IV. Environmental Impact Analysis
M. Energy Conservation and Infrastructure

1. Introduction

This section of the Draft EIR provides the content and analysis required by Public Resources Code Section 21100(b)(3) and described in Appendix F to the Guidelines for the Implementation of the California Environmental Quality Act (14 California Code of Regulations Section 15000 et seq.; State CEQA Guidelines) This section analyzes the Project's potential impacts related to energy resources, focusing on the following three resources: electricity, natural gas, and transportation-related energy (i.e., petroleum-based fuels). This section evaluates the demand for energy resources attributable to the Project during construction and operation and makes a determination regarding the Project's use and conservation of energy resources. This section also demonstrates whether the current and planned electricity, natural gas, and petroleum-based fuel supplies and distribution systems are adequate to meet the Project's forecasted energy consumption. The information presented herein is based in part on the *222 West 2nd Street Project Utilities Technical Memorandum* (Utilities Report), prepared by Psomas and dated November 30, 2018, *and* the *Energy Calculations for the 222 West 2nd Street Project* (Energy Calculations), prepared by Eyestone Environmental, provided in Appendix N.2 and Appendix O, respectively, of this Draft EIR.

2. Environmental Setting

a. Regulatory Framework

(1) Federal

(a) Federal Corporate Average Fuel Economy (CAFE) Standards

First established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA) jointly administer the CAFE standards. The U.S. Congress has specified that CAFE standards must be set at the "maximum feasible level" with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to

conserve energy.[1] On April 2, 2018, the USEPA signed the Mid-term Evaluation Final Determination, which finds that the model year 2022–2025 greenhouse gas standards are not appropriate and should be revised.[2] This Final Determination serves to initiate a notice to further consider appropriate standards for model year 2022–2025 light duty vehicles. On August 24, 2018, the USEPA and NHTSA published a proposal to freeze the model year 2020 standards through model year 2026 and to revoke California's waiver under the Clean Air Act to establish more stringent standards.[3]

(b) Energy Independence and Security Act

The Energy Independence and Security Act of 2007 (EISA) facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of biofuel in 2022;
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;
- Requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020; and
- While superseded by the USEPA and NHTSA actions described above, (i) establishing miles per gallon targets for cars and light trucks and (ii) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

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1 *For more information on the CAFE standards, refer to www.nhtsa.gov/Laws-&-Regulations/CAFE-%E2%80%93-Fuel-Economy, accessed March 26, 2018.*

2 *Federal Register, Mid-Term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022–2025 Light-Duty Vehicles, April 13, 2018, www.federalregister.gov/documents/2018/04/13/2018-07364/mid-term-evaluation-of-greenhouse-gas-emissions-standards-for-model-year-2022-2025-light-duty, accessed August 16, 2018.*

3 *Proposed Rule: The Safer Affordable Fuel-Efficient Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks, www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0756, accessed August 29, 2018.*

Additional provisions of EISA address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green jobs."[4]

(2) State

(a) California Building Standards Code (Title 24)

(i) California Building Energy Efficiency Standards (Title 24, Part 6)

The California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) were first adopted to ensure that building construction, system design and installation achieve energy efficiency and preserve outdoor and indoor environmental quality. The current California Building Energy Efficiency Standards (Title 24 standards) are the 2016 Title 24 standards, which became effective on January 1, 2017.[5] The 2016 Title 24 standards include efficiency improvements to the residential standards for attics, walls, water heating, and lighting and efficiency improvements to the non-residential standards include alignment with the American Society of Heating and Air-Conditioning Engineers *(*ASHRAE) 90.1 2013 national standards.[6]

(ii) California Green Building Standards (Title 24, Part 11)

The most recent update for the California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, went into effect on January 1, 2017.[7] The 2016 CALGreen Code includes mandatory measures for non-residential development related to site development; water use; weather resistance and moisture management; construction waste reduction, disposal, and recycling; building maintenance and operation; pollutant control; indoor air quality; environmental comfort; and outdoor air quality.[8] Most mandatory measure changes, when compared to the previously applicable 2013 CALGreen Code, were related to the definitions and clarification or

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[4] *A green job, as defined by the United States Department of Labor, is a job in a business that produces goods or provides services that benefit the environment or conserve natural resources.*

[5] *California Energy Commission, 2016 Building Energy Efficiency Standards, www.energy.ca.gov/title24/2016standards/, accessed March 26, 2018.*

[6] *California Energy Commission, 2016 Building Energy Efficiency Standards for Residential and Nonresidential Buildings, June 2015.*

[7] *California Energy Commission, 2016 Building Energy Efficiency Standards, www.energy.ca.gov/title24/2016standards/, accessed March 26, 2018.*

[8] *California Building Standards Commission, Guide to the 2016 California Green Building Standards Code Nonresidential, January 2017.*

addition of referenced manuals, handbooks, and standards. For example, several definitions related to energy that were added or revised affect electric vehicles charging and hot water recirculation systems. For new multi-family dwelling units, the residential mandatory measures now require additional electric vehicle charging space requirements, including those related to quantity, location, size, and identification of EV spaces.[9]

(b) California's Renewable Portfolio Standard

First established in 2002 under Senate Bill (SB) 1078, California's Renewable Portfolio Standards (RPS) require retail sellers of electric services to source at least 33 percent of energy from eligible renewable energy resources by 2020.[10] The California Public Utilities Commission (CPUC) and the California Energy Commission (CEC) jointly implement the RPS. The CPUC's responsibilities include: (1) determining annual procurement targets and enforcing compliance; (2) reviewing and approving each investor-owned utility's renewable energy procurement plan; (3) reviewing contracts for RPS-eligible energy; and (4) establishing the standard terms and conditions used in contracts for eligible renewable energy.[11] The CEC's responsibilities include: (1) certifying renewable facilities as eligible for the RPS; and (2) designing and implementing a tracking and verification system to ensure that renewable energy output is counted only once for the purpose of the RPS and verifying retail product claims in California or other states.

In 2017, LADWP indicated that 29 percent of its electricity came from renewable resources in year 2016.[12] Therefore, under SB 2X, LADWP is required to increase its electricity from renewable resources by an additional 4 percent to comply with the RPS of 33 percent by 2020.

(c) Senate Bill 350

SB 350, signed October 7, 2015, is the Clean Energy and Pollution Reduction Act of 2015. The objectives of SB 350 are: (1) to increase the procurement of our electricity from renewable sources from 33 percent to 50 percent by 2030; and (2) to double the energy

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[9] *California Building Standards Commission, 2016 California Green Building Standards Code, California Code of Regulations, Title 24, Part 11, Chapter 4—Residential Mandatory Measures, effective January 1, 2017.*

[10] *California Public Utilities Commission, California Renewables Portfolio Standard (RPS), www.cpuc.ca.gov/RPS_Homepage/, accessed March 26, 2018.*

[11] *California Public Utilities Commission, California Renewables Portfolio Standard (RPS), www.cpuc.ca.gov/RPS_Homepage/, accessed March 26, 2018.*

[12] *LADWP, 2015 Power Integrated Resource Plan, December 2015, Table D-1, LADWP's 2014 Power Content Label, p. D-19.*

efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation by 2030.[13]

(d) Senate Bill 100

Senate Bill (SB) 100, signed September 10, 2018, is the 100 Percent Clean Energy Act of 2018. SB 100 updates the goals of California's Renewable Portfolio Standard and SB 350, as discussed above, to the following: achieve 50 percent renewable resources target by December 31, 2026 and achieve a 60 percent target by December 31, 2030. SB 100 also requires that eligible renewable energy resources and zero-carbon resources supply 100 percent of retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045.[14]

(e) Assembly Bill 32 (California Global Warming Solutions Act of 2006) and Senate Bill 32

As discussed in Section IV.D, Greenhouse Gas Emissions, of this Draft EIR, Assembly Bill (AB) 32 (Health and Safety Code Sections 38500–38599), also known as the California Global Warming Solutions Act of 2006, commits the State to achieving year 1990 greenhouse gas (GHG) levels by 2020. To achieve these goals, AB 32 tasked the CPUC and CEC with providing information, analysis, and recommendations to the California Air Resources Board (CARB) regarding ways to reduce GHG emissions in the electricity and natural gas utility sectors.

SB 32, signed September 8, 2016, updates AB 32 (the Global Warming Solutions Act) to include an emissions reductions goal for the year 2030. Specifically, SB 32 requires the state board to ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by 2030. The new plan, outlined in SB 32, involves increasing renewable energy use, imposing tighter limits on the carbon content of gasoline and diesel fuel, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries.

(f) Assembly Bill 1493 (Pavley I)

AB 1493 (commonly referred to as CARB's Pavley regulations) was the first state legislation to regulate GHG emissions from new passenger vehicles. Under this legislation, CARB adopted regulations to reduce GHG emissions from non-commercial passenger

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[13] *Senate Bill 350 (2015–2016 Reg. Session) Stats 2015, Ch. 547.*

[14] *Senate Bill 100 (2017-2018) Reg. Session_ Stats 2018, Ch. 312.*

vehicles (cars and light-duty trucks) for model years 2009–2016.[15] The Pavley regulations are expected to reduce GHG emissions from California's passenger vehicles by about 30 percent in 2016, while improving fuel efficiency and reducing motorists' costs.[16]

(g) Executive Order S-1-07 (California Low Carbon Fuel Standard)

The Low Carbon Fuel Standard (LCFS), established in 2007 through Executive Order S-1-07 and administered by CARB, requires producers of petroleum-based fuels to reduce the carbon intensity of their products, starting with 0.25 percent in 2011 and culminating in a 10-percent total reduction in 2020.[17] Petroleum importers, refiners and wholesalers can either develop their own low carbon fuel products, or buy LCFS credits from other companies that develop and sell low carbon alternative fuels, such as biofuels, electricity, natural gas, and hydrogen.[18]

(h) California Air Resources Board

(i) Advanced Clean Cars Regulation

Closely associated with the Pavley regulations, the Advanced Clean Car Standards emissions-control program was approved by CARB in 2012.[19] The program combines the control of smog, soot causing pollutants, and GHGs with requirements for greater numbers of zero-emission vehicles for model years 2015–2025.[20] The components of the Advance Clean Car Standards include the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025

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[15] *California Air Resources Board, Clean Car Standards—Pavley, Assembly Bill 1943, www.arb.ca.gov/cc/ccms/ccms.htm, last reviewed January 11, 2017, accessed March 26, 2018.*

[16] *California Air Resources Board, Clean Car Standards—Pavley, Assembly Bill 1943, www.arb.ca.gov/cc/ccms/ccms.htm, last reviewed January 11, 2017, accessed March 26, 2018.*

[17] *California Energy Commission, Low Carbon Fuel Standard: Fuels and Transportation Division Emerging Fuels and Technologies Office, www.energy.ca.gov/low_carbon_fuel_standard/, accessed March 26, 2018.*

[18] *California Energy Commission, Low Carbon Fuel Standard: Fuels and Transportation Division Emerging Fuels and Technologies Office, www.energy.ca.gov/low_carbon_fuel_standard/, accessed March 26, 2018.*

[19] *California Air Resources Board, California's Advanced Clean Cars Program, www.arb.ca.gov/msprog/acc/acc.htm, last reviewed January 18, 2017, accessed March 26, 2018.*

[20] *California Air Resources Board, California's Advanced Clean Cars Program, www.arb.ca.gov/msprog/acc/acc.htm, last reviewed by CARB January 18, 2017, accessed March 26, 2018.*

model years.[21] In March 2017, CARB voted unanimously to continue with the vehicle greenhouse gas emission standards and the ZEV program for cars and light trucks sold in California through 2025.[22]

(ii) Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

The Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling (Title 13, California Code of Regulations, Division 3, Chapter 10, Section 2435) was adopted to reduce public exposure to diesel particulate matter and other air contaminants by limiting the idling of diesel-fueled commercial motor vehicles. This section applies to diesel-fueled commercial motor vehicles with gross vehicular weight ratings of greater than 10,000 pounds that are or must be licensed for operation on highways. Reducing idling of diesel-fueled commercial motor vehicles reduces the amount of petroleum-based fuels used by the vehicle.

(iii) Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles.

The Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles (California Code of Regulations, Title 13, Division 3, Chapter 1, Section 2025) was adopted to reduce emissions of diesel particulate matter, oxides of nitrogen (NO_X) and other criteria pollutants from in-use diesel-fueled vehicles. This regulation is phased, with full implementation by 2023. The regulation aims to reduce emissions by requiring the installation of diesel soot filters and encouraging the retirement, replacement, or repowering of older, dirtier engines with newer emission-controlled models. The newer emission-controlled models would use petroleum-based fuel in a more efficient manner.

(i) Sustainable Communities Strategy (SB 375)

The Sustainable Communities and Climate Protection Act of 2008, or SB 375, coordinates land use planning, regional transportation plans, and funding priorities to help California meet the GHG reduction mandates established in AB 32. SB 375 specifically requires each Metropolitan Planning Organization (MPO) to prepare a "sustainable

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[21] *California Air Resources Board, California's Advanced Clean Cars Program, www.arb.ca.gov/msprog/acc/acc.htm, last reviewed by CARB January 18, 2017, accessed March 26, 2018.*

[22] *California Air Resources Board, News Release: CARB finds vehicle standards are achievable and cost-effective, website: www.arb.ca.gov/newsrel/newsrelease.php?id=908, accessed March 26, 2018.*

communities strategy" (SCS) as part of its Regional Transportation Plan (RTP), which is required by the state and federal government, that will achieve GHG emission reduction targets set by CARB for the years 2020 and 2035 by reducing vehicle miles travelled (VMT) from light duty vehicles through the development of more compact, complete, and efficient communities. The SCS also contains land use, housing, and transportation strategies that, if implemented, would allow the region to meet its GHG emission reduction targets.[23]

The Project Site is located within the MPO area of the Southern California Association of Governments (SCAG), as is the entire City. SCAG's compliance with SB 375 is described below. SCAG's first-ever SCS was included in the 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy (2012–2035 RTP/SCS), which was adopted by SCAG in April 2012. The SCS goals and policies that reduce VMT (and result in corresponding decreases in transportation-related fuel consumption) focus on transportation and land use planning and include building infill projects, locating residents closer to where they work and play, and designing communities with access to high quality transit service. Subsequently, SCAG adopted the 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (2016–2040 RTP/SCS).[24] The goals and policies of the 2016–2040 RTP/SCS are substantially the same as those in the 2012–2035 RTP/SCS. Further discussion is provided below, under the subheading 2.a.(3) Regional.

(j) Assembly Bill 758

AB 758 requires the CEC to develop a comprehensive program to achieve greater energy efficiency in the state's existing buildings. As part of the requirements of AB 758, the AB 758 Action Plan was released March 2015 and provides a 10-year roadmap that would result in accelerated growth of energy efficiency markets, more effective targeting and delivery of building upgrade services, improved quality of occupant and investor decisions, and vastly improved performance of California's buildings in service of those who own and occupy them. The AB 758 Action Plan provides a comprehensive framework centered on five goals, each with an objective and a series of strategies to achieve it.

(k) Senate Bill 1389

SB 1389 (Public Resources Code Sections 25300–25323) requires the development of an integrated plan for electricity, natural gas, and transportation fuels. Under the bill, the CEC must adopt and transmit to the Governor and Legislature an Integrated Energy Policy

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[23] *California Air Resources Board, Sustainable Communities, www.arb.ca.gov/cc/sb375/sb375.htm, page last updated May 9, 2017.*

[24] *Southern California Association of Governments, 2016–2040 RTP/SCS, April 2016.*

Report every two years. The most recently completed report, the 2016 Integrated Energy Policy Report, addresses a variety of issues including the environmental performance of the electricity generation system, the response to the gas leak at the Aliso Canyon natural gas storage facility, transportation fuel supply reliability issues, an update on the Southern California electricity reliability, a discussion of methane leakage, climate adaptation activities for the energy sector, climate and sea level rise scenarios, and the *California Energy Demand Forecast*.[25]

(l) California Environmental Quality Act

In accordance with the California Environmental Quality Act (CEQA) and Appendix F, Energy Conservation, of the State CEQA Guidelines, in order to assure that energy implications are considered in project decisions, EIRs are required to include a discussion of the potentially significant energy impacts of proposed projects, with particular emphasis on avoiding or reducing wasteful, inefficient, and unnecessary consumption of energy (see Public Resources Code Section 21100(b)(3)). State CEQA Guidelines Appendix F provides a list of energy-related topics that should be analyzed in an EIR. In addition, while not described as thresholds for determining the significance of impacts related to energy, Appendix F provides the following topics that may be considered in the analysis of energy use in an EIR when applicable or relevant to the project:

- 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.

[25] *California Energy Commission, 2016 Integrated Energy Policy Report, docketed January 18, 2017.*

(3) Regional

As discussed in Section IV.F, Land Use, of this Draft EIR, SCAG's 2016–2040 RTP/SCS presents a long-term transportation vision through the year 2040 for the six-county region of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. On April 7, 2016, the SCAG Regional Council adopted the 2016–2040 RTP/SCS, the mission of which is "leadership, vision and progress which promote economic growth, personal well-being, and livable communities for all Southern Californians."[26] The 2016–2040 RTP/SCS includes land use strategies that focus on urban infill growth and walkable, mixed-use communities in existing urbanized and opportunity areas. More mixed-use, walkable, and urban infill development would be expected to accommodate a higher proportion of growth in more energy-efficient housing types like townhomes, apartments, and smaller single-family homes, as well as more compact commercial buildings types. Furthermore, the 2016–2040 RTP/SCS includes transportation investments and land use strategies that encourage carpooling, increased transit use, active transportation opportunities, and promoting more walkable and mixed use communities which would potentially help to offset passenger VMT.

The 2016–2040 RTP/SCS also establishes High-Quality Transit Areas (HQTA), which are described as walkable transit villages or corridors located within 0.5 mile of a well-serviced transit stop or a transit corridor that has a 15-minute or less service frequency during peak commute hours and a minimum density of 20 dwelling units per acre.[27] Local governments are encouraged to focus housing and employment growth within HQTAs to reduce VMT. The Project Site is located within a HQTA as designated by the 2016–2040 RTP/SCS.[28]

(4) Local

(a) City of Los Angeles Green Building Code

On December 20, 2016, the Los Angeles City Council approved Ordinance No. 184,692, which amended Chapter IX of the Los Angeles Municipal Code (LAMC), referred to as the Los Angeles Green Building Code, to alter certain provisions of Article 9 to reflect local administrative changes and incorporate by reference portions of the 2016 CALGreen Code. Projects filed on or after January 1, 2017, must comply with the

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[26] *Southern California Association of Governments, 2016–2040 RTP/SCS.*

[27] *Southern California Association of Governments, 2016–2040 RTP/SCS, p. 8.*

[28] *Southern California Association of Governments, 2016–2040 RTP/SCS, Exhibit 5.1: High Quality Transit Areas in the SCAG Region for 2040 Plan, p. 77.*

provisions of the Los Angeles Green Building Code. Specific mandatory requirements and elective measures are provided for three categories: (1) low-rise residential buildings; (2) nonresidential and high-rise residential buildings; and (3) additions and alterations to nonresidential and high-rise residential buildings. LAMC Article 9, Division 5 includes measures for newly constructed nonresidential and high-rise residential buildings.

(b) City of Los Angeles Green LA Action Plan/ClimateLA

Green LA, An Action Plan to Lead the Nation in Fighting Global Warming (LA Green Plan) is the City of Los Angeles's (City) climate action plan. The LA Green Plan, released in May 2007, sets forth a goal of reducing the City's GHG emissions to 35 percent below 1990 levels by the year 2030. ClimateLA is the implementation program that provides detailed information about each action item discussed in the Green LA framework. ClimateLA includes focus areas addressing environmental issues including but not limited to energy, water, transportation, and waste. The energy focus area includes action items with measures that aim to increase the use of renewable energy to 35 percent by 2020, reduce the use of coal-fired power plants, and present a comprehensive set of green building policies to guide and support private sector development.

In 2008, the City released an implementation program for the LA Green Plan referred to as ClimateLA, which provides detailed information about each action item discussed in the LA Green Plan framework.[29] Action items range from harnessing wind power for electricity production and energy efficiency retrofits in City buildings, to converting the City's fleet vehicles to cleaner and more efficient models, as well as reducing water consumption. ClimateLA is a living document, reflecting a process of ongoing learning and continuous improvement as technology advances and City departments develop expertise in the methods of lowering GHG emissions.

(c) City of Los Angeles Solid Waste Programs and Ordinances

The recycling of solid waste materials also contributes to reduced energy consumption. Specifically, when products are manufactured using recycled materials, the amount of energy that would have otherwise been consumed to extract and process virgin source materials is reduced. For example, in 2015, 3.61 million tons of aluminum were produced by recycling in the United States, saving enough energy to provide electricity to 7.5 million homes.[30] In 1989, California enacted AB 939, the California Integrated Waste

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[29] *City of Los Angeles, ClimateLA, 2008.*

[30] *American Geosciences Institute. How Does Recycling Save Energy?, www.americangeosciences.org/critical-issues/faq/how-does-recycling-save-energy, accessed March 26, 2018.*

Management Act which establishes a hierarchy for waste management practices such as source reduction, recycling, and environmentally safe land disposal.[31] The City implements various programs and ordinances related to solid waste. These include: (1) the City of Los Angeles Solid Waste Management Policy Plan, adopted in 1993, which is a long-range policy plan that proposes an approach for the City to achieve a goal of 90-percent diversion by 2025; (2) the RENEW LA Plan, which is a Resource Management Blueprint with the aim to achieve a zero waste goal through reducing, reusing, recycling, or converting the resources now going to disposal so as to achieve an overall diversion level of 90 percent or more by 2025; (3) the Waste Hauler Permit Program (Ordinance No. 181,519), which requires all private waste haulers collecting solid waste, including construction and demolition waste, to obtain AB 939 Compliance Permits and to transport construction and demolition waste to City certified construction and demolition processing facilities;[32] and (4) the Exclusive Franchise System Ordinance (Ordinance No. 182,986), which, among other requirements, sets maximum annual disposal levels and specific diversion requirements for franchised waste haulers in the City to promote solid waste diversion from landfills in an effort to meet the City's zero waste goals. These solid waste reduction programs and ordinances not only help to reduce the number of trips to haul solid waste, therefore reducing the amount of petroleum-based fuel, but also help to reduce the energy used to process solid waste.

b. Existing Conditions

(1) Electricity

Electricity, a consumptive utility, is a man-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity involves a number of system components, including substations and transformers that lower transmission line power (voltage) to a level appropriate for on-site distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. Conveyance of electricity through transmission lines is typically responsive to market demands.

Energy capacity, or electrical power, is generally measured in watts (W) while energy use is measured in watt-hours (Wh). For example, if a light bulb has a capacity

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[31] *CalRecycle. History of California Solid Waste Law, 1985–1989, www.calrecycle.ca.gov/laws/legislation/calhist/1985to1989.htm, accessed March 26, 2018.*

[32] *The California Integrated Waste Management Act of 1989 (AB 939), as amended, was enacted to reduce, recycle, and reuse solid waste generated in the state. AB 939 requires city and county jurisdictions to divert 50 percent of the total waste stream from landfill disposal.*

rating of 100 W, the energy required to keep the bulb on for one hour would be 100 Wh. If ten 100 W bulbs were on for one hour, the energy required would be 1,000 Wh or 1 kilowatt-hour (kWh). On a utility scale, a generator's capacity is typically rated in megawatts (MW), which is one million watts, while energy usage is measured in megawatt-hours (MWh) or gigawatt-hours (GWh), which is one billion watt-hours.

The Los Angeles Department of Water and Power (LADWP) provides electrical service throughout the City, serving approximately four million people within a service area of approximately 465 square miles (excluding portions of the Owens Valley also served). Electrical service provided by the LADWP is divided into two planning districts: Valley and Metropolitan. The Valley Planning District includes the LADWP service area north of Mulholland Drive, and the Metropolitan Planning District includes the LADWP service area south of Mulholland Drive. The Project Site is located within LADWP's Metropolitan Planning District.

LADWP generates power from a variety of energy sources, including hydropower, coal, gas, nuclear sources, and renewable resources, such as wind, solar, and geothermal sources. According to LADWP's 2016 Power Integrated Resource Plan, the LADWP has a net dependable generation capacity greater than 7,531 MW.[33] In 2017, the LADWP power system experienced an instantaneous peak demand of 6,432 MW.[34] Approximately 29 percent of LADWP's 2016 electricity purchases were from renewable sources, which is similar to the 25-percent statewide percentage of electricity purchases from renewable sources.[35]

As discussed in Section II, Project Description, of this Draft EIR, existing uses at the Project Site consist of a former surface parking lot which is currently in use as a staging and excavation area for construction of the Los Angeles County Metropolitan Transportation Authority (Metro) Regional Connector 2nd Street/Broadway rail station and portal, and a five-level parking structure that includes rooftop parking and two subterranean levels. As the site is currently used for parking and construction staging, electricity usage is minimal. The Project Site is served by existing underground power lines in the adjacent streets.

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[33] *Los Angeles Department of Water and Power, 2016 Power Integrated Resource Plan, Section 1, Introduction, p. 95.*

[34] *Los Angeles Department of Water and Power, 2016 Power Integrated Resource Plan, Section 1, Introduction, p. 95.*

[35] *California Energy Commission, Utility Annual Power Content Labels for 2016, available at www.energy.ca.gov/pcl/labels/, accessed March 26, 2018.*

(2) Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs, mainly located outside the State, and delivered through high-pressure transmission pipelines. The natural gas transportation system is a nationwide network, and, therefore, resource availability is typically not an issue. Natural gas provides almost one-third of the state's total energy requirements and is used in electricity generation, space heating, cooking, water heating, industrial processes, and as a transportation fuel. Natural gas is measured in terms of cubic feet (cf).

Natural gas is provided to the Project Site by the Southern California Gas Company (SoCalGas). SoCalGas is the principal distributor of natural gas in Southern California, serving residential, commercial, and industrial markets. SoCalGas serves approximately 21.4 million customers in more than 500 communities encompassing approximately 20,000 square miles throughout Central and Southern California, from the City of Visalia to the Mexican border.[36]

SoCalGas receives gas supplies from several sedimentary basins in the western United States and Canada, including supply basins located in New Mexico (San Juan Basin), West Texas (Permian Basin), the Rocky Mountains, and Western Canada as well as local California supplies.[37] Traditional southwestern United States sources of natural gas continue to supply most of SoCalGas's natural gas demand, supplemented by the Rocky Mountain supply.[38] Gas supply available to SoCalGas from California sources was approximately 126 million cf/day in 2016 (the most recent year for which data are available).[39]

According to the Utilities Report, SoCalGas maintains 3-inch gas lines in Broadway, Spring Street, and 2nd Street. As the site is currently used for parking and construction staging, natural gas usage is negligible.

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[36] *SoCalGas. Company Profile, www.socalgas.com/about-us/company-info.shtml, accessed March 26, 2018.*

[37] *California Gas and Electric Utilities, 2016 California Gas Report, p. 79.*

[38] *California Gas and Electric Utilities, 2016 California Gas Report, p. 79.*

[39] *California Gas and Electric Utilities, 2017 California Gas Report Supplement, p. 16.*

(3) Transportation Energy

According to the CEC, transportation accounted for nearly 37 percent of California's total energy consumption in 2014.[40] In 2016, California consumed 15.5 billion gallons of gasoline and 3.0 billion gallons of diesel fuel.[41] Petroleum-based fuels currently account for 90 percent of California's transportation energy sources.[42] However, the State is now working on developing flexible strategies to reduce petroleum use. Over the last decade, California has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and GHGs from the transportation sector, and reduce VMT. Accordingly, gasoline consumption in California has declined.[43] The CEC predicts that the demand for gasoline will continue to decline over the next ten years, and there will be an increase in the use of alternative fuels.[44] According to CARB's EMFAC Web Database, Los Angeles County on-road transportation sources consumed 3.95 billion gallons of gasoline and 0.70 billion gallons of diesel fuel in 2017.[45]

The existing on-site land uses do not generate vehicle trips or a demand for transportation-related fuel use.[46]

3. Project Impacts

This analysis addresses the Project's potential energy usage, including electricity, natural gas, and transportation fuel. Energy consumption during both construction and operation is assessed. The Project's estimated energy consumption was calculated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2. Specific analysis methodologies are discussed below.

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[40] *California Energy Commission, 2016 Integrated Energy Policy Report, docketed January 18, 2017, p. 4.*

[41] *California Board of Equalization, Net Taxable Gasoline Gallons 10 Year Report, and Net Taxable Diesel Gallons 10 Year Report.*

[42] *California Energy Commission, 2016–2017 Investment Plan Update for the Alternative and Renewable Fuel and Vehicle Technology Program, March 2016.*

[43] *State Board of Equalization. Economic Perspective, Discussion of Recent Economic Developments, Publication 329, Volume XIX, Number 1, February 2013.*

[44] *California Energy Commission, 2015 Integrated Energy Policy Report.*

[45] *California Air Resources Board, EMFAC2014 Web Database, available at www.arb.ca.gov/emfac/2014/.*

[46] *Construction worker trips and associated fuel use related to construction of Metro's Regional Connector 2nd Street/Broadway rail station and portal within the Project Site were subject to separate environmental analysis in the Regional Connector Final EIS/EIR (SCH No. 2009031043).*

a. Methodology

(1) Construction

Electricity usage associated with the supply and conveyance of water used for dust control during construction was calculated using CalEEMod.[47] Construction activities typically do not involve the consumption of natural gas. Fuel consumption from on-site heavy-duty construction equipment was calculated based on the equipment mix and usage factors provided in the CalEEMod construction output files and included in Appendix O of this Draft EIR. The total horsepower was then multiplied by fuel usage estimates per horsepower-hour included in Table A9-3-E of the South Coast Air Quality Management District's (SCAQMD) *CEQA Air Quality Handbook*. Fuel consumption from construction worker, vendor, and delivery/haul trucks was calculated using the trip rates and distances provided in the CalEEMod construction output files. Total VMT was then calculated for each type of construction-related trip and divided by the corresponding county-specific miles per gallon factor using CARB's EMFAC 2014 model (EMFAC2014). EMFAC provides the total annual VMT and fuel consumed for each vehicle type. Consistent with CalEEMod, construction worker trips were assumed to include 50-percent light duty gasoline auto and 50-percent light duty gasoline trucks. Construction vendor and delivery/haul trucks were assumed to be heavy-duty diesel trucks. Refer to Appendix O of this Draft EIR for detailed calculations.

(2) Operation

The Project's annual consumption of electricity, including the supply and conveyance of water from the source, the treatment of that water to potable standards, and distribution of the water to individual users, as well as natural gas, was calculated using demand factors provided in CalEEMod as part of the GHG analysis included in Section IV.D, Greenhouse Gas Emissions, of this Draft EIR. Energy impacts associated with transportation during operation were also assessed. Daily trip generation used in this analysis was based on the Traffic Study prepared for the Project included in Appendix L of this Draft EIR. As discussed therein, the Project's trip generation was determined based on the Institute of Transportation Engineers trip generation factors for the proposed land uses. The daily Project-related trips were then input into CalEEMod, which calculated the annual VMT. The resulting annual VMT was used as part of the GHG analysis included in Section IV.D, Greenhouse Gas Emissions, of this Draft EIR. Based on this annual VMT, gasoline and diesel consumption rates were calculated using the county-specific miles per gallon calculated using EMFAC2014. The vehicle fleet mix for vehicles anticipated to visit the Project Site was calculated consistent with the CalEEMod default for Los Angeles

[47] *California Air Pollution Control Officers Association, CalEEMod™ version 2016.3.2, www.caleemod.com.*

County. Supporting calculations are provided in Appendix O of this Draft EIR. The Project's estimated energy demands were also analyzed relative to LADWP's and SoCalGas's existing and planned energy supplies in 2025 (i.e., the Project's buildout year) to determine if these two energy utility companies would be able to meet the Project's energy demands. Finally, the capacity of existing local infrastructure to accommodate the Project's estimated electricity and natural gas demand was assessed based on service letters included as part of Appendix N.2 of this Draft EIR. These calculations were used to determine if the Project would cause the wasteful, inefficient, and/or unnecessary consumption of energy, as required by State CEQA Guidelines Appendix F.

b. Thresholds of Significance

Appendix F of the State CEQA Guidelines was prepared in response to the requirement in Public Resources Code Section 21100(b)(3), which states that an EIR shall include a detailed statement setting forth "[m]itigation measures proposed to minimize significant effects of the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy."

In addition, with regard to potential impacts to energy, 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 the above, the Project would result in a significant impact with regard to energy use and consumption if it would result in the following:

Significance Threshold No. 1: The Project would cause wasteful, inefficient, and unnecessary consumption of energy.

In accordance with State CEQA Guidelines Appendix F and Appendix G, as well as the *L.A. CEQA Thresholds Guide*, the following criteria will be considered in determining whether this threshold of significance is met:

1. The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed;

2. The effects of the project on local and regional energy supplies and on requirements for additional capacity;

3. The effects of the project on peak and base period demands for electricity and other forms of energy;

4. The degree to which the project complies with existing energy standards;

5. The effects of the project on energy resources;

6. The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

7. The degree to which the project design and/or operations incorporate energy-conservation measures, particularly those that go beyond City requirements.

8. Whether the Project conflicts with adopted energy conservation plans.

With regard to energy infrastructure, the Project would result in a significant impact if it would result in the following:

Significance Threshold No. 2: The Project would result in an increase in demand for electricity or natural gas that exceeds available supply or distribution infrastructure capabilities that could result in the construction of new energy facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

c. Analysis of Project Impacts

(1) Project Design Features

The following Project design feature is proposed with regard to energy usage:

ENG-PDF-1: Natural gas-fueled fireplaces shall be limited to up to 20 percent of the proposed residential units.

The Project also would include Project design features designed to improve energy efficiency as set forth in Section IV.D, Greenhouse Gas Emissions, and Section IV.L.1, Utilities and Service Systems—Water Supply and Infrastructure, of this Draft EIR.

(2) Relevant Project Characteristics

As described in detail in Section II, Project Description, of this Draft EIR, the Project involves the development of a 30-story mixed-use building consisting of 107 residential units (comprising an estimated 137,347 square feet), plus 7,200 square feet of ground level commercial retail uses, and 534,044 square feet of office uses. The proposed residences would include 12 studios, 42 one-bedroom units, 40 two-bedroom units, and 13 three-bedroom units ranging from approximately 650 square feet to 1,630 square feet in size.

Project construction is expected to occur in one primary phase, with no overlap with construction of the Metro portal and station on-site. As previously discussed, the on-site portal and station are currently under construction, and the Metro Regional Connector line is forecasted to open in 2021. Construction of the Project is anticipated to begin in 2022 and be complete by 2025.

(3) Project Impacts

Significance Threshold No. 1: Would the Project cause wasteful, inefficient, and unnecessary use of energy?

The following analysis considers the eight criteria identified in Subsection 3.b, Thresholds of Significance, above, to determine whether this significance threshold would be exceeded.

> *(a) The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed;*

The Project would consume energy during construction and operational activities. Sources of energy for these activities would include electricity usage, natural gas consumption, and transportation fuels such as diesel and gasoline. The analysis below includes the Project's energy requirements and energy use efficiencies by fuel type for each stage of the Project (construction, operations, and maintenance).[48] For purposes of this analysis, Project maintenance would include activities such as repair of structures,

[48] *Energy may also be consumed if and when the Project is removed. Removal activities consider the future demolition, removal, or abandonment of the Project at the end of its lifetime. However, as it is not known if or when the Project would be removed, an analysis of energy usage related to Project removal activities would be speculative. For this reason, energy usage related to Project removal is not analyzed herein.*

landscaping, and application of architectural coatings. Energy usage related to Project maintenance activities are assumed to be included as part of Project operations.

(i) Construction

During Project construction, energy would be consumed in the form of electricity associated with the conveyance of water used for dust control and, on a limited basis, powering lights, electronic equipment, or other construction activities necessitating electrical power. Electricity from these construction activities would be limited given that construction activities in general would be intermittent, as would the use of heating and cooling equipment. As discussed further below, construction activities typically do not involve the consumption of natural gas. However, Project construction also would consume energy in the form of petroleum-based fuels associated with the use of off-road construction vehicles and equipment on the Project Site, as well as construction worker travel to and from the Project Site and delivery and haul truck trips (together referred to as on-road construction equipment). Table IV.M-1 on page IV.M-21 summarizes the Project's construction-related energy use.

As shown in Table IV.M-1, a total of 81 MWh of electricity, 165,125 gallons of gasoline, and 170,090 gallons of diesel is estimated to be consumed during Project construction, as discussed further below.

Electricity

During Project construction, electricity would be consumed to supply and convey water for dust control and, on a limited basis, may be used to power lighting, electronic equipment, and other construction activities necessitating electrical power. Electricity would be supplied to the Project Site by existing electrical infrastructure within the Project Site and would not affect other services. Electricity usage associated with the supply and conveyance of water used for dust control during construction was calculated using CalEEMod.[49] Electricity used to power lighting, electronic equipment, and other construction activities necessitating electrical power was calculated based on data provided in SCAQMD construction surveys (i.e., construction activity, horsepower, load factor, and hours of use per day).[50] The SCAQMD construction surveys identified the use of diesel generators to supply construction sites with electrical power. As SCAQMD recommends

[49] *California Air Pollution Control Officers Association, CalEEMod™ version 2016.3.2, www.caleemod.com.*

[50] *CalEEMod Users Guide, Appendix E1, Technical Source Documentation, October 2017.*

Table IV.M-1
Summary of Total Energy Use During Project Construction[a]

Fuel Type	Quantity[b]
Electricity	
Water Consumption	11 MWh
Lighting, electronic equipment, and other construction activities necessitating electrical power	70 MWh
Total Electricity	**81 MWh**
Gasoline	
On-Road Construction Equipment[c]	165,125 gallons
Off-Road Construction Equipment[d]	0 gallons
Total Gasoline	**165,125 gallons**
Diesel	
On-Road Construction Equipment[c]	47,284 gallons
Off-Road Construction Equipment[d]	122,806 gallons
Total Diesel	**170,090 gallons**

MWh = megawatt hours

[a] *Detailed calculations are provided in Appendix O of this Draft EIR.*

[b] *Calculated energy consumption rounded to nearest hundred.*

[c] *On-road construction equipment encompasses construction worker trips, vendor trips, and haul trips.*

[d] *Off-road construction equipment encompasses construction equipment usage on the Project Site (e.g., excavators, cranes, forklifts, etc.)*

Source: Eyestone Environmental, 2018.

use of electricity from LADWP instead of diesel generators, the equivalent use of electrical power was calculated for the Project.[51]

As shown in Table IV.M-1, a total of approximately 81 MWh of electricity is anticipated to be consumed during Project construction. The electricity demand at any given time would vary throughout the construction period based on the construction activities being performed and would cease upon completion of construction. When not in use, electric equipment would be powered off so as to avoid unnecessary energy consumption. For comparison, the estimated construction electricity usage represents

[51] *In accordance with Project Design Feature NOI-PDF-5 set forth in Section IV.G, Noise, of this Draft EIR, electricity from power poles and/or solar-powered generators would be used during construction where available rather than temporary diesel or gasoline generators. In particular, solar-powered generators would be used for the construction trailer(s) on-site.*

approximately one percent of the estimated annual operational demand for the Project which, as discussed below, would be within the supply and infrastructure service capabilities of LADWP.

Natural Gas

Construction activities, including the construction of new buildings and facilities, typically do not involve the consumption of natural gas. Accordingly, natural gas would not be supplied to support Project construction activities; thus, there would be no demand generated during construction.

Transportation Energy

The petroleum-based fuel use summary provided in Table IV.M-1 on page IV.M-21 represents the amount of transportation energy that could potentially be consumed during Project construction based on a conservative set of assumptions, detailed in Appendix O of this Draft EIR. As shown, on- and off-road vehicles would consume an estimated 165,125 gallons of gasoline and approximately 170,090 gallons of diesel fuel throughout the Project's construction. For comparison purposes, the fuel usage during Project construction would represent approximately 0.002 percent of the Countywide annual on-road gasoline-related energy consumption and 0.01 percent of the annual diesel fuel-related energy consumption in 2022 (i.e., the Project's construction start year), as shown in Appendix O of this Draft EIR.

(ii) Operation

During Project operations, energy would be consumed for multiple purposes, including but not limited to: heating/ventilating/air conditioning (HVAC); refrigeration; lighting; and the use of electronics, equipment, and machinery. Energy would also be consumed during Project operations related to water usage, solid waste disposal, and vehicle trips. As shown in Table IV.M-2 on page IV.M-23, development of the Project would result in a demand of 8,094 MWh electricity per year, 5,690,050 cf of natural gas per year, 241,016 gallons of gasoline per year, and 44,477 gallons of diesel fuel per year, as discussed further below.

Electricity

As shown in Table IV.M-2, with compliance with applicable 2016 CALGreen requirements, Project buildout would result in an on-site demand for electricity totaling

Table IV.M-2
Summary of Annual Energy Use During Project Operation[a]

Source	Project
Electricity[b]	
Building	6,694 MWh
Water	1,400 MWh
Total Electricity	**8,094 MWh**
Natural Gas	
Building	5,690,050 cf
Total Natural Gas	**5,690,050 cf**
Transportation	
Gasoline	241,016 gallons
Diesel	44,477 gallons
Total Transportation	**285,493 gallons**

cf = cubic feet

MWh = megawatt hours

[a] *Detailed calculations are provided in Appendix O of this Draft EIR.*

[b] *Project Design Feature GHG-PDF-2, as provided in Section IV.D, Greenhouse Gas Emissions, of this Draft EIR, states that that the Project would provide at least 3 percent of Project parking spaces with the capability of supporting electric vehicle supply equipment (EVSE). In addition, electric vehicle charging equipment will be installed on 2 percent of code-required parking spaces. Providing infrastructure for EV in itself does not result in additional electricity usage.*

Source: Eyestone Environmental, 2018.

approximately 8,094 MWh/year, which is equivalent to an average of 924 kW or a peak of 1,629 kW.[52]

In addition to complying with CALGreen requirements, the Project Applicant would implement Project Design Feature GHG-PDF-1 set forth in Section IV.D, Greenhouse Gas Emissions, of this Draft EIR, which states that the design of the new building shall exceed 2016 Title 24 energy standard requirements by 10 percent, use Energy Star–labeled products and appliances, and use light-emitting diode (LED) lighting where appropriate, to reduce electricity use. Additionally, Project Design Feature GHG-PDF-2 would be implemented to reduce Project-related GHG emissions by encouraging the use of electric vehicles. More specifically, Project Design Feature GHG-PDF-2 would require that at least 3 percent of the Project's code-required parking spaces be capable of supporting electric

[52] *California Public Utilities Commission, 2017 System Efficiency of California's Electric Grid.*

vehicle supply equipment (EVSE), and electric vehicle charging equipment would be installed on an additional 2 percent of code-required parking spaces. It is anticipated that these measures would marginally increase usage of electricity, but that any additional electricity usage would be offset by energy savings of gasoline and diesel from the electric vehicles using the equipment. The Project would also implement Project Design Feature WAT-PDF1, presented in Section IV.L.1, Utilities and Service Systems—Water Supply and Infrastructure, of this Draft EIR, which states that the Project would implement water conservation features, such as high-efficiency plumbing fixtures and irrigation.

Based on LADWP's 2016 Power Integrated Resource Plan, LADWP forecasts that its total energy sales in the 2025-2026 fiscal year (i.e., the Project's buildout year) will be 25,544 GWh.[53,54] As such, the Project's annual electricity consumption of 8,094 MWh/year in 2025 would represent approximately 0.03 percent of LADWP's projected sales.

Natural Gas

As provided in Table IV.M-2 on page IV.M-23, Project buildout is projected to generate an on-site demand for natural gas totaling approximately 5,690,050 cf/year. In addition, the Project Applicant would implement Project Design Feature GHG-PDF-1 in Section IV.D, Greenhouse Gas Emissions, of this Draft EIR, which states that the design of the new building shall exceed California's 2016 Building Energy Efficiency Standards baseline standard requirements by 10 percent for energy efficiency. Furthermore, Project Design Feature ENG-PDF-1 would limit the use of natural gas fireplaces in the proposed residential units.

The Project's estimated annual demand for natural gas is 5,690,050 cf/year, or approximately 15,589 cf/day. Based on the 2016 California Gas Report, the California Energy and Electric Utilities estimates natural gas consumption within SoCalGas' planning area will be approximately 2.46 billion cf/day in 2025 (i.e., the Project's buildout year).[55] The Project would account for less than 0.001 percent of the 2025 forecasted consumption in SoCalGas' service area.

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[53] *LADWP defines its future electricity supplies in terms of sales that will be realized at the meter.*

[54] *Los Angeles Department of Water and Power, 2016 Power Integrated Resource Plan, Appendix A, Table A-1.*

[55] *California Gas and Electric Utilities, 2016 California Gas Report, p. 97.*

Transportation Energy

During operation, Project-related traffic would result in the consumption of petroleum-based fuels related to vehicular travel to and from the Project Site. As discussed in Section IV.J, Transportation/Traffic, of this Draft EIR, the Project Site is located in an area well-served by public transit. Specifically, the Project Site is located approximately 700 feet from the Metro Civic Center/Grand Park Metro Purple and Red Line station (located at the southwest corner of 1st Street and Hill Street) and 0.48 mile from the Metro Pershing Square Purple and Red Line station. The Project Site is also the future site of the Metro Regional Connector 2nd Street/Broadway rail station and portal, which is currently under construction on-site. The 2nd Street/Broadway rail station will be below grade, with a station portal at the northwest corner of the site at 2nd Street and Broadway. Additional Metro Regional Connector stations are under construction at 2nd Street/Hope Street and 1st Street/Central Avenue, which are both within a 0.5-mile radius of the Project Site. The Project Site is also served by numerous Metro Commuter Express, and DASH bus lines, as well as bus service by other regional transit lines. Furthermore, the Project would provide 286 bicycle parking spaces (218 long-term and 68 short-term bicycle parking spaces) on-site, in addition to bicycle-serving amenities, which would further encourage biking to and from the Project Site. Moreover, the Project has been designed to encourage walkability through the introduction of ground floor commercial/retail uses, a pedestrian-oriented paseo traversing the site, and streetscape improvements, as discussed further in Section IV.F, Land Use, of this Draft EIR.

In addition, certain Project characteristics would serve to reduce trips and VMT as compared to standard Institute of Transportation Engineers (ITE) trip generation rates. Specifically, the Project characteristics listed below are consistent with the California Air Pollution Control Officers Association (CAPCOA) guidance document, *Quantifying Greenhouse Gas Mitigation Measures*, which provides emission reduction values for recommended measures.[56] Measures applicable to the Project include the following (a brief description of the Project's relevance to each measure is also provided):

- **CAPCOA Measure LUT-1—Increase Density:** Increased density, measured in terms of persons, jobs, or dwelling units per unit area, reduces emissions associated with transportation as it reduces the distance people travel for work or services and provides a foundation for the implementation of other strategies, such as enhanced transit services. The Project would increase the site density from 0 dwelling units per acre and 0 jobs per acre to approximately 40 dwelling units per acre and 856 jobs per acre.

[56] *California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, 2010.*

- **CAPCOA Measure LUT-3—Increase Diversity of Urban and Suburban Developments (Mixed-Uses):** The Project would introduce new uses on the Project Site, including new residential, retail, and office uses. The Project would locate complementary residential, retail, and office uses in proximity to other existing off-site residential, office, retail, restaurant, and hotel uses. The increase in land use diversity and mix of uses on the Project Site would reduce vehicle trips and VMT by encouraging walking and non-automotive forms of transportation (i.e., walking and biking), which would result in corresponding reductions in transportation-related fuel consumption.

- **CAPCOA Measure LUT-5—Increase Transit Accessibility:** The Project would be located above the future Metro 2nd Street/Broadway rail station. In addition, the Project is located near the Civic Center/Grand Park Metro Purple and Red line station, as well as the Pershing Square Purple and Red Line station, and numerous Metro, Commuter Express, and DASH bus lines. The Project would also provide bicycle parking for the proposed uses to encourage alternative modes of transportation.

- **CAPCOA Measure LUT-9—Improve Design of Development**: The Project would permanently remove the former surface parking area on-site and enhance the pedestrian environment by developing ground floor commercial/retail uses to improve pedestrian activation of the site, along with a pedestrian-oriented paseo traversing the site and connecting to the future Metro portal on-site. The Project would also provide sidewalk easements to improve pedestrian paths and the associated streetscape, making the site more pedestrian-friendly and enhancing walkability. The Project would include a high level of street access, which would improves accessibility and connectivity.

- **CAPCOA Measure SDT-1—Provide Pedestrian Network Improvements:** The Project's design would provide pedestrian access that minimizes barriers and links the Project Site with existing external streets to encourage people to walk instead of drive. The Project would provide several improvements, such as direct access to the existing off-site pedestrian network including existing off-site sidewalks, to encourage and increase pedestrian activities in the area, which would further reduce VMT and associated transportation-related fuel consumption.

- **CAPCOA Measure SDT-2—Traffic Calming Measures:** The Project would be located in an area with traffic calming measures to encourage people to walk or bike instead of using a vehicle. In particular, streets within the Project vicinity provide on-street parking, marked crosswalks, and count-down signal timers, all of which are identified by CAPCOA as traffic calming measures that reduce VMT.[57] In addition, Project Design Feature TR-PDF-2 set forth in Section IV.J,

[57] *CAPCOA Quantifying Greenhouse Gas Mitigation Measures, p. 190.*

Transportation/Traffic, of this Draft EIR details a Transportation Demand Management (TDM) Program designed to reduce peak hour vehicular traffic to and from the Project Site. This mode shift would result in a decrease in VMT. It is also noted that all streets within 0.5 mile of the Project Site are equipped with sidewalks.

As summarized in Table IV.M-2 on page IV.M-23, when accounting for the measures that would be implemented to reduce VMT, the Project's estimated petroleum-based fuel usage would be approximately 241,016 gallons of gasoline and 44,477 gallons of diesel per year, or a total of 285,493 gallons of petroleum-based fuels annually. This would be a 67-percent reduction in petroleum-based fuel usage in comparison to a standard project as estimated by CalEEMod.

(iii) Summary of Energy Requirements and Energy Use Efficiencies

As previously discussed, State CEQA Guidelines Appendix F recommends quantification of a project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of a project's life cycle including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed. The Project's energy requirements were calculated based on the methodology contained in CalEEMod for electricity and natural gas usage. Project VMT data was calculated based on CAPCOA guidelines. The calculations also took into account energy efficiency measures such as Title 24, CalGreen, and vehicle fuel economy standards. Table IV.M-1 on page IV.M-21 and Table IV.M-2 provide a summary of Project construction and operational energy usage, respectively. During Project construction activities, a total of 81 MWh of electricity would be consumed along with 335,215 gallons of transportation fuel (gasoline and diesel). During Project operations, a total of 8,094 MWh of electricity, 5,690,050 cf of natural gas, and 285,493 gallons of transportation fuel would be consumed on an annual basis.

(b) The effects of the project on local and regional energy supplies and on requirements for additional capacity

(i) Construction

The Project's estimated construction electricity usage represents approximately one percent of its estimated annual operational demand which, as discussed below, would be within the supply and infrastructure service capabilities of LADWP.[58] Natural gas would

[58] *Los Angeles Department of Water and Power, Will Serve letter from Darrell A. Miller, dated April 18, 2017; refer to the Utilities Report provided in Appendix N.2 of this Draft EIR.*

not be supplied during Project construction, and there would be no demand generated by construction activities. Transportation fuel usage during Project construction would represent approximately 0.002 percent of gasoline usage and 0.01 percent of diesel usage, respectively, within Los Angeles County in 2022 (i.e., the Project's construction start year).

As energy demand during Project construction would be relatively negligible, the Project would not have a meaningful effect on regional energy consumption during the construction period.

(ii) Operation

Based on LADWP's 2016 Power Integrated Resource Plan, LADWP forecasts that its total energy sales in the 2025-2026 fiscal year (i.e., the Project's buildout year) will be 25,544 GWh of electricity.[59,60] As such, the Project's annual electricity consumption of 8,094 MWh/year would represent less than 0.1 percent of LADWP's projected sales in 2025. In addition, LADWP has confirmed the Project's electricity demand can be served by the existing facilities in the Project area by specifically indicating "[t]he estimated power requirement for this proposed project is part of the total load growth forecast for the City and has been taken into account in the planned growth of the power system."[61] Furthermore, the Project would implement any necessary connections and upgrades required by LADWP to ensure that LADWP would be able to adequately serve the Project.

The Project's estimated annual demand for natural gas would be 5,690,050 cf/year, or approximately 15,589 cf/day. Based on the 2016 California Gas Report, the California Energy and Electric Utilities estimates natural gas consumption within SoCalGas' planning area will be approximately 2.46 billion cf/day in 2025.[62] The Project would account for approximately 0.0007 percent of the 2025 forecasted consumption in SoCalGas' service area. Furthermore, SoCalGas has confirmed the Project's natural gas demand can be served by the facilities in the Project area.[63]

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[59] *LADWP defines its future electricity supplies in terms of sales that will be realized at the meter.*

[60] *Los Angeles Department of Water and Power, 2016 Power Integrated Resource Plan, Appendix A, Table A-1.*

[61] *Los Angeles Department of Water and Power, Will Serve letter from Darrell A. Miller, dated April 18, 2017; refer to the Utilities Report provided in Appendix N.2 of this Draft EIR.*

[62] *Los Angeles Department of Water and Power, 2017 Retail Sales Forecast, 2017.*

[63] *Psomas, 222 West 2nd Street Project Utilities Technical Memorandum, November 30, 2018; refer to Appendix N.2 of this Draft EIR.*

In summary, energy consumption during Project operations would be relatively negligible, and these energy requirements would fall within LADWP's and SoCalGas' service provisions.

(c) The effects of the project on peak and base period demands for electricity and other forms of energy

As discussed above, electricity demand during construction and operation of the Project would have a negligible effect on the overall capacity of LADWP's power grid and base load conditions. With regard to peak load conditions, the LADWP power system experienced an all time high peak of 6,432 MW on August 31, 2017.[64] However, the LADWP estimates a peak load based on two years of data known as base case peak demand to account for typical peak conditions. Based on LADWP's estimates for 2017, the base case peak demand for the power grid is 5,854 MW.[65] As discussed above, the Project would consume 8,094 MWh on an annual basis which is equivalent to an average of 924 kW or a peak of 1,629 kW.[66] In comparison to the LADWP power grid base peak load of 5,854 MW in 2017, the Project would represent approximately 0.03 percent of LADWP's base case peak load conditions. In addition, LADWP's annual growth projection in peak demand of the electrical power grid of 0.4 percent would be sufficient to account for future electrical demand generated by the Project. Therefore, Project electricity consumption during operational activities would have a negligible effect on the power grid's peak load conditions.

(d) The degree to which the project complies with existing energy standards

Construction equipment would comply with energy efficiency requirements contained in the Federal Energy Independence and Security Act or previous Energy Policy Acts for electrical motors and equipment.[67] Electricity and natural gas usage during Project construction and operations would be required to comply with then-current Title 24 standards and CalGreen requirements, as applicable.

With regard to transportation fuels, the Project would comply with CARB's anti-idling regulations as well as the In-Use Off-Road Diesel-Fueled Fleets regulation for trucks and equipment used during construction. Although these regulations are intended to reduce criteria pollutant emissions, compliance with the anti-idling and emissions regulations would

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[64] *Los Angeles Department of Water and Power, 2017 Retail Electric Sales and Demand Forecast. p. 6.*

[65] *Los Angeles Department of Water and Power, 2017 Retail Electric Sales and Demand Forecast. p. 6.*

[66] *California Public Utilities Commission, Report: System Efficiency of California's Electric Grid, 2017.*

[67] *Energy Independence and Security Act of 2007, Pub.L. 110-140.*

also result in efficient use of construction-related energy. During Project operations, vehicles traveling to and from the Project Site would comply with CAFE fuel economy standards, as required.

Therefore, Project construction and operational activities would comply with existing energy standards with regards to electricity and natural gas usage, as well as transportation fuel consumption.

(e) Effects of the Project on Energy Resources

As previously discussed, LADWP's electricity generation is derived from a mix of non-renewable and renewable sources such as coal, natural gas, solar, geothermal wind and hydropower. The LADWP's most recently adopted IRP identifies adequate resources (natural gas, coal) to support future generation capacity.

As discussed above in Subsection 2.a, Regulatory Framework, one of the objectives of SB 350 is to increase procurement of California's electricity from renewable sources from 33 percent to 50 percent by 2030. Accordingly, LADWP is required to procure at least 50 percent of their energy portfolio from renewable sources by 2030.[68] The current sources of renewable energy procured by LADWP include wind, solar, and geothermal sources. These sources accounted for 25 percent of LADWP's overall energy mix in 2016, the most recent year for which data are available.[69] This represents the available off-site renewable sources of energy that could meet the Project's energy demand.

With regard to the use of renewable energy sources on-site, the Project would comply with Title 24 requirements for "Solar Ready Buildings," which require that a certain area of rooftop be set aside for future installation of solar panels. Due to the Project Site's location, other renewable energy sources would not be feasible, including: biodiesel, biomass, hydroelectric and small hydroelectric, digester gas, fuel cells, geothermal, landfill gas, municipal solid waste, ocean thermal, ocean wave, and tidal current technologies, or multi-fuel facilities using renewable fuels. Furthermore, wind-powered energy is not viable on the Project Site due to the lack of sufficient wind in much of the Los Angeles basin.

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[68] *As discussed above, SB 100 updates the goals of California's Renewable Portfolio Standard and SB 350 to the following: achieve 50 percent renewable resources target by December 31, 2026, and achieve a 60-percent target by December 31, 2030. SB 100 also requires that eligible renewable energy resources and zero-carbon resources supply 100 percent of retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Analysis for the Project conservatively does not account for implementation of SB 100.*

[69] *California Energy Commission, Utility Annual Power Content Labels for 2016, www.energy.ca.gov/pcl/labels/, accessed March 26, 2018.*

Specifically, based on a map of California's wind resource potential, the Project Site is not identified as an area with wind resource potential.[70]

Natural gas supplied to Southern California is mainly sourced from outside the State with a small portion originating in California. Sources of natural gas for the Southern California region are obtained from locations throughout the western United States as well as Canada.[71] According to the U.S. Energy Information Administration (EIA), the United States currently has over 80 years of natural gas reserves based on 2015 consumption.[72] Compliance with energy standards is expected to result in more efficient use of natural gas (i.e., lower consumption) in future years.

Transportation fuels (gasoline and diesel) are produced from crude oil which is imported from various regions around the world. Based on current proven reserves, crude oil production would be sufficient to meet over 50 years of consumption.[73] The Project would also comply with CAFE fuel economy standards, which would result in more efficient use of transportation fuels (i.e., lower consumption).

Based on the above, Project construction and operation activities would have a negligible effect on energy resources, including electricity, natural gas, transportation fuel supplies.

(f) The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives

As discussed above in Subsection 3.c, the Project includes features to reduce VMT during operational activities. The Project's high density design and location in proximity to job centers and commercial/retail uses would allow for more residents to live closer to work and shopping areas, thus reducing VMT. As previously discussed, the Project's design, including bicycle parking facilities, a pedestrian-oriented paseo, and an improved streetscape, also would encourage non-automotive forms of transportation such as walking or biking to and from the site. In addition, the Project would be located above the future Metro 2nd Street/Broadway rail station and near several other existing and future Metro

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[70] *California Energy Commission, Wind Resource Area & Wind Resources, www.energy.ca.gov/maps/renewable/wind.html, accessed March 26, 2018.*

[71] *California Gas and Electric Utilities, 2016 California Gas Report.*

[72] *U.S. Energy Information Administration, Frequently Asked Questions, www.eia.gov/tools/faqs/faq.php?id=58&t=8, accessed March 26, 2018.*

[73] *BP Global, Oil reserves, www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy/oil/oil-reserves.html, accessed March 26, 2018.*

stations, with connecting service to numerous bus lines. As further discussed in Section IV.D, Greenhouse Gas Emissions, of this Draft EIR, these measures would reduce VMT by approximately 67 percent, with a corresponding reduction in the Project's petroleum-based fuel usage. Therefore, the Project would encourage the use of efficient transportation alternatives.

(g) The degree to which the project design and/or operations incorporate energy-conservation measures, particularly those that go beyond City requirements

The current City of LA Green Building Code requires compliance with CalGreen and California's Building Energy Efficiency Standards (Title 24). In addition to compliance with the City's Green Building Code, the Project would exceed the 2016 Building Energy Efficiency Standards baseline requirements by 10 percent for energy efficiency in accordance with Project Design Feature GHG-PDF-1. Furthermore, Project Design Feature ENG-PDF-1 would limit the use of natural gas fireplaces in the proposed residential units. Therefore, the Project would incorporate measures that are above and beyond current conservation requirements.

The City has also adopted several plans and regulations to promote the reduction, reuse, recycling, and conversion of solid waste going to disposal systems. These regulations include the City of Los Angeles Solid Waste Management Policy Plan, the RENEW LA Plan, and the Exclusive Franchise System Ordinance (Ordinance No. 182,986). These solid waste reduction programs and ordinances help to reduce the number of trips associated with hauling solid waste, thereby reducing the amount of petroleum-based fuel consumed. Furthermore, recycling efforts indirectly reduce the energy necessary to create new products made of raw material, which is an energy-intensive process. Thus, through compliance with the City's construction-related solid waste recycling programs, the Project would contribute to reduced fuel-related energy consumption.

With implementation of these features along with complying with state and local energy efficiency standards, the Project would meet and/or exceed all applicable energy conservation policies and regulations.

(h) Whether the Project conflicts with adopted energy conservation plans

The Project would comply with applicable regulatory requirements for the design of new buildings, including the provisions set forth in the 2016 CALGreen Code and California's Building Energy Efficiency Standards, which have been incorporated into the City of Los Angeles Green Building Code.

With regard to transportation uses, the Project location and design would result in low VMT per capita compared to regional averages and encourage the use of alternative modes of transportation. The Project would be consistent with regional planning strategies that address energy conservation. As discussed above and in Section IV.F, Land Use, of this Draft EIR, the Project would be consistent with the energy efficiency policies in the 2016–2040 RTP/SCS. Most notably, the Project represents an infill development within the City of Los Angeles that would concentrate new residential, commercial retail, and office uses within an HQTA (see Section IV.F, Land Use, of this Draft EIR for further discussion). The Project would be located above the future Metro 2nd Street/Broadway rail station and near several other existing and future Metro stations, with connecting service to numerous bus lines. Development of the Project within an HQTA would encourage the use of transit and reduce the Project's transportation fuel consumption associated with VMT.

The introduction of new housing and job opportunities within a HQTA, as proposed by the Project, is consistent with numerous policies in the 2016–2040 RTP/SCS. The 2016–2040 RTP/SCS is estimated to result in an 8-percent decrease in VMT by 2020, an 18-percent decrease in VMT by 2035, and a 21-percent decrease in VMT by 2040. In March 2018, CARB adopted updated targets requiring a 19-percent decrease in VMT for the SCAG region by 2035. As the CARB targets were adopted after the 2016–2040 RTP/SCS, it is expected that the updated targets will be incorporated into the next RTP/SCS. The 2016–2040 RTP/SCS and/or the next RTP/SCS are expected to fulfill and exceed SB 375 compliance with respect to meeting the State's GHG emission reduction goals. Consistent with both the 2016–2040 RTP/SCS and CARB's updated targets adopted in March 2018, the Project would reduce VMT by 67 percent, thereby reducing fuel usage. In addition, as previously discussed, the Project would exceed state energy efficiency requirements and would use electricity from LADWP, which has a current (2016) renewable energy mix of 29 percent. All of these features would serve to reduce the consumption of electricity, natural gas, and transportation fuel. Based on the above, the Project would be consistent with adopted energy conservation plans.

(i) Conclusion Regarding SignificanceThreshold No. 1

As demonstrated in the analysis above, the Project would not cause wasteful, inefficient, or unnecessary consumption of energy during construction or operation. The Project's energy requirements would not significantly affect local or regional supplies or capacity. The Project's energy usage during base and peak periods would be consistent with electricity and natural gas future projections for the region. Electricity generation capacity and supplies of natural gas and transportation fuels would be sufficient to meet the needs of Project-related construction and operational activities. During operations, the Project would comply with applicable energy efficiency requirements such as CalGreen, as well as include energy conservation measures beyond such requirements. In summary, the Project would comply with

relevant energy efficiency standards and would not cause wasteful, inefficient, or unnecessary use of energy. Therefore, Project impacts related to energy use would be less than significant during construction and operation.

Significance Threshold No. 2: Would the Project result in an increase in demand for electricity or natural gas that exceeds available supply or distribution infrastructure capabilities that could result in the construction of new energy facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

(a) Construction

(i) Electricity

As discussed above, construction activities at the Project Site would require minor quantities of electricity for lighting, power tools, and other support equipment. Heavy construction equipment would be powered with diesel fuel.

Existing power lines are located in the vicinity of the Project Site, and temporary power poles may be installed on-site to provide electricity during Project construction. However, existing off-site infrastructure would not need to be expanded or newly developed to provide such electrical service. With regard to electrical distribution lines, the Applicant would be required to coordinate electrical infrastructure removals or relocations with LADWP and comply with site-specific requirements set forth by LADWP, which would ensure that service disruptions and potential impacts associated with grading, construction, and development within LADWP easements are minimized. As such, construction of the Project is not anticipated to adversely affect the electrical infrastructure serving the surrounding uses or utility system capacity. In addition, the Project's construction-related electricity usage would represent 1 percent of the Project's estimated annual operational demand, which, as previously discussed, LADWP's electrical infrastructure has sufficient capacity to provide.[74] Therefore, Project construction would not result in an increase in demand for electricity that exceeds available supply or distribution infrastructure capabilities that could result in the construction of new energy facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

[74] *Los Angeles Department of Water and Power, Will Serve letter from Darrell A. Miller, dated April 18, 2017; refer to the Utilities Report provided in Appendix N.2 of this Draft EIR.*

(ii) Natural Gas

Construction activities, including the construction of new buildings and facilities, typically do not involve the consumption of natural gas. Accordingly, natural gas would not be supplied to support Project construction, and there would be no demand generated by construction activities. Since the Project Site is located in an area already served by existing natural gas infrastructure, extensive off-site infrastructure improvements are not anticipated to serve the Project Site. Construction impacts associated with the installation of natural gas connections are expected to be confined to trenching in order to place the lines below grade. In addition, prior to ground disturbance, Project contractors would notify and coordinate with SoCalGas to identify the locations and depth of all existing gas lines and avoid disruption of gas service to other properties. Therefore, construction of the Project would not result in an increase in demand for natural gas that would affect available supply or distribution infrastructure capabilities and would not result in the construction of new energy facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

(b) Operation

(i) Electricity

As shown in Table IV.M-2 on page IV.M-23, the Project's operational electricity usage would be 8,094 MWh per year, which is less than 0.1 percent of LADWP's projected sales in 2025 (i.e., the Project's buildout year). In addition, during peak conditions, the Project would represent approximately 0.03 percent of LADWP's estimated peak load. LADWP has confirmed the Project's electricity demand can be served by the facilities in the Project area.[75] Therefore, during Project operations, it is anticipated that LADWP's existing and planned electricity capacity and electricity supplies would be sufficient to support the Project's electricity demand.

(ii) Natural Gas

As shown in Table IV.M-2, the Project would consume 5,690,050 cf of natural gas per year, which represents approximately 0.0007 percent of the 2025 forecasted consumption in the SoCalGas planning area. SoCalGas has confirmed the Project's natural gas demand can be served by the facilities in the Project area.[76] Therefore, it is

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[75] *Los Angeles Department of Water and Power, Will Serve letter from Darrell A. Miller, dated April 18, 2017; refer to the Utilities Report provided in Appendix N.2 of this Draft EIR.*

[76] *Southern California Gas Company, Will Serve letter for: Job I.D.#43-2017-02-00002 from Gayle Jovoni, dated March 16, 2017; refer to the Utilities Report provided in Appendix N.2 of this Draft EIR.*

anticipated that SoCalGas' existing and planned natural gas supplies would be sufficient to support the Project's net increase in demand for natural gas.

(c) Conclusion Regarding Significance Threshold No. 2

As demonstrated in the analysis above, the Project would not result in an increase in demand for electricity or natural gas that exceeds available supply or distribution infrastructure capabilities that could result in the construction of new energy facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Therefore, Project impacts related to energy use would be less than significant during construction and operation.

4. Cumulative Impacts

The geographic context for the cumulative impact analysis related to electricity and natural gas is the service areas of LADWP and SoCalGas, respectively. While the geographic context for transportation-related energy use is more difficult to define, it is meaningful to consider the Project in the context of Countywide and regional consumption. The Project in conjunction with forecasted growth in these geographies would cumulatively increase the consumption of energy, thus potentially resulting in cumulative impacts with respect to energy use. Cumulative growth in the greater Project area through 2025 (i.e., the Project buildout year) includes specific known development projects, as well as general ambient growth projected to occur.

As identified in Section III, Environmental Setting, of this Draft EIR, a total of 173 related projects are located in the vicinity of the Project Site. Much of this growth is anticipated by the City and will be incorporated into the Central City Community Plan update, known as the DTLA 2040 Plan, which the Department of City Planning is in the process of preparing (refer to Section IV.F, Land Use, of this Draft EIR for further discussion). According to the DTLA 2040 projections, an additional approximately 125,000 people, 70,000 housing units, and 55,000 jobs will be added to the Downtown area by the year 2040.[77] A map of the related project locations is provided in Figure III-1 in Section III, Environmental Setting, of this Draft EIR.

[77] *Growth projections current as of December 2018. Source: City of Los Angeles, DTLA 2040, About This Project, www.dtla2040.org/, accessed December 6, 2018.*

a. Significance Threshold No. 1 (Wasteful, Inefficient and Unnecessary use of Energy)

(1) Electricity

Buildout of the Project, related projects, and additional forecasted growth in LADWP's service area would cumulatively increase the demand for electricity supplies and infrastructure capacity. LADWP forecasts that its total energy sales in the 2025-2026 fiscal year (i.e., the Project's buildout year) will be 25,544 GWh of electricity.[78,79] As previously indicated, the Project-related annual electricity consumption of 8,094 MWh/year would represent less than 0.1 percent of LADWP's total projected sales in 2025, and in general, each related project would be expected to comprise a similarly limited percentage of overall electricity consumption. Data used to develop the LADWP demand forecasts take into account population growth, energy efficiency improvements, and economic growth which includes construction projects.[80] Therefore, electricity usage resulting from future operations at many of the related projects is likely accounted for in the LADWP projections.

Although Project development would result in the use of renewable and non-renewable electricity resources during construction and operation, which could limit future availability, the use of such resources would be on a relatively small scale, would be reduced by measures rendering the Project more energy-efficient, and would be consistent with growth expectations for LADWP's service area. The Project also would incorporate energy efficiency measures in order to exceed 2016 Title 24 requirements by 10 percent. Furthermore, other future development projects would be expected to incorporate energy conservation features during their respective construction and operational phases, comply with applicable regulations including CALGreen and state energy standards under Title 24, and incorporate mitigation measures, as necessary. **As such, the Project's contribution to cumulative impacts related to wasteful, inefficient, and unnecessary use of electricity would not be cumulatively considerable and, therefore, would be less than significant.**

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[78] *California Gas and Electric Utilities, 2016 California Gas Report, p. 97.*

[78] *LADWP defines its future electricity supplies in terms of sales that will be realized at the meter.*

[79] *Los Angeles Department of Water and Power, 2016 Power Integrated Resource Plan, Appendix A, Table A-1.*

[80] *2016 Retail Electric Sales and Demand Forecast, City of Los Angeles Department of Water and Power, June 30, 2016.*

(2) Natural Gas

Buildout of the Project, related projects, and additional forecasted growth in SoCalGas' service area would cumulatively increase the demand for natural gas supplies and infrastructure capacity. Based on the 2016 California Gas Report, the California Energy and Electric Utilities estimates natural gas consumption within SoCalGas' planning area will be approximately 2.46 billion cf/day in 2025.[81] As previously indicated, the Project would account for approximately 0.0007 percent of the 2025 forecasted consumption in SoCalGas' planning area, and in general, each related project would be expected to comprise a similarly limited percentage of overall natural gas consumption. Moreover, SoCalGas' forecasts take into account projected population growth and development based on local and regional plans. Therefore, natural gas usage resulting from future operations at many of the related projects is likely accounted for in the SoCalGas projections.

Although Project development would result in the use of natural gas resources, which could limit future availability, the use of such resources would be on a relatively small scale, would be reduced by measures rendering the Project more energy-efficient, and would be consistent with regional and local growth expectations for SoCalGas' service area. The Project also would incorporate energy efficiency measures in order to exceed 2016 Title 24 requirements by 10 percent. Furthermore, 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. **As such, the Project's contribution to cumulative impacts related to wasteful, inefficient, and unnecessary use of natural gas would not be cumulatively considerable and, thus, would be less than significant.**

(3) Transportation Energy

Buildout of the Project, related projects, and additional forecasted growth would cumulatively increase the demand for transportation-related fuel in the State and region. At buildout, the Project's estimated petroleum-based fuel usage would be approximately 241,046 gallons of gasoline and 44,477 gallons of diesel per year, or a total of 285,493 gallons of petroleum-based fuels annually. For comparison purposes, the transportation-related fuel usage for the Project would represent approximately 0.003 percent of the 2017 annual on-road gasoline-related energy consumption and 0.003 percent of the diesel-related energy consumption in Los Angeles County, as detailed in Appendix O of this Draft

[81] *California Gas and Electric Utilities, 2016 California Gas Report, p. 97.*

EIR. In general, each related project would be expected to comprise a similarly limited percentage of Countywide fuel consumption.

As described above, petroleum currently accounts for 90 percent of California's transportation energy sources; however, over the last decade the State has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and GHGs from the transportation sector, and reduce vehicle miles traveled, all of which serve to reduce reliance on petroleum fuels. According to the CEC, gasoline consumption has declined by 6 percent since 2008, and the CEC predicts that the demand for gasoline will continue to decline over the next 10 years, with a corresponding increase in the use of alternative fuels, such as natural gas, biofuels, and electricity. As with the Project, other future development projects would be expected to reduce VMT by encouraging the use of alternative modes of transportation and other design features that promote VMT reductions.

Furthermore, as discussed above, the Project would be consistent with the policies set forth in the 2016–2040 RTP/SCS. Most notably, the Project represents an infill development within the City of Los Angeles that would concentrate new residential, commercial/retail, and office uses within a HQTA. Although there are no per capita GHG emission reduction targets for passenger vehicles set by CARB for 2040, the 2016–2040 RTP/SCS GHG emission reduction trajectory shows that more aggressive GHG emission reductions are projected for 2040.[82] Implementation of the 2016–2040 RTP/SCS would result in an estimated 8-percent decrease in per capita GHG emissions by 2020, 18-percent decrease in per capita GHG emissions by 2035, and 21-percent decrease in per capita GHG emissions by 2040. As discussed above, CARB updated the SB 375 targets for the SCAG region, requiring a 19-percent decrease in VMT by 2035. Implementation of the 2016–2040 RTP/SCS or the next plan is expected to fulfill and exceed the region's obligations under SB 375 with respect to meeting the State's GHG emission reduction goals. As discussed in Section IV.D, Greenhouse Gas Emissions, of this Draft EIR, the Project would result in a VMT reduction of approximately 67 percent in comparison to a standard project as estimated by CalEEMod, which would be consistent with the reduction in transportation emission per capita provided in the 2016–2040 RTP/SCS and with CARB's updated 2035 target. Although the 2016-2040 RTP/SCS is intended to reduce GHG emissions, the reduction in VMT would also result in reduced transportation fuel consumption. By its very nature, the 2016–2040 RTP/SCS is a regional planning tool that addresses cumulative growth and resulting environmental effects. **Since the Project is consistent with the 2016–2040 RTP/SCS and CARB's updated 2035**

[82] *Southern California Association of Governments, Final 2016–2040 RTP/SCS, April 2016, p. 153.*

target, its contribution to cumulative transportation energy use would not be cumulatively considerable, and therefore, would be less than significant.

(4) Conclusion

Based on the analysis provided above, the Project's contribution to cumulative impacts related to energy consumption (i.e., electricity, natural gas, and petroleum-based fuel) would not be cumulatively considerable. Further, the Project would not result in a cumulatively considerable effect related to the wasteful, inefficient, and unnecessary consumption of energy during construction or operation. As such, the Project's impacts would not be cumulatively considerable; therefore, cumulative energy impacts under this significance threshold are concluded to be less than significant.

b. Significance Threshold No. 2 (Infrastructure Capacity Analysis)

(1) Electricity

Electricity infrastructure is typically expanded in response to increasing demand, and system expansion and improvements by LADWP are ongoing. As described in LADWP's 2016 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. 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 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. **The Project's contribution to cumulative impacts with respect to electricity infrastructure would not be cumulatively considerable and, thus, would be less than significant.**

(2) Natural Gas

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.

Project applicants would be required to provide for the needs of their individual projects, thereby contributing to the natural gas infrastructure in the Project area. **The Project's contribution to cumulative impacts with respect to natural gas infrastructure would not be cumulatively considerable and, thus, would be less than significant.**

(3) Conclusion

Based on the analysis provided above, the Project's contribution to cumulative impacts related to energy consumption (i.e., electricity, natural gas, and fuel) would not result in a cumulatively considerable effect related to available supply or distribution infrastructure capabilities that could result in the construction of new energy facilities or expansion of existing facilities. As such, the Project's impacts would not be cumulatively considerable; therefore, cumulative energy infrastructure impacts are concluded to be less than significant.

5. Mitigation Measures

Project-level and cumulative impacts with regard to energy use would be less than significant. Therefore, no mitigation measures are required.

6. Level of Significance after Mitigation

a. Energy Use

Project-level and cumulative impacts related to energy use would be less than significant without mitigation.

b. Infrastructure Capacity

Project-level and cumulative impacts related to energy infrastructure would be less than significant without mitigation.