Appendix D

Energy Appendix

Appendix D.1

Energy Calculations

citizenM Hollywood & Vine - Energy Calculations

Summary of Energy Use During Construction

	Project With Project Features	
Electricty		
Water Consumption	739	kWh
Temporary Power (lighting, tools)	22,882	kWh
Total:	**23,621**	kWh
Gasoline		
On Road	27,548	Gallons
Total:	**27,548**	Gallons
Diesel		
On Road	62,143	Gallons
Off Road	33,891	Gallons
Total:	**96,034**	Gallons

Summary of Energy Use During Operations

	Baseline (Buildout)	Project Without Project Features	Project With Project Features	Unit	Net (Project - Baseline (Buildout)
Electricity					
Electricity (building)	308,765	3,002,516	2,686,944	kWh/year	2,378,179
Electricity (water)	22,755	93,347	74,677	kWh/year	51,922
Electricity Total	331,520	3,095,863	2,761,621	kWh/year	2,430,102
Natural Gas	1,426,190	9,139,448	8,456,343	cu ft/year	7,030,152
Mobile					
Gasoline	17,914	273,624	129,670	Gallons/year	111,756
Diesel	3,213	49,076	23,257	Gallons/year	20,044

Calculation of Diesel Usage During Cosnstruciton (Offroad Equipment):

Phase Name	Off Road Equipment Type	Units	Hours	HP	Load Factor	Avg. Daily Factor	Number of Days	Diesel Fuel Usage	
Demolition	Air Compressors	1	8	78	0.48	0.6	23	207	
Demolition	Excavators	1	8	158	0.38	0.6	23	331	
Demolition	Rubber Tired Loaders	1	8	247	0.40	0.6	23	545	
Demolition	Tractors/Loaders/Backhoes	2	8	97	0.37	0.6	23	396	
Grading	Bore/Drill Rigs	1	8	221	0.50	0.6	45	1,193	
Grading	Cement and Mortar Mixers	1	8	9	0.56	0.6	45	54	
Grading	Excavators	2	8	158	0.38	0.6	45	1,297	
Grading	Forklifts	1	8	89	0.20	0.6	45	192	
Grading	Other Material Handling Equipment	1	8	97	0.37	0.6	45	388	
Grading	Pumps	1	8	84	0.74	0.6	45	671	
Grading	Rubber Tired Dozers	1	8	247	0.40	0.6	45	1,067	
Grading	Skid Steer Loaders	1	8	65	0.37	0.6	45	260	
Grading	Welders	1	8	46	0.45	0.6	45	224	
Foundation	Aerial Lifts	2	8	63	0.31	0.6	88	825	
Foundation	Air Compressors	1	8	78	0.48	0.6	88	791	
Foundation	Cement and Mortar Mixers	1	8	9	0.56	0.6	88	106	
Foundation	Cranes	1	7	231	0.29	0.6	88	1,238	
Foundation	Plate Compactors	2	8	8	0.43	0.6	88	145	
Foundation	Tractors/Loaders/Backhoes	1	7	97	0.37	0.6	88	663	
Building Construction	Aerial Lifts	3	8	63	0.31	0.6	227	3,192	
Building Construction	Air Compressors	2	8	78	0.48	0.6	227	4,079	
Building Construction	Cement and Mortar Mixers	2	8	9	0.56	0.6	227	549	
Building Construction	Cranes	1	7	231	0.29	0.6	227	3,193	
Building Construction	Forklifts	2	8	89	0.20	0.6	227	1,939	
Building Construction	Plate Compactors	1	8	8	0.43	0.6	227	187	
Building Construction	Pumps	1	8	84	0.74	0.6	227	3,386	
Building Construction	Welders	3	8	46	0.45	0.6	227	3,383	
Paving	Pavers	1	8	130	0.42	0.6	87	1,140	
Paving	Skid Steer Loaders	1	8	65	0.37	0.6	87	502	
Paving	Tractors/Loaders/Backhoes	1	8	97	0.37	0.6	87	749	
Architectural Coating	Aerial Lifts	1	8	63	0.31	0.6	87	408	
Architectural Coating	Air Compressors	1	6	78	0.48	0.6	87	586	
						Total Diesel Usage for Construction (Offroad Equipment):		**33,890.9**	**gallons of diesel fuel**

gallons of diesel fuel per horsepower-hour= 0.05

Notes: Equipment assumptions are provide in the CalEEMod output files and fuel usage estimate of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E.

EMFAC2014 Emissions Inventory
Region Type: Air Basin
Region: South Coast
Calendar Year: 2020
Season: Annual
Vehicle Classification: EMFAC2011 Categories

Region	Veh_Class	Fuel	Speed (miles/hr)	Population (vehicles)	VMT (miles/day)	Trips (trips/day)	Fuel_Gas (1000 gallons/day)	Fuel_DSL (1000 gallons/day)	Miles per Gallon
South Coast	LDA	GAS	Aggregate	5962902.65	203195464.1	37640937.19	8935.015097	0	22.7
South Coast	LDT1	GAS	Aggregate	698686.089	23776980.12	4227851.699	1207.517018	0	19.7
South Coast	LDT2	GAS	Aggregate	1980365.77	72336808.26	12463753.43	4307.469097	0	16.8
							Construction Worker Trip (Composite LDA/LDT1/LDT2):		**20.5**
South Coast	T7	DSL	Aggregate	86280.4821	12834987.93	0	0	2295.958827	**5.6**

Notes: Consistent with CalEEMod, a construction worker trip is assumed to be a composite of 50% LDA , 25% for LDT1, and 25% for LDT2. Used EMFAC 2011 Categories for construciton as EMFAC2011 has specific categories for vehicle class T7.

Calculation of Gasoline and Diesel Usage During Phase 1 Construction (Onroad Vehicles):

Phase Name	Daily Woker Trips	Daily Vendor Trips	Days	Total Worker Trips	Total Vendor Trips	Total Haul Trips	Trip Length (miles)			Total Length (miles)			Avg. Daily Factor	Gallons of Fuel	
							Worker	Vendor	Haul	Worker	Vendor	Haul	(worker and vendor)	Gasoline	Diesel
Demolition	42	0	23	966	0	600	14.7	6.9	34	14200.2	0	20400	0.6	415.8	3,649.2
Grading and Excavation	50	0	45	2250	0	6300	14.7	6.9	34	33075	0	214200	0.6	968.4	38,316.7
Foundation	76	0	88	6688	0	3400	14.7	6.9	20	98313.6	0	68000	0.6	2,878.6	12,164.0
Building Construction	200	40	227	45400	9080	0	14.7	6.9	20	667380	62652	0	0.6	19,540.9	6,724.4
Paving	100	20	87	8700	1740	0	14.7	6.9	20	127890	12006	0	0.6	3,744.6	1,288.6
Architectural Coating	0	0	87	0	0	0	14.7	6.9	20	0	0	0	0.6	0.0	0.0
													Total:	**27,548.4**	**62,143.0**

Worker Miles per gallon=	20.49	gasoline
Vedor/Haul miles per gallon=	5.59	diesel

Notes: Consistent with CalEEMod worker vehicles are assumed to be gasoline and 50% LDA, 25%LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy Duty Trucks (T7)

Caterpillar 40-C4.4 Generator[a]

Peak Power Rating - Prime (kW)	36
Typical Load	70%
Average Output (kW)	25.2
Hours per Day	4
Average Daily Output (kWh)	100.8
Building Construction Phase Duration (days)	227
Total Construction (kWh)	22,882
Total Construction (MWh)	22.9

[a]https://www.albancat.com/content/uploads/2014/06/40-C4.4-Spec-Sheet.pdf

Generator Rating (hp)	84
Load Factor	0.74
Hours per Day	8
Horsepower-Hour / Day	497.28

Water Usage for Control of Fugitive Dust during Construction:

Phase	Days	Average Daily Acreage Distrubed	Gallons Per Year	Electricity (kWhr)
Demolition	23	0.14	9,724	95
Grading and Excavation	45	0.28	38,052	370
Foundation	88	0.07	18,603	181
Building Construction	227	0.01	9,598	93
Paving	87	0.00	0	0
Architectural Coating	87	0.00	0	0
		Total:	**75,977**	**739**

Water application rate=	3020	gal/acre/day
kWhr equivalent=	0.01	kWhr

Notes: 1) Gallons per year of water usage for dust control is calculated based on a minimum control efficiency of 66% (three times daily) with an application rate of 3,020 gal/acre/day (Air & Waste Management Association Air Pollution Engineering Manual (1992 Edition)) and average of 26 construction days per month.
2) CalEEMod Default: Each gallon of delivered potable water in Southern California is associated with 0.009727 kWhr of electricity).

EMFAC2014 Emissions Inventory
Region Type: Air Basin
Region: South Coast
Calendar Year: 2022
Season: Annual
Vehicle Classification: EMFAC2007 Categories

Region	CalYr	Season	Veh_Class	Fuel	MdYr	Speed (miles/hr)	Population (vehicles)	VMT (miles/day)	Trips (trips/day)	Fuel_Gas (1000 gallons/day)	Fuel_DSL (1000 gallons/day)
South Coast	2022	Annual	LDA	GAS	Aggregated	Aggregated	6003986.27	203834624.8	37881274	8979.411325	0
South Coast	2022	Annual	LDA	DSL	Aggregated	Aggregated	20622.0671	649368.2394	127166.2	0	20.85582752
South Coast	2022	Annual	LDT1	GAS	Aggregated	Aggregated	709614.235	24148511.38	4288047.4	1228.456545	0
South Coast	2022	Annual	LDT1	DSL	Aggregated	Aggregated	1028.30244	34560.08884	5951.4241	0	1.133515574
South Coast	2022	Annual	LDT2	GAS	Aggregated	Aggregated	2016981.84	73608549.11	12686638	4389.113693	0
South Coast	2022	Annual	LDT2	DSL	Aggregated	Aggregated	963.56541	33483.13064	5931.4494	0	1.086849083
South Coast	2022	Annual	LHD1	GAS	Aggregated	Aggregated	310844.335	13343229.49	4631117.3	997.1949015	0
South Coast	2022	Annual	LHD1	DSL	Aggregated	Aggregated	100093.797	4131147.145	1259054.1	0	214.6594683
South Coast	2022	Annual	LHD2	GAS	Aggregated	Aggregated	32340.5809	1398344.345	481826.46	104.7360727	0
South Coast	2022	Annual	LHD2	DSL	Aggregated	Aggregated	33103.0266	1351476.331	416394.42	0	70.29453498
South Coast	2022	Annual	MCY	GAS	Aggregated	Aggregated	238964.202	1739170.208	477880.6	43.8836917	0
South Coast	2022	Annual	MDV	GAS	Aggregated	Aggregated	1684327.21	56830183.05	10380104	4321.684926	0
South Coast	2022	Annual	MDV	DSL	Aggregated	Aggregated	1702.57601	58019.44574	10360.461	0	1.871473798
South Coast	2022	Annual	MH	GAS	Aggregated	Aggregated	69028.8572	785143.0299	6905.6468	54.8442708	0
South Coast	2022	Annual	MH	DSL	Aggregated	Aggregated	12127.254	132612.6833	1212.7254	0	14.81239463
South Coast	2022	Annual	OBUS	GAS	Aggregated	Aggregated	7363.34026	276236.5072	336270.94	22.01661524	0
South Coast	2022	Annual	OBUS	DSL	Aggregated	Aggregated	6373.16965	519866.1011	0	0	75.36151746
South Coast	2022	Annual	SBUS	GAS	Aggregated	Aggregated	1660.89796	59672.34662	6643.5917	5.441562884	0
South Coast	2022	Annual	SBUS	DSL	Aggregated	Aggregated	4758.42777	170710.1667	0	0	23.66575478
South Coast	2022	Annual	T6	GAS	Aggregated	Aggregated	25681.978	1227000.819	513845.03	92.54559383	0
South Coast	2022	Annual	T6	DSL	Aggregated	Aggregated	89267.5428	5376141.722	0	0	597.9394541
South Coast	2022	Annual	T7	GAS	Aggregated	Aggregated	1745.31544	231605.8895	34920.273	18.17487658	0
South Coast	2022	Annual	T7	DSL	Aggregated	Aggregated	89153.534	13501381.84	0	0	2416.821803
South Coast	2022	Annual	UBUS	GAS	Aggregated	Aggregated	1935.50302	207796.6854	7742.0122	18.91540815	0
South Coast	2022	Annual	UBUS	DSL	Aggregated	Aggregated	7539.38912	808118.6601	30157.556	0	198.2184055

					MPG	Gallons Per Mile
Totals	389,939,656.02		20,276.42	3,636.72	**16.3**	0.06
Total (GAS)	377,690,067.65	0.93			**18.6**	0.05
Total (DSL)	26,766,885.55	0.07			**7.4**	0.14

citizenM Hollywood & Vine- Baseline at Buildout
Los Angeles-South Coast County, Annual

Land Use Details

Land Uses	*Size*	*Metric*	*Lot Acreage*	*Floor Surface Area*	*Population*
Quality Restaurant	6.39	1000sqft	0.28	6,393.00	0

Trip Summary Information

Land Uses	*Average Daily Trip Rate*			*Annual VMT*
	Weekday	*Saturday*	*Sunday*	
Quality Restaurant	535.74	562.00	429.79	357,334
Total	**535.74**	**562.00**	**429.79**	**357,334**

Gasoline and Diesel Usage

	Gasoline	*Diesel*
Miles/Gallon	18.6	7.4
% Fleet Mix	93.4%	6.6%
Total (Gallons):	**17,914**	**3,213**

Energy by Land Use - Natural Gas

Land Uses	*kBTU/yr*	cu ft/year
Quality Restaurant	1,497,500	1,426,190
Total	1,497,500	**1,426,190**

Energy by Land Use - Electricity

Land Uses	*kWH/yr*
Quality Restaurant	308,765
Total	**308,765**

Water Detail (Unmitigated)

Land Uses	*Indoor Use (Mgal)*	*Outdoor Use (Mgal)*	*Electricity Use (kWh/yr)*
Quality Restaurant	1.93958	0.123803	22,755
Total	2	0	**22,755**

Notes: Indoor water results in 0.0111 kWhr of electricity usage per gallon from delivery, treatment, and distribution of water within Southern California (CalEEMod). Outdoor water results in 0.009727 kWhr of electricity usage per gallon from delivery and distribution of water within Southern California (CalEEMod).

citizenM Hollywood & Vine - Project Without PDFs
Los Angeles-South Coast County, Annual

Land Use Details

Land Uses	*Size*	*Metric*	*Lot Acreage*	*Floor Surface Area*	*Population*
Enclosed Parking with Elevator	98.00	Space	*0.88*	39,200.00	*0*
High Turnover (Sit Down Restaurant)	5.37	1000sqft	*0.12*	5,373.00	*0*
Hotel	240.00	Room	8	348,480.00	0

Trip Summary Information

Land Uses	*Average Daily Trip Rate*			*Annual VMT*
	Weekday	*Saturday*	*Sunday*	
Enclosed Parking with Elevator	0.00	0.00	0.00	0
High Turnover (Sit Down Restaurant)	602.68	750.62	624.91	854,475
Hotel	2,006.40	2,011.20	1461.60	4,603,538
Total	2,609.08	2,761.82	2,086.51	5,458,013

Gasoline and Diesel Usage

	Gasoline	*Diesel*
Miles/Gallon	18.6	7.4
% Fleet Mix	93.4%	6.6%
Total (Gallons):	**273,624**	**49,076**

Energy by Land Use - Natural Gas (Unmitigated)

Land Uses	*kBTU/yr*	cu ft/year
Enclosed Parking with Elevator	0	0
High Turnover (Sit Down Restaurant)	1,239,870	1,180,829
Hotel	8,356,550	7,958,619
Total	9,596,420	**9,139,448**

Energy by Land Use - Electricity (Unmitigated)

Land Uses	*kWH/yr*
Enclosed Parking with Elevator	123,872
High Turnover (Sit Down Restaurant)	237,164
Hotel	2,641,480
Total	**3,002,516**

Water Detail (Unmitigated)

Land Uses	*Indoor Use (Mgal)*	*Outdoor Use (Mgal)*	*Electricity Use (kWh/yr)*
Enclosed Parking with Elevator	0.00	0.00	0
High Turnover (Sit Down Restaurant)	1.63	0.10	19,123
Hotel	6.09	0.68	74,224
Total	7.72	0.78	**93,347**

Notes: Indoor water results in 0.0111 kWhr of electricity usage per gallon from delivery, treatment, and distribution of water within Southern California (CalEEMod). Outdoor water results in 0.009727 kWhr of electricity usage per gallon from delivery and distribution of water within Southern California (CalEEMod).

citizenM Hollywood & Vine - Project with PDFs
Los Angeles-South Coast County, Annual

Land Use Details

Land Uses	*Size*	*Metric*	*Lot Acreage*	*Floor Surface Area*	*Population*
Enclosed Parking with Elevator	98	Space	0.88	39200	0
High Turnover (Sit Down Restaurant)	5.37	1000sqft	0.12	5373	0
Hotel	240	Room	8	348480	0

Trip Summary Information

Land Uses	*Average Daily Trip Rate*			*Annual VMT*
	Weekday	*Saturday*	*Sunday*	
Enclosed Parking with Elevator	0.00	0.00	0.00	0
High Turnover (Sit Down Restaurant)	602.68	750.62	624.91	404,937
Hotel	2,006.40	2,011.20	1461.60	2,181,620
Total	2,609.08	2,761.82	2,086.51	2,586,557

Gasoline and Diesel Usage

	Gasoline	*Diesel*
Miles/Gallon	18.6	7.4
% Fleet Mix	93.4%	6.6%
Total (Gallons):	**129,670**	**23,257**

Energy by Land Use - Natural Gas (Mitigated)

Land Uses	*kBTU/yr*	cu ft/year
Enclosed Parking with Elevator	0	0
High Turnover (Sit Down Restaurant)	1,216,780	1,158,838
Hotel	7,662,380	7,297,505
Total	8,879,160	**8,456,343**

Energy by Land Use - Electricity (Mitigated)

Land Uses	*kWH/yr*
Enclosed Parking with Elevator	98,529
High Turnover (Sit Down Restaurant)	222,235
Hotel	2,366,180
Total	**2,686,944**

Water Detail (Unmitigated)

Land Uses	*Indoor Use (Mgal)*	*Outdoor Use (Mgal)*	*Electricity Use (kWh/yr)*
Enclosed Parking with Elevator	0	0	0
High Turnover (Sit Down Restaurant)	1.30398	0.0832328	15,298
Hotel	4.87042	0.541158	59,379
Total	6.17	0.62	**74,677**

Notes: Indoor water results in 0.0111 kWhr of electricity usage per gallon from delivery, treatment, and distribution of water within Southern California (CalEEMod). Outdoor water results in 0.009727 kWhr of electricity usage per gallon from delivery and distribution of water within Southern California (CalEEMod).

Peak Electricity Demand Calculations

Electrical Load Factor Equation

$$f_{Load} = \frac{\text{Average load}}{\text{Maximum load in given time period}}$$

Load Factor (%)[1]	**52%**

Project Electricity Demand (Operational)

Annual Demand	
Building (MWh)	2,378
Water (MWh)	52
Total (MWh)	2,430
Average Daily Demand	
Building (kWh)	6,516
Water (kWh)	142
Total (kWh)	6,658
Average Load	
Building (kW)	271
Water (kW)	6
Total (kW)	277

Peak Load Calculation

Peak Load (kW)	**528**
Systemwide Peak Load (MWh)	5,854
Percent of Peak	0.009%

[1]2017 Report: System Efficiency of California's Electric Grid. California Public Utilities Commission. 2017. Page 11, Figure 6. Visual estimate.

Appendix D.2

Energy Report

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1718 VINE STREET PROJECT

UTILITY INFRASTRUCTURE TECHNICAL REPORT: ENERGY

MARCH 15, 2017

PREPARED BY:

KPFF Consulting Engineers

700 South Flower St., Suite 2100

Los Angeles, CA 90017

213-418-0201

Table of Contents

Appendix

Exhibit 1- Power Will Serve Letter

Exhibit 2- Natural Gas Will Serve Letter

1. INTRODUCTION

1.1. PROJECT DESCRIPTION

citizenM LA Hollywood Properties, LLC (Applicant) proposes to develop a mixed-use project that would include approximately 73,440 square feet of hotel, restaurant/bar, and guest amenity uses in a 14-story, 183-foot tall high-rise building, with 75 required parking spaces in three subterranean levels, and 128 bicycle parking spaces (Project) on a 0.28-acre site located at 1718 Vine Street (Project Site) in the Hollywood Community of the City of Los Angeles (City). These improvements would replace an existing 6,393 square foot brick/stucco building currently occupied by restaurant, bar, and nightclub uses, as well as the paved surface parking lot on the Project Site.

1.2. SCOPE OF WORK

As a part of the Environmental Impact Report for the Project, the purpose of this report is to analyze the potential impact of the Project to the existing energy infrastructure systems.

2. REGULATORY FRAMEWORK

2.1. ELECTRICITY

The *2015 Power Integrated Resource Plan* (IRP) [1] document serves as a comprehensive 20 year roadmap that guides the Los Angeles Department of Water and Power's (LADWP) Power System in its efforts to supply reliable electricity in an environmentally responsible and cost effective manner. The 2015 IRP re-examines and expands its analysis on the 2014 IRP recommended case with updates in line with latest regulatory framework, primarily the recently approved state legislation of a 50 percent renewable portfolio standard by 2030.

The 2015 IRP provides detailed analysis and results of several new IRP resource cases which investigated the economic and environmental impact of increased local solar and various levels of transportation electrification. In analyzing the IRP cases and recommending a strategy to best meet the future electric needs of Los Angeles, the IRP uses system modeling tools to analyze and determine the long-term economic, environmental, and operational impact of alternative resource portfolios by simulating the integration of new resource alternatives within our existing mix of assets and providing the analytic results to inform the selection of a recommended case.

The IRP also includes a general assessment of the revenue requirements and rate impacts that support the recommended resource plan through 2035. While this assessment will not be as detailed and extensive as the financial analysis to be completed for the ongoing rate action for the 2015/16 fiscal year and beyond, it clearly outlines the general

[1] LADWP, 2015 Power Integrated Resource Plan, December 2015.

requirements. As a long-term planning process, the IRP examines a 20-year horizon in order to secure adequate supplies of electricity. In that respect, it is LADWP's desire that the IRP contribute towards future rate actions, by presenting and discussing the programs and projects required to fulfill our City Charter mandate of delivering reliable electric power to the City of Los Angeles.

Regulatory interpretations of primary regulations and state laws affecting the Power System, including AB 32, SB 1368, SB 1, SB 2 (1X), SB 350, SB 32, US EPA Rule 316(b), and US Clean Power Plan continue to evolve particularly with certification requirements of existing renewable projects and their applicability towards meeting in-state or out-of-state qualifications. This year's IRP attempts to incorporate the latest interpretation of these major regulations and state laws as we understand them today.[2]

2.2. NATURAL GAS

The *2016 California Gas Report*[3] presents a comprehensive outlook for natural gas requirements and supplies for California through the year 2035. This report is prepared in even-numbered years, followed by a supplemental report in odd-numbered years, in compliance with California Public Utilities Commission Decision D.95-01-039. The projections in the California Gas Report are for long-term planning and do not necessarily reflect the day-to-day operational plans of the utilities.

California natural gas demand, including volumes not served by utility systems, is expected to decrease at a rate of 1.4 percent per year from 2016 to 2035. The forecast decline is a combination of moderate growth in the Natural Gas Vehicle (NGV) market and across-the-board declines in all other market segments: residential, commercial, electric generation, and industrial markets.

Residential gas demand is expected to decrease at an annual average rate of 0.5 percent. Demand in the commercial and industrial markets are expected to decline at an annual rate of 0.24 percent. Aggressive energy efficiency programs make a significant impact in managing growth in the residential, commercial, and industrial markets. For the purpose of load-following as well as backstopping intermittent renewable resource generation, gas-fired generation will continue to be the primary technology to meet the ever-growing demand for electric power. However, overall gas demand for electric generation is expected to decline at 1.3 percent per year for the next 20 years due to more efficient power plants, statewide efforts to minimize greenhouse gas (GHG) emissions through aggressive programs pursuing demand-side reductions, and the acquisition of preferred power generation resources that produce little or no carbon emissions.

In 2015, the state enacted legislation intended to improve air quality, provide aggressive reductions in energy dependency and boost the employment of renewable power. The

[2] Ibid

[3] California Gas and Electric Utilities, 2016 California Gas Report, 2016.

first legislation, the 2015 Clean Energy and Pollution Reduction Act, also known as Senate Bill (SB) 350, requires the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December 31, 2030. SB 350 establishes annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses by January 1, 2030. Second, the Energy Efficiency Act (AB 802) provides aggressive state directives to increase the energy efficiency of existing buildings, requires that access to building performance data for nonresidential buildings be provided by energy utilities and encourages pay-for performance incentive-based programs. This paradigm shift will allow California building owners a better and more effective way to access whole-building information and at the same time will help to address climate change, and deliver cost-effective savings for ratepayers. Last, the Energy Efficiency Act (AB 793) is intended to promote and provide incentives to residential or small and medium-sized business utility customers that acquire energy management technology for use in their home or place of business. AB 793 requires energy utilities to develop a plan to educate residential customers and small and medium business customers about the incentive program.[4]

3. EXISTING CONDITION

3.1. ELECTRICITY

LADWP is responsible for providing power supply to the City while complying with Local, State, and Federal regulations.

3.1.1. REGIONAL

LADWP's Power system is the nation's largest municipal electric utility, and serves a 465-square-mile area in Los Angeles and much of the Owens Valley. The system supplies more than 26 million megawatt-hours (MWh) of electricity a year for the City of Los Angeles' 1.4 million residential and business customers as well as over 5,000 customers in the Owens Valley. LADWP has over 7,460 megawatts (MW) of generation capacity from a diverse mix of energy sources including Renewable energy, Natural Gas, Nuclear, Large Hydro, coal and other sources. The distribution network includes 6,800 miles of overhead distribution lines and 3,597 miles of underground distribution cables.[5]

3.1.2. LOCAL

Based on available substructure maps from the City of LA Bureau of Engineering's online Navigate LA database, it appears that the Project Site receives electric power service from LADWP via an existing underground conduit in Vine Street.

[4] Ibid
[5] LADWP, 2015 Power Integrated Resource Plan, December 2015.

The existing 6,393 square foot brick/stucco building is served by an existing LADWP Electrical service.

3.1.3. ON-SITE

As described above, the Project Site is currently occupied by an existing 6,393 square foot brick/stucco building and paved surface lot. The existing on-site power system supplies electricity to these structures from the existing service described above.

Electricity demand estimates have been prepared based on the existing building program, and are summarized in Table 3 below.

Table 3 - Estimated Existing Electricity Demand

Connection To:	Facility	Electricity Demand[(a)] (kWhr/year)[(b)]
Vine Street	Restaurant	308,910
	Paved Surface Lot	0
Total Existing Electricity Demand for Project Site		**308,910**

[(a)] CalEEMod was used to generate the estimated energy demand.

[(b)] 1 kW (kilowatt) = 1,000 Watts.

3.2. NATURAL GAS

SoCalGas is responsible for providing natural gas supply to the City and is regulated by the California Public Utilities Commission and other state and federal agencies.

3.2.1. REGIONAL

Southern California Gas Company (SoCalGas) is the principal distributor of natural gas in Southern California, providing retail and wholesale customers with transportation, exchange and storage services and also procurement services to most retail core customers. SoCalGas is a gas-only utility and, in addition to serving the residential, commercial, and industrial markets, provides gas for enhanced oil recovery (EOR) and electric generation (EG) customers in Southern California. SoCalGas's natural gas system is the nation's largest natural gas distribution utility, and serves a 20,000 square-mile area in Central and Southern California. The system supplies natural gas to 21.6 million customers through 5.9 million meters in more than 500 communities.[6]

[6] California Gas and Electric Utilities, 2016 California Gas Report, 2016.

3.2.2. LOCAL

Based on substructure maps provided by the City, it appears that the Project Site receives natural gas service via a Southern California Gas Company (SoCalGas)-operated 6-inch service on the east side of Vine Street.

3.2.3. ON-SITE

As described above, the Project Site is currently occupied by an existing 6,393 square foot brick/stucco building and paved surface lot. The existing on-site natural gas system supplies the natural gas needs of to these structures through the existing service described above.

Natural gas demand estimates have been prepared based on the existing equipment program, and are summarized in Table 4 below.

Table 4 - Estimated Existing Natural Gas Demand

Connection To:	Facility	Electricity Demand[(a)] (cf/yr)
Vine Street	Restaurant	1,490,000
	Surface Parking Lot	0
Total Existing Natural Gas Demand for Project Site		**1,490,000**

[(a)] CalEEMod was used to generate the estimated gas demand.

4. SIGNIFICANCE THRESHOLDS

Appendix F of the CEQA Guidelines states that the potentially significant energy implications of a project should be considered in an EIR. Environmental impacts, as noted in Appendix F, may include:

- The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project's life cycle including construction, operation, maintenance and/or removal. if appropriate, the energy intensiveness of materials may be discussed;
- The effects of the project on local and regional energy supplies and on requirements for additional capacity;
- The effects of the project on peak and base period demands for electricity and other forms of energy;

- The degree to which the project complies with existing energy standards;
- The effects of the project on energy resources;
- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

In the context of the above thresholds, the *L.A. CEQA Thresholds Guide* states that a determination of significance shall be made on a case-by case basis, considering the following factors:

- The extent to which the project would require new (off-site) energy supply facilities and distribution infrastructure; or capacity enhancing alterations to existing facilities;
- Whether and when the needed infrastructure was anticipated by adopted plans; and
- The degree to which the project design and/or operations incorporate energy conservation measures, particularly those that go beyond City requirements.

Based on these factors, the Project would have a significant impact on energy resources if the project would result in an increase in demand for electricity or natural gas that exceeds available supply or distribution infrastructure capabilities, or the design of the project fails to incorporate energy conservation measures that go beyond existing requirements.

5. METHODOLOGY

The methodology for determining the significance of a project as it relates to a project's impact on wastewater collection and treatment infrastructure is based on the *L.A. CEQA Thresholds Guide*. This methodology involves a review of the project's environmental setting, project impacts, cumulative impacts, and mitigation measures as required. The following has been considered as part of the determination for this Project:

Environmental Setting

- Description of the electricity and natural gas supply and distribution infrastructure serving the project site. Include plans for new transmission facilities or expansion of existing facilities; and
- Summary of adopted energy conservation plans and policies relevant to the project

Project Impacts

- Evaluation of the new energy supply and distribution systems which the project would require.

- Describe the energy conservation features that would be incorporated into project design and/or operation that go beyond City requirements, or that would reduce the energy demand typically expected for the type of project proposed.

- Consult with the DWP or The Gas Company, if necessary to gauge the anticipated supply and demand conditions at project buildout.

This report analyzes the potential impacts of the Project on existing energy infrastructure by comparing the estimated Project energy demand with the available capacity. Will-serve letters from LADWP and SoCalGas (Exhibits 1 and 2) demonstrate the availability of sufficient energy resources to supply the Project's demand.

In addition, potential energy impacts were analyzed by evaluating the energy demand and energy conserving features of the Project to determine whether the Project would involve the wasteful, inefficient, and unnecessary use of energy resources.

6. PROJECT IMPACTS

6.1. CONSTRUCTION

Electrical power would be consumed to construct the new buildings and facilities of the proposed Project. Typical uses include temporary power for lighting, equipment, construction trailers, etc. The demand would be supplied from existing electrical services within the Project Site and would not affect other services. Overall, demolition and construction activities would require minimal electricity consumption and would not be expected to have any adverse impact on available electricity supplies and infrastructure. Therefore, impacts on electricity supply associated with short-term construction activities would be less than significant.

No natural gas usage is expected to occur during construction. Therefore, impacts on natural gas supply associated with short-term construction activities would be less than significant.

Construction impacts associated with the Project's electrical and gas infrastructure upgrades would primarily be confined to trenching. Infrastructure improvements will comply with all applicable LADWP, SoCalGas, and City of LA requirements, which are expected to and would in fact mitigate impact to existing energy systems and adjacent properties. As stated above, to reduce any temporary pedestrian access and traffic impacts during any necessary off-site energy infrastructure improvements, a construction management plan would be implemented to ensure safe pedestrian and vehicular travel. Therefore, Project impacts on energy infrastructure associated with construction activities would be less than significant.

6.2. OPERATION

A will serve letter was sent to LADWP to determine if there is sufficient capacity to serve the Project. Based on the response from LADWP (see Exhibit 1), impacts related to electrical services would be less than significant.

The Project will increase the demand for natural gas resources. A will serve letter was sent to the gas company to determine if there is sufficient capacity to serve the Project. Based on the response from the Southern California Gas Company (see Exhibit 2), impacts related to gas would be less than significant.

6.2.1. ELECTRICITY

The Project's service size is estimated to be a 3000Amp, 480/277Volt, 3Phase, 4Wire. Based on the proposed use, the estimated electrical loads are provided in Table 7 below.

Table 7 - Estimated Proposed Electricity Demand

Connection To:	Facility	Quantity	Electricity Demand[a] (kWhr/yr)[b]
Vine Street	Hotel	216 Rooms	2,396,150
	Sit Down Restaurant	4,354 SF	193,187
	Parking Structure	79 spaces	96,159
Total Proposed Electricity Demand for Project Site			**2,685,496**
Existing Total Electricity Demand for Project Site			**308,910**
Net Increase in Electricity Demand for Project Site Due to Project			**2,376,586**

[a] CalEEMod was used to generate the estimated electrical demand

[b] 1 kW (kilowatt) = 1,000 Watts.

A new LADWP electrical service is proposed to serve the new hotel, restaurant/bar, guest amenity and parking facility building. The service would come off of Vine Street to the west. The service, approximated at 3000A, 480/277V, 3PH, 4W, would be used to serve the new building.

A will serve letter was sent to LADWP to determine if there is sufficient capacity to serve the Project. Based on the response from LADWP (see Exhibit 1), impacts related to electrical services would be less than significant.

6.2.2. NATURAL GAS

The Project will increase the demand for natural gas resources. Based on the proposed use, the estimated natural gas loads are provided in Table 8 below.

Table 8 - Estimated Proposed Natural Gas Demand

Connection To:	Facility	Quantity	Peak Natural Gas Demand[(a)] (cf/yr)
Vine Street (6" SoCalGas Main)	Hotel	216 Rooms	7,552,260
	Sit Down Restaurant	4,354 SF	1,005,640
	Parking Structure	79 spaces	0
Total Proposed Natural Gas Demand for Project Site			**8,557,900**
Existing Total Natural Gas Demand for Project Site			**1,490,000**
Net Increase in Natural Gas Demand for Project Site Due to Project			**7,067,900**

[(a)] CalEEMod was used to generate the estimated gas demand.

[(b)] The New Parking Facility is not expected to generate any natural gas demand.

A will serve letter was sent to the gas company to determine if there is sufficient capacity to serve the Project. Based on the response from the SoCalGas (see Exhibit 2), impacts related to gas would be less than significant.

6.3. CUMULATIVE IMPACTS

The geographic context for the cumulative analysis of electricity is LADWP's service area and the geographic context for the cumulative analysis of natural gas is SoCalGas' service area. The geographic context for transportation energy use is the City of Los Angeles. Growth within these geographies is anticipated to increase the demand for electricity, natural gas, and transportation energy, as well as the need for energy infrastructure, such as new or expanded energy facilities.

Buildout of the Project, the related projects, and additional growth forecasted to occur in the City would increase electricity consumption during project construction and operation and, thus, cumulatively increase the need for energy supplies and infrastructure capacity, such as new or expanded energy facilities. LADWP forecasts that its total energy sales in the 2020–2021 fiscal year (the project buildout year) will be 23,622 gigawatt-hours

(GWh) of electricity.[7] Based on the Project's estimated net new electrical consumption of 2,376,586 kWh/year, the Project would account for approximately 0.01 percent of LADWP's projected sales for the Project's build-out year. Although future development would result in the irreversible use of renewable and non-renewable electricity resources during project construction and operation which could limit future availability, the use of such resources would be on a relatively small scale and would be consistent with growth expectations for LADWP's service area. Furthermore, like the Project, during construction and operation, other future development projects would be expected to incorporate energy conservation features, comply with applicable regulations including CALGreen and State energy standards under Title 24, and incorporate mitigation measures, as necessary. Accordingly, the Project's contribution to cumulative impacts related to electricity consumption would not be cumulatively considerable and, thus, would be less than significant.

Electricity infrastructure is typically expanded in response to increasing demand, and system expansion and improvements by LADWP are ongoing. As described in LADWP's 2015 Power Integrated Resource Plan, LADWP would continue to expand delivery capacity as needed to meet demand increases within its service area at the lowest cost and risk consistent with LADWP's environmental priorities and reliability standards. LADWP has indicated that the Power Integrated Resource Plan incorporates the estimated electricity requirement for the Project. The Power Integrated Resource Plan takes into account future energy demand, advances in renewable energy resources and technology, energy efficiency, conservation, and forecast changes in regulatory requirements. Development projects within the LADWP service area would also be anticipated to incorporate site- specific infrastructure improvements, as necessary. Each of the related projects would be reviewed by LADWP to identify necessary power facilities and service connections to meet the needs of their respective projects. Project applicants would be required to provide for the needs of their individual projects, thereby contributing to the electrical infrastructure in the Project area. As such, the Project's contribution to cumulative impacts with respect to electricity infrastructure would not be cumulatively considerable and, thus, would be less than significant.

Buildout of the Project and related projects in SoCalGas' service area is expected to increase natural gas consumption during project construction and operation and, thus, cumulatively increase the need for natural gas supplies and infrastructure capacity. Based on the 2014 California Gas Report, the California Energy Commission estimates natural gas availability within SoCalGas' planning area will be approximately 3,875 million cubic feet/day in 2020-2021.[8] The Project would account for approximately 0.18 percent of the 2020-2021 forecasted availability in SoCalGas's planning area. SoCalGas' forecasts take into account projected population growth and development based on local and regional plans. Although future development projects would result in the irreversible use of natural gas resources which could limit future availability, the use of such

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7 LADWP, 2015 Power Integrated Resource Plan, Appendix A, Table A-1.

8 California Gas and Electric Utilities, 2014 California Gas Report, p. 94.

resources would be on a relatively small scale and would be consistent with regional and local growth expectations for SoCalGas' service area. Furthermore, like the Project, during project construction and operation other future development projects would be expected to incorporate energy conservation features, comply with applicable regulations including CALGreen and State energy standards under Title 24, and incorporate mitigation measures, as necessary. Accordingly, the Project's contribution to cumulative impacts related to natural gas consumption would not be cumulatively considerable and, thus, would be less than significant.

Natural gas infrastructure is typically expanded in response to increasing demand, and system expansion and improvements by SoCalGas occur as needed. It is expected that SoCalGas would continue to expand delivery capacity if necessary to meet demand increases within its service area. Development projects within its service area would also be anticipated to incorporate site-specific infrastructure improvements, as appropriate. As such, cumulative impacts with respect to natural gas infrastructure would not be cumulatively considerable and, thus, would be less than significant.

7. LEVEL OF SIGNIFICANCE

Based on the analysis contained in this report no significant impacts have been identified to electricity or gas infrastructure for this Project.

EXHIBIT 1

Los Angeles Department of Water & Power

July 15, 2016

Mr. Trenton Ramos, E.I.T.
kpff
6080 Center Drive, Suite 700
Los Angeles, CA 90045

Subject: 1718 N. Vine Street
Los Angeles, CA 90028

Dear Mr. Ramos:

This is in response to your submittal regarding electric service for the proposed project located at the above address.

Electric Service is available and will be provided in accordance with the Los Angeles Department of Water and Power's (Department) Rules Governing Water and Electric Service. The availability of electricity is dependent upon adequate generating capacity and adequate fuel supplies. The estimated power requirement for this proposed project is part of the total load growth forecast for the City of Los Angeles and has been taken into account in the planned growth of the City's power system.

If you have any questions regarding this matter, please contact me at telephone number (213) 367-2725.

Sincerely,

VINCENT G. ZABUKOVEC
Engineer of Customer Station Design

VGZ:sl

C/enc:
ENGR: Mr. Vincent G. Zabukovec
FileNet

111 N. Hope Street, Los Angeles, California 90012-2607 *Mailing address:* Box 51111, Los Angeles, CA 90051-5700
Telephone: (213) 367-4211 www.LADWP.com

EXHIBIT 2

Southern
California
Gas Company

A Sempra Energy utility®

March 14, 2017

KPFF
6080 Center Dr., Suite 700
Los Angeles CA 90045
Attn: Holly Maag / Trenton Ramos, E.I.T.
I.D. #43-2017-02-00062 Restaurant / Bar & Guest Amenity Building Project
1718 Vine St., Los Angeles CA

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

This letter is not a contractual commitment to serve the proposed project, but is only provided as an informational service. The availability of natural gas service is based upon conditions of gas supply and regulatory agencies. As a public utility, Southern California Gas Company is under the jurisdiction of the California Public Utilities Commission. Our ability to serve can also be affected by actions of federal regulatory agencies. Should these agencies take any action, which affects gas supply or the conditions under which service is available, gas service will be provided in accordance with the revised conditions. This letter is also provided without considering any conditions or non-utility laws and regulations (such as environmental regulations), which could affect actual construction of a main or service line extension (for example, if hazardous wastes were encountered in the process of installing the line). Those, of course, can only be determined around the time contractual arrangements are made and construction is begun.

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 800-427-2000.

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

Sincerely,

Gayle Jovoni, Pacific Region, Will Serve Request, Planning Associate