

DRAINAGE TECHNICAL REPORT

FOR

Self-Storage Facility
9129 and 9143 North De Soto Ave.
Chatsworth, CA 91311

Date: January 10, 2024

PREPARED FOR:

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PURPOSE

The purpose of the Drainage Technical Report is to determine the volume of runoff from the Self-Storage Facility (Project) site in both the existing and proposed project conditions and determine any impacts to the existing public storm drain system. This report also includes Preliminary Low Impact Development Calculations (LID) for compliance with the current MS4 Permit.

EXISTING CONDITIONS

The proposed Self-Storage Facility (Project) Project site is located within the City of Los Angeles in the Chatsworth-Porter Ranch Community Plan Area. The Project is located on DeSoto Avenue between Nordhoff Street and Knapp Street. The Project addresses are 9129 and 9143 North DeSoto Ave. The site was developed with three commercial buildings, a swimming pool with spa and surface parking. Site landscaping was minimal in nature and limited to tree wells and fingers in the parking area. An aerial photograph of the previously developed site can be found in Appendix C.

Existing zoning for this site is C2-1, and the General Plan Land Use Designation is Highway Oriented Commercial. The site is presently vacant but was previously developed as a fitness center with a pool and related parking facilities. Public infrastructure is presently in place to provide storm drainage to the Project site.

A geotechnical report was prepared for the proposed Project, entitled "Soils Engineering Investigation, Proposed New 4-Story At-Grade Self-Storage Building and Two New Detached 1-Story At-Grade Self-Storage Buildings". The geotechnical report was prepared by Bay City Geology, Project 2557, dated August 11, 2023. The Project site is not located within either a liquefaction zone or in a Methane Zone.

The properties surrounding the Project Site are fully developed as commercial sites and are characterized by gently sloping topography. The Project Site's topography slopes gradually from the north to south, generally towards the adjacent alley to the west and DeSoto Ave on the east. Ultimately runoff enters the public storm drain system in Nordhoff Street.

The Project Site is tributary to Browns Creek Channel which is south of the project site and is fully improved. The site is directly tributary to the DeSoto Avenue Drain which is divided into two sections. The northern section (north of Parthenia St.) is owned and maintained by the County of Los Angeles Flood Control District (LACFCD). The southern portion (south of Parthenia St.) of the drain is owned and maintained by the City of Los Angeles (LAC). The LACFCD owned portion of the DeSoto Avenue Drain (PD-023286) increases in diameter from 42-inch to 60-inch diameter RCP. The LAC owned portion of the DeSoto Avenue Drain (D-22864) is a 60-inch diameter RCP which connects to the Browns Creek Channel via a 63-inch diameter RCP constructed by LACFCD.

A review of the Federal Emergency Management Agency flood insurance rate maps (FEMA MAP

NUMBER 06037C1280F, effective on 09/26/2008) indicates that the Project is located within Zone X, area of minimal flood hazard. A FEMA Firmette map documenting this condition can be found in Appendix B.

PROPOSED PROJECT

The Project proposes construction of three new buildings with a gross floor area totaling 118,433 square feet. Building A is a 4-story self-storage building with a gross floor area of 90,874 square feet. Building B is a single-story self-storage building with a gross floor area of 15,415 square feet. Building C is also a single-story self-storage building with a gross floor area of 12,144 square feet. The Project will be developed in one phase.

Twenty-two surface parking stalls are provided outside of the structures. The site work consists of 27,081 square feet of new hardscape and 5,100 square feet of landscaping throughout the Project site.

Existing drainage patterns will generally be preserved by the proposed project. Runoff from the project building roofs and surface improvements will be intercepted by the site storm drainage system for conveyance to two proposed drywell systems, one between Building A and Building B and the other between Building B and Building C. Overflow from the drywell systems will be directed to the public street and discharged to DeSoto Avenue. The proportion permeable to impermeable surfaces is consistent with the proposed project condition.

A separate Utility Technical Report was prepared for the Project to determine if there are any impacts to the existing utility service system. This report is provided under separate cover.

HYDROLOGY

Hydrology Method

The City of Los Angeles defers to the County of Los Angeles methodology for storm water calculations. The methodology described in the Los Angeles County Department of Public Works (LACDPW) Hydrology Manual (2006) was used to compute the 10-year, 25-year and 50-year stormwater runoff flows from the project site to the existing drainage system. The hydrologic methods used in this study were based on procedures described in the 2006 LACDPW Hydrology Manual. Calculations for the existing and proposed conditions are provided in Appendix A. In accordance with LACDPW requirements, the 50 year and 25-year and 10-year (24-hour) storm events were used in this analysis.

Calculations to determine the storm water runoff from the proposed site were performed using the HydroCalc program, developed by the LACDPW, and the 2006 LACDPW Hydrology Manual.

The HydroCalc program may be used to compute runoff volume and flow rate for small area watersheds (less than 10 acres). The program uses the 50-year 24 hour isohyet to compute storm intensity. To compute runoff for the 10- year and 25-year storm events, the 50-year isohyet value is adjusted using a standard reduction factor. The HydroCalc program automatically adjusts the 50-year isohyet value based on the storm event to be calculated. This information, along with other pertinent site information, is used to compute storm runoff flow rate for the required storm event.

Hydrology Results

Rainfall and soil characteristics for the Project site are shown on the Canoga Park Quad Isohyetal Map included in Appendix A. The 50-year (24-hour) rainfall Isohyet nearest the project area is approximately 6.40 inches. The 25-year (24-hour) Isohyet reduction factor from the 50-year is 0.878, and thus, the 25-year (24-hour) rainfall Isohyet is 5.62 inches for this project area. The 10-year (24-hour) rainfall Isohyet reduction factor from the 50-year event is 0.714, and thus, the 10-year (24-hour) rainfall Isohyet is 4.56 inches. The reduction factors can be found in Table 5.3.1 of the LACPWD Hydrology Manual. As shown on the Canoga Park Quad Isohyetal Map, the soil classification of the project site falls within LACDPW defined soil classification type 019.

The project area to be disturbed is approximately 1.83 acres. The project is divided into two major subareas for the purposes of calculating stormwater runoff in both the existing developed site and the proposed project. These areas are identified and tabulated on the hydrology maps for the existing and proposed conditions found in Appendix C.

The percentage impervious for the pre-development condition was estimated to be 0.90 (90%) for both Area A-1 and Area B-1. This was derived from aerial photographs of the previously developed conditions. The project site was demolished in 2022. This estimation allows us to compare the increase/decrease of stormwater runoff for the newly developed site with the previous development given the nature of this in-fill project.

The percentage impervious for the post-development condition is calculated to be 0.9286 (62.86%) for Area 1 and 0.9376 (93.76%) for Area B-1.

The maps showing the Hydrology areas and LID Post-Development, Pervious and Impervious Areas are included as Appendix C. The results of the calculations can be found in Table 1. System overflows sized for the 5-year storm will be discharged to the existing street when the proposed LID BMPs are at capacity.

Table 1: Comparison of Existing and Proposed Hydrology, 50-year, 25-year & 10-year Storm Events

Sub-Area	Area (Acres)		50-year Flow Rate Q (cfs)		25-year Flow Rate Q (cfs)		10-year Flow Rate Q (cfs)	
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed
A-1	1.149	1.066	3.794	3.561	3.306	2.846	2.435	2.133
B-1	0.681	0.764	2.248	2.561	1.960	2.239	1.578	1.657
Total	1.830	1.830	6.042	6.122	5.266	5.085	4.013	3.790

Conclusion:

A comparison of the existing and proposed stormwater runoff conditions shows no substantial increase in the peak flow rate for the 10-year, 25- year and 50-year storm events with the implementation of the proposed development. A small increase in the percent impervious in the proposed condition results in statistically insignificant increases and/or decreases to the proposed runoff flow rate. Therefore, no mitigation measures are required.

Runoff is further reduced by implementation of capture and infiltration of the 85th percentile stormwater runoff as required by the LID ordinance. Therefore, existing public infrastructure can accommodate the proposed development and impacts would be less than significant.

WATER QUALITY

Water Quality Methodology

Per the MS4 requirements incorporated in the City of Los Angeles Low Impact Development Ordinance, LID calculations must be performed using either 0.75-inch storm event or the 85th Percentile storm, whichever is greater, for the given site. The depth of the 85th percentile storm was determined using the County of Los Angeles Department of Public Works Website and the geographical information system (GIS) found there. Maps of the County showing the 85th percentile isohyet contours can be found at <http://dpw.lacounty.gov/wrd/hydrologygis/>.

A copy of the 85th percentile contour map for this site can be found in Appendix A. The 85th percentile isohyet for the project site, taken from the County website, is 1.02 inches. For this project site, the 85th percentile storm event governs. As previously stated, the project is located

on the USGS Canoga Park Quad Isohyetal Map, Soil Type 019, a copy of which is included in Appendix A.

Calculations to determine LID storm water runoff volume for the proposed site were performed using the HydroCalc program developed by the LACDPW and the 2006 LACDPW Hydrology Manual. The HydroCalc program may be used to compute runoff volume and flow rate for small area watersheds (less than 10 acres). The program uses either 0.75-inch storm event or 85th percentile storm data, along with other pertinent site information, to determine LID storm water runoff volume and other relevant hydrology data. The 85th percentile, 24-hour rain event of rainfall is 1.02 inches and will be used for design of the proposed LID BMP.

Water Quality Results

Table 2 shows the estimated required peak mitigation flow rates (QPM) and mitigation volumes (VM) for the proposed site drainage areas. These peak mitigation quantities represent the treatment flows and volumes evaluated for the site. Detailed flow and volume calculations are given in Appendix A.

Based on the project Geotechnical Report, infiltration BMPs are considered suitable for this site. The in-situ infiltration rate measured during the infiltration test performed at the site is 2.35 inches per hour. The estimated reduction factor for the type of test performed, based on the Los Angeles County Geotechnical and Materials Engineering Division Guideline GS200.1, is 3.

Applying reduction factors from LA County GMED GS200.1, the proposed design infiltration rate is estimated to be 0.783 inches per hour. The minimum required infiltration rate for design of infiltration BMPs is 0.5 inches per hour. Therefore, infiltration is allowed.

The project LID Maps are included as Appendix C. The Project will incorporate a drywell infiltration system for mitigation of the City of Los Angeles Low Impact Development Ordinance (LID). Two systems are proposed as noted on the Hydrology Map, Proposed conditions found in Appendix C.

Table 2: LID Calculations, 85th Percentile Storm Event

Sub-Area	Area (Acres)	Peak Mitigation Flow Rate Qpm (cfs)	Mitigation Volume Vm (cf)
		Proposed	Proposed
A-1	1.066	0.292	3,299
B-1	0.764	0.217	2,385
Total	1.830	0.509	5,684

The total volume of 15,396 cubic feet is required to be captured for infiltration through site specific drywells.

Conclusion:

Permanent water quality BMPs are required by the City of Los Angeles LID Ordinance to be implemented for the proposed project. The proposed drywell systems reduce the runoff from the project by intercepting runoff from the 85th percentile storm event for infiltration into the subsurface soil strata. Intercepting the first flush stormwater runoff removes contaminants from the runoff that would otherwise enter the storm drain system and downstream waterways. Water quality is improved by implementing these permanent LID BMPs.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

A project is considered to have a significant impact on hydrology or water quality if the proposed project will have any of the following effects, according to CEQA Guidelines Appendix G:

Threshold	Impact
a. Violate any water quality standards or waste discharge requirements.	No Impact
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table (e.g. the production rate of pre-existing nearby wells would drop to a level which would not	No Impact

support existing land uses or planned uses for which permits have been granted).	
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site. Thresholds which could result in substantial erosion or siltation are increases in storm water velocity above the baseline condition.	No Impact
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of storm water runoff in a manner which would result in flooding on- or off-site. Thresholds which could result in an increased rate or amount of storm water runoff are increases in the flow rate or duration above the baseline condition.	No Impact
e. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.	Less than significant
f. Otherwise substantially degrade water quality. Thresholds which could result in degradation are water quality that it is unable to attain mandatory health-related standards for City water services established by the State of California Department of Health Services.	No Impact
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.	No Impact

Mitigation

Based on the results of this study, detention facilities are not required for the proposed project to address hydrology. However, compliance with the City of Los Angeles LID Ordinance requires the capture of runoff from the 85th percentile storm to mitigate stormwater runoff quality and quantity.

The project incorporates two drywell systems which will capture stormwater for infiltration into the subsurface soils. Construction Document level LID calculations are required to be prepared and reviewed and approved by the City of Los Angeles before project construction permits can be issued.

Compliance with the Statewide Construction General Permit is required for this project, which disturbs more than 1 acre of land. This includes preparation and implementation of a project specific Stormwater Pollution Prevention Plan (SWPPP) and Wet Weather Erosion Control Plan in

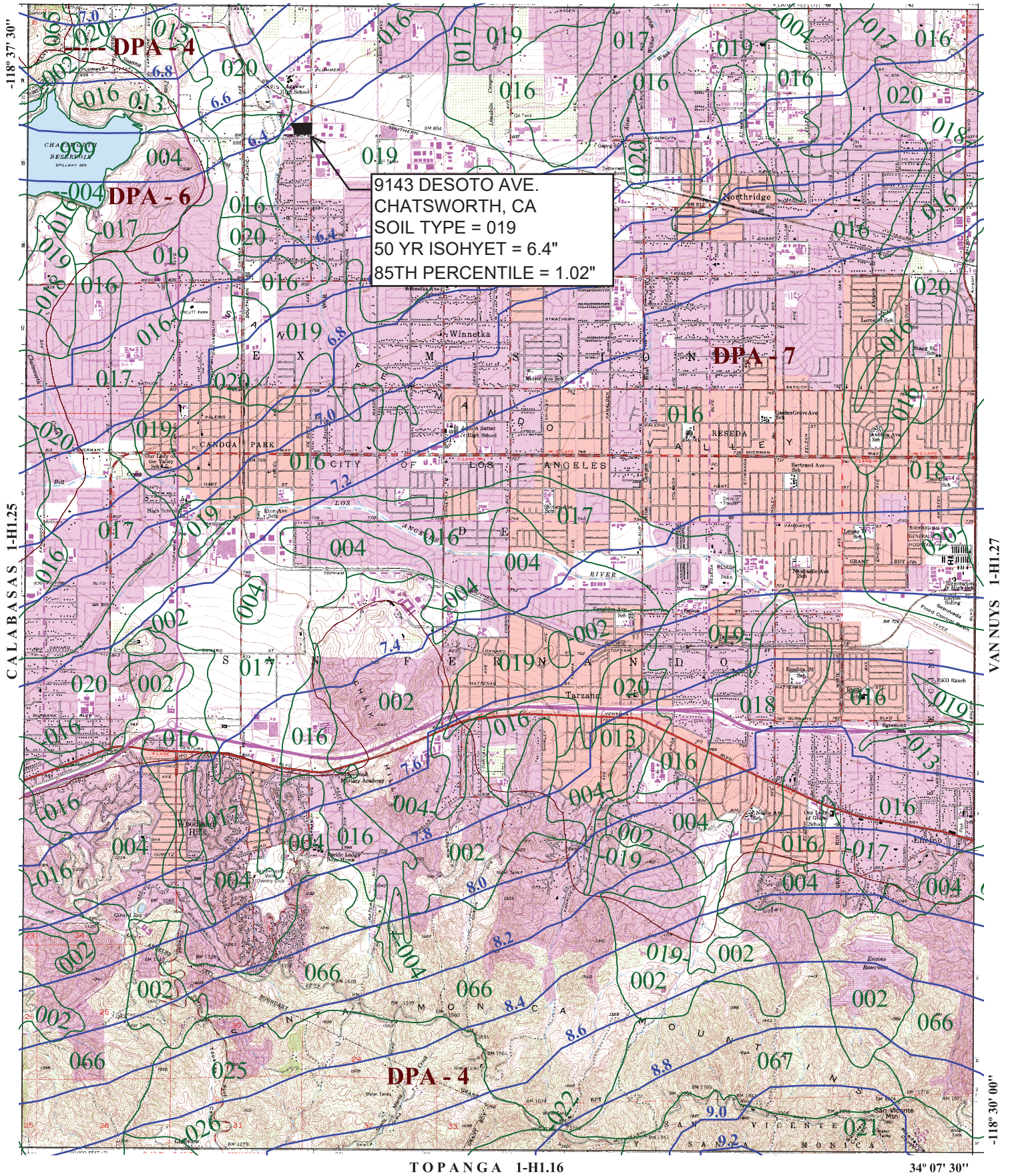
accordance with the Statewide permit requirements. Contractor is required to control erosion and runoff as necessary using site appropriate grading practices. Specifically, the contractor shall plan for and implement Best Management Practice (BMP) during construction to the satisfaction of the City of Los Angeles Bureau of Sanitation, and/or other designated responsible agencies/departments. This is expected to occur during each phase of the project.

Through compliance with these mandatory regulations, drainage and water quality impacts are less than significant. No additional mitigation measures are required.

Appendix A: Hydrology & LID Calculations

34° 15' 00"

OAT MOUNTAIN 1-H1.35



TOPANGA 1-H1.16

34° 07' 30"



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

CANOGA PARK 50-YEAR 24-HOUR ISOHYET

1-H1.26



$$C_D = (0.9 * IMP) + (1.0 - IMP) * C_U$$

Where: C_D = Developed Runoff Coefficient

IMP = Proportion Impervious

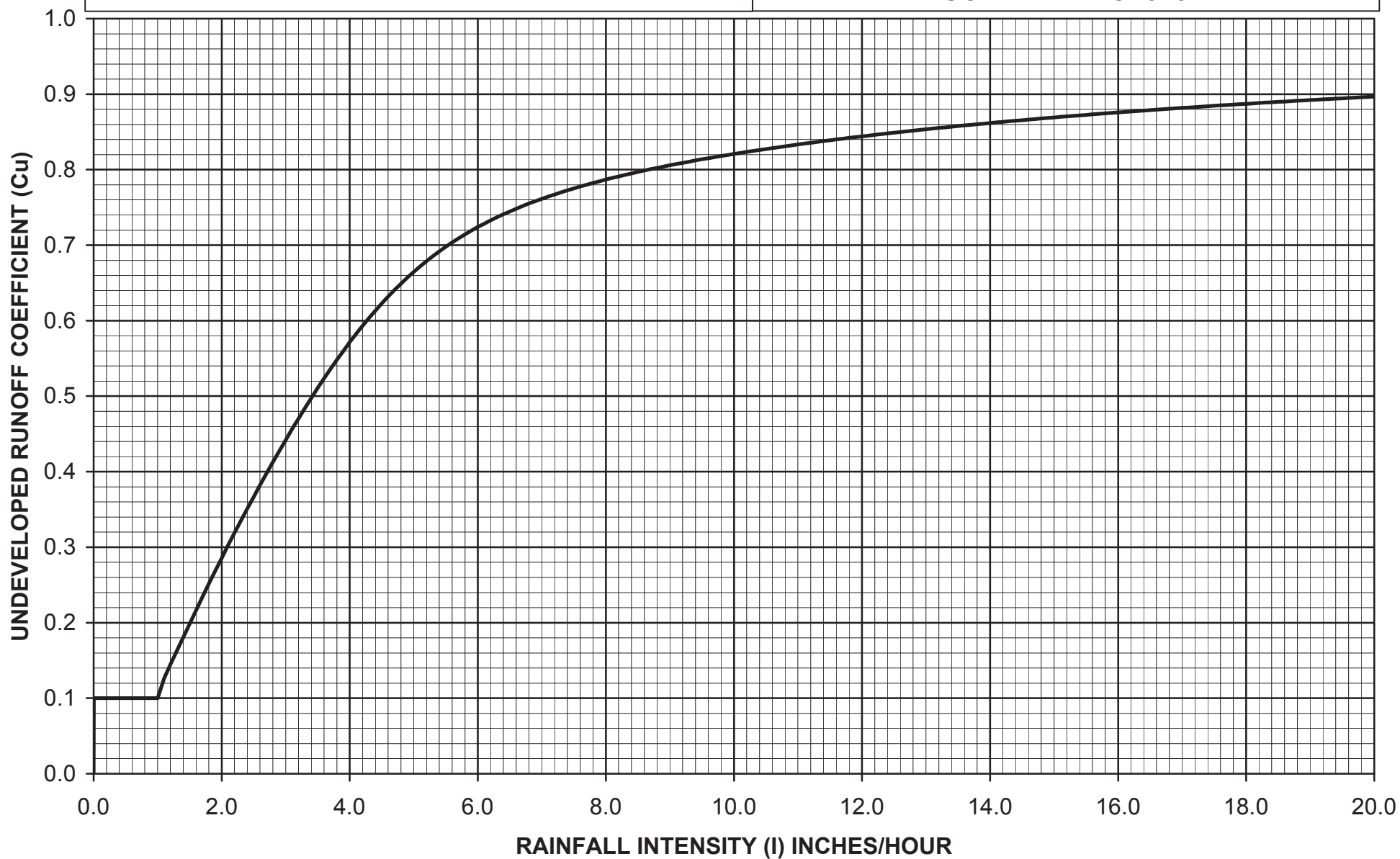
C_U = Undeveloped runoff coefficient

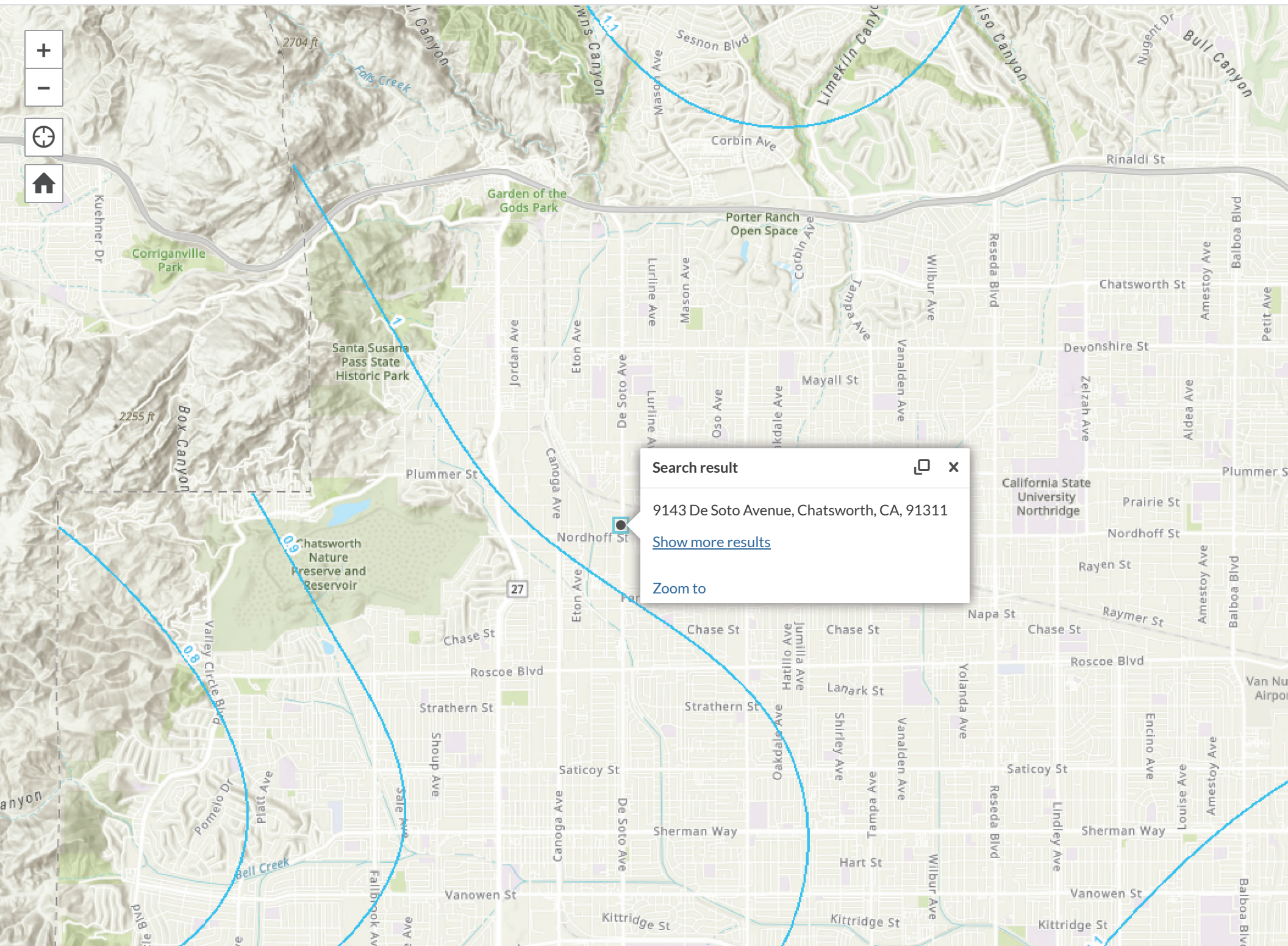


Los Angeles County Department of Public Works

RUNOFF COEFFICIENT CURVE

SOIL TYPE NO. 019





Search result 

9143 De Soto Avenue, Chatsworth, CA, 91311

[Show more results](#)

[Zoom to](#)

Peak Flow Hydrologic Analysis

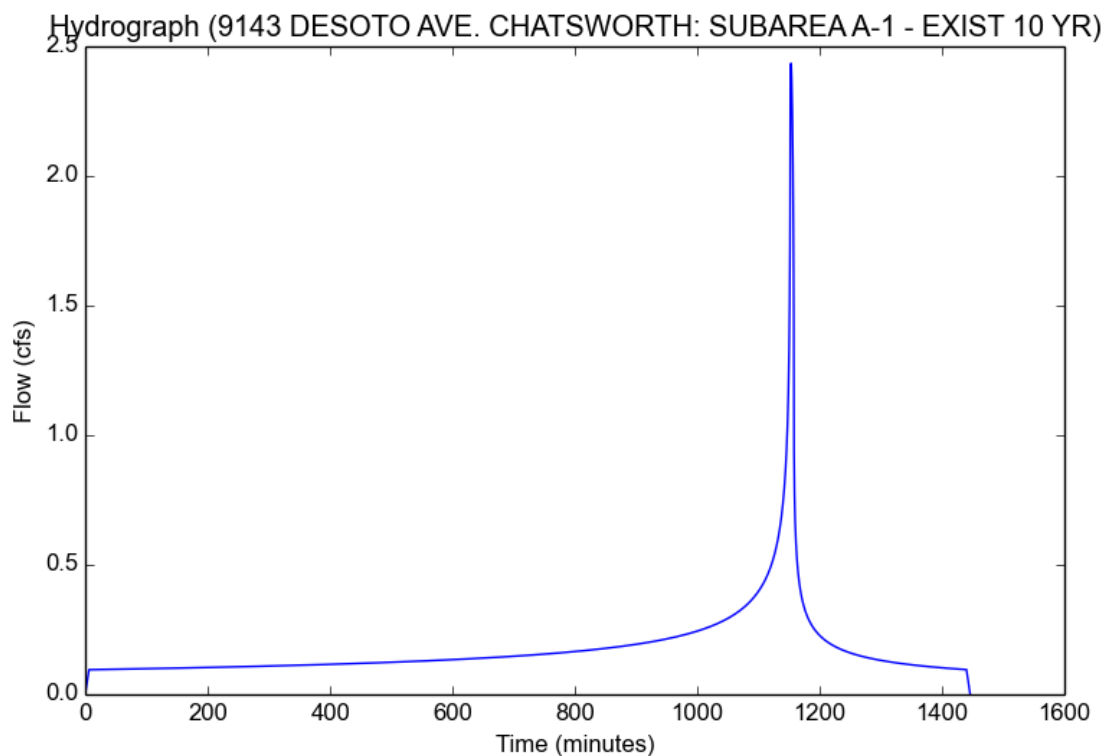
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	9143 DESOTO AVE. CHATSWORTH
Subarea ID	SUBAREA A-1 - EXIST 10 YR
Area (ac)	1.149
Flow Path Length (ft)	324.0
Flow Path Slope (vft/hft)	0.012
50-yr Rainfall Depth (in)	6.4
Percent Impervious	0.9
Soil Type	19
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.5696
Peak Intensity (in/hr)	2.5025
Undeveloped Runoff Coefficient (Cu)	0.3672
Developed Runoff Coefficient (Cd)	0.8467
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	2.4346
Burned Peak Flow Rate (cfs)	2.4346
24-Hr Clear Runoff Volume (ac-ft)	0.3564
24-Hr Clear Runoff Volume (cu-ft)	15523.9788



Peak Flow Hydrologic Analysis

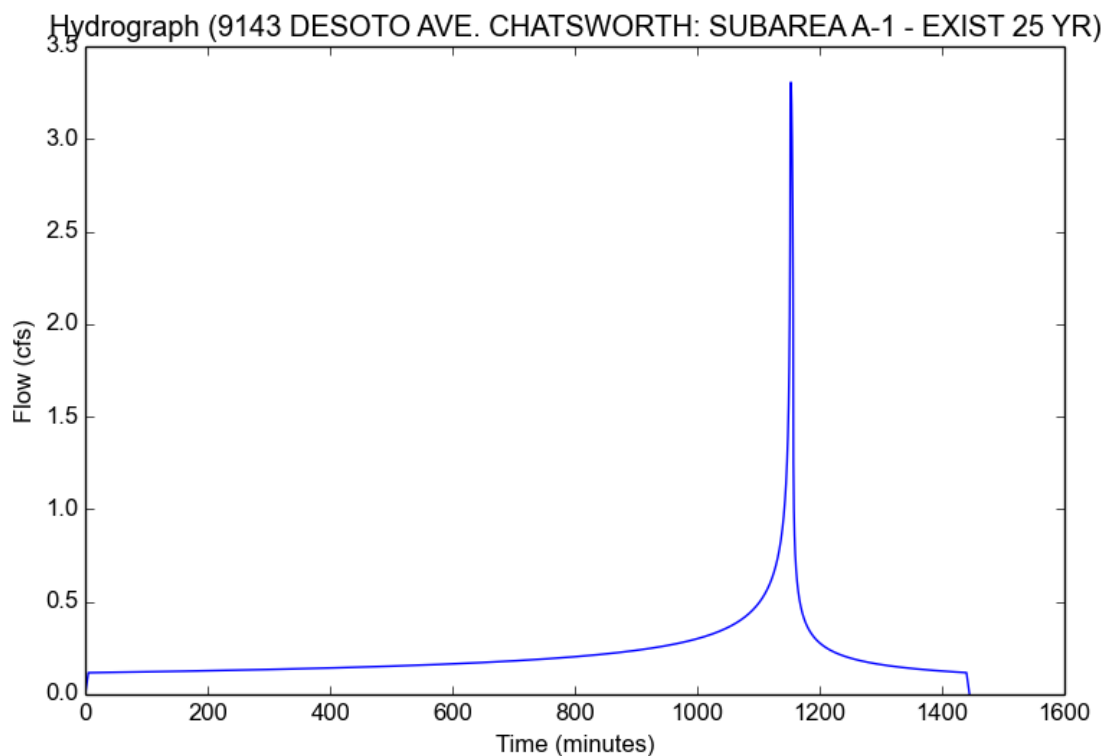
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	9143 DESOTO AVE. CHATSWORTH
Subarea ID	SUBAREA A-1 - EXIST 25 YR
Area (ac)	1.149
Flow Path Length (ft)	324.0
Flow Path Slope (vft/hft)	0.012
50-yr Rainfall Depth (in)	6.4
Percent Impervious	0.9
Soil Type	19
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.6192
Peak Intensity (in/hr)	3.3526
Undeveloped Runoff Coefficient (Cu)	0.4832
Developed Runoff Coefficient (Cd)	0.8583
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	3.3063
Burned Peak Flow Rate (cfs)	3.3063
24-Hr Clear Runoff Volume (ac-ft)	0.4386
24-Hr Clear Runoff Volume (cu-ft)	19105.2732



Peak Flow Hydrologic Analysis

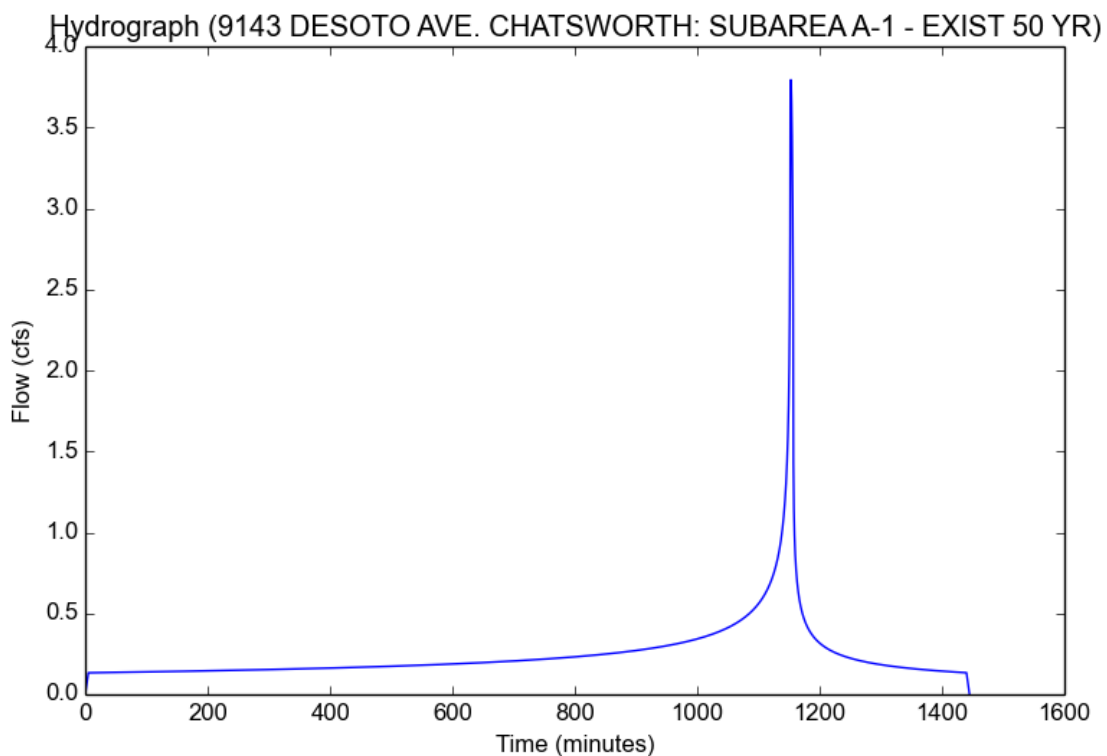
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	9143 DESOTO AVE. CHATSWORTH
Subarea ID	SUBAREA A-1 - EXIST 50 YR
Area (ac)	1.149
Flow Path Length (ft)	324.0
Flow Path Slope (vft/hft)	0.012
50-yr Rainfall Depth (in)	6.4
Percent Impervious	0.9
Soil Type	19
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.4
Peak Intensity (in/hr)	3.8184
Undeveloped Runoff Coefficient (Cu)	0.5467
Developed Runoff Coefficient (Cd)	0.8647
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	3.7936
Burned Peak Flow Rate (cfs)	3.7936
24-Hr Clear Runoff Volume (ac-ft)	0.4998
24-Hr Clear Runoff Volume (cu-ft)	21772.2794



Peak Flow Hydrologic Analysis

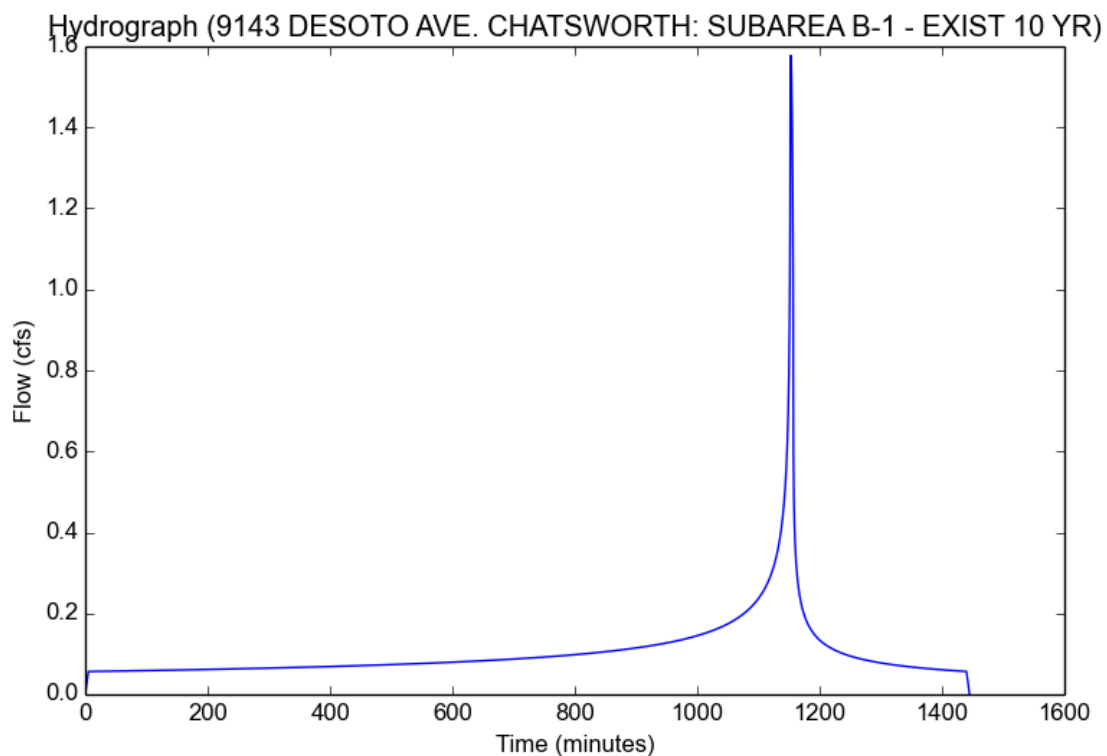
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	9143 DESOTO AVE. CHATSWORTH
Subarea ID	SUBAREA B-1 - EXIST 10 YR
Area (ac)	0.681
Flow Path Length (ft)	205.0
Flow Path Slope (vft/hft)	0.016
50-yr Rainfall Depth (in)	6.4
Percent Impervious	0.9
Soil Type	19
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.5696
Peak Intensity (in/hr)	2.7263
Undeveloped Runoff Coefficient (Cu)	0.3978
Developed Runoff Coefficient (Cd)	0.8498
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.5777
Burned Peak Flow Rate (cfs)	1.5777
24-Hr Clear Runoff Volume (ac-ft)	0.2112
24-Hr Clear Runoff Volume (cu-ft)	9201.8535



Peak Flow Hydrologic Analysis

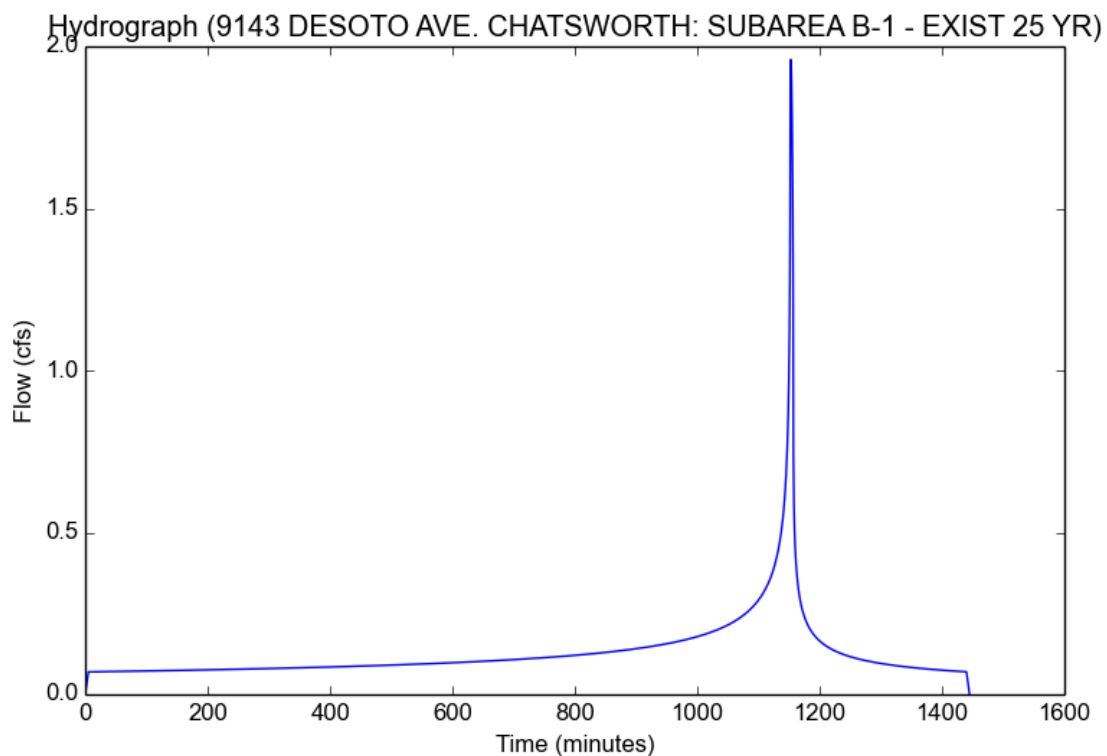
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	9143 DESOTO AVE. CHATSWORTH
Subarea ID	SUBAREA B-1 - EXIST 25 YR
Area (ac)	0.681
Flow Path Length (ft)	205.0
Flow Path Slope (vft/hft)	0.016
50-yr Rainfall Depth (in)	6.4
Percent Impervious	0.9
Soil Type	19
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.6192
Peak Intensity (in/hr)	3.3526
Undeveloped Runoff Coefficient (Cu)	0.4832
Developed Runoff Coefficient (Cd)	0.8583
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.9596
Burned Peak Flow Rate (cfs)	1.9596
24-Hr Clear Runoff Volume (ac-ft)	0.26
24-Hr Clear Runoff Volume (cu-ft)	11323.4909



Peak Flow Hydrologic Analysis

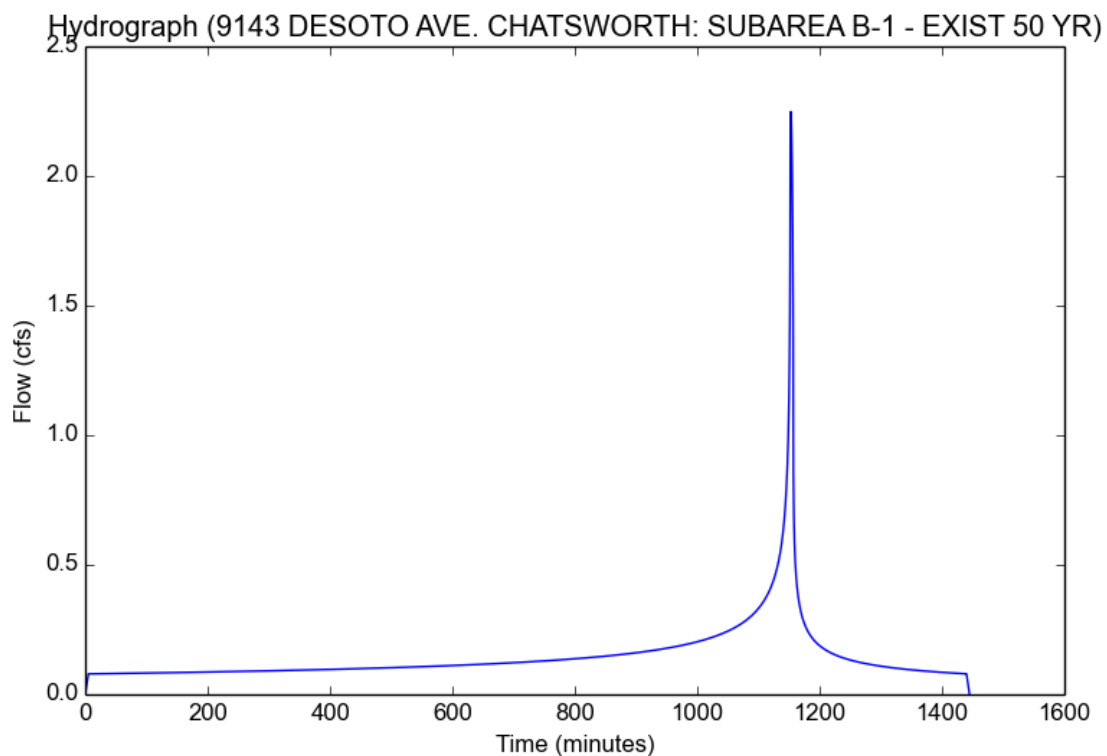
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	9143 DESOTO AVE. CHATSWORTH
Subarea ID	SUBAREA B-1 - EXIST 50 YR
Area (ac)	0.681
Flow Path Length (ft)	205.0
Flow Path Slope (vft/hft)	0.016
50-yr Rainfall Depth (in)	6.4
Percent Impervious	0.9
Soil Type	19
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.4
Peak Intensity (in/hr)	3.8184
Undeveloped Runoff Coefficient (Cu)	0.5467
Developed Runoff Coefficient (Cd)	0.8647
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.2484
Burned Peak Flow Rate (cfs)	2.2484
24-Hr Clear Runoff Volume (ac-ft)	0.2962
24-Hr Clear Runoff Volume (cu-ft)	12904.1969



Peak Flow Hydrologic Analysis

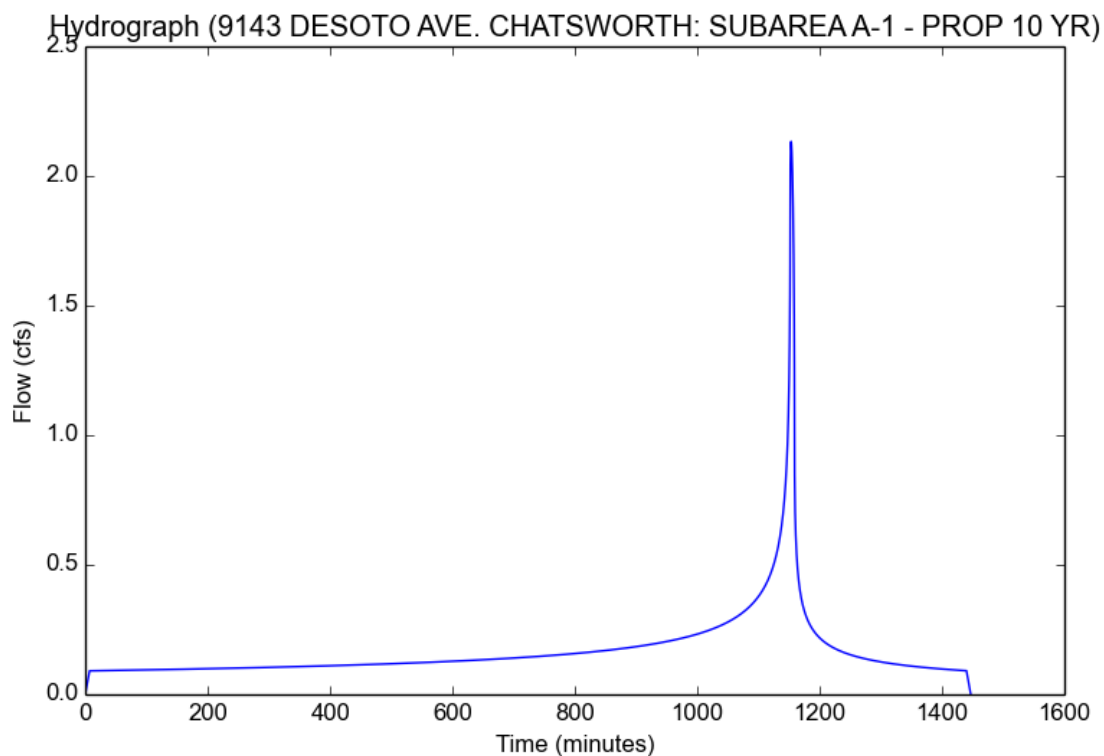
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	9143 DESOTO AVE. CHATSWORTH
Subarea ID	SUBAREA A-1 - PROP 10 YR
Area (ac)	1.066
Flow Path Length (ft)	342.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.4
Percent Impervious	0.9286
Soil Type	19
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.5696
Peak Intensity (in/hr)	2.3276
Undeveloped Runoff Coefficient (Cu)	0.3362
Developed Runoff Coefficient (Cd)	0.8597
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	2.1332
Burned Peak Flow Rate (cfs)	2.1332
24-Hr Clear Runoff Volume (ac-ft)	0.3397
24-Hr Clear Runoff Volume (cu-ft)	14796.1581



Peak Flow Hydrologic Analysis

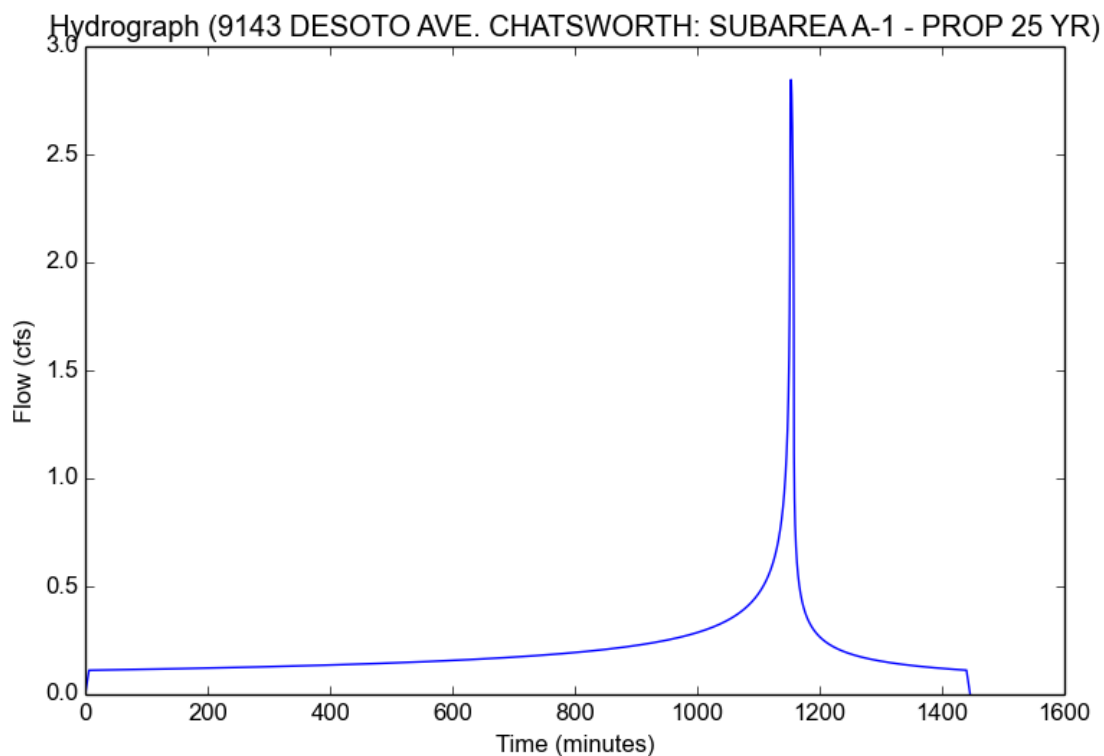
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	9143 DESOTO AVE. CHATSWORTH
Subarea ID	SUBAREA A-1 - PROP 25 YR
Area (ac)	1.066
Flow Path Length (ft)	342.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.4
Percent Impervious	0.9286
Soil Type	19
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.6192
Peak Intensity (in/hr)	3.0772
Undeveloped Runoff Coefficient (Cu)	0.4456
Developed Runoff Coefficient (Cd)	0.8676
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	2.8459
Burned Peak Flow Rate (cfs)	2.8459
24-Hr Clear Runoff Volume (ac-ft)	0.4179
24-Hr Clear Runoff Volume (cu-ft)	18205.0425



Peak Flow Hydrologic Analysis

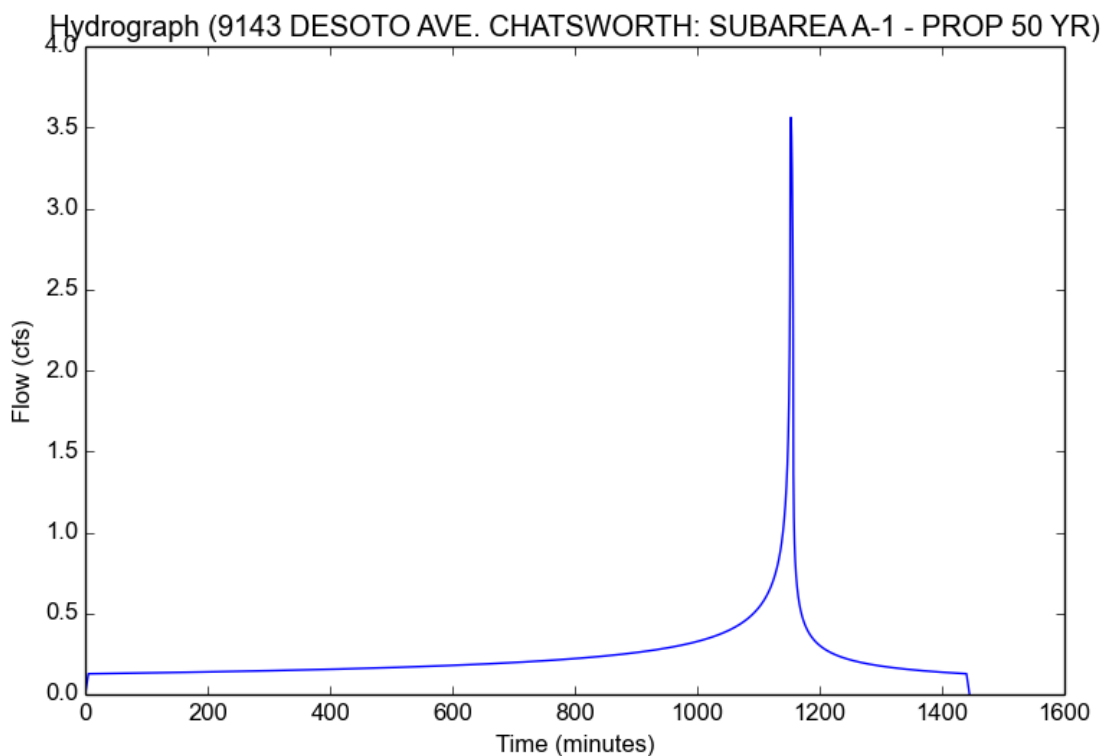
File location: P:/Shared/Projects/Great American Capital/23524 - 9143 DeSoto Chatsworth Entitlements/DOC/PLANNING ENTITLEMENT DRAINAGE T
Version: HydroCalc 1.0.3

Input Parameters

Project Name	9143 DESOTO AVE. CHATSWORTH
Subarea ID	SUBAREA A-1 - PROP 50 YR
Area (ac)	1.066
Flow Path Length (ft)	342.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.4
Percent Impervious	0.9286
Soil Type	19
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.4
Peak Intensity (in/hr)	3.8184
Undeveloped Runoff Coefficient (Cu)	0.5467
Developed Runoff Coefficient (Cd)	0.8748
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	3.5607
Burned Peak Flow Rate (cfs)	3.5607
24-Hr Clear Runoff Volume (ac-ft)	0.4762
24-Hr Clear Runoff Volume (cu-ft)	20744.3689



Peak Flow Hydrologic Analysis

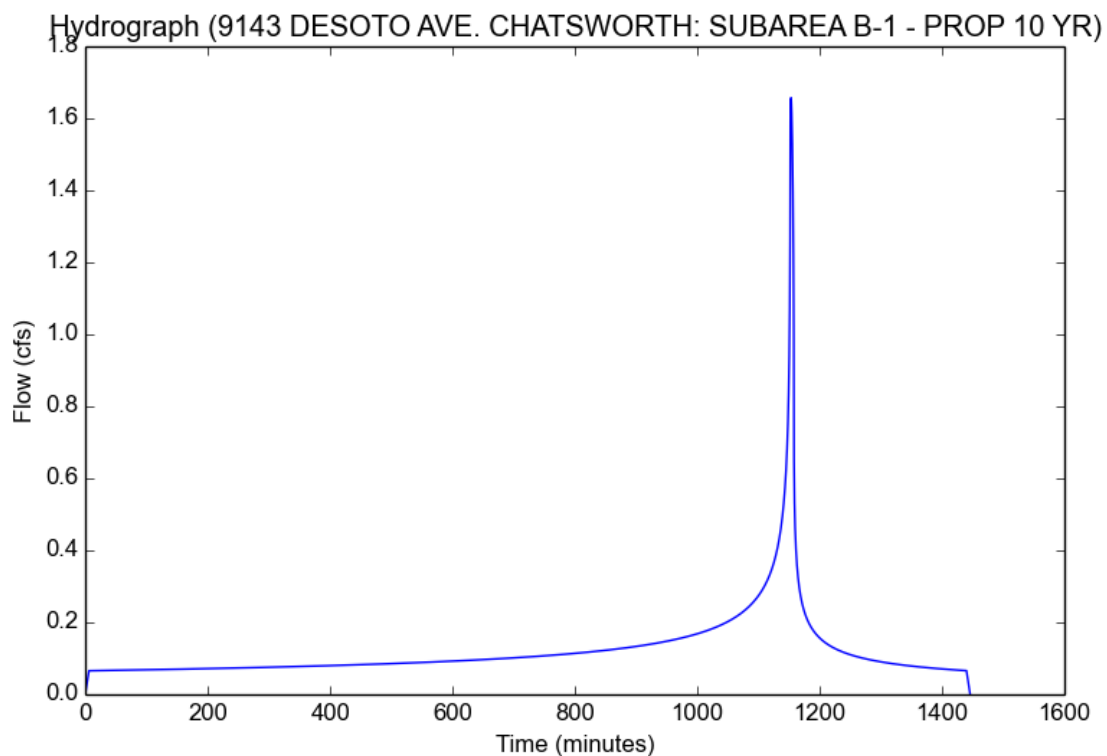
File location: P:/Shared/Projects/Great American Capital/23524 - 9143 DeSoto Chatsworth Entitlements/DOC/PLANNING ENTITLEMENT DRAINAGE T
Version: HydroCalc 1.0.3

Input Parameters

Project Name	9143 DESOTO AVE. CHATSWORTH
Subarea ID	SUBAREA B-1 - PROP 10 YR
Area (ac)	0.764
Flow Path Length (ft)	315.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.4
Percent Impervious	0.9376
Soil Type	19
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.5696
Peak Intensity (in/hr)	2.5025
Undeveloped Runoff Coefficient (Cu)	0.3672
Developed Runoff Coefficient (Cd)	0.8668
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	1.6571
Burned Peak Flow Rate (cfs)	1.6571
24-Hr Clear Runoff Volume (ac-ft)	0.2455
24-Hr Clear Runoff Volume (cu-ft)	10694.2038



Peak Flow Hydrologic Analysis

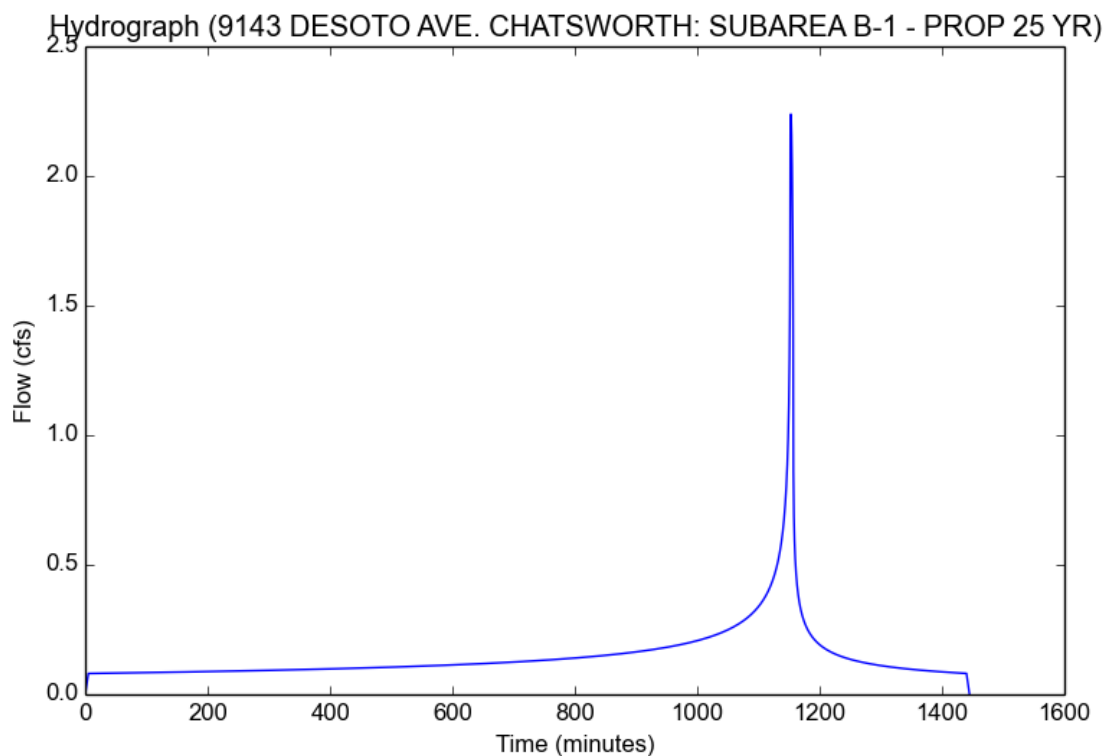
File location: P:/Shared/Projects/Great American Capital/23524 - 9143 DeSoto Chatsworth Entitlements/DOC/PLANNING ENTITLEMENT DRAINAGE T
Version: HydroCalc 1.0.3

Input Parameters

Project Name	9143 DESOTO AVE. CHATSWORTH
Subarea ID	SUBAREA B-1 - PROP 25 YR
Area (ac)	0.764
Flow Path Length (ft)	315.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.4
Percent Impervious	0.9376
Soil Type	19
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.6192
Peak Intensity (in/hr)	3.3526
Undeveloped Runoff Coefficient (Cu)	0.4832
Developed Runoff Coefficient (Cd)	0.874
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.2386
Burned Peak Flow Rate (cfs)	2.2386
24-Hr Clear Runoff Volume (ac-ft)	0.302
24-Hr Clear Runoff Volume (cu-ft)	13157.032



Peak Flow Hydrologic Analysis

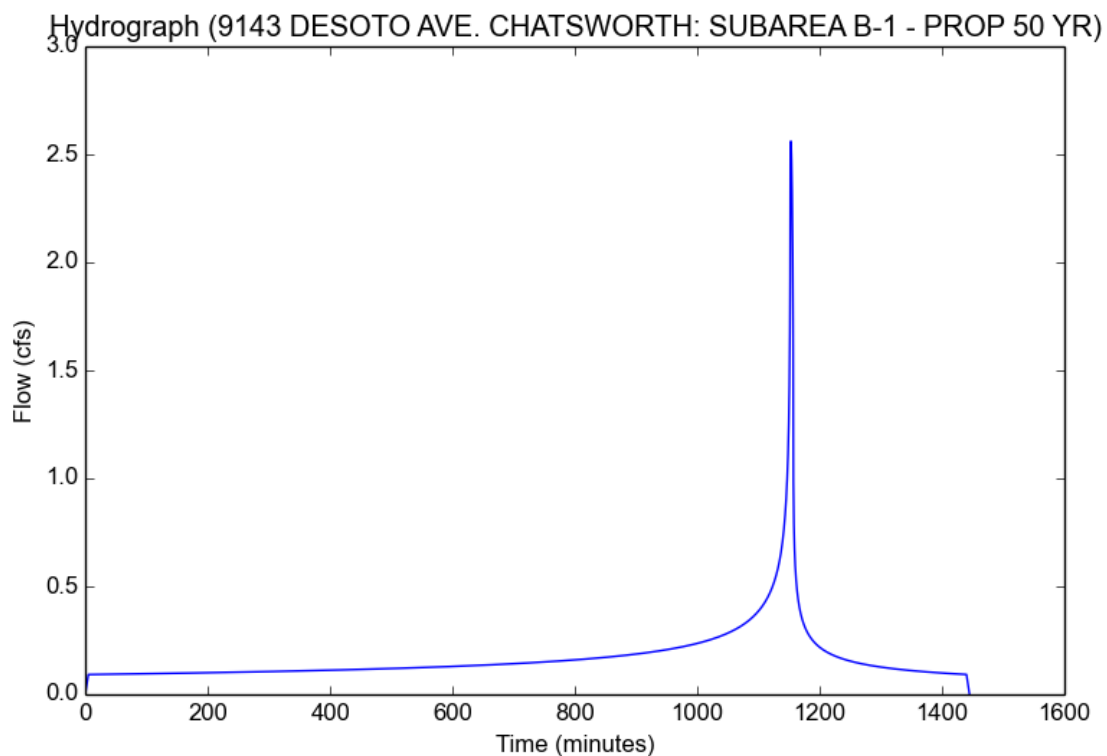
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	9143 DESOTO AVE. CHATSWORTH
Subarea ID	SUBAREA B-1 - PROP 50 YR
Area (ac)	0.764
Flow Path Length (ft)	315.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.4
Percent Impervious	0.9376
Soil Type	19
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.4
Peak Intensity (in/hr)	3.8184
Undeveloped Runoff Coefficient (Cu)	0.5467
Developed Runoff Coefficient (Cd)	0.878
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.5612
Burned Peak Flow Rate (cfs)	2.5612
24-Hr Clear Runoff Volume (ac-ft)	0.3441
24-Hr Clear Runoff Volume (cu-ft)	14990.3282



Peak Flow Hydrologic Analysis

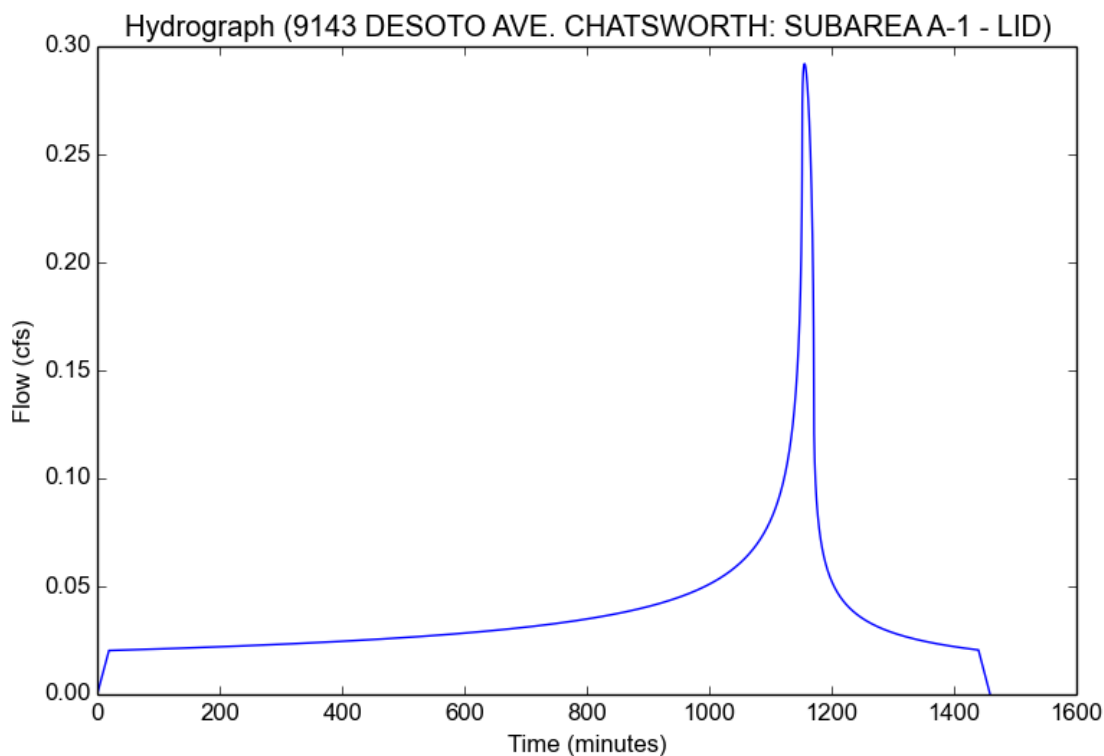
File location: P:/Shared/Projects/Great American Capital/23524 - 9143 DeSoto Chatsworth Entitlements/DOC/PLANNING ENTITLEMENT DRAINAGE T
Version: HydroCalc 1.0.3

Input Parameters

Project Name	9143 DESOTO AVE. CHATSWORTH
Subarea ID	SUBAREA A-1 - LID
Area (ac)	1.066
Flow Path Length (ft)	342.0
Flow Path Slope (vft/hft)	0.01
85th Percentile Rainfall Depth (in)	1.02
Percent Impervious	0.9286
Soil Type	19
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	1.02
Peak Intensity (in/hr)	0.3249
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.8429
Time of Concentration (min)	19.0
Clear Peak Flow Rate (cfs)	0.292
Burned Peak Flow Rate (cfs)	0.292
24-Hr Clear Runoff Volume (ac-ft)	0.0757
24-Hr Clear Runoff Volume (cu-ft)	3299.3441



Peak Flow Hydrologic Analysis

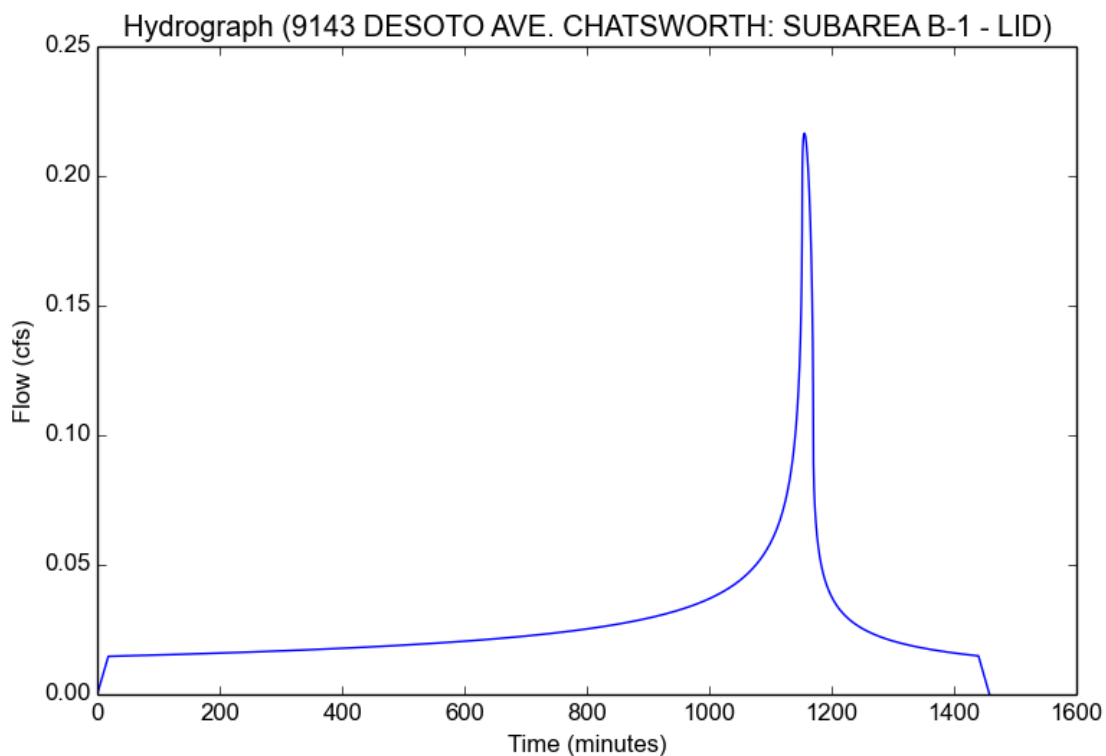
File location: P:/Shared/Projects/Great American Capital/23524 - 9143 DeSoto Chatsworth Entitlements/DOC/PLANNING ENTITLEMENT DRAINAGE T
Version: HydroCalc 1.0.3

Input Parameters

Project Name	9143 DESOTO AVE. CHATSWORTH
Subarea ID	SUBAREA B-1 - LID
Area (ac)	0.764
Flow Path Length (ft)	315.0
Flow Path Slope (vft/hft)	0.01
85th Percentile Rainfall Depth (in)	1.02
Percent Impervious	0.9376
Soil Type	19
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	1.02
Peak Intensity (in/hr)	0.3333
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.8501
Time of Concentration (min)	18.0
Clear Peak Flow Rate (cfs)	0.2165
Burned Peak Flow Rate (cfs)	0.2165
24-Hr Clear Runoff Volume (ac-ft)	0.0547
24-Hr Clear Runoff Volume (cu-ft)	2384.831



Appendix B: FEMA Map

APN	2746009023
Address	"U" 9143 N DE SOTO AVE 9145 N DE SOTO AVE
ZIP Code	91311
Council District	12
LOMR/LOMA	
Flood Status	Outside Flood Zone
Flood Depth	Outside Flood Zone
BFE	
HAZUS	Email eng.nfip@lacity.org
DFIRM Panel	06037C1280F
Effective Date	09/26/2008

[Flood Insurance Rate Map](#)

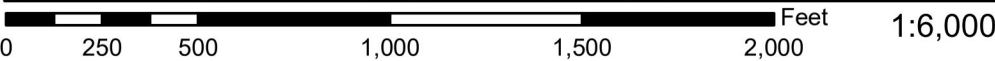
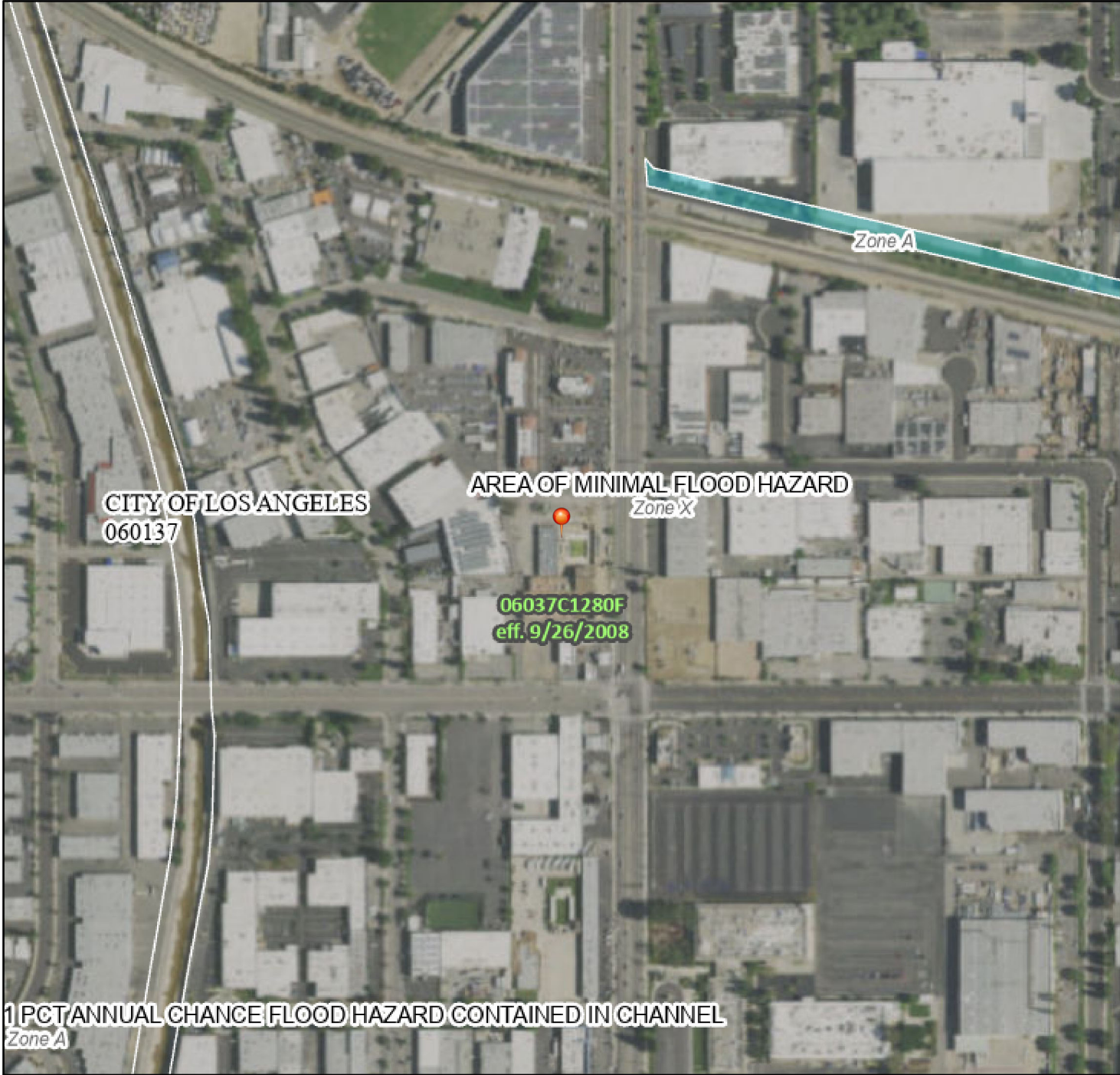
[FAQs for owners and developers](#)



National Flood Hazard Layer FIRMette



118°35'40"W 34°14'27"N



118°35'2"W 34°13'57"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/13/2024 at 7:19 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Appendix C: Maps

Los Angeles County Storm Drain System

File Geodatabase Download

Search

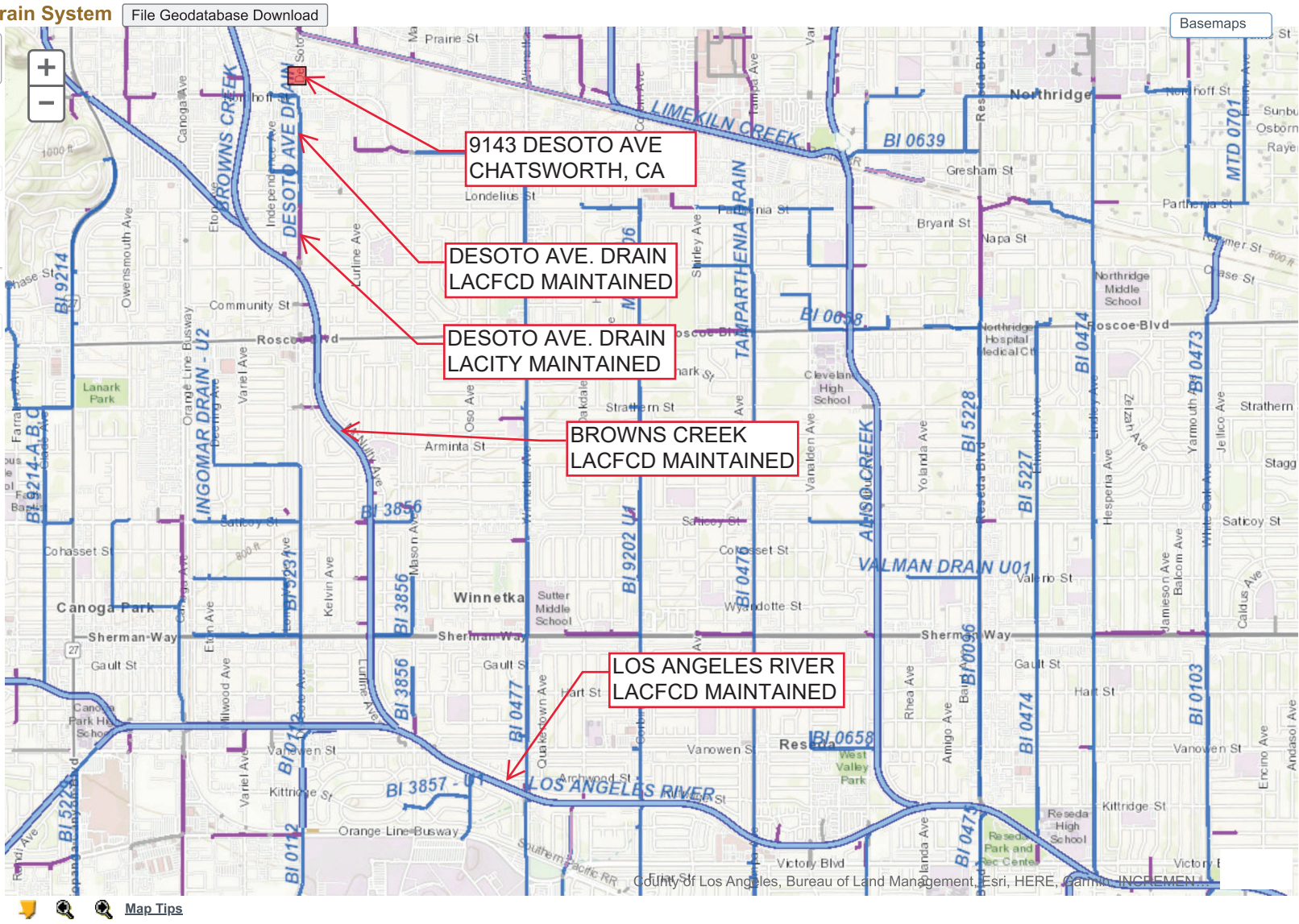
Layers

Info

Enter Address, Cross Street, or Parcel No.:
(ex: 900 S. Fremont Ave., Fremont@Valley, 5342005904)
9143 DeSoto
Search
Search Results:
9143 DeSoto

Enter Channel, Drain, or Old Drawing No.:
(ex: Coyote Creek, MTD 0008, 275-416-D2, CC 2650)

Search



Previous Development

9143 DeSoto Ave
Chatsworth, CA
LA Fitness Building and Parking

Fire Wings - Chatsworth

Starbucks

Legend

9143 De Soto Ave

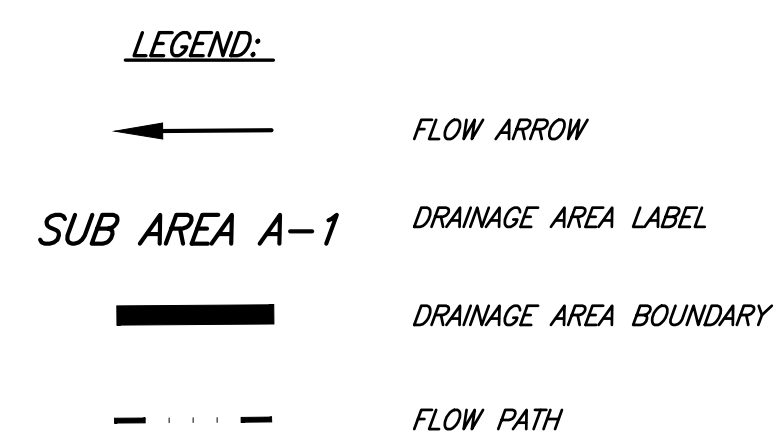
Ecom

Metal Related Services

ALSET Auto

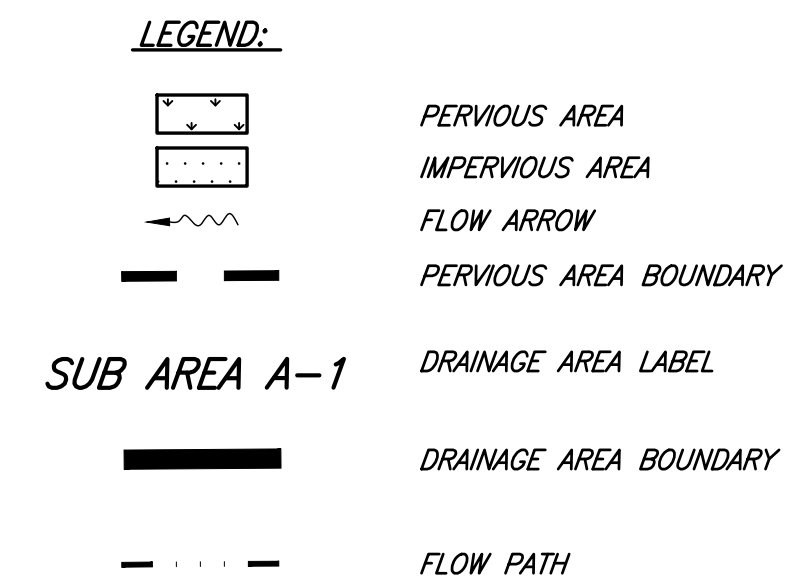
9143 De Soto Ave





DRAINAGE AREA CALCULATION		
AREA No.	AREA (SQ.FT)	AREA (ACRES)
A-1	50,053	1.149
B-1	29,649	0.681
TOTAL	79,702	1.830
PERVIOUS PERCENTAGE = 10%		
IMPERVIOUS PERCENTAGE = 90%		

SUB AREA NO.	UNDEVELOPED CONDITION (CFS)		
	10 YEAR STORM	25 YEAR STORM	50 YEAR STORM
SUB AREA A-1	2.435	3.306	3.794
SUB AREA B-1	1.578	1.960	2.248
TOTAL	4.013	5.266	6.042



BMP ALLOCATION CALCULATION			
AREA No.	AREA (SQ.FT)	AREA (ACRES)	TREATMENT/BMP
A-1	46,423	1.066	DRYWELL-1
B-1	33,279	0.764	DRYWELL-2
TOTAL	79,702	1.830	
$\text{PERVIOUS PERCENTAGE} = (6.76\%)$ $\text{IMPERVIOUS PERCENTAGE} = (93.24\%)$			

<i>AREA A-1 LID CALCULATIONS</i>						
<i>AREA No.</i>	<i>AREA (SQ.FT)</i>	<i>AREA (ACRES)</i>	<i>PERVIOUS (SQ.FT)</i>	<i>PERVIOUS (ACRES)</i>	<i>IMPERVIOUS (SQ.FT)</i>	<i>IMPERVIOUS (ACRES)</i>
<i>PER</i>	<i>3,315</i>	<i>0.076</i>	<i>3,315</i>	<i>0.076</i>	<i>-</i>	<i>-</i>
<i>IMP</i>	<i>43,108</i>	<i>0.990</i>	<i>-</i>	<i>-</i>	<i>43,107</i>	<i>0.990</i>
<i>TOTAL</i>	<i>46,423</i>	<i>1.066</i>	<i>3,315</i>	<i>0.076</i>	<i>43,107</i>	<i>0.990</i>
<i>PERVIOUS PERCENTAGE = (7.14%)</i>						
<i>IMPERVIOUS PERCENTAGE = (92.86%)</i>						

[illegible]

CALCULATED SITE STORMWATER RUNOFF					
SUB AREA NO.	POST-DEVELOPMENT (CFS)				
	10 YEAR STORM	25 YEAR STORM	50 YEAR STORM	LID Q _{in}	LID V _{in}
SUB AREA A-1	2.133	2.896	3.561	0.292 cfs	3,299 cf
SUB AREA B-1	1.657	2.239	2.561	0.217 cfs	2,385 cf
TOTAL	3.790	5.085	6.122	0.509 cfs	5,684 cf

PROJ. TITLE:		NEW SELF-STORAGE FACILITY 9143 DE SOTO AVENUE CHATSWORTH, CA 91311	
DWG. TITLE:		HYDROLOGY MAP PROPOSED CONDITIONS	
SCALE:	DESIGNED: — DRAWN: — CHECKED: — REVIEWED: —	DATE: 12/4/2023 DATE: — DATE: — DATE: —	
AS SHOWN			
		DRAWING NUMBER: C2.00	
		2 OF XX	



SPK.; E. CURB DE SOTO AVE., 38.5 FT.
N/O BCR N/O NORDHOFF.; N END CB

318 West Evergreen Avenue
Monrovia, CA 91016
Phone: (626) 256-3220
Fax: (626) 256-3218

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△			
△			
△			
NO.	DESCRIPTION	DATE	BY
REVISIONS			