CONCEPTUAL HYDROLOGY STUDY

For

VTTM No. 67505
22255 Mulholland
22241–22255 Mulholland Drive,
Woodland Hills, CA 91364

Psomas Project No.: 1HAR262500
September 27, 2018

Prepared for:

Harridge San Feliciano LLC
6363 Wilshire Blvd, Suite 600
Los Angeles, CA 90048
Telephone: (323) 658-1511

Prepared by:

PSOMAS
555 South Flower Street, Suite 4300
Los Angeles, CA 90071
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PATRICK HO, P.E. R.C.E. No. 72847 Date: **9-27-18**

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1.0 PROJECT SUMMARY

1.1 PROJECT PURPOSE AND SCOPE

The purpose of this study is to demonstrate that the proposed project site can be designed to provide adequate flood protection for on-site improvements without adversely impacting existing off-site drainage facilities or adjacent properties through the use of storm drain systems.

Psomas has been retained by Harridge San Feliciano LLC to prepare a conceptual hydrology report for the proposed Mulholland Project. The 6.2-acre project site is located northeast of the intersection of Mulholland Drive and San Feliciano Drive in the City of Woodland Hills. The site was previously a privately-owned ranch property, and the proposed improvements include tract development per VTTM No. 67505. The development, as prepared by Westcon Engineering, Inc dated August 21, 2009, consists of 19 detached single-family residences and associated improvements. (See Hydrology Map, Section 4.0)

1.2 EXISTING AND PROPOSED DRAINAGE CONDITIONS

EXISTING DRAINAGE CONDITIONS

Storm runoff from the entire project site is currently conveyed by overland flow into the existing Los Angeles County Flood Control District (LACFCD) storm drain system in San Feliciano Drive (Project No. 5229). Portions of the existing 81-inch County storm drain system and its fifteen-foot easement currently run through the southwest portion of the project site.

The project area is currently undeveloped with varying slopes, ranging from 2% to 50%. The percentage imperviousness is estimated at 15%. Storm runoff travel from the eastern, southern, and western boundaries to the middle of the site and flow north towards San Feliciano Drive. The easterly boundary of the site is bordered by the Girard Reservoir.

An existing 30-inch City of Los Angeles storm drain system (Plan D-17484) parallel to the centerline of Mulholland Drive collects runoff from the south side of the road. Separately, the runoff from the north side of Mulholland Drive and the undeveloped area along the public street outside the property boundary is currently conveyed by overland flow into the project area which is ultimately conveyed to San Feliciano Drive into the existing 81-inch county system. This additional tributary area from Mulholland Drive and Girand Reservoir, results in an increase of 3.9-acre off-site area that is contributing run-on to the project property. Therefore, the total tributary area of 10.1 acres is to be used as the basis of the hydrologic analysis.

The existing condition is identified in the Existing Hydrology Map located in Section 4.0. Existing condition hydrology results for the 25-year and 50-year storm event are summarized in Table 1 below.

Table 1: Existing Condition Hydrology Summary

Sub Area	Area (ac)	25- year and 50-year Storm Events			
		Time of Conc. (min)	Q_{25} (cfs)	Time of Conc. (min)	Q_{50} (cfs)
1A	10.1	10	25.97	9	31.54

PROPOSED DRAINAGE CONDITIONS

The project site will be developed to accommodate 19 detached single family residences. Associated site improvements include curb and sidewalks, common area landscaped for new construction, sidewalk dedication, drainage facilities, and paving and grading for access roads, driveways, and private street and parking spaces.

The disturbed area in the proposed condition is approximately 2.8 acres. For Units 5 through 19 located at the northerly portion of the site, runoff from the disturbed area is collected into proposed catch basins at the low point of the private street. These catch basins are part of the proposed on-site storm drain system that is designed to convey runoff north to be discharged into the existing County storm drain system located within the property. For Units 1 through 4 located at the southerly portion of the site, runoff is collected into a separate on-site storm drain system where the pipe is designed to daylight at the northeast corner of the disturbed area to its natural drainage path. The remaining 7.3-acre undisturbed area will follow the existing natural flow path through onsite native vegetation north of the Girard Reservoir, into the existing County storm drain system on San Feliciano Drive.

The proposed condition is identified in the Proposed Hydrology Map located in Section 4.0. Proposed condition hydrology results for the 25-year and 50-year storm event are summarized in Table 2 below.

Table 2: Proposed Condition Hydrology Summary

Area	Area (ac)	25- year and 50-year Storm Events			
		Time of Conc. (min)	Q_{25} (cfs)	Time of Conc. (min)	Q_{50} (cfs)
1A	10.1	14	26.08	9	31.57

1.3 HYDROLOGIC ANALYSIS

The methodology described in the Los Angeles County Department of Public Works Hydrology Manual was used to compute storm water runoff rates from the project site to the existing storm drains. A hydrology study was tabulated and compared between the existing conditions and proposed conditions. Peak flows in excess of the proposed hydrologic study will be detained on-site.

The hydrologic methods used in this study were based on procedures described in the Los Angeles County Department of Public Works Hydrology Manual. The method used is the "Rational Method" (for sub-area time of concentration computation).

The *HydroCalc Calculator* program, developed by County of Los Angeles, was used to calculate the time of concentration and peak runoff flow rate for the existing and proposed conditions. Results of the calculations are included in Section 2.0 for reference. In accordance with LACDPW requirements, since the northerly portion of the site is designed with a sump condition of the private street, the 50-year storm event was used as the main design storm in this analysis. 25-year storm event is also included in the tables for reference.

The Mulholland project is located in City of Woodland Hills in the Canoga Park quadrant of Isohyetal Map Figure LACDPW 1-H1.26. The 50-year 24-hour rainfall Isohyet nearest the project area is 7.70, while the 25-year 24-hour rainfall Isohyet in the project area is 6.76. The project falls within two LACDPW-defined soil classification types: 002 and 004. Because the project site consists of predominantly soil classification 002, calculations were based on the 002 soil type. The overall property is 6.2 acres. The proposed development consists of a disturbed area of 2.8 acres. The total tributary area with off-site run-on 10.1 acres.

1.4 HYDROLOGIC ANALYSIS CONCLUSION

The hydrology calculations demonstrate that the proposed site can be protected from flooding through the combination of existing off-site drainage facilities and proposed on-site storm drains. The following table summarizes the calculated flow rates and allowable discharge rates from each sub-area.

Table 3 – Existing vs. Proposed Condition Hydrology Comparison

25-Year Storm Event						
Drainage Area	**Area (ac)**			**Q_{25} (cfs)**		
	Exist.	**Prop.**	**Diff.**	**Exist.**	**Prop.**	**Diff.**
1A	10.1	10.1	0.0	25.97	26.08	+0.11

50-Year Storm Event						
Drainage Area	**Area (ac)**			**Q_{50} (cfs)**		
	Exist.	**Prop.**	**Diff.**	**Exist.**	**Prop.**	**Diff.**
1A	10.1	10.1	0.0	31.54	31.57	+0.03

Under both storm events, while the percent imperviousness increases as a result of the proposed improvements, the peak flow generated in the proposed conditions remain relatively the same as that of the existing condition. In addition, LID stormwater volume is designed to be retained on-site as part of the water quality design, thereby further reducing the downstream discharge. Therefore, detention will not be necessary for the proposed improvements.

1.5 LID WATER QUALITY DESIGN

The LID requirements, approved by the Regional Water Quality Control Board, requires the treatment of the peak mitigation flow rate or volume of runoff produced by a 0.75" 24-hr storm event or 85th percentile 24-hr storm event: whichever is greater. The 85th percentile 24-hr storm event generates a rainfall of 1.1 inch for the project site, which is the greater of the two scenarios, and therefore will be used in the peak mitigation flow/volume calculations.

The LID calculation methodology was used to calculate the required treatment flows and volumes for the proposed discharge point from the site. LID Calculations are provided in Section 3.0. The results are summarized in the tables below.

Table 4: LID Calculation Results

		85th Percentile Storm Event	
Sub-Area	**Area [ac]**	**Q_{PM} [cfs]**	**V_M [ft^3]**
1A	2.8	0.62	9,133

The project site is designed to retain a minimum of 9,133 cubic feet to be in satisfaction with the LID requirements. BMPs will be designed to comply with the infiltration feasibility recommendations as determined by the geotechnical engineer. If infiltration is not feasible, biofiltration BMPs will be considered during the design phase.

1.6 LIMITATIONS

- This report was prepared to comply with the guidelines established by the City of Los Angeles and their representatives.

- Usage of this report is limited to address the purpose and scope previously defined by the project owner. Psomas shall not be held responsible for any unauthorized application of this report and the contents herein.

- The opinions presented in this report have been derived in accordance with current standards of civil engineering practice. No other warranty is expressed or implied.

Section 2.0

RATIONAL METHOD Tc CALCULATIONS

Peak Flow Hydrologic Analysis

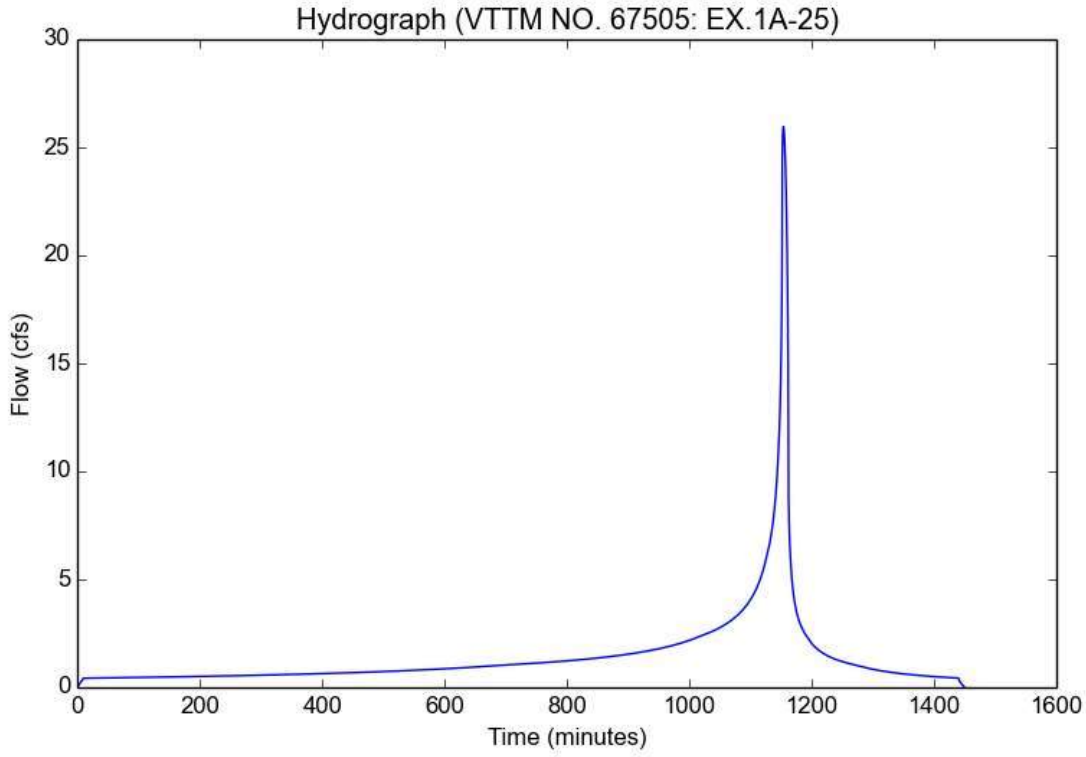
File location: W:/1HAR262500/ENGR/DESIGN/HYDR/EXISTING/VTTM NO. 67505 - EX.1A-25.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	VTTM NO. 67505
Subarea ID	EX.1A-25
Area (ac)	10.1
Flow Path Length (ft)	1400.0
Flow Path Slope (vft/hft)	0.03428
50-yr Rainfall Depth (in)	7.7
Percent Impervious	0.15
Soil Type	2
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	6.7606
Peak Intensity (in/hr)	2.9121
Undeveloped Runoff Coefficient (Cu)	0.8798
Developed Runoff Coefficient (Cd)	0.8828
Time of Concentration (min)	10.0
Clear Peak Flow Rate (cfs)	25.9654
Burned Peak Flow Rate (cfs)	25.9654
24-Hr Clear Runoff Volume (ac-ft)	2.8999
24-Hr Clear Runoff Volume (cu-ft)	126318.5462



Peak Flow Hydrologic Analysis

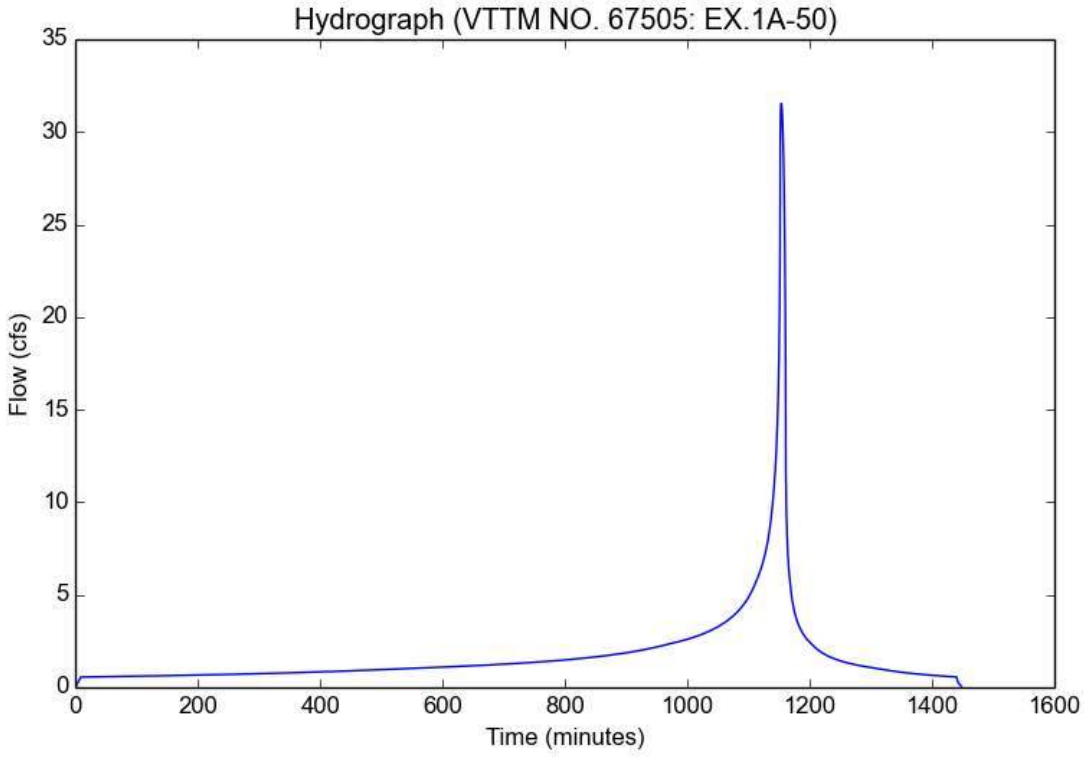
File location: W:/1HAR262500/ENGR/DESIGN/HYDR/EXISTING/VTTM NO. 67505 - EX.1A-50.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	VTTM NO. 67505
Subarea ID	EX.1A-50
Area (ac)	10.1
Flow Path Length (ft)	1400.0
Flow Path Slope (vft/hft)	0.03428
50-yr Rainfall Depth (in)	7.7
Percent Impervious	0.15
Soil Type	2
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	7.7
Peak Intensity (in/hr)	3.4851
Undeveloped Runoff Coefficient (Cu)	0.8954
Developed Runoff Coefficient (Cd)	0.8961
Time of Concentration (min)	9.0
Clear Peak Flow Rate (cfs)	31.5415
Burned Peak Flow Rate (cfs)	31.5415
24-Hr Clear Runoff Volume (ac-ft)	3.5206
24-Hr Clear Runoff Volume (cu-ft)	153356.64



Peak Flow Hydrologic Analysis

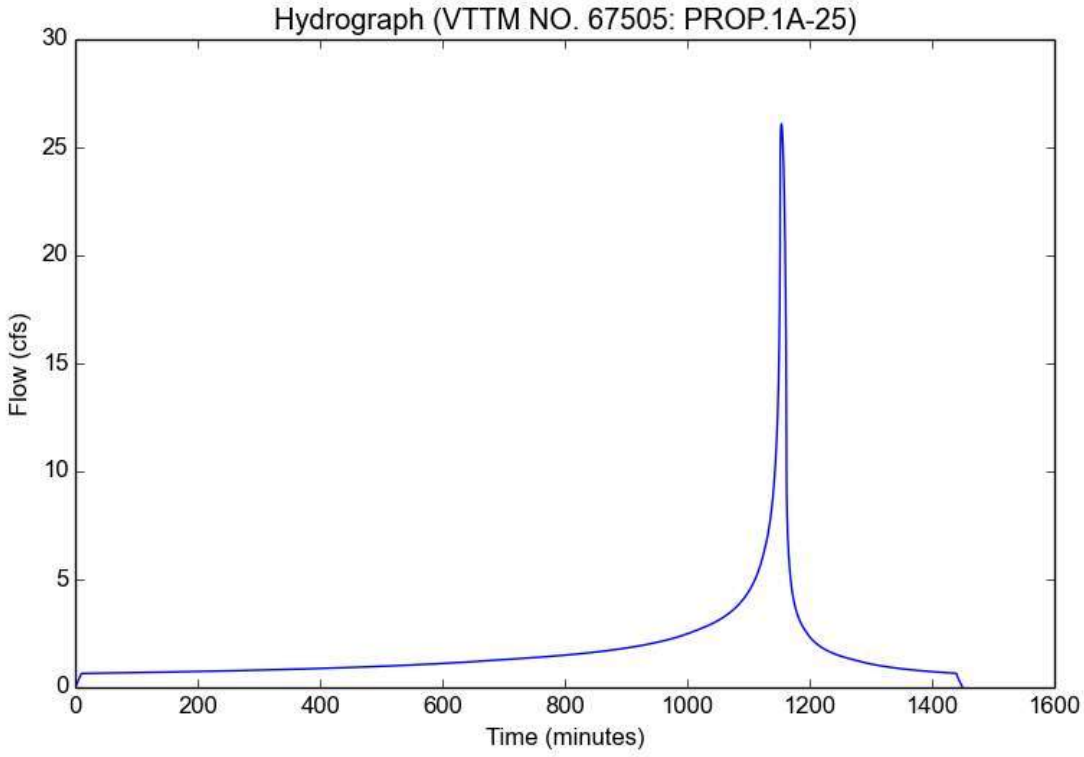
File location: W:/1HAR262500/ENGR/DESIGN/HYDR/PROP/VTTM NO. 67505 - PROP.1A-25.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	VTTM NO. 67505
Subarea ID	PROP.1A-25
Area (ac)	10.1
Flow Path Length (ft)	1151.0
Flow Path Slope (vft/hft)	0.015
50-yr Rainfall Depth (in)	7.7
Percent Impervious	0.35
Soil Type	2
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	6.7606
Peak Intensity (in/hr)	2.9121
Undeveloped Runoff Coefficient (Cu)	0.8798
Developed Runoff Coefficient (Cd)	0.8869
Time of Concentration (min)	10.0
Clear Peak Flow Rate (cfs)	26.0843
Burned Peak Flow Rate (cfs)	26.0843
24-Hr Clear Runoff Volume (ac-ft)	3.4126
24-Hr Clear Runoff Volume (cu-ft)	148651.6301



Peak Flow Hydrologic Analysis

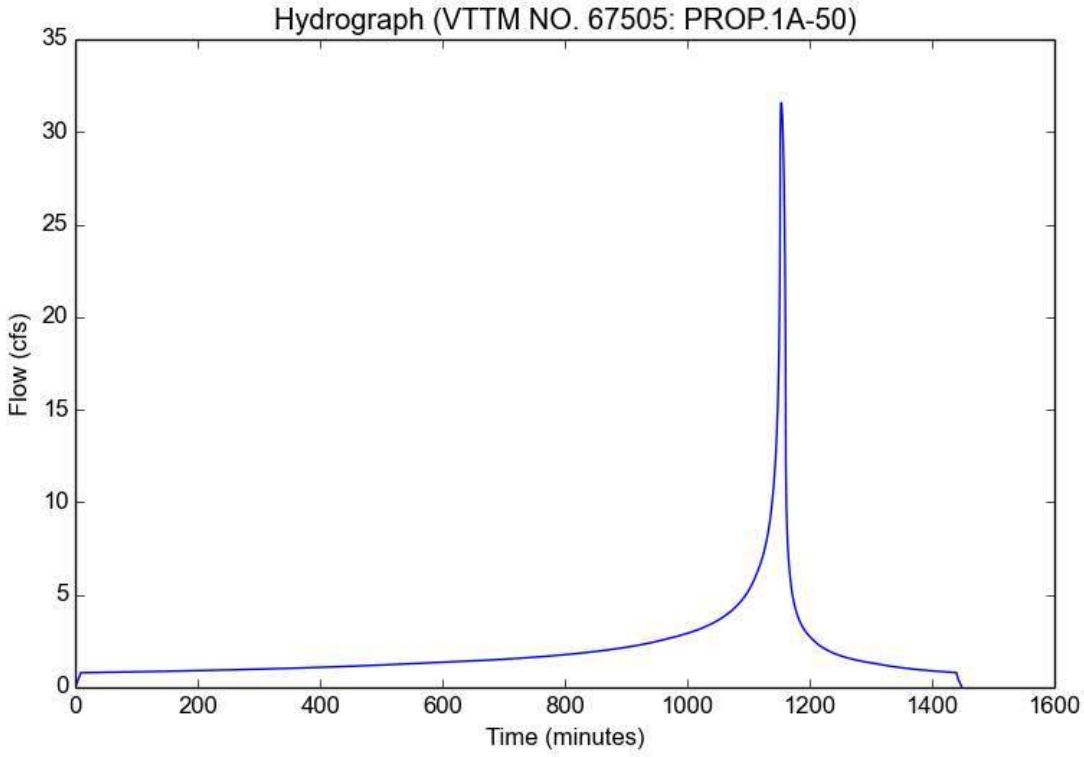
File location: W:/1HAR262500/ENGR/DESIGN/HYDR/PROP/VTTM NO. 67505 - PROP.1A-50.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	VTTM NO. 67505
Subarea ID	PROP.1A-50
Area (ac)	10.1
Flow Path Length (ft)	1151.0
Flow Path Slope (vft/hft)	0.015
50-yr Rainfall Depth (in)	7.7
Percent Impervious	0.35
Soil Type	2
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	7.7
Peak Intensity (in/hr)	3.4851
Undeveloped Runoff Coefficient (Cu)	0.8954
Developed Runoff Coefficient (Cd)	0.897
Time of Concentration (min)	9.0
Clear Peak Flow Rate (cfs)	31.574
Burned Peak Flow Rate (cfs)	31.574
24-Hr Clear Runoff Volume (ac-ft)	4.0533
24-Hr Clear Runoff Volume (cu-ft)	176560.9734



Section 3.0

WATER QUALITY CALCULATIONS

Peak Flow Hydrologic Analysis

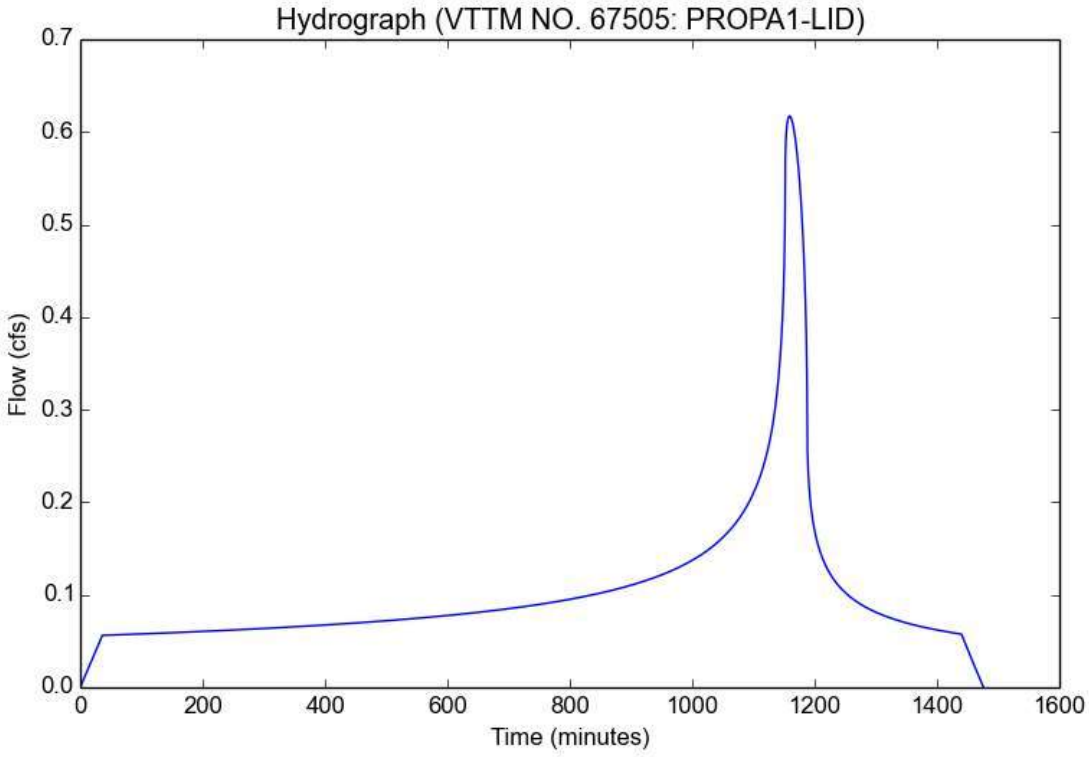
File location: W:/1HAR262500/ENGR/DESIGN/HYDR/LID/VTTM NO. 67505 - PROPA1-LID.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	VTTM NO. 67505
Subarea ID	PROPA1-LID
Area (ac)	2.8
Flow Path Length (ft)	1151.0
Flow Path Slope (vft/hft)	0.015
85th Percentile Rainfall Depth (in)	1.1
Percent Impervious	0.9
Soil Type	2
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)	0.2595
Undeveloped Runoff Coefficient (Cu)	0.3936
Developed Runoff Coefficient (Cd)	0.8494
Time of Concentration (min)	36.0
Clear Peak Flow Rate (cfs)	0.6172
Burned Peak Flow Rate (cfs)	0.6172
24-Hr Clear Runoff Volume (ac-ft)	0.2097
24-Hr Clear Runoff Volume (cu-ft)	9133.4156

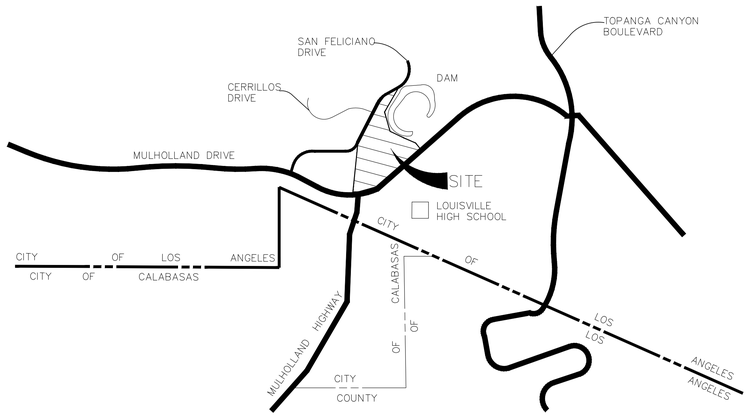


Section 4.0

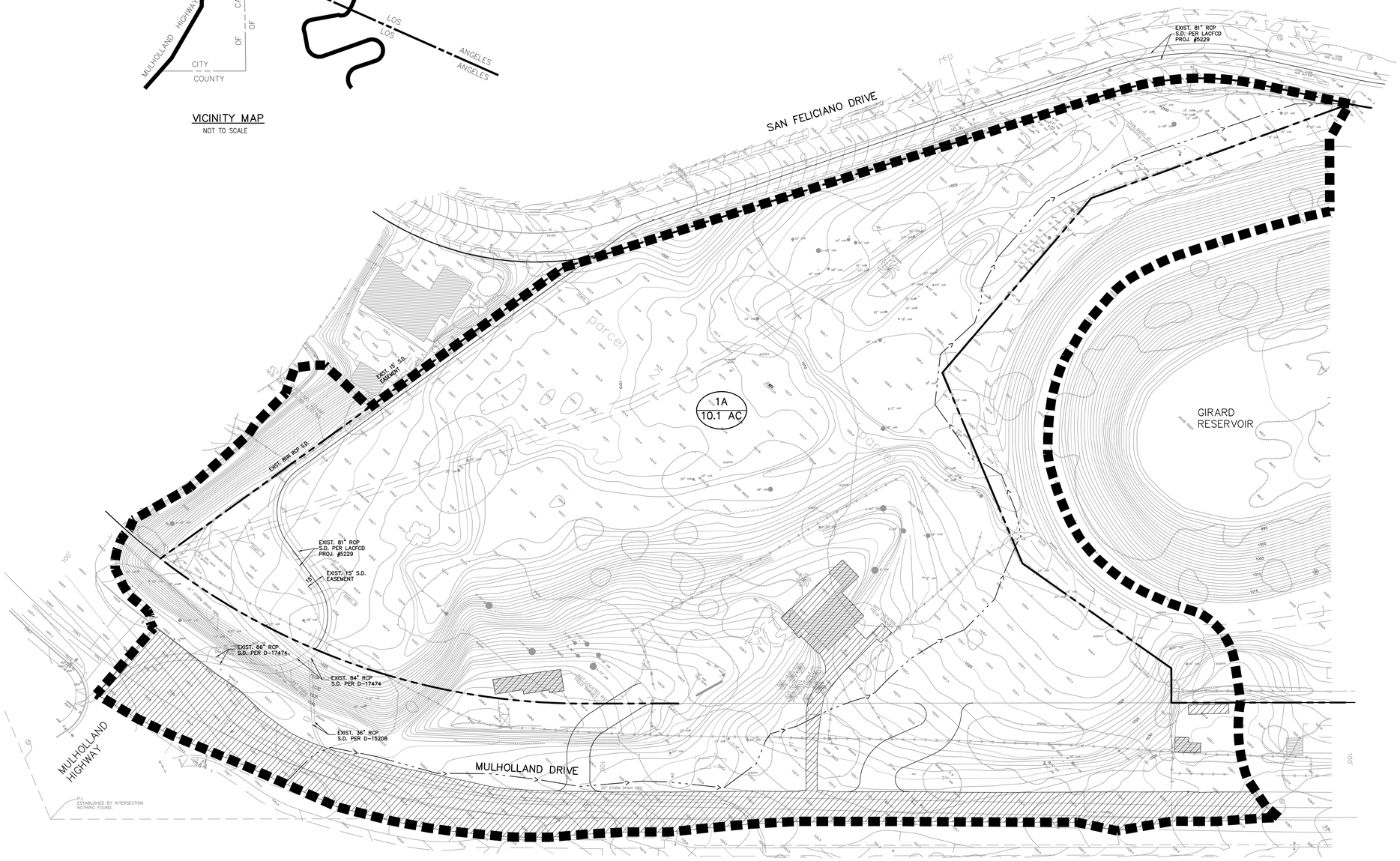
EXHIBITS (EXISTING & PROPOSED DRAINAGE MAPS)

VESTING TENTATIVE TRACT MAP NO. 67505

22241–22255 MULHOLLAND DRIVE



VICINITY MAP
NOT TO SCALE



LEGEND / HYDROLOGIC DATA

- PROPERTY LINE
- DRAINAGE AREA BOUNDARY
- 1A / 10.1 AC — AREA DESIGNATION AND ACREAGE
- DRAINAGE FLOW PATH
- STORM FREQUENCY: 25 YEARS, 50 YEARS
- PREDOMINANT SOIL TYPE: 002
- LAND USE: RESIDENTIAL
- RAINFALL: 7.7 INCHES
- IMPERVIOUS AREA
- PREVIOUS AREA

% IMPERVIOUS CALCULATIONS		
DESCRIPTION	AREA (AC)	% IMPERVIOUS
1A	10.1	15

HARRIDGE SAN FELICIANO LLC

EXISTING HYDROLOGY EXHIBIT

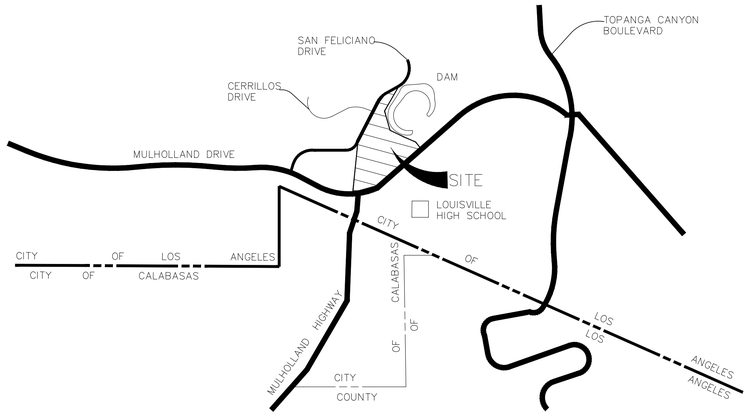
PSOMAS

DATE: 09–15–06 REVISED ON: 09–28–18
JOB No:1HAR262500

SHEET 1 OF 1

VESTING TENTATIVE TRACT MAP NO. 67505

22241–22255 MULHOLLAND DRIVE



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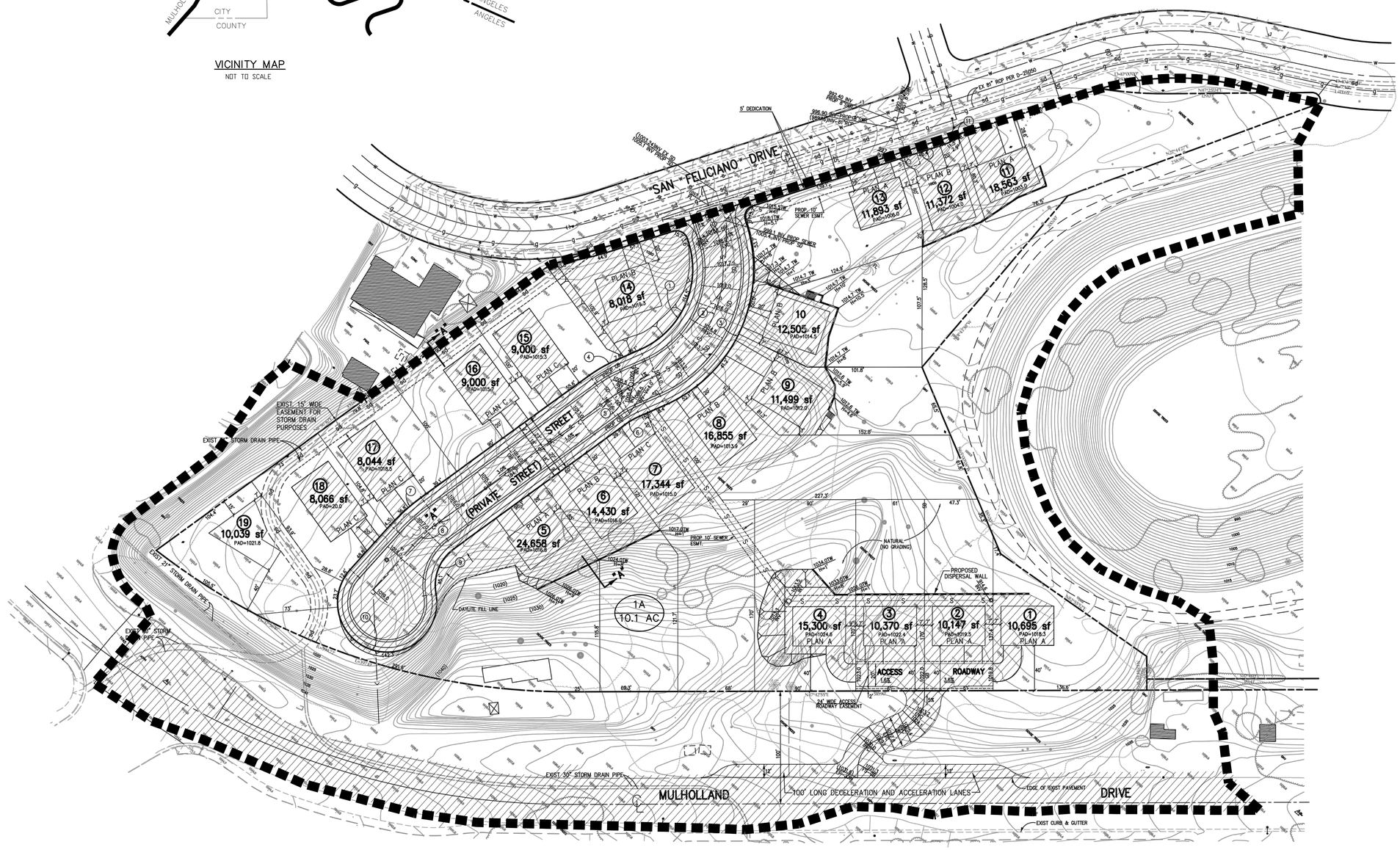


LEGEND / HYDROLOGIC DATA

- PROPERTY LINE
- DRAINAGE SUBAREA BOUNDARY
- 1A / 10.1 AC — AREA DESIGNATION AND ACREAGE
- DRAINAGE FLOW PATH
- STORM FREQUENCY: 25 YEARS, 50 YEARS
- PREDOMINANT SOIL TYPE: 002
- LAND USE: RESIDENTIAL
- RAINFALL: 7.7 INCHES
- IMPERVIOUS AREA
- OPEN SPACE

% IMPERVIOUS CALCULATIONS			
SUBAREA	DESCRIPTION	AREA (AC)	% IMPERVIOUS
1A	OPEN SPACE	7.3	15
	IMPERVIOUS	2.8	90

40 20 0' 40 80
GRAPHIC SCALE: 1"=40'
Note: For reduced sized prints, original scale is in inches

HARRIDGE SAN FELICIANO LLC

PROPOSED HYDROLOGY EXHIBIT

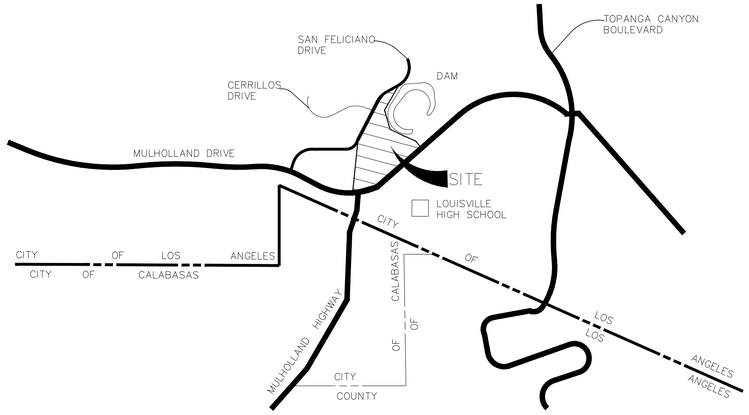
PSOMAS

DATE: 09-15-06 REVISED ON: 09-28-18
JOB No:1HAR262500

SHEET 1 OF 1

VESTING TENTATIVE TRACT MAP NO. 67505

22241–22255 MULHOLLAND DRIVE



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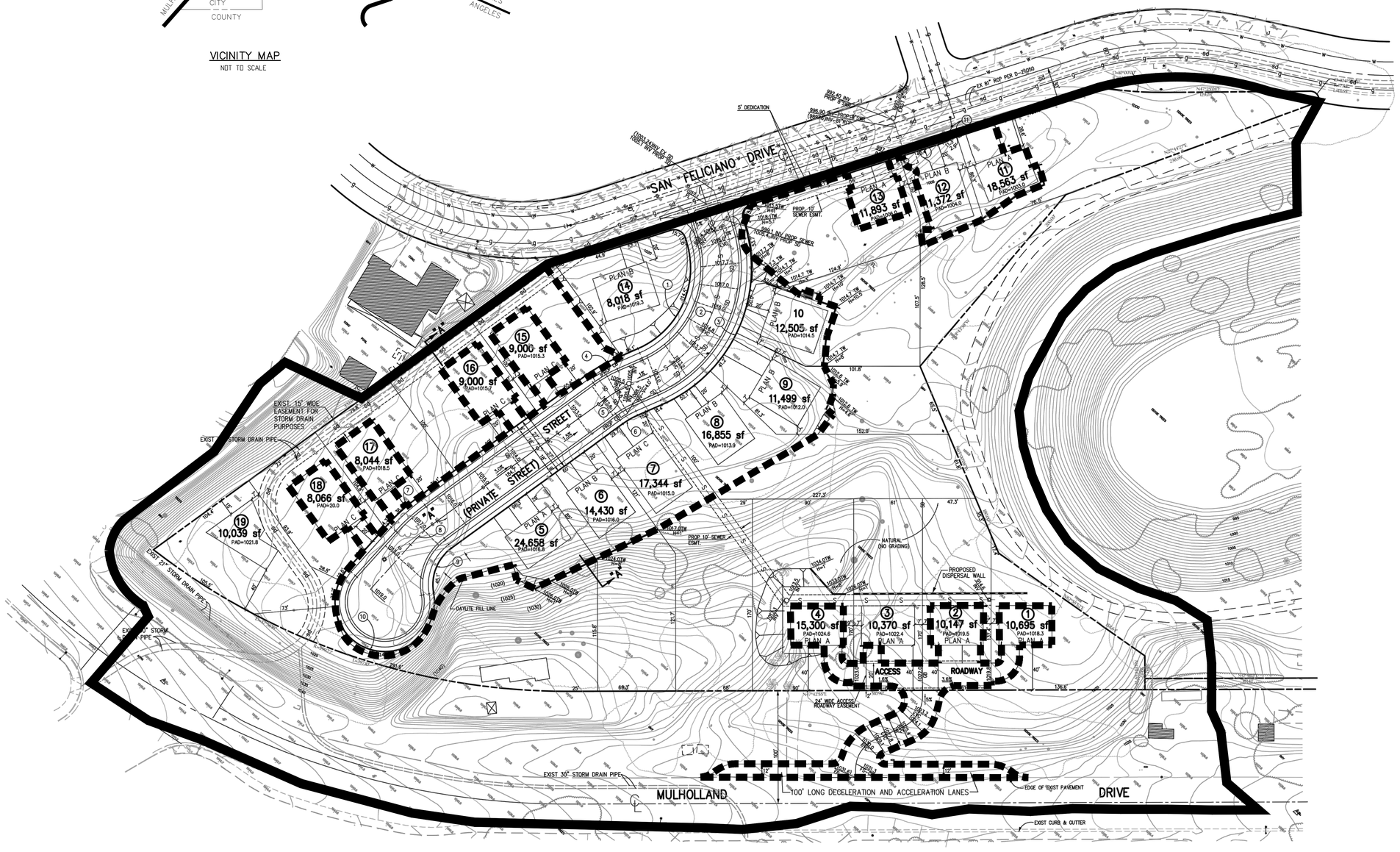


40 20 0' 40 80
GRAPHIC SCALE: 1"=40'
Note: For reduced sized prints, original scale is in inches

LEGEND / HYDROLOGIC DATA

- PROPERTY LINE
- DRAINAGE AREA BOUNDARY
- LID BOUNDARY
- 1A / 2.8 AC — AREA DESIGNATION AND ACREAGE
- DRAINAGE FLOW PATH

STORM FREQUENCY: 85TH PERCENTILE STORM

PREDOMINANT SOIL TYPE: 002

LAND USE: RESIDENTIAL

RAINFALL: 1.1 INCHES

% IMPERVIOUS CALCULATIONS			
SUBAREA	DESCRIPTION	AREA (AC)	% IMPERVIOUS
1A	IMPERVIOUS	2.80	90

PROPOSED LID EXHIBIT

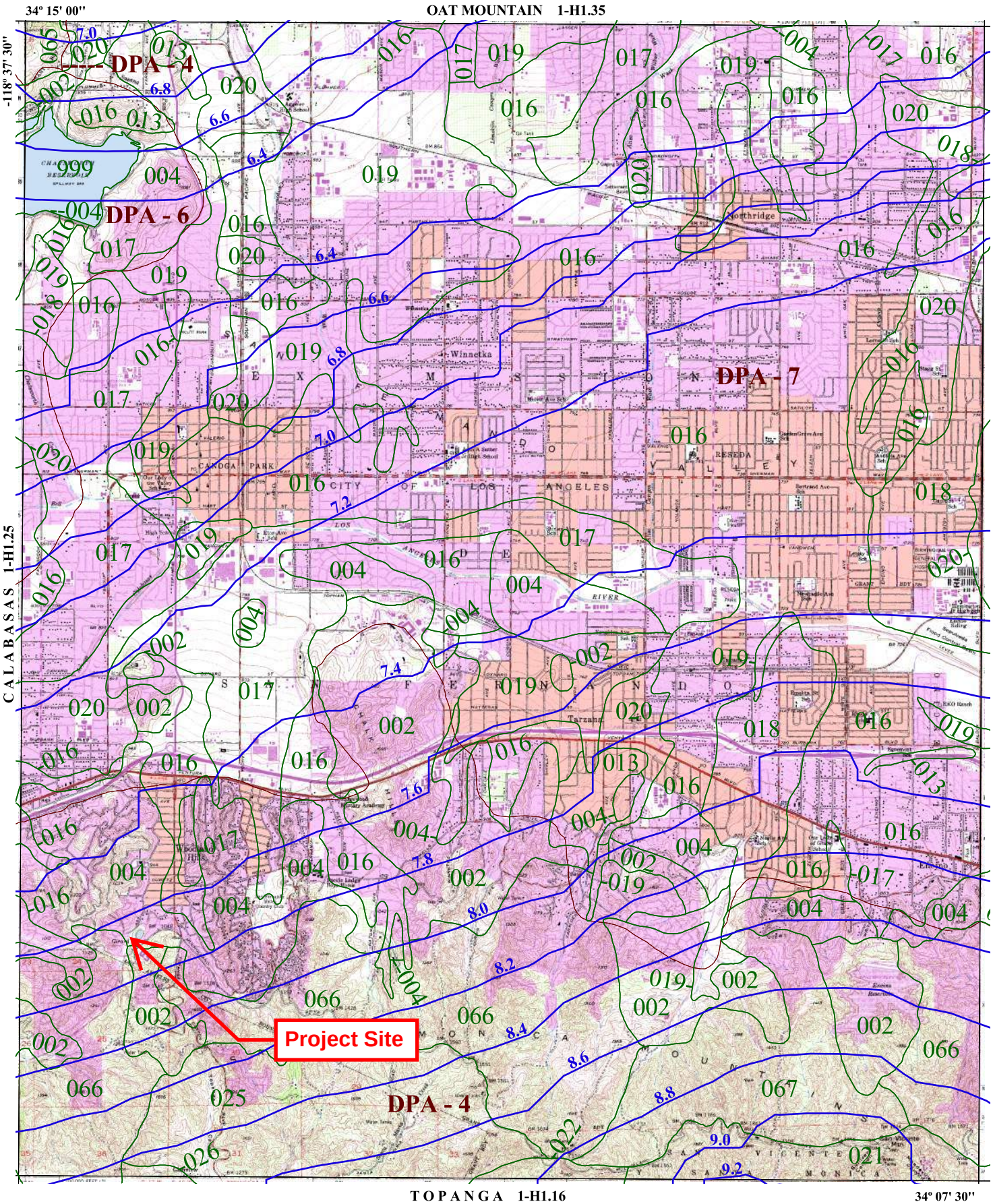
HARRIDGE SAN FELICIANO LLC

PSOMAS

DATE: 09–28–18 REVISED ON:
JOB No:1HAR262500
SHEET 1 OF 1

Appendix

REFERENCE MATERIALS



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

CANOGA PARK
50-YEAR 24-HOUR ISOHYET

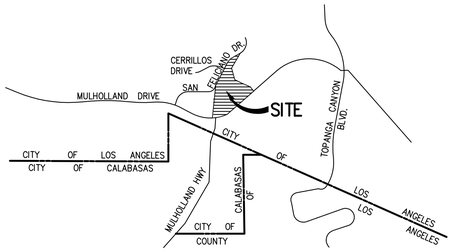
1-H1.26

LOS ANGELES COUNTY PUBLIC WORKS Public Service That Works

VESTING TENTATIVE TRACT MAP NO. 67505

22255 MULHOLLAND DRIVE

GRAPHIC SCALE: 1"=40'



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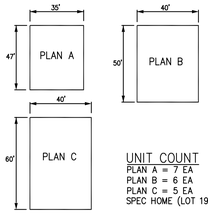
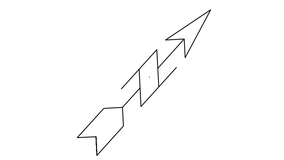


UNIT COUNT
PLAN A = 7 EA
PLAN B = 6 EA
PLAN C = 5 EA
SPEC HOME (LOT 19) = 1 EA

CURVE DATA

	DELTA	RADIUS	LENGTH
1	84° 05'05"	78.00'	114.46'
2	84° 05'05"	105.00'	154.09'
3	84° 05'05"	132.00'	193.72'
4	12° 06'06"	127.00'	26.71'
5	12° 06'06"	100.00'	21.03'
6	12° 06'06"	73.00'	15.35'
7	12° 02'22"	175.00'	36.77'
8	12° 02'22"	148.00'	31.10'
9	64° 35'10"	40.00'	45.09'
10	233° 32'48"	44.00'	178.58'
11	25° 50'31"	25.00'	11.28'



GENERAL NOTES:

1. RECORD OWNER: SAN FELICIANO HOLDING COMPANY, LLC
   6363 WILSHIRE BLVD., SUITE 600
   LOS ANGELES, CA. 90048
   (323) 658-1511
2. SUBDIVIDER: HARRIDGE DEVELOPMENT GROUP
   6363 WILSHIRE BLVD., SUITE 600
   LOS ANGELES, CA. 90048
   (323) 658-1511
3. ENGINEER: WESTCON ENGINEERING, INC.
   6355 TOPANGA CANYON BLVD., SUITE 345
   WOODLAND HILLS, CA. 91367
   818 226-0444 OFFICE 818 226-0448 FAX
4. PROJECT ADDRESS: 22255 MULHOLLAND DRIVE, WOODLAND HILLS, CA. 91364
5. GROSS SITE AREA: 269,857 SQ FT (6.20 ACRES)
   NET SITE AREA: 237,798 SQ FT (5.49 ACRES)
6. PROPOSED DEVELOPMENT AREA: 19 SINGLE FAMILY RESIDENTIAL DWELLING UNITS WITH 38 PARKING SPACES.
7. EXISTING ZONE: R-1
8. PROPOSED ZONE: R-1
9. DISTRICT MAP: 165 B 101
10. COMMUNITY PLANNING AREA: CANOGA PARK – WINNETKA WOODLAND HILLS – WEST HILLS
11. COUNCIL DISTRICT: COUNCIL DISTRICT 3
12. APN: 2076-023-019
13. THOMAS GUIDE: LA 559-J5
14. FLOOD ZONE: NOT IN A FLOOD ZONE
15. CONTOUR INTERVAL: 1 FT
16. STREET DESTINATION: MULHOLLAND DRIVE – MAJOR HIGHWAY SAN FELICIANO DRIVE – COLLECTOR
17. THERE ARE PROTECTED TREES ON SITE. SEE TREE REPORT FOR TREES TO BE REMOVED.
18. THIS PROPERTY IS LOCATED IN THE MOUNTAIN & FIRE DISTRICT, HILLSIDE AND LIQUEFACTION AREAS.
19. THERE ARE NO POTENTIAL HAZARDOUS AREAS ON SITE.
20. PROPOSED SEWAGE DISPOSAL TO EXISTING SANITARY SEWER LOCATED IN SAN FELICIANO DRIVE.
21. THE PROJECT IS LOCATED IN THE MULHOLLAND SCENIC PARKWAY SPECIFIC PLAN AREA.

EARTHWORK GRADING SUMMARY:

EARTHWORK –

CUT =	3,040 CY ±
FILL =	7,240 CY ±
TOTAL EARTHWORK =	10,280 CY ±
TOTAL IMPORT =	4,200 CY ±

LOT INFORMATION LEGEND:

(XX) —— LOT NUMBER

LEGAL DESCRIPTION:

PARCEL 1:

THAT PORTION OF LOT 1083 OF TRACT NO. 1000, IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 19, PAGE 1 ET SEQ. OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF LOT 1077 OF TRACT NO. 6170, AS PER MAP RECORDED IN THE BOOK 75, PAGE 6, ETSEQ., OF SAID MAPS; THENCE SOUTH 6°11' WEST 59.64 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE NORTHWEST HAVING A RADIUS OF 300 FEET; THENCE SOUTHERLY ALONG SAID CURVE 59.83 FEET TO THE MOST NORTHERLY CORNER OF THE LAND DESCRIBED IN PARCEL 1 IN DEED TO THE CITY OF LOS ANGELES RECORDED IN BOOK 10853, PAGE 54, OFFICIAL RECORDS; THENCE CONTINUING SOUTHWEST ALONG SAID CURVE 221.87 FEET TO THE NORTHEASTERLY TERMINUS OF THAT CERTAIN COURSE RECITED IN SAID DEED AS HAVING A BEARING OF NORTH 27°42' 23" EAST AND A LENGTH OF 238.91 FEET; THENCE TANGENT TO SAID CURVE SOUTH 59°59' WEST 30 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE SOUTHEAST HAVING A RADIUS OF 318.608 FEET; THENCE, SOUTHWESTERLY ALONG SAID CURVE 178.80 FEET TO THE TRUE POINT OF BEGINNING, A RADIAL LINE TO SAID TRUE POINT OF BEGINNING BEARS NORTH 62°10' 10" WEST; THENCE CONTINUING SOUTHWESTERLY ALONG SAID LAST MENTIONED CURVE 77.00 FEET; THENCE TANGENT TO SAID LAST MENTIONED CURVE SOUTH 13°59' 00" WEST 325.00 FEET; THENCE SOUTH 21°51' 30" WEST 89.89 FEET; THENCE SOUTH 29°30' 18" WEST 431.64 FEET TO A POINT IN THE NORTHERLY LINE OF MULHOLLAND HIGHWAY 200 FEET WIDE, AS DESCRIBED IN DEED TO THE CITY OF LOS ANGELES RECORDED IN BOOK 3162, PAGE 41, OFFICIAL RECORDS, SAID LAST MENTIONED POINT BEING IN A CURVE CONCAVE TO THE NORTHWEST HAVING A RADIUS OF 599.72 FEET, A RADIAL LINE TO SAID POINT BEARS SOUTH 4°21' 32" EAST, THENCE NORTHEASTERLY ALONG SAID CURVE 397.09 FEET; THENCE TANGENT TO SAID LAST MENTIONED CURVE AND ALONG THE NORTHWESTERLY LINE OF SAID MULHOLLAND HIGHWAY, NORTH 47°42' 13" EAST 510.85 FEET, MORE OR LESS, TO THE INTERSECTION OF THE SOUTHEASTERLY PROLONGATION OF THAT CERTAIN COURSE RECITED IN SAID DEED TO THE CITY OF LOS ANGELES RECORDED IN BOOK 10853, PAGE 54, OFFICIAL RECORDS, AS HAVING A BEARING OF NORTH 42°17' 47" WEST AND A LENGTH OF 20 FEET; THENCE TO AND ALONG THE SOUTHERLY AND WESTERLY BOUNDARY OF THE LAND DESCRIBED IN SAID LAST MENTIONED DEED; THE FOLLOWING COURSE: NORTH 42°17' 47" WEST 30 FEET; THENCE SOUTH 82°55' 50" WEST 158.46 FEET; THENCE NORTH 65°00' 10" WEST 180.00 FEET; THENCE NORTH 1°43' 40" WEST 200.00 FEET; THENCE NORTH 27°42' 23" EAST 44.15 FEET TO A LINE WHICH BEARS SOUTH 62°10' 10" EAST FROM THE TRUE POINT OF BEGINNING; THENCE LEAVING SAID WESTERLY LINE, NORTH 62°10' 10" WEST 65.28 FEET TO THE TRUE POINT OF BEGINNING.

PARCEL 2:

THAT PORTION OF LOT 1083 OF TRACT NO. 1000, IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 19, PAGES 1 TO 34, INCLUSIVE OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

BEGINNING AT THE SOUTHWEST CORNER OF LOT 1077 OF TRACT NO. 6170, AS PER MAP RECORDED IN BOOK 75, PAGE 6, OF MAPS, RECORDS OF SAID COUNTY; THENCE SOUTH 6°11' WEST 59.64 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE NORTHWEST HAVING A RADIUS OF 300 FEET; THENCE SOUTHERLY ALONG SAID CURVE 59.83 FEET TO THE MOST NORTHERLY CORNER OF THE LAND DESCRIBED IN PARCEL 1 IN THE DEED TO THE CITY OF LOS ANGELES, RECORDED IN BOOK 10853, PAGE 54 OFFICIAL RECORDS; THENCE CONTINUING SOUTHWEST ALONG SAID CURVE 221.87 FEET TO THE NORTHEASTERLY TERMINUS OF THAT CERTAIN COURSE RECITED IN SAID DEED AS HAVING A BEARING OF NORTH 27°42' 23" EAST AND A LENGTH OF 238.91 FEET, BEING THE TRUE POINT BEGINNING OF THIS DESCRIPTION; THENCE SOUTH 27°42' 23" WEST ALONG SAID COURSE 194.76 FEET TO THE MOST NORTHERLY LINE OF THE LAND DESCRIBED IN THE DEED TO JOE A NORIN AND WIFE, RECORDED IN BOOK 15929 PAGE 304, OFFICIAL RECORDS; THENCE ALONG SAID NORTHERLY LINE NORTH 62°10' 10" WEST 65.28 FEET TO A POINT IN A CURVE CONCAVE TO THE SOUTHEAST HAVING A RADIUS OF 318.608 FEET, A RADIAL LINE OF SAID CURVE FROM SAID POINT BEARS SOUTH 62°10' 10" EAST, SAID POINT ALSO BEING THE MOST NORTHERLY CORNER OF THE LAND OF NORIN; THENCE SOUTHERLY ALONG SAID CURVE 77 FEET; THENCE CONTINUING SOUTHERLY ALONG THE WESTERLY LINE OF THE LAND OF NORIN THE FOLLOWING COURSES: SOUTH 13°59' WEST 325.00 FEET; THENCE SOUTH 21°51' 30" WEST 89.89 FEET; THENCE SOUTH 29°30' 18" WEST 431.64 FEET TO A POINT IN THE NORTHWESTERLY LINE OF MULHOLLAND DRIVE 200 FEET WIDE, SAID POINT BEING ALSO THE MOST SOUTHERLY CORNER OF THE LAND OF NORIN; THENCE NORTH 11°52' 40" EAST 431.79 FEET; THENCE NORTH 30°07' 30" EAST 513.60 FEET TO A POINT IN A CURVE CONCAVE TO THE NORTHWEST HAVING A RADIUS OF 338.302 FEET, A RADIAL TO SAID POINT BEARS SOUTH 32°35' EAST; THENCE NORTHEASTERLY ALONG SAID CURVE, 59.045 FEET; THENCE TANGENT TO SAID CURVE, NORTH 47°25' EAST 129.03 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE SOUTHEAST HAVING A RADIUS OF 7.62 FEET; THENCE NORTHEASTERLY ALONG SAID CURVE 13.64 FEET TO THE POINT OF BEGINNING.

EASEMENT DATA, EXCEPTIONS & EXCLUSIONS:

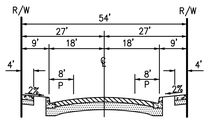
PER PRELIMINARY TITLE REPORT ISSUED BY LAWYERS TITLE,
ORDER NO. 09507426-27 DATED JULY 31, 2009 AT 7:30 AM.

GEOGRAPHICALLY LOCATABLE ITEMS FROM SAID TITLE REPORT (SUCH AS EASEMENTS) WHICH EFFECT THE TITLE TO THE SUBJECT PROPERTY ARE NUMERICALLY KEYED TO SAID REPORT AND ARE AS FOLLOWS:

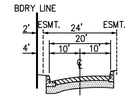
ITEM 2:
PURPOSE: POLE LINES AND CONDUITS.
IN FAVOR OF: TITLE INSURANCE AND TRUST COMPANY
RECORDING DATE: BOOK 15929, PAGE 304 O.R.
AFFECTS: ENTIREE PARCEL 1

ITEM 4:
PURPOSE: POLES, CONDUITS
IN FAVOR OF: CITY OF LOS ANGELES DEPARTMENT OF WATER AND POWER
RECORDING DATE: BOOK 16205, PAGE 176 O.R.
AFFECTS: AS SHOWN HEREON

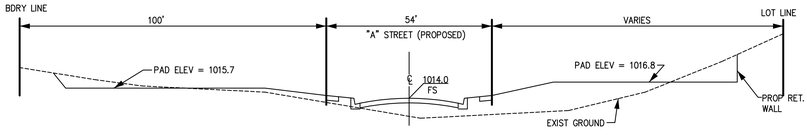
ITEM 6:
PURPOSE: COVERED STORM DRAIN
IN FAVOR OF: LOS ANGELES COUNTY FLOOD CONTROL
RECORDING DATE: MAY 22, 1970 AS INST. NO. 2087, O.R.
AFFECTS: AS SHOWN HEREON



"A" STREET (PROPOSED)
NOT TO SCALE



ACCESS ROADWAY (PROPOSED)
NOT TO SCALE



TYPICAL GRADING SECTION "A" – "A"
NOT TO SCALE

LEGEND:

- TRACT BOUNDARY
- PROPOSED LOT LINE
- PROPOSED RETAINING WALL
- EASEMENT LINE (W=WIDTH)
- PROPOSED STORM DRAIN
- PROPOSED SANTITARY SEWER
- PROPOSED CONTOUR
- EXISTING CONTOUR
- EXISTING SANITARY SEWER
- EXISTING STORM DRAIN
- EXISTING GAS LINE
- EXISTING WATER LINE
- STREET LIGHT
- TRAFFIC SIGNAL W/STREET LIGHT
- FIRE HYDRANT
- GAS/WATER METER
- GAS/WATER VALVE
- SIGNAGE
- PROPOSED SLOPE
- TREE

LOT SUMMARY				
LOT No.	LOT AREA		PAD AREA	
	SQ. FT.	ACRES	SQ. FT.	ACRES
1	10,695	0.25	1,645	0.04
2	10,147	0.23	1,645	0.04
3	10,370	0.24	1,645	0.04
4	15,300	0.35	1,645	0.04
5	24,658	0.57	1,645	0.04
6	14,430	0.33	2,000	0.05
7	17,344	0.40	2,400	0.06
8	16,855	0.39	2,000	0.05
9	11,499	0.26	2,000	0.05
10	12,505	0.29	2,000	0.05
11	18,563	0.43	1,645	0.04
12	11,372	0.26	2,000	0.05
13	11,893	0.27	1,645	0.04
14	8,018	0.18	2,000	0.05
15	9,000	0.21	2,400	0.06
16	9,000	0.21	2,400	0.06
17	8,044	0.18	2,400	0.06
18	8,066	0.19	2,400	0.06
19	10,039	0.23	1,740	0.04
TOTAL	237,798	5.46	37,255	0.86

REGISTERED PROFESSIONAL ENGINEER
JOHN J. VLASSIS
No. 49830
Expires 09/30/16
CIVIL
STATE OF CALIFORNIA

JOHN VALASSIS R.C.E. 49830 ____ DATE

PREPARED BY:
WESTCON ENGINEERING, INC.
LAND PLANNING ENGINEERING LAND SURVEYING
6355 TOPANGA CANYON BLVD.; SUITE 345
WOODLAND HILLS, CA. 91367
818-226-0444 VOICE 818-226-0448 FAX
E-MAIL: info@westconeng.com

REV.	DATE	DESCRIPTION	DATE	APP'D
1	1/04/13	ADDED CURVE DATA, ELIMINATED REVERSE CURVE ON "A" ST., REVISED ENGINEER INFO		
	4/19/13	ADDED "PRIVATE STREET" TO "A" STREET, REALIGNED PROPOSED STORM DRAIN		
	4/14/15	REVISED DRIVEWAY LOCATION LOTS 11 & 12, REVISED SETBACK ON LOT 13 FROM 13' TO 16', REVISED SIDEYARD ON LOT 4 FROM 7' TO 9'		

BENCH MARK:
LOS ANGELES COUNTY PUBLIC WORKS SURVEY DIVISION
MALIBU QUAD 1998 (ADJ)
BM NUMBER: Y10436
DPW BM TAG W CB 1M S/O BCR @ SW COR MULHOLLAND DR & MULHOLLAND HWY 27M & 9M W/O C/L INT.
ELEV = 1046.966 1998 ADJ

VESTING TENTATIVE TRACT MAP FOR SUBDIVISION PURPOSES:

VESTING TENTATIVE TRACT MAP
TRACT NO. 67505

DS VENTURES, LLC

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

DATE: AUG. 21, 2009	SHEET 1 OF 1 SHEETS
SCALE: 1"=40'	
JOB NO.	
DESIGNED BY:	
DRAFTED BY:	
CHECKED BY:	