

## 5. Environmental Analysis

### 5.13 ENERGY

#### 5.13.1 Environmental Setting

##### 5.13.1.1 REGULATORY FRAMEWORK

###### **Federal Energy Independence and Security Act of 2007**

The Energy Independence and Security Act of 2007 (Public Law 110-140) seeks to provide the nation with greater energy independence and security by increasing the production of clean renewable fuels; improving vehicle fuel economy; and increasing the efficiency of products, buildings, and vehicles. It also seeks to improve the energy performance of the federal government. The act sets increased Corporate Average Fuel Economy Standards; the Renewable Fuel Standard; appliance energy efficiency standards; building energy efficiency standards; and accelerated research and development tasks on renewable energy sources (e.g., solar energy, geothermal energy, and marine and hydrokinetic renewable energy technologies), carbon capture, and sequestration.

###### **State**

###### *Renewables Portfolio Standard*

The California Renewables Portfolio Standard (RPS) was established in 2002 under Senate Bill (SB) 1078 and was amended in 2006 and 2011. The RPS program requires investor-owned utilities, electrical service providers, and community choice aggregators to increase the use of eligible renewable energy resources to 33 percent of total procurement by 2020. The California Public Utilities Commission is required to provide quarterly progress reports on progress toward RPS goals. This has accelerated the development of renewable energy projects throughout the state. Based on the 3rd quarter 2014 report, the three largest retail energy utilities provided an average of 20.9 percent of their supplies from renewable energy sources. Since 2003, 8,248 megawatts of renewable energy projects have started operations (CPUC 2014). Senate Bill 350 (de Leon) was signed into law September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

###### *State Alternative Fuels Plan*

Assembly Bill (AB) 1007 requires the California Energy Commission (CEC) to prepare a plan to increase the use of alternative fuels in California. The State Alternative Fuels Plan was prepared by the CEC and the California Air Resources Board, in consultation with other federal, state, and local agencies, to reduce petroleum consumption; increase use of alternative fuels (e.g., ethanol, natural gas, liquefied petroleum gas, electricity, and hydrogen); reduce greenhouse gas (GHG) emissions; and increase in-state production of biofuels. The State Alternative Fuels Plan recommends a strategy that combines private capital investment, financial incentives, and advanced technology that will increase the use of alternative fuels; result in significant improvements in the energy efficiency of vehicles; and reduce trips and vehicle miles traveled through changes in travel habits and land management policies. The Alternative Fuels and Vehicle

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Technologies Funding Program legislation (AB 118, Statutes of 2007) proactively implements this plan (CEC 2007).

#### *Appliance Efficiency Regulations*

California's Appliance Efficiency Regulations (California Code of Regulations [CCR], Title 20, Parts 1600–1608) contain energy performance, energy design, water performance, and water design standards for appliances (refrigerators, ice makers, vending machines, freezers, water heaters, fans, boilers, washing machines, dryers, air conditioners, pool equipment, and plumbing fittings) that are sold or offered for sale in California. These standards are updated regularly to allow consideration of new energy efficiency technologies and methods.

#### *Title 24, Part 6, Energy Efficiency Standards*

The Energy Efficiency Standards for Residential and Nonresidential Buildings (24 CCR Part 6) were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The CEC adopted the 2008 changes to the Building Energy Efficiency Standards in order to (1) provide California with an adequate, reasonably-priced, and environmentally-sound supply of energy and (2) respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its greenhouse gas emissions to 1990 levels by 2020 (CEC 2008). Part 6 of the 2013 California Building Standards Code, the 2013 California Energy Code, went into effect on July 1, 2014, and includes energy efficiency updates (CBSC 2015). Buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features.

The CEC recently adopted the 2016 Building and Energy Efficiency Standards, which will improve upon the current 2013 Standards for new construction of and additions and alterations to residential and nonresidential buildings. These standards went into effect on January 1, 2017. Under the 2016 Standards, residential buildings will be 28 percent more energy efficient than the 2013 Standards, and nonresidential buildings will be 5 percent more energy efficient than the 2013 Standards (CEC 2015a).

The 2016 standards will not achieve zero net energy. However, they do get very close to the state's goal and make important steps toward changing residential building practices in California. The 2019 standards will take the final step to achieve zero net energy for newly constructed residential buildings throughout California (CEC 2015b).

#### *Title 24, Part 11, Green Building Standards*

The California Green Building Standards Code (24 CCR Part 11), or CALGreen, has mandatory requirements for new residential and nonresidential buildings throughout California. CALGreen is intended to (1) reduce greenhouse gas emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the governor. In short, the code is established to reduce construction waste, make buildings more efficient in the

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use of materials and energy, and reduce environmental impact during and after construction. CALGreen contains requirements for construction site selection, stormwater control during construction, construction waste reduction, indoor water use reduction, material selection, natural resource conservation, site irrigation conservation, and more. The code provides for design options, allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for verifying that all building systems (e.g., heating and cooling equipment and lighting systems) are functioning at their maximum efficiency (CBSC 2015).

#### 5.13.1.2 EXISTING CONDITIONS

##### Electricity

Electricity service to the Project Site is provided by Southern California Edison (SCE). SCE provides electrical service throughout a 50,000-square-mile area and serves nearly 14 million people in 11 counties in the southern half of California, including western Riverside County. It provides electricity to users via 16 utility interconnections and nearly 5,000 different transmission and distribution circuits. SCE has declared itself the nation's largest purchaser of renewable energy, buying and delivering approximately 82,849 million kilowatt hours in 2014 (CEC 2016).

Total electricity consumption in SCE's service area was 99,243 gigawatt hours (GWH) per year in 2013 and is forecast to increase to 113,612 GWH by 2024 (CEC 2014).<sup>1</sup> Sources of electricity sold by SCE in 2013, the latest year for which data are available, were from renewable sources, consisting mostly of geothermal and wind (24 percent); large hydroelectric (3 percent); natural gas (27 percent); nuclear (6 percent); and unspecified sources (40 percent), that is, not traceable to specific sources (SCE 2015). Electricity consumed by Riverside County's non-residential sector in 2015 was 8,773.04 GWH (CEC 2016).

##### Natural Gas

The Southern California Gas Company (SCG) provides natural gas to the Project Site. SCG and San Diego Gas & Electric Company receive gas supplies from several sedimentary basins in the western United States and Canada, including basins in New Mexico (San Juan Basin), West Texas (Permian Basin), the Rocky Mountains, Western Canada, and California. Natural gas available from California sources averaged 153 million cubic feet per day in 2013. SCG forecasts that its natural gas supplies will remain constant at 3,875 million cubic feet per day from 2015 through 2035 (CGEU 2014). SCG owns and operates four underground storage facilities at Aliso Canyon, Honor Rancho, Goleta, and Playa del Rey, which have total 137.1 billion cubic feet of storage capacity. The nearest SCG high-pressure distribution pipelines to the Project Site are in Palomar Street, about 1.2 miles to the southwest, and Bundy Canyon Road, about 1.8 miles to the northwest (SCGC 2016).

#### 5.13.2 Thresholds of Significance

Section 21100(b)(3) of California Environmental Quality Act (CEQA) requires that EIRs include a discussion of the potential energy impacts of Proposed Projects, with particular emphasis on avoiding or reducing any

<sup>1</sup> 1 gigawatt hour = 1 million kilowatt hours

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inefficient, wasteful, and unnecessary consumption of energy. Although energy is not a topical section in Appendix G of the CEQA Guidelines, Appendix F of the CEQA Guidelines states that the goal of conserving energy implies the wise and efficient use of energy and that the means of achieving this goal include 1) decreasing overall per capita energy consumption; 2) decreasing reliance on fossil fuels such as coal, natural gas and oil; and 3) increasing reliance on renewable energy sources. Appendix F states that potential environmental impacts considered in the EIR concerning energy may include the following:

- 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 maybe 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.

Therefore, the following thresholds are also addressed in the impact analysis: a project would normally have a significant effect on the environment if the project:

- EN-1        Would increase demand for energy that requires expanded supplies or the construction of new infrastructure or expansion of existing facilities, the construction of which could cause significant environmental effects.
- EN-2        Would result in an inefficient, wasteful and unnecessary consumption of energy.

### 5.13.3 Plans, Programs, and Policies

#### Regulatory Requirements (RR)

- RR AIR-3        New buildings are required to achieve the current California Building Energy and Efficiency Standards (Title 24, Part 6) and California Green Building Standards Code (CALGreen) (Title 24, Part 11). The 2016 Building and Energy Efficiency Standards are effective starting on January 1, 2017. The Building Energy and Efficiency Standards and CALGreen are updated tri-annually with a goal to achieve net zero energy (NZE) for residential buildings by 2020 and non-residential buildings by 2030.
- RR AIR-4        New buildings are required to adhere to the California Green Building Standards Code (CALGreen) requirement to provide bicycle parking for new non-residential buildings, or meet local bicycle parking ordinances, whichever is stricter (CALGreen Sections 5.106.4.1, 14.106.4.1, and 5.106.4.1.2). The Proposed Project would be required to provide anchored

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bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for five percent of new visitor motorized vehicle parking spaces being added. For employee, long-term secured bicycle parking is required to be provided for five percent of the tenant-occupied (i.e., staff) motorized vehicle parking spaces being added. The Proposed Project is also required to designate parking for low-emitting, fuel-efficient, and carpool/vanpool spaces identified in CALGreen.

#### 5.13.4 Environmental Impacts

The applicable thresholds are identified in brackets after the impact statement.

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**Impact 5.13-1: The Proposed Project would increase the demand for electrical services but would not require new or expanded electrical infrastructure for the provider or result in wasteful electrical energy consumption. [Thresholds EN-1 and EN-2]**

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**Impact Analysis:** The Proposed Project would consume electricity for various purposes, including heating, cooling, and ventilation of buildings; water heating; operation of electrical systems; lighting; and on-site equipment and appliances. The Proposed Project's electrical services would be provided via two primary metering service points that are separated by the riparian corridor in the middle of the Project Site. The main west campus would have a separate switchboard from the eastern athletic facilities and community parking lot. The electrical service would be connected to the existing SCE overhead pole lines to the south that run east-west along Clinton Keith Road.

The Proposed Project would provide the main electricity switchboard on the west core campus, which would be sized at 1,200 amps, and the system would be designed to accommodate electrical loads of 6.8 megawatts. The east campus electricity service system would be designed to accommodate a 630 kilovolt power. Therefore, the total design capacity of the electrical system at buildout would be 7.4 megawatts. It is anticipated that the Proposed Project would consume approximately 4,570 megawatts hours per year<sup>2</sup> of electricity at buildout. Considering that the total electricity consumption in SCE's service area in California was 99,243 GWH per year in 2013 and the total consumed by Riverside County's non-residential sector in 2015 was 8,773.04 GWH (CEC 2014, CEC 2016c), an increase of 4,570 megawatts hours per year at buildout would represent negligible change in the electricity consumption in Riverside County<sup>3</sup>. Therefore, no significant electricity system's impact is anticipated. SCE is the primary electricity supply company for much of Southern California, and SCE has the capacity to provide electricity demands projected for the Proposed Project. Considering the size of the SCE service area, its supply capacity, and the proposed phasing plan that extends beyond 15 years, the total estimated electricity consumption for the Proposed Project would not require SCE to obtain new or expanded electricity supplies. Moreover, the Proposed Project would be required to comply with applicable building and appliances standards to reduce electricity demands (e.g., Title 24 Nonresidential Building Standards and Title 20 Appliances Standards) and prevent inefficient, wasteful, or unnecessary consumption of energy. Impacts would be less than significant.

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<sup>2</sup> 44,569,516 kWh/yr is from the CalEEMod default energy use value as included in Appendix C, *Air Quality/GHG*, of this EIR.

<sup>3</sup> 4,569,516 kWh/yr represents 0.00052 percent of 8,773.04 GWH.

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*Level of Significance before Mitigation:* Based on the analysis above and upon implementation of regulatory requirement RR AIR-3, Impact 5.13-1 would be less than significant without mitigation.

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**Impact 5.13-2: The Proposed Project would not increase the demand for natural gas services to require new or expanded natural gas capacity for the provider or result in wasteful natural gas energy consumption. [Thresholds EN-1 and EN-2]**

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**Impact Analysis:** The Proposed Project would result in a net increase in demand for natural gas. The Project Site is in the SCG service area, and the Proposed Project would require new connection to the SCG system on Clinton Keith Road. The new system would consist of a 3-inch medium-pressure gas line with service pressure of 5 pounds per square inch. The Proposed Project would consume approximately 6,536,720 thousand British thermal units (or 65,367 therms) per year at buildout<sup>4</sup>. In 2015, the total gas consumption in Riverside County was 131.8 million of therms (CEC 2016d). The Proposed Project would result in negligible increase gas consumption in Riverside County<sup>5</sup>. Therefore, impacts would not be considered significant. Moreover, there is extensive and reliable gas service in the area, and improvements would comply with SCG's policies and extension rules on file with the Public Utilities Commission when the contractual agreements are made. The availability of natural gas service is based on present gas supply and regulatory policies. Although the project implementation would create additional demand on natural gas supplies and distribution infrastructure, the increased demands would be minimal within the service capabilities within Riverside County and of SCG, and no significant impacts are anticipated.

*Level of Significance before Mitigation:* Based on the analysis above, Impact 5.13-2 would be less than significant without mitigation.

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**Impact 5.13-3: The Proposed Project would not result in increased demand for transportation energy and would not require new or expanded transportation energy capacity for the provider or result in wasteful transportation energy consumption. [Thresholds EN-1 and EN-2]**

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**Impact Analysis:** Transportation energy use depends on the type and number of trips, vehicle miles traveled, fuel efficiency of vehicles, and travel mode. The Proposed Project would consume transportation energy during operations from the use of motor vehicles. The estimates of transportation energy use is based primarily on the overall vehicle miles traveled (VMT). Based on potential student capture areas, VMT was calculated by multiplying the anticipated trips under each phase by the distance traveled. The average length of trips is assumed to be 4.51 miles. The project-related VMT was calculated at 10,948 for Phase I, 20,437 for Phase II, 51,092 for Phase III, and 72,988 for Phase IV. The Proposed Project would fulfill the current demand within the portion of the Mt. San Jacinto Community District (MSJCCD) that the Proposed Project would serve. In providing another college option for this area, it would accommodate students who could otherwise attend institutions farther away such as Menifee Valley Campus, Palomar College in the City of San Marcos or colleges within the Riverside Community College District. Therefore, without the Proposed Project, students would likely have to drive longer distance, increasing VMT, thus consuming more transportation energy. The school population is already being served by existing fueling facilities and no

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<sup>4</sup> 6,536,720 kBTU/yr is from the CalEEMod default energy use value as discussed in Appendix C, *Air Quality/GHG*, of this DEIR.

<sup>5</sup> 65,367 therms represent 0.000496 percent of 131.8 million of therms.

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additional or expanded energy facilities would be necessary to support the Proposed Project. The Proposed Project would not result in a substantial demand for energy that would require expanded supplies, construction of other infrastructure, or expansion of existing facilities. Impacts would not be significant.

***Level of Significance before Mitigation:*** Based on the analysis above and upon implementation of regulatory requirement RR AIR-4, Impact 5.13-3 would be less than significant without mitigation.

#### 5.13.5 Cumulative Impacts

The geographic area for electrical service is SCE's service boundaries, and for natural gas service is SCG's boundaries. SCE and SCG both forecast adequate electricity and gas supplies through 2022 and 2035, respectively, to meet demands within their service areas (CEC 2012b, CGEU 2014). Future projects would also be required to achieve more rigorous energy efficiency standards than existing developments in the SCE and SCG service boundaries. Although the Proposed Project and other cumulative projects would result in increased demands for electrical and gas service, the impacts would not be cumulatively considerable. The Proposed Project would not result in increased VMT, therefore, would not contribute cumulatively to the increased transportation energy use. The Proposed Project and other cumulative projects are required to comply with various federal and state government legislations to improve energy efficiency in buildings, equipment, and appliances and reduce vehicle miles traveled. Utility companies are required to increase their renewable energy sources to meet the RPS mandate of 50 percent renewable supplies by 2030. Compliance with the existing regulatory requirements would ensure that the Proposed Project does not result in an inefficient, wasteful, and unnecessary consumption of energy. Cumulative impacts to energy resources would be less than significant.

#### 5.13.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements RR AIR-3 and RR AIR-4, the following impacts would be less than significant:

- **Impact 5.13-1:** The Proposed Project would increase the demand for electrical services but would not require new or expanded electrical infrastructure for the provider or result in wasteful electrical energy consumption.
- **Impact 5.13-2:** The Proposed Project would not increase the demand for natural gas services to require new or expanded natural gas capacity for the provider or result in wasteful natural gas energy consumption.
- **Impact 5.13-3:** The Proposed Project would not result in increased demand for transportation energy and would not require new or expanded transportation energy capacity for the provider or result in wasteful transportation energy consumption.

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#### 5.13.7 Mitigation Measures

No mitigation measures are required.

#### 5.13.8 Level of Significance After Mitigation

The existing regulatory requirement would reduce potential impacts associated with energy to a level that is less than significant. Therefore, no significant unavoidable adverse impacts relating to energy use remain.

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