Appendix E

Hydrology and Water Quality Technical Report

8920 Sunset

Hydrology and Water Quality Technical Report
May 23, 2017

PREPARED BY:

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Los Angeles, CA 90017
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Contents

PROJECT DESCRIPTION

A. Project Description

Existing Conditions

The project site is located on the southeast corner of Sunset Boulevard and Hilldale Avenue at 8920 Sunset in the City of West Hollywood. The existing project site encompasses approximately 0.46 acres and includes a two-story building with 2 levels of below grade parking and a surface parking lot and appears to be 99% impervious. All existing buildings and hardscape will be removed as part of the proposed project.

Proposed Conditions

The site will be developed into a nine-story, commercial building over five levels of subterranean parking and will include including retail, office, and entertainment. The development will span approximately to the property line.

B. Surface Hydrology

Surface hydrology is regulated by the City of West Hollywood, Los Angeles County Department of Public Works (LACDPW) and State of California Water Resources Control Board. Requirements include compliance with the State of California General Permit for storm water discharges during construction for projects with over one acre of land disturbance, and post-construction compliance with the Los Angeles County Department of Public Works Hydrology Manual and City of West Hollywood Low Impact Development (LID) Standards.

Existing Hydrology

Existing storm water runoff from the project site is conveyed via sheet flow and curb drains to the adjacent streets. The existing site slopes mostly towards the south with an approximately 10% gradient.

The site is located within the Federal Emergency Management Agency (FEMA) Flood Zone X, which denotes an area where the potential for flooding is minimal. There are no surface water bodies in the project vicinity. See Appendix A for the FEMA Flood Map for the project location.

The LACDPW Hydrology Manual requires that a storm drain conveyance system be designed for a 25-year storm event and that the combined capacity of a storm drain and street flow system accommodate flow from a 50-year storm event. The existing site's peak flow generated from a 50-year storm event is approximately 1.57 cubic feet per second. See Existing Hydrology Exhibit in Appendix B and Existing Hydrology Calculation in Appendix D.

Proposed Hydrology

Storm water runoff from the Project site will be conveyed to the public streets via roof downspouts and site area and podium drains, in a similar manner as the existing drainage. However, the proposed storm drain design will include modular wetland systems, capture and reuse systems, or other approved BMPs in order to treat storm water runoff as required by LACDPW and the City of West Hollywood.

The proposed development will also decrease the existing impervious area by adding planting and landscaping around the site and upper levels. The additional landscape area is insignificant for hydrology purposes, as the peak flow generated from a 50-year storm event will remain 1.57 cfs. See Proposed Hydrology Exhibit in Appendix B and Proposed Hydrology Calculation in Appendix D. Due to the additional storm water treatment requirements and increase in landscape area, the project's impact on the surface water hydrology is considered less than significant.

Existing Water Quality Management

Based on our research and existing records, there are currently no storm water BMPs on the existing site.

Proposed Water Quality Management – Construction

The State of California Water Resources Control Board's National Pollutant Discharge Elimination System (NPDES) requirements mandate that storm water Best Management Practices (BMPs) be implemented during Project construction including Storm Water Pollution Prevention Plan (SWPPP) for projects disturbing one acre or more. Since this project site is less than one acre, an NPDES SWPPP will not be required.

However, the City of West Hollywood requires a Local Storm Water Pollution Prevention Plan (LSWPPP) and preparation of an Erosion Control Plan (ECP), which will be approved by and filed with the City.

The Project LSWPPP and ECP will identify potential pollutant sources that may affect the quality of discharge associated with construction activity, identify non-storm water discharges, and recommend means and methods to effectively prohibit the entry of pollutants into the public storm drain system during construction.

Proposed Water Quality Management-Project Implementation

Permanent post-construction storm water management mitigation will be implemented per the County of Los Angeles Department of Public Works Low Impact Development Standards Manual, dated February 14, 2014.

LID (Low Impact Development) is a storm water management strategy with goals to mitigate the impacts of increased runoff and storm water pollution as close to its source as possible. Per the latest LID guidelines new construction developments must treat storm water through infiltration, capture and reuse, or biofiltration.

Considering the proposed development's subterranean footprint extending below the groundwater elevation, we expect infiltration to be infeasible. The required LID volume

of storm water runoff will be treated using capture and reuse or biofiltration systems. Capture and reuse systems would be designed based on the proposed landscape area to be irrigated and the proposed site layout. Biofiltration systems would consist of hard bottom biofilters with layers of mulch, soil, and gravel which treat storm water through biofiltration before discharging it into the street or the 21 inch RCP storm drain main pipe in Sunset Blvd. These biofiltration systems can be located on podium decks on a multi-level building, as long as they are designed to accept concentrated drainage from levels above. The design team should engage early in satisfying storm water mitigation requirements.

Due to these required storm water quality mitigation measures to be implemented for construction activities and post-construction, impacts to the surface water hydrology and water quality are considered less than significant.

C. Groundwater Hydrology

Existing Groundwater

According to the Geotechnical Investigation Report prepared by Geocon West, Inc. dated July 2, 2015, the existing historic high groundwater is approximately 22 feet below the surface and measured groundwater was 38 feet below the surface.

Proposed Groundwater Impacts

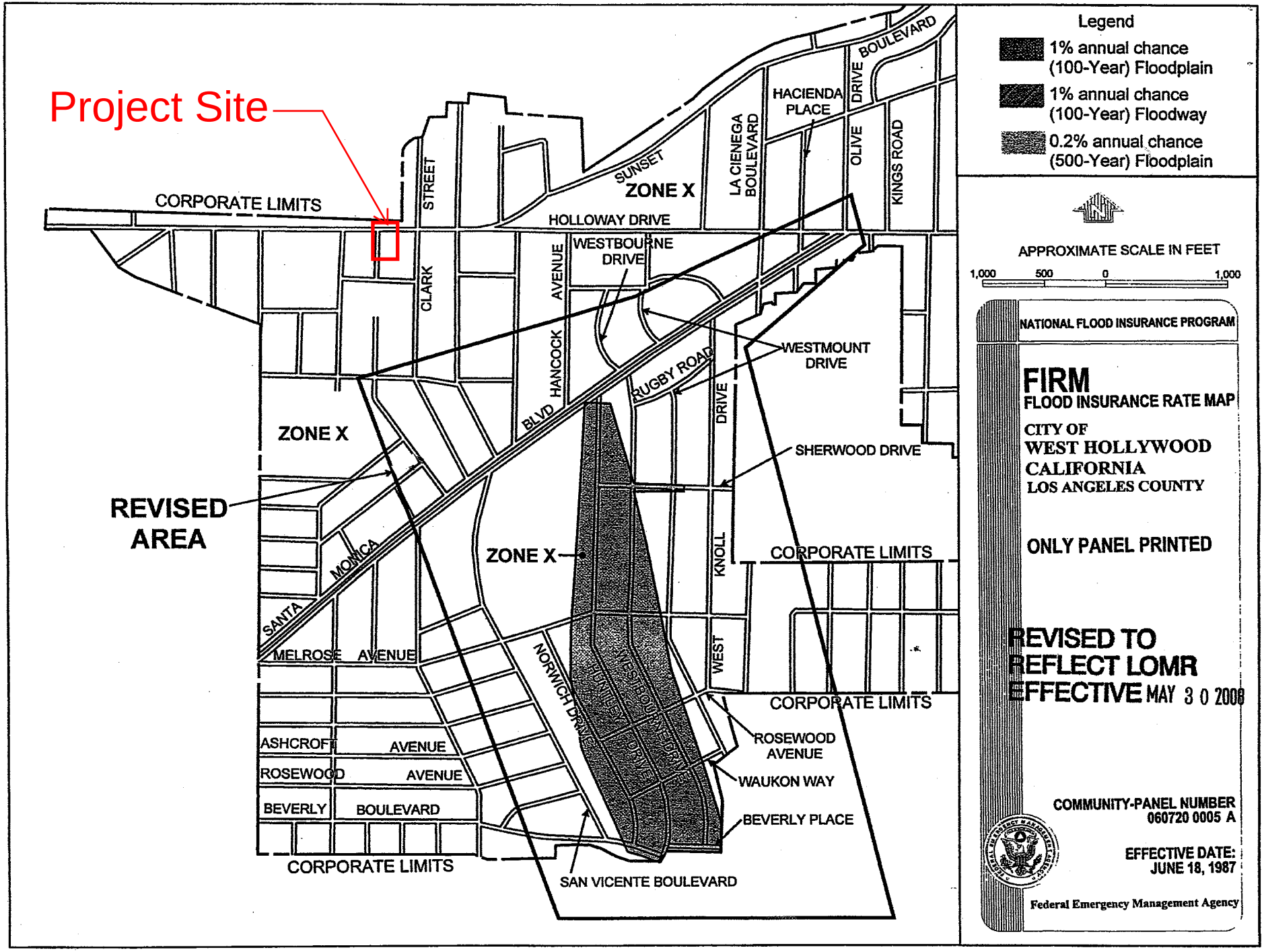
Due to the depth of excavation reaching below the historic and measured high groundwater level, dewatering operations will likely be required during construction of the below grade parking. If this is the case, a small amount of groundwater would be removed during excavation, but only until the waterproofing is installed up to the groundwater table level. This impact on the area's groundwater levels is considered negligible and less than significant.

Regarding groundwater quality, BMPs required by the City of West Hollywood's LSWPPP guidelines and included in the project ECP will include spill prevention and cleanup guidelines, dewatering operations guidelines and storm water run-on prevention. These BMPs would protect the groundwater from contamination by construction activities. During normal building operations, the groundwater quality will be protected as the entire site is covered by the impervious basement floor and walls, preventing any opportunity of pollutant intrusion into the groundwater system.

Groundwater depletion as a result of development is caused by increasing the imperviousness of a site. The proposed project would not increase the imperviousness of the Project Site. Therefore, the Project would not deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level, and the impact would be less than significant.

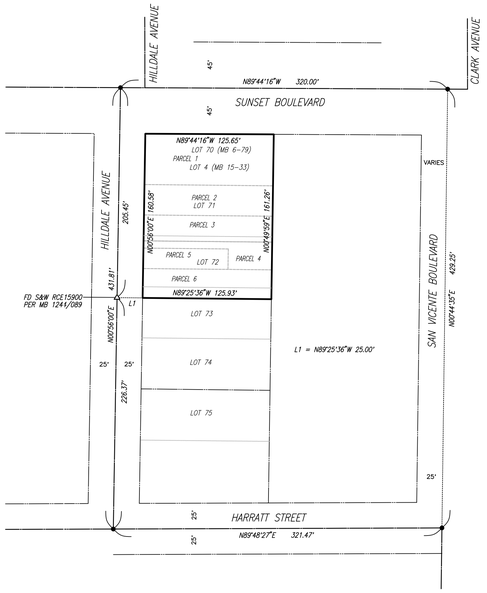
APPENDIX A

FEMA Flood Zone Map


Project Site
CORPORATE LIMITS
STREET
SUNSET
ZONE X
HOLLOWAY DRIVE
LA CIENEGA BOULEVARD
HACIENDA PLACE
DRIVE
BOULEVARD
OLIVE
KINGS ROAD
CLARK
AVENUE
WESTBOURNE DRIVE
HANCOCK
BLVD
RUGBY ROAD
WESTMOUNT DRIVE
DRIVE
SHERWOOD DRIVE
ZONE X
REVISED AREA
MONICA
SANTA
MELROSE AVENUE
ZONE X
KNOLL
CORPORATE LIMITS
WEST
NORWICH DRIVE
CORPORATE LIMITS
ROSEWOOD AVENUE
WAUKON WAY
BEVERLY PLACE
ASHCROFT AVENUE
ROSEWOOD AVENUE
BEVERLY BOULEVARD
CORPORATE LIMITS
SAN VICENTE BOULEVARD
Legend
1% annual chance (100-Year) Floodplain
1% annual chance (100-Year) Floodway
0.2% annual chance (500-Year) Floodplain
APPROXIMATE SCALE IN FEET
1,000 500 0 1,000
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
CITY OF
WEST HOLLYWOOD
CALIFORNIA
LOS ANGELES COUNTY
ONLY PANEL PRINTED
REVISED TO REFLECT LOMR EFFECTIVE MAY 30 2008
COMMUNITY-PANEL NUMBER
060720 0005 A
EFFECTIVE DATE:
JUNE 18, 1987
Federal Emergency Management Agency

APPENDIX B

Existing Hydrology Exhibit



BOUNDARY DETAIL

SCALE: 1"=60'

OVERALL SITE

AREA = 0.46 ACRES
% IMPERVIOUS = 99%
Q_{50} = 1.57 CFS

Q_{50} SUB-AREA FLOWS (CFS)

AREA 1 = 0.10 CFS
AREA 2 = 0.02 CFS
AREA 3 = 0.77 CFS
AREA 4 = 0.50 CFS
AREA 5 = 0.18 CFS

LEGEND

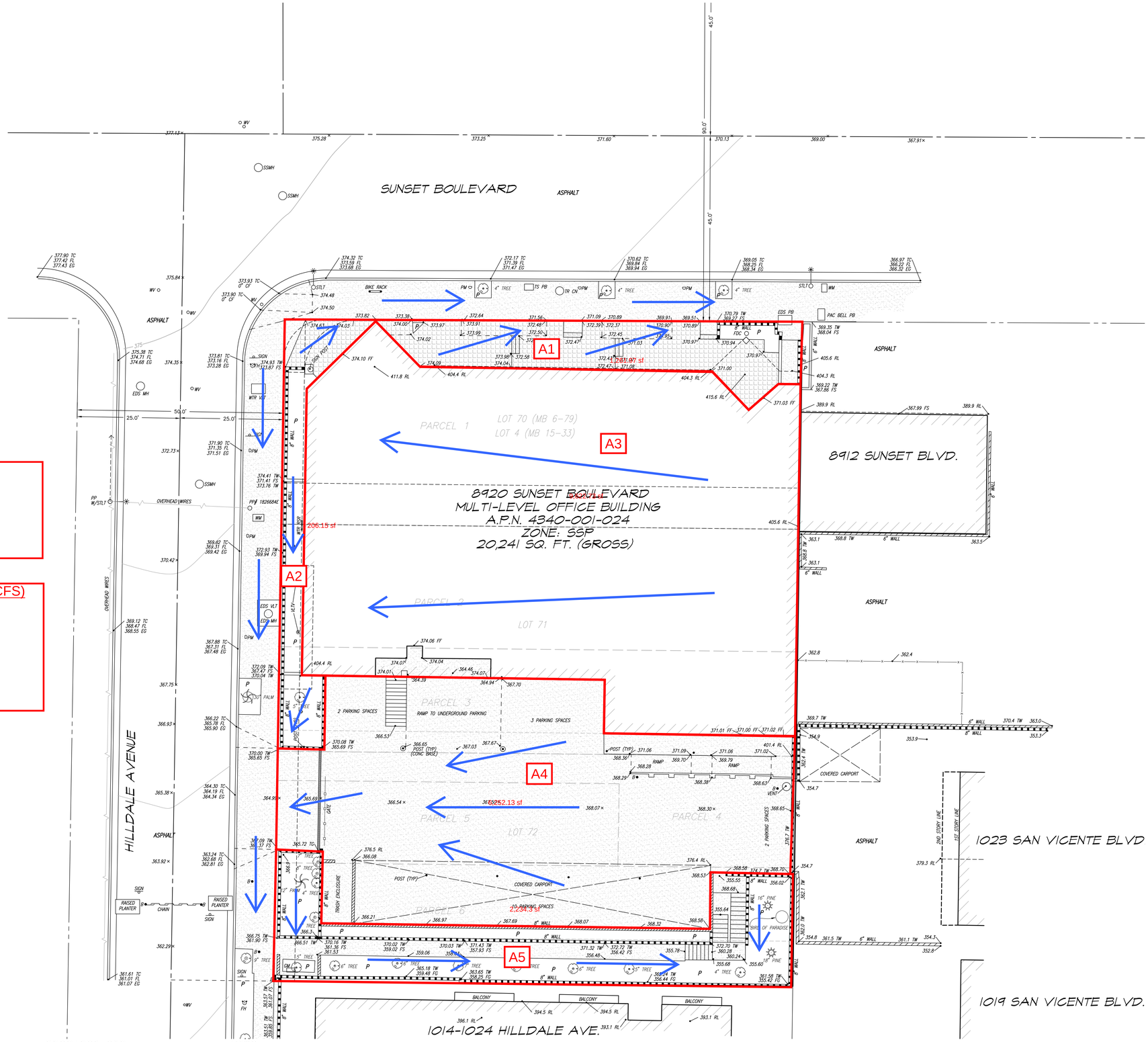
△	FD MONUMENT AS NOTED
●	ESTABLISHED FROM TIES (R1, R2)
R1	CEFB 2710 PAGE 98-101
R2	RDFB 1417 PAGE 403-404
B●	BOLLARD
CATV	CABLE TV
CB	CATCH BASIN
C/O	CLEAN OUT
EDIS.	EDISON
EG	EDGE OF GUTTER
EP	EDGE OF PAVEMENT (ASPHALT)
FF	FINISH FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FS	FINISH SURFACE
GM	GAS METER
GV	GAS VALVE
HP	HIGH POINT
ICV	IRRIGATION CONTROL VALVE
INV	INVERT
MB	MAIL BOX
O/S	OFF SET
P	PLANTER AREA
PB	PULL BOX
P/L	PROPERTY LINE
PP	POWER POLE
PM	PARKING METER
RL	ROOF LINE
SCO	SEWER CLEAN OUT
SDMH	STORM DRAIN MANHOLE
SSMH	SANITARY SEWER MANHOLE
STLT	STREET LIGHT
TB	TOP BERM
TC	TOP CURB
TEL	TELEPHONE
TG	TOP GRATE
TR CN	TRASH CAN
TS PB	TRAFFIC SIGNAL PULL BOX
TW	TOP WALL
VLT	VAULT
VLTV	VAULT VENT
WM	WATER METER
WV	WATER VALVE
0x00	SPOT ELEVATION
	BOUNDARY LINE
	CENTER LINE
	FLOW LINE
	RETAINING WALL
	BLOCK WALL
	FENCE
	CONCRETE
	CONCRETE TILE

THIS IS NOT A MAP OF A BOUNDARY SURVEY. NO PROPERTY CORNERS HAVE BEEN SET AS PART OF THIS WORK.

SURVEY MONUMENTS FOUND IN THE COURSE OF THIS MAPPING ARE SET BY OTHERS, AND HAVE BEEN USED ONLY AS REFERENCE FOR THE PURPOSE OF TOPOGRAPHICAL MAPPING, WITHOUT OUR VERIFICATION OF THEIR AGREEMENT WITH APPLICABLE LEGAL DESCRIPTIONS AND SENIORITY OF DEEDS.

RELATION OF TOPOGRAPHIC FEATURES (FENCES, WALLS, TREES, POWER POLES, ETC.) TO PROPERTY LINES AS SHOWN ON THIS MAP IS SUBJECT TO THE ADJUSTMENTS THAT A BOUNDARY SURVEY MAY REQUIRE.

GRAPHIC SCALE 1"=10'
0 10 20 30 40



PREPARED FOR:

8920 SUNSET BLVD LLC
C/O VE EQUITIES
250 BOWERY-2ND FLOOR
NEW YORK, NY 10012
ATTN: ZACH VELLA

BENCH MARK

BM #13-16710 ELEV.=378.77
WIRE SPIKE E CURB HILLDALE AVE 24.5FT N OF N CURB SUNSET BLVD; SOUTH END CB
NAVD 88 DATUM

NOTE:

DATE OF SURVEY: MARCH 10, 2015

THIS MAP WAS PREPARED USING TITLE REPORT NO. 111310598-MD PREPARED BY CHICAGO TITLE COMPANY, DATED AUGUST 23, 2013.

PROPERTY PROFILE:

ADDRESS:	8920 SUNSET BOULEVARD
ASSESSOR PARCEL NUMBER:	4340-001-024
ZONING:	SSP
SQUARE FOOTAGE: (CALCULATED):	20,241 SQ. FT. (GROSS)

#	REVISIONS	DATE

PREPARED BY
PEAK SURVEYS INC.
CIVIL ENGINEERING & LAND SURVEYING
2488 TOWNSGATE RD suite D
WESTLAKE VILLAGE CA 91361
(805) 497-0102 FAX(805) 495-7014
www.peakinc.com

CITY OF WEST HOLLYWOOD
TOPOGRAPHY
8920 SUNSET BOULEVARD

DRAWN BY / DATE	CHECKED BY / DATE	
CB/BJ MARCH 2015		SHEET 2 OF 2

"PRELIMINARY"

APPENDIX C

Proposed Hydrology Exhibit

OVERALL SITE

AREA = 0.46 ACRES
% IMPERVIOUS = 95%
Q50 = 1.57 CFS

Biofiltration
Vm = 2,352 CF

- One (1) MWS-L-4-19 system (Outside Dimension = 5'x20')
- Volume Storage - 2,352 CF
  - -333 LF 36" Pipe (OR)
  - -188 LF 48" Pipe (OR)
  - -120 LF 60" Pipe

OR

- Two (2) MWS-L-4-8 systems (Outside Dimension = 5'x9')
- Volume Storage - 2,352 CF
  - -333 LF 36" Pipe (OR)
  - -188 LF 48" Pipe (OR)
  - -120 LF 60" Pipe

Capture and Reuse
Vm = 1,567 CF
= 11,721 GAL
- -222 LF 36" Pipe (OR)
- -125 LF 48" Pipe (OR)
- -80 LF 60" Pipe

SUNSET BOULEVARD

123.72 ft

(374.5 FS)

(371.5 FS)

(368.0 FS)

4.73 ft

1.50ft

2.74 ft

364.0 FS

POTENTIAL BIOFILTRATION /STORAGE SYSTEM

(373.5 FS)

374.5 FF - LEVEL 1
364.0 FF - LEVEL B1

103.19 ft

(369.3 FS)

OVERALL SITE

364.0 FS

(365.5 FS)

POTENTIAL BIOFILTRATION/ STORAGE SYSTEM

DISCHARGE TO CURB FACE ON HILLDALE AVENUE

RAISED PLANTER

RAISED PLANTER

5.00 ft

(361.0 FS)

364.0 FS

LOT 73

POTENTIAL STORM DRAIN LOCATION FOR ROOF RUNOFF COLLECTION

HILLDALE AVENUE

N

0 10' 20'

SCALE: 1"=20'

THE ARTS CLUB

8920 Sunset Blvd West Hollywood, CA 90069

Gensler

500 S. Figueroa Street
Los Angeles CA 90071
Tel: 213.327.3600
Fax: 213.327.3601

Issue	Date	Issue Description

NOT FOR CONSTRUCTION

Seal/Signature

REGISTERED PROFESSIONAL ENGINEER
REZA REZVANI
No. C62048
Exp. 9/30/17
CIVIL
STATE OF CALIFORNIA

Project Name
8920 Sunset

Project Number
05.9348.000

Description
Unnamed

Scale

PROPOSED HYDROLOGY EXHIBIT

P:\2015\115350 8920 Sunset\DWG\SHEET\EXHIBIT\115350-EXHIBIT-PROPOSED-SITE-HYDRO.dwg, Feb 21, 2017 - 3:50pm

\\gensler.ad\projects\RevitUserModels\20639\05.9348.000_8920 Sunset_Central Model_Matt Pool.rvt

APPENDIX D

Hydrology Calculations

Peak Flow Hydrologic Analysis

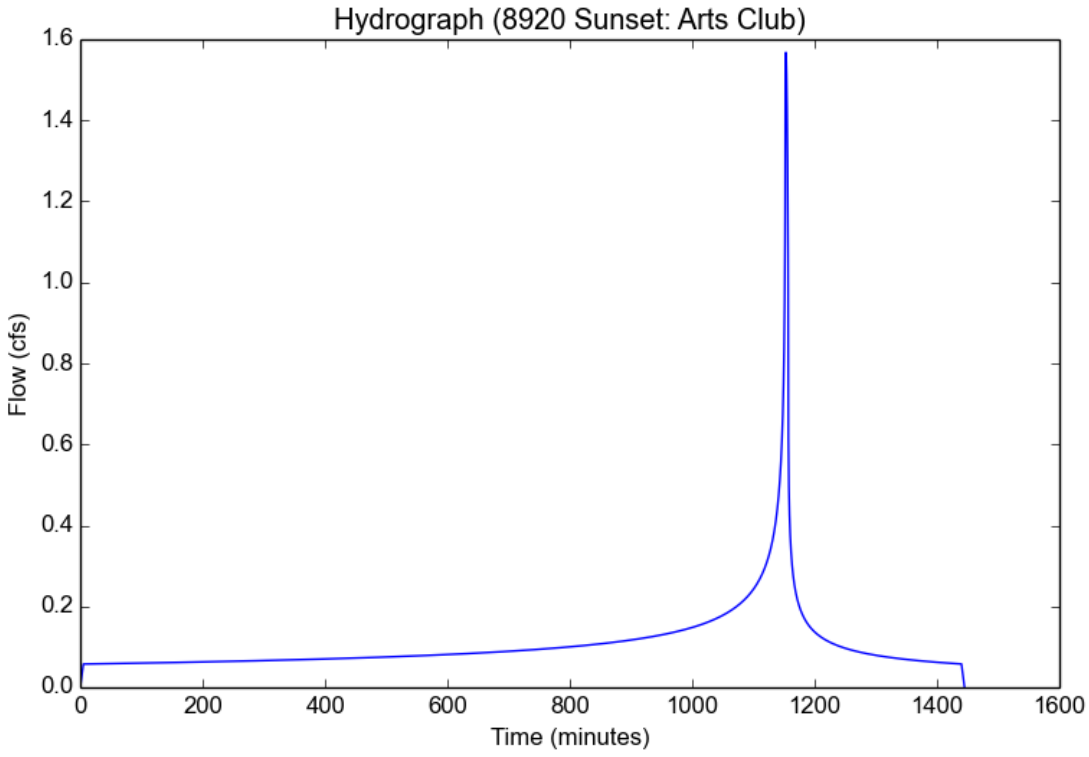
File location: P:/2015/115350 8920 Sunset/ENGR/EIR/HydroCalc - Existing 50yr.pdf
Version: HydroCalc 0.3.1-beta

Input Parameters

Project Name	8920 Sunset
Subarea ID	Arts Club
Area (ac)	0.46
Flow Path Length (ft)	125.0
Flow Path Slope (vft/hft)	0.05
50-yr Rainfall Depth (in)	6.35
Percent Impervious	0.99
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.35
Peak Intensity (in/hr)	3.7886
Undeveloped Runoff Coefficient (Cu)	0.8684
Developed Runoff Coefficient (Cd)	0.8997
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.5679
Burned Peak Flow Rate (cfs)	1.5679
24-Hr Clear Runoff Volume (ac-ft)	0.2156
24-Hr Clear Runoff Volume (cu-ft)	9393.0066



Peak Flow Hydrologic Analysis

File location: P:/2015/115350 8920 Sunset/ENGR/EIR/HydroCalc - Proposed 50yr.pdf
Version: HydroCalc 0.3.1-beta

Input Parameters

Project Name	8920 Sunset
Subarea ID	Arts Club
Area (ac)	0.46
Flow Path Length (ft)	125.0
Flow Path Slope (vft/hft)	0.05
50-yr Rainfall Depth (in)	6.35
Percent Impervious	0.95
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.35
Peak Intensity (in/hr)	3.7886
Undeveloped Runoff Coefficient (Cu)	0.8684
Developed Runoff Coefficient (Cd)	0.8984
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.5657
Burned Peak Flow Rate (cfs)	1.5657
24-Hr Clear Runoff Volume (ac-ft)	0.2091
24-Hr Clear Runoff Volume (cu-ft)	9108.8613