

APPENDIX G

Civil Engineering and Sewer Reports

APPENDIX G1

Civil Engineering



DATE: November 15, 2016
TO: Darren Embry
REVIEWED BY: Frank LaRocca P.E., KPFF Consulting Engineers
FROM: James Rice, KPFF Consulting Engineers
SUBJECT: Robertson Lane Hotel: Civil Engineering Initial Study Data

This memo summarizes the civil related technical studies needed to evaluate the Robertson Lane Hotel project's impacts relating to surface hydrology, water supply, wastewater, and groundwater.

General

Existing Conditions

The project consists of multiple lots located at 648 North La Peer Drive, 645-653 North Robertson Boulevard, and a portion of West Hollywood Park on the east side of Robertson Blvd in the City of West Hollywood. The development site currently consists of existing commercial buildings, restaurant space, and parking lots and appears to be 98% impervious. All existing buildings and hardscape will be removed as part of the proposed project except two existing 1-story commercial buildings in the southeast corner of the proposed project site.

Proposed Conditions

The proposed development will include the construction of three subterranean parking levels, ground level retail and restaurant space, a nightclub, gym & spa, and a 241 key hotel. The restaurant and retail space will open out to Robertson Blvd and La Peer Drive. The development will span approximately to the property line. Additionally, the project will include the construction of two subterranean parking levels underneath a portion of West Hollywood Park that will be connected to the hotel parking structure via a tunnel under Robertson Blvd. All portions of West Hollywood Park removed for construction of the tunnel and subterranean parking will be replaced in-kind.

Excavation Depths and Earthwork Volumes

The estimated depths of excavation expected for the subterranean parking and building foundations depths are approximately 47 to 48.50 feet below the finished surface on Robertson Blvd.

The earthwork volume for the project was determined using Civil 3D software for AutoCAD. The net site earthwork as a result of the subterranean parking excavation will be approximately 165,700 cubic yards of cut/export. This estimate includes the earthwork for the parking levels underneath West Hollywood Park. See rough grading plan and sections in Attachment A.

An alternative design being considered excludes the subterranean parking extension beneath West Hollywood Park and consolidates all the parking levels underneath the hotel. This option

would have five levels of subterranean parking underneath the hotel at an expected foundation depth of approximately 76 feet below the finished surface on Robertson Blvd. The net site earthwork for this alternative will be approximately 185,000 cubic yards of cut/export as determined using Civil 3D software for AutoCAD. See the alternative rough grading plan and sections in Attachment A.

The soil export will be hauled to an acceptable location per local jurisdictions' Haul Route requirements. Since this project is in West Hollywood and adjacent to Beverly Hills and Los Angeles, it is likely that each jurisdiction will have separate haul route requirements.

Surface Hydrology

Existing Hydrology

Surface hydrology is regulated by the City of West Hollywood and Los Angeles County Department of Public Works (LACDPW). 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 the City of Los Angeles Low Impact Development (LID) Ordinance.

Existing storm water runoff from the project site is conveyed via sheet flow and curb drains to the adjacent streets. The existing site is generally flat with a 2-3% slope to the southeast. 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.

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, assuming the site is 98% impervious, is approximately 6.91 cubic feet per second (cfs). See Existing Hydrology Exhibit in Attachment B

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. The storm drain design will include the use of approved stormwater treatment BMPs that are appropriate considering the site constraints in order to treat stormwater runoff as required by LACDPW and the City of West Hollywood.

The proposed development will decrease the existing impervious area by adding planting and landscaping around the site and upper levels. The additional landscape area decreases the site imperviousness to 93%. The peak flow generated from a 50-year storm event will be reduced to 6.88 cfs. See the Proposed Hydrology Exhibit in Attachment C.

The hydrology of the West Hollywood Park side of the project will be unchanged as the portion of the Park disturbed during construction will be replaced in-kind.

Existing Water Quality Management

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

Proposed Water Quality Management - Construction

Within the State of California, the 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). The SWPPP document and all related attachments and calculations will be submitted to the State's Waterboard Website.

Additionally, the City of West Hollywood requires a Local Storm Water Pollution Prevention Plan (LSWPPP), which will be approved and filed with the City.

The Project SWPPP 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 stormwater 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 stormwater through infiltration, capture and reuse, or biofiltration.

Considering the proposed development's subterranean footprint and lack of setbacks, we expect infiltration to be infeasible. Capture and reuse may be feasible to treat a portion of the stormwater, but will depend on overall landscaping. This option should be explored with the Architect and Landscape Architect. Preliminary calculations show the 85th Percentile rainfall flow and volume for the project site will be approximately 0.76 cfs and 6,915 cubic feet (cf), respectively. Based on these approximate values, 100% of the required treatment flow could be treated using biofiltration per the LA county LID manual. Biofiltration systems could be located throughout the project site where feasible. The design team should engage early in satisfying stormwater mitigation requirements.

Water Supply

There is an existing 10-inch water main on Robertson Blvd, which is owned and operated by the City of Beverly Hills. A flow and pressure report has been conducted by the City of Beverly Hills, and is attached to this report. We anticipate a 6-inch fire water service, capable of delivering 1,400 gpm, and 4-inch domestic water service, capable of delivering 400 gpm, to serve the project. Based on the flow report, the 10-inch main has a static pressure of 80 psi and a residual pressure of 60 psi at a flow of 2,150 gpm. We expect the 10-inch main to have adequate flow and pressure to serve the proposed project. See the City of Beverly Hills Water Flow Test Results in Attachment D.

Currently there are no existing fire hydrants along the proposed project site's property frontage. This includes the west side of Robertson Blvd, and the east side of La Peer. The project Architect and Civil Engineer should engage the County of Los Angeles Fire Department to

determine if public or private fire hydrants are required to be installed as part of this project. If hydrants are required, the proposed hydrants must meet a minimum flow of 2,750 gpm at 20 psi per the LA County Fire Code requirement for a Type 1A building with a proposed fire sprinkler system and the three largest successive buildings floors equating to 262,351 square feet.

Per the sewer water table in the following section the wastewater demand will be 140,957 GPD. We estimate the water demand will be approximately the same. Rates below are based on the City of West Hollywood's sewer demand table.

Wastewater (Sewer)

There is an existing 8-inch public sewer main that runs north to south on North La Peer Dr., and an 8-inch public sewer main that runs north to south on Robertson Blvd. A separate Sewer Capacity Study has been written for submittal and approval through West Hollywood Public Works. See separate "Sewer Capacity Study" report dated 11/15/2016. Using the Sanitation District No. 4 Sewer Load Table, the following table was created outlining the total estimated proposed sewer load.

Anticipated Sewer Generation and Demand						
Facility Description	Building Program	Units	Flow (gpd) per unit	Avg Load, Q _{AF} (gpd)	Avg Load, Q _{AF} (cfs)	Peak Flow, Q _{PF} (cfs)
Public Retail	18,130	SF	0.08	1,450	0.002	0.006
Public Restaurant: Full Service - Indoor Seating	1,005	Seat	30	30,150	0.047	0.117
Public Restaurant: Full Service - Outdoor Seating	503	Seat	18	9,054	0.014	0.035
Whole Sale Design Showroom (assuming retail space)	10,325	SF	0.08	826	0.001	0.003
Hotel Rooms	241	Room	130	31,330	0.048	0.121
Hotel Gym	2,800	SF	0.8	2,240	0.003	0.009
Hotel Spa	1,900	SF	0.8	1,520	0.002	0.006
Hotel Meeting Area (assumed equivalent to banquet room)	13,220	SF	0.8	10,576	0.016	0.041
Hotel Retail	11,725	SF	0.08	938	0.001	0.004
Hotel Restaurant: Full Service - Indoor Seating	1,422	Seat	30	42,660	0.066	0.165
Hotel Restaurant: Full Service - Outdoor Seating	454	Seat	18	8,172	0.013	0.032
Hotel Nightclub (assuming with bar service)	2,270	SF	0.5	1,135	0.002	0.004
Hotel Dance Floor	1,510	SF	0.6	906	0.001	0.004
TOTAL				140,957	0.218	0.545

NOTE: Assumption was made that hotel meeting, back of house, lobby, and circulation are accounted for in hotel rooms.

Existing sewer loads and capacity were generated based on City of West Hollywood Requirements along with the Sewer Flow Report conducted by Utility Systems Science & Software. The following table summarizes the Sewer Capacity Study results.

Sewer Analysis Summary Table		
	Robertson Blvd	La Peer Dr
Pipe Diameter	8-inch	8-inch
Slope	2.60%	2.72%
Manning N	0.013	0.013
50% Full Capacity	0.97 cfs	1.01 cfs
Monitored Daily Average Flow	0.033 MGD / 0.051 cfs	0.002 MGD / 0.003 cfs
Existing Peak Flow	0.128 cfs	0.008 cfs
Existing % Pipe Full	17.40%	4.60%
Additional Generated Peak Flow(cfs)	0.545	0.545
Total Proposed Peak Flow (cfs)*	0.673	0.553
Proposed % full*	40.50%	36.00%

*assuming entire project sewer load connects to single sewer

Based on the available capacity of the existing sewer lines, and the estimated peak flow generated from the proposed project, both existing sewer lines can handle the project's sewer load.

Gas and Power

A will-serve letter from Southern California Gas Company can be found in Attachment F.

A will-serve letter from Southern California Edison (SCE) can be found in Attachment E. This letter explains SCE's planning and permitting process for the electric infrastructure needed to serve the Project.

Groundwater

Existing Groundwater

Existing Groundwater conditions are to be verified pending the completion of the project Geotechnical Investigation Report.

Proposed Groundwater Impacts

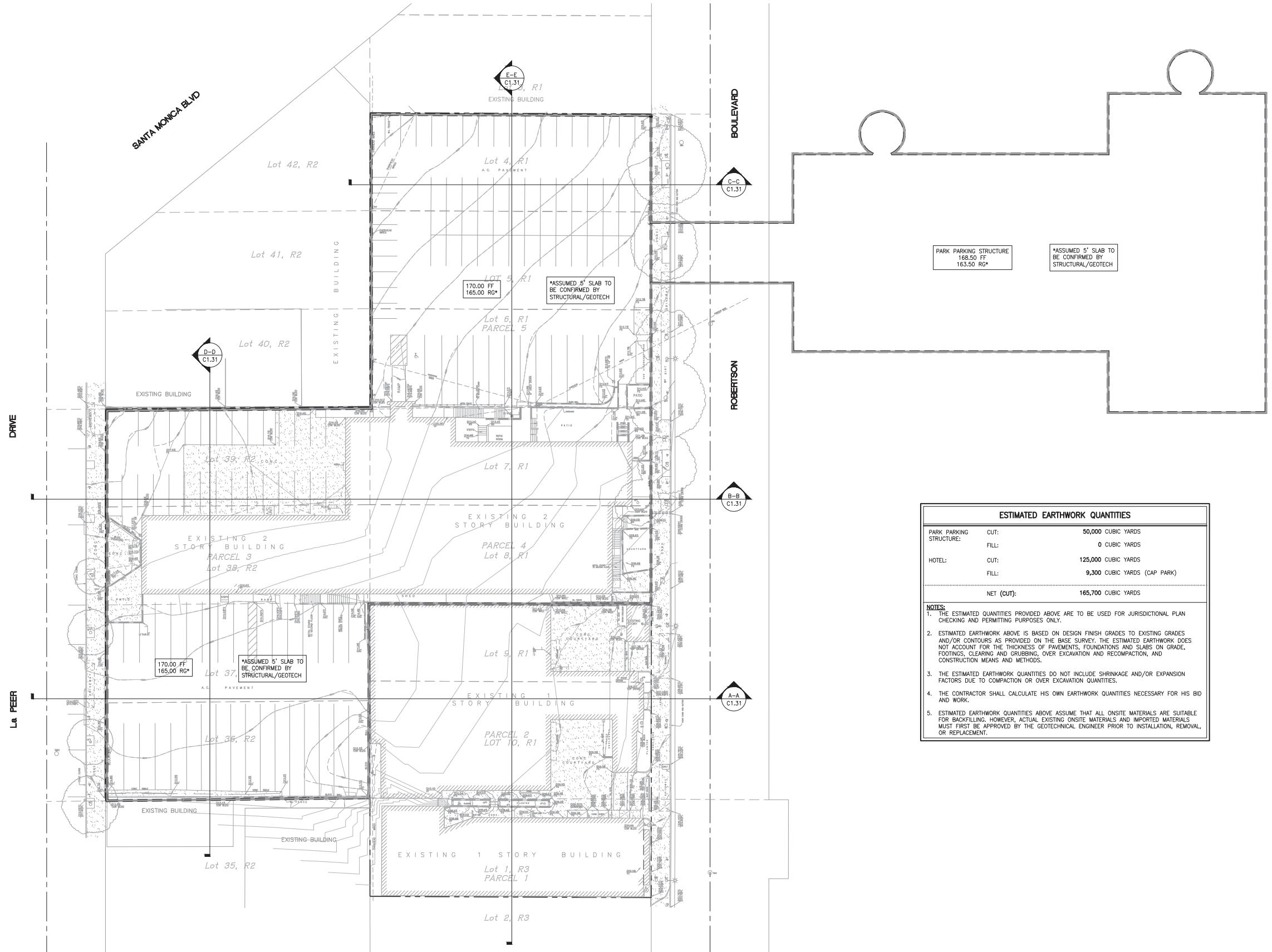
Impacts on groundwater due to subterranean parking excavation, including temporary and permanent dewatering will be confirmed pending the completion of the project Geotechnical Investigation Report

Offsite Improvements

The limit of off-site improvements will be dependent upon the City's requirements set forth in the Conditions of Approval, or similar documents. At a minimum, we expect the scope to include sidewalk repair due to closing of existing driveways, opening of new driveways, replacement of damaged sidewalk and/or curb, and the replacement of the portion of Robertson Blvd disturbed during tunnel construction.

ATTACHMENT A

ROUGH GRADING EXHIBITS



ESTIMATED EARTHWORK QUANTITIES

PARK PARKING STRUCTURE:	CUT: 50,000 CUBIC YARDS
	FILL: 0 CUBIC YARDS
HOTEL:	CUT: 125,000 CUBIC YARDS
	FILL: 9,300 CUBIC YARDS (CAP PARK)
NET (CUT): 165,700 CUBIC YARDS	

NOTES:

1. THE ESTIMATED QUANTITIES PROVIDED ABOVE ARE TO BE USED FOR JURISDICTIONAL PLAN CHECKING AND PERMITTING PURPOSES ONLY.
2. ESTIMATED EARTHWORK ABOVE IS BASED ON DESIGN FINISH GRADES TO EXISTING GRADES AND/OR CONTOURS AS PROVIDED ON THE BASE SURVEY. THE ESTIMATED EARTHWORK DOES NOT ACCOUNT FOR THE THICKNESS OF PAVEMENTS, FOUNDATIONS AND SLABS ON GRADE, FOOTINGS, CLEARING AND GRUBBING, OVER EXCAVATION AND RECOMPACTATION, AND CONSTRUCTION MEANS AND METHODS.
3. THE ESTIMATED EARTHWORK QUANTITIES DO NOT INCLUDE SHRINKAGE AND/OR EXPANSION FACTORS DUE TO COMPACTION OR OVER EXCAVATION QUANTITIES.
4. THE CONTRACTOR SHALL CALCULATE HIS OWN EARTHWORK QUANTITIES NECESSARY FOR HIS BID AND WORK.
5. ESTIMATED EARTHWORK QUANTITIES ABOVE ASSUME THAT ALL ONSITE MATERIALS ARE SUITABLE FOR BACKFILLING. HOWEVER, ACTUAL EXISTING ONSITE MATERIALS AND IMPORTED MATERIALS MUST FIRST BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO INSTALLATION, REMOVAL, OR REPLACEMENT.

DATE 2014.06.02
PROJECT NUMBER 114078
DESIGNED BY RR
DRAWN BY PJ
CHECKED BY DK
SCALE AS SPECIFIED
KEY MAP

PROJECT DESCRIPTION

ROBERTSON LANE HOTEL

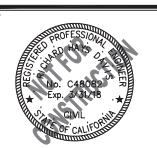
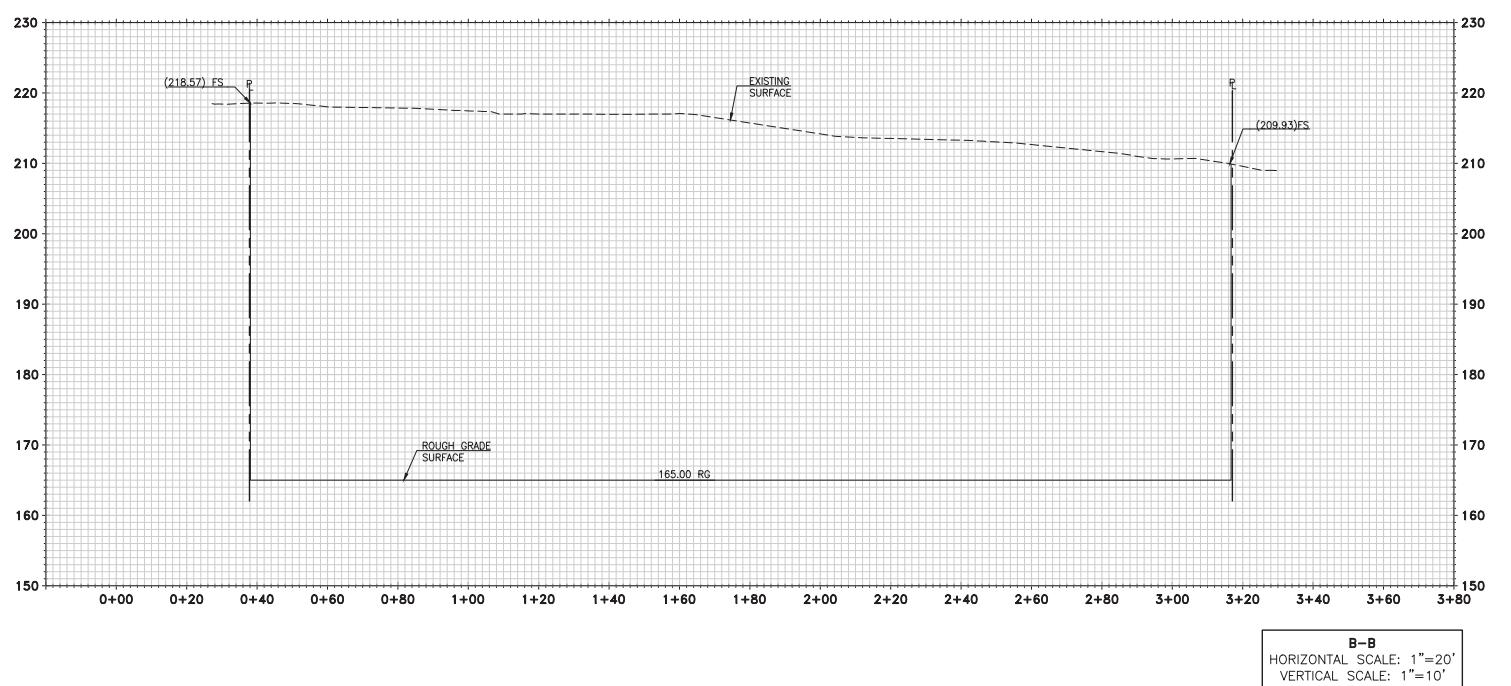
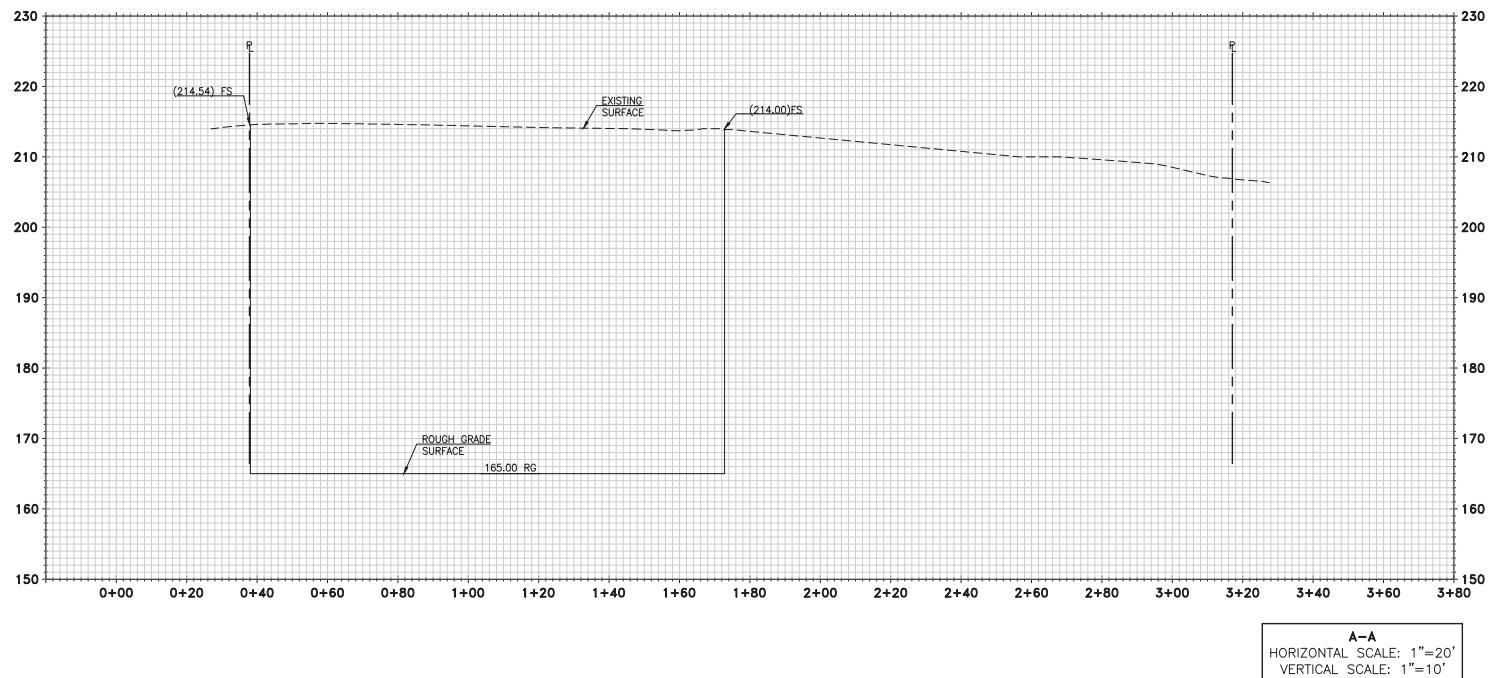
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LOS ANGELES, CA XXXX

DRAWING TITLE

ROUGH GRADING PLAN

SHEET NUMBER (EXHIBIT NUMBER)

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C1.30



REVISIONS

DATE ISSUED FOR
XXXXXX

DATE 2014.06.02

PROJECT NUMBER 114078

DESIGNED BY RR

DRAWN BY PJ

CHECKED BY DK

SCALE AS SPECIFIED

KEY MAP

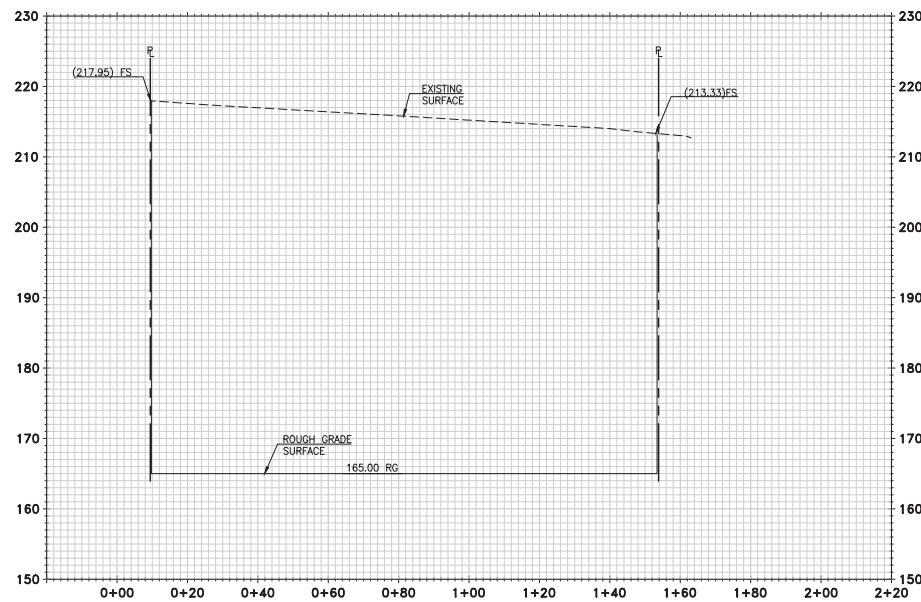
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LOS ANGELES, CA 900XXDRAWING TITLE
ROUGH GRADING
SECTIONS

SHEET NUMBER (EXHIBIT NUMBER)

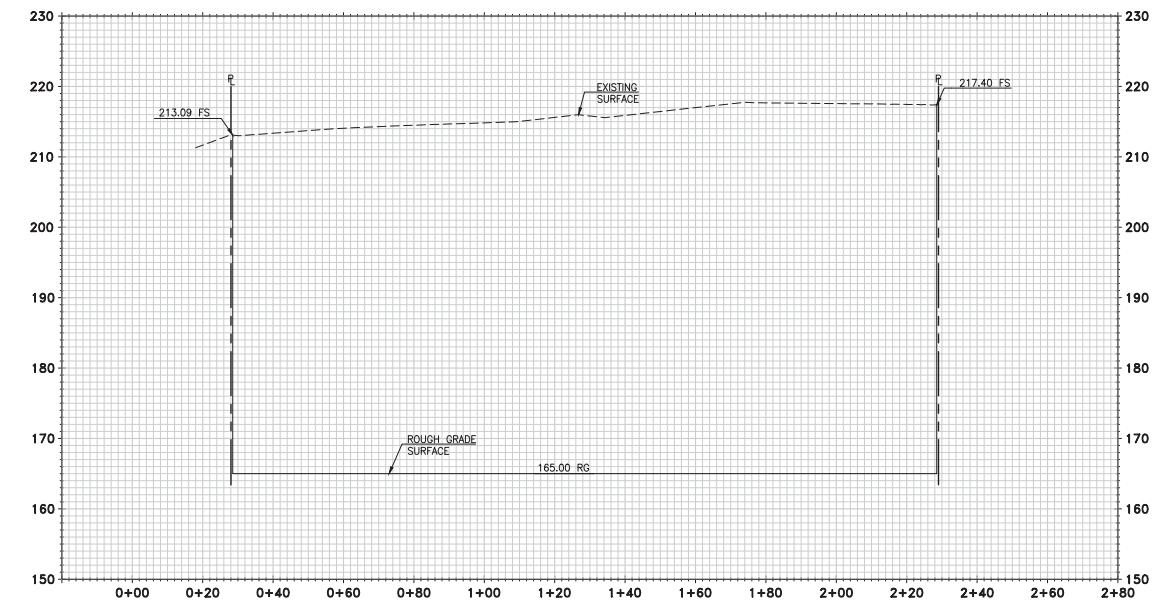
C1.31

Consulting Engineers
6080 CENTER DRIVE, SUITE 700
LOS ANGELES, CA 90045
TEL: 310.665.2800
FAX: 310.665.9075
WWW.KPFF.COM

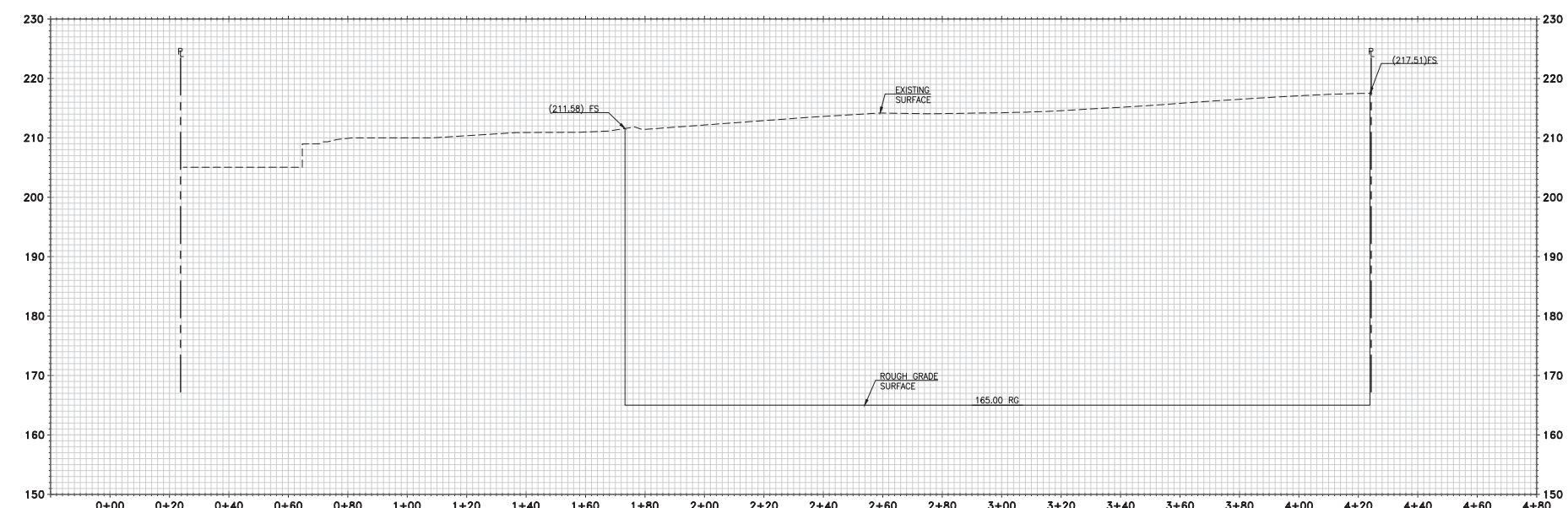
CONSULTANTS



C-C
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=10'



D-D
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=10'



E-E
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=10'



PROJECT DESCRIPTION

PROJECT DESCRIPTION

XXXX LOS ANGELES AVENUE

LOS ANGELES, CA 9XXXX

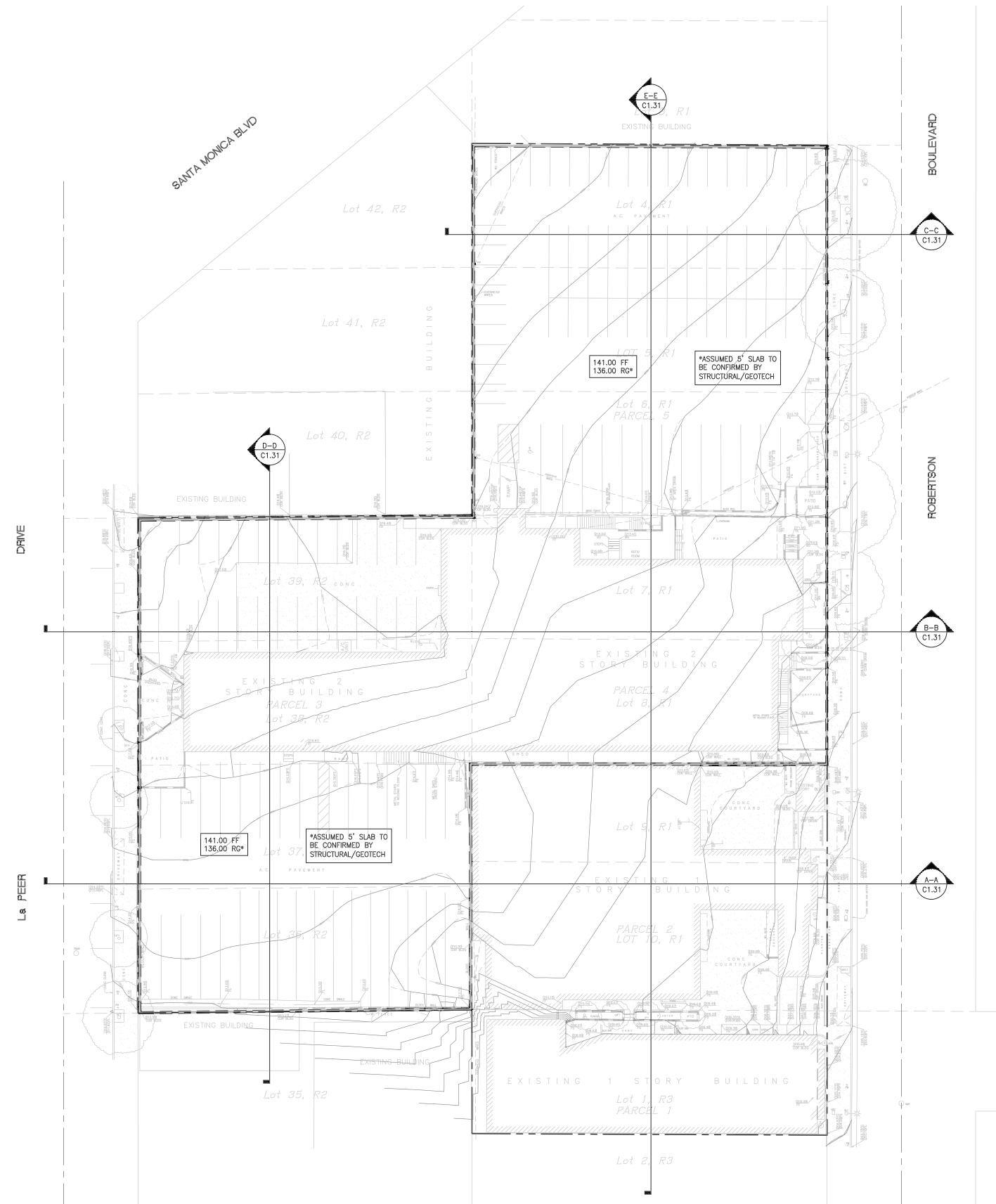
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ROUGH GRADING

For more information about the study, please contact Dr. Michael J. Hwang at (310) 794-3000 or via email at mhwang@ucla.edu.

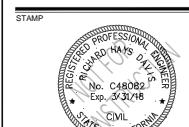
Alternate Design Option

k p f f
Consulting Engineers
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LOS ANGELES, CA 90045
TEL: 310.665.2800
FAX: 310.665.9075
WWW.KPFF.COM

CONSULTANTS



ESTIMATED EARTHWORK QUANTITIES	
CUT:	185,000 CUBIC YARDS
FILL:	0 CUBIC YARDS
NET (CUT):	185,000 CUBIC YARDS
NOTES:	
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REVISIONS	DATE	ISSUED FOR
XXXXXX	△	DESCRIPTION

DATE	2014.06.02
PROJECT NUMBER	114078
DESIGNED BY	RR
DRAWN BY	PJ
CHECKED BY	DK
SCALE	AS SPECIFIED
KEY MAP	

PROJECT DESCRIPTION

ROBERTSON LANE HOTEL

XXXX LOS ANGELES AVENUE
LOS ANGELES, CA XXXX

DRAWING TITLE

ROUGH GRADING PLAN

SHEET NUMBER (EXHIBIT NUMBER)

C1.30

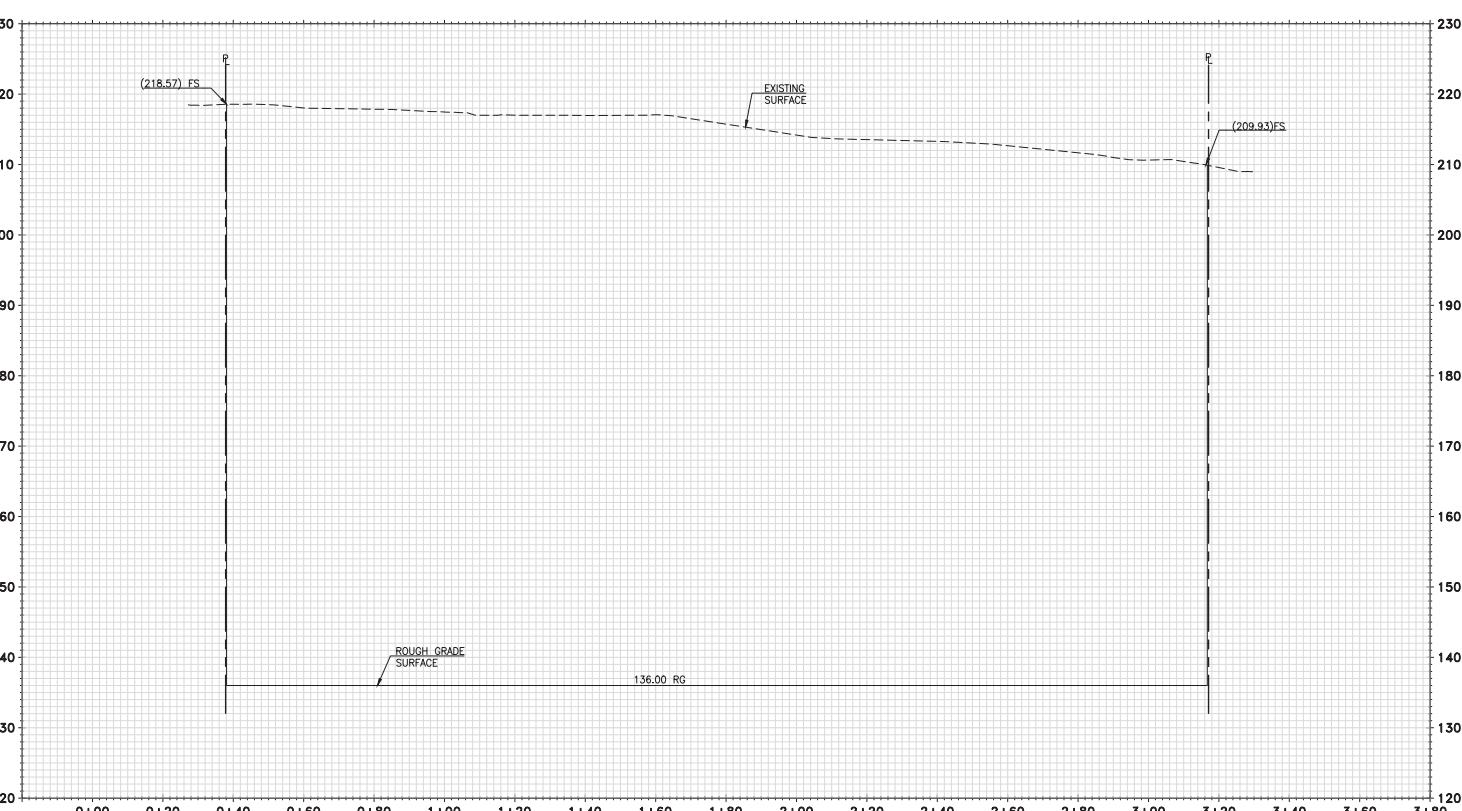
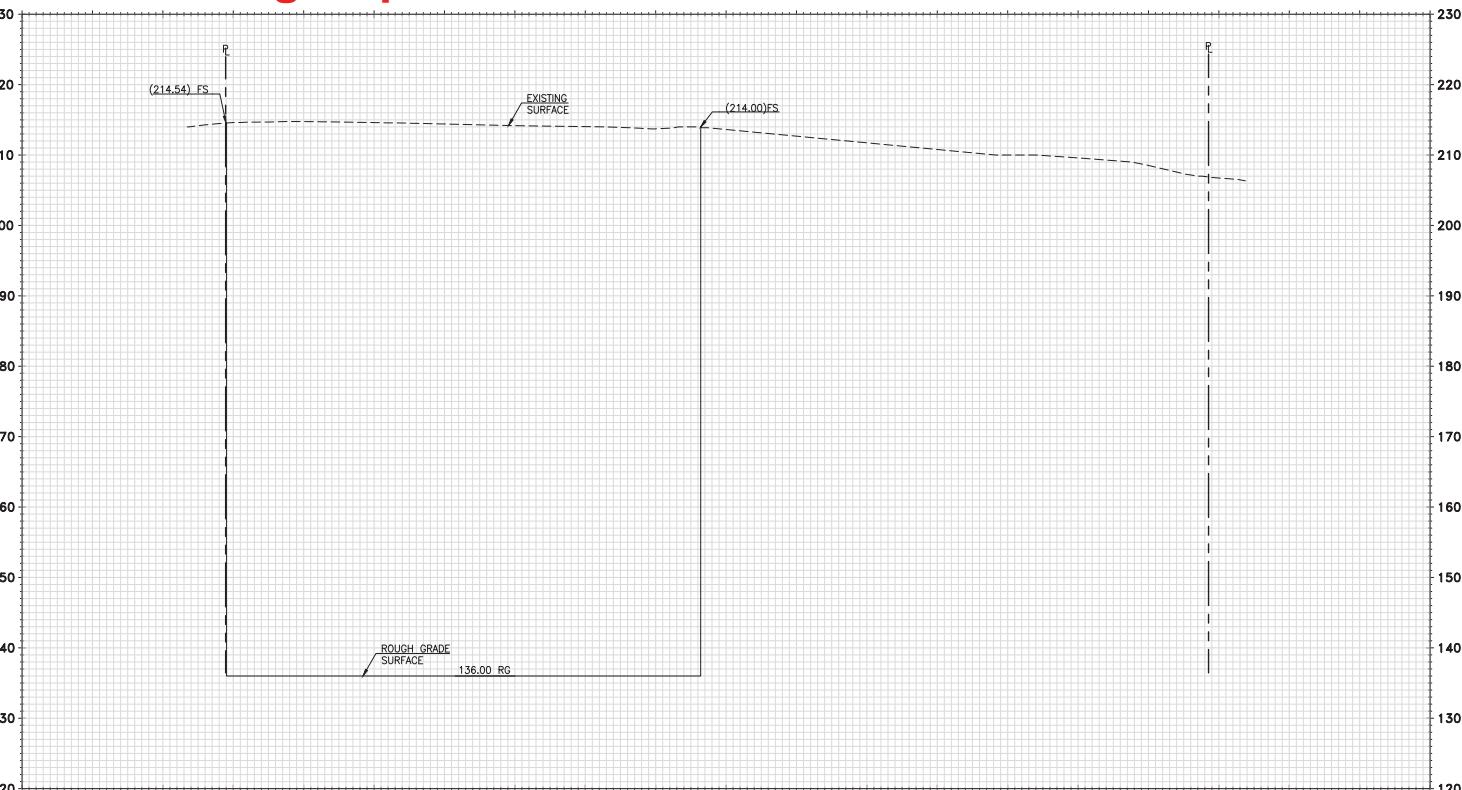
LEGEND:

- - - PROPERTY LINE
- - - - BUILDING WALL BELOW



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Alternate Design Option



k p f f

Consulting Engineers

6080 CENTER DRIVE, SUITE 700

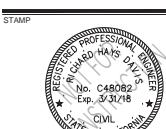
LOS ANGELES, CA 90045

TEL: 310.665.2800

FAX: 310.665.9075

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CONSULTANTS



REVISIONS	
DATE	ISSUED FOR
XX/XX/XX	DESCRIPTION

DATE	2014.06.02
PROJECT NUMBER	114078
DESIGNED BY	RR
DRAWN BY	PJ
CHECKED BY	DK
SCALE	AS SPECIFIED
KEY MAP	

PROJECT DESCRIPTION

ROBERTSON LANE HOTEL

XXXX LOS ANGELES AVENUE

LOS ANGELES, CA XXXX

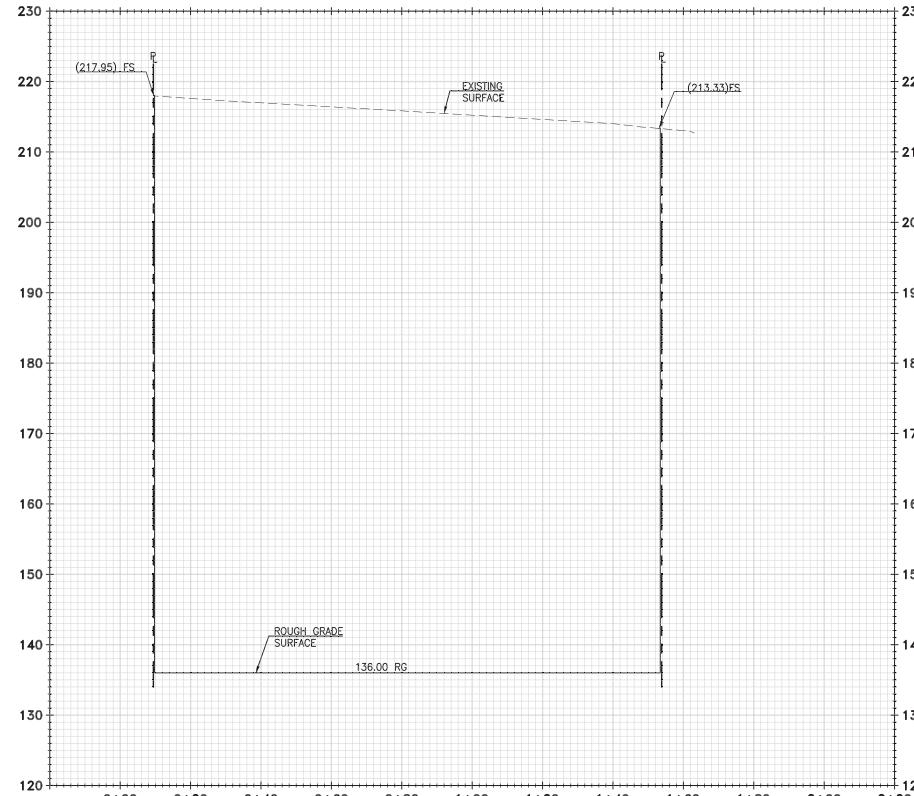
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ROUGH GRADING
SECTIONS

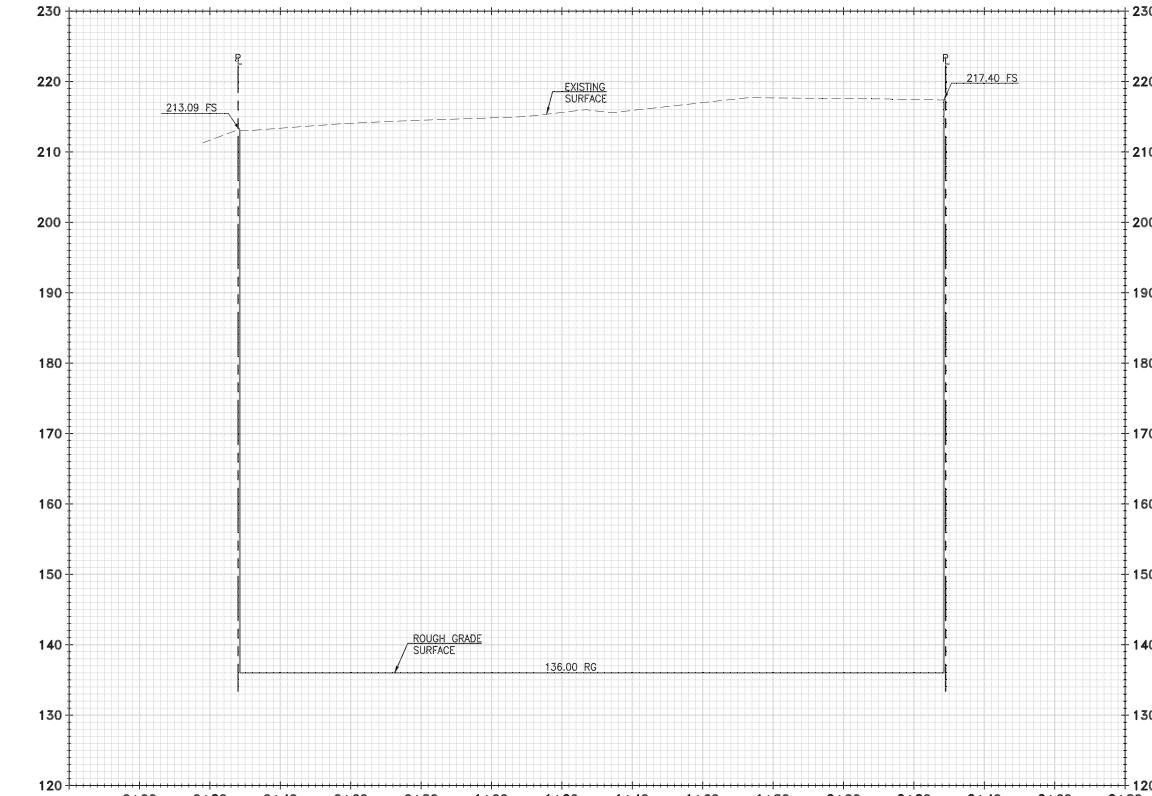
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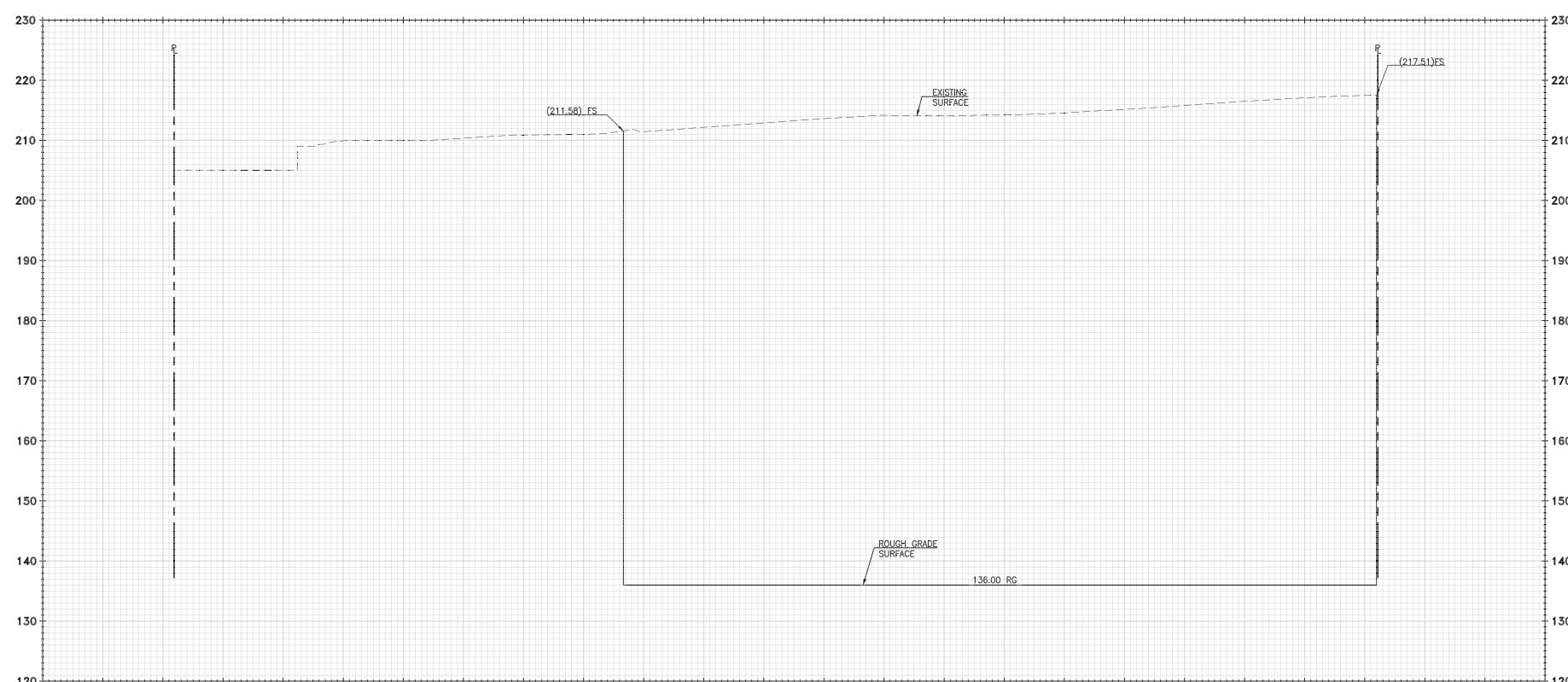
Alternate Design Option



C-C
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=10'



D-D
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=10'

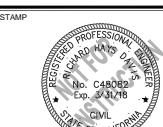


E-E
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=10'

k p f f

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CONSULTANTS



REVISIONS
DATE ISSUED FOR
XX/XX/XX DESCRIPTION

DATE 2014.06.02
PROJECT NUMBER 114078
DESIGNED BY RR
DRAWN BY PJ
CHECKED BY DK
SCALE AS SPECIFIED
KEY MAP

PROJECT DESCRIPTION
ROBERTSON LANE HOTEL

XXXX LOS ANGELES AVENUE
LOS ANGELES, CA XXXXX

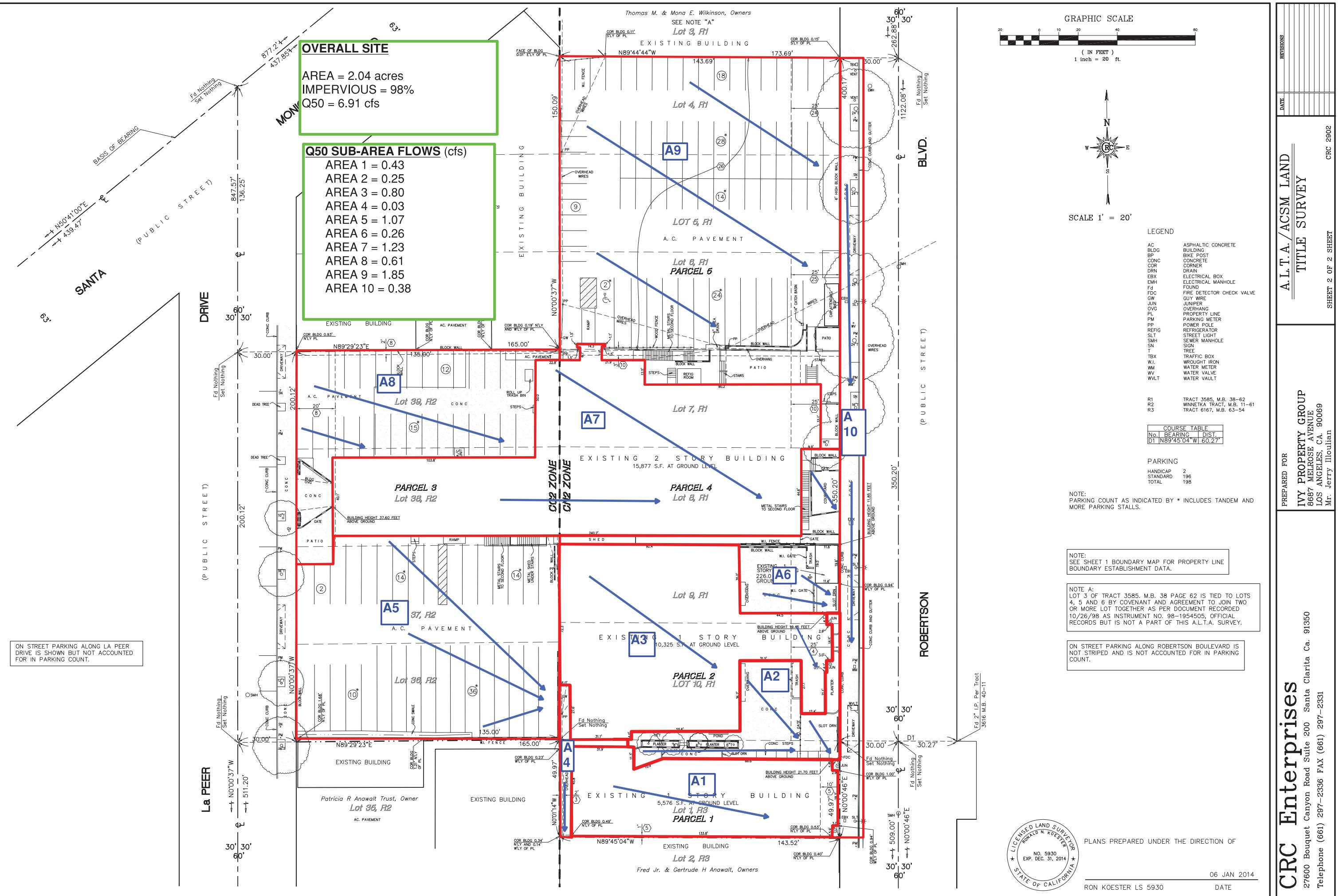
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ROUGH GRADING
SECTIONS

SHEET NUMBER (EXHIBIT NUMBER)

C1.32

ATTACHMENT B

EXISTING HYDROLOGY EXHIBIT



ATTACHMENT C

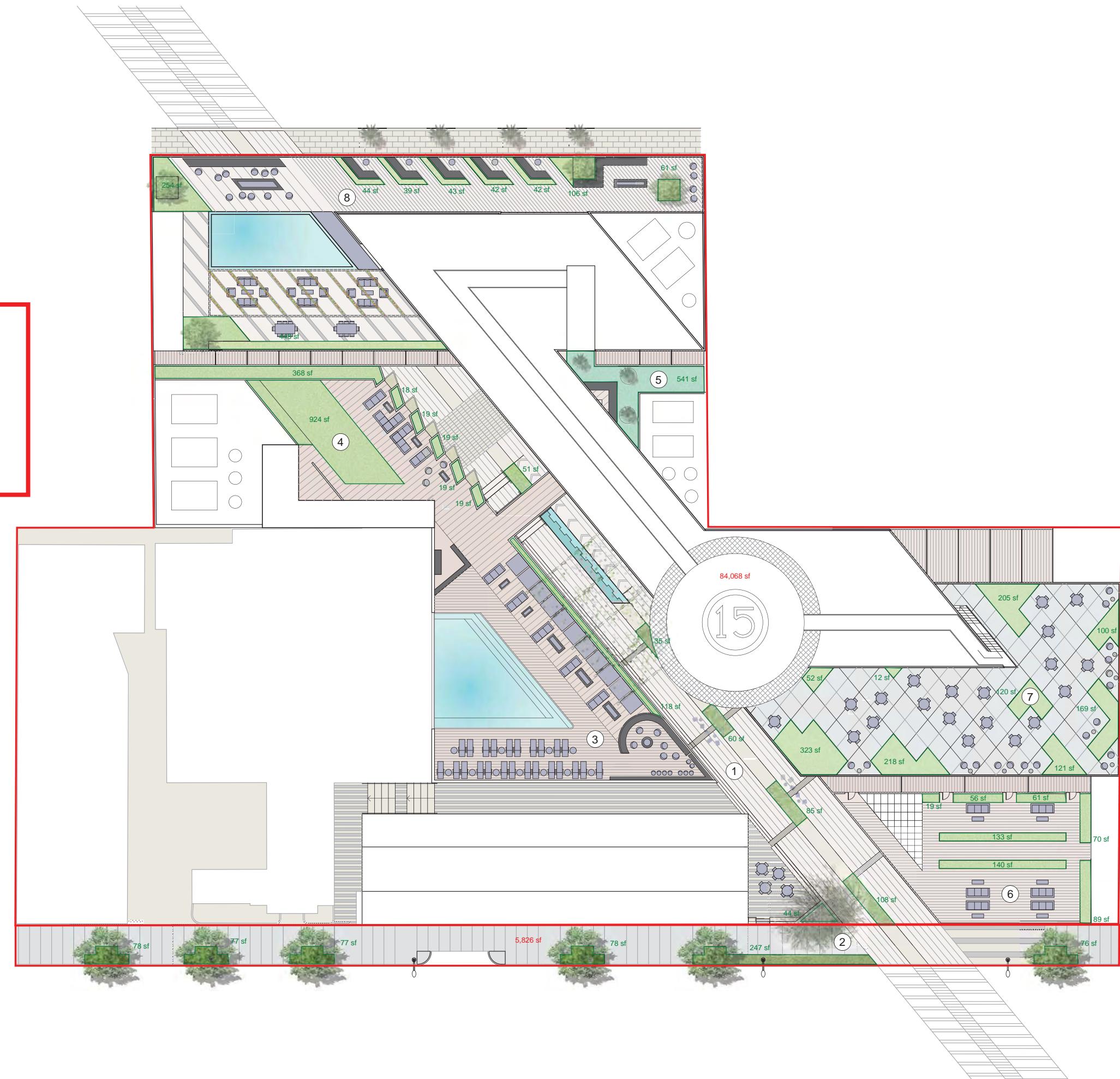
PROPOSED HYDROLOGY EXHIBIT

LANDSCAPE ZONE KEY

- ① STREETSCAPE & LANE
- ② EAST ENTRANCE
- ③ POOL DECK
- ④ LAWN TERRACE
- ⑤ BLUE GARDEN
- ⑥ GARDEN TERRACE
- ⑦ ROOF GARDEN
- ⑧ OLIVE TERRACE & FOUNTAIN COURT

OVERALL SITE PROPOSED HYDROLOGY

AREA = 2.04 acres
IMPERVIOUS = 93%
Q50 = 6.88 cfs



ISSUE NOTES		
PROJECT NO.	1330	DATE
SUBMISSION	DEVELOPMENT PERMIT	DESCRIPTION
REV. DATE	05/15/14	04/12/16 DEVELOPMENT REVISIONS
SCALE	1/16"=1'-0"	D'
DRAWN BY	CHK	SHEET SIZE: 20" x 40"
CHECKED BY		OVERALL LANDSCAPE PLAN
DRAWING TITLE		
DRAWING NO.	L-100	

ROBERTSON LANE
645 N. Robertson Boulevard and 645-668 N. La Peer Drive,
West Hollywood, CA 90069
Fung Capital I / Jason Illouian, Managing Partner
6839 Beverly Blvd., Suite 716 West Hollywood, CA 90048
F: 310-395-7399 E: jason@fungcapital.com

hplusf.com
5837 Adams Blvd.
Culver City, CA 90232
323.937.2150
mailbox@hplusf.com



The undersigned seal and specifications contained in this drawing are controlled by the contract documents and the terms of the contract. The architect and engineer acknowledge and agree that it is the sole property of Hodgetts + Fung and that they shall neither use nor reveal any of the details or information contained herein except as provided outside of the contractual agreement expressed within the terms of the contract.

Deviations from this drawing shall not be made without consulting Hodgetts + Fung. In case of incongruities between drawings, specifications, and design, the original drawing document shall take precedence unless otherwise indicated.

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CONSULTANT INFORMATION	
LANDSCAPE ARCHITECT	AHBE Landscape Architects 617 West Seventh St, Suite 304 Los Angeles, CA, 90017 P: 213 694 3800 F: 213 694 3801 E: cabe@ahbe.com
LIGHTING DESIGN	Horton, Lees, Broden Lighting Design 8580 Washington Blvd. Culver City, CA 90232 P: 310 837 0929 F: 310 837 0902 E: taghassian@hlblighting.com
STRUCTURAL	Englekirk 888 S. Figueroa Street, 18th Floor Los Angeles, CA 90017 P: 323.733.6673 E: vladimir.vdny@englekirk.com

ATTACHMENT D

**CITY OF BEVERLY HILLS WATER FLOW
TEST RESULTS**



City of Beverly Hills
Public Works Services
Receipt for Utility Services

Fire Flow Test (#2160)

Applicant Name: FRANCISCO FREIRE Date: 06/17/2016

Service Address: 685 N. ROBERTSON BLVD, WEST HOLLYWOOD CA 90068

Phone #: (310) 739-9246 Fax #: (310) 861-5502

Email Address: BOSSANOVA@BOSSAFOOD.COM

BH: \$ _____

WH: \$ 574.32

Total Amount Due: \$ 574.32

Questions for Fire Flow Test please call: (310) 288-2856

CITY OF BEVERLY HILLS
Cashiering Govolution MID
455 N. REXFORD DR
BEVERLY HILLS, CA 90210

012551-0014 Virginia 06/17/2016 04:15PM

CASH RECEIPTS
MTSC REV MAIN & REPAIRS
1 @ 574.32

574.32
574.32
574.32

CREDIT CARD
MasterCard ******9416
Ref=166180055
Auth=028203

Change due
0.00

Paid by: AURELIO MARTINS

Signature: _____

Thank you for your payment.

CUSTOMER COPY
DUPLICATE RECEIPT

Deposit for Meter	\$ _____	\$ _____
Service Charge	\$ _____	\$ _____
Rental Fee	\$ _____	\$ _____
Total Amount Due	\$ _____	\$ _____

PART II (A)**INFORMATION ON FIRE FLOW AVAILABILITY**
(Part II to be completed by Water Purveyor)

The distance from the fire hydrant to the property line is 250' (# 9090)
feet via vehicular access. The fire flow services will be rendered from a 8"
inch diameter water main. The hydrant is located on 666 Robertson Blvd
250' North of EL Tower Place
(Feet) (Direction) (Nearest Cross - Street)
Under normal operating conditions the fire flow available from this 6" x 4" x 2.5"
hydrant is 3,890 GPM at 20 PSI residual for 2 hours at 80 PSI Static

PART II (B)**SPRINKLERED BUILDINGS ONLY**

Detector Location: (check one) Above Grade Below Grade Either

Backflow protection required (fire sprinklers/private hydrant): Yes No

Type of Protection Required: (check one)

Double Check Detector Assembly Reduced Pressure Principal Detector Assembly

Other _____ Domestic Meter Size _____

PART II (C)

CITY OF BEVERLY HILLS
Water Purveyor

7-13-2016
Date

Gill Luj
Signature

WATER SYSTEMS TECH
Title

PART III**Conditions for Approval by the Building Department**
(To be Completed by Building Department)

The building permit may be issued for single family dwellings when the above information is complete and shows that the following minimum requirements are met and the property is not in the High Fire Hazard Severity Zone or the Very High Fire Hazard Severity Zone.

*The water system is capable of delivering at least 1250 GPM at 20 PSI for two hours.

*The structure is less than 3,600 square feet.

*The distance from the structure to the fire hydrant does not exceed 450 feet via vehicular access.

*The proposed construction must be within 150 feet of a vehicular access roadway that is a minimum of 20 feet wide, paved with concrete or asphalt and does not exceed 15% grade

APPROVED BY

DATE

OFFICE

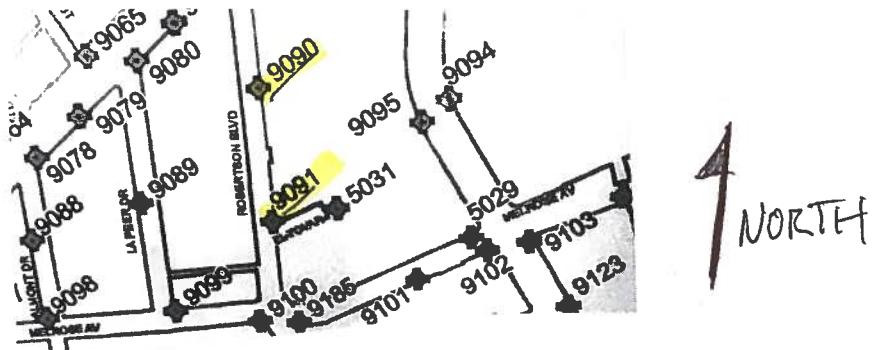
This Information Is Considered Valid for Twelve Months

Where the water service does not meet the above requirements for approval by the Building Department, Fire Prevention Division approval of the site plan will be required before a Building Permit can be issued by the Building Department.



City of Beverly Hills Fire Flow Information

Optional Sketch: Test layout sketch below is to show water mains, streets and alleys as solid lines correctly orientated with a north arrow, with the main diameters and street names. Fire hydrants are shown as a single circle connected to the main and 2 concentric circles to show the residual pressure gage location. The numbers assigned to the fire hydrants correspond with the test data shown below.



Location: 666 Robertson Blvd

B.H. W.H. X

Test Date: 7/13/2016

Day of the week: Weds.

Weather Conditions: CLEAR

ZONE: 3 West

Participating Personnel: Eric, Gabe, and Jamie

Time	Hydrant	Pressures			Tube	Discharge
am/pm	Number	Static	Residual	Pitot	Diameter	GPM
6:25am	9090	80	60	25	4	2150

Residual Gage Pressure Drop: 20 psig.

Flow Available at 20 psig System Residual Pressure: 3,890 GPM

Equations Used: $Q_r = 29.83 c_d D^2 \sqrt{P_p}$

$$Q_f = Q_r \left(\frac{P_s - 20}{P_s - P_r} \right)^{0.54}$$

Q_r is the flow at the pitot pressure measured in GPM.

c_d is the friction loss coefficient (average .9)

D is the diameter of the opening in inches.

P_p is the pitot pressure in psi.

Q_f is the FIRE FLOW in GPM at 20 psi.

P_s is the static pressure in psi.

P_r is the residual pressure in psi.



City of Beverly Hills Fire Flow Information

Optional Sketch: Test layout sketch below is to show water mains, streets and alleys as solid lines correctly orientated with a north arrow, with the main diameters and street names. Fire hydrants are shown as a single circle connected to the main and 2 concentric circles to show the residual pressure gage location. The numbers assigned to the fire hydrants correspond with the test data shown below.

SEE Map For # 9090

Location: Robertson Blvd at El Tovar Place

B.H. W.H. X

Test Date: 7/13/2016

Day of the week: Weds.

Weather Conditions: CLEAR

ZONE: 3 West

Participating Personnel: Eric, Gabe, and Jamie

Time	Hydrant	Pressures			Tube	Discharge
am/pm	Number	Static	Residual	Pitot	Diameter	GPM
6:35am	9091	80	60	27	4	2230

Residual Gage Pressure Drop: 20 psig.

Flow Available at 20 psig System Residual Pressure: 4,040 GPM

Equations Used: $Q_r = 29.83 c_d D^2 \sqrt{P_p}$

$$Q_f = Q_r \left(\frac{P_s - 20}{P_s - P_r} \right)^{0.54}$$

Q_r is the flow at the pitot pressure measured in GPM.

c_d is the friction loss coefficient (average .9)

D is the diameter of the opening in inches.

P_p is the pitot pressure in psi.

Q_f is the FIRE FLOW in GPM at 20 psi.

P_s is the static pressure in psi.

P_r is the residual pressure in psi.

ATTACHMENT E

**SOUTHERN CALIFORNIA EDISON
PROCESS EXPLANATION LETTER**



An *EDISON INTERNATIONAL* Company

July 8, 2014

KPFF Consulting Engineers

648 North La Peer Drive, West Hollywood

As your Southern California Edison (SCE) Design Representative for this project, I am committed to providing you with excellent customer service. The following information is intended to help explain SCE's planning and permitting process for the electric infrastructure needed to serve your Project.

Depending on the scope of work necessary to serve your project (electric facility installation, removal, relocation, rearrangement and/or replacement), it may be necessary for you to submit an Advanced Engineering Fee. This Fee will be applied to certain expenses associated with preliminary design and engineering work required to estimate the cost for SCE to perform the electric work associated with your project. Please note: Depending on factors such as resource constraints, construction or relocation of SCE facilities requirements, the need for environmental review, and so forth, delays in meeting your projected completion date may occur. To help minimize the potential for delays it is imperative that you provide all requested information as early as possible.

If the project results in the need for SCE to perform work on SCE electrical facilities that operate at between 50 and 200 kilovolts (kV), please be advised these facilities are subject to the California Public Utilities Commission's (CPUC's) General Order 131-D (GO 131-D) Permit to Construct (PTC) requirements. For the CPUC PTC review, the CPUC acts as the lead agency under the California Environmental Quality Act (CEQA). Depending on the scope of SCE's work, certain exemptions to the PTC requirements may be available. If no exemptions are available, the PTC application preparation and environmental approval process could take a minimum of 24 - 48 months.

If you anticipate that your project will require work to be performed on SCE electrical facilities operated at between 50 kV and 200 kV, please inform me at your earliest possible convenience for further assistance to determine the potential G.O.131-D permitting requirements and/or permitting exemption(s).

In order for SCE to determine the required electrical utility work necessary to support your project, and to determine any permitting requirements and costs associated with constructing these facilities, project plans and a completed Customer Project Information Sheet will need to be submitted.

If you have any additional questions, please feel free to call me at (310) 315-3220

Sincerely,

SCE Design Representative

ATTACHMENT F

**SOUTHERN CALIFORNIA GAS WILL
SERVE LETTER**



A Sempra Energy utility®

July 1, 2014

KPFF Consulting Engineers
6080 Center Drive, Suite 700
Los Angeles, CA 90045

Attn: Collen O'Brien

RE: Will Serve Letter Request for – Job I.D. #43-2014-06-00018
648 N. La Peer Dr.; 645-653 N. Robertson Blvd, West Hollywood

Dear Ms. O'Brien:

Thank you for inquiring about the availability of natural gas service for your project. We are pleased to inform you that Southern California Gas Company (SoCalGas) has facilities in the area where the above named project is being proposed. The service would be in accordance with SoCalGas' policies and extension rules on file with the California Public Utilities Commission (Commission) at the time contractual arrangements are made.

This letter should not be considered a contractual commitment to serve the proposed project, and is only provided for informational purposes only. The availability of natural gas service is based upon natural gas supply conditions and is subject to changes in law or regulation. As a public utility, SoCalGas is under the jurisdiction of the Commission and certain federal regulatory agencies, and gas service will be provided in accordance with the rules and regulations in effect at the time service is provided. Natural gas service is also subject to environmental regulations, which could affect the construction of a main or service line extension (for example, if hazardous wastes were encountered in the process of installing the line). Applicable regulations will be determined once a contract with SoCalGas is executed.

If you need assistance choosing the appropriate gas equipment for your project, or would like to discuss the most effective applications of energy efficiency techniques, please contact our area Service Center at 800-427-2200.

Thank you again for choosing clean, reliable, and safe natural gas, your best energy value.

Sincerely,

A handwritten signature in black ink, appearing to read "Zakee Singleton".

Zakee Singleton
Planning Associate
Compton Headquarters

APPENDIX G2

Sewer Capacity Study



SEWER CAPACITY STUDY

For:

Robertson Lane Hotel
648 North La Peer Dr and 645-653 North Robertson Blvd
West Hollywood, CA

Prepared by:

KPFF Consulting Engineers
700 S Flower Street Suite 2100
Los Angeles, CA 90017
213.418.0201

Date:

11/15/16

Submitted To:

City of West Hollywood Department of Public Works
Engineering Division

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3. Existing Sewer Analysis	1
4. Proposed Flow Generation	2
5. Results.....	3

APPENDICES

Appendix A	Project Vicinity Map
Appendix B	City of West Hollywood Zoning Map and General Land Use Plan
Appendix C	City of West Hollywood Master Plan of Sewers and Sewer Facilities Data
Appendix D	City of West Hollywood Sewer Capacity Study Requirements & LA County Sanitation District No. 4 Mean Loading Table
Appendix E	Project Data Table
Appendix F	Hydraulic Calculations
Appendix G	Utility Systems Science & Software Sewer Flow Monitoring Report

1. Project Description

The Robertson Lane project consists of the design and construction of a mixed-use development on multiple lots at 648 North La Peer Drive, 645-653 North Robertson Boulevard, and a portion of West Hollywood Park on the east side of Robertson Boulevard in the City of West Hollywood, California. The development site currently consists of existing commercial buildings, restaurant space, and parking lots. The site is zoned Commercial, Community 2 (CC2) and Commercial, Neighborhood 2 (CN2) per the City of West Hollywood Zoning Map and General Land Use Plan (Appendix B).

The proposed development will include the construction of three subterranean parking levels, ground level retail and restaurant space, a nightclub, gym & spa, and a 241 key hotel. All existing buildings and hardscape will be removed as part of the proposed project except two existing 1-story commercial buildings in the southeast corner of the proposed project site. Additionally, the project will include the construction of two subterranean parking levels underneath a portion of West Hollywood Park that will be connected to the hotel parking structure via a tunnel under Robertson Blvd. All portions of West Hollywood Park removed for construction of the tunnel and subterranean parking will be replaced in-kind.

2. Site Description

The existing site consists of multiple lots at 648 North La Peer Drive and 645-653 North Robertson Boulevard in the City of West Hollywood, California. The site is approximately 84,500 square feet (1.94 acres) and appears to be 99% impervious. Refer to Appendix A for the Project Vicinity Map.

3. Existing Sewer Analysis

Per the City of West Hollywood Master Plan of Sewers and Sewer Facilities Data (Appendix C), there is an existing 8-inch public sewer main that runs north to south on North La Peer Drive, and an existing 8-inch public sewer main that runs north to south on North Robertson Boulevard. As requested by the City of West Hollywood, a sewer manhole on each street was examined to ensure that the proposed project will not overload any sewer lines. Flow monitoring radars were installed in each of the manholes and data was collected over a two-week period, from June 30, 2014 to July 14, 2014. (See Appendix H for sheets from the Sewer Flow Monitoring Report compiled by Utility Systems Science & Software.)

Pipe Capacity (Q_{CAP}) was calculated using Manning's Formula, per City of West Hollywood Sewer Capacity Study Requirements (Appendix E). See Appendix F for pipe hydraulic calculations.

8-inch sewer on Robertson Blvd.

$$Q_{CAP} = 0.97 \text{ CFS}$$

8-inch sewer on La Peer Dr.

$$Q_{CAP} = 1.01 \text{ CFS}$$

Peak flow (Q_{PF}) rate was calculated by taking the measured average daily flowrate, multiplied by a factor of 2.5, per City of West Hollywood Requirements, (Appendix E)

For the manhole on North Robertson Boulevard, the average measured flow during the two-week period was 0.033 MGD, or 0.051 CFS:

$$Q_{PF} = 2.5 * 0.051 \text{ CFS} = 0.128 \text{ CFS}$$

For the manhole on North La Peer Drive, the average measured flow during the two-week period was 0.002 MGD, or 0.003 CFS:

$$Q_{PF} = 2.5 * 0.003 \text{ CFS} = 0.008 \text{ CFS}$$

4. Proposed Flow Generation

The anticipated sewer load generation for the proposed development was calculated using the Architect's Project Data sheet (see Appendix E) and County Sanitation District No. 4 of Los Angeles Mean Loading Table (see Appendix C).

Anticipated Sewer Generation and Demand						
Facility Description	Building Program	Units	Flow (gpd) per unit	Avg Load, Q _{AF} (gpd)	Avg Load, Q _{AF} (cfs)	Peak Flow, Q _{PF} (cfs)
Public Retail	18,130	SF	0.08	1,450	0.002	0.006
Public Restaurant: Full Service - Indoor Seating	1,005	Seat	30	30,150	0.047	0.117
Public Restaurant: Full Service - Outdoor Seating	503	Seat	18	9,054	0.014	0.035
Whole Sale Design Showroom (assuming retail space)	10,325	SF	0.08	826	0.001	0.003
Hotel Rooms	241	Room	130	31,330	0.048	0.121
Hotel Gym	2,800	SF	0.8	2,240	0.003	0.009
Hotel Spa	1,900	SF	0.8	1,520	0.002	0.006
Hotel Meeting Area (assumed equivalent to banquet room)	13,220	SF	0.8	10,576	0.016	0.041
Hotel Retail	11,725	SF	0.08	938	0.001	0.004
Hotel Restaurant: Full Service - Indoor Seating	1,422	Seat	30	42,660	0.066	0.165
Hotel Restaurant: Full Service - Outdoor Seating	454	Seat	18	8,172	0.013	0.032
Hotel Nightclub (assuming with bar service)	2,270	SF	0.5	1,135	0.002	0.004
Hotel Dance Floor	1,510	SF	0.6	906	0.001	0.004
TOTAL				140,957	0.218	0.545

NOTE: Assumption was made that hotel meeting, back of house, lobby, and circulation are accounted for in hotel rooms.

5. Results

Below is a summary of the existing sewer analysis, additional generated load, and future condition hydraulics.

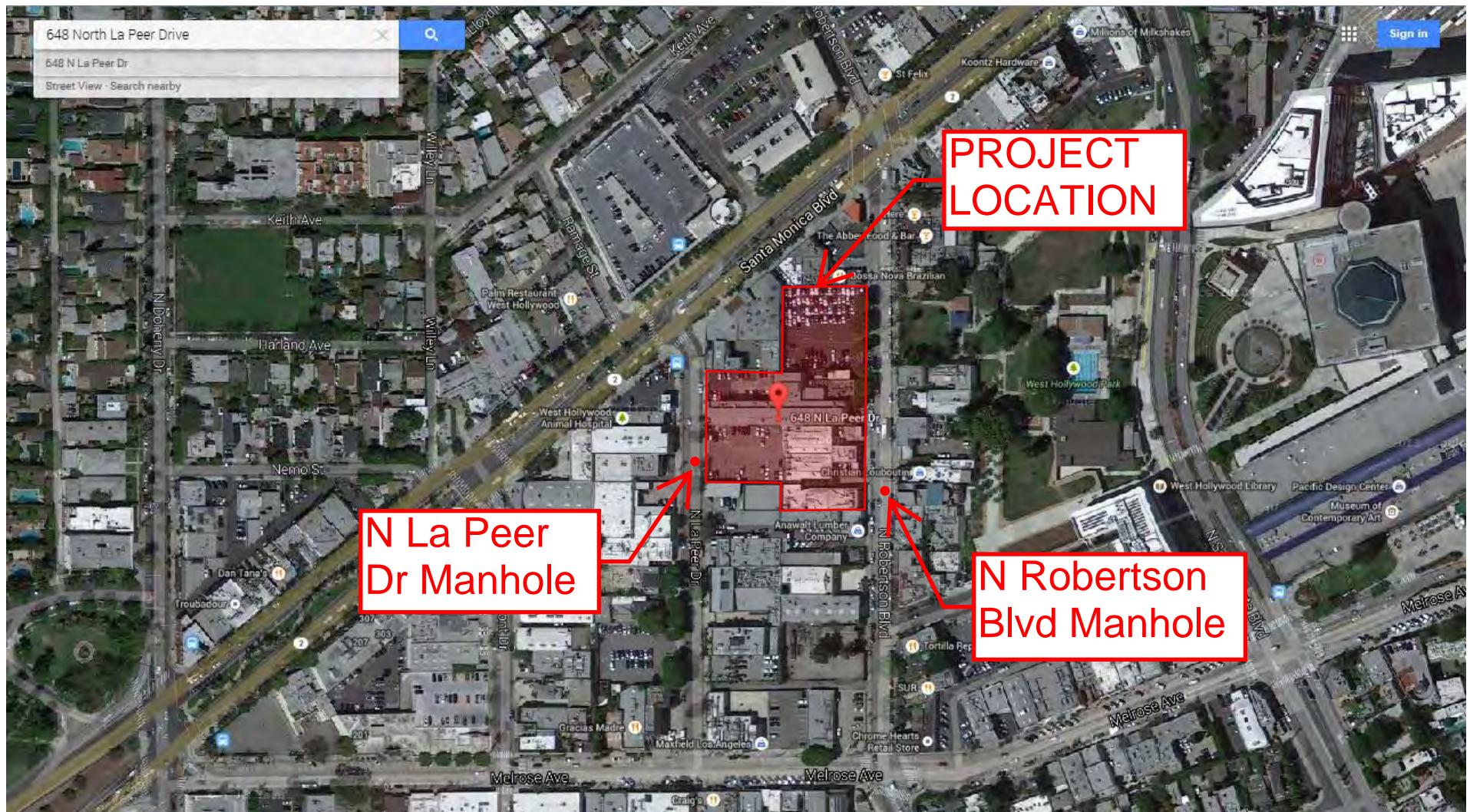
Sewer Analysis Summary Table		
	Robertson Blvd	La Peer Dr
Pipe Diameter	8-inch	8-inch
Slope	2.60%	2.72%
Manning N	0.013	0.013
50% Full Capacity	0.97 cfs	1.01 cfs
Monitored Daily Average Flow	0.033 MGD / 0.051 cfs	0.002 MGD / 0.003 cfs
Existing Peak Flow	0.128 cfs	0.008 cfs
Existing % Pipe Full	17.40%	4.60%
Additional Generated Peak Flow(cfs)	0.545	0.545
Total Proposed Peak Flow (cfs)*	0.673	0.553
Proposed % full*	40.50%	36.00%

*assuming entire project sewer load connects to single sewer

Adding the complete estimated peak flow generated from the proposed development to either the 8-inch on Robertson Blvd, or the 8-inch on La Peer Dr, will result in an estimated peak flow that is below the 50% full capacity required by the City of West Hollywood. Therefore, both existing sewer lines have adequate capacity to serve the proposed development.

APPENDIX A

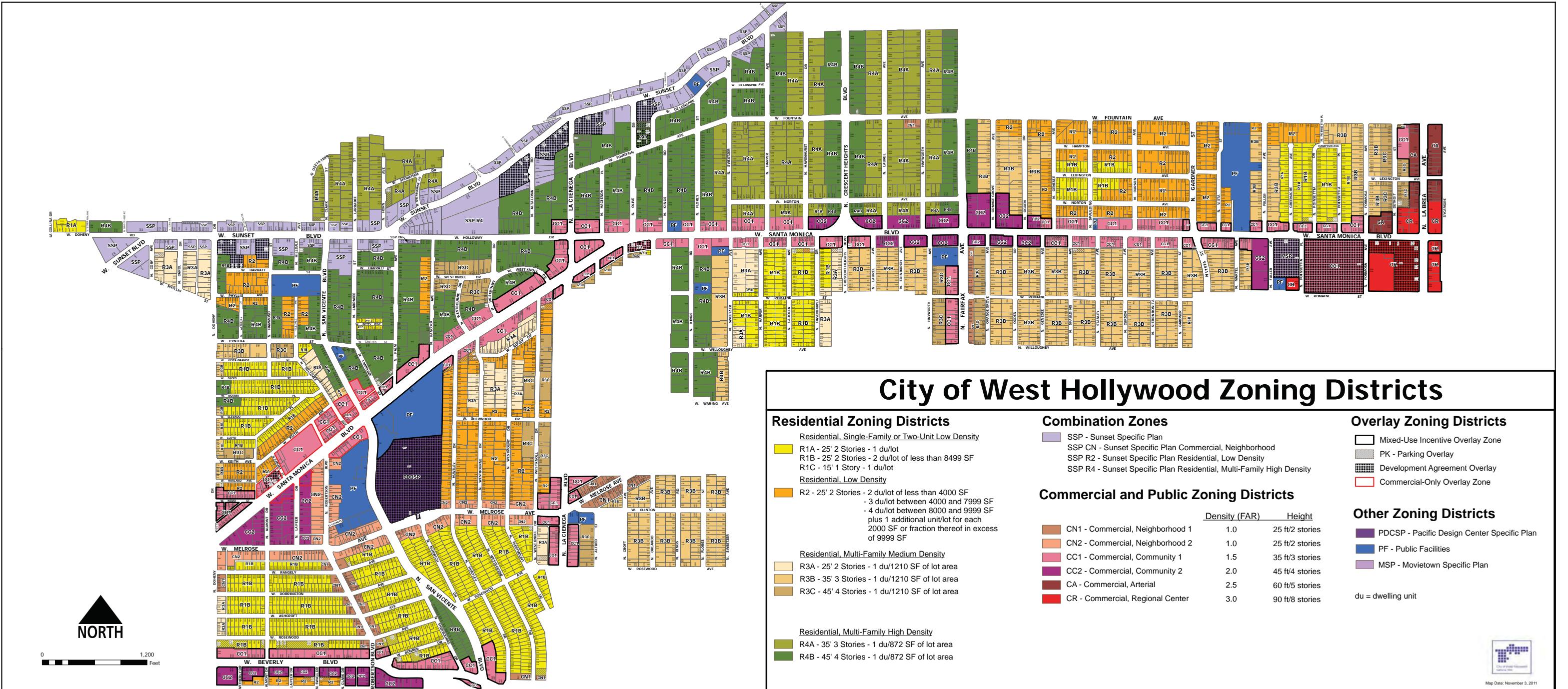
Project Vicinity Map



Project Vicinity Map

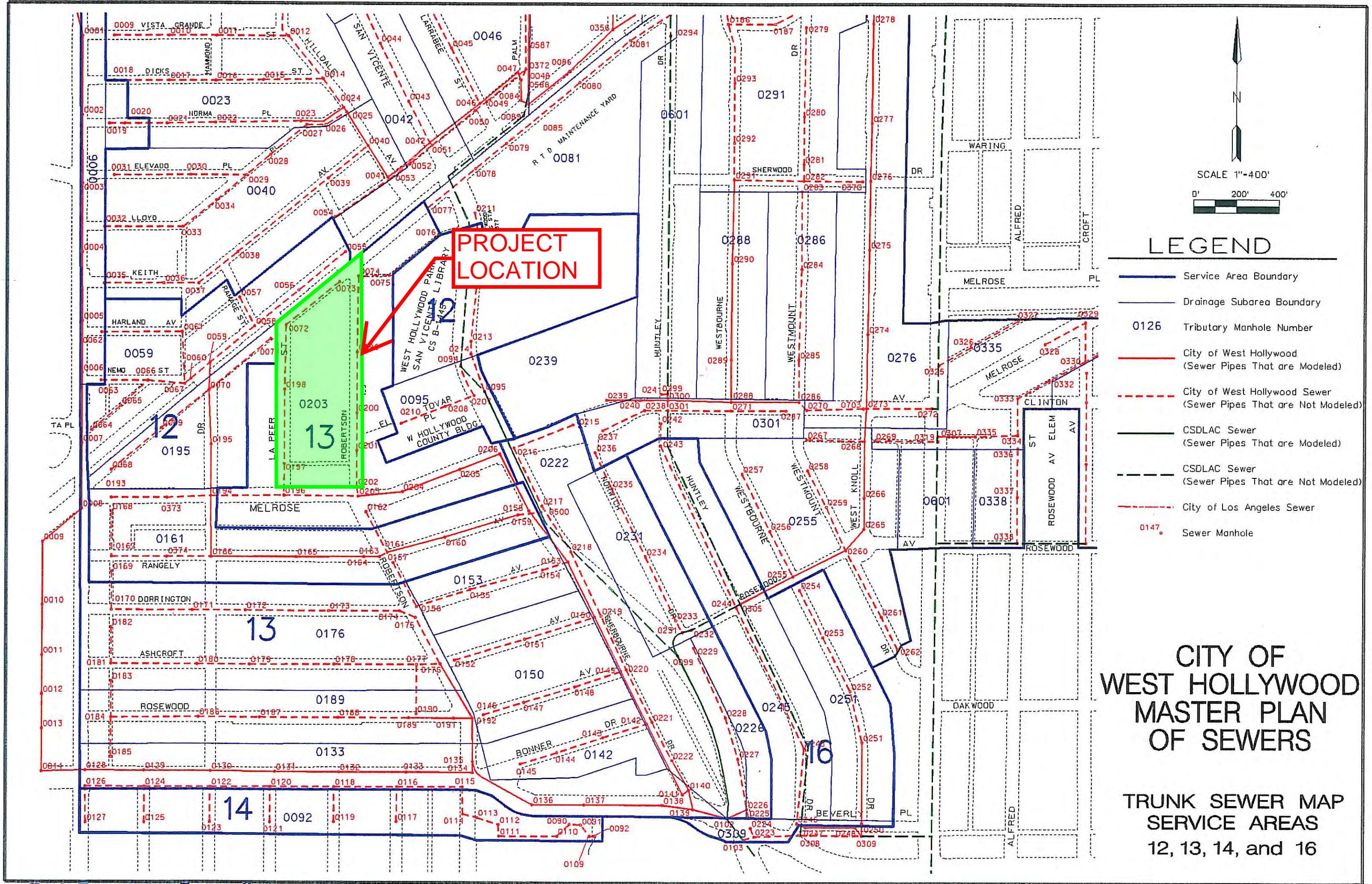
APPENDIX B

**City of West Hollywood Zoning Map and General Land
Use Plan**



APPENDIX C

**City of West Hollywood Master Plan of Sewers and
Sewer Facilities Data**



City of West Hollywood
SEWER FACILITIES DATA

11/28/92

Page No. 20

ID	Street/Comments	Drawing No	Year Inst	Size (in)	Mater ial	Manning N	Length (ft)	Ground Elev USMH	Invert Elev USMH	Invert Elev DSMH	Given Slope
130158-130153	SAN VICENTE	DDT-29	1955	10.00	VCP	0.013	280	173.00	164.27	163.15	0.00400
130169-130170	ALLEY/DORRINGTON	CC7956-P10	1968	8.00	VCP	0.013	191	212.00	204.85	199.12	0.00300
130170-130171	DORRINGTON	CC7956-P10	1968	8.00	VCP	0.013	317	207.00	198.92	13.21	0.01800
130171-130172	DORRINGTON	CC7956-P10	1968	8.00	VCP	0.013	346	201.00	193.11	186.88	0.01800
130172-130173	DORRINGTON	CC-7956-P9	1968	8.00	VCP	0.013	316	194.50	186.78	178.94	0.02480
130173-130174	DORRINGTON	CC-7956-P9	1968	8.00	VCP	0.013	316	187.00	178.84	171.00	0.02480
130174-130175	DORRINGTON	CC-7956-P9	1968	8.00	VCP	0.013	122	179.00	170.65	163.00	0.00000
130175-130176	ROBERTSON	CC-7956-P4	1968	8.00	VCP	0.013	271	177.00	162.76	161.67	0.00400
130176-130192	ROBERTSON	CC-7956-P4	1968	10.00	VCP	0.013	281	176.00	161.50	160.49	0.00360
130177-130176	ASHCROFT	CC-7956-P7	1968	8.00	VCP	0.013	144	177.50	169.33	161.81	0.00000
130178-130177	ASHCROFT	CC-7956-P7	1968	8.00	VCP	0.013	350	184.00	176.35	169.63	0.01920
130179-130178	ASHCROFT	CC-7956-P7	1968	8.00	VCP	0.013	350	191.00	183.17	176.45	0.01920
130180-130179	ASHCROFT	CC-7956-P8	1968	8.00	VCP	0.013	350	198.00	189.99	183.27	0.01920
130181-130180	ASHCROFT	CC-7956-P8	1968	8.00	VCP	0.013	350	205.00	196.81	190.09	0.01920
130182-130181	ALLEY/ASHCROFT	CC-7956-P8	1968	8.00	VCP	0.013	194	207.00	199.68	197.01	0.01400
130183-130184	ALLEY/ROSEWOOD	CC-7956-P3	1968	8.00	VCP	0.013	184	204.00	196.58	194.00	0.01400
130184-130186	ROSEWOOD	CC-7956-P6	1968	8.00	VCP	0.013	346	202.50	193.80	188.26	0.01600
130185-130184	ALLEY/ROSEWOOD	CC-7956-P3	1968	8.00	VCP	0.013	112	203.00	195.93	194.00	0.01720
130186-130187	ROSEWOOD	CC-7956-P6	1968	8.00	VCP	0.013	346	196.00	188.16	182.62	0.01600
130187-130188	ROSEWOOD	PC-7956-P5	1968	8.00	VCP	0.013	336	186.00	182.52	177.14	0.01600
130188-130189	ROSEWOOD	PC-7956-P5	1968	8.00	VCP	0.013	346	185.00	177.04	171.50	0.01600
130189-130191	ROSEWOOD	PC-7956-P5	1968	8.00	VCP	0.013	204	180.00	171.40	168.13	0.01600
130190-130177	ASHCROFT	CC-7956-P7	1968	8.00	VCP	0.013	250	184.00	172.47	169.97	0.01000
130191-130192	ROSEWOOD	PC-7956-P5	1968	8.00	VCP	0.013	91	176.00	168.03	161.39	0.00000
130192-130135	ROBERTSON	CC-7956-P4	1968	12.00	VCP	0.013	249	175.00	160.39	159.59	0.00320
130194-130196	MELROSE	CI-140-33C	1926	8.00	VCP	0.013	337	209.00	198.32	189.58	0.02600
130196-130203	MELROSE	CI-140-33C	1926	8.00	VCP	0.013	29	200.00	189.47	180.51	0.02720
130197-130196	LA PEER	CI-140-28A	1926	8.00	VCP	0.013	260	206.00	197.67	190.39	0.02800
130198-130197	LA PEER	CI-140-28A	1926	8.00	VCP	0.013	276	224.00	205.26	197.77	0.02720
130199-130200	ROBERTSON	CI-247-1A	1926	8.00	VCP	0.013	276	207.00	197.84	190.66	0.02600
130200-130201	ROBERTSON	CI-247-1A	1926	8.00	VCP	0.013	276	198.00	190.56	185.37	0.01880
130201-130202	ROBERTSON		1926	8.00	VCP	0.013	260	194.00	190.66	186.08	0.01800
130202-130203	ROBERTSON	CI-140-33C	1926	8.00	VCP	0.013	4	192.00	186.08	186.08	0.01000
130203-130204	MELROSE	CI-140-33C	1926	8.00	VCP	0.013	124	192.00	180.37	176.98	0.02720
130204-130205	MELROSE	CI140-33BC	1926	8.00	VCP	0.013	330	189.00	176.88	169.88	0.21200
130205-130206	MELROSE	CI140-33BC	1926	8.00	VCP	0.013	327	181.00	169.78	166.25	0.01080
130206-130158	SAN VICENTE	DDT-29	1955	10.00	VCP	0.013	287	176.00	165.53	164.37	0.00400
130215-130216	MELROSE	CI140-33BC	1926	8.00	VCP	0.013	313	173.00	167.51	166.25	0.00400
130216-130217	SAN VICENTE	CI-140-30A	1926	10.00	VCP	0.013	295	176.00	166.05	164.87	0.00400
130217-130218	SAN VICENTE	CI-140-30A	1926	10.00	VCP	0.013	281	173.00	164.77	163.65	0.00400
130218-130219	SAN VICENTE	CI-140-30A	1926	10.00	VCP	0.013	272	172.00	163.55	162.46	0.00400
130219-130220	SAN VICENTE	CI-140-30A	1926	10.00	VCP	0.013	280	171.00	162.36	161.24	0.00400
130220-130221	SAN VICENTE	CI-140-30A	1926	10.00	VCP	0.013	265	170.00	161.14	160.08	0.00400
130221-130222	SAN VICENTE	CI-140-30A	1926	10.00	VCP	0.013	238	170.00	159.98	159.03	0.00400
130222-130140	SAN VICENTE	CI-140-30A	1955	10.00	VCP	0.013	115	168.00	158.93	157.63	0.01360
130225-130226	NORWICH/BEVERLY	PC-7500-P3	1966	8.00	VCP	0.013	43	166.00	157.31	155.66	0.03840
130226-130102	NORWICH	PC-7500-P2	1966	8.00	VCP	0.013	67	166.00	155.46	154.29	0.01840
130227-130226	NORWICH	PC-7500-P2	1966	8.00	VCP	0.013	197	165.00	156.44	155.66	0.00400
130228-130227	NORWICH	PC-7500-P2	1966	8.00	VCP	0.013	239	168.00	157.50	156.54	0.00400
130229-130228	NORWICH	PC-7500-P2	1966	8.00	VCP	0.013	350	167.50	159.50	157.60	0.00400
130231-130099	ROSEWOOD		1966	8.00	VCP	0.013	91	167.37	157.65	156.97	0.00750
130233-130231	NORWICH	CC-7500-P3	1966	8.00	VCP	0.013	68	167.00	158.26	157.65	0.00920
130234-130233	NORWICH	CC-7736-P7	1966	8.00	VCP	0.013	346	169.00	160.16	158.36	0.00520

APPENDIX D

City of West Hollywood Sewer Capacity Study
Requirements & LA County Sanitation District No. 4
Mean Loading Table



City of West Hollywood
California 1984

**City of West Hollywood
Department of Public Works
Engineering Division**

Sewer Capacity Study Requirements

1. The sewer capacity study shall be certified by a California licensed Civil Engineer.
2. Project Description: The study should have a project description describing what is being proposed on the development site. The current land uses and proposed land uses of the development shall also be identified.
3. Site Description: The site description shall describe the project's location, the approximate acreage of the project site, and contain a vicinity map to identify the project's location.
4. Existing Sewer Pipe Capacity Analysis: This section shall identify any existing connections to the sewer system. A 7-day flow monitoring study will be required to obtain the existing flow capacity. This shall be done at the downstream sewer manhole, or at a location that makes sense to adequately determine existing flow capacity. Additional monitoring locations may be required to verify downstream capacity of the local sewer network as well as if the project will connect to a nearby trunk line. The City of Los Angeles sewers located downstream may be impacted by a proposed development project. Therefore, the sewer study may need to include monitoring locations in the City of Los Angeles. The existing average daily flow (Q_{exist}) and peak flow shall be determined in cubic feet per second.
5. Proposed Flow Generation: This section shall include the proposed land use(s). Flow generation shall be determined by the user category that most closely matches the County Sanitation District No. 4 of Los Angeles County mean loading table. This will determine your average daily flow (Q_{AF}) in gallons per day (gpd) that shall then be converted to cubic feet per second (cfs).

The City of West Hollywood was an unincorporated area of Los Angeles County until 1984; therefore the sewer system was designed to the County of Los Angeles Department of Public Works standards, where all pipes are designed for peak flow.

$$n = 0.013$$

$$D/d \leq 0.50 \text{ for } d \leq 15"$$

$$D/d \leq 0.75 \text{ for } d > 15"$$

These assumptions will determine the Q_{cap} = Sewer pipe capacity.

The peak flow (Q_{PF}) for this study shall be calculated in cubic feet per second (cfs) by $Q_{PF} = 2.5 \times Q_{AF}$ where 2.5 is the peaking factor used to determine the maximum peak flow rate for sewer diameters less than 15". The peaking factor shall be 2.0 for diameters greater than 15".

6. Conclusion: The conclusion shall identify the sewer capacity of the pipe as a flow rate (Q_{cap}). The calculations shall demonstrate that the sewer mainline has the capacity for the existing flow and the added flow at average and peak conditions. If the sewer is found to be inadequate, recommendations shall be provided to handle the increase in sewer flow. If this is a large site that has several sewer connection options, the conclusion shall address those options and make a recommendation for the project. The recommendations will be incorporated into the mitigation measures for the project.

**AN ORDINANCE PRESCRIBING THE CONNECTION FEE RATE
AND MEAN LOADINGS PER UNIT OF USAGE FOR
COUNTY SANITATION DISTRICT NO. 4 OF LOS ANGELES COUNTY**

**THE BOARD OF DIRECTORS OF COUNTY SANITATION DISTRICT NO. 4 OF LOS ANGELES
COUNTY ORDAINS AS FOLLOWS:**

SECTION 1.0 - USER CATEGORIES AND MEAN LOADINGS

Pursuant to Section 3.03(2) of the *Master Connection Fee Ordinance for County Sanitation District No. 4 of Los Angeles County*, the following shall constitute the User Categories and mean loadings per Unit of Usage for flow, Biochemical Oxygen Demand (BOD), and Suspended Solids:

<u>USER CATEGORY</u>	<u>UNIT OF USAGE</u>	FLOW (Gallons per Day)	BOD (Pounds per Day)	SUSPENDED SOLIDS (Pounds per Day)
Acupuncture Office/Clinic	1000 Sq.Ft.	150	0.16	0.10
Arcade - Video Games	1000 Sq.Ft.	80	0.10	0.10
Auditorium	Seat	4	0.01	0.01
Auto Parking	1000 Sq.Ft.	20	0.03	0.03
Auto Body/Mech. Repair Shop	1000 Sq.Ft.	80	0.12	0.19
Bakery	1000 Sq.Ft.	280	2.34	1.40
Bank: Headquarters	1000 Sq.Ft.	150	0.16	0.10
Bank: Branch	1000 Sq.Ft.	80	0.10	0.10
Banquet Room/Ballroom	1000 Sq.Ft.	800	6.67	4.00
Bar: Cocktail, Fixed Seat	Seat	18	0.03	0.03
Bar: Juice, No Baking Facilities	1000 Sq.Ft.	120	0.20	0.20
Bar: Juice, With Baking Facilities	1000 Sq.Ft.	280	2.34	1.40
Bar: Cocktail, Public Table Area	1000 Sq.Ft.	500	4.17	2.50
Barber Shop	1000 Sq.Ft.	100	0.13	0.13
Beauty Parlor	1000 Sq.Ft.	280	0.35	0.35
Bldg. Const/Field Office	Office	150	0.19	0.19
Bowling Alley: Alley, Lanes & Lobby Area	1000 Sq.Ft.	80	0.10	0.10
Cafeteria: Fixed Seat	Seat	30	0.25	0.15
Car Wash: Wand Type	1000 Sq.Ft.	700	3.00	1.58
Car Wash: Tunnel - Recycling Type	1000 Sq.Ft.	2700	11.74	6.16
Car Wash: Tunnel - Non-Recycling Type	1000 Sq.Ft.	3700	15.86	8.33
Chapel: Fixed Seat	Seat	4	0.01	0.01
Chiropractic Office	1000 Sq.Ft.	150	0.16	0.10

<u>USER CATEGORY</u>	<u>UNIT OF USAGE</u>	<u>FLOW (Gallons per Day)</u>	<u>BOD (Pounds per Day)</u>	<u>SUSPENDED SOLIDS (Pounds per Day)</u>
Church: Fixed Seat	Seat	4	0.01	0.01
Church School: Day Care/Elem	Occupant	8	0.01	0.01
Church School: One Day Use	1000 Sq.Ft.	200	0.22	0.17
Cocktail Lounge: Fixed Seat	Seat	18	0.03	0.03
Coffee House: No Pastry Baking & No Food Preparation	1000 Sq.Ft.	120	0.20	0.20
Coffee House: Pastry Baking Only	1000 Sq.Ft.	280	2.34	1.40
Coffee House: Serves Prepared Food	Seat	30	0.25	0.15
Cold Storage: No Sales	1000 Sq.Ft.	20	0.03	0.03
Cold Storage: Retail Sales	1000 Sq.Ft.	80	0.10	0.10
Comfort Station: Public	Fixture	100	0.13	0.13
Commercial Use	1000 Sq.Ft.	80	0.10	0.10
Community Center	Occupant	4	0.01	0.01
Counseling Center	1000 Sq.Ft.	150	0.16	0.10
Credit Union	1000 Sq.Ft.	150	0.19	0.19
Dairy: Retail Area	1000 Sq.Ft.	80	0.10	0.10
Dancing Area (of Bars or Nightclub)	1000 Sq.Ft.	600	1.00	1.00
Dance Studio	1000 Sq.Ft.	80	0.10	0.10
Dental Office/Clinic	1000 Sq.Ft.	250	0.27	0.17
Doughnut Shop	1000 Sq.Ft.	280	2.34	1.40
Drug Rehabilitation Center	1000 Sq.Ft.	150	0.16	0.10
Equipment Booth	1000 Sq.Ft.	20	0.03	0.03
Film Processing - 1 Hour Photo, Etc.	1000 Sq.Ft.	100	0.13	0.13
Gas Station: Self Service	Fixture	100	0.15	0.23
Gas Station: Four Bays Max	Station	430	0.65	1.00
Gymnasium - Basketball, Volleyball	1000 Sq.Ft.	250	0.31	0.31
Hanger (Aircraft)	1000 Sq.Ft.	80	0.12	0.19
Health Club/Spa	1000 Sq.Ft.	800	1.00	1.00
Homeless Shelter	Bed	75	0.13	0.13
Hospital: Convalescent	Bed	75	0.16	0.06
Hospital: Animal	1000 Sq.Ft.	280	0.35	0.35
Hotel: Use Guest Rooms Only	Room	130	0.34	0.13
Jail	Inmate	85	0.22	0.09
Kennel: Dog Kennel/Open	1000 Sq.Ft.	100	0.13	0.13
Laundromat	Machine	170	0.21	0.16
Library: Public Area	1000 Sq.Ft.	80	0.10	0.10

<u>USER CATEGORY</u>	<u>UNIT OF USAGE</u>	FLOW (Gallons per Day)	BOD (Pounds per Day)	SUSPENDED SOLIDS (Pounds per Day)
Library: Stacks, Storage	1000 Sq.Ft.	25	0.03	0.03
Lobby Of Retail Area	1000 Sq.Ft.	80	0.10	0.10
Lodge Hall	Seat	4	0.01	0.01
Lounge	1000 Sq.Ft.	80	0.13	0.13
Machine Shop	1000 Sq.Ft.	80	0.10	0.10
Manufacturing (Dry) Facility	1000Gr.Sq.Ft.	80	0.10	0.10
Massage Parlor	1000 Sq.Ft.	275	0.34	0.34
Medical Building	1000 Sq.Ft.	250	0.27	0.17
Medical: Lab In Hospital	1000 Sq.Ft.	250	0.69	0.31
Medical Office/Clinic	1000 Sq.Ft.	250	0.27	0.17
Mini-Mall	1000 Sq.Ft.	80	0.40	0.27
Mortuary: Chapel	Seat	4	0.01	0.01
Mortuary: Embalming	1000 Sq. Ft.	715	4.77	4.77
Mortuary: Living Area	1000 Sq.Ft.	80	0.14	0.14
Motel: Use Guest Rooms Only	Room	130	0.34	0.13
Museum: All Area	1000 Sq.Ft.	20	0.03	0.03
Museum: Office Over 15%	1000 Sq.Ft.	150	0.19	0.19
Museum: Sales Area	1000 Sq.Ft.	80	0.10	0.10
Office Building	1000 Sq.Ft.	150	0.16	0.10
Office Bldg W/ Cooling Tower	1000 Sq.Ft.	180	0.16	0.10
Pool Hall (No Alcohol)	1000 Sq.Ft.	80	0.10	0.10
Post Office: Full Service	1000 Sq.Ft.	150	0.19	0.19
Post Office: Private Mail Box Rental	1000 Sq.Ft.	80	0.10	0.10
Prisons	Inmate	175	0.45	0.18
Residential Dorm: College Or Residential	Student	75	0.13	0.13
Residential: Boarding House	Bed	75	0.13	0.13
Residential: Apt - Bachelor	Dwelling Unit	80	0.14	0.14
Residential: Apt - 1 Bedroom	Dwelling Unit	120	0.22	0.21
Residential: Apt - 2 Bedroom	Dwelling Unit	160	0.29	0.27
Residential: Apt - 3 Bedroom	Dwelling Unit	200	0.36	0.34
Residential: Apt - >3 Bedroom	Additional Bedroom	40	0.07	0.07
Residential: Condo - 1 Bedroom	Dwelling Unit	120	0.22	0.21
Residential: Condo - 2 Bedroom	Dwelling Unit	160	0.29	0.27
Residential: Condo - 3 Bedroom	Dwelling Unit	200	0.36	0.34

<u>USER CATEGORY</u>	<u>UNIT OF USAGE</u>	<u>FLOW (Gallons per Day)</u>	<u>BOD (Pounds per Day)</u>	<u>SUSPENDED SOLIDS (Pounds per Day)</u>
Residential: Condo - >3 Bedroom	Additional Bedroom	40	0.07	0.07
Residential: Duplex/Townhouse/SFD - 1 Bedroom	Dwelling Unit	130	0.23	0.22
Residential: Duplex/Townhouse/SFD - 2 Bedroom	Dwelling Unit	180	0.32	0.31
Residential: Duplex/Townhouse/SFD - 3 Bedroom	Dwelling Unit	230	0.41	0.39
Residential: Duplex/Townhouse/SFD - >3 Bedroom	Additional Bedroom	50	0.09	0.09
Residential Room Addition: Bedroom	Bedroom	50	0.09	0.09
Residential Room Conversion: Into A Bedroom	Bedroom	50	0.09	0.09
Residential: Mobile Home	Dwelling Unit	160	0.29	0.27
Residential: Artist (2/3 Area)	Dwelling Unit	250	0.45	0.43
Residential: Artist Residence	Dwelling Unit	80	0.14	0.14
Residential: Guest Home w/ Kitchen	Same as Residential Apt			
Residential: Guest Home w/o Kitchen	Bedroom	50	0.06	0.06
Rest Home	Bed	75	0.16	0.06
Restaurant: Drive-In	Stall	40	0.33	0.20
Restaurant: Drive-In	Seat	20	0.17	0.10
Restaurant: Fast Food - Indoor Seat	Seat	20	0.17	0.10
Restaurant: Fast Food - Outdoor Seat	Seat	12	0.10	0.06
Restaurant: Full Service - Indoor Seat	Seat	30	0.25	0.15
Restaurant: Full Service - Outdoor Seat	Seat	18	0.15	0.09
Restaurant: Take-Out	1000 Sq.Ft.	300	2.50	1.50
Retail Area	1000 Sq.Ft.	80	0.10	0.10
Rifle Range: Shooting Stalls, Shooting Lanes, Lobby Area	1000 Sq.Ft.	80	0.10	0.10
School: Arts/Dancing/Music	1000 Sq.Ft.	80	0.09	0.07
School: Day Care Center	Child	8	0.01	0.01
School: Elementary/Jr. High	Student	8	0.01	0.01
School: High School	Student	12	0.01	0.01
School: Kindergarten	1000 Sq.Ft.	200	0.22	0.17
School: Martial Arts	1000 Sq.Ft.	80	0.09	0.07
School: Nursery-Day Care	Child	8	0.01	0.01

<u>USER CATEGORY</u>	<u>UNIT OF USAGE</u>	<u>FLOW (Gallons per Day)</u>	<u>BOD (Pounds per Day)</u>	<u>SUSPENDED SOLIDS (Pounds per Day)</u>
School: Special Class	Student	8	0.01	0.01
School: Trade Or Vocational	Student	12	0.01	0.01
School: Training	Student	12	0.01	0.01
School: University/College	Student	18	0.02	0.02
School: Dormitory	Student	75	0.13	0.13
School: Stadium, Pavilion	Seat	4	0.01	0.01
Storage: Building/Warehouse	1000 Sq.Ft.	20	0.03	0.03
Storage: Self Storage Bldg.	1000 Sq.Ft.	20	0.03	0.03
Store: Ice Cream/Yogurt	1000 Sq.Ft.	80	0.67	0.40
Store: Retail	1000 Sq.Ft.	80	0.10	0.10
Studio: Film/TV - Audience Viewing Room	Seat	4	0.01	0.01
Studio: Film/TV - Regular Use - Indoor Filming Area	1000 Sq.Ft.	80	0.10	0.10
Studio: Film/TV - Industrial Use (Domestic)	1000 Sq.Ft.	80	0.00	0.00
Studio: Recording	1000 Sq.Ft.	80	0.10	0.10
Tanning Salon: Independent, No Shower	1000 Sq.Ft.	80	0.10	0.10
Tanning Salon: Within A Health Spa/Club	1000 Sq.Ft.	800	1.00	1.00
Theater: Drive-In	Vehicle	10	0.01	0.01
Theater: Live/Music/Opera	Seat	4	0.01	0.01
Theater: Cinema	Seat	4	0.01	0.01
Tract: Commercial/Residential	Acre	1	0.00	0.00
Trailer - Const/Field Office	Office	150	0.19	0.19
Veterinary Clinic/Office	1000 Sq.Ft.	280	0.30	0.19
Warehouse	1000 Sq.Ft.	20	0.03	0.03
Waste Dump: Recreational	Station	430	0.54	0.54
Wine Tasting Room: Kitchen	1000 Sq.Ft.	215	0.27	0.27
Wine Tasting Room: All Area	1000 Sq.Ft.	80	0.10	0.10

SECTION 2.0 - CONNECTION FEE RATE

Pursuant to Section 3.02 of the *Master Connection Fee Ordinance for County Sanitation District No. 4 of Los Angeles County*, the Connection Fee Rate shall be \$1,710.00 per capacity unit.

SECTION 3.0 - COST ALLOCATION FACTORS

Pursuant to Section 3.03(2) of the *Master Connection Fee Ordinance for County Sanitation District No. 4 of Los Angeles County*, the proportions of the capital improvement component of the connection fee rate which are attributable to flow, BOD, and Suspended Solids, designated as X, Y, and Z, respectively, shall be:

$$X = 0.6567$$

$$Y = 0.1992$$

$$Z = 0.1441$$

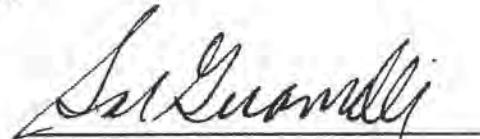
SECTION 4.0 - BASIC RESIDENTIAL UNIT

Pursuant to Section 3.03(2) of the *Master Connection Fee Ordinance for County Sanitation District No. 4 of Los Angeles County*, the loadings from a basic residential unit shall be:

Flowbru = 260 gallons per day of Wastewater flow
BODbru = 0.466 pounds per day of BOD
SSbru = 0.445 pounds per day of Suspended Solids.

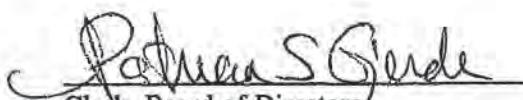
SECTION 5.0 - EFFECTIVE DATE

This Ordinance shall become effective on July 1, 1999.



Sue Guionville
Chairperson, Board of Directors
County Sanitation District No. 4
of Los Angeles County

ATTEST:



Patricia S. Gerde
Clerk, Board of Directors
County Sanitation District No. 4
of Los Angeles County

APPENDIX E

Project Data Table

PROJECT DATA				PROPOSED OPEN SPACES												
				BUILDABLE AREA AND DENSITY				PROPOSED USES								
ZONNING CN2 - COMMERCIAL, NEIGHBORHOOD 2	LOT AREA CN2				LEVEL	HOTEL OUTDOOR DINING	HOTEL OUTDOOR EVENT SPACE	PUBLIC OUTDOOR DINING	POOL DECK	CIRCULATION	PRIVATE TERRACE	ROOF GARDEN	PUBLIC WAY	POOL	TOTAL FLOOR AREA	MECHANICAL
CC2 - COMMERCIAL, COMMUNITY 2	LOT AREA CC2				57,490	27,016	950	940					19,190		21,040	
SETBACKS - WHMC 19.10.040 TABLE 2-6	TOTAL				84,506	LEVEL 01										
CN2 - CC2	CC2 ZONE ALLOWABLE DENSITY					LEVEL 02										
FRONT	None (RE:Sec.19.10.060)					LEVEL 03	960			280	140				1,420	
SIDE & REAR	None					LEVEL 04			4,730	590	3,040	7,285		1,480	17,125	3,320
UPPER FLOOR	RE: Sec.19.10.060					LEVEL 05										
BETWEEN STRUCTURES	RE: Sec.19.20.040					LEVEL 06										
ALLOWABLE HEIGHT	PROPOSED FAR					LEVEL 07										
CN2 ZONE ALLOWABLE HEIGHT	TOTAL BLDG AREA PROPOSED				502,965	LEVEL 08										
CC2 ZONE ALLOWABLE HEIGHT	TOTAL FLOOR AREA PROPOSED				262,315	LEVEL 09		13,400			1,475		960	15,835	1,040	
	TOTAL FAR PROPOSED				3.10	TOTAL	1,910	0	14,340	4,730	870	3,180	8,760	19,190	2,440	55,460
																4,360

PROPOSED PROJECT AREAS																									
		PROPOSED USES																							
LEVEL	PUBLIC RETAIL	PUBLIC RESTAURANT	WHOLESALE DESIGN SHOWROOM	HOTEL RESTAURANT	HOTEL CLUB	HOTEL ROOMS	HOTEL KEYS	HOTEL MEETING	HOTEL RETAIL	HOTEL SPA	HOTEL GYM FITNESS	HOTEL BACK OF HOUSE	HOTEL LOBBY	HOTEL CIRCULATION	PARKING	FAR CALCULATIONS		OPEN SPACES INCL. IN PARKING, CALC.							
																FLOOR GROSS AREA NOT IN FAR	HOTEL OUTDOOR DINING	HOTEL OUTDOOR EVENT SPACE	PUBLIC OUTDOOR DINING						
BASEMENT PARKING P3															94,300	94,300									
BASEMENT PARKING P2															94,300	94,300									
BASEMENT PARKING P1															3,010	41,735	52,050								
LEVEL 01	3,525				3,780											0	940	63 seats							
LEVEL 02	9,425		7,905 [527 seats]		10,325		8,815 [587 seats]		10,990		1,685		3,040		5,085	57,270	0								
LEVEL 03	5,180				8,400 [560 seats]		13,220		735		1,900		3,820		4,265	9,210	49,530								
LEVEL 04					1,055 [70 seats]		2,440		(7)		8,530		4,180		8,575	24,780	0								
LEVEL 05					185 [12 seats]		18,590		(47)		1,445		4,780			25,000									
LEVEL 06					19,130		(53)				135		4,335			23,600									
LEVEL 07					19,130		(53)				135		4,335			23,600									
LEVEL 08					19,130		(28)				135		4,335			23,600									
LEVEL 09	7,170		2,870 [193 seats]								1,135		280		11,335	6,800 [454 seats]	6,600	440 seats							
TOTALS	3,525		3,780		(241)				3,010				230,335		240,650	6,800 [454 seats]	0	7,540 [503 total seats]							
	14,605		15,075		10,325		18,455 [21,325]		97,550		13,220		11,725		1,900	2,800 [6620] [17,155]	11,485	45,270							
	1,005 total seats		1,422 total seats																						

REQUIRED PARKING										LOADING SPACE REQUIREMENT PER
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APPENDIX F

Hydraulic Calculations

Worksheet for ROBERTSON 8-IN CAPACITY

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013
Channel Slope	2.60000 %
Diameter	8.00 in
Discharge	0.970 ft ³ /s

Results

Normal Depth	0.33	ft
Flow Area	0.17	ft ²
Wetted Perimeter	1.05	ft
Hydraulic Radius	0.17	ft
Top Width	0.67	ft
Critical Depth	0.47	ft
Percent Full	49.9	%
Critical Slope	0.00916	ft/ft
Velocity	5.58	ft/s
Velocity Head	0.48	ft
Specific Energy	0.82	ft
Froude Number	1.93	
Maximum Discharge	2.10	ft ³ /s
Discharge Full	1.95	ft ³ /s
Slope Full	0.00644	ft/ft
Flow Type	SuperCritical	

Worksheet for ROBERTSON 8-IN EXISTING

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013
Channel Slope	2.60000 %
Diameter	8.00 in
Discharge	0.128 ft ³ /s

Results

Normal Depth	0.12	ft
Flow Area	0.04	ft ²
Wetted Perimeter	0.57	ft
Hydraulic Radius	0.07	ft
Top Width	0.51	ft
Critical Depth	0.16	ft
Percent Full	17.4	%
Critical Slope	0.00647	ft/ft
Velocity	3.16	ft/s
Velocity Head	0.15	ft
Specific Energy	0.27	ft
Froude Number	1.96	
Maximum Discharge	2.10	ft ³ /s
Discharge Full	1.95	ft ³ /s
Slope Full	0.00011	ft/ft
Flow Type	SuperCritical	

Worksheet for Robertson 8-in Proposed

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013
Channel Slope	2.60000 %
Diameter	8.00 in
Discharge	0.67 ft ³ /s

Results

Normal Depth	3.24	in
Flow Area	0.13	ft ²
Wetted Perimeter	0.92	ft
Hydraulic Radius	1.73	in
Top Width	0.65	ft
Critical Depth	0.39	ft
Percent Full	40.5	%
Critical Slope	0.00762	ft/ft
Velocity	5.08	ft/s
Velocity Head	0.40	ft
Specific Energy	0.67	ft
Froude Number	1.99	
Maximum Discharge	2.10	ft ³ /s
Discharge Full	1.95	ft ³ /s
Slope Full	0.00310	ft/ft
Flow Type	SuperCritical	

Worksheet for La Peer 8-inch Capacity

Project Description

Solve For Discharge

Input Data

Roughness Coefficient	0.013
Channel Slope	2.72000 %
Normal Depth	3.99 in
Diameter	8.00 in

Results

Discharge	0.99	ft^3/s
Flow Area	0.17	ft^2
Wetted Perimeter	1.05	ft
Hydraulic Radius	2.00	in
Top Width	0.67	ft
Critical Depth	0.47	ft
Percent Full	49.9	%
Critical Slope	0.00930	ft/ft
Velocity	5.70	ft/s
Velocity Head	0.51	ft
Specific Energy	0.84	ft
Froude Number	1.97	
Maximum Discharge	2.14	ft^3/s
Discharge Full	1.99	ft^3/s
Slope Full	0.00674	ft/ft
Flow Type	SuperCritical	

Worksheet for La Peer 8-inch Existing

Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Roughness Coefficient	0.013
Channel Slope	2.7200 %
Diameter	8.00 in
Discharge	0.01 ft³/s

Results

Normal Depth	0.37 in
Flow Area	0.01 ft²
Wetted Perimeter	0.29 ft
Hydraulic Radius	0.24 in
Top Width	0.28 ft
Critical Depth	0.04 ft
Percent Full	4.6 %
Critical Slope	0.00849 ft/ft
Velocity	1.39 ft/s
Velocity Head	0.03 ft
Specific Energy	0.06 ft
Froude Number	1.71
Maximum Discharge	2.14 ft³/s
Discharge Full	1.99 ft³/s
Slope Full	0.00000 ft/ft
Flow Type	SuperCritical

Worksheet for LA PEER 8-IN PROPOSED

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

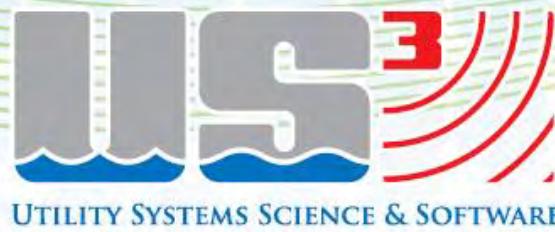
Roughness Coefficient	0.013
Channel Slope	2.72000 %
Diameter	8.00 in
Discharge	0.57 ft ³ /s

Results

Normal Depth	2.92	in
Flow Area	0.12	ft ²
Wetted Perimeter	0.87	ft
Hydraulic Radius	1.60	in
Top Width	0.64	ft
Critical Depth	0.35	ft
Percent Full	36.5	%
Critical Slope	0.00723	ft/ft
Velocity	4.93	ft/s
Velocity Head	0.38	ft
Specific Energy	0.62	ft
Froude Number	2.05	
Maximum Discharge	2.14	ft ³ /s
Discharge Full	1.99	ft ³ /s
Slope Full	0.00222	ft/ft
Flow Type	SuperCritical	

APPENDIX G

Utility Systems Science & Software Sewer Flow
Monitoring Report



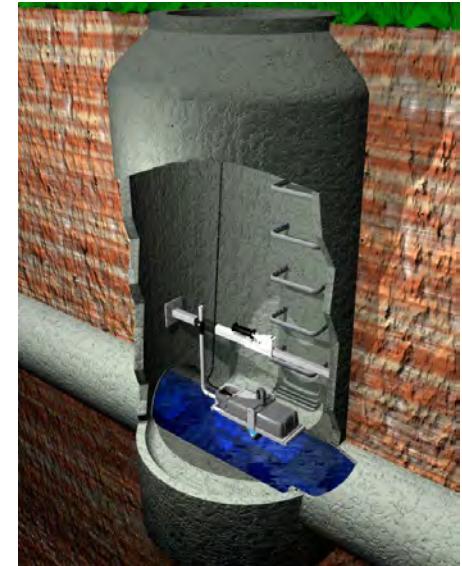
SEWER FLOW MONITORING

Leader in Wireless Temporary Sewer Flow Monitoring

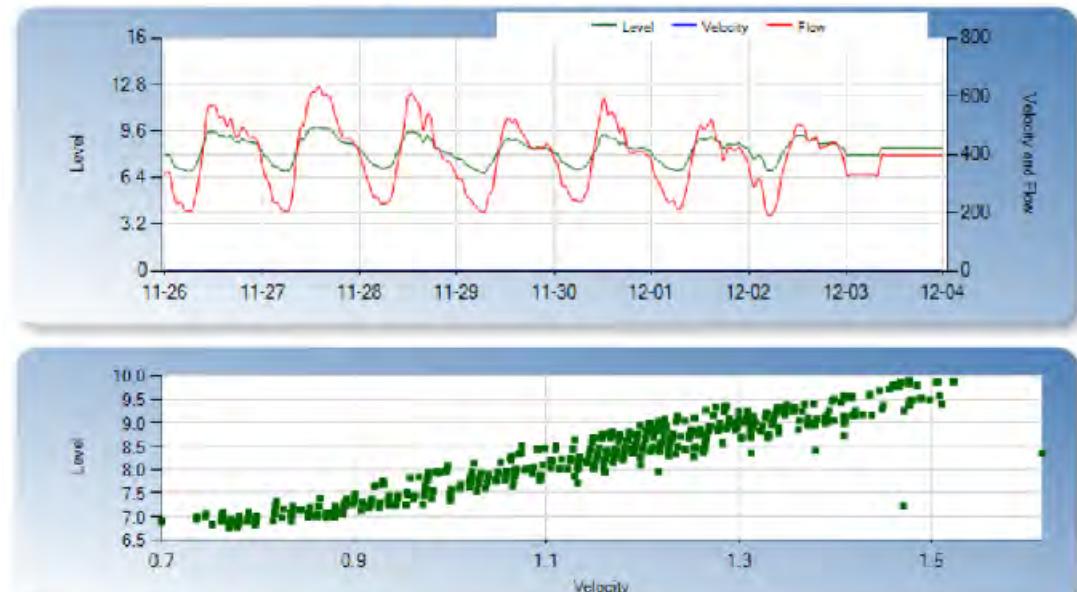


Flow Report 7/2014

*West Hollywood
 Faring Capital*



Site 5 - Bedford: Pipe Size:16 in.



Site Info			
Description:	In Street	Address:	Allston & Bedford Rd
Manhole No:	MII 30L0910	City:	
Pipe Diameter:	16	State:	
Group:	Collection System 3	Zip Code:	



Contents

- US3 Information and Services
- Project Approach
- Sensor Used and Specifications
- Summary of sites
- Map Location
- Confined Space
- Site 1 La Peer
 - Site Documentation
 - Site Statistics
 - Site Data and Graphs
- Site 2 #Robertson
 - Site Documentation
 - Site Statistics
 - Site Data and Graphs



Who we are:

Utility Systems, Science and Software, Inc. (US³), was founded in 2002 as a specialty technical engineering service company with its headquarters located in Santa Ana, California and Service and Engineering Facilities in San Diego, Sacramento.

The owners and management team are all professional and degreed engineers and have extensive experience in the application and implementation of Water/Waste Water and associated Process Control Projects. We are currently working in many facilities throughout the USA and are selectively guiding the growth of our business into markets and areas where we can provide the highest quality value of service to our clients.

US³ supports Municipalities, Consulting Engineering firms and other water/waste water systems integrators by providing technical services for engineering, software programming, technical site maintenance and calibration site support work primarily in the Water and Waste Water industries.

Services Include:

- Sewer Monitoring
 - US3 installs and maintains Marsh-McBirney Meters for Sewer Monitoring. US3 will then interface the standard MM Meter for Real-time Web-Based Wireless Flow Monitoring using CDMA, GPRS/GSM, VHF/UHF/Trunk radio networks (including Motorola Networks). US3 provides the following:
 - Detailed Preliminary Investigation.
 - Validate Hydraulic Suitability,
 - Provide Detailed Site Data,
 - Install Meter to Exact Specifications,
- Interface Rain Gauge Instrumentation,
- Provide Communications to all instruments,
- Train Utility Engineers and Technicians how to access Web-Based Data,
- Provide complete Calibration and Maintenance Services.
- SSO Monitoring & Event Notification
- US3 provides simple, cost effective, wireless SSO/CSO Monitoring & Event Notification. This information will be sent to your cell phone, pager, work/home phone and/or email.

- **Flow Meter Maintenance**

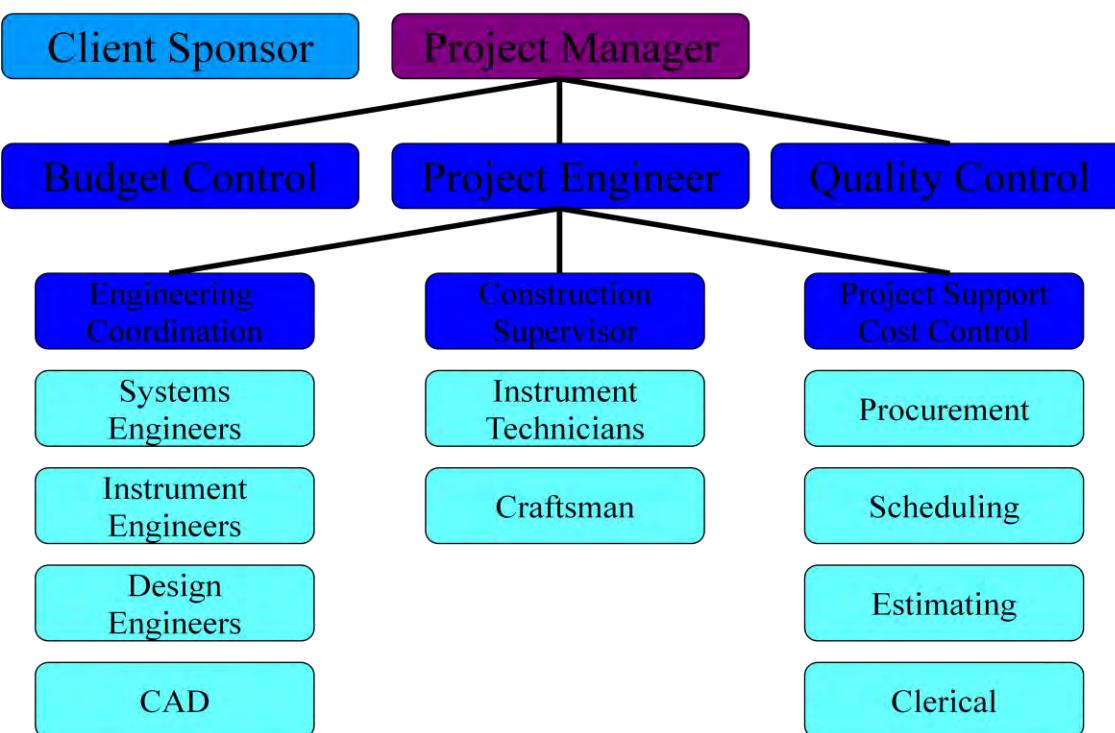
- US3 provides supplemental or dedicated maintenance Marsh-McBirney service for short-term or long-term requirements. Our highly trained and skilled technicians are experts in all phases of waste monitoring system maintenance

- **Sanitary System Evaluation Services**

- US3 has experienced licensed civil engineers who can work with City or County personnel to develop a comprehensive SSES program.
- US3 provides the procedures, equipment, and results of each activity performed during the investigation. US3 will develop a report to discuss the existing sanitary sewer collection system, identifies the system defects and problem areas, prioritizes and ranks the inflow/infiltration sewer segments, and details the recommended improvements. The report also includes a preliminary cost estimate associated with the selected rehabilitation methods to effectively reduce inflow/infiltration volumes and extend the useful life of the existing piping.

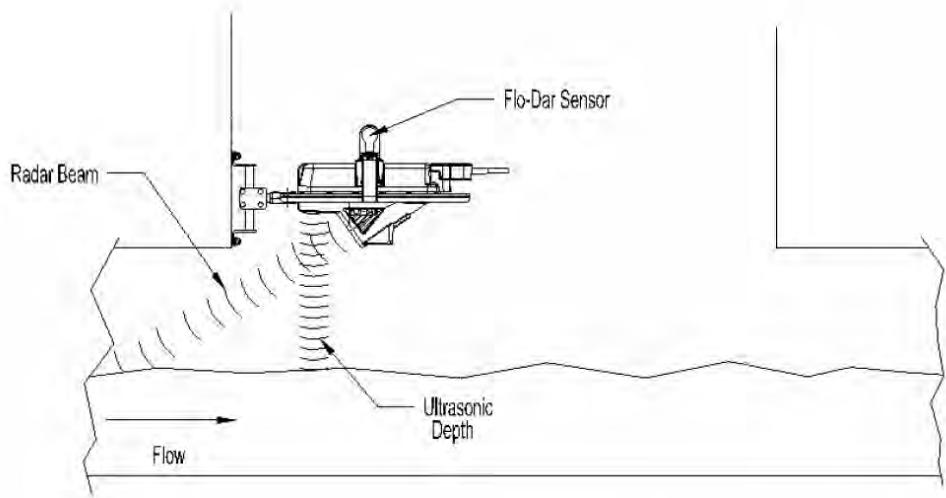
Project Management Approach:

Our Structure for Project Management puts “Checks and Balances” in to ensure the Customer is satisfied with the solutions and product provided.



Flow Meter Used in your Flow Study

Flo-Dar incorporates a Doppler Radar Velocity Sensor and Ultrasonic Depth Transducer for use in Open Channel Applications. It is available with a Permanent Flo-Station. The Flo-Station is available with or without a display and is powered with 120/240 VAC, or 12 VDC. The Flo-Station requires Flo-Ware software, which is included on some models, and a customer supplied PC. Flo-Station with display shows flow rate, total flow, velocity and level. Both Flo-Station's have four outputs one each for level, velocity, flow rate, surcharge level, and a contact closure.





Specifications

Flo-Dar Sensor Information:

Enclosure

Material: Polystyrene
 Dimensions: 6.9" W x 16.65" L x 11.7" D
 (17.5 cm x 42.3 cm x 29.7 cm)
 Weight: 10.5 lbs. (4.8 kg)

Temperature

Operating Range: 14° F to 122°F
 (-10° C to 50° C)
 Storage Range: -40° F to 140° F
 (-40° C to 60° C)

Velocity Measurement

Method: Radar
 Range: 0.75 to 20 ft/s (0.23 m/s to 6.10 m/s)
 Accuracy: ±0.5%; ±0.1 ft/s (±0.03 m/s)

Level Measurement

Method: Ultrasonic
 Standard Operating Range:
 0.25 to 60 in. (0.634 to 152.4 cm)
 Optional Operating Range: 0 (0 cm) to 240" (6.1 m)
 (with 18" dead band)
 Temperature Compensated
 Accuracy: ±0.1 in. (±0.25 cm)
 1% Accuracy

Surcharge Conditions Level/Velocity

Level
 Method: Piezo-resistive pressure transducer
 Maximum Range: 138 inches (3.5 meters)
 Velocity
 Method: Electromagnetic
 Range: -5 to +20 ft/s (-1.5 to +6.1 m/s)

Flow Station information:

Data Storage

64K (16K cycles of velocity/level data)

Local Terminal

RS232C at 19.2K baud

Timebase Accuracy: 1 second per day

Outputs: Four 4-20 mA outputs; system-isolated,
 up to 600Ω load. Each output is selectable between FLOW,
 LEVEL, VELOCITY OR SURCHARGE LEVEL.

Power Requirements

AC: 85-264 VAC, 47-63 Hz. 32 watts
 DC: 12 VDC for Flo-Station without Display or
 Flo-Station with Display (Backlight Off)

180 mA (2.1 watts) with (1) 4-20 mA utilized.

Housing Material: ABS Plastic, NEMA 4

Dimensions: 10.2" W x 9.3" H x 4" D
 (25.9 cm W x 23.6 cm H x 10.2 cm D)

Weight: 5 lbs.

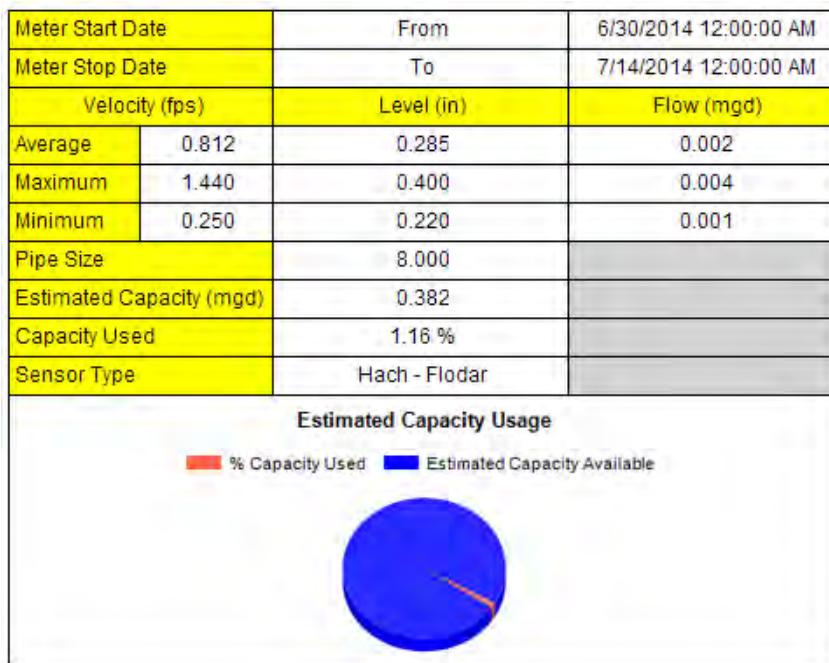
Temperature Operating Range: 14° F to 122° F
 (-10° C to 50° C)

Temperature Storage Range:

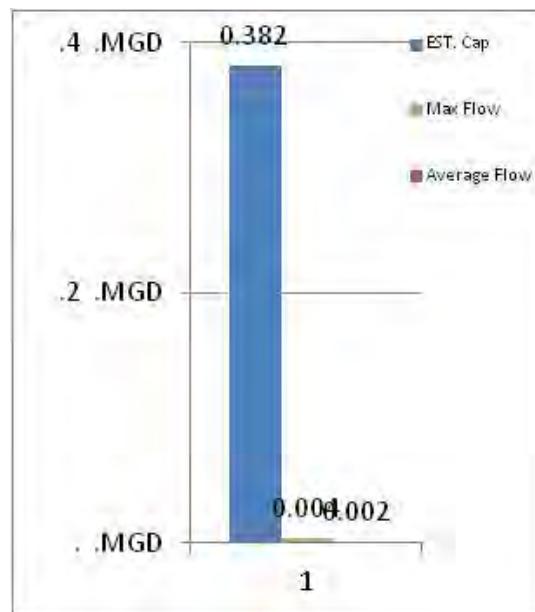
(without display) -40°F to 140°F (-40°C to 60°C)
 (with display) 4°F to 140°F (-20°C to 60°C) w/Display

Summary of Sites

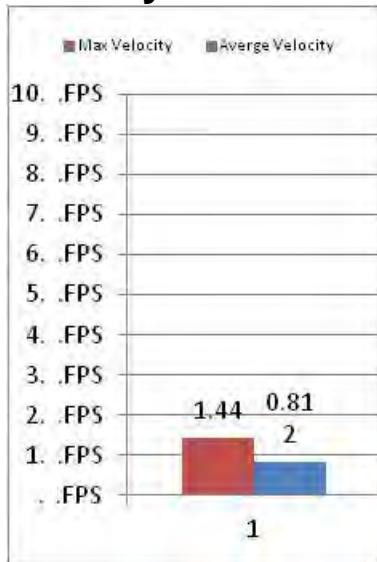
Site 1 646 N La Peer. 8 Inch pipe very low flows. This site is basically empty most of the time. Site is at or near 1% of Capacity.



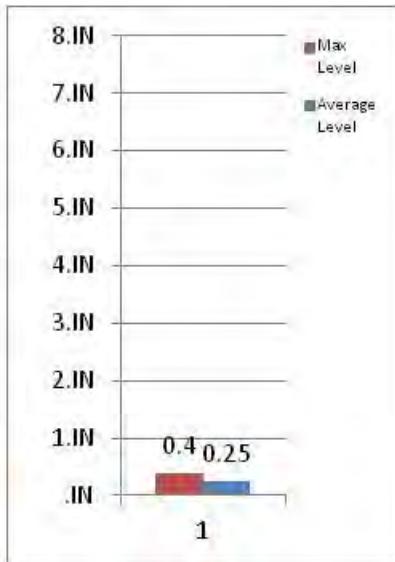
Flow Stats



Velocity Stats



Level Stats



Site 2 Robertson This is a 15 Inch Pipe Running at or near 20% Capacity. Site has low flow that seems to follow a commercial flow pattern.

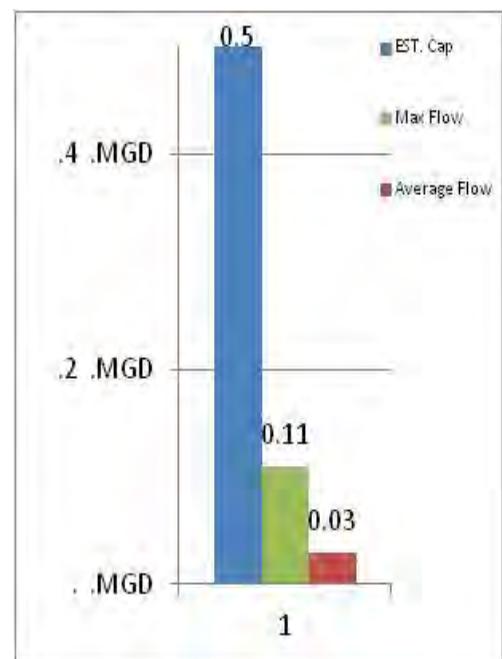
Meter Start Date	From	6/30/2014 12:00:00 AM
Meter Stop Date	To	7/14/2014 12:00:00 AM
Velocity (fps)	Level (in)	Flow (mgd)
Average	1.703	1.091
Maximum	3.400	1.692
Minimum	0.310	0.553
Pipe Size	8.000	
Estimated Capacity (mgd)	0.540	
Capacity Used	20.83 %	
Sensor Type	Hach - Flodar	

Estimated Capacity Usage

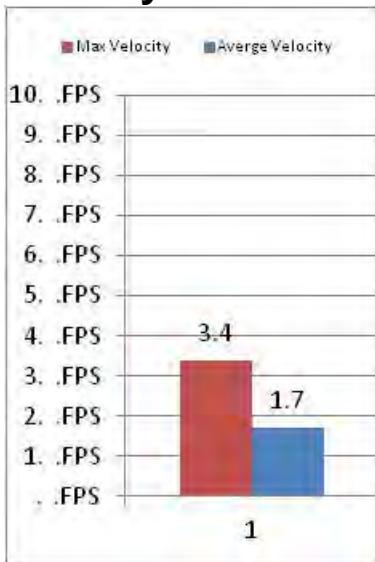
% Capacity Used Estimated Capacity Available



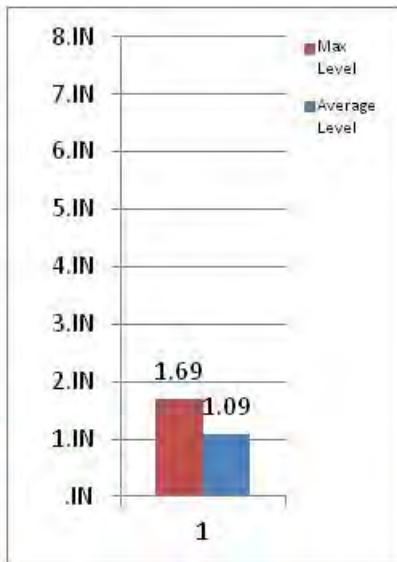
Flow Stats



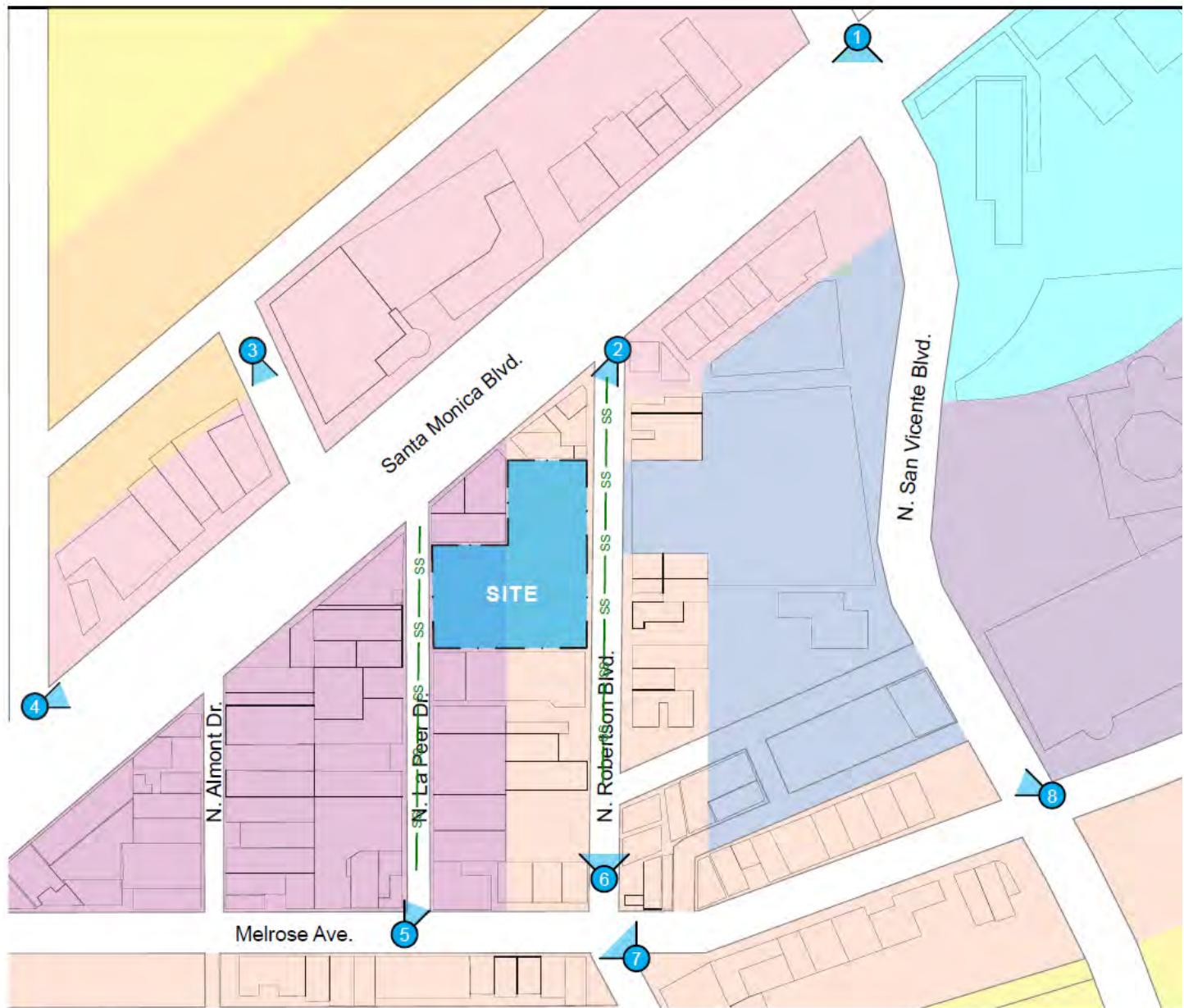
Velocity Stats



Level Stats



Customer Maps





Confined Space Installation

US3 Installation Practices does not require Full Confined space entry into the Manhole. We do cross the plane with our hands and arms but never actually enter the Manhole. We do take Gas readings and Fill out the confined space permitting. All of our Technicians have been fully trained in Confined Space and CPR.



A certificate from J.J. Keller & Associates, Inc. for a Confined Spaces Dangerous Places training program. The certificate includes handwritten signatures for employee Greg Serres and instructor Thomas Williams, along with the date 6-10-2013 and the course code 200-BG (12814). The certificate also features the company's logo and contact information.

CONFINED SPACES
Dangerous Places

Verification of participation
and completion of the
above Training Program

Employee: Greg Serres
Instructor: Thomas Williams
Company: US3
Date: 6-10-2013 Course Code: 200-BG (12814)

J. J. Keller
& Associates, Inc.
Since 1953

1000 W. Keller Road • P.O. Box 12814
Milwaukee, WI 53212-0814
Phone: 1-800-332-3900
Fax: 1-800-332-3901

Technicians:

Greg Serres
Gus Williams

Monday, July 21, 2014



Sales Office: 601 N. Parkcenter Drive, Suite 209
Santa Ana, Ca 92705 Phone: 714-542-1004

Engineering Office: 6190 Fairmont Ave Suite E
San Diego, Ca 92120 Phone: 619-546-4281

Report Data



Confidential Proprietary Information

Faring capital		646 N. La Peer								
646 N La Peer		Manhole No.								
Access: manhole	System Type: Sanitary <input checked="" type="checkbox"/> Storm <input type="checkbox"/>	Install Date: 6/30/2014								
Map 	Flow Meter Meter Depth ".6' Meter SN ":" pipe was dry at 8AM <table border="1"><tr><td>Avg Velocity</td><td>Avg Measured Level</td><td>Multiplier</td></tr><tr><td>0.00</td><td>.25</td><td>1</td></tr></table>		Avg Velocity	Avg Measured Level	Multiplier	0.00	.25	1		
Avg Velocity	Avg Measured Level	Multiplier								
0.00	.25	1								
Technology 	Gas <table border="1"><tr><td>O2</td><td>H2S</td><td>CO</td><td>LEL</td></tr><tr><td>20.9</td><td>0</td><td>0</td><td>0</td></tr></table>		O2	H2S	CO	LEL	20.9	0	0	0
O2	H2S	CO	LEL							
20.9	0	0	0							
Traffic Plan 	Notes no flow									
Traffic Safety signs, cone, lights										
Land Use										
Residential	Commercial	Industrial								
	X									
Manhole Depth "	8'									
Pipe Size "	8"									
Inner Pipe Size "(In/Out)	8"/8"									
Pipe Shape	Round									
Pipe Condition	good									
Manhole Material	brick									
Silt (inches)	0									
Velocity Profile Data	No Flow									
Velocity Profile Taken										
Sensor Offset	13.32									
Sensor Dist. to Crown	6									
Flow Direction	Upstream									
Flow Heading	East									



Meter Site Document

Faring capital

646 N La Peer

646 N. La Peer

Site



Manhole Before Install



Installation Process



Installed



Upstream



Downstream



Temporary Flow Study

Faring capital

646 N La Peer

Meter Start Date	From	6/30/2014 12:00:00 AM
Meter Stop Date	To	7/14/2014 12:00:00 AM
Velocity (fps)	Level (in)	Flow (mgd)
Average	0.285	0.002
Maximum	0.400	0.004
Minimum	0.220	0.001
Pipe Size	8.000	
Estimated Capacity (mgd)	0.382	
Capacity Used	1.16 %	
Sensor Type	Hach - Flodar	

Estimated Capacity Usage

■ % Capacity Used ■ Estimated Capacity Available



Utility Systems, Science and Software

6190 Fairmount Ave. Suite E

San Diego, CA 92021

601 N. Parkcenter Drive Suite 209

Santa Ana, CA 92705



History for 646 N La Peer: 06/30/2014 thru 07/14/2014

	Flow (GPM)			Flow (MGD)			Velocity (FPS)			Level (inches)				
Date	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Total Gal	Rain
6/30/2014	1.39	2.13	0.48	0.00	0.00	0.00	0.74	1.09	0.25	0.30	0.36	0.28	2,004	
7/1/2014	1.38	2.30	0.94	0.00	0.00	0.00	0.76	1.27	0.52	0.29	0.33	0.26	1,981	
7/2/2014	1.63	2.35	1.01	0.00	0.00	0.00	0.88	1.17	0.56	0.29	0.33	0.28	2,350	
7/3/2014	1.42	2.14	0.45	0.00	0.00	0.00	0.76	1.09	0.25	0.30	0.32	0.26	2,040	
7/4/2014	1.39	2.31	0.94	0.00	0.00	0.00	0.76	1.10	0.52	0.29	0.32	0.26	2,001	
7/5/2014	1.43	2.18	0.45	0.00	0.00	0.00	0.76	1.04	0.25	0.30	0.32	0.25	2,062	
7/6/2014	1.35	2.35	0.45	0.00	0.00	0.00	0.72	1.15	0.25	0.30	0.33	0.28	1,939	
Week:	1.43	2.35	0.45	0.00	0.00	0.00	0.77	1.27	0.25	0.29	0.36	0.25	14,378	
7/7/2014	1.69	3.07	0.94	0.00	0.00	0.00	0.87	1.44	0.51	0.30	0.35	0.28	2,429	
7/8/2014	1.50	2.37	0.83	0.00	0.00	0.00	0.80	0.94	0.59	0.30	0.40	0.23	2,163	
7/9/2014	1.45	2.17	0.83	0.00	0.00	0.00	0.85	1.15	0.65	0.27	0.33	0.23	2,089	
7/10/2014	1.48	2.28	0.78	0.00	0.00	0.00	0.91	1.26	0.65	0.26	0.29	0.22	2,131	
7/11/2014	1.75	2.15	0.83	0.00	0.00	0.00	1.01	1.16	0.54	0.28	0.30	0.25	2,515	
7/12/2014	1.16	2.17	0.39	0.00	0.00	0.00	0.76	1.14	0.25	0.26	0.30	0.22	1,671	
7/13/2014	1.24	2.17	0.78	0.00	0.00	0.00	0.79	1.14	0.55	0.26	0.30	0.22	1,791	
Week:	1.47	3.07	0.39	0.00	0.00	0.00	0.85	1.44	0.25	0.28	0.40	0.22	14,789	



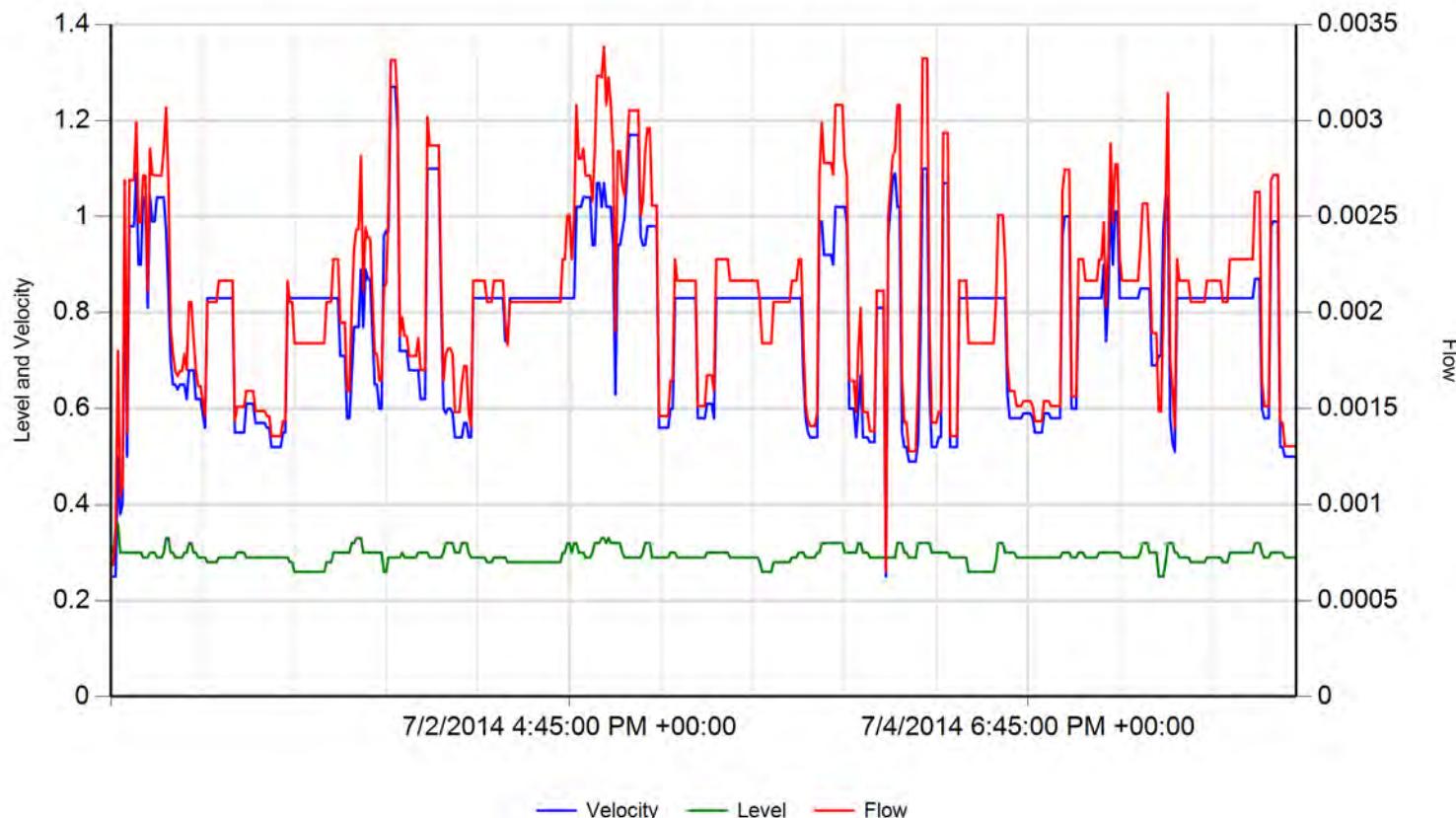
Utility Systems Science and Software

Report Date: 07/21/2014
Customer: Faring capital
Group: West Hollywood
SiteID: 369

History for 646 N La Peer: 06/30/2014 thru 07/14/2014

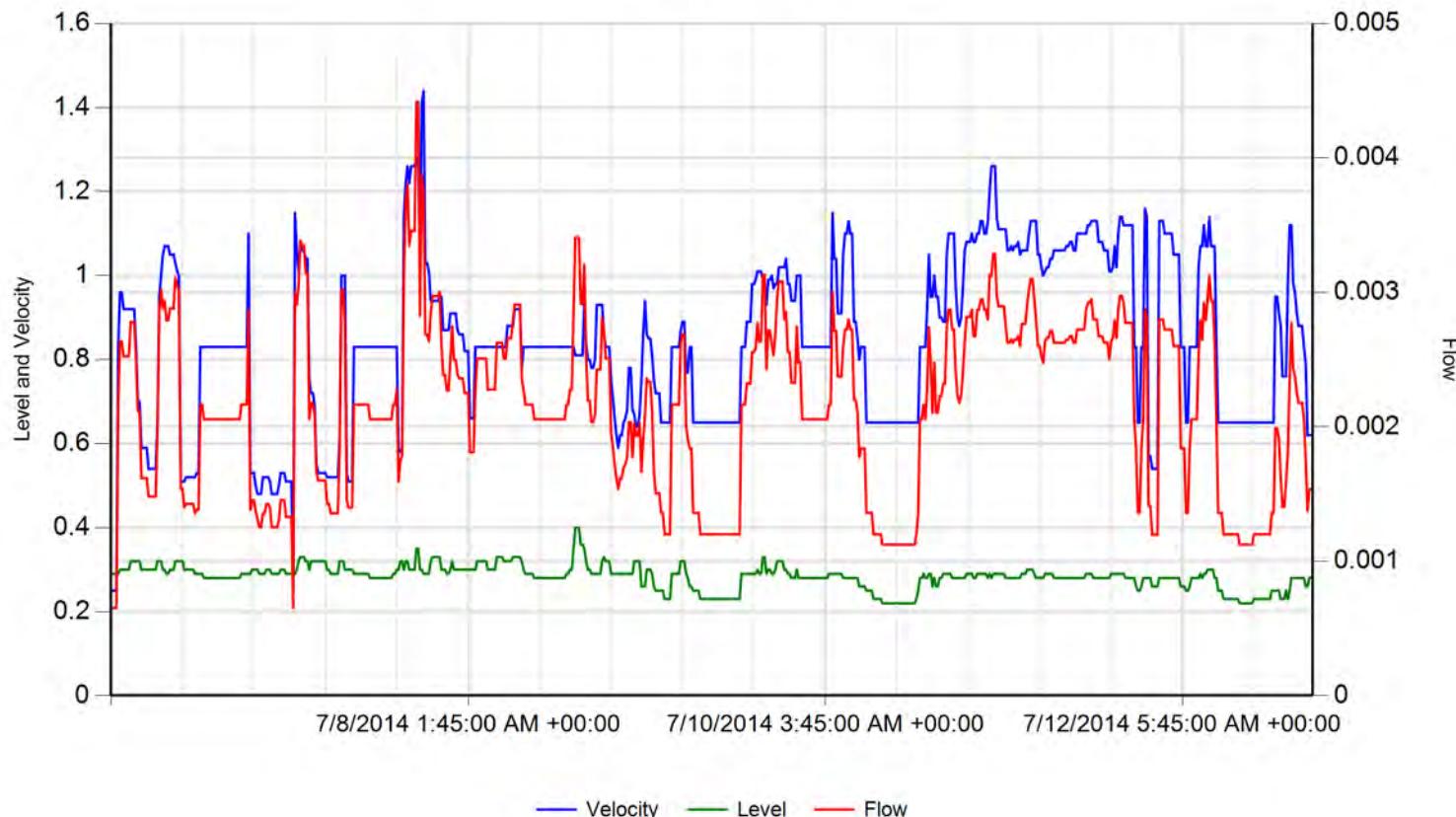
	Flow (GPM)			Flow (MGD)			Velocity (FPS)			Level (inches)				
Date	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Total Gal	Rain
7/14/2014	0.69	1.58	0.04	0.00	0.00	0.00	0.55	0.83	0.21	0.24	0.30	0.22	994	
Week:	0.69	1.58	0.04	0.00	0.00	0.00	0.55	0.83	0.21	0.24	0.30	0.22	994	

646 N La Peer



	Velocity (fps)	Level (in)	Flow (mgd)	RainFall	Inches	 7/21/2014 5:24:55 PM
Average	0.781	0.294	0.002			
Maximum	1.270	0.360	0.003			
Minimum	0.250	0.250	0.001			

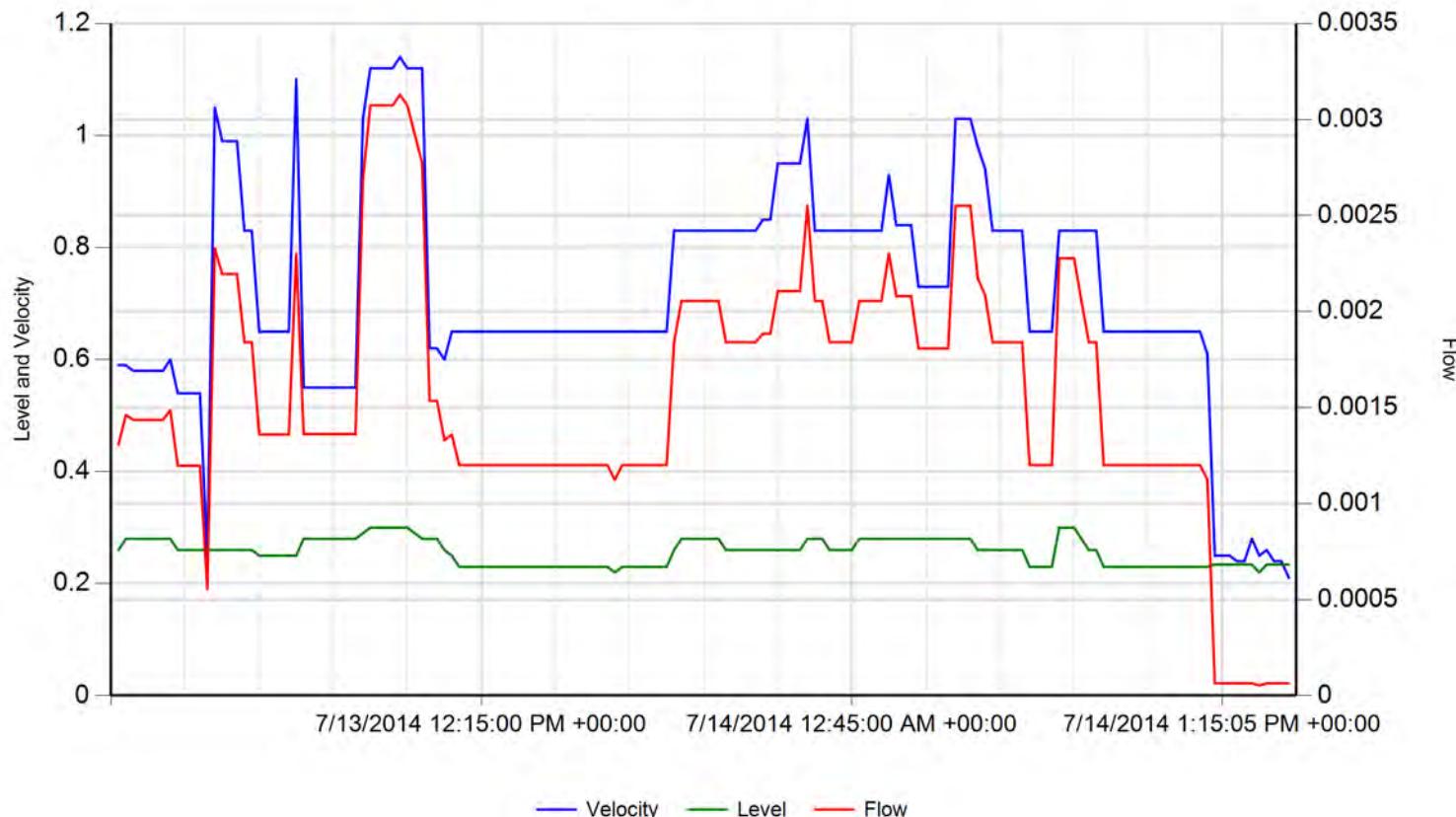
646 N La Peer



— Velocity — Level — Flow

	Velocity (fps)	Level (in)	Flow (mgd)	RainFall	Inches	WS3
Average	0.845	0.283	0.002			
Maximum	1.440	0.400	0.004			
Minimum	0.250	0.220	0.001			7/21/2014 5:24:55 PM

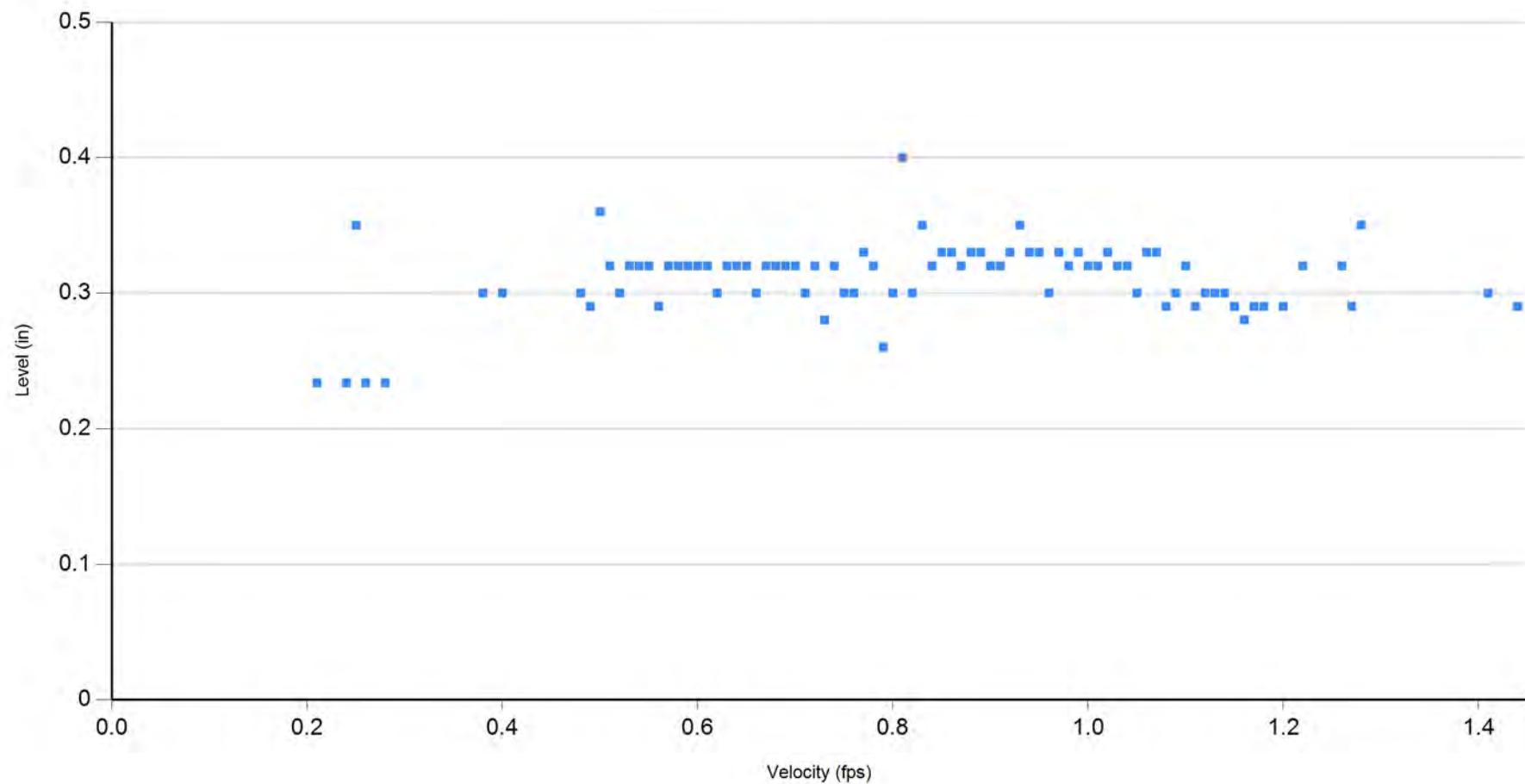
646 N La Peer



— Velocity — Level — Flow

	Velocity (fps)	Level (in)	Flow (mgd)	RainFall	Inches	WS3
Average	0.716	0.257	0.002			
Maximum	1.140	0.300	0.003			
Minimum	0.210	0.220	0.000			7/21/2014 5:24:55 PM

646 N La Peer



6/30/2014 thru 7/14/2014



7/21/2014 5:24:55 PM



Site Report

07-22-2014

Confidential Proprietary Information

Faring capital	669 W Robertson, West Hollywood		
Robertson	Manhole No.		
Access: manhole	System Type: Sanitary <input checked="" type="checkbox"/> Storm <input type="checkbox"/>	Install Date:	6/30/2014
Map			
			Flow Meter
Meter Depth ".7'			Meter SN ":
good			Avg Velocity Avg Measured Level Multiplier
1.49	1.09	1	Gas
O2	H2S	CO	LEL
20.9	0	0	0
Notes			
early am			
Traffic Safety			
near Parking lot, cones, signs, lights			
Land Use			
Residential	Commercial	Industrial	Trunk
	X		
Manhole Depth "	8'		
Pipe Size "	8"		
Inner Pipe Size "(In/Out)	8"/8"		
Pipe Shape	Round		
Pipe Condition	good		
Manhole Material	brick		
Silt (inches)	0		
Velocity Profile Data	1.45		
Velocity Profile Taken	0.4 2-D		
Sensor Offset	15.22		
Sensor Dist. to Crown	7.2		
Flow Direction	Upstream		
Flow Heading			



Meter Site Document

Faring capital

Robertson

669 W Robertson, West Hollywood

Site



Manhole Before Install



Installation Process



Installed



Upstream



Downstream



Temporary Flow Study

Faring capital

Robertson

Meter Start Date	From	6/30/2014 12:00:00 AM
Meter Stop Date	To	7/14/2014 12:00:00 AM
Velocity (fps)	Level (in)	Flow (mgd)
Average	1.703	1.091
Maximum	3.400	1.692
Minimum	0.310	0.553
Pipe Size	8.000	
Estimated Capacity (mgd)	0.540	
Capacity Used	20.83 %	
Sensor Type	Hach - Flodar	

Estimated Capacity Usage

■ % Capacity Used ■ Estimated Capacity Available



Utility Systems, Science and Software

6190 Fairmount Ave. Suite E
San Diego, CA 92021

601 N. Parkcenter Drive Suite 209
Santa Ana, CA 92705



History for Robertson: 06/30/2014 thru 07/14/2014

	Flow (GPM)			Flow (MGD)			Velocity (FPS)			Level (inches)				
Date	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Total Gal	Rain
6/30/2014	20.27	43.16	11.20	0.03	0.06	0.02	1.63	2.27	1.35	1.06	1.54	0.75	29,193	
7/1/2014	18.00	38.35	3.25	0.03	0.06	0.00	1.62	2.02	0.43	0.97	1.51	0.58	25,927	
7/2/2014	19.40	41.05	1.69	0.03	0.06	0.00	1.61	1.97	0.31	1.02	1.57	0.57	27,937	
7/3/2014	22.88	44.74	4.77	0.03	0.06	0.01	1.69	2.25	1.01	1.11	1.66	0.55	32,945	
7/4/2014	23.47	49.63	11.01	0.03	0.07	0.02	1.72	2.70	1.09	1.11	1.44	0.76	33,790	
7/5/2014	24.88	50.56	12.36	0.04	0.07	0.02	1.75	2.49	1.44	1.15	1.69	0.79	35,820	
7/6/2014	28.26	60.50	12.55	0.04	0.09	0.02	1.89	2.97	1.40	1.17	1.61	0.83	40,693	
Week:	22.45	60.50	1.69	0.03	0.09	0.00	1.70	2.97	0.31	1.08	1.69	0.55	226,306	
7/7/2014	21.99	49.07	10.90	0.03	0.07	0.02	1.71	2.64	1.38	1.07	1.44	0.73	31,664	
7/8/2014	19.14	30.47	8.91	0.03	0.04	0.01	1.61	2.08	1.16	1.02	1.30	0.66	27,555	
7/9/2014	20.23	36.42	9.55	0.03	0.05	0.01	1.65	2.07	1.41	1.05	1.36	0.68	29,128	
7/10/2014	22.00	78.16	9.00	0.03	0.11	0.01	1.69	3.40	1.21	1.07	1.64	0.65	31,687	
7/11/2014	21.82	54.54	7.62	0.03	0.08	0.01	1.67	2.59	1.25	1.08	1.54	0.61	31,427	
7/12/2014	26.32	58.43	10.96	0.04	0.08	0.02	1.78	2.80	1.34	1.17	1.55	0.73	37,903	
7/13/2014	27.90	65.40	11.97	0.04	0.09	0.02	1.79	3.04	1.17	1.21	1.62	0.78	40,175	
Week:	22.77	78.16	7.62	0.03	0.11	0.01	1.70	3.40	1.16	1.10	1.64	0.61	229,538	



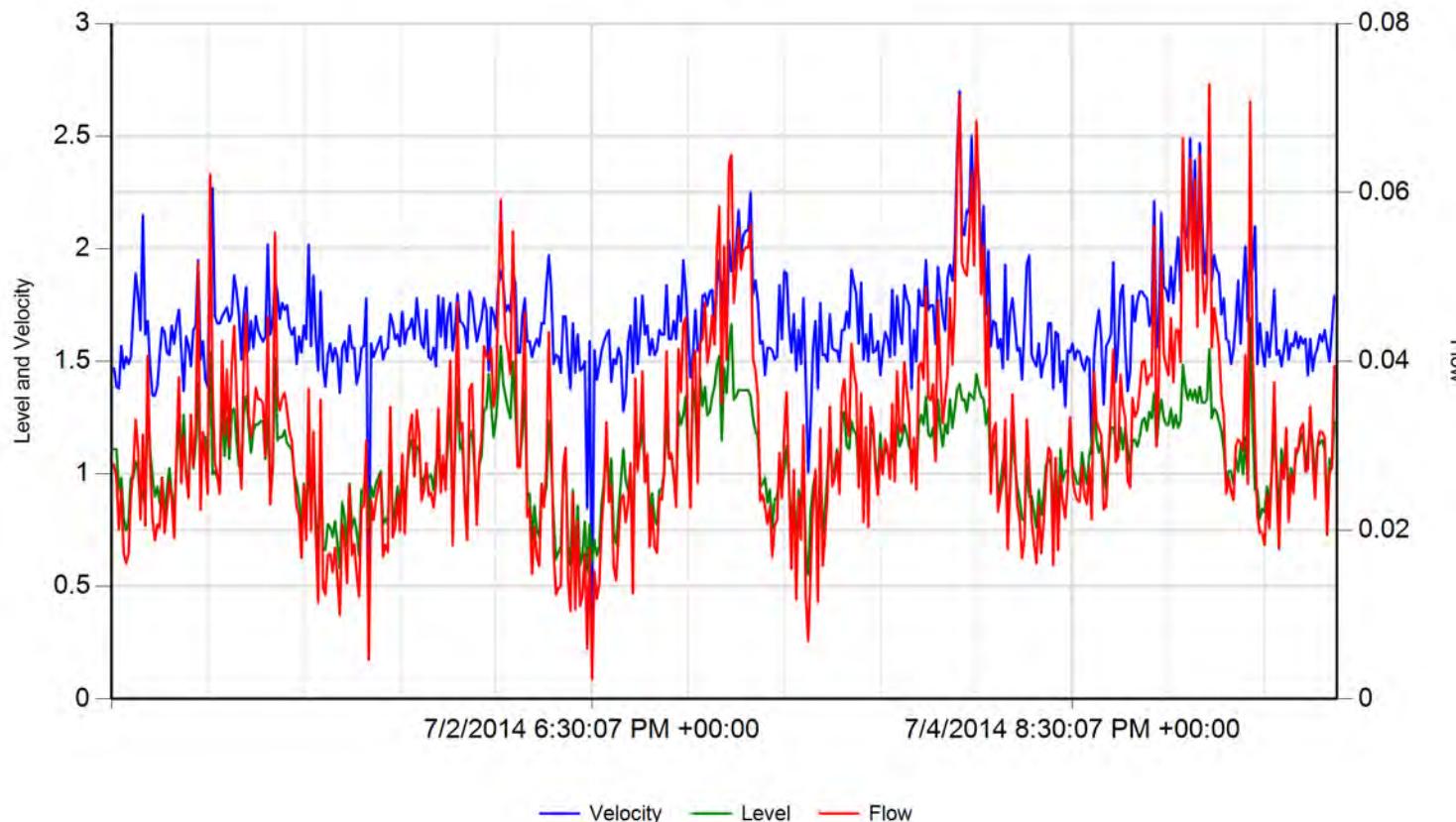
Utility Systems Science and Software

Report Date: 07/21/2014
Customer: Faring capital
Group: West Hollywood
SiteID: 368

History for Robertson: 06/30/2014 thru 07/14/2014

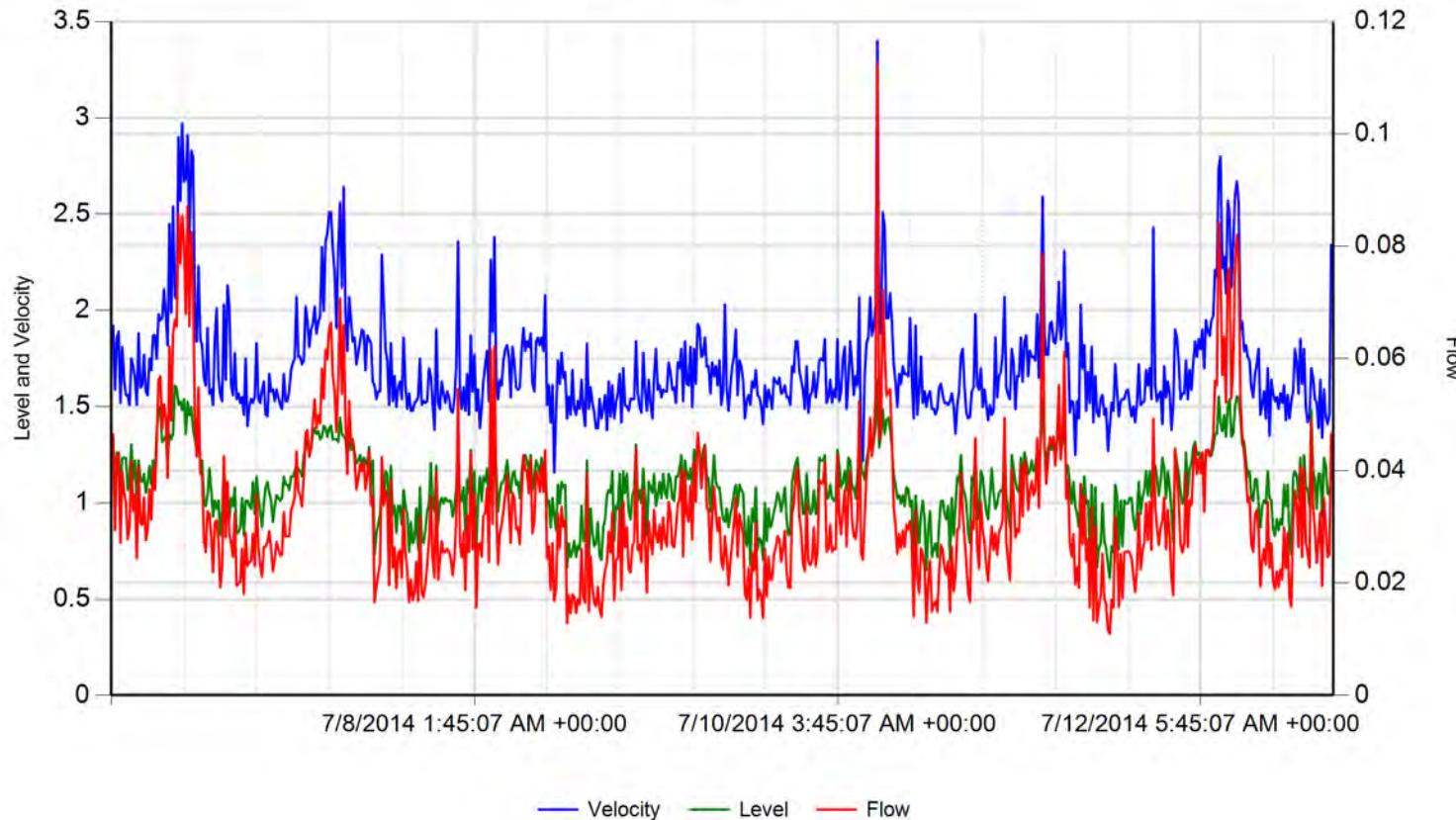
	Flow (GPM)			Flow (MGD)			Velocity (FPS)			Level (inches)				
Date	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Total Gal	Rain
7/14/2014	28.32	66.68	17.04	0.04	0.10	0.02	1.85	3.01	1.43	1.21	1.59	0.94	40,776	
Week:	28.32	66.68	17.04	0.04	0.10	0.02	1.85	3.01	1.43	1.21	1.59	0.94	40,776	

Robertson



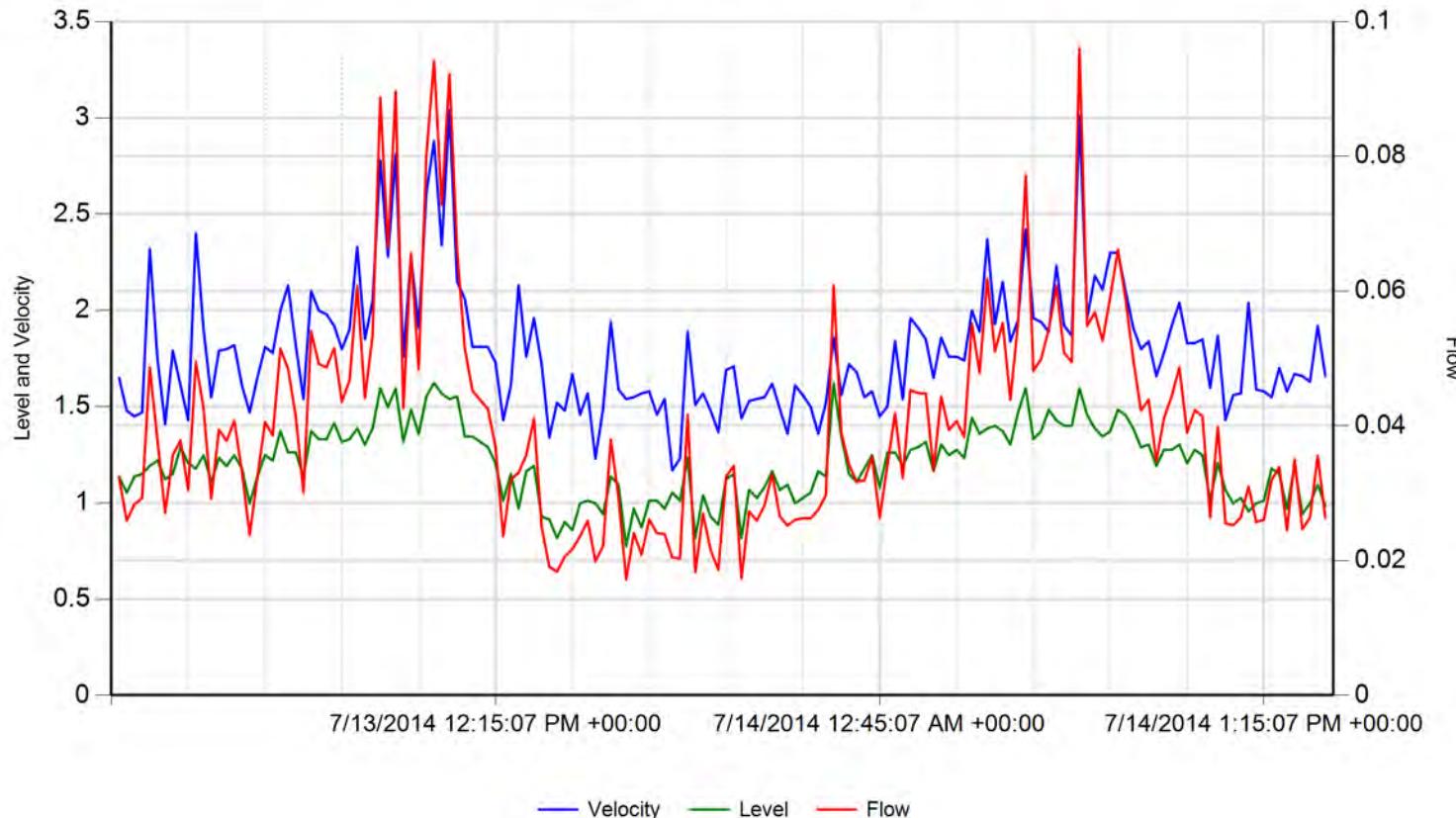
	Velocity (fps)	Level (in)	Flow (mgd)	RainFall	Inches	WS3
Average	1.669	1.063	0.031			
Maximum	2.699	1.692	0.073			
Minimum	0.310	0.553	0.002			7/21/2014 5:25:45 PM

Robertson



	Velocity (fps)	Level (in)	Flow (mgd)	RainFall	Inches	WS3
Average	1.713	1.091	0.033			
Maximum	3.400	1.636	0.113			
Minimum	1.160	0.609	0.011			7/21/2014 5:25:45 PM

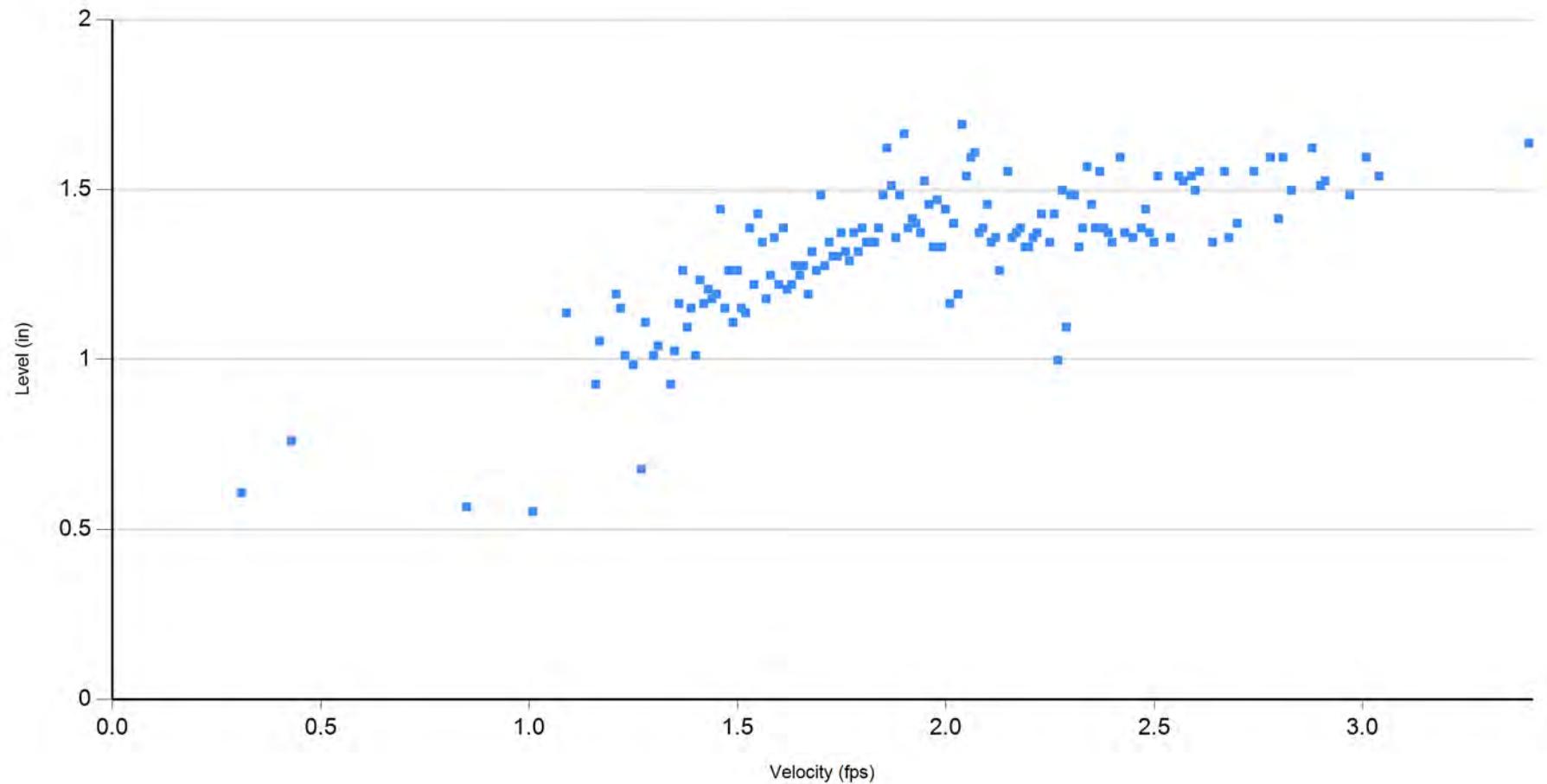
Robertson



— Velocity — Level — Flow

	Velocity (fps)	Level (in)	Flow (mgd)	RainFall	Inches	
Average	1.799	1.206	0.040	RainFall	Inches	 7/21/2014 5:25:45 PM
Maximum	3.040	1.623	0.096			
Minimum	1.169	0.775	0.017			

Robertson



6/30/2014 thru 7/14/2014



7/21/2014 5:25:45 PM