Appendix J

Greenhouse Gas Emissions Technical Memorandum

Kimley»Horn

TECHNICAL MEMORANDUM

To:	RPCA Solar 15, LLC
From:	Olivia Chan and Mayra Garcia, Kimley-Horn and Associates, Inc.
Date:	October 30, 2024
Subject:	Lear Avenue Solar Project – Greenhouse Gas Emissions Technical Memorandum

PURPOSE

The purpose of this memorandum is to identify the potential greenhouse gas (GHG) emissions associated with construction and operations of the Lear Avenue Solar Project (Project), located in unincorporated San Bernardino County (County), California.

PROJECT LOCATION

The Project would comprise 62 acres[1] of an 80-acre parcel (Assessor Parcel Number [APN] 0612-131-01) generally located at the southeast corner of the intersection of Mesa Drive and Lear Avenue (Project Site). The Project Site is bordered by Mesa Drive to the north, Shoshone Valley Road to the east, Cove View Road to the south, and Lear Avenue to the west. Regional access to the Project Site is provided via State Route 62 (SR 62) to the south (see **Figure 1: Regional Vicinity Map**). Local access to the Project Site would be accessed via Lear Avenue located west of and adjacent to the Project Site (see **Figure 2: Local Vicinity Map**).

PROJECT DESCRIPTION

RPCA Solar 15, LLC (Applicant) proposes to construct and operate the Lear Avenue Solar Project (Project), a single-axis tracker ground-mounted photovoltaic (PV) community solar and battery energy storage system (BESS) with up to 9.9 megawatts of alternating current (MWac) in capacity. The Applicant is requesting Conditional Use Permit (CUP) approval from the County. The Project would consist of the following components: solar modules, BESS, underground electrical conductors, Balance of System Equipment, access roads, and fencing. The Project would be interconnected to an existing electrical distribution system owned by Southern California Edison (SCE) located along the western Project Site boundary.

[1] The modeling completed for this analysis was done for a larger Project Site (71 acres). The Project has since been refined to be 62 acres. Therefore, the analysis provided herein is considered conservative.

Figure 1: REGIONAL VICINITY MAP
Lear Avenue Solar Project
Initial Study/Mitigated Negative Declaration

NOT TO SCALE

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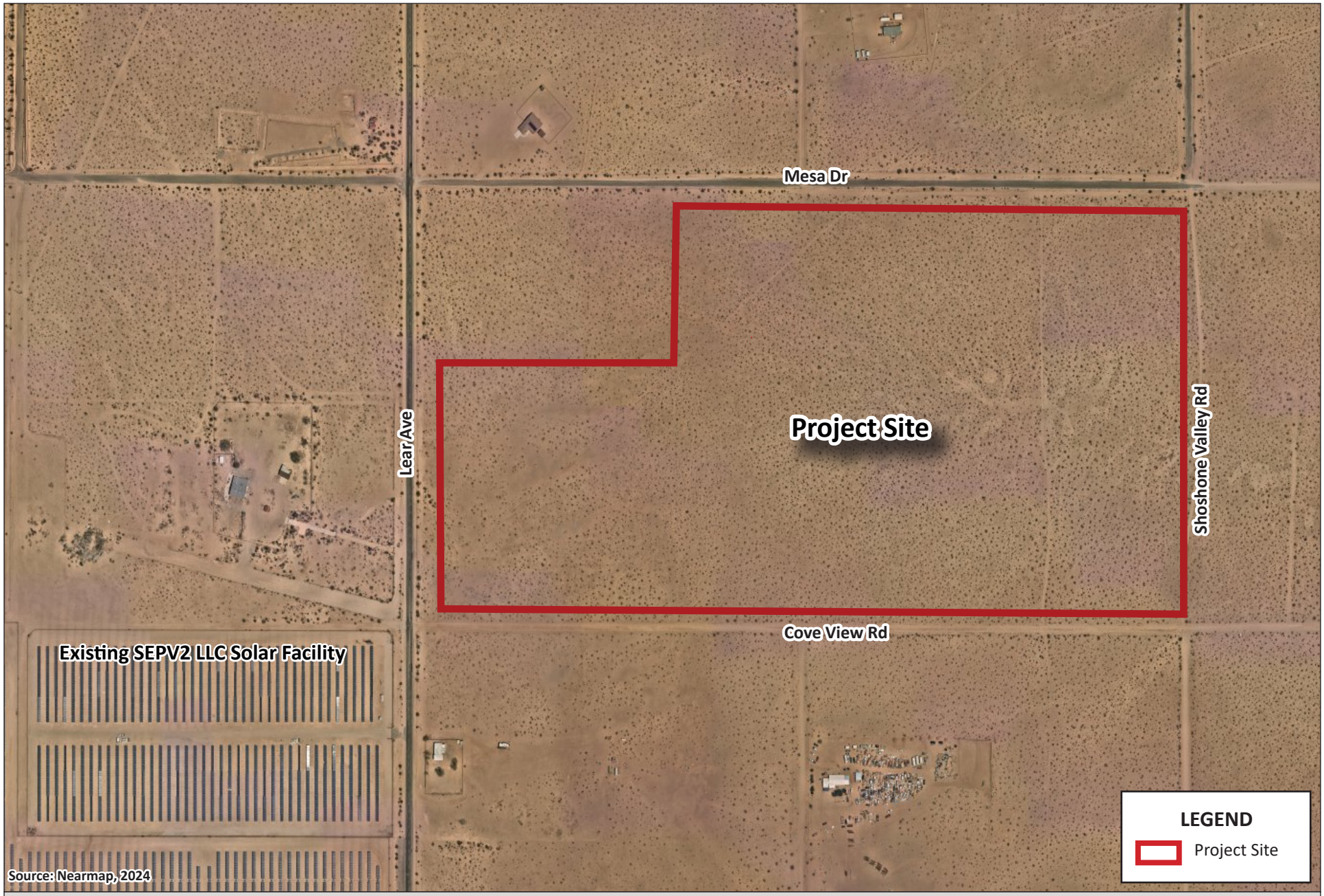

Figure 2: LOCAL VICINITY MAP
Lear Avenue Solar Project
Initial Study/Mitigated Negative Declaration

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The Project would include solar modules and string inverters. The modules would be manufactured off-site and delivered by truck in wooden crates or cardboard boxes. The solar modules would be fully enclosed in metal and glass frames and would rotate throughout the day to maximize sun exposure. The frames of solar modules would be mounted on steel posts, which would be driven or screwed into the ground to a depth between 10 and 15 feet. The posts would be made from galvanized or corrosion-resistant metal to minimize the potential for corrosion over the lifespan of the Project. The foundations securing the solar modules would be designed to withstand high winds and snow loads. To protect equipment from potential ponding or overland stormwater flow, all equipment skids and pads would be elevated at a minimum of 12 inches above the 100-year flood elevation. The overall height of the solar array would be no more than 15 feet tall.

The BESS would store electrical energy produced by the Project during the day and flexible dispatch it to the grid when it is most needed, typically in the evening. The BESS would be comprised of six battery banks located in the southwest corner of the PV array. Each battery bank would be approximately the size of a standard shipping container. The BESS would include redundant safety measures, such as hydrogen detection, active ventilation, fire detection and remote shutdown, fireproof insulation, and internal fire suppression technology.

The Balance of System Equipment, including, but not limited to, inverters, AC combiner boxes, transformers, and/or medium voltage switchgear may be installed near the solar array within the Project's fence line. The Balance of System Equipment would be installed on H-Frames and concrete pads and in compliance with equipment manufacturer instructions. Low voltage conductors connecting the solar modules to the Balance of System Equipment would be run underground in conduit. The medium voltage conductors would mostly run underground in a similar fashion to low voltage wiring. A portion of the medium voltage conductor would ultimately come above ground and be strung along new distribution poles on the Project Site, ultimately terminating at the electrical distribution system along Lear Avenue, maintained by SCE.

Site access would be provided via a new driveway constructed from Lear Avenue. Where necessary, the access roads would be upgraded using gravel and geotextile fabric and extended into the Project's fence line. A perimeter access road would encircle the whole solar array. Additionally, two internal access roads would cross the entire width of the Project. The roads would be wide enough to accommodate emergency vehicles (20 feet wide and 15 feet wide for the perimeter and internal access roads, respectively) and designed in compliance with County building and fire department standards. Approximately 15 feet of space would be maintained between each row of solar modules for operations and maintenance access. The access roads would be placed such that no panel is no further than 240 feet from the center of the fire road and would connect directly to the BESS.

The Project would be enclosed in a six-foot-tall chain link fence with one foot of barbed wire on top in compliance with the National Electric Code. The fence would have at least one vehicle access gate at the boundary of the array. The vehicle access gate would remain locked, except during operations

and maintenance activities. A Knox box would be installed at the entrance gate to provide 24-hour access for emergency responders.

Construction

Project construction is anticipated to be completed over a period of approximately nine months, beginning as early as January 2025 and ending as early as October 2025. Project construction activities generally fall into three main categories: (1) demolition, (2) site preparation (vegetation clearing), (3) grading, (4) paving, (5) system installation, and (6) testing, commissioning, and cleanup.[2] The on-site construction workforce is expected to peak at approximately 70 individuals during the construction period. Construction personnel will be divided between civil and electrical services.

Operations

The Project would operate year-round. The Project would be unmanned, and no employees would report to the Project Site daily. Typical operations and maintenance (O&M) activities during Project operations include, but are not limited to, facility monitoring; administration and reporting; remote operations of inverters, BESS system, and other equipment; repair and maintenance of solar facilities; landscape maintenance; and periodic panel and inverter washing. It is estimated that the Project would require 6 maintenance-related visits per year and up to 4 solar panel and inverter washing visits per year, resulting in a total of approximately 10 operational roundtrips per year, (20 one-way trips).

During Project O&M, it is anticipated that minimal water would be required for solar panel and inverter washing. Water consumption for washing panels and inverters is expected to be approximately 0.3 acre-feet (AF) of water per year, and all water would be trucked in from an off-site source. Water washing is by deluge and no chemicals or other materials are used.

Decommissioning

At the end of the Project's operational term, the Applicant may determine that the Project should be decommissioned and deconstructed. The Applicant will work with the County to ensure decommissioning complies with all applicable local, State, and federal requirements and Best Management Practices (BMPs). The Project would include BMPs to ensure the collection and recycling of modules and to avoid the potential for modules to be disposed of as municipal waste. Pursuant to San Bernardino County Development Code Section 84.29.070 (Decommissioning Requirements), following the operational life of the Project, the Project owner shall perform site closure activities to meet federal, State, and local requirements for the rehabilitation and revegetation of the Project Site after decommissioning.

[2] Note that the modeling does not account for testing, commissioning, and cleanup as heavy-duty construction equipment would not be utilized.

Equipment would be de-energized prior to removal, salvaged (where possible), placed in appropriate shipping containers, and secured in a truck transport trailer for shipment off site to be recycled or disposed of at an appropriately licensed disposal facility. Site infrastructure would be removed, including fences and concrete pads that may support the inverters and related equipment. The exterior fencing would be removed, and materials would be recycled to the extent feasible. Project internal and access roads would be restored to their pre-construction condition to the extent feasible unless the landowner elects to retain the improved roads for access throughout the property. A collection, reuse, and recycling program would be utilized to promote reuse and recycling of Project components and minimize disposal in landfills.

ENVIRONMENTAL SETTING

Greenhouse Gases and Climate Change

Certain gases in the Earth's atmosphere classified as GHGs, play a critical role in determining the Earth's surface temperature. Solar radiation enters the Earth's atmosphere from space. A portion of the radiation is absorbed by the Earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the Earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the Earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on Earth.

The primary GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Examples of fluorinated gases include chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3); however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of GHGs exceeding natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the Earth's climate, known as global climate change or global warming.

GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants (TACs), which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of a GHG molecule is dependent on multiple variables and cannot be pinpointed, more CO2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms of carbon sequestration. Of the total annual human-caused CO2

emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO2 emissions remains stored in the atmosphere.[3] Table 1: Description of Greenhouse Gases describes the primary GHGs attributed to global climate change, including their physical properties.

Table 1: Description of Greenhouse Gases

Greenhouse Gas	Description
Carbon Dioxide (CO_2)	CO_2 is a colorless, odorless gas that is emitted naturally and through human activities. Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, and industrial facilities. The atmospheric lifetime of CO_2 is variable because it is readily exchanged in the atmosphere. CO_2 is the most widely emitted GHG and is the reference gas (Global Warming Potential [GWP] of 1) for determining Global Warming Potentials for other GHGs.
Nitrous Oxide (N_2O)	N_2O is largely attributable to agricultural practices and soil management. Primary human-related sources of N_2O include agricultural soil management, sewage treatment, combustion of fossil fuels, and adipic and nitric acid production. N_2O is produced from biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years. The GWP of N_2O is 298.
Methane (CH_4)	CH_4, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. Methane is the major component of natural gas, about 87 percent by volume. Human-related sources include fossil fuel production, animal husbandry, rice cultivation, biomass burning, and waste management. Natural sources of CH_4 include wetlands, gas hydrates, termites, oceans, freshwater bodies, non-wetland soils, and wildfires. The atmospheric lifetime of CH_4 is about 12 years and the GWP is 25.
Hydrofluorocarbons (HFCs)	HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is increasing, as the continued phase out of CFCs and HCFCs gains momentum. The 100-year GWP of HFCs range from 124 for HFC-152 to 14,800 for HFC-23.
Perfluorocarbons (PFCs)	PFCs have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Two main sources of PFCs are primary aluminum production and semiconductor manufacturing. GWPs range from 6,500 to 9,200.
Chlorofluorocarbons (CFCs)	CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the Earth's surface). CFCs were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. The Montreal Protocol

[3] Intergovernmental Panel on Climate Change, *Carbon and Other Biogeochemical Cycles. In: Climate Change 2013: The Physical Science Basis*, *Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, 2013, http://www.climatechange2013.org/__images/report/WG1AR5_ALL_FINAL.pdf, accessed December 14, 2023.

Table 1: Description of Greenhouse Gases	
	on Substances that Deplete the Ozone Layer prohibited their production in 1987. GWPs for CFCs range from 3,800 to 14,400.
Sulfur Hexafluoride (SF_6)	SF_6 is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas. The GWP of SF_6 is 23,900.
Hydrochlorofluoro-carbons (HCFCs)	HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. As part of the Montreal Protocol, HCFCs are subject to a consumption cap and gradual phase out. The United States is scheduled to achieve a 100 percent reduction to the cap by 2030. The 100-year GWPs of HCFCs range from 90 for HCFC-123 to 1,800 for HCFC-142b.
Nitrogen Trifluoride (NF_3)	NF_3 was added to Health and Safety Code section 38505(g)(7) as a GHG of concern. This gas is used in electronics manufacture for semiconductors and liquid crystal displays. It has a high GWP of 17,200.
Source: Compiled from U.S. EPA, *Overview of Greenhouse Gases*, (https://www.epa.gov/ghgemissions/overview-greenhouse-gases), accessed August 1, 2022; U.S. EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019*, 2021; Intergovernmental Panel on Climate Change, *Climate Change 2007: The Physical Science Basis*, 2007; National Research Council, Advancing the Science of Climate Change, 2010; U.S. EPA, *Methane and Nitrous Oxide Emission from Natural Sources*, April 2010.	

REGULATORY FRAMEWORK

Federal

To date, national standards have not been established for nationwide GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level. Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (December 2007), among other key measures, requires the following, which would aid in the reduction of national GHG emissions:

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020 and direct the National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

U.S. Environmental Protection Agency Endangerment Finding

The U.S. Environmental Protection Agency (USEPA) authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. USEPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Federal Clean Air Act (FCAA) and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, the USEPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing FCAA and the USEPA's assessment of the scientific evidence that form the basis for the USEPA's regulatory actions.

Presidential Executive Orders 13990 and 14008

On January 20, 2021, President Biden issued Executive Order 13990, "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis". Executive Order 13990 directs Federal agencies to immediately review and take action to address the promulgation of Federal regulations and other actions that conflict with these important national objectives and to immediately commence work to confront the climate crisis. Executive Order 13990 directs the Council on Environmental Quality (CEQ) to review CEQ's 2020 regulations implementing the procedural requirements of the National Environmental Policy Act (NEPA) and identify necessary changes or actions to meet the objectives of Executive Order 13990.

Executive Order 13390 also directs the EPA to consider whether to propose suspending, revising, or rescinding the standards previously revised under the "The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks," promulgated in April 2020.

On January 27, 2021, President Biden signed Executive Order 14008, "Tackling the Climate Crisis at Home and Abroad," to declare the Administration's policy to move quickly to build resilience, both at home and abroad, against the impacts of climate change that are already manifest and will continue to intensify according to current trajectories. In line with these Executive Order directives, CEQ is reviewing the 2020 NEPA regulations and plans to publish a notice of proposed rulemaking (NPRM) to identify necessary revisions in order to comply with the law; meet the environmental, climate change, and environmental justice objectives of Executive Orders 13990 and 14008; ensure full and fair public involvement in the NEPA process; provide regulatory certainty to stakeholders; and promote better decision making consistent with NEPA's statutory requirements. This phase 1 rulemaking will propose a narrow set of changes to the 2020 NEPA regulations to address these goals.

State

California Air Resources Board

The California Air Resources Board (CARB) is responsible for the coordination and oversight of State and local air pollution control programs in California. Various statewide and local initiatives to reduce California's contribution to GHG emissions have raised awareness about climate change and its potential for severe long-term adverse environmental, social, and economic effects. California is a significant emitter of CO_2 equivalents (CO_2e) in the world and produced 459 million gross metric tons of CO_2e in 2013. In the State, the transportation sector is the largest emitter of GHGs, followed by industrial operations such as manufacturing and oil and gas extraction.

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation, such as the landmark Assembly Bill (AB) 32, *California Global Warming Solutions Act of 2006*, was specifically enacted to address GHG emissions. Other legislation, such as Title 24 building efficiency standards and Title 20 appliance energy standards, were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major provisions of the legislation.

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

AB 32 instructs the CARB to develop and enforce regulations for the reporting and verification of Statewide GHG emissions. AB 32 also directed CARB to set a GHG emissions limit based on 1990 levels, to be achieved by 2020. It set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner.

Assembly Bill 1279 (The California Climate Crisis Act)

Signed September 16, 2022, AB 1279 established the goal to achieve net-zero GHG emissions no later than 2045 and net negative thereafter. The bill establishes a goal toward at least an 85 percent reduction target for anthropogenic GHG emissions below statewide emissions limit from Section 36550 of the California Health and Safety Code. The bill requires CARB to ensure that Scoping Plan updates identify and recommend measures to achieve carbon neutrality, and to identify and implement policies and strategies that enable CO_2 removal solutions and carbon capture, utilization, and storage technologies. As described above, the 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill 1279.

California Air Resource Board Scoping Plan

CARB adopted the Scoping Plan to achieve the goals of AB 32. The Scoping Plan establishes an overall framework for the measures that would be adopted to reduce California's GHG emissions. CARB determined that achieving the 1990 emissions level would require a reduction of GHG emissions of

approximately 29 percent below what would otherwise occur in 2020 in the absence of new laws and regulations (referred to as "business-as-usual").[4] The Scoping Plan evaluates opportunities for sector-specific reductions, integrates early actions and additional GHG reduction measures by both CARB and the State's Climate Action Team, identifies additional measures to be pursued as regulations, and outlines the adopted role of a cap-and-trade program.[5] Additional development of these measures and adoption of the appropriate regulations occurred through the end of 2013. Key elements of the Scoping Plan include:

- Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards.
- Achieving a statewide renewables energy mix of 33 percent by 2020.
- Developing a California cap-and-trade program that links with other programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions (adopted in 2011).
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets (several sustainable community strategies have been adopted).
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, heavy-duty truck measures, the Low Carbon Fuel Standard (amendments to the Pavley Standard adopted 2009; Advanced Clean Car standard adopted 2012), goods movement measures, and the Low Carbon Fuel Standard (adopted 2009).
- Creating targeted fees, including a public goods charge on water use, fees on gasses with high global warming potential, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.
- The California Sustainable Freight Action Plan was developed in 2016 and provides a vision for California's transition to a more efficient, more economically competitive, and less polluting freight transport system. This transition of California's freight transport system is essential to supporting the State's economic development in coming decades while reducing pollution.
- CARB's Mobile Source Strategy demonstrates how the State can simultaneously meet air quality standards, achieve GHG emission reduction targets, decrease health risk from

[4] CARB defines business-as-usual (BAU) in its Scoping Plan as emissions levels that would occur if California continued to grow and add new GHG emissions but did not adopt any measures to reduce emissions. Projections for each emission-generating sector were compiled and used to estimate emissions for 2020 based on 2002–2004 emissions intensities. Under CARB's definition of BAU, new growth is assumed to have the same carbon intensities as was typical from 2002 through 2004.

[5] The Climate Action Team, led by the secretary of the California Environmental Protection Agency, is a group of State agency secretaries and heads of agencies, boards, and departments. Team members work to coordinate statewide efforts to implement global warming emissions reduction programs and the State's Climate Adaptation Strategy.

transportation emissions, and reduce petroleum consumption over the next fifteen years. The Mobile Source Strategy includes increasing zero emission buses and trucks.

In 2012, CARB released revised estimates of the expected 2020 emissions reductions. The revised analysis relied on emissions projections updated in light of current economic forecasts that accounted for the economic downturn since 2008, reduction measures already approved and put in place relating to future fuel and energy demand, and other factors. This update reduced the projected 2020 emissions from 596 million metric tons of CO_2e ($MMTCO_2e$) to 545 $MMTCO_2e$. The reduction in forecasted 2020 emissions means that the revised business-as-usual reduction necessary to achieve AB 32's goal of reaching 1990 levels by 2020 is now 21.7 percent, down from 29 percent. CARB also provided a lower 2020 inventory forecast that incorporated State-led GHG emissions reduction measures already in place. When this lower forecast is considered, the necessary reduction from business-as-usual needed to achieve the goals of AB 32 is approximately 16 percent.

CARB adopted the first major update to the Scoping Plan on May 22, 2014. The updated Scoping Plan summarizes the most recent science related to climate change, including anticipated impacts to California and the levels of GHG emissions reductions necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32. By 2016, California had reduced GHG emissions below 1990 levels, achieving AB 32's 2020 goal four years ahead of schedule.

In 2016, the Legislature passed Senate Bill (SB) 32, which codifies a 2030 GHG emissions reduction target of 40 percent below 1990 levels. With SB 32, the Legislature passed companion legislation, AB 197, which provides additional direction for developing the Scoping Plan. On December 14, 2017, CARB adopted a second update to the Scoping Plan.[6] The 2017 Scoping Plan details how the State will reduce GHG emissions to meet the 2030 target set by Executive Order B-30-15 and codified by SB 32. Other objectives listed in the 2017 Scoping plan are to provide direct GHG emissions reductions; support climate investment in disadvantaged communities; and support the Clean Power Plan and other Federal actions.

The 2022 Scoping Plan is the most recent and comprehensive Scoping Plan. The 2022 Scoping Plan address recent legislation targets to reduce anthropogenic emissions to 85 percent below 1990 levels by 2045.[7]

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[6] California Air Resources Board, *California's 2017 Climate Change Scoping Plan,* https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf, accessed December 14, 2023.

[7] California Air Resources Board (CARB), 2022 Scoping Plan for Achieving Carbon Neutrality, https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf, accessed December 19, 2023.

Senate Bill 32 (California Global Warming Solutions Act of 2006: Emissions Limit)

Signed into law in September 2016, SB 32 codifies the 2030 GHG reduction target in Executive Order B-30-15 (40 percent below 1990 levels by 2030). The bill authorizes CARB to adopt an interim GHG emissions level target to be achieved by 2030. CARB also must adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective GHG reductions.

SB 375 (The Sustainable Communities and Climate Protection Act of 2008)

Signed into law on September 30, 2008, SB 375 provides a process to coordinate land use planning, regional transportation plans, and funding priorities to help California meet the GHG reduction goals established by AB 32. SB 375 requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, aligns planning for transportation and housing, and creates specified incentives for the implementation of the strategies.

AB 1493 (Pavley Regulations and Fuel Efficiency Standards)

AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the USEPA's denial of an implementation waiver. The USEPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011. The regulations establish one set of emission standards for model years 2009–2016 and a second set of emissions standards for model years 2017 to 2025. By 2025, when all rules will be fully implemented, new automobiles will emit 34 percent fewer CO_2e emissions and 75 percent fewer smog-forming emissions. In 2019 the USEPA published the SAFE Rule that revoked California's waiver. However, the USEPA is currently reconsidering the SAFE rule pursuant to Presidential Executive Order 13390.

SB 1368 (Emission Performance Standards)

SB 1368 is the companion bill of AB 32, which directs the California Public Utilities Commission (CPUC) to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 limits carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. The new law effectively prevents California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. The CPUC adopted the regulations required by SB 1368 on August 29, 2007. The regulations implementing SB 1368 establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, for 1,100 pounds of CO_2 per megawatt-hour.

SB 1078 and SBX1-2 (Renewable Electricity Standards)

SB 1078 requires California to generate 20 percent of its electricity from renewable energy by 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewable Portfolio Standard target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Executive Order S-21-09 also directed CARB to adopt a regulation by July 31, 2010, requiring the State's load serving entities to meet a 33 percent renewable energy target by 2020. CARB approved the Renewable Electricity Standard on September 23, 2010 by Resolution 10-23. SBX1-2 codified the 33 percent by the 2020 goal.

SB 350 (Clean Energy and Pollution Reduction Act of 2015)

Signed into law on October 7, 2015, SB 350 implements the goals of Executive Order B-30-15. The objectives of SB 350 are to increase the procurement of electricity from renewable sources from 33 percent to 50 percent (with interim targets of 40 percent by 2024, and 25 percent by 2027) and to double the energy efficiency savings in electricity and natural gas end uses of retail customers through energy efficiency and conservation. SB 350 also reorganizes the Independent System Operator to develop more regional electricity transmission markets and improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

AB 398 (Market-Based Compliance Mechanisms)

Signed on July 25, 2017, AB 398 extended the duration of the Cap-and-Trade program from 2020 to 2030. AB 398 required CARB to update the Scoping Plan and for all GHG rules and regulations adopted by the State. It also designated CARB as the statewide regulatory body responsible for ensuring that California meets its statewide carbon pollution reduction targets, while retaining local air districts' responsibility and authority to curb toxic air contaminants and criteria pollutants from local sources that severely impact public health. AB 398 also decreased free carbon allowances over 40 percent by 2030 and prioritized Cap-and-Trade spending to various programs including reducing diesel emissions in impacted communities.

SB 150 (Regional Transportation Plans)

Signed on October 10, 2017, SB 150 aligns local and regional GHG reduction targets with State targets (i.e., 40 percent below their 1990 levels by 2030). SB 150 creates a process to include communities in discussions on how to monitor their regions' progress on meeting these goals. The bill also requires the CARB to regularly report on that progress, as well as on the successes and the challenges regions experience associated with achieving their targets. SB 150 provides for accounting of climate change efforts and GHG reductions and identify effective reduction strategies.

SB 100 (California Renewables Portfolio Standard Program: Emissions of Greenhouse Gases)

Signed into Law in September 2018, SB 100 increased California's renewable electricity portfolio from 50 to 60 percent by 2030. SB 100 also established a further goal to have an electric grid that is entirely powered by clean energy by 2045.

AB 1346 (Air Pollution: Small Off-Road Engines)

Signed into Law in October 2021, AB 1346 requires CARB, to adopt cost-effective and technologically feasible regulations to prohibit engine exhaust and evaporative emissions from new small off-road engines, consistent with federal law, by July 1, 2022. AB 1346 requires CARB to identify and, to the extent feasible, make available funding for commercial rebates or similar incentive funding as part of any updates to existing applicable funding program guidelines to local air pollution control districts and air quality management districts to implement to support the transition to zero-emission small off-road equipment operations.

Executive Orders Related to GHG Emissions

California's Executive Branch has taken several actions to reduce GHGs using executive orders. Although not regulatory, they set the tone for the State and guide the actions of state agencies.

Executive Order S-3-05. Executive Order S-3-05 was issued on June 1, 2005, which established the following GHG emissions reduction targets:

By 2010, reduce GHG emissions to 2000 levels.

- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Executive Order S-01-07. Issued on January 18, 2007, Executive Order S 01-07 mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. The executive order established a Low Carbon Fuel Standard (LCFS) and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, CARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. CARB adopted the LCFS on April 23, 2009.

Executive Order S-13-08. Issued on November 14, 2008, Executive Order S-13-08 facilitated the California Natural Resources Agency development of the 2009 California Climate Adaptation Strategy.

Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order S-14-08. Issued on November 17, 2008, Executive Order S-14-08 expands the State's Renewable Energy Standard to 33 percent renewable power by 2020. Additionally, Executive Order S-21-09 (signed on September 15, 2009) directs CARB to adopt regulations requiring 33 percent of electricity sold in the State come from renewable energy by 2020. CARB adopted the Renewable Electricity Standard on September 23, 2010, which requires 33 percent renewable energy by 2020 for most publicly owned electricity retailers.

Executive Order S-21-09. Issued on July 17, 2009, Executive Order S-21-09 directs CARB to adopt regulations to increase California's Renewable Portfolio Standards (RPS) to 33 percent by 2020. This builds upon SB 1078 (2002), which established the California RPS program, requiring 20 percent renewable energy by 2017, and SB 107 (2006), which advanced the 20 percent deadline to 2010, a goal which was expanded to 33 percent by 2020 in the 2005 Energy Action Plan II.

Executive Order B-30-15. Issued on April 29, 2015, Executive Order B-30-15 established a California GHG reduction target of 40 percent below 1990 levels by 2030 and directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of $MMTCO_2e$. The 2030 target acts as an interim goal on the way to achieving reductions of 80 percent below 1990 levels by 2050, a goal set by Executive Order S-3-05. The executive order also requires the State's climate adaptation plan to be updated every three years and for the State to continue its climate change research program, among other provisions. With the enactment of SB 32 in 2016, the Legislature codified the goal of reducing GHG emissions by 2030 to 40 percent below 1990 levels.

Executive Order B-55-18. Issued on September 10, 2018, Executive Order B-55-18 establishes a goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. This goal is in addition to the existing statewide targets of reducing GHG emissions. The executive order requires CARB to work with relevant state agencies to develop a framework for implementing this goal. It also requires CARB to update the Scoping Plan to identify and recommend measures to achieve carbon neutrality. The executive order also requires state agencies to develop sequestration targets in the Natural and Working Lands Climate Change Implementation Plan.

Executive Order N-79-20. Signed in September 2020, Executive Order N-79-20 establishes as a goal that where feasible, all new passenger cars and trucks, as well as all drayage/cargo trucks and off-road vehicles and equipment, sold in California, will be zero-emission by 2035. The executive order sets a similar goal requiring that all medium and heavy-duty vehicles will be zero-emission by 2045 where feasible. It also directs CARB to develop and propose rulemaking for passenger vehicles and trucks, medium-and heavy-duty fleets where feasible, drayage trucks, and off-road vehicles and equipment "requiring increasing volumes" of new zero emission vehicles (ZEVs) "towards the target

of 100 percent." The executive order directs the California Environmental Protection Agency, the California Geologic Energy Management Division (CalGEM), and the California Natural Resources Agency to transition and repurpose oil production facilities with a goal toward meeting carbon neutrality by 2045. Executive Order N-79-20 builds upon the CARB Advanced Clean Trucks regulation, which was adopted by CARB in July 2020.

California Regulations

CARB Advanced Clean Truck Regulation. CARB adopted the Advanced Clean Truck Regulation in June 2020 requiring truck manufacturers to transition from diesel trucks and vans to electric zero-emission trucks beginning in 2024. By 2045, every new truck sold in California is required to be zero-emission. This rule directly addresses disproportionate risks and health and pollution burdens and puts California on the path for an all zero-emission short-haul drayage fleet in ports and railyards by 2035, and zero-emission "last-mile" delivery trucks and vans by 2040. The Advanced Clean Truck Regulation accelerates the transition of zero-emission medium-and heavy-duty vehicles from Class 2b to Class 8. The regulation has two components including a manufacturer sales requirement, and a reporting requirement:

- Zero-Emission Truck Sales: Manufacturers who certify Class 2b through 8 chassis or complete vehicles with combustion engines are required to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales need to be 55 percent of Class 2b – 3 truck sales, 75 percent of Class 4 – 8 straight truck sales, and 40 percent of truck tractor sales.
- Company and Fleet Reporting: Large employers including retailers, manufacturers, brokers and others would be required to report information about shipments and shuttle services. Fleet owners, with 50 or more trucks, would be required to report about their existing fleet operations. This information would help identify future strategies to ensure that fleets purchase available zero-emission trucks and place them in service where suitable to meet their needs.

Regional

Southern California Association of Governments 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy

On September 3, 2020, the Southern California Association of Governments (SCAG) Regional Council adopted Connect SoCal (2020 - 2045 Regional Transportation Plan/Sustainable Communities Strategy [RTP/SCS]). The RTP/SCS charts a course for closely integrating land use and transportation so that the region can grow smartly and sustainably. The strategy was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The RTP/SCS

is a long-range vision plan that balances future mobility and housing needs with economic, environmental, and public health goals. The SCAG region strives toward sustainability through integrated land use and transportation planning. The SCAG region must achieve specific federal air quality standards and is required by state law to lower regional GHG emissions.

Local

San Bernardino County Countywide Plan / Policy Plan

The County's Countywide Plan, adopted on October 27, 2020, serves as a set of plans and tools for the County's unincorporated communities and complements the Countywide vision. The Countywide Plan consists of the Policy Plan, Business Plan, and Community Action Guides, together with the supporting environmental clearance. The Policy Plan is a component of the Countywide Plan that is an update and expansion of the County's General Plan for the unincorporated areas. The following goals and policies are applicable to the Project:

Infrastructure and Utilities Element

Goal IU-4 Solid Waste: Adequate regional landfill capacity that provides for the safe disposal of solid waste, and efficient waste diversion and collection for unincorporated areas.

Policy IU-4.3 *Waste diversion.* We shall meet or exceed state waste diversion requirements, augment future landfill capacity, and reduce greenhouse gas emissions and use of natural resources through reduction, reuse, or recycling of solid waste.

Goal IU-5 Power and Communications: Unincorporated area residents and businesses have access to reliable power and communication systems.

Policy IU-5.5 *Energy and fuel facilities.* We encourage the development and upgrade of energy and regional fuel facilities in areas that do not pose significant environmental or public health and safety hazards, and in a manner that is compatible with military operations and local community identity.

Natural Resources Element

Goal NR-1 Air Quality: Air quality that promotes health and wellness of residents in San Bernardino County through improvements in locally-generated emissions.

Policy NR-1.1. *Land Use.* We promote compact and transit-oriented development countywide and regulate the types and locations of development in unincorporated areas to minimize vehicle miles traveled and greenhouse gas emissions.

Policy NR-1.7 *Greenhouse gas reduction targets.* We strive to meet the 2040 and 2050 greenhouse gas emission reduction targets in accordance with state law.

Policy NR-1.9 *Building design and upgrades.* We use the CalGreen Code to meet energy efficiency standards for new buildings and encourage the upgrading of existing buildings to incorporate design elements, building materials, and fixtures that improve environmental sustainability and reduce emissions.

Renewable Energy and Conservation Element

Goal RE-1 Energy Conservation and Efficiency: The County will pursue energy efficiency tools and conservation practices that optimize the benefits of renewable energy.

Policy RE-1.1. Continue implementing the energy conservation and efficiency measures identified in the County of San Bernardino Greenhouse Gas Emissions Reduction Plan.

Goal RE-2 Renewable Energy Systems: The County will be home to diverse and innovative renewable energy systems that provide reliable and affordable energy to our unique Valley, Mountain, and Desert regions.

Policy RE-2.1. Support solar energy generation, solar water heating, wind energy and bioenergy systems that are consistent with the orientation, siting and environmental compatibility policies of the General Plan.

Policy RE-2.6. Encourage energy efficiency through appropriate renewable energy systems.

Goal RE-4 Environmental Compatibility: The County will establish a new era of sustainable energy production and consumption in the context of sound resource conservation and renewable energy development practices that reduce greenhouse gases and dependency on fossil fuels.

Policy RE-4.3. Require construction and operation of all renewable energy facilities to minimize negative effects and optimize benefits to unincorporated communities.

Policy RE-4.6. Require all recyclable electronic and/or toxic materials to be recycled in accordance with the requirements of the Basel Convention or comparable standard.

Goal RE-6 County Government Systems: County regulatory systems will ensure that renewable energy facilities are designed, sited, developed, operated and decommissioned in ways compatible with our communities, natural environment, and applicable environmental and cultural resource protection laws.

Policy RE-6.4. *State Renewable Energy Goal.* Support the Governor's initiative to obtain 50% of the energy consumed in the state through RE generation sources by 2040.

Policy RE-6.4.1. *Energy Conservation Policies and Strategies.* Continue to implement policies and strategies for energy conservation by the County in the Greenhouse Gas Emissions

Reduction Plan, including capture and use of landfill gas, installation of renewable energy systems and use of alternative fuels.

San Bernardino County Greenhouse Gas Reduction Plan

The County adopted a GHG Reduction Plan in September 2011 and updated their GHG Development Review Process in March 2015, and most recently in September 2021 (GHG Reduction Plan). The GHG Reduction Plan provides a means of implementing state regulations, including AB 32, AB 1493, Executive Order S-3-05, SB 375, Executive Order B-30-15, SB 32, AB 398, and SB 97, at the County level. The 2021 GHG Reduction Plan provides a target and comprehensive set of actions for GHG emission reductions for the year 2030 (i.e., an emissions reduction 40 percent below 2007 levels). This reduction would be consistent with the State's long-term goal to achieve statewide carbon neutrality (zero net emissions) by 2045.

GHG emissions impacts are assessed through the GHG Development Review Process by applying appropriate reduction requirements as part of the discretionary approval of new development projects. Through its development review process, the County will implement the California Environmental Quality Act (CEQA) requiring new development projects to quantify project GHG emissions and adopt feasible mitigation to reduce project emissions below a level of significance.

A review standard of 3,000 $MTCO_2e$ per year is used to identify projects that require the use of Screening Tables or a project-specific technical analysis to quantify and mitigate project emissions. The purpose of the Screening Tables is to provide guidance in measuring the reduction of GHG emissions attributable to certain design and construction measures incorporated into development projects.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) THRESHOLDS OF SIGNIFICANCE

In accordance with Appendix G of the California Environmental Quality Act (CEQA) Guidelines, the Project would have a significant impact in regard to GHG emissions if one or more of the following would occur:

Threshold a): Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (refer to Impact GHG-1); or

Threshold b): Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases (refer to Impact GHG-2).

As noted above, the County's GHG Reduction Plan includes a review standard of 3,000 $MTCO_2e$ per year to identify projects that require the use of Screening Tables or a project-specific technical analysis to quantify and mitigate project emissions. According to the County's 2021 GHG Emissions Reduction Plan, any project that does not exceed 3,000 $MTCO_2e$ per year would be consistent with the County's GHG Reduction Plan to reduce emissions to 40 percent below 2007 levels. Meeting this reduction

would be consistent with the State's long-term goal to achieve statewide carbon neutrality (zero net emissions) by 2045, and therefore, would result in a less than significant impact related to GHG emissions.

IMPACT ANALYSIS

Impact GHG-1: Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Project-related GHG emissions are not confined to a particular air basin; instead, GHG emissions are dispersed worldwide. No single project is large enough to result in a measurable increase in global concentration of GHG emissions. Therefore, impacts identified below are not project-specific impacts to global climate change, but the Project's contribution to this cumulative impact. The Project would result in direct and indirect GHG emissions. Direct GHG emissions include emissions from construction and decommissioning activities, and mobile sources, while indirect sources include emissions from energy consumption and water demand. The California Emissions Estimator Model (CalEEMod), version 2022.1.1.21, was used to estimate direct and indirect Project-related GHG emissions.

Construction

The Project would result in direct emissions of GHG from construction. The approximate quantity of daily GHG emissions generated by Project construction equipment is depicted in **Table 2: Construction-Related Greenhouse Gas Emissions.**

Project construction is anticipated to be completed over a period of approximately nine months.[8] The Project involves construction activities associated with demolition, site preparation, grading, paving, construction/installation, and PV panel vendor trips. The analysis includes emissions from delivering the construction materials and PV modules (panels) from the nearest port (a one-way distance of approximately 152 miles). Additionally, construction worker trip emissions are based on the maximum construction workforce (70) and the distance to the nearest populated areas (Twentynine Palms and Yucca Valley). Further, as water is anticipated to be supplied by pumping groundwater from off-site wells, a construction water truck trip length of 13 miles was accounted for in CalEEMod.

The Project would result in direct emissions of GHGs from construction. The approximate quantity of annual GHG emissions generated by Project construction equipment is depicted in **Table 2: Construction-Related Greenhouse Gas Emissions**.

[8] Note that the modeling does not account for testing, commissioning, and cleanup as heavy-duty construction equipment would not be utilized.

Table 2: Construction-Related Greenhouse Gas Emissions	
Category	**$MTCO_2e$**
Construction	399.58
Water Usage[1]	2.41
Total Construction	*401.99*
30-Year Amortized Construction	13.40
Notes: 1. Construction water usage emissions are based on an anticipated consumption of 13 acre feet (AF) during construction. During construction, water is anticipated to be supplied from off-site wells.	
Source: CalEEMod version 2022.1. Refer to **Appendix A** for model outputs.	

As shown in **Table 2**, the Project would result in the generation of approximately 401.99 $MTCO_2e$ over the course of construction. Construction GHG emissions are typically summed and amortized over a 30-year period, then added to the operational emissions.[9] The amortized Project construction emissions would be approximately 13.40 $MTCO_2e$ per year. Once construction is complete, the generation of these GHG emissions would cease.

Operations

Operational or long-term emissions occur over the life of the Project. Operational emissions associated with the Project would include those generated from panel washing, maintenance, and the BESS. Total GHG emissions from both construction and operation associated with the Project are summarized in **Table 3: Project Greenhouse Gas Emissions**.

Table 3: Project Greenhouse Gas Emissions	
Emissions Source	**Annual $MTCO_2e$**
Construction	13.40
Operations	
Area Source	45.32
Energy	0.00
Mobile	0.20
Waste	0.00
Water	0.06

[9] The amortization period of 30-years is based on the standard assumption of the South Coast Air Quality Management District (South Coast Air Quality Management District, *Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #13,* August 26, 2009).

Decommissioning	13.40
Total Project Emissions	***72.38***
County of San Bernardino GHG Reduction Plan Screening Thresholds	***3,000***
Exceeds Threshold?	**No**

Each operational source of GHG emissions is described below.

- **Area Source Emissions**. Area source emissions would be generated due to potential BESS architectural coatings, use of consumer products (e.g. cleaning supplies), and landscaping equipment. Default CalEEMod assumptions were utilized.
- **Energy Source Emissions**. The Project's operational activities would not consume natural gas. The Project would consume negligible amounts of electricity for auxiliary equipment, such as BESS HVAC units, communications equipment, and lighting. It is assumed that electricity demand would be met by solar energy collected at the Project Site; therefore, zero emissions have been accounted for.
- **Mobile Source Emissions**. Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Depending upon the pollutant being discussed, the potential air quality impact may be of either regional or local concern. For example, reactive organic gasses (ROG), NO_X, SO_X, PM10, and PM2.5 are all pollutants of regional concern (NO_X and ROG react with sunlight to form O_3 [photochemical smog], and wind currents readily transport SO_X, PM10, and PM2.5); however, CO tends to be a localized pollutant, dispersing rapidly at the source.
- During operations, the Project would generate minimal periodic operational vehicle trips internal to the Project Site for required maintenance activities. In addition, Project would require 6 (bimonthly) maintenance-related visits per year and up to 4 solar panel and inverter washing visits resulting in a total of approximately 10 round trips per year (20 one-way trips); refer to **Appendix A GHG Emissions Data** for assumptions and calculations.
- **Solid Waste**. Solid waste releases GHG emissions in the form of methane when these materials decompose. As a solar generation and energy storage facility project, the Project would generate limited amounts of solid waste during operations. Therefore, solid waste would not be generated from operations staff beyond existing conditions.
- **Water**. GHG emissions from water demand typically occur from electricity consumption associated with water conveyance and treatment. As discussed in the Project Description, operational activities are expected to consume 0.3 AF of water per year. The water is anticipated to be supplied from off-site wells.

Decommissioning

At the end of the Project's operational term, the Applicant may determine that the Project Site should be decommissioned and deconstructed. Pursuant to San Bernardino County Development Code Section 84.29.070, the Applicant will work with the County to ensure decommissioning of the Project after its productive lifetime complies with all applicable local, State, and federal requirements and

BMPs. The Project would include BMPs to ensure the collection and recycling of modules and to avoid the potential for modules to be disposed of as municipal waste.

Equipment would be de-energized prior to removal, salvaged (where possible), placed in appropriate shipping containers, and secured in a truck transport trailer for shipment off site to be recycled or disposed of at an appropriately licensed disposal facility. Site infrastructure would be removed, including the fences and the concrete pads that may support the inverters, transformers, and related equipment. The exterior fencing and gates would be removed, and materials would be recycled to the extent feasible. Project roads would be restored to their pre-construction condition to the extent feasible unless the landowner elects to retain the improved roads for access throughout the property. The area would be thoroughly cleaned, and all debris removed. A collection, reuse, and recycling program would be utilized to promote recycling of Project components and minimized disposal in landfills. Decommissioning is expected to take one year or less, using similar equipment and an equal or lower number of workers on a daily basis. As a worst-scenario analysis, it was assumed that GHG emissions related to decommissioning would be equal to the GHG emissions related to construction. This is a more conservative (higher) estimate due to GHG emissions from electricity and vehicles are likely to be much lower 30 years in the future due to the continued implementation of existing regulations, plans, and policies.

Total Project-Related Sources of Greenhouse Gas Emissions

As shown in **Table 3**, the Project would generate approximately 72.38 $MTCO_2e$ per year from construction and operations, and decommissioning. Therefore, the proposed Project's total annual GHG emissions would be below the County's GHG Reduction Plan Screening Threshold of 3,000 $MTCO_2e$ per year. Thus, Project-related emissions would have a less than significant impact related to generation of GHG emissions.

Impact Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

Impact GHG-2: Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Consistency with the GHG Reduction Plan

The County's GHG Reduction Plan includes a review standard of 3,000 $MTCO_2e$ per year to identify projects that require the use of Screening Tables or a project-specific technical analysis to quantify and mitigate project emissions. The purpose of the Screening Tables is to provide guidance in measuring the reduction of GHG emissions attributable to certain design and construction measures incorporated into development projects. As noted above, projects that do not exceed 3,000 $MTCO_2e$ per year would be consistent with the County's GHG Reduction Plan to reduce emissions to 40 percent below 2007 levels. **Table 3** shows that the proposed Project would generate approximately 72.38

$MTCO_2e$ per year, which would not exceed the County's GHG Reduction Plan Screening Threshold of 3,000 $MTCO_2e$ per year. Therefore, the Project would be consistent with the County's GHG emissions reduction plan.

The GHG Reduction Plan states "This determination of consistency can be used in a CEQA climate change analysis of the development, which provides a legally defensible and streamlined CEQA process for the project."[10] As such, the additional discussion provided for the San Bernardino County Policy Plan and CARB Scoping Plan is provided optionally and further demonstrates the project's consistency with applicable plans, policies, or regulations of an agency adopted for the purpose of reducing GHG emissions.

Consistency with the 2021 Regional GHG Reduction Plan

The RGHGRP includes GHG inventories, and local GHG reduction strategies for each of the 25 partnership jurisdictions including the unincorporated areas of San Bernardino County. This RGHGRP is not mandatory for the partnership jurisdictions. Instead, it provides information that can be used by partnership jurisdictions, if they choose so, to develop individual climate action plans (CAPs). The RGHGHRP describes the reductions that are possible if San Bernardino Council of Governments (SBCOG) and every partnership jurisdiction were to adopt the reduction strategies as described in the document.

The RGHGRP demonstrates how unincorporated San Bernardino County could achieve its selected goal, "of reducing its community GHG emissions to a level that is 40 percent below its 2020 GHG emissions level by 2030".[11] The majority (approximately 80 percent) of unincorporated San Bernardino County's GHG reduction goal will be achieved through state efforts, such as the Pavley vehicle standards, the state's low carbon fuel standard, the RPS, and other state measures to reduce GHG emissions in the on-road, solid waste and building energy sectors in 2030. According to the RGHGRP, the remaining 20 percent could be achieved "primarily through the following local measures, in order of reductions achieved: Solar Installation for Existing Commercial/Industrial (Energy-8); Waste Diversion and Reduction (Waste-2); Solar Installation for Existing Housing (Energy-7)."[12] As shown on Table 3-75 of the RGHGRP[13,] the County has proposed to adopt ten GHG reduction measures, including increasing the energy efficiency of and solar installation upon new and existing buildings, Transportation Demand Management and Synchronization, expanded bike lanes, waste

[10] San Bernardino County, *County of San Bernardino Greenhouse Gas Reduction Plan Update*, *Section 3.7.1*, *GHG Performance Standards for New Development*, June 2021.

[11] San Bernardino Council of Governments (SBCOG), San Bernardino County Regional Greenhouse Gas Reduction Plan, 2021, page 3-228, https://www.gosbcta.com/wp-content/uploads/2019/09/San_Bernardino_Regional_GHG_Reduction_Plan_Main_Text_Mar_2021.pdf, accessed December 29, 2023.

[12] SBCOG, San Bernardino County Regional Greenhouse Gas Reduction Plan, page 3-228.

[13] SBCOG, San Bernardino County Regional Greenhouse Gas Reduction Plan, pages 3-232 and 3-233.

diversion and reduction, water efficient landscaping, and other measures. It should be noted that the County has not adopted its jurisdictional plan.

Of the 10 GHG reduction measures proposed, the following two apply to the County directly and not project owners or occupants: OnRoad-3 encouraging signal synchronization and OnRoad-4 encouraging bike lanes; thus, these measures are not applicable to the Project. The following six measures do not apply to the Project because they are directed towards GHG reduction measures not related to the Project: Energy-1 improving the energy efficiency of new buildings, Energy-7 encouraging solar installation for existing housing, Energy-8 encouraging solar installation for existing commercial and industrial, Energy-10 encouraging urban tree planting for shading and energy savings, Offroad-2 directed at heavy duty diesel truck idling, and PS-1 proposing a GHG performance standard for new development. The Project is designed to be consistent with GHG reduction measure Water-3, encouraging water-efficient landscaping practices, and would be operated consistent with Waste-2 encouraging increased waste diversion and reduction if adopted and as applicable.

Assuming the County is successful in adopting its plan substantively as written, the above discussion demonstrates that the Project would be consistent with the applicable portions of the draft jurisdictional GHG reduction measures contained in the RGHGRP, and impacts would be less than significant.

Consistency with the San Bernardino Countywide Plan / Policy Plan

The Policy Plan includes goals and policies that all new projects are required to comply with, as applicable. Project consistency with the Policy Plan goals and policies is discussed in **Table 4: Project Consistency with the Countywide Plan / Policy Plan**. As depicted in **Table 4**, the Project would be consistent with the Countywide Plan / Policy Plan and potential impacts would be less than significant.

Table 4: Project Consistency with the Countywide Plan / Policy Plan

San Bernardino County Countywide Plan / Policy Plan Goal and Policy	Project Consistency
Policy IU-4.3: Waste diversion. We shall meet or exceed state waste diversion requirements, augment future landfill capacity, and reduce greenhouse gas emissions and use of natural resources through reduction, reuse, or recycling of solid waste.	**Consistent.** The Project is a solar generation and energy storage facility, which would generate limited amounts of solid waste during Project operations. At the end of the operation of the proposed Project, the Applicant may determine that the Project Site should be decommissioned and deconstructed. The area would be thoroughly cleaned, and all debris removed. A collection, reuse, and recycling program would be utilized to promote recycling of Project components and minimized disposal in landfills. Nonetheless, the Project would be required to comply with State waste diversion requirements. As such, the Project would be consistent with this policy.
Policy IU-5.5: Energy and Fuel Facilities. We encourage the development and upgrade of energy and regional fuel facilities in areas that do not pose significant environmental or public health and safety hazards, and in	**Consistent.** The Project is a solar PV and energy storage facility and would not create additional significant environmental or public health and safety hazards as it would displace fossil fuel energy production. Clean energy

Table 4: Project Consistency with the Countywide Plan / Policy Plan	
San Bernardino County Countywide Plan / Policy Plan Goal and Policy	**Project Consistency**
a manner that is compatible with military operations and local community identity.	would be produced as a result of the Project. Therefore, the Project would be consistent with this policy.
Policy NR-1.1: Land Use. We promote compact and transit-oriented development countywide and regulate the types and locations of development in unincorporated areas to minimize vehicle miles traveled and greenhouse gas emissions.	**Consistent.** The Project would generate minimal vehicle miles traveled and associated GHG emissions. It is estimated that the Project would require 6 maintenance-related visits per year and up to 4 solar panel and inverter washing visits per year resulting in approximately 10 wound trips per year (20 one-way trips). Therefore, the Project would not result in significant vehicle miles traveled (VMT) during Project construction and operations. Therefore, the Project would be consistent with this policy.
Policy NR-1.7: Greenhouse gas reduction targets. We strive to meet the 2040 and 2050 greenhouse gas emission reduction targets in accordance with state law.	**Consistent.** The Project would indirectly reduce GHG emissions and is consistent with State goals and requirements to replace non-carbon neutral electricity source with carbon-neutral electricity sources. Therefore, the Project would be consistent with this policy.
Policy RE-1.1: Continue implementing the energy conservation and efficiency measures identified in the County of San Bernardino Greenhouse Gas Emissions Reduction Plan.	**Consistent.** As noted above, the Project would be consistent with the 2021 RGHGRP. Further, as a solar generation and energy storage facility, the Project would support energy conservation and efficiency. The Project would be consistent with this policy.
Policy RE-2.1: Support solar energy generation, solar water heating, wind energy and bioenergy systems that are consistent with the orientation, siting and environmental compatibility policies of the General Plan.	**Consistent.** As a solar PV and battery energy storage facility, the Project would support solar energy generation consistent with policies of the Countywide Plan / Policy Plan. Therefore, the Project would be consistent with this policy.
Policy RE-2.6: Encourage energy efficiency through appropriate renewable energy systems.	**Consistent.** As a solar PV and energy facility, the Project would encourage energy efficiency. Therefore, the Project would be consistent with this policy.
Policy RE 6.4: State Renewable Energy Goal. Support the governor's initiative to obtain 50% of the energy consumed in the state through RE generation sources by 2040.	**Consistent.** The Project is a solar PV and energy facility that will produce clean energy through solar PV technology and not through the use of fossil fuel combustion electricity production. This would increase the amount of renewable energy produced within the State and would be consistent with this policy.
Policy RE 6.4.1: Energy Conservation Policies and Strategies. Continue to implement policies and strategies for energy conservation by the County in the Greenhouse Gas Emissions Reduction Plan, including capture and use of landfill gas, installation of renewable energy systems and use of alternative fuels.	**Consistent.** In addition to the policy above, the Project would implement energy storage systems to prevent the loss of energy production when demand is low and continue to provide energy during nighttime hours. Therefore, the Project would be consistent with this policy.
Source: San Bernardino County Countywide Plan / Policy Plan, October 2020.	

Consistency with the 2017 and 2022 CARB Scoping Plan

The 2017 and 2022 Scoping Plan identifies additional GHG reduction measures necessary to achieve the 2030 target. These measures build upon those identified in the first update to the Scoping Plan

(2013). Although a number of these measures are currently established as policies and measures, some measures have not yet been formally proposed or adopted. It is expected that these measures or similar actions to reduce GHG emissions will be adopted as required to achieve statewide GHG emissions targets. **Table 5: Consistency with the 2017 and 2022 Scoping Plan** provides an evaluation of applicable reduction actions/strategies by emissions source category to determine how the Project would be consistent with or exceed reduction actions/strategies outlined in the 2017 and 2022 Scoping Plan. Therefore, the Project would be consistent with the 2017 and 2022 CARB Scoping Plan, and impacts would be less than significant in this regard.

Table 5: Consistency with the 2017 and 2022 Scoping Plan	
Actions and Strategies	**Project Consistency Analysis**
2017 Scoping Plan	
SB 350	
Achieve a 50 percent Renewables Portfolio Standard (RPS) by 2030, with a doubling of energy efficiency savings by 2030.	**Consistent.** The Project includes the construction and operation of a renewable energy generation and storage facility. Therefore, the Project would help the State achieve the RPS goals. As such, the Project would be consistent with SB 350 (and SB 100).
Low Carbon Fuel Standard (LCFS)	
Increase stringency of carbon fuel standards; reduce the carbon intensity of fuels by 18 percent by 2030, which is up from 10 percent in 2020.	**Consistent.** This standard applies to all vehicle fuels sold in California including those that could be used in vehicles associated with the Project. The Project would be consistent this goal.
Short-Lived Climate Pollutant (SLCP) Reduction Strategy	
Reduce the GHG emissions of methane and hydrofluorocarbons by 40 percent below the 2013 levels by 2030. Furthermore, reduce the emissions of black carbon by 50 percent below the 2013 levels by the year 2030.	**Consistent.** As a solar renewable energy project, the Project would not emit a large amount of CH_4 (methane) emissions. Furthermore, the Project would comply with all applicable CARB and MDAQMD hydrofluorocarbon regulations. As such, the Project would be consistent with the SLCP reduction strategy.
Post-2020 Cap and Trade Programs	
The Cap-and-Trade Program will reduce greenhouse gas (GHG) emissions from major sources (covered entities) by setting a firm cap on statewide GHG emissions while employing market mechanisms to cost-effectively achieve the emission-reduction goals.	**Not Applicable.** As shown in **Table 3**, the Project is estimated to generate approximately 72.38 $MTCO_2e$ per year, which is below the 25,000 $MTCO_2e$ per year Cap-and-Trade screening level. Therefore, this goal is not applicable to the Project.
2022 Scoping Plan	
AB 1279	
AB 1279 establishes the policy of the state to achieve carbon neutrality as soon as possible, but no later than 2045; to maintain net negative GHG emissions thereafter; and to ensure that by 2045 statewide anthropogenic GHG emissions are reduced at least 85 percent below 1990 levels. The bill requires CARB to ensure that Scoping Plan updates identify and recommend measures to achieve carbon neutrality, and to identify and implement policies and strategies that enable CO2 removal solutions and carbon capture, utilization, and storage (CCUS) technologies.	**Consistent.** As a solar renewable project, the proposed Project would promote renewable energy production and would generate less than significant GHG emissions from Project construction and operations. Community and utility-scale solar projects with BESS will help the region and State meet its RPS goals and ultimately carbon neutrality. The Project would be consistent with this goal.
SB 1020	

Table 5: Consistency with the 2017 and 2022 Scoping Plan	
SB 1020 adds interim renewable energy and zero carbon energy retail sales of electricity targets to California end-use customers set at 90 percent in 2034 and 95 percent in 2040. It accelerates the timeline required to have 100 percent renewable energy and zero carbon energy procured to serve state agencies from the original target of 2045 to 2035.	**Consistent.** As a solar renewable energy project, the Project would promote renewable energy production. The Project brings zero carbon energy to the regional supply grid. The Project would be consistent with this goal.

Conclusion

In summary, the plan consistency analysis provided above demonstrates that the Project is consistent with applicable plans, policies, regulations and GHG reduction actions/strategies, such as those outlined in the Policy Plan, 2017 and 2022 Scoping Plan Update, including the State laws listed in **Table 4** and **Table 5** above. Therefore, the Project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing emissions of GHGs. Thus, the Project would not make a cumulatively considerable contribution to significant cumulative climate change impacts.

Impact Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

CUMULATIVE IMPACTS

It is generally the case that an individual project of this size and nature is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory. GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective. As shown in Table 3, the Project would generate approximately 72.38 $MTCO_2e$ per year and the proposed Project's total GHG emissions would be below the County's RGHGRP Screening Threshold of 3,000 $MTCO_2e$ per year. Therefore, the additive effect of Project-related GHGs would not result in a reasonably foreseeable cumulatively considerable contribution to global climate change. In addition, the Project as well as other cumulative related projects would also be subject to all applicable regulatory requirements adopted to reduce GHG emissions and in effect at the time of project development. As the Project provides a net positive effect on GHG emissions by providing clean renewable energy and would comply with all applicable plans, rules, regulations, and policies, and therefore its contribution to cumulative GHG emissions and climate change impacts would be less than cumulatively considerable.

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Appendix A

GHG Emissions Data

Lear Construction Schedule

Phase	Start Date	End Date	Work Days
Demolition	1/1/2025	1/22/2025	15
Site Preparation	1/23/2025	2/27/2025	25
Grading	2/28/2025	4/11/2025	30
Paving	4/12/2025	4/26/2025	10
Construction/Installation	4/27/2025	7/13/2025	55
PV Panel vendor Trips	7/14/2025	8/30/2025	34

Demolition	
Dozer	2
Excavator	3
Concrete/industrial straws	1
Site Preparation	
Tractor/loader/backhoe	1
Dozers	1
Grading	
Excavators	2
Rubber Tired Dozers	2
Off-Highway Trucks	1
Skid Steer Loaders	1
Rollers	2
Construction/Installation	
Cranes	1
Pile driver rig	2
Drill rig	1
Tractors/Loaders/Backhoes	1
Excavators	1
Off-Highway Trucks	1
concrete truck	1
Rubber Tired Dozers	1
Trenchers	1
Skid steer	2
PV Vendor Trips	
Tractor/Loader/Backhoe	1
Paving	
Rollers	1

Worker Trips

	Distance from Project Site	Population[1]	%	Peak Workers
Twentynine Palms, City, California	8	25,929	55%	38
Yucca Valley	20	21,635	45%	32
Totals	*28*	*47,564*		*70*
		Trip Length (miles):	**13**	
		Estimated Worker Trips[2]:	**40**	

Notes:
1. California Department of Finance Demographic Research Unit, Report E-5 Population and Housing Estimates for Cities, Counties, and the State, January 1, 2021-2023, 1/1/2023
2. Based on the San Bernardino County Average Vehicle Occupancy rate for home-work trips within the *Year 2000 Post-Census Regional Travel Survey* , Table 12, prepared by Southern California Association of Governments, dated 2003.

Water Truck Trips (On-Site Wells)

	Distance Traveled	Trips/Day[1]	System Installation (# Days)	Total Trips[2]
Site Prep	13	11	0	0
Grading	13	11	0	0
Construction/Installation	13	11	0	0
			Total	-

Notes:
1. For another Project, during 6-month construction, Project will use 13 acre-feet or 4,236,000 gallons.
2.Using similar methodology, each water truck would hold an average of 4,697 gallons (4,236,000 gallons/4,697 gallons per truck = 902 trucks total. 902 total trucks / 87 total days site prep grading and construction = 11 trucks per day). Water trucks hold anywhere from 2,000 to as much as 20,000 gallons.
3.Trips assumed as Vendor trips. Distance is 13 miles based on on-site well extraction.

PV Panel Vendor Trips

	Distance from Project Site	Trips/Day[1]	System Installation (# Days)	Total Trips
Port of Long Beach	152	2	13	27

Notes:
1. A similar Project assumed 5 trips per day (113 days) from the Port of Long Beach for system installation (130 MW). Since the project is 6.2 MW, scaled down the trips/day to 5% of the other Project.

25 miles to Landers Landfill

Notes:
CalEEMod Worker Trips: One-Way
CalEEMod Vendor Trips: One-Way

Operational Trips: The project would generate 20 operational trips per year

AQ Trip Rate: 0.0422535

GHG Trip Rate: 0.0006

*2 panel washing, 1 water truck

	Non Res W-O (panel washing)	Non Res O-O (water truck)
Length (miles)	13	4
Purpose and Percentages	66.67	33.33
Fleet Mix	HHD%	100

Notes:
CalEEMod Operational Trips: Roundtrip

Construction Water Consumption

Construction Water Use (AF)[1]:	13
Construction Water Use (gallons):	4,236,063
$Water_{outdoor}$ (million gallons):	4.24
$Electricity_{outdoor}$ (kWh/million gallons)[2]:	2,701
Utility (CO_2e/kWh)[3]:	0.000211
GHG Emissions ($MTCO_2e$):	2.41
Amortized (30 Years) GHG Emissions ($MTCO_2e$):	0.08

Notes:
1. The project would consume 13 AF over the enture duration of construction (8 months).
2. Supply and Treat factors from CalEEMod v2022 User Guide.
3. Per Edison International, *Electric Company ESG/Sustainability Quantitative Information* , carbon intensity was 0.211 CO2e/MWh in 2020. 0.211 CO2e/MWh = 0.000211 CO2e/kWh

CO_2e emissions associated with *outdoor water use* are calculated according to the following equation:

$$\text{GHG emissions} = Water_{outdoor} \times Electricity_{outdoor} \times \text{Utility}$$

Where:

GHG emissions = Tonnes CO_2e

$Water_{outdoor}$ = Total volume of water used outdoors (million gallons)

$Electricity_{outdoor}$ = Electricity required to supply, treat, and distribute water (kWh/million gallons). This is assigned for each location.

Utility = Carbon intensity of Local Utility (CO_2e/kWh)

Operational Water Consumption	
Operational Water Use (AF)[1]:	0.30
Operational Water Use (gallons):	97,755
$Water_{outdoor}$ (million gallons):	0.10
$Electricity_{outdoor}$ (kWh/million gallons)[2]:	2,701
Utility (CO_2e/kWh)[3]:	0.000211
GHG Emissions ($MTCO_2e$):	0.06

CO_2e emissions associated with *outdoor water use* are calculated according to the following equation:

$$GHG\ emissions = Water_{outdoor} \times Electricity_{outdoor} \times Utility$$

Where:

GHG emissions = Tonnes CO_2e

$Water_{outdoor}$ = Total volume of water used outdoors (million gallons)

$Electricity_{outdoor}$ = Electricity required to supply, treat, and distribute water (kWh/million gallons). This is assigned for each location.

Utility = Carbon intensity of Local Utility (CO_2e/kWh)

Notes:

1. The annual water use for operations is 0.3 acre-feet
2. Supply and Treat factors from CalEEMod v2022 User Guide.
3. Per Edison International, *Electric Company ESG/Sustainability Quantitative Information* , carbon intensity was 0.211 CO2e/MWh in 2020. 0.211 CO2e/MWh = 0.000211 CO2e/kWh

RPCA Lear Solar Project v2 Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	RPCA Lear Solar Project v2
Construction Start Date	1/1/2025
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.60
Precipitation (days)	12.2
Location	34.17653017987279, -116.14642858997195
County	San Bernardino-Mojave Desert
City	Unincorporated
Air District	Mojave Desert AQMD
Air Basin	Mojave Desert
TAZ	5143
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Industrial	71.0	User Defined Unit	71.0	3,092,760	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Unmit.	—	7,456	7,456	0.27	0.24	5.44	7,526
Daily, Winter (Max)	—	—	—	—	—	—	—
Unmit.	—	7,362	7,362	0.28	0.41	0.20	7,427
Average Daily (Max)	—	—	—	—	—	—	—
Unmit.	—	2,381	2,381	0.08	0.10	1.11	2,413
Annual (Max)	—	—	—	—	—	—	—
Unmit.	—	394	394	0.01	0.02	0.18	400

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—
2025	—	7,456	7,456	0.27	0.24	5.44	7,526
Daily - Winter (Max)	—	—	—	—	—	—	—
2025	—	7,362	7,362	0.28	0.41	0.20	7,427
Average Daily	—	—	—	—	—	—	—
2025	—	2,381	2,381	0.08	0.10	1.11	2,413
Annual	—	—	—	—	—	—	—
2025	—	394	394	0.01	0.02	0.18	400

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Unmit.	0.00	555	555	0.02	< 0.005	< 0.005	557
Daily, Winter (Max)	—	—	—	—	—	—	—
Unmit.	0.00	1.47	1.47	< 0.005	< 0.005	< 0.005	1.54
Average Daily (Max)	—	—	—	—	—	—	—
Unmit.	0.00	274	274	0.01	< 0.005	< 0.005	275
Annual (Max)	—	—	—	—	—	—	—
Unmit.	0.00	45.3	45.3	< 0.005	< 0.005	< 0.005	45.5

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Mobile	—	1.47	1.47	< 0.005	< 0.005	< 0.005	1.54
Area	—	553	553	0.02	< 0.005	—	555
Energy	—	0.00	0.00	0.00	0.00	—	0.00
Water	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	555	555	0.02	< 0.005	< 0.005	557
Daily, Winter (Max)	—	—	—	—	—	—	—
Mobile	—	1.47	1.47	< 0.005	< 0.005	< 0.005	1.54
Area	—	—	—	—	—	—	—
Energy	—	0.00	0.00	0.00	0.00	—	0.00
Water	0.00	0.00	0.00	0.00	0.00	—	0.00

Waste	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	1.47	1.47	< 0.005	< 0.005	< 0.005	1.54
Average Daily	—	—	—	—	—	—	—
Mobile	—	1.05	1.05	< 0.005	< 0.005	< 0.005	1.10
Area	—	273	273	0.01	< 0.005	—	274
Energy	—	0.00	0.00	0.00	0.00	—	0.00
Water	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	274	274	0.01	< 0.005	< 0.005	275
Annual	—	—	—	—	—	—	—
Mobile	—	0.17	0.17	< 0.005	< 0.005	< 0.005	0.18
Area	—	45.2	45.2	< 0.005	< 0.005	—	45.3
Energy	—	0.00	0.00	0.00	0.00	—	0.00
Water	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	45.3	45.3	< 0.005	< 0.005	< 0.005	45.5

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	150	150	0.01	< 0.005	—	151
Demolition	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	24.9	24.9	< 0.005	< 0.005	—	24.9
Demolition	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	730	730	0.04	0.03	0.08	740
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	2,205	2,205	< 0.005	0.35	0.12	2,310
Average Daily	—	—	—	—	—	—	—
Worker	—	32.9	32.9	< 0.005	< 0.005	0.06	33.4
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	96.6	96.6	< 0.005	0.02	0.09	101
Annual	—	—	—	—	—	—	—
Worker	—	5.46	5.46	< 0.005	< 0.005	0.01	5.54
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	16.0	16.0	< 0.005	< 0.005	0.02	16.8

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	1,668	1,668	0.07	0.01	—	1,674
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	119	119	< 0.005	< 0.005	—	119
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	19.7	19.7	< 0.005	< 0.005	—	19.7
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	730	730	0.04	0.03	0.08	740
Vendor	—	886	886	< 0.005	0.12	0.06	921
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	—	53.5	53.5	< 0.005	< 0.005	0.09	54.3
Vendor	—	63.1	63.1	< 0.005	0.01	0.08	65.7
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	8.86	8.86	< 0.005	< 0.005	0.02	9.00
Vendor	—	10.4	10.4	< 0.005	< 0.005	0.01	10.9
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	5,746	5,746	0.23	0.05	—	5,766
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	5,746	5,746	0.23	0.05	—	5,766
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	488	488	0.02	< 0.005	—	490
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	80.8	80.8	< 0.005	< 0.005	—	81.1
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	—	824	824	0.04	0.03	3.00	837
Vendor	—	885	885	< 0.005	0.12	2.44	923
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	730	730	0.04	0.03	0.08	740
Vendor	—	886	886	< 0.005	0.12	0.06	921
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	—	63.8	63.8	< 0.005	< 0.005	0.11	64.8
Vendor	—	75.2	75.2	< 0.005	0.01	0.09	78.3
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	10.6	10.6	< 0.005	< 0.005	0.02	10.7
Vendor	—	12.5	12.5	< 0.005	< 0.005	0.01	13.0
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Construction/Installation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	5,203	5,203	0.21	0.04	—	5,220
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	784	784	0.03	0.01	—	787
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	130	130	0.01	< 0.005	—	130
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	—	824	824	0.04	0.03	3.00	837
Vendor	—	845	845	< 0.005	0.11	2.33	881
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Worker	—	113	113	0.01	< 0.005	0.20	115
Vendor	—	127	127	< 0.005	0.02	0.15	133
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	18.8	18.8	< 0.005	< 0.005	0.03	19.0
Vendor	—	21.1	21.1	< 0.005	< 0.005	0.03	22.0
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. PV Vendor Trips (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	153	153	0.01	< 0.005	—	154
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	14.7	14.7	< 0.005	< 0.005	—	14.7
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	2.43	2.43	< 0.005	< 0.005	—	2.44
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	—	1,826	1,826	< 0.005	0.24	5.19	1,904
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Worker	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	—	175	175	< 0.005	0.02	0.22	182
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	—	29.0	29.0	< 0.005	< 0.005	0.04	30.2
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (Access Road Installation) (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	142	142	0.01	< 0.005	—	142
Architectural Coatings	—	—	—	—	—	—	—
Paving	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	3.88	3.88	< 0.005	< 0.005	—	3.89
Architectural Coatings	—	—	—	—	—	—	—

Paving	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	0.64	0.64	< 0.005	< 0.005	—	0.64
Architectural Coatings	—	—	—	—	—	—	—
Paving	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	—	824	824	0.04	0.03	3.00	837
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Worker	—	20.6	20.6	< 0.005	< 0.005	0.04	20.9
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	3.41	3.41	< 0.005	< 0.005	0.01	3.46
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
User Defined Industrial	—	1.47	1.47	< 0.005	< 0.005	< 0.005	1.54
Total	—	1.47	1.47	< 0.005	< 0.005	< 0.005	1.54
Daily, Winter (Max)	—	—	—	—	—	—	—
User Defined Industrial	—	1.47	1.47	< 0.005	< 0.005	< 0.005	1.54
Total	—	1.47	1.47	< 0.005	< 0.005	< 0.005	1.54
Annual	—	—	—	—	—	—	—
User Defined Industrial	—	0.17	0.17	< 0.005	< 0.005	< 0.005	0.18
Total	—	0.17	0.17	< 0.005	< 0.005	< 0.005	0.18

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
User Defined Industrial	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
User Defined Industrial	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—
User Defined Industrial	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	0.00	0.00	0.00	0.00	—	0.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
User Defined Industrial	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
User Defined Industrial	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—
User Defined Industrial	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Consumer Products	—	—	—	—	—	—	—
Architectural Coatings	—	—	—	—	—	—	—
Landscape Equipment	—	553	553	0.02	< 0.005	—	555
Total	—	553	553	0.02	< 0.005	—	555
Daily, Winter (Max)	—	—	—	—	—	—	—
Consumer Products	—	—	—	—	—	—	—
Architectural Coatings	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Consumer Products	—	—	—	—	—	—	—
Architectural Coatings	—	—	—	—	—	—	—
Landscape Equipment	—	45.2	45.2	< 0.005	< 0.005	—	45.3
Total	—	45.2	45.2	< 0.005	< 0.005	—	45.3

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2025	1/22/2025	5.00	16.0	—
Site Preparation	Site Preparation	1/23/2025	2/27/2025	5.00	26.0	—
Grading	Grading	2/28/2025	4/11/2025	5.00	31.0	—
Construction/Installation	Building Construction	4/27/2025	7/13/2025	5.00	55.0	—
PV Vendor Trips	Building Construction	7/14/2025	8/30/2025	5.00	35.0	—
Paving (Access Road Installation)	Paving	4/12/2025	4/26/2025	5.00	10.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Grading	Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38
Grading	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
Grading	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Construction/Installation	Cranes	Diesel	Average	1.00	8.00	82.0	0.20
Construction/Installation	Other Construction Equipment	Diesel	Average	2.00	8.00	83.0	0.50

Construction/Installation	Bore/Drill Rigs	Diesel	Average	1.00	8.00	83.0	0.50
Construction/Installation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Construction/Installation	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Construction/Installation	Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38
Construction/Installation	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
Construction/Installation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Construction/Installation	Trenchers	Diesel	Average	1.00	8.00	40.0	0.50
Construction/Installation	Skid Steer Loaders	Diesel	Average	2.00	8.00	71.0	0.37
PV Vendor Trips	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	82.0	0.20
Paving (Access Road Installation)	Rollers	Diesel	Average	1.00	8.00	36.0	0.38

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	80.0	13.0	LDA,LDT1,LDT2
Demolition	Vendor	0.00	0.00	HHDT,MHDT
Demolition	Hauling	26.0	25.0	HHDT
Demolition	Onsite truck	0.00	0.00	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	80.0	13.0	LDA,LDT1,LDT2

Site Preparation	Vendor	22.0	13.0	HHDT,MHDT
Site Preparation	Hauling	0.00	0.00	HHDT
Site Preparation	Onsite truck	0.00	0.00	HHDT
Grading	—	—	—	—
Grading	Worker	80.0	13.0	LDA,LDT1,LDT2
Grading	Vendor	22.0	13.0	HHDT,MHDT
Grading	Hauling	0.00	0.00	HHDT
Grading	Onsite truck	0.00	0.00	HHDT
Construction/Installation	—	—	—	—
Construction/Installation	Worker	80.0	13.0	LDA,LDT1,LDT2
Construction/Installation	Vendor	21.0	13.0	HHDT,MHDT
Construction/Installation	Hauling	0.00	0.00	HHDT
Construction/Installation	Onsite truck	0.00	0.00	HHDT
PV Vendor Trips	—	—	—	—
PV Vendor Trips	Worker	0.00	0.00	LDA,LDT1,LDT2
PV Vendor Trips	Vendor	4.00	152	HHDT,MHDT
PV Vendor Trips	Hauling	0.00	0.00	HHDT
PV Vendor Trips	Onsite truck	0.00	0.00	HHDT
Paving (Access Road Installation)	—	—	—	—
Paving (Access Road Installation)	Worker	80.0	13.0	LDA,LDT1,LDT2
Paving (Access Road Installation)	Vendor	0.00	0.00	HHDT,MHDT
Paving (Access Road Installation)	Hauling	0.00	0.00	HHDT
Paving (Access Road Installation)	Onsite truck	0.00	0.00	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Paving (Access Road Installation)	0.00	0.00	0.00	0.00	0.00

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	7,937	—
Site Preparation	—	—	13.0	0.00	—
Grading	—	—	31.0	0.00	—
Paving (Access Road Installation)	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Industrial	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
User Defined Industrial	0.04	0.00	0.00	11.1	0.43	0.00	0.00	111

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	4,639,140	1,546,380	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Industrial	0.00	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
User Defined Industrial	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Industrial	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	30.6	annual days of extreme heat
Extreme Precipitation	0.15	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.41	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	88.8

AQ-PM	2.35
AQ-DPM	0.57
Drinking Water	69.5
Lead Risk Housing	65.0
Pesticides	0.00
Toxic Releases	5.54
Traffic	1.71
Effect Indicators	—
CleanUp Sites	79.7
Groundwater	0.00
Haz Waste Facilities/Generators	0.00
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	38.8
Cardio-vascular	99.5
Low Birth Weights	64.2
Socioeconomic Factor Indicators	—
Education	49.2
Housing	25.3
Linguistic	36.0
Poverty	81.9
Unemployment	79.7

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—

Above Poverty	22.75118696
Employed	0.936738098
Median HI	7.121775953
Education	—
Bachelor's or higher	31.19466188
High school enrollment	100
Preschool enrollment	1.873476197
Transportation	—
Auto Access	89.83703323
Active commuting	1.039394328
Social	—
2-parent households	89.07994354
Voting	77.26164507
Neighborhood	—
Alcohol availability	85.3586552
Park access	32.83716156
Retail density	4.619530348
Supermarket access	16.15552419
Tree canopy	0.076992172
Housing	—
Homeownership	60.9393045
Housing habitability	18.46528936
Low-inc homeowner severe housing cost burden	53.68920826
Low-inc renter severe housing cost burden	84.35775696
Uncrowded housing	69.47260362
Health Outcomes	—
Insured adults	68.95932247
Arthritis	0.0

Asthma ER Admissions	52.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	36.6
Cognitively Disabled	20.1
Physically Disabled	0.8
Heart Attack ER Admissions	5.8
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	82.3
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	75.0
Elderly	17.6
English Speaking	83.0
Foreign-born	2.4

Outdoor Workers	77.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	97.8
Traffic Density	3.3
Traffic Access	23.0
Other Indices	—
Hardship	74.4
Other Decision Support	—
2016 Voting	79.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	35.0
Healthy Places Index Score for Project Location (b)	17.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Land use according to project description.
Construction: Construction Phases	Changes according to Project Construction schedule.
Construction: Off-Road Equipment	Construction equipment assumptions
Construction: Trips and VMT	Project assumptions
Construction: Architectural Coatings	No architectural coating.
Operations: Vehicle Data	Changes according to project assumptions
Operations: Fleet Mix	Changes according to Project assumptions