PSOMAS

1330 West Pico Blvd Project
Water Resources Technical Report

July 17, 2018

Prepared by:

David J. Curtis, P.E., ENV SP
PSOMAS
555 South Flower Street, Suite 4300
Los Angeles, California 90071
(213) 223-1400
(213) 223-1444 Fax

Prepared for:

Sandstone Properties

TABLE OF CONTENTS

1.0 Introduction

1.1 Project Description

The 1330 West Pico Blvd Project involves the development of a new 38-story mixed-use tower consisting of 696 hotel rooms, 29,600 square feet of conference function space, 14,300 square feet of ballroom, 9 residential units, 62,600 square feet of office, 20,300 square feet of restaurant & bars on a 2.57-acre site that currently includes a 3-story brick building with roof parking. The Project Site is bounded by Pico Blvd on the north, Albany Street to the west, 14th Street to the south, and the 110 Freeway to the east.

1.2 Scope of Work

This report provides a description of the surface water hydrology and surface water quality at the Project Site and an analysis of the Project's potential significance related to the impact on surface water hydrology and surface water quality.

2.0 Surface Water Hydrology

2.1 General Approach

The watershed of the project was identified and characterized for the proposed condition. Computer modeling was used to estimate the runoff flow rate for the 85th % storm (SUSMP/LID), 5-,10-, 25-, 50-, and 100-year storm events.

2.2 Data Sources

The primary sources of data are the *LACDPW Hydrology / Sedimentation Manual and Appendices* (LACDPW 2006), and the Los Angeles County *Standard Urban Stormwater Mitigation Plan* (September 2002).

Rainfall and soil characteristics for the Project Site are given in Isohyetal Map Figure LACDPW 1-HI.18 (Section 4). A copy of the map is provided in Section 6.0. The 50-year (24-hour) rainfall isohyet nearest the project area is approximately 5.70-inches. The isohyets for all of the storm events, based on factors from the LA County Hydrology Manual in Table 5.3.1, are as listed:

- 5-Year 24-Hour: 3.33-inches
- 10-Year 24-Hour: 4.07-inches
- 25-Year 24-Hour: 5.00-inches
- 50-Year 24-Hour: 5.70-inches
- 100-Year 24-Hour: 6.40-inches

As shown on the Isohyetal Map, the soil classification of the project site falls predominantly into Soil Type 012. The project area to be disturbed is approximately 2.57 acres.

2.3 Existing Site Conditions

The existing Project Site is comprised of a 3-story commerical building with parking on the roof totaling approximately 2.57 acres with an average imperviousness of 90%. The Project Site is bounded by Pico Blvd on the north, Albany Street to the west, 14th Street to the south, and the 110 Freeway to the east.

The existing site drainage flows west to Albany Street via sheet flow to the curb and gutter system. The runoff enters the City storm drain system at a catch basin at the corner of Albany and 14th Streets located at either the southeast corner of Albany and 14th Streets.

2.4 Proposed Project Site Conditions

The proposed project will consist of a 38-story tower that has one main podium amenities level on the 5th floor above the street. The assumed average imperviousness of the proposed Project Site will be approximately 90% once all landscaping and hotel pool amenities are installed. The proposed stormwater flows will continue to drain to Albany Street as to not change the existing drainage pattern. Reductions in the proposed flow from Low Impact Development (LID) requirements will accommodate for the diverted stormwater from the County drain to the City drain system.

2.5 Hydrology Results

Table below summarizes the hydrology results:

Table 1. Existing and Proposed Peak Runoff Flows

	Existing	Proposed*	
Storm Event	**Q_{Total} [cfs]**	**Q_{Total} [cfs]**	**% Reduction**
5-Yr	3.68	3.06	**-17%**
10-Yr	4.81	4.31	**-10%**
25-Yr	6.38	6.10	**-4%**
50-Yr	7.27	7.07	**-3%**
100-Yr	8.90	8.04	**-10%**

* Includes reduction from LID implementation (subtracting the 85th Percentile storm flow of 0.86 cfs)

Expected peak runoff flows for the 5-, 10-, 25-, 50- and 100-year storm events for the Project are shown in Table 1. This table contains a comparison of the existing and proposed peak runoff flows at the property line of the Project Site. The site was reviewed as one hydrology area since the runoff all flows south to the same confluence point at Albany and 14th Streets. This review demonstrates that the Project will not exceed the existing stormwater flows when compared to a common tributary point at the corner of Albany and 14th Streets. It takes into account the Project's required Low Impact Development (LID) reductions which are needed to manage post construction stormwater runoff. The Project will include the installation of private catch basins, planter drains, and roof downspouts throughout the Project Site to collect roof and site runoff, and direct stormwater to the LID system through a series of underground storm drain pipes. This onsite stormwater conveyance system would serve to prevent onsite flooding and nuisance water build-up on the Project Site. With implementation of a stormwater capture and use system (i.e. harvesting system for on-site irrigation use), the volume of water leaving the Project Site will be reduced from the existing flows. The Project Site is not located within a FEMA or City of Los Angeles designation 100- or 500- year flood plain, nor is it located within a potential inundation area as designed by the City of Los Angeles General Plan Safety Element.

3.0 Surface Water Quality

3.1 General Approach

The project falls under the jurisdiction of the City of Los Angeles Department of Public Works, which follows the 2009 Low Impact Development (LID) Manual design guidelines. The purpose of this surface water quality report is:

- To meet City of Los Angeles Department of Public Works requirements;
- To document that the Los Angeles County LID requirements will be met;
- To determine the proposed development's impact on existing hydrologic conditions;
- To identify the pollutants of concern and provide BMPs that will mitigate those pollutants of concern; and
- To provide sufficient detailed information to support detailed hydraulic design of stormwater treatment systems.

3.2 Site Characterization for Water Quality Review

Current Property Use: At grade parking lot and open space, and parking structure (in the southern portion of the site), which will remain. The parking lot is currently being used as a temporary construction staging area for the Los Angeles County Metropolitan Transportation Authority's Regional Connector project.

Proposed Property Use: Mixed-use: hotel, conference center, residential, office and commercial development.

Soils: The soil of the watershed is classified as Type 012, as shown in the Hydrology Map from the Los Angeles County Department of Public Works (LACDPW) website (see section 6.0 for map).

Receiving Waters: The Project Site is tributary to the Ballona Creek.

The Ballona Creek is listed on the 2012 CWA Section 303(d) list (approved by SWRCB June 30, 2015) as impaired due to the prevalence of the pollutants shown in Table 2, which is excerpted from the State Water Resources Control Board, "Quality Limited Segments" article dated June 9, 2016. Currently, this waterway's existing beneficial uses include ground water recharge, warm freshwater habitat, water contact recreation, and non-contact water recreation; potential uses include municipal and domestic supply, industrial service supply, and wildlife habitat.

Table 2: Receiving Waters for Urban Runoff from Site[1]

Receiving Waters	303(d) List Impairments[2]	Designated Beneficial Uses	Proximity to RARE Uses
Ballona Creek	Cadmium (sediment), Coliform (bacteria), Copper, Cyanide, Lead, Selenium, Toxicity, Trash, Viruses, Zinc	Existing/Intermittent: WILD Potential: MUN, WARM	No

3.3 Pollutants of Concern

Table 3 lists the pollutants anticipated to be generated by the Project's proposed land uses. Because the Project falls under the category of commercial development, the following pollutants could potentially be generated: sediment/turbidity, nutrients, trash and debris, oxygen demanding substances, bacteria and viruses, oil and grease and pesticides.

Table 3: Potential Pollutants Generated by Land Use Type[3]

Type of Development (Land Use)	Sediment /Turbidity	Nutrients	Organic Compounds	Trash & Debris	Oxygen Demanding Substances	Bacteria & Viruses	Oil & Grease	Pesticides	Metals
Commercial Development	P(1)	P(1)	P(4)	P	P(4)	P(3)	P	P(1)	N
Residential	P	P	N	P	P(1)	P	P(2)	P	N

Abbreviations: P=Potential N=Not expected

Notes:
(1) A potential pollutant if landscaping or open area exists on the Project site
(2) A potential pollutant if land use involves animal waste
(3) Specifically, petroleum hydrocarbons
(4) Bacterial indicators are routinely detected in pavement runoff.

A comparison of the pollutants existing in the Ballona Creek based on the State 303(d) list and pollutants associated with the planned land use activities on the Project Site show an overlap of **sediment**, **trash, and bacteria & viruses** as pollutants. These common pollutants are considered the pollutants of concern. Stormwater best management practices (BMP) proposed for the Project will be designed to address these pollutants of concern. Table 4 summarizes the efficiency of general categories of BMPs in treating different types of pollutants.

The City of Los Angeles requires LID compliance for this Project. As noted above, the LID concept for this project is a stormwater capture and use system. The runoff within the cistern will be pumped up for irrigation of the landscape around the Project Site. High flow outlets for the rainwater harvesting cistern will be routed to discharge as per proposed conditions, as described in section 2.4.

[1] State Water Resources Control Board, Los Angeles Region. *Water Quality Control Plan Los Angeles Region*. June 13, 1994.
[2] Los Angeles Regional Water Quality Control Board. 2010 CWA Section 303(d*) List of Water Quality Limited Segments*. October 11, 2011.
[3] Riverside County Flood Control and Conservation District, Riverside County Water Quality Management Plan for Urban Runoff, July 24, 2006. Note: This source is utilized because the Los Angeles County Flood Control District has not established a table that outlines pollutants of concern.

Table 4: Treatment Control BMP Selection Matrix[4]

Ballona Creek Pollutant of Concern (Yes/No)	Treatment Control BMP Categories							
	Veg. Swale /Veg. Filter Strips	Detention Basins	**Planter Box / Harvesting /Infiltration Basins & Trenches**	Wet Ponds or Wetlands	Sand Filter or Filtration	**Water Quality Inlets**	Hydro-dynamic Separator Systems	Manufactured / Proprietary Devices
Sediment/Turbidity	H/M	M	H/M	H/M	H/M	L	H/M (L for turbidity)	U
Yes			✓			✓		
Nutrients	L	M	H/M	H/M	L/M	L	L	U
No								
Organic Compounds	U	U	U	U	H/M	L	L	U
No								
Trash & Debris	L	M	U	U	H/M	M	H/M	U
Yes			✓			✓		
Oxygen Demanding Substances	L	M	H/M	H/M	H/M	L	L	U
No								
Bacteria & Viruses	U	U	H/M	U	H/M	L	L	U
Yes			✓			✓		
Oils & Grease	H/M	M	U	U	H/M	M	L/M	U
No								
Pesticides (non-soil bound)	U	U	U	U	U	L	L	U
No								
Metals	H/M	M	H	H	H	L	L	U
No								

Abbreviations:
L: Low removal efficiency H/M: High or medium removal efficiency U: Unknown removal efficiency

[4] Riverside County Flood Control and Conservation District, Riverside County Water Quality Management Plan for Urban Runoff, July 24, 2006. Note: This table is utilized because the Los Angeles County Flood Control District has not established a table that summarizes each BMP's efficiency for treating pollutants of concern.

3.4 Best Management Practices

Source and Treatment Control Best Management Practices (BMPs) are required for this Project under the LA County Standard Urban Stormwater Mitigation Plan (SUSMP) and City of Los Angeles Low Impact Development (LID) Standards Manual.

3.4.1 Site Design BMPs

3.4.1.1 Minimize Stormwater Pollutants of Concern

The Project will minimize pollutants of concern by maximizing the reduction of pollutant loadings to the Maximum Extent Practicable. The pollutants of concern – namely, sediment, trash, and bacteria & viruses– will be addressed through a pre-treatment settlement device connected to the cistern within the Project Site. Building roof run-off, which comprises of the majority of the site, will be collected via roof drains and routed internally through the building and plumbed into the harvesting tank. Prior to connection to the harvesting tank, downspout filters will be installed to remove any debris that enters the on-site piping system. In addition, permeable pavement is proposed on-site to reduce the overall stormwater runoff. All other stormwater run-off will be collected via private on-site catch basins or trench drains fitted with an insert to collect debris and sediment and routed to the stormwater tank.

3.4.1.2 Conserve Natural Areas

The existing Project Site consist of a 3-story commercial building. There is minimal existing landscape within the site. The existing structure will be demolished. The proposed development within the site includes additional landscape as well as a landscaped amenities floor. The proposed development will modify the whole site and will provide water quality treatment to meet the LID requirements of the City of Los Angeles.

3.4.2 Source Control BMPs

3.4.2.1 Protect Slopes and Channels

There are no unprotected slopes or unlined channels onsite. The entire area to be developed will be either vegetated or hardscaped.

3.4.2.2 Provide Storm Drain System Stenciling and Signage

Stenciling will be provided for public storm drains near the vicinity of the project.

3.4.2 Treatment Control BMPs

3.4.3.1 Mitigation Design (Volumetric or Flow based)

Volume-based or flow-based design standards may be used separately or in combination. Volume-based criteria are used in the sizing of the cistern. The LID requirements, approved by the Regional Water Quality Control Board, call for the treatment of the peak mitigation flow rate or volume of runoff produced either by a 0.75" 24-hr or the 85th percentile rainfall event, whichever is greater. The rainfall intensity of the 85th percentile rainfall is 1.1 inch, therefore the 85th percentile rainfall event governs.

The LID calculation methodology was used to calculate the required treatment volumes for each of the discharge points from the site. LID Calculations are provided in section 6.0. The results are summarized in the tables below.

Table 5. Proposed Condition SUSMP Results

Project Site Area [ac]	BMP Type	85th percentile *V_M [ft^3]
2.57	Stormwater Capture and Use	8,415

*The total volume (Vm) of stormwater runoff to be mitigated was calculated by analyzing the project area as one area. Using this Vm and the appropriate BMP calculation from the City of LA LID manual, Table 6 shows the requirements for the area.

Table 6. Summary SUSMP / LID Mitigation BMPs

Area	Area [ac]	Impervious Area [ac]	Required Storage Tank V_M [ft^3]	BMP Type	Provided Treatment V_M [ft^3]	% Treated	Impervious Area Untreated [ac]
1[5]	2.57	2.31	8,415	Storage Tank	8,415	100	0
Total Percent Treatment						**100%**	

The proposed BMP in place is able to provide the full 85th percentile storm treatment. The selected BMP for the site has the capacity to capture and reuse more than the required baseline volume of 8,415 ft^3. The total provided treatment volume is 8,415 ft^3 or 63,000 gallons.

4.0 Significance Thresholds

4.1 Surface Water Hydrology

The City of Los Angeles CEQA Thresholds Guide states that a project would normally have a significant impact on surface water hydrology if it would:

- Cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources;
- Substantially reduce or increase the amount of surface water in a water body; or
- Result in permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the current or direction of water flow.

4.2 Surface Water Quality

The City of Los Angeles CEQA Thresholds Guide states that a project would normally have a significant impact on surface water quality if discharges associated with the project would create pollution, contamination or nuisance, as defined in Section 13050 of the California Water Code (CWC) or that

[5] BMP required calculation based on City of LA LID manual.

cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or Water Quality Control Plan for the receiving water body. The CEQA Thresholds Guide and CWC include the following definitions:

"Pollution" means an alteration of the quality of waters of the state to a degree which unreasonably affects either the following: 1) the waters for beneficial uses or 2) facilities which serve these beneficial uses. "Pollution" may include "Contamination".

"Contamination" means an impairment of the quality of the waters of the state by waste to a degree, which creates a hazard to the public health through poisoning or through the spread of disease. "Contamination" includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.

"Nuisance" means anything which meets all of the following requirements: 1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; 2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extend of the annoyance or damage inflicted upon individuals may be unequal; and 3) occurs during, or as a result of the treatment or disposal of wastes. 6

5.0 Construction Activities

5.1 Construction General Permit

In 2003, the California State Water Resources Control board (SWRCB) adopted the General Construction Activity Stormwater Permit (CGP)[7], which is "…required for all storm water discharges associated with construction activity where clearing, grading, and excavation results in a land disturbance of one or more acres." Under the CGP, the following Permit Registration Documents must be submitted to SWRCB through the SMARTS website: a Notice of Intent (NOI), a Storm Water Pollution Prevention Plan (SWPPP), and other compliance related documents required by this CGP and mail the appropriate permit fee to the SWRCB. Because the land disturbance for the Project Site is over one acre, the requirements mentioned above will need to be implemented.

The CGP requires all SWPPPs be written, amended, and certified by a Qualified SWPPP Developer, emphasizing BMPs, which are defined as "schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States." The SWPPP has two major objectives:

- to help identify the sources of sediment and other pollutants that affect the quality of stormwater discharges; and

- to describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in storm water and non-storm water discharges. The SWPPP must include BMPs that address source control, BMPs that address pollutant control, and BMPs that address treatment control.

Furthermore, the CGP requires that a project are enrolled for more than one continuous three-month period to submit information and annually certify that their site is in compliance with these requirements. The primary purpose of this requirement is to provide information needed for overall program evaluation and pubic information. The CGP requires that key personnel (e.g., Qualified SWPPP Developers, inspectors, etc.) have specific training or certifications to ensure their level of knowledge and skills are

[6] City of Los Angeles. LA CEQA Thresholds Guides. 2006

[7] Construction General Permit Water Quality Order 2009-0009-DWQ, Fact Sheet, website: http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo_2009_0009_complete.pdf, accessed October 25, 2016.

adequate to ensure their ability to design and evaluate project specifications that will comply with CGP requirements. Erosion control and drainage devices are required to be provided in accordance with the CGP and SWPPP as well as the MS4 Permit. Dewatering activities during construction will need to be implemented through BMPs targeting sediment specific pollutants such as Sediment Treatment, Sediment Basin, Sediment Trap, and other BMPs listed on CASQA's NS-2 Dewatering Operations[8].

6.0 Level of Significance

6.1 Significance Summary – Surface Water Hydrology

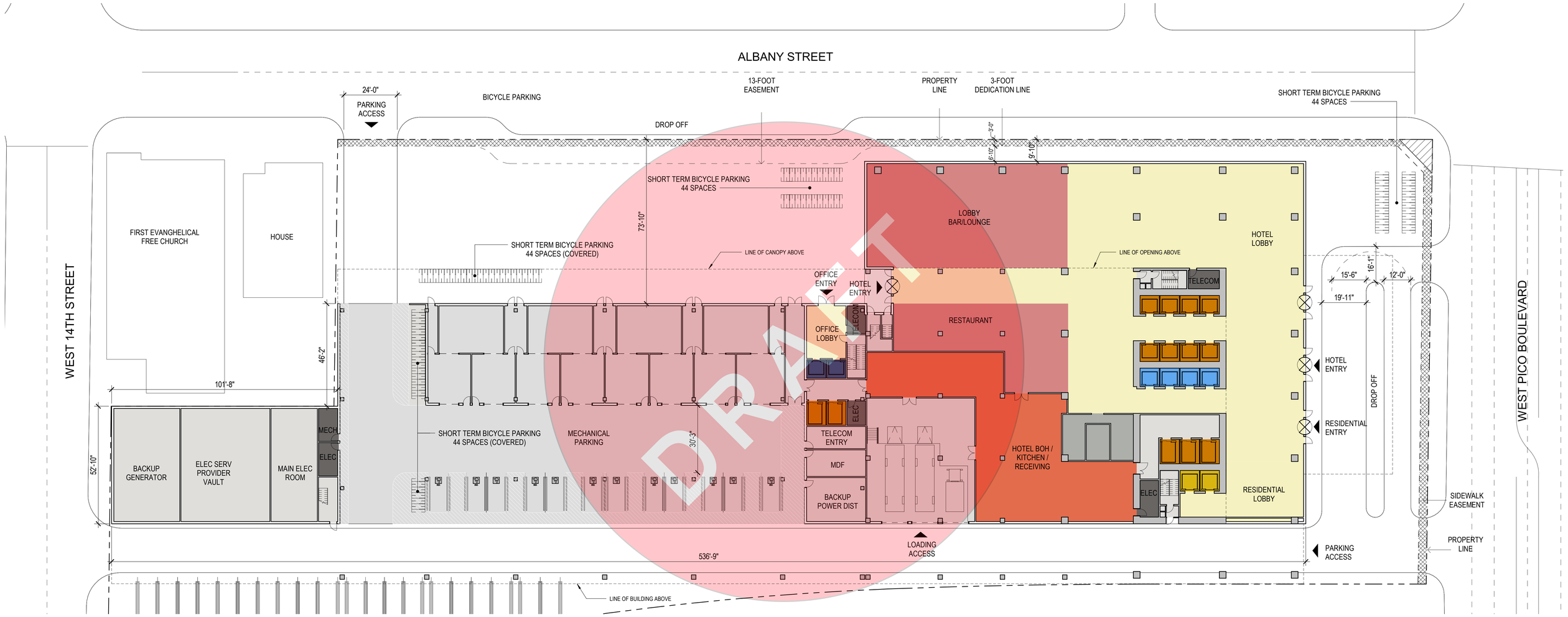
Based on the above, the Project would not result in an incremental impact for flooding on either on-site or off-site areas during a 50-year storm event, it would not substantially increase the amount of surface water in a water body, and it will not result in a permanent adverse change to the movement of surface water that would result in an incremental effect on the capacity of the existing storm drain system. Therefore, the development of the Project would result in less than significant impact on surface water hydrology.

6.2 Significance Summary – Surface Water Quality

Due to the nature of the proposed development to change the land use from an existing parking lot to a mixed-use residential and commercial development, the Project will result in a reduction of potential types of pollutants. As detailed in Section 3.0, a comparison between the potential pollutant based on land use and the 303(d) list for Ballona Creek indicates that the pollutants of concern are **sediment**, **trash, and bacteria & viruses.** These three pollutants of concern will be addressed through the proposed stormwater BMPs in order to comply with Los Angeles County's Standard Urban Stormwater Mitigation Plan (SUSMP) and City of Los Angeles' Low Impact Development Ordinance. These BMPs include elements such as permeable pavement, rainwater harvesting, and an increase of landscape area. During construction of the project, a SWPPP written by a Qualified SWPPP Developer will be prepared to implement temporary control measures throughout the construction phase. Based on the analysis contained in this report, there are no significant impacts for surface water quality as a result of the Project. With compliance under the SWPPP, SUSMP, and the City's LID Ordinance, construction and operational water quality impacts would be less than significant.

[8] California Stormwater BMP Handbook Construction, Fact Sheet NS-2 Dewatering Operations, July 2012.

7.0 Calculations and Site Plan



LEGEND

- Amenities
- Building Support
- Circulation
- Retail / F&B
- Hotel Support
- Hotel Circulation
- Hotel Function Space
- Hotel Prefunction
- Hotel Guestrooms
- Mechanical
- Office
- Parking
- Residential

BUILDING PLAN **PODIUM LEVEL 1**

1330 WEST PICO BOULEVARD, LOS ANGELES, 90015

Prepared for Sandstone Properties

SANDSTONE PROPERTIES | h+k | PSOMAS

1" = 20' 5' 20' 40' 80'

NOTES:

CONTACT INFORMATION:

OWNER/. . . . . 1330 W PICO BLVD GROUP, LLC
SUBDIVIDER ATTN: ERI KROH
10877 WILSHIRE BLVD., UNIT 1105
LOS ANGELES, CA 90024
(310) 393-9000

SURVEYOR/ENGINEER. . . . .PSOMAS
ATTN: MATT ROWE / PAUL GARY
555 SOUTH FLOWER STREET, SUITE 4300
LOS ANGELES, CA 90071
(213) 223-1400

PROJECT INFORMATION:

PROJECT ADDRESS. . . . . .1330 WEST PICO BOULEVARD
1308, 1312, 1316, 1320, 1326, 1330, 1338,
1342, 1346 AND 1348 SOUTH ALBANY STREET
LOS ANGELES, CA 90015

APN: 5135-035-020, 5135-035-012

DISTRICT MAP: 1274A203, 1275A205

THOMAS BROS. GUIDE: . . .LA634-C5

FLOOD ZONE: . . . . . SUBJECT PROPERTY LIES WITHIN FLOOD ZONE "X" (AREAS OF 0.2% ANNUAL CHANCE FLOODPLAIN) AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY PANEL NO. 06037C1620F, DATED SEPTEMBER 26, 2008, AS PUBLISHED BY FEDERAL EMERGENCY MANAGEMENT AGENCY.

PUBLIC EASEMENTS: . . . . THERE ARE PUBLIC EASEMENTS ON THE PROPERTY.

AREA: . . . . . BASED UPON RECORD BEARINGS AND DISTANCES AS SHOWN HEREON, THE AREA IS:

GROSS: 114,020 SQ. FT. = 2.6175 ACRES
NET: 111,805 SQ. FT. = 2.5667 ACRES

WHERE "GROSS" IS DEFINED AS THE AREA OF PROPERTY TO BE SUBDIVIDED. THE "NET" IS "GROSS" MINUS THE EXISTING STREET EASEMENTS AND ANTICIPATED STREET DEDICATIONS, IF ANY.

TREES . . . . . THERE ARE NO PROTECTED TREES ON THE SUBJECT PROPERTY. ALL ON-SITE TREES TO BE REMOVED.

STREET DESIGNATION: . . . 14TH STREET - LOCAL STREET (60' R-O-W, 36' ROADWAY)
ALBANY STREET - COLLECTOR STREET (66' R-O-W, 40' ROADWAY)
PICO BOULEVARD - AVENUE II (86' R-O-W, 56' ROADWAY)

MOBILITY PLAN 2035

COMMUNITY PLAN: . . . . . WESTLAKE PLAN

EXISTING GENERAL. . . . . COMMERCIAL MANUFACTURING
PLAN DESIGNATION:

PROPOSED GENERAL. . . . . REGIONAL COMMERCIAL
PLAN DESIGNATION:

EXISTING ZONING:. . . . . CM-1, CM-1-HPOZ (HISTORIC PRESERVATION OVERLAY ZONE)

PROPOSED ZONING:. C2-2

PROJECT SYNOPSIS:

THE PROJECT: . . . . . .THE PROJECT CONSISTS OF 14 AIRSPACE LOTS AND INCLUDES 9 RESIDENTIAL CONDOMINIUM UNITS, 696 HOTEL ROOMS, 62,600 SQUARE FEET OF OFFICE, AND 20,800 SQUARE FEET OF COMMERCIAL USES (20 COMMERCIAL CONDOMINIUMS) AND OTHER USES.

PROPOSED UTILITIES: . . . SEWAGE AND DRAINAGE WILL BE PROVIDED BY THE CITY OF LOS ANGELES SYSTEMS.

PROJECT NOTES:

1. LOT SIZES AND CONFIGURATIONS ARE ILLUSTRATIVE ONLY AND WILL BE FINALIZED ON THE FINAL MAP.
2. UTILITIES ARE AVAILABLE AND SERVICING THE SITE.
3. SEWAGE DISPOSAL AND DRAINAGE TO BE PROVIDED BY THE CITY SYSTEMS.
4. WE RESERVE THE RIGHT TO CONSOLIDATE LOTS.
5. ALL EXISTING BUILDINGS ARE TO BE DEMOLISHED.
6. PROPERTY IS NOT IN A SPECIAL HAZARD AREA.
7. PROPERTY IS NOT IN THE HILLSIDE GRADING AREA.
8. PROPERTY IS NOT IN A FLOODWAY.
9. PROPERTY IS NOT IN A MUD-PRONE AREA.
10. PROPERTY IS IN A METHANE ZONE.
11. PROPERTY IS NOT IN A GEOLOGICALLY HAZARDOUS AREA.
12. REQUEST IS MADE FOR A HAUL ROUTE.
13. REQUESTING THE ABILITY TO FILE PHASED FINAL MAPS.
14. PROPERTY IS NOT WITHIN THE VICINITY OF THE MULHOLLAND SCENIC PARKWAY.

LEGAL DESCRIPTION

LOTS 1 THROUGH 9 INCLUSIVE, LOTS 12 AND 21, THOSE PORTIONS OF LOTS 13 THROUGH 20 INCLUSIVE, AND THAT PORTION OF LOT 22 ALL IN BLOCK 4 OF THE GREENWELL TRACT, IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 12 PAGE(S) 70 OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, TOGETHER WITH THAT PORTION OF THAT CERTAIN ALLEY, 15 FEET WIDE, VACATED BY ORDINANCE NO. 139414, OF SAID CITY, LYING BETWEEN LOTS 1, 2, 3, 20, 21, AND 22 IN SAID BLOCK 4 AS SHOWN ON SAID MAP OF THE GREENWELL TRACT, ALL BEING DESCRIBED AS A WHOLE AS FOLLOWS:

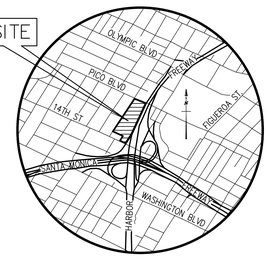
BEGINNING AT THE MOST NORTHERLY CORNER OF SAID LOT 1; THENCE SOUTHEASTERLY ALONG THE NORTHEASTERLY LINES OF SAID LOTS 1, 2, 21 AND 22, TO THE SOUTHEASTERLY LINE OF THE NORTHWESTERLY 20 FEET OF SAID LOTS 1, 2, 21 AND 22, TO THE SOUTHEASTERLY LINE OF THE NORTHWESTERLY 20 FEET OF SAID LOT 22; THENCE SOUTHWESTERLY ALONG SAID SOUTHEASTERLY LINE TO THE SOUTHWESTERLY LINE OF SAID LOT 22; THENCE ALONG SAID SOUTHWESTERLY LINE TO THE MOST EASTERLY CORNER OF THE LAND DESCRIBED IN PARCEL 12 OF RELIQUISHMENT OF HIGHWAY RIGHT OF WAY, RECORDED ON JANUARY 6, 1964, AS INSTRUMENT NO. 3869, IN BOOK D-2311, PAGE 780 OF OFFICIAL RECORDS, IN SAID OFFICE OF THE COUNTY RECORDER; THENCE ALONG THE BOUNDARY LINE OF SAID LAND, SOUTH 28°26'07" WEST 15 FEET TO A POINT ON THE NORTHEASTERLY LINE OF SAID LOT 20, SAID POINT BEING THE BEGINNING OF A CURVE CONCAVE SOUTHEASTERLY AND HAVING A RADIUS OF 4070.74 FEET, A RADIAL LINE OF SAID CURVE TO SAID POINT BEARS NORTH 63°16'44" WEST; THENCE SOUTHWESTERLY ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 01°24'25", AN ARC DISTANCE OF 99.96 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE SOUTHEASTERLY AND HAVING A RADIUS OF 1370.74 FEET; THENCE SOUTHWESTERLY ALONG SAID LAST MENTIONED CURVE, THROUGH A CENTRAL ANGLE OF 11°13'58" AN ARC DISTANCE OF 268.73 FEET; THENCE SOUTHWESTERLY IN A DIRECT LINE 34.77 FEET, MORE OR LESS, TO A POINT ON THE SOUTHWESTERLY LINE OF SAID LOT 13, DISTANT SOUTHEASTERLY THEREON 119.74 FEET FROM THE MOST WESTERLY CORNER OF SAID LOT 13; THENCE SOUTHEASTERLY ALONG SAID SOUTHWESTERLY LINE OF SAID LOT 13, DISTANT SOUTHEASTERLY THEREON 119.74 FEET FROM THE MOST WESTERLY CORNER OF SAID LOT 13; THENCE SOUTHEASTERLY ALONG SOUTHWESTERLY LINE, TO THE MOST EASTERLY CORNER OF SAID LOT 12; THENCE SOUTHWESTERLY AND NORTHWESTERLY ALONG SAID SOUTHEASTERLY AND SOUTHWESTERLY LINES OF SAID LOT 12, TO THE MOST WESTERLY CORNER OF SAID LOT 12; THENCE NORTHEASTERLY, ALONG THE NORTHWESTERLY LINES OF SAID LOTS 12 AND 13 TO THE MOST SOUTHERLY CORNER OF SAID LOT 9; THENCE NORTHWESTERLY ALONG THE SOUTHWESTERLY LINE OF SAID LOT 9, ALSO BEING A POINT ON THE SOUTHEASTERLY LINE OF ALBANY STREET, 60 FEET WIDE, AS SHOWN ON SAID MAP OF THE GREENWELL TRACT; THENCE NORTHEASTERLY ALONG SAID ALBANY STREET TO THE POINT OF BEGINNING.

EXCEPT THEREFROM THOSE PORTIONS OF SAID LOTS 13 THROUGH 20, INCLUSIVE, LYING, SOUTHEASTERLY OF THE FOLLOWING DESCRIBED LINE:

BEGINNING AT THE MOST NORTHERLY CORNER OF SAID LOT 20; THENCE SOUTH 61°33'53" EAST, ALONG THE NORTHEASTERLY LINE OF SAID LOT 20, A DISTANCE OF 19.41 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE WESTERLY AND HAVING A RADIUS OF 20.00 FEET; THENCE SOUTHEASTERLY, SOUTHERLY AND SOUTHWESTERLY ALONG SAID CURVE, THROUGH AN ANGLE OF 90°00'00" AND ARC DISTANCE OF 31.42 FEET; THENCE SOUTH 28°26'07" WEST, 15.00 FEET; THENCE SOUTH 61°33'53" EAST, 20.00 FEET, THENCE NORTH 28°26'07" EAST, 15.00 FEET TO THE BEGINNING OF A SECOND TANGENT CURVE CONCAVE SOUTHERLY AND ALSO HAVING A RADIUS OF 20.00 FEET; THENCE NORTHEASTERLY, EASTERLY AND SOUTHEASTERLY ALONG SAID SECOND CURVE, THROUGH AN ANGLE OF 90°00'00", AND ARC DISTANCE OF 31.42 FEET TO AN INTERSECTION WITH A CURVE CONCAVE SOUTHEASTERLY AND HAVING A RADIUS OF 4070.74 FEET, SAID INTERSECTION ALSO LYING IN SAID NORTHEASTERLY LINE OF SAID LOT 20 AND BEING THE TRUE POINT OF BEGINNING FOR THIS DESCRIPTION, THENCE SOUTHWESTERLY ALONG THE CURVE LAST MENTIONED, FROM A TANGENT WEST, THROUGH AN ANGLE OF 01°26'25", AN ARC DISTANCE OF 99.96 FEET TO A COMPOUND CURVE CONCAVE SOUTHEASTERLY AND HAVING A RADIUS OF 1370.74 FEET; THENCE SOUTHWESTERLY ALONG SAID COMPOUND CURVE, THROUGH AN ANGLE OF 11°13'58" AND ARC DISTANCE OF 268.73 FEET; THENCE SOUTHERLY IN A DIRECT LINE 34.77 FEET TO A POINT IN THE SOUTHWESTERLY LINE OF SAID LOT 13 DISTANT SOUTHEASTERLY ALONG SAID SOUTHWESTERLY LINE 119.74 FEET FROM THE MOST WESTERLY CORNER OF SAID LOT 13.

LEGEND

PROPERTY / BOUNDARY LINE
STREET R/W LINE
CURB LINE (FROM 1"=20' ON TO 1"=200')
CURB LINE (1"=10', 1"=8', 1"=16')
CENTER LINE
FLOW LINE
LOT LINE / PARCEL LINE
EASEMENT LINE (W=WIDTH)
CONTOUR LINE (APPROX/MATE)
BUILDING FOOT PRINT LINE
OVERHANG LINE
FENCE LINE
GUARD RAIL
RETAINING WALL
CONC. BLOCK WALL
EDGE OF ASPHALT PAVING
CONCRETE PAVING
AD AREA DRAIN
CB CATCH BASIN W/ACCESS HOLE
MH MANHOLE (SEWER, STORM DRAIN, POWER, TELEPHONE)
PP/TP POWER POLE (P.P.) / TELEPHONE POLE (T.P.)
S SIGN (ALL KINDS)
SL STREET LIGHT
TS TRAFFIC SIGNAL
TS/SL TRAFFIC SIGNAL W/STREET LIGHT
YL YARD LIGHT
FH FIRE HYDRANT
DS DOWNSPOUT
FDC FIRE DEPARTMENT CONNECTION
PIV POST INDICATOR VALVE
DIRECTION OF WATER DRAINAGE FLOW
PM PARKING METER
GM/WM GAS / WATER METER
GV/WV GAS / WATER VALVE
EPB/SLPB/TSPB/UPB ELEC./STREET LIGHT/TRAFFIC/UNKNOWN PULL BOX
(20") TREE IN WELL W/TRUNK DIAMETER
PL PLANTER
GP GUARD POST
APPR. APPROACH (DRIVEWAY)
BFP BACKFLOW PREVENTER
CO CLEAN OUT
CHLK CHAIN LINK (FENCE/GATE)
BENCHMARK
12X4 TOPOGRAPHIC SPOT ELEVATION, NO LEADER
BW BACK OF WALK ELEVATION
EC EDGE OF CONCRETE ELEVATION
EG EDGE OF GUTTER ELEVATION
EP EDGE OF PAVEMENT ELEVATION
FL FLOW LINE ELEVATION
TC TOP OF CURB ELEVATION
TG TOP OF GRATE ELEVATION
TW TOP OF WALL ELEVATION
RIM MANHOLE RIM ELEVATION
INV MANHOLE INVERT ELEVATION
CD CURB DRAIN
XXX.X FS PROPOSED FINISHED SURFACE



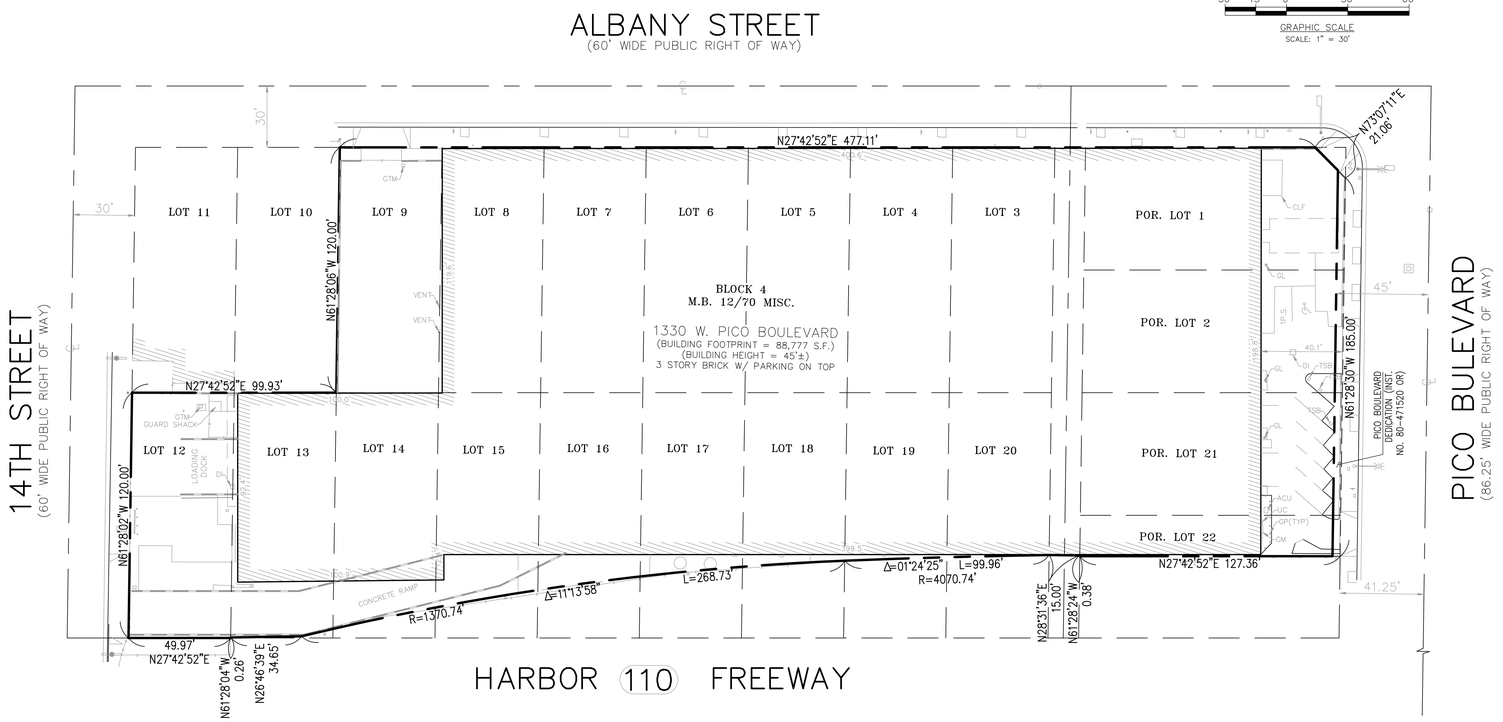
VICINITY MAP
NOT TO SCALE

LOT SUMMARY

LOT 1 MASTER LOT
LOT 2 RESIDENTIAL LOT
LOT 3 HOTEL LOT
LOT 4 OFFICE LOT
LOT 5 PARKING LOT
LOT 6 OPEN SPACE LOT
LOT 7 COMMERCIAL/RETAIL LOT
LOT 8 COMMERCIAL/RETAIL LOT
LOT 9 SHARED USE
LOT 10 HOTEL AMENITY
LOT 11 HOTEL AMENITY
LOT 12 RETAIL
LOT 13 HOTEL AMENITY
LOT 14 HOTEL AMENITY

SHEET INDEX

30' 15' 0' 30' 60'
GRAPHIC SCALE
SCALE: 1" = 30'



6/13/2018

SEAL: PROFESSIONAL LAND SURVEYOR THOMAS P. MCDERMOTT No. 8555 STATE OF CALIFORNIA

DESIGNED G.R.G.
DRAFTED G.R.G.
CHECKED T.M.

REV	DATE	DESCRIPTION	BY	APP'D

BENCHMARK: NONE
ELEVATION _____ ADJUSTMENT _____
PATH/PLOT DATE:
Jun. 13, 2018 - 17:17:40 DWG Name: W:\SAN390200\SURVEY\SUBDIVISION\TENTATIVE\TSHT01-17TT01.dwg Updated By: thomas.mcdermott

PSOMAS
555 South Flower Street, Suite 4300
Los Angeles, CA 90071
(213) 223-1400 (213) 223-1444 fax
www.psomas.com

VESTING TENTATIVE TRACT MAP FOR MERGER, SUBDIVISION AND CONDOMINIUM PURPOSES:

VESTING TENTATIVE TRACT NO. 82122

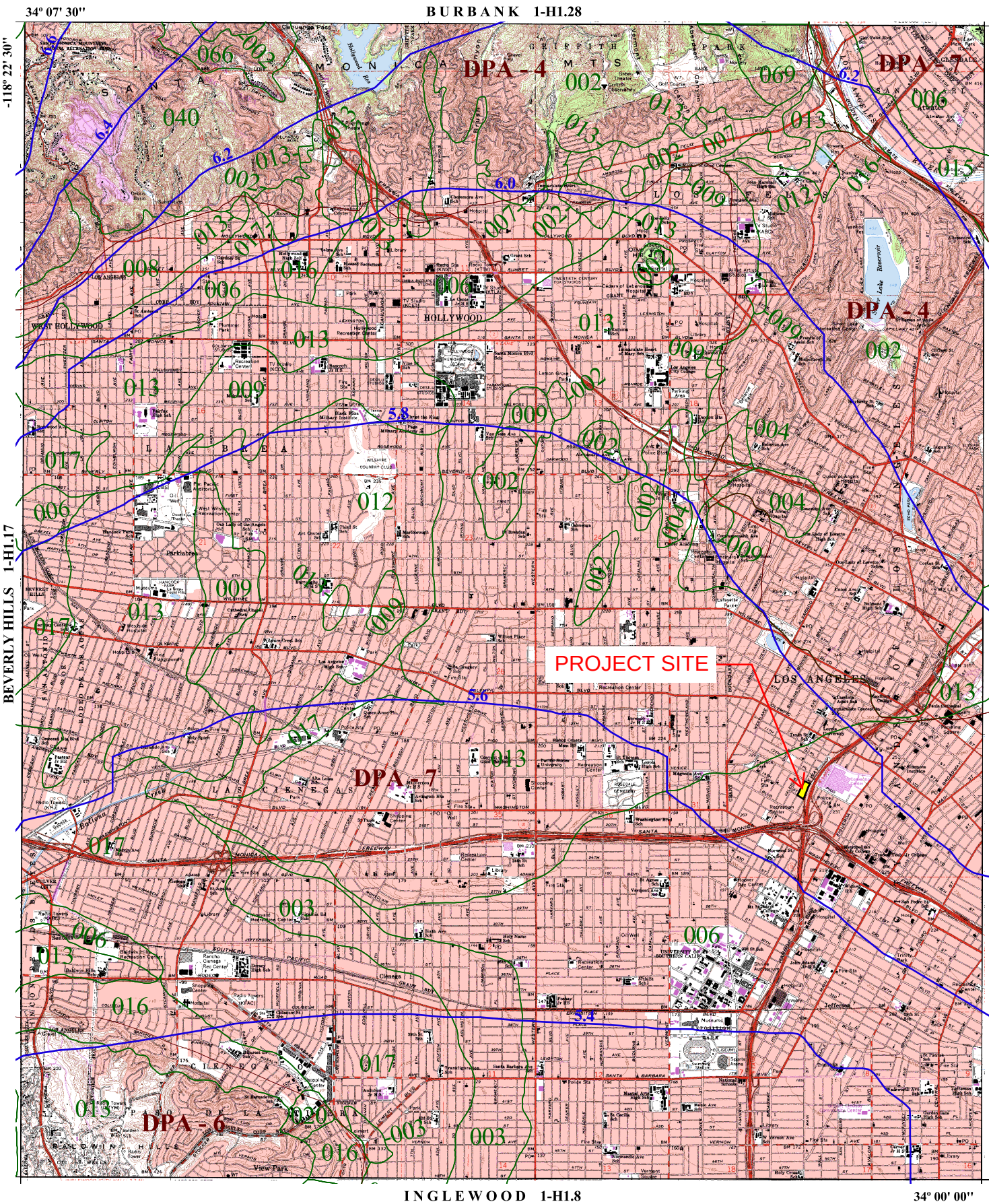
1330 W. PICO BLVD., 1308-1348 S. ALBANY ST.

IN THE CITY OF LOS ANGELES COUNTY OF LOS ANGELES STATE OF CALIFORNIA

DATE: JUNE 2018
SCALE: 1" = 30'
PROJECT NUMBER: 1SAN390200
SHEET 1 OF 5

REF:

1-TTD1_TBL	18471-CAD



016 SOIL CLASSIFICATION AREA

7.2 INCHES OF RAINFALL

DPA - 6 DEBRIS POTENTIAL AREA

N W E S

1 0 1 2 Miles

25-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.878

10-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.714

HOLLYWOOD 1-H1.18
50-YEAR 24-HOUR ISOHYET

LOS ANGELES COUNTY PUBLIC WORKS Public Service That Works

Department of Public Works
dpw.lacounty.gov

search our site..

Hydrology Map

A GIS viewer application to view the data for the hydrology manual.

LAYERS

- [ ] 50yr Two Tenths (Rainfall)
- [ ] DPA Zones
- [ ] Soils 2004
- [x] Final 85th Percentile, 24-hr Rainfall
- [ ] Final 95th Percentile, 24-hr Rainfall
- [ ] 1-year, 1-hour Rainfall Intensity

SEARCH

Enter Address, Cross Street, or Parcel No.:

(ex: 900 S. Fremont Ave., Fremont@Valley, 6342006904)

1330 west pico × Search

Address Search Results:

1330 west pico

Project No, 1SAN390201
1330 Pico Blvd
Los Angeles, CA

Volume Calculations: Whole Area

Givens: Inputs

Areas =

Breakdown	sqft	acre	%
Area Total	111,949	2.57	100%
Impervious, Ai	100,754	2.313	90%
Pervious, Ap	11,195	0.257	10%
Undeveloped Area, Au	0	0	0%
Exempt Area	0	0	0%
TOTAL	**111,949**	**2.57**	**100%**
Site Features			
Landscaped Area 5th Level	11,195	0.257	
TOTAL Pervious	**11,195**	**0.257**	
Landscaped Areas Counted Towards ETWU**			
Additional Landscaped Area	0	0	

Soil media infiltration rate:	5	in/hr	(Table 4.5)
T_{Fill} =	3	hrs	(Table 4.5)
Drawdown time, T (hr) =	48	hrs	(Table 4.5)
$K_{Sat,Design}$ Factor of Safety, FS =	2		
$V_{design\ Planter}$ Factor of Safety =	1.5		
Design Storm =	85th Percentile		(Per City of LA requirement)
Design Storm Intensity =	1.1	in	(Per LA County Hydrology GIS)
Planting Factor =	0.45		(Weighted Average. Per Landscape Architect)
7 Month Evapotranspiration, ET_7	21.7		(Per City of LA Irrigation Guidelines, App C)

i. Determine the Mitigation Volume (V_M):

V_M (ft^3) = 85th Percentile Intensity (in) * Catchment Area (acres) * (3630 cuft/1ac-in)
where Catchment Area (acres) = (Impervious Area * 0.9) + [(Pervious area + Undeveloped area) * 0.1]

V_M (ft^3) = 1.1*[(2.313*0.9)+[(0.257+0)*0.1]] * 3630 ft^3
V_M (ft^3) = 8415 ft^3 or 62,949 Gallons **(If Design is Capture and Use i.e. Rainwater Harvesting)**

The design will be a rainwater harvesting system, therefore,

V_M (ft^3) =	8415	ft^3	or	62,949	Gallons

ii. Determine planting area (ft^2):

Planting Area (ft^2) = 11,195 ft^2

iii. Determine Planter Factor, PF, (ft^2)

Planter Factor (ft^2) = Planting Factor x Planting Area

Planter Factor (ft^2) = 0.45 x (11194.9+0) ft2
Planter Factor (ft^2) = **5037.705** **ft^2**

(Per landscape architect, use planting factor adjusted for loss of irrigation efficiency)

iv. Determine the 7-month (Oct 1-April 30) Estimated Total Water Use (ETWU):

ETWU $_{(7\text{-month})}$ = ET_7 x 0.62 x PF
ETWU $_{(7\text{-month})}$ = 21.7 x 0.62 x 5037.705
ETWU $_{(7\text{-month})}$ = **67777** **gal** **or** **9,061** **ft^3**

v. Verify $ETWU_{(7\text{-month})}$ is greater than or equal to V_{WQDV}:

ETWU (7-month)	≥	*V (Design) (gal)*
67,777	≥	***62,949***

CAPTURE AND USE IS FEASIBLE

Peak Flow Hydrologic Analysis

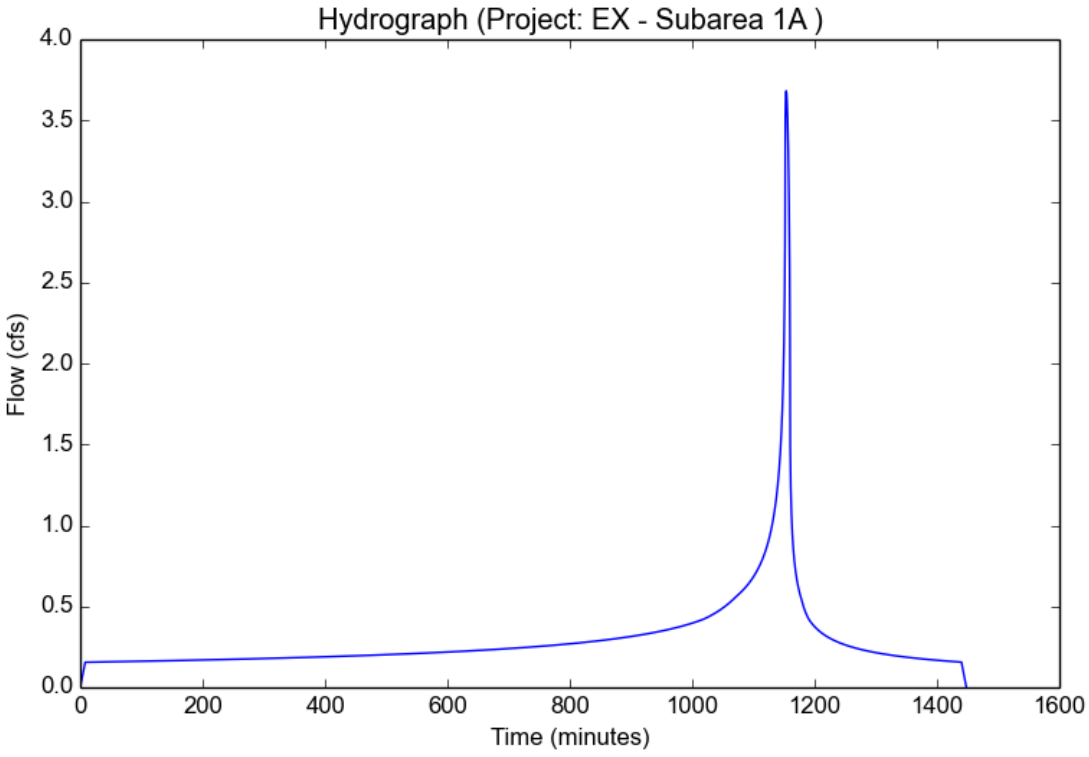
File location: W:/1SAN390201/ENGR/DOCS/EIR Hydrology Report/Attachments/Hydro Calc/Pico - Existing 5 Yr.pdf
Version: HydroCalc 0.3.0-beta

Input Parameters

Project Name	Project
Subarea ID	EX - Subarea 1A
Area (ac)	2.57
Flow Path Length (ft)	350.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.7
Percent Impervious	0.9
Soil Type	12
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.3288
Peak Intensity (in/hr)	1.5924
Undeveloped Runoff Coefficient (Cu)	0.8962
Developed Runoff Coefficient (Cd)	0.8996
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	3.6817
Burned Peak Flow Rate (cfs)	3.6817
24-Hr Clear Runoff Volume (ac-ft)	0.592
24-Hr Clear Runoff Volume (cu-ft)	25789.6288



Peak Flow Hydrologic Analysis

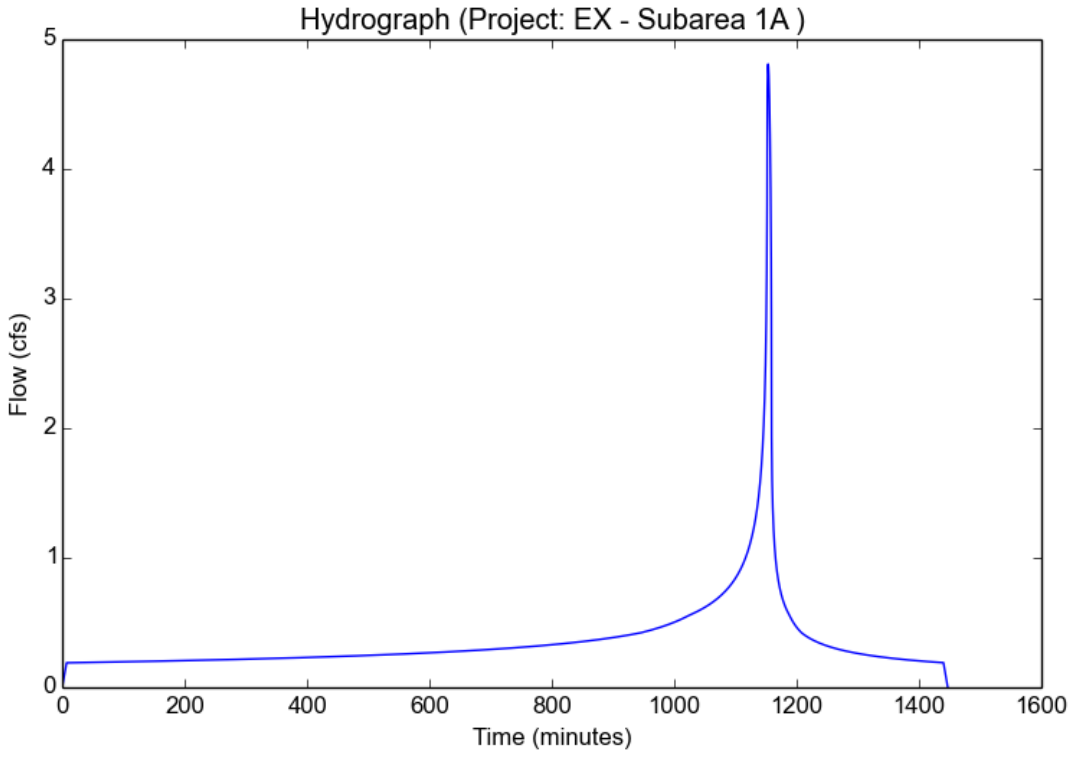
File location: W:/1SAN390201/ENGR/DOCS/EIR Hydrology Report/Attachments/Hydro Calc/Pico - Existing 10 Yr.pdf
Version: HydroCalc 0.3.0-beta

Input Parameters

Project Name	Project
Subarea ID	EX - Subarea 1A
Area (ac)	2.57
Flow Path Length (ft)	350.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.7
Percent Impervious	0.9
Soil Type	12
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.0698
Peak Intensity (in/hr)	2.073
Undeveloped Runoff Coefficient (Cu)	0.9273
Developed Runoff Coefficient (Cd)	0.9027
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	4.8094
Burned Peak Flow Rate (cfs)	4.8094
24-Hr Clear Runoff Volume (ac-ft)	0.7277
24-Hr Clear Runoff Volume (cu-ft)	31699.2104



Peak Flow Hydrologic Analysis

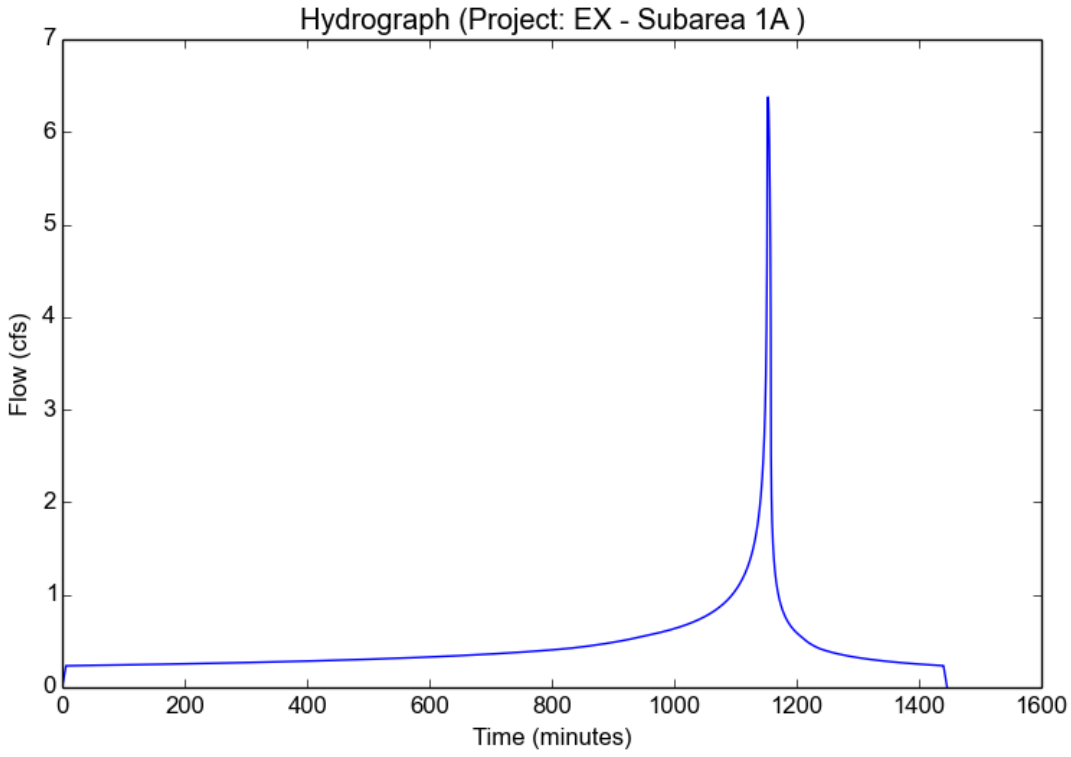
File location: W:/1SAN390201/ENGR/DOCS/EIR Hydrology Report/Attachments/Hydro Calc/Pico - Existing 25 Yr.pdf
Version: HydroCalc 0.3.0-beta

Input Parameters

Project Name	Project
Subarea ID	EX - Subarea 1A
Area (ac)	2.57
Flow Path Length (ft)	350.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.7
Percent Impervious	0.9
Soil Type	12
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.0046
Peak Intensity (in/hr)	2.7407
Undeveloped Runoff Coefficient (Cu)	0.9539
Developed Runoff Coefficient (Cd)	0.9054
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	6.3772
Burned Peak Flow Rate (cfs)	6.3772
24-Hr Clear Runoff Volume (ac-ft)	0.901
24-Hr Clear Runoff Volume (cu-ft)	39247.8916



Peak Flow Hydrologic Analysis

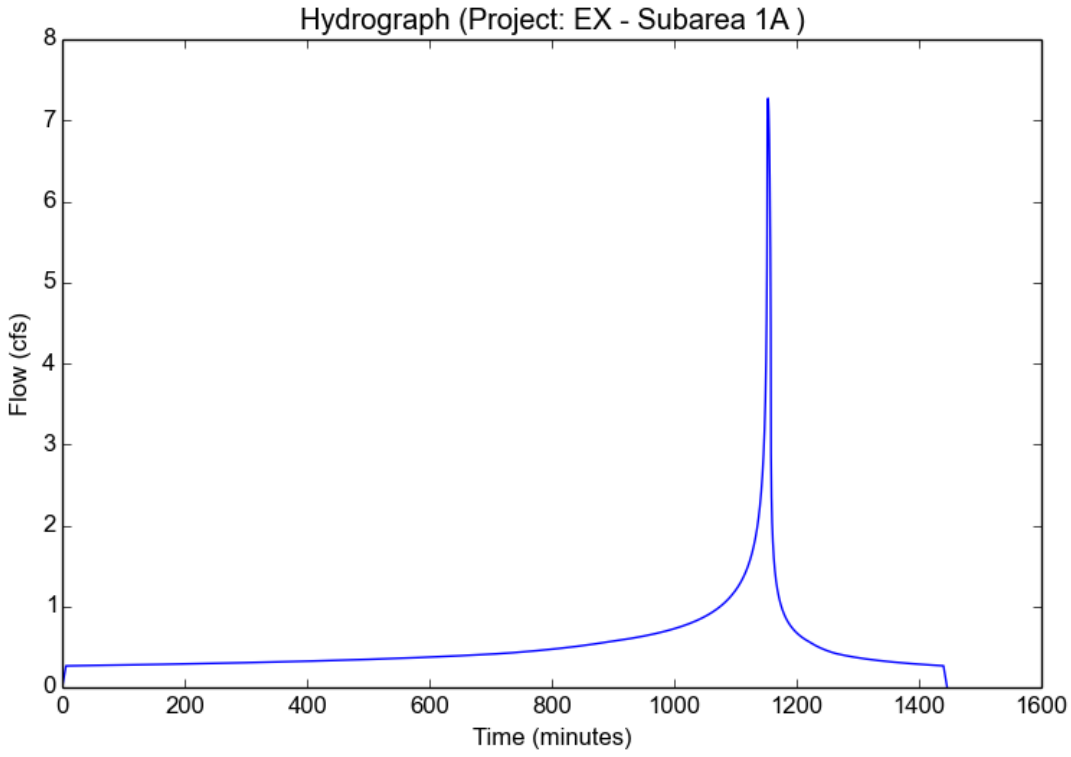
File location: W:/1SAN390201/ENGR/DOCS/EIR Hydrology Report/Attachments/Hydro Calc/Pico - Existing 50 Yr.pdf
Version: HydroCalc 0.3.0-beta

Input Parameters

Project Name	Project
Subarea ID	EX - Subarea 1A
Area (ac)	2.57
Flow Path Length (ft)	350.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.7
Percent Impervious	0.9
Soil Type	12
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.7
Peak Intensity (in/hr)	3.1215
Undeveloped Runoff Coefficient (Cu)	0.9662
Developed Runoff Coefficient (Cd)	0.9066
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	7.2731
Burned Peak Flow Rate (cfs)	7.2731
24-Hr Clear Runoff Volume (ac-ft)	1.0315
24-Hr Clear Runoff Volume (cu-ft)	44932.9974



Peak Flow Hydrologic Analysis

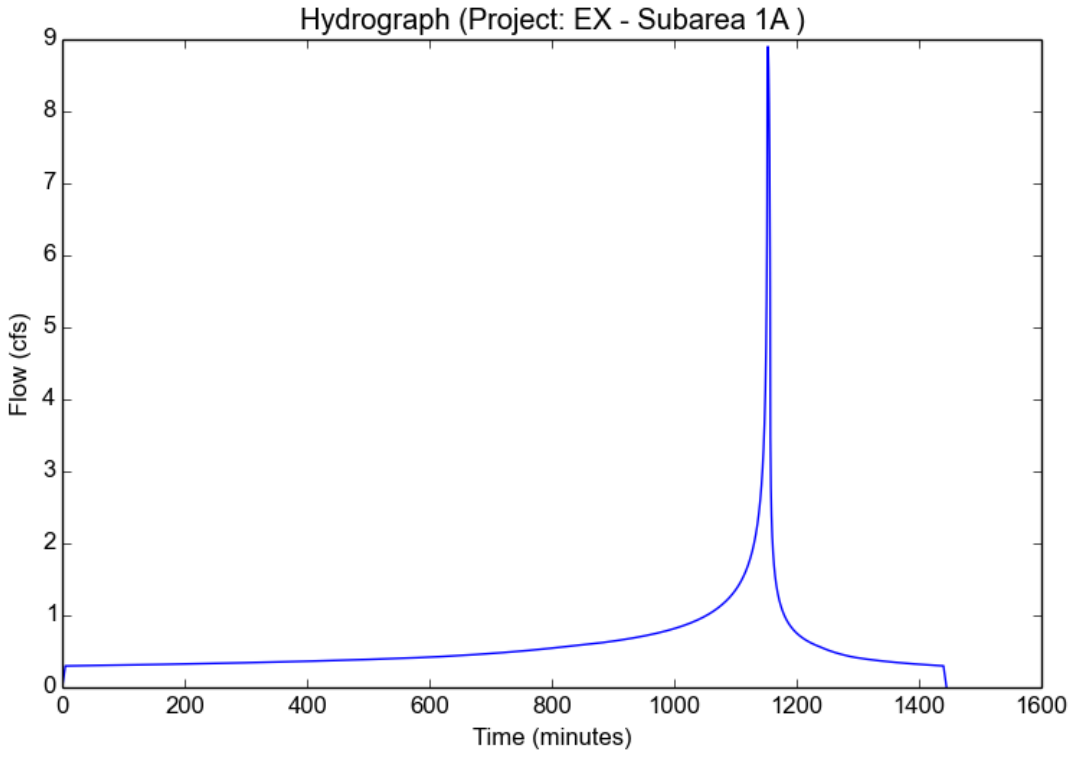
File location: W:/1SAN390201/ENGR/DOCS/EIR Hydrology Report/Attachments/Hydro Calc/Pico - Existing 100 Yr.pdf
Version: HydroCalc 0.3.0-beta

Input Parameters

Project Name	Project
Subarea ID	EX - Subarea 1A
Area (ac)	2.57
Flow Path Length (ft)	350.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.7
Percent Impervious	0.9
Soil Type	12
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	6.3954
Peak Intensity (in/hr)	3.8157
Undeveloped Runoff Coefficient (Cu)	0.9769
Developed Runoff Coefficient (Cd)	0.9077
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	8.9011
Burned Peak Flow Rate (cfs)	8.9011
24-Hr Clear Runoff Volume (ac-ft)	1.1634
24-Hr Clear Runoff Volume (cu-ft)	50677.7502



Peak Flow Hydrologic Analysis

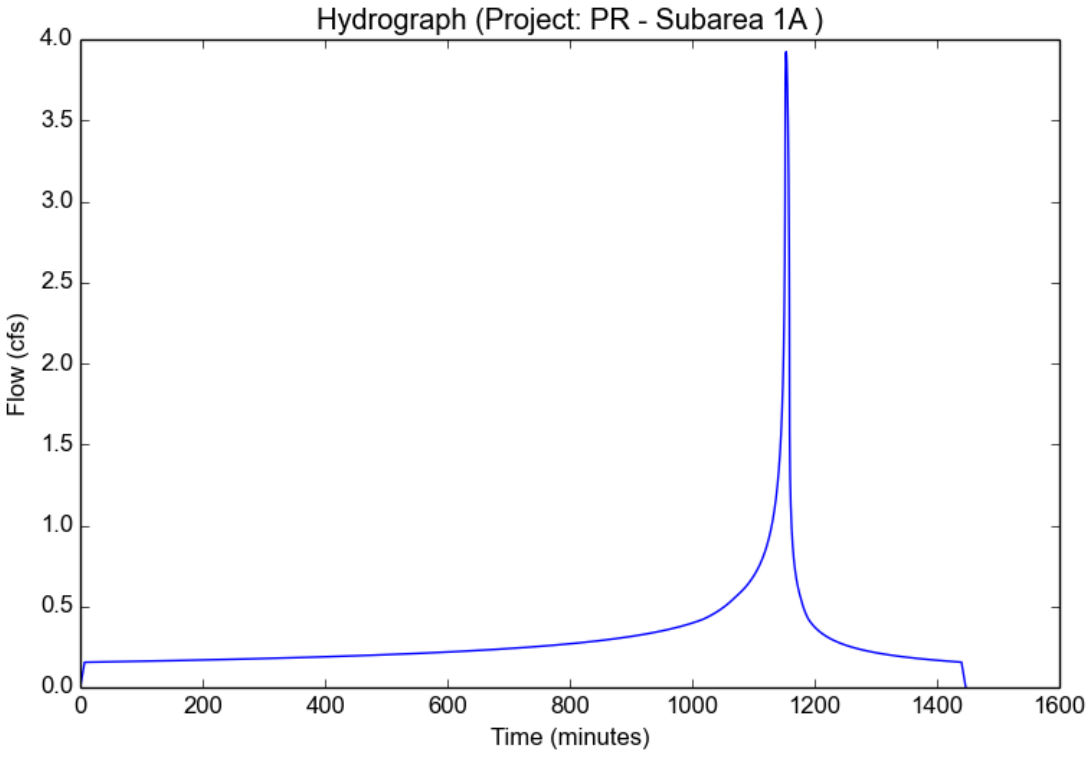
File location: W:/1SAN390201/ENGR/DOCS/EIR Hydrology Report/Attachments/Hydro Calc/Pico - Proposed 5 Yr.pdf
Version: HydroCalc 0.3.0-beta

Input Parameters

Project Name	Project
Subarea ID	PR - Subarea 1A
Area (ac)	2.57
Flow Path Length (ft)	350.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.7
Percent Impervious	0.9
Soil Type	12
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.3288
Peak Intensity (in/hr)	1.6956
Undeveloped Runoff Coefficient (Cu)	0.9033
Developed Runoff Coefficient (Cd)	0.9003
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	3.9232
Burned Peak Flow Rate (cfs)	3.9232
24-Hr Clear Runoff Volume (ac-ft)	0.5921
24-Hr Clear Runoff Volume (cu-ft)	25789.9658



Peak Flow Hydrologic Analysis

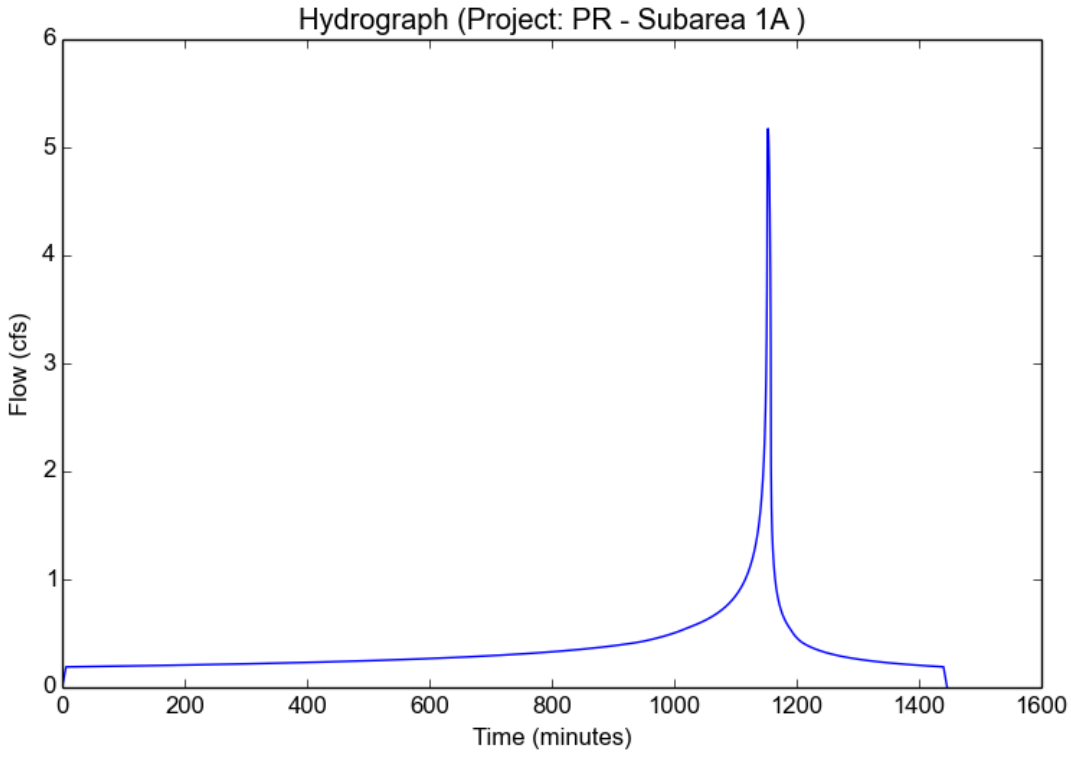
File location: W:/1SAN390201/ENGR/DOCS/EIR Hydrology Report/Attachments/Hydro Calc/Pico - Proposed 10 Yr.pdf
Version: HydroCalc 0.3.0-beta

Input Parameters

Project Name	Project
Subarea ID	PR - Subarea 1A
Area (ac)	2.57
Flow Path Length (ft)	350.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.7
Percent Impervious	0.9
Soil Type	12
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.0698
Peak Intensity (in/hr)	2.2287
Undeveloped Runoff Coefficient (Cu)	0.9335
Developed Runoff Coefficient (Cd)	0.9034
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	5.1743
Burned Peak Flow Rate (cfs)	5.1743
24-Hr Clear Runoff Volume (ac-ft)	0.7277
24-Hr Clear Runoff Volume (cu-ft)	31699.5325



Peak Flow Hydrologic Analysis

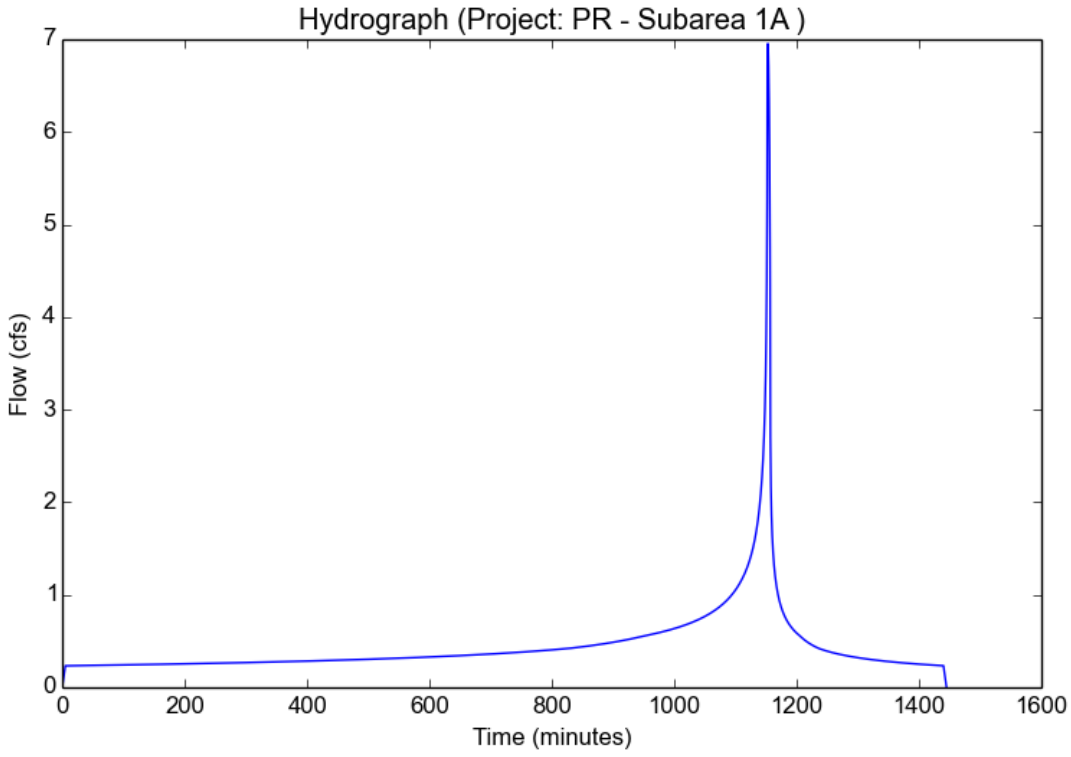
File location: W:/1SAN390201/ENGR/DOCS/EIR Hydrology Report/Attachments/Hydro Calc/Pico - Proposed 25 Yr.pdf
Version: HydroCalc 0.3.0-beta

Input Parameters

Project Name	Project
Subarea ID	PR - Subarea 1A
Area (ac)	2.57
Flow Path Length (ft)	350.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.7
Percent Impervious	0.9
Soil Type	12
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.0046
Peak Intensity (in/hr)	2.9859
Undeveloped Runoff Coefficient (Cu)	0.9637
Developed Runoff Coefficient (Cd)	0.9064
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	6.9552
Burned Peak Flow Rate (cfs)	6.9552
24-Hr Clear Runoff Volume (ac-ft)	0.901
24-Hr Clear Runoff Volume (cu-ft)	39248.5805



Peak Flow Hydrologic Analysis

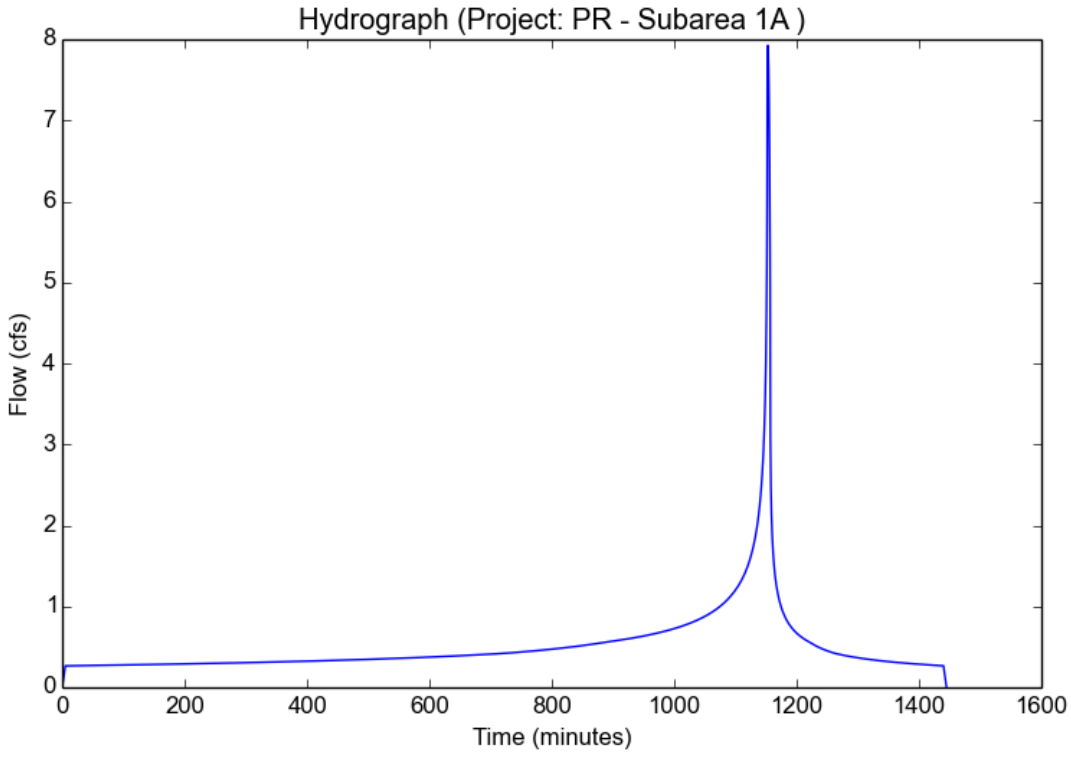
File location: W:/1SAN390201/ENGR/DOCS/EIR Hydrology Report/Attachments/Hydro Calc/Pico - Proposed 50 Yr.pdf
Version: HydroCalc 0.3.0-beta

Input Parameters

Project Name	Project
Subarea ID	PR - Subarea 1A
Area (ac)	2.57
Flow Path Length (ft)	350.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.7
Percent Impervious	0.9
Soil Type	12
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.7
Peak Intensity (in/hr)	3.4008
Undeveloped Runoff Coefficient (Cu)	0.9705
Developed Runoff Coefficient (Cd)	0.9071
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	7.9276
Burned Peak Flow Rate (cfs)	7.9276
24-Hr Clear Runoff Volume (ac-ft)	1.0315
24-Hr Clear Runoff Volume (cu-ft)	44933.1113



Peak Flow Hydrologic Analysis

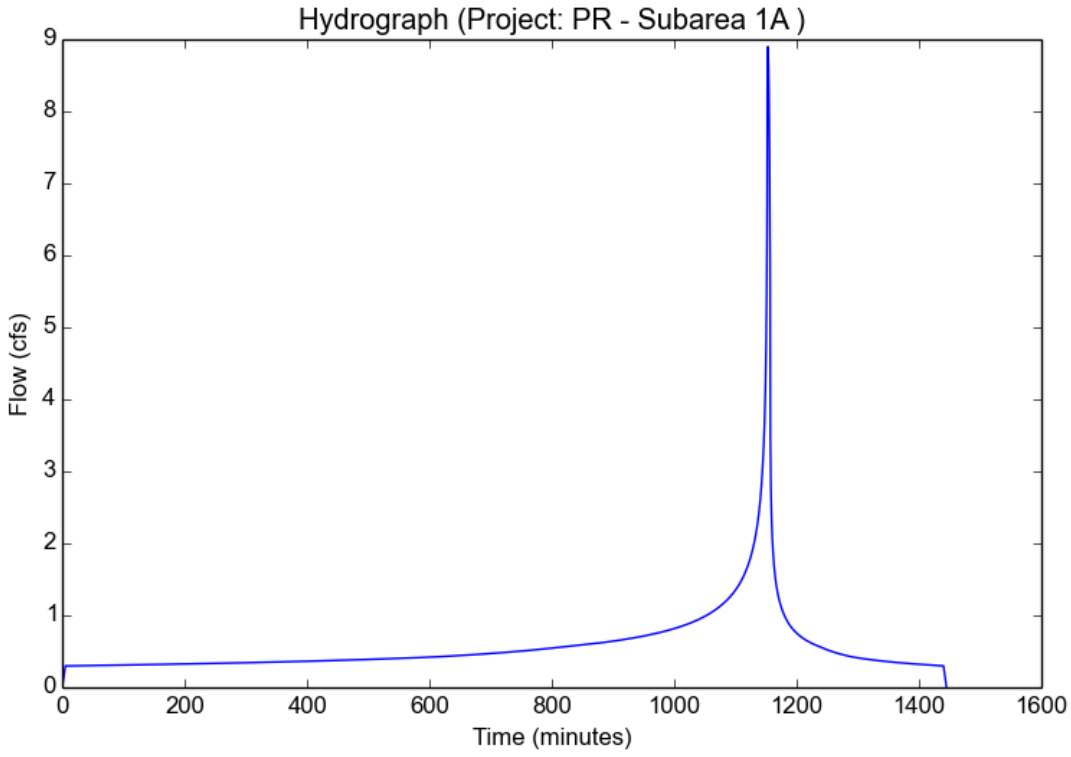
File location: W:/1SAN390201/ENGR/DOCS/EIR Hydrology Report/Attachments/Hydro Calc/Pico - Proposed 100 Yr.pdf
Version: HydroCalc 0.3.0-beta

Input Parameters

Project Name	Project
Subarea ID	PR - Subarea 1A
Area (ac)	2.57
Flow Path Length (ft)	350.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.7
Percent Impervious	0.9
Soil Type	12
Design Storm Frequency	100-yr
Fire Factor	0
LID	False

Output Results

Modeled (100-yr) Rainfall Depth (in)	6.3954
Peak Intensity (in/hr)	3.8157
Undeveloped Runoff Coefficient (Cu)	0.9769
Developed Runoff Coefficient (Cd)	0.9077
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	8.9011
Burned Peak Flow Rate (cfs)	8.9011
24-Hr Clear Runoff Volume (ac-ft)	1.1634
24-Hr Clear Runoff Volume (cu-ft)	50677.7502



Peak Flow Hydrologic Analysis

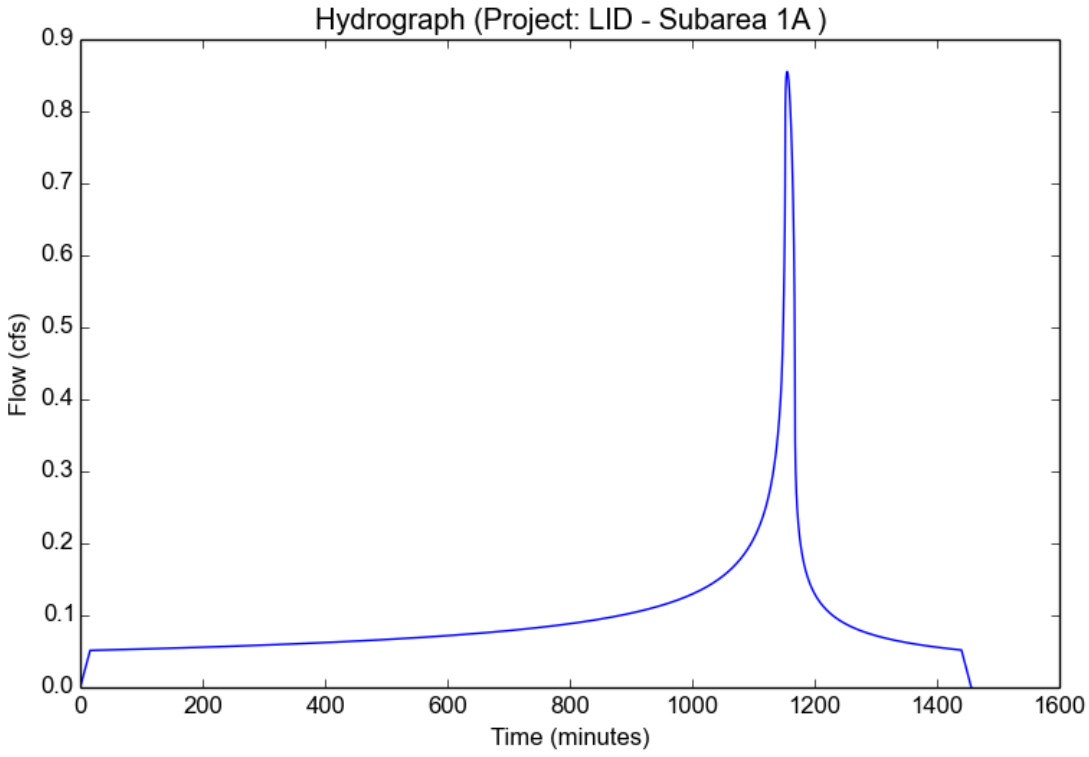
File location: W:/1SAN390201/ENGR/DOCS/EIR Hydrology Report/Attachments/Hydro Calc/Pico - Proposed LID.pdf
Version: HydroCalc 0.3.0-beta

Input Parameters

Project Name	Project
Subarea ID	LID - Subarea 1A
Area (ac)	2.57
Flow Path Length (ft)	350.0
Flow Path Slope (vft/hft)	0.02
85th Percentile Rainfall Depth (in)	1.1
Percent Impervious	0.9
Soil Type	12
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	1.1
Peak Intensity (in/hr)	0.3799
Undeveloped Runoff Coefficient (Cu)	0.6593
Developed Runoff Coefficient (Cd)	0.8759
Time of Concentration (min)	16.0
Clear Peak Flow Rate (cfs)	0.8552
Burned Peak Flow Rate (cfs)	0.8552
24-Hr Clear Runoff Volume (ac-ft)	0.1928
24-Hr Clear Runoff Volume (cu-ft)	8397.0571



Category 5 criteria: 1) A water segment where standards are not met and a TMDL is required, but not yet completed, for at least one of the pollutants being listed for this segment.
* USGS HUC = US Geological Survey Hydrologic Unit Code. Calwater = State Water Resources Control Board hydrological subunit area or even smaller planning watershed.
** TMDL requirement status definitions for listed pollutants are: A= TMDL still required, B= being addressed by USEPA approved TMDL, C= being addressed by action other than a TMDL
*** Dates relate to the TMDL requirement status, so a date for A= TMDL scheduled completion date, B= Date USEPA approved TMDL, and C= Completion date for action other than a TMDL

REGION	WATER BODY NAME	WATER TYPE	WATERSHED* CALWATER / USGS HUC	• POLLUTANT ◦ POTENTIAL SOURCES *Relevant Notes*	ESTIMATED AREA ASSESSED	FIRST YEAR LISTED	TMDL REQUIREMENT STATUS**	DATE***
1	Big River Beach at Mendocino Bay	Coastal & Bay Shoreline	1113.300405 / 18010108	• Indicator Bacteria ◦ Source Unknown	3.9 Miles	2010	5A	2025
1	Bodega HU, Bodega Harbor HA	Bay & Harbor	11522000 / 18010111	• Invasive Species ◦ Source Unknown	810 Acres	2006	5A	2025
1	Bodega HU, Estero Americano HA, Americano Creek	River & Stream	11530000 / 18010111	• Nutrients ◦ Source Unknown	38 Miles	1996	5A	2025
1	Bodega HU, Estero Americano HA, estuary	Estuary	11530012 / 18010111	• Nutrients ◦ Source Unknown	199 Acres	1996	5A	2025
				• Sedimentation/Siltation ◦ Source Unknown	199 Acres	1992	5A	2025
1	Bodega HU, Estero de San Antonio HA, Stemple Creek/Estero de San Antonio	River & Stream	1115.400001,1115.400002,1115.400003 / 18010111	• Nutrients ◦ Source Unknown	87 Miles	2012	5A	2025
				• Sediment ◦ Source Unknown	87 Miles	2006	5A	2025
1	Campbell Cove	Coastal & Bay Shoreline	1115.210000,1115.220000 / 18010111	• Indicator Bacteria ◦ Source Unknown	0.24 Miles	2006	5A	2019
1	Caspar Headlands State Beach	Coastal & Bay Shoreline	1113.300404,1113.300405 / 18010108	• Indicator Bacteria ◦ Source Unknown	0.19 Miles	2010	5A	2025
1	Clam Beach (near Mad River mouth)	Coastal & Bay Shoreline	1109.100101 / 18010102	• Indicator Bacteria ◦ Source Unknown	1.5 Miles	2012	5A	2025
1	Clam Beach (near Strawberry Creek)	Coastal & Bay Shoreline	1108.200002,1109.100200,1109.100300 / 18010102	• Indicator Bacteria ◦ Source Unknown	1.3 Miles	2006	5A	2019

REGION	WATER BODY NAME	WATER TYPE	WATERSHED* CALWATER / USGS HUC	• POLLUTANT ◦ POTENTIAL SOURCES *Relevant Notes*	ESTIMATED AREA ASSESSED	FIRST YEAR LISTED	TMDL REQUIREMENT STATUS**	DATE***
4	Amarillo Beach	Coastal & Bay Shoreline	40431000 / 18070104	• DDT (Dichlorodiphenyltrichloroethane) ◦ Source Unknown *Fish Consumption Advisory for DDT.*	0.64 Miles	1998	5A	2019
				• PCBs (Polychlorinated biphenyls) ◦ Source Unknown *Fish Consumption Advisory for PCBs.*	0.64 Miles	1998	5A	2019
4	Arroyo Seco Reach 1 (LA River to West Holly Ave.)	River & Stream	40515010 / 18070104	• Benthic-Macroinvertebrate Bioassessments ◦ Source Unknown	5.2 Miles	2010	5A	2021
				• Coliform Bacteria ◦ Source Unknown	5.2 Miles	2002	5A	2009
				• Trash ◦ Nonpoint Source ◦ Surface Runoff ◦ Urban Runoff/Storm Sewers	5.2 Miles	2002	5B	2008
4	Arroyo Seco Reach 2 (West Holly Ave to Devils Gate Dam)	River & Stream	40515010 / 18070104	• Coliform Bacteria ◦ Source Unknown	4.4 Miles	2002	5A	2009
				• Trash ◦ Nonpoint Source ◦ Surface Runoff ◦ Urban Runoff/Storm Sewers	4.4 Miles	1996	5B	2008
4	Artesia-Norwalk Drain	River & Stream	40515010 / 18070104	• Indicator Bacteria ◦ Source Unknown	2.5 Miles	2010	5A	2021
				• Selenium ◦ Source Unknown	2.5 Miles	2010	5A	2021
4	Avalon Beach	Coastal & Bay Shoreline	40511000 / 18070107	• Indicator Bacteria ◦ Source Unknown *Area affected is between Pier and BB restaurant (2/3), between Pier and BB restaurant (1/3), between storm drain and Pier (1/3). and between BB restaurant and the Tuna Club.*	0.67 Miles	2002	5A	2019
4	Ballona Creek	River & Stream	40513000 / 18070104	• Cadmium (sediment) ◦ Source Unknown *A USEPA-approved TMDL has made a finding of non-impairment for this pollutant.*	6.5 Miles	1996	5A	2005
				• Coliform Bacteria ◦ Nonpoint Source	6.5 Miles	2002	5B	2007

REGION	WATER BODY NAME	WATER TYPE	WATERSHED* CALWATER / USGS HUC	• POLLUTANT ◦ POTENTIAL SOURCES *Relevant Notes*	ESTIMATED AREA ASSESSED	FIRST YEAR LISTED	TMDL REQUIREMENT STATUS**	TMDL DATE***
				◦ Point Source				
				• Copper, Dissolved ◦ Nonpoint Source	6.5 Miles	2006	5B	2005
				• Cyanide ◦ Source Unknown	6.5 Miles	1996	5A	2019
				• Lead ◦ Source Unknown	6.5 Miles	2002	5B	2005
				• Selenium ◦ Source Unknown	6.5 Miles	2006	5B	2005
				• Toxicity ◦ Source Unknown	6.5 Miles	1996	5B	2005
				• Trash ◦ Source Unknown	6.5 Miles	1996	5B	2001
				• Viruses (enteric) ◦ Nonpoint Source ◦ Point Source	6.5 Miles	1996	5B	2007
				• Zinc ◦ Source Unknown	6.5 Miles	1996	5B	2005
4	Ballona Creek Estuary	River & Stream	40513000 / 18070104	• Cadmium ◦ Source Unknown	2.3 Miles	1992	5B	2005
				• Chlordane (tissue & sediment) ◦ Nonpoint Source ◦ Point Source	2.3 Miles	1998	5B	2005
				• Coliform Bacteria ◦ Nonpoint Source ◦ Point Source	2.3 Miles	1998	5B	2007
				• Copper ◦ Source Unknown	2.3 Miles	1992	5B	2005
				• DDT (tissue & sediment) ◦ Nonpoint Source ◦ Point Source	2.3 Miles	2006	5B	2005
				• Lead (sediment) ◦ Nonpoint Source ◦ Point Source	2.3 Miles	1992	5B	2005
				• PAHs (Polycyclic Aromatic Hydrocarbons) (sediment) ◦ Nonpoint Source ◦ Point Source	2.3 Miles	1998	5B	2005
				• PCBs (Polychlorinated biphenyls) (tissue & sediment)	2.3 Miles	1998	5B	2005

Table 2-1. Beneficial Uses of Inland Surface Waters (Continued).

WATERSHED[a]	WBD No.	MUN	IND	PROC	AGR	GWR	FRSH	NAV	POW	COMM	AQUA	WARM	COLD	SAL	EST	MAR	WILD	BIOL	RARE	MIGR	SPWN	SHELL	WET[b]
MALIBU CREEK WATERSHED																							
Malibu Lagoon [c]	180701040104							E							E	E	E		Ee	Ef	Ef		E
Malibu Creek	180701040104	P*										E	E				E		E	E	E		E
Cold Creek	180701040104	P*											P				E		E		P		E
Las Virgenes Creek	180701040103	P*										E	P				E		E	P	P		E
Century Reservoir	180701040104	P*										E					E						E
Malibou Lake	180701040104	P*						E				E					E		E				E
Medea Creek Reach 1 (Malibou Lake to Lindero Creek Reach 1)	180701040102	P*				I						I	P				E		E				E
Medea Creek Reach 2 (above Lindero Creek Reach 1)	180701040102	I*				I						E					E						E
Lindero Creek Reach 1 (Medea Creek Reach 1 to Lake Lindero)	180701040102	P*										I					E						
Lindero Creek Reach 2 (above Lake Lindero)	180701040102	P*										I					E						
Triunfo Creek Reach 1 (Malibou Lake to Lobo Canyon)	180701040104	P*										I					E						
Triunfo Creek Reach 2 (Lobo Canyon to Westlake Lake)	180701040101	P*				I						I					E		E				
Westlake Lake	180701040101	P*						E				E					E						
Potrero Valley Creek	180701040101	P*				I						P					E						
Lake Eleanor Creek	180701040101	P*				I						I					E						
Lake Eleanor	180701040101	P*				E						E					E		E				E
Las Virgenes (Westlake) Reservoir	180701040101	E	E	E	E							P					E						
Hidden Valley Creek	180701040101	I*				I						I					E						
Lake Sherwood	180701040101	P*				E		E				E					E						E
BALLONA CREEK WATERSHED																							
Ballona Creek Estuary (ends at Centinela Creek) [c,w]	*180701040300*							E		E					E	E	E		Ee	Ef	Ef	E	
Ballona Lagoon/ Venice Canals [c]	*180701040403*							E		E					E	E	E		Ee	Ef	Ef	E	E
Ballona Wetlands [c]	*180701040300*														E		E		Ee	Ef	Ef		E
Del Rey Lagoon [c]	*180701040500*							E		E					E		E		Ee	Ef	Ef		E
Ballona Creek Reach 2 (Estuary to National Blvd.)	*180701040300*	P*										P					P						
Ballona Creek Reach 1 (above National Blvd.)	*180701040300*	P*										P					E						
LOS CERRITOS CHANNEL WATERSHED																							
Los Cerritos Wetlands [c]	*180701040702*							E		E					E		E		Ee	Pf	Pf	E	E
Los Cerritos Channel Estuary (Ends at Anaheim Rd.) [c]	*180701040702*		E					E		E					E	E	E		Ee	Ef	Ef	E	
Sims Pond	*180701040702*	P*										P					E						E
Los Cerritos Channel	*180701040702*	P*										I					E						
Colorado Lagoon	*180701040702*									E		P					E					E	

E: Existing beneficial use
P: Potential beneficial use
I: Intermittent beneficial use
E,P, and I: shall be protected as required.
* Asterisked MUN designations are designated under SB 88-63 and RB 89-03. Some designations may be considered for exemption at a later date (See pages 2-3, 4 for more details).
au: The REC-1 use designation does not apply to recreational activities associated with the swimmable goal as expressed in the Federal Clean Water Act section 101(a)(2) and regulated under the REC-1 use in the Basin Plan, or the associated bacteriological objectives set to protect those activities. However, water quality objectives set to protect other REC-1uses associated with the fishable goal as expressed in the Federal Clean Water Act section 1010(a)(2) shall remain in effect for waters where the ~~(ac)~~ (au) footnote appears.
av: The High Flow Suspension only applies to water contact recreational activities associated with the swimmable goal as expressed in the federal Clean Water Act section 101(a)(2) and regulated under the REC-1 use, non-contact water recreation involving incidental water contact regulated under the REC-2 use, and the associated bacteriological objectives set to protect those activities. Water quality objectives set to protect (1) other recreational uses associated with the fishable goal as expressed in the federal Clean Water Act section 101(a)(2) and regulated under the REC-1 use and (2) other REC-2 uses (e.g., uses involving the aesthetic aspects of water) shall remain in effect at all times for waters where the ~~(ad)~~ (av) footnote appears.
** The dividing line between "Ballona Creek" and "Ballona Creek to Estuary" is the point at which the vertical channel walls transition to sloping walls.

Footnotes are consistent for all beneficial use tables.
a: Waterbodies are listed multiple times if they cross hydrologic area or subarea boundaries. Beneficial use designations apply to all tributaries to the indicated waterbody, if not listed separately.
b: Waterbodies designated as WET may have wetlands habitat associated with only a portion of the waterbody. Any regulatory action would require a detailed analysis of the area.
c: Coastal waterbodies which are also listed in Coastal Features Table (2-3) or in Wetlands Table (2-4).
e: One or more rare species utilizes all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting.
f: Aquatic organisms utilize all bays, estuaries, lagoons, and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas which are heavily influenced by freshwater inputs.
w: These areas are engineered channels. All references to Tidal Prisms in Regional Board documents are functionally equivalent to estuaries.