Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING

PRELIMINARY HYDROLOGY CALCULATIONS

FOR

W. AVENUE M AND DIVISION STREET
LANCASTER, CA

PREPARED FOR

GM PROPERTIES
133305 PENN STREET, SUITE 200
WHITTIER, CA 90602
P. (562) 762-3152

DECEMBER 6, 2023

JOB NO. 4181

PREPARED BY

THIENES ENGINEERING
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PRELIMINARY
HYDROLOGY CALCULATIONS

FOR

W. AVENUE M AND DIVISION STREET

PREPARED UNDER
THE SUPERVISION OF:

REINHARD STENZEL DATE
R.C.E. 56155
EXP. 12/31/2024

INTRODUCTION

A: PROJECT LOCATION

The project site is located at the northwesterly corner of W. Avenue M and Division Street. See following page for vicinity map.

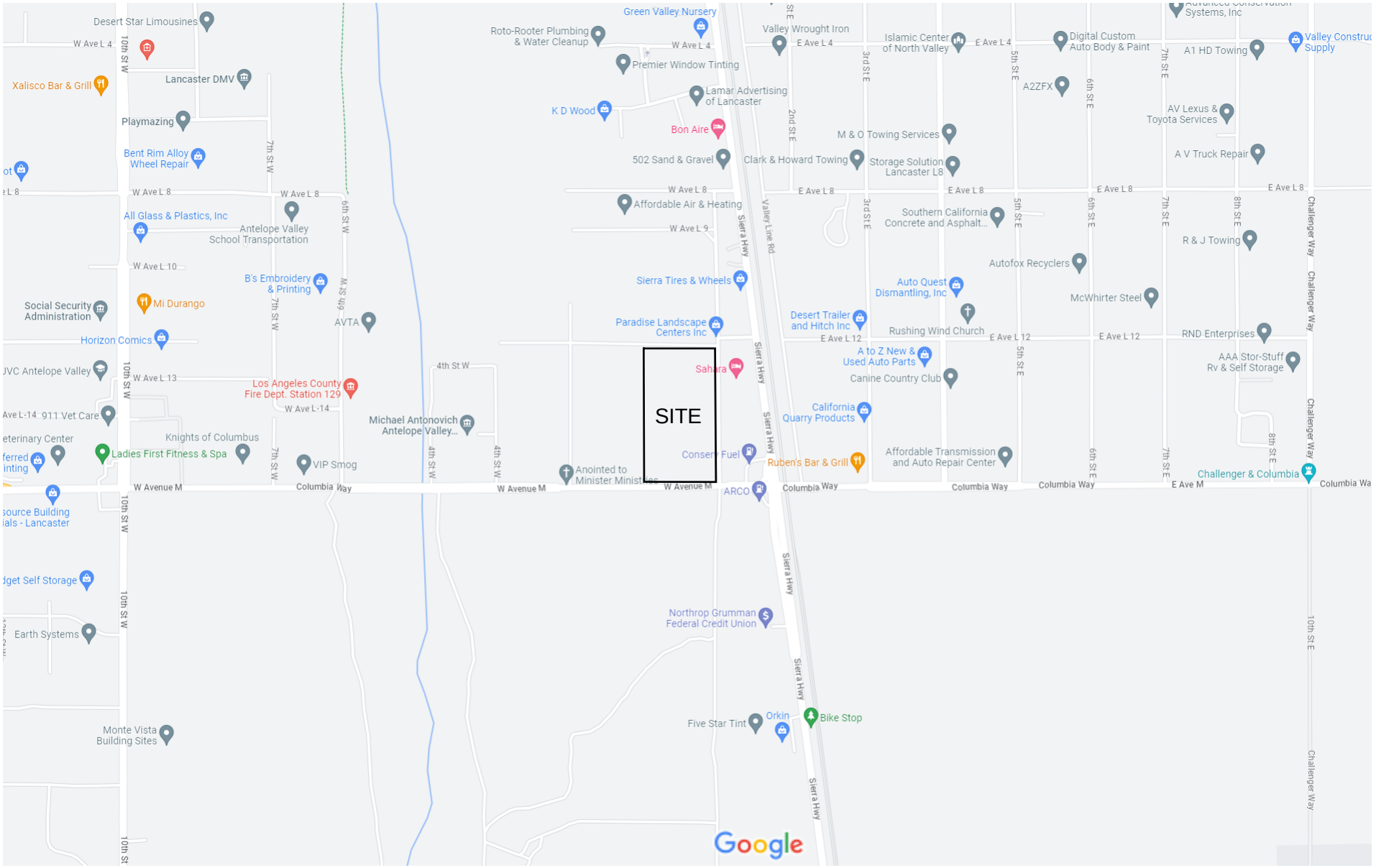
B: STUDY PURPOSE

The purpose of this study is to determine the existing and proposed 50-year peak flow rates from the project site.

C: PROJECT STAFF:

Thienes Engineering staff involved in this study include:

Reinhard Stenzel
Morgan Holve


Google Maps
SITE
Desert Star Limousines
Xalisco Bar & Grill
Lancaster DMV
Playmazing
Bent Rim Alloy Wheel Repair
All Glass & Plastics, Inc
Antelope Valley School Transportation
B's Embroidery & Printing
Social Security Administration
Mi Durango
Horizon Comics
AVTA
Los Angeles County Fire Dept. Station 129
Knights of Columbus
Ladies First Fitness & Spa
VIP Smog
Michael Antonovich Antelope Valley...
Monte Vista Building Sites
Earth Systems
Green Valley Nursery
Roto-Rooter Plumbing & Water Cleanup
Premier Window Tinting
Lamar Advertising of Lancaster
K D Wood
Bon Aire
502 Sand & Gravel
Affordable Air & Heating
Sierra Tires & Wheels
Paradise Landscape Centers Inc
Sahara
Consery Fuel
Anointed to Minister Ministries
ARCO
Northrop Grumman Federal Credit Union
Five Star Tint
Orkin
Bike Stop
Valley Wrought Iron
Islamic Center of North Valley
Clark & Howard Towing
Storage Solution Lancaster L8
Southern California Concrete and Asphalt...
Desert Trailer and Hitch Inc
Rushing Wind Church
A to Z New & Used Auto Parts
Canine Country Club
California Quarry Products
Ruben's Bar & Grill
Affordable Transmission and Auto Repair Center
Digital Custom Auto Body & Paint
A2ZFX
M & O Towing Services
Autofox Recyclers
Auto Quest Dismantling, Inc
McWhirter Steel
A1 HD Towing
AV Lexus & Toyota Services
A V Truck Repair
R & J Towing
RND Enterprises
AAA Stor-Stuff Rv & Self Storage
Challenger & Columbia
W Ave L 4
W Ave L 8
W Ave L 9
W Ave L 10
W Ave L 13
W Ave L-14
E Ave L 4
E Ave L 8
E Ave L 12
E Ave M
W Avenue M
Columbia Way
10th St W
7th St W
6th St W
4th St W
3rd St E
5th St E
6th St E
7th St E
8th St E
10th St E
Challenger Way
Sierra Hwy
Valley Line Rd
Google
Map data ©2023
500 ft

DISCUSSION

The project site encompasses approximately 36.62 acres. Proposed improvements include two warehouse-style buildings: Building 1 has approximately 394,560 square feet and Building 2 has approximately 413,408 square feet. Each building has a truck dock and trailer parking area. The site also proposes three detention basins (Basins #1-#3) adjacent to Avenue L-12. There is vehicle parking adjacent to each building and to the north and south of the site and landscaping located throughout the site.

Existing Condition

The site is currently an undeveloped dirt lot. Runoff generally sheet flows northerly to Avenue L-2. The total 50-year peak flow rate from the site is approximately 3.1 cfs.

See Appendix "B" for existing condition hydrology calculations and Appendix "D" for existing condition hydrology map.

Proposed Condition

The site will continue draining northerly in the proposed condition. The easterly portion of Building 1 and easterly parking area (Areas A1-A11) drain to catch basins located in the parking area. A proposed onsite storm drain system collects and conveys flows northerly to proposed Basin #1 (Area B10). The southerly landscaped area (Areas B1 and B2) drain to catch basins located in the landscaped area. A proposed onsite storm drain system conveys flows northerly around Building 1 into the truck yard. The southerly parking area, westerly portion of Building 1 and truck yard (Areas B3-B9) are confluenced in the proposed onsite system. Flows continue northerly to Basin #1. Basin #1 ultimately discharges to Avenue L-12 via proposed parkway culverts. The total 50-year peak flow rate to Basin #1 is approximately 24.6 cfs.

The northerly vehicle parking area (Area E1) drains to a catch basin located in the parking area. Flows are conveyed northerly to Basin #2 (Area E2), which ultimately discharges to Avenue L-12 via proposed parkway culverts. The total 50-year peak flow rate to Basin #2 is approximately 0.8 cfs.

The easterly portion of Building 2 and its truck yard (Areas C1-C7) drain to catch basins located in the truck yard. A proposed onsite storm drain system captures and conveys flows northly to Basin #3 (Area D12). The westerly portion of Building 2 and westerly vehicle parking area (Areas D1-D11) drain to catch basins located in the parking area. A proposed onsite storm drain system conveys flows northly to Basin #3. This basin ultimately discharges to Avenue L-12 via proposed parkway culverts. The 50-year peak flow rate to Basin #3 is approximately 24.8 cfs.

The northerly driveway areas (Areas F1 and F2) sheet flow northerly offsite to Avenue L-12. The total 50-year peak flow rate from these areas is approximately 1.1 cfs.

The southerly landscaped area (Area G1) sheet flows southerly offsite to W. Avenue M. The 50-year peak flow rate from this area is approximately 0.1 cfs.

The total 50-year peak flow rate from the project site is approximately 51.4 cfs.

Detention

Detention requirements for the City of Lancaster state that the proposed condition peak flow rate discharging from a project site must be limited to 85% of the existing condition peak flow rate. Therefore, the proposed condition peak flow rate from the project site will be limited to approximately 2.6 cfs. Detention will be achieved on the surface of the truck yard and through proposed underground 96" CMP systems.

The Building 1 easterly drive aisle and parking area (Areas A1-A11) fully retained onsite via an underground CMP system located in the drive aisle. The proposed CMPs will provide approximately 57,101 cubic feet (1.31 acre-ft) of storage and will infiltrate within 48 hours.

Flows from the southerly landscaped area and Building 1 truck yard area (Areas B1-B9) will be temporarily stored on the surface of the Building 1 truck yard. The required storage volume is approximately 0.60 ac-ft at a depth of approximately 0.72'. With this volume, the discharge from the truck yard will be limited to approximately 1.0 cfs.

The northerly parking area (Area E1) will be fully retained in Basin #2 (Area E2) and proposed underground CMPs. Basin #2 has approximately 0.07 ac-ft of storage and the CMPs will provide approximately 0.05 ac-ft of storage to contain the entire 50-year storm event.

Flows from the Building 2 truck yard area (Areas C1-C7) will be temporarily stored on the surface of the Building 2 truck yard. The required surface volume is approximately 0.51 ac-ft at a depth of approximately 0.67'. With this volume, the discharge from the truck yard will be limited to approximately 1.0 cfs.

The Building 2 westerly drive aisle and parking area (Areas D1-D11) fully retained onsite via an underground CMP system located in the drive aisle. The proposed CMPs will provide approximately 63,386 cubic feet (1.46 acre-ft) of storage and will infiltrate within 48 hours.

The northerly drive aisles and southerly landscaped areas (Areas F1, F2 and G1) sheet flow undetained to the adjacent streets. The total 50-year peak flow rate from these areas is approximately 0.6 cfs.

With onsite detention and retention, the 50-year peak flow rate from the project site will be limited to approximately 2.6 cfs. This satisfies the City of Lancaster requirements for onsite detention.

See Appendix “C” for detention analysis.

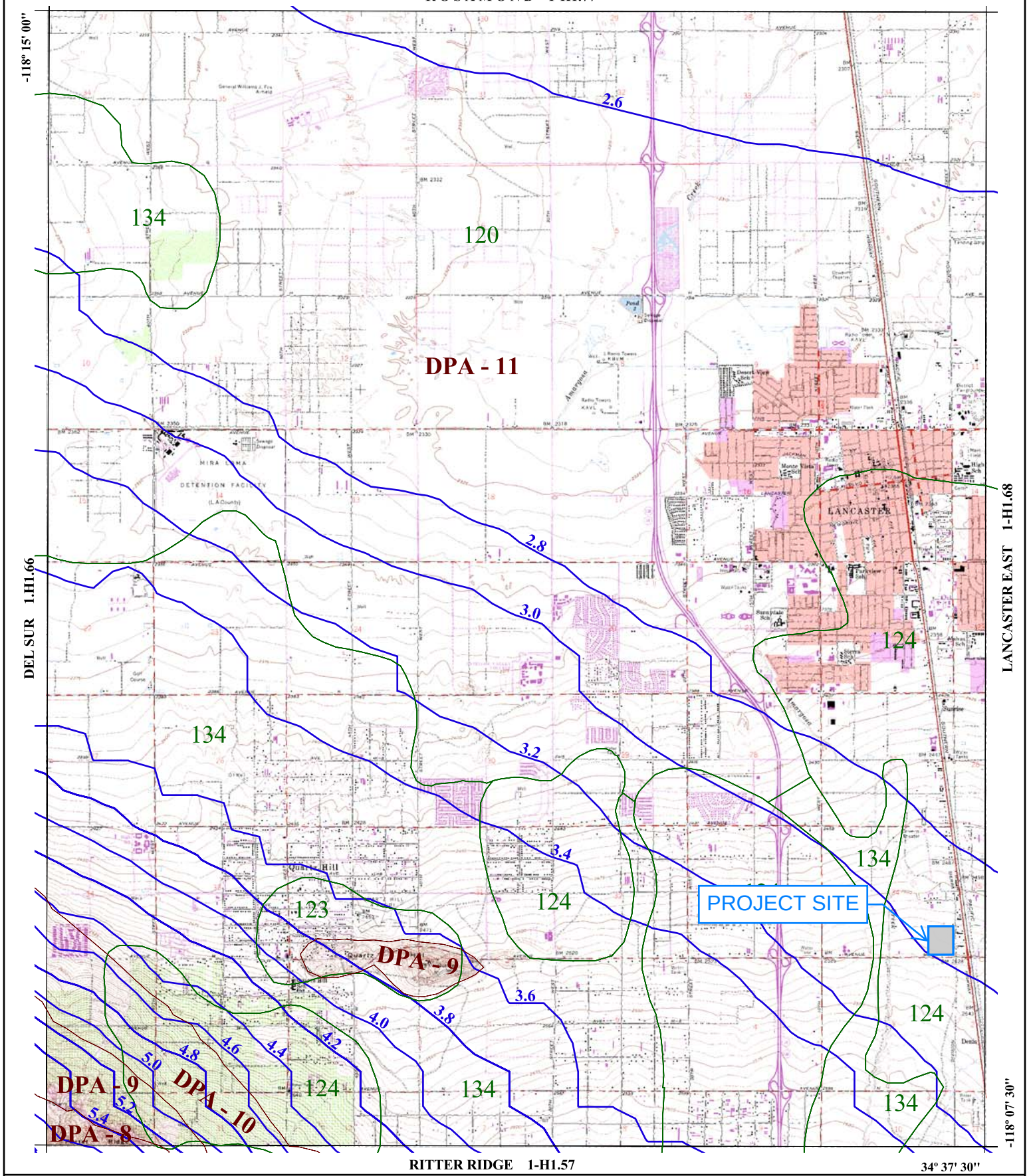
Methodology

Hydrology calculations and hydrographs were computed using Los Angeles County’s Hydro-Calc Excel spreadsheet. The soil type is 124 and the rainfall zone is 3.0 per Los Angeles County Hydrology Manual. See Appendix “A” for reference material from the Los Angeles County Hydrology Manual.

APPENDIX	DESCRIPTION
A	REFERENCE MATERIALS
B	HYDROLOGY CALCULATIONS
C	DETENTION ANALYSIS
D	HYDROLOGY MAPS

APPENDIX A

REFERENCE MATERIALS



N
W E
S

016 SOIL CLASSIFICATION AREA

7.2 INCHES OF RAINFALL

DPA - 6 DEBRIS POTENTIAL AREA

1 0 1 2 Miles

25-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.878
10-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.714

LANCASTER WEST
50-YEAR 24-HOUR ISOHYET

SOIL: 124
RAIN: 3.0"

1-H1.67

LOS ANGELES COUNTY PUBLIC WORKS Public Service That Works

APPENDIX B

HYDROLOGY CALCULATIONS

Peak Flow Hydrologic Analysis

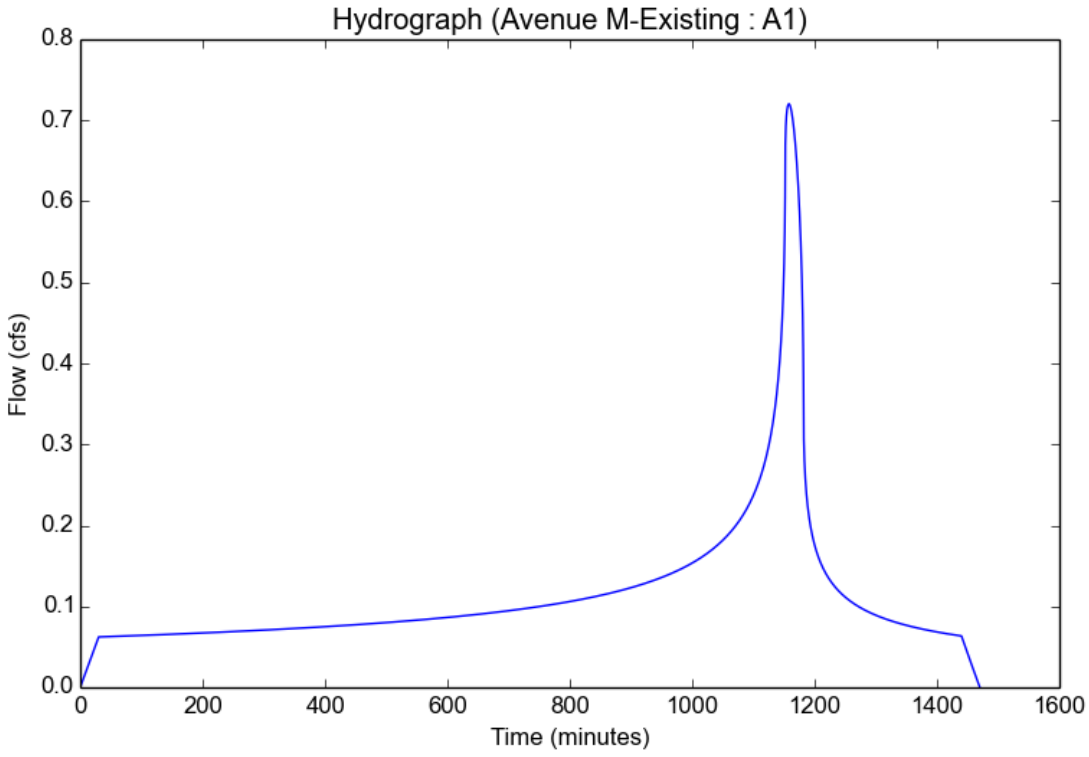
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Existing Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Existing
Subarea ID	A1
Area (ac)	8.65
Flow Path Length (ft)	1332.0
Flow Path Slope (vft/hft)	0.0105
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.01
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	0.7711
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.108
Time of Concentration (min)	30.0
Clear Peak Flow Rate (cfs)	0.7203
Burned Peak Flow Rate (cfs)	0.7203
24-Hr Clear Runoff Volume (ac-ft)	0.2316
24-Hr Clear Runoff Volume (cu-ft)	10089.4758



Peak Flow Hydrologic Analysis

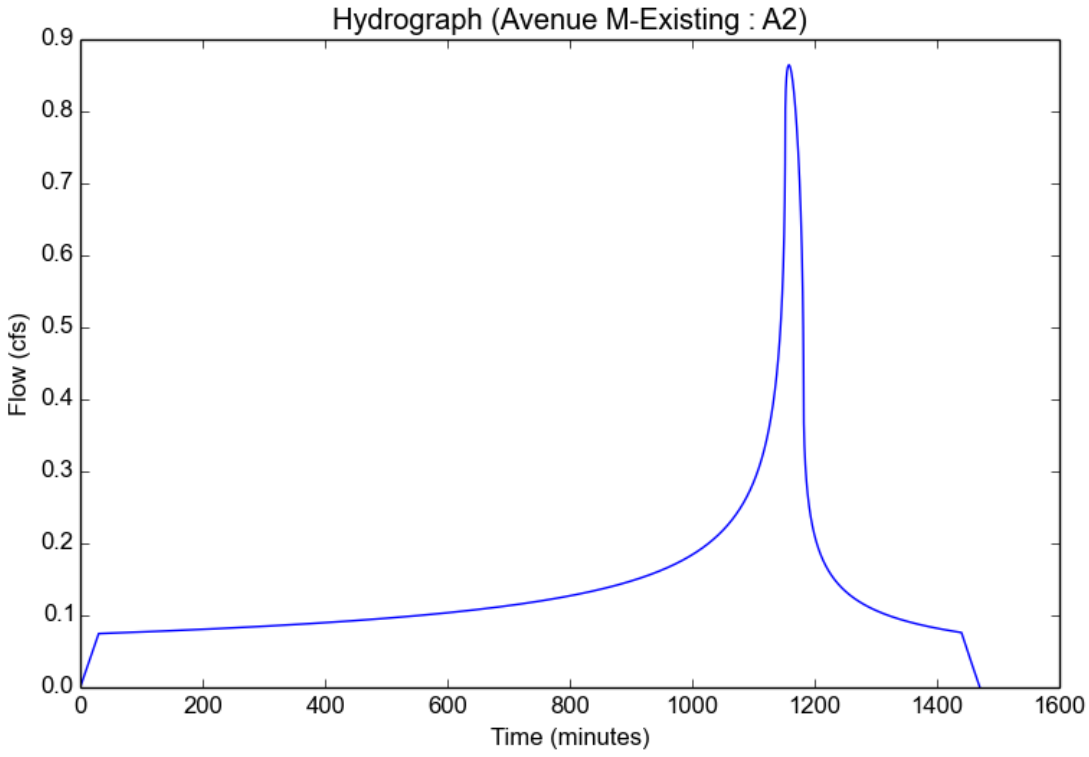
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Existing Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Existing
Subarea ID	A2
Area (ac)	10.38
Flow Path Length (ft)	1333.0
Flow Path Slope (vft/hft)	0.0096
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.01
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	0.7711
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.108
Time of Concentration (min)	30.0
Clear Peak Flow Rate (cfs)	0.8644
Burned Peak Flow Rate (cfs)	0.8644
24-Hr Clear Runoff Volume (ac-ft)	0.2779
24-Hr Clear Runoff Volume (cu-ft)	12107.371



Peak Flow Hydrologic Analysis

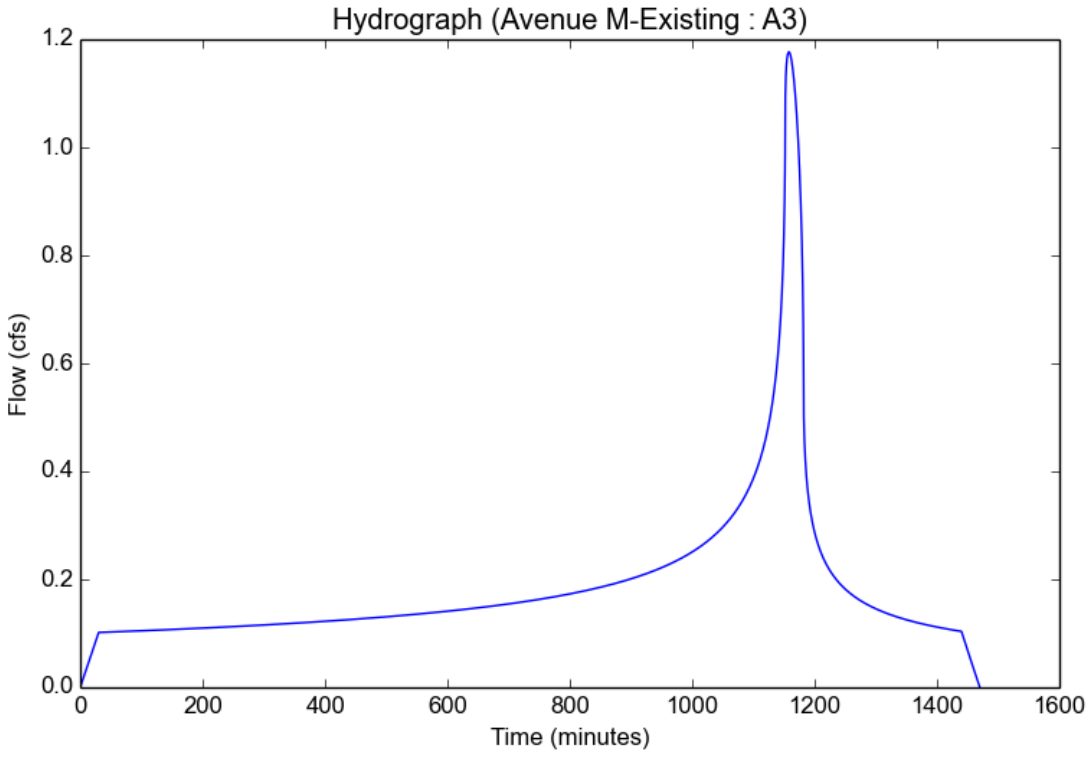
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Existing Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Existing
Subarea ID	A3
Area (ac)	14.13
Flow Path Length (ft)	1312.0
Flow Path Slope (vft/hft)	0.0096
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.01
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	0.7711
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.108
Time of Concentration (min)	30.0
Clear Peak Flow Rate (cfs)	1.1767
Burned Peak Flow Rate (cfs)	1.1767
24-Hr Clear Runoff Volume (ac-ft)	0.3784
24-Hr Clear Runoff Volume (cu-ft)	16481.4212



Peak Flow Hydrologic Analysis

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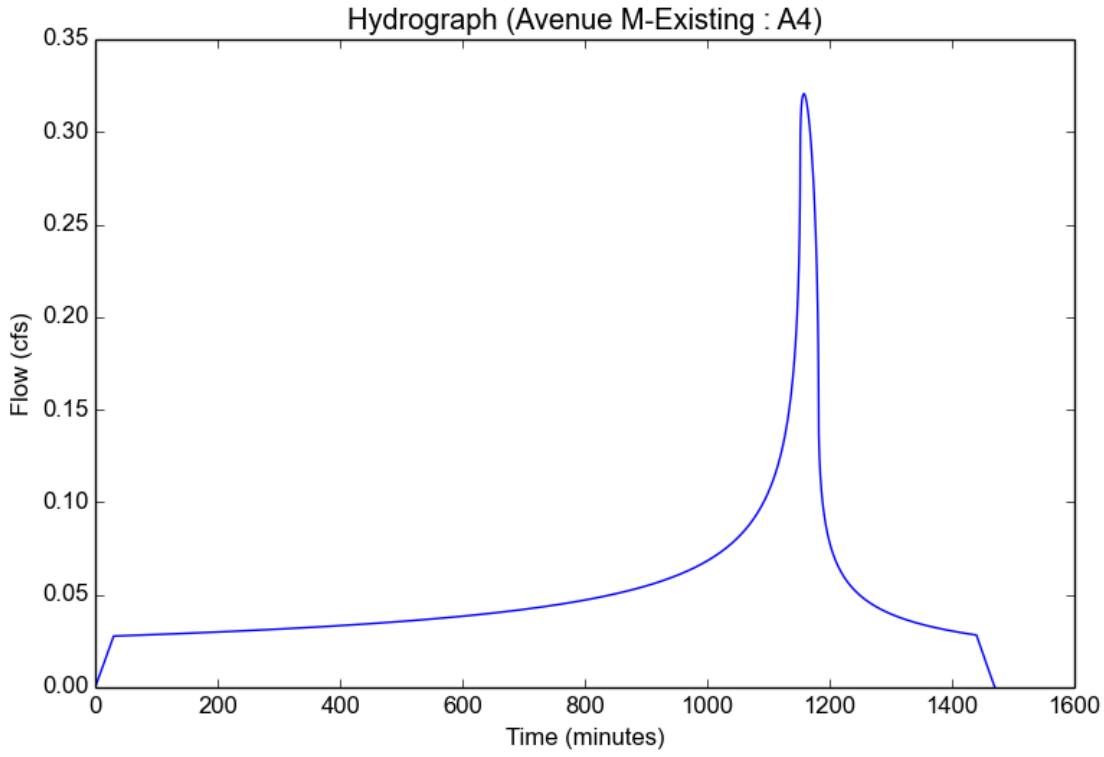
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Existing
Subarea ID	A4
Area (ac)	3.85
Flow Path Length (ft)	769.0
Flow Path Slope (vft/hft)	0.0095
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.01
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	0.7711
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.108
Time of Concentration (min)	30.0
Clear Peak Flow Rate (cfs)	0.3206
Burned Peak Flow Rate (cfs)	0.3206
24-Hr Clear Runoff Volume (ac-ft)	0.1031
24-Hr Clear Runoff Volume (cu-ft)	4490.6916



Peak Flow Hydrologic Analysis

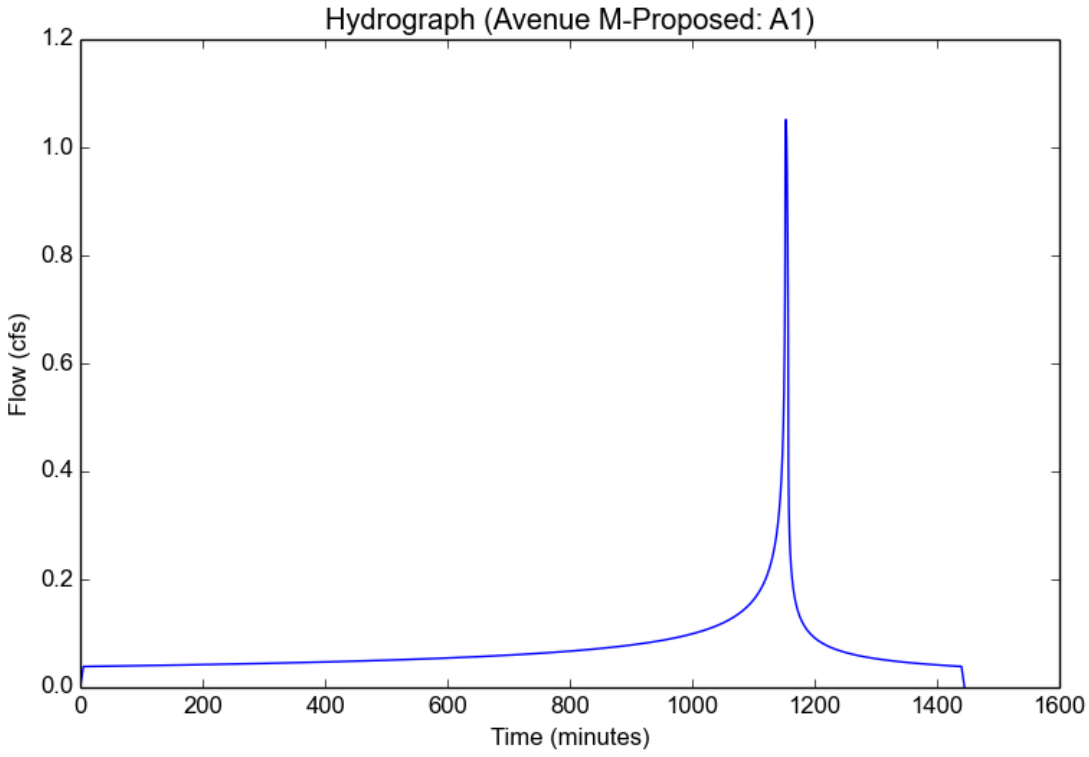
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	A1
Area (ac)	0.71
Flow Path Length (ft)	108.0
Flow Path Slope (vft/hft)	0.0627
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.0515
Burned Peak Flow Rate (cfs)	1.0515
24-Hr Clear Runoff Volume (ac-ft)	0.1444
24-Hr Clear Runoff Volume (cu-ft)	6289.4134



Peak Flow Hydrologic Analysis

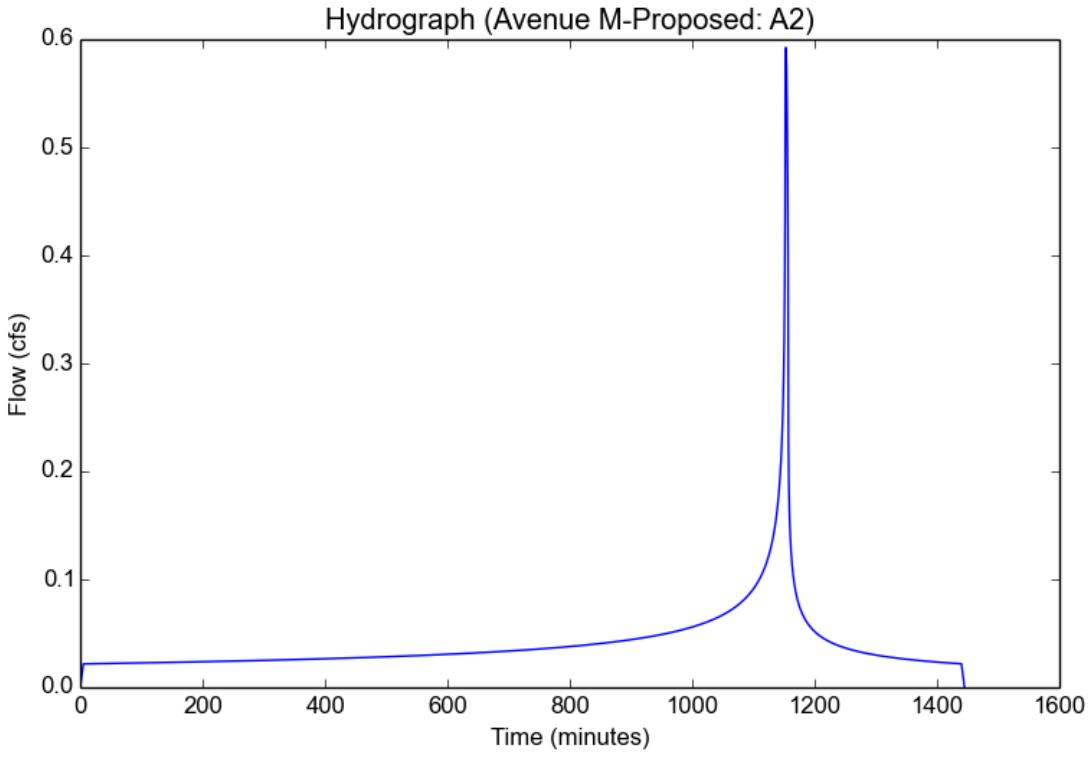
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	A2
Area (ac)	0.4
Flow Path Length (ft)	76.0
Flow Path Slope (vft/hft)	0.0126
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.5924
Burned Peak Flow Rate (cfs)	0.5924
24-Hr Clear Runoff Volume (ac-ft)	0.0813
24-Hr Clear Runoff Volume (cu-ft)	3543.3315



Peak Flow Hydrologic Analysis

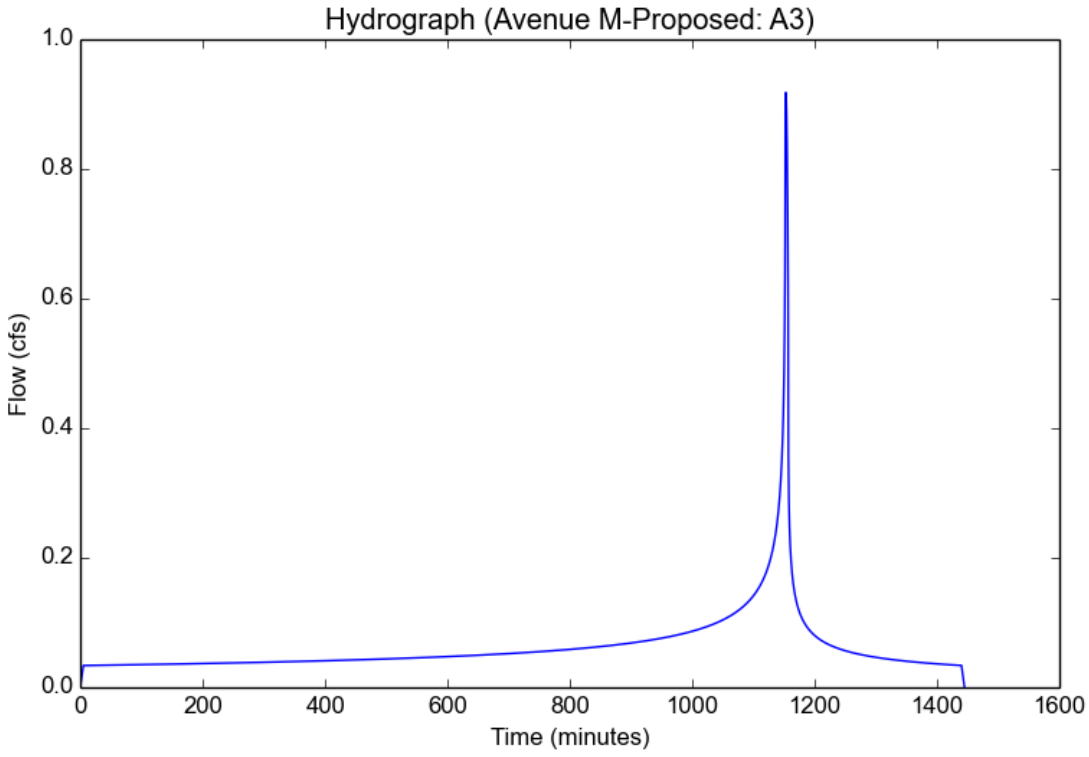
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	A3
Area (ac)	0.62
Flow Path Length (ft)	69.0
Flow Path Slope (vft/hft)	0.0139
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.9182
Burned Peak Flow Rate (cfs)	0.9182
24-Hr Clear Runoff Volume (ac-ft)	0.1261
24-Hr Clear Runoff Volume (cu-ft)	5492.1638



Peak Flow Hydrologic Analysis

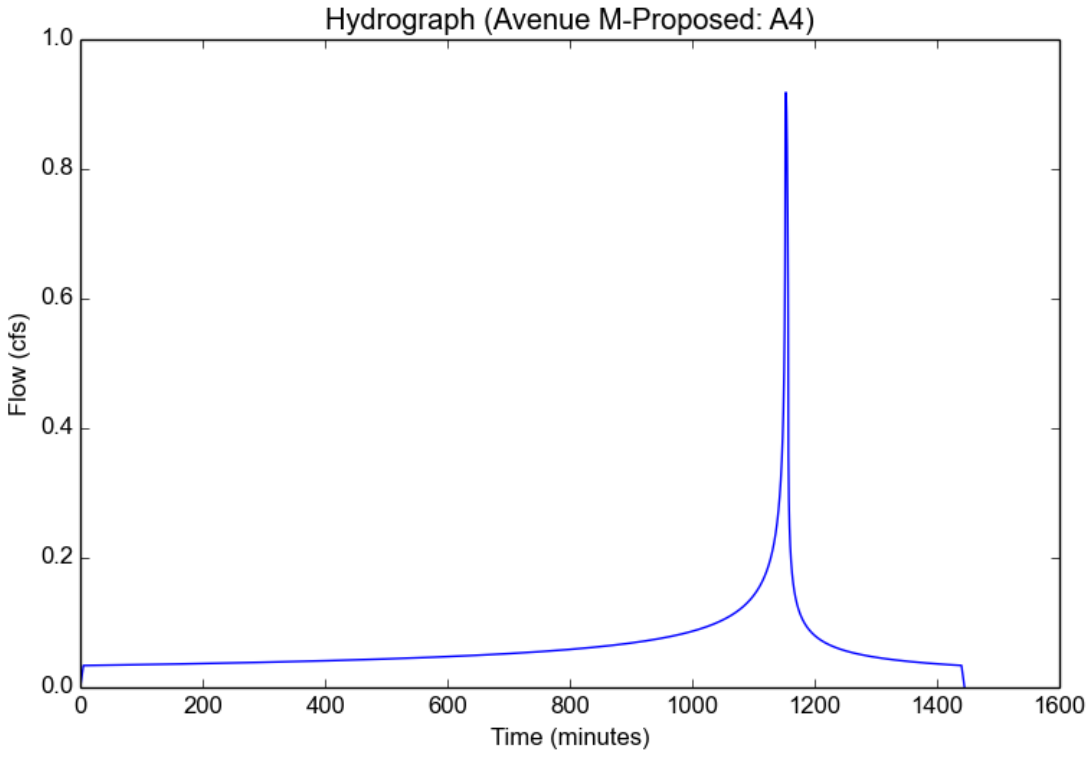
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	A4
Area (ac)	0.62
Flow Path Length (ft)	69.0
Flow Path Slope (vft/hft)	0.0139
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.9182
Burned Peak Flow Rate (cfs)	0.9182
24-Hr Clear Runoff Volume (ac-ft)	0.1261
24-Hr Clear Runoff Volume (cu-ft)	5492.1638



Peak Flow Hydrologic Analysis

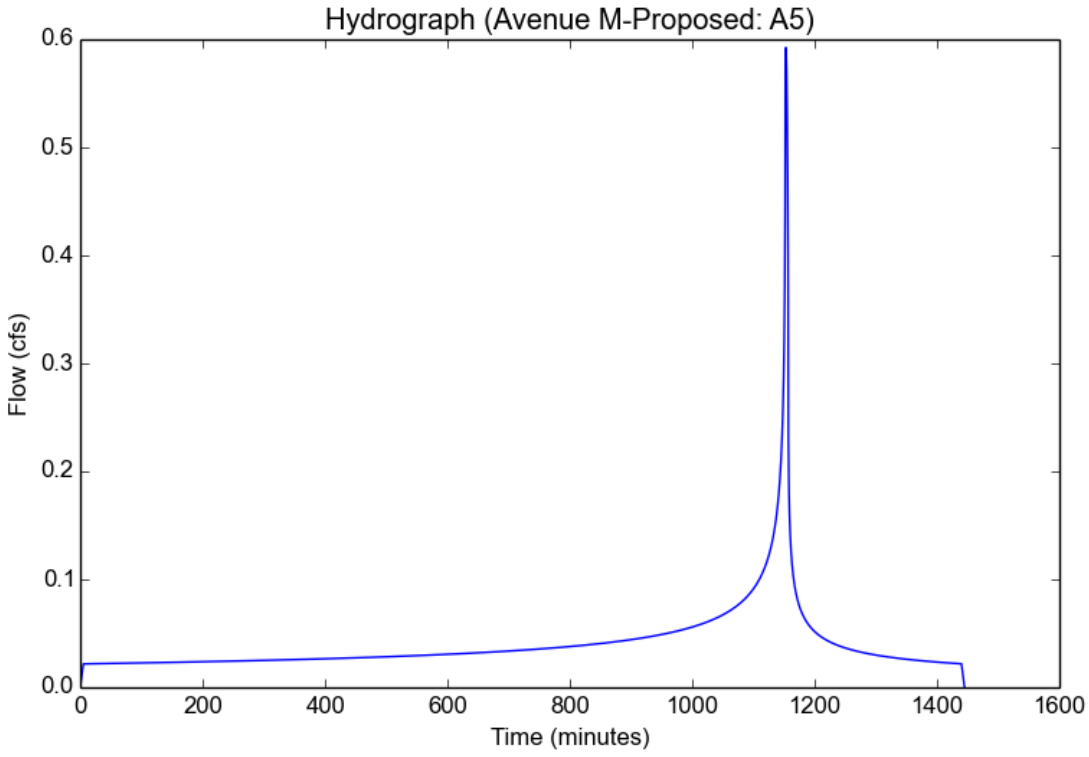
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	A5
Area (ac)	0.4
Flow Path Length (ft)	70.0
Flow Path Slope (vft/hft)	0.0137
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.5924
Burned Peak Flow Rate (cfs)	0.5924
24-Hr Clear Runoff Volume (ac-ft)	0.0813
24-Hr Clear Runoff Volume (cu-ft)	3543.3315



Peak Flow Hydrologic Analysis

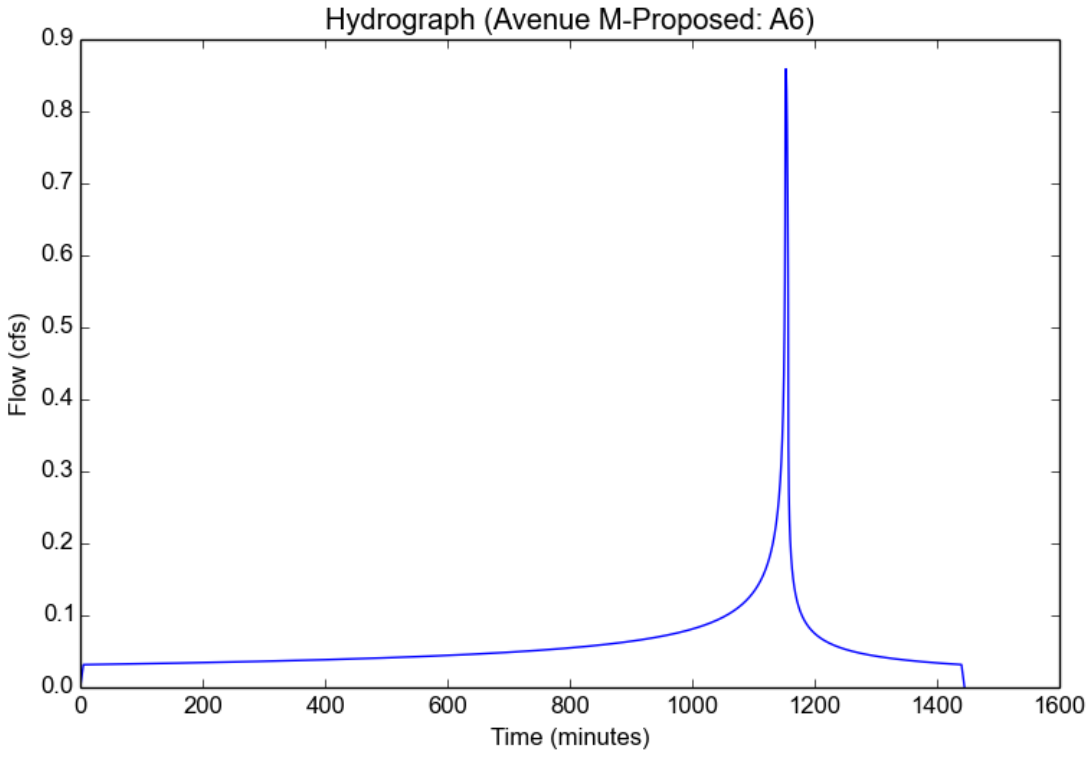
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	A6
Area (ac)	0.58
Flow Path Length (ft)	58.0
Flow Path Slope (vft/hft)	0.0098
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.8589
Burned Peak Flow Rate (cfs)	0.8589
24-Hr Clear Runoff Volume (ac-ft)	0.1179
24-Hr Clear Runoff Volume (cu-ft)	5137.8307



Peak Flow Hydrologic Analysis

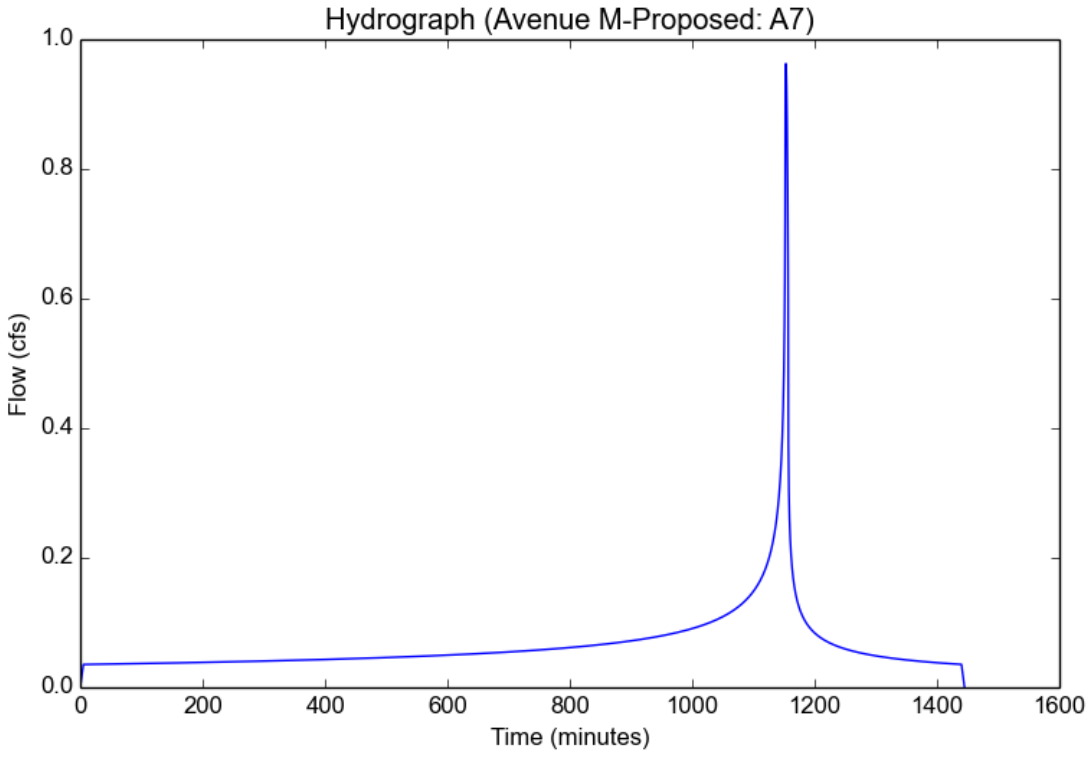
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	A7
Area (ac)	0.65
Flow Path Length (ft)	80.0
Flow Path Slope (vft/hft)	0.012
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.9626
Burned Peak Flow Rate (cfs)	0.9626
24-Hr Clear Runoff Volume (ac-ft)	0.1322
24-Hr Clear Runoff Volume (cu-ft)	5757.9137



Peak Flow Hydrologic Analysis

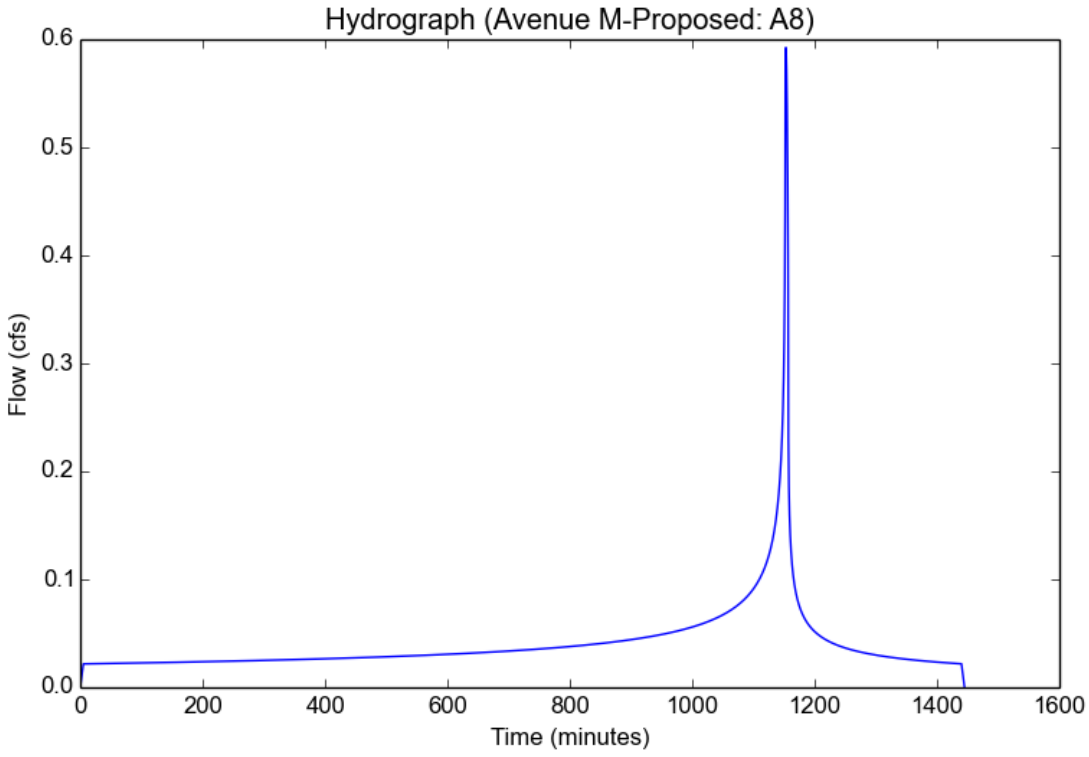
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	A8
Area (ac)	0.4
Flow Path Length (ft)	78.0
Flow Path Slope (vft/hft)	0.0123
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.5924
Burned Peak Flow Rate (cfs)	0.5924
24-Hr Clear Runoff Volume (ac-ft)	0.0813
24-Hr Clear Runoff Volume (cu-ft)	3543.3315



Peak Flow Hydrologic Analysis

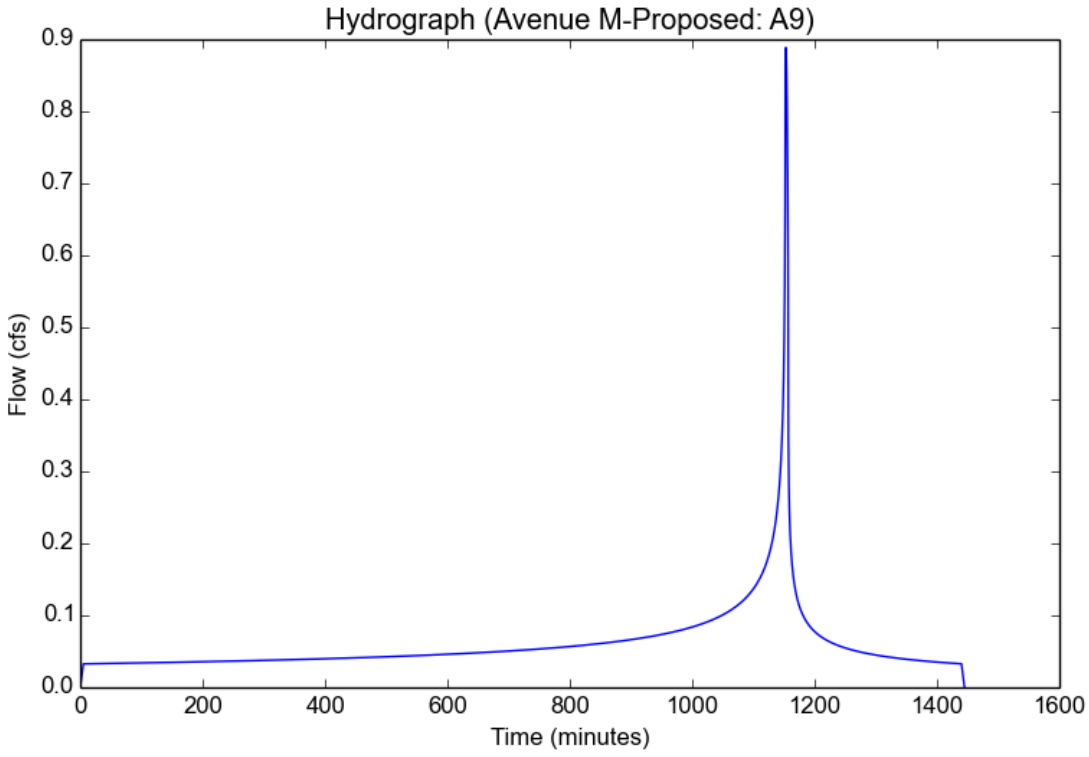
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	A9
Area (ac)	0.6
Flow Path Length (ft)	78.0
Flow Path Slope (vft/hft)	0.0123
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.8886
Burned Peak Flow Rate (cfs)	0.8886
24-Hr Clear Runoff Volume (ac-ft)	0.122
24-Hr Clear Runoff Volume (cu-ft)	5314.9973



Peak Flow Hydrologic Analysis

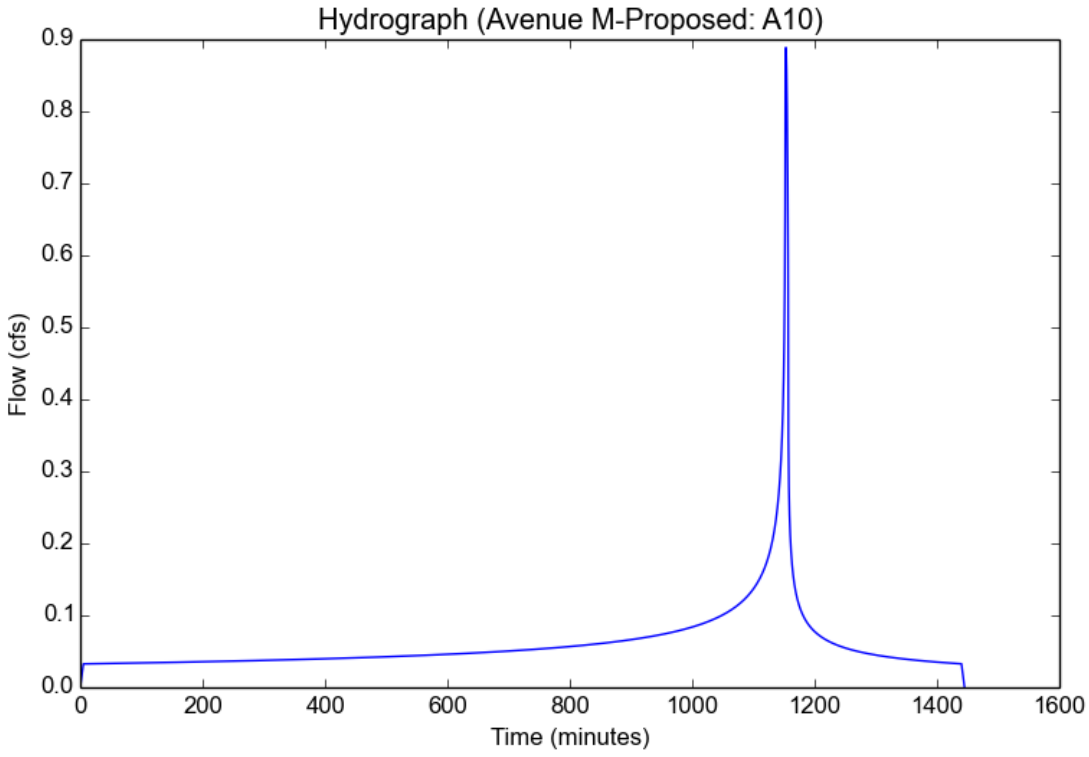
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	A10
Area (ac)	0.6
Flow Path Length (ft)	76.0
Flow Path Slope (vft/hft)	0.0126
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.8886
Burned Peak Flow Rate (cfs)	0.8886
24-Hr Clear Runoff Volume (ac-ft)	0.122
24-Hr Clear Runoff Volume (cu-ft)	5314.9973



Peak Flow Hydrologic Analysis

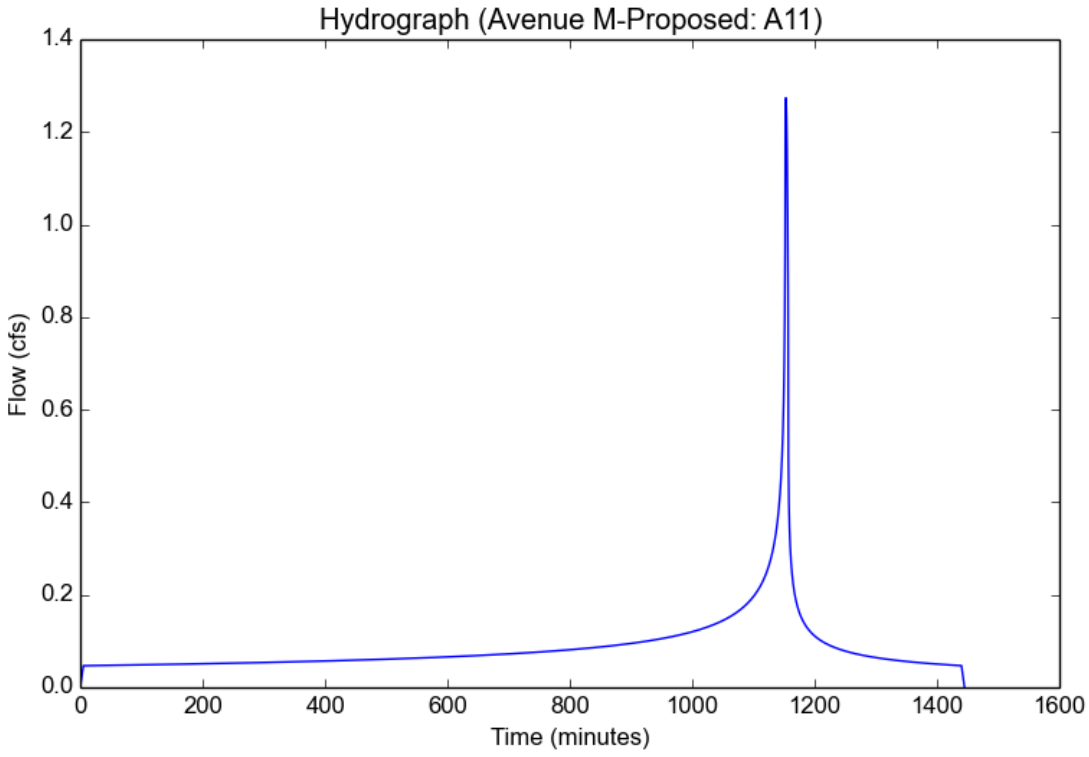
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	A11
Area (ac)	0.86
Flow Path Length (ft)	89.0
Flow Path Slope (vft/hft)	0.0112
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.2736
Burned Peak Flow Rate (cfs)	1.2736
24-Hr Clear Runoff Volume (ac-ft)	0.1749
24-Hr Clear Runoff Volume (cu-ft)	7618.1628



Peak Flow Hydrologic Analysis

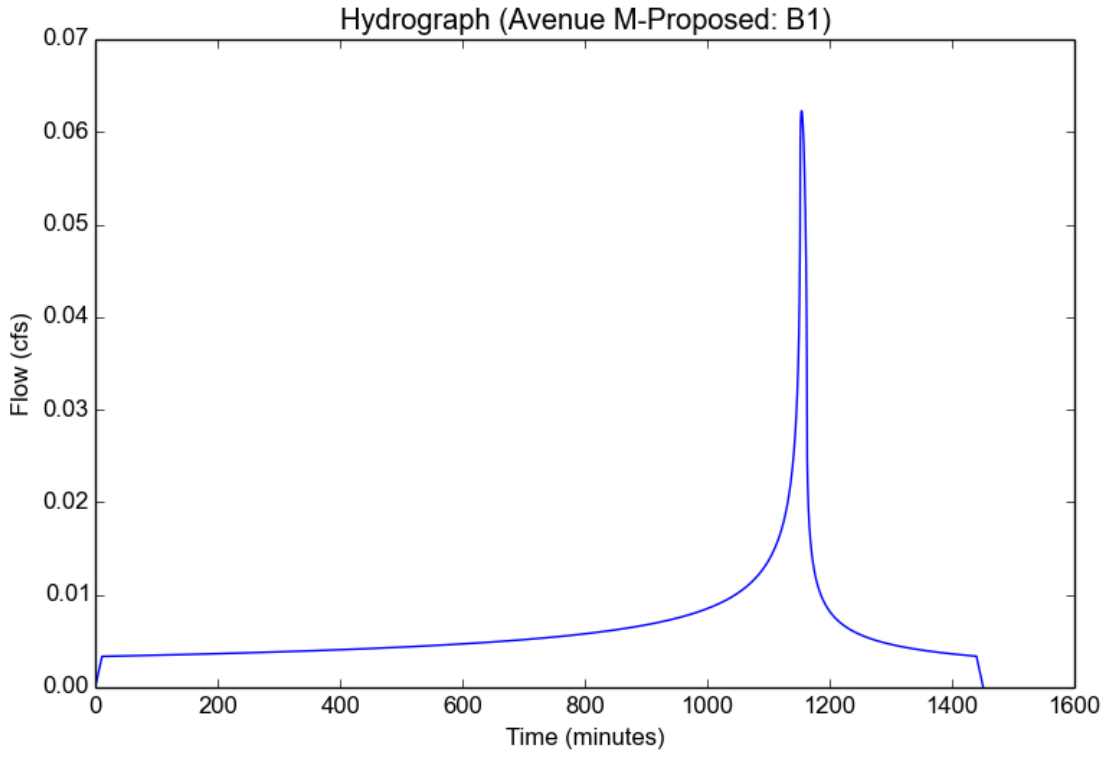
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	B1
Area (ac)	0.28
Flow Path Length (ft)	104.0
Flow Path Slope (vft/hft)	0.0142
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.1
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.2356
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.18
Time of Concentration (min)	11.0
Clear Peak Flow Rate (cfs)	0.0623
Burned Peak Flow Rate (cfs)	0.0623
24-Hr Clear Runoff Volume (ac-ft)	0.0125
24-Hr Clear Runoff Volume (cu-ft)	544.3208



Peak Flow Hydrologic Analysis

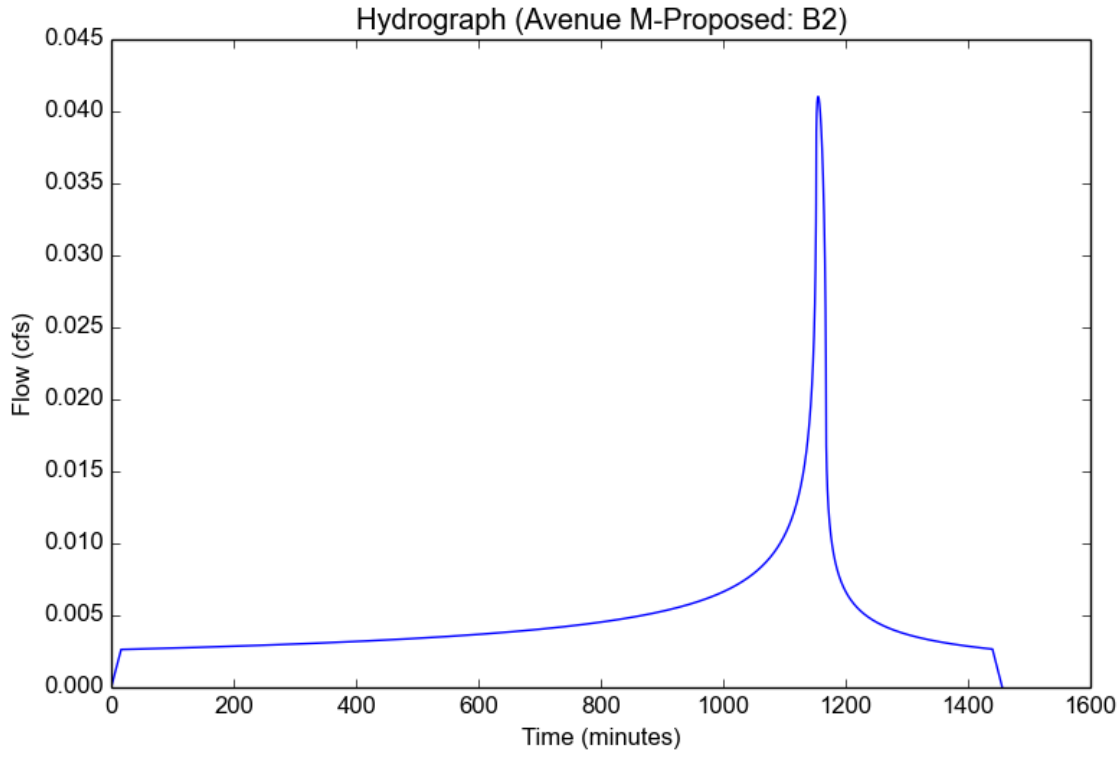
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	B2
Area (ac)	0.22
Flow Path Length (ft)	160.0
Flow Path Slope (vft/hft)	0.0095
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.1
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.0361
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.18
Time of Concentration (min)	16.0
Clear Peak Flow Rate (cfs)	0.041
Burned Peak Flow Rate (cfs)	0.041
24-Hr Clear Runoff Volume (ac-ft)	0.0098
24-Hr Clear Runoff Volume (cu-ft)	427.6814



Peak Flow Hydrologic Analysis

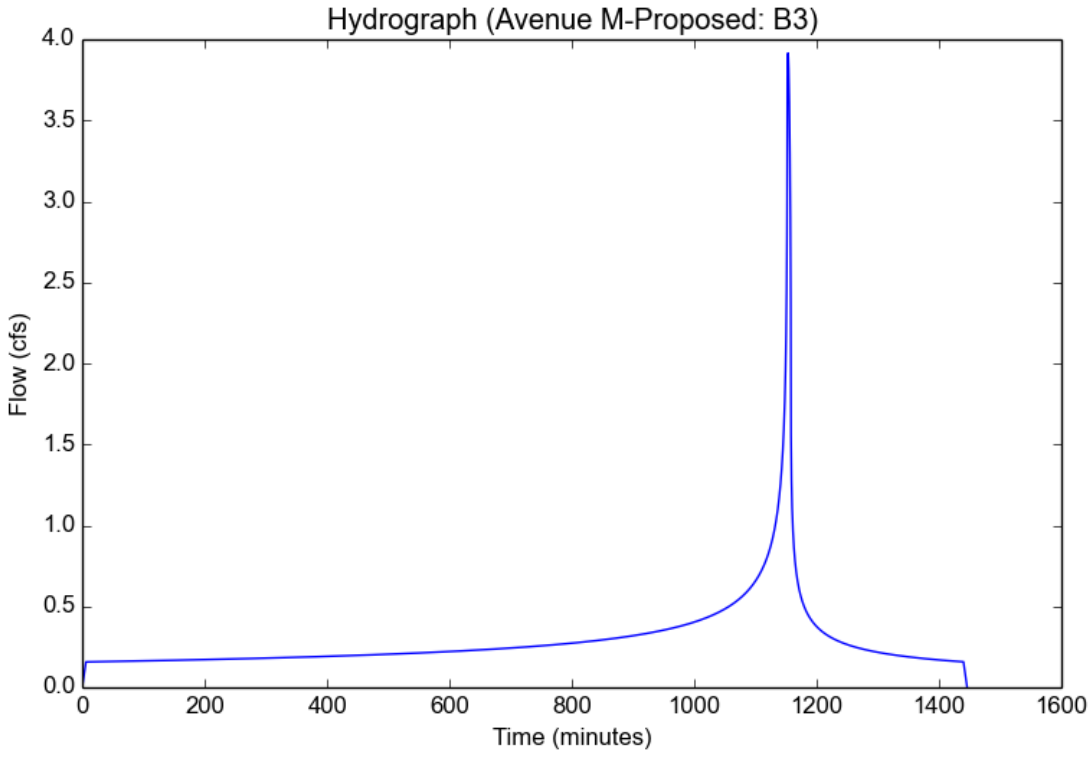
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	B3
Area (ac)	2.89
Flow Path Length (ft)	268.0
Flow Path Slope (vft/hft)	0.0385
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.6429
Undeveloped Runoff Coefficient (Cu)	0.146
Developed Runoff Coefficient (Cd)	0.8246
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	3.9152
Burned Peak Flow Rate (cfs)	3.9152
24-Hr Clear Runoff Volume (ac-ft)	0.5876
24-Hr Clear Runoff Volume (cu-ft)	25597.8397



Peak Flow Hydrologic Analysis

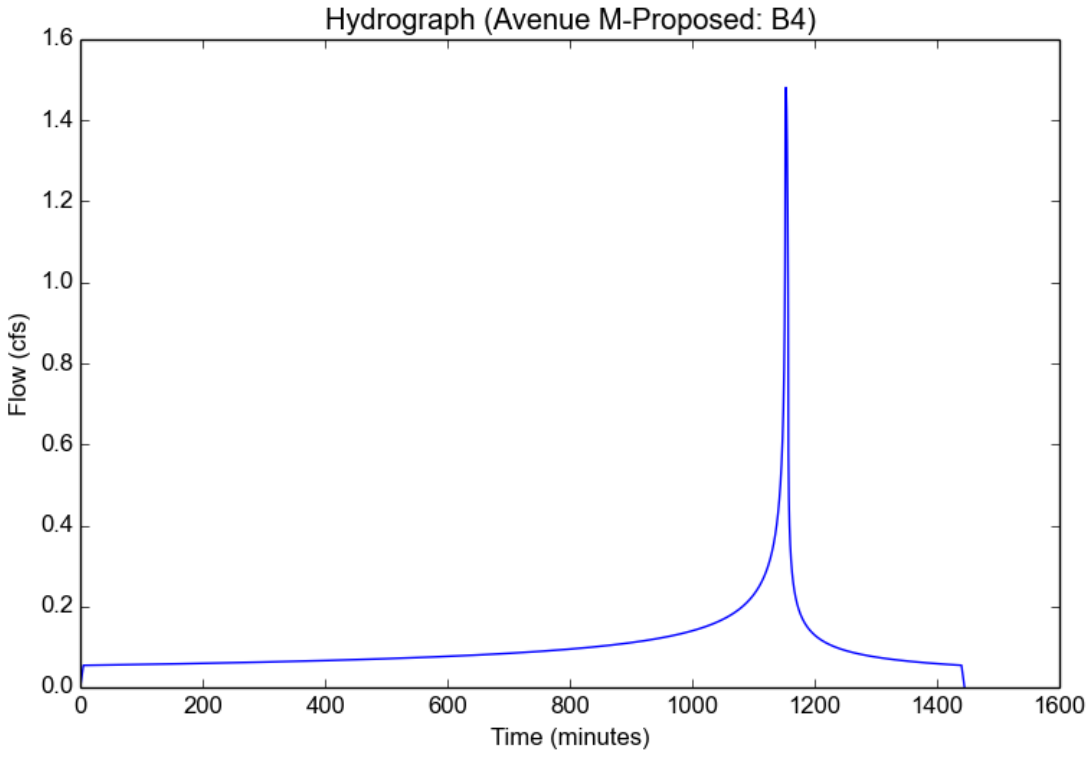
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	B4
Area (ac)	1.0
Flow Path Length (ft)	154.0
Flow Path Slope (vft/hft)	0.0109
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.4809
Burned Peak Flow Rate (cfs)	1.4809
24-Hr Clear Runoff Volume (ac-ft)	0.2034
24-Hr Clear Runoff Volume (cu-ft)	8858.3288



Peak Flow Hydrologic Analysis

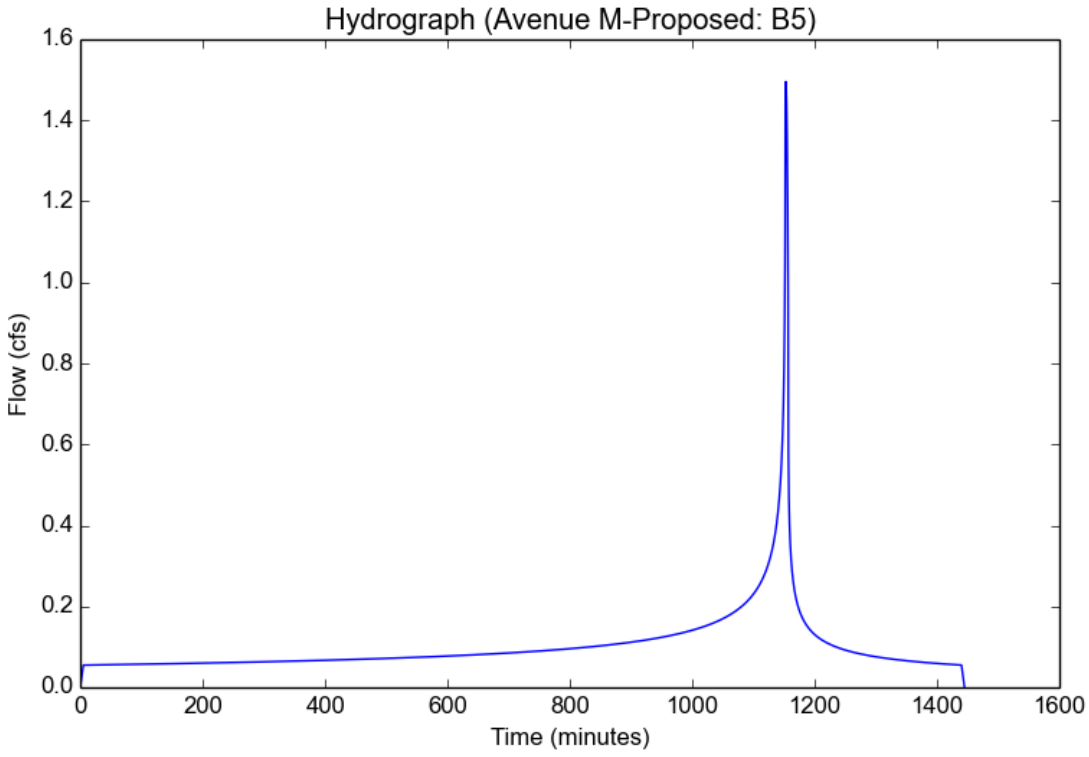
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	B5
Area (ac)	1.01
Flow Path Length (ft)	156.0
Flow Path Slope (vft/hft)	0.0187
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.4957
Burned Peak Flow Rate (cfs)	1.4957
24-Hr Clear Runoff Volume (ac-ft)	0.2054
24-Hr Clear Runoff Volume (cu-ft)	8946.9121



Peak Flow Hydrologic Analysis

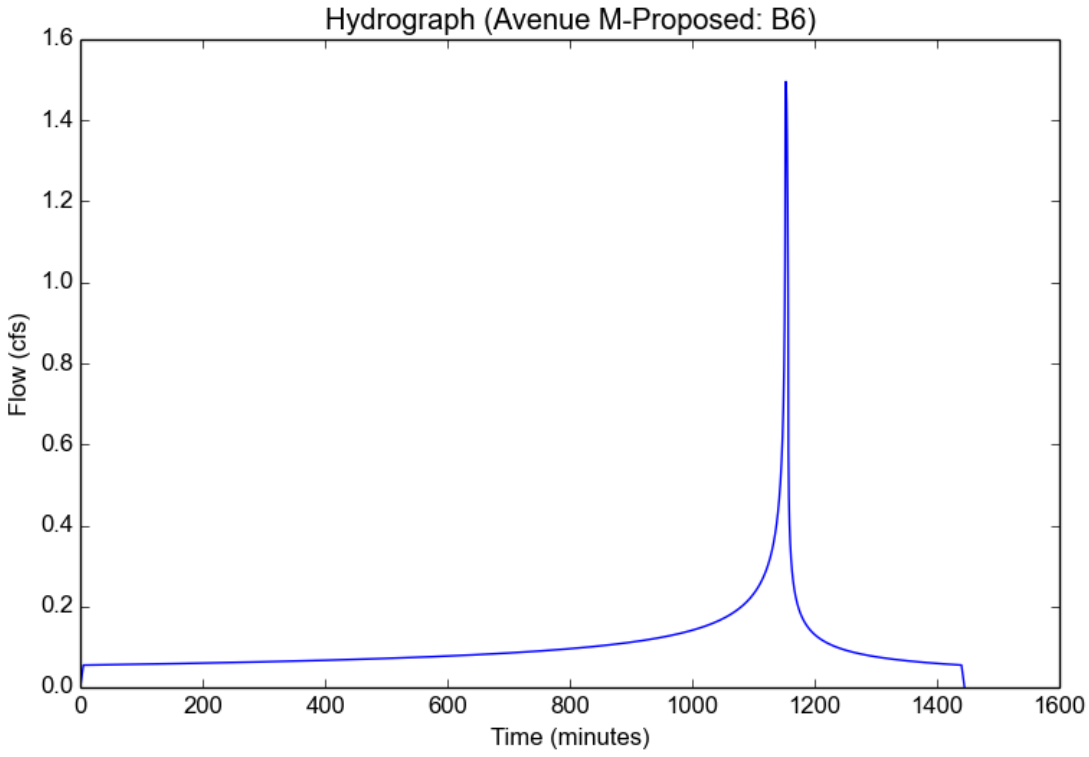
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	B6
Area (ac)	1.01
Flow Path Length (ft)	155.0
Flow Path Slope (vft/hft)	0.0188
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.4957
Burned Peak Flow Rate (cfs)	1.4957
24-Hr Clear Runoff Volume (ac-ft)	0.2054
24-Hr Clear Runoff Volume (cu-ft)	8946.9121



Peak Flow Hydrologic Analysis

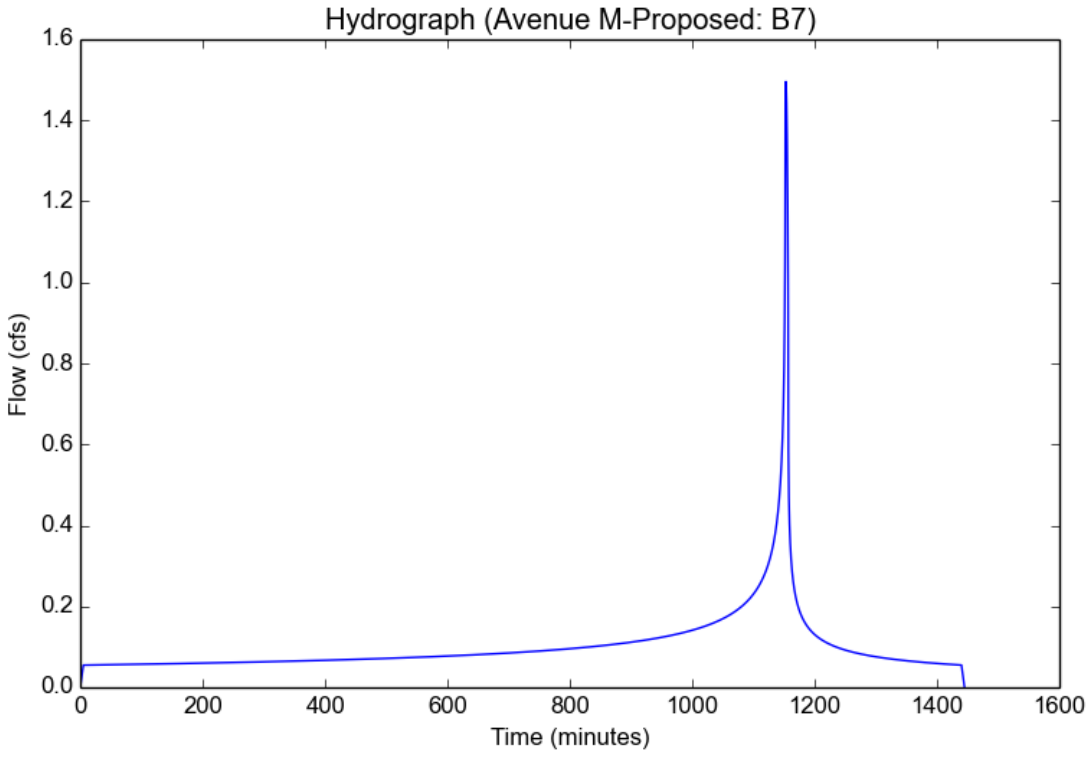
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	B7
Area (ac)	1.01
Flow Path Length (ft)	155.0
Flow Path Slope (vft/hft)	0.0188
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.4957
Burned Peak Flow Rate (cfs)	1.4957
24-Hr Clear Runoff Volume (ac-ft)	0.2054
24-Hr Clear Runoff Volume (cu-ft)	8946.9121



Peak Flow Hydrologic Analysis

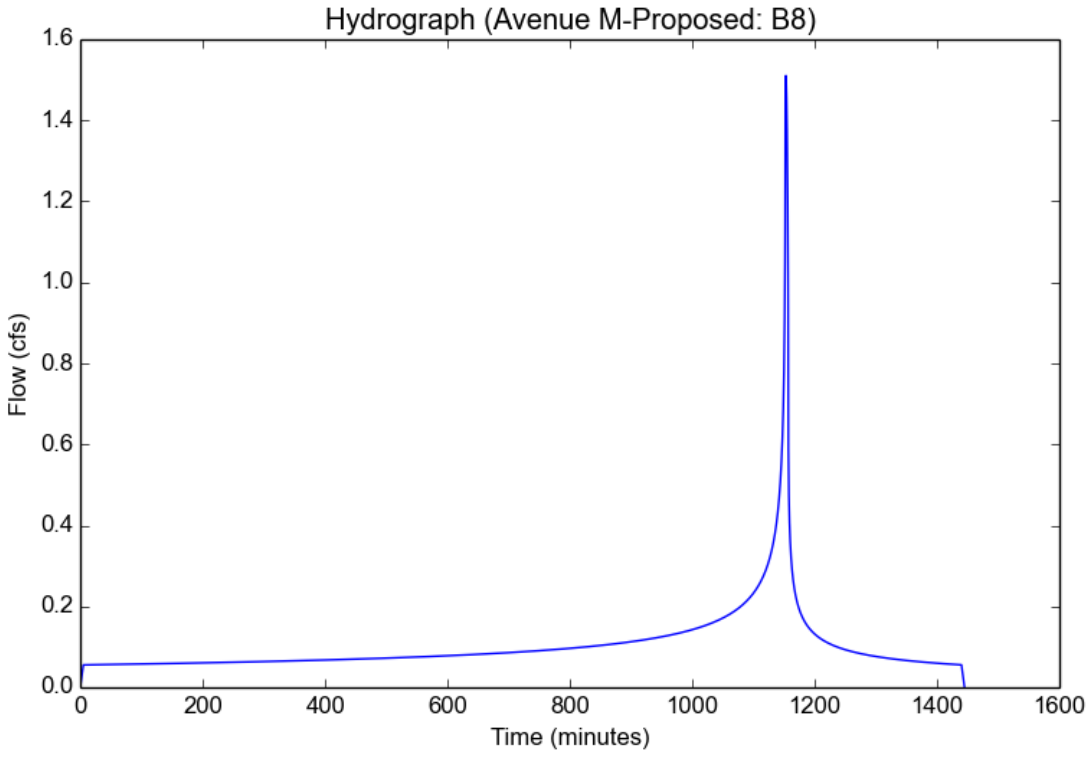
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	B8
Area (ac)	1.02
Flow Path Length (ft)	155.0
Flow Path Slope (vft/hft)	0.0188
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.5105
Burned Peak Flow Rate (cfs)	1.5105
24-Hr Clear Runoff Volume (ac-ft)	0.2074
24-Hr Clear Runoff Volume (cu-ft)	9035.4954



Peak Flow Hydrologic Analysis

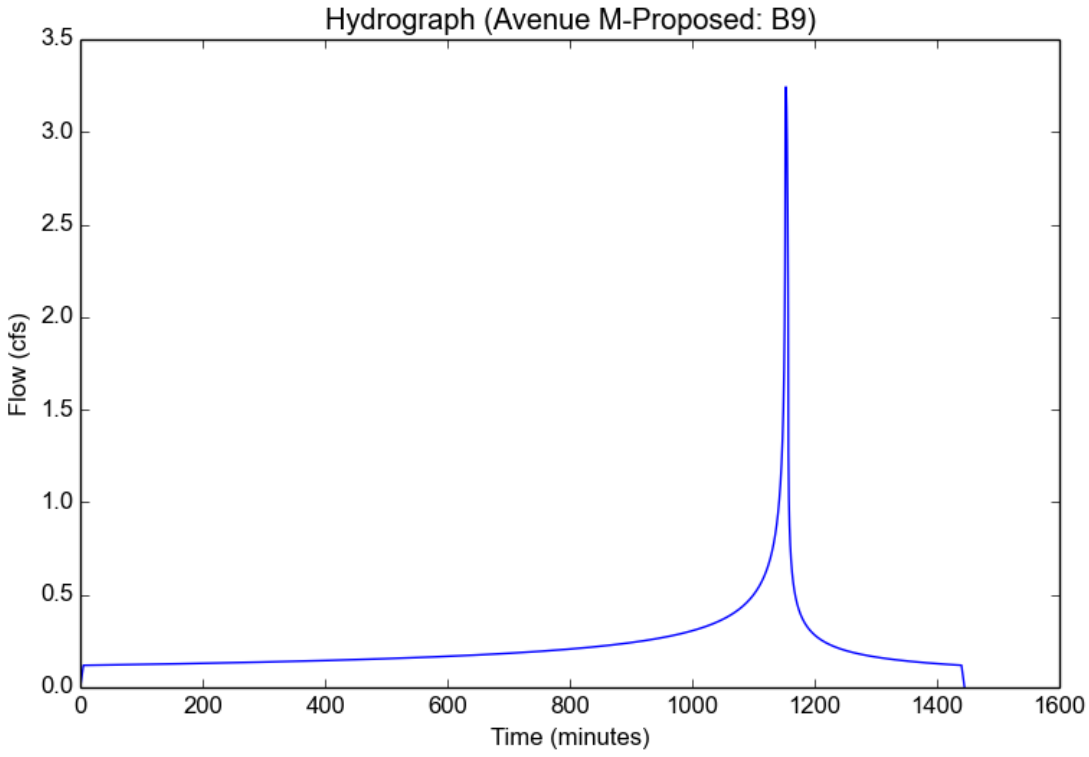
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	B9
Area (ac)	2.19
Flow Path Length (ft)	156.0
Flow Path Slope (vft/hft)	0.0188
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	3.2432
Burned Peak Flow Rate (cfs)	3.2432
24-Hr Clear Runoff Volume (ac-ft)	0.4454
24-Hr Clear Runoff Volume (cu-ft)	19399.74



Peak Flow Hydrologic Analysis

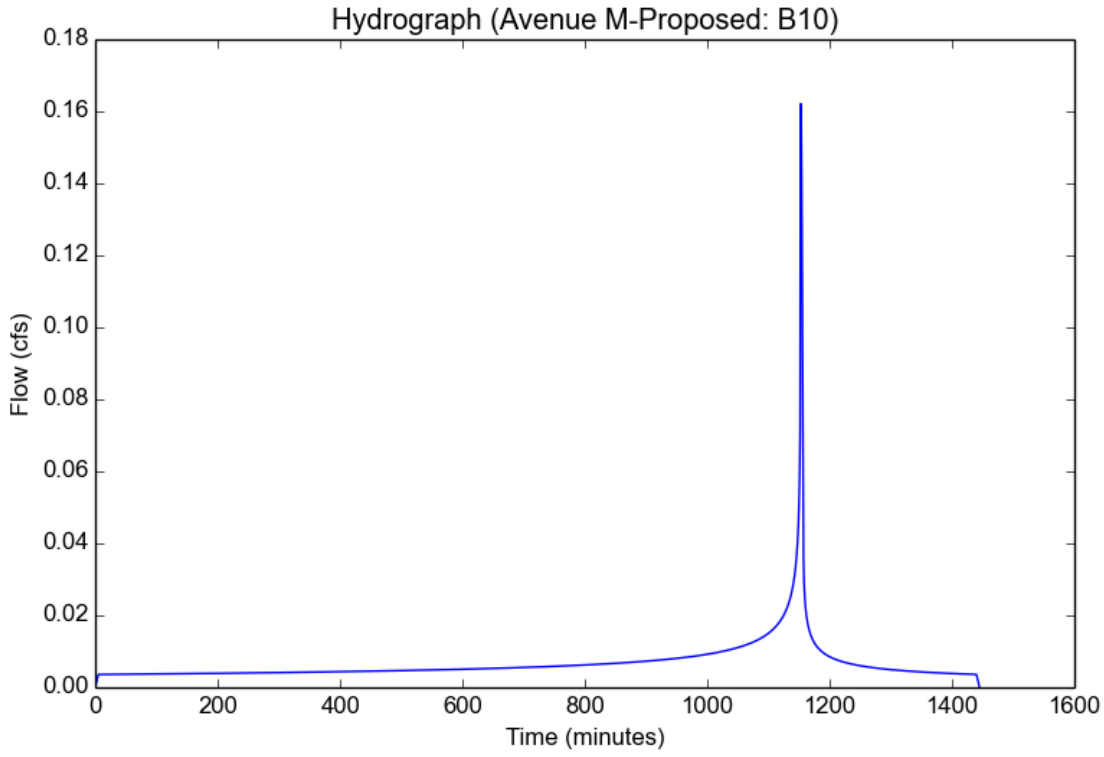
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	B10
Area (ac)	0.5
Flow Path Length (ft)	28.0
Flow Path Slope (vft/hft)	0.1607
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.01
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.1811
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.1621
Burned Peak Flow Rate (cfs)	0.1621
24-Hr Clear Runoff Volume (ac-ft)	0.0137
24-Hr Clear Runoff Volume (cu-ft)	594.7139



Peak Flow Hydrologic Analysis

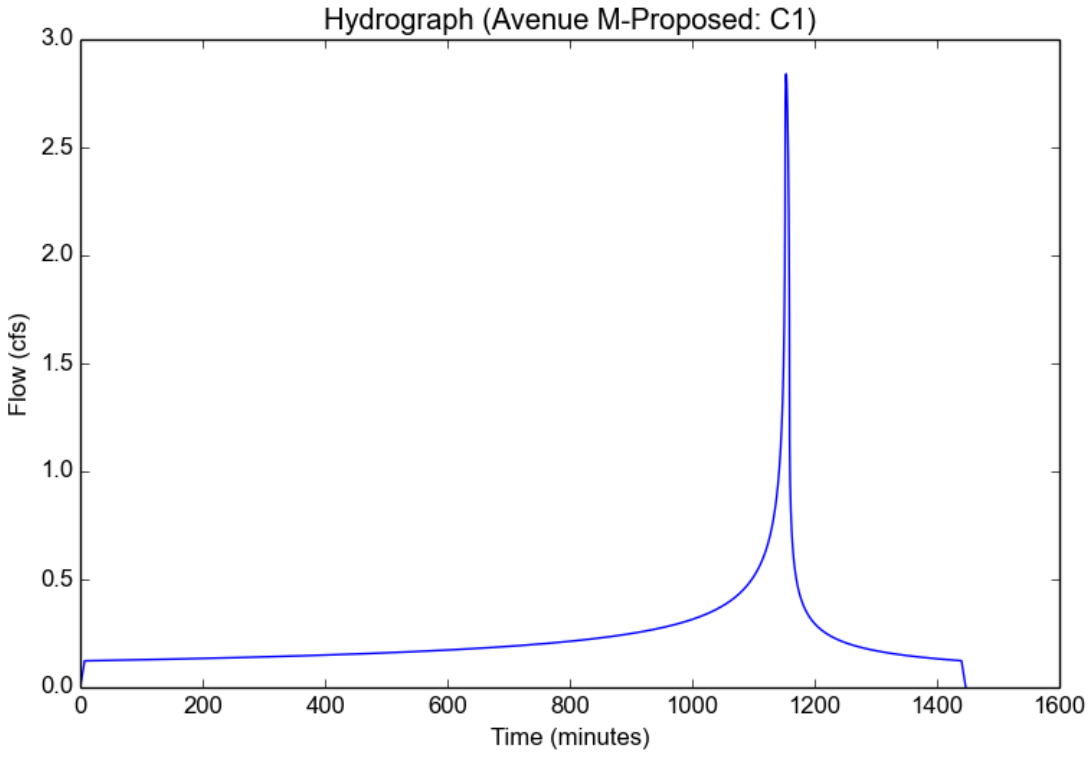
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	C1
Area (ac)	2.26
Flow Path Length (ft)	277.0
Flow Path Slope (vft/hft)	0.0306
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.5281
Undeveloped Runoff Coefficient (Cu)	0.1243
Developed Runoff Coefficient (Cd)	0.8224
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	2.8402
Burned Peak Flow Rate (cfs)	2.8402
24-Hr Clear Runoff Volume (ac-ft)	0.4595
24-Hr Clear Runoff Volume (cu-ft)	20015.9888



Peak Flow Hydrologic Analysis

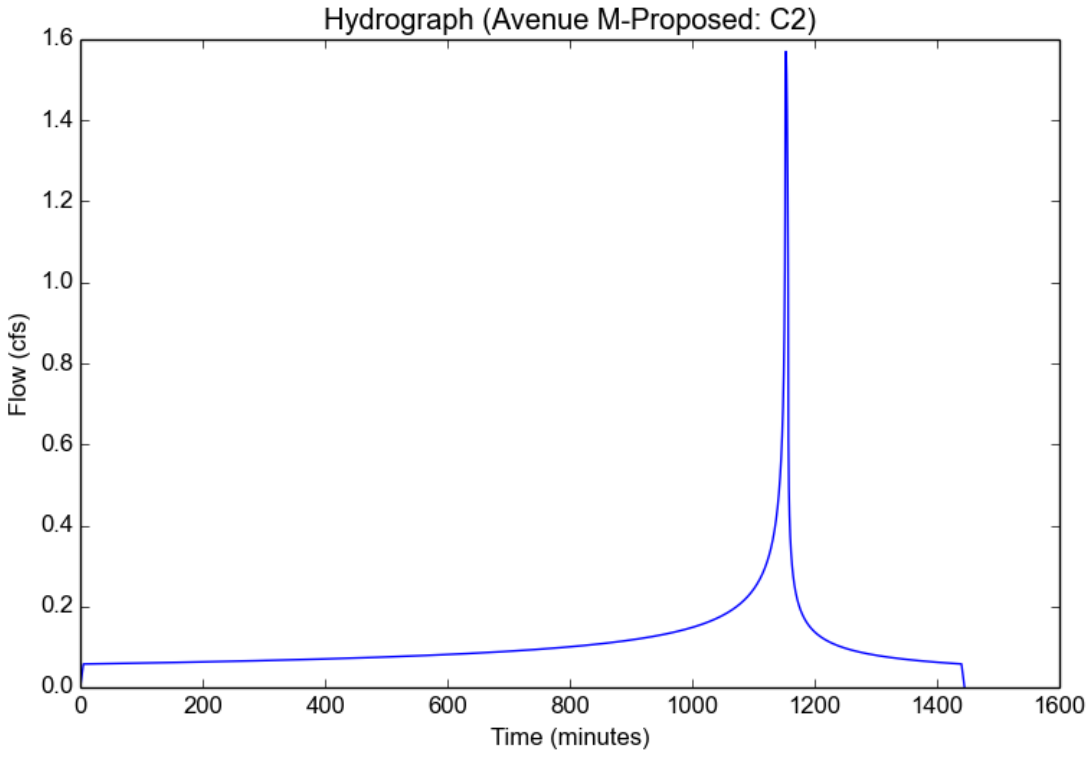
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	C2
Area (ac)	1.06
Flow Path Length (ft)	160.0
Flow Path Slope (vft/hft)	0.0159
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.5698
Burned Peak Flow Rate (cfs)	1.5698
24-Hr Clear Runoff Volume (ac-ft)	0.2156
24-Hr Clear Runoff Volume (cu-ft)	9389.8285



Peak Flow Hydrologic Analysis

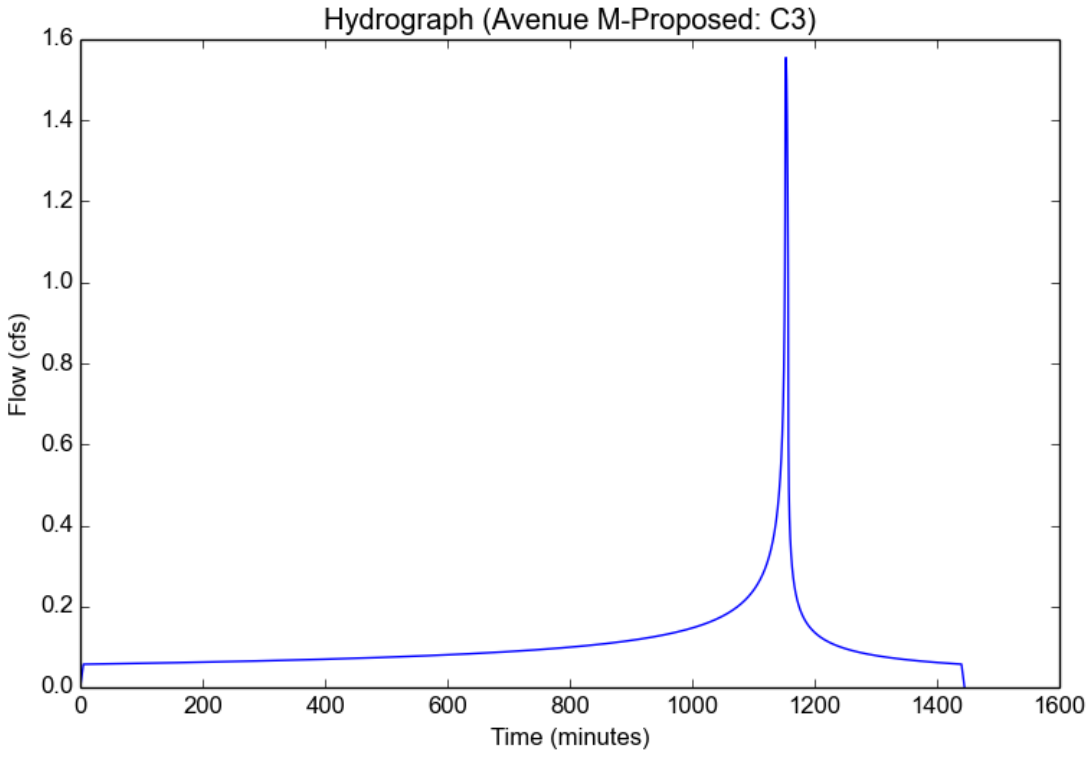
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	C3
Area (ac)	1.05
Flow Path Length (ft)	162.0
Flow Path Slope (vft/hft)	0.0156
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.555
Burned Peak Flow Rate (cfs)	1.555
24-Hr Clear Runoff Volume (ac-ft)	0.2135
24-Hr Clear Runoff Volume (cu-ft)	9301.2452



Peak Flow Hydrologic Analysis

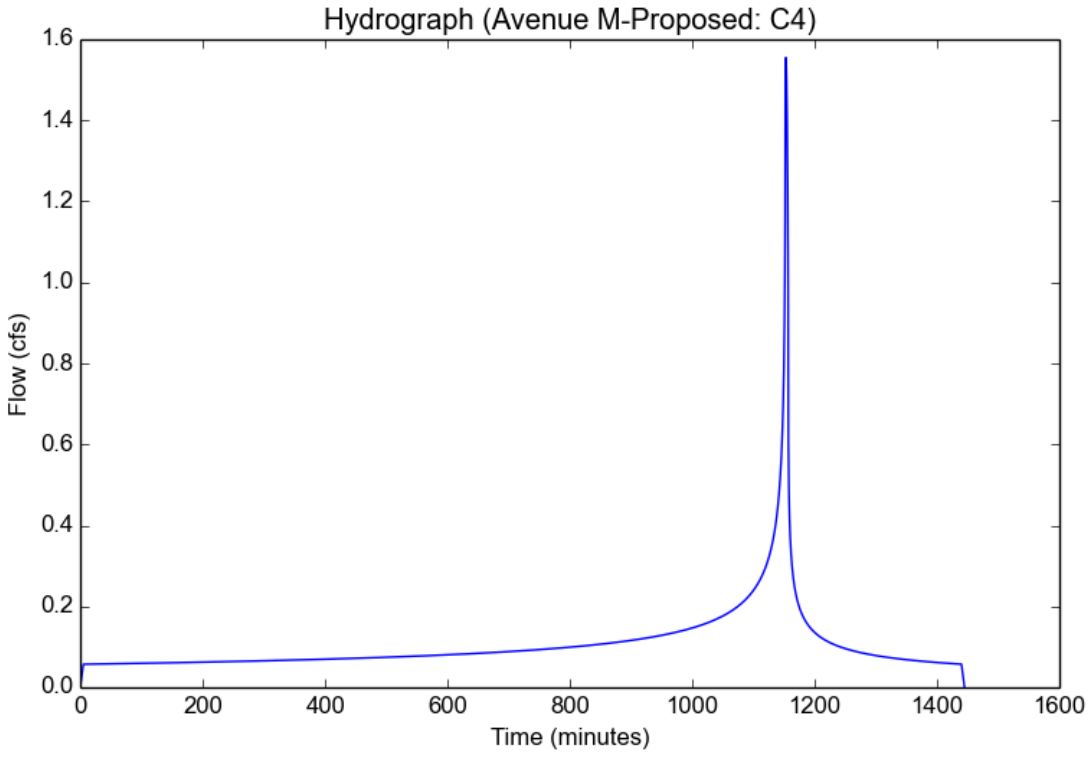
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	C4
Area (ac)	1.05
Flow Path Length (ft)	162.0
Flow Path Slope (vft/hft)	0.0156
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.555
Burned Peak Flow Rate (cfs)	1.555
24-Hr Clear Runoff Volume (ac-ft)	0.2135
24-Hr Clear Runoff Volume (cu-ft)	9301.2452



Peak Flow Hydrologic Analysis

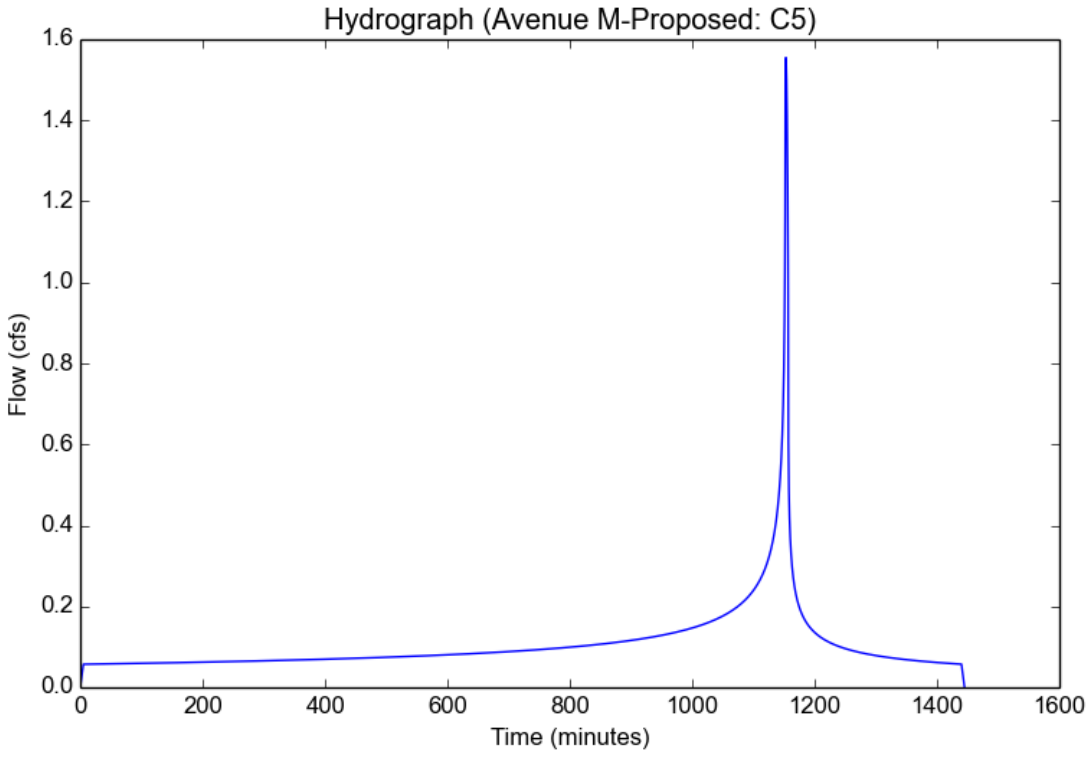
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	C5
Area (ac)	1.05
Flow Path Length (ft)	159.0
Flow Path Slope (vft/hft)	0.0159
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.555
Burned Peak Flow Rate (cfs)	1.555
24-Hr Clear Runoff Volume (ac-ft)	0.2135
24-Hr Clear Runoff Volume (cu-ft)	9301.2452



Peak Flow Hydrologic Analysis

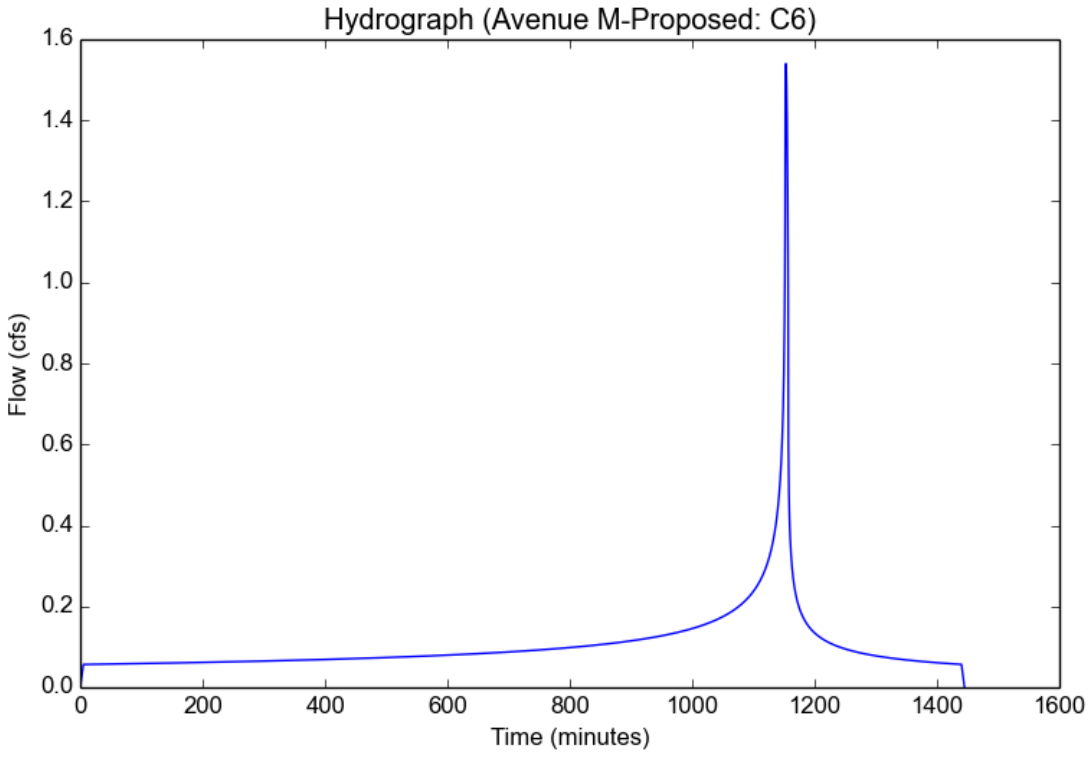
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	C6
Area (ac)	1.04
Flow Path Length (ft)	162.0
Flow Path Slope (vft/hft)	0.0159
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.5402
Burned Peak Flow Rate (cfs)	1.5402
24-Hr Clear Runoff Volume (ac-ft)	0.2115
24-Hr Clear Runoff Volume (cu-ft)	9212.6619



Peak Flow Hydrologic Analysis

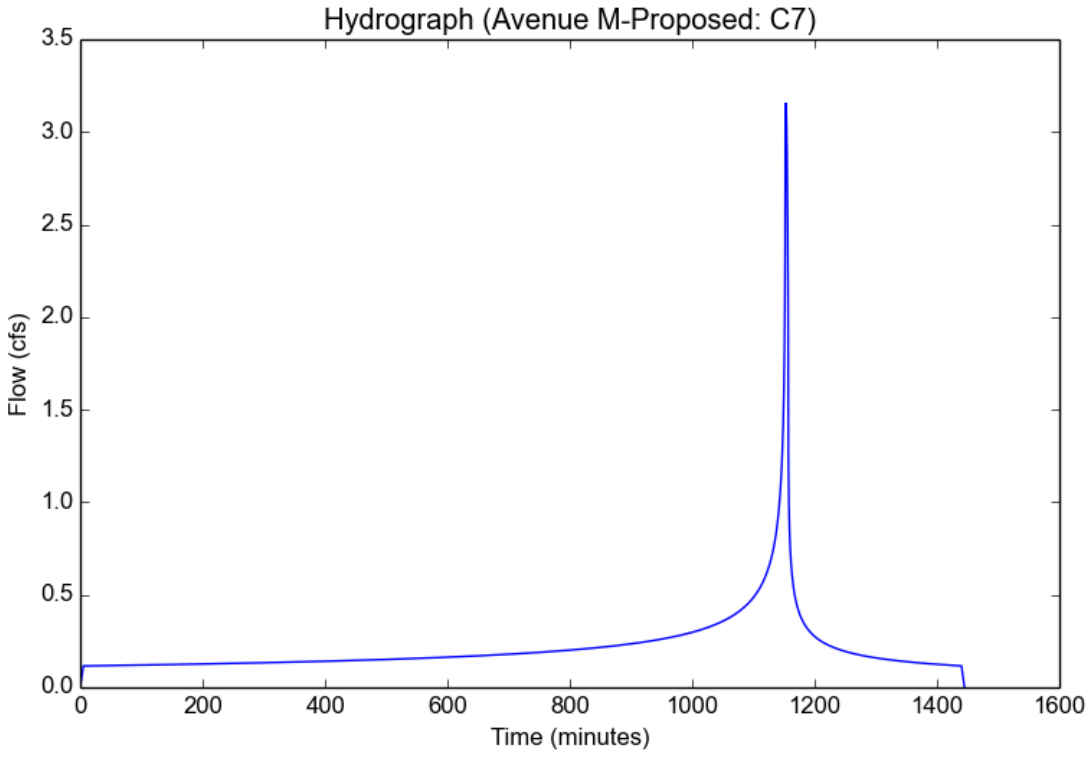
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	C7
Area (ac)	2.13
Flow Path Length (ft)	159.0
Flow Path Slope (vft/hft)	0.0156
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	3.1544
Burned Peak Flow Rate (cfs)	3.1544
24-Hr Clear Runoff Volume (ac-ft)	0.4332
24-Hr Clear Runoff Volume (cu-ft)	18868.2403



Peak Flow Hydrologic Analysis

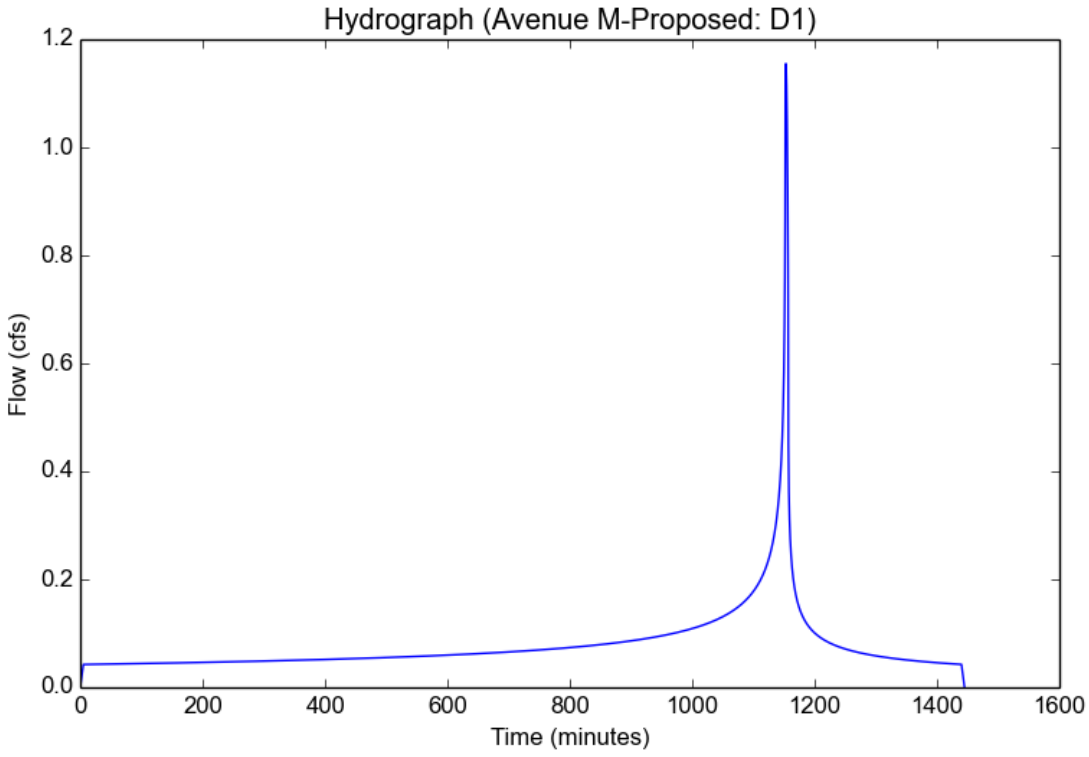
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	D1
Area (ac)	0.78
Flow Path Length (ft)	117.0
Flow Path Slope (vft/hft)	0.046
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.1551
Burned Peak Flow Rate (cfs)	1.1551
24-Hr Clear Runoff Volume (ac-ft)	0.1586
24-Hr Clear Runoff Volume (cu-ft)	6909.4965



Peak Flow Hydrologic Analysis

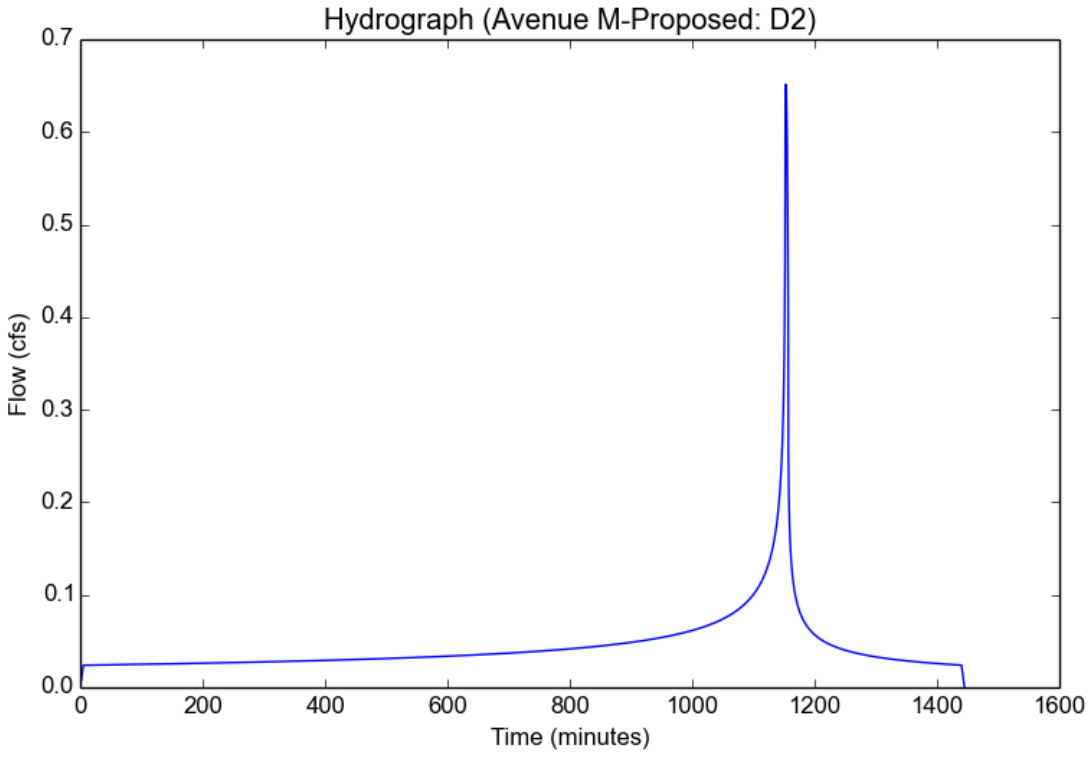
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	D2
Area (ac)	0.44
Flow Path Length (ft)	70.0
Flow Path Slope (vft/hft)	0.0137
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.6516
Burned Peak Flow Rate (cfs)	0.6516
24-Hr Clear Runoff Volume (ac-ft)	0.0895
24-Hr Clear Runoff Volume (cu-ft)	3897.6647



Peak Flow Hydrologic Analysis

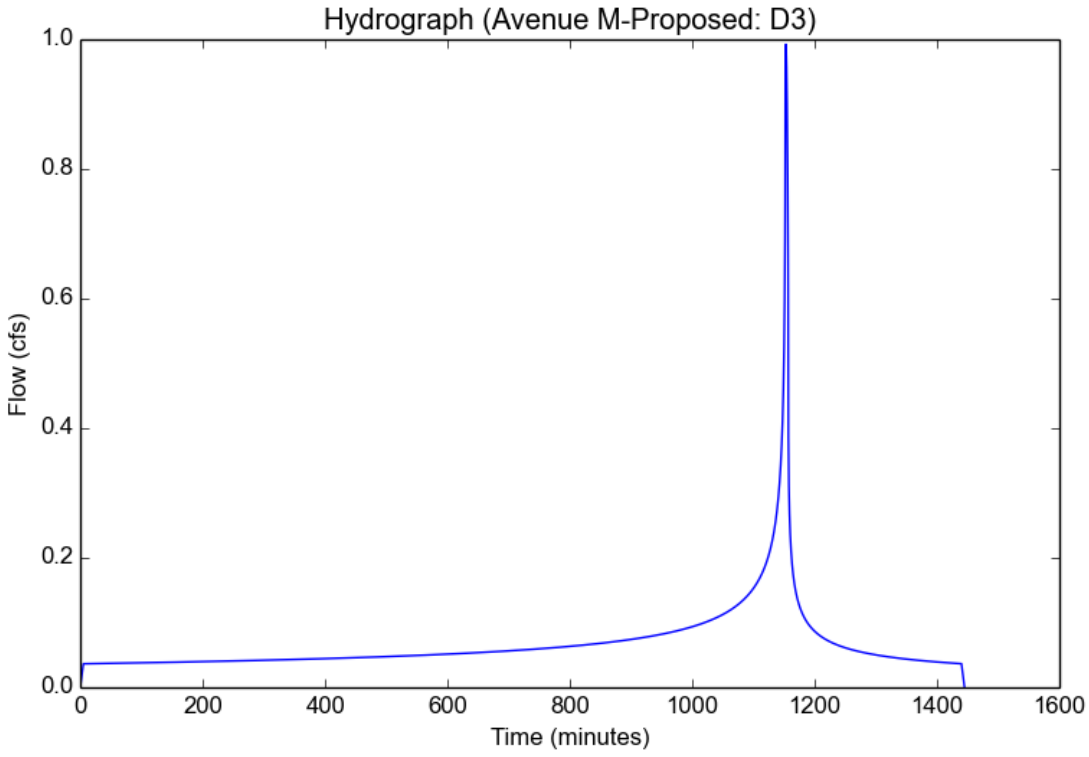
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	D3
Area (ac)	0.67
Flow Path Length (ft)	69.0
Flow Path Slope (vft/hft)	0.0139
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.9922
Burned Peak Flow Rate (cfs)	0.9922
24-Hr Clear Runoff Volume (ac-ft)	0.1363
24-Hr Clear Runoff Volume (cu-ft)	5935.0803



Peak Flow Hydrologic Analysis

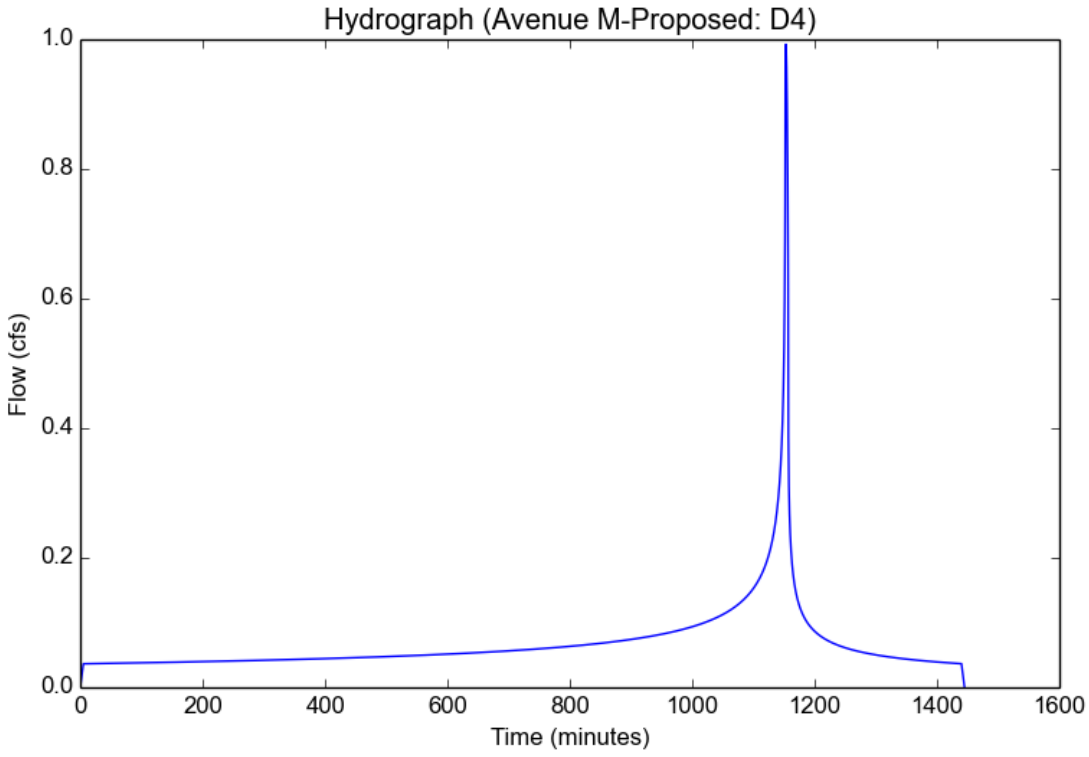
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	D4
Area (ac)	0.67
Flow Path Length (ft)	69.0
Flow Path Slope (vft/hft)	0.0139
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.9922
Burned Peak Flow Rate (cfs)	0.9922
24-Hr Clear Runoff Volume (ac-ft)	0.1363
24-Hr Clear Runoff Volume (cu-ft)	5935.0803



Peak Flow Hydrologic Analysis

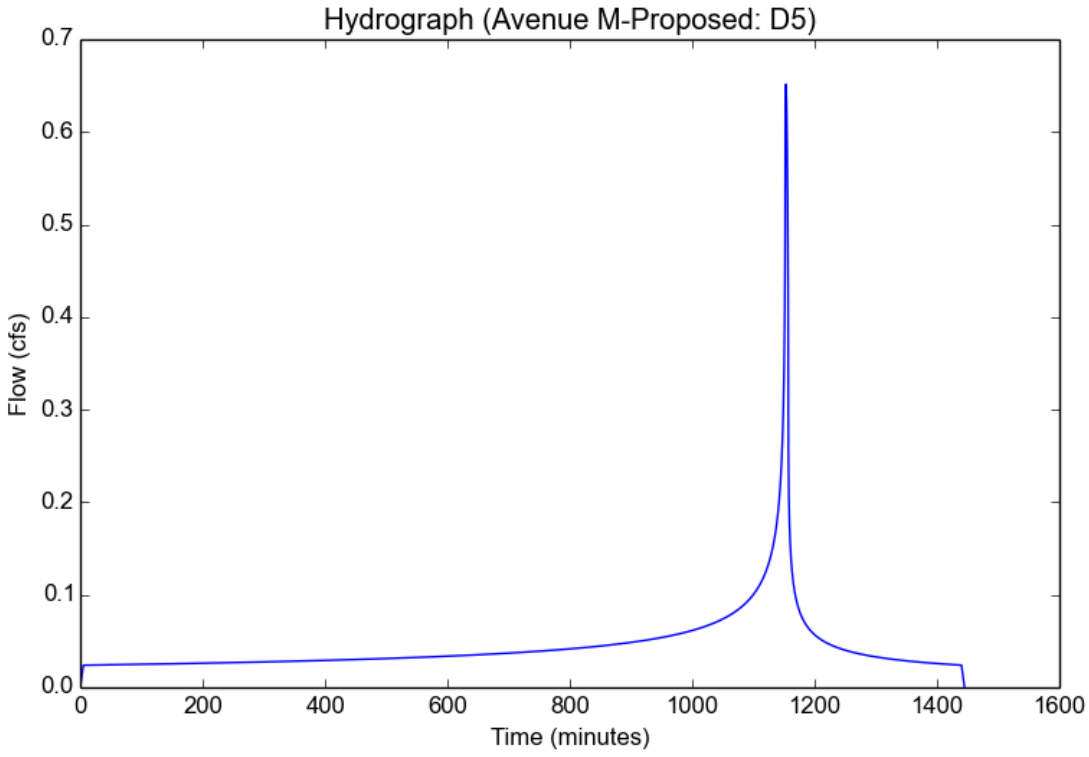
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	D5
Area (ac)	0.44
Flow Path Length (ft)	70.0
Flow Path Slope (vft/hft)	0.0139
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.6516
Burned Peak Flow Rate (cfs)	0.6516
24-Hr Clear Runoff Volume (ac-ft)	0.0895
24-Hr Clear Runoff Volume (cu-ft)	3897.6647



Peak Flow Hydrologic Analysis

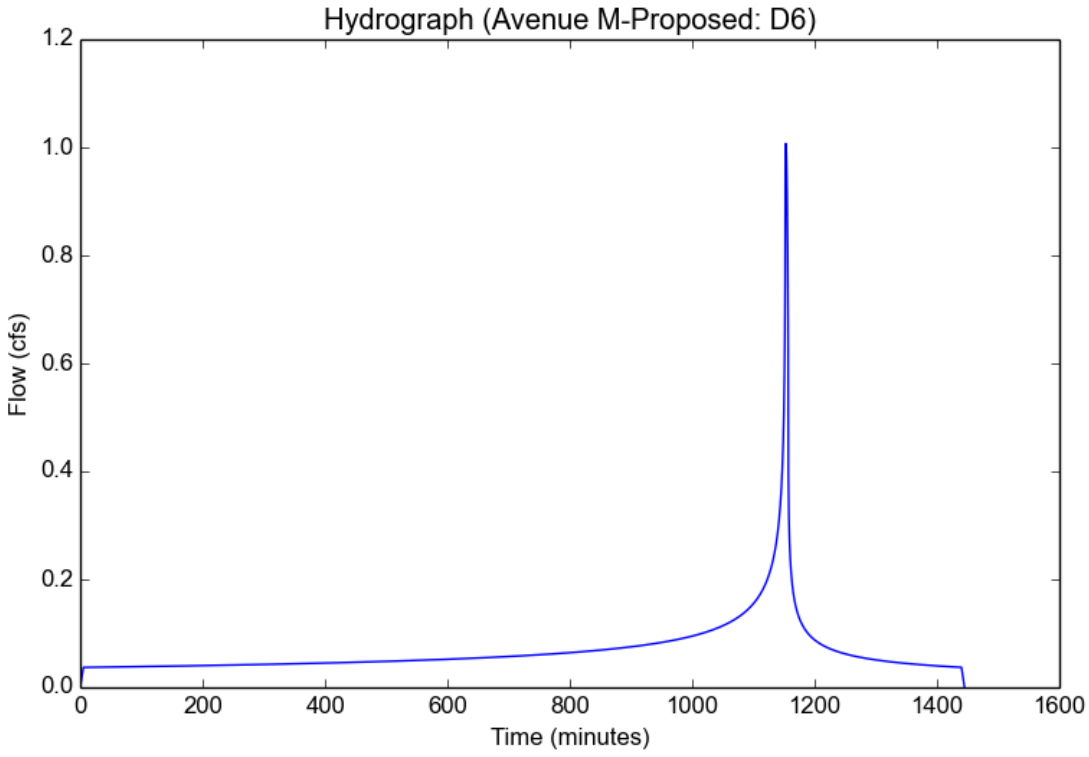
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	D6
Area (ac)	0.68
Flow Path Length (ft)	73.0
Flow Path Slope (vft/hft)	0.0131
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.007
Burned Peak Flow Rate (cfs)	1.007
24-Hr Clear Runoff Volume (ac-ft)	0.1383
24-Hr Clear Runoff Volume (cu-ft)	6023.6636



Peak Flow Hydrologic Analysis

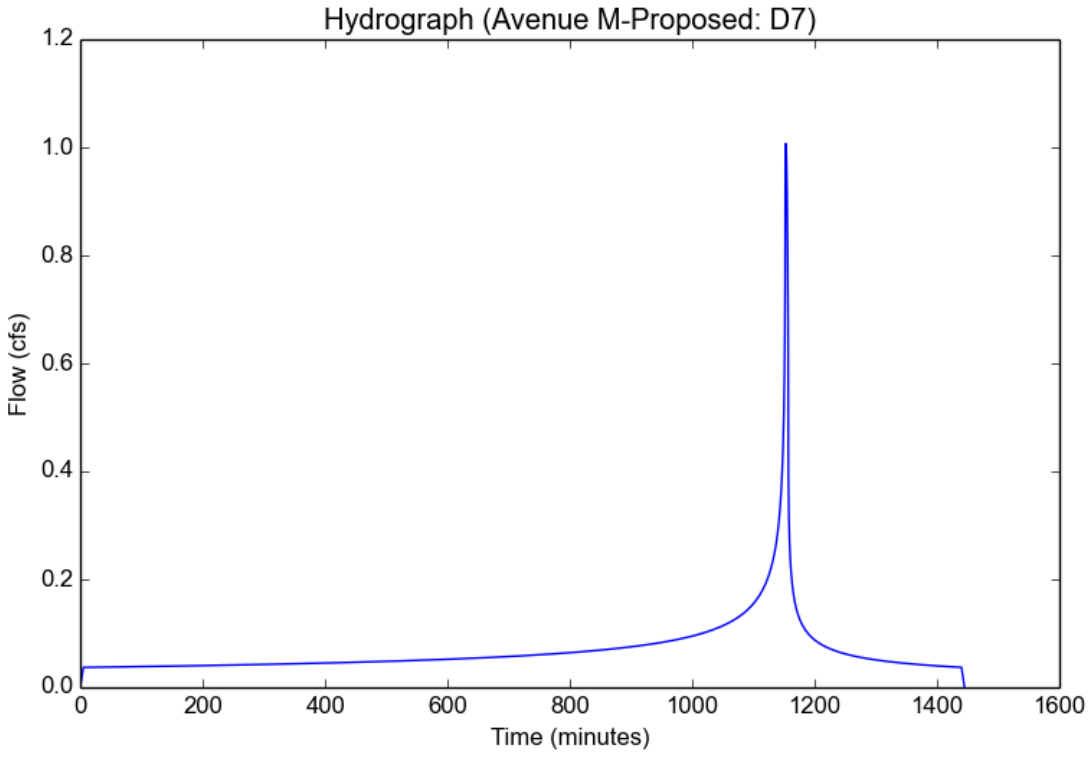
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	D7
Area (ac)	0.68
Flow Path Length (ft)	70.0
Flow Path Slope (vft/hft)	0.0139
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.007
Burned Peak Flow Rate (cfs)	1.007
24-Hr Clear Runoff Volume (ac-ft)	0.1383
24-Hr Clear Runoff Volume (cu-ft)	6023.6636



Peak Flow Hydrologic Analysis

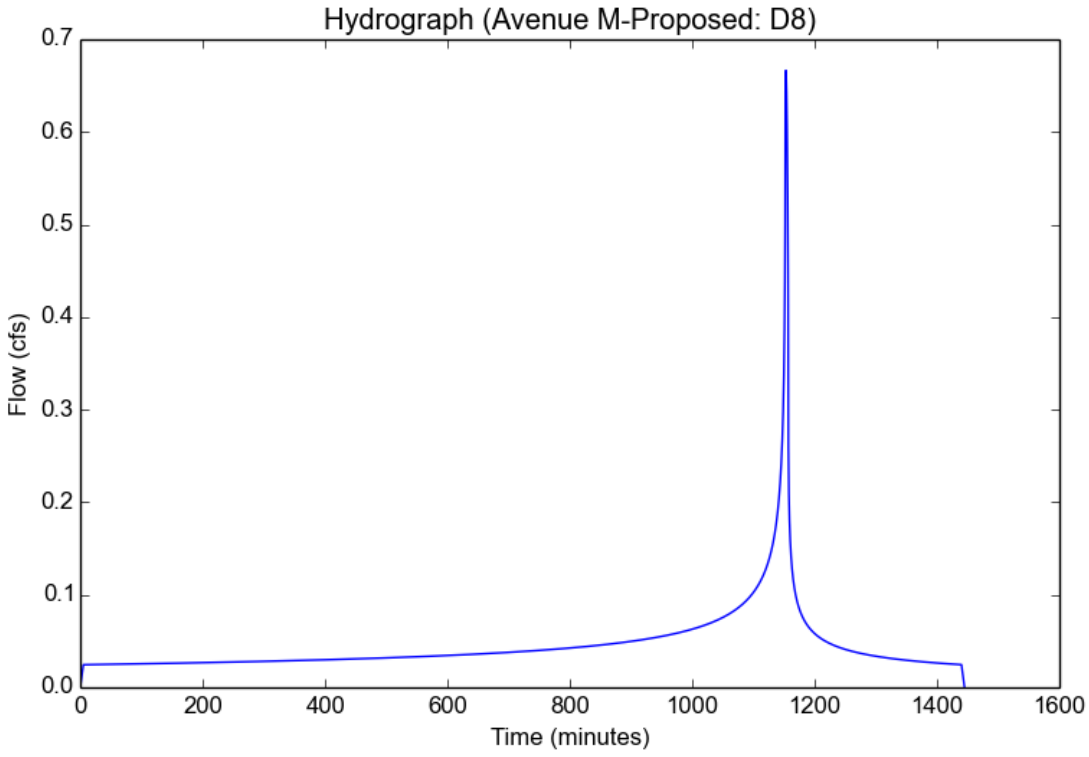
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	D8
Area (ac)	0.45
Flow Path Length (ft)	69.0
Flow Path Slope (vft/hft)	0.0131
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.6664
Burned Peak Flow Rate (cfs)	0.6664
24-Hr Clear Runoff Volume (ac-ft)	0.0915
24-Hr Clear Runoff Volume (cu-ft)	3986.248



Peak Flow Hydrologic Analysis

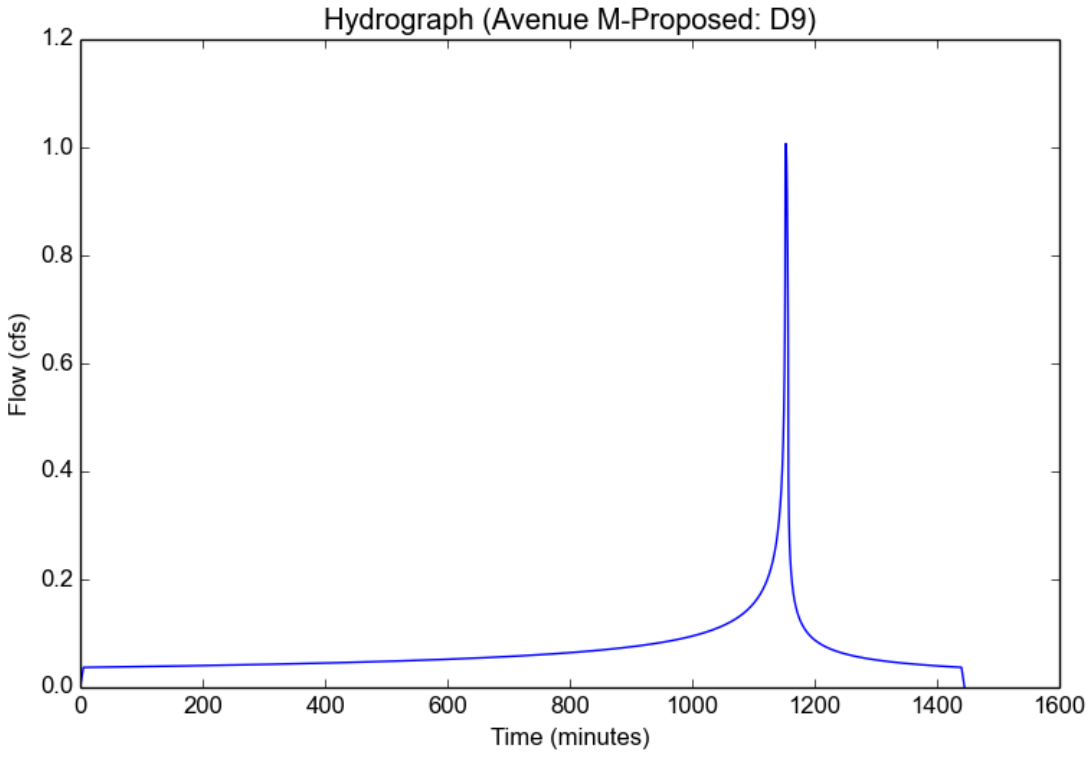
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	D9
Area (ac)	0.68
Flow Path Length (ft)	70.0
Flow Path Slope (vft/hft)	0.0131
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.007
Burned Peak Flow Rate (cfs)	1.007
24-Hr Clear Runoff Volume (ac-ft)	0.1383
24-Hr Clear Runoff Volume (cu-ft)	6023.6636



Peak Flow Hydrologic Analysis

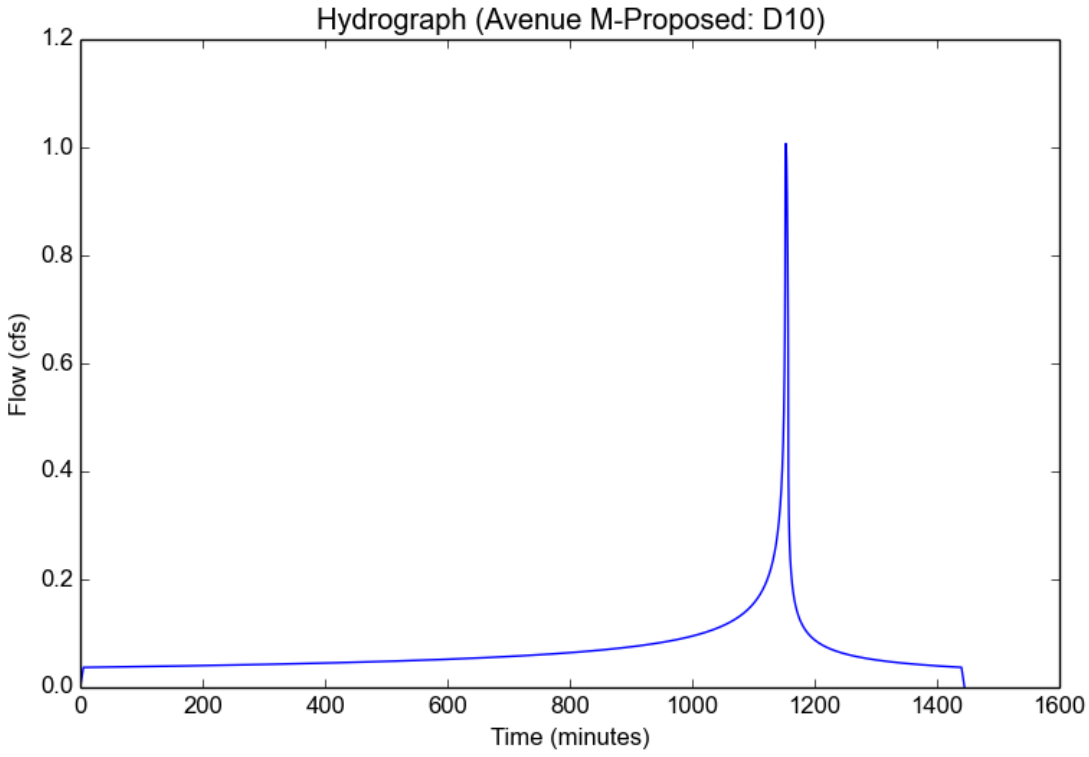
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	D10
Area (ac)	0.68
Flow Path Length (ft)	70.0
Flow Path Slope (vft/hft)	0.0131
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.007
Burned Peak Flow Rate (cfs)	1.007
24-Hr Clear Runoff Volume (ac-ft)	0.1383
24-Hr Clear Runoff Volume (cu-ft)	6023.6636



Peak Flow Hydrologic Analysis

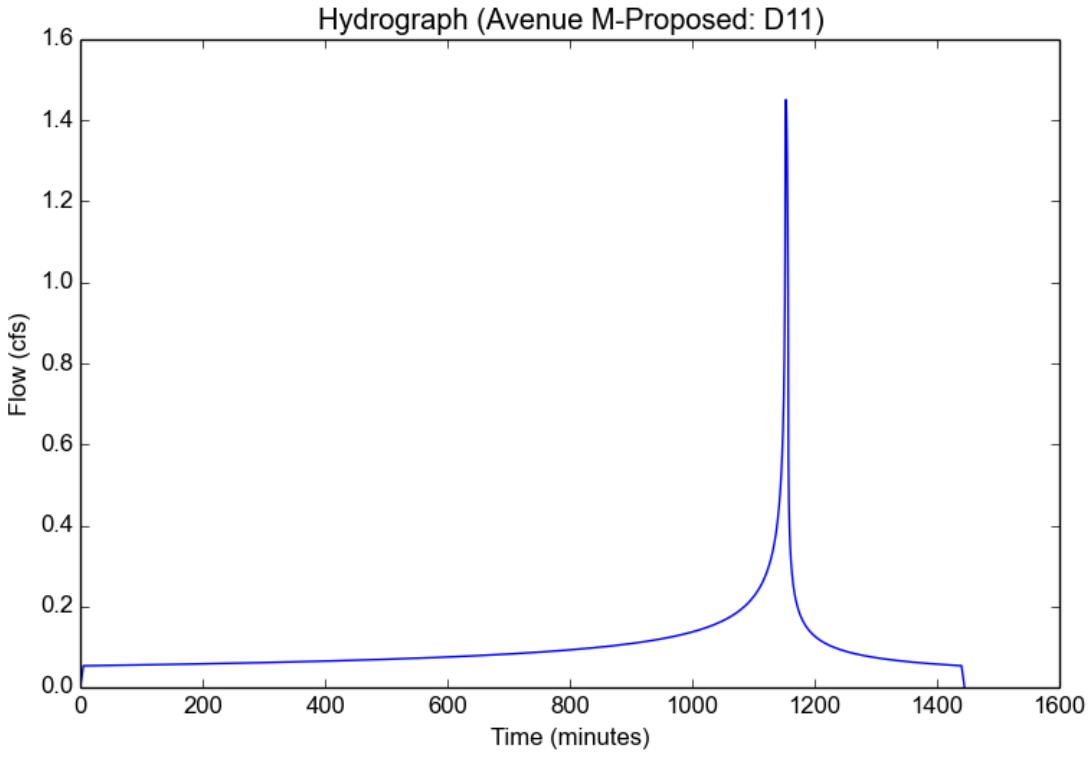
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	D11
Area (ac)	0.98
Flow Path Length (ft)	77.0
Flow Path Slope (vft/hft)	0.013
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.4513
Burned Peak Flow Rate (cfs)	1.4513
24-Hr Clear Runoff Volume (ac-ft)	0.1993
24-Hr Clear Runoff Volume (cu-ft)	8681.1622



Peak Flow Hydrologic Analysis

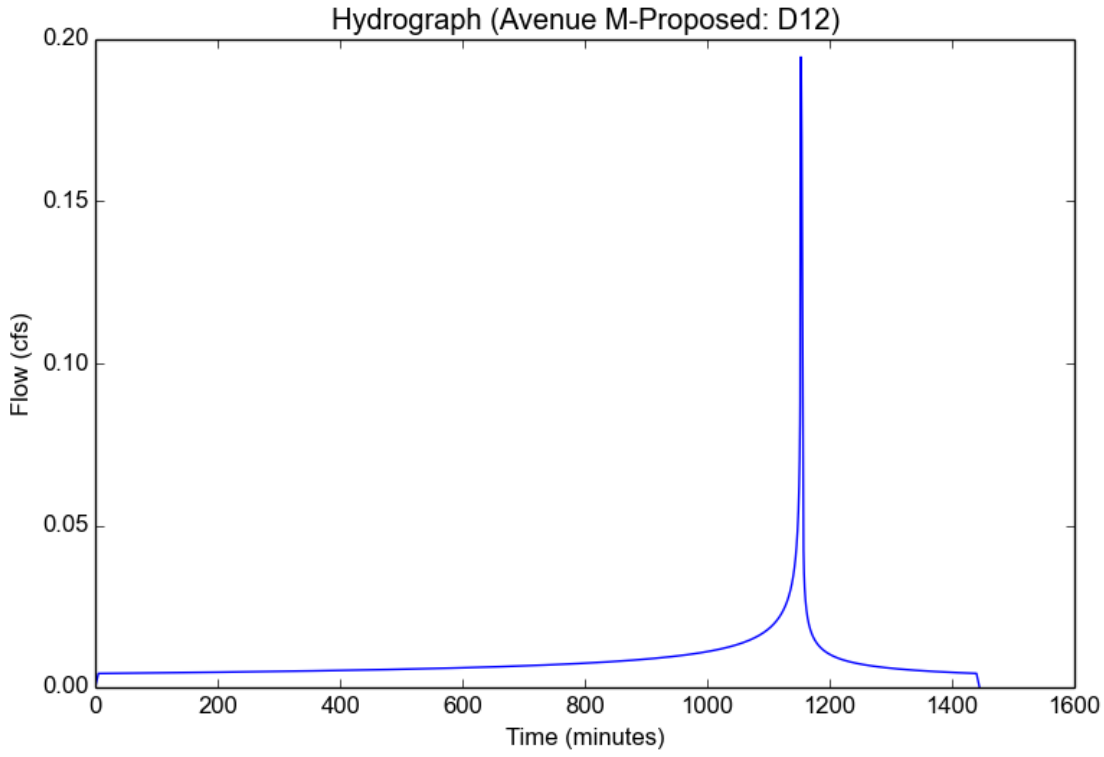
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	D12
Area (ac)	0.6
Flow Path Length (ft)	24.0
Flow Path Slope (vft/hft)	0.1213
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.01
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.1811
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.1945
Burned Peak Flow Rate (cfs)	0.1945
24-Hr Clear Runoff Volume (ac-ft)	0.0164
24-Hr Clear Runoff Volume (cu-ft)	713.6567



Peak Flow Hydrologic Analysis

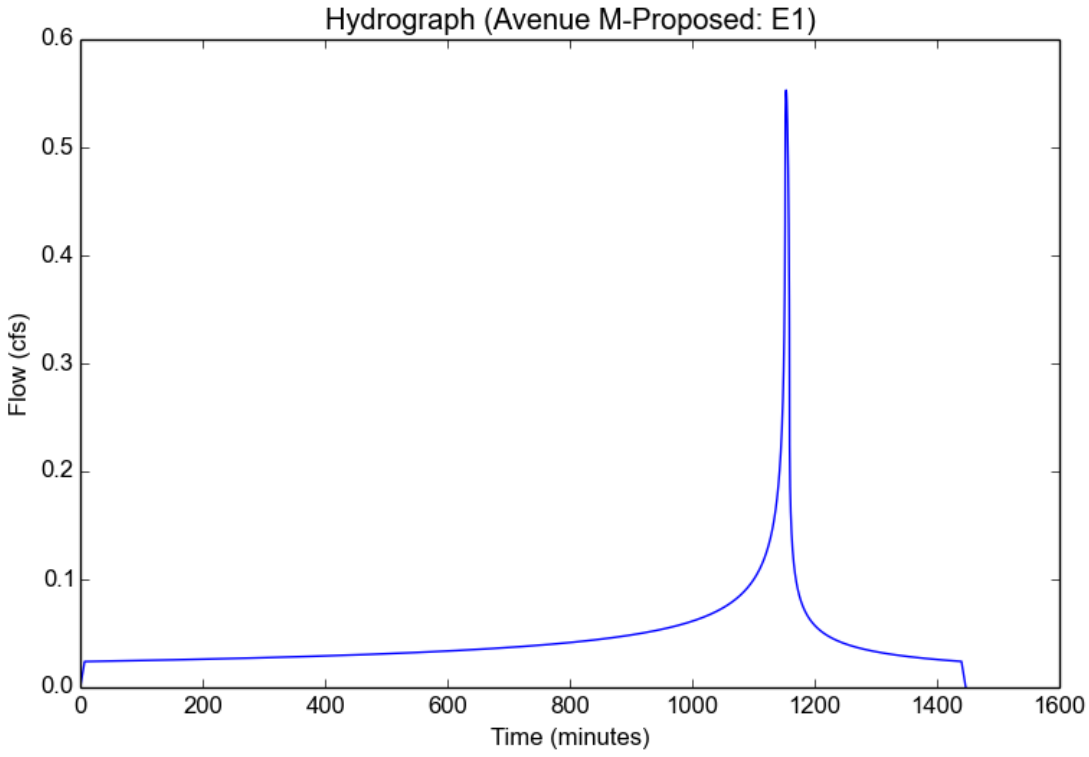
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	E1
Area (ac)	0.44
Flow Path Length (ft)	236.0
Flow Path Slope (vft/hft)	0.0135
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.5281
Undeveloped Runoff Coefficient (Cu)	0.1243
Developed Runoff Coefficient (Cd)	0.8224
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	0.553
Burned Peak Flow Rate (cfs)	0.553
24-Hr Clear Runoff Volume (ac-ft)	0.0895
24-Hr Clear Runoff Volume (cu-ft)	3896.9182



Peak Flow Hydrologic Analysis

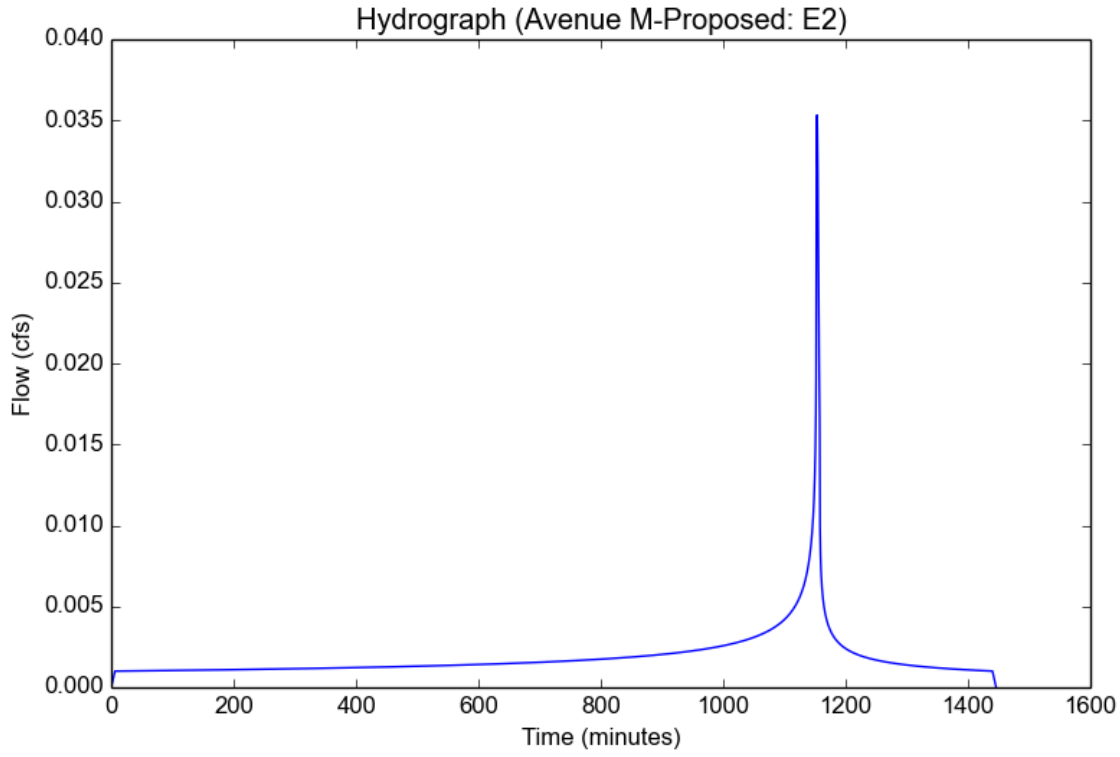
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	E2
Area (ac)	0.14
Flow Path Length (ft)	44.0
Flow Path Slope (vft/hft)	0.0423
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.01
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.6429
Undeveloped Runoff Coefficient (Cu)	0.146
Developed Runoff Coefficient (Cd)	0.1536
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	0.0353
Burned Peak Flow Rate (cfs)	0.0353
24-Hr Clear Runoff Volume (ac-ft)	0.0038
24-Hr Clear Runoff Volume (cu-ft)	165.2087



Peak Flow Hydrologic Analysis

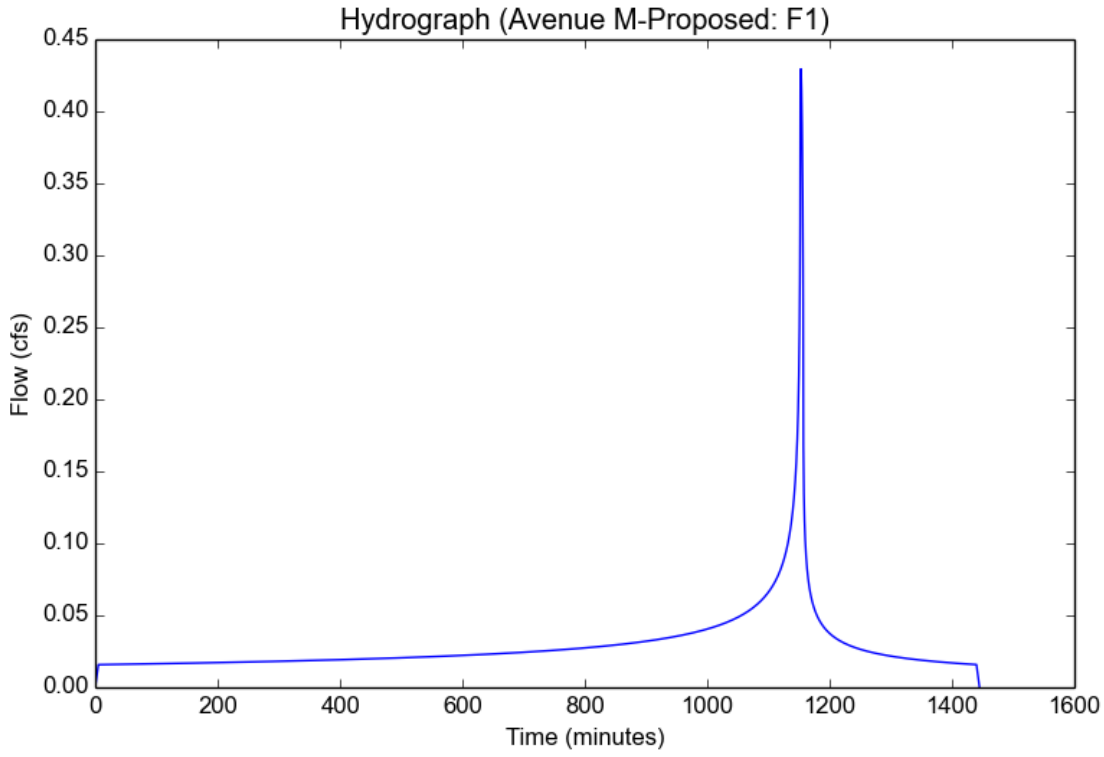
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	F1
Area (ac)	0.29
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.031
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.4295
Burned Peak Flow Rate (cfs)	0.4295
24-Hr Clear Runoff Volume (ac-ft)	0.059
24-Hr Clear Runoff Volume (cu-ft)	2568.9153



Peak Flow Hydrologic Analysis

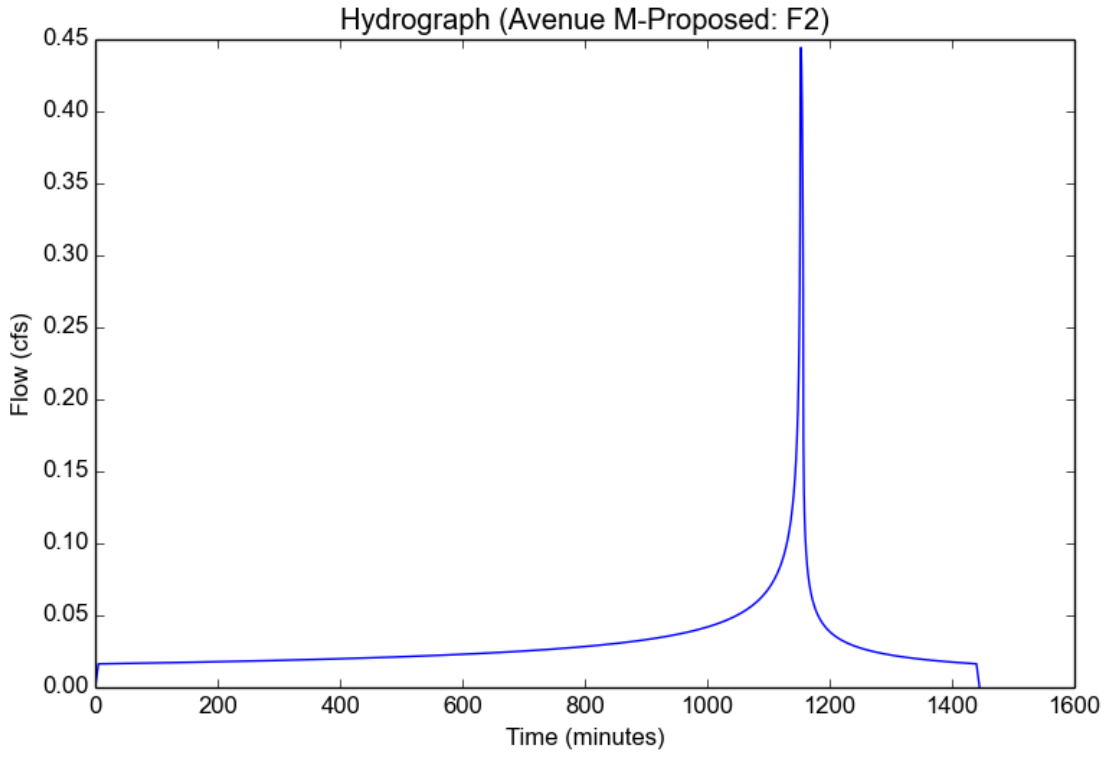
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	F2
Area (ac)	0.3
Flow Path Length (ft)	101.0
Flow Path Slope (vft/hft)	0.0419
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.4443
Burned Peak Flow Rate (cfs)	0.4443
24-Hr Clear Runoff Volume (ac-ft)	0.061
24-Hr Clear Runoff Volume (cu-ft)	2657.4986



Peak Flow Hydrologic Analysis

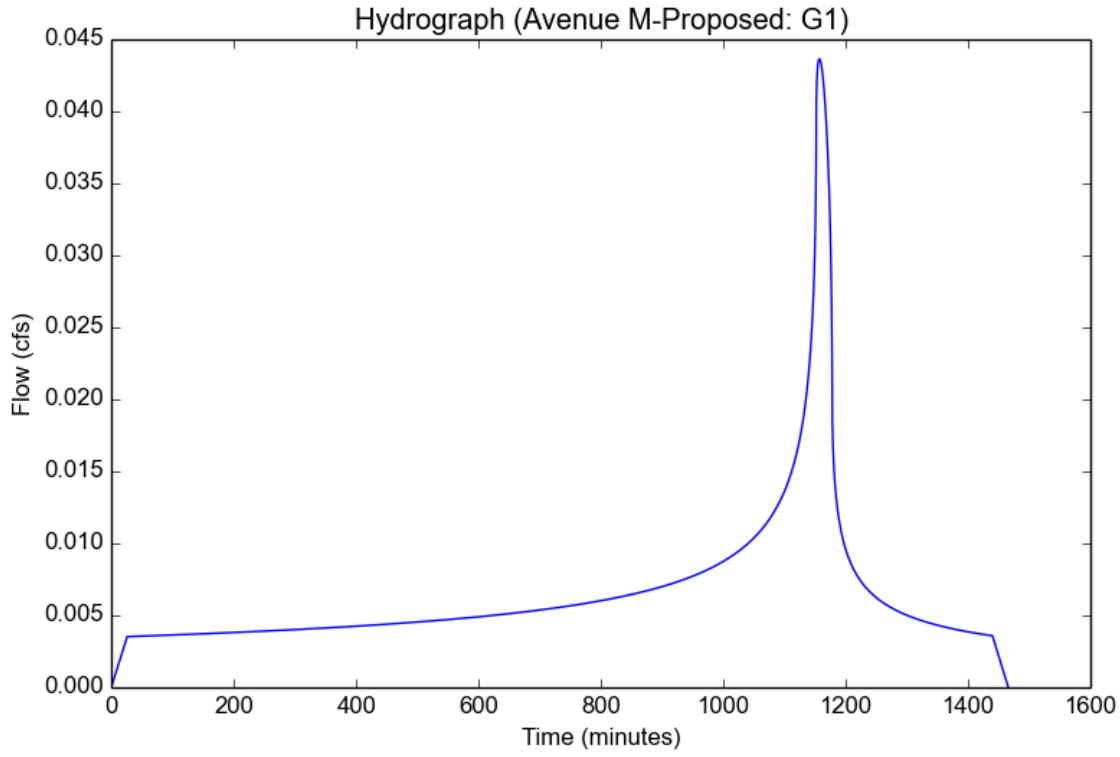
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX B - HYDROCALC/Avenue M-Proposed Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Avenue M-Proposed
Subarea ID	G1
Area (ac)	0.49
Flow Path Length (ft)	218.0
Flow Path Slope (vft/hft)	0.0129
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.01
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	0.8247
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.108
Time of Concentration (min)	26.0
Clear Peak Flow Rate (cfs)	0.0436
Burned Peak Flow Rate (cfs)	0.0436
24-Hr Clear Runoff Volume (ac-ft)	0.0131
24-Hr Clear Runoff Volume (cu-ft)	571.5409



APPENDIX C

DETENTION ANALYSIS

Peak Flow Hydrologic Analysis

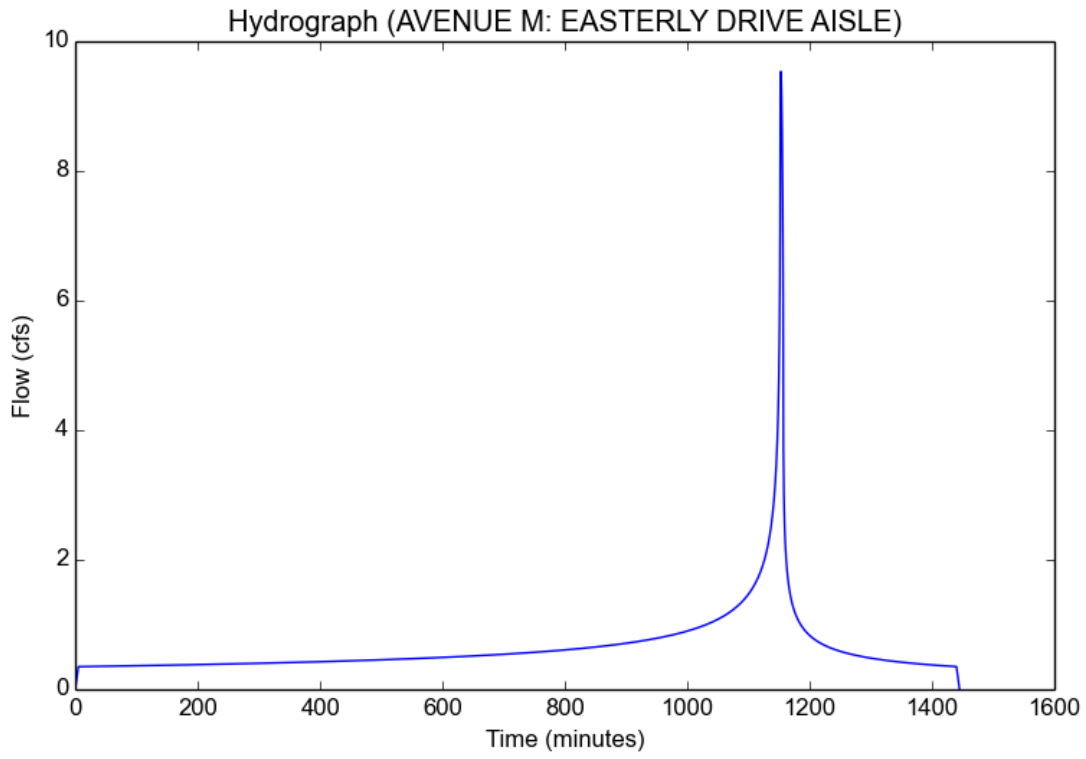
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX D - DETENTION/EASTERLY DRIVE AISLE.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	AVENUE M
Subarea ID	EASTERLY DRIVE AISLE
Area (ac)	6.44
Flow Path Length (ft)	108.0
Flow Path Slope (vft/hft)	0.0627
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	9.5372
Burned Peak Flow Rate (cfs)	9.5372
24-Hr Clear Runoff Volume (ac-ft)	1.3096
24-Hr Clear Runoff Volume (cu-ft)	57047.6374



JOB #4181 AVE M & DIVISION ST - PALMDALE
BUILDING 1 TRUCK YARD

Elevation	Depth (feet)	Area (sq. ft.)	Volume (c.f.)	∑ Volume (c.f.)	∑ Volume (ac-ft)
2520.08	0.00	0			
			264	264	0.01
2520.20	0.12	4,407			
			944	1,208	0.03
2520.30	0.22	14,474			
			2,181	3,389	0.08
2520.40	0.32	29,139			
			3,742	7,131	0.16
2520.50	0.42	45,703			
			5,366	12,497	0.29
2520.60	0.52	61,618			
			6,766	19,263	0.44
2520.70	0.62	73,693			
			7,617	26,880	0.62
2520.80	0.72	78,642			
			8,122	35,002	0.80
2520.90	0.82	83,804			
			8,641	43,643	1.00
2521.00	0.92	89,026			
			9,167	52,811	1.21
2521.10	1.02	94,318			
			9,699	62,510	1.44
2521.20	1.12	99,669			
			10,236	72,746	1.67
2521.30	1.22	105,047			
			10,774	83,520	1.92
2521.40	1.32	110,433			
			11,307	94,826	2.18
2521.50	1.42	115,698			

JOB #4181 AVE M & DIVISION ST - PALMDALE
BASIN #1

Elevation	Depth (feet)	Area (sq. ft.)	Volume (c.f.)	∑ Volume (c.f.)	∑ Volume (ac-ft)
2513.45	0.00	2,351			
			120	120	0.00
2513.50	0.05	2,460			
			1,506	1,627	0.04
2514.00	0.55	3,565			
			2,069	3,696	0.08
2514.50	1.05	4,711			
			2,652	6,347	0.15
2515.00	1.55	5,896			
			3,253	9,600	0.22
2515.50	2.05	7,116			
			3,872	13,472	0.31
2516.00	2.55	8,372			

Peak Flow Hydrologic Analysis

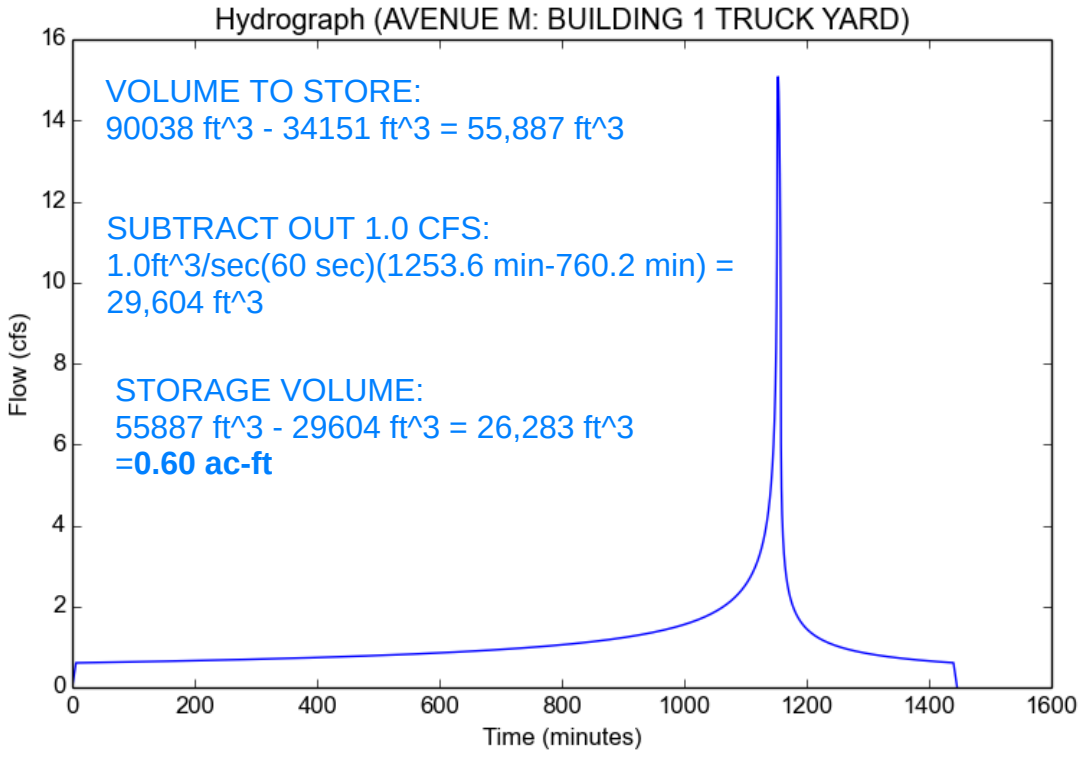
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX D - DETENTION/BUILDING 1.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	AVENUE M
Subarea ID	BUILDING 1 TRUCK YARD
Area (ac)	11.13
Flow Path Length (ft)	268.0
Flow Path Slope (vft/hft)	0.0385
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.6429
Undeveloped Runoff Coefficient (Cu)	0.146
Developed Runoff Coefficient (Cd)	0.8246
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	15.0782
Burned Peak Flow Rate (cfs)	15.0782
24-Hr Clear Runoff Volume (ac-ft)	2.2631
24-Hr Clear Runoff Volume (cu-ft)	98582.6838



JOB #4181 AVE M & DIVISION ST - PALMDALE
BUILDING 2 TRUCK YARD

Elevation	Depth (feet)	Area (sq. ft.)	Volume (c.f.)	∑ Volume (c.f.)	∑ Volume (ac-ft)
2522.13	0.00	0			
			765	765	0.02
2522.30	0.17	9,002			
			1,568	2,333	0.05
2522.40	0.27	22,351			
			3,050	5,383	0.12
2522.50	0.37	38,652			
			4,673	10,056	0.23
2522.60	0.47	54,809			
			6,214	16,270	0.37
2522.70	0.57	69,468			
			7,333	23,603	0.54
2522.80	0.67	77,196			
			7,979	31,582	0.73
2522.90	0.77	82,386			
			8,500	40,083	0.92
2523.00	0.87	87,621			
			9,027	49,109	1.13
2523.10	0.97	92,914			
			9,562	58,671	1.35
2523.20	1.07	98,330			
			10,110	68,781	1.58
2523.30	1.17	103,865			
			10,668	79,449	1.82
2523.40	1.27	109,499			
			11,235	90,685	2.08
2523.50	1.37	115,207			
			11,809	102,494	2.35
2523.60	1.47	120,978			

JOB #4181 AVE M & DIVISION ST - PALMDALE
BASIN #3

Elevation	Depth (feet)	Area (sq. ft.)	Volume (c.f.)	∑ Volume (c.f.)	∑ Volume (ac-ft)
2517.92	0.00	6,875			
			555	555	0.01
2518.00	0.08	7,000			
			3,735	4,290	0.10
2518.50	0.58	7,940			
			4,207	8,497	0.20
2519.00	1.08	8,888			
			4,683	13,180	0.30
2519.50	1.58	9,843			
			3,039	16,218	0.37
2519.80	1.88	10,414			

Peak Flow Hydrologic Analysis

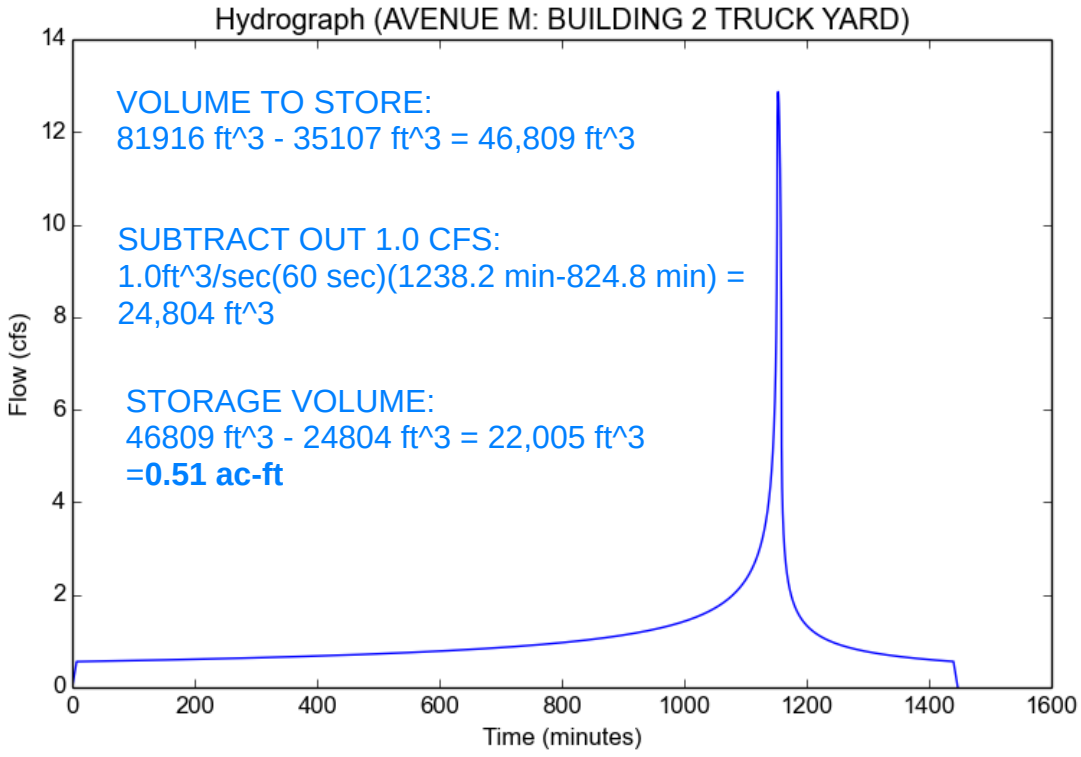
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX D - DETENTION/BUILDING 2.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	AVENUE M
Subarea ID	BUILDING 2 TRUCK YARD
Area (ac)	10.24
Flow Path Length (ft)	277.0
Flow Path Slope (vft/hft)	0.0306
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.5281
Undeveloped Runoff Coefficient (Cu)	0.1243
Developed Runoff Coefficient (Cd)	0.8224
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	12.8689
Burned Peak Flow Rate (cfs)	12.8689
24-Hr Clear Runoff Volume (ac-ft)	2.082
24-Hr Clear Runoff Volume (cu-ft)	90691.9139



JOB #4181 AVE M & DIVISION ST - PALMDALE
BASIN #2

Elevation	Depth (feet)	Area (sq. ft.)	Volume (c.f.)	∑ Volume (c.f.)	∑ Volume (ac-ft)
2516.69	0.00	809			
			290	290	0.01
2517.00	0.31	1,061			
			650	940	0.02
2517.50	0.81	1,539			
			893	1,833	0.04
2518.00	1.31	2,032			
			1,142	2,974	0.07
2518.50	1.81	2,534			

Peak Flow Hydrologic Analysis

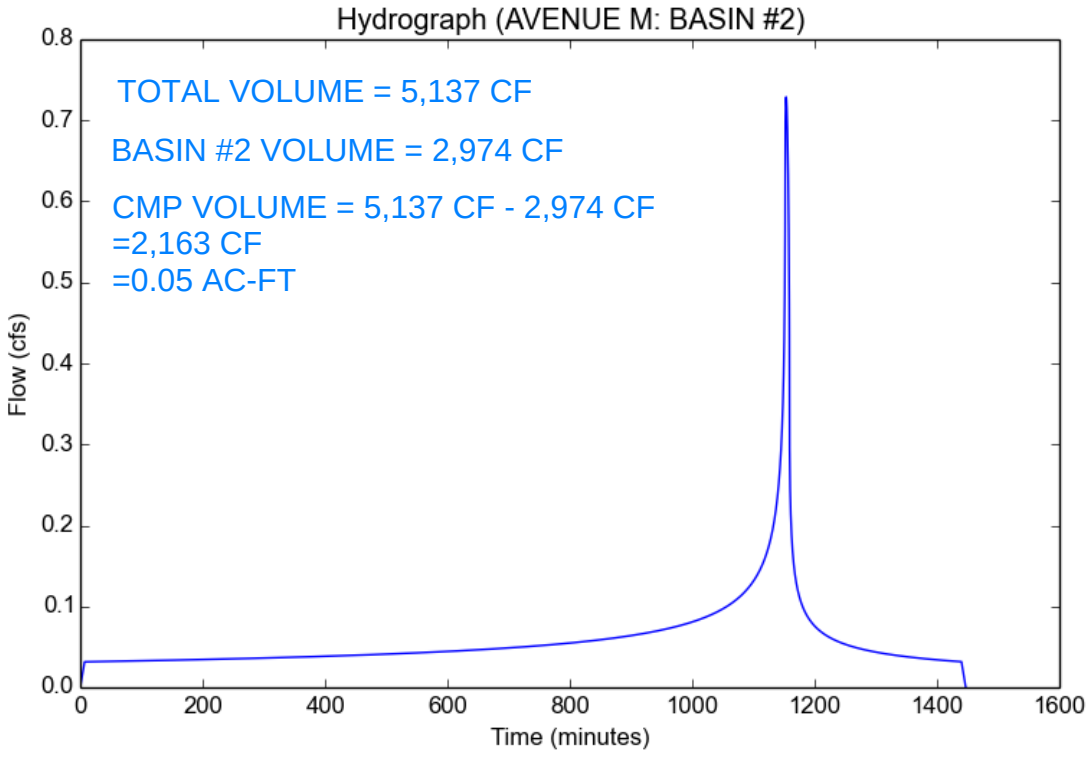
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX D - DETENTION/BASIN 2.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	AVENUE M
Subarea ID	BASIN #2
Area (ac)	0.58
Flow Path Length (ft)	236.0
Flow Path Slope (vft/hft)	0.0135
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.5281
Undeveloped Runoff Coefficient (Cu)	0.1243
Developed Runoff Coefficient (Cd)	0.8224
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	0.7289
Burned Peak Flow Rate (cfs)	0.7289
24-Hr Clear Runoff Volume (ac-ft)	0.1179
24-Hr Clear Runoff Volume (cu-ft)	5136.8467



Peak Flow Hydrologic Analysis

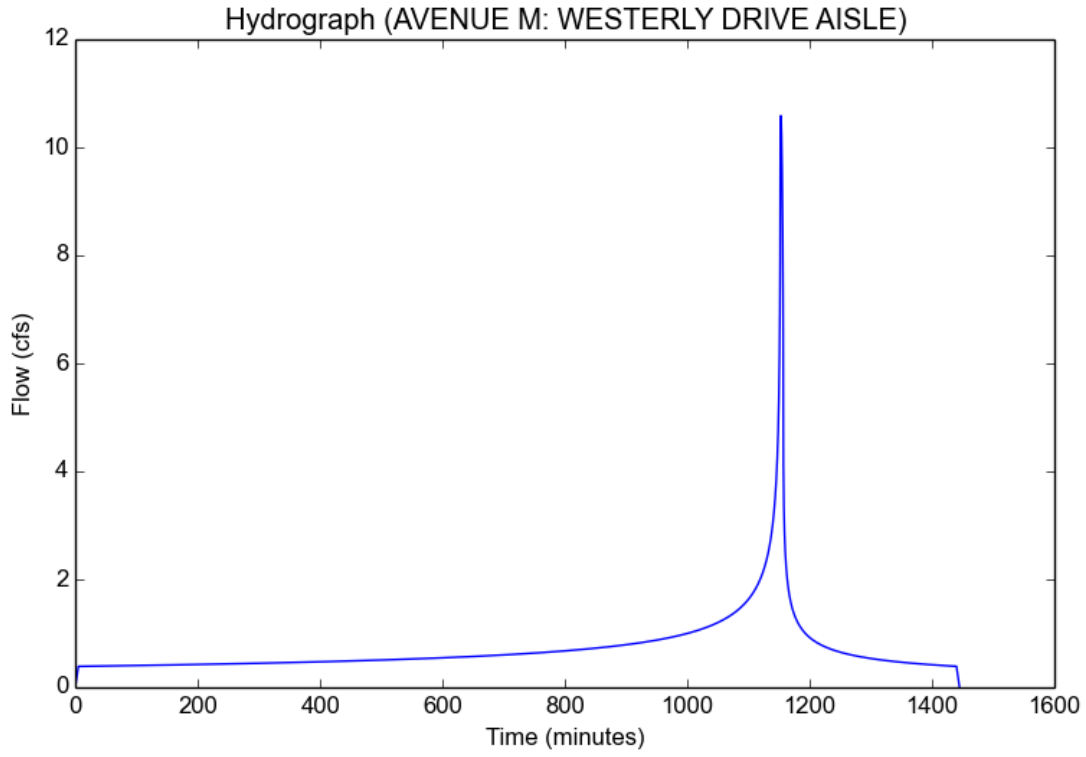
File location: O:/4100-4199/4181/HYDROLOGY/APPENDIX D - DETENTION/WESTERLY DRIVE AISLE.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	AVENUE M
Subarea ID	WESTERLY DRIVE AISLE
Area (ac)	7.15
Flow Path Length (ft)	117.0
Flow Path Slope (vft/hft)	0.046
50-yr Rainfall Depth (in)	3.0
Percent Impervious	0.9
Soil Type	124
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	3.0
Peak Intensity (in/hr)	1.7899
Undeveloped Runoff Coefficient (Cu)	0.1739
Developed Runoff Coefficient (Cd)	0.8274
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	10.5886
Burned Peak Flow Rate (cfs)	10.5886
24-Hr Clear Runoff Volume (ac-ft)	1.454
24-Hr Clear Runoff Volume (cu-ft)	63337.0508



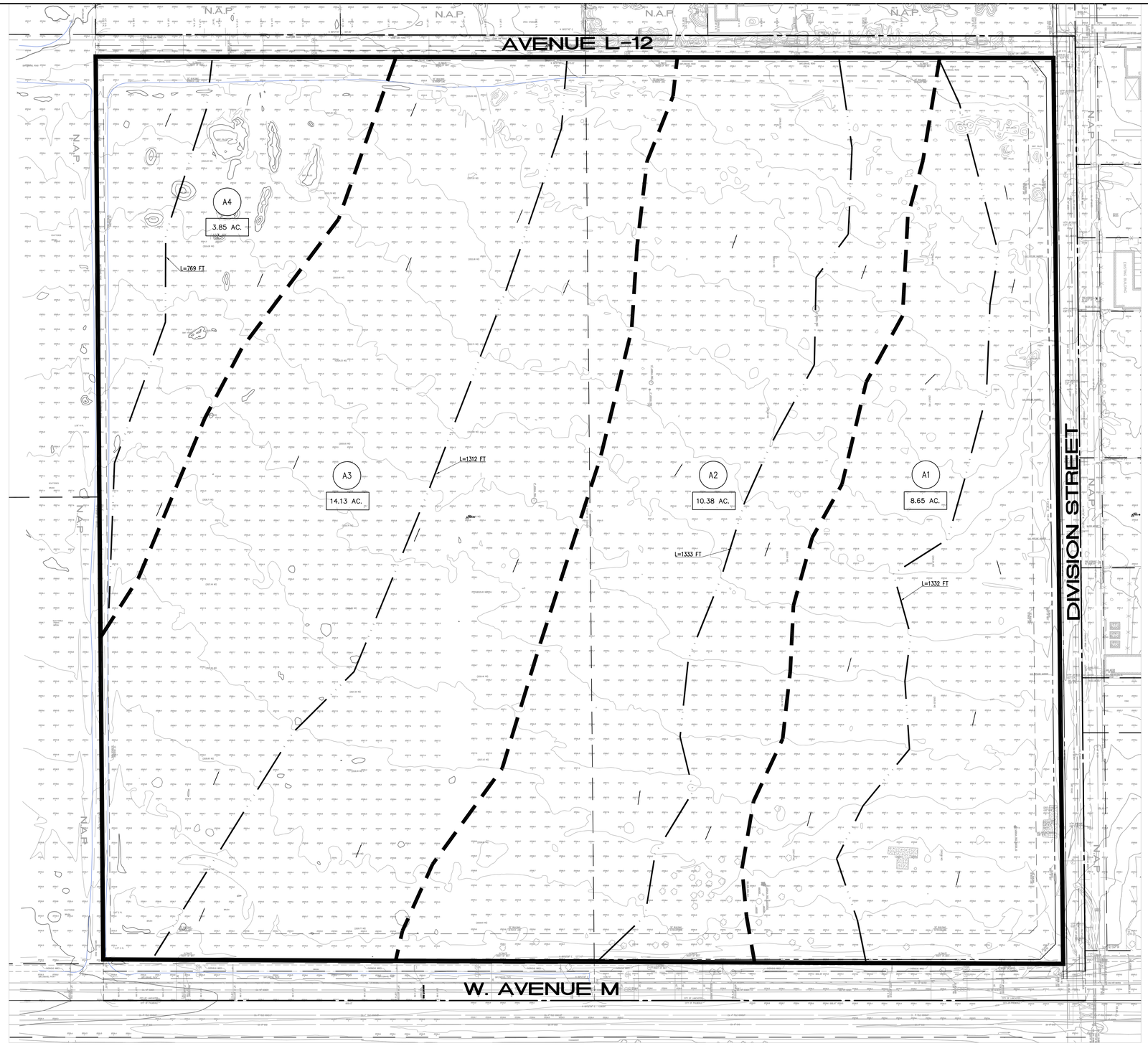
APPENDIX D

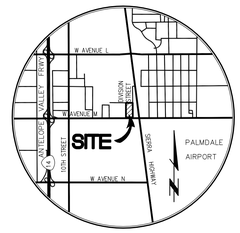
HYDROLOGY MAP

SUBAREA DATA SUMMARY

SUBAREA	AREA (ACRES)	LENGTH (FEET)	SLOPE	IMPERVIOUS (%)	Tc (MINUTES)	Q50 (CFS)
A1	8.65	1332	0.0105	0	30.0	0.7
A2	10.38	1333	0.0096	0	30.0	0.9
A3	14.13	1312	0.0096	0	30.0	1.2
A4	3.85	769	0.0095	0	30.0	0.3

50-YEAR FREQUENCY
SOIL TYPE 124
ISOHYET 3.0
BURN FACTOR 0
BULKING FACTOR 0





VICINITY MAP
N.T.S.

LEGEND

- PROJECT BOUNDARY
- SUBAREA BOUNDARY
- FLOW PATH
- 4.10 AC. — SUBAREA AREA
- A1 — SUBAREA ID
- FLOW DIRECTION

0 30 60 120 180
SCALE: 1"=60'

Last Update:12/4/23
O:\4100-4199\4181\4181HYD-EX.dwg

CITY OF LANCASTER
PUBLIC WORKS DEPARTMENT

EXISTING CONDITION HYDROLOGY MAP

W AVENUE M AND DIVISION ST

4181/1 OF 1 SHEET

PREPARED FOR:
GM PROPERTIES
133305 PENN STREET, SUITE 200
WHITTIER, CA 90602
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Thienes Engineering, Inc.
CIVIL ENGINEERING * LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH:(714)521-4811 FAX:(714)521-4173

Designed by _____ Date _____
Checked by _____ Date _____
Designed by _____ Date _____
Checked by _____ Date _____

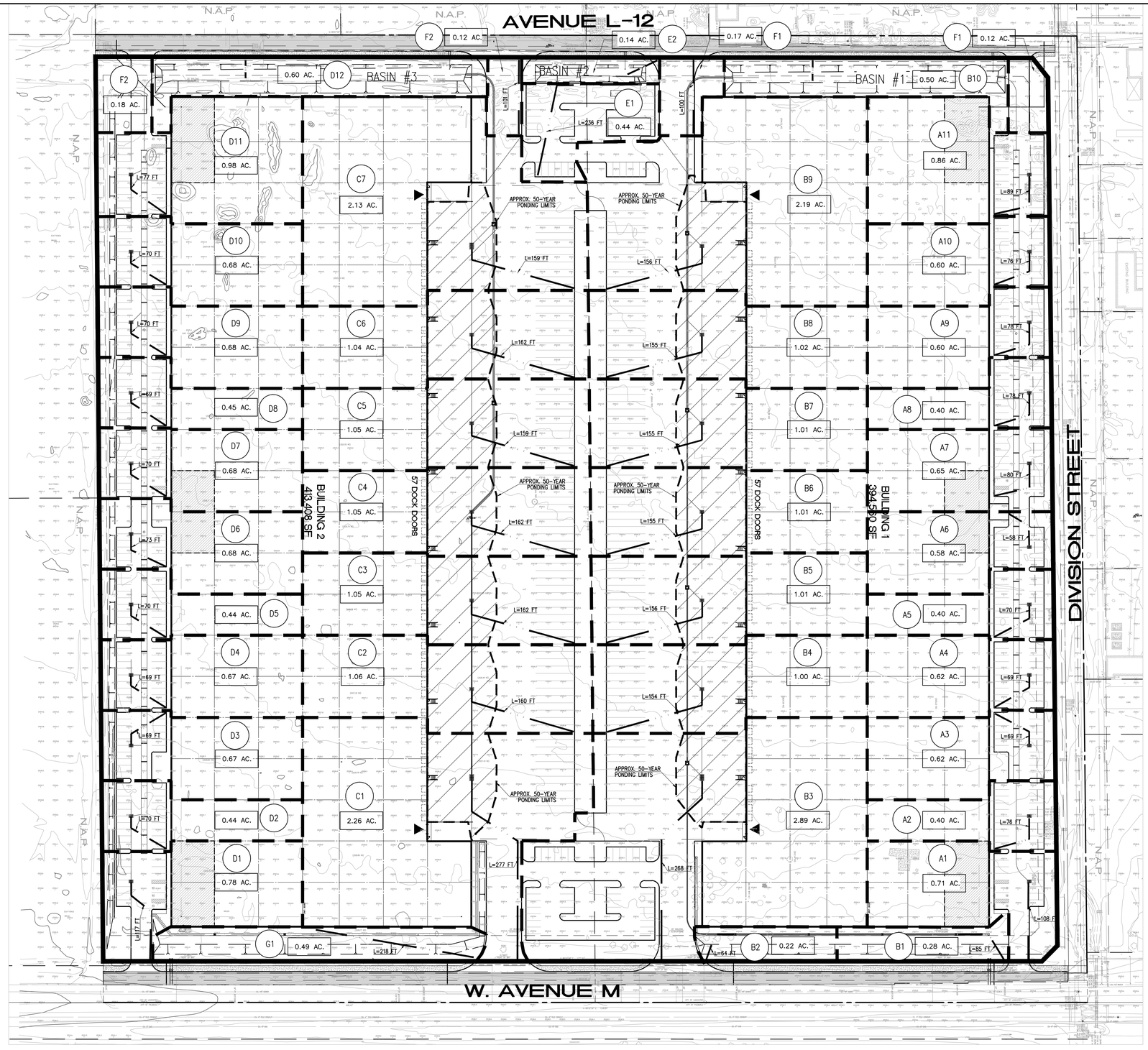
Approved by _____ Date _____
Public Works Director _____ R.C.E. XXXXX

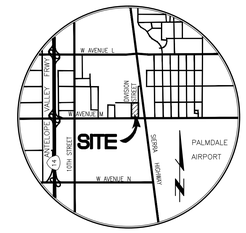
Sheet 1 of 1 Sheets

SUBAREA DATA SUMMARY

SUBAREA	AREA (ACRES)	LENGTH (FEET)	SLOPE	IMPERVIOUS (%)	Tc (MINUTES)	Q50 (CFS)
A1	0.71	108	0.0627	90	5.0	1.1
A2	0.40	76	0.0126	90	5.0	0.6
A3	0.62	69	0.0139	90	5.0	0.9
A4	0.62	69	0.0139	90	5.0	0.9
A5	0.40	70	0.0137	90	5.0	0.6
A6	0.58	58	0.0098	90	5.0	0.9
A7	0.65	80	0.0120	90	5.0	1.0
A8	0.40	78	0.0123	90	5.0	0.6
A9	0.60	78	0.0123	90	5.0	0.9
A10	0.60	76	0.0126	90	5.0	0.9
A11	0.86	89	0.0112	90	5.0	1.3
B1	0.28	104	0.0142	10	11.0	0.1
B2	0.22	160	0.0095	10	16.0	0.1
B3	2.89	268	0.0385	90	6.0	3.9
B4	1.0	154	0.0109	90	5.0	1.5
B5	1.01	156	0.0187	90	5.0	1.5
B6	1.01	155	0.0188	90	5.0	1.5
B7	1.01	155	0.0188	90	5.0	1.5
B8	1.02	155	0.0188	90	5.0	1.5
B9	2.19	156	0.0188	90	5.0	3.2
B10	0.50	236	0.0135	0	5.0	0.2
C1	2.26	277	0.0306	90	7.0	2.8
C2	1.06	160	0.0159	90	5.0	1.6
C3	1.05	162	0.0159	90	5.0	1.6
C4	1.05	162	0.0156	90	5.0	1.6
C5	1.05	162	0.0156	90	5.0	1.6
C6	1.04	162	0.0159	90	5.0	1.5
C7	2.13	159	0.0156	90	5.0	3.2
D1	0.78	117	0.046	90	5.0	1.2
D2	0.44	70	0.0137	90	5.0	0.7
D3	0.67	69	0.0139	90	5.0	1.0
D4	0.67	69	0.0139	90	5.0	1.0
D5	0.44	70	0.0139	90	5.0	0.7
D6	0.68	73	0.0131	90	5.0	1.0
D7	0.68	70	0.0139	90	5.0	1.0
D8	0.45	69	0.0131	90	5.0	0.7
D9	0.68	70	0.0131	90	5.0	1.0
D10	0.68	70	0.0131	90	5.0	1.0
D11	0.98	77	0.0130	90	5.0	1.5
D12	0.60	24	.1213	0	5.0	0.2
E1	0.44	236	0.0135	90	7.0	0.6
E2	0.14	44	0.0423	0	6.0	0.1
F1	0.29	100	0.0310	90	5.0	0.3
F2	0.30	101	0.0419	90	5.0	0.2
G1	0.49	218	0.0129	0	26.0	0.1

50-YEAR FREQUENCY
SOIL TYPE 124
ISOHYET 3.0
BURN FACTOR 0
BULKING FACTOR 0





VICINITY MAP
N.T.S.

LEGEND

- PROJECT BOUNDARY
- SUBAREA BOUNDARY
- FLOW PATH
- 4.10 AC. — SUBAREA AREA
- A1 — SUBAREA ID
- FLOW DIRECTION

0 30 60 120 180
SCALE:1"=60'

Last Update: 12/6/23
D:\4100-4199\4181\4181HYD-PRELIM.dwg

CITY OF LANCASTER
PUBLIC WORKS DEPARTMENT

PROPOSED CONDITION HYDROLOGY MAP

W AVENUE M AND DIVISION ST

4181/1 OF 1 SHEET

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

Designed by _____ Date _____
Checked by _____ Date _____
Designed by _____ Date _____
Checked by _____ Date _____

Approved by _____ Date _____
Public Works Director R.C.E. XXXXX

Sheet 1 of 1 Sheets