0.077)	0.370
183	15.25	0.80	0.425	0.054	(0.077)	0.371
184	15.33	0.77	0.407	0.054	(0.073)	0.353
185	15.42	0.77	0.407	0.054	(0.073)	0.353
186	15.50	0.77	0.407	0.054	(0.073)	0.354
187	15.58	0.63	0.336	0.053	(0.061)	0.283
188	15.67	0.63	0.336	0.053	(0.061)	0.283
189	15.75	0.63	0.336	0.053	(0.061)	0.284
190	15.83	0.63	0.336	0.053	(0.061)	0.284
191	15.92	0.63	0.336	0.052	(0.061)	0.284
192	16.00	0.63	0.336	0.052	(0.061)	0.284
193	16.08	0.13	0.071	(0.052)	0.013	0.058
194	16.17	0.13	0.071	(0.051)	0.013	0.058
195	16.25	0.13	0.071	(0.051)	0.013	0.058
196	16.33	0.13	0.071	(0.051)	0.013	0.058

197	16.42	0.13	0.071	(0.051)	0.013	0.058
198	16.50	0.13	0.071	(0.050)	0.013	0.058
199	16.58	0.10	0.053	(0.050)	0.010	0.044
200	16.67	0.10	0.053	(0.050)	0.010	0.044
201	16.75	0.10	0.053	(0.050)	0.010	0.044
202	16.83	0.10	0.053	(0.049)	0.010	0.044
203	16.92	0.10	0.053	(0.049)	0.010	0.044
204	17.00	0.10	0.053	(0.049)	0.010	0.044
205	17.08	0.17	0.089	(0.049)	0.016	0.073
206	17.17	0.17	0.089	(0.048)	0.016	0.073
207	17.25	0.17	0.089	(0.048)	0.016	0.073
208	17.33	0.17	0.089	(0.048)	0.016	0.073
209	17.42	0.17	0.089	(0.048)	0.016	0.073
210	17.50	0.17	0.089	(0.047)	0.016	0.073
211	17.58	0.17	0.089	(0.047)	0.016	0.073
212	17.67	0.17	0.089	(0.047)	0.016	0.073
213	17.75	0.17	0.089	(0.047)	0.016	0.073
214	17.83	0.13	0.071	(0.047)	0.013	0.058
215	17.92	0.13	0.071	(0.046)	0.013	0.058
216	18.00	0.13	0.071	(0.046)	0.013	0.058
217	18.08	0.13	0.071	(0.046)	0.013	0.058
218	18.17	0.13	0.071	(0.046)	0.013	0.058
219	18.25	0.13	0.071	(0.045)	0.013	0.058
220	18.33	0.13	0.071	(0.045)	0.013	0.058
221	18.42	0.13	0.071	(0.045)	0.013	0.058
222	18.50	0.13	0.071	(0.045)	0.013	0.058
223	18.58	0.10	0.053	(0.045)	0.010	0.044
224	18.67	0.10	0.053	(0.044)	0.010	0.044
225	18.75	0.10	0.053	(0.044)	0.010	0.044
226	18.83	0.07	0.035	(0.044)	0.006	0.029
227	18.92	0.07	0.035	(0.044)	0.006	0.029
228	19.00	0.07	0.035	(0.043)	0.006	0.029
229	19.08	0.10	0.053	(0.043)	0.010	0.044
230	19.17	0.10	0.053	(0.043)	0.010	0.044
231	19.25	0.10	0.053	(0.043)	0.010	0.044
232	19.33	0.13	0.071	(0.043)	0.013	0.058
233	19.42	0.13	0.071	(0.042)	0.013	0.058
234	19.50	0.13	0.071	(0.042)	0.013	0.058
235	19.58	0.10	0.053	(0.042)	0.010	0.044
236	19.67	0.10	0.053	(0.042)	0.010	0.044
237	19.75	0.10	0.053	(0.042)	0.010	0.044
238	19.83	0.07	0.035	(0.041)	0.006	0.029
239	19.92	0.07	0.035	(0.041)	0.006	0.029
240	20.00	0.07	0.035	(0.041)	0.006	0.029
241	20.08	0.10	0.053	(0.041)	0.010	0.044
242	20.17	0.10	0.053	(0.041)	0.010	0.044
243	20.25	0.10	0.053	(0.041)	0.010	0.044
244	20.33	0.10	0.053	(0.040)	0.010	0.044
245	20.42	0.10	0.053	(0.040)	0.010	0.044
246	20.50	0.10	0.053	(0.040)	0.010	0.044
247	20.58	0.10	0.053	(0.040)	0.010	0.044
248	20.67	0.10	0.053	(0.040)	0.010	0.044
249	20.75	0.10	0.053	(0.040)	0.010	0.044
250	20.83	0.07	0.035	(0.039)	0.006	0.029
251	20.92	0.07	0.035	(0.039)	0.006	0.029
252	21.00	0.07	0.035	(0.039)	0.006	0.029
253	21.08	0.10	0.053	(0.039)	0.010	0.044
254	21.17	0.10	0.053	(0.039)	0.010	0.044
255	21.25	0.10	0.053	(0.039)	0.010	0.044
256	21.33	0.07	0.035	(0.038)	0.006	0.029

257	21.42	0.07	0.035	(0.038)	0.006	0.029
258	21.50	0.07	0.035	(0.038)	0.006	0.029
259	21.58	0.10	0.053	(0.038)	0.010	0.044
260	21.67	0.10	0.053	(0.038)	0.010	0.044
261	21.75	0.10	0.053	(0.038)	0.010	0.044
262	21.83	0.07	0.035	(0.038)	0.006	0.029
263	21.92	0.07	0.035	(0.038)	0.006	0.029
264	22.00	0.07	0.035	(0.037)	0.006	0.029
265	22.08	0.10	0.053	(0.037)	0.010	0.044
266	22.17	0.10	0.053	(0.037)	0.010	0.044
267	22.25	0.10	0.053	(0.037)	0.010	0.044
268	22.33	0.07	0.035	(0.037)	0.006	0.029
269	22.42	0.07	0.035	(0.037)	0.006	0.029
270	22.50	0.07	0.035	(0.037)	0.006	0.029
271	22.58	0.07	0.035	(0.037)	0.006	0.029
272	22.67	0.07	0.035	(0.036)	0.006	0.029
273	22.75	0.07	0.035	(0.036)	0.006	0.029
274	22.83	0.07	0.035	(0.036)	0.006	0.029
275	22.92	0.07	0.035	(0.036)	0.006	0.029
276	23.00	0.07	0.035	(0.036)	0.006	0.029
277	23.08	0.07	0.035	(0.036)	0.006	0.029
278	23.17	0.07	0.035	(0.036)	0.006	0.029
279	23.25	0.07	0.035	(0.036)	0.006	0.029
280	23.33	0.07	0.035	(0.036)	0.006	0.029
281	23.42	0.07	0.035	(0.036)	0.006	0.029
282	23.50	0.07	0.035	(0.036)	0.006	0.029
283	23.58	0.07	0.035	(0.036)	0.006	0.029
284	23.67	0.07	0.035	(0.036)	0.006	0.029
285	23.75	0.07	0.035	(0.036)	0.006	0.029
286	23.83	0.07	0.035	(0.035)	0.006	0.029
287	23.92	0.07	0.035	(0.035)	0.006	0.029
288	24.00	0.07	0.035	(0.035)	0.006	0.029

(Loss Rate Not Used)

Sum = 100.0 Sum = 44.7

Flood volume = Effective rainfall 3.72(In)
times area 0.8(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.70(In)
Total soil loss = 0.050(Ac.Ft)
Total rainfall = 4.43(In)
Flood volume = 11486.5 Cubic Feet
Total soil loss = 2174.3 Cubic Feet

Peak flow rate of this hydrograph = 0.460(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q	|	|	|	|
0+10	0.0001	0.02	Q	|	|	|	|
0+15	0.0003	0.02	Q	|	|	|	|
0+20	0.0004	0.02	Q	|	|	|	|
0+25	0.0007	0.03	Q	|	|	|	|
0+30	0.0009	0.03	Q	|	|	|	|
0+35	0.0011	0.04	Q	|	|	|	|

0+40	0.0014	0.04	Q	|	|	|	|
0+45	0.0016	0.04	Q	|	|	|	|
0+50	0.0019	0.04	Q	|	|	|	|
0+55	0.0022	0.05	Q	|	|	|	|
1+ 0	0.0025	0.05	Q	|	|	|	|
1+ 5	0.0029	0.05	Q	|	|	|	|
1+10	0.0031	0.04	Q	|	|	|	|
1+15	0.0034	0.04	Q	|	|	|	|
1+20	0.0037	0.04	Q	|	|	|	|
1+25	0.0039	0.04	Q	|	|	|	|
1+30	0.0042	0.04	Q	|	|	|	|
1+35	0.0045	0.04	Q	|	|	|	|
1+40	0.0047	0.04	Q	|	|	|	|
1+45	0.0050	0.04	Q	|	|	|	|
1+50	0.0052	0.04	Q	|	|	|	|
1+55	0.0056	0.05	Q	|	|	|	|
2+ 0	0.0059	0.05	Q	|	|	|	|
2+ 5	0.0062	0.05	Q	|	|	|	|
2+10	0.0066	0.05	Q	|	|	|	|
2+15	0.0069	0.05	QV	|	|	|	|
2+20	0.0072	0.05	QV	|	|	|	|
2+25	0.0076	0.05	QV	|	|	|	|
2+30	0.0079	0.05	QV	|	|	|	|
2+35	0.0083	0.05	QV	|	|	|	|
2+40	0.0087	0.06	QV	|	|	|	|
2+45	0.0091	0.06	QV	|	|	|	|
2+50	0.0095	0.06	QV	|	|	|	|
2+55	0.0099	0.06	QV	|	|	|	|
3+ 0	0.0104	0.06	QV	|	|	|	|
3+ 5	0.0108	0.06	QV	|	|	|	|
3+10	0.0112	0.06	QV	|	|	|	|
3+15	0.0116	0.06	QV	|	|	|	|
3+20	0.0121	0.06	QV	|	|	|	|
3+25	0.0125	0.06	QV	|	|	|	|
3+30	0.0129	0.06	QV	|	|	|	|
3+35	0.0133	0.06	Q V	|	|	|	|
3+40	0.0138	0.06	Q V	|	|	|	|
3+45	0.0142	0.06	Q V	|	|	|	|
3+50	0.0146	0.06	Q V	|	|	|	|
3+55	0.0151	0.07	Q V	|	|	|	|
4+ 0	0.0156	0.07	Q V	|	|	|	|
4+ 5	0.0161	0.07	Q V	|	|	|	|
4+10	0.0166	0.07	Q V	|	|	|	|
4+15	0.0172	0.07	Q V	|	|	|	|
4+20	0.0177	0.08	Q V	|	|	|	|
4+25	0.0182	0.08	Q V	|	|	|	|
4+30	0.0188	0.08	Q V	|	|	|	|
4+35	0.0194	0.09	Q V	|	|	|	|
4+40	0.0200	0.09	Q V	|	|	|	|
4+45	0.0206	0.09	Q V	|	|	|	|
4+50	0.0212	0.09	Q V	|	|	|	|
4+55	0.0219	0.09	Q V	|	|	|	|
5+ 0	0.0225	0.10	Q V	|	|	|	|
5+ 5	0.0232	0.09	Q V	|	|	|	|
5+10	0.0238	0.08	Q V	|	|	|	|
5+15	0.0243	0.08	Q V	|	|	|	|
5+20	0.0249	0.08	Q V	|	|	|	|
5+25	0.0254	0.08	Q V	|	|	|	|
5+30	0.0260	0.09	Q V	|	|	|	|
5+35	0.0266	0.09	Q V	|	|	|	|

5+40	0.0273	0.09	Q	V	|	|	|	|
5+45	0.0279	0.10	Q	V	|	|	|	|
5+50	0.0286	0.10	Q	V	|	|	|	|
5+55	0.0293	0.10	Q	V	|	|	|	|
6+ 0	0.0300	0.10	Q	V	|	|	|	|
6+ 5	0.0307	0.10	Q	V	|	|	|	|
6+10	0.0314	0.11	Q	V	|	|	|	|
6+15	0.0322	0.11	Q	V	|	|	|	|
6+20	0.0329	0.11	Q	V	|	|	|	|
6+25	0.0337	0.11	Q	V	|	|	|	|
6+30	0.0345	0.11	Q	V	|	|	|	|
6+35	0.0353	0.11	Q	V	|	|	|	|
6+40	0.0361	0.12	Q	V	|	|	|	|
6+45	0.0369	0.12	Q	V	|	|	|	|
6+50	0.0378	0.12	Q	V	|	|	|	|
6+55	0.0386	0.12	Q	V	|	|	|	|
7+ 0	0.0395	0.12	Q	V	|	|	|	|
7+ 5	0.0403	0.12	Q	V	|	|	|	|
7+10	0.0412	0.12	Q	V	|	|	|	|
7+15	0.0420	0.12	Q	V	|	|	|	|
7+20	0.0429	0.13	Q	V	|	|	|	|
7+25	0.0438	0.13	Q	V	|	|	|	|
7+30	0.0447	0.13	Q	V	|	|	|	|
7+35	0.0457	0.14	Q	V	|	|	|	|
7+40	0.0467	0.14	Q	V	|	|	|	|
7+45	0.0477	0.15	Q	V	|	|	|	|
7+50	0.0487	0.15	Q	V	|	|	|	|
7+55	0.0498	0.16	Q	V	|	|	|	|
8+ 0	0.0509	0.16	Q	V	|	|	|	|
8+ 5	0.0520	0.16	Q	V	|	|	|	|
8+10	0.0532	0.18	Q	V	|	|	|	|
8+15	0.0545	0.18	Q	V	|	|	|	|
8+20	0.0558	0.18	Q	V	|	|	|	|
8+25	0.0570	0.18	Q	V	|	|	|	|
8+30	0.0583	0.19	Q	V	|	|	|	|
8+35	0.0596	0.19	Q	V	|	|	|	|
8+40	0.0609	0.19	Q	V	|	|	|	|
8+45	0.0623	0.20	Q	V	|	|	|	|
8+50	0.0637	0.20	Q	V	|	|	|	|
8+55	0.0651	0.21	Q	V	|	|	|	|
9+ 0	0.0665	0.21	Q	V	|	|	|	|
9+ 5	0.0680	0.21	Q	V	|	|	|	|
9+10	0.0696	0.23	Q	V	|	|	|	|
9+15	0.0712	0.23	Q	V	|	|	|	|
9+20	0.0728	0.24	Q	V	|	|	|	|
9+25	0.0744	0.24	Q	V	|	|	|	|
9+30	0.0761	0.25	Q	V	|	|	|	|
9+35	0.0778	0.25	Q	V	|	|	|	|
9+40	0.0796	0.26	| Q	V	|	|	|	|
9+45	0.0814	0.26	| Q	V	|	|	|	|
9+50	0.0832	0.26	| Q	V	|	|	|	|
9+55	0.0850	0.27	| Q	V	|	|	|	|
10+ 0	0.0869	0.27	| Q	V	|	|	|	|
10+ 5	0.0887	0.26	| Q	V	|	|	|	|
10+10	0.0902	0.22	Q	V	|	|	|	|
10+15	0.0916	0.20	Q	V	|	|	|	|
10+20	0.0929	0.20	Q	V	|	|	|	|
10+25	0.0943	0.19	Q	V	|	|	|	|
10+30	0.0956	0.19	Q	V	|	|	|	|
10+35	0.0969	0.20	Q	V	|	|	|	|

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10+40       0.0985      0.23  Q          |   V     |          |          |
10+45       0.1001      0.24  Q          |    V    |          |          |
10+50       0.1018      0.24  Q          |    V    |          |          |
10+55       0.1035      0.24  Q          |    V    |          |          |
11+ 0       0.1052      0.25  Q          |    V    |          |          |
11+ 5       0.1069      0.25  Q          |     V   |          |          |
11+10       0.1085      0.24  Q          |     V   |          |          |
11+15       0.1102      0.24  Q          |     V   |          |          |
11+20       0.1118      0.24  Q          |     V   |          |          |
11+25       0.1134      0.24  Q          |      V  |          |          |
11+30       0.1151      0.24  Q          |      V  |          |          |
11+35       0.1167      0.23  Q          |      V  |          |          |
11+40       0.1182      0.22  Q          |      V  |          |          |
11+45       0.1197      0.22  Q          |       V |          |          |
11+50       0.1212      0.22  Q          |       V |          |          |
11+55       0.1227      0.22  Q          |       V |          |          |
12+ 0       0.1242      0.22  Q          |       V |          |          |
12+ 5       0.1259      0.24  Q          |        V|          |          |
12+10       0.1279      0.29  |Q         |        V|          |          |
12+15       0.1299      0.30  |Q         |        V|          |          |
12+20       0.1321      0.31  |Q         |         V          |          |
12+25       0.1344      0.33  |Q         |         V          |          |
12+30       0.1366      0.33  |Q         |         V          |          |
12+35       0.1390      0.34  |Q         |          |V        |          |
12+40       0.1414      0.36  |Q         |          |V        |          |
12+45       0.1439      0.36  |Q         |          |V        |          |
12+50       0.1465      0.37  |Q         |          | V       |          |
12+55       0.1491      0.38  |Q         |          | V       |          |
13+ 0       0.1517      0.38  |Q         |          |  V      |          |
13+ 5       0.1544      0.40  |Q         |          |  V      |          |
13+10       0.1574      0.43  |Q         |          |  V      |          |
13+15       0.1605      0.45  |Q         |          |   V     |          |
13+20       0.1636      0.45  |Q         |          |   V     |          |
13+25       0.1668      0.46  |Q         |          |    V    |          |
13+30       0.1700      0.46  |Q         |          |    V    |          |
13+35       0.1730      0.43  |Q         |          |     V   |          |
13+40       0.1754      0.36  |Q         |          |     V   |          |
13+45       0.1777      0.33  |Q         |          |     V   |          |
13+50       0.1799      0.32  |Q         |          |      V  |          |
13+55       0.1820      0.31  |Q         |          |      V  |          |
14+ 0       0.1841      0.31  |Q         |          |      V  |          |
14+ 5       0.1863      0.31  |Q         |          |       V |          |
14+10       0.1886      0.34  |Q         |          |       V |          |
14+15       0.1910      0.35  |Q         |          |       V |          |
14+20       0.1934      0.35  |Q         |          |        V|          |
14+25       0.1958      0.35  |Q         |          |        V|          |
14+30       0.1982      0.35  |Q         |          |         V          |
14+35       0.2006      0.35  |Q         |          |         V          |
14+40       0.2029      0.35  |Q         |          |         V          |
14+45       0.2053      0.35  |Q         |          |          |V        |
14+50       0.2077      0.34  |Q         |          |          |V        |
14+55       0.2100      0.34  |Q         |          |          |V        |
15+ 0       0.2123      0.33  |Q         |          |          | V       |
15+ 5       0.2146      0.33  |Q         |          |          | V       |
15+10       0.2168      0.32  |Q         |          |          | V       |
15+15       0.2190      0.32  |Q         |          |          |  V      |
15+20       0.2212      0.32  |Q         |          |          |  V      |
15+25       0.2234      0.31  |Q         |          |          |  V      |
15+30       0.2255      0.31  |Q         |          |          |   V     |
15+35       0.2275      0.30  |Q         |          |          |   V     |
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15+40       0.2293      0.27  |Q        |          |          |   V      |
15+45       0.2311      0.26  |Q        |          |          |    V     |
15+50       0.2328      0.25  |Q        |          |          |    V     |
15+55       0.2345      0.25  Q         |          |          |    V     |
16+ 0       0.2362      0.25  Q         |          |          |    V     |
16+ 5       0.2377      0.21  Q         |          |          |     V    |
16+10       0.2385      0.12  Q         |          |          |     V    |
16+15       0.2391      0.09  Q         |          |          |     V    |
16+20       0.2396      0.07  Q         |          |          |     V    |
16+25       0.2400      0.06  Q         |          |          |     V    |
16+30       0.2404      0.06  Q         |          |          |     V    |
16+35       0.2408      0.05  Q         |          |          |     V    |
16+40       0.2411      0.04  Q         |          |          |     V    |
16+45       0.2414      0.04  Q         |          |          |     V    |
16+50       0.2417      0.04  Q         |          |          |     V    |
16+55       0.2419      0.04  Q         |          |          |     V    |
17+ 0       0.2422      0.04  Q         |          |          |     V    |
17+ 5       0.2425      0.04  Q         |          |          |     V    |
17+10       0.2428      0.05  Q         |          |          |     V    |
17+15       0.2432      0.06  Q         |          |          |     V    |
17+20       0.2436      0.06  Q         |          |          |     V    |
17+25       0.2441      0.06  Q         |          |          |      V   |
17+30       0.2445      0.06  Q         |          |          |      V   |
17+35       0.2449      0.06  Q         |          |          |      V   |
17+40       0.2453      0.06  Q         |          |          |      V   |
17+45       0.2458      0.06  Q         |          |          |      V   |
17+50       0.2462      0.06  Q         |          |          |      V   |
17+55       0.2465      0.05  Q         |          |          |      V   |
18+ 0       0.2469      0.05  Q         |          |          |      V   |
18+ 5       0.2473      0.05  Q         |          |          |      V   |
18+10       0.2476      0.05  Q         |          |          |      V   |
18+15       0.2479      0.05  Q         |          |          |      V   |
18+20       0.2483      0.05  Q         |          |          |      V   |
18+25       0.2486      0.05  Q         |          |          |      V   |
18+30       0.2490      0.05  Q         |          |          |      V   |
18+35       0.2493      0.05  Q         |          |          |      V   |
18+40       0.2496      0.04  Q         |          |          |      V   |
18+45       0.2499      0.04  Q         |          |          |      V   |
18+50       0.2501      0.04  Q         |          |          |      V   |
18+55       0.2503      0.03  Q         |          |          |      V   |
19+ 0       0.2505      0.03  Q         |          |          |       V  |
19+ 5       0.2507      0.03  Q         |          |          |       V  |
19+10       0.2510      0.03  Q         |          |          |       V  |
19+15       0.2512      0.04  Q         |          |          |       V  |
19+20       0.2515      0.04  Q         |          |          |       V  |
19+25       0.2518      0.04  Q         |          |          |       V  |
19+30       0.2521      0.05  Q         |          |          |       V  |
19+35       0.2524      0.05  Q         |          |          |       V  |
19+40       0.2527      0.04  Q         |          |          |       V  |
19+45       0.2530      0.04  Q         |          |          |       V  |
19+50       0.2532      0.04  Q         |          |          |       V  |
19+55       0.2534      0.03  Q         |          |          |       V  |
20+ 0       0.2536      0.03  Q         |          |          |       V  |
20+ 5       0.2538      0.03  Q         |          |          |       V  |
20+10       0.2540      0.03  Q         |          |          |       V  |
20+15       0.2543      0.04  Q         |          |          |       V  |
20+20       0.2545      0.04  Q         |          |          |       V  |
20+25       0.2548      0.04  Q         |          |          |       V  |
20+30       0.2550      0.04  Q         |          |          |      V   |
20+35       0.2553      0.04  Q         |          |          |       V  |
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20+40	0.2556	0.04	Q	|	|	|	V |
20+45	0.2558	0.04	Q	|	|	|	V |
20+50	0.2561	0.04	Q	|	|	|	V |
20+55	0.2563	0.03	Q	|	|	|	V |
21+ 0	0.2564	0.03	Q	|	|	|	V |
21+ 5	0.2566	0.03	Q	|	|	|	V |
21+10	0.2569	0.03	Q	|	|	|	V |
21+15	0.2571	0.04	Q	|	|	|	V|
21+20	0.2574	0.03	Q	|	|	|	V|
21+25	0.2575	0.03	Q	|	|	|	V|
21+30	0.2577	0.03	Q	|	|	|	V|
21+35	0.2579	0.03	Q	|	|	|	V|
21+40	0.2582	0.03	Q	|	|	|	V|
21+45	0.2584	0.04	Q	|	|	|	V|
21+50	0.2586	0.03	Q	|	|	|	V|
21+55	0.2588	0.03	Q	|	|	|	V|
22+ 0	0.2590	0.03	Q	|	|	|	V|
22+ 5	0.2592	0.03	Q	|	|	|	V|
22+10	0.2594	0.03	Q	|	|	|	V|
22+15	0.2597	0.04	Q	|	|	|	V|
22+20	0.2599	0.03	Q	|	|	|	V|
22+25	0.2601	0.03	Q	|	|	|	V|
22+30	0.2603	0.03	Q	|	|	|	V|
22+35	0.2605	0.03	Q	|	|	|	V|
22+40	0.2607	0.03	Q	|	|	|	V|
22+45	0.2608	0.03	Q	|	|	|	V|
22+50	0.2610	0.03	Q	|	|	|	V|
22+55	0.2612	0.03	Q	|	|	|	V|
23+ 0	0.2614	0.02	Q	|	|	|	V|
23+ 5	0.2615	0.02	Q	|	|	|	V|
23+10	0.2617	0.02	Q	|	|	|	V|
23+15	0.2619	0.02	Q	|	|	|	V|
23+20	0.2620	0.02	Q	|	|	|	V|
23+25	0.2622	0.02	Q	|	|	|	V|
23+30	0.2624	0.02	Q	|	|	|	V|
23+35	0.2626	0.02	Q	|	|	|	V|
23+40	0.2627	0.02	Q	|	|	|	V|
23+45	0.2629	0.02	Q	|	|	|	V|
23+50	0.2631	0.02	Q	|	|	|	V|
23+55	0.2632	0.02	Q	|	|	|	V|
24+ 0	0.2634	0.02	Q	|	|	|	V|
24+ 5	0.2636	0.02	Q	|	|	|	V|
24+10	0.2636	0.01	Q	|	|	|	V|
24+15	0.2636	0.00	Q	|	|	|	V|
24+20	0.2637	0.00	Q	|	|	|	V|
24+25	0.2637	0.00	Q	|	|	|	V|
24+30	0.2637	0.00	Q	|	|	|	V|
24+35	0.2637	0.00	Q	|	|	|	V|
24+40	0.2637	0.00	Q	|	|	|	V

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

Study date 05/30/23 File: 102410.out

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

Program License Serial Number 6522

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

English Units used in output format

1512-0001 BEAUMONT VILLAGE
PROPOSED CONDITION
10-YEAR, 24-HOUR STORM EVENT
AREA 4

Drainage Area = 0.71(Ac.) = 0.001 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.71(Ac.) = 0.001 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.065 Hr.
Lag time = 3.92 Min.
25% of lag time = 0.98 Min.
40% of lag time = 1.57 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]
0.71	2.79	1.98

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.71	6.77	4.81

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.790(In)
Area Averaged 100-Year Rainfall = 6.770(In)

Point rain (area averaged) = 4.427(In)
Areal adjustment factor = 100.00 %

Adjusted average point rain = 4.427(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.710	69.00	0.900

Total Area Entered = 0.71(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) = 0.180

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	127.421	27.309	0.195
2	0.167	254.842	48.420	0.346
3	0.250	382.263	12.697	0.091
4	0.333	509.684	5.699	0.041
5	0.417	637.105	3.149	0.023
6	0.500	764.526	1.732	0.012
7	0.583	891.947	0.994	0.007
			Sum = 100.000 Sum=	0.716

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	0.035	(0.126)	0.006	0.029
2	0.17	0.07	0.035	(0.125)	0.006	0.029
3	0.25	0.07	0.035	(0.125)	0.006	0.029
4	0.33	0.10	0.053	(0.124)	0.010	0.044
5	0.42	0.10	0.053	(0.124)	0.010	0.044
6	0.50	0.10	0.053	(0.123)	0.010	0.044
7	0.58	0.10	0.053	(0.123)	0.010	0.044
8	0.67	0.10	0.053	(0.122)	0.010	0.044
9	0.75	0.10	0.053	(0.122)	0.010	0.044
10	0.83	0.13	0.071	(0.121)	0.013	0.058
11	0.92	0.13	0.071	(0.121)	0.013	0.058
12	1.00	0.13	0.071	(0.120)	0.013	0.058
13	1.08	0.10	0.053	(0.120)	0.010	0.044
14	1.17	0.10	0.053	(0.119)	0.010	0.044
15	1.25	0.10	0.053	(0.119)	0.010	0.044
16	1.33	0.10	0.053	(0.118)	0.010	0.044
17	1.42	0.10	0.053	(0.118)	0.010	0.044
18	1.50	0.10	0.053	(0.117)	0.010	0.044

19	1.58	0.10	0.053	(0.117)	0.010	0.044
20	1.67	0.10	0.053	(0.117)	0.010	0.044
21	1.75	0.10	0.053	(0.116)	0.010	0.044
22	1.83	0.13	0.071	(0.116)	0.013	0.058
23	1.92	0.13	0.071	(0.115)	0.013	0.058
24	2.00	0.13	0.071	(0.115)	0.013	0.058
25	2.08	0.13	0.071	(0.114)	0.013	0.058
26	2.17	0.13	0.071	(0.114)	0.013	0.058
27	2.25	0.13	0.071	(0.113)	0.013	0.058
28	2.33	0.13	0.071	(0.113)	0.013	0.058
29	2.42	0.13	0.071	(0.112)	0.013	0.058
30	2.50	0.13	0.071	(0.112)	0.013	0.058
31	2.58	0.17	0.089	(0.111)	0.016	0.073
32	2.67	0.17	0.089	(0.111)	0.016	0.073
33	2.75	0.17	0.089	(0.110)	0.016	0.073
34	2.83	0.17	0.089	(0.110)	0.016	0.073
35	2.92	0.17	0.089	(0.110)	0.016	0.073
36	3.00	0.17	0.089	(0.109)	0.016	0.073
37	3.08	0.17	0.089	(0.109)	0.016	0.073
38	3.17	0.17	0.089	(0.108)	0.016	0.073
39	3.25	0.17	0.089	(0.108)	0.016	0.073
40	3.33	0.17	0.089	(0.107)	0.016	0.073
41	3.42	0.17	0.089	(0.107)	0.016	0.073
42	3.50	0.17	0.089	(0.106)	0.016	0.073
43	3.58	0.17	0.089	(0.106)	0.016	0.073
44	3.67	0.17	0.089	(0.106)	0.016	0.073
45	3.75	0.17	0.089	(0.105)	0.016	0.073
46	3.83	0.20	0.106	(0.105)	0.019	0.087
47	3.92	0.20	0.106	(0.104)	0.019	0.087
48	4.00	0.20	0.106	(0.104)	0.019	0.087
49	4.08	0.20	0.106	(0.103)	0.019	0.087
50	4.17	0.20	0.106	(0.103)	0.019	0.087
51	4.25	0.20	0.106	(0.102)	0.019	0.087
52	4.33	0.23	0.124	(0.102)	0.022	0.102
53	4.42	0.23	0.124	(0.102)	0.022	0.102
54	4.50	0.23	0.124	(0.101)	0.022	0.102
55	4.58	0.23	0.124	(0.101)	0.022	0.102
56	4.67	0.23	0.124	(0.100)	0.022	0.102
57	4.75	0.23	0.124	(0.100)	0.022	0.102
58	4.83	0.27	0.142	(0.099)	0.026	0.116
59	4.92	0.27	0.142	(0.099)	0.026	0.116
60	5.00	0.27	0.142	(0.099)	0.026	0.116
61	5.08	0.20	0.106	(0.098)	0.019	0.087
62	5.17	0.20	0.106	(0.098)	0.019	0.087
63	5.25	0.20	0.106	(0.097)	0.019	0.087
64	5.33	0.23	0.124	(0.097)	0.022	0.102
65	5.42	0.23	0.124	(0.096)	0.022	0.102
66	5.50	0.23	0.124	(0.096)	0.022	0.102
67	5.58	0.27	0.142	(0.096)	0.026	0.116
68	5.67	0.27	0.142	(0.095)	0.026	0.116
69	5.75	0.27	0.142	(0.095)	0.026	0.116
70	5.83	0.27	0.142	(0.094)	0.026	0.116
71	5.92	0.27	0.142	(0.094)	0.026	0.116
72	6.00	0.27	0.142	(0.093)	0.026	0.116
73	6.08	0.30	0.159	(0.093)	0.029	0.131
74	6.17	0.30	0.159	(0.093)	0.029	0.131
75	6.25	0.30	0.159	(0.092)	0.029	0.131
76	6.33	0.30	0.159	(0.092)	0.029	0.131
77	6.42	0.30	0.159	(0.091)	0.029	0.131
78	6.50	0.30	0.159	(0.091)	0.029	0.131

79	6.58	0.33	0.177	(0.091)	0.032	0.145
80	6.67	0.33	0.177	(0.090)	0.032	0.145
81	6.75	0.33	0.177	(0.090)	0.032	0.145
82	6.83	0.33	0.177	(0.089)	0.032	0.145
83	6.92	0.33	0.177	(0.089)	0.032	0.145
84	7.00	0.33	0.177	(0.089)	0.032	0.145
85	7.08	0.33	0.177	(0.088)	0.032	0.145
86	7.17	0.33	0.177	(0.088)	0.032	0.145
87	7.25	0.33	0.177	(0.087)	0.032	0.145
88	7.33	0.37	0.195	(0.087)	0.035	0.160
89	7.42	0.37	0.195	(0.087)	0.035	0.160
90	7.50	0.37	0.195	(0.086)	0.035	0.160
91	7.58	0.40	0.213	(0.086)	0.038	0.174
92	7.67	0.40	0.213	(0.085)	0.038	0.174
93	7.75	0.40	0.213	(0.085)	0.038	0.174
94	7.83	0.43	0.230	(0.085)	0.041	0.189
95	7.92	0.43	0.230	(0.084)	0.041	0.189
96	8.00	0.43	0.230	(0.084)	0.041	0.189
97	8.08	0.50	0.266	(0.083)	0.048	0.218
98	8.17	0.50	0.266	(0.083)	0.048	0.218
99	8.25	0.50	0.266	(0.083)	0.048	0.218
100	8.33	0.50	0.266	(0.082)	0.048	0.218
101	8.42	0.50	0.266	(0.082)	0.048	0.218
102	8.50	0.50	0.266	(0.082)	0.048	0.218
103	8.58	0.53	0.283	(0.081)	0.051	0.232
104	8.67	0.53	0.283	(0.081)	0.051	0.232
105	8.75	0.53	0.283	(0.080)	0.051	0.232
106	8.83	0.57	0.301	(0.080)	0.054	0.247
107	8.92	0.57	0.301	(0.080)	0.054	0.247
108	9.00	0.57	0.301	(0.079)	0.054	0.247
109	9.08	0.63	0.336	(0.079)	0.061	0.276
110	9.17	0.63	0.336	(0.078)	0.061	0.276
111	9.25	0.63	0.336	(0.078)	0.061	0.276
112	9.33	0.67	0.354	(0.078)	0.064	0.290
113	9.42	0.67	0.354	(0.077)	0.064	0.290
114	9.50	0.67	0.354	(0.077)	0.064	0.290
115	9.58	0.70	0.372	(0.077)	0.067	0.305
116	9.67	0.70	0.372	(0.076)	0.067	0.305
117	9.75	0.70	0.372	(0.076)	0.067	0.305
118	9.83	0.73	0.390	(0.076)	0.070	0.319
119	9.92	0.73	0.390	(0.075)	0.070	0.319
120	10.00	0.73	0.390	(0.075)	0.070	0.319
121	10.08	0.50	0.266	(0.074)	0.048	0.218
122	10.17	0.50	0.266	(0.074)	0.048	0.218
123	10.25	0.50	0.266	(0.074)	0.048	0.218
124	10.33	0.50	0.266	(0.073)	0.048	0.218
125	10.42	0.50	0.266	(0.073)	0.048	0.218
126	10.50	0.50	0.266	(0.073)	0.048	0.218
127	10.58	0.67	0.354	(0.072)	0.064	0.290
128	10.67	0.67	0.354	(0.072)	0.064	0.290
129	10.75	0.67	0.354	(0.072)	0.064	0.290
130	10.83	0.67	0.354	(0.071)	0.064	0.290
131	10.92	0.67	0.354	(0.071)	0.064	0.290
132	11.00	0.67	0.354	(0.071)	0.064	0.290
133	11.08	0.63	0.336	(0.070)	0.061	0.276
134	11.17	0.63	0.336	(0.070)	0.061	0.276
135	11.25	0.63	0.336	(0.069)	0.061	0.276
136	11.33	0.63	0.336	(0.069)	0.061	0.276
137	11.42	0.63	0.336	(0.069)	0.061	0.276
138	11.50	0.63	0.336	(0.068)	0.061	0.276

139	11.58	0.57	0.301	(0.068)	0.054	0.247
140	11.67	0.57	0.301	(0.068)	0.054	0.247
141	11.75	0.57	0.301	(0.067)	0.054	0.247
142	11.83	0.60	0.319	(0.067)	0.057	0.261
143	11.92	0.60	0.319	(0.067)	0.057	0.261
144	12.00	0.60	0.319	(0.066)	0.057	0.261
145	12.08	0.83	0.443	0.066	(0.080)	0.377
146	12.17	0.83	0.443	0.066	(0.080)	0.377
147	12.25	0.83	0.443	0.065	(0.080)	0.377
148	12.33	0.87	0.460	0.065	(0.083)	0.395
149	12.42	0.87	0.460	0.065	(0.083)	0.396
150	12.50	0.87	0.460	0.064	(0.083)	0.396
151	12.58	0.93	0.496	0.064	(0.089)	0.432
152	12.67	0.93	0.496	0.064	(0.089)	0.432
153	12.75	0.93	0.496	0.064	(0.089)	0.432
154	12.83	0.97	0.514	0.063	(0.092)	0.450
155	12.92	0.97	0.514	0.063	(0.092)	0.451
156	13.00	0.97	0.514	0.063	(0.092)	0.451
157	13.08	1.13	0.602	0.062	(0.108)	0.540
158	13.17	1.13	0.602	0.062	(0.108)	0.540
159	13.25	1.13	0.602	0.062	(0.108)	0.541
160	13.33	1.13	0.602	0.061	(0.108)	0.541
161	13.42	1.13	0.602	0.061	(0.108)	0.541
162	13.50	1.13	0.602	0.061	(0.108)	0.541
163	13.58	0.77	0.407	0.060	(0.073)	0.347
164	13.67	0.77	0.407	0.060	(0.073)	0.347
165	13.75	0.77	0.407	0.060	(0.073)	0.348
166	13.83	0.77	0.407	0.059	(0.073)	0.348
167	13.92	0.77	0.407	0.059	(0.073)	0.348
168	14.00	0.77	0.407	0.059	(0.073)	0.348
169	14.08	0.90	0.478	0.059	(0.086)	0.420
170	14.17	0.90	0.478	0.058	(0.086)	0.420
171	14.25	0.90	0.478	0.058	(0.086)	0.420
172	14.33	0.87	0.460	0.058	(0.083)	0.403
173	14.42	0.87	0.460	0.057	(0.083)	0.403
174	14.50	0.87	0.460	0.057	(0.083)	0.403
175	14.58	0.87	0.460	0.057	(0.083)	0.404
176	14.67	0.87	0.460	0.056	(0.083)	0.404
177	14.75	0.87	0.460	0.056	(0.083)	0.404
178	14.83	0.83	0.443	0.056	(0.080)	0.387
179	14.92	0.83	0.443	0.056	(0.080)	0.387
180	15.00	0.83	0.443	0.055	(0.080)	0.387
181	15.08	0.80	0.425	0.055	(0.077)	0.370
182	15.17	0.80	0.425	0.055	(0.077)	0.370
183	15.25	0.80	0.425	0.054	(0.077)	0.371
184	15.33	0.77	0.407	0.054	(0.073)	0.353
185	15.42	0.77	0.407	0.054	(0.073)	0.353
186	15.50	0.77	0.407	0.054	(0.073)	0.354
187	15.58	0.63	0.336	0.053	(0.061)	0.283
188	15.67	0.63	0.336	0.053	(0.061)	0.283
189	15.75	0.63	0.336	0.053	(0.061)	0.284
190	15.83	0.63	0.336	0.053	(0.061)	0.284
191	15.92	0.63	0.336	0.052	(0.061)	0.284
192	16.00	0.63	0.336	0.052	(0.061)	0.284
193	16.08	0.13	0.071	(0.052)	0.013	0.058
194	16.17	0.13	0.071	(0.051)	0.013	0.058
195	16.25	0.13	0.071	(0.051)	0.013	0.058
196	16.33	0.13	0.071	(0.051)	0.013	0.058
197	16.42	0.13	0.071	(0.051)	0.013	0.058
198	16.50	0.13	0.071	(0.050)	0.013	0.058

199	16.58	0.10	0.053	(0.050)	0.010	0.044
200	16.67	0.10	0.053	(0.050)	0.010	0.044
201	16.75	0.10	0.053	(0.050)	0.010	0.044
202	16.83	0.10	0.053	(0.049)	0.010	0.044
203	16.92	0.10	0.053	(0.049)	0.010	0.044
204	17.00	0.10	0.053	(0.049)	0.010	0.044
205	17.08	0.17	0.089	(0.049)	0.016	0.073
206	17.17	0.17	0.089	(0.048)	0.016	0.073
207	17.25	0.17	0.089	(0.048)	0.016	0.073
208	17.33	0.17	0.089	(0.048)	0.016	0.073
209	17.42	0.17	0.089	(0.048)	0.016	0.073
210	17.50	0.17	0.089	(0.047)	0.016	0.073
211	17.58	0.17	0.089	(0.047)	0.016	0.073
212	17.67	0.17	0.089	(0.047)	0.016	0.073
213	17.75	0.17	0.089	(0.047)	0.016	0.073
214	17.83	0.13	0.071	(0.047)	0.013	0.058
215	17.92	0.13	0.071	(0.046)	0.013	0.058
216	18.00	0.13	0.071	(0.046)	0.013	0.058
217	18.08	0.13	0.071	(0.046)	0.013	0.058
218	18.17	0.13	0.071	(0.046)	0.013	0.058
219	18.25	0.13	0.071	(0.045)	0.013	0.058
220	18.33	0.13	0.071	(0.045)	0.013	0.058
221	18.42	0.13	0.071	(0.045)	0.013	0.058
222	18.50	0.13	0.071	(0.045)	0.013	0.058
223	18.58	0.10	0.053	(0.045)	0.010	0.044
224	18.67	0.10	0.053	(0.044)	0.010	0.044
225	18.75	0.10	0.053	(0.044)	0.010	0.044
226	18.83	0.07	0.035	(0.044)	0.006	0.029
227	18.92	0.07	0.035	(0.044)	0.006	0.029
228	19.00	0.07	0.035	(0.043)	0.006	0.029
229	19.08	0.10	0.053	(0.043)	0.010	0.044
230	19.17	0.10	0.053	(0.043)	0.010	0.044
231	19.25	0.10	0.053	(0.043)	0.010	0.044
232	19.33	0.13	0.071	(0.043)	0.013	0.058
233	19.42	0.13	0.071	(0.042)	0.013	0.058
234	19.50	0.13	0.071	(0.042)	0.013	0.058
235	19.58	0.10	0.053	(0.042)	0.010	0.044
236	19.67	0.10	0.053	(0.042)	0.010	0.044
237	19.75	0.10	0.053	(0.042)	0.010	0.044
238	19.83	0.07	0.035	(0.041)	0.006	0.029
239	19.92	0.07	0.035	(0.041)	0.006	0.029
240	20.00	0.07	0.035	(0.041)	0.006	0.029
241	20.08	0.10	0.053	(0.041)	0.010	0.044
242	20.17	0.10	0.053	(0.041)	0.010	0.044
243	20.25	0.10	0.053	(0.041)	0.010	0.044
244	20.33	0.10	0.053	(0.040)	0.010	0.044
245	20.42	0.10	0.053	(0.040)	0.010	0.044
246	20.50	0.10	0.053	(0.040)	0.010	0.044
247	20.58	0.10	0.053	(0.040)	0.010	0.044
248	20.67	0.10	0.053	(0.040)	0.010	0.044
249	20.75	0.10	0.053	(0.040)	0.010	0.044
250	20.83	0.07	0.035	(0.039)	0.006	0.029
251	20.92	0.07	0.035	(0.039)	0.006	0.029
252	21.00	0.07	0.035	(0.039)	0.006	0.029
253	21.08	0.10	0.053	(0.039)	0.010	0.044
254	21.17	0.10	0.053	(0.039)	0.010	0.044
255	21.25	0.10	0.053	(0.039)	0.010	0.044
256	21.33	0.07	0.035	(0.038)	0.006	0.029
257	21.42	0.07	0.035	(0.038)	0.006	0.029
258	21.50	0.07	0.035	(0.038)	0.006	0.029

259	21.58	0.10	0.053	(0.038)	0.010	0.044
260	21.67	0.10	0.053	(0.038)	0.010	0.044
261	21.75	0.10	0.053	(0.038)	0.010	0.044
262	21.83	0.07	0.035	(0.038)	0.006	0.029
263	21.92	0.07	0.035	(0.038)	0.006	0.029
264	22.00	0.07	0.035	(0.037)	0.006	0.029
265	22.08	0.10	0.053	(0.037)	0.010	0.044
266	22.17	0.10	0.053	(0.037)	0.010	0.044
267	22.25	0.10	0.053	(0.037)	0.010	0.044
268	22.33	0.07	0.035	(0.037)	0.006	0.029
269	22.42	0.07	0.035	(0.037)	0.006	0.029
270	22.50	0.07	0.035	(0.037)	0.006	0.029
271	22.58	0.07	0.035	(0.037)	0.006	0.029
272	22.67	0.07	0.035	(0.036)	0.006	0.029
273	22.75	0.07	0.035	(0.036)	0.006	0.029
274	22.83	0.07	0.035	(0.036)	0.006	0.029
275	22.92	0.07	0.035	(0.036)	0.006	0.029
276	23.00	0.07	0.035	(0.036)	0.006	0.029
277	23.08	0.07	0.035	(0.036)	0.006	0.029
278	23.17	0.07	0.035	(0.036)	0.006	0.029
279	23.25	0.07	0.035	(0.036)	0.006	0.029
280	23.33	0.07	0.035	(0.036)	0.006	0.029
281	23.42	0.07	0.035	(0.036)	0.006	0.029
282	23.50	0.07	0.035	(0.036)	0.006	0.029
283	23.58	0.07	0.035	(0.036)	0.006	0.029
284	23.67	0.07	0.035	(0.036)	0.006	0.029
285	23.75	0.07	0.035	(0.036)	0.006	0.029
286	23.83	0.07	0.035	(0.035)	0.006	0.029
287	23.92	0.07	0.035	(0.035)	0.006	0.029
288	24.00	0.07	0.035	(0.035)	0.006	0.029

(Loss Rate Not Used)

Sum = 100.0 Sum = 44.7

Flood volume = Effective rainfall 3.72(In)
times area 0.7(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.70(In)
Total soil loss = 0.042(Ac.Ft)
Total rainfall = 4.43(In)
Flood volume = 9594.6 Cubic Feet
Total soil loss = 1816.1 Cubic Feet

Peak flow rate of this hydrograph = 0.387(CFS)

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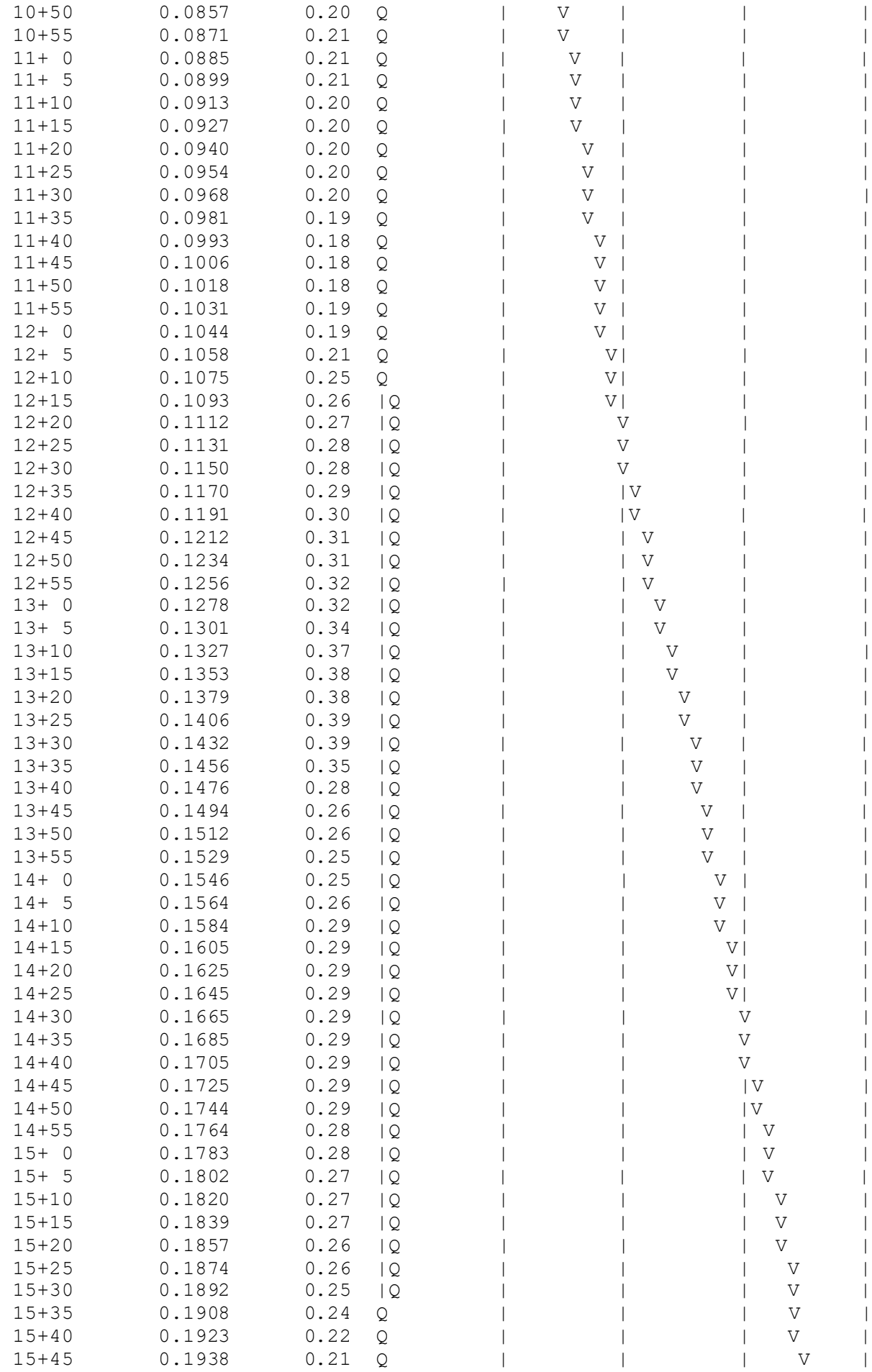
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.01	Q	|	|	|	|
0+10	0.0001	0.02	Q	|	|	|	|
0+15	0.0003	0.02	Q	|	|	|	|
0+20	0.0004	0.02	Q	|	|	|	|
0+25	0.0006	0.03	Q	|	|	|	|
0+30	0.0008	0.03	Q	|	|	|	|
0+35	0.0010	0.03	Q	|	|	|	|
0+40	0.0013	0.03	Q	|	|	|	|
0+45	0.0015	0.03	Q	|	|	|	|

0+50	0.0017	0.03	Q	|	|	|	|
0+55	0.0020	0.04	Q	|	|	|	|
1+ 0	0.0022	0.04	Q	|	|	|	|
1+ 5	0.0025	0.04	Q	|	|	|	|
1+10	0.0027	0.03	Q	|	|	|	|
1+15	0.0030	0.03	Q	|	|	|	|
1+20	0.0032	0.03	Q	|	|	|	|
1+25	0.0034	0.03	Q	|	|	|	|
1+30	0.0036	0.03	Q	|	|	|	|
1+35	0.0038	0.03	Q	|	|	|	|
1+40	0.0040	0.03	Q	|	|	|	|
1+45	0.0043	0.03	Q	|	|	|	|
1+50	0.0045	0.03	Q	|	|	|	|
1+55	0.0048	0.04	Q	|	|	|	|
2+ 0	0.0050	0.04	Q	|	|	|	|
2+ 5	0.0053	0.04	Q	|	|	|	|
2+10	0.0056	0.04	QV	|	|	|	|
2+15	0.0059	0.04	QV	|	|	|	|
2+20	0.0062	0.04	QV	|	|	|	|
2+25	0.0065	0.04	QV	|	|	|	|
2+30	0.0068	0.04	QV	|	|	|	|
2+35	0.0071	0.04	QV	|	|	|	|
2+40	0.0074	0.05	QV	|	|	|	|
2+45	0.0077	0.05	QV	|	|	|	|
2+50	0.0081	0.05	QV	|	|	|	|
2+55	0.0085	0.05	QV	|	|	|	|
3+ 0	0.0088	0.05	QV	|	|	|	|
3+ 5	0.0092	0.05	QV	|	|	|	|
3+10	0.0095	0.05	QV	|	|	|	|
3+15	0.0099	0.05	QV	|	|	|	|
3+20	0.0102	0.05	QV	|	|	|	|
3+25	0.0106	0.05	QV	|	|	|	|
3+30	0.0110	0.05	QV	|	|	|	|
3+35	0.0113	0.05	Q V	|	|	|	|
3+40	0.0117	0.05	Q V	|	|	|	|
3+45	0.0120	0.05	Q V	|	|	|	|
3+50	0.0124	0.05	Q V	|	|	|	|
3+55	0.0128	0.06	Q V	|	|	|	|
4+ 0	0.0132	0.06	Q V	|	|	|	|
4+ 5	0.0137	0.06	Q V	|	|	|	|
4+10	0.0141	0.06	Q V	|	|	|	|
4+15	0.0145	0.06	Q V	|	|	|	|
4+20	0.0150	0.07	Q V	|	|	|	|
4+25	0.0155	0.07	Q V	|	|	|	|
4+30	0.0160	0.07	Q V	|	|	|	|
4+35	0.0165	0.07	Q V	|	|	|	|
4+40	0.0170	0.07	Q V	|	|	|	|
4+45	0.0175	0.07	Q V	|	|	|	|
4+50	0.0180	0.08	Q V	|	|	|	|
4+55	0.0185	0.08	Q V	|	|	|	|
5+ 0	0.0191	0.08	Q V	|	|	|	|
5+ 5	0.0196	0.08	Q V	|	|	|	|
5+10	0.0201	0.07	Q V	|	|	|	|
5+15	0.0205	0.06	Q V	|	|	|	|
5+20	0.0210	0.07	Q V	|	|	|	|
5+25	0.0215	0.07	Q V	|	|	|	|
5+30	0.0220	0.07	Q V	|	|	|	|
5+35	0.0225	0.08	Q V	|	|	|	|
5+40	0.0230	0.08	Q V	|	|	|	|
5+45	0.0236	0.08	Q V	|	|	|	|

5+50	0.0242	0.08	Q	V	|	|	|	|
5+55	0.0247	0.08	Q	V	|	|	|	|
6+ 0	0.0253	0.08	Q	V	|	|	|	|
6+ 5	0.0259	0.09	Q	V	|	|	|	|
6+10	0.0265	0.09	Q	V	|	|	|	|
6+15	0.0272	0.09	Q	V	|	|	|	|
6+20	0.0278	0.09	Q	V	|	|	|	|
6+25	0.0285	0.09	Q	V	|	|	|	|
6+30	0.0291	0.09	Q	V	|	|	|	|
6+35	0.0298	0.10	Q	V	|	|	|	|
6+40	0.0305	0.10	Q	V	|	|	|	|
6+45	0.0312	0.10	Q	V	|	|	|	|
6+50	0.0319	0.10	Q	V	|	|	|	|
6+55	0.0326	0.10	Q	V	|	|	|	|
7+ 0	0.0333	0.10	Q	V	|	|	|	|
7+ 5	0.0340	0.10	Q	V	|	|	|	|
7+10	0.0347	0.10	Q	V	|	|	|	|
7+15	0.0355	0.10	Q	V	|	|	|	|
7+20	0.0362	0.11	Q	V	|	|	|	|
7+25	0.0370	0.11	Q	V	|	|	|	|
7+30	0.0377	0.11	Q	V	|	|	|	|
7+35	0.0385	0.12	Q	V	|	|	|	|
7+40	0.0394	0.12	Q	V	|	|	|	|
7+45	0.0402	0.12	Q	V	|	|	|	|
7+50	0.0411	0.13	Q	V	|	|	|	|
7+55	0.0420	0.13	Q	V	|	|	|	|
8+ 0	0.0429	0.13	Q	V	|	|	|	|
8+ 5	0.0439	0.14	Q	V	|	|	|	|
8+10	0.0449	0.15	Q	V	|	|	|	|
8+15	0.0460	0.15	Q	V	|	|	|	|
8+20	0.0471	0.15	Q	V	|	|	|	|
8+25	0.0481	0.16	Q	V	|	|	|	|
8+30	0.0492	0.16	Q	V	|	|	|	|
8+35	0.0503	0.16	Q	V	|	|	|	|
8+40	0.0514	0.16	Q	V	|	|	|	|
8+45	0.0526	0.17	Q	V	|	|	|	|
8+50	0.0537	0.17	Q	V	|	|	|	|
8+55	0.0549	0.17	Q	V	|	|	|	|
9+ 0	0.0561	0.18	Q	V	|	|	|	|
9+ 5	0.0574	0.18	Q	V	|	|	|	|
9+10	0.0587	0.19	Q	V	|	|	|	|
9+15	0.0601	0.20	Q	V	|	|	|	|
9+20	0.0614	0.20	Q	V	|	|	|	|
9+25	0.0628	0.20	Q	V	|	|	|	|
9+30	0.0643	0.21	Q	V	|	|	|	|
9+35	0.0657	0.21	Q	V	|	|	|	|
9+40	0.0672	0.22	Q	V	|	|	|	|
9+45	0.0687	0.22	Q	V	|	|	|	|
9+50	0.0702	0.22	Q	V	|	|	|	|
9+55	0.0718	0.23	Q	V	|	|	|	|
10+ 0	0.0733	0.23	Q	V	|	|	|	|
10+ 5	0.0748	0.21	Q	V	|	|	|	|
10+10	0.0760	0.17	Q	V	|	|	|	|
10+15	0.0771	0.16	Q	V	|	|	|	|
10+20	0.0782	0.16	Q	V	|	|	|	|
10+25	0.0793	0.16	Q	V	|	|	|	|
10+30	0.0804	0.16	Q	V	|	|	|	|
10+35	0.0815	0.17	Q	V	|	|	|	|
10+40	0.0829	0.20	Q	V	|	|	|	|
10+45	0.0843	0.20	Q	V	|	|	|	|



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15+50       0.1952      0.21  Q          |          |          |    V     |
15+55       0.1966      0.20  Q          |          |          |    V     |
16+ 0       0.1980      0.20  Q          |          |          |    V     |
16+ 5       0.1991      0.16  Q          |          |          |     V    |
16+10       0.1996      0.08  Q          |          |          |     V    |
16+15       0.2001      0.06  Q          |          |          |     V    |
16+20       0.2004      0.05  Q          |          |          |     V    |
16+25       0.2007      0.05  Q          |          |          |     V    |
16+30       0.2010      0.04  Q          |          |          |     V    |
16+35       0.2013      0.04  Q          |          |          |     V    |
16+40       0.2015      0.03  Q          |          |          |     V    |
16+45       0.2017      0.03  Q          |          |          |     V    |
16+50       0.2020      0.03  Q          |          |          |     V    |
16+55       0.2022      0.03  Q          |          |          |     V    |
17+ 0       0.2024      0.03  Q          |          |          |     V    |
17+ 5       0.2026      0.04  Q          |          |          |     V    |
17+10       0.2030      0.05  Q          |          |          |     V    |
17+15       0.2033      0.05  Q          |          |          |     V    |
17+20       0.2037      0.05  Q          |          |          |     V    |
17+25       0.2040      0.05  Q          |          |          |      V   |
17+30       0.2044      0.05  Q          |          |          |      V   |
17+35       0.2047      0.05  Q          |          |          |      V   |
17+40       0.2051      0.05  Q          |          |          |      V   |
17+45       0.2054      0.05  Q          |          |          |      V   |
17+50       0.2058      0.05  Q          |          |          |      V   |
17+55       0.2061      0.04  Q          |          |          |      V   |
18+ 0       0.2064      0.04  Q          |          |          |      V   |
18+ 5       0.2067      0.04  Q          |          |          |      V   |
18+10       0.2070      0.04  Q          |          |          |      V   |
18+15       0.2072      0.04  Q          |          |          |      V   |
18+20       0.2075      0.04  Q          |          |          |      V   |
18+25       0.2078      0.04  Q          |          |          |      V   |
18+30       0.2081      0.04  Q          |          |          |      V   |
18+35       0.2084      0.04  Q          |          |          |      V   |
18+40       0.2086      0.03  Q          |          |          |      V   |
18+45       0.2088      0.03  Q          |          |          |      V   |
18+50       0.2090      0.03  Q          |          |          |      V   |
18+55       0.2092      0.02  Q          |          |          |      V   |
19+ 0       0.2093      0.02  Q          |          |          |       V  |
19+ 5       0.2095      0.02  Q          |          |          |       V  |
19+10       0.2097      0.03  Q          |          |          |       V  |
19+15       0.2099      0.03  Q          |          |          |       V  |
19+20       0.2101      0.03  Q          |          |          |       V  |
19+25       0.2104      0.04  Q          |          |          |       V  |
19+30       0.2107      0.04  Q          |          |          |       V  |
19+35       0.2110      0.04  Q          |          |          |       V  |
19+40       0.2112      0.03  Q          |          |          |       V  |
19+45       0.2114      0.03  Q          |          |          |       V  |
19+50       0.2116      0.03  Q          |          |          |       V  |
19+55       0.2118      0.02  Q          |          |          |       V  |
20+ 0       0.2119      0.02  Q          |          |          |       V  |
20+ 5       0.2121      0.02  Q          |          |          |       V  |
20+10       0.2123      0.03  Q          |          |          |       V  |
20+15       0.2125      0.03  Q          |          |          |       V  |
20+20       0.2127      0.03  Q          |          |          |       V  |
20+25       0.2129      0.03  Q          |          |          |       V  |
20+30       0.2131      0.03  Q          |          |          |       V  |
20+35       0.2133      0.03  Q          |          |          |       V  |
20+40       0.2136      0.03  Q          |          |          |       V  |
20+45       0.2138      0.03  Q          |          |          |       V  |
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20+50	0.2140	0.03	Q	|	|	|	V |
20+55	0.2141	0.02	Q	|	|	|	V |
21+ 0	0.2143	0.02	Q	|	|	|	V |
21+ 5	0.2145	0.02	Q	|	|	|	V |
21+10	0.2147	0.03	Q	|	|	|	V |
21+15	0.2149	0.03	Q	|	|	|	V|
21+20	0.2151	0.03	Q	|	|	|	V|
21+25	0.2152	0.02	Q	|	|	|	V|
21+30	0.2154	0.02	Q	|	|	|	V|
21+35	0.2155	0.02	Q	|	|	|	V|
21+40	0.2157	0.03	Q	|	|	|	V|
21+45	0.2159	0.03	Q	|	|	|	V|
21+50	0.2161	0.03	Q	|	|	|	V|
21+55	0.2163	0.02	Q	|	|	|	V|
22+ 0	0.2164	0.02	Q	|	|	|	V|
22+ 5	0.2166	0.02	Q	|	|	|	V|
22+10	0.2168	0.03	Q	|	|	|	V|
22+15	0.2170	0.03	Q	|	|	|	V|
22+20	0.2172	0.03	Q	|	|	|	V|
22+25	0.2174	0.02	Q	|	|	|	V|
22+30	0.2175	0.02	Q	|	|	|	V|
22+35	0.2177	0.02	Q	|	|	|	V|
22+40	0.2178	0.02	Q	|	|	|	V|
22+45	0.2179	0.02	Q	|	|	|	V|
22+50	0.2181	0.02	Q	|	|	|	V|
22+55	0.2182	0.02	Q	|	|	|	V|
23+ 0	0.2184	0.02	Q	|	|	|	V|
23+ 5	0.2185	0.02	Q	|	|	|	V|
23+10	0.2187	0.02	Q	|	|	|	V|
23+15	0.2188	0.02	Q	|	|	|	V|
23+20	0.2189	0.02	Q	|	|	|	V|
23+25	0.2191	0.02	Q	|	|	|	V|
23+30	0.2192	0.02	Q	|	|	|	V|
23+35	0.2194	0.02	Q	|	|	|	V|
23+40	0.2195	0.02	Q	|	|	|	V|
23+45	0.2197	0.02	Q	|	|	|	V|
23+50	0.2198	0.02	Q	|	|	|	V|
23+55	0.2199	0.02	Q	|	|	|	V|
24+ 0	0.2201	0.02	Q	|	|	|	V|
24+ 5	0.2202	0.02	Q	|	|	|	V|
24+10	0.2202	0.01	Q	|	|	|	V|
24+15	0.2202	0.00	Q	|	|	|	V|
24+20	0.2203	0.00	Q	|	|	|	V|
24+25	0.2203	0.00	Q	|	|	|	V|
24+30	0.2203	0.00	Q	|	|	|	V|

APPENDIX E

STORMTECH CUT SHEETS

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	
ADS SALES REP	
PROJECT NO.	

Advanced Drainage Systems, Inc.

ADS SiteAssist™
FOR STORMTECH
INSTALLATION INSTRUCTIONS
VISIT OUR APP

BEAUMONT VILLAGE AREA 1 & 2

BEAUMONT, CA, USA

MC-7200 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-7200.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-7200 CHAMBER SYSTEM

1. STORMTECH MC-7200 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
9. STONE SHALL BE BROUGHT UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.
10. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
11. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIAL BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
12. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-7200 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-7200 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

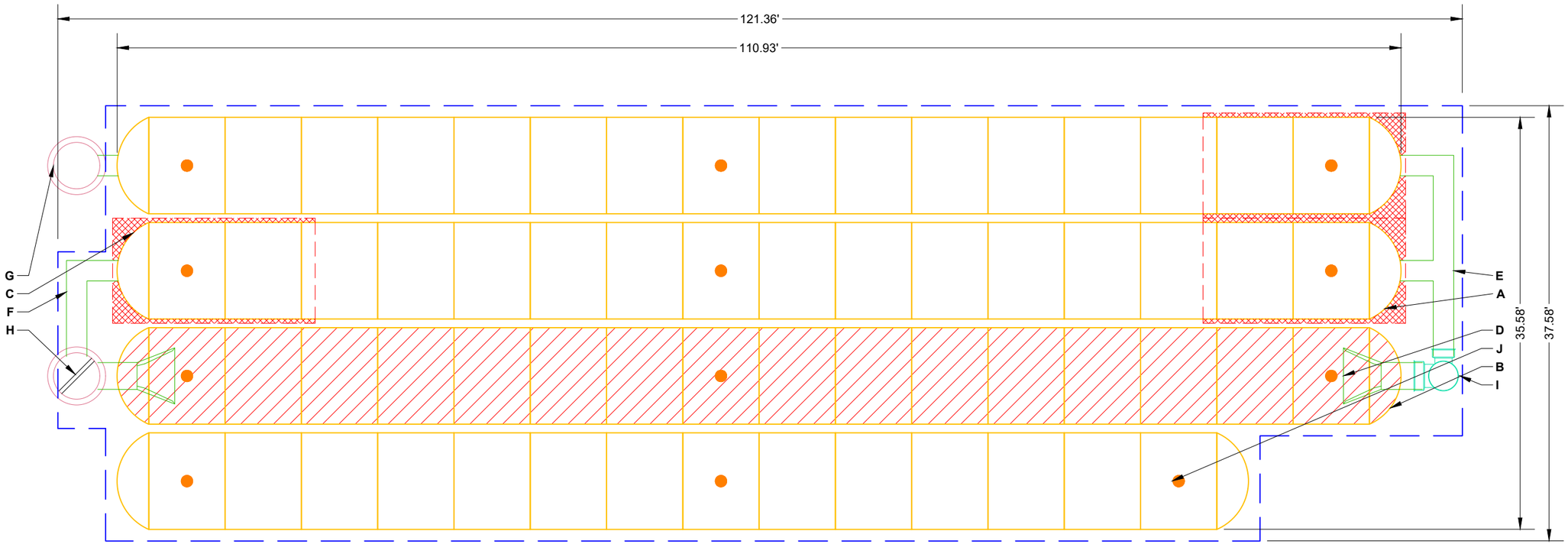
USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

PROPOSED LAYOUT		PROPOSED ELEVATIONS:	
62	STORMTECH MC-7200 CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	21.40
8	STORMTECH MC-7200 END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	16.90
12	STONE ABOVE (in)	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	16.40
9	STONE BELOW (in)	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	16.40
40	STONE VOID	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	16.40
18371	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)	TOP OF STONE:	15.40
		TOP OF MC-7200 CHAMBER:	14.40
		18" x 18" TOP MANIFOLD INVERT:	11.85
		24" ISOLATOR ROW PLUS INVERT:	9.59
4310	SYSTEM AREA (SF)	24" ISOLATOR ROW PLUS INVERT:	9.59
317.9	SYSTEM PERIMETER (ft)	18" x 18" BOTTOM MANIFOLD INVERT:	9.56
		18" BOTTOM CONNECTION INVERT:	9.56
		BOTTOM OF MC-7200 CHAMBER:	9.40
		BOTTOM OF STONE:	8.65

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED END CAP	A	18" TOP PARTIAL CUT END CAP, PART#: MC7200IEPP18T / TYP OF ALL 18" TOP CONNECTIONS	29.36"	
PREFABRICATED END CAP	B	24" BOTTOM PARTIAL CUT END CAP, PART#: MC7200IEPP24B / TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS	2.26"	
PREFABRICATED END CAP	C	18" BOTTOM PARTIAL CUT END CAP, PART#: MC7200IEPP18B / TYP OF ALL 18" BOTTOM CONNECTIONS	1.97"	
FLAMP	D	INSTALL FLAMP ON 24" ACCESS PIPE / PART#: MCFLAMP (TYP 2 PLACES)		
MANIFOLD	E	18" x 18" TOP MANIFOLD, ADS N-12	29.36"	
MANIFOLD	F	18" x 18" BOTTOM MANIFOLD, ADS N-12	1.97"	
CONCRETE STRUCTURE	G	OCS (DESIGN BY ENGINEER / PROVIDED BY OTHERS)		4.0 CFS OUT
CONCRETE STRUCTURE W/WEIR	H	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		5.5 CFS IN
NYLOPLAST (INLET W/ ISO PLUS ROW)	I	30" DIAMETER (24.00" SUMP MIN)		11.0 CFS IN
INSPECTION PORT	J	4" SEE DETAIL (TYP 12 PLACES)		



ISOLATOR ROW PLUS
(SEE DETAIL)

PLACE MINIMUM 17.50' OF ADSPLUS175 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- **NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

BEAUMONT VILLAGE AREA 1 & 2
BEAUMONT, CA, USA
DATE: DRAWN: RU CHECKED: N/A
PROJECT #:

DESCRIPTION	CHK	DRW	DATE

StormTech®
Chamber System
888-892-2694 | WWW.STORMTECH.COM

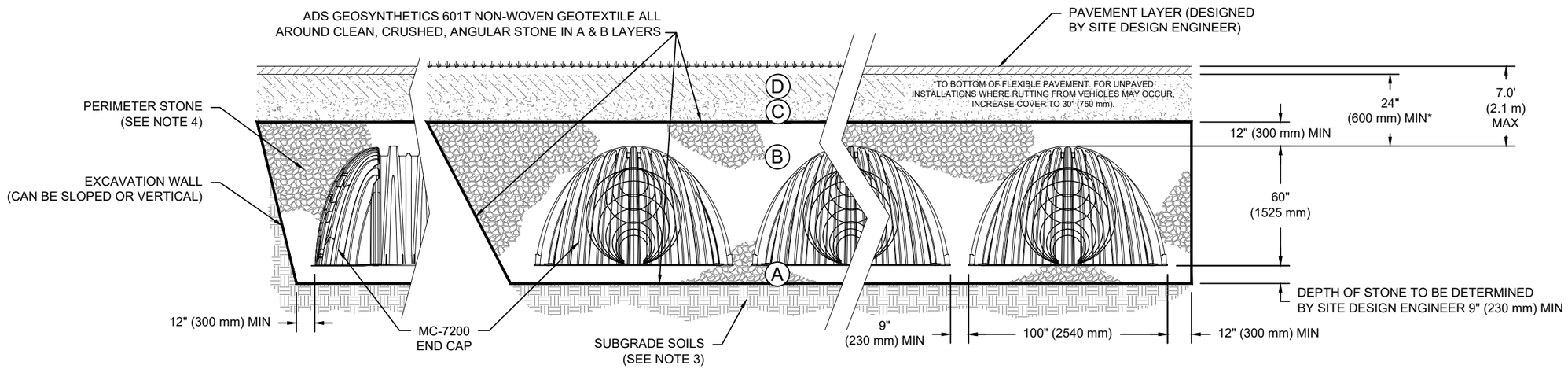
4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

0 10 20

ACCEPTABLE FILL MATERIALS: STORMTECH MC-7200 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

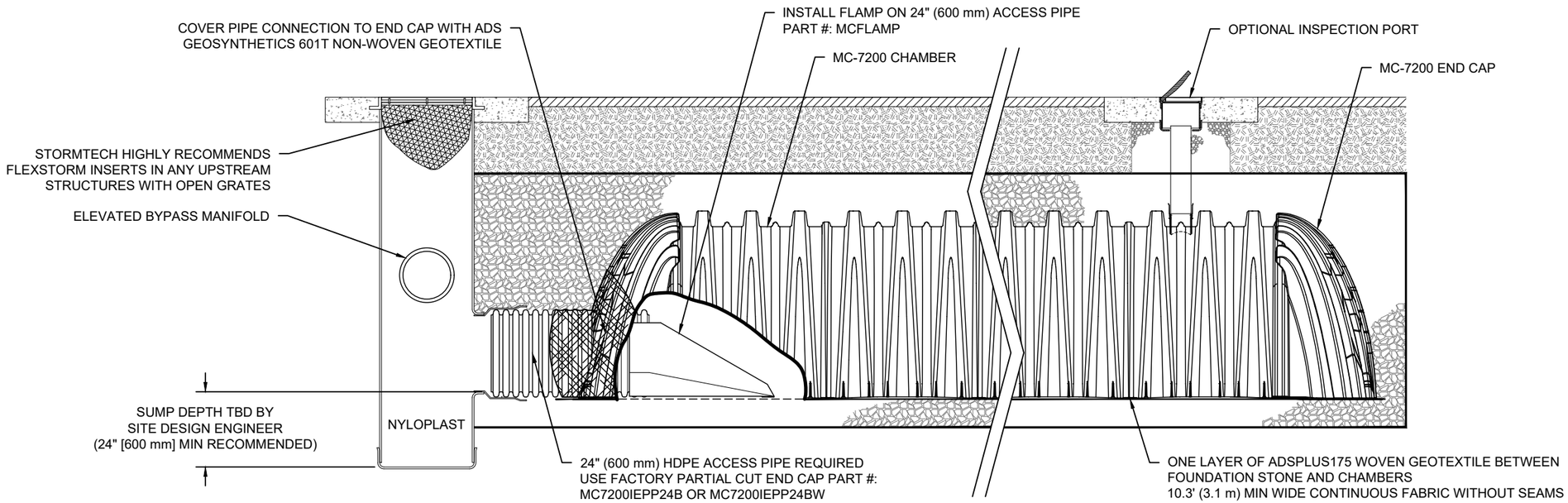
1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101
2. MC-7200 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

BEAUMONT VILLAGE AREA 1 & 2
BEAUMONT, CA, USA
DATE: DRAWN: RU CHECKED: N/A
PROJECT #:

DATE	DRW	CHK	DESCRIPTION

StormTech® Chamber System
888-892-2694 | WWW.STORMTECH.COM

4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473



MC-7200 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

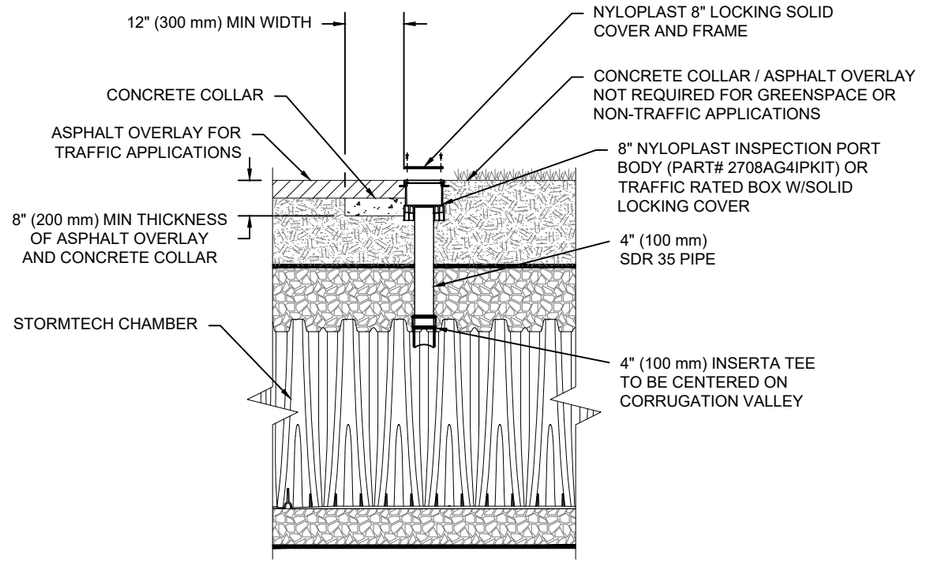
STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.

4" PVC INSPECTION PORT DETAIL
(MC SERIES CHAMBER)
NTS

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BEAUMONT, CA, USA
DATE: DRAWN: RU
PROJECT #: CHECKED: N/A

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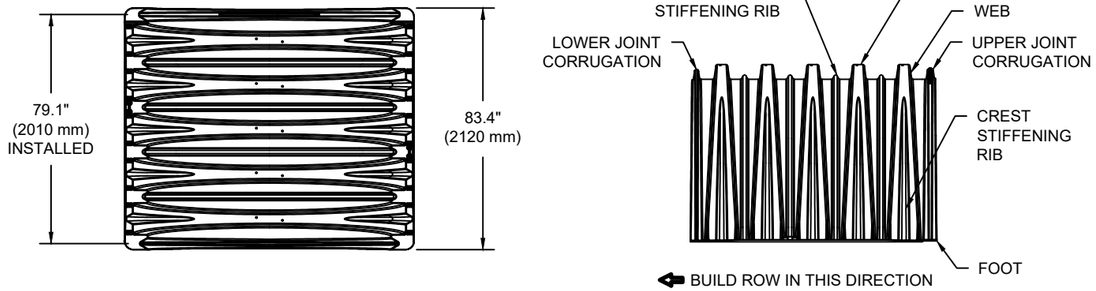
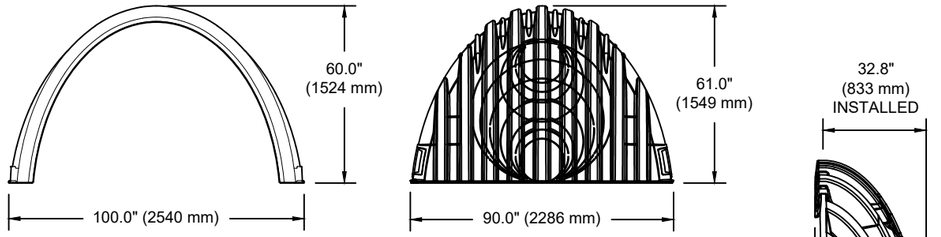
MC-7200 TECHNICAL SPECIFICATION

NTS





NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	100.0" X 60.0" X 79.1"	(2540 mm X 1524 mm X 2010 mm)
CHAMBER STORAGE	175.9 CUBIC FEET	(4.98 m³)
MINIMUM INSTALLED STORAGE*	267.3 CUBIC FEET	(7.56 m³)
WEIGHT (NOMINAL)	205 lbs.	(92.9 kg)

NOMINAL END CAP SPECIFICATIONS

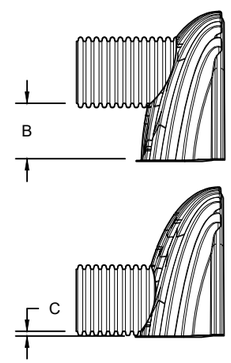
SIZE (W X H X INSTALLED LENGTH)	90.0" X 61.0" X 32.8"	(2286 mm X 1549 mm X 833 mm)
END CAP STORAGE	39.5 CUBIC FEET	(1.12 m³)
MINIMUM INSTALLED STORAGE*	115.3 CUBIC FEET	(3.26 m³)
WEIGHT (NOMINAL)	90 lbs.	(40.8 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC7200IEPP06T	6" (150 mm)	42.54" (1081 mm)	---
MC7200IEPP06B		---	0.86" (22 mm)
MC7200IEPP08T	8" (200 mm)	40.50" (1029 mm)	---
MC7200IEPP08B		---	1.01" (26 mm)
MC7200IEPP10T	10" (250 mm)	38.37" (975 mm)	---
MC7200IEPP10B		---	1.33" (34 mm)
MC7200IEPP12T	12" (300 mm)	35.69" (907 mm)	---
MC7200IEPP12B		---	1.55" (39 mm)
MC7200IEPP15T	15" (375 mm)	32.72" (831 mm)	---
MC7200IEPP15B		---	1.70" (43 mm)
MC7200IEPP18T	18" (450 mm)	29.36" (746 mm)	---
MC7200IEPP18TW			
MC7200IEPP18B		---	1.97" (50 mm)
MC7200IEPP18BW			
MC7200IEPP24T	24" (600 mm)	23.05" (585 mm)	---
MC7200IEPP24TW			
MC7200IEPP24B		---	2.26" (57 mm)
MC7200IEPP24BW			
MC7200IEPP30BW	30" (750 mm)	---	2.95" (75 mm)
MC7200IEPP36BW	36" (900 mm)	---	3.25" (83 mm)
MC7200IEPP42BW	42" (1050 mm)	---	3.55" (90 mm)

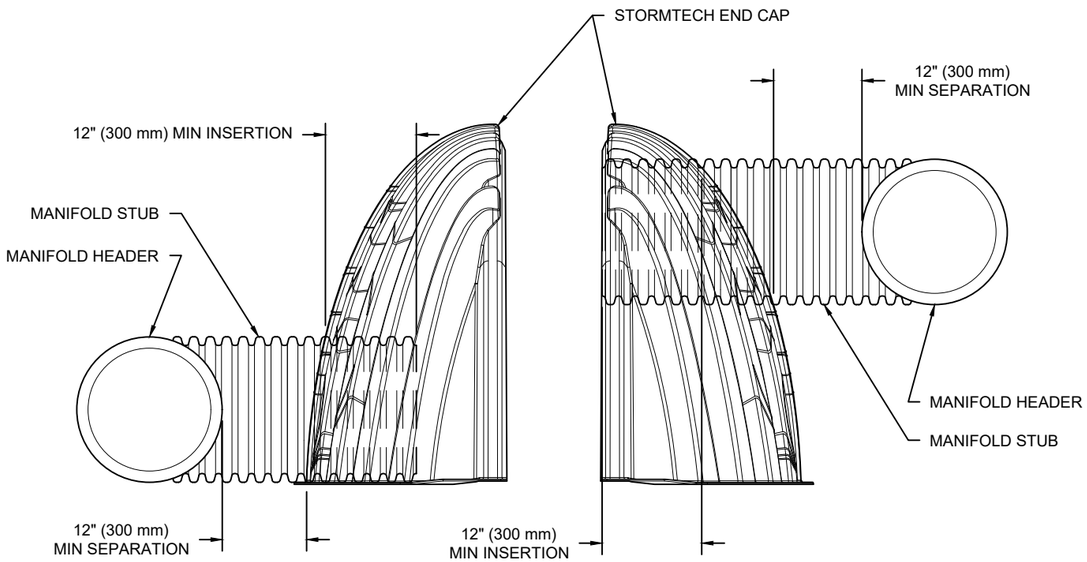
NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PREFABRICATED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-7200 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

MC-SERIES END CAP INSERTION DETAIL

NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

BEAUMONT VILLAGE AREA 1 & 2
BEAUMONT, CA, USA
DATE:
DRAWN: RU
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DATE	DRW	CHK	DESCRIPTION

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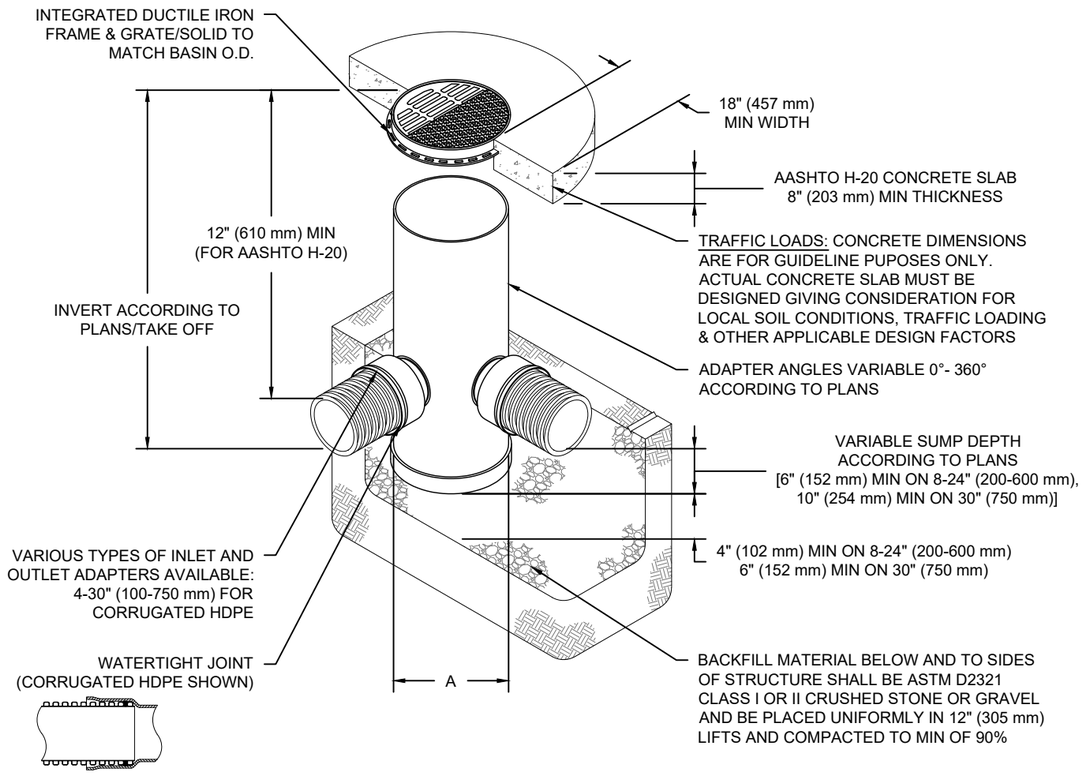
NYLOPLAST DRAIN BASIN

NTS



NOTES

1. 8-30" (200-750 mm) GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
2. 12-30" (300-750 mm) FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
4. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
5. FOR COMPLETE DESIGN AND PRODUCT INFORMATION: **WWW.NYLOPLAST-US.COM**
6. TO ORDER CALL: **800-821-6710**

A	PART #	GRATE/SOLID COVER OPTIONS		
8" (200 mm)	2808AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
10" (250 mm)	2810AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
12" (300 mm)	2812AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
15" (375 mm)	2815AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
18" (450 mm)	2818AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
24" (600 mm)	2824AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
30" (750 mm)	2830AG	PEDESTRIAN AASHTO H-20	STANDARD AASHTO H-20	SOLID AASHTO H-20

BEAUMONT VILLAGE AREA 1 & 2

BEAUMONT, CA, USA

DATE: | DRAWN: RU

PROJECT #: | CHECKED: N/A

DATE	DRW	CHK	DESCRIPTION

Nyloplast®

770-932-2443 | WWW.NYLOPLAST-US.COM

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APPENDIX F

NOAA ATLAS 14, VOLUME 6, VERSION 2 POINT PRECIPITATION

NOAA Atlas 14, Volume 6, Version 2
Location name: Beaumont, California, USA*
Latitude: 33.9478°, Longitude: -116.9783°
Elevation: m/ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.126 (0.105-0.152)	0.162 (0.135-0.197)	0.218 (0.181-0.266)	0.271 (0.223-0.333)	0.354 (0.281-0.450)	0.429 (0.334-0.556)	0.515 (0.391-0.686)	0.618 (0.455-0.846)	0.780 (0.551-1.12)	0.928 (0.633-1.38)
10-min	0.180 (0.150-0.218)	0.233 (0.194-0.283)	0.313 (0.260-0.381)	0.388 (0.319-0.477)	0.507 (0.403-0.645)	0.614 (0.478-0.798)	0.739 (0.561-0.983)	0.885 (0.653-1.21)	1.12 (0.790-1.60)	1.33 (0.907-1.97)
15-min	0.218 (0.181-0.264)	0.282 (0.234-0.342)	0.379 (0.314-0.461)	0.469 (0.386-0.576)	0.614 (0.488-0.780)	0.743 (0.578-0.965)	0.893 (0.678-1.19)	1.07 (0.789-1.47)	1.35 (0.956-1.93)	1.61 (1.10-2.38)
30-min	0.316 (0.264-0.384)	0.409 (0.340-0.497)	0.550 (0.457-0.670)	0.682 (0.561-0.838)	0.892 (0.709-1.13)	1.08 (0.840-1.40)	1.30 (0.985-1.73)	1.56 (1.15-2.13)	1.97 (1.39-2.81)	2.34 (1.60-3.46)
60-min	0.465 (0.387-0.563)	0.601 (0.500-0.729)	0.808 (0.670-0.983)	1.00 (0.824-1.23)	1.31 (1.04-1.66)	1.59 (1.23-2.06)	1.91 (1.45-2.54)	2.28 (1.68-3.13)	2.89 (2.04-4.13)	3.43 (2.34-5.08)
2-hr	0.664 (0.553-0.805)	0.824 (0.686-1.00)	1.06 (0.882-1.29)	1.28 (1.06-1.57)	1.62 (1.29-2.06)	1.92 (1.49-2.49)	2.26 (1.71-3.00)	2.65 (1.95-3.62)	3.25 (2.29-4.64)	3.78 (2.58-5.60)
3-hr	0.813 (0.677-0.985)	0.997 (0.830-1.21)	1.27 (1.05-1.54)	1.51 (1.24-1.86)	1.88 (1.50-2.39)	2.20 (1.71-2.86)	2.56 (1.94-3.41)	2.97 (2.19-4.07)	3.59 (2.53-5.13)	4.13 (2.81-6.11)
6-hr	1.18 (0.985-1.43)	1.44 (1.20-1.75)	1.81 (1.50-2.21)	2.14 (1.76-2.62)	2.62 (2.08-3.32)	3.02 (2.35-3.91)	3.45 (2.62-4.59)	3.93 (2.90-5.39)	4.64 (3.28-6.64)	5.24 (3.57-7.76)
12-hr	1.62 (1.35-1.96)	2.02 (1.68-2.45)	2.57 (2.13-3.12)	3.03 (2.49-3.72)	3.68 (2.92-4.67)	4.20 (3.27-5.45)	4.74 (3.60-6.31)	5.32 (3.92-7.29)	6.14 (4.34-8.77)	6.79 (4.63-10.1)
24-hr	2.15 (1.91-2.48)	2.79 (2.47-3.22)	3.64 (3.21-4.21)	4.33 (3.79-5.05)	5.28 (4.47-6.36)	6.02 (5.00-7.40)	6.77 (5.49-8.53)	7.56 (5.96-9.78)	8.63 (6.54-11.6)	9.47 (6.94-13.2)
2-day	2.63 (2.33-3.03)	3.49 (3.08-4.03)	4.67 (4.11-5.40)	5.66 (4.95-6.60)	7.07 (5.99-8.52)	8.20 (6.81-10.1)	9.39 (7.61-11.8)	10.7 (8.41-13.8)	12.5 (9.43-16.8)	13.9 (10.2-19.4)
3-day	2.86 (2.53-3.30)	3.84 (3.40-4.43)	5.22 (4.60-6.04)	6.41 (5.61-7.48)	8.15 (6.91-9.82)	9.59 (7.96-11.8)	11.1 (9.03-14.0)	12.8 (10.1-16.6)	15.3 (11.6-20.6)	17.4 (12.7-24.2)
4-day	3.12 (2.76-3.59)	4.20 (3.72-4.85)	5.74 (5.06-6.65)	7.09 (6.20-8.27)	9.07 (7.68-10.9)	10.7 (8.89-13.2)	12.5 (10.1-15.7)	14.5 (11.4-18.7)	17.3 (13.1-23.3)	19.7 (14.4-27.5)
7-day	3.61 (3.20-4.17)	4.86 (4.30-5.61)	6.62 (5.84-7.66)	8.14 (7.12-9.49)	10.4 (8.77-12.5)	12.2 (10.1-15.0)	14.1 (11.5-17.8)	16.3 (12.8-21.1)	19.4 (14.7-26.1)	22.0 (16.1-30.6)
10-day	3.98 (3.52-4.59)	5.35 (4.73-6.18)	7.26 (6.40-8.40)	8.90 (7.79-10.4)	11.3 (9.55-13.6)	13.2 (11.0-16.2)	15.3 (12.4-19.2)	17.5 (13.8-22.7)	20.7 (15.7-27.9)	23.4 (17.1-32.6)
20-day	4.96 (4.39-5.71)	6.73 (5.95-7.77)	9.15 (8.07-10.6)	11.2 (9.79-13.1)	14.1 (11.9-17.0)	16.4 (13.6-20.1)	18.8 (15.2-23.7)	21.4 (16.9-27.7)	25.0 (18.9-33.7)	28.0 (20.5-39.0)
30-day	5.81 (5.15-6.70)	7.95 (7.03-9.17)	10.8 (9.53-12.5)	13.2 (11.5-15.4)	16.5 (14.0-19.9)	19.1 (15.9-23.5)	21.9 (17.7-27.5)	24.7 (19.5-32.0)	28.7 (21.7-38.7)	31.9 (23.4-44.4)
45-day	7.00 (6.19-8.06)	9.59 (8.48-11.1)	13.0 (11.5-15.1)	15.8 (13.8-18.5)	19.7 (16.7-23.7)	22.7 (18.8-27.9)	25.8 (20.9-32.5)	29.0 (22.9-37.5)	33.4 (25.3-45.0)	36.9 (27.0-51.4)
60-day	8.18 (7.24-9.43)	11.2 (9.90-12.9)	15.1 (13.3-17.5)	18.3 (16.0-21.4)	22.7 (19.2-27.3)	26.0 (21.6-32.0)	29.4 (23.8-37.0)	32.9 (26.0-42.6)	37.7 (28.5-50.8)	41.4 (30.3-57.7)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

Back to Top

PF graphical

APPENDIX G

HYDROLOGIC SOIL GROUP


116° 58' 51" W
116° 58' 37" W
501760
501800
501840
501880
501920
501960
502000
502040
502080
502120
33° 56' 56" N
33° 56' 48" N
3756490
3756450
3756410
3756370
3756330
3756290
TvC
RaB2
RaC2
TvC
RaE3
RaB2
79
14th
Soil Map may not be valid at this scale.
N
Map Scale: 1:1,720 if printed on A landscape (11" x 8.5") sheet.
Meters
0 25 50 100 150
Feet
0 50 100 200 300
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

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

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

Date(s) aerial images were photographed: Nov 15, 2020—Nov 19, 2020

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
RaB2	Ramona sandy loam, 2 to 5 percent slopes, eroded	C	0.9	8.4%
RaC2	Ramona sandy loam, 5 to 8 percent slopes, eroded	C	6.3	57.7%
RaE3	Ramona sandy loam, 15 to 25 percent slopes, severely eroded	C	1.9	17.8%
TvC	Tujunga loamy sand, channeled, 0 to 8 percent slopes	A	1.8	16.2%
Totals for Area of Interest			**10.9**	**100.0%**

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

EXHIBIT A

EXISTING CONDITION HYDROLOGY MAP (RATIONAL METHOD)

TRIBUTARY AREA MAP

PRE-DEVELOPMENT
BEAUMONT VILLAGE - PROPOSED COMMERCIAL RETAIL CENTER
APN 404-190-001 & 003
NORTHWEST CORNER OF BEAUMONT AVENUE & OAK VALLEY PARKWAY
CITY OF BEAUMONT

LEGAL DESCRIPTION

PARCEL C AS SHOWN ON LOT LINE ADJUSTMENT NO. 07-LLA-02 AS EVIDENCED BY DOCUMENT RECORDED OCTOBER 29, 2007 AS INSTRUMENT NO. 07-663184 OF OFFICIAL RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THAT PORTION OF THE SOUTH HALF OF THE SOUTHWEST QURTER OF THE SOUTHWEST QUARTER OF SECTION 34, IN TOWNSHIP 2 SOUTH, RANGE 1 WEST, SAN BERNARDINO BASE AND MERIDIAN ACCORDING TO THE OFFICIAL PLAT THEREOF, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF THE SOUTHWEST QUARTER OF SAID SECTION 34 AS SHOWN ON PARCEL MAP NO. 26229, PM 173/21, RECORDS OF RIVERSIDE COUNTY;

THENCE NORTH 00°49'05" EAST 657 FEET ALONG THE WEST LINE OF SAID SECTION 34 TO THE NORTH LINE OF THE NORTH HALF OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 34;

THENCE EASTERLY ALONG THE NORTH LINE OF THE SOUTH HALF OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 34, NORTH 89°42'10" EAST 840.87 FEET TO THE TRUE POINT OF BEGINNING.

THENCE CONTINUING EASTERLY ALONG SAID NORTH LINE, NORTH 89°42'10" EAST 482.81 FEET TO THE EAST LINE OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 34;
THENCE SOUTHERLY ALONG THE EAST LINE OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 34, SOUTH 00°46'11" WEST 208.71 FEET;

THENCE NORTH 89°42'10" EAST 35.34 FEET TO A LINE 50 FEET WEST AND PARALLEL TO THE CENTER LINE OF BEAUMONT AVENUE AS SHOWN ON PARCEL MAP NO. 26229, PM 173/21;

THENCE SOUTHERLY ALONG SAID PARALLEL LINE, SOUTH 00°14'51" EAST 371.32 FEET;

THENCE SOUTH 36°12'03" WEST 28.49 FEET TO A LINE 55 FEET NORTH AND PARALLEL TO THE CENTER LINE OF FOURTEENTH STREET, FOURTEENTH STREET CENTERLINE BEING THE SOUTH LINE OF SAID SECTION 34;

THENCE WESTERLY ALONG SAID PARALLEL LINE, SOUTH 89°43'07" WEST 970.14 FEET TO THE SOUTHWEST CORNER OF PARCEL 1 OF PARCEL MAP NO. 26229, PM 173/21;

THENCE NORTHEASTERLY ALONG THE WEST LINE OF SAID PARCEL 1, NORTH 37°50'21" EAST 766.17 FEET TO THE TRUE POINT OF BEGINNING.

EXISTING EASEMENTS

NO KNOWN EASEMENTS PER TITLE REPORT DATED 08/29/2019 BY NORTH AMERICAN TITLE COMPANY.

UTILITIES:

ELECTRIC:
SOUTHERN CALIFORNIA EDISON COMPANY
287 TENNESSEE STREET
REDLANDS, CA 92373
(909) 307-6788

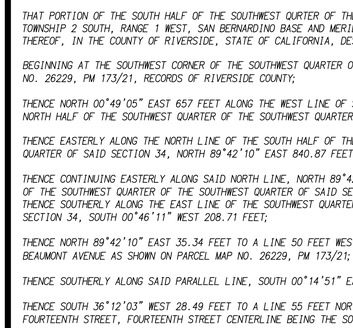
TELEPHONE:
VERIZON
9 S. 4TH STREET
REDLANDS, CA 92373
(909) 748-6640

WATER:
BEAUMONT-CHERRY VALLEY WATER DISTRICT
560 MAGNOLIA AVENUE
BEAUMONT, CA 92223
(951) 845-9581

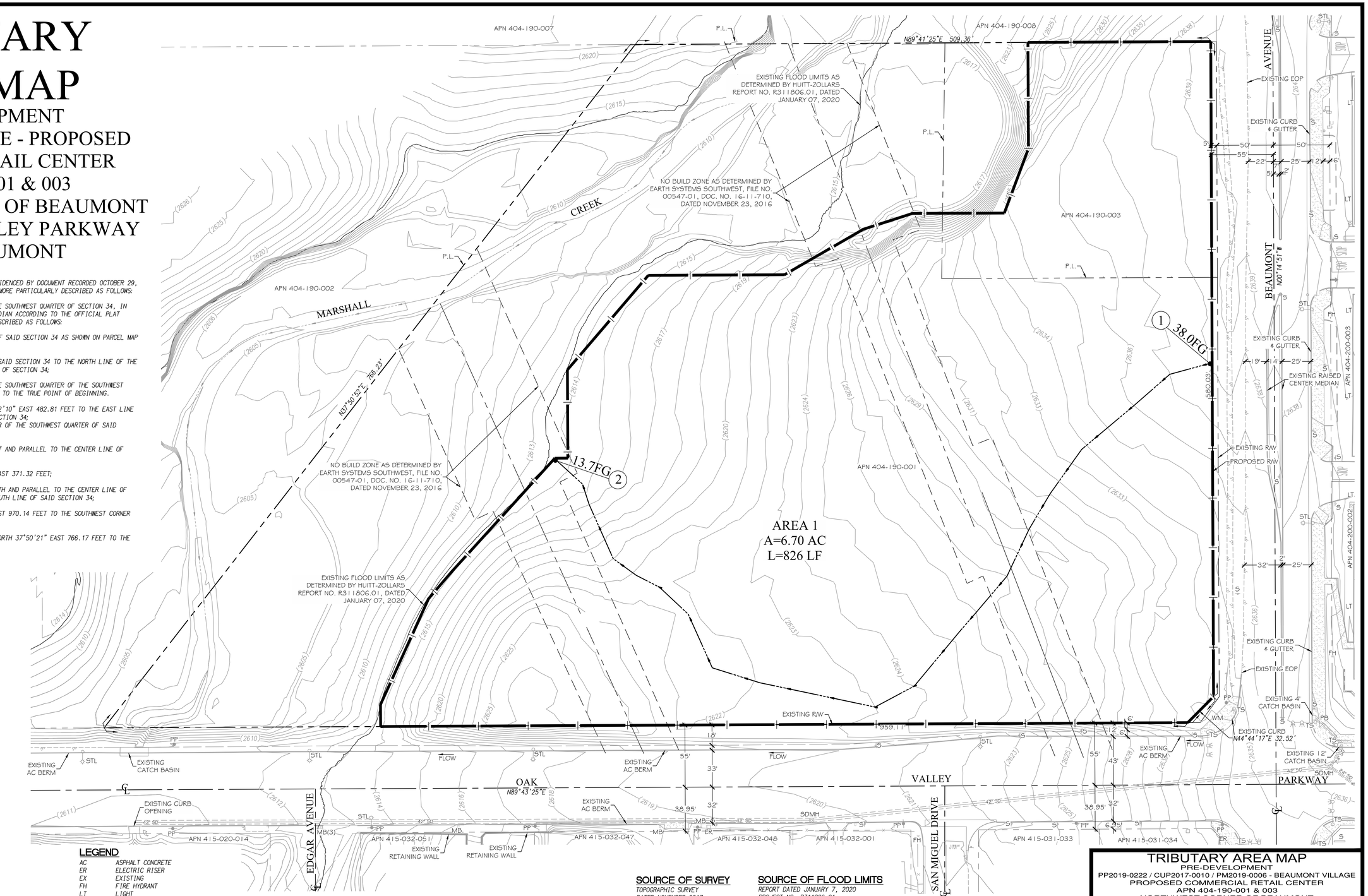
GAS:
SOUTHERN CALIFORNIA GAS COMPANY
1981 WEST LUGONIA AVENUE
REDLANDS, CA 92373
(909) 335-7836

CABLE:
CHARTER COMMUNICATIONS
1500 AUTO CENTER DRIVE
ONTARIO, CA 91761
(909)634-3224

SEWER:
CITY OF BEAUMONT
550 E. 6TH STREET
BEAUMONT, CA 92223
(951)769-8518



VICINITY MAP



LEGEND

AC	ASPHALT CONCRETE
ER	ELECTRIC RISER
EX	EXISTING
FH	FIRE HYDRANT
LT	LIGHT
PB	PULL BOX
PCC	PORTLAND CEMENT CONCRETE
P.L.	PROPERTY LINE
R/W	RIGHT-OF-WAY
S	SIGN
SDMH	STORM DRAIN MANHOLE
STL	STREET LIGHT
TS	TRAFFIC SIGNAL
TYP	TYPICAL

EXISTING PCC

GRAPHIC SCALE
40 0 20 40 80
1" = 40'

LEGEND

(1) ELEV. — NODE # & ELEV.
L=165' — FLOWLINE LENGTH
A=1.44 AC — SUB AREA
——·—— FLOWLINE
TRIBUTARY BOUNDARY
——·—·—— OVERFLOW

SOURCE OF SURVEY

TOPOGRAPHIC SURVEY
DATED NOVEMBER 2017
AS CONDUCTED BY
INLAND AERIAL SURVEYS, INC.
7117 ARLINGTON AVE., SUITE A
RIVERSIDE, CA 92503
PHONE: (951) 687-4252

SOIL ENGINEER

REPORT DATED APRIL 7, 2020
PROJECT NO. 13627-1
AS CONDUCTED BY
LOR GEOTECHNICAL GROUP, INC.
6121 QUAIL VALLEY COURT
RIVERSIDE, CA 92507
PHONE: (951) 653-1760
FAX: (951) 653-1741

SOURCE OF FLOOD LIMITS

REPORT DATED JANUARY 7, 2020
PROJECT NO. R311806.01
AS CONDUCTED BY
HUITT-ZOLLARS, INC.
2603 MAIN STREET, SUITE 400
IRVINE, CA 92614
PHONE: (949) 988-5815
FAX: (949) 988-5820

SOURCE OF NO BUILD ZONE

REPORT DATED NOVEMBER 23, 2016
FILE NO. 00547-01, DOC. NO. 16-11-710
AS CONDUCTED BY
EARTH SYSTEMS SOUTHWEST
1680 ILLINOIS AVE, SUITE 20
PERRIS, CA 92571
PHONE: (951) 928-9799
FAX: (951) 928-9948

EXHIBIT 'A'

PROPERTY OWNER/APPLICANT:

SANTIAGO HOLDINGS, LLC
C/O CAMDEN HOLDINGS, LLC
ATTN: MR. ARI MILLER
9454 WILSHIRE BLVD., 6TH FLOOR
BEVERLY HILLS, CA 90212
(310) 553-1031

TRIBUTARY AREA MAP
PRE-DEVELOPMENT
PP2019-0222 / CUP2017-0010 / PM2019-0006 - BEAUMONT VILLAGE
PROPOSED COMMERCIAL RETAIL CENTER
APN 404-190-001 & 003
NORTHWEST CORNER OF BEAUMONT
AVENUE & OAK VALLEY PARKWAY
CITY OF BEAUMONT

CASC
Engineering and Consulting
1470 EAST COOLEY DRIVE
COLTON, CA 92324
PH. (909) 783-0101 FAX (909) 783-0108

REGISTERED PROFESSIONAL ENGINEER PATRICK C. FLANAGAN NO. C 086046 CIVIL STATE OF CALIFORNIA

Patrick C. Flanagan, Jr. R.C.E. 86046 Exp. Sep 30, 2024

Job Number:	Date Prepared:	Drawn By:	Reference Number:
1512-0001	9/5/23	RL	1512-0001 HYDROLOGY

EXHIBIT B

PROPOSED CONDITION HYDROLOGY MAP (RATIONAL METHOD)

TRIBUTARY AREA MAP

POST-DEVELOPMENT
BEAUMONT VILLAGE - PROPOSED COMMERCIAL RETAIL CENTER
APN 404-190-001 & 003
NORTHWEST CORNER OF BEAUMONT AVENUE & OAK VALLEY PARKWAY
CITY OF BEAUMONT

LEGAL DESCRIPTION

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EXISTING EASEMENTS

NO KNOWN EASEMENTS PER TITLE REPORT DATED 08/29/2019 BY NORTH AMERICAN TITLE COMPANY.

UTILITIES:

ELECTRIC:
SOUTHERN CALIFORNIA EDISON COMPANY
287 TENNESSEE STREET
REDLANDS, CA 92373
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TELEPHONE:
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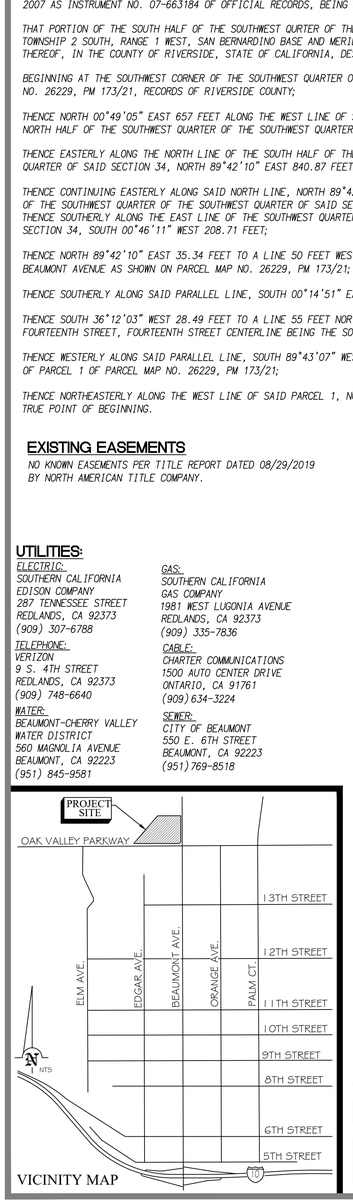

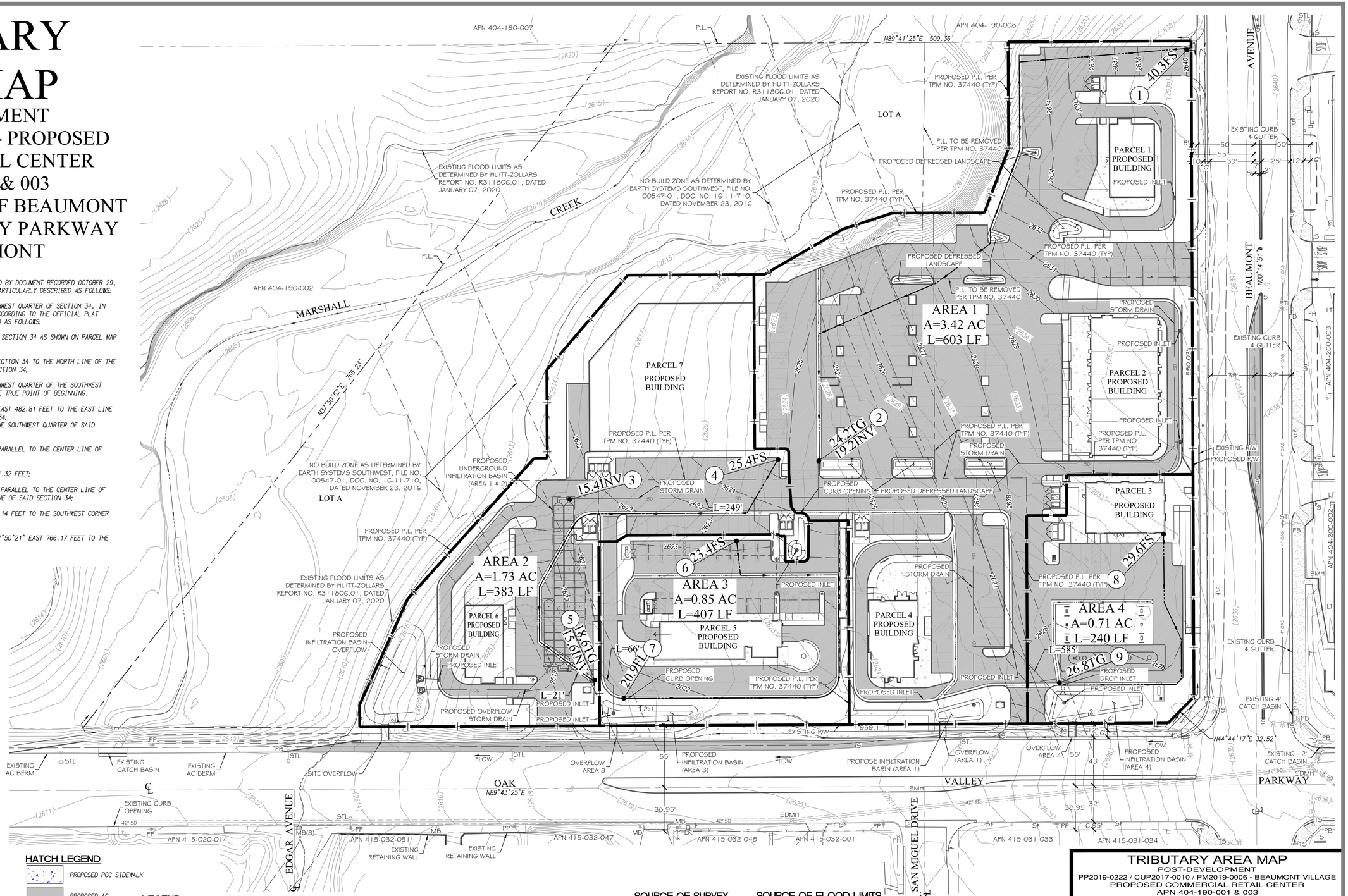

HATCH LEGEND

- PROPOSED PCC SIDEWALK
- PROPOSED AC
- EXISTING PCC PAVING

LEGEND

AC	ASPHALT CONCRETE
ER	ELECTRIC RISER
EX	EXISTING
FH	FIRE HYDRANT
LT	LIGHT
PB	PULL BOX
PCC	PORTLAND CEMENT CONCRETE
P.L.	PROPERTY LINE
R/W	RIGHT-OF-WAY
S	SIGN
SDMH	STORM DRAIN MANHOLE
STL	STREET LIGHT
TS	TRAFFIC SIGNAL
TYP	TYPICAL

GRAPHIC SCALE
40 0 20 40 80
1" = 40'

LEGEND

- (1) ELEV. — NODE # & ELEV.
- L=165' — FLOWLINE LENGTH
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- OVERFLOW

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PERRIS, CA 92571
PHONE: (951) 928-9799
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FIGURE 5.2

PROPERTY OWNER/APPLICANT:

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C/O CAMDEN HOLDINGS, LLC
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Job Number:	Date Prepared:	Drawn By:	Reference Number:
1512-0001	9/5/2023	RL	1512-0001 HYDROLOGY