ENERGY CONSUMPTION & EFFICIENCY ANALYSIS

Majestic Gateway

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

This Energy Consumption and Efficiency Analysis (ECEA) has been prepared in compliance with the California Environmental Quality Act (CEQA) Statute and Guidelines, as required under CEQA §15126.2, Appendix F, Section VI and as stipulated by the City of Bakersfield Development Services Department Planning Division (BPD) (CEQA 2022). The Natural Resources Agency adopted revisions to CEQA guidelines, which were approved by the Office of Administrative Law and filed with the Secretary of State on December 28, 2018. These CEQA guidelines revisions included the addition of the energy section of Appendix G. The following questions must now be addressed:

New CEQA Energy Checklist Question 1: Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation?

New CEQA Energy Checklist Question 2: Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Additionally, this ECEA includes the following scope of work:

- Conduct an extensive review of the proposed project construction and development plans such as planned electrical consumption based on building sizes, uses, heating/cooling factors and various energy mitigation measures planned for the Project.
- Review current and forecasted utility growth in the Project area to determine future availability and anticipated energy demands for the Project site and surrounding locale;
- Determine impacts on energy consumption from proposed energy mitigation measures planned for the Project;
- Examine the Project's strategies for reducing long-term dependence on carbon-generated power;
- Complete detailed review of Energy Information Administration energy consumption and efficiency data to ensure proper credit for energy conservation anticipated by various Project mitigation and energy use conservation measures proposed for the Project;
- Determine potential impacts to the local, state and federal energy-demand reduction standards posed by the Project.

1.1 General Project Description

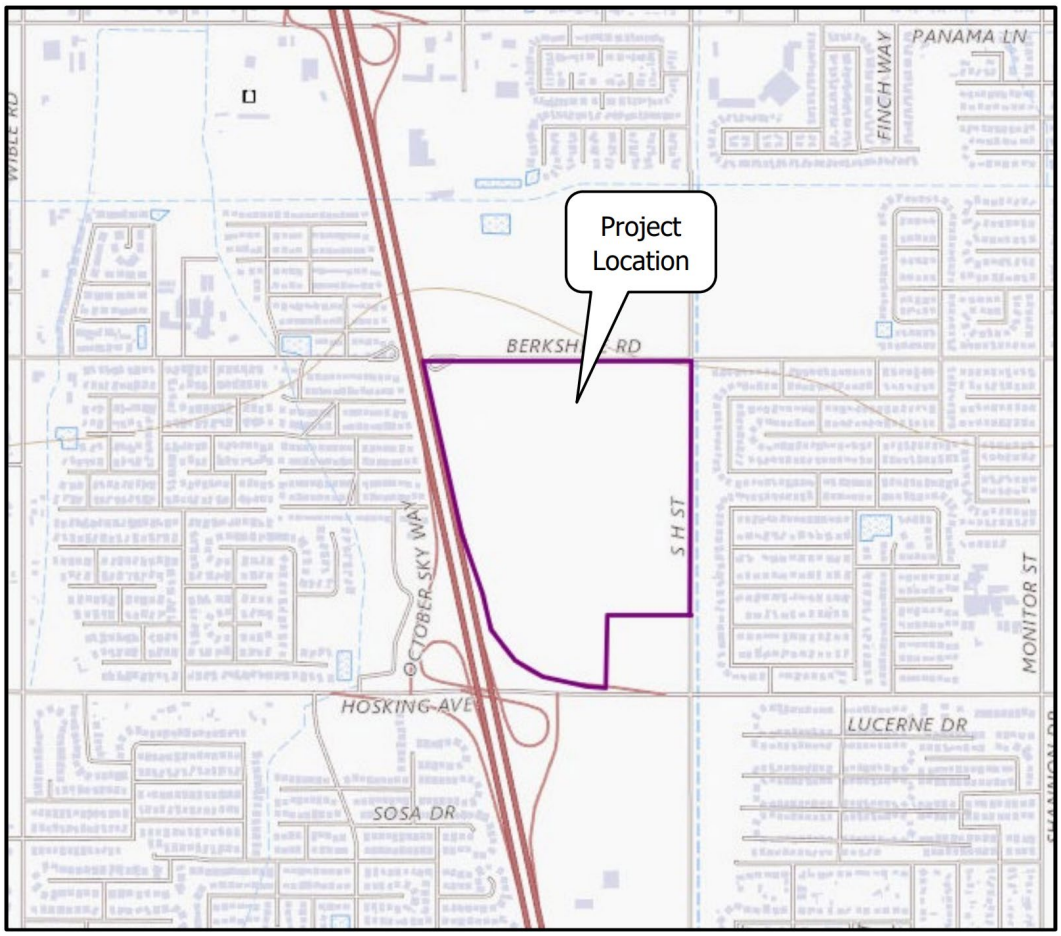
The Majestic Gateway Project (Project) includes the construction of a warehouse and a shopping center to be located at the southwest corner of Berkshire Road and South H Street in Bakersfield, California. The Project will include a 1,012,185 square foot warehouse, split 90% distribution center and 10% refrigerated warehouse, and 187,500 square feet of retail buildings. Figure 1-1 depicts the regional location and Figure 1-2 depicts an aerial view of the Project location.

Figure 1-1: Regional Location

Figure 1-2: Project Location

Figure 1-3 depicts the Project site's topography based on United States Geological Survey's (USGS) National Map (USGS 2019). The Project site is located at an elevation of approximately 357 feet above mean sea level and is surrounded by residential, educational, and open land uses.

Figure 1-3: Project Site Topography



2. SETTING

2.1 Existing Setting

The Project is located in the City of Bakersfield at the southwest corner of Berkshire Road and South H Street. The Project is surrounded by residential to the west and east and undeveloped land to the north and south.

2.2 Regulatory Setting

Federal and state agencies regulate energy use and consumption through various regulations and programs. On the federal level, the United States Department of Transportation (U.S. DOT), U.S. DOE, and U.S. EPA are three agencies with substantial influence over energy policies and programs. Generally, federal agencies influence transportation energy consumption through establishment and enforcement of fuel economy standards for automobiles and light trucks, funding of energy related research and development projects, and funding for transportation infrastructure projects.

On the state level, the California Public Utilities Commission (CPUC) and California Energy Commission (CEC) are two agencies with authority over different aspects of energy. The CPUC regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies. The CEC collects and analyzes energy-related data; forecasts future energy needs; promotes energy efficiency and conservation by setting appliance and building energy efficiency standards; supports energy research; develops renewable energy resources, promotes alternative and renewable transportation fuels and technologies; certifies thermal power plants 50 megawatts (MW) and larger; and plans for and directs state response to energy emergencies. Some of the more relevant federal and state energy-related laws and plans are discussed in the following subsections.

2.2.1 Federal Regulations

Corporate Average Fuel Standards

First enacted 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 United States 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.

Fuel efficiency standards for medium- and heavy-duty trucks have been jointly developed by USEPA and NHTSA. The Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014 through 2018, and result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type. USEPA and NHTSA have also adopted the Phase 2 heavy-duty truck standards, which cover model years 2021 through 2027 and require the phase-in of a 5 to 25 percent reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type (USEPA and NHTSA, 2016).

Energy Policy and Conservation Act

The Energy Policy and Conservation Act (EPCA) of 1975 was enacted for the purpose of serving the nation's energy demands and promoting conservation methods when feasibly obtainable. Since being enacted on December 22, 1975, EPCA has been amended to:

- Grant specific authority to the President to fulfill obligations of the United States under the international energy program;
- Provide for the creation of a Strategic Petroleum Reserve capable of reducing the impact of severe energy supply interruptions;
- Conserve energy supplies through energy conservation programs, and the regulation of certain energy uses;
- Provide for improved energy efficiency of motor vehicles, major appliances, and certain other consumer products;
- Provide a means for verification of energy data to assure the reliability of energy data; and,
- Conserve water by improving the water efficiency of certain plumbing products and appliances

National Energy Act of 1978

The National Energy Act of 1978 includes the following statutes: Public Utilities Regulatory Policies Act of 1978 (PURPA; Public Law 95-617), Energy Tax Act, National Energy Conservation Policy Act (NECPA), Power Plant and Industrial Fuel Use Act, and the National Gas Policy Act. The Power Plant and Industrial Fuel Use Act restricted the fuel used in power plants; however, these restrictions were lifted in 1987. The Energy Tax Act was superseded by the Energy Policy Acts of 1992 (EPACT92) and 2005. The National Gas Policy Act gave the Federal Energy Regulatory Commission authority over natural gas production and established pricing guidelines. NECPA set minimum energy performance standards, which replaced those in EPCA and the federal standards preempted those set by the state. NECPA was amended by the EPCA Amendments of 1985. Due to its relevance to electricity considerations, PURPA is discussed in more depth below.

PURPA

PURPA was established in response to the unstable energy climate of the late 1970s. PURPA sought to promote conservation of electric energy. Additionally, PURPA created a new class of non-utility generators, small power producers, from which, along with qualified co-generators, utilities are required to buy power.

PURPA was in part intended to augment electric utility generation with more efficiently produced electricity and to provide equitable rates to electric consumers. Utility companies are required to buy all electricity from a qualifying facility (QF). PURPA expanded participation of non-utility generators in the electricity market and demonstrated that electricity from non-utility generators could successfully be integrated with a utility's own supply. PURPA requires utilities to buy whatever power is produced by QFs (usually cogeneration or renewable energy). The Fuel Use Act of 1978 (FUA) (repealed in 1987) also helped QFs become established. Under the FUA, utilities were not allowed to use natural gas to fuel new generating technologies, but QFs, which were by definition not utilities, were able to take advantage of abundant natural gas and abundant new technologies (such as combined-cycle).

EPACT92

EPACT92 is comprised of 27 titles. It was passed by Congress and set goals, created mandates, and amended utility laws to increase clean energy use and improve overall energy efficiency in the United States. EPACT92 was amended as part of the Energy Conservation and Reauthorization Act of 1998.

Energy Policy Act of 2005

The Energy Policy Act of 2005 addresses energy efficiency; renewable energy requirements; oil, natural gas and coal; alternative-fuel use; tribal energy, nuclear security; vehicles and vehicle fuels; hydropower and geothermal energy; and climate change technology. The act provides revised annual energy reduction goals (two percent per year beginning in 2006), revised renewable energy purchase goals, federal procurement of Energy Star or Federal Energy Management Program designated products, federal green building standards, and fuel cell vehicle and hydrogen energy system research and demonstration.

Energy Independence and Security Act of 2007 (EISA)

EISA was signed into law on December 19, 2007. The objectives for EISA are to move the United States toward greater energy independence and security, increase the production of clean renewable fuels, protect consumers, increase product, building and vehicle efficiency, promote greenhouse gas (GHG) research, improve the energy efficiency of the federal government, and improve vehicle fuel economy.

The renewable fuel standard in EISA established appliance energy efficiency standards for boilers, dehumidifiers, dishwashers, clothes washers, external power supplies, commercial walk-in coolers and freezers; federal buildings; lighting energy efficiency standards for general service incandescent lighting in 2012; and standards for industrial electric motor efficiency.

2.2.2 State Regulations

California Building Energy Efficiency Standards: Title 24

California established statewide building energy efficiency standards following legislative action. The legislation required the standards to be cost-effective based on building life cycle and to include both prescriptive and performance-based approaches. The 2005 Building Energy Efficiency Standards were first adopted in November 2003 and took effect October 1, 2005. Subsequently the standards have undergone various updates including 2013, 2016, 2019, and 2020.

The 2013 Building Energy Efficiency Standards went into effect on July 1, 2014. The 2016 standards, which went into effect on January 1, 2017 and continue to improve upon the current 2013 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2019 Building Energy Efficiency Standards improve upon the 2016 Energy Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. Buildings permitted on or after January 1, 2020, must comply with the 2019 Standards. The California Energy Commission updates the standards every three years.

The 2022 Building Energy Efficiency Standards (Energy Code) will improve upon the 2019 Energy Code for new construction of, and additions and alterations to, residential and nonresidential buildings.

Assembly Bill 1575 (AB 1575)

In 1975, largely in response to the oil crisis of the 1970s, the California State Legislature adopted Assembly Bill (AB) 1575, which created the California Energy Commission (CEC). The statutory mission of the CEC is to forecast future energy needs, license thermal power plants of 50 megawatts or larger, develop energy technologies and renewable energy resources, plan for and direct state responses to energy emergencies, and, perhaps most importantly, promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code Section 21100(b)(3) to require Environmental Impact Reports (EIRs) to consider the wasteful, inefficient, and

unnecessary consumption of energy resources caused by a project. Since the passage of AB 1575, the California Natural Resources Agency finalized updates to the CEQA Guidelines in December 2018. New CEQA Guidelines Section 15126.2(b) treats "wasteful, inefficient, or unnecessary" energy consumption as a significant environmental impact. As a result, the following energy thresholds have been incorporated into Appendix G of the CEQA Guidelines:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

As discussed above, this technical memorandum has been prepared to assess energy impacts in accordance with these CEQA Appendix G of criteria specific to energy resources.

California Solar Initiative

On January 12, 2006, the CPUC approved the California Solar Initiative (CSI), which provides $2.9 billion in energy-related incentives between 2007 and 2017. CSI is part of the Go Solar California campaign, and builds on ten years of state solar rebates offered to areas services by California's investor-owned utilities (IOU): Pacific Gas and Electric (PG&E), Southern California Edison (SCE), and San Diego Gas and Electric (SDG&E.) The CSI is overseen by the CPUC and includes a $2.5 billion program for commercial and existing residential customers, funded through revenues and collected from gas and electric utility distribution rates. Furthermore, the CEC will manage $350 million targeted for new residential building construction, utilizing funds already allocated to the CEC to foster renewable projects between 2007 and 2011.

Current incentives provide an upfront, capacity-based payment for a new system. In its August 24, 2006 decision, the CPUC shifted the program from volume-based to performance-based incentives and clarified many elements of the program's design and administration. These changes were enacted in 2007.

AB 2514 – Energy Storage Systems

AB 2514 requires the CPUC to adopt an energy storage system procurement target, if determined to be appropriate, to be achieved by each load-serving entity by December 31, 2015 and a second target to be achieved by December 31, 2020. The bill would require the governing board of a local publicly owned electric utility to adopt an energy storage system procurement target, if determined to be appropriate, to be achieved by that utility by December 31, 2016; second target by December 31, 2021. The bill would require each load-serving entity and local publicly owned electric utility to report certain information to the CPUC (load-serving entity) or to the Energy Commission (local publicly owned electric utility).

Renewables Portfolio Standard (RPS)

California's RPS requires retail sellers of electricity to increase their procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of their retail sales are procured from eligible renewable energy resources by 2017. If a seller falls short in a given year, they must procure more renewables in succeeding years to make up the shortfall. Once a retail seller reaches 20 percent renewable resources, they need not increase their procurement in succeeding years. RPS was enacted through SB 1078 – The Renewable Portfolio Standard, signed in September 2002. The CEC and the CPUC are jointly implementing the standard. In 2006, RPS was modified by SB 107 to require retail sellers of electricity to reach the 20 percent renewables goal by 2010. In 2011, RPS was further modified by SB 2 to require retailers to reach 33 percent renewable energy by 2020.

SB 350

SB 350 was approved on October 7, 2015. SB 350 will: (1) increase the standards of the California RPS program by requiring that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December 31, 2030; (2) require the State Energy Resources Conservation and Development Commission to establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030; (3) provide for the evolution of the Independent System Operator into a regional organization; and (4) require the state to reimburse local agencies and school districts for certain costs mandated by the state through procedures established by statutory provisions. Among other objectives, the Legislature intends to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

California Assembly Bill 1493 (AB 1493, Pavley)

In response to the transportation sector accounting for more than half of California's greenhouse gas (GHG) emissions, Assembly Bill (AB) 1493 (commonly referred to as CARB's Pavley regulations), enacted in 2002, requires CARB to set GHG emission standards for new passenger vehicles, light-duty trucks, and other vehicles manufactured in and after 2009 whose primary use is non-commercial personal transportation. Phase 1 of the legislation established standards for model years 2009-2016 and Phase 2 established standards for model years 2017-2025 (CARB, 2017).

Executive Order (EO) B-18-12

EO B-18-12 was signed into law on April 25, 2012 and directed state agencies to reduce their grid- based energy purchases by at least 20 percent by 2018, as compared to a 2003 baseline. Pursuant to EO B-18-12, all new state buildings and major renovations beginning design after 2025 shall be constructed as Zero Net Energy facilities with an interim target for 50 percent of new facilities beginning design after 2020 to be Zero Net Energy. State agencies shall also take measures toward achieving Zero Net Energy for 50 percent of the square footage of existing state-owned building area by 2025 and reduce water usage by 20 percent by 2020. Additionally, the following measures relevant to energy are required:

- Any proposed new or major renovation of state buildings larger than 10,000 square feet shall use clean, on-site power generation, such as solar photovoltaic, solar thermal and wind power generation, and clean back-up power supplies, if economically feasible;
- New or major renovated state buildings and build-to-suit leases larger than 10,000 square feet shall obtain a Leadership in Energy and Environmental Design (LEED) "Silver" certification or higher using the applicable version of LEED;
- New and existing buildings shall incorporate building commissioning to facilitate improved and efficient building operation; and
- State agencies shall identify and pursue opportunities to provide electric vehicle charging stations and accommodate future charging infrastructure demand, at employee parking facilities in new and existing buildings.

California Environmental Quality Act

Appendix F of the CEQA Guidelines describes the types of information and analyses related to energy conservation that are to be included in Environmental Impact Reports that are prepared pursuant to CEQA. Energy conservation is described in Appendix F of the CEQA Guidelines in terms of decreased per capita energy consumption, decreased reliance on natural gas and oil, and increased reliance on renewable energy

sources. To assure that energy implications are considered in project decisions, EIRs must include a discussion of the potentially significant energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.

Projects have long relied on existing energy-reduction requirements in building codes, and on the beneficial side effects of reducing greenhouse gases, to demonstrate that a project's energy use will not be wasteful or inefficient. That approach is no longer sufficient under CEQA, however, without an express assessment (based on facts) of the "before" and "after" energy requirements of proposed projects for construction and operational impacts from all sources (stationary, mobile and area).

Climate Zone tool, maps, and information supporting the California Energy Code

California has a diversity of climates not seen in other states, and the statewide provisions adopted into the California Energy Code accounts for these variations using a set of sixteen climate zones. Several efficiency standards, such as those for envelope and fenestration (window and door) materials, depend on the specific climate zone that the building is located in. Thus, it is important for builders and building officials to know which climate zones apply to their projects. The California Energy Commission has developed an "app" to show addresses and locations quickly and accurately in relation to the geographic meets and bounds that determine California's climate regions.

1. The EZ Building Climate Zone[1] Search tool helps determine applicable climate zones for a building project.
2. The following list of Climate Zone[2] assignments by ZIP code is provided for the convenience of local jurisdictions which contain more than one climate zone.

2.2.3 Local Regulations

The City of Bakersfield currently does not have any plans or documents regarding energy related issues. The Kern County Energy Element has been included in this report as a guidance, even though the Project is not under the County's jurisdiction.

Kern County Energy Element

Kern County is a major oil, natural gas, and electricity producer. The Kern County Energy Element[3] defines key energy related issues and sets forth goals, policies, and implementation measures to protect the County's energy resources. The Energy Element also encourage orderly energy development and protection of the public health, safety, and the environment. The Energy Element's three primary objectives which include: 1) resource management and protection; 2) development standards to provide for the protection of the environment, public health, and safety; and 3) energy development.

Since the early 1900s, Kern County has been a major oil producer and more recently a pioneer in thermally enhanced oil recovery (TEOR). TEOR includes heating heavy oil, usually by steam or hot water injection, to make it more fluid to pump from the reservoir. While petroleum resources are valuable, there can be land use conflicts where urban development encroaches on petroleum production areas, or when petroleum resource extraction occurs close to existing urban activity. The Kern County Energy Element seeks to protect

[1] https://caenergy.maps.arcgis.com/apps/webappviewer/index.html?id=4831772c00eb4f729924167244bbca22

[2] https://www.energy.ca.gov/media/3560

[3] Kern County, 2009. Kern County General Plan Energy Element. Site accessed on April 11, 2022 at https://psbweb.co.kern.ca.us/planning/pdfs/kcgp/KCGPChp5Energy.pdf

petroleum resources, public health and safety as well as the local economy through goals, policies and implementation measures.

2.2.4 California Energy Trends

In 2019, Californians consumed an average of 198 million Btus per capita was ranked 50 out of 51 states for its low rate of energy usage[4].

In 2020, 70 percent of California electricity came from in-state sources, with 15.1 percent imported from the northwest and 14.8 percent imported from the southwest[5]. In 2020, California generated a total of in-state electricity of 190,913 GWh and imported a total of 81,663 GWh of electricity[5].

33 percent of electricity from California power plants came from renewable sources such as biomass, geothermal, small hydro, solar, and wind. 32 percent of electricity from Pacific Northwest power plants came from renewable sources. 33 percent of electricity from Southwest came from renewable sources. In total, approximately 33 percent of the total in-state electricity demand for 2020 came from renewable sources[5].

Table 2-1 shows the amount of electricity and gas consumed in 2020 to residential and non-residential entities in the counties in Kern County. In 2020, Kern County uses approximately 14,966 gigawatt-hours GWh of electricity and 2,224 million therms of gas per year; non-residential activities consumed 12,328 GWh (85%) of electricity and 2,123 million therms (95%) of gas[6,7]. Pacific Gas and Electric Company (PG&E) and Southern California Edison supply the county's electricity and Southern California Gas Company supplies natural gas.

Table 2-1: 2020 Electricity Use in Kern County (GWh)[5,6]

Sector	Electricity (GWh)	Gas (Million Therms)
Residential	2,638	101
Non-Residential	12,328	2,123
Total	**14,966**	**2,224**

[4] U.S. Energy Information Administration (US EIA), 2017. California State Profile and Energy Estimates. Site accessed on April 11, 2022 at https://www.eia.gov/state/rankings/?sid=CA#series/12

[5] California Energy Commission (CEC). 2020 Total system electric generation. Site accessed on April 11, 2022 at https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2020-total-system-electric-generation

[6] California Energy Commission (CEC). Energy report, Electricity Consumption by County. Site accessed on April 11, 2022 at https://ecdms.energy.ca.gov/elecbycounty.aspx

[7] California Energy Commission (CEC). Energy report, Gas Consumption by County. Site accessed on April 11, 2022 at https://ecdms.energy.ca.gov/gasbycounty.aspx

3. ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

3.1 Significance Criteria

The 2022 CEQA Guidelines Energy Impacts Checklist includes the following:

- Analysis of whether a project will
  - Result in potentially significant environmental effects due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.
  - Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The following sections discuss the potential energy impacts.

3.2 Estimating Energy Impacts

Energy usage for construction and operations were developed using the California Emissions Estimator Model (CalEEMod) output files for the air quality and greenhouse gas emissions estimates for the air quality impact assessment. Project energy consumption levels were estimated for both construction and operations scenarios. These estimates include: 1) diesel fuel use for construction off-road equipment; 2) diesel and gasoline fuel use for construction on-road vehicles; 3) diesel and gasoline fuel use from vehicle trips generated by the Project operations; 4) operational natural gas estimates; and 5) operational electricity estimates. Some reduction in diesel and gasoline vehicles is anticipated due to Executive Order N-79-20, which sets a goal of 100% of all in-state sales of new passenger cars and trucks be zero emissions by 2035. This analysis does not include that reduction and is therefore a conservative estimation of the impacts from diesel and gasoline fuel usage from vehicle trips.

The proposed Project is being assessed in two phases. Phase 1 is summarized in Table 3-1 and is anticipated to be fully operational in year 2024; Phase 2 is summarized in Table 3-2 and is anticipated to be fully operational no sooner than year 2029.

Table 3-1: Phase 1 Land Use Summary

Land Use	Units
Non-Asphalt Surfaces	26.8 acres
Parking Lot (passenger vehicles)	784 spaces
Parking Lot (truck)	236 spaces
Refrigerated Warehouse	101,218.5 square feet (sf)
Unrefrigerated Warehouse (Distribution Center)	910,966.5 sf

Source: Trinity Consultants, Inc. 2022

Table 3-2: Phase 2 Land Use Summary

Land Use	Units
Non-Asphalt Surfaces	13.83 acres
Parking Lot	1,236 spaces
Regional Shopping Center	187,500 sf

Source: Trinity Consultants, Inc. 2022

Based on vehicle miles travelled estimates produced by CalEEMod, Table 3-3 presents the construction-related fuel usage estimates and Table 3-4 presents the operations-related fuel usage estimates of Phase 1. Based on the land use assumptions and the default energy consumption factors for operations included in CalEEMod, Table 3-5 presents the estimated annual operational electricity and natural gas consumption for Phase 1.

Table 3-3: Phase 1 Construction Fuel Usage Estimates

Construction Phase	Number of Days	Daily Off Road Equipment Hours	Daily VMT		Fuel Usage (gal)			
			Worker	Vendor	Daily Diesel[1]	Daily Gasoline[2]	Total Diesel	Total Gasoline
Site Preparation	20	80	9	0	160	5	3,200	97
Grading	80	104	14	0	208	8	16,640	605
Building Construction	231	61	394	10	131	213	30,290	49,148
Paving	30	128	6	0	256	3	7,680	97
Architectural Coating	30	6	79	0	12	43	360	1,280
					Total Fuel Usage		**58,170**	**51,227**

Source: Trinity Consultants, Inc. 2022
Notes:
(1) Off road equipment are conservatively estimated to use 2 gallons per hour operating in place and medium duty diesel trucks are conservatively estimated to use 8 gallons per mile (rounded).
(2) Light duty trucks are conservatively estimated to use 20 miles per gallon.

Table 3-4: Phase 1 Annual Operational Fuel Usage Estimates

Land Use	Annual Vehicle Miles Travelled (VMT)	Annual Diesel Consumption (gal)	Annual Gasoline Consumption (gal)
Non-Asphalt Surfaces	0	0	0
Parking lot	0	0	0
Refrigerated Warehouse	901,493	29,052	35,339
Unrefrigerated Warehouse (Distribution Center)	15,231,719	1,514,290	403,469
Totals	**16,133,212**	**1,543,342**	**438,807**

Source: Trinity Consultants, Inc. 2022
Notes: Fuel usage provided is a sum of the passenger vehicles and trucks fuel usage. Fuel usage for passenger vehicles was estimated assuming 88% of vehicles use gasoline as a conservative 20 miles per gal efficiency and 12% use diesel at a conservative 17.5 miles per gal efficiency. Fuel usage for trucks was estimated assuming 12% of trucks use gasoline as a conservative 10 miles per gal efficiency and 88% use diesel at a conservative 5 miles per gal efficiency.

Table 3-5: Phase 1 Annual Operational Energy Consumption Estimates

Land Use	Units	Operational Natural Gas (kBTU/year)	Operational Electricity (kWh/yr)
Non-Asphalt Surfaces	26.8 acres	0	0
Parking Lot	1250 spaces*	0	175,840
Refrigerated Warehouse	101,218.5 sf	15,183	469,654
Unrefrigerated Warehouse (Distribution Center)	910,966.5 sf	16,315,400	4,955,660
	Total	**16,330,583**	**5,601,154**

Source: Trinity Consultants, Inc. 2022 and CAPCOA CalEEMod v2020.4.0 output for project operations
Notes: sf - square feet, *Equivalent parking spaces of truck and passenger vehicles combined.

Based on vehicle miles travelled estimates produced by CalEEMod, Table 3-6 presents construction- related activities fuel usage estimates and Table 3-7 presents the operations-related fuel usage estimates of Phase 2. Based on the land use assumptions and the default energy consumption factors for operations, Table 3-8 presents the estimated annual operational electricity and natural gas consumption for Phase 2.

Table 3-6: Phase 2 Construction Fuel Usage Estimates

Construction Phase	Number of Days	Daily Off Road Equipment Hours	Daily VMT		Fuel Usage (gal)			
			Worker	Vendor	Daily Diesel[1]	Daily Gasoline[2]	Total Diesel	Total Gasoline
Site Preparation	45	20	9	0	40	5	1,800	219
Grading	101	50	14	0	100	8	10,100	764
Building Construction	986	36	394	10	81	213	79,989	209,781
Paving	78	24	6	0	48	3	3,744	253
Architectural Coating	78	3	79	0	6	43	468	3,327
					Total Fuel Usage		**96,101**	**214,344**

Source: Trinity Consultants, Inc. 2022
Notes:
(1) Off road equipment are conservatively estimated to use 2 gallons per hour operating in place and medium duty diesel trucks are conservatively estimated to use 8 gallons per mile (rounded).
(2) Light duty trucks are conservatively estimated to use 20 miles per gallon.

Table 3-7: Phase 2 Annual Operational Fuel Usage Estimates

Land Use	Annual Vehicle Miles Travelled (VMT)	Annual Diesel Consumption (gal)	Annual Gasoline Consumption (gal)
Non-Asphalt Surfaces	0	0	0
Parking Lot	0	0	0
Regional Shopping Center	15,989,973	239,850	703,559
Totals	**15,989,973**	**239,850**	**703,559**

Source: Trinity Consultants, Inc. 2022
Notes: Fuel usage were estimated assuming 88% of vehicles use gasoline as a conservative 20 miles per gallon efficiency and 12% use diesel at a conservative 8 miles per gallon efficiency.

Table 3-8: Phase 2 Annual Operational Energy Consumption Estimates

Land Use	Units	Operational Natural Gas (kBTU/year)	Operational Electricity (kWh/yr)
Non-Asphalt Surfaces	13.83 acres	0	0
Parking Lot	1,236 spaces	0	173,040
Regional Shopping Center	187,500 sf	1,989,380	1,485,000
	Total	**1,989,380**	**1,658,040**

Source: Trinity Consultants, Inc. 2022 and CAPCOA CalEEMod v2020.4.0 output for project operations

3.3 Energy Thresholds of Significance

CEQA requires that an EIR identify the significant environmental effects of the project (CEQA Guidelines Section 15126) but does not promulgate specific thresholds for significance. Instead, CEQA Guidelines Section 15064(b) states that "the determination … calls for careful judgment on the part of the public agency involved…" and that "an ironclad definition of significant effect is not possible because the significance of an activity may vary with the setting." CEQA encourages lead agencies to develop and publish their own thresholds of significance for the purpose of determining the significant effects of their projects. The fundamental definition of significant effect under CEQA is "a substantial adverse change in physical conditions." This criterion underlies the evaluation of environmental impacts for most of the impact issues identified in the CEQA Environmental Checklist Form (Guidelines Appendix G).

A proposed change to CEQA Guidelines Section 15064.7 provides that lead agencies may use regulatory standards as thresholds of significance. In order to serve as a threshold, the standard must: (1) be adopted by some formal mechanism; (2) be adopted for environmental protection; (3) govern the impact at issue; and (4) govern the project type. In the case of Energy Impacts Assessment in the City of Bakersfield, there is not yet a specific threshold of significance.

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The South Coast Air Quality Management District would find a significant energy impact if there is an increase in electricity or gas demand from a project of more than 1 percent of the regional demand for that jurisdiction or planning region. Although this is not an adopted threshold for the City of Bakersfield, the relative percentage of the proposed Project of the county's demand illustrates the order of magnitude of this Project at full buildout.

3.4 Energy Impacts and Mitigation Measures

Based on the project gas and electricity consumption estimates summarized above in Tables 3-5 and 3-8, Table 3-9 summarizes relative Project energy impacts compared to Kern County 2020 usage. The proposed Project would generate substantially less than one percent of the County's usage.

Table 3-9: Summary of Project's Operational Energy Consumption

Development Scenario	Operational Natural Gas (million BTU/year) (unmitigated)	Operational Electricity (GWh/yr)
Phase 1	16,331	6
Phase 2	1,989	2
Total Project	**18,320**	**7**
2020 Total Regional Demand -	222,346,846	14,966
Percent of Regional Demand	**0.008%**	**0.049%**

Although the Project's relative consumption would be less than one percent of the County's usage, the proposed Project would lead to relatively large annual consumption rates of gasoline, diesel, electricity, and gas. The Project developer is in dialogue with PGE to discuss the current capacity to support this Project.

The State of California's CEC has recently prepared a 2022 California Building Energy Efficiency Standards to reduce reliance on fossil fuels as well as GHG emissions from energy usage[8]. The standards encourage efficient electric heat pumps, establishes electric-ready requirements for new homes, expands solar photovoltaic and battery storage standards, strengthens ventilation standards, and more for new construction.

As fuel and power costs continue to escalate in California, it will benefit these businesses to employ energy-saving building design and operating components. It is anticipated that some businesses that move into the Project's properties could employ some of the following design features to reduce energy and power consumption:

- Low Energy Air Conditioning/Heating Systems
- Integrated Lighting Systems
- LED lighting technology
- High Efficiency Solar Power Technologies
- Energy Efficient Windows
- Efficiency Landscaping (drought tolerant, high shade plants and trees)

Phase 1 of the Project will include the following energy design features to reduce energy and power consumption:

- Install High Efficiency Lighting
- Install Energy Efficient Appliances
- The project will also comply with all relevant building energy efficiency standards.

[8] California Energy Commission (CEC). 2022 California Building Energy Efficiency Standards. December 2021. https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency

4. IMPACT ASSESSMENT

As previously noted, when assessing the Project's energy impacts, the following CEQA threshold criteria apply:

(a): Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

As discussed above, energy use associated with the Project would be consumed in the form of fuel (diesel and gasoline), electricity and natural gas. During construction there would be a temporary consumption of energy resources required for the movement of equipment and materials. Compliance with local, state, and federal regulations would reduce short-term energy demand during the Project's construction to the extent feasible, and Project construction would not result in a wasteful or inefficient use of energy. As summarized in Table 3-3 and 3-6 above, energy use during Project construction would be primarily in the form of fuel consumption to operate heavy equipment, vehicles, machinery, and generators. Temporary power may also be provided to construction trailers or electric construction equipment; however, minimal electricity used during Project construction is expected to be de minimis.

Once constructed, the proposed Project would also use energy resources for the operation of the warehouse and office buildings (electricity and natural gas), and for on-road vehicle trips (gasoline and diesel fuel). As shown in Table 3-4 and 3-7, compared to the CEC's Retail Fuel Outlet Annual Reporting (CEC-A15) Results, the Project's estimated increase in fuel consumption would constitute an approximate 0.006% increase in total annual fuel energy consumption within the County. Similarly, as shown in Table 3-9, compared to the CEC's 2020 County-wide data set, the Project's estimated increase in electricity and natural gas consumption would constitute approximately 0.049% and 0.008% increase, respectively, in total annual consumption within the County. As such, Project activities would have a minimal effect on the local and regional fuel energy supplies and availability.

Therefore, the proposed Project would not result in a potential impact due to wasteful, inefficient, or unnecessary consumption of energy resources, and impacts would be less than significant with no mitigation required.

(b): Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

As discussed above, in the case of energy impacts assessment in the City of Bakersfield, there is not yet a specific threshold of significance. At this time, other than the generalized policies found within the General Plan, the City has not adopted local programs or policies that support energy efficiency and/or sustainability that would apply to the Project.

The Project's mobile equipment and vehicles would comply with federal, state, and regional requirements where applicable. Specifically, the USEPA and the NHTSA have adopted fuel efficiency standards for medium- and heavy-duty trucks which apply to truck fleet operators, such as the Project proponent. CARB has also adopted cleaner technology and fuel standards pursuant to AB 1493. While Phase 1 and Phase 2 regulation published by both the USEPA/NHTSA and CARB primarily apply to manufacturers of on-road vehicles and not the end user, it is assumed the Project operator and off-site vendors will ensure engines purchased are certified in accordance with the appropriate state and federal regulations. This will ensure that efficiency of mobile equipment and vehicles would continue to improve over time through compliance with increasingly stringent standards adopted by applicable regulatory agencies. The energy modeling for

trucks does not take into account specific fuel reductions from these regulations, as they would apply to fleets as they incorporate newer trucks meeting the regulatory standards; however, these regulations would have an overall beneficial effect on reducing fuel consumption from trucks over time as older trucks are replaced with newer models that meet the standards.

The State of California's Energy Efficiency Strategic Plan (adopted 2008, updated January 2011) outlines specific goals and strategies to help promote energy efficiency in California's industrial sector in three (3) areas: 1) Support industry adoption of energy efficiency by integrating energy efficiency savings with achievement of GHG goals; 2) Build market value of and demand for energy efficiency; and 3) Provide technical and public policy guidance for resource efficiency. The Energy Efficiency Strategic Plan promotes reductions in energy consumption through compliance with GHG emission reductions, water conservation, and proper waste disposal. As applicable, the Project would utilize the best available equipment to improve diesel fuel efficiency, and equipment that uses energy would implement modern design and technology to maximize efficiency improvements.

Lastly, the Project is expected to have a de minimis effect on local population growth. As discussed above, the Project would continue implementing existing rules and conform with fleet turnover, further reducing the Project's fuel energy consumption over time.

In summary, the Project construction and operations activities would not result in significant increase in energy consumption over the existing environmental baseline and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, the Project impacts are less than significant.