



# Preliminary Hydrology Study

## Butterfly Gardens

910 S. Mariposa Street  
Burbank, California 91506



**March 6, 2023**

Prepared for

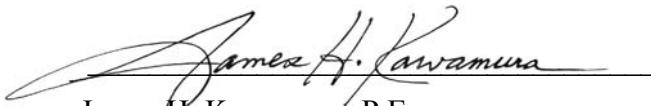
*Butterfly Gardens, LLC*

Prepared by



### ATTESTATION

This study has been prepared under the direction of a duly Registered Civil Engineer in the State of California. The civil engineer signing below approves of the technical information included within this report along with recommendations and conclusions made.



James H. Kawamura, P.E.  
Registered Civil Engineer No. C30560  
Exp. 3/31/24



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## Section 1              Purpose and Scope

The hydrology study presents an analysis of the hydrologic effects that may be associated with the proposed multi-family residential development *Butterfly Gardens*. The study details the general project characteristics, design, criteria, and methodology applied to the analysis of the subject area in terms of drainage and associated conveyance and treatment facilities.

The plans and specifications in the drainage study are not for construction purposes. The contractor shall refer to final approved construction documents for plans and specifications.

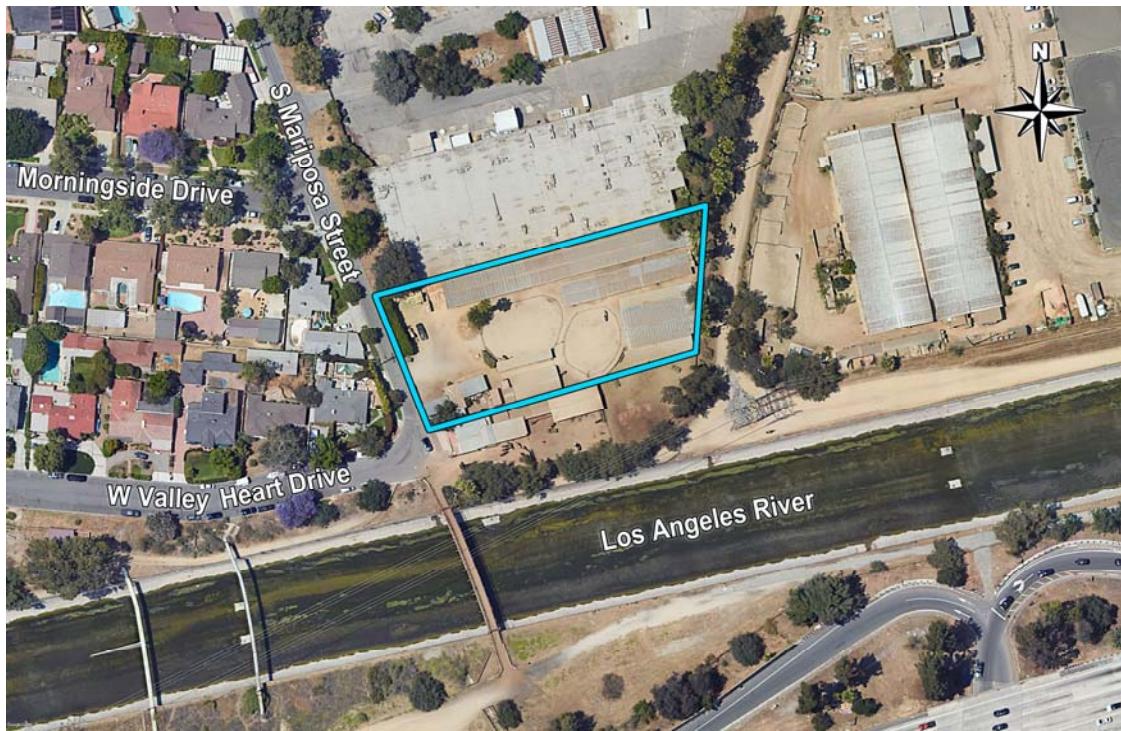
## Section 2              Project Information

### *2.1      Project Description*

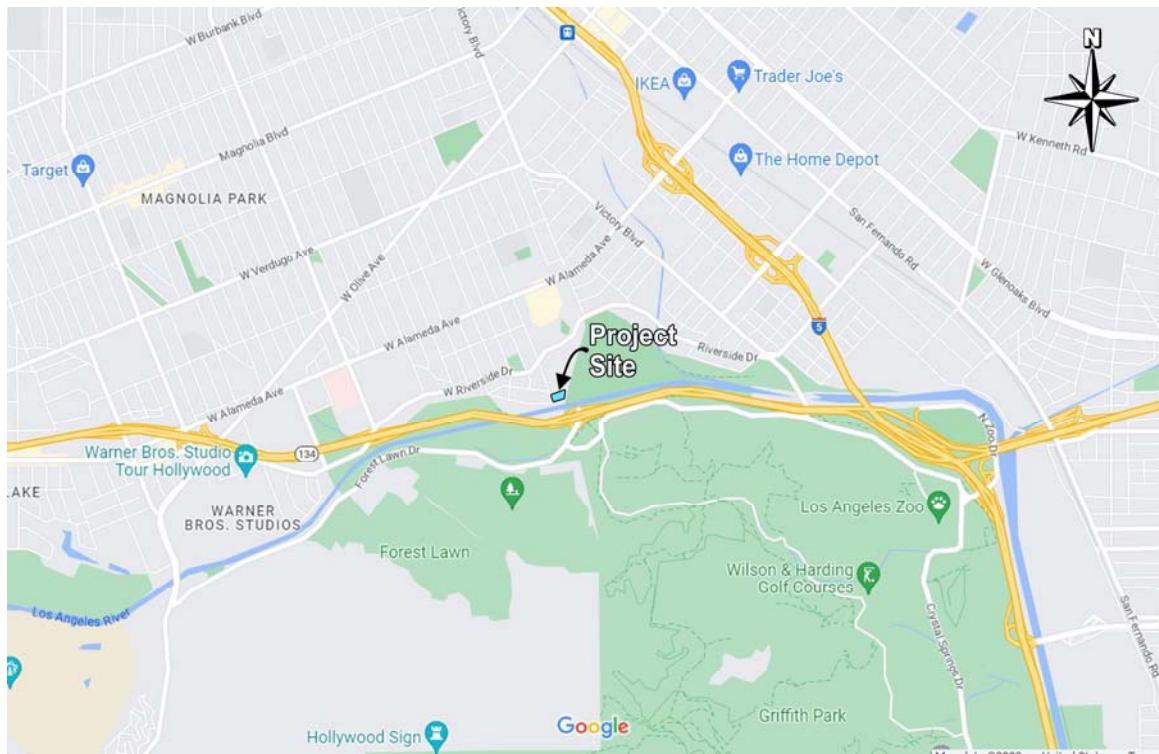
The proposed multi-family residential development, “*Butterfly Gardens*” proposing to develop a total of 21 townhomes. The project totals 0.88 acre site.

#### *2.1.1    Project Location*

The project site is located on 910 S Mariposa Street in the city of Burbank, California. Figure 1 below illustrates an aerial perspective of the project on-site area and surroundings and Figure 2 illustrates the vicinity map.



**Figure 1 – Aerial Perspective of On-Site Area**



**Figure 2 – Vicinity Map**

## **2.2 Hydrologic Setting**

This section summarizes the area's size and location in the context of the larger watershed perspective, topography, soil and vegetation conditions, amount of impervious area, natural and infrastructure drainage features, and other relevant hydrologic and environmental factors to be protected specific to the project area's watershed.

### **2.2.1 Watershed**

The proposed project is located within the 834 square mile Los Angeles River watershed. The receiving waters directly affected by the proposed development include Duarte Channel, Buena Vista Channel, Sawpit Wash, Rio Hondo Channel, Los Angeles River, Los Angeles River Estuary (Queensway Bay), and San Pedro Bay.

### **2.2.2 Existing Topography, Drainage Patterns, and Facilities (Narrative)**

The project site is currently developed with covered stables, horse corrals, several single story structures, and natural ground. Surface water drainage at the site appears to be by sheet flow along the existing contours to the city streets or local area drains.

Runoff from a majority of the site sheet flows easterly into the adjacent property, and runoff from the remainder of the site sheet flows westerly to Mariposa Street, which flows to a LACFCD maintained catch basin on the westerly side of the street. The catch basin connects to a LACFCD maintained 36-inch reinforced concrete pipe (RCP) that discharges into the Los Angeles River.

### **2.2.3 Adjacent Land Use**

The project site is bounded by a commercial site to the north, a powerline easement then Los Angeles Equestrian Center to the east, a horse corral structure, horse trail, and then Los Angeles River to the south, and Mariposa Street and single family residential to the west.

### **2.2.4 Soil Conditions**

According to the Geotechnical report prepared by Geocon West, Inc. (dated January 10, 2023), the site has native soils consisting of Pleistocene to early Holocene age alluvium was encountered beneath the fill. The alluvial soils are characterized as slightly moist and very loose to very dense or very soft to hard. Groundwater was not encountered to the explored depth of 55.5 feet below grade.

### **2.2.5 Downstream Conditions**

This section summarizes the existing downstream conditions and any conditions of concern with respect to erosion and/or sedimentation due to the proposed project.

The runoff will flow westward towards Mariposa Street. Mariposa Street channels the runoff into a catch basin on its western side, which is maintained by LACFCD. The catch basin is linked to a 36-inch reinforced concrete pipe (RCP) also maintained by LACFCD. This RCP eventually releases the runoff into the Los Angeles River.

#### *2.2.6 Impervious Cover*

The proposed project will have a net increase in total impervious area compared to the existing condition of the site. Currently the project prior to dedication with a total imperviousness percentage of 37% and perviousness of 63%. The proposed residential development project increases the site's overall total imperviousness percentage to 99% and decreased perviousness to 1%.

### *2.3 Proposed Runoff Management Facilities*

The proposed facilities managing runoff from the area include:

- Water quality treatment control Best Management Practices (BMPs); specifically, Aqua Swirl Hydrodynamic Separator Treatment device.
- Proposed corrugated metal pipe tank and MaxWell IV drywell will be placed on the project site to meet the Low-impact Development (LID) requirements.
- A proposed drainage system will drain the project area to multiple inlets draining towards the west towards Mariposa Street to a proposed detention tank. Any overflow will connect into the County of Los Angeles storm drain network.

## **Section 3              Design Criteria and Methodology**

This section summarizes the design criteria and methodology applied during the drainage analysis of the project site. The design criteria and methodology follows the County of Los Angeles Drainage Design Manual (January 2006).

### *3.1 Design Criteria*

#### *3.1.1 Drainage Design Criteria*

Local storm drain facilities have been designed to conform to standards found in the County of Los Angeles Drainage Design Manual.

### 3.2 Methodology

#### 3.2.1 HydroCalc Software

The HydroCalc software, developed and provided by Los Angeles County Public Works, calculates various parameters using the modified rational method, which is an iterative process. The table below shows the input data that is entered into the program and the output data that is produced.

Input Data	Output Data
<b>Area (ac)</b>	Modeled (10-yr) Rainfall Depth (in)
<b>Flow Path Length (ft)</b>	Peak Intensity (in/hr)
<b>Flow Path Slope (vft/hft)</b>	Undeveloped Runoff Coefficient (Cu)
<b>24-hr, 50-yr Rainfall Depth (in)</b>	Developed Runoff Coefficient (Cd)
<b>Percent Impervious (0.01-1.0)</b>	Time of Concentration (min)
<b>Soil Type (2-180)</b>	Clear Peak Flow Rate (cfs)
<b>Design Storm Frequency</b>	Burned Peak Flow Rate (cfs)
<b>Fire Factor</b>	24-Hr Clear Runoff Volume (ac-ft)
	24-Hr Clear Runoff Volume (cu-ft)

Once the input data has been entered, HydroCalc then computes the output data using the following steps:

1. Assumes an initial time of concentration ( $T_c$ )
2. Uses the assumed  $T_c$  to calculate rainfall intensity ( $I_t$ ) with the following equation:

$$I_t = I_{1440} \times (1440/t)^{0.47}$$

Where...       $t$  = assumed initial time of concentration (min)  
 $I_t$  = rainfall intensity for the duration (in/hr)  
 $I_{1440}$  = 24-hour rainfall intensity (in/hr)

3. Calculates impervious area and stormwater runoff coefficient using the following equation:

$$IMP = [\sum_{i=1}^n (IMP_i \times A_i) / A_T]$$

Where...       $IMP$  = site percent impervious  
 $IMP_i$  = impervious area (i)  
 $A_i$  = area, i ( $\text{ft}^2$ )  
 $A_T$  = total project site area ( $\text{ft}^2$ )

$$C_d = (0.9 \times IMP) + (1.0 - IMP) \times C_u$$

Where...       $C_d$  = developed site stormwater runoff coefficient

IMP = site percent impervious  
C<sub>u</sub> = undeveloped site stormwater runoff coefficient  
(Obtained from soil curve data)

4. Calculates the time of concentration (T<sub>c</sub>) and compares it to the initial assumption using the following equation:

$$T_c = [0.31 \times L^{0.483}] / [(C_d \times I_t)^{0.519} \times S^{0.135}]$$

Where...      T<sub>c</sub> = time of concentration (min)  
L = longest flow path length  
C<sub>d</sub> = developed site stormwater runoff coefficient  
I<sub>t</sub> = rainfall intensity for the duration (in/hr)  
S = slope of longest flow path (ft/ft)

If the calculated T<sub>c</sub> and the assumed T<sub>c</sub> are more than 0.5 minutes apart then the process is repeated by rounding the calculated T<sub>c</sub> to the nearest minute and using it as the assumed value. The process is complete once the calculated T<sub>c</sub> and the assumed T<sub>c</sub> are within 0.5 minutes of each other.

5. Peak flow rate is then calculated using the rational equation, as shown below:

$$Q = C \times I \times A$$

Where...      Q = Peak discharge (cfs);  
C = runoff coefficient, based on land use and soil type;  
I = Rainfall intensity (in/hr);  
A = watershed area (acre)

The runoff coefficient represents the ratio of rainfall that runs off the watershed versus the portion that infiltrates to the soil or is held in depression storage. The runoff coefficient is dependent on the land use coverage and soil type. The County of Los Angeles Drainage Design Manual methodology assumes hydrologic Soil Type 15 for this project site (See Appendix for Isohyet Map).

Peak discharges were computed for the 10-year hypothetical storm return frequency and the output results of the HydroCalc can be found in the appendix section of this report.

KHR has reached out to the Los Angeles County Flood Control District (LACFCD) to determine if there is a flow restriction (Q Allowable) at the project's storm drain connection point to the public system, but have not heard back at the time of this dated report. In case there is a potential flow restriction, a worst case scenario Q allowable of 0.7 cfs (cubic feet per second) per acre, which is 0.616 cfs for the proposed project conditions, was used for the allowed discharge. Once the allowable Q is received from LACFCD, it can be determined what the detention volume will be, if any.

## Section 4 Hydrology and Drainage Analysis

This section summarizes the quantitative hydrologic analysis of the existing site.

### 4.1 Summary of Drainage Delineation

#### Existing Analysis

To analyze the existing conditions, the site was broken into one subarea: EX-A (see **Appendix 2** for the Existing Conditions Hydrology Map).

Runoff from subarea EX-A majority of the sheet flows easterly into the adjacent property, and runoff from the remainder of the site sheet flows westerly to Mariposa Street, which flows to a LACFCD maintained catch basin on the westerly side of the street. The catch basin connects to a LACFCD maintained 36-inch RCP that discharges into the Los Angeles River.

#### Proposed Analysis

To analyze the proposed conditions, the site was broken into one subarea: A (see **Appendix 4** for the Proposed Conditions Hydrology Map).

Runoff from Subarea P-A, will ultimately flow to the proposed grated catch basin. The site runoff will be routed to an Aqua-Swirl Hydrodynamic Separator for pre-treatment prior to detention by a corrugated metal pipe (CMP) and infiltration into the underlying soils by means of a MaxWell IV drywell. Flow in excess of the stormwater volume to be mitigated will bypass the treatment system and connect to an existing catch basin located on Mariposa Street.

### 4.2 Summary of Results

The following tables summarize the results of the 10-year, 24-hour storm events for the existing and proposed conditions for the proposed project area (see **Appendix 3 and 5** for the HydroCalc Calculations).

The existing conditions results for the 10-year, 24-hour storm events for the project site are summarized in **Table 1**.

**Table 1: Existing Conditions Hydrology**

Subarea	Area (acres)	Q <sub>10</sub> (cfs)	Q <sub>25</sub> (cfs)	Q <sub>50</sub> (cfs)
EX-A	0.88	1.34	1.97	2.34

The proposed conditions results for the 10-year, 24-hour storm events for the project site are summarized in **Table 2**.

**Table 2: Proposed Conditions Hydrology**

Subarea	Area (acres)	Q <sub>10</sub> (cfs)	Q <sub>25</sub> (cfs)	Q <sub>50</sub> (cfs)
P-A	0.88	2.21	2.72	3.10

Based on the contributing subarea, the breakdown of the assumed allowable flow (Q<sub>allowable</sub>) for the connection to the existing County of Los Angeles storm drain system is summarized below.

Q <sub>allowable</sub> for County Connection & Storage				
Subarea	Total Area (acres)	Q <sub>allowable</sub> Factor (cfs/acre)	Q <sub>allowable</sub> (cfs)	Calculated Storage (cf)
A	0.88	0.7	0.62	2,630

The proposed project will be connecting into the County's storm drain system at a flow rate that does not exceed the assumed Q allowable flow rate factor to be determined by the County of Los Angeles Public Works. The calculations indicate that flow rate at the county connection surpasses the Q allowable, and therefore detention of the volume during the Q allowable exceedance will be required. To meet the Q allowable, the subarea will restrict the outlet pipe to the private main and direct flows higher than the Q allowable into CMP tanks sized to receive the detention volume, and prevent negative hydrological impacts to the site.

#### 4.3 Conclusion

The proposed conditions has a higher on-site 50-year storm flow rate of 3.10 cfs compared to the existing on-site flow rate of 2.34 cfs due to an increase of imperviousness and the design of the proposed storm drain system. However, a 6 foot by 47 foot detention tank has the capacity to store up to 2,630 cubic feet of water to be detained to connect to a County storm drain system at an allowable flow rate. Any overflow not captured and infiltrated will bypass the system and discharge into the existing catch basin located on Mariposa Street. Once the allowable Q is received from LACFCD, it can be determined what the detention volume will be, if any. The change in runoff from existing to proposed conditions, considering the onsite infiltration, it is minimal and does not significantly impact the downstream storm drain system and receiving waters.

# APPENDIX

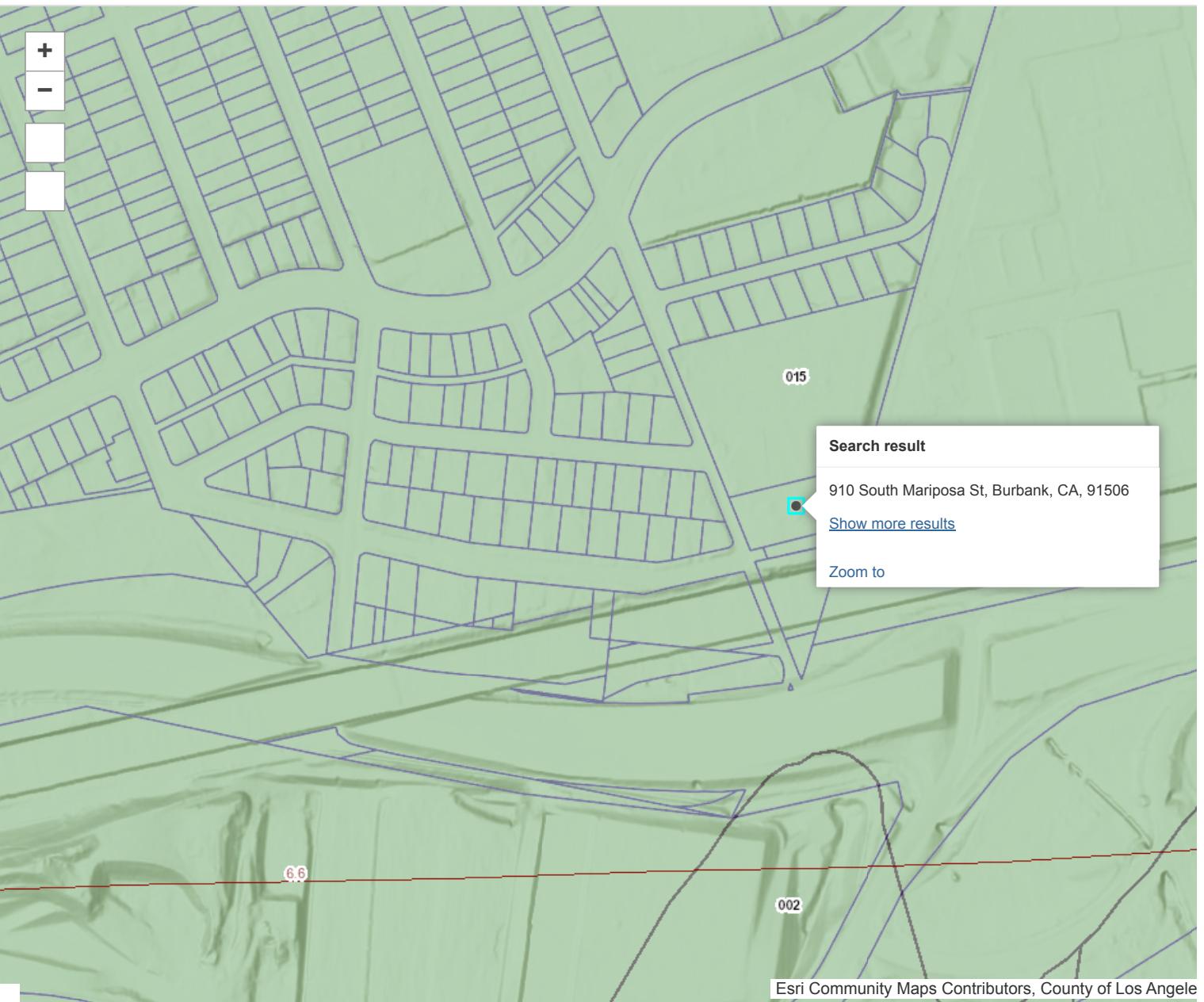
## **Appendix 1 – Soils Map**

[About](#)[Legend](#)[Layers](#)


## LA County Hydrology Map

### Layers

- Hydrology GIS
  - 50yr Two Tents (Rainfall)
  - DPA Zones
  - Soils 2004
  - Final 85th Percentile, 24-hr Rainfall
  - 1-year, 1-hour Rainfall Intensity
  - Final 95th Percentile, 24-hr Rainfall
- 
- LA County Parcels



## **Appendix 2 – Existing Conditions Hydrology Map**



## **Appendix 3 – Existing Conditions Peak Flow Hydraulic Analysis**

# Peak Flow Hydrologic Analysis

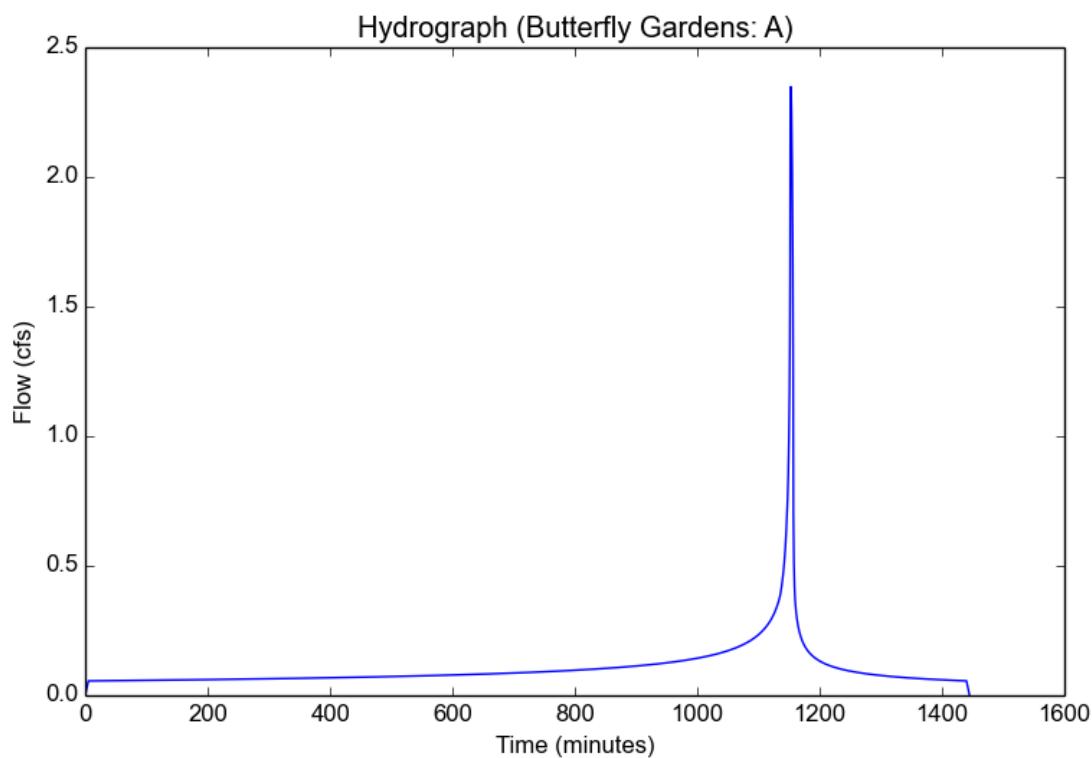
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Version: HydroCalc 0.3.1-beta

## Input Parameters

Project Name	Butterfly Gardens
Subarea ID	A
Area (ac)	0.88
Flow Path Length (ft)	223.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.7
Percent Impervious	0.41
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

## Output Results

Modeled (50-yr) Rainfall Depth (in)	6.7
Peak Intensity (in/hr)	3.9974
Undeveloped Runoff Coefficient (Cu)	0.506
Developed Runoff Coefficient (Cd)	0.6675
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.3482
Burned Peak Flow Rate (cfs)	2.3482
24-Hr Clear Runoff Volume (ac-ft)	0.2156
24-Hr Clear Runoff Volume (cu-ft)	9392.3943



# Peak Flow Hydrologic Analysis

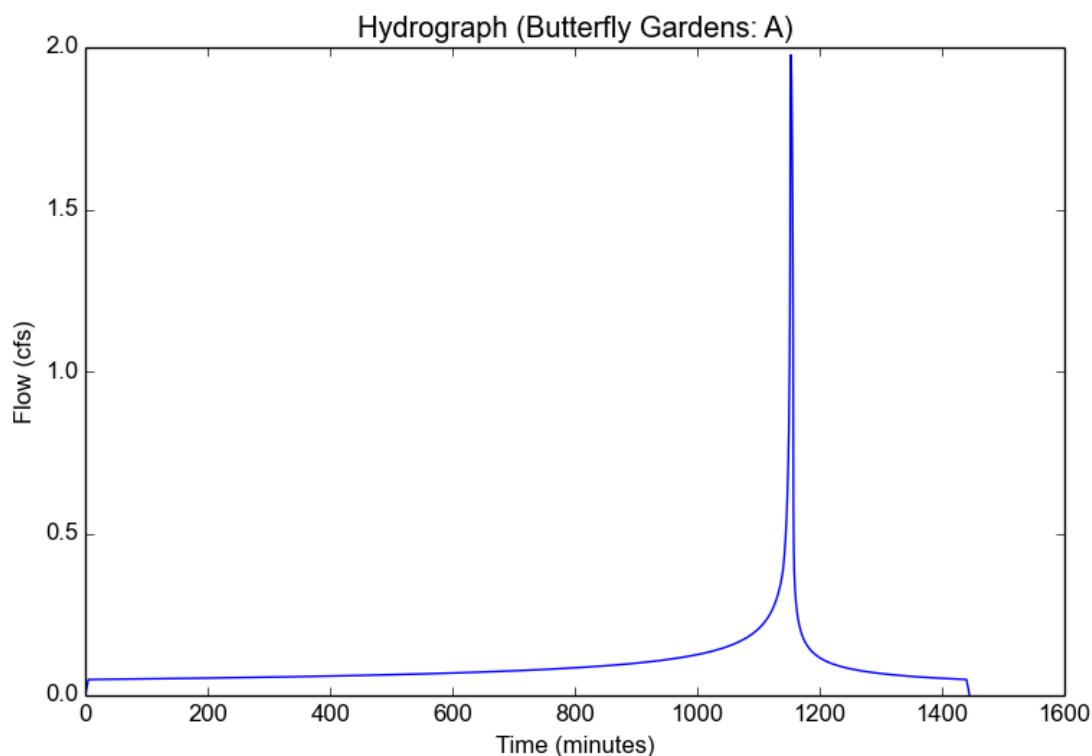
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Version: HydroCalc 0.3.1-beta

## Input Parameters

Project Name	Butterfly Gardens
Subarea ID	A
Area (ac)	0.88
Flow Path Length (ft)	223.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.7
Percent Impervious	0.41
Soil Type	15
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

## Output Results

Modeled (25-yr) Rainfall Depth (in)	5.8826
Peak Intensity (in/hr)	3.5097
Undeveloped Runoff Coefficient (Cu)	0.4594
Developed Runoff Coefficient (Cd)	0.64
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.9768
Burned Peak Flow Rate (cfs)	1.9768
24-Hr Clear Runoff Volume (ac-ft)	0.1882
24-Hr Clear Runoff Volume (cu-ft)	8199.7178



# Peak Flow Hydrologic Analysis

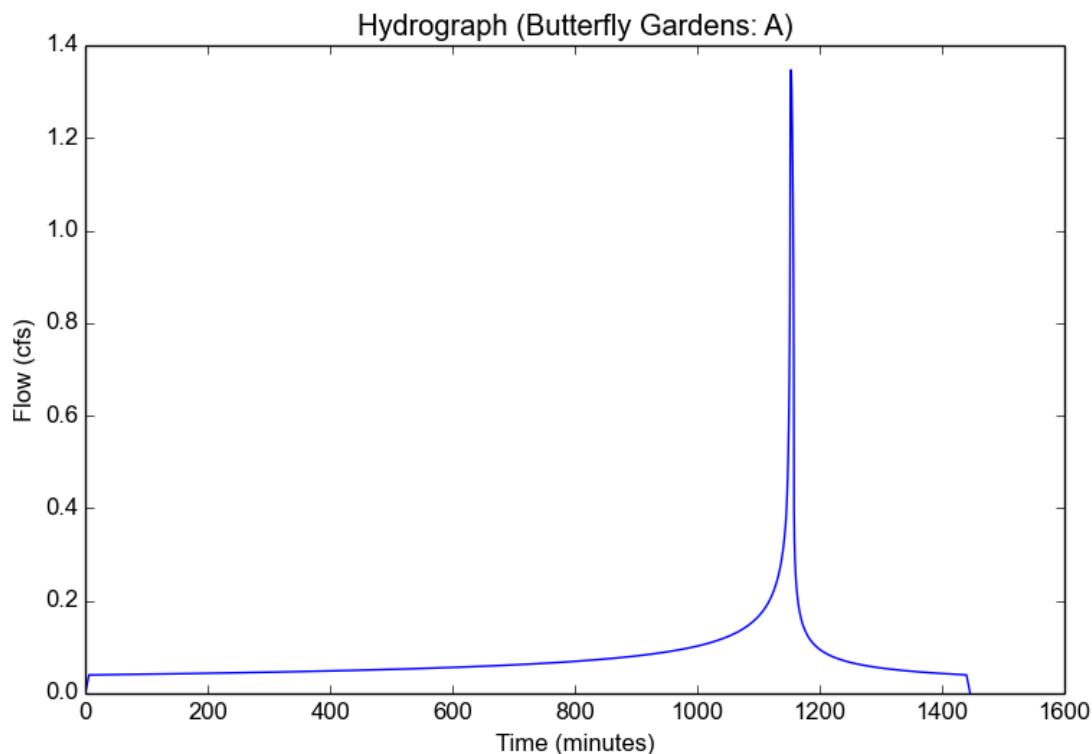
File location: C:/Users/Shiori/KHR Associates Dropbox/R Drive/Sanka Properties/Documents/Hydrology/Hydrology Calcs/Existing/EX-A - 10 yr.pdf  
Version: HydroCalc 0.3.1-beta

## Input Parameters

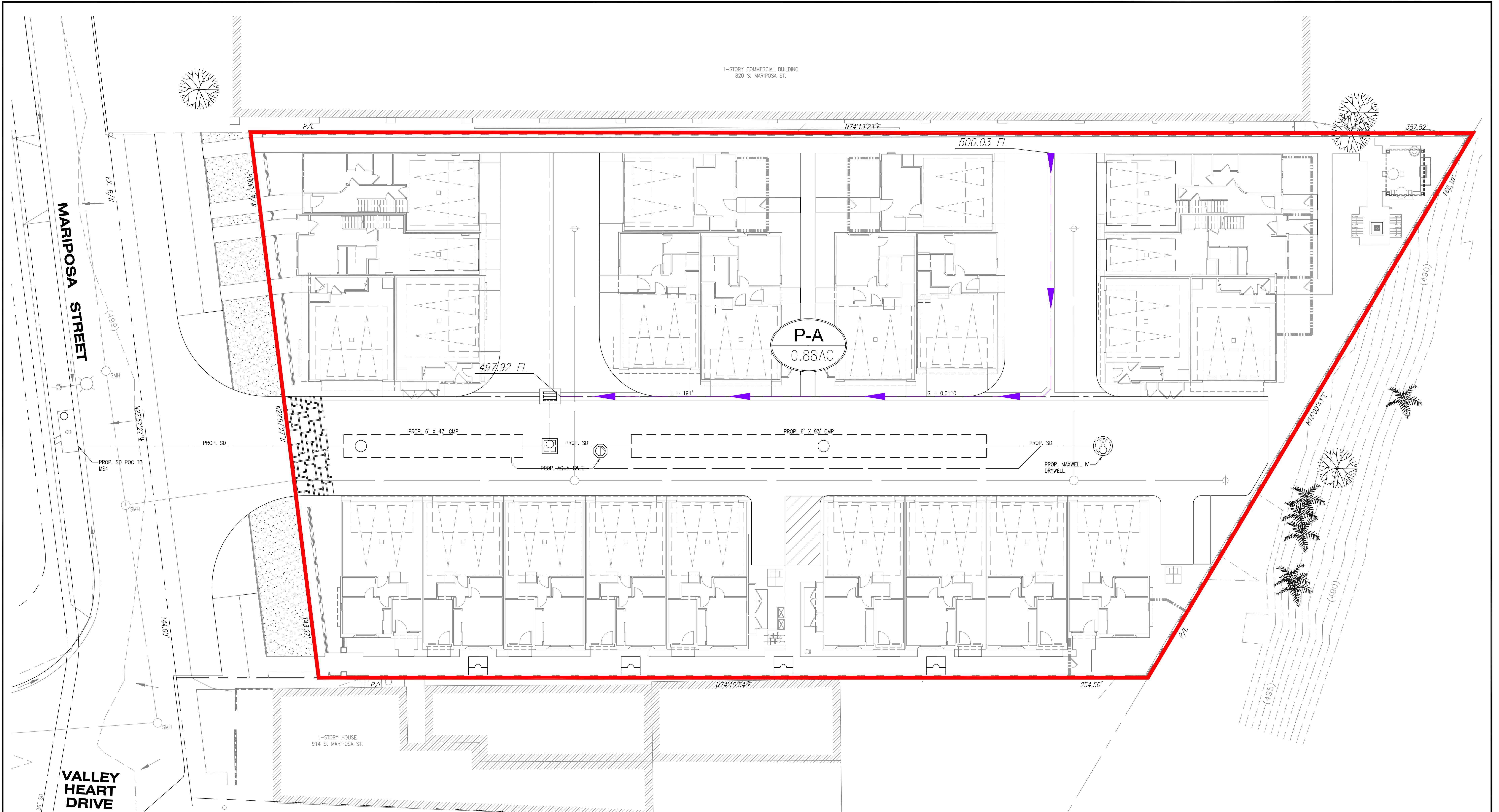
Project Name	Butterfly Gardens
Subarea ID	A
Area (ac)	0.88
Flow Path Length (ft)	223.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.7
Percent Impervious	0.41
Soil Type	15
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

## Output Results

Modeled (10-yr) Rainfall Depth (in)	4.7838
Peak Intensity (in/hr)	2.6198
Undeveloped Runoff Coefficient (Cu)	0.3649
Developed Runoff Coefficient (Cd)	0.5843
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	1.347
Burned Peak Flow Rate (cfs)	1.347
24-Hr Clear Runoff Volume (ac-ft)	0.1518
24-Hr Clear Runoff Volume (cu-ft)	6613.2699



## **Appendix 4 – Proposed Conditions Hydrology Map**



# **BUTTERFLY GARDENS**

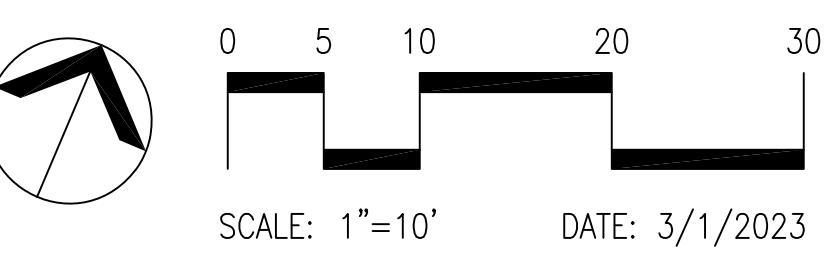
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## **BUTTERFLY GARDENS LLC**

# **PRELIMINARY PROPOSED HYDROLOGY MAP**

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**910 S. MARIPOSA STREET, BURBANK, CALIFORNIA 91506**



**KHR ASSOCIATES**

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**CONSULTING ENGINEERS/SURVEYORS/PLANNERS**

7530 Von Karman Avenue - Suite 200      Tel (949) 756-6440  
Irvine, California 92614

## Attachment

## **Appendix 5 – Proposed Conditions Peak Flow Hydraulic Analysis**

# Peak Flow Hydrologic Analysis

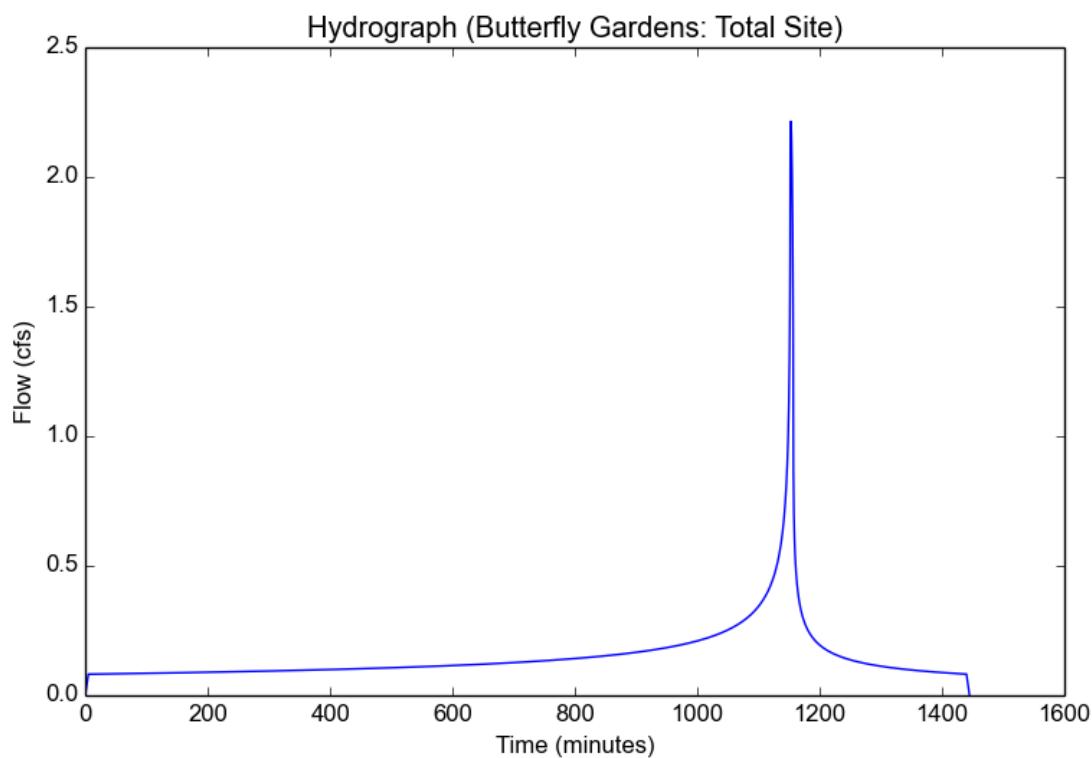
File location: C:/Users/Josh/KHR Associates Dropbox/R Drive/Sanka Properties/Documents/Hydrology/Hydrology Calcs/Proposed/Butterfly Gardens - To Be Determined  
Version: HydroCalc 1.0.3

## Input Parameters

Project Name	Butterfly Gardens
Subarea ID	Total Site
Area (ac)	0.88
Flow Path Length (ft)	200.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.6
Percent Impervious	0.99
Soil Type	15
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

## Output Results

Modeled (10-yr) Rainfall Depth (in)	4.7124
Peak Intensity (in/hr)	2.8115
Undeveloped Runoff Coefficient (Cu)	0.388
Developed Runoff Coefficient (Cd)	0.8949
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.2141
Burned Peak Flow Rate (cfs)	2.2141
24-Hr Clear Runoff Volume (ac-ft)	0.3058
24-Hr Clear Runoff Volume (cu-ft)	13318.7265



# Peak Flow Hydrologic Analysis

File location: C:/Users/Josh/KHR Associates Dropbox/R Drive/Sanka Properties/Documents/Hydrology/Hydrology Calcs/Proposed/Butterfly Gardens - To Be Determined

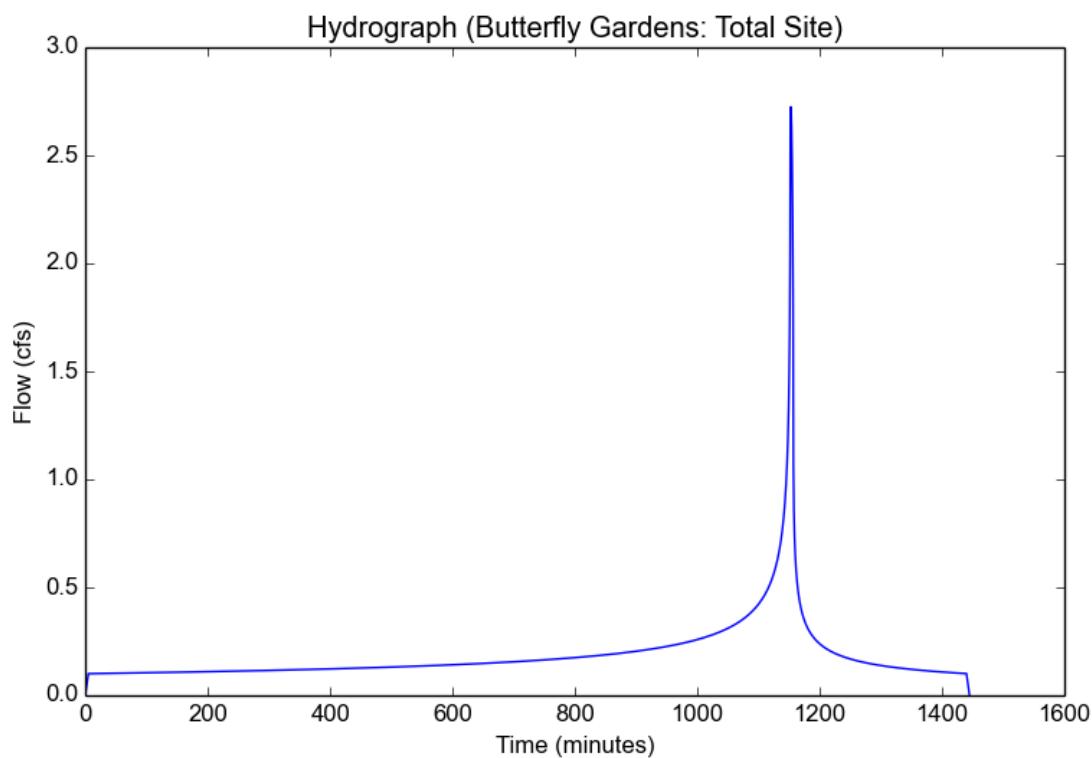
Version: HydroCalc 1.0.3

## Input Parameters

Project Name	Butterfly Gardens
Subarea ID	Total Site
Area (ac)	0.88
Flow Path Length (ft)	200.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.6
Percent Impervious	0.99
Soil Type	15
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

## Output Results

Modeled (25-yr) Rainfall Depth (in)	5.7948
Peak Intensity (in/hr)	3.4573
Undeveloped Runoff Coefficient (Cu)	0.4544
Developed Runoff Coefficient (Cd)	0.8955
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.7247
Burned Peak Flow Rate (cfs)	2.7247
24-Hr Clear Runoff Volume (ac-ft)	0.376
24-Hr Clear Runoff Volume (cu-ft)	16378.9251



# Peak Flow Hydrologic Analysis

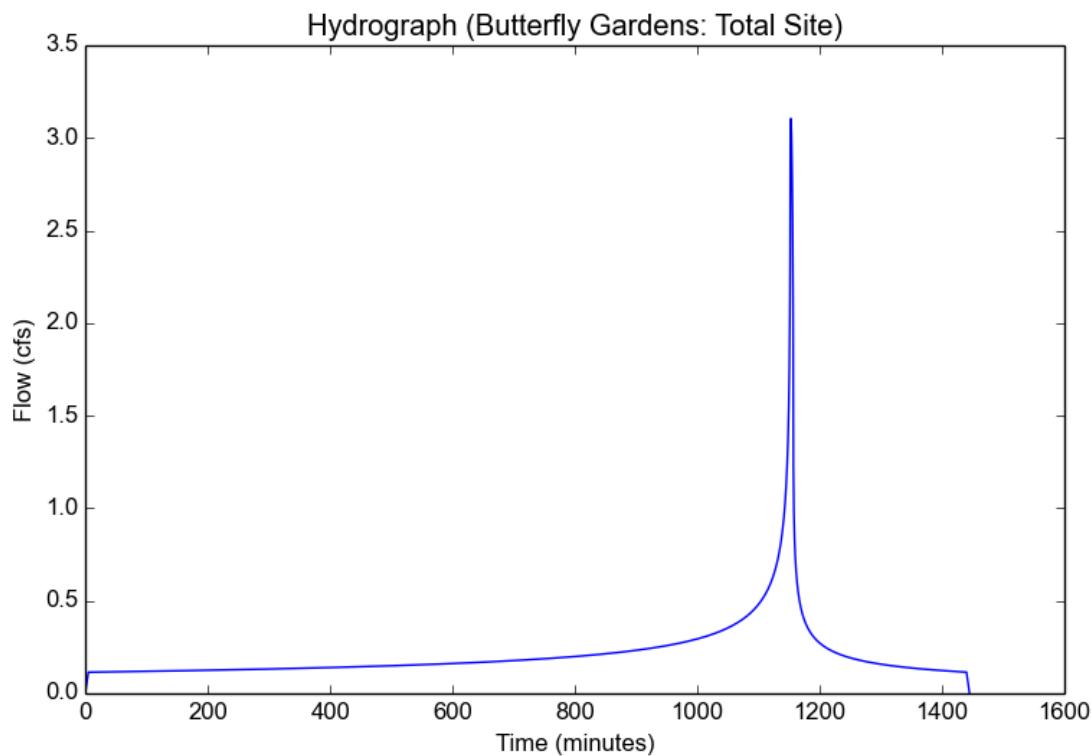
File location: C:/Users/Josh/KHR Associates Dropbox/R Drive/Sanka Properties/Documents/Hydrology/Hydrology Calcs/Proposed/Butterfly Gardens - To

## Input Parameters

Project Name	Butterfly Gardens
Subarea ID	Total Site
Area (ac)	0.88
Flow Path Length (ft)	200.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.6
Percent Impervious	0.99
Soil Type	15
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

## Output Results

Modeled (50-yr) Rainfall Depth (in)	6.6
Peak Intensity (in/hr)	3.9377
Undeveloped Runoff Coefficient (Cu)	0.5003
Developed Runoff Coefficient (Cd)	0.896
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	3.1048
Burned Peak Flow Rate (cfs)	3.1048
24-Hr Clear Runoff Volume (ac-ft)	0.4283
24-Hr Clear Runoff Volume (cu-ft)	18655.6838



## **Appendix 6 – CSV Text Files for Q Allowable Analysis**

Inputs: Butterfly Gardens

Subarea ID	Area (ac)	Flow Path Length (ft)	Flow Path Slope (vft/hft)	50-yr Rainfall Depth (in)	Percent Impervious	Soil Type	Design Storm Frequency	Fire Factor	Qallowable Factor (cfs/ac)	Qallowable (cfs)
Total Site	0.88	200	0.01	6.6	0.99	15	50-yr	0	0.7	0.616

Outputs: Butterfly Gardens

Area (ac)	Modeled (50-yr) Rainfall Depth (in)	Time of Concentration (min)	Clear Peak Flow Rate (cfs)	24-Hr Clear Runoff Volume (ac-ft)	Burned Peak Flow Rate (cfs)	Peak Intensity (in/hr)	Undeveloped Runoff Coefficient (Cu)	Developed Runoff Coefficient (Cd)
Total Site	6.6	5	3.104841	0.428275569	3.10484079	3.937741	0.500307605	0.896003076

Hydrograph: Butterfly Gardens - Total Site

Time (min)	Incremental Masscurve	Incremental Design Storm Depth (in)	Intensity (in/hr)	Undeveloped Runoff Coefficient (Cu)	Developed Runoff Coefficient (Cd)	Clear Peak Flow Rate (cfs)	Incremental Volume (cu-ft)	Cumulative Volume (cu-ft)	Over Q Flow (cfs)	Over Q Volume (cf)
1122.4	0.68510403	4.52168663	0.784762	0.1	0.892	0.616007	7.381274002	12684.11281	6.659E-06	7.9908E-05
1122.6	0.68551614	4.52440653	0.787077	0.1	0.892	0.617824	7.402985735	12691.5158	0.001824297	0.02189156
1122.8	0.68592957	4.52713515	0.789415	0.1	0.892	0.619659	7.424898888	12698.94069	0.003658851	0.04390621
1123	0.68634433	4.52987257	0.791774	0.1	0.892	0.621511	7.447016628	12706.38771	0.005510587	0.06612704
1123.2	0.68676044	4.53261887	0.794155	0.1	0.892	0.62338	7.469342192	12713.85705	0.007379778	0.08855734
1123.4	0.6871779	4.53537416	0.796559	0.1	0.892	0.625267	7.491878889	12721.34893	0.009266703	0.1120044
1123.6	0.68759674	4.53813851	0.798985	0.1	0.892	0.627172	7.514630103	12728.86356	0.011171647	0.13405976
1123.8	0.68801697	4.54091203	0.801436	0.1	0.892	0.629095	7.537599295	12736.40116	0.013094902	0.15713882
1124	0.68843861	4.5436948	0.803909	0.1	0.892	0.631037	7.560790005	12743.96195	0.015036766	0.18044119
1124.2	0.68886166	4.54648694	0.806407	0.1	0.892	0.632998	7.584205854	12751.54616	0.016997544	0.20397053
1124.4	0.68928614	4.54928853	0.80893	0.1	0.892	0.634978	7.607850549	12759.15401	0.018977548	0.22773058
1124.6	0.68971207	4.55209969	0.811477	0.1	0.892	0.636977	7.631727881	12766.78574	0.020977099	0.25172519
1124.8	0.69013947	4.5549205	0.81405	0.1	0.892	0.638997	7.655841731	12774.44158	0.022996523	0.27595828
1125	0.69056835	4.55775108	0.816648	0.1	0.892	0.641036	7.680196072	12782.12177	0.025036156	0.30043387
1125.2	0.69099872	4.56059153	0.819273	0.1	0.892	0.643096	7.704794971	12789.82657	0.02709634	0.32515608
1125.4	0.6914306	4.56344196	0.821924	0.1	0.892	0.645177	7.729642593	12797.55621	0.029177426	0.35012911
1125.6	0.69186401	4.56630248	0.824602	0.1	0.892	0.64728	7.754743204	12805.31095	0.031279775	0.3753573
1125.8	0.69229897	4.5691732	0.827308	0.1	0.892	0.649404	7.780101173	12813.09106	0.033403754	0.40084505
1126	0.69273549	4.57205424	0.830042	0.1	0.892	0.65155	7.805720977	12820.89678	0.035549742	0.4265969
1126.2	0.69317359	4.57494572	0.832804	0.1	0.892	0.653718	7.831607201	12828.72838	0.037718125	0.4526175
1126.4	0.6936133	4.57784775	0.835596	0.1	0.892	0.655909	7.857764548	12836.58615	0.0399093	0.4789116
1126.6	0.69405462	4.58076046	0.838417	0.1	0.892	0.658124	7.884197834	12844.47035	0.042123673	0.50548408
1126.8	0.69449757	4.58368397	0.841268	0.1	0.892	0.660362	7.910912001	12852.38126	0.044361661	0.53233993
1127	0.69494218	4.5866184	0.84415	0.1	0.892	0.662624	7.937912113	12860.31917	0.046623691	0.55948429
1127.2	0.69538847	4.58956389	0.847063	0.1	0.892	0.66491	7.965203366	12868.28437	0.048910203	0.58692244
1127.4	0.69583645	4.59252056	0.850007	0.1	0.892	0.667222	7.992791088	12876.27716	0.051221645	0.61465974
1127.6	0.69628614	4.59548855	0.852984	0.1	0.892	0.669558	8.020680748	12884.29785	0.053558479	0.64270175
1127.8	0.69673758	4.598468	0.855994	0.1	0.892	0.671921	8.048877955	12892.34672	0.05592118	0.67105416
1128	0.69719076	4.60145904	0.859038	0.1	0.892	0.67431	8.077388468	12900.42411	0.058310232	0.69972278
1128.2	0.69764573	4.60446183	0.862115	0.1	0.892	0.676726	8.106218199	12908.53033	0.060726135	0.72871362
1128.4	0.6981025	4.60747649	0.865228	0.1	0.892	0.679169	8.135373218	12916.6657	0.063169401	0.75803281
1128.6	0.69856109	4.61050319	0.868376	0.1	0.892	0.681641	8.164859758	12924.83056	0.065640558	0.7876867
1128.8	0.69902153	4.61354207	0.871561	0.1	0.892	0.68414	8.194684224	12933.02525	0.068140146	0.81768175
1129	0.69948383	4.61659329	0.874782	0.1	0.892	0.686669	8.224853195	12941.2501	0.07066872	0.84802464
1129.2	0.69994803	4.619657	0.878041	0.1	0.892	0.689227	8.255373433	12949.50547	0.073226852	0.87872222
1129.4	0.70041415	4.62273337	0.881338	0.1	0.892	0.691815	8.286251886	12957.79173	0.075815129	0.90978155
1129.6	0.70088221	4.62582257	0.884675	0.1	0.892	0.694434	8.3174957	12966.10922	0.078434154	0.94120985
1129.8	0.70135224	4.62892475	0.888051	0.1	0.892	0.697085	8.349112224	12974.45833	0.08108455	0.9730146
1130	0.70182426	4.6320401	0.891468	0.1	0.892	0.699767	8.381109014	12982.83944	0.083766953	1.00520344
1130.2	0.7022983	4.63516879	0.894927	0.1	0.892	0.702482	8.413493847	12991.25294	0.086482022	1.03778426
1130.4	0.70277439	4.638311	0.898428	0.1	0.892	0.70523	8.446274724	12999.69921	0.089230432	1.07076518
1130.6	0.70325256	4.64146691	0.901973	0.1	0.892	0.708013	8.479459881	13008.17867	0.092012881	1.10415457
1130.8	0.70373284	4.64463672	0.905562	0.1	0.892	0.71083	8.513057798	13016.69173	0.094830085	1.13796102
1131	0.70421524	4.64782061	0.909196	0.1	0.892	0.713683	8.547077209	13025.23881	0.097682783	1.1721934

1131.2	0.70469982	4.65101878	0.912877		0.1	0.892	0.716572	8.581527108	13033.82033	0.100571735	1.20686082
1131.4	0.70518658	4.65423145	0.916604		0.1	0.892	0.719498	8.616416764	13042.43675	0.103497726	1.24197271
1131.6	0.70567558	4.6574588	0.92038		0.1	0.892	0.722462	8.65175573	13051.08851	0.106461563	1.27753876
1131.8	0.70616683	4.66070106	0.924205		0.1	0.892	0.725464	8.687553854	13059.77606	0.10946408	1.31356896
1132	0.70666037	4.66395845	0.928081		0.1	0.892	0.728506	8.723821291	13068.49988	0.112506136	1.35007363
1132.2	0.70715624	4.66723118	0.932008		0.1	0.892	0.731589	8.760568516	13077.26045	0.115588617	1.3870634
1132.4	0.70765447	4.67051948	0.935987		0.1	0.892	0.734712	8.797806336	13086.05826	0.118712439	1.42454927
1132.6	0.70815509	4.6738236	0.940021		0.1	0.892	0.737879	8.835545905	13094.8938	0.121878545	1.46254254
1132.8	0.70865815	4.67714376	0.944109		0.1	0.892	0.741088	8.87379874	13103.7676	0.125087911	1.50105493
1133	0.70916367	4.68048022	0.948254		0.1	0.892	0.744342	8.912576731	13112.68018	0.128341544	1.54009853
1133.2	0.7096717	4.68383323	0.952457		0.1	0.892	0.74764	8.951892164	13121.63207	0.131640483	1.5796858
1133.4	0.71018228	4.68720304	0.956719		0.1	0.892	0.750986	8.991757732	13130.62383	0.134985805	1.61982966
1133.6	0.71069544	4.69058993	0.961041		0.1	0.892	0.754379	9.032186555	13139.65601	0.138378621	1.66054345
1133.8	0.71121124	4.69399416	0.965425		0.1	0.892	0.75782	9.073192203	13148.72921	0.14182008	1.70184096
1134	0.7117297	4.69741602	0.969873		0.1	0.892	0.761311	9.114788706	13157.84399	0.145311371	1.74373645
1134.2	0.71225088	4.7008558	0.974386		0.1	0.892	0.764854	9.156990586	13167.00098	0.148853726	1.78624471
1134.4	0.71277482	4.7043138	0.978965		0.1	0.892	0.768448	9.19981287	13176.2008	0.152448419	1.82938103
1134.6	0.71330156	4.70779031	0.983613		0.1	0.892	0.772097	9.243271121	13185.44407	0.156096768	1.87316122
1134.8	0.71383116	4.71128565	0.988331		0.1	0.892	0.7758	9.287381454	13194.73145	0.159800141	1.91760169
1135	0.71436366	4.71480015	0.993121		0.1	0.892	0.77956	9.332160572	13204.06361	0.163559954	1.96271945
1135.2	0.71489911	4.71833414	0.997984		0.1	0.892	0.783378	9.377625786	13213.44124	0.167377677	2.00853212
1135.4	0.71543757	4.72188796	1.002924		0.1	0.892	0.787255	9.423795046	13222.86503	0.171254831	2.05505797
1135.6	0.71597908	4.72546195	1.007941		0.1	0.892	0.791193	9.470686974	13232.33572	0.175192998	2.10231598
1135.8	0.71652371	4.7290565	1.013037		0.1	0.892	0.795194	9.518320896	13241.85404	0.179193818	2.15032582
1136	0.71707151	4.73267196	1.018216		0.1	0.892	0.799259	9.566716875	13251.42076	0.183258994	2.19910793
1136.2	0.71762253	4.73630872	1.023479	0.100869025	0.89200869	0.803398	9.615942712	13261.0367	0.187398124	2.24877749	
1136.4	0.71817685	4.73996719	1.028829	0.102205217	0.89202205	0.80761	9.666045928	13270.70274	0.191609531	2.29931437	
1136.6	0.71873451	4.74364777	1.034268	0.103563644	0.89203564	0.811891	9.717004059	13280.41975	0.195891146	2.35069375	
1136.8	0.71929559	4.74735088	1.039798	0.104944939	0.89204945	0.816245	9.768816704	13290.18857	0.200244972	2.40293966	
1137	0.71986015	4.75107697	1.045422	0.10634976	0.8920635	0.820673	9.821508375	13300.01007	0.204673091	2.45607709	
1137.2	0.72042826	4.75482648	1.051144	0.107778794	0.89207779	0.825178	9.875104585	13309.88518	0.209177673	2.51013208	
1137.4	0.72099998	4.75859989	1.056965	0.109232755	0.89209233	0.829761	9.929631912	13319.81481	0.213760979	2.56513175	
1137.6	0.7215754	4.76239766	1.062889	0.110712388	0.89210712	0.834425	9.985118047	13329.79993	0.218425363	2.62110436	
1137.8	0.72215459	4.76622031	1.068919	0.11221847	0.89212219	0.839173	10.04159186	13339.84152	0.223173282	2.67807938	
1138	0.72273763	4.77006835	1.075058	0.113751811	0.89213752	0.844007	10.09908348	13349.9406	0.228007299	2.73608759	
1138.2	0.72332459	4.77394232	1.081309	0.115313257	0.89215313	0.84893	10.15762433	13360.09823	0.23293009	2.79516108	
1138.4	0.72391557	4.77784276	1.087677	0.116903692	0.89216904	0.853944	10.21724724	13370.31548	0.23794445	2.8553334	
1138.6	0.72451065	4.78177026	1.094164	0.118524038	0.89218524	0.859053	10.27798651	13380.59346	0.243053301	2.91663961	
1138.8	0.72510991	4.7857254	1.100775	0.120175262	0.89220175	0.86426	10.339878	13390.93334	0.248259698	2.97911638	
1139	0.72571346	4.78970882	1.107514	0.121858374	0.89221858	0.869567	10.40295921	13401.3363	0.253566837	3.04280204	
1139.2	0.72632138	4.79372114	1.114384	0.123574432	0.89223574	0.874978	10.46726941	13411.80357	0.258978065	3.10773678	
1139.4	0.72693379	4.79776304	1.121391	0.125324544	0.89225325	0.880497	10.53284973	13422.33642	0.26449689	3.17396268	
1139.6	0.72755079	4.8018352	1.128539	0.127109873	0.8922711	0.886127	10.59974327	13432.93616	0.270126989	3.24152387	
1139.8	0.72817248	4.80593836	1.135832	0.128931636	0.89228932	0.891872	10.66799524	13443.60416	0.275872218	3.31046662	
1140	0.72879898	4.81007325	1.143277	0.130791114	0.89230791	0.897737	10.73765307	13454.34181	0.281736627	3.38083952	
1140.2	0.7294304	4.81424066	1.150878	0.132689651	0.8923269	0.903724	10.808766659	13465.15058	0.287724471	3.45269365	
1140.4	0.73006688	4.81844141	1.158641	0.13462866	0.89234629	0.90984	10.88138818	13476.03196	0.293840225	3.5260827	
1140.6	0.73070854	4.82267633	1.166573	0.136609628	0.8923661	0.916089	10.95557291	13486.98754	0.300088593	3.60106312	
1140.8	0.7313555	4.82694632	1.174678	0.138634121	0.89238634	0.922475	11.03137876	13498.01892	0.306474534	3.67769441	
1141	0.73200793	4.8312523	1.182964	0.14070379	0.89240704	0.929003	11.10886682	13509.12778	0.31300327	3.75603924	
1141.2	0.73266595	4.83559524	1.191438	0.142820373	0.8924282	0.93568	11.18810149	13520.31588	0.319680312	3.83616374	
1141.4	0.73332972	4.83997615	1.200108	0.144985709	0.89244986	0.942511	11.26915073	13531.58504	0.326511477	3.91813772	
1141.6	0.73399941	4.844439608	1.20898	0.147201738	0.89247202	0.949503	11.35208632	13542.93712	0.33350291	4.00203492	
1141.8	0.73467517	4.84885615	1.218063	0.149470514	0.89249471	0.956661	11.43698414	13554.37411	0.340661113	4.08793336	
1142	0.7353572	4.85335751	1.227366	0.151794209	0.89251794	0.963993	11.52392448	13565.89803	0.347992967	4.1759156	
1142.2	0.73604566	4.85790138	1.236899	0.154175126	0.89254175	0.971506	11.61299241	13577.51102	0.355505767	4.2660692	
1142.4	0.73674077	4.86248906	1.24667	0.156615707	0.89256616	0.979207	11.7042781	13589.2153	0.363207249	4.35848699	
1142.6	0.73744271	4.86712188	1.256691	0.159118548	0.89259119	0.987106	11.79787727	13601.01318	0.371105629	4.45326755	
1142.8	0.73815171	4.87180126	1.266971	0.161686404	0.89261686	0.99521	11.89389164	13612.90707	0.379209644	4.55051573	
1143	0.73886799	4.87652871	1.277524	0.164322211	0.89264322	1.003529	11.99242941	13624.8995	0.387528591	4.65034309	
1143.2	0.73959179	4.88130579	1.288362	0.167029097	0.89267029	1.012072	12.09360583	13636.99311	0.396072381	4.75286857	
1143.4	0.74032336	4.88613419	1.299497	0.169810398	0.8926981	1.020852	12.19754381	13649.19065	0.404851587	4.85821904	
1143.6	0.74106298	4.89101565	1.310945	0.17266968	0.8927267	1.029878	12.30437457	13661.49502	0.413877508	4.9665301	
1143.8	0.74181092	4.89595205	1.322272	0.175610757	0.89275611	1.039162	12.41423845	13673.90926	0.423162233	5.0779468	
1144	0.74256748	4.90094537	1.334839	0.178637715	0.89278638	1.048719	12.52728569	13686.43655	0.432718715	5.19262458	

1144.2	0.74333299	4.90599772	1.347319	0.181754939	0.89281755	1.058561	12.6436774	13699.08023	0.442560852	5.31073022
1144.4	0.74410778	4.91111133	1.36018	0.184967142	0.89284967	1.068704	12.76358663	13711.84381	0.452703587	5.43244304
1144.6	0.74489221	4.9162886	1.373441	0.188279397	0.89288279	1.079163	12.88719953	13724.73101	0.463163001	5.55795601
1144.8	0.74568667	4.92153205	1.387124	0.191697173	0.89291697	1.089956	13.01471666	13737.74573	0.473956442	5.6874773
1145	0.74649158	4.92684442	1.401254	0.19522638	0.89295226	1.101103	13.14635455	13750.89208	0.485102649	5.82123179
1145.2	0.74730737	4.93222863	1.415856	0.198873415	0.89298873	1.112622	13.28234736	13764.17443	0.496621911	5.95946293
1145.4	0.74813451	4.93768779	1.430957	0.202645215	0.89302645	1.124536	13.42294886	13777.59738	0.508536232	6.10243478
1145.6	0.74897353	4.94322527	1.446587	0.20654932	0.89306549	1.13687	13.56843458	13791.16581	0.520869532	6.25043438
1145.8	0.74982496	4.94884471	1.462781	0.210593944	0.89310594	1.149648	13.71910442	13804.88492	0.533647872	6.40377446
1146	0.75068939	4.95455	1.479572	0.214788055	0.89314788	1.1629	13.87528551	13818.7602	0.546899713	6.56279656
1146.2	0.75156749	4.96034541	1.497002	0.219141474	0.89319142	1.176656	14.03733557	13832.79754	0.560656215	6.72787458
1146.4	0.75245993	4.96623553	1.515113	0.222020326	0.8932202	1.19093	14.20551525	13847.00305	0.574929661	6.89915593
1146.6	0.75336748	4.97222538	1.533952	0.224675589	0.89324676	1.205774	14.38021971	13861.38327	0.589773624	7.07728349
1146.8	0.75429098	4.97832044	1.553572	0.22744092	0.89327441	1.221234	14.56204479	13875.94532	0.605233841	7.26280609
1147	0.75523132	4.98452672	1.574031	0.230324509	0.89330325	1.237356	14.75154042	13890.69686	0.621356228	7.45627474
1147.2	0.75618952	4.99085082	1.595393	0.233335465	0.89333336	1.254192	14.9492884	13905.64615	0.638191838	7.65830206
1147.4	0.75716667	4.99730003	1.617732	0.236483952	0.89336484	1.271798	15.15593698	13920.80208	0.655797659	7.86957191
1147.6	0.75816401	5.00388244	1.641127	0.239781362	0.89339781	1.290238	15.37221132	13936.1743	0.674237562	8.09085074
1147.8	0.75918289	5.01060705	1.665669	0.243240521	0.89343241	1.309583	15.59892611	13951.77322	0.693583457	8.32300148
1148	0.76022484	5.01748392	1.691463	0.246875935	0.89346876	1.329917	15.8370095	13967.61022	0.713916702	8.56700042
1148.2	0.76129158	5.02452441	1.718623	0.250704105	0.89350704	1.35133	16.0874792	13983.6977	0.735329831	8.82395797
1148.4	0.76238505	5.03174133	1.747286	0.254743905	0.89354744	1.373929	16.35155129	14000.04925	0.757928716	9.09514459
1148.6	0.76350747	5.03914929	1.777604	0.259017069	0.89359017	1.397835	16.63058391	14016.67984	0.781835268	9.38202322
1148.8	0.76466137	5.04676507	1.809756	0.263548799	0.89363549	1.423191	16.92615689	14033.60599	0.807190881	9.68629057
1149	0.76584971	5.05460806	1.843952	0.268368558	0.89368369	1.450161	17.24011049	14050.8461	0.834160867	10.0099304
1149.2	0.7670759	5.06270093	1.880439	0.2735111	0.89373511	1.47894	17.57460674	14068.42071	0.862940255	10.3552831
1149.4	0.768344	5.0710704	1.919509	0.279017843	0.89379018	1.509761	17.93221048	14086.35292	0.893761492	10.7251379
1149.6	0.76965884	5.07974837	1.961517	0.284938725	0.89384939	1.542905	18.31599827	14104.66892	0.926904886	11.1228586
1149.8	0.77102628	5.08877348	2.006897	0.291192053	0.89391192	1.578711	18.72969258	14123.39861	0.962710543	11.5525265
1150	0.77245352	5.09819325	2.056186	0.297119109	0.89397119	1.61759	19.177806	14142.57642	1.001590457	12.0190855
1150.2	0.77394959	5.10806728	2.110064	0.303598014	0.89403598	1.660096	19.66612018	14162.24254	1.04409624	12.5291549
1150.4	0.77552607	5.11847204	2.169411	0.310734611	0.89410735	1.706924	20.20212154	14182.44466	1.090924016	13.0910882
1150.6	0.77719826	5.1295085	2.235399	0.318669733	0.8941867	1.759	20.79554513	14203.24021	1.143000172	13.7160021
1150.8	0.77898709	5.14131478	2.309641	0.327597473	0.89427598	1.817602	21.45961087	14224.69982	1.201601639	14.4192197
1151	0.78092256	5.15408887	2.394466	0.337797872	0.89437798	1.884571	22.21303638	14246.91285	1.268571091	15.2228531
1151.2	0.78305046	5.16813305	2.493452	0.349701	0.89449701	1.962739	23.08385968	14269.99671	1.346738855	16.1608663
1151.4	0.78544741	5.1839529	2.612608	0.364029783	0.8946403	2.056863	24.11761343	14294.11433	1.440863383	17.2903606
1151.6	0.78826152	5.20252601	2.763608	0.382187671	0.89482188	2.176184	25.39828513	14319.51261	1.560184139	18.7222097
1151.8	0.79187046	5.22634502	2.976295	0.407763662	0.89507764	2.344333	27.12310435	14346.63572	1.728333253	20.739999
1152	0.8	5.28	3.545679	0.462807548	0.89562808	2.794537	30.83322013	14377.46894	2.178536769	26.1424412
1152.2	0.80423739	5.30796674	3.805391	0.487648536	0.89587649	3.000061	34.76758711	14412.23652	2.384061084	28.608733
1152.4	0.80611848	5.32038199	3.876983	0.494496237	0.89594496	3.056736	36.34078349	14448.57731	2.440736165	29.288834
1152.6	0.80758529	5.33006291	3.914166	0.498052646	0.89598053	3.086174	36.85746239	14485.43477	2.470174233	29.6420908
1152.8	0.80883466	5.33830873	3.93242	0.49979867	0.89599799	3.100628	37.12081189	14522.55558	2.484627748	29.815533
1153	0.80994379	5.34562902	3.937741	0.500307605	0.89600308	3.104841	37.23281125	14559.78839	2.488840794	29.8660895
1153.2	0.81095262	5.3522873	3.933155	0.499868915	0.89599869	3.101209	37.2363002	14597.02469	2.485209239	29.8225109
1153.4	0.81188502	5.35844112	3.920398	0.498648716	0.89598649	3.091108	37.15390592	14634.1786	2.475108414	29.701301
1153.6	0.81275662	5.36419368	3.900533	0.496748683	0.89596749	3.07538	36.99893317	14671.17753	2.459380447	29.5125654
1153.8	0.81357833	5.36961699	3.874223	0.494232205	0.89594232	3.054551	36.77958712	14707.95712	2.43855074	29.2626089
1154	0.81435813	5.37476366	3.841867	0.491137414	0.89591137	3.028936	36.50091893	14744.45804	2.412935748	28.955229
1154.2	0.81510205	5.37967355	3.803671	0.487484062	0.89587484	2.9987	36.16581403	14780.62385	2.382699924	28.5923991
1154.4	0.81581481	5.38437774	3.759688	0.483277128	0.89583277	2.963886	35.77551303	14816.39936	2.347885582	28.174627
1154.6	0.81650015	5.38890098	3.709831	0.478508414	0.89578508	2.924426	35.3298707	14851.72923	2.308426202	27.7011144
1154.8	0.81716112	5.39326342	3.653879	0.473156695	0.89573157	2.880148	34.82744305	14886.55668	2.264147639	27.1697717
1155	0.81780026	5.39748169	3.591461	0.467186513	0.89567187	2.830758	34.26543574	14920.82211	2.214758317	26.5770998
1155.2	0.81841965	5.40156972	3.522029	0.460545456	0.89560546	2.775827	33.6395105	14954.46162	2.159826767	25.9179212
1155.4	0.81902111	5.40553931	3.444807	0.453159297	0.89553159	2.714742	32.94341046	14987.40503	2.098741642	25.1848997
1155.6	0.81960615	5.40940059	3.358705	0.444923765	0.89544924	2.646644	32.16831296	15019.57335	2.030643852	24.3677262
1155.8	0.8201761	5.41316228	3.26217	0.435690348	0.8953569	2.57031	31.3017208	15050.87507	1.954309615	23.4517154
1156	0.82073212	5.41683201	3.152918	0.425240547	0.89525241	2.483938	30.32548719	15081.20056	1.86793825	22.415259
1156.2	0.82127522	5.42041647	3.027401	0.41323509	0.89513235	2.384734	29.21203124	15110.41259	1.768733624	21.2248035
1156.4	0.8218063	5.42392155	2.879624	0.39613881	0.89496139	2.267894	27.91576515	15138.32835	1.651893902	19.8227268
1156.6	0.82232614	5.42735252	2.697918	0.374288404	0.89474288	2.12427	26.35298239	15164.68133	1.50826983	18.099238
1156.8	0.82283546	5.43071406	2.452428	0.344767891	0.89444768	1.930341	24.32766286	15189.009	1.314340648	15.7720878
1157	0.82333491	5.43401039	1.848125	0.268956631	0.89368957	1.453452	20.30275442	15209.31175	0.837451756	10.0494211

1157.2	0.82382505	5.4372453	1.551343	0.227126786	0.89327127	1.219478	16.03757585	15225.34933	0.603477553	7.24173064
1157.4	0.8243064	5.44042225	1.440483	0.205024676	0.89305025	1.132053	14.1091831	15239.45851	0.516052964	6.19263557
1157.6	0.82477945	5.44354436	1.361777	0.185366231	0.89285366	1.069964	13.2121005	15252.67061	0.453963786	5.44756543
1157.8	0.82524462	5.44661448	1.299669	0.169853326	0.89269853	1.020987	12.54570528	15265.21632	0.404987093	4.85984512
1158	0.82570231	5.44963524	1.248075	0.15696653	0.89256967	0.980314	12.00780858	15277.22412	0.364314337	4.37177204
1158.2	0.82615288	5.45260903	1.203861	0.145923176	0.89245923	0.945469	11.55470053	15288.77883	0.329469085	3.95362902
1158.4	0.82659668	5.45553806	1.165163	0.136257654	0.89236258	0.914978	11.16268476	15299.94151	0.298978376	3.58774051
1158.6	0.827034	5.45842438	1.130768	0.127666778	0.89227667	0.887883	10.8171698	15310.75868	0.271883257	3.26259908
1158.8	0.82746513	5.46126988	1.099835	0.119940417	0.8921994	0.863519	10.50841478	15321.26709	0.247519207	2.97023048
1159	0.82789035	5.4640763	1.071752	0.112926098	0.89212926	0.841404	10.22954003	15331.49663	0.225404132	2.70484958
1159.2	0.82830989	5.46684528	1.046061	0.106509234	0.89206509	0.821176	9.975479454	15341.47211	0.205175777	2.46210932
1159.4	0.82872399	5.46957834	1.022407	0.100601274	0.89200601	0.802554	9.7423801	15351.21449	0.18655424	2.23865088
1159.6	0.82913286	5.4722769	1.000511	0.1	0.892	0.785361	9.527492455	15360.74199	0.169361169	2.03233403
1159.8	0.82953671	5.47494229	0.980146	0.1	0.892	0.769376	9.32842125	15370.07041	0.153375706	1.84050847
1160	0.82993572	5.47757574	0.961129	0.1	0.892	0.754447	9.142939094	15379.21335	0.138447476	1.66136971
1160.2	0.83033006	5.48017842	0.943304	0.1	0.892	0.740456	8.969422362	15388.18277	0.124456251	1.49347501
1160.4	0.83071991	5.48275143	0.926545	0.1	0.892	0.727301	8.806544353	15396.98931	0.111301141	1.33561369
1160.6	0.83110543	5.48529581	0.910743	0.1	0.892	0.714897	8.653186579	15405.6425	0.098896622	1.18675946
1160.8	0.83148675	5.48781253	0.895803	0.1	0.892	0.70317	8.50839691	15414.1509	0.08716953	1.04603436
1161	0.83186402	5.4903025	0.881646	0.1	0.892	0.692057	8.371357851	15422.52225	0.076056779	0.91268135
1161.2	0.83223736	5.4927666	0.868202	0.1	0.892	0.681504	8.241362121	15430.76362	0.065503575	0.7860429
1161.4	0.83260692	5.49520565	0.855409	0.1	0.892	0.671462	8.117793584	15438.88141	0.055462022	0.66554426
1161.6	0.83297279	5.49762043	0.843215	0.1	0.892	0.66189	8.000112172	15446.88152	0.045890006	0.55068007
1161.8	0.8333351	5.50001168	0.831571	0.1	0.892	0.65275	7.887841829	15454.76936	0.036750298	0.44100358
1162	0.83369395	5.5023801	0.820436	0.1	0.892	0.64401	7.780560762	15462.54993	0.028009829	0.33611795
1162.2	0.83404945	5.50472635	0.809773	0.1	0.892	0.635639	7.677893505	15470.22782	0.019639089	0.23566907
1162.4	0.83440168	5.50705109	0.799546	0.1	0.892	0.627612	7.579504379	15477.80732	0.011611641	0.13933969
1162.6	0.83475074	5.5093549	0.789726	0.1	0.892	0.619904	7.48509208	15485.29242	0.003903706	0.04684447

Total Over Q

Volume (cf) 1315.41107