Appendix A
Scoping Report

KEY ENERGY STORAGE PROJECT

Scoping Report

EIR No. 8189
CUP No. 3734

Prepared for
County of Fresno Department of Public Works and Planning, Development Services and Capital Projects Division

October 2022

Cover Photograph: Aerial view of Assessor's Parcel Number (APN) 080-045-36S and APN 080-045-37S looking northeast toward APN 080-045-58S and PG&E's existing Gates Substation. Source: Key Energy Storage, LLC, 2021. Unclassified Conditional Use Permit Application for the Key Energy Storage Project in Fresno County. December 3, 2021.

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Development Services and Capital
Projects Division

October 2022

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SCOPING REPORT
Key Energy Storage Project

1. Introduction

This report provides an overview of the comments received by the Fresno County Department of Public Works and Planning, Development Services and Capital Projects Division (County) during the public scoping period for Environmental Impact Report (EIR) No. 8189, which the County is preparing for the Key Energy Storage Project (Project). The County is the lead agency pursuant to the California Environmental Quality Act (CEQA) and its implementing regulations (CEQA Guidelines).

CEQA Guidelines Section 15083 provides that a "Lead Agency may…consult directly with any person… it believes will be concerned with the environmental effects of the project." Scoping is the process of early consultation with affected agencies and the public prior to completion of a Draft EIR. Section 15083(a) states that scoping can be "helpful to agencies in identifying the range of actions, alternatives, mitigation measures, and significant effects to be analyzed in depth in an EIR and in eliminating from detailed study issues found not to be important." Scoping is an effective way to bring together and consider the concerns of affected State, regional, and local agencies, and other interested stakeholders (CEQA Guidelines §15083(b)). Scoping is not conducted to resolve differences concerning the merits of a project or to anticipate the ultimate decision on a proposal. Rather, the purpose of scoping is to determine the scope of information and analysis to be included in an EIR and, in this way, to ensure that an appropriately comprehensive and focused EIR will be prepared that provides an informed basis for decision-making. Comments not within the scope of CEQA will not be addressed through the CEQA process, but separately may be considered by the County as part of the decision-making process.

This report is intended for use by the County in preparing the EIR as formal documentation of initial input received regarding the range of actions, alternatives, mitigation measures, and significant effects to be analyzed in the EIR. It also provides access for other agencies and stakeholders to comments received by the County during the scoping period.

2. Description of the Project

Project Summary

Key Energy Storage, LLC (Applicant) applied to the County for an Unclassified Conditional Use Permit (CUP No. 3734) to construct, operate, maintain, and decommission the Project. The Project could store 3 gigawatts of energy or more in modular enclosures. The specific storage

technology has not yet been selected. On-site project support facilities would include a collector substation, inverters with connection lines, heating ventilating and air conditioning (HVAC) units, fire suppression systems, transformers, fencing, access roads, a supervisory control and data acquisition system, and security lighting. Diesel generators may be needed for substation purposes or to power water pumps for the existing well on APN 085-040-58. The Project also includes an approximately 0.3-mile long, 500-kilovolt (kV) overhead generation tie line that would extend north to PG&E's existing Gates Substation. This line would be installed on new steel or concrete poles, each up to 150 feet tall and spaced at approximately 500-foot intervals. Project buildout would occur in four phases.

Project Site

The Project would be developed on private property in unincorporated western Fresno County within the approximately 318-acre area that is comprised of APNs 085-040-58, 085-040-36, and 085-040-37. The site is located approximately 4 miles southwest of the City of Huron, 0.4 mile east of Interstate 5 (I-5), immediately south of W. Jayne Avenue, between I-5 and S. Lassen Avenue (State Route 269), and adjacent to the Gates Substation. The site is designated for Agriculture in the County's General Plan and included in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zoning District. It also is designated as Prime Farmland and enrolled in the Williamson Act program.

3. Pre-scoping Activities

On February 3, 2022, the County circulated Project application materials to 28 County entities, notifying them of its review of the application and for purposes of environmental effects as mandated by CEQA. The County Department of Public Works and Planning, Road Maintenance & Operations Division; other County agencies, and the Westlands Water District responded to this request for pre-scoping input.

Before initiating formal CEQA processes, the County consults with the four California Native American tribes that are traditionally and culturally affiliated with lands subject to the County's land use jurisdiction and that have requested in writing to be informed of CEQA projects to determine whether they may result in a significant impact to tribal cultural resources that may be undocumented or known only to the tribe and its members (Public Resources Code §21080.3.1(b)). The County initiated consultation with the Tribes for this Project by letter dated February 4, 2022. The Santa Rosa Rancheria Tachi-Yokut Tribe responded with a request to have tribal monitors on site for all ground disturbance related to the project and to have a curation agreement put into place, but did not request formal consultation. The other three Tribes did not provide a response to the County's February 4, 2022, letter.

4. Scoping Activities

Notifications

On July 25, 2022, the County published and distributed a Notice of Preparation (NOP) to advise interested local, regional, state, and federal agencies, as well as the public, that an EIR would be prepared for the Project. The NOP was sent to a mailing list that included California Native American tribes; local, state, and federal agencies; the owners of property located within 1 mile of the Project site; and other stakeholders as well as the Governor's Office of Planning and Research, State Clearinghouse. The NOP also was posted with the County Clerk and on the County's website at: www.co.fresno.ca.us/EIR. The NOP and NOP mailing list are provided in **Exhibit A**, *Notice of Preparation and Mailing List*. The NOP solicited comments on the scope and content of the EIR. Agencies and members of the public were encouraged to submit their comments to the County by email or via U.S. post.

The NOP, including information about a public scoping meeting, also was emailed to all on the Project mailing list for whom the County had an email address, and published in a legal advertisement in The Business Journal on July 25, 2022. A copy of the email notification and legal notice are provided in **Exhibit B**, *Initial Email and Newspaper Notifications*. The notification provided basic Project information, the date, time, and participation information for a virtual public scoping meeting, and a brief explanation of the public scoping process.

On September 16, 2022, the County issued notification of a second meeting to accept additional input for the scoping process. The second notification was uploaded to the State Clearinghouse, and posted at the County Clerk's Office and on the County's website. It was sent via certified mail to potential responsible and trustee agencies, mailed via U.S. Post to others on the Project-specific mailing list, emailed to all on the mailing list for whom the County had an email address. The second notice also was published in The Business Journal on September 16, 2022. Copies of the legal notice and email notification for the second public scoping meeting are provided in **Exhibit C**, *Notification of Second Public Scoping Meeting*.

Public Scoping Meetings

The County conducted the first of two virtual public scoping meetings on Tuesday, August 9, 2022, beginning at 2:30 p.m. The presentation included an overview of the Project, the County's land use and permitting process, and the environmental review process. Meeting participants included: Jeremy Shaw and David Randall of Fresno County Department of Public Works and Planning, and Janna Scott and Steven Johnson of Environmental Science Associates. One member of the public called in to the scoping meeting; one other attended via the online meeting platform. No comments were received during the meeting. The County conducted a second virtual public scoping meeting on September 21, 2022, beginning at 10 a.m. A substantially similar presentation was given at both meetings. David Randall, Janna Scott, and Steven Johnson participated in the second meeting. Copies of both presentations and a transcript of the September 21, 2022, meeting are provided in **Exhibit D**, *Scoping Meeting Presentations and Transcript*.

5. Summary of Scoping Comments

The County received eight scoping letters between July 25 and September 30, 2022. All scoping comments received are documented in this Scoping Report and will be considered in the EIR. **Table 1** lists the names of commenting parties in the order in which the comments were received. The County has reviewed and relied upon the full text of the comment letters in preparing the EIR; summaries of the environmental issues raised are provided below for ease in review by other agencies and members of the public. The letters are provided in **Exhibit E**, *Scoping Letters*.

TABLE 1
PARTIES SUBMITTING COMMENTS DURING THE KEY ENERGY STORAGE PROJECT EIR SCOPING PROCESS

Name	Organization/Affiliation	Letter ID	Date
Cameron Vela, Cultural Resources Analyst	Native American Heritage Commission	A	July 22, 2022
Jeff Kimber for William Long, Acting District Deputy	California Department of Conservation Geologic Energy Management Division	B	July 27, 2022
Monique Wilber, Conservation Program Support Supervisor	California Department of Conservation Division of Land Resource Protection	C	July 29, 2022
David Padilla, Branch Chief Transportation Planning –North	California Department of Transportation	D	August 24, 2022
Brian Clements, Director of Permit Services	San Joaquin Valley Air Pollution Control District	E	August 24, 2022
Matt Crow, Air Quality Specialist I	San Joaquin Valley Air Pollution Control District	F	August 24, 2022
Annee Ferranti for Julie A. Vance, Regional Manager	California Department of Fish and Wildlife	G	September 2, 2022
Derek Chambers, MPA, Planner III	County of Fresno Development Services and Capital Projects Division, Policy Planning Unit	H	September 7, 2022

Scoping input received by the County identifies potential impacts in the areas summarized below.

Agriculture Resources

The California Department of Conservation Division of Land Resource Protection (the Department) and the County of Fresno Development Services and Capital Projects Division, Policy Planning Unit provided input regarding the Project's potential impacts on agricultural resources. See Letter C and Letter H, respectively. The Department notes that the Project site is designated as Prime Farmland and subject to the Williamson Act program and suggests that the conversion of agricultural land represents a permanent reduction and thus a significant impact to California's agricultural land resources. The Department recommends that the County consider agricultural conservation easements, among other measures, as potential mitigation. This can include restoration of some land not currently used as farmland, the outright purchase of easements, or the donation of mitigation fees to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural easements. In addition to proposed mitigation measures, the Department recommends further discussion on the type, amount, and location of farmland conversion resulting directly and indirectly from implementation of the proposed project. The Department further suggests that impacts to any

current or future agricultural operations in the vicinity that could lead to cumulative impacts should be discussed. The Project's compatibility with lands within an agricultural preserve and/or enrolled in a Williamson Act contract should be considered.

Both Letter C and Letter H specify the need for prior notice if the applicant wishes to submit a Williamson Act contract non-renewal and/or cancellation petition. Letter H also identifies Fresno County General Plan Policies from the Land Use Element that are applicable to the project.

Air Quality

The San Joaquin Valley Air Pollution Control District (SJVAPCD) provided input regarding the Project's potential impact on air quality. See Letter E and Letter F, which provides a correction to Letter E. SJVAPCD requests that details be provided about activities that would result in the emission of pollutants relative to sensitive receptors and, more specifically, that emissions from construction and operation of the Project be identified, quantified, and compared to significance thresholds. If the Project is expected to have a significant impact, SJVAPCD recommends the EIR also include a discussion on the feasibility of implementing a Voluntary Emission Reduction Agreement (VERA) for the Project.

Letter E recommends that equipment exhaust as well as fugitive dust emissions be quantified, and that emissions analysis be performed using CalEEMod. The SJVAPCD recommends conducting a Health Risk Assessment to assess potential health impacts on surrounding receptors resulting from operational and multi-year construction toxic air contaminants (TACs) emissions, including from diesel exhaust. It is recommended that the Project should utilize the cleanest available off-road construction equipment, including the latest tier equipment to reduce emissions. Project related impacts on air quality should be reduced to levels of significance through incorporation of design elements such as the use of cleaner Heavy Heavy-Duty (HHD) trucks and vehicles, measures that reduce Vehicle Miles Traveled (VMTs), and measures that increase energy efficiency. SJVAPCD recommends the EIR also discuss whether the Project would result in a cumulatively considerable net increase of any criteria pollutant or precursor for which the San Joaquin Valley Air Basin is in non-attainment.

Letter E also identifies SJVAPCD rules and regulations applicable to the Project, including: District Rules 2010 and 2201 - Air Quality Permitting for Stationary Sources, District Rule 9510 - Indirect Source Review (ISR), District Rule 4601 (Architectural Coatings), District Regulation VIII (Fugitive PM10 Prohibitions), District Rule 4102 (Nuisance), and District Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations).

Biological Resources

Letter G, from the California Department of Fish and Wildlife (CDFW), states that special-status species have been documented in the study area per the California Natural Diversity Database (CNDDB). These include, but are not limited to, the Federally endangered and State threatened San Joaquin kit fox, the State threatened Swainson's hawk, and the State species of special concern burrowing owl, and American badger. CDFW recommends that a qualified biologist conduct a habitat assessment during biological studies in support of the EIR in advance of Project

implementation to determine if the Project area or its immediate vicinity contains suitable habitat for any of the special-status species mentioned and what follow-up measures may be necessary. The Project applicant is responsible for ensuring that implementation of the Project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes sections. CDFW also recommends the EIR address and fully analyze the use of pesticides, including the risk of secondary poisoning to native species caused by rodenticide use. The use of herbicides, rodenticides, or fertilizers on the Project area is restricted to those approved by the U.S. Environmental Protection Agency and the California Department of Pesticide Regulation.

Cultural and Tribal and Cultural Resources

Letter A from the Native American Heritage Commission (NAHC) specifies the tribal consultation requirements set forth by Assembly Bill 52 and Senate Bill 18. This letter also includes the NAHC's recommendations for conducting cultural resource assessments. The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources.

Transportation

Letter D, from the California Department of Transportation (Caltrans), recommends that a Traffic Impact Study (TIS) be conducted. The scope of the study should include safety, operations, and queuing analysis for the intersection within the I-5 / Jayne Avenue interchange given the Project's proximity. Caltrans requests that a scope of work for the effort be prepared and submitted to Caltrans for review and approval. Caltrans may require that a Transportation Management Plan (TMP) be prepared to account for construction traffic. Letter D states that activity and work planned in the area must conform to State standards and specifications, at no cost to the State.

Transportation permits from Caltrans would be required for oversized and overweight trucks using the State highway. If the Project design proposes to encroach within, under, or over the State right-of-way, then approval of an Encroachment Permit also would be required. Encroachment permit requirements are specified in the letter.

Exhibit A

Notice of Preparation and Mailing List

EIR 8189 Key Energy Storage Project

Summary

SCH Number	2022070414
Lead Agency	Fresno County
Document Title	EIR 8189 Key Energy Storage Project
Document Type	NOP - Notice of Preparation of a Draft EIR
Received	7/22/2022
Present Land Use	AE-20/ Agricultural
Document Description	The project proposes the construction, operation, maintenance and decommissioning of an energy storage facility on an approximately 208 acre portion of 318 acres of land comprised of three separate parcels.

Contact Information

Name	Jeremy Shaw
Agency Name	Fresno County
Job Title	Planner
Contact Types	Lead/Public Agency
Address	2220 Tulare St. 6th Floor Fresno, CA 93721
Phone	(559) 600-4207
Email	jshaw@fresnocountyca.gov

Location

Cities	Unincorporated area
Counties	Fresno
Regions	Countywide
Cross Streets	W. Jayne Avenue & Interstate 5
Total Acres	318

Jobs	75
Parcel #	085-040-58S, 085-040-36S, 085-040-37S
State Highways	Interstate 5, State Route 269
Railways	None
Airports	None
Schools	None
Waterways	None
Township	21S
Range	17E
Section	4
Base	MDBM

Notice of Completion

State Review Period Start	7/25/2022
State Review Period End	8/24/2022
State Reviewing Agencies	California Air Resources Board (ARB), California Department of Conservation (DOC), California Department of Fish and Wildlife, Central Region 4 (CDFW), California Department of Forestry and Fire Protection (CAL FIRE), California Department of Parks and Recreation, California Department of Transportation, District 6 (DOT), California Department of Water Resources (DWR), California Energy Commission, California Highway Patrol (CHP), California Natural Resources Agency, California Public Utilities Commission (CPUC), California Regional Water Quality Control Board, Central Valley Fresno Region 5 (RWQCB), Central Valley Flood Protection Board, Department of Toxic Substances Control, Office of Historic Preservation, California Native American Heritage Commission (NAHC)
State Reviewing Agency Comments	California Native American Heritage Commission (NAHC)
Development Types	Commercial (Energy Storage)(Sq. Ft. 9060480, Acres 208, Employees 75)
Local Actions	Use Permit
Project Issues	Aesthetics, Agriculture and Forestry Resources, Air Quality, Biological Resources, Cultural Resources, Cumulative Effects, Drainage/Absorption, Energy, Flood Plain/Flooding, Geology/Soils, Greenhouse Gas Emissions, Growth Inducement, Hazards & Hazardous Materials, Hydrology/Water Quality, Land Use/Planning, Mandatory Findings of Significance, Mineral Resources, Noise, Population/Housing, Public Services, Recreation, Septic System, Solid Waste, Transportation, Tribal Cultural Resources, Utilities/Service Systems, Vegetation, Wetland/Riparian, Wildfire
Local Review Period Start	7/25/2022
Local Review Period End	8/24/2022

Attachments

Draft Environmental Document [Draft IS, NOI_NOA_Public notices, OPR Summary Form, Appx,]	8189_Key_NOP_2022_0720 PDF 1430 K
Notice of Completion [NOC] Transmittal form	8189_Key_NOC_2022_0721 PDF 237 K
State Comment Letters [Comments from state reviewing agencies]	2022070414_NAHC Comment PDF 388 K

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NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT AND PUBLIC SCOPING MEETING FOR THE KEY ENERGY STORAGE PROJECT

FILED
JUL 22 2022
TIME 10:00am
FRESNO COUNTY CLERK
By _____ DEPUTY

TO: Responsible and Trustee Agencies, other interested agencies, and members of the public

FROM: County of Fresno, Department of Public Works and Planning
Development Services and Capital Projects Division
2220 Tulare Street, Sixth Floor
Fresno, CA 93721

SUBJECT: Notice of Preparation of an Environmental Impact Report for the Key Energy Storage Project

Date: July 25, 2022

Action: The County of Fresno (County) will be the Lead Agency pursuant to the California Environmental Quality Act (CEQA) and will be responsible for preparing an Environmental Impact Report (EIR) pursuant to CEQA and the CEQA Guidelines for the Key Energy Storage Project.

Project Title: Key Energy Storage Project, Unclassified Conditional Use Permit Application No. 3734 & EIR No. 8189

Project Applicant: Key Energy Storage, LLC

Project Location and Summary:
The Applicant proposes to construct, operate, maintain, and decommission an energy storage facility on approximately 318-acres of private land comprised of APNs 085-040-58S, 085-040-36S, and 085-040-37S in western Fresno County. The site is located 4 miles southwest of the City of Huron, 0.4 mile east of Interstate 5 (I-5), immediately south of W. Jayne Avenue, between I-5 and South Lassen Avenue (State Route 269), and adjacent to PG&E's existing Gates Substation. See Figure 1, *Project Site*.

The project could store 3 gigawatts of energy or more in modular enclosures. The project would consist of a lithium ion, iron-flow, or other similar storage technology. A lithium-ion battery storage system would be comprised of battery cells assembled in a series of modules. An iron flow battery storage system would use containerized power conversion units combined with large volume storage tanks containing an electrolyte solution used to store and later discharge electrical energy. The electrolyte solution would consist primarily of water and include additives such as dissolved iron and salt. On-site project support facilities would include a collector substation, inverters with connection lines, heating ventilating and air conditioning (HVAC) units, transformers, fencing, access roads, a supervisory control and data acquisition system, and security lighting. Diesel generators may be needed for substation purposes or to power water pumps for the existing well on parcel 085-040-58S. The project also includes an approximately 0.3-mile long, 500-kilovolt (kV) overhead generation tie line that would extend north to the Gates Substation. This line would be installed on new steel or concrete poles, each up to 150 feet tall and spaced at approximately 500-foot intervals. Project buildout would occur in four phases.

A project description, maps, and figures are available for review at the following locations:

- Fresno County Public Works and Planning Department, 2220 Tulare Street, Suite A Street Level, Fresno, CA 93721
- Fresno County website: www.co.fresno.ca.us/EIR

Written Comments: EZ022210000201

This Notice of Preparation (NOP) solicits comments from Responsible and Trustee Agencies and other public agencies so that project-related concerns relevant to each agency's statutory responsibilities can be addressed in the EIR. This NOP also solicits input from other interested parties, including Tribes and members of the public. The County requests that any potential Responsible or Trustee Agencies responding to this NOP reply in a manner consistent with CEQA Guidelines Section 15082(b), which allows for submittal of any comments in response to this notice no later than 30 days after receipt of the NOP. Comments in response to this NOP will be accepted through Wednesday, August 24,2022.

Please send written scoping input to:

Attn: Jeremy Shaw
Fresno County Department of Public Works and Planning
Development Services and Capital Projects Division
2220 Tulare Street, Sixth Floor
Fresno, CA 93721
Phone: (559) 600-4207 Fax: (559) 600-4200
Email: jshaw@FresnoCountyCA.gov

Please reference EIR 8189, Key Energy Storage Project. Include your name, address, and phone number and/or email address so that we may contact you for clarification, if necessary.

Signature: Jeremy S Haw **Date:** 7/21/2022

Public Scoping Meeting:

CEQA encourages public input throughout the planning process. Consistent with CEQA and CEQA Guidelines Section 15083, oral and written comments may be presented at a scoping meeting where the County will solicit input on the scope and content of the EIR, including environmental impacts of concern and mitigation measures or alternatives that should be considered. The scoping meeting will be held online for 30 minutes or until all who wish to speak have had an opportunity to do so. Scoping meeting details are as follows:

Date: Tuesday, August 9, 2022
Time: 2:30 p.m.
If joining from a computer: https://bit.ly/KeyEnergyScopingMeeting (Webinar ID: 861 6426 3856)
If joining by phone: (888) 788-0099

Physical Setting:

The project site is designated as Prime Farmland and subject to Williamson Act contacts. It currently is in agricultural production (a citrus orchard on APN 085-040-58S) and fallow (085-040-36S and 085-040-37S). Dirt access roads traverse the eastern, western, and southern site boundaries and two cross east-west through the site. An existing well is located on APN 085-040-58S. An overhead generation tie line exists along the western boundary; high voltage transmission lines traverse north-south along the eastern boundary. Surrounding land uses include agricultural uses, two substations, and solar energy generation facilities.

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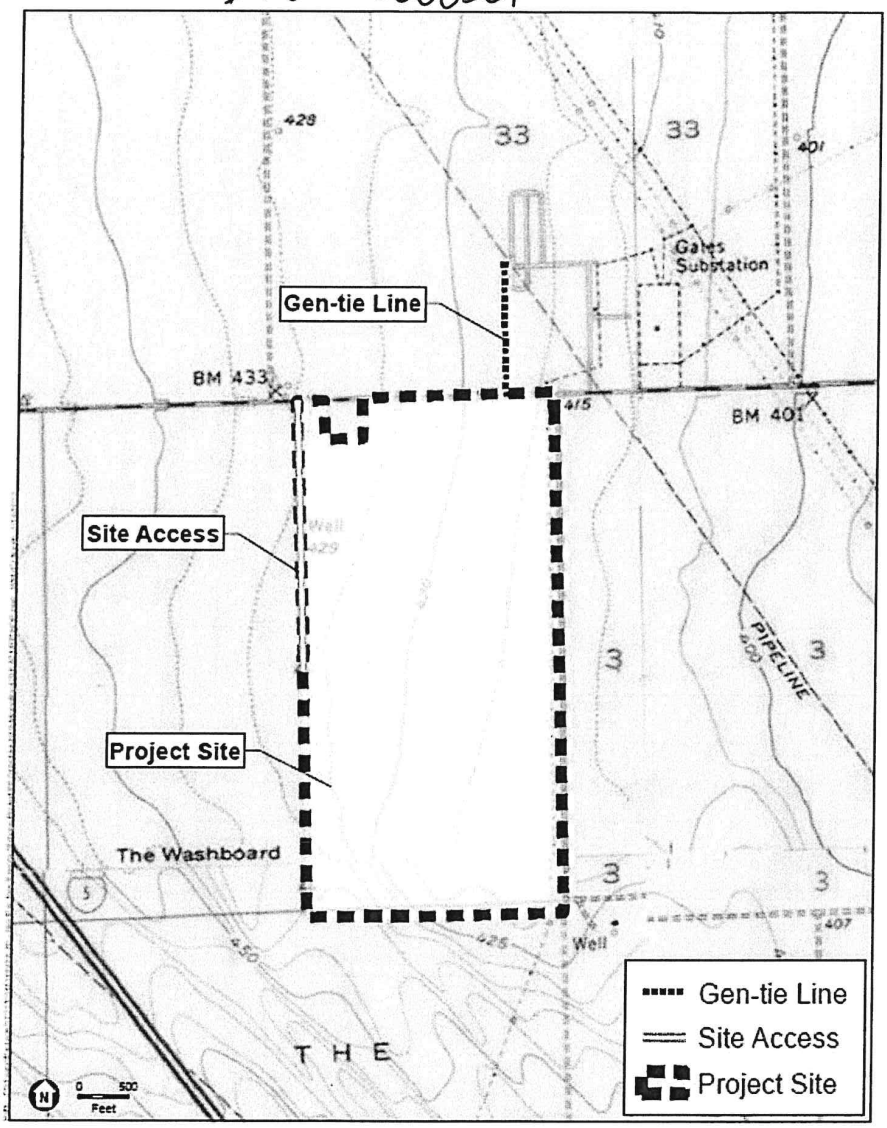

SOURCE: USGS 24k Topo Quad - Guijarral Hills

NextEra - Key Energy Storage Project

Figure 1
Project Site

ESA

Land Use Designation:

The project site is designated for Agriculture in the County General Plan and zoned AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) pursuant to the County's Zoning Map. The AE District is intended to be an exclusive district for agriculture and for those uses which are necessary and an integral part of the agricultural operation. This district is intended to protect the general welfare of the agricultural community from encroachments of non-related agricultural uses which by their nature, would be injurious to the physical and economic well-being of the agricultural district.

County Zoning Ordinance Section 816.2, which relates to the AE Zone District, permits electric transmission substations and electric distribution stations subject to a Director Review and Approval (DRA), which is a form

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of discretionary review; however, the proposed energy storage facility is not an electrical substation or electrical distribution station, and thus not an allowed use with a DRA, nor is it expressly allowed with a classified conditional use permit under Section 816.3; therefore, it is being processed as an Unclassified Conditional Use Permit application, as provided for under Section 853.B.14.

Alternatives to be Analyzed in the EIR:

In accordance with CEQA Guidelines Section 15126.6, the Draft EIR will assess a range of alternatives to the Project, including a No Project Alternative and one or more other alternatives that would attain most of the basic objectives of the Project while avoiding or reducing any of its significant environmental effects. Potential alternatives will be identified during the scoping process.

Potential Environmental Impacts:

Pursuant to CEQA Guidelines Section 15060(d), the County has determined that this Project could result in one or more significant impacts on the physical environment, thereby necessitating the preparation of an EIR, and so has not prepared an Initial Study. The EIR will analyze the environmental issues identified in the CEQA Guidelines Appendix G Environmental Checklist (listed below) after establishing the environmental setting, or baseline, for the analysis. The EIR will identify potential significant direct, indirect, and cumulative effects of the Project and alternatives related to:

- Aesthetic quality and views, particularly in the vicinity of existing communities;
- Agriculture and forestry resources, including the use of property currently subject to Williamson Act contracts to an energy storage use for the duration of the permit term;
- Air quality and noise in the vicinity of sensitive receptors, particularly from equipment;
- The intersection of air quality, energy use, transportation, and greenhouse gas (GHG) emissions;
- Biological resources, including species and habitats, based on database queries, field surveys, and agency consultations, if required;
- Cultural and tribal cultural resources that could be disturbed during construction, based on record searches, field surveys, and input that may be received from California Native American Tribes;
- Geology and soils, paleontological resources, hazards and hazardous materials, hydrology and water quality, and related considerations and constraints;
- The Project's relationship to land use and planning, as well as lands subject to special resources management activities, such as mineral resources and recreation;
- Population and housing, public services, and utilities and service systems;
- Wildfire, including the potential to exacerbate wildfire risks, and thereby expose people to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire; and
- Growth inducement, particularly in relation to existing, adopted development plans for Fresno County.

EIR 8189 KEY ENERGY STORAGE

Unclassified Conditional Use Permit Application No. 3734

Environmental Documents

Notice of Preparation (NOP)

Please send your written comments to:

Attn: Jeremy Shaw.

Fresno County Department of Public Works and Planning

Development Services and Capital Projects Division

2220 Tulare Street, Sixth Floor

Fresno, CA 93721

Phone: (559) 600-4204 Fax: (559) 600-4200

Email: jshaw@FresnoCountyCA.gov

Key Battery Storage Project-specific Distribution List

Delivery Method	Agencies, Tribes, Other Stakeholders	Contact	Address	City, State, ZIP	Email	Alternate E-Mail	Questions/Notes	Email NOP notification	Scoping	Comments on DEIR
Project-specific recipients										
Email-only	Fresno County	Jeremy Shaw	2220 Tulare St. 6th Floor	Fresno, CA 93721	jshaw@fresnocountyca.gov					
Email-only	Fresno County	David Randall	2220 Tulare St. 6th Floor	Fresno, CA 93721	drandall@fresnocountyca.gov					
Email-only	Environmental Science Associates	Janna Scott	787 The Alameda, Suite 250	San Jose, CA 95126	Jscott@esassoc.com					
Email-only	Environmental Science Associates	Olivia Silverstein	550 Kearny St, Suite 800	San Francisco, CA 94108	Osilverstein@esassoc.com					
Email-only	NextEra	Patti Murphy			patti.murphy@nexteraenergy.com					
Email-only	NextEra	Kaitlyn Toebe			kaitlyn.toebe@nexteraenergy.com					
Email-only	NextEra	Virginia Thompson			virginia.thompson@nexteraenergy.com					
Possible responsible agencies, trustee agencies, or potentially affected Federal agencies										
Certified	California Department of Conservation, Division of Land Resource Protection	Dennis O'Bryant	801 "K" Street - M/S 13-71	Sacramento, CA 95814-3514	dlrp@conservation.ca.gov					
Certified	California Department of Conservation, Geologic Energy Management Division	Chris Jones, Acting District Deputy	801 "K" Street - M/S 18-05	Sacramento, CA 95814-3514	Victor.Medrano@conservation.ca.gov					
Certified	California Department of Fish & Wildlife, Region 8	Craig Bailey	1234 E. Shaw Avenue	Fresno, CA 93710	craig.bailey@wildlife.ca.gov	R4CEQA@wildlife.ca.gov				
Certified	California Department of Forestry and Fire Protection, Fresno-Kings Unit		210 S. Academy Ave.	Sanger, CA 93657-9306	FKU.Prevention-Planning@fire.ca.gov					
Certified	California Department of Transportation, District 6	Dave Padilla, Branch Chief, Transportation Planning – North	P.O. Box 12616	Fresno, CA 93778-2616	dave.padilla@dot.ca.gov	edgar.hernandez@dot.ca.gov				
Certified	California Energy Commission	Terry O'Brien	1516 Ninth Street, MS-29	Sacramento, CA 95814-5512						
Certified	California Environmental Protection Agency, Department of Toxic Substance Control	Dave Kereazis	1515 Tollhouse Road	Clovis, CA 93612	dave.kereazis@dtsc.ca.gov					
Certified	California Highway Patrol	Eric Walker, Captain	1380 E. Fortune Ave	Fresno, CA 93725						
Certified	California Native American Heritage Commission	Katy Sanchez	1550 Harbor Boulevard, Suite 100	West Sacramento, CA 95691	Katy.Sanchez@nahc.ca.gov					
Certified	California Public Utilities Commission	Mary Jo Borak	505 Van Ness Avenue	San Francisco, CA 94102	bor@cpuc.ca.gov					
Certified	California Regional Water Quality Control Board, Region 5	Lewis Lummen	1685 E. Street	Fresno, CA 93706-2020	centralvalleyfresno@waterboards.ca.gov	Lewis.Lummen@waterboards.ca.gov				
Certified	San Joaquin Valley Air Pollution Control District	Arnaud Marjollet, Director of Permit Services	1990 E. Gettysburg Avenue	Fresno, CA 93726	ceqa@valleyair.org	keanu.morin@valleyair.org				
Certified	Southern San Joaquin Valley Archaeological Info Center	Celeste Thompson	9001 Stockdale Ave.	Bakersfield, CA 93311-1099	ssjvic@csub.edu					
Certified	State Office of Historic Preservation, Department of Parks & Recreation	Lucinda Woodward	1725 23rd Street, Ste. 100	Sacramento CA 95816	lwoodward@parks.ca.gov	rparsons@parks.ca.gov				
Certified	United States Department of the Interior, Fish & Wildlife Services - Endangered Species Div.	Matthew J. Nelson, Wildlife Biologist/ Patricia Cole Division Supervisor	2800 Cottage Way	Sacramento, CA 95825-1888	matthew_nelson@fws.gov	patricia_cole@fws.gov				
Certified	State Water Resources Control Board, Division of Drinking Water	Jose Robledo/Cinthia Reyes	265 W. Bullard, Suite 101	Fresno, CA 93704	Jose.Robledo@Waterboards.ca.gov	Cinthia.Reyes@Waterboards.ca.gov				
Native American Tribes										
Post	Dumna Wo Wah	Chris Acree	262 N. Glenn Avenue	Fresno, CA 93701	cacree@hotmail.com					
Post	Dumna Wo Wah Government	Robert Ledger, Tribal Chairman	2191 W. Pico	Fresno, CA 93705	ledgerrobert@ymail.com					
Post	Picayune Rancheria of the Chukchansi Indians	Heather Airey - Cultural Resources Director	PO Box 2226	Oakhurst, CA 93644	hairey@chukchansi-nsn.gov					
Post	Santa Rosa Rancheria Tachi Yokut Tribe	Ruben Barrios, Tribal Chairman, c/o Cultural Department	PO Box 8	Lemoore, CA 93245	SMcCarty@tachi-yokut-nsn.gov	spowers@tachi-yokut-nsn.gov				
Post	Table Mountain Rancheria	Robert Pennell, Tribal Cultural Resources Director	P.O. BOX 410	Friant, CA 93626	rpennell@tmr.org					
Other agencies										
Post	Central Valley Flood Protection Board	Leslie Gallagher	3310 El Camino, Room LL40	Sacramento, CA 95821						
Post	City of Kerman, Planning Department	Olivia G. Pimentel	850 S. Madera Avenue	Kerman, CA 93630	Opimentel@cityofkerman.com					
Post	City of Mendota, Planning and Community Development	Cristian Gonzalez	643 Quince Street	Mendota, CA 93640	cristian@cityofmendota.com					
Post	City of Huron	John Kunkel, Interim City Manager	36311 S. Lassen Ave/P.O. Box 339	Huron, CA 93234	john@cityofhuron.com					
Post	City of San Joaquin	Lupe Estrada	21900 W Colorado Avenue	San Joaquin, CA 93660	sanjcity@kermantel.net	Cruzramos@sebastiancorp.net				
Post	Consolidated Mosquito Abatement District	Steve Mulligan	P.O. Box 784	Parlier, CA 93648	smulligan@mosquitobuzz.net	jholeman@mosquitobuzz.net				
Post	Fresno Council of Governments	Tory Boren	2035 Tulare St Ste 201	Fresno CA 93721						
Post	Fresno Metropolitan Flood Control District	Frank Fowler	5469 E. Olive Avenue	Fresno, CA 93727	developmentreview@fresnofloodcontrol.org					
Post	Golden Plains Unified School District	Martin Macias, Superintendent	22000 Nevada Street	San Joaquin, CA 93660	mmacias@gpusd.org					
Post	James Irrigation District	Manny Amorelli, Manager/ Donna Hanneman, Exc Assistant	P.O. Box 757	San Joaquin, CA 93660	manmorelli@jamesid.org	dhanneman@jamesid.org				
Post	Kings Basin Water Authority		4886 E. Jensen Avenue	FRESNO, CA 93725						
Post	Kings River Conservation District	Paul Peschel, General Manager	4886 E. Jensen Avenue	Fresno, CA 93725	ppeschel@krcd.org	comments@krcd.org				
Post	Mendota Unified School District	Dr. Paul Lopez, Superinendent	115 McCabe Ave.	Mendota, CA 93640	plopez@mendotaschools.org					
Post	NAVFACSW INTERGOVERNMENTAL BRANCH		1220 Pacific Highway	San Diego, CA 92132						
Post	State of California Reclamation Board		P.O. Box 942836	Sacramento, CA 94236	lenmarino@water.ca.gov					
Post	Tranquillity Irrigation District	Liz Reeves	Box 487	Tranquillity, CA 93668	liz@trqid.com					
Post	Tranquillity Resource Conservation District	Danny Wade	PO Box 487	Tranquillity, CA 93668-0487	easyrider@netptc.net					
Post	United State Department of Agriculture, Natural Resources Conservation Service	David Durnham	4625 W. Jennifer, Suite 125	Fresno, CA 93722						
Post	United States Army Corp of Engineers, Sacramento District	Kathy Norton	1325 J Street, Room 1350	Sacramento CA 95814-2922	kathy.norton@usace.army.mil	SPKRegulatoryMailbox@usace.army.mil				
Post	United States Environmental Protection Agency Region 9	Dawn Richmond	75 Hawthorne Street (WTR-9)	San Francisco, CA 94105	richmond.dawn@epa.gov					
Post	Westlands Water District	Russ Freeman/ Jose Gutierrez	P.O. Box 6056	Fresno, CA 93703-6056	rfreeman@wwd.ca.gov	jgutierrez@wwd.ca.gov; kcampbell@wwd.ca.gov				
Post	Westlands Water District (Westside Subbasin GSA)	Kiti Buelna Campbell	PO Box 6056	Fresno, CA 93703	kcampbell@wwd.ca.gov					
Post	Westside Resources Conservation District		P.O. Box 6079	Tranquility, California 93624-0038						
Other stakeholders and special interests										
Post	Adams Broadwell Joseph & Cardozo	Maya Smith	601 Gateway Blvd, Suite 1000	South San Francisco, CA 94080-7037						
Post	Laborers Intl Union of N. America, Local Union 294		1939 Harrison St Suite 150	Oakland, CA 94612						
Post	Lozeau Drury, LLP	R. Drury, M. Lozeau, T. Rettinghouse, S. Osborne, H. Hughes, K. Toor	1939 Harrison St Suite 150	Oakland, CA 94612	admin@lozeaudrury.com					
Post	Downey Brand LLP	C/O Nicole Bigley	621 Capitol Mall, 18th Floor	Sacramento, CA 95814	KingsRiverNotices@downeybrand.com					

Exhibit B

Initial Newspaper and Email Notifications

Janna Scott

From: Janna Scott
Sent: Monday, July 25, 2022 4:02 PM
Cc: jshaw@fresnocountyca.gov
Subject: Notice of Preparation: Key Energy Storage Project (Fresno County EIR 8189)
Attachments: 8189_Key_NOP_2022_0725_signed.pdf

To Interested Parties [undisclosed recipient list],

On behalf of the Fresno County Department of Public Works and Planning, Development Services and Capital Projects Division (the County), please see the attached Notice of Preparation (NOP) for the Key Energy Storage Project (Fresno County EIR #8189; SCH #2022070414). The NOP includes information about the project, the project site, and the County's California Environmental Quality Act (CEQA) scoping process for the project. It also includes instructions for submitting scoping comments and information about a virtual public scoping meeting. If you have any questions about the attached NOP, please contact Jeremy Shaw, at (559) 600-4207, by email at jshaw@FresnoCountyCA.gov, or by mail using the contact information provided in the NOP.

Written scoping comments will be accepted at any time during the 30-day public scoping period, which begins July 25, 2022, and concludes at 5 p.m. on August 24, 2022.

A virtual scoping meeting will be held Tuesday, August 9, 2022, at 2:30 p.m. Information about how to participate in the meeting is included in the NOP.

You are receiving this email because you have been identified as someone who may be interested in receiving information relating to Fresno County's CEQA process for evaluating environmental impacts of the Key Energy Storage Project. If you would prefer not to receive email notifications like this one, please reply with the word "unsubscribe" as the body of the message. Otherwise, *please do not reply to this email*, which is not regularly monitored. Instead, please direct all communications about this project to the County using the contact information provided in the attached NOP.

Best regards,
Key Energy Storage Project EIR Team

THE BUSINESS JOURNAL
FRESNO | KINGS | MADERA | TULARE
P.O. Box 126
Fresno, CA 93707
Telephone (559) 490-3400

(Space Below for use of County Clerk only)

IN THE COUNTY OF FRESNO, STATE OF CALIFORNIA

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT AND PUBLIC SCOPING MEETING FOR THE KEY ENERGY STORAGE PROJECT

Public Scoping Meeting:
Tuesday, August 9, 2022 at 2:30 p.m.

MISC. NOTICE

DECLARATION OF PUBLICATION
(2015.5 C.C.P.)

STATE OF CALIFORNIA

COUNTY OF FRESNO

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of **THE BUSINESS JOURNAL** published in the city of Fresno, County of Fresno, State of California, Monday, Wednesday, Friday, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Fresno, State of California, under the date of March 4, 1911, in Action No.14315; that the notice of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

JULY 25, 2022

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed at Fresno, California.

JULY 25, 2022

ON .....

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT AND PUBLIC SCOPING MEETING FOR THE KEY ENERGY STORAGE PROJECT

TO: Responsible and Trustee Agencies, other interested agencies, and members of the public

FROM: County of Fresno, Department of Public Works and Planning
Development Services and Capital Projects Division
2220 Tulare Street, Sixth Floor
Fresno, CA 93721

SUBJECT: Notice of Preparation of an Environmental Impact Report for the Key Energy Storage Project

Date: July 25, 2022

Action: The County of Fresno (County) will be the Lead Agency pursuant to the California Environmental Quality Act (CEQA) and will be responsible for preparing an Environmental Impact Report (EIR) pursuant to CEQA and the CEQA Guidelines for the Key Energy Storage Project.

Project Title: Key Energy Storage Project, Unclassified Conditional Use Permit Application No. 3734 & EIR No. 8189

Project Applicant: Key Energy Storage, LLC

Project Location and Summary:
The Applicant proposes to construct, operate, maintain, and decommission an energy storage facility on approximately 318-acres of private land comprised of APNs 085-040-58S, 085-040-36S, and 085-040-37S in western Fresno County. The site is located 4 miles southwest of the City of Huron, 0.4 mile east of Interstate 5 (I-5), immediately south of W. Jayne Avenue, between I-5 and South Lassen Avenue (State Route 269), and adjacent to PG&E's existing Gates Substation. See Figure 1, Project Site.

The project could store 3 gigawatts of energy or more in modular enclosures. The project would consist of a lithium ion, iron-flow, or other similar storage technology. A lithium ion battery storage system would be comprised of battery cells assembled in a series of modules. An iron flow battery storage system would use containerized power conversion units combined with large volume storage tanks containing an electrolyte solution used to store and later discharge electrical energy. The electrolyte solution would consist primarily of water and include additives such as dissolved iron and salt. On-site project support facilities would include a collector substation, inverters with connection lines, heating ventilating and air conditioning (HVAC) units, transformers, fencing, access roads, a supervisory control and data acquisition system, and security lighting. Diesel generators may be needed for substation purposes or to power water pumps for the existing well on parcel 085-040-58S. The project also includes an approximately 0.3-mile long, 500-kilovolt (kV) overhead generation tie line that would extend north to the Gates Substation. This line would be installed on new steel or concrete poles, each up to 150 feet tall and spaced at approximately 500-foot intervals. Project buildout would occur in four phases.

A project description, maps, and figures are available for review at the following locations:

- Fresno County Public Works and Planning Department, 2220 Tulare Street, Suite A Street Level, Fresno, CA 93721
- Fresno County website: www.co.fresno.ca.us/EIR

Written Comments:
This Notice of Preparation (NOP) solicits comments from Responsible and Trustee Agencies and other public agencies so that project-related concerns relevant to each agency's statutory responsibilities can be addressed in the EIR. This NOP also solicits input from other interested parties, including Tribes and members of the public. The County requests that any potential Responsible or Trustee Agencies responding to this NOP reply in a manner consistent with CEQA Guidelines Section 15082(b), which allows for submittal of any comments in

response to this notice no later than 30 days after receipt of the NOP. Comments in response to this NOP will be accepted through Wednesday, August 24,2022.
Please send written scoping input to:
Attn: Jeremy Shaw
Fresno County Department of Public Works and Planning
Development Services and Capital Projects Division
2220 Tulare Street, Sixth Floor
Fresno, CA 93721
Phone: (559) 600-4207 Fax: (559) 600-4200
Email: jshaw@FresnoCountyCA.gov
Please reference EIR 8189, Key Energy Storage Project. Include your name, address, and phone number and/or email address so that we may contact you for clarification, if necessary.
Public Scoping Meeting:
CEQA encourages public input throughout the planning process. Consistent with CEQA and CEQA Guidelines Section 15083, oral and written comments may be presented at a scoping meeting where the County will solicit input on the scope and content of the EIR, including environmental impacts of concern and mitigation measures or alternatives that should be considered. The scoping meeting will be held online for 30 minutes or until all who wish to speak have had an opportunity to do so. Scoping meeting details are as follows:
Date: Tuesday, August 9, 2022
Time: 2:30 p.m.
If joining from a computer: https://bit.ly/KeyEnergyScopingMeeting (Webinar ID: 861 6426 3856)
If joining by phone: (888) 788-0099
Physical Setting:
The project site is designated as Prime Farmland and subject to Williamson Act contacts. It currently is in agricultural production (a citrus orchard on APN 085-040-58S) and fallow (085-040-36S and 085-040-37S). Dirt access roads traverse the eastern, western, and southern site boundaries and two cross east-west through the site. An existing well is located on APN 085-040-58S. An overhead generation tie line exists along the western boundary; high voltage transmission lines traverse north-south along the eastern boundary. Surrounding land uses include agricultural uses, two substations, and solar energy generation facilities.
Land Use Designation:
The project site is designated for Agriculture in the County General Plan and zoned AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) pursuant to the County's Zoning Map. The AE District is intended to be an exclusive district for agriculture and for those uses which are necessary and an integral part of the agricultural operation. This district is intended to protect the general welfare of the agricultural community from encroachments of non-related agricultural uses which by their nature, would be injurious to the physical and economic well-being of the agricultural district.
County Zoning Ordinance Section 816.2, which relates to the AE Zone District, permits electric transmission substations and electric distribution stations subject to a Director Review and Approval (DRA), which is a form of discretionary review; however, the proposed energy storage facility is not an electrical substation or electrical distribution station, and thus not an allowed use with a DRA, nor is it expressly allowed with a classified conditional use permit under Section 816.3; therefore, it is being processed as an Unclassified Conditional Use Permit application, as provided for under Section 853.B.14.
Alternatives to be Analyzed in the EIR:
In accordance with CEQA Guidelines Section 15126.6, the Draft EIR will assess a range of alternatives to the Project, including a No Project Alternative and one or more other alternatives that would attain most of the basic objectives of the Project while avoiding or reducing any of its significant environmental effects. Potential alternatives will be identified during the scoping process.
Potential Environmental Impacts:
Pursuant to CEQA Guidelines Section 15060(d), the County has determined that this Project could result in one or more significant impacts on the physical environment, thereby necessitating the preparation of an EIR, and so has not prepared an Initial Study. The EIR will analyze the environmental issues identified in the CEQA Guidelines Appendix G Environmental Checklist (listed below) after establishing the environmental setting, or baseline, for the analysis. The EIR will identify potential significant direct, indirect, and cumulative effects of the Project and alternatives related to:

- Aesthetic quality and views, particularly in the vicinity of existing communities;
- Agriculture and forestry resources, including the use of property currently subject to Williamson Act contracts to an energy storage use for the duration of the permit term;
- Air quality and noise in the vicinity of sensitive receptors, particularly from equipment;
- The intersection of air quality, energy use, transportation, and greenhouse gas (GHG) emissions;
- Biological resources, including species and habitats, based on database queries, field surveys, and agency consultations, if required;
- Cultural and tribal cultural resources that could be disturbed during construction, based on record searches, field surveys, and input that may be received from California Native American Tribes;
- Geology and soils, paleontological resources, hazards and hazardous materials, hydrology and water quality, and related considerations and constraints;
- The Project's relationship to land use and planning, as well as lands subject to special resources management activities, such as mineral resources and recreation;
- Population and housing, public services, and utilities and service systems;
- Wildfire, including the potential to exacerbate wildfire risks, and thereby expose people to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire; and
- Growth inducement, particularly in relation to existing, adopted development plans for Fresno County.

07/25/2022

Exhibit C

Notification of Second Public Scoping Meeting

THE BUSINESS JOURNAL
FRESNO | KINGS | MADERA | TULARE
P.O. Box 126
Fresno, CA 93707
Telephone (559) 490-3400

(Space Below for use of County Clerk only)

IN THE COUNTY OF FRESNO, STATE OF CALIFORNIA

NOTICE OF SECOND PUBLIC SCOPING MEETING FOR THE

KEY ENERGY STORAGE PROJECT

Second Public Scoping Meeting:

September 21, 2022 at 10:00 am

MISC. NOTICE

DECLARATION OF PUBLICATION
(2015.5 C.C.P.)

STATE OF CALIFORNIA

COUNTY OF FRESNO

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of **THE BUSINESS JOURNAL** published in the city of Fresno, County of Fresno, State of California, Monday, Wednesday, Friday, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Fresno, State of California, under the date of March 4, 1911, in Action No.14315; that the notice of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

SEPTEMBER 16, 2022

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed at Fresno, California,

SEPTEMBER 16, 2022

ON

NOTICE OF SECOND PUBLIC SCOPING MEETING FOR THE KEY ENERGY STORAGE PROJECT

TO: Responsible and Trustee Agencies, other interested agencies, and members of the public

FROM: County of Fresno, Department of Public Works and Planning Development Services and Capital Projects Division
2220 Tulare Street, Sixth Floor
Fresno, CA 93721

SUBJECT: Notice of Second Public Scoping Meeting for the Key Energy Storage Project

Notice Date: September 16, 2022

Action: The County of Fresno will be the Lead Agency pursuant to the California Environmental Quality Act (CEQA) and will be responsible for preparing an Environmental Impact Report (EIR) pursuant to CEQA and the CEQA Guidelines for the Key Energy Storage Project. To inform the identification and analysis of potential impacts, alternatives, and mitigation measures in the EIR, the County will be holding a second public scoping meeting.

Project Title: Key Energy Storage Project, Unclassified Conditional Use Permit Application No. 3734 & EIR No. 8189

Project Applicant: Key Energy Storage, LLC

Second Public Scoping Meeting: CEQA encourages public input throughout the planning process. Consistent with CEQA and CEQA Guidelines Section 15083, oral and written comments may be presented at one or more scoping meetings where the County will solicit input on the scope and content of the EIR, including environmental impacts of concern and mitigation measures or alternatives that should be considered. The County held one scoping meeting on Tuesday, August 9, 2022, and will hold a second scoping meeting for 30 minutes or until all who wish to speak have had an opportunity to do so. Meeting details for the second public scoping meeting are as follows:

Date: Wednesday, September 21, 2022
Time: 10:00 a.m.
If joining from a computer: https://bit.ly/KeyEnergyStorageScopingMeeting; Webinar ID: 816 6750 2078
If joining by phone: (888) 788-0099

Written Comments: Written scoping comments in will be accepted through 5 p.m. Friday, September 30, 2022. Please send written scoping input to:

Attn: Jeremy Shaw
Fresno County Department of Public Works and Planning
Development Services and Capital Projects Division
2220 Tulare Street, Sixth Floor
Fresno, CA 93721
Phone: (559) 600-4207 Fax: (559) 600-4200
Email: jshaw@FresnoCountyCA.gov

Please reference EIR 8189, Key Energy Storage Project. Include your name, address, and phone number and/or email address so that we may contact you for clarification, if necessary.

Project Location and Summary: The Applicant proposes to construct, operate, maintain, and decommission an energy storage facility on approximately 318-acres of private land comprised of APNs 085-040-58S, 085-040-36S, and 085-040-37S in western Fresno County. The site is located 4 miles southwest of the City of Huron, 0.4 mile east of Interstate 5 (I-5), immediately south of W. Jayne Avenue, between I-5 and South Lassen Avenue (State Route 269), and adjacent to PG&E's existing Gates Substation.

The project could store 3 gigawatts of energy or more in modular enclosures. The project would consist of a lithium ion, iron-flow, or other similar storage technology. On-site project support facilities would include a collector substation, inverters with connection lines, heating ventilating and air conditioning units, transformers, fencing, access roads, a supervisory control and data acquisition system, and security lighting. Diesel generators may be needed for substation purposes or to power water pumps for the existing well on parcel 085-040-58S. The project also includes an approximately 0.3-mile

long, 500-kilovolt (kV) overhead generation tie line that would extend north to the Gates Substation. This line would be installed on new steel or concrete poles, each up to 150 feet tall and spaced at approximately 500-foot intervals. Project buildout would occur in four phases.

Public notices, a project description, maps, and figures are available for review at the following locations:

§ Fresno County Public Works and Planning Department, 2220 Tulare Street, Suite A Street Level, Fresno, CA 93721

§ Fresno County website: www.co.fresno.ca.us/EIR

09/16/2022

Janna Scott

From: Janna Scott
Sent: Friday, September 16, 2022 11:48 AM
Subject: Key Energy Storage Project (Fresno County EIR 8189): Notice of Second Scoping Meeting
Attachments: 8189_Key_meeting notice2_2022_0913.pdf

To Interested Parties [undisclosed recipient list],

On behalf of the Fresno County Department of Public Works and Planning, Development Services and Capital Projects Division (the County), please see the attached Notice of Second Scoping Meeting for the Key Energy Storage Project (Fresno County EIR #8189; SCH #2022070414).

The California Environmental Quality Act (CEQA) encourages public input throughout the planning process. This second meeting is an additional opportunity to provide input to inform the County's identification and analysis of potential impacts, alternatives, and mitigation measures in the EIR. If you have already participated in the scoping process for this project (whether in writing or as part of the first scoping meeting) there is no need to resubmit your input.

Meeting details for the second public scoping meeting are provided below. Participants can join via computer or by calling in:

Date: Wednesday, September 21, 2022
Time: 10:00 a.m.
If joining from a computer: https://bit.ly/KeyEnergyStorageScopingMeeting; Webinar ID: 816 6750 2078
If joining by phone: (888) 788-0099; Meeting ID: 816 6750 2078

Additional written scoping comments in will be accepted through 5 p.m. Friday, September 30, 2022. Please send written scoping input to:

Attn: Jeremy Shaw
Fresno County Department of Public Works and Planning
Development Services and Capital Projects Division
2220 Tulare Street, Sixth Floor
Fresno, CA 93721
Phone: (559) 600-4207 Fax: (559) 600-4200
Email: jshaw@FresnoCountyCA.gov

Please reference EIR 8189, Key Energy Storage Project. Include your name, address, and phone number and/or email address so that we may contact you for clarification, if necessary.

You are receiving this email because you have been identified as someone who may be interested in receiving information relating to Fresno County's CEQA process for evaluating environmental impacts of the Key Energy Storage Project. If you would prefer not to receive email notifications like this one, please reply with the word "unsubscribe" as the body of the message. Otherwise, *please do not reply to this email*, which is not regularly monitored. Instead, please direct all communications about this project to the County using the contact information provided above.

Best regards,
Key Energy Storage Project EIR Team

Exhibit D

Scoping Meeting Presentations and Transcript

Key Energy Storage Project EIR

Public Scoping Meeting | Tuesday, August 9, 2022, 2:30 p.m.

Agency Presentation and Public Input

Agenda

- Introductions
- Purpose of the Meeting
- Project Overview
- County Permitting Process
- Environmental Review Process (CEQA)
- Scoping: Environmental Impacts and Alternatives
- Public Comments
- Next Steps

Introductions

- Fresno County
  - Department of Public Works and Planning,
    Development Services and Capital Projects Division
    Jeremy Shaw, Planner, jshaw@FresnoCountyCA.gov
  - CEQA Lead Agency responsible for preparation of EIR 8189
  - Decision-maker for the requested Conditional Use Permit No. 3734

- Environmental Science Associates
  - Environmental Consultant to the County

- Key Energy Storage, LLC
  - Project Applicant

Purpose of the Meeting

For us to hear from YOU!
Your questions and ideas are welcome and invited.

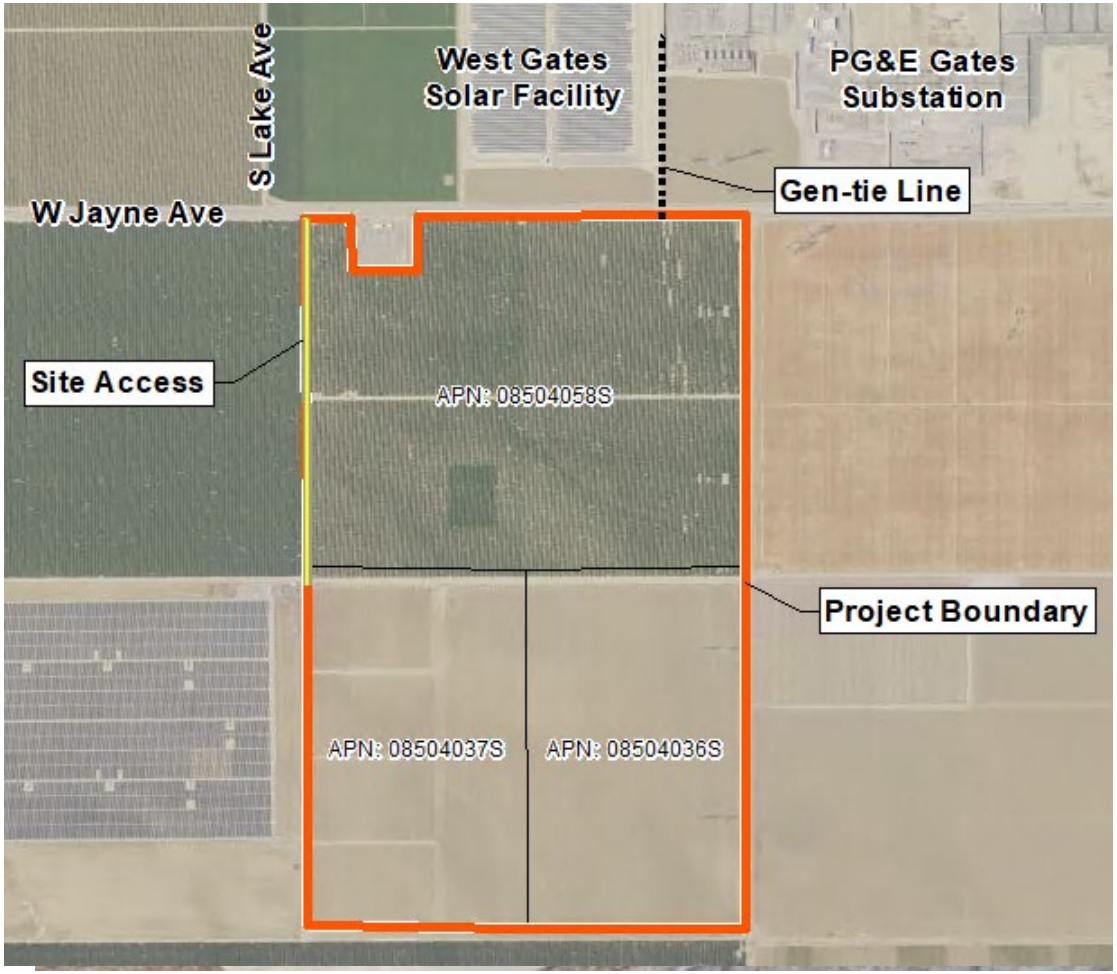
Project Vicinity

- Located in southwestern Fresno County near Interstate 5 and the cities of Huron and Coalinga.
- Area characterized by large scale irrigated agriculture and value-added agricultural (processing) operations

Key Energy Storage Project (EIR 8189)

Project Site

- Approximately 208 acres to be developed out of 318 acres of both fallow land and land under agricultural production, comprised of 3 separate assessors parcels.
- Located on the south side of W. Jayne Avenue between Interstate 5 and State Route 269 (Lassen Avenue) and adjacent to PG&E's existing Gates Substation.



Key Energy Storage Project (EIR 8189)

Project Details

- Anticipated energy storage capacity: approximately 3 gigawatts
- Onsite support facilities
- Overhead transmission line connecting to PG&E's Gates Substation.

Key Energy Storage Project (EIR 8189)

Project Details

Key Energy Storage Project (EIR 8189)

Land Use and Permitting Processes

Conditional Use Permit Process

Williamson Act Cancellation Process

- Application
- Agency Review of Application
- CEQA Review:
  - Scoping
  - Issuance of Draft EIR
  - Issuance of Final EIR

- Planning Commission
  - Certification of EIR
  - Consideration of CUP
- Board of Supervisors (if appealed)

- Agricultural Lands Conservation Commission (advisory body)
  - Recommendation on Cancellation
- Board of Supervisors
  - Decision on Cancellation

Key Energy Storage Project (EIR 8189)

Use Permit Process

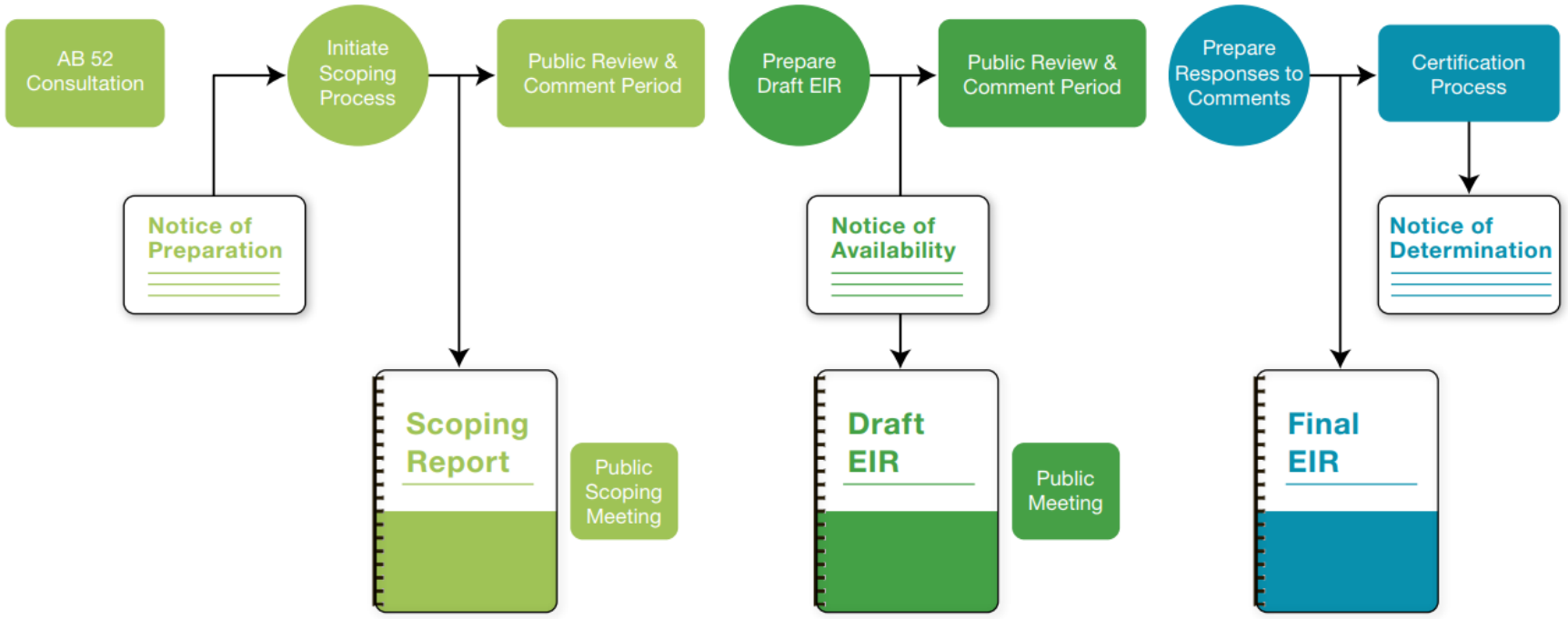
Before the Commission may approve a CUP, it must make five findings:

1. Adequate size and shape of parcel
2. Adequate roads serving the project site
3. There would be no adverse impacts on surrounding property
4. The project is consistent with the General Plan
5. Required conditions are necessary to ensure public safety and welfare

Williamson Act Cancellation Process

- Applicant has submitted a petition for cancellation of the contract.
- Board of Supervisors has discretion over contract cancellation.
- The effect of the cancellation will be considered within the scope of the EIR under agricultural impacts.

Environmental Review: The CEQA Process



Key Energy Storage Project (EIR 8189)

Scoping

July 25 – August 24, 2022, at 5 p.m.

Purpose of Scoping

- Solicit input as to the scope and content of the EIR, including potential impacts of concern and mitigation measures or alternatives that should be considered.
- Scoping tells us what we should study, not what the answers are.

Agency Scoping

Public Scoping

Key Energy Storage Project (EIR 8189)

Scoping: Resources to be Evaluated

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality and Greenhouse Gas Emissions
- Biological Resources
- Cultural and Tribal Cultural Resources
- Energy
- Geology, Soils, and Paleontology
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Utilities and Service Systems
- Wildfire

Key Energy Storage Project (EIR 8189)

Scoping: Potential Alternatives

- Project Alternatives
  - Reasonable or feasible alternatives to the proposed project or its location
  - Capable of avoiding or substantially lessening any significant project impacts
  - Ok to impede to some degree the attainment of the objectives or be costlier

- No Project Alternative
  - What would be reasonably expected to occur in the foreseeable future if the proposed project were not approved
  - Based on current plans, consistent with available infrastructure and services

Scoping: Potential Alternatives

Reasonable

- The range of alternatives required in an EIR is governed by a “rule of reason” that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project.

Feasible

- Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, and whether the proponent can reasonably acquire, control or otherwise have access to an alternative site (or the site is already owned by the proponent)

Key Energy Storage Project (EIR 8189)

Scoping: Potential Alternatives

Proposed Project	No Project Alternative	Potential Alternatives
❑ Conditional Use Permit 3734 ❑ Williamson Act Cancellation ❑ 3+ GW Energy Storage Capacity and related uses ❑ Within 318 acres of private property	❑ No Use Permit ❑ Williamson Act contracts remain in place ❑ No energy storage project or related uses would be developed on the proposed site ❑ Continued farming or fallowing of the land would occur ❑ Potential would remain for other uses consistent with the General Plan and Zoning Ordinance	❑ Reasonable ❑ Feasible ❑ Capable of avoiding or substantially lessening significant project impacts

Key Energy Storage Project (EIR 8189)

The County's Next Steps

Fall/Winter 2022: Prepare the Draft EIR

Winter 2022/ 2023: Issue Draft EIR for Agency and Public Review

Spring/ Summer 2023: Prepare Responses to Comments

Fall 2023: Issue Final EIR, Hold Public Hearings

Public Participation Opportunities

Participate at this afternoon's meeting

Submit written comments before 5 p.m. August 24, 2022

Stay informed

Request to receive project notices (via US Post, email or both) from Jeremy Shaw: jshaw@fresnocountyca.gov

Keep an eye on the project website: www.co.fresno.ca.us/EIR

Provide comments on the Draft EIR

Participate in public hearings on the project

Scoping Process Participation Guide

Now

By telephone:

Dial *9 to "Raise Hand"

Via the Zoom platform:

- Click the *Raise Hand* icon to be called on
- Submit comment in Q&A box

Later

By email:

jshaw@fresnocountyca.gov

By mail:

Attn: Jeremy Shaw
Fresno County Department of Public Works and Planning
Development Services and Capital Projects Division
2220 Tulare Street, Sixth Floor
Fresno, CA 93721

During Today's Meeting

1. One speaker at a time
2. State and spell your name clearly
3. Limit comments to 3 minutes
4. Respect others' opinions
5. Written comments encouraged

By telephone:

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Via the Zoom platform:

- Click the *Raise Hand* icon to be called on
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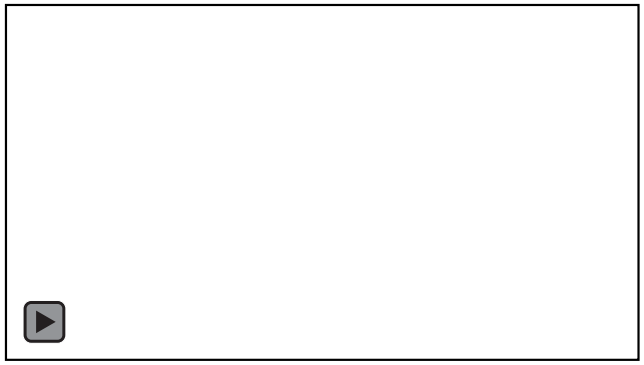


Break

We are currently on a break until there are more comments or until we reach 3:30 PM.

If you would like to provide a comment:

By telephone

- Dial *9 to "Raise Hand"

Via the Zoom platform

- Click the *Raise Hand* icon to be called on
- Submit comment in Q&A box

After Today's Meeting

Submit written comments before 5 p.m. August 24, 2022

By email:

jshaw@fresnocountyca.gov

By mail:

Attn: Jeremy Shaw
Fresno County Department of Public Works and Planning
Development Services and Capital Projects Division
2220 Tulare Street, Sixth Floor
Fresno, CA 93721

Thank you for participating

Key Energy Storage Project EIR

Public Scoping Meeting #2 | Wednesday, September 21, 2022, 10 a.m.
Agency Presentation and Public Input

Agenda

- Introductions
- Purpose of the Meeting
- Project Overview
- County Permitting Process
- Environmental Review Process (CEQA)
- Scoping: Environmental Impacts and Alternatives
- Public Comments
- Next Steps

Introductions

- Fresno County
  - Department of Public Works and Planning,
    Development Services and Capital Projects Division
    Jeremy Shaw, Planner, jshaw@FresnoCountyCA.gov
  - CEQA Lead Agency responsible for preparation of EIR 8189
  - Decision-maker for the requested Conditional Use Permit No. 3734

- Environmental Science Associates
  - Environmental Consultant to the County

- Key Energy Storage, LLC
  - Project Applicant

Purpose of the Meeting

For us to hear from YOU!
Your questions and ideas are welcome and invited.

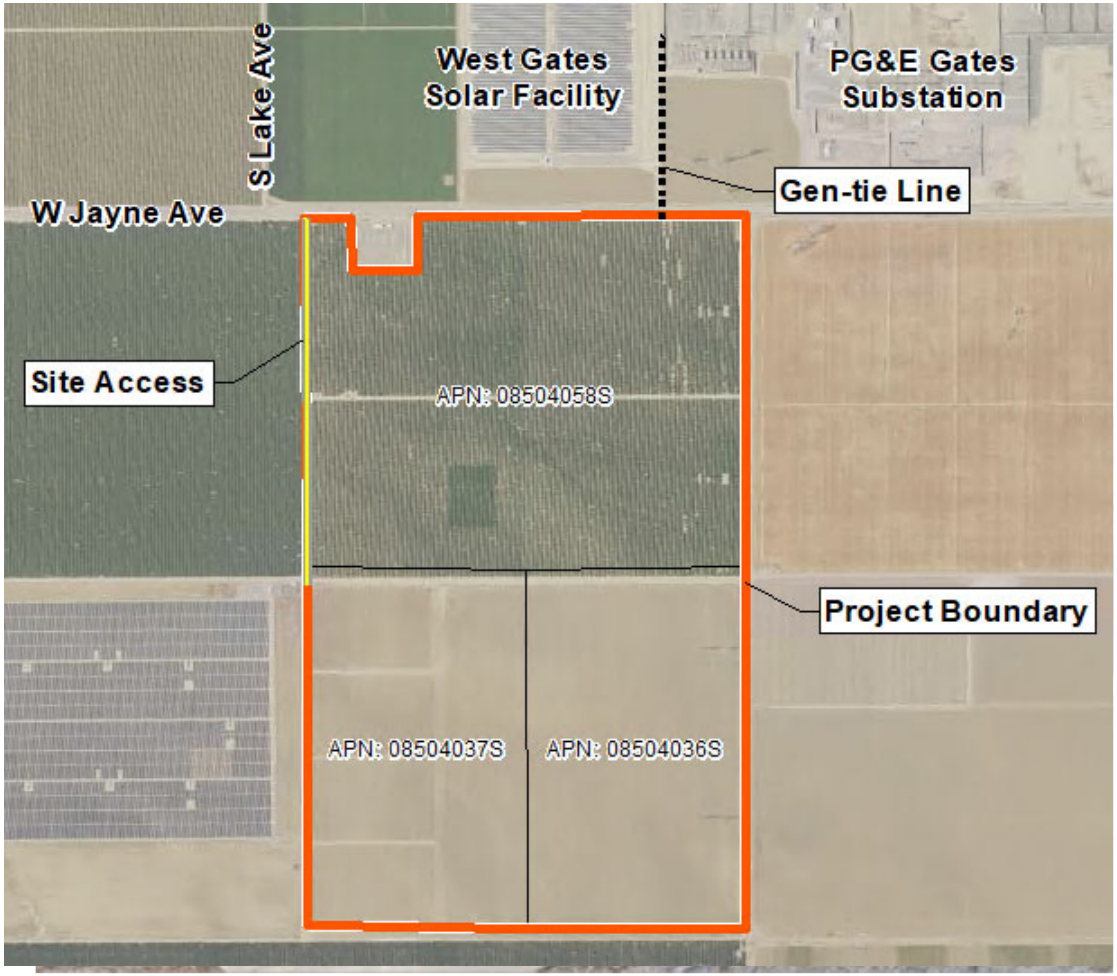
Project Vicinity

- Located in southwestern Fresno County near Interstate 5 and the cities of Huron and Coalinga.
- Area characterized by large scale irrigated agriculture and value-added agricultural (processing) operations

Key Energy Storage Project (EIR 8189)

Project Site

- Approximately 208 acres to be developed out of 318 acres of both fallow land and land under agricultural production, comprised of 3 separate assessors parcels.
- Located on the south side of W. Jayne Avenue between Interstate 5 and State Route 269 (Lassen Avenue) and adjacent to PG&E's existing Gates Substation.



Key Energy Storage Project (EIR 8189)

Project Details

- Anticipated energy storage capacity: approximately 3 gigawatts
- Onsite support facilities
- Overhead transmission line connecting to PG&E's Gates Substation.

Key Energy Storage Project (EIR 8189)

Project Details

Key Energy Storage Project (EIR 8189)

Land Use and Permitting Processes

Conditional Use Permit Process

Williamson Act Cancellation Process

- Application
- Agency Review of Application
- CEQA Review:
  - Scoping
  - Issuance of Draft EIR
  - Issuance of Final EIR

- Planning Commission
  - Certification of EIR
  - Consideration of CUP
- Board of Supervisors (if appealed)

- Agricultural Lands Conservation Commission (advisory body)
  - Recommendation on Cancellation
- Board of Supervisors
  - Decision on Cancellation

Key Energy Storage Project (EIR 8189)

Use Permit Process

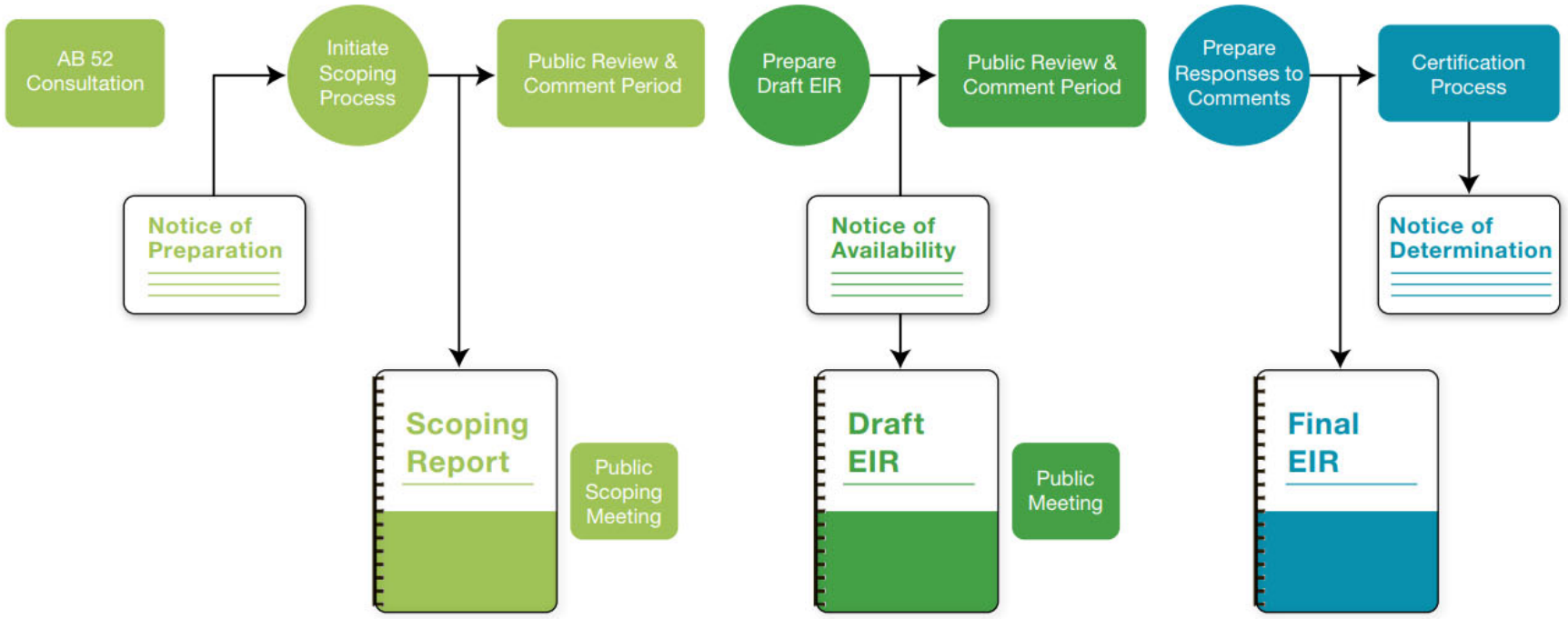
Before the Commission may approve a CUP, it must make five findings:

1. Adequate size and shape of parcel
2. Adequate roads serving the project site
3. There would be no adverse impacts on surrounding property
4. The project is consistent with the General Plan
5. Required conditions are necessary to ensure public safety and welfare

Williamson Act Cancellation Process

- Applicant has submitted a petition for cancellation of the contract.
- Board of Supervisors has discretion over contract cancellation.
- The effect of the cancellation will be considered within the scope of the EIR under agricultural impacts.

Environmental Review: The CEQA Process



Key Energy Storage Project (EIR 8189)

Scoping

July 25 – August 24, 2022; September 16-30, 2022, at 5 p.m.

Purpose of Scoping

- Solicit input as to the scope and content of the EIR, including potential impacts of concern and mitigation measures or alternatives that should be considered.
- Scoping tells us what we should study, not what the answers are.

Agency Scoping

Public Scoping

Key Energy Storage Project (EIR 8189)

Scoping: Resources to be Evaluated

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality and Greenhouse Gas Emissions
- Biological Resources
- Cultural and Tribal Cultural Resources
- Energy
- Geology, Soils, and Paleontology
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
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- Wildfire

Key Energy Storage Project (EIR 8189)

Scoping: Potential Alternatives

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  - Reasonable or feasible alternatives to the proposed project or its location
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Scoping: Potential Alternatives

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- Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, and whether the proponent can reasonably acquire, control or otherwise have access to an alternative site (or the site is already owned by the proponent)

Key Energy Storage Project (EIR 8189)

Scoping: Potential Alternatives

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Key Energy Storage Project (EIR 8189)

The County's Next Steps

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Winter 2022/ 2023: Issue Draft EIR for Agency and Public Review

Spring/ Summer 2023: Prepare Responses to Comments

Fall 2023: Issue Final EIR, Hold Public Hearings

Public Participation Opportunities

Participate at this morning's meeting

Submit written comments before 5 p.m. September 30, 2022

Stay informed

Request to receive project notices (via US Post, email or both) from Jeremy Shaw: jshaw@fresnocountyca.gov

Keep an eye on the project website: www.co.fresno.ca.us/EIR

Provide comments on the Draft EIR

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Scoping Process Participation Guide

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During Today's Meeting

1. One speaker at a time
2. State and spell your name clearly
3. Limit comments to 3 minutes
4. Respect others' opinions
5. Written comments encouraged

Break

We are currently on a break until there are more comments or until we reach 10:30 AM.

If you would like to provide a comment:

- If by phone, please dial *9 on your phone's keypad to request to speak
- If online using the Zoom platform, please press the "raise hand" icon or submit your comment in the question and answer (Q&A) box

Scoping Input Due

Submit written comments before 5 p.m. September 30, 2022

By email:

jshaw@fresnocountyca.gov

By mail:

Attn: Jeremy Shaw
Fresno County Department of Public Works and Planning
Development Services and Capital Projects Division
2220 Tulare Street, Sixth Floor
Fresno, CA 93721

Key Energy Storage Project (EIR 8189)

Thank you for participating

Transcript
Second Public Scoping Meeting
Key Energy Storage Project
September 21, 0222

Janna Scott: Good morning. Welcome to the second public scoping meeting for the Key Energy Storage Project Environmental Impact Report. We are going to give people just a couple of minutes to join, and then we'll begin.

For those of you who have already joined, thank you for being prompt. Our preference always is to start meetings on time, but we are going to give people just a minute two to join us.

Janna Scott: Let's go ahead and get started. I want to respect everybody's time.

Thank you for joining us for the second public scoping meeting for the Key Energy Storage Project. My name is Janna Scott. I'm a director with Environmental Science Associates, the Cunty's environmental consultant for this project.

We're glad you're here. Thanks for making time this morning.

We'll make brief introductions, explain why we're here, provide information about the project and the county's permitting and environmental review processes, and then we'll open the meeting for your comments and questions.

Any comments made in this meeting, including written comments using the question answer box, will become part of the public record.

Jeremy Shaw, who will be the County's Leap planner for this project can't be with us this morning, but others of the County will be, including David Randall, Senior Planner. Tee County will be the lead agency for this environmental impact report. Environmental Science Associates is supporting the County's environmental review process. Key Energy Storage, LLC is the Project Applicant.

The California Environmental Quality Act (CEQA) encourages public participation throughout the planning process. This second scoping meeting is an additional opportunity to provide input to inform the scope of the county's EIR. If you have already participated in the scoping process for this project, whether in writing or as part of the first public scoping meeting, there is no need to resubmit your input. We covered all of the information that we're going to cover this morning in the first meeting as well.

The purpose of this meeting is for us to hear from you to help you decide what environmental considerations might be most important to you. We'll start with an overview of the project.

The project site is located in southwestern Fresno County, approximately four miles south-southwest of the city of Huron, and approximately 1.2 miles east of the intersection of West Jayne Avenue and Interstate 5. The area is characterized by large-scale irrigated agriculture and agricultural processing operations.

The site is located on the south side of West Jayne Avenue, and adjacent to the existing PG&E Gates electrical substation. The site consists of approximately 208 acres, within a 318-acre area comprised of three assessors parcels.

The project proposes an energy storage facility to be comprised of batteries or another energy storage technology. The proposed facility has an estimated storage capacity of three or more gigawatts of energy, and would have an approximately 40-year lifespan. On-site project support facilities would include a collector substation, inverters with connection lines, heating ventilation and air conditioning units, fire suppression systems, transformers, access roads, a supervisory control and data acquisition system, and security lighting. Diesel generators may be needed.

The project also includes an approximately 0.3-mile long, 500 kilovolts overhead generation tie line that would extend north from the site to the PG&E Gates substation. This line would be installed on new steel or concrete poles, each up to 150-feet tall, and spaced at approximately 500-foot intervals.

For those of you who can see the presentation. The energy storage units could look like the example shown on this slide. Alternatively, the energy storage units could look like the examples shown on this slide. The applicant has not yet selected the specific storage technology, so the county's EIR will analyze the potential environmental impacts of all of the options under consideration.

The applicant has requested a conditional use permit. Williamson Act contract cancellation also is likely to be required. Each of these discretionary approvals would require the county to certify an environmental impact report before the project could be allowed to operate.

A conditional use permit would be needed for permission to operate the energy storage facility. The conditional use permit process occurs in parallel to preparation of the environmental impact report: while the consultant prepares the EIR, County staff considers the project's consistency with five findings that must be made before a conditional use permit may be approved. Upon publication of the final EIR, the project will be scheduled for a hearing before the Planning Commission, where the Commission will consider Staff's recommendation and make a decision.

The project is proposed on land that is enrolled in the Williamson Act program and subject to contract. The use of land subject to a Williamson Act contract is limited to specified, allowed, or compatible uses. Because the proposed energy storage facility is not considered a compatible use on Williamson Act contracted lands, the contract must be

canceled before the project may proceed. The Agricultural Lands Conservation Commission will make a recommendation about the requested contract cancellation, and a final decision on cancellation would be made by the County Board of Supervisors.

The county is conducting its environmental evaluation in accordance with both the California Environmental Quality act and its own environmental rules for the consideration of energy projects.

CEQA applies to most public agency decisions to authorize or approve activities that could have a significant adverse impact on the physical environment. The CEQA process consists of three stages. The first stage is the scoping process. This is where we are now: the very beginning. Information learned in the scoping process will be applied during the second stage: preparation of the draft EIR. In the third stage, the county will invite agency and public comments on the draft EIR, respond to comments and issue a final EIR for consideration by county decision makers.

The initial scoping period for this project opened on July 25th and closed August 24th. The county has reopened the scoping period for an additional 14 days to invite additional input. The new deadline to provide scoping input is Friday, September 30th, at 5 p.m. All scoping input received between July 25th and September 30th will be considered in the development of the draft EIR.

The EIR will evaluate whether the project could negatively affect any of the environmental resource areas identified in CEQA Guidelines Appendix G's Environmental Checklist. At this beginning stage of the CEQA process, the actual environmental impacts of the project are unknown. They will be determined during the development of the EIR. Again, we will be evaluating each of the resource areas listed here; however, part of our task during this scoping process is to hear from you about which specific impacts merit particular focus.

The EIR also will consider whether alternatives to the project as proposed could accomplish most of the basic objectives of the project, while avoiding or substantially reducing potential significant impacts. CEQA also requires consideration of a no-project alternative, which generally describes what would be reasonably expected to occur in the future if the project were not approved.

Two definitions are particularly important in the context of CEQA alternatives, reasonable and feasible. First, the range of alternatives required in an EIR is governed by a rule of reason that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives are limited to ones that would be able to avoid or substantially lessen any of the potential significant impacts of the project. Regarding feasibility, multiple factors are considered when determining whether a potential alternative is feasible. They include site, suitability, economic viability, the availability of necessary infrastructure, general plan, consistency, other plans or regulatory limitations, and whether the project proponent reasonably can acquire access to an alternative site.

For those of you who can see the presentation, the graphic on this slide shows that the EIR will compare potential impacts of the project, a No Project Alternative, and one or more project alternatives that meet the criteria.

Under the proposed project, the requested conditional use permit would be issued, the Williamson Act Contract would be canceled, three or more gigawatts of energy storage capacity and related uses would be developed within the 318-acre, three parcel area.

Under the No Project alternative, no use permit would be issued, the Williamson Act contract would remain in place, no energy storage facility or related uses would be developed on the site, existing farming or following would continue, and the potential would remain for other uses or projects to be proposed consistent with the general plan and zoning ordinance.

After scoping, the county will prepare a draft EIR, release it for public review, consider and respond to comments, and then issue a final EIR for consideration as part of the decision-making process. At this initial stage we're anticipating that a draft EIR will be issued over the winter, and a final EIR would be issued next fall.

Members of the public can participate at each stage. You can participate in today's meeting, submit scoping comments until 5 pm on September 30th, submit comments on the draft EIR once it's released, and participate in public hearings on the process on the project. To stay informed about the project, you can request to receive project notices. You also can keep an eye on the county's website.

You can participate in the scooping process now or until 5 pm on September 30th. If you're participating by phone and would like to make a comment, please dial star nine to let us know that you'd like to make a comment. Steven can take you off mute and invite you to speak. If you're participating via the zoom platform, you can select the raise hand feature at the bottom of your screen to request to speak, or you can enter input directly into the question and answer (the Q&A) box.

To participate later, you can email Jeremy Shaw or submit your comments to Fresno County Department of Public Works and Planning in person or by mail. All comments will be included in the public record, and considered in the preparation of the EIR.

This meeting is our opportunity to hear from you about where you think the EIR should focus. All speakers will have up to 3 minutes. Please state and spell your name for the record so we can make sure to capture it accurately for the purposes of the record.

Would anyone on the phone or participating via zoom like to make comments? Hearing none….

We thank you for participating in the presentation portion, and we're going to go on a break, either until someone indicates that they would like to provide comments over the phone or in Q&A or until 10:30.

Again, for those of you who have joined us by phone, just wanted to circle back so you're not listening only to quiet. We are currently on a break until others elect to provide a comment, or until 10:30.

Thanks for being with us on the line. And if you would like to make a comment, please dial star nine on your phone's keypad to request to speak or, using the zoom platform, you can press the raise hand icon, or submit comments directly into the Q&A box. Thanks, and we'll be back with you at 10:30 or sooner if somebody indicates they'd like to speak.

It's about 10:26 and, before we wrap for the day, I wanted to give people another opportunity to weigh in if they'd like to, and also to remind people to submit written comments before 5 pm on September 30th either by email or in person at the county or by US Post. Again, the deadline to submit scoping input is September 30th. All input, from the initiation of the initial scoping period through the 30th will be considered in the development of the EIR. We will hang on the line for another three minutes.

We still have one person on the phone and a couple of people participating via the zoom platform, so I just want to make sure everybody has a chance.

David and Stephen, we just have one person left on the phone line and it's Olivia, who is on our project team. So all agency participants and members of the public and applicant representatives have dropped off.

Exhibit E
Scoping Comment Letters

NATIVE AMERICAN HERITAGE COMMISSION

July 22, 2022

Jeremy Shaw
Fresno County Department of Public Works
2220 Tulare Street, Sixth Floor
Fresno, CA 93721

Re: 2022070414, Key Energy Storage Project, Fresno County

Dear Mr. Shaw:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).

2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.

3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).

4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:

- **a.** The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
- **b.** Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:

- **a.** If part or all of the APE has been previously surveyed for cultural resources.
- **b.** If any known cultural resources have already been recorded on or adjacent to the APE.
- **c.** If the probability is low, moderate, or high that cultural resources are located in the APE.
- **d.** If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.

- **a.** The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
- **b.** The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:

a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.

b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.

b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.

c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Cameron.Vela@nahc.ca.gov.

Sincerely,

Cameron Vela

Cameron Vela
Cultural Resources Analyst

cc: State Clearinghouse

California
Department of Conservation
Geologic Energy Management Division

Gavin Newsom, Governor
David Shabazian, Director
715 P Street, MS 1803
Sacramento, CA. 95814
T: (916) 445-5986

07/27/2022

Jeremy Shaw
2220 Tulare Street, Sixth Floor, Fresno, CA 93721, USA
jshaw@FresnoCountyCA.gov

Construction Site Well Review (CSWR) ID: 1012539

Assessor Parcel Number(s): 08504058S, 08504036S, 08504037S

Property Owner(s): Key Energy Storage, LLC

Project Location Address: 4 miles SW City of Huron, 0.4 mile E of I-5 immediately south of W. Jayne Avenue, Huron, California 93234

Project Title: Key Energy Storage Project, Unclassified Conditional Use Permit Application No. 3734 & EIR No. 8189

Public Resources Code (PRC) § 3208.1 establishes well reabandonment responsibility when a previously plugged and abandoned well will be impacted by planned property development or construction activities. Local permitting agencies, property owners, and/or developers should be aware of, and fully understand, that significant and potentially dangerous issues may be associated with development near oil, gas, and geothermal wells.

The California Geologic Energy Management Division (CalGEM) has received and reviewed the above referenced project dated 7/27/2022. To assist local permitting agencies, property owners, and developers in making wise land use decisions regarding potential development near oil, gas, or geothermal wells, the Division provides the following well evaluation.

The project is located in Fresno County, within the boundaries of the following fields:

N/A

Our records indicate there are no known oil or gas wells located within the project boundary as identified in the application.

- Number of wells Not Abandoned to Current Division Requirements as Prescribed by Law and Projected to Be Built Over or Have Future Access Impeded by this project: 0

- Number of wells Not Abandoned to Current Division Requirements as Prescribed by Law and Not Projected to Be Built Over or Have Future Access Impeded by this project: 0

- Number of wells Abandoned to Current Division Requirements as Prescribed by Law and Projected to Be Built Over or Have Future Access Impeded by this project: 0

- Number of wells Abandoned to Current Division Requirements as Prescribed by Law and Not Projected to Be Built Over or Have Future Access Impeded by this project: 0

As indicated in PRC § 3106, the Division has statutory authority over the drilling, operation, maintenance, and abandonment of oil, gas, and geothermal wells, and attendant facilities, to prevent, as far as possible, damage to life, health, property, and natural resources; damage to underground oil, gas, and geothermal deposits; and damage to underground and surface waters suitable for irrigation or domestic purposes. In addition to the Division's authority to order work on wells pursuant to PRC §§ 3208.1 and 3224, it has authority to issue civil and criminal penalties under PRC §§ 3236, 3236.5, and 3359 for violations within the Division's jurisdictional authority. The Division does not regulate grading, excavations, or other land use issues.

If during development activities, any wells are encountered that were not part of this review, the property owner is expected to immediately notify the Division's construction site well review engineer in the Inland district office, and file for Division review an amended site plan with well casing diagrams. The District office will send a follow-up well evaluation letter to the property owner and local permitting agency.

Should you have any questions, please contact me at (661) 326-6016 or via email at Victor.Medrano@conservation.ca.gov.

Sincerely,

Jeff Kimber

Jeff Kimber for
William Long
Acting District Deputy

cc: Jeremy Shaw - Submitter

JULY 29, 2022

VIA EMAIL: JSHAW@FRESNOCOUNTYCA.GOV
Attn: Jeremy Shaw, Planner
Fresno County Department of Public Works and Planning
Development Services and Capital Projects Division
2220 Tulare Street, Sixth Floor
Fresno, CA 93721

Dear Mr. Shaw:

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR THE KEY ENERGY STORAGE PROJECT, SCH# 2022070414

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the Notice of Preparation of an Environmental Impact Report for the Key Energy Storage Project (Project). The Division monitors farmland conversion on a statewide basis, provides technical assistance regarding the Williamson Act, and administers various agricultural land conservation programs. We offer the following comments and recommendations with respect to the project's potential impacts on agricultural land and resources.

Project Description

The applicant proposes to construct, operate, maintain, and decommission an energy storage facility on approximately 318-acres of private land comprised of APNs 085-040-58S, 085-040-36S, and 085-040-37S in western Fresno County. The site is located 4 miles southwest of the City of Huron, 0.4 mile east of Interstate 5 (I-5), immediately south of W. Jayne Avenue, between I-5 and South Lassen Avenue (State Route 269), and adjacent to PG&E's existing Gates Substation.

The project could store 3 gigawatts of energy or more in modular enclosures. The project would consist of a lithium ion, iron-flow, or other similar storage technology. On-site project support facilities would include a collector substation, inverters with connection lines, heating ventilating and air conditioning (HVAC) units, transformers, fencing, access roads, a supervisory control and data acquisition system, and security lighting. The project also includes an approximately 0.3-mile long, 500-kilovolt (kV) overhead generation tie line that would extend north to the Gates Substation. This line would be installed on new steel or concrete poles, each up to 150 feet tall and spaced at approximately 500-foot intervals. Project buildout would occur in four phases.

The project site is designated as Prime Farmland and subject to Williamson Act contacts. It currently is in agricultural production (a citrus orchard on APN 085-040-58S) and fallow (085-040-36S and 085-040-37S).

Department Comments

The conversion of agricultural land represents a permanent reduction and significant impact to California's agricultural land resources. CEQA requires that all feasible and reasonable mitigation be reviewed and applied to projects. Under CEQA, a lead agency should not approve a project if there are feasible alternatives or feasible mitigation measures available that would lessen the significant effects of the project.

All mitigation measures that are potentially feasible should be included in the project's environmental review. A measure brought to the attention of the lead agency should not be left out unless it is infeasible based on its elements.

Consistent with CEQA Guidelines, the Department recommends the County consider agricultural conservation easements, among other measures, as potential mitigation. (See Cal. Code Regs., tit. 14, § 15370 [mitigation includes "compensating for the impact by replacing or providing substitute resources or environments, including through permanent protection of such resources in the form of conservation easements."])

Mitigation through agricultural easements can take at least two forms: the outright purchase of easements or the donation of mitigation fees to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural easements. The conversion of agricultural land should be deemed an impact of at least regional significance. Hence, the search for replacement lands should not be limited strictly to lands within the project's surrounding area.

A helpful source for regional and statewide agricultural mitigation banks is the California Council of Land Trusts. They provide helpful insight into farmland mitigation policies and implementation strategies, including a guidebook with model policies and a model local ordinance. The guidebook can be found at:

California Council of Land Trusts

Of course, the use of conservation easements is only one form of mitigation that should be considered. Any other feasible mitigation measures should also be considered. Indeed, the recent judicial opinion in King and Gardiner Farms, LLC v. County of Kern (2020) 45 Cal.App.5th 814 ("KG Farms") holds that agricultural conservation easements on a 1 to 1 ratio are not alone sufficient to adequately mitigate a project's conversion of agricultural land. KG Farms does not stand for the proposition that agricultural conservation easements are irrelevant as mitigation. Rather, the holding suggests that to the extent they are considered, they may need to be applied at a greater than 1 to

1 ratio, or combined with other forms of mitigation (such as restoration of some land not currently used as farmland).

Conclusion

The Department recommends further discussion of the following issues:

- Type, amount, and location of farmland conversion resulting directly and indirectly from implementation of the proposed project.
- Impacts on any current and future agricultural operations in the vicinity; e.g., land-use conflicts, increases in land values and taxes, loss of agricultural support infrastructure such as processing facilities, etc.
- Incremental impacts leading to cumulative impacts on agricultural land. This would include impacts from the proposed project, as well as impacts from past, current, and likely future projects.
- Proposed mitigation measures for all impacted agricultural lands within the proposed project area.
- Projects compatibility with lands within an agricultural preserve and/or enrolled in a Williamson Act contract.
- If applicable, notification of Williamson Act contract non-renewal and/or cancellation.

Thank you for giving us the opportunity to comment on the Notice of Preparation of an Environmental Impact Report for the Key Energy Storage Project. Please provide this Department with notices of any future hearing dates as well as any staff reports pertaining to this project. If you have any questions regarding our comments, please contact Farl Grundy, Associate Environmental Planner via email at Farl.Grundy@conservation.ca.gov.

Sincerely,

Monique Wilber

Monique Wilber

Conservation Program Support Supervisor

California Department of Transportation

DISTRICT 6 OFFICE
1352 WEST OLIVE AVENUE | P.O. BOX 12616 | FRESNO, CA 93778-2616
(559) 908-7064 | FAX (559) 488-4195 | TTY 711
www.dot.ca.gov

August 24, 2022

FRE-5-4.456
NOP – Notice of Preparation of an EIR
NOP – Key Energy Storage Project (EIR 8189)
SCH # 2022070414
https://ld-igr-gts.dot.ca.gov/district/6/report/25490

SENT VIA EMAIL

Jeremy Shaw, Planner
Development Services and Capital Projects Division
County of Fresno – Department of Public Works and Planning
2220 Tulare St., 6th Floor
Fresno, CA 93721

Dear Mx. Shaw:

Thank you for the opportunity to review the Notice of Preparation (NOP) for the Key Energy Storage Project, which proposes to construct an energy storage system and appurtenant transmission infrastructure on an approximately 208-acre portion of three parcels (318-acres). The project includes a 500-kilovolt overhead generation tie line, which would extend north to the adjacent Pacific Gas and Electric Gates Substation. The facility, once constructed, would be operated remotely with periodic augmentation of batteries and weekly on-site maintenance requiring one or two workers in a light utility truck. The project site is located on the southeast corner of Lake Avenue and Jayne Avenue, approximately 1.5 miles east of the Interstate 5 (I-5) and Jayne Avenue interchange and 1.6 miles west of State Route (SR) 269 and Jayne Avenue intersection

This project was previously reviewed as part of the Unclassified Conditional Use Permit (CUP) No. 3734 and Environmental Impact Report (EIR) No. 8189 applications with our office submitting a comment letter dated February 17, 2022. For reference, the previous comment letter is included as Attachment "A".

Caltrans provides the following comments consistent with the State's smart mobility goals that support a vibrant economy and sustainable communities:

1. It is expected that the proposed project, during construction, could potentially impact nearby state highway facilities and local roads.

2. Given that the project site is located near I-5 and SR 269 and the potential trip generation from construction, the proposed project may have a significant impact on the state highway facilities. **It is recommended that a Traffic Impact Study (TIS) be conducted. The scope of the study should include safety, operations, and queuing analysis for the intersection within the I-5 / Jayne Avenue interchange.**

3. As mentioned, it is recommended that a traffic study be conducted to properly assess the potential impacts of the project, **a Scope of Work should be prepared and submitted to Caltrans for review and approval, at minimum a Transportation Management Plan (TMP) may be required for construction traffic.**

4. Oversize and/or overweight trucks using the state highway will require Transportation Permits from Caltrans.

5. An encroachment permit must be obtained for all proposed activities for placement of encroachments within, under or over the State highway rights-of-way. Activity and work planned in the State right-of-way shall be performed to State standards and specifications, at no cost to the State. Engineering plans, calculations, specifications, and reports (documents) shall be stamped and signed by a licensed Engineer or Architect. Engineering documents for encroachment permit activity and work in the State right-of-way may be submitted using English Units. The Permit Department and the Environmental Planning Branch will review and approve the activity and work in the State right-of-way before an encroachment permit is issued. The Streets and Highways Code Section 670 provides Caltrans discretionary approval authority for projects that encroach on the State Highway System. Encroachment permits will be issued in accordance with Streets and Highway Codes, Section 671.5, "Time Limitations." Encroachment permits do not run with the land. A change of ownership requires a new permit application. Only the legal property owner or his/her authorized agent can pursue obtaining an encroachment permit.

6. Prior to an encroachment permit application submittal, the project proponent is required to schedule a "Pre-Submittal" meeting with District 6 Encroachment Permit Office. To schedule this meeting, please call the Caltrans Encroachment Permit Office - District 6: 1352 W. Olive, Fresno, CA 93778, at **(559) 488-4058**

Please review the permit application - required document checklist at:
https://forms.dot.ca.gov/v2Forms/servlet/FormRenderer?frmid=TR0402&distpath=MAOTO&brapath=PERM

Please also review the permit application - processing checklist at:
https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/encroachment-permits/tr-0416-applicable-review-process-checklist.pdf

If you have any other questions, please call or email Christopher Xiong at (559) 908-7064 or Christopher.Xiong@dot.ca.gov.

Sincerely,

DAVID PADILLA, Branch Chief
Transportation Planning – North

C: State Clearinghouse

Attachment "A":
Comment letter dated February 17, 2022

California Department of Transportation

DISTRICT 6 OFFICE
1352 WEST OLIVE AVENUE | P.O. BOX 12616 | FRESNO, CA 93778-2616
(559) 981-1041 | FAX (559) 488-4195 | TTY 711
www.dot.ca.gov

February 17, 2022

FRE-5-4.456
Application for CUP – Conditional Use Permit
EIR No. 8189 and CUP No. 3734
https://ld-igr-gts.dot.ca.gov/district/6/report/25490

SENT VIA EMAIL

Jeremy Shaw, Planner
Development Services and Capital Projects Division
County of Fresno – Department of Public Works and Planning
2220 Tulare St., 6th Floor
Fresno, CA 93721

Dear Mr. Shaw,

Thank you for the opportunity to review the Conditional Use Permit (CUP) No. 3734 application and Project Description for the upcoming Environmental Impact Report (EIR) No. 8189, proposing to construct an energy storage system and appurtenant transmission infrastructure on an approximately 208-acre portion of three parcels (318-acres). The project includes a 500-kilovolt overhead generation tie line, which would extend north to the adjacent Pacific Gas and Electric Gates Substation. The facility, once constructed, would be operated remotely with periodic augmentation of batteries and weekly on-site maintenance requiring one or two workers in a light utility truck. The project site is located on the southeast corner of Lake Avenue and Jayne Avenue, approximately 1.5 miles east of the Interstate 5 (I-5) and Jayne Avenue interchange and 1.6 miles west of State Route (SR) 269 and Jayne Avenue intersection.

General Comments

Construction would occur in four phases. Phase 1 is to begin in 2024 and take 12 months to complete in 2025. Phase 2 would follow with 12 months completing in 2026 with Phase 3 and 4 expected to take an additional 1-3 years. In total, the project anticipates being in construction for 3 to 5 years. Up to 300 worker trips and 80 vendor truck trips per day would be anticipated during the construction phases. Given that the project site is near I-5 and SR 269 and the potential trip generation from construction, the proposed project may have a significant impact on the state highway facilities. It is recommended that a Traffic Impact Study (TIS) be conducted. The scope of the study should include safety, operations, and queuing analysis for the intersection within the I-5 / Jayne Avenue interchange.

Caltrans provides the following comments to better support the State's smart mobility goals that support a vibrant economy and sustainable communities:

1. It is expected that the proposed project, during construction, could potentially impact nearby state highway facilities and local roads.

2. As noted above, Caltrans recommends that a traffic study be conducted to properly assess the potential impacts of the project, a Scope of Work should be prepared and submitted to Caltrans for review and approval, at minimum a Transportation Management Plan (TMP) may be required for construction traffic.

3. Oversize and/or overweight trucks using the state highway will require Transportation Permits from Caltrans.

4. An encroachment permit must be obtained for all proposed activities for placement of encroachments within, under or over the State highway rights-of-way. Activity and work planned in the State right-of-way shall be performed to State standards and specifications, at no cost to the State. Engineering plans, calculations, specifications, and reports (documents) shall be stamped and signed by a licensed Engineer or Architect. Engineering documents for encroachment permit activity and work in the State right-of-way may be submitted using English Units. The Permit Department and the Environmental Planning Branch will review and approve the activity and work in the State right-of-way before an encroachment permit is issued. The Streets and Highways Code Section 670 provides Caltrans discretionary approval authority for projects that encroach on the State Highway System. Encroachment permits will be issued in accordance with Streets and Highway Codes, Section 671.5, "Time Limitations." Encroachment permits do not run with the land. A change of ownership requires a new permit application. Only the legal property owner or his/her authorized agent can pursue obtaining an encroachment permit.

5. Prior to an encroachment permit application submittal, the project proponent is required to schedule a "Pre-Submittal" meeting with District 6 Encroachment Permit Office. To schedule this meeting, please call the Caltrans Encroachment Permit Office - District 6: 1352 W. Olive, Fresno, CA 93778, at **(559) 488-4058**

   Please review the permit application - required document checklist at:
   https://forms.dot.ca.gov/v2Forms/servlet/FormRenderer?frmid=TR0402&distpath=MAOTO&brapath=PERM

Please also review the permit application - processing checklist at:
https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/encroachment-permits/tr-0416-applicable-review-process-checklist.pdf

If you have any other questions, please call or email Christopher Xiong at (559) 908-7064 or Christopher.Xiong@dot.ca.gov.

Sincerely,

DAVID PADILLA, Branch Chief
Transportation Planning – North

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

August 24, 2022

Jeremy Shaw
County of Fresno
Department of Public Works and Planning
2220 Tulare Street, Sixth Floor
Fresno, CA 93721

Project: Notice of Preparation of a Draft Environmental Impact Report for the Key Energy Storage Project

District CEQA Reference No: 20221021

Dear Mr. Shaw:

The San Joaquin Valley Air Pollution Control District (District) has reviewed the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) from the County of Fresno (County) for the Key Energy Storage Project. Per the NOP, the project consists of the construction, operation, maintenance and decommissioning of an energy storage facility on approximately 318 acres of land (Project). The Project is located south of West Jayne Avenue, between I-5 and South Lassen Avenue, near Avenal, CA.

The District offers the following comments regarding the Project:

1) Project Related Emissions

At the federal level under the National Ambient Air Quality Standards (NAAQS), the District is designated as extreme nonattainment for the 8-hour ozone standards and serious nonattainment for the particulate matter less than 2.5 microns in size (PM2.5) standards. At the state level under California Ambient Air Quality Standards (CAAQS), the District is designated as nonattainment for the 8-hour ozone, PM10, PM2.5 standards.

The documents submitted to the District do not provide sufficient information to allow the District to assess the Project's potential impact on air quality. As such, the environmental review should include a Project summary detailing, at a minimum, the land use designation, estimates of potential mobile and stationary emission sources. The District recommends that a more detailed preliminary review of the Project be conducted for the Project's construction and operational emissions.

Samir Sheikh
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: (661) 392-5500 FAX: (661) 392-5585

www.valleyair.org www.healthyairliving.com

1a) Construction Emissions

The District recommends, to reduce impacts from construction-related diesel exhaust emissions, the Project should utilize the cleanest available off-road construction equipment, including the latest tier equipment.

1b) Operational Emissions

Operational (ongoing) air emissions from mobile sources and stationary sources should be analyzed separately. For reference, the District's significance thresholds are identified in the District's Guidance for Assessing and Mitigating Air Quality Impacts: https://www.valleyair.org/transportation/GAMAQI.pdf.

Recommended Mitigation Measure: At a minimum, project related impacts on air quality should be reduced to levels of significance through incorporation of design elements such as the use of cleaner Heavy Heavy-Duty (HHD) trucks and vehicles, measures that reduce Vehicle Miles Traveled (VMTs), and measures that increase energy efficiency. More information on transportation mitigation measures can be found at: http://www.valleyair.org/transportation/Mitigation-Measures.pdf.

1c) Recommended Model for Quantifying Air Emissions

Project-related criteria pollutant emissions from construction and operational sources should be identified and quantified. Emissions analysis should be performed using the California Emission Estimator Model (CalEEMod), which uses the most recent CARB-approved version of relevant emissions models and emission factors. CalEEMod is available to the public and can be downloaded from the CalEEMod website at: www.caleemod.com.

2) Health Risk Screening/Assessment

The County should evaluate the risk associated with the Project for sensitive receptors (residences, businesses, hospitals, day-care facilities, health care facilities, etc.) in the area and mitigate any potentially significant risk to help limit exposure of sensitive receptors to emissions.

To determine potential health impacts on surrounding receptors (residences, businesses, hospitals, day-care facilities, health care facilities, etc.) a Prioritization and/or a Health Risk Assessment (HRA) should be performed for the Project. These health risk determinations should quantify and characterize potential Toxic Air Contaminants (TACs) identified by the Office of Environmental Health Hazard Assessment/California Air Resources Board (OEHHA/CARB) that pose a present or potential hazard to human health.

Health risk analyses should include all potential air emissions from the project, which include emissions from construction of the project, including multi-year construction, as well as ongoing operational activities of the project. Note, two common sources of TACs can be attributed to diesel exhaust emitted from heavy-duty off-road earth moving equipment during construction, and from ongoing operation of heavy-duty on-road trucks.

Prioritization (Screening Health Risk Assessment):
A "Prioritization" is the recommended method for a conservative screening-level health risk assessment. The Prioritization should be performed using the California Air Pollution Control Officers Association's (CAPCOA) methodology.

The District recommends that a more refined analysis, in the form of an HRA, be performed for any project resulting in a Prioritization score of 10 or greater. This is because the prioritization results are a conservative health risk representation, while the detailed HRA provides a more accurate health risk evaluation.

To assist land use agencies and project proponents with Prioritization analyses, the District has created a prioritization calculator based on the aforementioned CAPCOA guidelines, which can be found here:
http://www.valleyair.org/busind/pto/emission_factors/Criteria/Toxics/Utilities/PRIORITIZATION-CALCULATOR.xls

Health Risk Assessment:
Prior to performing an HRA, it is strongly recommended that land use agencies/ project proponents develop and submit for District review a health risk modeling protocol that outlines the sources and methodologies that will be used to perform the HRA. This step will ensure all components are addressed when performing the HRA.

A development project would be considered to have a potentially significant health risk if the HRA demonstrates that the project-related health impacts would exceed the District's significance threshold of 20 in a million for carcinogenic risk, or 1.0 for either the Acute or Chronic Hazard Indices.

A project with a significant health risk would trigger all feasible mitigation measures. The District strongly recommends that development projects that result in a significant health risk not be approved by the land use agency.

The District is available to review HRA protocols and analyses. For HRA submittals please provide the following information electronically to the District for review:

- HRA (AERMOD) modeling files
- HARP2 files
- Summary of emissions source locations, emissions rates, and emission factor calculations and methodologies.

For assistance, please contact the District's Technical Services Department by:

- E-Mailing inquiries to: hramodeler@valleyair.org
- Calling (559) 230-5900

Recommended Measure: Development projects resulting in TAC emissions should be located an adequate distance from residential areas and other sensitive receptors in accordance to CARB's Air Quality and Land Use Handbook: A Community Health Perspective located at https://ww3.arb.ca.gov/ch/handbook.pdf.

3) Ambient Air Quality Analysis

An Ambient Air Quality Analysis (AAQA) uses air dispersion modeling to determine if emissions increases from a project will cause or contribute to a violation of State or National Ambient Air Quality Standards. The District recommends an AAQA be performed for the Project if emissions exceed 100 pounds per day of any pollutant.

An acceptable analysis would include emissions from both project-specific permitted and non-permitted equipment and activities. The District recommends consultation with District staff to determine the appropriate model and input data to use in the analysis.

Specific information for assessing significance, including screening tools and modeling guidance, is available online at the District's website: www.valleyair.org/ceqa.

4) Voluntary Emission Reduction Agreement

Criteria pollutant emissions may result in emissions exceeding the District's significance thresholds, potentially resulting in a significant impact on air quality. When a project is expected to have a significant impact, the District recommends the DEIR also include a discussion on the feasibility of implementing a Voluntary Emission Reduction Agreement (VERA) for this Project.

A VERA is a mitigation measure by which the project proponent provides pound-for-pound mitigation of emissions increases through a process that develops, funds, and

implements emission reduction projects, with the District serving a role of administrator of the emissions reduction projects and verifier of the successful mitigation effort. To implement a VERA, the project proponent and the District enter into a contractual agreement in which the project proponent agrees to mitigate project specific emissions by providing funds for the District's incentives programs. The funds are disbursed by the District in the form of grants for projects that achieve emission reductions. Thus, project-related impacts on air quality can be mitigated. Types of emission reduction projects that have been funded in the past include electrification of stationary internal combustion engines (such as agricultural irrigation pumps), replacing old heavy-duty trucks with new, cleaner, more efficient heavy-duty trucks, and replacement of old farm tractors.

In implementing a VERA, the District verifies the actual emission reductions that have been achieved as a result of completed grant contracts, monitors the emission reduction projects, and ensures the enforceability of achieved reductions. After the project is mitigated, the District certifies to the Lead Agency that the mitigation is completed, providing the Lead Agency with an enforceable mitigation measure demonstrating that project-related emissions have been mitigated. To assist the Lead Agency and project proponent in ensuring that the environmental document is compliant with CEQA, the District recommends the environmental document includes an assessment of the feasibility of implementing a VERA.

5) Additional Air Quality Evaluation and Discussion to Include in the DEIR

a. A discussion of the methodology, model assumptions, inputs and results used in characterizing the Project's impact on air quality. To comply with CEQA requirements for full disclosure, the District recommends that the modeling outputs be provided as appendices to the EIR. The District further recommends that the District be provided with an electronic copy of all input and output files for all modeling.

b. A discussion of the components and phases of the Project and the associated air emissions projections, including ongoing emissions from each previous phase.

c. A discussion of whether the Project would result in a cumulatively considerable net increase of any criteria pollutant or precursor for which the San Joaquin Valley Air Basin is in non-attainment. For reference and guidance, more information can be found in the District's Guidance for Assessing and Mitigating Air Quality Impacts at: https://www.valleyair.org/transportation/GAMAQI.pdf

   Therefore, the District recommends that the environmental document include a discussion of how a project will conform to the Court's holding.

6) District Rules and Regulations

The District issues permits for many types of air pollution sources, and regulates some activities that do not require permits. A project subject to District rules and regulations would reduce its impacts on air quality through compliance with the District's regulatory framework. In general, a regulation is a collection of individual rules, each of which deals with a specific topic. As an example, Regulation II (Permits) includes District Rule 2010 (Permits Required), Rule 2201 (New and Modified Stationary Source Review), Rule 2520 (Federally Mandated Operating Permits), and several other rules pertaining to District permitting requirements and processes.

The list of rules below is neither exhaustive nor exclusive. Current District rules can be found online at: www.valleyair.org/rules/1ruleslist.htm. To identify other District rules or regulations that apply to future projects, or to obtain information about District permit requirements, the project proponents are strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (559) 230-5888.

6a) District Rules 2010 and 2201 - Air Quality Permitting for Stationary Sources

Stationary Source emissions include any building, structure, facility, or installation which emits or may emit any affected pollutant directly or as a fugitive emission. District Rule 2010 (Permits Required) requires operators of emission sources to obtain an Authority to Construct (ATC) and Permit to Operate (PTO) from the District. District Rule 2201 (New and Modified Stationary Source Review) requires that new and modified stationary sources of emissions mitigate their emissions using Best Available Control Technology (BACT).
This Project may be subject to District Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review) and may require District permits. Prior to construction, the Project proponent should submit to the District an application for an ATC. For further information or assistance, the project proponent may contact the District's SBA Office at (559) 230-5888.

6b) District Rule 9510 - Indirect Source Review (ISR)

The Project is subject to District Rule 9510 because it will receives a project-level discretionary approval from a public agency and will equal or exceed 9,000 square feet of space.

The purpose of District Rule 9510 is to reduce the growth in both NOx and PM emissions associated with development and transportation projects from mobile and area sources; specifically, the emissions associated with the construction and subsequent operation of development projects. The ISR Rule requires

developers to mitigate their NOx and PM emissions by incorporating clean air design elements into their projects. Should the proposed development project clean air design elements be insufficient to meet the required emission reductions, developers must pay a fee that ultimately funds incentive projects to achieve off-site emissions reductions.

Per Section 5.0 of the ISR Rule, an Air Impact Assessment (AIA) application is required to be submitted no later than applying for project-level approval from a public agency. As of the date of this letter, the District has not received an AIA application for this Project. Please inform the project proponent to immediately submit an AIA application to the District to comply with District Rule 9510. It is preferable for the applicant to submit an AIA application as early as possible in the County's approval process so that proper mitigation and clean air design under ISR can be incorporated into the County's analysis.

Information about how to comply with District Rule 9510 can be found online at: http://www.valleyair.org/ISR/ISRHome.htm.

The AIA application form can be found online at: http://www.valleyair.org/ISR/ISRFormsAndApplications.htm.

District staff is available to provide assistance, and can be reached by phone at (559) 230-5900 or by email at ISR@valleyair.org.

6c) District Rule 4601 (Architectural Coatings)

The Project may be subject to District Rule 4601 since it may utilize architectural coatings. Architectural coatings are paints, varnishes, sealers, or stains that are applied to structures, portable buildings, pavements or curbs. The purpose of this rule is to limit VOC emissions from architectural coatings. In addition, this rule specifies architectural coatings storage, cleanup and labeling requirements. Additional information on how to comply with District Rule 4601 requirements can be found online at: http://www.valleyair.org/rules/currntrules/r4601.pdf

6d) District Regulation VIII (Fugitive PM10 Prohibitions)

The project proponent may be required to submit a Construction Notification Form or submit and receive approval of a Dust Control Plan prior to commencing any earthmoving activities as described in Regulation VIII, specifically Rule 8021 – *Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities.*

Should the project result in at least 1-acre in size, the project proponent shall provide written notification to the District at least 48 hours prior to the project

proponents intent to commence any earthmoving activities pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). Also, should the project result in the disturbance of 5-acres or more, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials, the project proponent shall submit to the District a Dust Control Plan pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). For additional information regarding the written notification or Dust Control Plan requirements, please contact District Compliance staff at (559) 230-5950.

The application for both the Construction Notification and Dust Control Plan can be found online at:
https://www.valleyair.org/busind/comply/PM10/forms/DCP-Form.docx

Information about District Regulation VIII can be found online at:
http://www.valleyair.org/busind/comply/pm10/compliance_pm10.htm

6e) Other District Rules and Regulations

The Project may also be subject to the following District rules: Rule 4102 (Nuisance) and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations).

7) District Comment Letter

The District recommends that a copy of the District's comments be provided to the Project proponent.

If you have any questions or require further information, please contact Matt Crow by e-mail at Matt.Crow@valleyair.org or by phone at (559) 230-5931.

Sincerely,

Brian Clements
Director of Permit Services

For: Mark Montelongo
Program Manager

Janna Scott

Subject: FW: CEQA Comments: NOP for Key Energy Storage Project, 20221021

Importance: High

From: Matt Crow <Matt.Crow@valleyair.org>
Sent: Thursday, August 25, 2022 10:26 AM
To: Shaw, Jeremy <jshaw@fresnocountyca.gov>
Subject: RE: CEQA Comments: NOP for Key Energy Storage Project, 20221021

Hi Jeremy,

Thank you for bringing this up. That sentence should not have been included in the letter. We can re-issue another letter if you'd like, just let me know!

Regards
Matt Crow

From: Shaw, Jeremy <jshaw@fresnocountyca.gov>
Sent: Thursday, August 25, 2022 8:08 AM
To: Matt Crow <Matt.Crow@valleyair.org>
Subject: [SPAM] RE: CEQA Comments: NOP for Key Energy Storage Project, 20221021
Importance: High

Hello Matt,

I actually do have one question; at the bottom of page 5 of 8 there is a sentence which reads " Therefore, the District recommends….how a project will conform to the Courts holding". Can you clarify that reference?

Thank you.

Sincerely,

Jeremy Shaw | **Planner**
Department of Public Works and Planning |
Development Services and Capital Projects Division
2220 Tulare St. 6th Floor Fresno, CA 93721
Main Office: (559) 600-4230 Direct: (559) 600-4207
Your input matters! Customer Service Survey

From: Matt Crow <Matt.Crow@valleyair.org>
Sent: Wednesday, August 24, 2022 5:32 PM
To: Shaw, Jeremy <jshaw@fresnocountyca.gov>
Subject: CEQA Comments: NOP for Key Energy Storage Project, 20221021

Hi Jeremy,

Please see the attached comment letter for your project. Let me know if there are any questions.

Regards

Matt Crow
Air Quality Specialist I
San Joaquin Valley Air Pollution Control District
1990 E. Gettysburg Avenue Fresno, CA 93726
Phone: (559) 230.5931
Matt.Crow@valleyair.org

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Central Region
1234 East Shaw Avenue
Fresno, California 93710
(559) 243-4005
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

September 2, 2022

Jeremy Shaw, Planner
Fresno County, Development Services and Capital Projects Division
2220 Tulare Street, Sixth Floor
Fresno, California 93721
jshaw@fresnocountyca.gov
(559) 600-4207

Subject: Notice of Preparation (NOP) – Environmental Impact Report (EIR) No. 8189, CUP No. 3734, Key Energy Storage, LLC Project (Project) SCH No.: 2022070414

Dear Mr. Shaw:

The California Department of Fish and Wildlife (CDFW) received a NOP from Fresno County for the above-referenced Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under Fish and Game Code. While the comment period may have ended, CDFW would appreciate if you will still consider our comments.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statue for all the people of the State (Fish and G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (*Id*., § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

projects and related activities that have the potential to adversely affect fish and wildlife resources.
CDFW is also submitting comments as a **Responsible Agency** under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority (Fish & G. Code, § 1600 et seq.). Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

Nesting Birds: CDFW has jurisdiction over actions with potential to result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, their eggs and nests include, sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

PROJECT DESCRIPTION SUMMARY

Proponent: Key Energy Storage, LLC

Objective: The Project proposes to construct and operate the Key Energy Storage Project (Project) on approximately 208 acres in unincorporated Fresno County. The Project would include development of an energy storage system facility and associated on-site support facilities including a substation, inverters, collector lines, fencing, access roads, supervisory control and data acquisition (SCADA) system, and other ancillary facilities or equipment. The energy storage facility is anticipated to consist of lithium-ion batteries with the potential to store approximately three (3)- gigawatt (GW) of energy. The Project would also include a 500-kilovolt (kV), 0.3-mile long overhead generation tie line (gen-tie line), which would extend north to the adjacent Pacific Gas and Electric (PG&E) Gates Substation on an approximately 208-acre portion of three parcels totaling approximately 318-acres AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District.

Location: The Project site is in unincorporated Fresno County, approximately 11.5-miles east of the City of Coalinga, approximately 7.5 miles north of the City of Avenal, California, and approximately 0.4 miles west of Interstate 5. The Project site is located southwest of the PG&E Gates Substation along West Jayne Avenue. (Assessor Parcel Numbers [APNs] 085-040-36S, 085-040-37S, and 085-040-58S).

The Fresno County General Plan land use designation for the Project site is Agriculture. The entire Project site is designated as Prime Farmland that is covered by Williamson Act Contracts.

Timeframe: Buildout of the Project would occur in phases, with Phase I expected to come online in 2025, and Phase 2 expected to come online by 2026. After that, Phases 3 and 4 are expected to come online between 1 to 3 years after the previous phase, based on the region's increasing demand for energy storage. The timing of when phases would be online is approximate.

COMMENTS AND RECOMMENDATIONS

The NOP indicates that the Environmental Impact Report (EIR) for the Project will consider potential environmental effects of the proposed Project to determine the level of significance of the environmental effect and will analyze these potential effects to the detail necessary to make a determination on the level of significance. The EIR will also identify and evaluate alternatives to the proposed project. When an EIR is prepared, the specifics of mitigation measures may be deferred, provided the lead agency commits to mitigation and establishes performance standards for implementation.

Special-status species have been documented in the Project area per the California Natural Diversity Database (CNDDB), these include, but are not limited to, the Federally endangered and State threatened San Joaquin kit fox (*Vulpes macrotis mutica*), the State threatened Swainson's hawk (*Buteo swainsoni*), and the State species of special concern burrowing owl (*Athene cunicularia*), and American badger (*Taxidea taxus*).

San Joaquin kit fox (SJKF)

SJKF occurrences have been documented within the Project area approximately 3.5-miles to the east, along the California Aqueduct (CDFW 2022). The Project has the potential to temporarily disturb and permanently alter suitable habitat for SJKF and directly impact individuals if present during construction, recharge, and other activities.

SJKF den in a variety of areas such as right-of-ways, agricultural and fallow/ruderal habitat, dry stream channels, and canal levees, and populations can fluctuate over time. SJKF are also capable of occupying urban environments (Cypher and Frost 1999). SJKF may be attracted to the Project area due to the type and level of ground-disturbing activities and the loose, friable soils resulting from intensive ground disturbance. SJKF will forage in fallow and agricultural fields, which are present in the Project area, and utilize streams and canals as dispersal corridors. Project information states that a swale and two ponding basins will be created within Project limits. As a result, there is potential for SJKF to occupy all suitable habitat within the area near West Jayne Avenue to the east of Interstate 5 and the surrounding area.

Habitat loss resulting from land conversion to agricultural, urban, and industrial development is the primary threat to SJKF (Cypher et al. 2013). The proposed Project area has supported areas of high suitability habitat per CNDDB records (CDFW 2022). The Project area is within this remaining highly suitable habitat, which is otherwise intensively managed for agriculture. Therefore, subsequent ground-disturbing activities have the potential to significantly impact local SJKF populations.

For all Project-specific components including construction and land conversion, CDFW recommends that a qualified biologist conduct a habitat assessment in advance of Project implementation, to determine if the Project area or its immediate vicinity contains suitable habitat for SJKF. CDFW recommends during the biological surveys and technical analysis in support of the projects CEQA document assessing presence/absence of SJKF by having qualified biologists conducting surveys of Project areas and a 500-foot buffer of Project areas to detect SJKF and their sign. CDFW also recommends following the USFWS "Standardized recommendations for protection of the San Joaquin kit fox prior to or during ground disturbance" (USFWS. 2011).

SJKF detection warrants consultation with CDFW to discuss how to avoid take or, if avoidance is not feasible, to acquire an Incidental Take Permit (ITP) prior to ground-disturbing activities, pursuant to Fish and Game Code section 2081 subdivision (b).

Swainson's Hawk (SWHA)

Based on aerial photography and CNDDB occurrences (CDFW 2022), SWHA have the potential to forage within the Project vicinity. SWHA have been observed near the California Aquaduct several miles to the northeast of the proposed Project site. Without appropriate avoidance and minimization measures for SWHA, potential significant impacts that may result from Project activities include loss of foraging habitat that would reduce nesting success (loss or reduced health or vigor of eggs or young), and direct mortality. Any take of SWHA without appropriate incidental take authorization would be a violation of Fish and Game Code.

SWHA exhibit high nest-site fidelity year after year and lack of suitable nesting habitat in the San Joaquin Valley limits their local distribution and abundance (CDFW 2016). Zapato Chino Creek is located approximately 2.8-miles west of the proposed Project site, and per Google aerials this ephemeral creek appears to have large enough trees to support nesting activities, in addition, the surrounding agricultural crops near the Project site may provide foraging habitat. The Project as proposed will involve noise, groundwork, and movement of workers that could affect nests in the vicinity of the Project and has the potential to result in nest abandonment, significantly impacting local nesting SWHA. To evaluate potential impacts, CDFW recommends that a qualified wildlife biologist conduct surveys for nesting SWHA following the survey methods developed by the Swainson's Hawk Technical Advisory Committee (SWHA TAC, 2000)

during biological studies conducted in support of the projects CEQA document. The survey protocol includes early season surveys to assist the project proponent in implementing necessary avoidance and minimization measures, and in identifying active nest sites prior to initiating ground-disturbing activities.

If ground-disturbing Project activities are to take place during the normal bird breeding season (March 1 through September 15), CDFW recommends that additional pre-activity surveys for active nests be conducted by a qualified biologist no more than 10 days prior to the start of Project implementation. CDFW recommends a minimum no-disturbance buffer of ½ mile be delineated around active nests until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival.

CDFW recommends compensation for the loss of SWHA foraging habitat to reduce impacts to SWHA foraging habitat to less than significant based on CDFW's "Staff Report Regarding Mitigation for Impacts to Swainson's Hawks" (CDFG, 1994), which recommends that mitigation for habitat loss occur within a minimum distance of 10 miles from known nest sites with the amount of habitat compensation dependent on nest proximity. In addition to fee title acquisition or a conservation easement recorded on property with suitable grassland habitat features, mitigation may occur by the purchase of conservation or suitable agricultural easements. Suitable agricultural easements would include areas limited to production of crops such as alfalfa, dry land and irrigated pasture, and cereal grain crops. Vineyards, orchards, cotton fields, and other dense vegetation do not provide adequate foraging habitat.

In addition, CDFW recommends that in the event an active SWHA nest is detected during surveys and the ½-mile no-disturbance buffer around the nest cannot feasibly be implemented, consultation with CDFW is warranted to discuss how to implement the project and avoid take. If take cannot be avoided, take authorization through the acquisition of an ITP, pursuant to Fish and Game Code section 2081 subdivision (b) is warranted to comply with CESA

Burrowing Owl (BUOW)

BUOW have been observed approximately 4-miles from the Project site (CNDDB 2022). BUOW inhabit open grassland or adjacent canal banks, rights-of-way, vacant lots, etc., containing small mammal burrows, a requisite habitat feature used by BUOW for nesting and cover. Review of Google aerial imagery and Google Streetview (2021) indicates that a portion of the Project site contains agriculture in the form of orchards/groves in the middle area of the Project site, but the northern-most portion of the Project area has been cleared and contains piles of previous orchard trees. The ground in this area appears to be tilled/disturbed at the time the Streetview images were taken. The southern-most property appears to be disturbed grassland per review of aerial photos.

Potentially significant direct impacts associated with subsequent construction activities include burrow collapse, inadvertent entrapment, nest abandonment, reduced reproductive success, reduction in health and vigor of eggs and/or young, and direct mortality of individuals.

BUOW rely on burrow habitat year-round for their survival and reproduction. Habitat loss and degradation are considered the greatest threats to BUOW in California's Central Valley (Gervais et al. 2008). The Project site is bordered by agriculture and what appears to be disturbed habitat/grassland. There are solar panels to the north of the Project site (across W. Jayne Avenue), and to the southwest. Therefore, subsequent ground-disturbing activities associated with the Project have the potential to significantly impact local BUOW populations. In addition, and as described in CDFW's "Staff Report on Burrowing Owl Mitigation" (CDFG 2012), excluding and/or evicting BUOW from their burrows is considered a potentially significant impact under CEQA.

CDFW recommends that a qualified biologist conduct a habitat assessment during biological studies in support of the projects CEQA document, to determine if the Project area or its vicinity contains suitable habitat for BUOW, along with assessing presence/absence of BUOW by having a qualified biologist conduct surveys following the California Burrowing Owl Consortium's "Burrowing Owl Survey Protocol and Mitigation Guidelines" (CBOC 1993) and CDFW's Staff Report on Burrowing Owl Mitigation" (CDFG 2012). Specifically, the California Burrowing Owl Consortium (CBOC) and CDFW's Staff Report suggest three or more surveillance surveys conducted during daylight with each visit occurring at least three weeks apart during the peak breeding season (April 15 to July 15), when BUOW are most detectable.

CDFW recommends no-disturbance buffers, as outlined in the "Staff Report on Burrowing Owl Mitigation" (CDFG 2012), be implemented prior to and during any ground-disturbing activities. Specifically, CDFW's Staff Report recommends that impacts to occupied burrows be avoided in accordance with the following table unless a qualified biologist approved by CDFW verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Location	Time of Year	Level of Disturbance		
		Low	Med	High
Nesting sites	April 1-Aug 15	200 m*	500 m	500 m
Nesting sites	Aug 16-Oct 15	200 m	200 m	500 m
Nesting sites	Oct 16-Mar 31	50 m	100 m	500 m

* meters (m)

If BUOW are found within these recommended buffers and avoidance is not possible, it is important to note that according to the Staff Report (CDFG 2012), exclusion is not a take avoidance, minimization, or mitigation method and is considered a potentially significant impact under CEQA. However, if necessary, CDFW recommends that burrow exclusion be conducted by qualified biologists and only during the non-breeding season, before breeding behavior is exhibited and after the burrow is confirmed empty through non-invasive methods, such as surveillance. CDFW recommends replacement of occupied burrows with artificial burrows at a ratio of 1 burrow collapsed to 1 artificial burrow constructed (1:1) as mitigation for the potentially significant impact of evicting BUOW. BUOW may attempt to colonize or re-colonize an area that will be impacted; thus, CDFW recommends ongoing surveillance, at a rate that is sufficient to detect BUOW if they return.

American Badger (AMBA)

AMBA are known to occur in the vicinity of the Project site (CDFW 2022). Badgers occupy sparsely vegetated land cover with dry, friable soils to excavate dens, which they use for cover, and that support fossorial rodent prey populations (i.e. ground squirrels, pocket gophers, etc.) (Zeiner et. al 1990). The Project site may support these requisite habitat features. Therefore, the Project has the potential to impact AMBA. Without appropriate avoidance and minimization measures for AMBA, potentially significant impacts associated with ground disturbance from construction activities include direct mortality or natal den abandonment, which may result in reduced health or vigor of young.

Habitat loss is a primary threat to AMBA (Gittleman et al. 2001). The proposed Project would rezone a currently agricultural/open space area to an energy storage facility that would consist of lithium-ion batteries with the potential to store approximately three (3)-gigawatt (GW) of energy. The Project would also include a 500-kilovolt (kV), 0.3-mile long overhead generation tie line (gen-tie line), and thus would result in a high degree of land conversion and potential habitat fragmentation. As a result, ground-disturbing activities have the potential to significantly impact local populations of AMBA.

CDFW recommends that a qualified biologist determine if suitable habitat for AMBA is present within or immediately adjacent to the Project site. If suitable habitat is present, CDFW recommends that a qualified biologist conduct focused surveys for AMBA and their requisite habitat features (dens) to evaluate potential impacts resulting from ground- and vegetation-disturbance. Avoidance whenever possible is encouraged via delineation and observation of a 50-foot no-disturbance buffer around dens until it is determined through non-invasive means that individuals occupying the den have dispersed.

II. Editorial Comments and/or Suggestions

Nesting Birds: The Project site contains and is adjacent to habitat that provides nesting habitat for birds. CDFW encourages that Project implementation occur during the bird non-nesting season. However, if ground-disturbing or vegetation-disturbing activities must occur during the breeding season (February through mid-September), the Project applicant is responsible for ensuring that implementation of the Project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes sections referenced above.

To evaluate Project-related impacts on nesting birds, CDFW recommends that a qualified wildlife biologist conduct an assessment of nesting habitat during biological surveys in support of the project's CEQA document, and then repeated as pre-activity surveys for active nests no more than 10 days prior to the start of ground or vegetation disturbance to maximize the probability that nests that could potentially be impacted are detected. CDFW also recommends that surveys cover a sufficient area around the Project site to identify nests and determine their status. A sufficient area means any area potentially affected by the Project. Prior to initiation of Project activities, CDFW recommends that a qualified biologist conduct a survey to establish a behavioral baseline of all identified nests. Once Project activities begin, CDFW recommends having a qualified biologist continuously monitor nests to detect behavioral changes resulting from the Project. If behavioral changes occur, CDFW recommends halting the work causing that change and consulting with CDFW for additional avoidance and minimization measures.

If continuous monitoring of identified nests by a qualified wildlife biologist is not feasible, CDFW recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors. These buffers are advised to remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or on-site parental care for survival. Variance from these no-disturbance buffers is possible when there is compelling biological or ecological reason to do so, such as when the Project site would be concealed from a nest site by topography. CDFW recommends that a qualified wildlife biologist advise and support any variance from these buffers and notify CDFW in advance of implementing a variance.

Pesticide and Rodenticide Use: Project information includes potential use of rodenticides. The Project has the potential to temporarily and permanently impact biological resources through the use of pesticides. The United States Environmental Protection Agency (USEPA) regulates pesticides at the Federal level and the California Department of Pesticide Regulation (DPR) regulates pesticides at the State Level. The use of pesticides, including anticoagulants and their potential for secondary poisoning to

native species, is a significant concern. According to Baker (2018), "pesticides can indirectly impact wildlife through reduction of food resources and refuges, starvation due to decreased prey availability, hypothermia, and secondary poisoning". CDFW recommends the CEQA document address and fully analyze the use of pesticides, including the risk of secondary poisoning to native species caused by the use of rodenticides. CDFW recommends the CEQA document include a measure that requires the use of herbicides, rodenticides, or fertilizers on the Project area to be restricted to those approved by USEPA and DPR.

Project Alternatives Analysis: CDFW recommends that the information and results obtained from the biological technical surveys, studies, and analysis conducted in support of the project's CEQA document be used to develop and modify the project's alternatives to avoid and minimize impacts to biological resources to the maximum extent possible. When efforts to avoid and minimize have been exhausted, remaining impacts to sensitive biological resources should be mitigated to reduce impacts to a less than significant level, if feasible.

Cumulative Impacts: CDFW recommends that a cumulative impact analysis be conducted for all biological resources that will either be significantly or potentially significantly impacted by implementation of the Project, including those whose impacts are determined to be less than significant with mitigation incorporated or for those resources that are rare or in poor or declining health and will be impacted by the project, even if those impacts are relatively small (i.e. less than significant). CDFW recommends cumulative impacts be analyzed using an acceptable methodology to evaluate the impacts of past, present, and reasonably foreseeable future projects on resources and be focused specifically on the resource, not the Project. An appropriate resource study area identified and utilized for this analysis is advised. CDFW staff is available for consultation in support of cumulative impacts analyses as a trustee and responsible agency under CEQA.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special-status species and natural communities detected during Project surveys to CNDDB. The CNDDB field survey form can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data. The completed form can be mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov. The types of information reported to CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

FILING FEES

If it is determined that the Project has the potential to impact biological resources, an assessment of filing fees will be necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089).

CDFW appreciates the opportunity to comment on the Project to assist Fresno County Department of Public Works and Planning in identifying and mitigating the Project's impacts on biological resources.

More information on survey and monitoring protocols for sensitive species can be found at CDFW's website (https://www.wildlife.ca.gov/Conservation/Survey-Protocols). If you have any questions, please contact Kelley Nelson, Environmental Scientist, at the address provided on this letterhead, or by electronic mail at Kelley.Nelson@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Annee Ferranti
041A77B10D78486...

Annee Ferranti for Julie A. Vance
Regional Manager

ec: Patricia Cole (patricia_cole@fws.gov)
United States Fish and Wildlife Service

LITERATURE CITED

CDFW. 2022. Biogeographic Information and Observation System (BIOS). https://www.wildlife.ca.gov/Data/BIOS. Accessed August 12, 2022.

SJKF Literature Citations

Cypher and Frost 1999

Cypher, B. L., S. E. Phillips, P. A. Kelly, 2013. Quantity and distribution of suitable habitat for endangered San Joaquin kit foxes: conservation implications. Canid Biology and Conservation 16(7): 25–31.

USFWS. 2011. Standard recommendations for the protection of the San Joaquin kit fox prior to or during ground disturbance. United States Fish and Wildlife Service, January 2011.

SWHA Literature Citations

CDFG. 1994 Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) November 8, 1994.

CDFW. 2016. Five Year Status Review for Swainson's Hawk (*Buteo swainsoni*). California Department of Fish and Wildlife. April 11, 2016.

Swainson's Hawk Technical Advisory Committee (SWHA TAC). 2000. Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley. Swainson's Hawk Technical Advisory Committee, May 31, 2000.

BUOW Literature Citations

California Burrowing Owl Consortium. 1993. Burrowing owl survey protocol and mitigation guidelines. April 1993.

CDFG. 2012. Staff Report on Burrowing Owl Mitigation. California Department of Fish and Game.

Gervais, J.A., D.D. Rosenberg, and L.A. Comrack. 2008. Burrowing Owl (Athene cunicularia) in Shuford, W.D. and T. Gardali, editors.

AMBA Literature Citations

Gittleman, J. L., S. M. Funk, D. MacDonald, and R. K. Wayne, 2001. Carnivore conservation. Cambridge University Press, Cambridge, United Kingdom.

Zeiner, D. C., W. F. Laudenslayer, Jr, K. E. Mayer, and M. White. 1990. California's Wildlife Volume I-III. California Department of Fish and Game, editor. Sacramento, CA, USA.

Pesticides/Rodenticides Citations

Baker, A. 2018. A review of the potential impacts of cannabis cultivation of fish and wildlife resources. California Department of Fish and Wildlife, Sacramento, California.

Inter Office Memo

DATE: September 7, 2022

TO: Jeremy Shaw, Planner
Development Services and Capital Projects Division, Current Planning Unit

FROM: Derek Chambers, Planner DC
Development Services and Capital Projects Division, Policy Planning Unit

SUBJECT: Environmental Impact Report (EIR) No. 8189 and Unclassified Conditional Use Permit (UCUP) Application No. 3734 (Key Energy Storage, LLC)

Environmental Impact Report (EIR) No. 8189 and associated Unclassified Conditional Use Permit (UCUP) Application No. 3734 proposes to allow construction of a 208-acre battery energy storage facility and a 5.14-acre substation on portions of an 80.34-acre parcel identified as APN 085-040-36s, another 80.34-acre parcel identified as APN 085-040-37s, and a 158.24-acre parcel identified as APN 085-040-58s.

Further, the project also proposes to construct a 0.3-mile-long Generation-Tie Line (Gen-Tie) to connect the proposed battery energy storage facility to PG&E's existing Gates Substation located at the northwest corner of Jayne Avenue and Trinity Avenue. The proposed Gen-Tie would traverse a 185.79-acre parcel identified as APN 075-060-45su, which is owned by PG&E.

The subject parcels are located in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District and are designated as Agricultural in the County General Plan.

Williamson Act:

The 80.34-acre parcel identified as APN 085-040-36s, the other 80.34-acre parcel identified as APN 085-040-37s, and the 158.24-acre parcel identified as APN 085-040-58s are enrolled in the Williamson Act Program under Contract No. 2068.

The 185.79-acre parcel identified as APN 075-060-45su that the Gen-Tie would traverse to carry the electricity between the Gates Substation and the subject site is not enrolled in the Williamson Act Program.

Pursuant to Fresno County Williamson Act Program Guidelines, the use of land enrolled in the Program is limited to commercial agricultural operations and certain compatible uses that have been adopted by the Board of Supervisors. The presence of commercial agricultural use is a precondition to compatible development on land restricted by a Williamson Act contract. The proposed battery energy storage facility, substation and Gen-Tie are neither permitted nor considered compatible uses on land enrolled in the Williamson Act Program. Therefore, all the acreage devoted to the battery energy storage facility, substation and Gen-Tie on the subject 318-acre site must be removed from the Williamson Act Program.

The applicant may submit a Notice of Nonrenewal to remove the area of the project site that will be devoted to the battery energy storage facility, substation and Gen-Tie from the Williamson Act Program. Land for which a Notice of Nonrenewal is recorded is subject to all Williamson Act restrictions until the expiration date of the contract, which is typically nine years from the date the Notice of Nonrenewal is recorded.

If the applicant wishes to pursue the proposed project without waiting for the area that will be utilized by the proposed project to be removed from the contract through the nonrenewal process, the applicant must submit a cancellation petition for removal of the area from the Williamson Act contract to be processed concurrently with the UCUP application No. 3734. The cancellation petition will be processed by County staff and will be presented to the Agricultural Land Conservation Committee and the Board of Supervisors for consideration.

No action shall be taken on EIR No. 8189 and associated UCUP Application No. 3734 until the required Cancellation petition is submitted to the Policy Planning Unit for processing, the petition is accepted as complete, and the petition is presented to the Agricultural Land Conservation Committee.

Enclosed is information regarding filing a Notice of Contract Nonrenewal and Cancellation of Williamson Act Contracts.

General Plan:

The Fresno County General Plan Policies relevant to the proposal are as follows:

LU-A.3: The County may allow by discretionary permit in areas designated Agriculture, special agricultural uses and agriculturally-related activities, including value-added processing facilities and certain non-agricultural uses listed in Table LU-3. Approval of these and similar uses in areas designated Agriculture shall be subject to the following criteria:

- ***a. The use shall provide a needed service to the surrounding agricultural area which cannot be provided more efficiently within urban areas or which requires location in a non-urban area because of unusual site requirements or operational characteristics;***
- ***b. The use should not be sited on productive agricultural lands if less productive land is available in the vicinity;***
- ***c. The operational or physical characteristics of the use shall not have a detrimental impact on water resources or the use or management of surrounding properties within at least one quarter (1/4) mile radius;***
- ***d. A probable workforce should be located nearby or be readily available;***
- ***e. For proposed agricultural commercial center uses the following additional criteria shall apply:***
  1. ***Commercial uses should be clustered in centers instead of single uses.***
  2. ***To minimize proliferation of commercial centers and overlapping of trade areas, commercial centers should be located a minimum of four (4) miles from any existing or approved agricultural or rural residential commercial center or designated commercial area of any city or unincorporated community.***

3. ***New commercial uses should be located within or adjacent to existing centers.***
4. ***Sites should be located on a major road serving the surrounding area.***
5. ***Commercial centers should not encompass more than one quarter (1/4) mile of road frontage, or one eighth (1/8) mile if both sides of the road are involved, and should not provide potential for developments exceeding ten (10) separate business activities, exclusive of caretakers' residences;***

f. ***For proposed value-added agricultural processing facilities, the evaluation under criteria "a" above shall consider the service requirements of the use and the capability and capacity of cities and unincorporated communities to provide the required services; and***
g. ***For proposed churches and schools, the evaluation under criteria LU-A.3.a above shall include consideration of the size of the facility. Such facilities should be no larger than needed to serve the surrounding agricultural community.***
h. ***When approving a discretionary permit for an existing commercial use, the criteria listed above shall apply except for LU-A.3.b, e.2, e.4 and e.5.***

LU-A.13: The County shall protect agricultural operations from conflicts with non-agricultural uses by requiring buffers between proposed non-agricultural uses and adjacent agricultural operations.

LU-A.14: The County shall ensure that the review of discretionary permits includes an assessment of the conversion of productive agricultural land and that mitigation be required where appropriate.

PF-C.17: The County shall, prior to consideration of any discretionary project related to land use, undertake a water supply evaluation. The evaluation shall include the following:

a. ***A determination that the water supply is adequate to meet the highest demand that could be permitted on the lands in question. If surface water is proposed, it must come from a reliable source and the supply must be made "firm" by water banking or other suitable arrangement. If groundwater is proposed, a hydrogeologic investigation may be required to confirm the availability of water in amounts necessary to meet project demand. If the lands in question lie in an area of limited groundwater, a hydrogeologic investigation shall be required.***
b. ***A determination of the impact that use of the proposed water supply will have on other water users in Fresno County. If use of surface water is proposed, its use must not have a significant negative impact on agriculture or other water users within Fresno County. If use of groundwater is proposed, a hydrogeologic investigation may be required. If the lands in question lie in an area of limited groundwater, a hydrogeologic investigation shall be required. Should the investigation determine that significant pumping-related physical impacts will extend beyond the boundary of the property in question, those impacts shall be mitigated.***
c. ***A determination that the proposed water supply is sustainable or that there is an acceptable plan to achieve sustainability. The plan must be structured***

such that it is economically, environmentally, and technically feasible. In addition, its implementation must occur prior to long-term and/or irreversible physical impacts, or significant economic hardship, to surrounding water users.

If you have any questions, please email me at dchambers@fresnocountyca.gov or call me at (559) 600-4205.

Enclosure

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CANCELLATION OF A WILLIAMSON ACT CONTRACT

The California Land Conservation Act (Williamson Act) was enacted in 1965. The purpose of the Williamson Act Program is to preserve agricultural and qualified open space lands by discouraging premature and unnecessary conversion to urban uses. The Williamson Act provides for private property owners to contract with Fresno County if they wish to voluntarily restrict their land to agricultural and qualified open space uses.

The preferred method of removing land from the Williamson Act program is through the Non-Renewal process. A landowner initiates a Notice of Non-Renewal for the entire contract or a portion of the contracted land, which begins a nine-year countdown to the expiration of the contract. The land is still subject to all the requirements and restrictions of the contract until it expires.

A Williamson Act contract cancellation is an option under limited circumstances and conditions set forth in Government Code (GC) § 51280 et seq. In such cases, landowners may petition the Board of Supervisors for Williamson Act contract cancellation. The Board may grant tentative cancellation only if it makes required statutory findings per GC § 51282(a)(1) and GC § 51282(b).

If the required five findings listed under GC § 51282(b) and listed below can be made by the Board of Supervisors, the landowner is required to pay a cancellation fee equal to 12.5% of the unrestricted fair market value of the property (GC § 51283(b)).

(1) The cancellation is for land on which a Notice of Non-Renewal has been filed.
(2) Cancellation is not likely to result in the removal of adjacent lands from agricultural use.
(3) Cancellation is for an alternate use that is consistent with the adopted General Plan.
(4) Cancellation will not result in discontiguous patterns of urban development.
(5) That there is no proximate non-contracted land which is both available and suitable for the use to which it is proposed the contracted land be put or that development of the contracted land would provide more contiguous patterns of urban development than development of proximate non-contracted land.

In considering the above five Findings, the Board will consider comments offered by the California Department of Conservation (DOC) and the recommendation from the Fresno County Agricultural Land Conservation Committee (ALCC). The DOC advises local governments on the provisions and enforcement of Williamson Act restrictions and the ALCC is advisory to the Board on Contract cancellation matters.

The Cancellation Petition must include the following:

- A completed Williamson Act application form for Non-Renewal of the property (or portion thereof) that is petitioned to be remove from the Williamson Act Program (white form). Staff prepares the Notice of Non-Renewal and will provide it to the Petitioner. Staff will contact the Petitioner once the Notice has been prepared. The Notice must be signed by all property owners and must be notarized prior to submittal to County Staff for recordation;

- A completed application form for cancellation (or partial cancellation). Staff will provide the application form (green form);

- Written responses to the five Findings (must be typed);

- A copy of the recorded Grant Deed with clear legal description of the property that is subject to the Contract;

- The legal description of land subject to cancellation prepared, stamped, and signed by a licensed land surveyor. If the cancellation is for the whole parcel, the surveyor may use the legal description included in the deed and sign and stamp the legal description. The acreage of land and the Assessor Parcel Number of the parcel subject to cancellation must be included in the legal description;

- Information about current and the historical agricultural operation/usage of the parcel including specific crop type and yields for the last ten years (if no agricultural operation in the last ten years, specify when land was last in agricultural use);

- Information identifying the source of water for the subject parcel (surface water from irrigation district, individual well(s), and conjunctive system). If the source of water is via district delivery, the applicant shall submit information documenting the allocations received from the irrigation district and the actual disposition of the water (i.e. utilized on-site or moved to other locations) for the last ten years. If groundwater is used for irrigation, provide production capacity of each well, water quality data and data regarding the existing water table depth;

- Identify (with supporting data) the current soil type and mapping units of the parcel pursuant to the standards of the California State Department of Conservation and the Natural Resources Conservation Service;

- If the cancellation petition is to establish a solar facility on the subject land, information included in Form F406 (Supplemental Information for Solar Electrical Generation Facilities) that is included in this packet must be submitted;

- The Filing Fee, which is currently $3,290.00 <u>for each contract</u> subject to cancellation petition.

The petition for cancellation of a contract on an entire contract or a portion of a contract must be for a specified alternative use of the land (GC § 51282.3). Therefore, the appropriate land use entitlement application must be submitted concurrently for review and processing.

In addition to the above application materials, per the California Environmental Quality Act (CEQA), your project must be reviewed to determine potential environmental impacts from the proposed Williamson Act cancellation. Prior to submitting an application, you should discuss your project with Policy Planning staff, who will then determine what level of environmental review will be required and what additional application materials and fees will be required.

Once the cancellation petition is determined to be complete, the appropriate processing fee will be collected and staff will begin processing the petition. The petition will be referred to the Department of Conservation (DOC) and the County Assessor's Office. The petition will then be presented to the Agricultural Land Conservation Committee (ALCC) for consideration at a public hearing. The recommendation of the ALCC will be forwarded to the Board of Supervisors who will make the final decision on the petition.

If the cancellation Petition is approved, a Certificate of Tentative Cancellation is issued by the Board of Supervisors and is recorded. The Certificate of Tentative Cancellation will cite all Conditions that must be satisfied in order for the Certificate of Cancellation to be issues and recorded. One Condition of Approval will require that the Cancellation Fee, determined by the County Assessor and equal to 12.5% of the fair market value of the property and certified by the Board, be paid in full before any permit is issued on the subject land. If the Cancellation Fee is not paid within one year from the date that the Certificate of Tentative Cancellation was recorded, the Fee shall be recomputed by the County Assessor, and certified by the Board of Supervisors at a public hearing. The Cancellation Fee shall be paid and a Certificate of Cancellation must be issued and recorded prior to commencement of any discretionary permit [e.g. Conditional Use Permit (CUP), Director Review and Approval (DRA)] or issuance of any grading or construction permits. The County Auditor forwards the full Cancellation Fee to the State of California.

The proposed alternative use on land subject to cancellation petition must be consistent with the policies of the County General Plan and the provisions of the Zoning Ordinance. The proposal must also adhere to all applicable codes, rules, ordinances, and requirements.

For Zoning Ordinance requirements, please contact the Department's Zoning and Permit Assistance at (559) 600-4540.

If you have any questions regarding any information in this handout, please contact the Policy Planning Unit at (559) 600-4230.

WILLIAMSON ACT CONTRACT
CANCELLATION PETITION DISCLAIMER

I _____, the petitioner for cancellation of Williamson Act Contract No. _____ involving parcel(s) known as APN(s) _____ acknowledge that the Cancellation Petition is submitted to Policy Planning Unit staff for completeness review to ensure that all required information has been provided. If staff determines that additional information/data is required to complete the Petition, it is my responsibility to provide the required information by the date indicated in staff's letter. If I need additional time to furnish the information, I will notify staff in writing. I also acknowledge that the processing fee is to cover staff's time to review the Petition for determination of completeness, and processing the Petition once the application is determined complete. Acceptance of the Petition and the processing fee does not constitute that the Petition is determined complete.

Processing of a Cancellation Petition requires routing the Petition to appropriate County and State agencies for review and comment. The Petition will be presented to the Agricultural Land Conservation Committee (ALCC) at a public hearing. The ALCC will make a recommendation regarding the Petition to the Board of Supervisors. The Petition will be placed on a Board of Supervisors agenda for consideration.

_____	_____
PRINT NAME	PRINT NAME
_____	_____
SIGNATURE	SIGNATURE
_____	_____
DATE	DATE

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WILLIAMSON ACT CONTRACT
NOTICE OF NONRENEWAL

The California Land Conservation Act – commonly referred to as the Williamson Act – was enacted in 1965. The purpose of the Williamson Act Program is to preserve agricultural and qualified open space lands by discouraging premature and unnecessary conversion to urban uses.

The Williamson Act contract is a voluntary contract between the County of Fresno and landowners who wish to restrict their land to commercial agricultural and qualified open space uses. In return, the property owners receive property tax assessments that are lower than normal because the assessments are based on farming and qualified open space uses rather than full market value. The initial term of the contract is a minimum of ten years and is automatically renewed each year on January 1st unless a notice of non-renewal has been filed.

If a property owner wishes to not renew the Contract, an application for non-renewal of the Contract must be filed with Fresno County. The following information is provided to assist you in the non-renewal process:

1. When does the Non-Renewal period begin?

The non-renewal must be recorded a minimum of **90 days prior to the annual renewal date** which is January 1st. Therefore, a Notice must be **recorded prior to October 1st** of any given year in order for the Notice to be effective on January 1st of the upcoming calendar year. A Notice that is recorded after October 1st will **not** take effect until January 1st of the following year (12-15 months later depending on the date it is recorded).

NOTE: Once recorded, an owner-initiated Notice of Non-Renewal cannot be withdrawn.

2. When does the Notice of Non-Renewal need to be submitted?

A request for Notice of Non-Renewal (Notice) may be filed with Fresno County at any time. However, please be advised that in order to record the Notice by October 1st, the signed and notarized Notice should be submitted to County staff by the 2nd Friday in September. County staff will provide you with an application that must be completed. Along with the completed application form, you must also submit a copy of the grant deed clearly identifying the legal description of the property. If the Notice applies to a portion of a parcel, a legal description of the portion of the parcel subject to non-renewal prepared, stamped, and signed

by a licensed land surveyor must be provided. Staff will then prepare the Notice for you.

3. Who must sign a Notice of Non-Renewal?

A Notice must be signed by all owners of interest in the property. Signatures must be notarized **exactly** as printed in the Notice. Signature blocks for representatives of corporations/trusts/partnerships must include the name of the entity above each signature and the name and title of the signer below. In the case of a trust, staff will provide you with a certification that identifies who is authorized to sign on behalf of the trust. The certification must also be completed and notarized. This certification will be recorded.

4. Must a Notice of Non-Renewal be filed on all property subject to a single contract?

No. A **Notice of Partial Non-Renewal** may be filed on a portion of the property held under a Williamson Act Contract provided that the portion to remain under Contract complies with the minimum size requirement stated in the Williamson Act Interim Guidelines adopted by the Board of Supervisors on May 25, 2004. If the notice of partial non-renewal is to be filed, along with the application, the owner must also provide a legal description of the area that will be subject to non-renewal. As previously noted, the legal description must be prepared, stamped, and signed by a licensed land surveyor.

5. Do restrictions remain after a Notice of Non-Renewal has been filed?

All Agricultural Land Conservation Contract restrictions remain in full force and effect after a Notice is filed until the expiration of the Contract.

6. When does the Contract expire after the Notice of Non-Renewal is recorded?

If the Notice is recorded prior to October 1st, effective January 1st, there are nine years left on the Contract.

7. Can a notice of non-renewal be withdrawn?

NOTE: Once recorded, an owner-initiated Notice of Non-Renewal cannot be withdrawn.

If you have any questions regarding information in this handout, please contact the Policy Planning Unit of the Department of Public Works and Planning at (559) 600-4230.

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Fresno County Department of Public Works and Planning
Mailing Address:
Department of Public Works & Planning
Development Services and Capital Project Division
2220 Tulare Street, 6th Floor, Fresno, CA 93721

Location:
Southwest corner of Tulare & "M" Street, Suite A
Street Level
Fresno Phone: (559) 600-4230

WILLIAMSON ACT APPLICATION

APN: _____ **APN:** _____

Ag Contract Number: _____ **Ag Contract Number:** _____

APN: _____ **APN:** _____

Ag Contract Number: _____ **Ag Contract Number:** _____

_____ Notice of Nonrenewal/Partial Nonrenewal _____ Authorization for Issuance of Building Permit

_____ Cancellation of Contract _____ Rescission and Reentry

Location of Property: Street Address _____

_____ side of _____

between _____and _____

*Owner(s)/Applicant(s) (Print or Type)	Address	City	Zip	Phone

Representative (Print or Type)	Address	City	Zip	Phone

The following must be included with your application:

- A draft Statement of Intended Use if applying for a Building Permit or Rescission and Reentry.
- A copy of your grant deed or current ownership documentation. If owner(s) or applicant(s) is under partnership, trust, corporation, etc., documentation needs to be provided showing individual names and titles.
- A complete legal description with the areas which will be affected. Notice of Nonrenewal will require a legal description prepared by a licensed surveyor with surveyor's stamp and signature.

I/We, _____ (print), declare that I/we own, or represent the owner, of the above described property and that the application and attached documents are in all respects true and correct to the best of my knowledge.

_____ _____

Signature **Date**

OFFICE USE ONLY

Date Received: _____ **Received by:** _____

_____ Deed or current ownership information **_____ Legal Description (current)** **_____ Statement of Intended Use**

County of Fresno

DEPARTMENT OF PUBLIC WORKS AND PLANNING
STEVEN E. WHITE, DIRECTOR

AGENT AUTHORIZATION

AUTHORIZATION OF AGENT TO ACT ON BEHALF OF PROPERTY OWNER

The Agent Authorization form is required whenever a property owner grants authority to an individual to submit and/or pursue a land use entitlement application on their behalf. This form must be completed by the property owner and submitted with the land use entitlement application to confirm that the property owner has granted authority to a representative to sign application forms on their behalf and represent them in matters related to a land use entitlement application.

The below named person is hereby authorized to act on my behalf as agent in matters related to land use entitlement applications associated with the property listed below.

_____ Agent Name (Print or Type)

_____ Company Name (Print or Type)

_____ Mailing Address

_____ City / State / Zip Code

_____ Phone Number

_____ Email Address

_____ Project APN

_____ Project Street Address

☐ A list consisting of ____ additional properties is attached (include the APN for each property).

Project Description (Print or Type):

_____

_____

The undersigned declares under penalty of perjury that they own, possess, control or manage the property referenced in this authorization and that they have the authority to designate an agent to act on behalf of all the owners of said property. The undersigned acknowledges delegation of authority to the designated agent and retains full responsibility for any and all actions this agent makes on behalf of the owner.

_____ Owner Signature

_____ Date

_____ Owner Name (Print or Type)

_____ Phone Number

_____ Email Address

** If the legal owner of the property is a corporation, company, partnership or LLC, provide a copy of a legal document with this authorization form showing that the individual signing this authorization form is a duly authorized partner, officer or owner of said corporation, company, partnership or LLC.*

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DEVELOPMENT SERVICES AND CAPITAL PROJECTS DIVISION
2220 Tulare Street, Sixth Floor / Fresno, California 93721 / Phone (559) 600-4497 / 600-4022 / 600-4540 / FAX 600-4200
The County of Fresno is an Equal Employment Opportunity Employer

AGENT AUTHORIZATION

ADDITIONAL PROPERTY LIST

_____	_____
Project APN	Project Street Address
_____	_____
Project APN	Project Street Address
_____	_____
Project APN	Project Street Address
_____	_____
Project APN	Project Street Address
_____	_____
Project APN	Project Street Address
_____	_____
Project APN	Project Street Address

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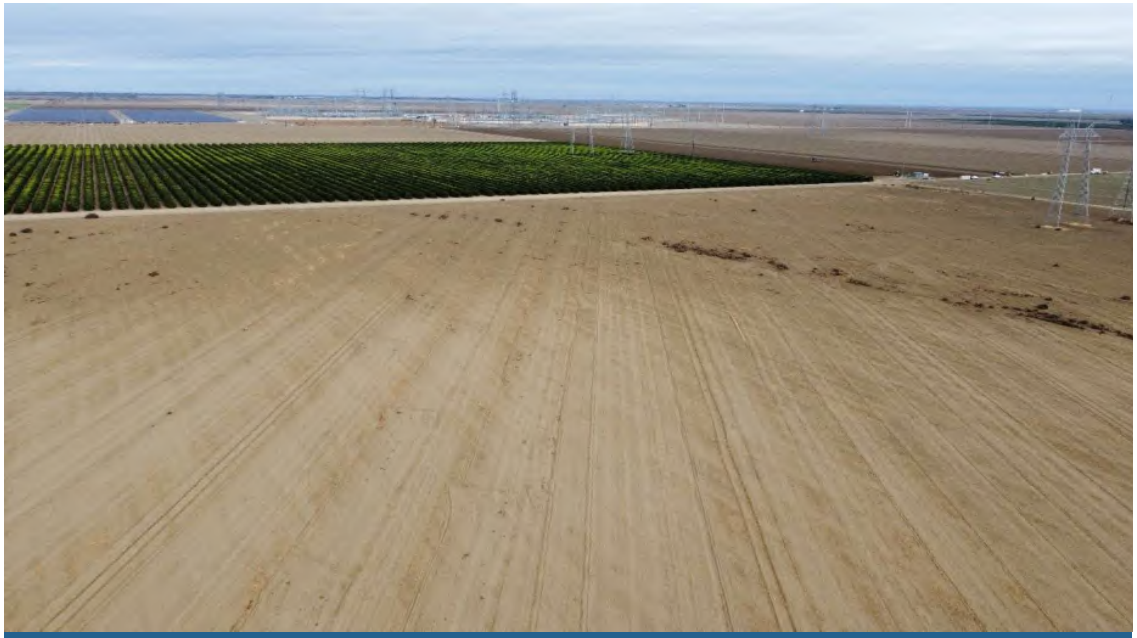
Appendix B
Project Description

Appendix B1
Draft Reclamation Plan

Attachment 8

Reclamation Plan



Key Energy Storage Project

Draft Reclamation Plan

prepared for

County of Fresno
Department of Public Works and Planning
2220 Tulare St. 6th Floor
Fresno, CA 93721
Attn: Jeremy Shaw, Planner

prepared with the assistance of

Key Energy Storage, LLC
700 Universe Boulevard
Juno Beach, Florida 33408
Attn: Sean Wazlaw / Patti Murphy

December 2021

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Environmental Scientists | Planners | Engineers
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Tables

Reclamation Plan

1.0 Introduction

Key Energy Storage, LLC (Applicant) proposes to construct and operate the Key Energy Storage Project (Project) on approximately 208 acres in unincorporated Fresno County. The Project includes development of an energy storage system facility and associated on-site support facilities including a collector substation, inverters, collector lines, fencing, access roads, and supervisory control and data acquisition (SCADA) system. The Project would have the potential to store approximately 3 gigawatts (GW) of energy. The Project also includes a 500-kilovolt (kV) overhead generation tie line (gen-tie line), which would extend north to the adjacent Pacific Gas and Electric (PG&E) Gates Substation. The perimeter of the facility will be enclosed with a chain link fence built per county standards. The Project site is comprised of three parcels (Assessor Parcel Numbers [APNs] 085-040-36S, 085-040-37S, and 085-040-58S). The Fresno County General Plan land use designation for the Project site is Agriculture. The Project site is in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District. The entire Project site is designated as Prime Farmland that is covered by Williamson Act Contracts.

2.0 Property Ownership

The northern parcel of the Project site (APN 085-040-58S) is presently owned by Michael Dresick, and the southern parcels (APNs 085-040-36S and -037S) are presently owned by Rebecca L. Kaser.

3.0 Soil Classifications

Table 1 describes the Project's soil classifications according to various systems used in California.

Table 1 Project Site Soil Classifications

Area[1]	Soil Type[1]	NRCS Prime Farmland Classification[1]	DOC FMMP Classification[2]	Land Capability Classification[1]
196 acres	Kimberlina sandy loam (0-2% slope)	Prime Farmland if Irrigated	Prime Farmland	Irrigated: 1 Non-irrigated: 7
109 acres	Westhaven loam (0-2% slope)	Prime Farmland if Irrigated	Prime Farmland	Irrigated: 1 Non-irrigated: 7
13 acres	Wasco sandy loam (2-5% slope)	Prime Farmland if Irrigated	Prime Farmland	Irrigated: 2 Non-irrigated: 7

Source[1]: USDA Web Soil Survey, 2021. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx
Source[2]: US Department of Conservation, 2016. https://maps.conservation.ca.gov/DLRP/CIFF/

The Project site is classified as Prime Farmland as designated by the State Department of Conservation's (DOC) Farmland Mapping and Monitoring Program (FMMP). The property is classified as prime farmland, if irrigated, by the National Resources Conservation Services (NRCS).

Land Capability Classification (LCC) demonstrates the suitability of soils for growing field crops. Based on LCC, the site's LCC non-irrigated soil rating is Class 7, and its irrigated soil rating is Class 1 and 2. Class 1 soils have few limitations that restrict their use, and Class 2 soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices. Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

4.0 Historical Agricultural Use

The site has historically been used for irrigated farming, dry-farming, and/or left fallow over the past four years (Table 2). A 10-year historical agricultural use summary will be provided as part of the Agricultural Resources Technical Study being prepared for the Project.

Table 2 Historic Agricultural Use

Assessor's Parcel Number	Historical Agricultural Use	Crop Types (2015-2019)	Source of water for parcel (district, well(s), etc.)	Well Onsite?
085-040-58S	Fallowed, irrigated farming	Orchard, citrus, almonds, other	Well	Yes
085-040-36S	Fallowed, Dry farmed, non-irrigated	None	None	No
085-040-37S	Fallowed, Dry farmed, non-irrigated	Winter wheat, other	None	No

Source: *AcreValue Report*, November 12, 2021.

5.0 Decommissioning

A final Reclamation Plan will be prepared during the environmental review process. The plan will then be updated and finalized in coordination with the final design plans and will be submitted with the Project's grading and building permit applications.

The Project is anticipated to have an operating life of up to 30 years. Decommissioning and site reclamation are anticipated to start in approximately 2055 and take up to 12 months. Decommissioning equipment and personnel would be similar to, or less than, that required for construction. Once the facility has been permanently shut down, the reclamation process will begin to return the site to its previous agricultural condition.

All decommissioning, reclamation, and restoration activities will adhere to the requirements of appropriate governing authorities, and will be in accordance with all applicable federal, state, and local permits. The reclamation and restoration process comprises removal of above ground structures; removal of below ground foundations and infrastructure; and restoration of topsoil, re-vegetation, and seeding. Electrical conduit and other materials that break off more than 4 feet below the ground surface would be decommissioned in place. Appropriate temporary (construction-related) erosion and sedimentation control best management practices (BMP) will be used during the reclamation phase of the Project. The BMPs will be inspected on a regular basis to ensure their function.

The Project components, including the energy storage system and on-site substation, would be recycled when the Project's operating life is over. Most parts of the proposed system are recyclable. Batteries include lithium-ion, which degrades but can be recycled or repurposed. Battery enclosures include steel or aluminum, with concrete foundations which can be recycled. Local recyclers are available, and metal and scrap equipment and parts that do not have free-flowing oil may be sent for salvage.

Fuel, hydraulic fluids, and oils would be transferred directly to a tanker truck from the respective tanks and vessels. Storage tanks and vessels would be rinsed and transferred to tanker trucks. Other items that are not feasible to remove at the point of generation, such as lubricants, paints, and solvents, would be kept in a locked utility structure with integral secondary containment that meets applicable requirements for hazardous waste storage until removal for proper disposal and recycling. It is anticipated that all oils and batteries would be recycled at an appropriate facility. Site personnel involved in handling these materials would be trained to properly handle them. Enclosures used to store hazardous materials would be inspected regularly for any signs of failure or leakage. Transportation of the removed hazardous materials would comply with applicable regulations for transporting hazardous materials, including those set by the U.S. Department of Transportation, U.S. Environmental Protection Agency, California Department of Toxic Substances Control, California Highway Patrol, and California State Fire Marshal.

Prior to completion of decommissioning, the Project site would be restored to its current agricultural condition. All roads and other areas compacted during original construction or by equipment used for decommissioning would be tilled in a manner adequate to restore the sub-grade material to the proper density and depth consistent with adjacent properties. Low areas would be filled with clean, compatible sub-grade material. After proper sub-grade depth is established, locally sourced (from the City of Fresno or other location within 50 miles of the Project site) topsoil would be placed to a depth and density consistent with adjacent properties. Locally sourced compost would be applied to the topsoil, and the entire site would be tilled to further loosen the soil and blend in the compost. An appropriate seed mixture would be broadcast or drilled across the site and weed-free mulch would be applied to stabilize the soil and retain moisture for seedling germination and establishment.

6.0 Financial Assurances

An estimated cost for all activities associated with returning this site to its original state shall be provided prior to Project approval. Prices will reflect a rough estimate of predicted market conditions and may be subject to change.

Agricultural land water, and utility pipes on site prior to energy storage facility construction may remain throughout the facility's use. These systems may once again be used to provide irrigation on

the property after the site has been decommissioned. Once the facility is completely removed, the property owner will be able to commence farming on this property if they so choose.

7.0 Record of Owner's Notice of Proposed Reclamation Plan

The northernmost parcel on the Project site (APN 085-040-58S) is currently owned by the Ann Dresick Family Trust, and the southern parcels (APNs 085-040-36S and -37S) are owned by Rebecca Kaser, Trustee of the Rebecca Avellar Trust. Key Energy Storage, LLC, will be purchasing the real property from the current property owners (Rebecca Kaser and Michael Dresick) prior to the start of construction. Therefore, Key Energy Storage, LLC is the future property owner and is thereby suitably notified.

8.0 References

AcreValue. 2021. AcreValue Report. November 21, 2021.

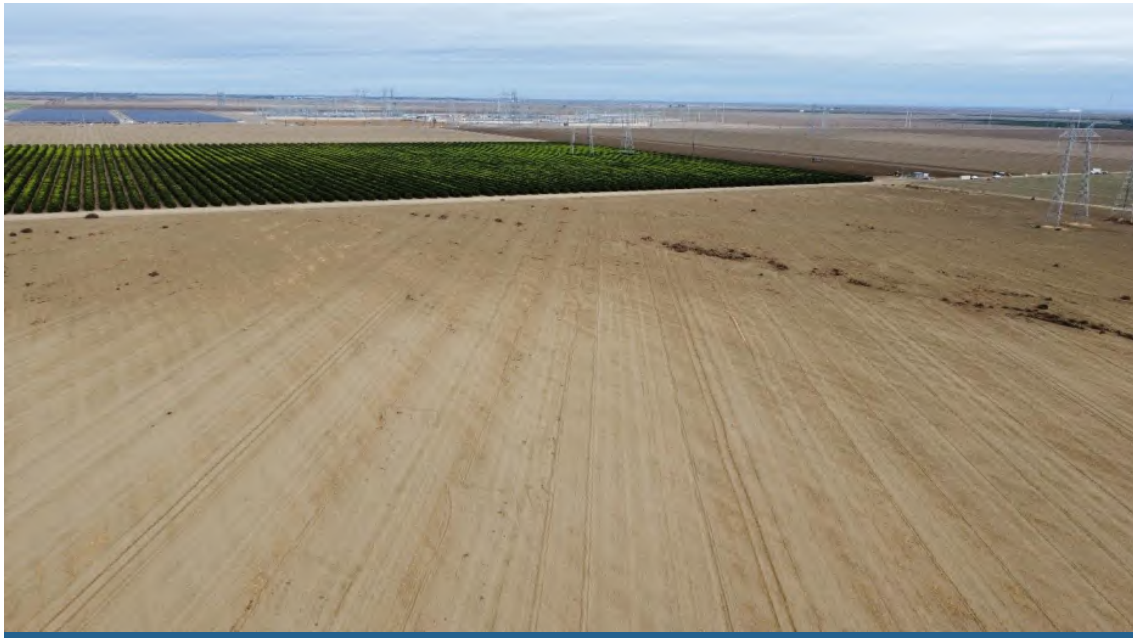
United States Department of Agriculture (USDA) Natural Resource Conservation Service. 2021. Web Soil Survey. Available at: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed October 2021.

United States Department of Conservation (DOC). 2016. California Important Farmland Finder Webmap. Available at: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed October 2021.

Appendix B2
Draft Integrated Pest Management Plan

Attachment 12

Pest Management Plan



Key Energy Storage Project

Pest Management Plan

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County of Fresno
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2220 Tulare St. 6th Floor
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Pest Management Plan

1.0 Introduction

1.1 Background and Purpose

Key Energy Storage, LLC (Applicant) proposes to construct and operate the Key Energy Storage Project (Project) in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, approximately 7.5 miles north of the City of Avenal, and approximately 0.4 mile west of Interstate 5 (Figure 1, Regional Location). The Project site is located southwest of the PG&E Gates Substation along West Jayne Avenue. The Project would be developed on up to 208 acres of a 318-acre site comprised of three parcels (Assessor Parcel Numbers [APNs] 085-040-36S, 085-040-37S, and 085-040-58S) (Figure 2, Project Site and Project Parcel Map).

The Fresno County General Plan land use designation for the Project site is Agriculture. The Project site is in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District. Within this zoning district, Fresno County permits utility-scale renewable energy uses with an Unclassified Conditional-Use Permit (UCUP). The Applicant selected the Project site based on its previously disturbed nature and close proximity to Gates Substation.

Upon approval, the UCUP is subject to the Conditions of Approval and Mitigation Measures set forth in the Fresno County Board of Supervisor's Resolution in accordance with the California Environmental Quality Act of 1970 (California Public Resources Code § 21000 et seq.) and the California Code of Regulations (Title 14 § 15000 et seq.).

This Pest Management Plan has been prepared to comply with the Project's anticipated Fresno County UCUP. The following pest-control measures were developed for the purpose of minimizing the likelihood of pests (including weeds and rodents) within the Project site and maximizing the ability to reduce the current (if present) pest population.

1.2 Site and Project Summary

The Project would include development of an energy storage system facility and associated on-site support facilities including a substation, inverters, collector lines, fencing, access roads, supervisory control and data acquisition (SCADA) system, and other ancillary facilities or equipment. The energy storage facility is anticipated to consist of lithium-ion batteries with the potential to store approximately three (3)-gigawatt (GW) of energy.[1] The Project would also include a 500-kilovolt (kV) overhead generation tie line (gen-tie line), which would extend north to the adjacent Pacific Gas and Electric (PG&E) Gates Substation.

[1] The megawatt capacity is an estimate based on currently available technology as the energy storage industry has quickly evolved in the last few years and is anticipated to continue to evolve. While the components and total megawatts of the Project may change, the overall size of the Project (up to approximately 208 acres) would remain consistent.

Figure 1 Regional Location

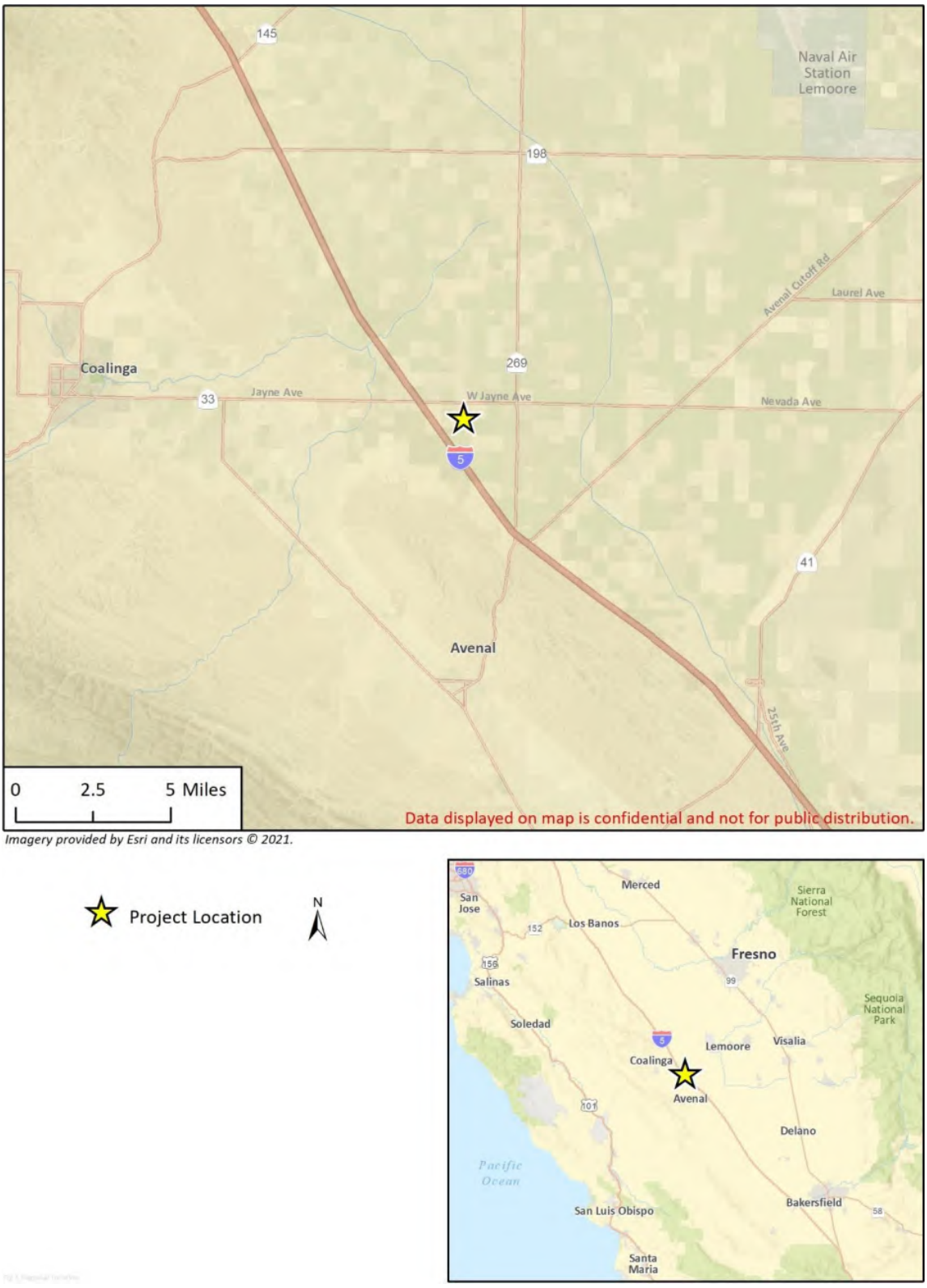
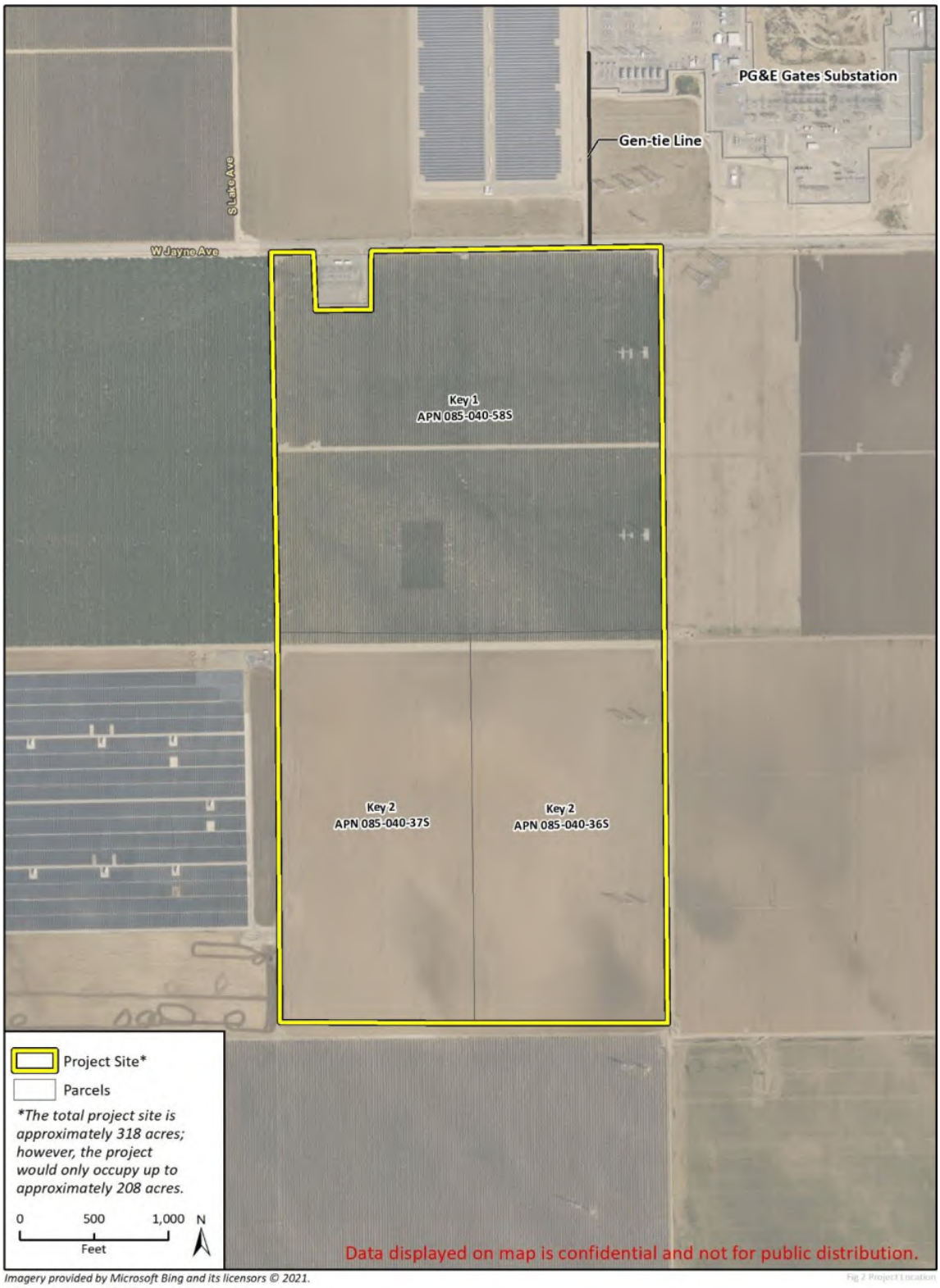


Figure 2 Project Site and Project Parcel Map



Imagery provided by Microsoft Bing and its licensors © 2021.
Additional data provided by Fresno County, 2021.

The Key 1 portion of the site consists of land in agriculture production, an overhead gen-tie line along the western boundary, and high voltage transmission lines running north-to-south in the eastern portion of the site. The Key 2 portion of the site is currently fallow with high voltage transmission lines running north-to-south in the eastern portion of the site.

As shown in Figure 2, the Project site is bound by West Jayne Avenue to the north and unpaved agricultural access roads to the east, south, and west. The Project site is surrounded by agricultural uses to the west, south, and east. Solar facilities are located to the north and southwest and the PG&E Gates Substation is located to the northeast of the Project site. A small substation is also located immediately adjacent to the northwest Project site boundary.

Existing site access from West Jayne Avenue is provided via agricultural roads along the eastern and western Project site boundaries.

2.0 Pest Management Goals

This Pest Management Plan has been prepared to comply with the Project's anticipated Fresno County UCUP. The following pest-control measures are based on widely accepted pest management protocols and were developed for the purpose of minimizing the likelihood of pests (including weeds and rodents) within the Project site and maximizing the ability to reduce the current (if present) pest population.

3.0 Strategy

This Pest Management Plan promotes the use of a range of preventative and non-chemical approaches to control pest populations and stave off infestation. If preventative and non-chemical approaches fail to control the pest populations and an infestation warrants additional treatment, the Pest Management Plan protocol favors the use of least-toxic chemical control (i.e., herbicide or pesticide).

4.0 Practices

The following sections include general and specific preventative, mechanical, and chemical pest control strategies.

4.1 Weed Control Practices

Preventative Controls

Preventative strategies to control the spread of weed seed within the Project site include cleaning all vehicles inside and out at a commercial washing station to prevent weed seeds that are carried in tire treads, etc. from being carried onto the property.

Mechanical Controls

Mechanical strategies to remove existing and new weed populations include the following:

- Regular inspections of the property should be made to identify weeds before they go to seed.

- Remove weed species when identified. This can be done by pulling the entire plant out of the soil and disposing of it. It is especially important to remove weeds before the seed head matures.
- Handheld string trimmers (Weed Eaters) or mowers can be used in the larger open spaces if needed but those activities should be timed before the weeds develop seed heads.

Chemical Controls

Chemical controls, which include use of herbicides, should only be utilized if the weed prevention and mechanical controls detailed above fail. Protocols for herbicide use are detailed in Section 4.3.

4.2 Pest Control Practices and Removal Methods

Preventative Controls

Various small rodents are known to inhabit the general region. These include voles, moles, pocket gophers, rats, mice, and California ground squirrels. Preventive measures for each of these species are somewhat different; however, there are several measures common to all that can be implemented for the project as needed. These measures are summarized below:

- **Managing Vegetation**: Rodents typically occur in areas where vegetation (including weeds) is allowed to grow; therefore, the vegetative cover throughout the site should be controlled. This can be achieved through periodic mowing or weeding.
- **Tilling**: Plowing can be an effective measure in controlling rodents. Tilling must be performed on a regular basis to ensure control of rodent populations.
- **Specialized Fencing**: Specialized fencing designed to exclude small mammals can sometimes be an effective measure in controlling animals, particularly in dealing with larger mammals such as California ground squirrels. However, specialized fencing is most effective when utilized for relatively small projects. Installing specialized fencing would not be a cost-effective means in controlling small rodents for the proposed project.
- **Natural Control**: Natural predators such as hawks and falcons do occur in the area and prey on voles, rats, and ground squirrels on a regular basis. Raptors are expected to utilize the site during hunting activities.

Mechanical Controls

Construction of the proposed Project would have the benefit of reducing the number of rodents which may presently occur on the site due to modification and removal of the existing crops and vegetation present on the site. As part of the construction process, the site would be graded, and all current vegetation will be removed. Some natural re-vegetation will occur over time and rodents will naturally be reintroduced; consequently, pests may need to be controlled through mechanical removal practices.

Trapping would be the preferred active management technique should the above preventative methods fail to provide sufficient management. Removal of various rodent species through trapping measures is an effective way to control populations of pests; however, trapping is labor intensive and can be relatively expensive. Trapping is most effective when dealing with small projects or when the rodents are confined to a relatively small portion of the site. Trapping may be an effective measure for the project if the rodent infestation problem is confined to a small area but if the

rodents are evenly dispersed throughout the site, baiting (see chemical controls below) may be a more effective measure. In the event an infestation problem does arise, the site operations manager should consult with a pest control expert to determine if trapping is suitable.

Trapping would be employed by a licensed contractor for about 3 to 6 months and evaluated for success before other management options are considered.

Chemical Controls

Rodenticides are pesticides used to control rodents and can be used as bait in rodent traps. The use of rodenticides would be restricted and would only be implemented by a licensed contractor should other management techniques fail. If rodent control must be conducted, zinc phosphide will be used because of its proven lower risk to San Joaquin Kit Fox. Bait stations shall be enclosed so the opening is accessible for the target rodent (i.e., 2-inch diameter for ground squirrel), but the openings will be at an elevated angle so that bait remains inside the station under all conditions. Protocols for pesticides use are detailed in Section 4.3.

4.3 Chemical Application of Herbicides and Pesticides

Chemical herbicides and pesticides (including rodenticides) are to be used only after non-chemical options have been exhausted, with a preference for use of a low-risk herbicides and pesticides. Low risk herbicides and pesticides are determined by hazard screening to be of “lowest concern,” because the product contains:

- No known, likely, or probable carcinogens
- No reproductive toxicants (CA Prop 65 list)
- No ingredients listed by the U.S. Environmental Protection Agency as known, probable, or suspect endocrine disrupters
- Active ingredients have a soil half-life of thirty days or less
- Labeled as not toxic to fish, birds, bees, wildlife, or domestic animals
- Pest control chemicals other than glyphosate (e.g., Roundup) and pelargonic acid (e.g., Scythe) shall only be applied by a credentialed applicator in the state of California and it is necessary to confirm that the applicator has all the necessary federal, state, and local agency permits.

All chemical application and advice on pest and weed management problems will be made by a licensed contractor, particularly in the creation of a customized treatment plan which may require detailed knowledge of the biology and ecology of a particular species. No pesticides or herbicides should be stored on the property and a specialist must prepare the chemicals off-site to limit the chances of a spill. Herbicides are not to be sprayed within the buffer zone (if any) of any sensitive resource areas without prior authorization from the appropriate regulatory agency.

Contractor Requirements

All contractors responsible for pesticide and herbicide use, transport, application, and control at the site will hold the appropriate certifications. Such certifications shall be made available. Contractors transporting pesticides and herbicides to the site shall also have legible Safety Data Sheets and labels on site.

Application Procedures

Chemical herbicide and pesticide applications on site will occur using the following general best management practices:

- Use of chemical compounds will observe label and other restrictions mandated by the United States Environmental Protection Agency, California Department of Food and Agriculture, and any other applicable state and federal legislation.
- Time the treatment to coincide with the presence of the pest or weed species.
- Use a selective chemical that has the least effect on non-target species and treat only the area affected.
- Spraying must not be carried out in unsuitable weather. Anyone operating sprayers must have access to a wind-speed meter and only spray when the wind speed is less than 10 miles per hour.
- Spray equipment must be frequently checked and properly maintained, both for health and safety reasons and to minimize spray drift.
- Users must wear protective clothing and Personal Protective Equipment (PPE) appropriate to the pest chemical application used.
- Ensure that anyone handling toxic chemicals never works alone and that the work area is well ventilated.
- Require respirators for outdoor spraying or dusting of organic phosphorus compounds.
- Eating, drinking and smoking must be prohibited when using or handling chemicals.
- Users must be familiar with the effects on the body of the chemicals they are likely to be using, and how the chemicals may enter the body.
- Users must be aware of the signs and symptoms of acute poisoning related to chemicals they are using. They must stop work if they are feeling ill and seek medical advice.

Spill Control

Spill kits and PPE will be available on site and must be carried in contractor vehicles. If a spill or inadvertent release occurs the following protocol should be followed:

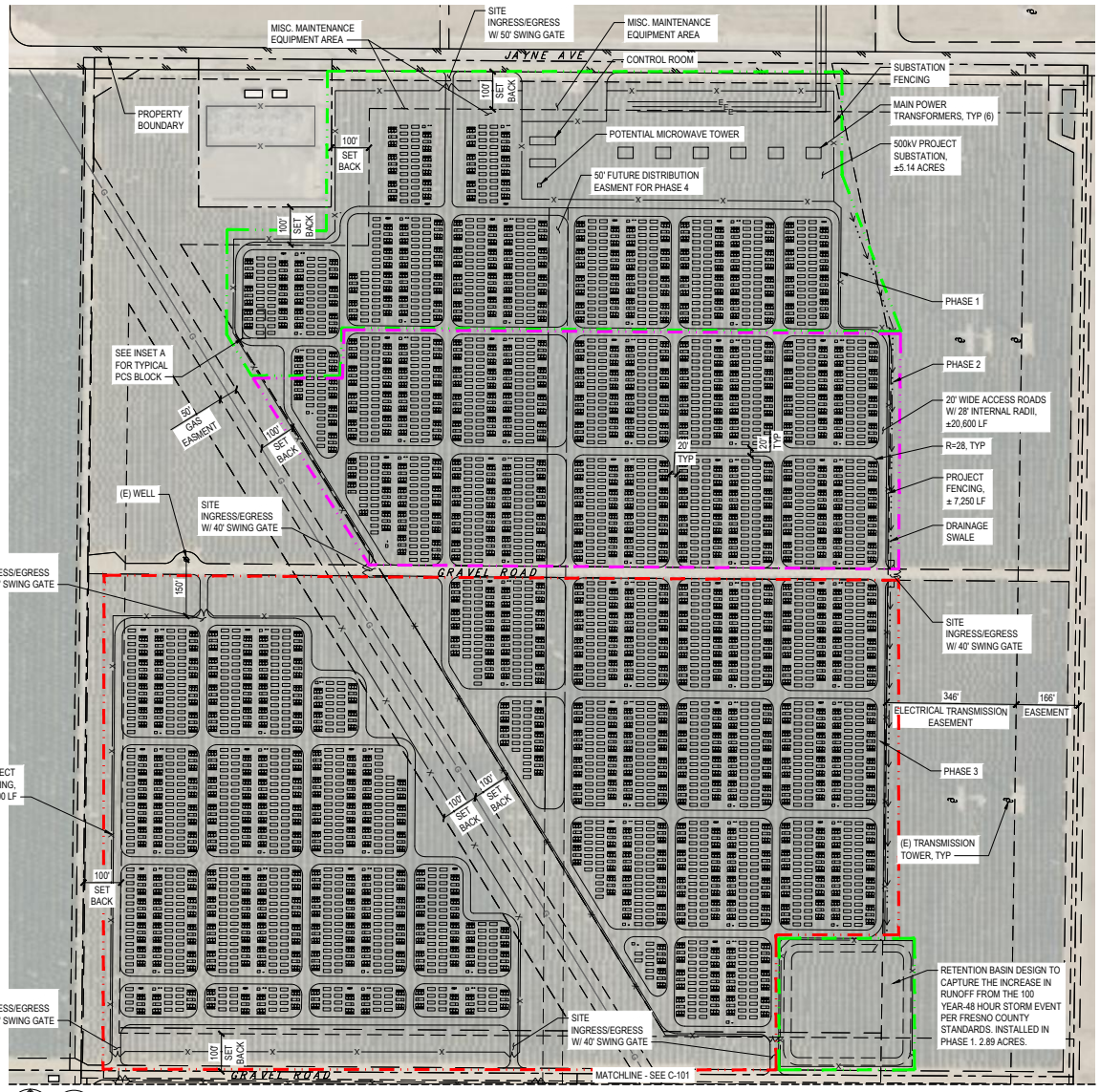
- Notify the Operations Manager and the appropriate regulatory agencies immediately.
- Secure the affected area barring pedestrian and vehicle traffic. All spill response personnel shall put on the appropriate PPE prior to entering the spill containment area.
- Personnel, while wearing the appropriate PPE and equipped with the necessary tools and equipment, shall stop the chemical leak or release.
- All materials associated with spill response, including the released herbicide, affected soils and plants, absorptive material, clothing, and PPE shall be removed and containerized according to appropriate regulations and procedures.

All generated spill response containers shall be transported, following appropriate regulations, and disposed legally at an approved disposal facility.

5.0 Conclusion

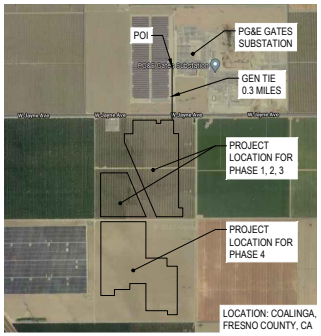
Pests and weeds are not expected to be an issue of major concern because the Project will not produce or maintain any crops or other plant materials that might propogate weeds or attract the various rodents known to occur in the area. In addition, food and trash will not be stored on site. Minimal weed management will be required to avoid interference with facility equipment, and will reduce the amount of useful habitat for pests on the site. In addition, preventative control methods would help reduce pests and weeds on site.

Appendix B3
Preliminary Site Plan and General Arrangement



1 C-100 PRELIMINARY SITE PLAN & GENERAL ARRANGEMENT

SCALE: 1" = 150'-0"



VICINITY MAP

PHASE	POWER @ POI (SEE NOTE 2)	PCS (BESS INVERTER & TRANSFORMER) QUANTITY	ACRES PER PHASE
1	300 MW	96	27.6 (NOTE A)
2	500 MW	160	22.2
3	1000 MW	320	60.8
4	1200 MW	384	97.4 (NOTE B)
TOTAL	3000 MW	960	208

NOTE A: INCLUDES RETENTION BASIN AND SUBSTATION ON C-100.
NOTE B: INCLUDES RETENTION BASINS ON C-101.

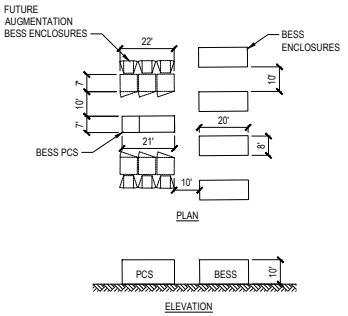
SYSTEM SUMMARY

NOTES:

1. DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON FINAL DESIGN.
2. SCADA SYSTEM HAS ACTIVE POWER CONTROL CAPABILITY TO LIMIT TOTAL PLANT INPUT AND OUTPUT TO PREVENT EXCEEDING THE MAXIMUM INTERCONNECTION CAPACITY (FOR EACH PHASE). ADDITIONAL BESS EQUIPMENT IS SHOWN TO ACCOUNT FOR POTENTIAL CHANGES IN OPERATIONAL STRATEGY.

ABBREVIATIONS:

BESS	BATTERY ENERGY STORAGE SYSTEM
PCS	POWER CONVERSION SYSTEM
POI	POINT OF INTERCONNECTION



INSET A - TYPICAL PCS BLOCK

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PRELIMINARY - NOT FOR CONSTRUCTION

NEXTERA

NEXTera ENERGY RESOURCES

KEY BESS

PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION

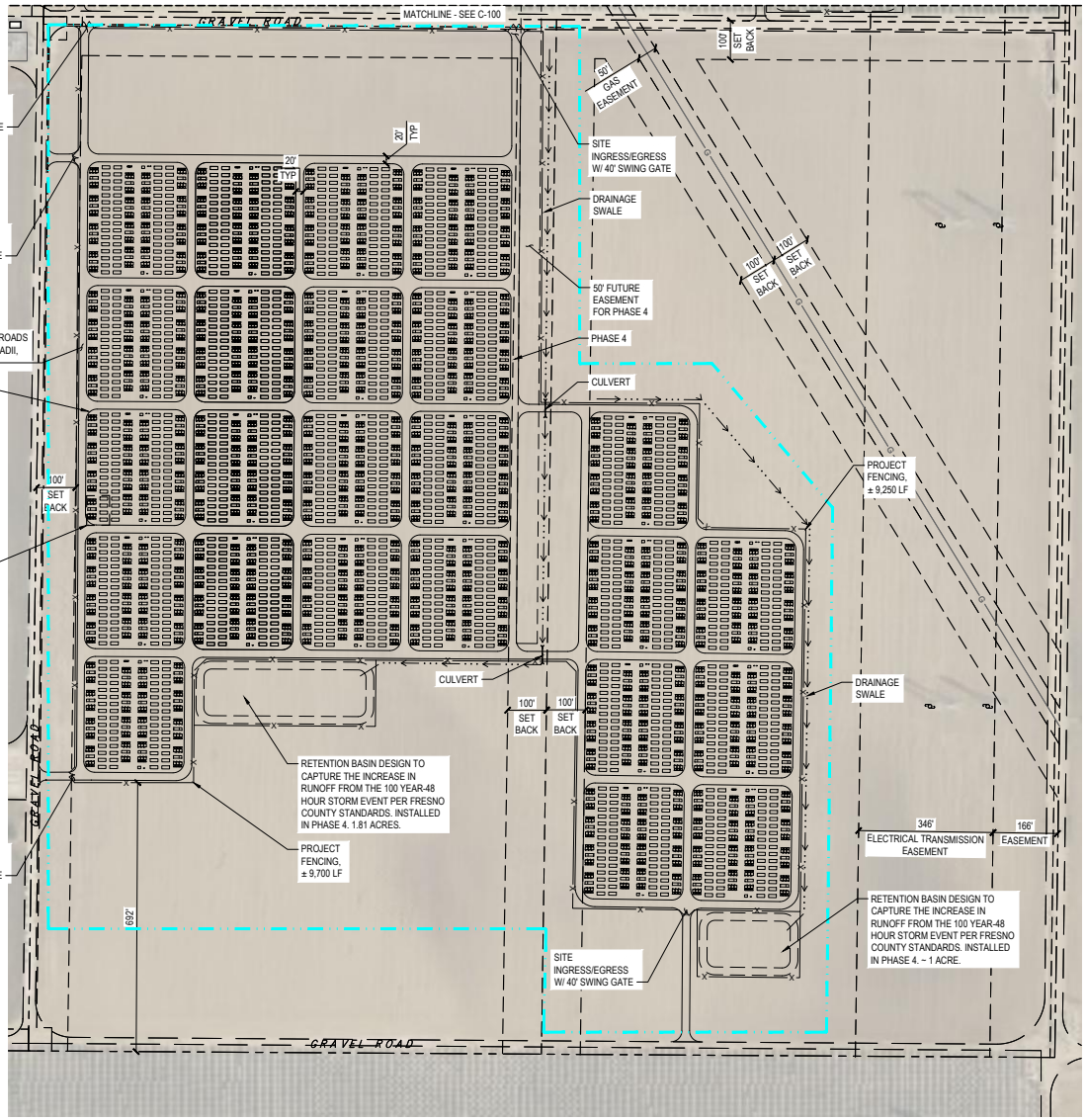
PROJ. NO.	212064
DRAWN	RJG
CHECKED	LJB
DATE	09/2022

SHEET TITLE:

KEY BESS PRELIMINARY SITE PLAN & GENERAL ARRANGEMENT

SHEET NO:

C-100



1 C-101 PRELIMINARY SITE PLAN & GENERAL ARRANGEMENT
SCALE: 1" = 150'-0"

NORTH

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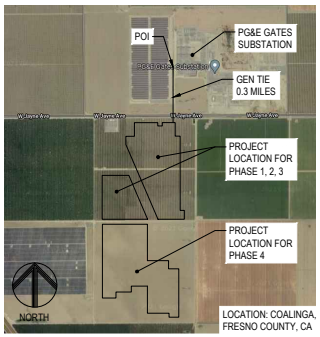


VICINITY MAP

PHASE	POWER @ POI (SEE NOTE 2)	PCS (BESS INVERTER & TRANSFORMER) QUANTITY	ACRES PER PHASE
1	300 MW	96	27.6 (NOTE A)
2	500 MW	160	22.2
3	1000 MW	320	60.8
4	1200 MW	384	97.4 (NOTE B)
TOTAL	3000 MW	960	208

NOTE A: INCLUDES RETENTION BASIN AND SUBSTATION ON C-100.
NOTE B: INCLUDES RETENTION BASINS ON C-101.

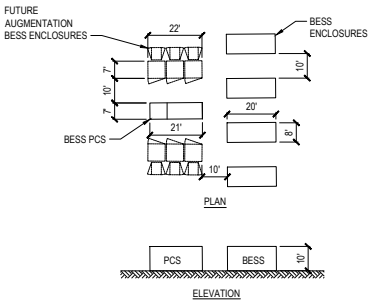
SYSTEM SUMMARY

NOTES:

1. DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON FINAL DESIGN.
2. SCADA SYSTEM HAS ACTIVE POWER CONTROL CAPABILITY TO LIMIT TOTAL PLANT INPUT AND OUTPUT TO PREVENT EXCEEDING THE MAXIMUM INTERCONNECTION CAPACITY (FOR EACH PHASE). ADDITIONAL BESS EQUIPMENT IS SHOWN TO ACCOUNT FOR POTENTIAL CHANGES IN OPERATIONAL STRATEGY.

ABBREVIATIONS:

BESS	BATTERY ENERGY STORAGE SYSTEM
PCS	POWER CONVERSION SYSTEM
POI	POINT OF INTERCONNECTION



INSET A - TYPICAL PCS BLOCK

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PRELIMINARY - NOT FOR CONSTRUCTION

NEXTERA

KEY BESS

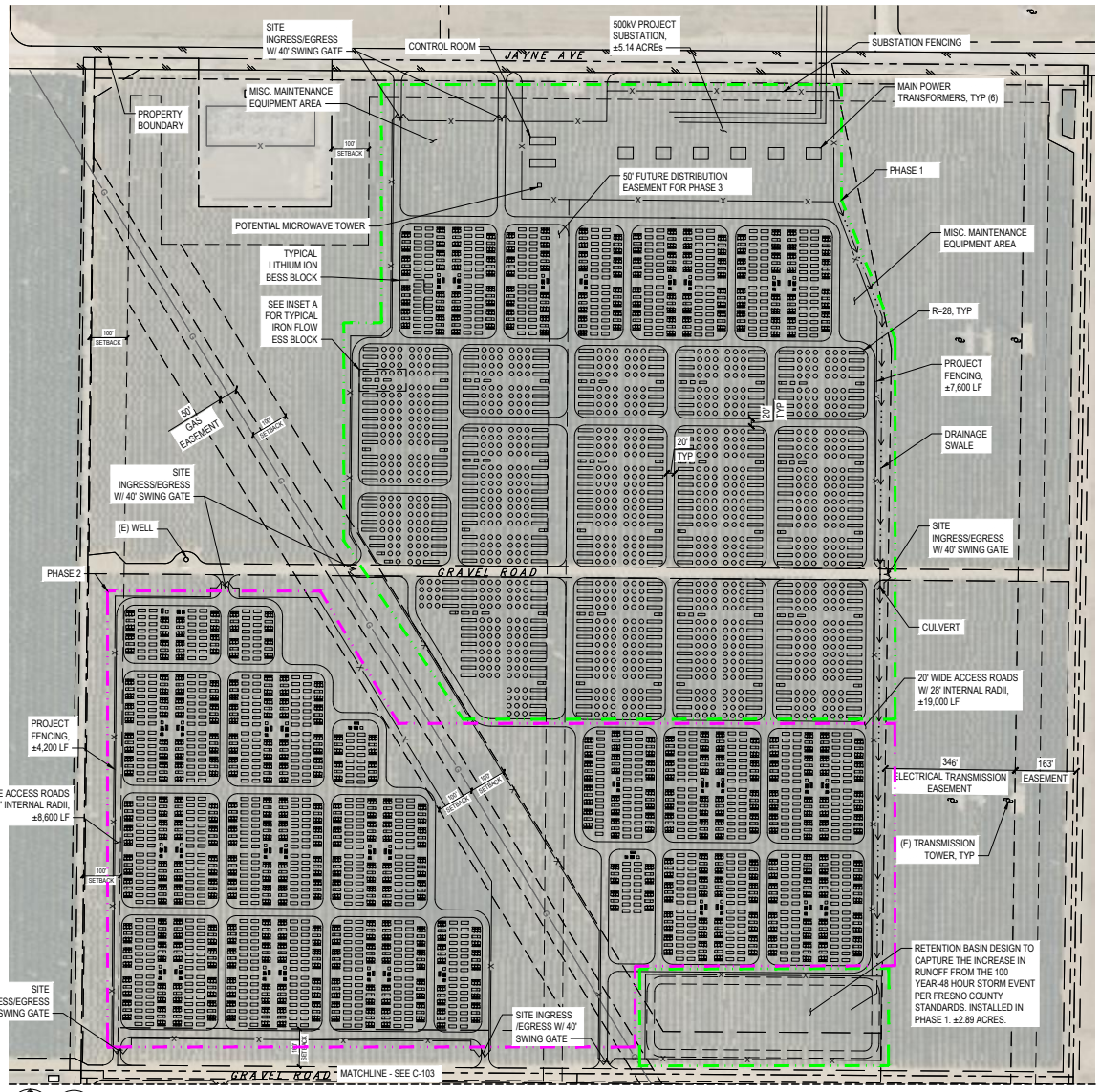
PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION

PROJ. NO. 212064
DRAWN RJG
CHECKED LJB
DATE 09/2022

SHEET TITLE:
KEY BESS PRELIMINARY SITE PLAN & GENERAL ARRANGEMENT

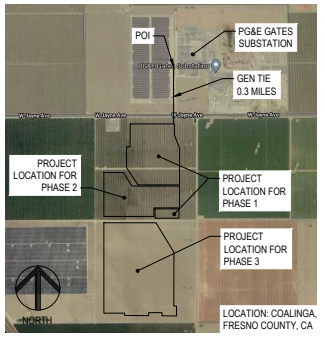
SHEET NO:
C-101



1 C-102 PRELIMINARY SITE PLAN & GENERAL ARRANGEMENT (LITHIUM ION AND FLOW BATTERIES)

SCALE: 1" = 150'-0"

1"=150'-0" 0 75 150 300 450



VICINITY MAP

PHASE	POWER @ POI (SEE NOTE 2)	PCS (BESS INVERTER & TRANSFORMER) QUANTITY	BESS TECHNOLOGY	ACRES PER PHASE
1	300 MW	46	FE FLOW	56.0 (NOTE A)
		64	Li - ION	
2	700 MW	232	Li - ION	43.4
3	2000 MW	640	Li - ION	108.6 (NOTE B)
TOTAL	3000 MW	982		208
NOTE A: INCLUDES RETENTION BASIN AND SUBSTATION ON C-102.				
NOTE B: INCLUDES RETENTION BASINS ON C-103.				

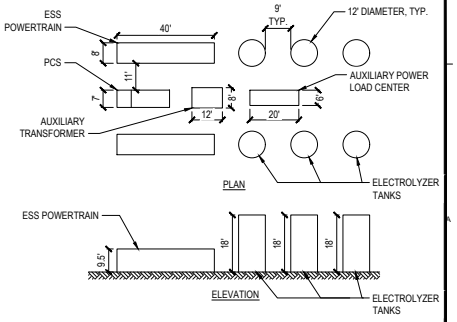
SYSTEM SUMMARY

NOTES:

1. DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON FINAL DESIGN.
2. SCADA SYSTEM HAS ACTIVE POWER CONTROL CAPABILITY TO LIMIT TOTAL PLANT INPUT AND OUTPUT TO PREVENT EXCEEDING THE MAXIMUM INTERCONNECTION CAPACITY. ADDITIONAL BESS EQUIPMENT IS SHOWN TO ACCOUNT FOR POTENTIAL CHANGES IN OPERATIONAL STRATEGY.

ABBREVIATIONS:

BESS	BATTERY ENERGY STORAGE SYSTEM
ESS	ENERGY STORAGE SYSTEM
PCS	POWER CONVERSION SYSTEM
POI	POINT OF INTERCONNECTION



INSET A - TYPICAL IRON FLOW ESS BLOCK

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www.coffman.com

PRELIMINARY - NOT FOR CONSTRUCTION

NEXTERA

NEXTera ENERGY RESOURCES

KEY BESS

PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION

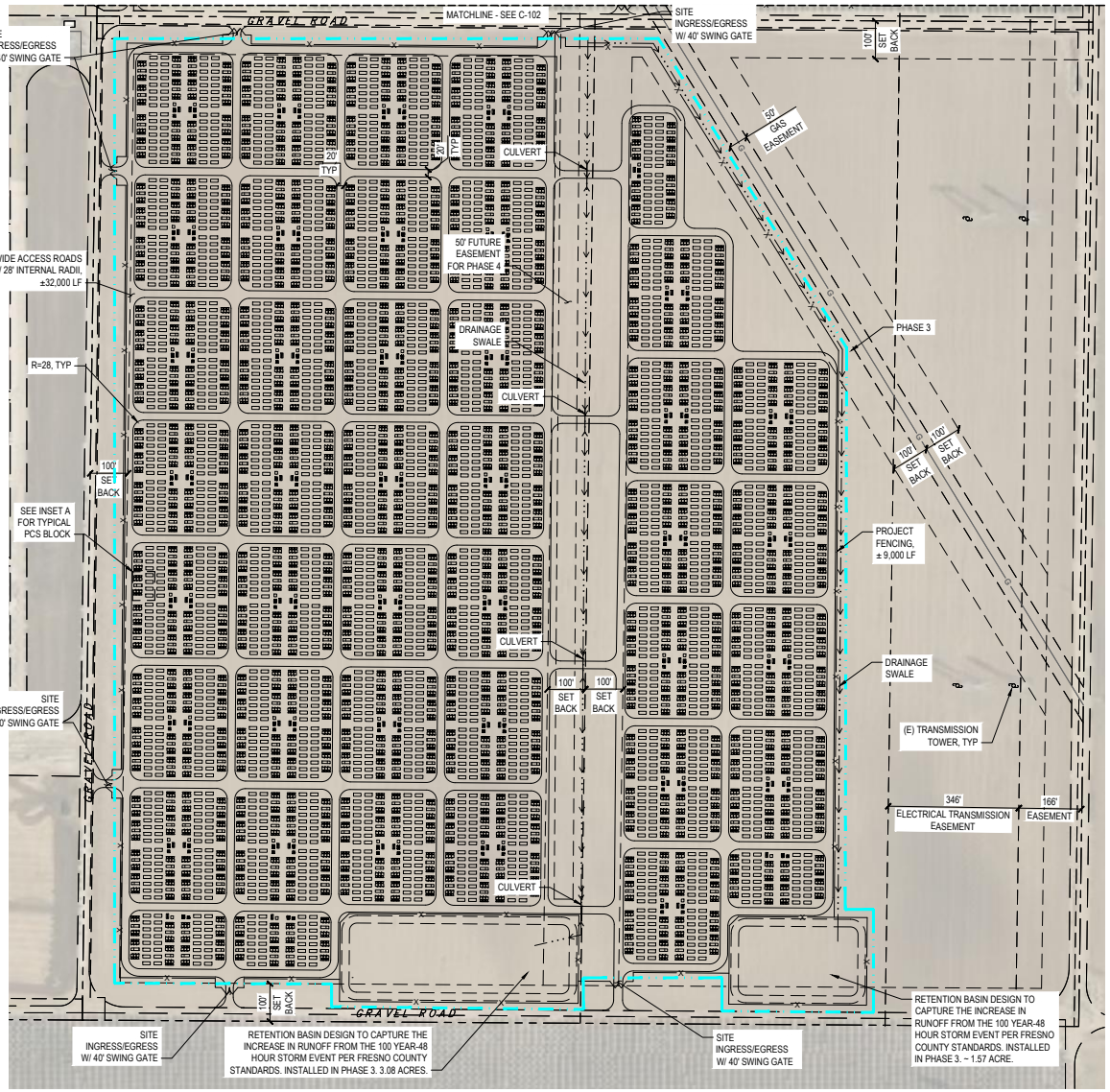
PROJ. NO.	212064
DRAWN	NAD
CHECKED	LJB
DATE	09/2022

SHEET TITLE:

PRELIMINARY SITE PLAN & GENERAL ARRANGEMENT (LITHIUM ION AND FLOW BATTERIES)

SHEET NO:

C-102



1 C-103 PRELIMINARY SITE PLAN & GENERAL ARRANGEMENT (LITHIUM ION AND FLOW BATTERIES)

SCALE: 1" = 150'-0"

NORTH

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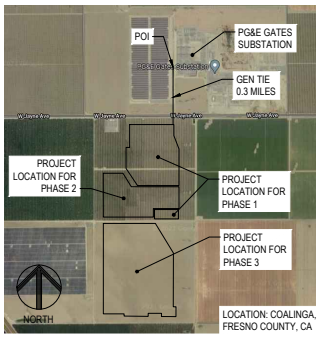


VICINITY MAP

PHASE	POWER @ POI (SEE NOTE 2)	PCS (BESS INVERTER & TRANSFORMER) QUANTITY	BESS TECHNOLOGY	ACRES PER PHASE
1	300 MW	46	FE FLOW	56.0 (NOTE A)
		64	Li - ION	
2	700 MW	232	Li - ION	43.4
3	2000 MW	640	Li - ION	108.6 (NOTE B)
TOTAL	3000 MW	982		208
NOTE A: INCLUDES RETENTION BASIN AND SUBSTATION ON C-102.				
NOTE B: INCLUDES RETENTION BASINS ON C-103.				

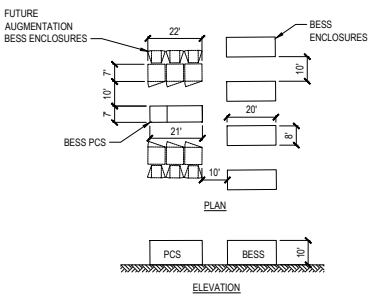
SYSTEM SUMMARY

NOTES:

1. DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON FINAL DESIGN.
2. SCADA SYSTEM HAS ACTIVE POWER CONTROL CAPABILITY TO LIMIT TOTAL PLANT INPUT AND OUTPUT TO PREVENT EXCEEDING THE MAXIMUM INTERCONNECTION CAPACITY (FOR EACH PHASE). ADDITIONAL BESS EQUIPMENT IS SHOWN TO ACCOUNT FOR POTENTIAL CHANGES IN OPERATIONAL STRATEGY.

ABBREVIATIONS:

BESS	BATTERY ENERGY STORAGE SYSTEM
PCS	POWER CONVERSION SYSTEM
POI	POINT OF INTERCONNECTION



INSET A - TYPICAL PCS BLOCK

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PRELIMINARY - NOT FOR CONSTRUCTION

NEXTERA

NEXTera ENERGY RESOURCES

KEY BESS

PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION

PROJ. NO.	212064
DRAWN	NAD
CHECKED	LJB
DATE	09/2022

SHEET TITLE:

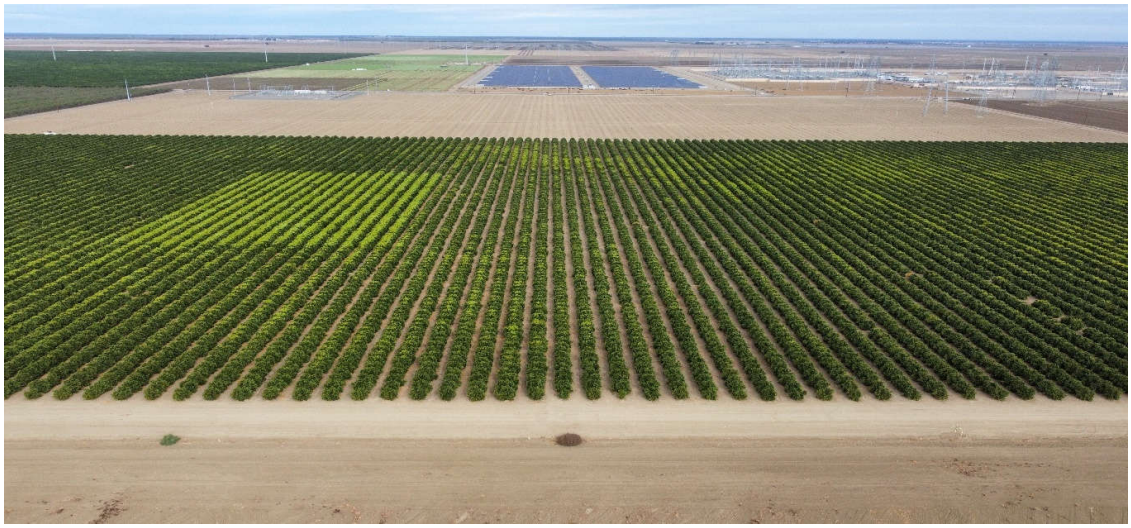
PRELIMINARY SITE PLAN & GENERAL ARRANGEMENT (LITHIUM ION AND FLOW BATTERIES)

SHEET NO:

C-103

Appendix C

Agricultural Resources: Land Evaluation and Site Assessment (LESA)



Key Energy Storage Project

Land Evaluation and Site Assessment

prepared for

Key Energy Storage, LLC
700 Universe Boulevard
Juno Beach, Florida 33408
Attn: Virginia Thompson / Patti Murphy

prepared by

Rincon Consultants, Inc.
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October 2022

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
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Table of Contents

Tables

Figures

1 Introduction

This Land Evaluation and Site Assessment (LESA) has been prepared for the Key Energy Storage Project (Project). The purpose of this report is to provide agencies and decision makers with a method for quantitatively considering potential impacts on agricultural lands in the environmental review process (Public Resources Code Section 21095). Appendix G of the State California Environmental Quality Act (CEQA) Guidelines identifies the California Department of Conversation's (DOC) California Agricultural LESA Model (LESA Model) as an optional model to use in assessing potential impacts to agriculture and farmland.

2 Project Description

2.1 Project Location

The Project site is in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, approximately 7.5 miles north of the City of Avenal, California, and approximately 0.4 miles east of Interstate 5 (Figure 1). The Project site is located southwest of the Pacific Gas and Electric (PG&E) Gates Substation along West Jayne Avenue. The Project would be developed on up to 260 acres of a 318-acre site comprised of three parcels (Assessor Parcel Numbers [APNs] 085-040-36S, 085-040-37S, and 085-040-58S) (Figure 2).

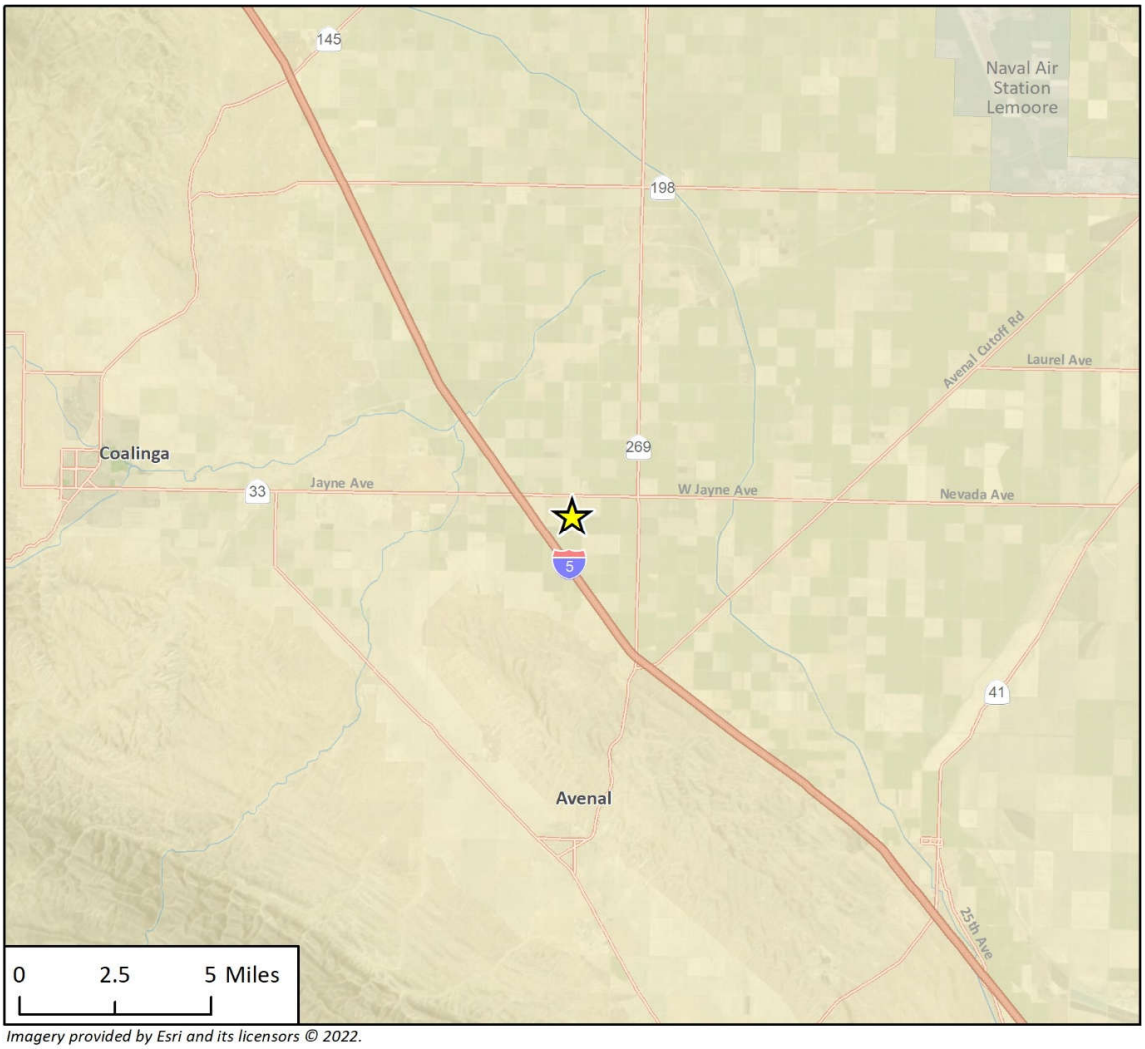
2.2 Project Description

Key Energy Storage, LLC (Applicant) proposes to construct and operate the Key Energy Storage Project (Project) on up to 260 acres within a 318-acre site in unincorporated Fresno County. The Project would include development of an energy storage system facility and associated on-site support facilities including a substation, inverters, collector lines, fencing, access roads, supervisory control and data acquisition (SCADA) system, and other ancillary facilities or equipment. The energy storage facility is anticipated to consist of batteries with the potential to store approximately three (3)-gigawatt (GW) of energy.[1] The Project would also include a 500-kilovolt (kV) overhead generation tie line (gen-tie line), which would extend north to the adjacent PG&E Gates Substation.

The Project would support state policies necessary to improve the reliability of California's energy grid. California has taken action to advance energy storage, including the passage of Assembly Bill 2514 and the resulting California Public Utilities Commission decision for energy storage procurement targets for each of the investor-owned utilities. Locally, Fresno County provides a large share of the region's renewable energy. The Project would substantially increase local energy storage capacity and address the limitations of the electric grid and the increasing demand for renewable energy. Layering energy storage systems into the energy grid improves the reliability of the grid and makes it more resilient to disturbances and peaks in energy demand. The Project and other energy storage system projects are used to supply power during brief disturbances, reduce outages and associated impacts to the community, and substitute for certain large footprint transmission and distribution upgrades.

[1] The megawatt capacity is an estimate based on currently available technology as the energy storage industry has quickly evolved in the last few years and is anticipated to continue to evolve. While the components and total megawatts of the Project may change, the overall size of the Project (up to 260 acres) would remain consistent.

Figure 1 Regional Location



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Project Location

N

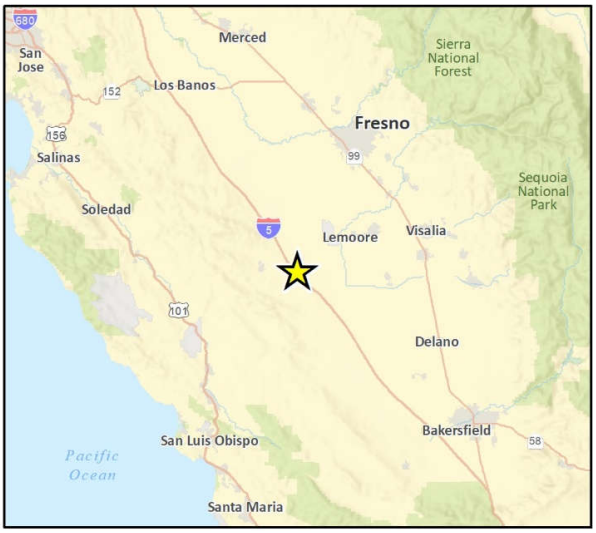
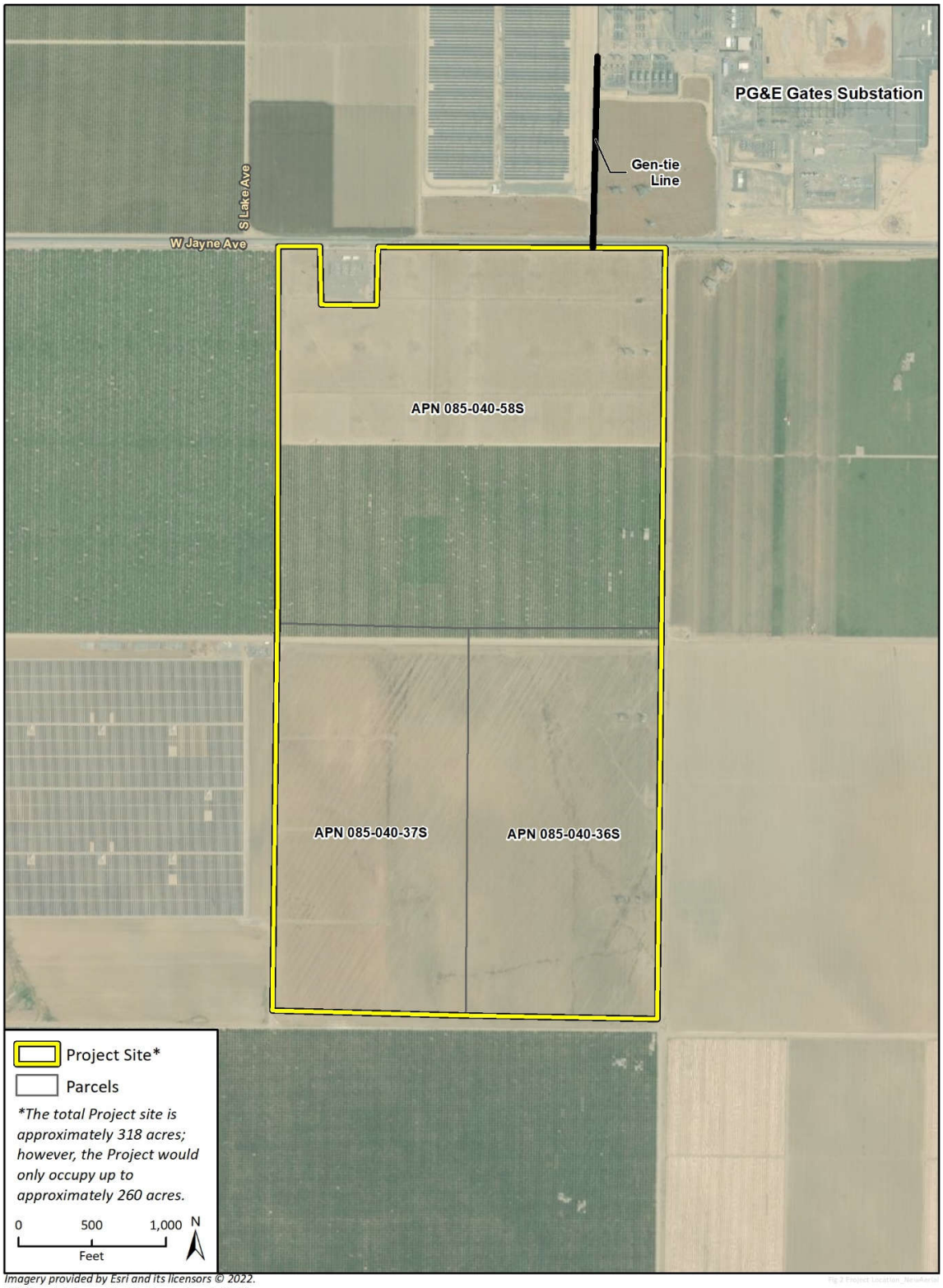


Figure 2 Project Location



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Additional data provided by Fresno County, 2021.

3 Methodology

The DOC's LESA Model is a point-based approach that is generally used for rating the relative value of agricultural land resources. A given LESA Model is created by defining and measuring two separate sets of factors: Land Evaluation (LE) and Site Assessment (SA).

LE includes two factors that measure the inherent soil-based qualities of land as they relate to agricultural suitability (DOC 1997):

1. **Land Capability Classification Rating:** The Land Capability Classification (LCC) Rating indicates the suitability of soils for most kinds of crops. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receiving the highest ratings.
2. **Storie Index Rating**: The Storie Index provides a numeric rating of the relative degree of suitability or value of a given soil for intensive agriculture use. The rating is based upon soil characteristics only.

SA includes four factors which are intended to measure social, economic, and geographic attributes that also contribute to the overall value of agricultural land (DOC 1997):

1. **Project Size Rating:** The Project Size Rating is based on the acreage of three soil classifications on a project site. The Project Size Rating recognizes the role that farm size and soil quality plays in the viability of an agricultural operation.
2. **Water Resource Availability Rating:** The Water Resources Availability Rating is based on the available water supplies for a project site, taking into consideration whether physical or economic restrictions in supply are likely to take place in drought and non-drought years.
3. **Surrounding Agricultural Land Rating:** The Surrounding Agricultural Land Rating measures the proportion of agricultural land surrounding a project site.
4. **Surrounding Protected Resource Land Rating:** The Surrounding Protected Resource Land Rating takes into account the amount of Protected Resource Land, defined as lands with long term use restrictions that are compatible with or supportive of agricultural land, surrounding a project site. This includes Williamson Act contracted lands; publicly owned lands maintained as park, forest, or watershed resources; and lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban or industrial uses.

Each of the six total LESA factors are separately rated on a 100-point scale. After individual scores are calculated, the factors are weighted relative to each other. The specific breakdown of factor weighting is as follows (DOC 1997):

1. **Land Capability Classification Rating:** 25 percent of total LESA score
2. **Storie Index Rating:** 25 percent of total LESA score
3. **Project Size Rating:** 15 percent of total LESA score
4. **Water Resource Availability Rating:** 15 percent of total LESA score
5. **Surrounding Agricultural Land Rating:** 15 percent of total LESA score
6. **Surrounding Protected Resource Land Rating:** 5 percent of total LESA score

A single LESA score is generated for a given project after all of the individual LE and SA factors have been scored and weighted. The final project scoring is based on a 100-point scale with 50 percent of the total LESA dervied from the LE factors, and 50 percent dervied from the SA factors.

The LESA Model is designed to make determinations of the potential significance of a project's conversion of agricultural lands as part of the CEQA review process (DOC 1997). Scoring thresholds are based upon both the total LESA score as well as the scores calculated for LE and SA individually. Table 1 presents the LESA significance thresholds.

Table 1 Land Evaluation Site Assessment Model Significance Thresholds

Total LESA Score	Scoring Decision
0 to 39 points	Not considered significant
40 to 59 points	Considered significant only if LE and SA sub-scores are greater than or equal to 20 points
60 to 79 points	Considered significant unless either LE or SA sub-scores is less than 20 points
80 to 100 points	Considered significant

LE = Land Evaluation; SA = Site Assessment
Source: DOC 1997

For the purposes of this LESA Model, the entire 318-acre Project site is analyzed rather than the 260-acre development because implementation of the Project would preclude agricultural use within the entirety of the 318-acre site. Additional details of the methodology for the LESA modeling conducted for the Project is discussed in Section 4, *Land Evaluation and Site Assessment Results*. All tables provided in Section 4 align with the LESA worksheets published by the DOC for the purposes of creating a LESA model.

4 Land Evaluation and Site Assessment Results

4.1 Land Evaluation

In order to rate the LCC and Storie Index factors, the relative proportion of soils on a project site are identified. Soils on the Project site consist of loam and sandy loams in three soils series (United States Department of Agriculture-Natural Resources Conservation Service [USDA-NRCS] 2022). These include Westhaven loam, Kimberlina sandy loam, and Wasco sandy loam. The majority of the Project site contains Westhaven loam and Kimberlina sandy loam as only approximately 13 acres of Wasco sandy loam is present in the southwest corner of the 318-acre site. The locations of these soils are depicted in Figure 3.

Land Capability Classification Rating

LCCs for specific soils are identified as part of soil surveys, conducted by the USDA-NRCS (DOC 1997). Soils are categorized at three levels: capability class, subclass, and unit (USDA-NRCS 2000). The LESA model utilizes capability class and subclass to determine the LCC Rating Value (DOC 1997). Capability classes are designated by the numbers I through VIII. The numbers indicate progressively greater limitations and narrower choices for crop cultivation, with Class I soils having the fewest limitations and Class VIII soils having the greatest limitations. Capability subclasses are soil groups within a capability class, and indicate specific risks associated the soil. These subclasses are designated by adding a small letter *e* (erosion), *w* (water that interferes with plant growth), *s* (shallow, droughty or stony), or *c* (cold or dry), to the end of the capability class number (USDA-NRCS 2000). The LCC Point Ratings that are assigned to each capability class and subclass for the LESA model are listed in Table 2.

Table 2 LESA Land Capability Classification Ratings

Land Capability Classification	Point Rating
I	100
IIe	90
IIs,w	80
IIIe	70
IIIs, w	60
IVe	50
IVs, w	40
V	30
VI	20
VII	10
VIII	0

Source: DOC 1997

Figure 3 Project Site Soils

The LCC Classification for irrigated Westhaven loam and Kimberlina sandy loam is I, which are assigned an LCC Rating Value of 100. The LCC Classification for non-irrigated Westhaven loam and Kimberlina sandy loam is VIIc and for non-irrigated Wasco sandy loam is VIIe, which are assigned an LCC Rating Value of 10. The LCC Classification and LCC Rating Value for the soils on the Project site are shown in Table 4 at the end of this section.

The LCC Score for each soil type on the Project site is derived by multiplying the LCC Rating Value by the percentage the Project site comprised of the soil type. The LCC Score for the on-site soils is calculated in Table 4 at the end of this section.

Storie Index Rating

The Storie Index Rating Class and Rating Value for specific soils are identified as part of soil surveys, conducted by the USDA-NRCS (DOC 1997). The Storie Index Rating based on surface and subsurface chemical and physical soil properties and surface landscape features of the soil. Four general factors are used to determine the Storie Index Rating of a particular soil: (A) permeability, available water capacity, and depth of the soil; (B) the texture of the surface soil; (C) the dominant slope of the soil body; and (X) other conditions more readily subject to management or modification by the land user. Soils are assigned to a Storie Index Rating Class from Grade 1 to Grade 6, based upon the Storie Index Rating Value. Grade 1 soils are representative of soils that are well suited for agriculture, while Grade 6 soils are not suited to agriculture (USDA-NRCS 2000). The Storie Index Rating Values for each Storie Index Rating Class are shown in Table 3 below.

Table 3 Storie Index Ratings

Storie Index Rating Class	Storie Index Rating Value
Grade 1	80 to 100
Grade 2	60 to 79
Grade 3	40 to 59
Grade 4	20 to 39
Grade 5	10 to 19
Grade 6	Less than 10

Source: USDA-NRCS 2000

The Storie Index Rating Value is 95 for Westhaven loam, 90 for Kimberlina sandy loam, and 81 for Wasco sandy loam. The Storie Index Rating Class for the soils on the Project site is Grade 1, indicating the soils are well suited for agriculture (USDA-NRCS 2000). The Storie Index Rating Value and Storie Index Rating Class for the soils on the Project site are shown in Table 4 at the end of this section.

The Storie Index Score for each soil type on the Project site is derived by multiplying the Storie Index Rating Value by the percentage the Project site comprised of the soil type. The Storie Index Score Rating Value for the on-site soils is calculated in Table 4 at the end of this section.

Land Evaluation Results

The results for the LE analysis of the LESA Model are presented in Table 4 below. The LCC and Storie Index Ratings and Scores are provided in Table 4. The project receives an LCC Score of 54.7 and a Storie Index Rating of 91.4.

Table 4 Soils Land Capability Classification and Storie Index Scores

Map Number	Soil Type	Acreage	Percentage of Project Site	LCC Classification	LCC Rating Value	LCC Score	Storie Index Rating Class	Storie Index Rating Value	Storie Index Score
474	Westhaven loam (irrigated)	61.6	19.4%	I	100	19.4	Grade 1	95	32.7
	Westhaven loam (non-irrigated)	47.4	15.0%	VIIc	10	1.5			
425	Kimberlina sandy loam (irrigated)	96.6	30.3%	I	100	30.3	Grade 1	90	55.4
	Kimberlina sandy loam (non-irrigated)	99.4	31.2%	VIIc	10	3.1			
489	Wasco sandy loam (non-irrigated)	13	4.1%	VIIe	10	0.4	Grade 1	81	3.3
	Total	**318**	**100%**			**54.7**			**91.4**

The Project site's soils LCC Score and Storie Index Score were derived from the USDA-NRCS Web Soil Survey accessed April 18, 2022. The LCC Score is derived by multiplying the percentage of the Project site by the LCC Rating Value for each soil type. The Storie Index Score is derived by multiplying the percentage of the Project site by the Storie Index Rating Value for each soil type. The Storie Index does not take into account irrigated vs non-irrigated land, so the Percentage Total Study Area multiplied is representative of the entirety of a particular soil.

Source: USDA-NRCS 2022; USDA-NRCS 2000

4.2 Site Assessment

Project Size Rating

The Project Size Rating recognizes the role that farm size plays in the viability of commercial agricultural operations. In general, larger farming operations can provide greater flexibility in farm management and marketing decisions. Larger operations tend to have greater impacts upon the local economy through direct employment, as well as impacts upon supporting industries and food processing industries (DOC 1997).

In terms of agricultural productivity, the size of the farming operation can be considered, not only from its total acreage, but the acreage of different quality lands that comprise the operation. Lands with higher quality soils lend themselves to greater management and cropping flexibility and have the potential to provide greater economic return per acre unit.

The Project Size Rating is based on Project Size Scores that are assigned to each LCC soil class on the Project site (DOC 1997). The highest Project Size Score for the soils classes on the Project stie is identified as used as the Project Size Rating. Relatively fewer acres of high-quality soils to low-quality soils are required to achieve a maximum Project Size Rating of 100. Alternatively, larger acreage of lesser quality soils could also achieve a maximum Project Size Rating of 100. Table 5 provides the Project Size Scoring used for the LESA model (DOC 1997).

The Project site includes approximately 160 acres of Class I soils which are assigned a Project Size Score of 100 and approximately 160 acres of Class VII soils which are assigned a Project Size Score of 60. The Project Size Score for each soil class on the Project site are listed in Table 6. As shows in Table 6, the Project site receives a Project Size Rating of 100, which is the highest of the two individual Project Size Scores.

Table 5 Project Size Scoring

LCC Class I-II Soils		LCC Class III Soils		LCC Class IV or Lower Soils	
Acres	**Score**	**Acres**	**Score**	**Acres**	**Score**
80 or above	100	160 or above	100	320 or above	100
60-79	90	120-159	90	240-319	80
40-59	80	80-119	80	160-239	60
20-39	50	60-79	70	100-159	40
10-39	30	40-59	60	40-99	20
Fewer than 10	0	20-39	30	Fewer than 40	0
--	--	10-19	10	--	--
--	--	Fewer than 10	0	--	--

Source: DOC 1997

Table 6 Project Size Rating

	LCC Class I-II	LCC Class III	LCC Class IV-VIII
Total Acres	158	0	160
Project Size Score	100	0	60
Project Size Rating (Highest Project Size Score)		**100**	

Source: DOC 1997, Appendix B

Water Resources Availability Rating

The Water Resources Availability Rating is based upon the various water sources available for a project site, and considers irrigation feasibility and whether physical or economic restrictions in supply are likely to take place in years that are characterized as being periods of drought and non-drought. Physical and economic restrictions are defined by the DOC as follows:

- **Physical Restriction:** A physical restriction is an occasional or regular interruption or reduction in a water supply, or a shortened irrigation season, that forces a change in agricultural practices, such as planting a crop that uses less water, or leaving land fallow. This could be from cutbacks in supply by irrigation and water districts, or by ground or surface water becoming depleted or unusable. Poor water quality can also result in a physical restriction, for example by requiring the planting of salt-tolerant plans, or by effectively reducing the amount of available water.
- **Economic Restriction:** An economic restriction is a rise in the cost of water to a level that forces a reduction in consumption. (This could be from surcharge increases from water suppliers as they pass along the cost of finding new water supplies, the extra cost of pumping more ground

water to make up for losses in surface water supplies, or the extra energy costs of pumping the same among of groundwater from deeper within an aquifer).

Table 7 presents the Water Resources Availability Scoring used for the LESA Model (DOC 1997).

Table 7 Water Resource Availability Scoring

Option	Non-Drought Years Restrictions			Drought Years Restrictions			Water Resource Score
	Irrigated Production Feasible?	Physical Restrictions?	Economic Restrictions?	Irrigated Production Feasible?	Physical Restrictions?	Economic Restrictions?	
1	Yes	No	No	Yes	No	No	100
2	Yes	No	No	Yes	No	Yes	95
3	Yes	No	Yes	Yes	No	Yes	90
4	Yes	No	No	Yes	Yes	No	85
5	Yes	No	No	Yes	Yes	Yes	80
6	Yes	Yes	No	Yes	Yes	No	75
7	Yes	Yes	Yes	Yes	Yes	Yes	65
8	Yes	No	No	No	--	--	50
9	Yes	No	Yes	No	--	--	45
10	Yes	Yes	No	No	--	--	35
11	Yes	Yes	Yes	No	--	--	30
12	Irrigated production not feasible, but rainfall adequate for dryland production in both drought and non-drought years						25
13	Irrigated production not feasible, but rainfall adequate for dryland production in non-drought years (but not in drought years)						20
14	Neither irrigated nor dryland production feasible						0

Source: DOC 1997

The Project site is located within the jurisdiction of the Westlands Water District (WWD) which delivers water to agricultural users primarily from groundwater and surface water from the Central Valley Project (CVP). The Project site receives water from WWD and an on-site groundwater well located on APN 085-040-58S. Specifically, the northern half of the Project site (APN 085-040-58S) is currently irrigated with water from WWD and the on-site well. The southern half of the Project site (APNs 085-040-36S and 085-040-37S) is currently fallow and requires irrigation infrastructure to provide water to this portion of the Project site. However, water allocations from WWD are available for APNs 085-040-36S and 085-040-37S. Groundwater from on-site wells is not available to the southern two parcels. Water allocation from WWD is varied year to year. Additionally, groundwater pumping restrictions are put in place in accordance with the Sustainable Groundwater Management Act. Due to the low storage currently available in CVP reservoirs it was determined that the projected 2022-2023 CVP contract allocation would be 0 percent (WWD 2022). The WWD also acquires supplemental water from multiple sources for the 2021-2022 contract year, and it was estimated the WWD can acquire up to 153,500 acre-feet of supplemental water. As of February 18, 2022, the WWD made 144,265 acre-feet of supplemental water available for allocation (WWD

2022). When supplemental water is made avaliable for allocation, the quantity allocated to a water user's account is a prorated based upon the water avaliable at the time and the number of irrigable acres associated with accounts that have outstanding requests. When an account's request has been fulfilled, it will no longer receive allocations (WWD 2022). Thus, the amount that can be allocated to the site is variable, dependant on the timing of the request.

Water data for the Project site was collected from parcel owners and then cross-referenced with DOC definitions of physical restrictions and economic restrictions in order to determine appropriate scoring. Consistent with DOC guidance, scoring is determined based upon the proportions of land that receive water from specific sources (i.e., irrigation, groundwater, etc.). Since the northern half of the Project site (APN 085-040-58S) can be supplied water via irrigation district supplies and an on-site well and the southern half (APNs 085-040-36S and 085-040-37S) can be supplied solely by irrigation district supplies, the water resource availability score is analyzed for each half of the Project site, and the respective scores are then summed to determine a total score.

For this analysis, it was determined the southern portion of the Project site supplied water via irrigation only is most representative of Option 7. This option best represents the southern portion of the Project site in both drought and non-drought years because it is fallow and relies solely on allocation from WWD, of which 0 percent will be allocated during the 2022-2023 year. As such, while irrigated crop production could be feasible, there exists both a physical restriction (lack of water) and economic restriction (cost of sourcing water from elsewhere) for this portion of the Project site during both drought and non-drought years. For the northern portion of the Project site supplied water via irrigation and an on-site well, Option 5 best represents this land. Information from the parcel owner confirmed there would not be physical or economic restrictions during non-drought years. However, during drought years irrigation allocation by WWD is likely to be 0 percent, as previously described. This imposes a physical restriction during drought years, which could thereby require excess groundwater to be pumped to make up for losses in surface water supplies, thus imposing an economic restriction. The Project site receives a weighted score of 72.5 for the Water Resources Availability Rating (Table 8).

Table 8 Water Resource Availability Rating

Option	Water Source	Proportion of Project Site	Water Availability Score	Weighted Availability Score
Option 5	Irrigation District + On-site Well	.50	80	40
Option 7	Irrigation District Only	.50	65	32.5
	Total	**1.00**	**--**	**72.5**

The Weighted Availability Score is calculated by multiplying the Proportion of Project Site value by the Water Availability Score for the respective Option.

Source: DOC 1997

Surrounding Agricultural and Protected Resource Land Ratings

The evaluation of surrounding agricultural and protected resource lands includes assigning a rating to surrounding and protected resource lands within the zone of influence (ZOI) of the Project site. The ratings provide a measurement of the level of agricultural use for lands within the ZOI of the Project site. The ZOI includes the Project site and surrounding lands within a 0.25-mile buffer from the Project boundary. Parcels that are intersected by the 0.25-mile buffer are evaluated in their

entirety and, based upon the percentage of agricultural lands in the ZOI, the Project site is assigned a Surrounding Agricultural Land Rating. The LESA Model rates the potential significance of the conversion of an agricultural parcel that has a large proportion of surrounding land in agricultural production more highly than one that has a relatively small percentage of surrounding land in agricultural production (DOC 1997).

The Surrounding Protected Resource Land Rating is essentially an extension of the Surrounding Agricultural Land Rating and is scored in a similar manner. Protected resource lands are those lands with long-term use restrictions that are compatible with or supportive of agricultural uses of land. Included among them are the following:

- Williamson Act contracted land;
- Publicly owned lands maintained as park, forest, or watershed resources; and
- Land with agricultural, wildlife habitat, open space, or other natural easements that restrict the conversion of such land to urban or industrial uses.

The ratings for surrounding agricultural and protected resource lands are based on the scoring chart developed by the DOC. Table 9 presents the scoring used for both the Surrounding Agricultural Use and the Surrounding Protected Resource Land Scoring (DOC 1997).

Table 9 Surrounding and Protected Agricultural Use Scoring

Percent of Project's Zone of Influence in Agricultural Use	Surrounding and Protected Agricultural Land Score
90-100	100
80-89	90
75-79	80
70-74	70
65-69	60
60-64	50
55-59	40
50-54	30
45-49	20
40-44	10
40 or less	0

Source: DOC 1997

To determine the extent of surrounding agricultural and protected resource lands in the Project's ZOI, land use data was obtained from the County of Fresno's Parcel Map Lookup page (County of Fresno 2022). Aerial imagery from Google Earth and photos from a site reconissance conducted February 11, 2022 was also reviewed to confirm the land use data. Current Williamson Act contract status obtained from the County of Fresno confirmed that all parcels on the Project site are currently under Williamson Act contracts. Adjacent parcels to the north (APNs 075-060-19S, 075-060-66S), east (APN 085-050-01S) south (APN 085-040-024) and west (APN 085-040-05S) within 0.25-mile of the Project site are also under Williamson Act contract (County of Fresno 2022). Table 10 provides the acres per parcel, and whether or not the parcel is in agricultural land use and

conisdered to be a protected resource land. Figure 4 displays the ZOI for the Project site. The ZOI for the Project site totals 2,006 acres.

Table 10 Surrounding Agricultural Land Use and Protected Resource Land

Assessor's Parcel Number	Acres	Agricultural Land	Protected Resource Land?
075-060-19S	157.13	Yes	Williamson Act
075-060-66S	144.45	Yes	Williamson Act
075-060-45SU	181.47	No	No
075-060-18SU	80.20	No	No
085-050-01S	632.88	Yes	Williamson Act
085-050-49S	156.77	Yes	No
085-040-024	339.46	Yes	Williamson Act
085-040-60S	64.50	Yes	No
085-040-59S	92.26	No	No
085-040-05S	154.08	Yes	Williamson Act
085-040-57SU	3.06	No	No

Source: DOC 1997; DOC 2018; County of Fresno 2022

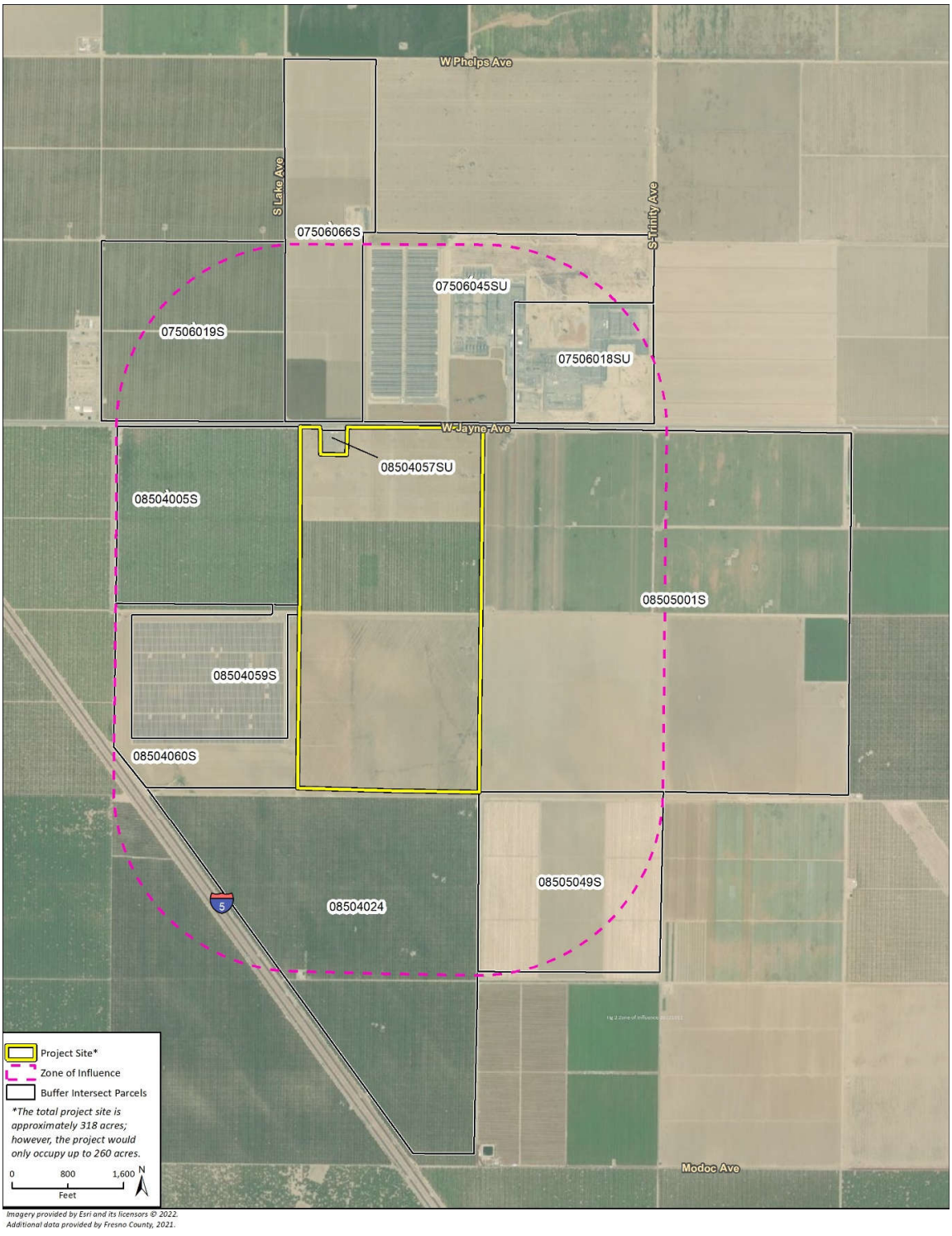
As presented in Table 10, seven parcels located within the ZOI for the Project are actively used for agriculture and five parcels are located on Williamson Act contracted land. Table 11 summarizes the acreage and percentage of the ZOI in agricultural land use and protected resource lands and provides the score for each based on the DOC scoring (Table 9). As shown in Table 11, the ZOI receives a 90 score for Agricultural Land Use Rating and a 70 score for the Protected Resource Land Rating.

Table 11 Surrounding Agricultural Land and Protected Resource Land Site Assessment Ratings

	Total Acreage within Zone of Influence	Percentage Acreage Within Zone of Influence	Corresponding Score
Agricultural Land	1,649.27	82%	90
Protected Resource Land	1,428.00	71%	70

Source: DOC 1997

Figure 4 Zone of Influence



5 Final LESA Score Results

As described in Section 3, *Methodology*, the Final LESA Score is calculated by multiplying the individual score for each of the six factors by their respective weighting factor, and then summing the weighted factor ratings to determine a Final LESA Score. The Final LESA Score is then compared against the LESA Model significance thresholds assigned by the DOC to determine if the Project would result in a potentially significant impact.

As shown in Table 12, the weighted LE sub-score for the Project site is 36.53, while the weighted SA sub-score for the Project site is 42.88. The final LESA Model score for the Project site is 79.41. As previously shown in Table 1, a final LESA score of 60 to 79 points is considered significant unless either the LE or SA subscore is less than 20. However, both the LE and SA scores exceed a 20-point threshold. Therefore, the Project would have a potentially significant impact on agricultural resources based on the LESA.

Table 12 Final Land Evaluation Site Assessment Score Sheet Summary

	Factor Score (0-100 points)	Factor Weighting (Total = 1.00)	Weighted Factor Rating
Land Evaluation			
LCC Rating	54.7	0.25	13.68
Storie Index Rating	91.4	0.25	22.85
Land Evaluation Sub-score		*0.50*	*36.53*
Site Assessment			
Project Size Rating	100	0.15	15.00
Water Resource Availability Rating	72.5	0.15	10.88
Surrounding Agricultural Land Rating	90	0.15	13.50
Surrounding Protected Resource Lands Rating	70	0.05	3.50
Site Assessment Sub-score		*0.50*	*42.88*
		Total	**79.41**

Weighted factor rating is determined by multiplying the factor score by the factor weighting.

6 List of Preparers

6.1 List of Preparers

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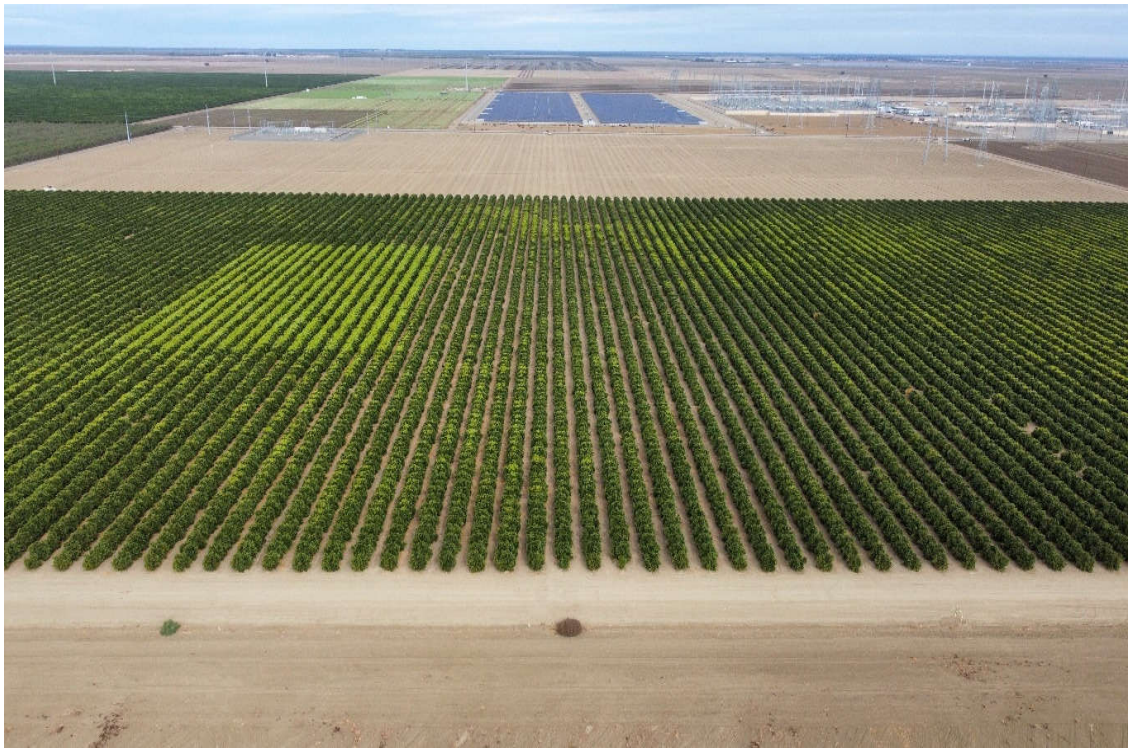
Appendix D

Air Quality, Greenhouse Gas Emissions, and Fuel Use

Appendix D1

Air Quality and Greenhouse Gas Study



Key Energy Storage Project

Air Quality and Greenhouse Gas Study

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January 2023

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Appendices

1 Introduction

Rincon Consultants, Inc. (Rincon) prepared this Air Quality and Greenhouse Gas Study for the Key Energy Storage Project (Project) in Fresno County, California to analyze the potential air quality, greenhouse gas (GHG) emissions, and health risk impacts related to construction, operation, and decommissioning of the Project.

1.1 Project Summary

Project Location

The Project site is located in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, 7.5 miles north of the City of Avenal, and 0.4 mile east of Interstate 5. Figure 1 depicts the regional location of the Project site. The Project site is located southwest of the Pacific Gas and Electric (PG&E) Gates Substation along West Jayne Avenue. The Project would develop up to 260 acres of a 318-acre site comprised of three parcels (Assessor Parcel Numbers 085-040-36S, 085-040-37S, and 085-040-58S) (Figure 2).

The Project site consists of land that is either in agriculture production or fallow. The Project site is bound by West Jayne Avenue to the north and unpaved agricultural access roads to the east, south, and west. The Project site is surrounded by agricultural uses to the west, south, and east. Solar facilities are located to the north and southwest and the PG&E Gates Substation is located to the northeast of the Project site. A small substation is also located immediately adjacent to the northwest Project site boundary.

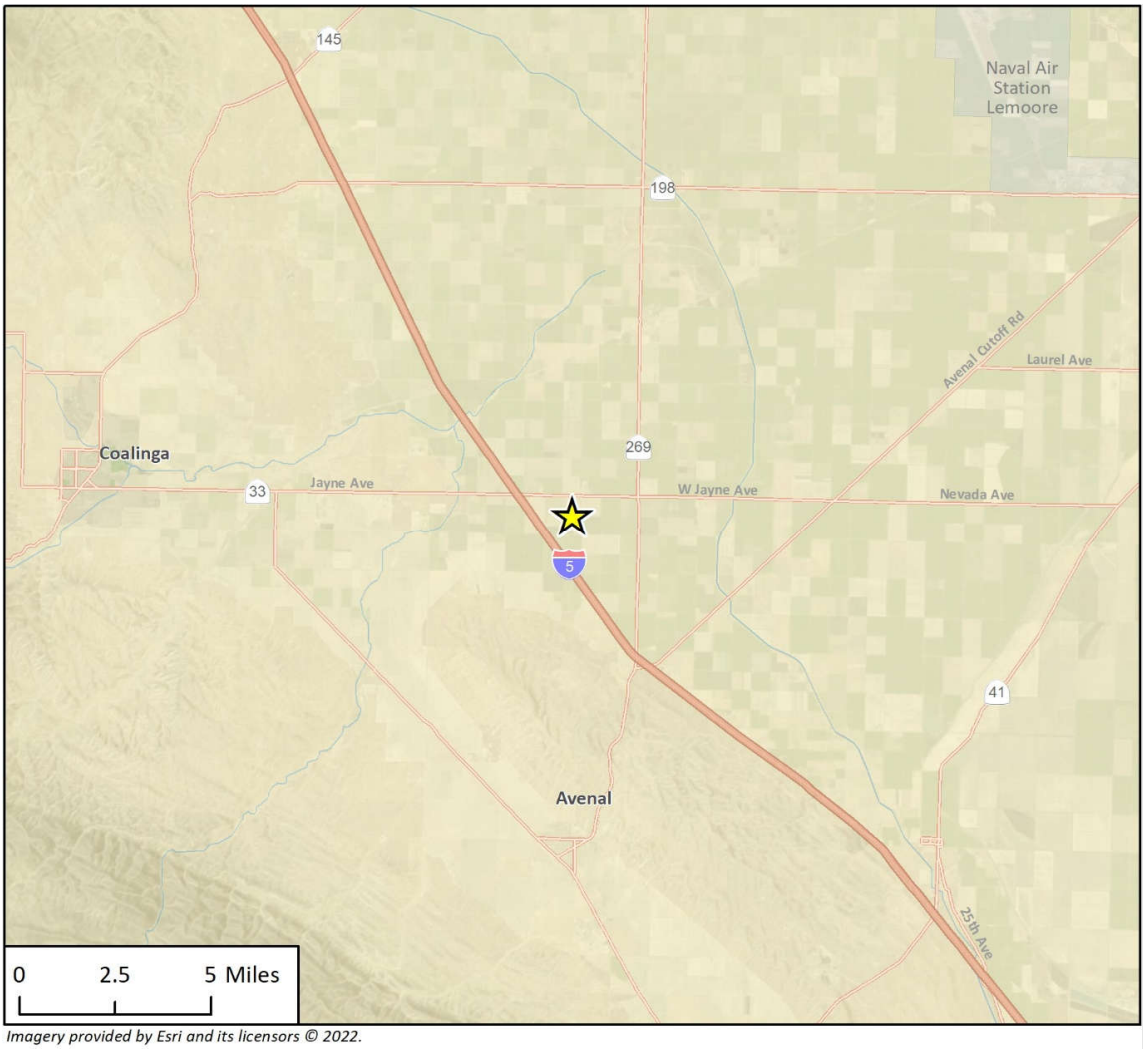
Project Description

The Project involves the construction and operation of an energy storage system facility and associated on-site support facilities, including a substation, inverters, collector lines, fencing, access roads, supervisory control, data acquisition (SCADA) system, and other ancillary facilities or equipment. The energy storage facility would consist of batteries with the potential to store approximately three (3)-gigawatt (GW) of energy.[1] The Project would also include a 500-kilovolt (kV) overhead generation tie line (gen-tie line), which would extend north to the adjacent PG&E Gates Substation.

The Project would support state policies necessary to improve the reliability of California's energy grid. California has taken action to advance energy storage, including the passage of Assembly Bill 2514 and the resulting California Public Utilities Commission decision for energy storage procurement targets for each of the investor-owned utilities. Locally, Fresno County provides a large share of the region's renewable energy. The Project would substantially increase local energy storage capacity and address the limitations of the electric grid and the increasing demand for renewable energy. Layering energy storage systems into the energy grid improves the reliability of the grid and makes it more resilient to disturbances and peaks in energy demand. The Project and other energy storage system projects are used to supply power during brief disturbances, reduce outages and associated impacts to the community, and substitute for certain large footprint transmission and distribution upgrades.

[1] The megawatt capacity is an estimate based on currently available technology as the energy storage industry has quickly evolved in the last few years and is anticipated to continue to evolve. While the components and total megawatts of the project may change, the overall size of the project (up to 260 acres) would remain consistent.

Figure 1 Regional Location



Imagery provided by Esri and its licensors © 2022.

Project Location

N

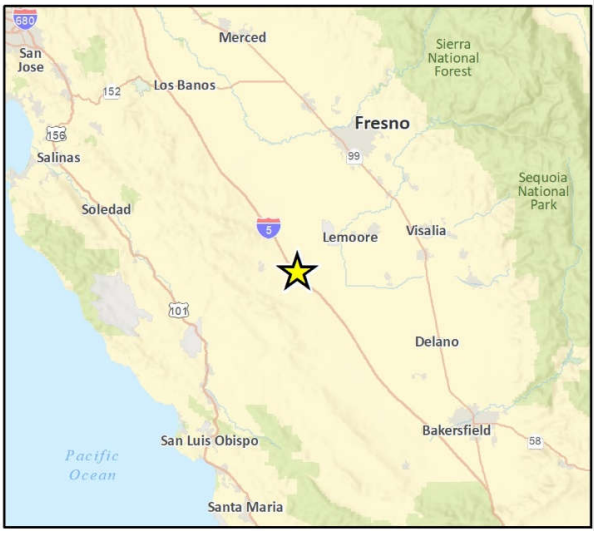
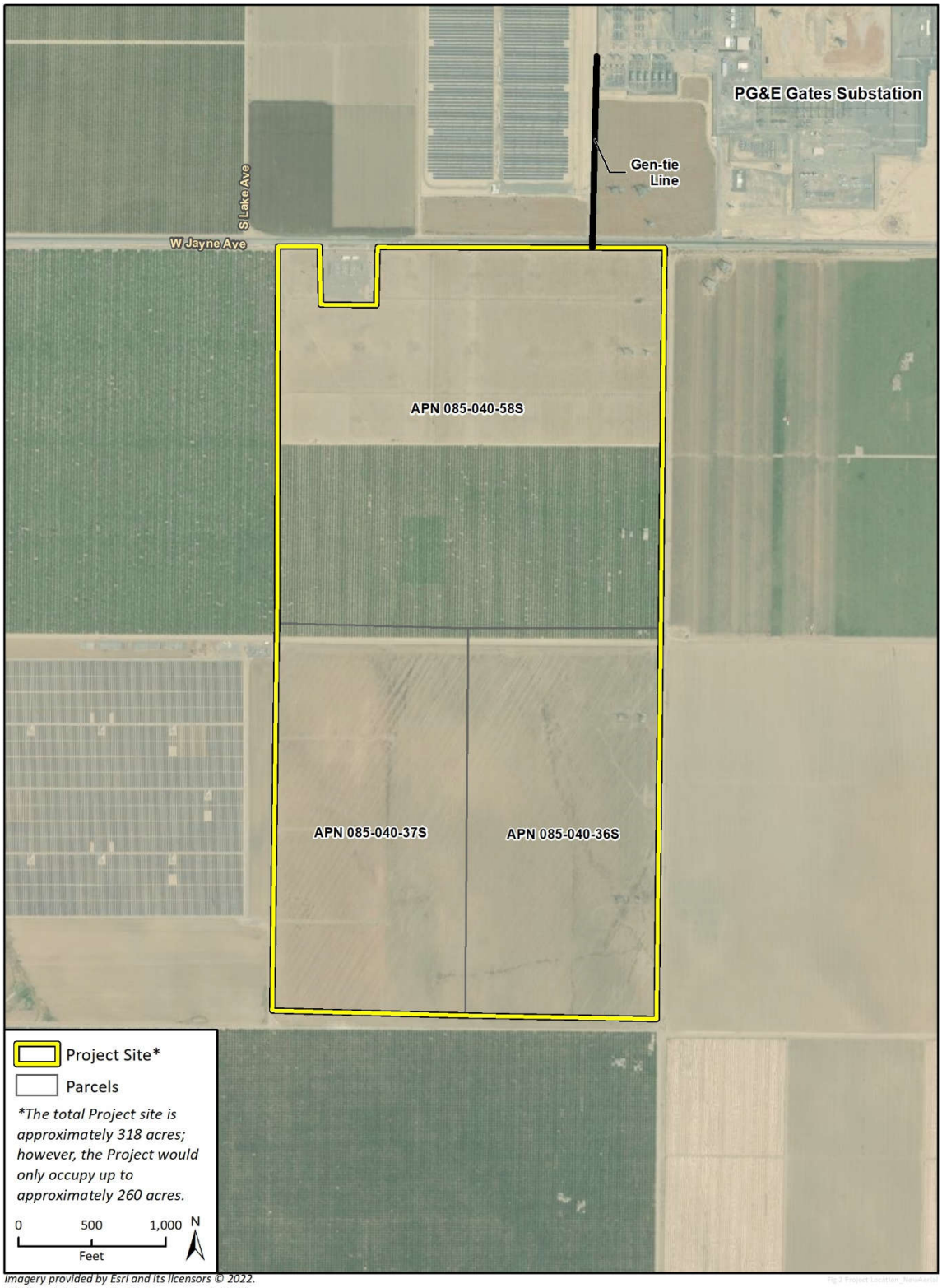


Figure 2 Project Site Location



The proposed Project could use any commercially available battery technology or similar technology; however, lithium ion and/or iron flow are the two options being considered at this time. Regardless of the battery type, battery cells form the core of the energy storage system. Multiple self-contained storage system enclosures would house the batteries and/or electrolyzer tanks, as well as the battery storage system controller. The storage system enclosure would also house required heating, ventilation, and air conditioning (HVAC) and fire protection systems. Enclosure height would not exceed 25 feet.

The Project substation would be the termination point of the collection system of 34.5 kV AC electricity. The open-air substation is anticipated to be constructed adjacent to the energy storage facility in the northern portion of the Project site. The footprint of the on-site Project substation would be approximately 5.14 acres.

The energy would be transported to and from the Project substation to/from the existing PG&E Gates Substation through a proposed approximately 0.5-mile-long gen-tie line. The gen-tie line would extend from the northwest corner of the Project site to the PG&E Gates Substation to the north, as shown in Figure 2. The 500 kV gen-tie transmission line would include concrete or steel pole structures up to 150 feet tall and spaced approximately every 500 feet. The poles would carry one conductor per phase and allow the line to maintain a minimum 30-foot vertical clearance to the ground.

Construction

Construction activities would include site preparation, fencing, and electrical work. Although the Project site is fairly level, grading would be required throughout most of the site, especially for the construction of roads, on-site substation, the energy storage enclosures, and inverter pads. This would be accomplished with scrapers, graders, water trucks, dozers, and compaction equipment. The enclosure modules would be off-loaded and installed using cranes, boom trucks, forklifts, rubber-tired loaders, rubber-tired backhoes, and other small- to medium-sized construction equipment, as needed. Staging and laydown areas would all be located on the Project site, and specific locations would be determined by the construction contractor.

Construction is anticipated to begin in 2024. As there are two different battery options (Lithium Ion and Lithium Ion with Iron Flow), two different construction scenarios were modeled to account for the acreage, phasing, and duration differences between the two scenarios. Regardless of the scenario, delivery of material and supplies would reach the Project site by on-road truck delivery through Interstate 5 to West Jayne Avenue. The majority of the truck deliveries would be for the energy storage enclosures and power conversion system installation, as well as any aggregate material that may be required for foundations. These loads would typically be limited to 40 tons, or 80,000 pounds, with a typical cargo load of approximately 25 tons, or 50,000 pounds. Low-bed transport trucks would transport the construction equipment to the site as needed. The size of the low-bed trucks (axles for weight distribution) would depend on the equipment transported. The heaviest delivery loads to the site would be for the step-up transformer, which may weigh up to 160,000 pounds.

Operations and Maintenance

Regardless of the battery option chosen, the Project would operate 7 days per week, 365 days per year. The facility would be operated remotely. Only occasional, on-site maintenance is expected to be required following commissioning, including replacement of inverter power modules, filters, and miscellaneous electrical repairs on an as-needed basis. During operation of the Project substation, operation and maintenance staff would visit the substation periodically for switching and other operation activities. The project would include an Operations and Maintenance (O&M) building, which

would include kitchen and lavatory facilities. Maintenance trucks would be utilized to perform routine maintenance, including but not limited to equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventative maintenance. Routine operations would require one or two workers in a light utility truck to visit the facility on a weekly basis. Typically, one major maintenance inspection would take place annually.

Decommissioning

The Project is anticipated to have an operating life of up to 30 years. Decommissioning is anticipated to start in approximately 2055 and take up to 24 months. Decommissioning equipment and personnel would be similar to or less than that required for construction. The Project components, including the energy storage system and on-site substation, would be recycled when the Project's operating life is over. Most parts of the proposed system are recyclable.

2 Setting

2.1 Environmental Setting

2.1.1 Air Basin and Meteorological Conditions

The Project site is located in the San Joaquin Valley Air Basin (SJVAB) and is within the jurisdictional boundaries of the San Joaquin Valley Air Pollution Control District (SJVAPCD), which has jurisdiction over Fresno County. The SJVAB is approximately 250 miles long and 35 miles in width (on average) and is bordered by the Coast Range Mountains on the west, the Sierra Nevada mountains on the east, and the Tehachapi Mountains to the south. On the valley floor, the SJVAB is open only to the north, which heavily influences prevailing winds (SJVAPCD 2015a).

Although marine air generally flows into the SJVAB from the San Francisco Bay Area through the Carquinez Strait (a gap in the Coast Range Mountains) and low mountain passes such as Altamont Pass and Pacheco Pass (low mountain passes in the Diablo Range), the mountain ranges restrict air movement through the SJVAB. Additionally, most of the surrounding mountains are above the normal height of summer inversion layers (1,500 to 3,000 feet). These topographic features result in weak airflow and poor dispersion of pollutants and, as a result, the SJVAB is highly susceptible to pollutant accumulation.

2.1.2 Pollutants of Concern

Criteria Air Pollutants

The U.S. Environmental Protection Agency (USEPA) has identified criteria air pollutants that are a threat to public health and welfare. These pollutants are called "criteria" air pollutants because standards have been established for each of them to meet specific public health and welfare standards. Criteria pollutants that are a concern in the SJVAB are described below.

Ozone

Ozone (O_3) is a highly oxidative unstable gas produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO_X) and reactive organic gases (ROG)/volatile organic compounds (VOC).[2] ROG is composed of non-methane hydrocarbons (with specific exclusions), and NO_X is composed of different chemical combinations of nitrogen and oxygen, mainly nitric oxide and NO_2. NO_X is formed during the combustion of fuels, while ROG is formed during the combustion and evaporation of organic solvents. As a highly reactive molecule, O_3 readily combines with many different atmosphere components. Consequently, high O_3 levels tend to exist only while high ROG and NO_X levels are present to sustain the O_3 formation process. Once the precursors have been depleted, O_3 levels rapidly decline. Because these reactions occur on a regional rather than local scale, O_3 is considered a regional pollutant. In addition, because O_3 requires sunlight to form, it mainly occurs in concentrations considered serious between April and October. Groups most sensitive to O_3 include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors (United

[2] The California Air Resources Board defines VOC and ROG similarly as, "any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate," with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term ROG is used in this document.

States Environmental Protection Agency [USEPA] 2021). Depending on the level of exposure, O_3 can cause coughing and a sore or scratch throat; make it more difficult to breathe deeply and vigorously and cause pain when taking a deep breath; inflame and damage the airways; make the lungs more susceptible to infection; and aggravate lung diseases such as asthma, emphysema, and chronic bronchitis.

Nitrogen Dioxide

Nitrogen dioxide (NO_2) is a by-product of fuel combustion. The primary sources are motor vehicles and industrial boilers, and furnaces. The principal form of NO_x produced by combustion is nitric oxide (NO), but NO reacts rapidly to form NO_2, creating the mixture of NO and NO_2, commonly called NO_x. NO_2 is a reactive, oxidizing gas and an acute irritant capable of damaging cell linings in the respiratory tract. Breathing air with a high concentration of NO_2 can irritate airways in the human respiratory system. Such exposures over short periods can aggravate respiratory diseases leading to respiratory symptoms (such as coughing, wheezing, or difficulty breathing), hospital admissions, and visits to emergency rooms. Longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma and children and the elderly are generally at greater risk for the health effects of NO_2 (USEPA 2021). NO_2 absorbs blue light and causes a reddish-brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of O_3/smog and acid rain.

Carbon Monoxide

Carbon monoxide (CO) is a localized pollutant found in high concentrations only near its source. The primary source of CO, a colorless, odorless, poisonous gas, is automobile traffic's incomplete combustion of petroleum fuels. Therefore, elevated concentrations are usually only found near areas of high traffic volumes. Other sources of CO include the incomplete combustion of petroleum fuels at power plants and fuel combustion from wood stoves and fireplaces during the winter. When CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability to get oxygenated blood to their hearts in situations where they need more oxygen than usual. As a result, they are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain, also known as angina (USEPA 2021).

Particulate Matter

Particulates less than 10 microns in diameter (PM_{10}) and less than 2.5 microns in diameter ($PM_{2.5}$) are comprised of finely divided solids and liquids such as dust, soot, aerosols, fumes, and mists. Both PM_{10} and $PM_{2.}$ are emitted into the atmosphere as by-products of fuel combustion and wind erosion of soil and unpaved roads. The atmosphere, through chemical reactions, can form particulate matter. The characteristics, sources, and potential health effects of PM_{10} and $PM_{2.5}$ can be very different. PM_{10} is generally associated with dust mobilized by wind and vehicles. In contrast, $PM_{2.5}$ is generally associated with combustion processes and formation in the atmosphere as a secondary pollutant through chemical reactions. PM_{10} can cause increased respiratory disease, lung damage, cancer, premature death, reduced visibility, surface soiling. For $PM_{2.5}$, short-term exposures (up to 24-hours duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases (California Air Resources Board [CARB] 2022).

Sulfur Dioxide

Sulfur dioxide (SO_2) is included in a group of highly reactive gases known as "oxides of sulfur." The largest sources of SO_2 emissions are from fossil fuel combustion at power plants (73 percent) and other industrial facilities (20 percent). Smaller sources of SO_2 emissions include industrial processes such as extracting metal from ore and burning fuels with a high sulfur content by locomotives, large ships, and off-road equipment. Short-term exposures to SO_2 can harm the human respiratory system and make breathing difficult. People with asthma, particularly children, are sensitive to these effects of SO_2 (USEPA 2021).

Lead

Lead (Pb) is a metal found naturally in the environment, as well as in manufacturing products. The major sources of Pb emissions historically have been mobile and industrial. However, due to the USEPA's regulatory efforts to remove lead from gasoline, atmospheric Pb concentrations have declined substantially over the past several decades. The most dramatic reductions in Pb emissions occurred before 1990 due to the removal of Pb from gasoline sold for most highway vehicles. Pb emissions were further reduced substantially between 1990 and 2008, with reductions occurring in the metals industries at least partly due to national emissions standards for hazardous air pollutants (USEPA 2013). As a result of phasing out leaded gasoline, metal processing is currently the primary source of Pb emissions. The highest Pb level in the air is generally found near Pb smelters. Other stationary sources include waste incinerators, utilities, and Pb-acid battery manufacturers. Pb can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and cardiovascular system depending on exposure. Pb exposure also affects the oxygen-carrying capacity of the blood. The Pb effects most likely encountered in current populations are neurological in children. Infants and young children are susceptible to Pb exposures, contributing to behavioral problems, learning deficits, and lowered intelligence quotient (USEPA 2021).

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TAC) are airborne substances diverse group of air pollutants that may cause or contribute to an increase in deaths or serious illness, or that may pose a present or potential hazard to human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. One of the main sources of TACs in California is diesel engine exhaust that contains solid material known as diesel particulate matter (DPM). More than 90 percent of DPM is less than one micron in diameter (about $1/70^{th}$ the diameter of a human hair) and thus is a subset of $PM_{2.5}$. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs (CARB 2022a). TACs are different than criteria pollutants because ambient air quality standards have not been established for TACs. TACs occurring at extremely low levels may still cause health effects and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts are described by carcinogenic risk and by chronic (i.e., long duration) and acute (i.e., severe but of short duration) adverse effects on human health. People exposed to TACs at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and other health problems (USEPA 2020).

Dust-related Concerns

Valley Fever

Valley Fever or coccidioidomycosis is caused locally by the microscopic fungus *Coccidioides immitis (C. immitis)*. The *Coccidioides* fungus resides in the soil in southwestern United States, northern Mexico, and parts of Central and South America. A majority of Fresno County is in the endemic area for Valley Fever with approximately 130 cases reported in the County in by April of 2022 (California Department of Public Health 2022). Infection occurs when the spores of the fungus become airborne and are inhaled. The fungal spores become airborne when contaminated soil is disturbed by human activities, such as construction and agricultural activities, and natural phenomena, such as windstorms, dust storms, and earthquakes. About 60 percent of infected persons have no symptoms. The remainder develop flu-like symptoms that can last for a month and tiredness that can sometimes last for longer than a few weeks. A small percentage of infected persons (<1 percent) can develop disseminated disease that spreads outside the lungs to the brain, bone, and skin. Without proper treatment, this small percentage of persons infected with disseminated disease of Valley Fever can lead to severe pneumonia, meningitis, and even death. Symptoms may appear between one to four weeks after exposure (Los Angeles County Health Department 2013).

Diagnosis of Valley Fever is conducted through a sample of blood, other body fluid, or biopsy of affected tissue. Valley Fever is treatable with anti-fungal medicines and is not contagious. Once recovered from the disease, the individual is protected against further infection. Persons at highest risk from exposure are those with compromised immune systems, such as those with human immunodeficiency virus (HIV) and those with chronic pulmonary disease. Farmers, construction workers, and others who engage in activities that disturb the soil are at highest risk for Valley Fever. Infants, pregnant women, diabetics, people of African, Asian, Latino, or Filipino descent, and the elderly may be at increased risk for disseminated disease. Historically, people at risk for infection are individuals not already immune to the disease and whose jobs involve extensive contact with soil dust, such as construction or agricultural workers and archeologists (Los Angeles County Health Department 2013).

During drought years, the number of organisms competing with *C. immitis* decreases, and the remainder of alive *C. immitis* becomes dormant. When rain finally occurs, the arthrocondia germinate and multiply more than usual because of a decrease in competing organisms. Later, the soil dries out in the summer and fall, and the fungi can become airborne and potentially infectious (Kirkland and Fierey 1996).

Greenhouse Gases

Gases that trap heat in the atmosphere are known as GHGs. GHGs allow sunlight to enter the atmosphere but trap a portion of the outward-bound infrared radiation that warms the air. The process is similar to the effect greenhouses have in raising the internal temperature of the structure. Both natural processes and human activities emit GHGs. The accumulation of GHGs in the atmosphere regulates the Earth's temperature, but emissions from human activities (such as fossil fuel-based electricity production and the use of motor vehicles) have elevated the concentration of GHGs in the atmosphere. Scientists agree that this accumulation of GHGs has contributed to an increase in the temperature of the Earth's atmosphere and to global climate change. Global climate change is a change in the average weather on Earth that can be measured by wind patterns, storms, precipitation, and temperature. Although there is disagreement as to the rate of global climate change and the extent of

the impacts attributable to human activities, most scientists agree there is a direct link between increased emissions of GHGs and long-term global temperature increases.

The gases widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere, and natural processes, such as oceanic evaporation, largely determine its atmospheric concentrations.

GHGs are emitted by natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are usually by-products of fossil fuel combustion, and CH_4 results from off-gassing associated with agricultural practices and landfills. Human-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and SF_6.

The use of SF_6 in electric utility systems and switchgear, including circuit breakers, poses a concern, because this pollutant has an extremely high global warming potential (one pound of SF_6 is the equivalent warming potential of approximately 23,900 pounds of CO_2).[3] SF_6 is inert and non-toxic, and is encapsulated in circuit breaker assemblies. SF_6 is a GHG with substantial global warming potential because of its chemical nature and long residency time within the atmosphere. However, under normal conditions, it would be completely contained in the equipment and SF_6 would only be released in the unlikely event of a failure, leak, or crack in the circuit breaker housing. New circuit breaker designs have been developed over the past several years to minimize the potential for leakage, compared to that of past designs.

Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as "carbon dioxide equivalent" (CO_2e), which is the amount of GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 30, meaning its global warming effect is 30 times greater than CO_2 on a molecule per molecule basis (IPCC 2021).[4]

2.1.3 Sensitive Receptors

Sensitive receptors are people that have an increased sensitivity to air pollution or environmental contaminants. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions sources, or duration of exposure to air pollutants. The SJVAPCD considers schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling units sensitive receptors (SJVAPCD 2015a). The Project site is not directly adjacent to sensitive receptors. For the purposes of this analysis, the closest sensitive receptors identified include agricultural housing 3,300 feet to the west on West Jayne Avenue, agricultural housing 11,500 feet to the southeast

[3] A global warming potential of 23,900 was used to convert emissions to CO_2e. This value is based on the global warming potential in the USEPA Mandatory Reporting Program Regulations (40 C.F.R. Part 98, Subpart A), and deviates from the use of GPWs from the IPCC 4th Assessment Report which was used for the conversion of CH_4 and N_2O, however it is more accurate for the analysis at hand and more conservative as the GWP for SF_6 in the 4th Assessment report is 22,800.

[4] The Intergovernmental Panel on Climate Change's (2021) *Sixth Assessment Report* determined that methane has a GWP of 30. However, the 2017 Climate Change Scoping Plan published by the California Air Resources Board uses a GWP of 25 for methane, consistent with the Intergovernmental Panel on Climate Change's (2007) *Fourth Assessment Report*. Therefore, this analysis utilizes the GWPs from the Fourth Assessment Report.

at the intersection of Modoc Avenue and West Goodrich Avenue, and a small row of houses 17,000 feet to the east on West Jayne Avenue.

2.2 Regulatory Setting

2.2.1 Air Quality

Federal and State Regulations

Criteria Air Pollutants

The federal Clean Air Act (CAA) and the California Clean Air Act (CCAA) establish ambient air quality standards and establish regulatory authorities designed to attain those standards. As required by the CAA, the United States Environmental Protection Agency (USEPA) has identified criteria pollutants and has established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and Pb.

Under the CCAA, California has adopted the California Ambient Air Quality Standards (CAAQS), which are more stringent than the NAAQS for certain pollutants and averaging periods. Table 1 presents the current federal and state standards for regulated pollutants and the SJVAB's attainment status for each standard. California also has established state ambient air quality standards for sulfates, hydrogen sulfide, and vinyl chloride.

As required by the federal CAA and the CCAA, air basins or portions thereof have been classified as either "attainment" or "nonattainment" for each criteria air pollutant, based on whether the standards have been achieved. The air quality in an attainment area meets or is better than the NAAQS or CAAQS. A non-attainment area has air quality that is worse than the NAAQS or CAAQS. States are required to adopt enforceable plans, known as a State Implementation Plan (SIP), to achieve and maintain air quality meeting the NAAQS.

As shown in Table 1, the SJVAB currently is classified as nonattainment for the one-hour state O_3 standard as well as for the federal and state eight-hour O_3 standards. The SJVAB also is designated as nonattainment for the state annual arithmetic mean and national 24-hour $PM_{2.5}$ standards. Additionally, the SJVAB is classified as nonattainment for the state 24-hour and annual arithmetic mean PM_{10} standards. The SJVAB is unclassified or classified as attainment for all other pollutant standards (SJVAPCD 2022).

Table 1 Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	State Standard		National Standard	
		Concentration	SJVAB Attainment Status	Concentration	SJVAB Attainment Status
Ozone (O_3)	8-Hour 1-Hour	0.070 ppm 0.090 ppm	Nonattainment/ Severe Nonattainment*	0.070 ppm –	Nonattainment/ Extreme*
Carbon Monoxide (CO)	1-Hour 8-Hour	9.0 ppm 20 ppm	Attainment/ Unclassified	9.0 ppm 35 ppm	Attainment/ Unclassified
Nitrogen Dioxide (NO_2)	1-Hour Annual	0.180 ppm 0.030 ppm	Attainment	0.100 ppm 0.053 ppm	Attainment/ Unclassified
Sulfur Dioxide (SO_2)	1-Hour 3-Hour 24-Hour Annual	0.25 ppm – 0.04 ppm –	Attainment	0.075 ppm 0.5 ppm* 0.14 ppm 0.03 ppm	Attainment/ Unclassified
Respirable Particulate Matter (PM_{10})	24-Hour Annual	50 μg/m³ 20 μg/m³	Nonattainment	150 μg/m³ –	Attainment
Fine Particulate Matter ($PM_{2.5}$)	24-Hour Annual	– 12 μg/m³	Nonattainment	35 μg/m³ 12 μg/m³	Nonattainment
Lead (Pb)	30-Day Quarterly	1.5 μg/m³ –	Attainment	– 1.5 μg/m³	No Designation/ Classification

ppm = parts per million, ppb = parts per billion, μg/m³ = micrograms per cubic meter

* Secondary National Standard

Source: SJVAPCD 2022

Existing Air Quality and Pollutant Monitoring Data

The SJVAPCD operates a regional monitoring network that measures the ambient concentrations of criteria pollutants. Existing and probable future general levels of air quality in the SJVAB can normally be inferred from ambient air quality measurements conducted by SJVAPCD at its monitoring stations. The major criteria pollutants of concern in the Central Valley (i.e., O_3, PM_{10}, and $PM_{2.5}$) are monitored at several locations.

Background ambient concentrations of pollutants are determined by pollutant emissions in a given area, as well as wind patterns and meteorological conditions for that area. As a result, background concentrations can vary among different locations within the SJVAB. However, areas located close together and exposed to similar wind conditions can be expected to have similar background pollutant concentrations.

The closest monitoring station to the Project site is the Tranquility station at 32650 West Adams Avenue in Fresno County, which is approximately 37 miles northwest of the Project site. This station monitors O_3 and $PM_{2.5}$. For NO_x and PM_{10}, measurements from the Fresno-Drummond Street station at 4706 E. Drummond Street in Fresno, which is located approximately 35 miles east, were used. Table 2 shows a three-year summary of data collected at the Tranquility and Hanford-South Irwin Street monitoring stations and compared to the NAAQS and the CAAQS.

Table 2 Ambient Air Quality at the Nearest Monitoring Station

Pollutant	2019	2020	2021
Ozone (ppm), 8-Hr Average[1]	0.071	0.079	0.080
Number of Days of state exceedances (>0.070 ppm)	3	3	6
Number of days of federal exceedances (>0.070 ppm)	3	3	5
Ozone (ppm), Worst Hour[1]	0.079	0.087	0.088
Number of days of state exceedances (>0.09 ppm)	0	0	0
Number of days of federal exceedances (>0.112 ppm)	0	0	0
Nitrogen Dioxide (ppm), Worst Hour[2]	42	66	64
Number of days of state exceedances (>0.18 ppm)	0	0	0
Number of days of federal exceedances (>0.10 ppm)	0	0	0
Particulate Matter 10 microns, μg/m^3, Worst 24 Hours[2]	175.6	350.4	151.8
Number of days of state exceedances (>50 μg/m^3)	13	25	20
Number of days above federal standard (>150 μg/m^3)	1	1	0
Particulate Matter <2.5 microns, μg/m^3, Worst 24 Hours[1]	20	146	65.3
Number of days above federal standard (>35 μg/m^3)	0	21	7

[1]Measurements taken from the Tranquility station at 32650 West Adams Avenue in Fresno County.
[2]Measurements taken from the Fresno-Drummond Street station at 4706 E. Drummond Street in Fresno.
Source: CARB 2022b

At the Tranquility station, the 8-hour O_3 NAAQS and CAAQS were exceeded in 2019, 2020, and 2021. The $PM_{2.5}$ NAAQS were exceeded in 2020 and 2021. At the Fresno-Drummond Street station, the PM_{10} NAAQS and CAAQS were exceeded in 2019 and 2020, and the CAAQS was also exceeded in 2021. No other state or federal standards were exceeded at this monitoring station over this time period.

Local Regulations

San Joaquin Valley Air Pollution Control District

The Project site is located within the jurisdiction of the SJVAPCD, which regulates air pollutant emissions for all sources throughout the SJVAB other than motor vehicles. The SJVAPCD enforces regulations and administers permits governing stationary sources. The following regional rules and regulations would apply to the Project:

- **Regulation VIII (Fugitive PM_{10} Prohibitions)** contains rules developed pursuant to USEPA guidance for "serious" PM_{10} nonattainment areas. Rules included under this regulation limit fugitive PM_{10} emissions from the following sources: construction, demolition, excavation, extraction, and other earth moving activities, bulk materials handling, carryout and track-out, open areas, paved and unpaved roads, unpaved vehicle/equipment traffic areas, and agricultural sources. Table 3 contains applicable control measures to implement during construction activities for the project pursuant to *Rule 8021 Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities.*
- **Rule 2201 (New and Modified Stationary Source Review Rule)** applies to all new stationary sources or modified existing stationary sources that are subject to the SJVAPCD permit

requirements. The rule requires review of the new or modified stationary source to ensure that the source does not interfere with the attainment or maintenance of ambient air quality standards.

- **Rule 4101 (Visibility)** limits the visible plume from any source to 20 percent opacity.
- **Rule 4102 (Nuisance)** prohibits the discharge of air contaminants or other materials in quantities that may cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health, or safety of any such person or the public.
- **Rule 9510 (Indirect Source Review)** requires certain development projects to mitigate exhaust emissions from construction equipment greater than 50 horsepower to 20 percent below statewide average NO_x emissions and 45 percent below statewide average PM_{10} exhaust emissions. This rule also requires applicants to reduce baseline emissions of NO_X and PM_{10} emissions associated with operations by 33.3 percent and 50 percent respectively over a period of 10 years.

Table 3 SJVAPCD Rule 8021 Measures Applicable to the Project

No.	Measure
A.1	Pre-water site sufficient to limit visible dust emissions (VDE) to 20 percent opacity.
A.2	Phase work to reduce the amount of disturbed surface area at any one time.
B.1	Apply water or chemical/organic stabilizers/suppressants sufficient to limit VDE to 20 percent opacity; or
B.2	Construct and maintain wind barriers sufficient to limit VDE to 20 percent opacity. If using wind barriers, control measure B1 above shall also be implemented.
B.3	Apply water or chemical/organic stabilizers/suppressants to unpaved haul/access roads and unpaved vehicle/equipment traffic areas sufficient to limit VDE to 20 percent opacity and meet the conditions of a stabilized unpaved road surface.
C.1	Restrict vehicular access to the area.
C.2	Apply water or chemical/organic stabilizers/suppressants, sufficient to comply with the conditions of a stabilized surface. If an area having 0.5 acre or more of disturbed surface area remains unused for seven or more days, the area must comply with the conditions for a stabilized surface area as defined in section 3.58 of Rule 8011.
5.3.1	An owner/operator shall limit the speed of vehicles traveling on uncontrolled unpaved access/haul roads within construction sites to a maximum of 15 miles per hour.
5.3.2	An owner/operator shall post speed limit signs that meet state and federal Department of Transportation standards at each construction site's uncontrolled unpaved access/haul road entrance. At a minimum, speed limit signs shall also be posted at least every 500 feet and shall be readable in both directions of travel along uncontrolled unpaved access/haul roads.
5.4.1	Cease outdoor construction, excavation, extraction, and other earthmoving activities that disturb the soil whenever VDE exceeds 20 percent opacity. Indoor activities such as electrical, plumbing, dry wall installation, painting, and any other activity that does not cause any disturbances to the soil are not subject to this requirement.
5.4.2	Continue operation of water trucks/devices when outdoor construction excavation, extraction, and other earthmoving activities cease, unless unsafe to do so.
6.3.1	An owner/operator shall submit a Dust Control Plan to the Air Pollution Control Officer (APCO) prior to the start of any construction activity on any site that will include ten acres or more of disturbed surface area for residential developments, or five acres or more of disturbed surface area for non-residential development, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials on at least three days. Construction activities shall not commence until the APCO has approved or conditionally approved the Dust Control Plan. An owner/operator shall provide written notification to the APCO within 10 days prior to the commencement of earthmoving activities via fax or mail. The

No.	Measure
	requirement to submit a dust control plan shall apply to all such activities conducted for residential and non-residential (e.g., commercial, industrial, or institutional) purposes or conducted by any governmental entity.
6.3.3	The Dust Control Plan shall describe all fugitive dust control measures to be implemented before, during, and after any dust generating activity.
6.3.4	A Dust Control Plan shall contain all the [administrative] information described in Section 6.3.6 of this rule. The APCO shall approve, disapprove, or conditionally approve the Dust Control Plan within 30 days of plan submittal. A Dust Control Plan is deemed automatically approved if, after 30 days following receipt by the District, the District does not provide any comments to the owner/operator regarding the Dust Control Plan.

Source: SJVAPCD 2004

Air Quality Management Plans

As required by the federal CAA and the California CAA, air basins or portions thereof have been classified as either "attainment" or "nonattainment" for each criteria air pollutant, based on if the standards have been achieved. Jurisdictions of nonattainment areas also are required to prepare an air quality management plan that includes strategies for achieving attainment. The SJVAPCD has approved management plans demonstrating how the SJVAB will reach attainment with the federal one-hour and eight-hour O_3, PM_{10}, and $PM_{2.5}$.

OZONE ATTAINMENT PLANS

The *Extreme Ozone Attainment Demonstration Plan*, adopted by the SJVAPCD Governing Board October 8, 2004, sets forth measures and emission-reduction strategies designed to attain the federal one-hour O_3 standard by November 15, 2010, as well as an emissions inventory, outreach, and rate of progress demonstration. This plan was approved by the USEPA on March 8, 2010; however, the USEPA's approval was subsequently withdrawn effective November 26, 2012, in response to a decision issued by the U.S. Court of Appeals for the Ninth Circuit (*Sierra Club v. EPA*, 671 F.3d 955) remanding USEPA's approval of these SIP revisions. Concurrent with the USEPA's final rule, CARB withdrew the 2004 Plan. The SJVAPCD developed a new plan for the one-hour ozone standard, the *2013 Plan for the Revoked 1-Hour Ozone Standard*, which it adopted in September 2013.

The *2007 Ozone Plan*, approved by CARB on June 14, 2007, demonstrates how the SJVAB would meet the federal eight-hour O_3 standard. The *2007 Ozone Plan* includes a comprehensive list of regulatory and incentive-based measures to reduce emissions of ozone and particulate matter precursors throughout the SJVAB. Additionally, this plan calls for major advancements in pollution control technologies for mobile and stationary sources of air pollution, and an increase in state and federal funding for incentive-based measures to create adequate reductions in emissions to bring the entire SJVAB into attainment with the federal eight-hour O_3 standard (SJVAPCD 2007a).

On April 16, 2009, the SJVAPCD Governing Board adopted the *Reasonably Available Control Technology (RACT) Demonstration for Ozone State Implementation Plans (2009 RACT SIP)* (SJVAPCD 2009a). In part, the *2009 RACT SIP* satisfied the commitment by the SJVAPCD for a new reasonably available control technology analysis for the one-hour O_3 plan (see discussion of the USEPA withdrawal of approval in the *Extreme 1-Hour Ozone Attainment Demonstration Plan* summary above) and was intended to prevent all sanctions that could be imposed by USEPA for failure to submit a required SIP revision for the one-hour O_3 standard. With respect to the eight-hour standard, the plan also assesses the SJVAPCD's rules based on the adjusted major source definition of 10 tons per year (due to the SJVAB's designation as an

extreme subsequently nonattainment area), evaluates SJVAPCD rules against new *Control Techniques Guidelines* promulgated since August 2006, and reviews additional rules and amendments that had been adopted by the Governing Board since August 17, 2006, for reasonably available control technology consistency.

The *2013 Plan for the Revoked 1-Hour Ozone Standard* was approved by the Governing Board on September 19, 2013 (SJVAPCD 2013). Based on implementation of the ongoing control measures, preliminary modeling indicates that the SJVAB will attain the one-hour standard before the final attainment year of 2022 and without relying on long-term measures under the federal CAA Section 182(e)(5) (SJVAPCD 2013).

On June 19, 2014, the Governing Board adopted the *2014 Reasonably Available Control Technology Demonstration for the 8-Hour Ozone State Implementation Plan* (SJVAPCD 2014) that includes a demonstration that the SJVAPCD rules implement RACT. The plan reviews each of the NO_x reduction rules and concludes that they satisfy requirements for stringency, applicability, and enforceability, and meet or exceed RACT. The plan's analysis of further ROG reductions through modeling and technical analyses demonstrates that added ROG reductions will not advance the SJVAB's ozone attainment. Each ROG rule evaluated in the 2009 RACT SIP has been subsequently approved by the USEPA as meeting RACT within the last two years. The subsequent attainment strategy, therefore, focuses on further NO_X reductions.

SJVAPCD adopted the *2020 Reasonably Available Control Technology (RACT) Demonstration for the 2015 8-Hour Ozone Standard* in June 2020. This plan satisfies CAA requirements and ensures expeditious attainment of the 70 parts per billion eight-hour standard (SJVAPCD 2020).

PARTICULATE MATTER ATTAINMENT PLANS

In June 2007, the SJVAPCD Board adopted the *2007 PM_{10} Maintenance Plan and Request for Redesignation* (SJVAPCD 2007b). This plan demonstrates how PM_{10} attainment in the SJVAB will be maintained in the future. Effective November 12, 2008, USEPA redesignated the SJVAB to attainment for the PM_{10} NAAQS and approved the 2007 PM_{10} Maintenance Plan (USEPA 2008).

In April 2008, the SJVAB Board adopted the *2008 $PM_{2.5}$ Plan* and approved amendments to Chapter 6 of the *2008 $PM_{2.5}$ Plan* on June 17, 2010 (SJVAPCD 2008a). This plan was designed to addresses USEPA's annual $PM_{2.5}$ standard of 15 µg/m³, which was established by USEPA in 1997. In December of 2012, the SJVAPCD adopted the *2012 $PM_{2.5}$ Attainment Plan*, which addresses USEPA's 24-hour $PM_{2.5}$ standard of 35 µg/m³, which was established by USEPA in 2006 (SJVAPCD 2012). In April 2015, the SJVAPCD Board adopted the *2015 Plan for the 1997 $PM_{2.5}$ Standard* that addresses the USEPA's annual and 24-hour $PM_{2.5}$ standards established in 1997 after the SJVAB experienced higher $PM_{2.5}$ levels in winter 2013–2014 due to the extreme drought, stagnation, strong inversions, and historically dry conditions, and the SJVAPCD was unable to meet the initial attainment date of December 31, 2015 (SJVAPCD 2015b).

SJVAPCD adopted the *2016 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard* on September 15, 2016. This plan addresses the USEPA federal annual $PM_{2.5}$ standard of 12 µg/m^3, established in 2012. This plan includes an attainment impracticability demonstration and request for reclassification of the Valley from Moderate nonattainment to Serious nonattainment (SJVAPCD 2016).

SJVAPCD adopted the *2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards* in November 2018. This plan addresses the USEPA federal 1997 annual $PM_{2.5}$ standard of 15 µg/m^3 and the 24-hour $PM_{2.5}$ standard of 65 µg/m^3; the 2006 24-hour $PM_{2.5}$ standard of 35 µg/m^3; and the 2012 annual $PM_{2.5}$ standard of 12 µg/m^3. The plan demonstrates attainment of the federal $PM_{2.5}$ standards as expeditiously as practicable as required under the federal CAA (SJVAPCD 2018).

Fresno County

The Fresno County General Plan was adopted in October 2000. There is no specific Air Quality Element in the General Plan, but the Open Space Element contains air quality policies to reduce emissions from new developments (County of Fresno 2000). The following policies would be applicable to the Project:

- **Policy OS-G.13:** The County shall include fugitive dust control measures as a requirement for subdivision maps, site plans, and grading permits. This will assist in implementing the SJVAPCD's PM_{10} regulation (Regulation VIII). Enforcement actions can be coordinated with the Air District's Compliance Division.
- **Policy OS-G.14.** The County shall require all access roads, driveways, and parking areas serving new commercial and industrial development to be constructed with materials that minimize particulate emissions and are appropriate to the scale and intensity of use.

2.2.2 Greenhouse Gases

Federal Regulations

Federal Clean Air Act

The U.S. Supreme Court determined in *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 05-1120) that the USEPA has the authority to regulate motor vehicle GHG emissions under the federal CAA. The USEPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines and requires annual reporting of emissions. In 2012, the USEPA issued a Final Rule that established the GHG permitting thresholds that determine when CAA permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities.

In *Utility Air Regulatory Group v. Environmental Protection Agency* (134 Supreme Court 2427 [2014]), the U.S. Supreme Court held the USEPA may not treat GHGs as an air pollutant for purposes of determining whether a source can be considered a major source required to obtain a Prevention of Significant Deterioration or Title V permit. The Court also held that Prevention of Significant Deterioration permits otherwise required based on emissions of other pollutants may continue to require limitations on GHG emissions based on the application of Best Available Control Technology.

Final Rule to Revise Existing National GHG Emissions Standards for Passenger Cars and Light Trucks Through Model Year 2026.

The USEPA finalized the federal GHG emissions standards for passenger cars and light trucks for model years 2023 through 2026 in February 2022. These standards will leverage current and future technologies to result in the avoidance of more than 3 billion tons of GHGs through 2050.

State Regulations

CARB is responsible for the coordination and oversight of state and local air pollution control programs in California. There are numerous regulations aimed at reducing the state's GHG emissions. These initiatives are summarized below.

California Advanced Clean Cars Program

Assembly Bill (AB) 1493 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, the USEPA granted the waiver of CAA preemption to California for its GHG emission standards for motor vehicles, beginning with the 2009 model year, which allows California to implement more stringent vehicle emission standards than those promulgated by the USEPA. Pavley I regulates model years from 2009 to 2016 and Pavley II, now referred to as "LEV (Low Emission Vehicle) III GHG," regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the LEV, Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs and would provide major reductions in GHG emissions. By 2025, the rules will be fully implemented, and new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels (CARB 2011).

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

The "California Global Warming Solutions Act of 2006," (AB 32), outlines California's major legislative initiative for reducing GHG emissions. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main state strategies for reducing GHG emissions to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 target of 431 million metric tons (MMT_ of CO_2e, which was achieved in 2016. CARB approved the Scoping Plan on December 11, 2008, which included GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among others (CARB 2008). Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since the Scoping Plan's approval.

The CARB approved the 2013 Scoping Plan update in May 2014. The update defined the CARB's climate change priorities for the next five years, set the groundwork to reach post-2020 statewide goals, and highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the state's longer term GHG reduction strategies with other state policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use (CARB 2014).

On September 8, 2016, the governor signed Senate Bill (SB) 32 into law, extending the California Global Warming Solutions Act of 2006 by requiring the state to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation, such as SB 1383 and SB 100. The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with statewide per capita goals of six metric tons (MT) of CO_2e by 2030 and two MT of CO_2e by 2050 (CARB 2017). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level

analyses (city, county, sub-regional, or regional level), but not for specific individual projects because they include all emissions sectors in the state.

CARB has prepared a Draft 2022 Scoping Plan Update to assess the progress towards the 2030 target as well as to outline a plan to achieve carbon neutrality no later than 2045. The 2022 Scoping Plan Update focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities (CARB 2022c). As of June 2022, the Draft 2022 Scoping Plan Update has not been approved by CARB.

Senate Bill 375

The Sustainable Communities and Climate Protection Act of 2008 (SB 375), signed in August 2008, enhances the state's ability to reach AB 32 goals by directing the CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPO) are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the MPO's Regional Transportation Plan (RTP). Qualified projects consistent with an approved SCS or Alternative Planning Strategy (categorized as "transit priority projects") can receive incentives to streamline California Environmental Quality Act (CEQA) processing.

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Fresno Council of Governments (FCOG) was assigned targets of a 6 percent reduction in per capita GHG emissions from passenger vehicles by 2020 and a 13 percent reduction in per capita GHG emissions from passenger vehicles by 2035 (CARB 2018a). The FCOG is the regional planning agency for Fresno County and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. FCOG most recently prepared the *2018 Regional Transportation Plan and Sustainable Communities Strategy* (2018 RTP/SCS) for the region. The plan quantified a 5 percent reduction by 2020 and a 10 percent reduction by 2035 (FCOG 2018). In 2018, CARB accepted FCOG's quantification of GHG reductions and its determination the SCS, if implemented, would achieve FCOG targets. Project consistency with the 2018 RTP/SCS would therefore support AB 32 and SB 32 GHG reduction goals.

A Final Draft 2022-2046 RTP (2022 RTP) is currently being prepared and was circulated for a 55-day public review period on April 15, 2022. The 2022 RTP comprehensively assess all forms of transportation available in Fresno County as well as travel and goods movement needed through 2046. Implementation of the goals set forth in the 2022 RTP will help achieve the state health standards and climate goals associated with transportation impacts.

Senate Bill 1383

Adopted in September 2016, SB 1383 (Lara, Chapter 395, Statutes of 2016) requires the CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. SB 1383 requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

SB 1383 also requires the California Department of Resources Recycling and Recovery (CalRecycle), in consultation with the CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills.

Senate Bill 100

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the state's Renewables Portfolio Standard (RPS) Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

Executive Order B-55-18

On September 10, 2018, former Governor Brown issued Executive Order (EO) B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

17 California Code of Regulations Section 95350 et seq.

In 2010, CARB adopted the *Regulation For Reducing Sulfur Hexafluoride Emissions From Gas Insulated Switchgear* (Section 17 California Code of Regulations Section 95350 et seq.). The purpose of this regulation is to achieve GHG emission reductions by reducing SF_6 emissions from gas-insulated switchgear. Owners of such switchgear must not exceed maximum allowable annual emissions rates, reduced each year until 2020, after which annual emissions must not exceed 1.0 percent. Owners must regularly inventory gas-insulated switchgear equipment, measure quantities of SF_6, and maintain records of these for at least three years. Additionally, by June 1 each year, owners also must submit an annual report to CARB's Executive Officer for emissions that occurred during the previous calendar year.

In December 2021, CARB adopted amendments to the Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear, to update the phase out of SF_6 in gas-insulated switchgear. The new phase out schedule begins in January 2025 with all switchgear needing to be SF_6 free by January 2033. Under this resolution, CARB has developed a timeline for phasing out SF_6 equipment in California and created incentives to encourage owners to replace SF_6 equipment. The California Office of Administrative Law approved this rulemaking in December 2021 and the Resolution went into effect January 1, 2022.

Local Regulations

Fresno Council of Governments

As discussed above, the FCOG developed the 2018 RTP/SCS as the region's strategy to fulfill the requirements of SB 375. The 2018 RTP/SCS establishes a development pattern for the region that, when integrated with the transportation network and other policies and measures, would reduce GHG emissions from transportation (excluding goods movement). Specifically, the 2018 RTP/SCS links the goals of sustaining mobility with the goals of fostering economic development; enhancing the environment; reducing energy consumption; promoting transportation-friendly development patterns; and encouraging all residents affected by socioeconomic, geographic, and commercial limitations to be provided with fair access. The 2018 RTP/SCS does not require local general plans, specific plans, or

zoning be consistent with it but provides incentives for consistency for governments and developers. As discussed above under Senate Bill 375, FCOG circulated a Final Draft version of the 2022-2045 RTP for a 55-day public review period on April 15, 2022.

San Joaquin Valley Air Pollution Control District

In August 2008, the SJVAPCD's Governing Board adopted the *Climate Change Action Plan* (SJVAPCD 2008b). The *Climate Change Action Plan* directed the SJVAPCD Air Pollution Control Officer to develop guidance to assist lead agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project-specific GHG emissions on global climate change.

In 2009, the SJVAPCD adopted the *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects Under CEQA* and the *District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*. The guidance and policy rely on the use of performance-based standards, otherwise known as Best Performance Standards (BPS), to assess significance of project-specific GHG emissions on global climate change during the environmental review process, as required by CEQA (SJVAPCD 2009b; 2009c).

Use of BPS is a method of streamlining the CEQA process of determining significance and is not a required emission reduction measure. Projects implementing BPS would be determined to have a less than cumulatively significant impact. Otherwise, demonstration of a 29 percent reduction in GHG emissions from business-as-usual is required to determine that a project would have a less than cumulatively significant impact and be consistent with AB 32 2020 targets. The guidance does not limit a lead agency's authority in establishing its own process and guidance for determining significance of project-related impacts on global climate change (SJVAPCD 2009c). However, as SJVAPCD's adopted BPS are designed to help the district meet the 2020 targets and still provide measures that can be used to reduce GHG emissions from projects, compliance with these BPS are not applicable to determining significance for projects developed subsequent to 2020.

Fresno County General Plan

There are no specific policies related to greenhouse gas emissions or climate change in the 2000 General Plan.

3 Methodology

This section presents the methodology for the analysis of construction, operational, and decommissioning emissions for the Project. Criteria pollutant and GHG emissions for Project construction and operation were calculated using the California Emissions Estimator Model (CalEEMod), Version 2022.1. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects. CalEEMod allows for the use of default data (e.g., emission factors, trip lengths, meteorology, source inventory) provided by the various California air districts to account for local requirements and conditions, and/or user-defined inputs. The calculation methodology and input data used in CalEEMod can be found in the CalEEMod User's Guide Appendices A, D, and E (CAPCOA 2022). The input data and subsequent construction and operation emission estimates for the proposed Project is discussed below and provided in Appendix A. CalEEMod output files for the Project is included in Appendix B. The estimated emissions were then compared to applicable significance criteria.

3.1 Methodology

Construction Emissions

Construction emissions of criteria air pollutants and greenhouse gases include emissions generated by construction equipment used on-site and emissions generated by vehicle trips associated with construction, such as worker and vendor trips. CalEEMod estimates construction emissions by multiplying the amount of time equipment is in operation by emission factors.

As there are two battery options (Lithium Ion and Lithium Ion with Iron Flow), construction emissions were analyzed for both scenarios to account for the differences in installation phasing, acreages by phase, and duration of construction phasing. Construction of the proposed Project was analyzed based on the applicant-provided construction schedule for each scenario. Construction under the Lithium Ion Battery option is anticipated to occur over four installation phases with total construction lasting 76 months. Construction under the Lithium Ion Battery with Iron Flow option is anticipated to occur over three installation phases lasting a total of 68 months.

Construction equipment lists and construction related vehicle trips were based on previous construction of similar projects. As a conservative analysis, construction of the entire project was anticipated to be completed by 2030. The earlier construction years results in slightly higher emissions as standard construction fleets are anticipated to be cleaner/more efficient in the future years therefore resulting in slightly lower emission factors for the construction equipment. Construction equipment was estimated to operate 8 hours per day and used the CalEEMod defaults for horsepower and load factor. Vendor trips were modeled as exclusively heavy heavy-duty truck trips, except for construction of the energy storage enclosure and substation construction phases which assumed the standard default building construction fleet mix of heavy heavy-duty trucks and medium duty trucks. The analysis conservatively assumed a one-way distance of 60 miles to accommodate sourcing materials from California ports. Soils excavated during construction are assumed to be balanced onsite. This analysis assumes that the Project would comply with all applicable regulatory standards. In particular, the Project would comply with SJVACPD Rule 8021. Rule 8021 control measures for

construction, demolition, excavation, extraction, and other earthmoving activities were included in the model with the assumption that watering would occur twice a day and the vehicle speed on unpaved roads onsite would be 15 miles per hour.

Operational Emissions

In CalEEMod, operational sources of criteria pollutant and greenhouse gas emissions include area, energy, and mobile sources. The first year of operation was assumed to be 2025 for the Lithium Ion Battery option and 2026 for the Lithium Ion Battery with Iron Flow option based on the provided construction schedules. The facilities were modeled as refrigerated warehouses ranging from 750 square feet to 5,000 square feet depending on the MW of the system to be installed during each phase of battery installation. The refrigerated warehouse land use was used to account for the energy requirements for maintaining a stable temperature for optimum battery effectiveness. There would be negligible area, annual water consumption, or solid waste generation source emissions associated with the Project since the Project would be typically unmanned and would require only limited maintenance equipment.[5] The facilities would be unmanned except during periodic maintenance visits where one or two workers would perform routine maintenance on the facilities. Additionally, once a year annual maintenance would occur. The trip rate was conservatively adjusted to reflect four trips per day to represent the maximum potential number of daily trips to the Project site for ease of modeling. Emissions were then scaled to account for the actual maintenance activity of 2 workers per week for periodic maintenance and one week of annual maintenance activities with 8 workers per day. A commute distance of 60 miles was assumed as well as the use of a light utility vehicle (modeled as a medium duty vehicle weighing up to 8,500 pounds).

SF_6 Emissions

The proposed substation would have 17 circuit breakers that contain SF_6. However, new circuit breaker designs have been developed over the past several years to minimize the potential for leakage, compared to that of past designs (CARB 2018b). In addition, the equipment would comply with CARB's *Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear* regulations. CARB's current regulations require that switchgear not exceed a maximum allowable annual SF_6 emissions rate of 1.0 percent. The only equipment within the substations that would have SF_6 gas would be the seventeen 500 kV circuit breakers. Each breaker would contain up to 482 pounds (lbs) of SF_6, for a total of 8,194 lbs of SF_6 gas. As a conservative analysis, the maximum amount of SF_6 for circuit breakers greater than 245 KV was used since the type of circuit breakers to be used for the Project is unknown. However, depending on the circuit breaker actually used SF_6 content per circuit breaker could range from 108 to 482 lbs (CARB 2020b). Assuming SF_6 leakage would not exceed 1 percent annually, total maximum annual SF_6 leakage would be up to 82 lbs (0.04 MT). The GWP of SF_6 is 23,900, therefore the 82 lbs per year of annual leakage would result in annual emissions of approximately 888 MT CO_2e.

Project Decommissioning

As stated in Section 1.1, *Project Summary*, at the end of the project's useful life (anticipated to be 30 years), the project would be decommissioned. Any other activities required for deconstruction of the on-site facilities would require similar types and levels of equipment as those used during the construction phase. Therefore, decommissioning emissions were modeled based on the 2-year

[5] Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products. With respect to this project, area sources refer to consumer products (such as aerosol cleaners), and architectural coating (maintenance re-coating activities for battery storage).

usage of the same equipment used to install the energy storage enclosures with the addition of graders to return the land to the previous flat landscape.

Methodology for Determining Health Risks

Health impacts associated with TACs are generally associated with long-term exposure. Due to the minimal emissions expected on-site from routine maintenance and off-site from employees commuting to the Project site each day, there are no meaningful sources of TACs for the operating phase of the Project and therefore no reason to expect health impacts related to TACs. As such, the greatest potential for TAC emissions would be during construction and decommissioning which may result in a short-term increase of TAC emissions.

CARB's Air Quality and Land Use Handbook: A Community Health Perspective (April 2005) recommends against siting sensitive receptors within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day, and within 1,000 feet of warehouse land uses with more than 100 trucks per day. While these siting distances are not particular to construction activities, the fact that the primary source of TAC emissions from both freeways and warehouses as well as construction equipment is DPM, and emissions from warehouses and freeways is continual over the 30-year exposure period where construction emissions from this project are up to six years exposure. Therefore, for projects within 1,000 feet of sensitive receptors, a refined health risk should be conducted.

The closest sensitive receptors identified include agricultural housing 3,300 feet to the west on West Jayne Avenue, agricultural housing 11,500 feet to the southeast at the intersection of Modoc Avenue and West Goodrich Avenue, and a small row of houses 17,000 feet to the east on West Jayne Avenue. However, as the nearest receptors are over 3,000 feet away, are upwind of the project site, the onsite activity would have a negligible impact. Therefore, risk from construction and operational activities are discussed qualitatively.

3.2 Significance Criteria

Air Quality

The significance criteria used to evaluate the Project impacts to air quality are based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). For the purposes of this air quality analysis, a significant impact would occur if the Project would:

1. Conflict with or obstruct implementation of the applicable air quality plan;
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard;
3. Expose sensitive receptors to substantial pollutant concentrations; and/or
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) indicates that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied on to determine whether a project would have a significant impact on air quality. The SJVAPCD recommends the use of quantitative thresholds to determine the significance of temporary construction-related pollutant emissions and long-term operational-related pollutant emissions. These thresholds are shown in Table 4.

Table 4 SJVAPCD Air Quality Significance Thresholds

Pollutant	Operation Thresholds (tpy)	Construction Thresholds (tpy)
NO_X	10	10
ROG[1]	10	10
PM_{10}	15	15
$PM_{2.5}$	15	15
SO_X	27	27
CO	100	100

tpy = tons per year

[1] ROG are formed during combustion and evaporation of organic solvents. ROG are also referred to as VOC.

Source: SJVAPCD 2015a

In addition to the annual SJVAPCD thresholds outlined above, SJVAPCD has published the *Ambient Air Quality Analysis Project Daily Emissions Assessment* guidance, which is summarized in Section 8.4.2, *Ambient Air Quality Screening Tools*, of the SJVAPCD's *Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI)*, adopted in March 2015. The *Ambient Air Quality Screening Tools* guidance provides a screening threshold of 100 pounds per day of any of the following pollutants: NO_X, ROG, PM_{10}, $PM_{2.5}$, SO_X, and CO. The screening threshold was used to evaluate construction activities and operational activities separately. Per SJVAPCD's GAMAQI, when assessing the significance of project-related impacts on local air quality, the impacts *may* be significant if on-site emissions from construction or operational activities exceed the 100 pounds per day screening level after implementation of all enforceable mitigation measures. If the screening threshold is exceeded for any pollutant, an ambient air quality assessment (AAQA) is conducted following District Rule 2201 *AAQA Modeling* for any phase that has an exceedance. An AAQA uses air dispersion modeling to determine if emission increases from a project's construction or operational activities would cause or contribute to a violation of the ambient air quality. The results of the construction and operational AAQA for the Project are summarized in Section 4, *Analysis of Project Impacts*.

SJVAPCD recommends comparing project's attributes with the following screening criteria as a first step to evaluating whether the project would result in the generation of CO concentrations that would substantially contribute to an exceedance of the *Thresholds of Significance*. The project would result in a less than significant impact to localized CO concentrations if (SJVAPCD 2015a):

1. A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F; or
2. A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets at more one or more intersections in the project vicinity.

Greenhouse Gases

The significance criteria used to evaluate the Project impacts to GHG emissions are based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). For the purposes of the GHG analysis, a significant impact would occur if the Project would:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

The majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (*CEQA Guidelines*, Section 15064[h][1]).

Project-Level Significance Threshold

For future projects, the significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, consistency with a regional GHG reduction plan, or consistency with statewide regulations adopted to reduce GHG emissions. A project may be found to have a less-than-significant impact related to GHG emissions if it complies with an adopted plan that includes specific measures to sufficiently reduce GHG emissions (14 Cal. Code Regs. Section 15064[h][3]). According to the CEQA Guidelines, projects can tier from a qualified GHG reduction plan, which allows for project-level evaluation of GHG emissions through the comparison of the project's consistency with the GHG reduction policies included in that plan. The Association of Environmental Professionals considers this approach in its white paper, "Beyond Newhall and 2020," to be the most defensible approach presently available under CEQA to determine the significance of a project's GHG emissions (Association of Environmental Professionals 2016). However, the SJVAPCD's current GHG reduction strategy presented in the 2008 *Climate Change Action Plan* only aligns with the AB 32 2020 emissions target and does not address the SB 32 2030 emissions target. Because the GHG reduction plan does not specifically address the 2030 target and the project would become operational post-2020, tiering from the regional 2008 *Climate Change Action Plan* is not applicable.

Instead, the potential for the Project to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHG was assessed by examining the Project's consistency with the GHG reduction measures detailed in CARB's 2017 Climate Change Scoping Plan. Under the SJVAPCD's CEQA guidance for GHG, a project would not have a significant GHG impact if it is consistent with an applicable plan to reduce GHG emissions, and a CEQA compliant analysis was completed for the GHG reduction plan (SJVAPCD 2009b, SJVAPCD 2015a). Project GHG emissions are quantified for informational purposes.

4 Analysis of Project Impacts

4.1 Project-Level Air Quality Impacts

Threshold 1:	Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Impact AQ-1 THE PROJECT WOULD NOT CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF THE 2020 REASONABLY AVAILABLE CONTROL TECHNOLOGY (RACT) DEMONSTRATION FOR THE 2015 8-HOUR OZONE STANDARD NOR THE 2013 PLAN FOR THE REVOKED 1-HOUR OZONE STANDARD, 2007 PM_{10} MAINTENANCE PLAN AND REQUEST FOR RE-DESIGNATION, 2012 $PM_{2.5}$ PLAN, AND 2015 PLAN FOR THE 1997 $PM_{2.5}$ STANDARD. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction, operation, and decommissioning of the Project would result in emissions of criteria pollutants including O_3 precursors (such as ROG and NO_X) and PM. The SJVAPCD has prepared several air quality attainment plans to achieve ozone and particulate matter standards, the most recent of which include the *2020 Reasonably Available Control Technology (RACT) Demonstration for the 2015 8-Hour Ozone Standard* and the *2013 Plan for the Revoked 1-Hour Ozone Standard, 2007 PM_{10} Maintenance Plan and Request for Re-designation, 2012 $PM_{2.5}$ Plan,* and *2015 Plan for the 1997 $PM_{2.5}$ Standard*. The SJVAB is in attainment for CO, SO_2, and Pb, and there are no attainment plans for those pollutants.

Per Section 7.12 of the *GAMAQI*, the SJVAPCD has determined that projects with emissions above the thresholds of significance for criteria pollutants would conflict with/obstruct implementation of the SJVAPCD's air quality plans (SJVAPCD 2015a). As discussed under Impact AQ-2, neither project construction, operation, nor decommissioning would exceed the SJVAPCD threshold for criteria pollutants. Therefore, the Project would not conflict with the implementation of existing air quality plans and impacts would be less than significant.

Threshold 2:	Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?

Impact AQ-2 PROJECT CONSTRUCTION, OPERATION, AND DECOMMISSIONING WOULD NOT RESULT IN A CUMULATIVELY CONSIDERABLE NET INCREASE OF A CRITERIA POLLUTANT FOR WHICH THE PROJECT REGION IS IN NON-ATTAINMENT UNDER AN APPLICABLE FEDERAL OR STATE AMBIENT AIR QUALITY STANDARD. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction and Decommissioning Emissions

Construction of the Project would require between 14 and 24 months per phase depending on the battery option chosen with total construction duration of approximately 6 years for either battery option. Specifically, construction of the Lithium Ion Battery option is anticipated to take a total of approximately 76 weeks and construction of the Lithium Ion Battery with Iron Flow Battery option is anticipated to take a total of 104 weeks. Project construction would generate air pollutant emissions from on-site equipment, entrained dust, off-road equipment uses, and vehicle emissions. Off-site emissions would be generated by construction worker daily commute trips and vendor truck trips.

Construction of each phase would occur subsequent to the completion of the previous Phase. As shown in Table 5, construction emissions would be below the SJVAPCD annual threshold for all years of construction for both battery options, including a 12 month rolling average of emissions. Therefore, Project construction activities would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. Construction impacts would be less than significant.

Table 5 Estimated Annual Construction Emissions

	Annual Emissions (tons per year)[1]					
Year	**ROG**	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Lithium Ion Battery Option						
2024	1	6	7	<1	<1	<1
2025	<1	4	5	<1	<1	<1
2026	1	4	5	<1	<1	<1
2027	1	5	5	<1	<1	<1
2028	<1	4	5	<1	<1	<1
2029	<1	4	4	<1	<1	<1
Decommissioning	<1	4	6	<1	<1	<1
Maximum Annual	**1**	**6**	**7**	**<1**	**<1**	**<1**
Maximum Revolving 12 Month Period	**1**	**6**	**7**	**<1**	**<1**	**<1**
Threshold (tons per year)	10	10	100	27	15	15
Exceed Threshold?	No	No	No	No	No	No
Lithium Ion Battery with Iron Flow Option						
2024	1	5	6	<1	<1	<1
2025	1	5	6	<1	<1	<1
2026	<1	4	5	<1	<1	<1
2027	<1	4	5	<1	<1	<1
2028	<1	5	5	<1	<1	<1
2029	<1	2	2	<1	<1	<1
Decommissioning	<1	4	6	<1	<1	<1
Maximum Annual	**1**	**5**	**6**	**<1**	**<1**	**<1**
Maximum Revolving 12 Month Period	**1**	**5**	**6**	**<1**	**<1**	**<1**
Threshold (tons per year)	10	10	100	27	15	15
Exceed Threshold?	No	No	No	No	No	No

[1] Emissions by construction year include measures from Rule 8021 to control fugitive dust.

Source: Appendix A.

The annual decommissioning equipment and activities would be similar to those modeled for construction. As shown in Table 5, decommissioning emissions would be below the SJVAPCD annual threshold for both battery options. As equipment becomes more efficient in the future, it is anticipated that the emissions from the equipment used during decommissioning would be reduced beyond what was estimated in Table 5. All decommissioning activities would adhere to the requirements of the appropriate governing authorities and be conducted in accordance with all

applicable federal, state, and county regulations. Decommissioning impacts would be less than significant.

Operational Emissions

Long-term emissions associated with operation of the Project would be primarily generated by periodic operational and maintenance visits that would occur weekly and an extended maintenance program that would occur annually. Additionally, minimal emissions from energy use is anticipated from temperature control and maintenance for the batteries. Emissions associated with project operation are summarized in Table 6 by source. Emissions would not exceed SJVAPCD annual thresholds for criteria pollutants regardless of the battery option chosen. As a result, the project would not violate any air quality standards or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment.

Table 6 Estimated Annual Operational Emissions

	Annual Emissions (tons per year)					
Source	**ROG**	**NO_X**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Lithium Ion Battery Option						
Mobile	<1	<1	<1	<1	<1	<1
Area	<1	<1	<1	<1	<1	<1
Energy	<1	<1	<1	<1	<1	<1
Total Operational Emissions	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
Threshold (tons per year)	10	10	27	100	15	15
Exceed Threshold?	No	No	No	No	No	No
Lithium Ion Battery with Iron Flow Option						
Mobile	<1	<1	<1	<1	<1	<1
Area	<1	<1	<1	<1	<1	<1
Energy	<1	<1	<1	<1	<1	<1
Total Operational Emissions	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
Threshold (tons per year)	10	10	27	100	15	15
Exceed Threshold?	No	No	No	No	No	No

Source: Appendix A.

Furthermore, energy storage systems assist utilities like PG&E in achieving criteria air pollutant emission reductions by providing the means of storing excess electricity generated during off-peak hours for use during peak hours. By expanding PG&E's access to energy storage systems, the project would increase the stability and reliability of the existing electrical grid, thereby reducing the need for additional electricity to be generated by fossil fuel power plants during peak hours. The energy conservation achieved by the project would reduce the need for additional fossil fuel consumption, thereby eliminating new criteria air pollutant emissions from the electricity sector. It is unknown how much growth in future demand would require the continuation of the use of the existing fossil fuel generation system even with the operation of energy storage systems. Unless a specific fossil fuel generation system is taken offline completely, there is no guarantee of an annual offset, therefore conservatively no reductions were quantified. Operational impacts would be less than significant.

Threshold 3:	Would the Project expose sensitive receptors to substantial pollutant concentrations?

Impact AQ-3 **LOCALIZED CONSTRUCTION, OPERATION, AND EMISSIONS WOULD NOT EXCEED DAILY SCREENING THRESHOLD. THE PROJECT WOULD NOT INCREASE CARBON MONOXIDE CONCENTRATIONS SUCH THAT IT WOULD CREATE CARBON MONOXIDE HOTSPOTS. CONSTRUCTION, OPERATION, AND DECOMMISSIONING OF THE PROJECT WOULD ALSO NOT RESULT IN EMISSIONS OF TOXIC AIR CONTAMINANTS (TACS) SUFFICIENT TO EXCEED APPLICABLE HEALTH RISK CRITERIA. THEREFORE, IMPACTS RELATED TO LOCALIZED EMISSIONS, CARBON MONOXIDE HOTSPOTS, AND TACS WOULD BE LESS THAN SIGNIFICANT. HOWEVER, PROJECT CONSTRUCTION AND DECOMMISSIONING WOULD RESULT IN SOIL DISTURBANCE THAT COULD EXPOSE CONSTRUCTION WORKERS TO *COCCIDIOIDES IMMITIS* SPORES (VALLEY FEVER). IMPACTS RELATED TO VALLEY FEVER WOULD BE POTENTIALLY SIGNIFICANT AND MITIGATION WILL BE REQUIRED.**

Local Air Quality Emissions

Construction and Decommissioning Emissions

Construction of the Project would require approximately 6 years of activity. Decommissioning is anticipated to require approximately 24 months. Project construction and decommissioning would generate air pollutant emissions from on-site equipment, entrained dust, off-road equipment uses, and vehicle emissions. Off-site emissions would be generated by worker daily commute trips and heavy-duty diesel haul and vendor truck trips. Construction or decommissioning of each Phase would occur subsequent to the completion of the previous Phase. As shown in Table 7, localized construction emissions would be below the SJVAPCD daily screening threshold of 100 pounds per day for all construction activities and decommissioning activities regardless of the battery option chosen. Therefore, Project construction and decommissioning activities would not expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant for both construction and decommissioning activities.

Table 7 Estimated Daily Construction Emissions

Year	Daily Emissions (lbs/day)[1]					
	ROG	NO_X	CO	SO_x	PM_{10}	$PM_{2.5}$
Lithium Ion Battery						
Phase 1	10	87	97	<1	12	7
Phase 2	5	33	46	<1	2	1
Phase 3	4	39	46	<1	2	1
Phase 4	4	36	50	<1	2	1
Decommissioning	3	28	49	<1	4	1
Maximum Daily Emissions	**10**	**87**	**97**	**<1**	**12**	**7**
Threshold (pounds per day)	*100*	*100*	*100*	*100*	*100*	*100*
Exceed Threshold?	No	No	No	No	No	No
Lithium Ion Battery with Iron Flow						
Phase 1	10	86	96	<1	12	7
Phase 2	4	32	48	<1	2	1
Phase 3	5	45	58	<1	4	2
Decommissioning	3	28	49	<1	4	1
Maximum Daily Emissions	**10**	**86**	**96**	**<1**	**12**	**7**
Threshold (pounds per day)	*100*	*100*	*100*	*100*	*100*	*100*
Exceed Threshold?	No	No	No	No	No	No

[1] Emissions by construction year include measures from Rule 8021 to control fugitive dust.

Source: Appendix A.

Operational Emissions

Long-term emissions associated with operation of the Project would be primarily generated by periodic operational and maintenance visits that would occur weekly and an extended maintenance program that would occur annually. Additionally, minimal emissions from energy use is anticipated from temperature control and maintenance for the batteries. Daily emissions associated with project operation are summarized in Table 8. As shown, emissions would not exceed the SJVAPCD daily screening threshold of 100 pounds per day and therefore would not expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant.

Table 8 Estimated Daily Operational Emissions

Source	Daily Emissions (lbs/day)					
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Lithium Ion Battery						
Phase 1	<1	<1	<1	<1	<1	<1
Phase 2	<1	<1	<1	<1	<1	<1
Phase 3	<1	<1	<1	<1	<1	<1
Phase 4	<1	<1	<1	<1	<1	<1
Worker Commute	<1	<1	<1	<1	<1	<1
Total Operational Emissions	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
Threshold (pounds per day)	100	100	100	100	100	100
Exceed Threshold?	No	No	No	No	No	No
Lithium Ion with Iron Flow Battery						
Phase 1	<1	<1	<1	<1	<1	<1
Phase 2	<1	<1	<1	<1	<1	<1
Phase 3	<1	<1	<1	<1	<1	<1
Worker Commute	<1	<1	<1	<1	<1	<1
Total Operational Emissions	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
Threshold (pounds per day)	100	100	100	100	100	100
Exceed Threshold?	No	No	No	No	No	No

Source: Appendix A.

Carbon Monoxide Hotspots

A CO hotspot is a localized concentration of CO that is above a CO ambient air quality standard. Localized CO hotspots can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local CO concentration exceeds the federal one-hour standard of 35.0 parts per million (ppm) or the federal and state eight-hour standard of 9.0 ppm (SJVAPCD 2022).

The entire SJVAB is in conformance with state and federal carbon monoxide standards and no air quality monitoring stations report carbon monoxide levels in the SJVAPCD jurisdiction. Additionally, CARB no longer reports carbon monoxide concentrations anywhere in California. Based on the low background level of carbon monoxide in the SJVAB (indicated by the lack of monitoring at state or local levels), the low and the ever-improving emissions standards for new sources in accordance with state and federal regulations, and the fact that the project would result in a maximum of 16 trips per day during annual maintenance, the project would not create new carbon monoxide hotspots. Therefore, the project would not expose sensitive receptors to substantial carbon monoxide concentrations, and localized air quality impacts related to carbon monoxide hot spots would be less than significant.

Toxic Air Contaminants

Construction and Decommissioning Impacts

The greatest potential for TAC emissions during construction and decommissioning would be DPM emissions associated with heavy-duty equipment during construction and decommissioning activities.

Activities associated with construction and decommissioning of the proposed Project would be sporadic, transitory, and short term in nature. In addition, incidental amounts of toxic substances such as oils, solvents, and paints would be used. Project construction and decommissioning would comply with all applicable SJVAPCD rules for handling and use and toxic substances.

As discussed in *Section 3 Methodology*, a project that would result in construction and decommissioning activities within 1,000 feet of sensitive receptors could have the potential to result in substantial health risk to those receptors. As the Project site is greater than 3,000 feet from the nearest receptor, construction, and decommissioning of proposed Project it is not anticipated to result in increased risk to those receptors. Therefore, the potential cancer and non-cancer risk from construction and decommissioning activities would be less than significant.

Operational Impacts

Sources of operational TAC's typically include, but are not limited to, land uses such as freeways and high-volume roadways, truck distribution centers, ports, rail yards, refineries, chrome plating facilities, dry cleaners using perchloroethylene, and gasoline dispensing facilities. The proposed Project is not one of these uses, although use of consumer products, such as aerosol cleaning products, may result in minimal emissions of TACs. Additionally, the nearest sensitive receptor is greater than 3,000 feet from the Project site. As such, operations of the Project would not be a substantial source of TACs. Therefore, impacts would be less than significant.

Valley Fever

Construction activities, including site preparation and grading, would have the potential to release *Coccidioides immitis* spores. Decommissioning activities could also release spores when the first twelve inches of soil is disturbed during removal of the facilities. However, the population of Fresno County has been and will continue to be exposed to Valley Fever from agricultural and construction activities occurring throughout the region. Compliance with SJVAPCD Rule 8021 would limit spore release during soil disturbance activities. The SJVAPCD does not have a recommended threshold for Valley Fever impacts, but instead recommends consideration of the following factors that may indicate a project's potential to result in significant impacts related to Valley Fever:

- Disturbance of the topsoil of undeveloped land (to a depth of about 12 inches)
- Dry, alkaline, sandy soils
- Virgin, undisturbed, non-urban areas
- Windy areas
- Archaeological resources probable or known to exist in the area (Native American midden sites)
- Special events (fairs, concerts) and motorized activities (motocross track, All Terrain Vehicle activities) on unvegetated soil (non-grass)
- Non-native population (i.e., out-of-area construction workers)

Project construction would involve light grading of agricultural soils, disturbing soils within the first twelve inches. Decommissioning activities could also include disturbance of topsoil. The northern parcel is currently an active agricultural site, therefore the potential for exposure is predominantly from soil disturbance of the southern two parcels which have been fallow for a number of years. Fresno County reported over 95 cases between January and March of 2022 with 82 reported in 2021 and 126 in 2020 (California Department of Public Health 2022). While the Project site is not intended for special events or all-terrain vehicle use and the nearest residences are over 3,000 feet away, there is the potential for

construction and decommissioning workers to be from out of the area, therefore, construction and decommissioning of the project has the potential to release spores that could impact workers. Implementation of typical dust control measures would reduce airborne spores, however mitigation will be required to reduce impacts from exposure of workers to *coccidioides immitis* spores to less than significant.

Threshold 4:	Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Impact AQ-4 THE PROJECT WOULD NOT GENERATE ODORS ADVERSELY AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE DURING CONSTRUCTION, DECOMMISSIONING, OR OPERATION. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The project would generate oil and diesel fuel odors during construction and decommissioning from equipment and trucks. However, these odors would be intermittent and localized to the Project site. Construction and decommissioning-related odors would also dissipate rapidly and would cease upon completion of construction and decommissioning activities. With respect to operation, the SJVAPCD's GAMAQI (2015a) identifies land uses associated with odor complaints. Common land uses associated with odors include wastewater treatment facilities, sanitary landfills, food processing facilities, and feed lot/dairy facilities. Battery energy storage systems and utility infrastructure are not included on this list, and the proposed Project would not contain uses that would generate other emissions or odors. Therefore, the proposed Project would not generate other emissions (such as those leading to odors) adversely affecting a substantial number of people, and impacts would be less than significant.

4.2 Cumulative Air Quality Impacts

The geographic scope for the cumulative air quality impact analysis is the SJVAB. Because the SJVAB is designated as non-attainment for the O_3, PM_{10}, and $PM_{2.5}$ NAAQS and CAAQS, there is an existing adverse cumulative effect in the SJVAB relative to these pollutants.

Based on SJVAPCD thresholds in the GAMAQI, a project would have a significant cumulative impact if it is inconsistent with the applicable adopted federal and state air quality plans. As discussed under Impact AQ-2, the project would be consistent with the SJVAPCD thresholds since the Projects' emissions are below the SJVAPCD thresholds. Additionally, as discussed above under Impact AQ-1, the Project would not conflict with or obstruct implementation of the SJVAPCD's air quality plan. Therefore, the Project's contribution to cumulative air quality impacts related to criteria air pollutant emissions would be less than significant.

The SJVAPCD considers TAC emissions to be a localized issue. In general, TAC concentrations are typically highest near the emissions sources and decline with increased distance. CARB recommends distances that should be incorporated when siting new sources or sensitive receptors near a source of TACs. This generally ranges from 500 to 1,000 feet depending on the source category (CARB 2005). Therefore, in the absence of any specific guidance from the SJVAPCD, the potential cumulative impacts from TACs was analyzed based on a radius of 1,000 feet measured from the Project site boundary. The Project is not located within 1,000 feet of any existing or planned projects that would generate TACs affecting a substantial number of people; therefore, there is no risk that the combined emissions would result in a cumulatively considerable impact to health risk (County of Fresno 2022).

As discussed under Impact AQ-3, construction, operation and decommissioning-related traffic is not anticipated to create a CO hotspot, as construction and decommissioning would be short-term and the

impacted intersection is more than one mile from any sensitive receptor. Therefore, the Project's contribution to cumulative impacts to sensitive receptors related to CO hotspots would be less than significant.

4.3 Project-Level Greenhouse Gas Impacts

Threshold 1:	Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Impact GHG-1 CONSTRUCTION, OPERATION, AND DECOMMISSIONING OF THE PROJECTS WOULD DIRECTLY AND INDIRECTLY GENERATE GHG EMISSIONS. HOWEVER, SUCH EMISSIONS WOULD BE OFFSET BY THE LONG-TERM STORAGE OF RENEWABLE ENERGY. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction and Decommissioning Emissions

Project-related construction and decommissioning emissions are confined to a relatively short period in relation to the overall life of the Project. Construction-related and decommissioning-related GHG emissions were quantified for informational purposes. Table 9 shows that Project construction would result in a total of approximately 12,290 MT CO_2e for the Lithium Ion Battery option and 10,928 MT CO_2e for the Lithium Ion with Iron Flow Battery option. As shown in Table 9, decommissioning would result in a total of 8,919 MT CO_2e for both battery options, assuming 4 years of decommissioning activities. Emissions were then amortized over the lifetime of the Project (i.e., 30 years). As shown in Table 9, amortized construction emissions would be 410 MT CO_2e per year for the Lithium Ion Battery option and 364 MT CO_2e per year for the Lithium Ion Battery option. As shown in Table 9, amortized decommissioning emissions would be 297 MT CO_2e for both battery options.

Table 9 Estimated Construction GHG Emissions

	Lithium Ion Battery Option	Lithium Ion with Iron Flow Battery Option
	Project Emissions MT CO_2e	
Construction		
Phase 1	2,109	3,680
Phase 2	2,282	2,518
Phase 3	3,988	4,729
Phase 4	3,912	N/A
Total	**12,290**	**10,928**
Amortized (30 years)	**410**	**364**
Decommissioning		
Total	**8,919**	**8,919**
Amortized (30 years)	**297**	**297**

NA = Not applicable. The Lithium Ion with Iron Flow Battery option only has three construction phases.
Source: Appendix A.

Operational Emissions

The proposed Project would generate GHG emissions during operation from minimal area source, energy consumption and mobile emissions[6]. Operation-related GHG emissions were quantified for informational purposes and are shown in Table 10. As shown in Table 10, the Project would generate approximately 896 MT of CO_2e per year for both battery options. With the inclusion of amortized construction and decommissioning emissions, the Lithium Ion Battery Option would result in approximately 1,603 MT of CO_2e per year and the Lithium Ion with Iron Flow Battery Option would result in approximately 1,558 MT of CO_2e per year.

[6] Area sources for this project refer to consumer products (such as aerosol cleaners), and architectural coating (maintenance re-coating activities for battery storage).

Table 10 Annual GHG Emissions

Emission Source	Lithium Ion Battery	Lithium Ion with Iron Flow Battery
	Annual Emissions (MT CO_2e)	
Operational		
Mobile	2	2
Area	0	0
Energy	6	6
Water	<1	<1
Wastewater	0	0
O&M refrigerant	<1	<1
SF^6	888	888
Total Project Operational Emissions	**896**	**896**
Amortized Construction Emissions	410	364
Amortized Decommissioning Emissions	297	297
Total Project Emissions	**1,603**	**1,558**

MT of CO_2e = metric tons of carbon dioxide equivalent. Numbers may not add up due to rounding.

NA = Not applicable. The Lithium Ion with Iron Flow Battery option only has three installation phases.

Source: Appendix A.

Approximately 55 to 57 percent of total operational emissions are associated with the emissions of SF_6, which is a component in the circuit breakers of the project. The Project would include 17 high voltage circuit breakers to support the substation which would be implemented as the project is implemented. As detailed in the methodology section (Section 3.1), the use of SF_6 in electric utility systems and switchgear, including circuit breakers, poses a concern, because this pollutant has an extremely high global warming potential (one pound of SF_6 is the equivalent warming potential of approximately 23,900 pounds of CO_2). As detailed in the methodology Section (Section 3.1), seventeen 500 kV circuit breakers used at the Project site would contain up to 482 pounds (lbs) of SF_6 each, for a total of 8,194 lbs of SF_6 gas. Assuming SF_6 leakage would not exceed 1 percent annually, total annual SF_6 leakage would be up to 82 lbs (0.04 MT). Based on the global warming potential of SF_6, the circuit breakers would result in up to 888 MT of CO_2e emissions, annually.

In compliance with CARB regulations, the applicant would be required to regularly inventory gas-insulated switchgear equipment, measure quantities of SF_6 and submit an annual report to CARB. In addition, the analysis assumed that all 17 circuit breakers would contain SF_6 as a conservative analysis. As discussed in the regulatory section, CARB has implemented phasing requirements for the elimination of SF_6 from electrical equipment, including circuit breakers. While the analysis assumes that all circuit breakers will contain SF_6, it is possible that circuit breakers in the later phases may not contain SF_6 and/or as circuit breakers are replaced the would be replaced with non-SF_6 technology. Additionally, as

discussed in the methodology section, the analysis assumed the maximum amount of SF_6 per circuit breaker and depending on the circuit breaker actually used, SF_6 content may be substantially less than assumed in the analysis.[7] Therefore, GHG emissions reported for the Project are conservative.

The Project would address the limitations of the electric grid and the increasing demand for renewable energy by increasing storage capability which improves the reliability of the grid and makes it more resilient to disturbances and peaks in energy demand. As the use of renewable energy increases, the need for battery storage to maintain electrical supply during both peak demand and when the renewable systems are not generating electricity also increases. It is anticipated that the reduction in GHG emissions from non-renewable electricity generating facilities would more than offset the annual GHG emissions anticipated from the project. It is unknown how much growth in future demand would require the continuation of the use of the existing fossil fuel generation system even with the operation of energy storage systems. Unless a specific fossil fuel generation system is taken offline completely, there is no guarantee of an annual offset, therefore conservatively no reductions were quantified. However, the project would eliminate the need to create new non-renewable energy generation sources to accommodate future demand equal to the energy storage capabilities during peak hours. Therefore, the project is anticipated to result in a net benefit with respect to GHG emissions generation.

Threshold 2:	Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Impact GHG-2 CONSTRUCTION, OPERATION, AND DECOMMISSIONING OF THE PROJECTS WOULD BE CONSISTENT WITH APPLICABLE PLANS, POLICIES, AND REGULATIONS ADOPTED FOR THE PURPOSE OF REDUCING GHG EMISSIONS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Senate Bill 32 and 2017 Scoping Plan

There are numerous state plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The principal overall state plans and policies is SB 32. The goal of SB 32 is to reduce GHG emissions to 40 percent below 1990 levels by 2030. CARB's 2017 Scoping Plan, which outlines a framework to achieve SB 32's 2030 target, emphasizes innovation, adoption of existing technology, and strategic investment to support its strategies for GHG emissions reductions.

Approximately 15 percent of GHG emissions in 2018 were generated by the electricity sector with 9 percent from in-state electricity generation and 6 percent from imported electricity generation (CARB 2020a). One of the goals of the 2017 Scoping Plan is to "encourage development of additional energy storage capacity on the transmission and distribution system." An energy storage facility is used to reduce GHG emissions associated with gas- and coal-fired power generation facilities by storing energy during off-peak hours (lower energy usage/demand times) and dispatching this energy on an as-needed basis during peak demand hours. This technology reduces the amount of fossil fuels consumed during peak hours and maximizes usage of energy from renewable sources such as wind and solar facilities that may not be able to produce energy during times of peak demand. Therefore, the proposed Project would help to reduce GHG emissions from the energy sector and would be consistent with the goals of the 2017 Scoping Plan.

In addition, statewide plans and regulations in support of these strategies, such as GHG emissions standards for vehicles (AB 1493), the Low Carbon Fuel Standard, and regulations requiring an

[7] For reference, the average capacity of circuit breakers greater than 245 KVs is 228.4 lbs per breaker. This would result in 3,883 lbs of SF_6 for the entire project with leakage anticipated at 421 MT CO_2e annually, less than half of what was used in the analysis.

increasing fraction of electricity to be generated from renewable sources, are being implemented at the statewide level; as such, compliance at a project-level would occur as implementation continues statewide. Therefore, the Project would be consistent with SB 32, and the 2017 Scoping Plan. The Project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs and impacts would be less than significant.

4.4 Cumulative Greenhouse Gas Impacts

The geographic scope for related projects considered in the cumulative impact analysis for GHG emissions is global because impacts of climate change are experienced on a global scale regardless of the location of GHG emission sources. As discussed in Section 8.9.1 of the *GAMAQI*, GHG emissions and climate change are, by definition, cumulative impacts. Thus, the issue of climate change involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. As discussed under Impact GHG-1, Project impacts related to GHG emissions would be less than significant since the Project would be consistent with the state plans for reducing GHG emissions. Therefore, the Project's contribution to cumulative GHG impacts would be less than significant and the Project would have a net benefit in the long-term.

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Appendix A

Assumptions and Calculations

Key Energy
General Assumptions

Date: 1/13/2022

Project Characteristics

Project Location	County		Version: 2020.4.0	
	Fresno			
Climate Zone	3			
Urbanization	Urban			
Operational Year (Buildout)			Construction Year	
Lithium Ion	2025	Phase 1		2024 Phase 1
	2026	Phase 2		2025 Phase 2
	2028	Phase 3		2026 Phase 3
	2030	Phase 4		2027 Phase 4
Lithium Ion Iron Flow	2024	Phase 1		2026 Phase 1
	2028	Phase 2		2025 Phase 2
	2030	Phase 3		2027 Phase 3
Utility Company	PG&E			

Project Land Use	MW System	# sf[1,2]	KSF	Acres[2]	CalEEMod Designation
		Lithium Ion Battery Option			
Phase 1	300	750	0.75	34.50	Refrigerated warehouse[3]
Phase 2	500	1,250	1.25	27.75	Refrigerated warehouse[3]
Phase 3	1,000	2,500	2.50	76.00	Refrigerated warehouse[3]
Phase 4	1,200	3,000	3.00	121.75	Refrigerated warehouse[3]
Total	3,000	7,500	7.5	260.00	
		Lithium Ion and Iron Flow Battery Option			
Phase 1	300	750	0.75	70.00	Refrigerated warehouse[3]
Phase 2	700	1,750	1.75	54.25	Refrigerated warehouse[3]
Phase 3	2,000	5,000	5.00	135.75	Refrigerated warehouse[3]
Total	3,000	7,500	7.5	260.00	
		O&M building			
Office portion[5]	NA	1,000	1	0.25/0.5	General Office[4]
Warehouse portion[5]	NA	2,000	2	0.25/0.5	Unrefrigerated warehouse[4]

Key Energy
General Assumptions

Date: 1/13/2022

Go-by for facility size [1]	400	1000

Notes:

1 The size of the containers for the battery systems is unknown at this time. Therefore, container size was estimated based on a previous report using system MW to determine container squre footage.

Source: Dudek 2021. *Desert Peak Energy Center Project - Phase 1 Air Quality and Greenhouse Gas Emissions Study* - August 16.

2 CalEEmod does not allow decimal places for ksf above 1,000 ksf therefore land use was rounded up conservatively. CalEEMod also does not allow fractional acreages greater than 1 acre so acreages were also rounded up. Acreage for O&M building represent Lithium Ion / Lithium Ion and Iron Flow respectively to accomodate P1 site acreages.

3 Refrigerated warehouse used to capture energy required to keep the batteries cool.

4 Acres for O&M are assumed to be graded as part of the phase grading in which it will be built. Therefore, acreage is only assumed to be equal to the squrefootae of the building.

5 2022 CalEEMod does not allow for partial square footages over 1,000 square feet for general office or unrefrigerated warehouse useage.

Key Energy
Construction Assumptions - Lithium Ion Battery Option

CalEEMod Defaults are assumed for modeling purposes unless specifically discussed in the Construction Assumptions below.

Project Schedule:	Hours: 7 am to 7 pm		Construction	January	2024
	8 hrs per day equipment usage			November	2029
	Monday thru Friday				

Phase Name	Start Date	End Date	Days/Week	Total Days	Weeks	
Phase 1						
Site Preparation	1/1/2024	1/12/24	5	10	2	
Project Substation Site Prep	1/1/2024	1/26/24	5	20	4	
Grading	1/13/2024	2/9/24	5	20	4	
Project Substation Site Grading	1/27/2024	2/9/24	5	10	2	
Energy Storage Enclosure Installation	2/10/2024	8/2/24	5	125	25	
Project substation installation	8/15/2024	12/4/24	5	80	16	
Gen-Tie Foundation and Tower Erection	12/5/2024	12/11/24	5	5	1	
Gen-Tie Strininging and Pulling	12/12/2024	12/25/24	5	10	2	
Architectural Coating (O&M Building)	7/1/2024	8/15/24	5	34	3.5	
Phase 2						
Site Preparation	2/1/2025	2/14/2025	5	10	2	
Grading	2/15/2025	3/14/2025	5	20	4	
Energy Storage Enclosure Installation	3/15/2025	6/19/2026	5	330	66	
Phase 3						
Site Preparation	6/22/2026	7/17/26	5	20	4	
Grading	7/19/2026	9/11/26	5	40	8	
Energy Storage Enclosure Installation	9/12/2026	2/25/28	5	380	76	
Phase 4						
Site Preparation	2/28/2028	3/24/28	5	20	4	
Grading	3/25/2028	5/19/28	5	40	8	
Energy Storage Enclosure Installation	5/20/2028	11/2/29	5	380	76	
Decommissioning[1]						
Removing energy Storage Enclosures	1/1/2055	12/28/55	5	260	104	*12 months per phase

Key Energy
Construction Assumptions - Lithium Ion Battery Option

1 Decommissioning is anticipated to begin in 2055 and last 12 months per phase, but CalEEMod only allows construction start date up to 12/2050. Therefore, Decommissioning was modeled for one year beginning January 1, 2050.

Trips and VMT

Phase Name	# Workers	Worker Trips/ day	Vendor Trips / day	Haul trips/day	
Phase 1					
Site Preparation	40	80	4	0	
Project Substation Site Prep	20	40	8	0	
Grading	40	80	4	0	
Project Substation Site Grading	20	40	8	0	
Energy Storage Enclosure Installation	120	240	40	0	
Project substation installation	60	120	80	0	
Gen-Tie Foundation and Tower Erection	40	80	8	0	
Gen-Tie Strininging and Pulling	40	80	8	0	
Architectural Coating	1	2	0	0	additional worker
Phase 2					
Site Preparation	40	80	4	0	
Grading	40	80	4	0	
Energy Storage Enclosure Installation	120	240	40	0	
Phase 3					
Site Preparation	40	80	6	0	
Grading	40	80	6	0	
Energy Storage Enclosure Installation	150	300	80	0	
Phase 4					
Site Preparation	60	120	8	0	
Grading	60	120	8	0	
Energy Storage Enclosure Installation	150	300	80	0	
Decommissioning					
Removing energy Storage Enclosures	210	420	80	0	

Note: Vendor trips modeled as all HHDT trips conservatively with a 60 mile distance for everything but Energy Stoarge Enclosure and Project Substation, then used HHDT and MHDT.

Key Energy
Construction Assumptions - Lithium Ion Battery Option

Offroad Equipment

Based on equipment used in similar project. Detailed below. Note: where there are 0's in the equpment list, this represents default equipment in the model that was not used in this analysis.

Soruce: Dudek 2021. Desert Peak Energy Center Project - Phase 1 Air Quality and Greenhouse Gas Emissions Study - August 16.

Site Preparation

Equipment	Number	Hours/day
Grader	4	8
Rubber Tired Dozers	0	8
Rubber Tired Loaders	4	8
Skid Steer Loaders	4	8
Tractors/Loaders/Backhoes	4	8

Project Substation Site Prep

Equipment	Number	Hours/day
Rubber Tiered Dozers	4	8
Tractors/Loaders/Backhoes	4	8

Grading

Equipment	Number	Hours/day
Excavators	0	8
Graders	4	8
Plate Compactors	4	8
Rollers	4	8
Rubber Tired Dozers	0	8
Rubber Tired Loaders	4	8
Scrapers	0	8
Skid Steer Loaders	4	8
Tractors/Loaders/Backhoes	4	8

Key Energy
Construction Assumptions - Lithium Ion Battery Option

Project Substation Site Grading

Equipment	Number	Hours/day
Excavators	0	8
Graders	0	8
Rollers	4	8
Rubber Tired Dozers	4	8
Scrapers	0	8
Tractors/Loaders/Backhoes	4	8

Energy Storage Enclosure Installation

Equipment	Number	Hours/day
Air Compressors	4	8
Cranes	2	8
Excavators	2	8
Forklifts	0	8
Generator Sets	4	8
Plate Compactors	2	8
Rollers	2	8
Rough Terrain Forklifts	2	8
Skid Steel Loaders	2	8
Tractors/Loaders/Backhoes	2	8
Welders	0	8

Key Energy
Construction Assumptions - Lithium Ion Battery Option

Project substation installation

Equipment	Number	Hours/day
Aerial Lift	6	8
Air Compressor	2	8
Bore/Drill Rigs	2	8
Cranes	2	8
Excavators	2	8
Forklifts	0	8
Generator Sets	2	8
Rollers	2	8
Rough Terrain Forklifts	2	8
Rubber Tired Dozers	2	8
Skid Steel Loaders	2	8
Tractors/Loaders/Backhoes	4	8
Trenchers	4	8
Welders	0	8

Gen-Tie Foundation and Tower Erection

Equipment	Number	Hours/day
Air Compressors	1	8
Cranes	1	8
Forklifts	1	8
Generator Sets	1	8
Pumps	1	8
Tractors/Loaders/Backhoes	0	8
Welders	1	8

Key Energy
Construction Assumptions - Lithium Ion Battery Option

Gen-Tie Strininging and Pulling

Equipment	Number	Hours/day
Cranes	0	8
Forklifts	1	8
Generator Sets	1	8
Tractors/loaders/backhoes	1	8
welder	0	8

Architectural Coating

Equipment	Number	Hours/day
Air Compressors	1	6

Decommissioning

Equipment	Number	Hours/day
Air Compressors	4	8
Cranes	2	8
Excavators	2	8
Rubber Tired Dozers	0	8
Generator Sets	4	8
Plate Compactors	2	8
Rollers	2	8
Rough Terrain Forklifts	2	8
Skid Steel Loaders	2	8
Tractors/Loaders/Backhoes	2	8
Scrapers	0	8
Graders	4	8

Dust from Material Movement No Cut and/or fill anticipated.

Key Energy
Construction Assumptions - Lithium Ion Battery Option

Water Use		Annual	Total		Annual	Total	
	Phase 1 Total	44	51	acre/feet	14,174,519	16,520,646	gallons/year
	Phase 2 Total	35	52	acre/feet	11,404,785	17,074,592	gallons/year
	Phase 3 Total	95.8	175.6	acre/feet	31,216,526	57,219,436	gallons/year
	Phase 4 Total	153.4	281.2	acre/feet	49,985,543	91,629,301	gallons/year
	Decommissioning	Same as Phase 4					

325,851 gallons/acre foot

Note: Water usage modeled under operational activities for ease of modeling.

Models total water usage for construction of LIB- Phase 2

No new solid waste geneating activities 182,443,975

Key Energy
Construction Assumptions - Lithium Ion and Iron Flow Battery Option

CalEEMod Defaults are assumed for modeling purposes unless specifically discussed in the Construction Assumptions below.

Project Schedule:	Hours: 7 am to 7 pm	Construction	January	2024
	8 hrs per day equipment usage		May	2029
	Monday thru Friday			

Phase Name	Start Date	End Date	Days/Week	Total Days	Weeks
Phase 1					
Site Preparation	1/1/2024	1/26/24	5	20	4
Project Substation Site Prep	1/1/2024	1/24/24	5	20	4
Grading	1/27/2024	3/22/24	5	40	8
Project Substation Site Grading	1/27/2024	2/9/24	5	10	2
Energy Storage Enclosure Installation	3/23/2024	7/4/25	5	335	67
Project substation installation	7/5/2025	10/24/25	5	80	16
Gen-Tie Foundation and Tower Erection	10/25/2025	10/31/25	5	5	1
Gen-Tie Strininging and Pulling	11/1/2025	11/14/25	5	10	2
Architectural Coating (O&M Building)	5/20/2025	7/4/25	5	34	3.5
Phase 2					
Site Preparation	12/1/2025	12/12/2025	5	10	2
Grading	12/13/2025	1/9/2026	5	20	4
Energy Storage Enclosure Installation	1/10/2026	6/11/2027	5	370	74
Phase 3					
Site Preparation	6/12/2027	7/9/27	5	20	4
Grading	7/10/2027	9/3/27	5	40	8
Energy Storage Enclosure Installation	9/4/2027	6/8/29	5	460	92
Decommissioning[1]					
Removing energy Storage Enclosures	1/1/2055	12/31/57	5	260	104

1 Decommissioning is anticipated to begin in 2055 and last 12 months per phase, but CalEEMod only allows construction start date up to 12/2050. Therefore, Decommissioning was modeled for one year beginning January 1, 2050. Decommissioning was modeled under the Lithium Ion Scenario and would occur over 4 years.

Key Energy
Construction Assumptions - Lithium Ion and Iron Flow Battery Option

Trips and VMT

Phase Name	# Workers	Trips/ day	Trips / day	trips/day	
Phase 1					
Site Preparation	40	80	4	0	
Project Substation Site Prep	20	40	8	0	
Grading	40	80	4	0	
Project Substation Site Grading	20	40	4	0	
Energy Storage Enclosure Installation	120	240	40	0	
Project substation installation	60	120	80	0	
Gen-Tie Foundation and Tower Erection	40	80	8	0	
Gen-Tie Strininging and Pulling	40	80	8	0	
Architectural Coating	1	2	0	0	additional worker
Phase 2					
Site Preparation	40	80	4	0	
Grading	40	80	4	0	
Energy Storage Enclosure Installation	120	240	40	0	
Phase 3					
Site Preparation	60	120	8	0	
Grading	60	120	8	0	
Energy Storage Enclosure Installation	150	300	80	0	
Decommissioning					
Removing energy Storage Enclosures	210	420	80	0	

Note: Vendor trips modeled as all HHDT trips conservatively with a 60 mile distance for everything but Energy Stoarge Enclosure and Project Substation, then used HHDT and MHDT.

Offroad Equipment

Phase 1, 2, and 3 equipment for Lithium Ion and Iron Flow Batter option are respectively the same as Phase 1, 2 and 4 for Lithium Ion Batter Option as the activities are basically the same and number of worker trips are identical.

Key Energy
Construction Assumptions - Lithium Ion and Iron Flow Battery Option

Dust from Material Movement Soil assumed to be balanced onsite

Water Use

	Annual	Total		Annual	Total	
Phase 1 Total	88	176.2	acre/feet	28,740,058	57,414,946	gallons/year
Phase 2 Total	68	113.9	acre/feet	22,288,208	37,114,429	gallons/year
Phase 3 Total	171	342	acre/feet	55,720,521	111,441,042	gallons/year

325,851 gallons/acre foot

Note: Water usage modeled under operational activities for ease of modeling.

Key Energy
Operational Emissions Assumptions - Both Options

CalEEMod Defaults are assumed for modeling purposes unless specifically discussed in the Operational Assumptions below.

Mobile Sources 2 workers, 1 day per month.

Typical:	1	vehicle (2 workers) per week	
	4	one-way trips per vehicle/day	
	4	one-way trips per day	
	5.333333	trips/day/ksf	284 Total Trips/year
	204	one-way trips per year	
Annual Maintenance:	8	vehicles (8 workers) 2 days per year	
	16	one-way trips per vehicle/day	
	16	one-way trips per day	
	21.33333		
	80	one-way trips per year	

Notes:

1 All trips assumed to be Non-Res, commercial work (ie coming from their place of employment to the job site)

2 All trips are assumed to be primary trips

3 Only modeled annual maintenance; Emissions for GHGs determined outside CalEEMod

4 Fleet Mix Assumes 100% Light Utility Vehicles (vehicles weighing less than 8,500 lbs) which is MDV in EMFAC

Area Sources AC only Landscaping is not included as part of the project.

Energy Use Default CalEEMod, No Natural Gas

Water/Wastewater Fire water or landscaping. Negligible annual use. No Wastewater generation

1008 gal/yr Water usage for O&M building[1]

Note: Construction water modeled in Operational phase to determine GHG emissions from water use.

1 Rincon 2023. Water Supply Assessment

Key Energy
Operational Emissions Assumptions - Both Options

Solid Waste No new solid waste generation activities.

Notes: Facility is operated remotely

Key Energy
Air Quality Emissions - Lithium Ion Battery - Annual Unmitigated

Estimated Construction Air Pollutant Emissions

	Estimated Construction Emissions (tons/year)					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
2024	1	6	7	<1	<1	<1
2025	<1	4	5	<1	<1	<1
2026	1	4	5	<1	<1	<1
2027	1	5	5	<1	<1	<1
2028	<1	4	5	<1	<1	<1
2029	<1	4	4	<1	<1	<1
Decommissioning	<1	4	6	<1	<1	<1
Max Annual	**1**	**6**	**7**	**<1**	**<1**	**<1**
Max Revolving 12 Month Period	**1**	**6**	**7**	**<1**	**<1**	**<1**
SJVAPCD thresholds	*10*	*10*	*100*	*27*	*15*	*15*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Estimated Operational Air Pollutant Emissions

	Estimated Operational Emissions (tons/year)					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Mobile	1.15E-03	1.15E-03	5.45E-03	1.05E-03	1.15E-03	1.05E-03
Area Source	2.00E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Energy	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total	**0.02115**	**0.00115**	**0.00545**	**0.00105**	**0.00115**	**0.00105**
VCAPCD	*10*	*10*	*100*	*27*	*15*	*15*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Key Energy
Air Quality Emissions - Lithium Ion Battery - Daily Unmitigated

Estimated Construction Air Pollutant Emissions

	Estimated Construction Emissions (lbs/day)					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Phase 1	10	87	97	<1	12	7
Phase 2	5	33	46	<1	2	1
Phase 3	4	39	46	<1	2	1
Phase 4	4	36	50	<1	2	1
-						
-						
Decommissioning	3	28	49	<1	4	1
Max Daily	**10**	**87**	**97**	**0**	**12**	**7**
SJVAPCD thresholds	*100*	*100*	*100*	*100*	*100*	*100*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Estimated Operational Air Pollutant Emissions

	Estimated Operational Emissions (lbs/day)					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Mobile	8.00E-02	9.00E-02	1.03E+00	0.00E+00	8.00E-02	1.00E-02
Area Source	9.00E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Energy	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total	**0.170**	**0.090**	**1.030**	**0.000**	**0.080**	**0.010**
VCAPCD	*100*	*100*	*100*	*100*	*100*	*100*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Key Energy
Air Quality Emissions - Lithium Ion Battery with Iron Flow- Annual Unmitigated

Estimated Construction Air Pollutant Emissions

	Estimated Construction Emissions (tons/year)					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
2024	1	5	6	<1	<1	<1
2025	1	5	6	<1	<1	<1
2026	<1	4	5	<1	<1	<1
2027	<1	4	5	<1	<1	<1
2028	<1	5	5	<1	<1	<1
2029	<1	2	2	<1	<1	<1
Decommissioning	<1	4	6	<1	<1	<1
Max Annual	**1**	**5**	**6**	**<1**	**<1**	**<1**
Max Revolving 12 Month Period	**1**	**5**	**6**	**<1**	**<1**	**<1**
SJVAPCD thresholds	*10*	*10*	*100*	*27*	*15*	*15*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Estimated Operational Air Pollutant Emissions

	Estimated Operational Emissions (tons/year)					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Phase 1	1.15E-03	1.15E-03	5.45E-03	1.05E-03	1.15E-03	1.05E-03
Phase 2	2.00E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phase 3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total	**0.02115**	**0.00115**	**0.00545**	**0.00105**	**0.00115**	**0.00105**
VCAPCD	*10*	*10*	*100*	*27*	*15*	*15*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Key Energy

Air Quality Emissions - Lithium Ion Battery with Iron Flow - Daily Unmitigated

Estimated Construction Air Pollutant Emissions

	Estimated Construction Emissions (lbs/day)					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Phase 1	10	86	96	<1	12	7
Phase 2	4	32	48	<1	2	1
Phase 3	4	38	50	<1	2	1
-						
-						
-						
Decommissioning	3	28	49	<1	4	1
Max Daily	**10**	**86**	**96**	**<1**	**12**	**7**
SJVAPCD thresholds	*100*	*100*	*100*	*100*	*100*	*100*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Estimated Operational Air Pollutant Emissions

	Estimated Operational Emissions (lbs/day)					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Phase 1	8.00E-02	9.00E-02	1.03E+00	0.00E+00	8.00E-02	1.00E-02
Phase 2	9.00E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phase 3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total	**0.170**	**0.090**	**1.030**	**0.000**	**0.080**	**0.010**
VCAPCD	*100*	*100*	*100*	*100*	*100*	*100*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Key Energy
Litium Ion Battery Option - Construction AQ Summary

Maximum Daily Construction Emissions (lbs/day)

Phase 1	Year	*ROG*	*NOx*	*CO*	*SO_2*	*PM10E*	*PM10D*	*PM10T*	*PM2.5E*	*PM2.5D*	*PM2.5T*
Site Preparation	2024	3.57	30.52	44.33	0.07	1.48	0.65	2.13	1.36	0.08	1.44
Project Substation Site Prep	2024	4.9	48.42	43.3	0.07	2.09	6.96	9.05	1.93	3.54	5.47
Grading	2024	4.29	35.22	49.23	0.08	1.71	0.65	2.36	1.57	0.08	1.65
Project Substation Site Grading	2024	5.5	52.12	47.4	0.08	2.28	6.96	9.24	2.1	3.54	5.64
Energy Storage Enclosure Installation	2024	4.19	34.51	44.58	0.1	1.08	0.54	1.62	1	0.16	1.15
Project substation installation	2024	6.89	74.01	72.04	0.21	2.5	0.91	3.41	2.32	0.32	2.64
Gen-Tie Foundation and Tower Erection	2024	1.04	8.81	8.35	0.02	0.36	0.17	0.36	0.33	0.04	0.33
Gen-Tie Strininging and Pulling	2024	0.36	2.8	3.69	0.01	0.13	0.17	0.2	0.12	0.04	0.12
Architectural Coating (O&M Building)	2024	0.65	0.91	1.15	0	0.03	0	0.03	0.03	0	0.03
Max Phase 1		9.79	87.34	96.63	0.21	3.99	7.61	11.6	3.67	3.62	7.29
Phase 2											
Site Preparation	2025	3	26.2	40.8	0.06	1.28	0.55	1.83	1.18	0.06	1.24
Grading	2025	3.68	30.8	45.6	0.07	1.48	0.55	2.03	1.36	0.06	1.42
Energy Storage Enclosure Installation	2025	4.03	33.43	40.49	0.11	1.02	0.5	1.52	0.95	0.16	1.1
	2026	3.86	32.11	39.57	0.11	0.95	0.5	1.45	0.88	0.16	1.03
Architectural Coating (O&M Building)	2026	0.65	0.91	1.15	0	0.03	0	0.03	0.03	0	0.03
Max Phase 2		4.51	33.43	45.6	0.11	1.48	0.55	2.03	1.36	0.16	1.42
Phase 3											
Site Preparation	2026	1.99	18.3	28.2	0.04	0.84	0.55	1.39	0.77	0.06	0.83
Grading	2026	3.45	28.1	45.5	0.07	1.3	0.55	1.85	1.2	0.06	1.26
Energy Storage Enclosure Installation	2026	4.22	39.26	43.1	0.17	1.05	0.95	2	0.98	0.32	1.3
	2027	4.08	37.69	41.99	0.17	0.99	0.95	1.94	0.92	0.32	1.24
	2028	2.61	22.9	29.8	0.11	0.71	0.95	1.16	0.65	0.32	0.65
Architectural Coating (O&M Building)	2028	0.65	0.91	1.15	0	0.03	0	0.03	0.03	0	0.03
Max Phase 3		4.22	39.26	45.5	0.17	1.3	0.95	2	1.2	0.32	1.3
Phase 4											
Site Preparation	2028	2.54	20.1	40.9	0.06	0.89	0.55	1.44	0.82	0.06	0.88
Grading	2028	3.59	26.46	49.53	0.08	1.08	0.72	1.8	1	0.1	1.1
Energy Storage Enclosure Installation	2028	3.89	36.13	41.11	0.17	0.92	0.95	1.87	0.86	0.32	1.18
	2029	3.64	34.77	40.21	0.17	0.87	0.95	1.82	0.82	0.32	1.14
Architectural Coating (O&M Building)	2029	0.65	0.91	1.15	0	0.03	0	0.03	0.03	0	0.03
Max Phase 4		4.29	36.13	49.53	0.17	1.08	0.95	1.87	1	0.32	1.18

Key Energy
Litium Ion Battery Option - Construction AQ Summary

Maximum Annual Construction Emissions (tons/yr - AQ; MT/yr - GHG)

Phase 1	Year	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Site Preparation	2024	0.02	0.15	0.22	0	0.01	0	0.01	0.01	0	0.01
Project Substation Site Prep	2024	0.05	0.48	0.43	0	0.02	0.07	0.09	0.02	0.04	0.06
Grading	2024	0.04	0.35	0.5	0	0.02	0.01	0.03	0.02	0	0.02
Project Substation Site Grading	2024	0.03	0.26	0.24	0	0.01	0.03	0.04	0.01	0.02	0.03
Energy Storage Enclosure Installation	2024	0.25	2.13	2.61	0	0.07	0.04	0.1	0.07	0.01	0.08
Project substation installation	2024	0.27	2.95	2.82	0	0.1	0.03	0.13	0.09	0.01	0.1
Gen-Tie Foundation and Tower Erection	2024	0	0.02	0.03	0	0	0	0	0	0	0
Gen-Tie Strininging and Pulling	2024	0	0.02	0.04	0	0	0	0	0	0	0
Architectural Coating (O&M Building)	2024	0.01	0.02	0.02	0	0	0	0	0	0	0
Watering											
Max Sub-phase - Phase 1		**0.27**	**2.95**	**2.82**	**0**	**0.1**	**0.07**	**0.13**	**0.09**	**0.04**	**0.1**
Phase 2											
Site Preparation	2025	0.01	0.13	0.21	0	0.01	0	0.01	0.01	0	0.01
Grading	2025	0.04	0.32	0.48	0	0.01	0.01	0.02	0.01	0	0.01
Energy Storage Enclosure Installation	2025	0.41	3.46	4.06	0.02	0.1	0.05	0.16	0.1	0.02	0.12
	2026	0.23	1.93	2.32	0	0.06	0.03	0.08	0.06	0.01	0.07
Architectural Coating (O&M Building)	2026	0.01	0.02	0.02	0	0	0	0	0	0	0
Watering											
Max Sub-phase - Phase 2		**0.41**	**3.46**	**4.06**	**0.02**	**0.1**	**0.05**	**0.16**	**0.1**	**0.02**	**0.12**
Phase 3											
Site Preparation	2026	0.02	0.19	0.3	0	0.01	0.01	0.02	0.01	0	0.01
Grading	2026	0.08	0.59	0.96	0	0.03	0.01	0.04	0.02	0	0.02
Energy Storage Enclosure Installation	2026	0.16	1.54	1.65	0	0.04	0.03	0.07	0.04	0.01	0.05
	2027	0.51	4.88	5.26	0.02	0.13	0.12	0.25	0.12	0.04	0.16
	2028	0.08	0.72	0.8	0	0.01	0.02	0.03	0.01	0.01	0.02
Architectural Coating (O&M Building)	2028	0.01	0.02	0.02	0	0	0	0	0	0	0
Watering											
Max Sub-phase - Phase 3		**0.51**	**4.88**	**5.26**	**0.02**	**0.13**	**0.12**	**0.25**	**0.12**	**0.04**	**0.16**
Phase 4											
Site Preparation	2028	0.03	0.22	0.44	0	0.01	0.01	0.02	0.01	0	0.01
Grading	2028	0.07	0.52	0.98	0	0.02	0.01	0.03	0.02	0	0.02
Energy Storage Enclosure Installation	2028	0.3	2.89	3.19	0.01	0.08	0.08	0.16	0.07	0.03	0.09
	2029	0.39	3.76	4.24	0.02	0.09	0.1	0.2	0.09	0.03	0.13
Architectural Coating (O&M Building)	2029	0.01	0.02	0.02	0	0	0	0	0	0	0
Watering											
Max Sub-phase - Phase 4		**0.39**	**3.76**	**4.24**	**0.02**	**0.09**	**0.1**	**0.2**	**0.09**	**0.03**	**0.13**

Key Energy
Litium Ion Battery Option - Construction AQ Summary

Max by Year (Tons/yr - AQ; MT/yr GHG)										
2024	0.67	6.38	6.91	0	0.23	0.18	0.4	0.22	0.08	0.3
2025	0.46	3.91	4.75	0.02	0.12	0.06	0.19	0.12	0.02	0.14
2026	0.5	4.27	5.25	0	0.14	0.08	0.21	0.13	0.02	0.15
2027	0.51	4.88	5.26	0.02	0.13	0.12	0.25	0.12	0.04	0.16
2028	0.49	4.37	5.43	0.01	0.12	0.12	0.24	0.11	0.04	0.14
2029	0.4	3.78	4.26	0.02	0.09	0.1	0.2	0.09	0.03	0.13
8/2024 - 8/2025	0.46	4.59	4.93	0.01	0.15	0.06	0.21	0.14	0.02	0.16
3/2025 - 3/2026	0.525	4.425	5.22	0.02	0.13	0.065	0.2	0.13	0.025	0.155
Max 12 Month	0.67	6.38	6.91	0.02	0.23	0.18	0.4	0.22	0.08	0.3
Max 12 Month w/Decommissioning	0.67	6.38	6.91	0.02	0.23	0.41	0.48	0.22	0.08	0.3

Key Energy
Litium Ion Battery Option - Construction GHG Summary

Maximum Daily Construction Emissions (lbs/day)

Phase 1	Year	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Site Preparation	2024	0	7900	7900	0.3	0.21	0.13	7973
Project Substation Site Prep	2024	0	8679	8679	0.31	0.33	0.15	8786
Grading	2024	0	8605	8605	0.33	0.22	0.13	8679
Project Substation Site Grading	2024	0	9245	9245	0.33	0.34	0.15	9354
Energy Storage Enclosure Installation	2024	0	14862	14862	0.43	1.19	29.41	15257
Project substation installation	2024	0	26600	26600	0.7	2.26	45.6	27336
Gen-Tie Foundation and Tower Erection	2024	0	2327	2327	0.07	0.3	0.19	2416
Gen-Tie Strininging and Pulling	2024	0	2327	2327	0.05	0.3	0.19	2416
Architectural Coating (O&M Building)	2024	0	134	134	0.01	0	0.07	134
Max Phase 1		0	26600	26600	0.7	2.26	45.6	27336
Phase 2								
Site Preparation	2025	0	6419	6419	0.26	0.15	0.1	6441
Grading	2025	0	7124	7124	0.29	0.15	0.1	7148
Energy Storage Enclosure Installation	2025	0	14251	14251	0.39	1.17	25.95	14636
	2026	0	14084	14084	0.38	1.17	23.05	14465
Architectural Coating (O&M Building)	2026	0	134	134	0.01	0	0.07	134
Max Phase 2		0	14251	14251	0.39	1.17	25.95	14636
Phase 3								
Site Preparation	2026	0	4413	4413	0.18	0.21	4.53	4429
Grading	2026	0	7123	7123	0.29	0.21	4.53	7148
Energy Storage Enclosure Installation	2026	0	21568	21568	0.51	2.25	42.38	22294
	2027	0	21223	21223	0.51	2.14	37.39	21910
	2028	0	15119	15119	0.28	2.1	0.86	15754
Architectural Coating (O&M Building)	2028	0	134	134	0.01	0	0.07	134
Max Phase 3		0	21568	21568	0.51	2.25	42.38	22294
Phase 4								
Site Preparation	2028	0	6423	6423	0.26	0.28	0.13	6445
Grading	2028	0	9349	9349	0.33	0.34	5.26	9461
Energy Storage Enclosure Installation	2028	0	20839	20839	0.5	2.14	33.02	21522
	2029	0	20433	20433	0.5	2.04	29.19	21080
Architectural Coating (O&M Building)	2029	0	134	134	0.01	0	0.07	134
Max Phase 4		0	20839	20839	0.51	2.14	33.02	21522

Key Energy
Litium Ion Battery Option - Construction GHG Summary

Maximum Annual Construction Emissions (tons/yr - AQ;

Phase 1	Year	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Site Preparation	2024	0	35.95	35.95	0	0	0.01	36.28
Project Substation Site Prep	2024	0	78.83	78.83	0	0	0.03	79.88
Grading	2024	0	78.29	78.29	0	0	0.02	78.95
Project Substation Site Grading	2024	0	41.94	41.94	0	0	0.01	42.54
Energy Storage Enclosure Installation	2024	0	832	832	0.03	0.06	0.72	854
Project substation installation	2024	0	962.3	962.3	0.03	0.08	0.71	987.9
Gen-Tie Foundation and Tower Erection	2024	0	9.22	9.22	0	0	0	9.44
Gen-Tie Strininging and Pulling	2024	0	13.14	13.14	0	0	0.02	13.57
Architectural Coating (O&M Building)	2024	0	2.32	2.32	0	0	0	2.33
Watering								3.74
Max Sub-phase - Phase 1		**0**	**962.3**	**962.3**	**0.03**	**0.08**	**0.72**	**987.9**
Phase 2								
Site Preparation	2025	0	34.86	34.86	0	0	0	35.18
Grading	2025	0	76.12	76.12	0	0	0.02	76.75
Energy Storage Enclosure Installation	2025	0	1337	1337	0.04	0.11	1.06	1373
	2026	0	770.2	770.2	0.02	0.06	0.55	790.4
Architectural Coating (O&M Building)	2026	0	2.32	2.32	0	0	0	2.33
Watering								3.86
Max Sub-phase - Phase 2		**0**	**1337**	**1337**	**0.04**	**0.11**	**1.06**	**1373**
Phase 3								
Site Preparation	2026	0	54.96	54.96	0	0	0.02	55.73
Grading	2026	0	158.92	158.92	0.01	0	0.03	161.15
Energy Storage Enclosure Installation	2026	0	770.9	770.9	0.02	0.08	0.66	795.9
	2027	0	2494	2494	0.07	0.26	1.91	2572
	2028	0	375.5	375.5	0	0.04	0.26	388
Architectural Coating (O&M Building)	2028	0	2.32	2.32	0	0	0	2.33
Watering								12.9
Max Sub-phase - Phase 3		**0**	**2494**	**2494**	**0.07**	**0.26**	**1.91**	**2572**
Phase 4								
Site Preparation	2028	0	77.91	77.91	0	0	0.02	78.9
Grading	2028	0	168.3	168.3	0.01	0	0.05	170.9
Energy Storage Enclosure Installation	2028	0	1516	1516	0.04	0.16	1.05	1564
	2029	0	2012	2012	0.04	0.2	1.24	2075
Architectural Coating (O&M Building)	2029	0	2.32	2.32	0	0	0	2.33
Watering								20.7
Max Sub-phase - Phase 4		**0**	**2012**	**2012**	**0.04**	**0.2**	**1.24**	**2075**

Key Energy
Litium Ion Battery Option - Construction GHG Summary

Max by Year (Tons/yr - AQ; MT/yr GHG)							
2024	0	2053.99	2053.99	0.06	0.14	1.52	2104.89
2025	0	1447.98	1447.98	0.04	0.11	1.08	1484.93
2026	0	1757.3	1757.3	0.05	0.14	1.26	1805.51
2027	0	2494	2494	0.07	0.26	1.91	2572
2028	0	2140.03	2140.03	0.05	0.2	1.38	2204.13
2029	0	2014.32	2014.32	0.04	0.2	1.24	2077.33
8/2024 - 8/2025	0.00	1541.31	1541.31	0.04	0.12	1.10	1580.51
3/2025 - 3/2026	0	1722.1	1722.1	0.05	0.14	1.335	1768.2
Max 12 Month	0	2494	2494	0.07	0.26	1.91	2572
Max 12 Month w/Decommissioning	0	2494	2494	0.07	0.26	1.91	2572

Key Energy
Litium Ion and Iron Flow Battery Option - Construction AQ Summary

Maximum Daily Construction Emissions (lbs/day)

Phase 1	Year	*ROG*	*NOx*	*CO*	*SO_2*	*PM10E*	*PM10D*	*PM10T*	*PM2.5E*	*PM2.5D*	*PM2.5T*
Site Preparation	2024	3.57	30.52	44.33	0.07	1.48	0.65	2.13	1.36	0.08	1.44
Project Substation Site Prep	2024	4.9	48.42	43.3	0.07	2.09	6.96	9.05	1.93	3.54	5.47
Grading	2024	4.29	35.22	49.23	0.08	1.71	0.65	2.36	1.57	0.08	1.65
Project Substation Site Grading	2024	5.48	51.15	47.24	0.08	2.27	6.89	9.16	2.09	3.52	5.61
Energy Storage Enclosure Installation	2024	4.29	35.51	45.38	0.11	1.12	0.54	1.66	1.04	0.16	1.19
	2025	4.07	33.65	43.86	0.11	1.02	0.54	1.56	0.95	0.16	1.1
Project substation installation	2025	6.38	68.44	68.85	0.21	2.18	0.91	3.09	2.02	0.32	2.34
Gen-Tie Foundation and Tower Erection	2025	1.32	10.51	11.7	0.03	0.35	0.17	0.52	0.33	0.04	0.37
Gen-Tie Strininging and Pulling	2025	0.61	4.81	6.88	0.02	0.14	0.17	0.31	0.13	0.04	0.17
Architectural Coating (O&M Building)	2025	0.65	0.89	1.24	0	0.03	0	0.03	0.03	0	0.03
Max Phase 1		**9.77**	**86.37**	**96.47**	**0.21**	**3.98**	**7.61**	**11.52**	**3.66**	**3.62**	**7.26**
Phase 2											
Site Preparation	2025	3.31	27.36	43.37	0.07	1.3	0.64	1.94	1.2	0.08	1.28
Grading	2025	3.99	31.96	48.17	0.08	1.5	0.64	2.14	1.38	0.08	1.46
	2026	3.74	29.21	47.87	0.08	1.32	0.64	1.96	1.22	0.08	1.3
Energy Storage Enclosure Installation	2026	3.86	32.11	39.57	0.11	0.95	0.5	1.45	0.88	0.16	1.03
	2027	3.73	30.97	38.74	0.11	0.89	0.5	1.39	0.82	0.16	0.97
Architectural Coating (O&M Building)	2027	0.65	0.89	1.24	0	0.03	0	0.03	0.03	0	0.03
Max Phase 2		**4.38**	**32.11**	**48.17**	**0.11**	**1.5**	**0.64**	**2.14**	**1.38**	**0.16**	**1.46**
Phase 3											
Site Preparation	2027	3.13	23.58	44.89	0.07	1.02	0.72	1.74	0.94	0.1	1.04
Grading	2027	3.77	28.08	49.69	0.08	1.2	0.72	1.92	1.11	0.1	1.21
Energy Storage Enclosure Installation	2027	4.08	37.69	41.99	0.17	0.99	0.95	1.94	0.92	0.32	1.24
	2028	3.89	36.13	41.11	0.17	0.92	0.95	1.87	0.86	0.32	1.18
	2029	3.64	34.77	40.21	0.17	0.87	0.95	1.82	0.82	0.32	1.14
Architectural Coating (O&M Building)	2029	0.65	0.89	1.24	0	0.03	0	0.03	0.03	0	0.03
Max Phase 3		**4.29**	**37.69**	**49.69**	**0.17**	**1.2**	**0.95**	**1.94**	**1.11**	**0.32**	**1.24**

Key Energy
Litium Ion and Iron Flow Battery Option - Construction AQ Summary

Maximum Annual Construction Emissions (tons/yr - AQ; MT/yr - GHG)

Phase 1	Year	*ROG*	*NOx*	*CO*	*SO_2*	*PM10E*	*PM10D*	*PM10T*	*PM2.5E*	*PM2.5D*	*PM2.5T*
Site Preparation	2024	0.03	0.3	0.45	0	0.01	0.01	0.02	0.01	0	0.01
Project Substation Site Prep	2024	0.05	0.48	0.43	0	0.02	0.07	0.09	0.02	0.04	0.06
Grading	2024	0.09	0.71	0.98	0	0.03	0.01	0.04	0.03	0	0.03
Project Substation Site Grading	2024	0.03	0.25	0.24	0	0.01	0.03	0.04	0.01	0.02	0.03
Energy Storage Enclosure Installation	2024	0.42	3.57	4.31	0.02	0.11	0.05	0.16	0.1	0.02	0.12
0	2025	0.26	2.21	2.73	0	0.07	0.04	0.1	0.07	0.01	0.08
Project substation installation	2025	0.25	2.73	2.7	0	0.09	0.03	0.12	0.08	0.01	0.09
Gen-Tie Foundation and Tower Erection	2025	0	0.02	0.03	0	0	0	0	0	0	0
Gen-Tie Strininging and Pulling	2025	0	0.02	0.04	0	0	0	0	0	0	0
Architectural Coating (O&M Building)	2025	0.01	0.01	0.02	0	0	0	0	0	0	0
Watering	Total										
Max Sub-phase - Phase 1		**0.42**	**3.57**	**4.31**	**0.02**	**0.11**	**0.07**	**0.16**	**0.1**	**0.04**	**0.12**
Phase 2											
Site Preparation	2025	0.01	0.13	0.21	0	0.01	0	0.01	0.01	0	0.01
Grading	2025	0.02	0.22	0.33	0	0.01	0	0.01	0.01	0	0.01
	2026	0.01	0.09	0.16	0	0	0	0	0	0	0
Energy Storage Enclosure Installation	2026	0.48	4.05	4.85	0.02	0.12	0.06	0.19	0.11	0.02	0.13
	2027	0.22	1.79	2.17	0	0.05	0.02	0.07	0.05	0.01	0.06
Architectural Coating (O&M Building)	2027	0.01	0.01	0.02	0	0	0	0	0	0	0
Watering											
Max Sub-phase - Phase 2		**0.48**	**4.05**	**4.85**	**0.02**	**0.12**	**0.06**	**0.19**	**0.11**	**0.02**	**0.13**
Phase 3											
Site Preparation	2027	0.03	0.24	0.44	0	0.01	0.01	0.02	0.01	0	0.01
Grading	2027	0.08	0.55	0.98	0	0.02	0.01	0.03	0.02	0	0.02
Energy Storage Enclosure Installation	2027	0.16	1.59	1.71	0	0.04	0.04	0.07	0.04	0.01	0.05
	2028	0.49	4.68	5.16	0.02	0.12	0.12	0.24	0.12	0.04	0.16
	2029	0.2	1.96	2.19	0.01	0.05	0.06	0.11	0.04	0.02	0.06
Architectural Coating (O&M Building)	2029	0.01	0.01	0.02	0	0	0	0	0	0	0
Watering											
Max Sub-phase - Phase 3		**0.49**	**4.68**	**5.16**	**0.02**	**0.12**	**0.12**	**0.24**	**0.12**	**0.04**	**0.16**

Key Energy
Litium Ion and Iron Flow Battery Option - Construction AQ Summary

Max by Year (Tons/yr - AQ; MT/yr GHG)	*ROG*	*NOx*	*CO*	*SO_2*	*PM10E*	*PM10D*	*PM10T*	*PM2.5E*	*PM2.5D*	*PM2.5T*
2024	0.62	5.31	6.41	0.02	0.18	0.17	0.35	0.17	0.08	0.25
2025	0.55	5.34	6.06	0	0.18	0.07	0.24	0.17	0.02	0.19
2026	0.49	4.14	5.01	0.02	0.12	0.06	0.19	0.11	0.02	0.13
2027	0.49	4.17	5.3	0	0.12	0.08	0.19	0.12	0.02	0.14
2028	0.49	4.68	5.16	0.02	0.12	0.12	0.24	0.12	0.04	0.16
2029	0.2	1.96	2.19	0.01	0.05	0.06	0.11	0.04	0.02	0.06
Max 12 Month Period	0.62	5.34	6.41	0.02	0.18	0.17	0.35	0.17	0.08	0.25
Max 12 month w/ Decommissioning	0.62	5.34	6.41	0.02	0.18	0.41	0.48	0.17	0.08	0.25

Key Energy
Litium Ion and Iron Flow Battery Option - Construction GHG Summary

Maximum Daily Construction Emissions (lbs/day)

Phase 1	Year	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Site Preparation	2024	0	7900	7900	0.3	0.21	0.13	7973
Project Substation Site Prep	2024	0	8679	8679	0.31	0.33	0.15	8786
Grading	2024	0	8605	8605	0.33	0.22	0.13	8679
Project Substation Site Grading	2024	0	8403	8403	0.32	0.2	0.09	8473
Energy Storage Enclosure Installation	2024	0	15110	15110	0.44	1.19	29.41	15506
	2025	0	14931	14931	0.39	1.19	28.57	15325
Project substation installation	2025	0	26315	26315	0.68	2.26	45.04	27049
Gen-Tie Foundation and Tower Erection	2025	0	3995	3995	0.12	0.3	0.18	4086
Gen-Tie Strininging and Pulling	2025	0	2828	2828	0.07	0.29	0.18	2915
Architectural Coating (O&M Building)	2025	0	151.8	151.8	0.01	0	0.07	152.1
Max Phase 1		**0**	**26315**	**26315**	**0.68**	**2.26**	**45.04**	**27049**
Phase 2								
Site Preparation	2025	0	7674	7674	0.3	0.2	0.1	7742
Grading	2025	0	8379	8379	0.33	0.21	0.1	8449
	2026	0	8353	8353	0.33	0.21	0.09	8423
Energy Storage Enclosure Installation	2026	0	14084	14084	0.38	1.17	23.05	14465
	2027	0	13899	13899	0.38	1.11	20.37	14261
Architectural Coating (O&M Building)	2027	0	151.8	151.8	0.01	0	0.07	152.1
Max Phase 2		**0**	**14084**	**14084**	**0.39**	**1.17**	**23.05**	**14465**
Phase 3								
Site Preparation	2027	0	8697	8697	0.3	0.33	5.77	8807
Grading	2027	0	9402	9402	0.33	0.34	5.77	9514
Energy Storage Enclosure Installation	2027	0	21223	21223	0.51	2.14	37.39	21910
	2028	0	20839	20839	0.5	2.14	33.02	21522
	2029	0	20433	20433	0.5	2.04	29.19	21080
Architectural Coating (O&M Building)	2029	0	151.8	151.8	0.01	0	0.07	152.1
Max Phase 3		**0**	**21223**	**21223**	**0.51**	**2.14**	**37.39**	**21910**

Key Energy

Litium Ion and Iron Flow Battery Option - Construction GHG Summary

Maximum Annual Construction Emissions (tons/yr - AQ;

Phase 1	Year	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Site Preparation	2024	0	71.89	71.89	0	0	0.02	72.55
Project Substation Site Prep	2024	0	78.83	78.83	0	0	0.03	79.88
Grading	2024	0	156.4	156.4	0.01	0	0.04	158.3
Project Substation Site Grading	2024	0	38.13	38.13	0	0	0	38.54
Energy Storage Enclosure Installation	2024	0	1374	1374	0.04	0.11	1.16	1409
0	2025	0	885	885	0.02	0.06	0.74	907
Project substation installation	2025	0	951.6	951.6	0.03	0.08	0.7	977.1
Gen-Tie Foundation and Tower Erection	2025	0	9.11	9.11	0	0	0	9.32
Gen-Tie Strininging and Pulling	2025	0	12.93	12.93	0	0	0.02	13.34
Architectural Coating (O&M Building)	2025	0	2.31	2.31	0	0	0	2.33
Watering	Total							13
Max Sub-phase - Phase 1		**0**	**1374**	**1374**	**0.04**	**0.11**	**1.16**	**1422**
Phase 2								
Site Preparation	2025	0	34.86	34.86	0	0	0	35.18
Grading	2025	0	51.72	51.72	0	0	0.01	52.11
	2026	0	24.43	24.43	0	0	0	24.56
Energy Storage Enclosure Installation	2026	0	1611	1611	0.05	0.14	1.15	1654
	2027	0	723.3	723.3	0.02	0.05	0.46	741.5
Architectural Coating (O&M Building)	2027	0	2.31	2.31	0	0	0	2.33
Watering								8.39
Max Sub-phase - Phase 2		**0**	**1611**	**1611**	**0.05**	**0.14**	**1.15**	**1662.39**
Phase 3								
Site Preparation	2027	0	78.42	78.42	0	0	0.02	79.42
Grading	2027	0	169.2	169.2	0.01	0	0.05	171.8
Energy Storage Enclosure Installation	2027	0	812.8	812.8	0.02	0.08	0.62	838.9
	2028	0	2456	2456	0.07	0.26	1.69	2533
	2029	0	1045.6	1045.6	0.02	0.1	0.65	1078.8
Architectural Coating (O&M Building)	2029	0	2.31	2.31	0	0	0	2.33
Watering								25.2
Max Sub-phase - Phase 3		**0**	**2456**	**2456**	**0.07**	**0.26**	**1.69**	**2558.2**

Key Energy

Litium Ion and Iron Flow Battery Option - Construction GHG Summary

Max by Year (Tons/yr - AQ; MT/yr GHG)	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
2024	0	1719.25	1719.25	0.05	0.11	1.25	1758.27
2025	0	1947.53	1947.53	0.05	0.14	1.47	1996.38
2026	0	1635.43	1635.43	0.05	0.14	1.15	1678.56
2027	0	1783.72	1783.72	0.05	0.13	1.15	1831.62
2028	0	2456	2456	0.07	0.26	1.69	2533
2029	0	1045.6	1045.6	0.02	0.1	0.65	1078.8
Max 12 Month Period	0	2456	2456	0.07	0.26	1.69	2533
Max 12 month w/ Decommissioning	0	2456	2456	0.07	0.26	1.69	2533

Key Energy
Construction Decommissioning Emissions Summary

Maximum Daily Construction Emissions (lbs/day)

	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Decommissioning	3.39	28.09	48.98	0.19	0.58	3.11	3.68	0.54	0.55	1.08	0	18510	18510	0.47	1.48	0.35	18959

Maximum Annual AQ Construction Emissions (tons/year - AQ, MT/yr - GHG)

		ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Decommissioning	2055	0.44	3.62	6.22	0.02	0.07	0.41	0.48	0.07	0.07	0.15	0	2164	2164	0.05	0.17	0.02	2218
	2056	0.44	3.62	6.22	0.02	0.07	0.41	0.48	0.07	0.07	0.15	0	2164	2164	0.05	0.17	0.02	2218
	2057	0.44	3.62	6.22	0.02	0.07	0.41	0.48	0.07	0.07	0.15	0	2164	2164	0.05	0.17	0.02	2218
	2058	0.44	3.62	6.22	0.02	0.07	0.41	0.48	0.07	0.07	0.15	0	2164	2164	0.05	0.17	0.02	2218

Maximum Annual GHG Construction Emissions (MTs/year)

	CO_2e	LIB	LIBwIF
watering	46.59		46.59
Decommissioning	8872		
Total:	8918.59		

Key Energy
Lithium Ion Battery Option - Operational Emissions Compiled

Maximum Daily Operational Emissions (lbs/day)

	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Mobile (Monthly)	0.02	0.02	0.22	0	0	0.02	0.02	0	0	0	0	60.1	60.1	0	0	0.18	60.7
Mobile (Annually)	0.06	0.07	0.81	0	0	0.06	0.06	0	0.01	0.01	0	235	235	0.01	0.01	0.67	238
Mobile (total)	0.08	0.09	1.03	0	0	0.08	0.08	0	0.01	0.01	0	295.1	295.1	0.01	0.01	0.85	298.7
Area	0.09	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Energy	0	0	0	0	0	0	0	0	0	0	0	35.4	35.4	0.01	0	0	35.8
Total	0.17	0.09	1.03	0	0	0.08	0.08	0	0.01	0.01	0	330.5	330.5	0.02	0.01	0.85	334.5

Maximum Annual AQ Operational Emissions (tons/year - AQ, MT/yr - GHG)

	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Mobile	1.15E-03	1.15E-03	5.45E-03	1.05E-03	1.05E-03	1.15E-03	1.15E-03	1.05E-03	1.05E-03	1.05E-03	0.00E+00	1.80E+00	1.80E+00	1.05E-03	1.05E-03	2.53E-03	1.82E+00
Area	0.02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Energy	0	0	0	0	0	0	0	0	0	0	0	5.86	5.86	0	0	0	5.92

Mobile conversion to tons/year - Annual Maintenance Activity

	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
CalEEMod - tons/year	0.0049	0.0049	0.02	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0	6.65	6.65	0.0049	0.0049	0.01	6.72
CalEEMod - Trips/year	1043	1043	1043	1043	1043	1043	1043	1043	1043	1043	1043	1043	1043	1043	1043	1043	1043
tons/trip	4.7E-06	4.7E-06	1.92E-05	4.7E-06	4.7E-06	4.7E-06	4.7E-06	4.7E-06	4.7E-06	4.7E-06	0	0.006376	0.006376	4.7E-06	4.7E-06	9.59E-06	0.006443
Trips/year	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204
tons/year	9.58E-04	9.58E-04	3.91E-03	9.58E-04	9.58E-04	9.58E-04	9.58E-04	9.58E-04	9.58E-04	9.58E-04	0.00E+00	1.30E+00	1.30E+00	9.58E-04	9.58E-04	1.96E-03	1.31

**For emissions reported as "<0.005" modeled as 0.0049*

Mobile Conversion to tons/year - Annual Employee Trips (from Ops - LIBwIF)

	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
tons/year	1.92E-04	1.92E-04	1.53E-03	9.40E-05	9.40E-05	1.92E-04	1.92E-04	9.40E-05	9.40E-05	9.40E-05	0.00E+00	5.01E-01	5.01E-01	9.40E-05	9.40E-05	5.75E-04	5.04E-01

Key Energy
Lithium Ion Battery Option - Operational Emissions Compiled

Maximum Annual GHG Operational Emissions (MTs/year)

	CO_2e
Mobile	1.82
Area	0
Energy	5.92
Water	<1
Waste	0
Refrig.	<1
Total CalEEMod	7.74

Construction vs. Operational Water Emissions for Phase 1

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Land Use	**BCO_2**	**$NBCO_2$**	**CO_2T**	**CH_4**	**N_2O**	**R**	**CO_2e**
Daily, Summer (Max)							
Refrigerated Warehouse-No Rail	0	22.3	22.3	< 0.005	< 0.005		22.6
General Office Building	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.01
Unrefrigerated Warehouse-No Rail	0	0	0	0	0		0
Total	< 0.005	22.3	22.3	< 0.005	< 0.005		22.6
Daily, Winter (Max)							
Refrigerated Warehouse-No Rail	0	22.3	22.3	< 0.005	< 0.005		22.6
General Office Building	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.01
Unrefrigerated Warehouse-No Rail	0	0	0	0	0		0
Total	< 0.005	22.3	22.3	< 0.005	< 0.005		22.6
Annual							
Refrigerated Warehouse-No Rail	0	3.7	3.7	< 0.005	< 0.005		3.74
General Office Building	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005
Unrefrigerated Warehouse-No Rail	0	0	0	0	0		0
Total	< 0.005	3.7	3.7	< 0.005	< 0.005		3.74

Key Energy
Lithium Ion and Iron Flow Battery Option - Operational Emissions Compiled

Maximum Daily Operational Emissions (lbs/day)

	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Mobile (Annual)	0.06	0.07	0.81	0	0	0.06	0.06	0	0.01	0.01	0	235	235	0.01	0.01	0.67	238
Mobile (Monthly)	0.02	0.02	0.22	0	0	0.02	0.02	0	0	0	0	60.1	60.1	0	0	0.18	60.7
Mobile (total)	0.08	0.09	1.03	0	0	0.08	0.08	0	0.01	0.01	0	295.1	295.1	0.01	0.01	0.85	298.7
Area	0.09	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Energy	0	0	0	0	0	0	0	0	0	0	0	35.4	35.4	0.01	0	0	35.8
Total	0.17	0.09	1.03	0	0	0.08	0.08	0	0.01	0.01	0	330.5	330.5	0.02	0.01	0.85	334.5

Maximum Annual AQ Operational Emissions (tons/year - AQ, MT/yr - GHG)

	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Mobile	1.15E-03	1.15E-03	5.45E-03	1.05E-03	1.05E-03	1.15E-03	1.15E-03	1.05E-03	1.05E-03	1.05E-03	0.00E+00	1.80E+00	1.80E+00	1.05E-03	1.05E-03	2.53E-03	1.82E+00
Area	0.02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Energy	0	0	0	0	0	0	0	0	0	0	0	5.86	5.86	0	0	0	5.92

Mobile conversion to tons/year - Annual Maintenance Activity

	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
CalEEMod - tons/year	0.01	0.01	0.08	0.0049	0.0049	0.01	0.01	0.0049	0.0049	0.0049	0	26.1	26.1	0.0049	0.0049	0.03	26.3
CalEEMod - Trips/year	4171	4171	4171	4171	4171	4171	4171	4171	4171	4171	4171	4171	4171	4171	4171	4171	4171
tons/trip	2.4E-06	2.4E-06	1.92E-05	1.17E-06	1.17E-06	2.4E-06	2.4E-06	1.17E-06	1.17E-06	1.17E-06	0	0.006257	0.006257	1.17E-06	1.17E-06	7.19E-06	0.006305
Trips/year	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
tons/year	1.92E-04	1.92E-04	1.53E-03	9.40E-05	9.40E-05	1.92E-04	1.92E-04	9.40E-05	9.40E-05	9.40E-05	0.00E+00	5.01E-01	5.01E-01	9.40E-05	9.40E-05	5.75E-04	5.04E-01

**For emissions reported as "<0.005" modeled as 0.0049*

Mobile Conversion to tons/year - Monthly Employee Trips (from Ops - LIB)

	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
tons/year	9.58E-04	9.58E-04	3.91E-03	9.58E-04	9.58E-04	9.58E-04	9.58E-04	9.58E-04	9.58E-04	9.58E-04	0.00E+00	1.30E+00	1.30E+00	9.58E-04	9.58E-04	1.96E-03	1.31E+00

Key Energy
Lithium Ion and Iron Flow Battery Option - Operational Emissions Compiled

Maximum Annual GHG Operational Emissions (MTs/year)

	CO_2e
Mobile	1.82E+00
Area	0
Energy	5.92
Water	<1
Waste	0
Refrig.	<1
Total CalEEMod	7.74

Construction vs. Operational Water Emissions for Phase 1

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Land Use	**BCO_2**	**$NBCO_2$**	**CO_2T**	**CH_4**	**N_2O**	**R**	**CO_2e**
Daily, Summer (Max)							
Refrigerated Warehouse-No Rail	0	77.6	77.6	0.01	< 0.005		78.4
General Office Building	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.01
Unrefrigerated Warehouse-No Rail	0	0	0	0	0		0
Total	< 0.005	77.6	77.6	0.01	< 0.005		78.4
Daily, Winter (Max)							
Refrigerated Warehouse-No Rail	0	77.6	77.6	0.01	< 0.005		78.4
General Office Building	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.01
Unrefrigerated Warehouse-No Rail	0	0	0	0	0		0
Total	< 0.005	77.6	77.6	0.01	< 0.005		78.4
Annual							
Refrigerated Warehouse-No Rail	0	12.9	12.9	< 0.005	< 0.005		13
General Office Building	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005
Unrefrigerated Warehouse-No Rail	0	0	0	0	0		0
Total	< 0.005	12.9	12.9	< 0.005	< 0.005		13

Key Energy
Unmitigated GHG Emissions - Lithium Ion Battery

Construction Emissions

Emission Source	Annual Emissions (MT CO_2e)
Phase 1	2,109
Phase 2	2,282
Phase 3	3,988
Phase 4	3,912
Total	12,290
Amortized Emissions	
30 years	410
Decommissioning	8,919
Amortized Emissions	
30 years	297

Operational Emissions

Emission Source	Annual Emissions (MT CO_2e)	% Emissions
Mobile	2	
Area	0	
Energy	6	
Water	<1	
Waste	0	
O&M Building Refrigerant	<1	
SF_6	888	55.42%
Total	896	55.90%
Amortized Construction	410	25.56%
Amortized Decommissioning	297	18.55%
Total Operational Emissions	1,603	

Key Energy
Unmitigated GHG Emissions - Lithium Ion Battery

SF_6 Emissions Quantification

17	HV circuit breakers (500 kV equipment)
482	*SF_6 max lbs/per circuit breaker* [1]
228.4	*SF_6 average lbs/per circuit breaker* [1]
1.00%	*SF_6 leakage percentage per year* [1]
8194	*max lbs/project*
3882.8	*average lbs/project*
81.94	*SF_6 max lbs leakage per year*
38.828	*SF_6 average lbs leakage per year*
0.000453592	*lbs/MT*
0.037167328	*SF_6 max MT leakage per year*
0.01761207	*SF_6 average MT leakage per year*
23900	*GWP*
888	*Max MT CO_2 e/year*
421	*Average MT CO_2 e/year*

1 CARB 2020. *Public Hearing to Consider the Proposed Amendments to the Regulatoion for Reducing Sulfur Hexaflouride Emissions from Gas Insulated Switchgear. https://www.epa.gov/sites/production/files/2018-08/documents/12183_sf6_partnership_overview_v20_release_508.pdf. Accessed June 2022.*

Key Energy

Unmitigated GHG Emissions - Lithium Ion Battery with Iron Flow

Construction Emissions

Emission Source	Annual Emissions (MT CO_2e)
Phase 1	3,680
Phase 2	2,518
Phase 3	4,729
Total	10,928
Amortized Emissions	
30 years	364
Decommissioning	8,919
Amortized Emissions	
30 years	297

Operational Emissions

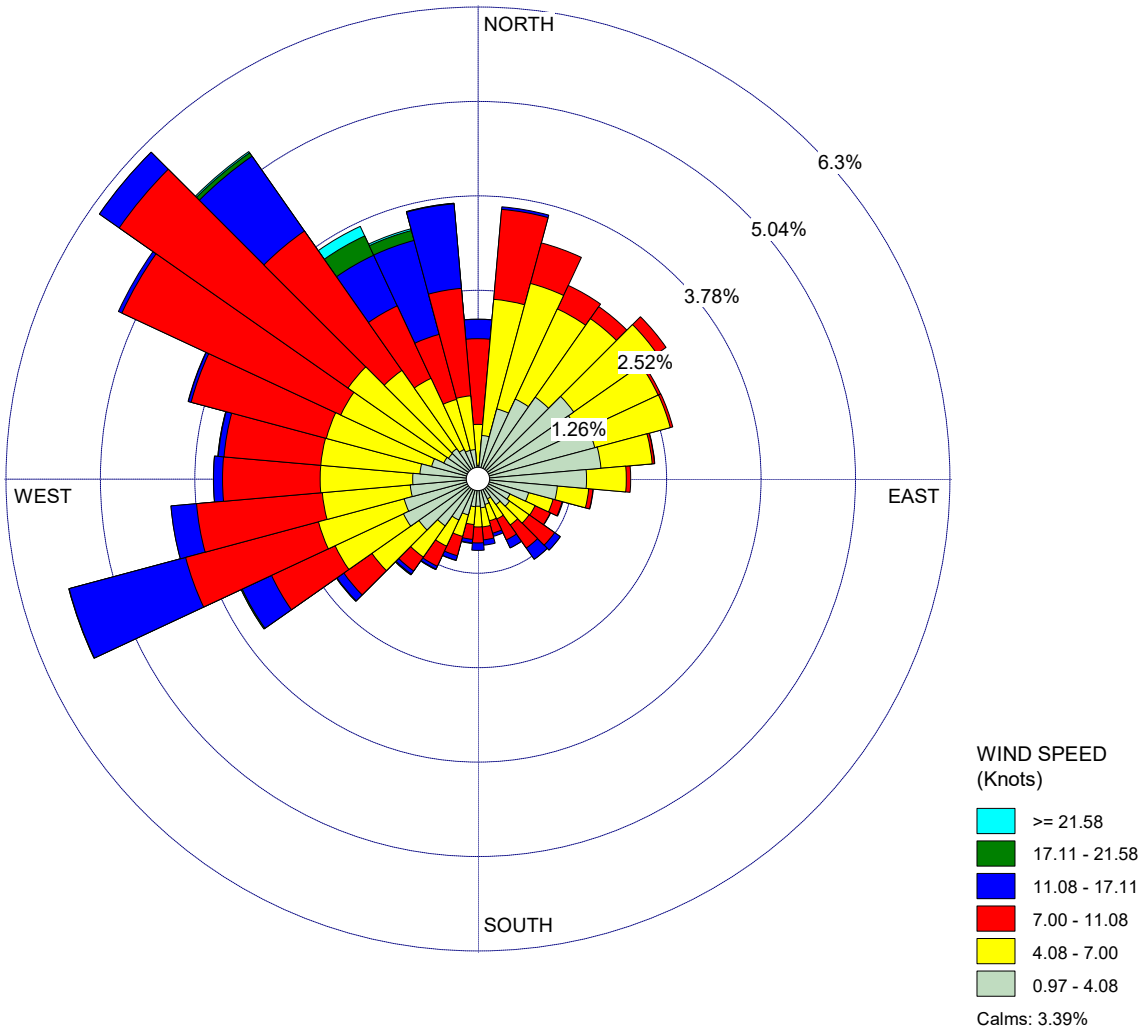
Emission Source	Annual Emissions (MT CO_2e)	% Emissions
Mobile	2	
Area	0	
Energy	6	
Water	<1	
Waste	0	
O&M Building Refrigerant	<1	
SF_6	888	57.03%
Total	896	57.53%
Amortized Construction	364	23.39%
Amortized Decommissioning	297	19.09%
Total Operational Emissions	1,558	

DISTRICT	ROUTE	RTE_SFX	COUNTY	PM_PFX	PM	PM_SFX	DESCRIPTION	BACK_PEAK_HOUR	BACK_PEAK_MADT	BACK_AADT	AHEAD_PEAK_HOU	AHEAD_PEAK_MADT	AHEAD_AADT
06	005		FRE		0.000		KINGS/FRESNO COUNTY LINE				4950	42000	34500
06	005		FRE		0.228		JCT. RTE. 269	4950	42000	34500	4950	42000	35000
06	005		FRE		14.873		JCT. RTE. 198	4950	42000	35000	5200	44500	37000
06	005		FRE		17.964		JCT. RTE. 33 SOUTH, JC	5200	44500	37000	5100	44500	36000
06	005		FRE		5.501		JAYNE AVE	4950	42000	35000	4950	42000	35000
06	005		FRE		29.955		JCT. RTE. 33 NORTH	5100	44500	36000	5200	44500	36000
06	005		FRE		38.359		KAMM AVE	5200	44500	36000	5200	44000	37000
06	005		FRE		45.798		MANNING AVE	5200	44000	37000	5100	46000	37000
06	005		FRE		48.990		PANOCHE ROAD	5100	46000	37000	4700	49500	36000
06	005		FRE		52.746		RUSSELL AVE	4700	49500	36000	4700	49500	36000
06	005		FRE		60.077		SHIELDS AVE	4700	49500	36000	4850	49000	37000
06	005		FRE		65.782		NEES AVE	4850	49000	37000	5100	52000	39000
06	005		FRE		66.159		FRESNO/MERCED COUI	5100	52000	39000			

Source: https://dot.ca.gov/programs/traffic-operations/census
2020-AADT.xls
Accessed May 2022.

WIND ROSE PLOT:
Station #99009

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **Start Date: 1/1/2004 - 00:00** **End Date: 12/31/2008 - 23:59**	COMPANY NAME:	
		MODELER:	
	CALM WINDS: **3.39%**	TOTAL COUNT: **43848 hrs.**	
	AVG. WIND SPEED: **5.74 Knots**	DATE: **1/19/2023**	PROJECT NO.:

WRPLOT View - Lakes Environmental Software

Appendix B

CalEEmod Output

Lithium Ion Battery - Phase 1 CalEEMod Output (Annual, Winter, Summer)

Key Energy - Lithium Ion Battery Option - Phase 1 Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Key Energy - Lithium Ion Battery Option - Phase 1
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.50
Precipitation (days)	16.8
Location	36.13263447616909, -120.13458957268438
County	Fresno
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2530
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

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
Refrigerated Warehouse-No Rail	0.75	1000sqft	34.0	750	0.00	—	—	—
General Office Building	1.00	1000sqft	0.25	1,000	0.00	—	—	—

Unrefrigerated Warehouse-No Rail	2.00	1000sqft	0.25	2,000	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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.60	7.55	73.7	73.3	0.21	2.53	5.01	7.54	2.35	1.34	3.69	—	26,752	26,752	0.72	2.26	45.6	27,489
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	11.7	9.79	87.3	96.6	0.21	3.98	9.00	13.0	3.67	3.97	7.64	—	26,477	26,477	0.69	2.26	1.18	27,168
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.46	3.74	35.1	37.8	0.09	1.24	3.21	4.45	1.15	0.97	2.12	—	12,408	12,408	0.37	0.96	9.14	12,713
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.81	0.68	6.40	6.91	0.02	0.23	0.59	0.81	0.21	0.18	0.39	—	2,054	2,054	0.06	0.16	1.51	2,105

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	8.60	7.55	73.7	73.3	0.21	2.53	5.01	7.54	2.35	1.34	3.69	—	26,752	26,752	0.72	2.26	45.6	27,489
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	11.7	9.79	87.3	96.6	0.21	3.98	9.00	13.0	3.67	3.97	7.64	—	26,477	26,477	0.69	2.26	1.18	27,168
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.46	3.74	35.1	37.8	0.09	1.24	3.21	4.45	1.15	0.97	2.12	—	12,408	12,408	0.37	0.96	9.14	12,713
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.81	0.68	6.40	6.91	0.02	0.23	0.59	0.81	0.21	0.18	0.39	—	2,054	2,054	0.06	0.16	1.51	2,105

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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.10	0.02	0.22	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	118	118	0.01	< 0.005	0.19	119
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.10	0.02	0.16	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	112	112	0.01	< 0.005	0.01	114
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.10	0.01	0.12	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	97.9	97.9	0.01	< 0.005	0.06	98.9
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	0.02	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	16.2	16.2	< 0.005	< 0.005	0.01	16.4

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.02	0.02	0.02	0.22	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	60.1	60.1	< 0.005	< 0.005	0.18	60.7
Area	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	35.4	35.4	0.01	< 0.005	—	35.8
Water	—	—	—	—	—	—	—	—	—	—	—	< 0.005	22.3	22.3	< 0.005	< 0.005	—	22.6
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.02	0.10	0.02	0.22	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	118	118	0.01	< 0.005	0.19	119
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.02	0.01	0.02	0.16	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	54.7	54.7	< 0.005	< 0.005	< 0.005	55.3
Area	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	35.4	35.4	0.01	< 0.005	—	35.8
Water	—	—	—	—	—	—	—	—	—	—	—	< 0.005	22.3	22.3	< 0.005	< 0.005	—	22.6
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.02	0.10	0.02	0.16	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	112	112	0.01	< 0.005	0.01	114
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.01	0.01	0.01	0.12	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	40.2	40.2	< 0.005	< 0.005	0.06	40.6
Area	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	35.4	35.4	0.01	< 0.005	—	35.8
Water	—	—	—	—	—	—	—	—	—	—	—	< 0.005	22.3	22.3	< 0.005	< 0.005	—	22.6

Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.01	0.10	0.01	0.12	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	97.9	97.9	0.01	< 0.005	0.06	98.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.65	6.65	< 0.005	< 0.005	0.01	6.72
Area	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	5.86	5.86	< 0.005	< 0.005	—	5.92
Water	—	—	—	—	—	—	—	—	—	—	—	< 0.005	3.70	3.70	< 0.005	< 0.005	—	3.74
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	< 0.005	0.02	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	16.2	16.2	< 0.005	< 0.005	0.01	16.4

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.84	3.23	29.2	40.8	0.06	1.46	—	1.46	1.34	—	1.34	—	6,415	6,415	0.26	0.05	—	6,438
Dust From Material Movement	—	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.80	1.12	< 0.005	0.04	—	0.04	0.04	—	0.04	—	176	176	0.01	< 0.005	—	176
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	29.1	29.1	< 0.005	< 0.005	—	29.2
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.33	0.34	3.37	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	644	644	0.02	0.03	0.08	653
Vendor	0.03	0.01	0.98	0.16	0.01	0.02	0.06	0.08	0.02	0.02	0.04	—	841	841	0.02	0.13	0.05	882
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	18.3	18.3	< 0.005	< 0.005	0.03	18.6

Vendor	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	23.0	23.0	< 0.005	< 0.005	0.02	24.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	3.03	3.03	< 0.005	< 0.005	0.01	3.08
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.82	3.82	< 0.005	< 0.005	< 0.005	4.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	5.60	4.70	46.3	41.3	0.06	2.06	—	2.06	1.90	—	1.90	—	6,674	6,674	0.27	0.05	—	6,697
Dust From Material Movement	—	—	—	—	—	—	6.81	6.81	—	3.50	3.50	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	0.26	2.54	2.27	< 0.005	0.11	—	0.11	0.10	—	0.10	—	366	366	0.01	< 0.005	—	367

Dust From Material Movemen	—	—	—	—	—	—	0.37	0.37	—	0.19	0.19	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.46	0.41	< 0.005	0.02	—	0.02	0.02	—	0.02	—	60.5	60.5	< 0.005	< 0.005	—	60.8
Dust From Material Movemen	—	—	—	—	—	—	0.07	0.07	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.17	0.17	1.68	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	322	322	0.01	0.01	0.04	326
Vendor	0.06	0.03	1.95	0.32	0.01	0.03	0.13	0.16	0.03	0.04	0.07	—	1,683	1,683	0.03	0.27	0.11	1,763
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	18.3	18.3	< 0.005	< 0.005	0.03	18.6
Vendor	< 0.005	< 0.005	0.10	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	92.2	92.2	< 0.005	0.01	0.10	96.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	3.03	3.03	< 0.005	< 0.005	0.01	3.08
Vendor	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.3	15.3	< 0.005	< 0.005	0.02	16.0

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.71	3.95	33.9	45.7	0.07	1.69	—	1.69	1.55	—	1.55	—	7,120	7,120	0.29	0.06	—	7,144
Dust From Material Movemen	—	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.22	1.86	2.50	< 0.005	0.09	—	0.09	0.08	—	0.08	—	390	390	0.02	< 0.005	—	391
Dust From Material Movemen	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.34	0.46	< 0.005	0.02	—	0.02	0.02	—	0.02	—	64.6	64.6	< 0.005	< 0.005	—	64.8

Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.33	0.34	3.37	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	644	644	0.02	0.03	0.08	653
Vendor	0.03	0.01	0.98	0.16	0.01	0.02	0.06	0.08	0.02	0.02	0.04	—	841	841	0.02	0.13	0.05	882
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.19	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	36.6	36.6	< 0.005	< 0.005	0.07	37.2
Vendor	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	46.1	46.1	< 0.005	0.01	0.05	48.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	6.06	6.06	< 0.005	< 0.005	0.01	6.15
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.63	7.63	< 0.005	< 0.005	0.01	8.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Grading (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	6.31	5.30	50.0	45.4	0.07	2.25	—	2.25	2.07	—	2.07	—	7,240	7,240	0.29	0.06	—	7,265
Dust From Material Movement	—	—	—	—	—	—	6.81	6.81	—	3.50	3.50	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.15	1.37	1.24	< 0.005	0.06	—	0.06	0.06	—	0.06	—	198	198	0.01	< 0.005	—	199
Dust From Material Movement	—	—	—	—	—	—	0.19	0.19	—	0.10	0.10	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.25	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	32.8	32.8	< 0.005	< 0.005	—	33.0
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.17	0.17	1.68	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	322	322	0.01	0.01	0.04	326
Vendor	0.06	0.03	1.95	0.32	0.01	0.03	0.13	0.16	0.03	0.04	0.07	—	1,683	1,683	0.03	0.27	0.11	1,763
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	9.15	9.15	< 0.005	< 0.005	0.02	9.29
Vendor	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	46.1	46.1	< 0.005	0.01	0.05	48.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.51	1.51	< 0.005	< 0.005	< 0.005	1.54
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.63	7.63	< 0.005	< 0.005	0.01	8.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.50	2.92	25.7	29.4	0.05	0.97	—	0.97	0.89	—	0.89	—	5,282	5,282	0.21	0.04	—	5,300
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.50	2.92	25.7	29.4	0.05	0.97	—	0.97	0.89	—	0.89	—	5,282	5,282	0.21	0.04	—	5,300
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.20	1.00	8.79	10.1	0.02	0.33	—	0.33	0.31	—	0.31	—	1,809	1,809	0.07	0.01	—	1,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.18	1.60	1.84	< 0.005	0.06	—	0.06	0.06	—	0.06	—	299	299	0.01	< 0.005	—	301
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.22	1.14	0.79	13.4	0.00	0.00	0.12	0.12	0.00	0.00	0.00	—	2,182	2,182	0.11	0.08	8.81	2,218
Vendor	0.29	0.13	7.25	1.78	0.05	0.11	0.42	0.53	0.11	0.16	0.26	—	7,398	7,398	0.11	1.07	20.6	7,739
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.09	0.99	1.01	10.1	0.00	0.00	0.12	0.12	0.00	0.00	0.00	—	1,932	1,932	0.06	0.08	0.23	1,958
Vendor	0.29	0.12	7.80	1.74	0.05	0.11	0.42	0.53	0.11	0.16	0.26	—	7,399	7,399	0.11	1.07	0.53	7,720
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.38	0.35	0.30	3.62	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	686	686	0.04	0.03	1.31	697
Vendor	0.10	0.04	2.61	0.59	0.02	0.04	0.14	0.18	0.04	0.05	0.09	—	2,534	2,534	0.04	0.36	3.03	2,647
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.66	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	114	114	0.01	< 0.005	0.22	115
Vendor	0.02	0.01	0.48	0.11	< 0.005	0.01	0.03	0.03	0.01	0.01	0.02	—	419	419	0.01	0.06	0.50	438
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	7.23	6.07	57.9	61.8	0.10	2.29	—	2.29	2.11	—	2.11	—	10,712	10,712	0.43	0.09	—	10,749
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	7.23	6.07	57.9	61.8	0.10	2.29	—	2.29	2.11	—	2.11	—	10,712	10,712	0.43	0.09	—	10,749
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.58	1.33	12.7	13.5	0.02	0.50	—	0.50	0.46	—	0.46	—	2,348	2,348	0.10	0.02	—	2,356

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.24	2.32	2.47	< 0.005	0.09	—	0.09	0.08	—	0.08	—	389	389	0.02	< 0.005	—	390
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.61	0.57	0.40	6.69	0.00	0.00	0.06	0.06	0.00	0.00	0.00	—	1,091	1,091	0.05	0.04	4.40	1,109
Vendor	0.59	0.25	14.5	3.55	0.11	0.21	0.85	1.06	0.21	0.32	0.53	—	14,797	14,797	0.22	2.13	41.2	15,478
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.54	0.50	0.51	5.05	0.00	0.00	0.06	0.06	0.00	0.00	0.00	—	966	966	0.03	0.04	0.11	979
Vendor	0.58	0.25	15.6	3.48	0.11	0.21	0.85	1.06	0.21	0.32	0.53	—	14,798	14,798	0.22	2.13	1.07	15,440
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.16	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	220	220	0.01	0.01	0.42	223
Vendor	0.13	0.05	3.34	0.76	0.02	0.05	0.19	0.23	0.05	0.07	0.12	—	3,243	3,243	0.05	0.47	3.88	3,388
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.21	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	36.3	36.3	< 0.005	< 0.005	0.07	36.9
Vendor	0.02	0.01	0.61	0.14	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	537	537	0.01	0.08	0.64	561
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Building Construction (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.25	1.04	8.81	8.35	0.02	0.36	—	0.36	0.33	—	0.33	—	1,714	1,714	0.07	0.01	—	1,719
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.12	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23.5	23.5	< 0.005	< 0.005	—	23.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.89	3.89	< 0.005	< 0.005	—	3.90
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.36	0.33	0.34	3.37	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	644	644	0.02	0.03	0.08	653
Vendor	0.06	0.03	1.95	0.32	0.01	0.03	0.13	0.16	0.03	0.04	0.07	—	1,683	1,683	0.03	0.27	0.11	1,763
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	9.15	9.15	< 0.005	< 0.005	0.02	9.29
Vendor	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	23.0	23.0	< 0.005	< 0.005	0.02	24.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.51	1.51	< 0.005	< 0.005	< 0.005	1.54
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.82	3.82	< 0.005	< 0.005	< 0.005	4.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Building Construction (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.30	2.80	3.49	0.01	0.13	—	0.13	0.12	—	0.12	—	547	547	0.02	< 0.005	—	549
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.01	0.08	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.0	15.0	< 0.005	< 0.005	—	15.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.48	2.48	< 0.005	< 0.005	—	2.49
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.33	0.34	3.37	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	644	644	0.02	0.03	0.08	653
Vendor	0.06	0.03	1.95	0.32	0.01	0.03	0.13	0.16	0.03	0.04	0.07	—	1,683	1,683	0.03	0.27	0.11	1,763
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	18.3	18.3	< 0.005	< 0.005	0.03	18.6
Vendor	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	46.1	46.1	< 0.005	0.01	0.05	48.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	3.03	3.03	< 0.005	< 0.005	0.01	3.08
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.63	7.63	< 0.005	< 0.005	0.01	8.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Architectural Coating (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	0.91	1.15	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	0.51	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.4	12.4	< 0.005	< 0.005	—	12.5
Architectural Coatings	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.06	2.06	< 0.005	< 0.005	—	2.07
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	18.2	18.2	< 0.005	< 0.005	0.07	18.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.55	1.55	< 0.005	< 0.005	< 0.005	1.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.26	0.26	< 0.005	< 0.005	< 0.005	0.26
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	0.00	0.00	0.00	0.00	0.00	—	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Refrigera Warehouse-No Rail	0.02	0.02	0.02	0.22	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	60.1	60.1	< 0.005	< 0.005	0.18	60.7
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.02	0.02	0.02	0.22	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	60.1	60.1	< 0.005	< 0.005	0.18	60.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.02	0.01	0.02	0.16	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	54.7	54.7	< 0.005	< 0.005	< 0.005	55.3
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.02	0.01	0.02	0.16	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	54.7	54.7	< 0.005	< 0.005	< 0.005	55.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.65	6.65	< 0.005	< 0.005	0.01	6.72

General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.65	6.65	< 0.005	< 0.005	0.01	6.72

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	10.3	10.3	< 0.005	< 0.005	—	10.4
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	13.1	13.1	< 0.005	< 0.005	—	13.2
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	12.0	12.0	< 0.005	< 0.005	—	12.1
Total	—	—	—	—	—	—	—	—	—	—	—	—	35.4	35.4	0.01	< 0.005	—	35.8

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	10.3	10.3	< 0.005	< 0.005	—	10.4
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	13.1	13.1	< 0.005	< 0.005	—	13.2
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	12.0	12.0	< 0.005	< 0.005	—	12.1
Total	—	—	—	—	—	—	—	—	—	—	—	—	35.4	35.4	0.01	< 0.005	—	35.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1.70	1.70	< 0.005	< 0.005	—	1.72
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	2.17	2.17	< 0.005	< 0.005	—	2.19
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1.99	1.99	< 0.005	< 0.005	—	2.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	5.86	5.86	< 0.005	< 0.005	—	5.92

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	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	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	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	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Refrigera Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	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	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	22.3	22.3	< 0.005	< 0.005	—	22.6
General Office Building	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.01
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	< 0.005	22.3	22.3	< 0.005	< 0.005	—	22.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	22.3	22.3	< 0.005	< 0.005	—	22.6
General Office Building	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.01
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	< 0.005	22.3	22.3	< 0.005	< 0.005	—	22.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	3.70	3.70	< 0.005	< 0.005	—	3.74
General Office Building	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	< 0.005	3.70	3.70	< 0.005	< 0.005	—	3.74

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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
Site Preparation	Site Preparation	1/1/2024	1/12/2024	5.00	10.0	—
Project Substation Site Prep	Site Preparation	1/1/2024	1/26/2024	5.00	20.0	—
Grading	Grading	1/13/2024	2/9/2024	5.00	20.0	—
Project Substation Site Grading	Grading	1/27/2024	2/9/2024	5.00	10.0	—
Energy Storage Enclosure Installation	Building Construction	2/10/2024	8/2/2024	5.00	125	—
Project Substation Installation	Building Construction	8/15/2024	12/4/2024	5.00	80.0	—

Gen-Tie Foundation and Tower Erection	Building Construction	12/5/2024	12/11/2024	5.00	5.00	—
Gen-Tie Stringing and Pulling	Building Construction	12/12/2024	12/25/2024	5.00	10.0	—
Architectural Coating	Architectural Coating	7/1/2024	8/15/2024	5.00	34.0	—

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
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	4.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Energy Storage Enclosure Installation	Cranes	Diesel	Average	2.00	7.00	367	0.29
Energy Storage Enclosure Installation	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Energy Storage Enclosure Installation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Project Substation Site Prep	Rubber Tired Dozers	Diesel	Average	4.00	8.00	367	0.40
Project Substation Site Prep	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Project Substation Site Grading	Rubber Tired Dozers	Diesel	Average	4.00	8.00	367	0.40
Project Substation Site Grading	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Project Substation Installation	Cranes	Diesel	Average	2.00	8.00	367	0.29

Project Substation Installation	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Project Substation Installation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Gen-Tie Foundation and Tower Erection	Cranes	Diesel	Average	1.00	8.00	367	0.29
Gen-Tie Foundation and Tower Erection	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Gen-Tie Foundation and Tower Erection	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Gen-Tie Foundation and Tower Erection	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Gen-Tie Stringing and Pulling	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Gen-Tie Stringing and Pulling	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Gen-Tie Stringing and Pulling	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Site Preparation	Graders	Diesel	Average	4.00	8.00	148	0.41
Site Preparation	Rubber Tired Loaders	Diesel	Average	4.00	8.00	150	0.36
Site Preparation	Skid Steer Loaders	Diesel	Average	4.00	8.00	71.0	0.37
Grading	Plate Compactors	Diesel	Average	4.00	8.00	8.00	0.43
Grading	Rollers	Diesel	Average	4.00	8.00	36.0	0.38
Grading	Rubber Tired Loaders	Diesel	Average	4.00	8.00	150	0.36
Grading	Skid Steer Loaders	Diesel	Average	4.00	8.00	71.0	0.37
Project Substation Site Grading	Rollers	Diesel	Average	4.00	8.00	36.0	0.38
Energy Storage Enclosure Installation	Air Compressors	Diesel	Average	4.00	8.00	37.0	0.48
Energy Storage Enclosure Installation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38

Energy Storage Enclosure Installation	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43
Energy Storage Enclosure Installation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Energy Storage Enclosure Installation	Rough Terrain Forklifts	Diesel	Average	2.00	8.00	96.0	0.40
Energy Storage Enclosure Installation	Skid Steer Loaders	Diesel	Average	2.00	8.00	71.0	0.37
Project Substation Installation	Aerial Lifts	Diesel	Average	6.00	8.00	46.0	0.31
Project Substation Installation	Air Compressors	Diesel	Average	2.00	8.00	37.0	0.48
Project Substation Installation	Bore/Drill Rigs	Diesel	Average	2.00	8.00	83.0	0.50
Project Substation Installation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Project Substation Installation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Project Substation Installation	Rough Terrain Forklifts	Diesel	Average	2.00	8.00	96.0	0.40
Project Substation Installation	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Project Substation Installation	Skid Steer Loaders	Diesel	Average	2.00	8.00	71.0	0.37
Project Substation Installation	Trenchers	Diesel	Average	4.00	8.00	40.0	0.50
Gen-Tie Foundation and Tower Erection	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Gen-Tie Foundation and Tower Erection	Pumps	Diesel	Average	1.00	8.00	11.0	0.74

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	80.0	11.4	LDA,LDT1,LDT2
Site Preparation	Vendor	4.00	60.0	HHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	—	HHDT
Grading	—	—	—	—
Grading	Worker	80.0	11.4	LDA,LDT1,LDT2
Grading	Vendor	4.00	60.0	HHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	0.00	—	HHDT
Energy Storage Enclosure Installation	—	—	—	—
Energy Storage Enclosure Installation	Worker	240	11.4	LDA,LDT1,LDT2
Energy Storage Enclosure Installation	Vendor	40.0	60.0	HHDT,MHDT
Energy Storage Enclosure Installation	Hauling	0.00	20.0	HHDT
Energy Storage Enclosure Installation	Onsite truck	0.00	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.00	11.4	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	8.53	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	—	HHDT
Project Substation Site Prep	—	—	—	—
Project Substation Site Prep	Worker	40.0	11.4	LDA,LDT1,LDT2
Project Substation Site Prep	Vendor	8.00	60.0	HHDT
Project Substation Site Prep	Hauling	0.00	20.0	HHDT
Project Substation Site Prep	Onsite truck	0.00	—	HHDT

Project Substation Site Grading	—	—	—	—
Project Substation Site Grading	Worker	40.0	11.4	LDA,LDT1,LDT2
Project Substation Site Grading	Vendor	8.00	60.0	HHDT
Project Substation Site Grading	Hauling	0.00	20.0	HHDT
Project Substation Site Grading	Onsite truck	0.00	—	HHDT
Project Substation Installation	—	—	—	—
Project Substation Installation	Worker	120	11.4	LDA,LDT1,LDT2
Project Substation Installation	Vendor	80.0	60.0	HHDT,MHDT
Project Substation Installation	Hauling	0.00	20.0	HHDT
Project Substation Installation	Onsite truck	0.00	—	HHDT
Gen-Tie Foundation and Tower Erection	—	—	—	—
Gen-Tie Foundation and Tower Erection	Worker	80.0	11.4	LDA,LDT1,LDT2
Gen-Tie Foundation and Tower Erection	Vendor	8.00	60.0	HHDT
Gen-Tie Foundation and Tower Erection	Hauling	0.00	20.0	HHDT
Gen-Tie Foundation and Tower Erection	Onsite truck	0.00	—	HHDT
Gen-Tie Stringing and Pulling	—	—	—	—
Gen-Tie Stringing and Pulling	Worker	80.0	11.4	LDA,LDT1,LDT2
Gen-Tie Stringing and Pulling	Vendor	8.00	60.0	HHDT
Gen-Tie Stringing and Pulling	Hauling	0.00	20.0	HHDT
Gen-Tie Stringing and Pulling	Onsite truck	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)
Architectural Coating	0.00	0.00	5,625	1,875	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	20.0	0.00	—
Project Substation Site Prep	0.00	0.00	40.0	0.00	—
Grading	0.00	0.00	40.0	0.00	—
Project Substation Site Grading	0.00	0.00	20.0	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Refrigerated Warehouse-No Rail	0.00	0%
General Office Building	0.00	0%
Unrefrigerated Warehouse-No Rail	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
2024	0.00	204	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
Refrigerated Warehouse-No Rail	4.00	0.00	0.00	1,043	59.4	0.00	0.00	15,498
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	5,625	1,875	—

5.10.3. Landscape Equipment

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

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)
Refrigerated Warehouse-No Rail	18,420	204	0.0330	0.0040	0.00
General Office Building	23,446	204	0.0330	0.0040	0.00
Unrefrigerated Warehouse-No Rail	21,480	204	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)
Refrigerated Warehouse-No Rail	0.00	16,520,646
General Office Building	1,008	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Refrigerated Warehouse-No Rail	0.00	0.00
General Office Building	0.00	0.00
Unrefrigerated Warehouse-No Rail	0.00	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
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

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)

8. User Changes to Default Data

Screen	Justification
Land Use	Total acreage for Phase 1 is 34.5 acres, 34 acres used for Refrigerated warehouse, 0.25 used for each of the O&M building land use types added
Construction: Construction Phases	Project construction schedule provided
Construction: Off-Road Equipment	Based on project provided construction equipment
Operations: Vehicle Data	Based on project specific trips for daily/monthly activity. Annual maintenance activity modeled under Lithium Ion and Iron Flow Batter Option Phase 1
Operations: Landscape Equipment	No Landscaping
Operations: Energy Use	No natural gas connection to site. Electrical consumption based on cooling energy use only for refrigerated warehouse use.
Operations: Water and Waste Water	Water usage for Refrigerated warehouse is for construction activities for dust control. Office water represents total gallons per year for warehouse/office use based on WSA.

Operations: Solid Waste	No solid waste collection at site. All carry in/carry out for waste.
Operations: Refrigerants	No cold storage onsite
Operations: Fleet Mix	All trips MDV for worker truck use
Construction: Trips and VMT	Based on project specific information

Lithium Ion Battery - Phase 2 CalEEMod Output (Annual, Winter, Summer)

Key Energy - Phase 2 Lithium Ion Battery Option Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Key Energy - Phase 2 Lithium Ion Battery Option
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.50
Precipitation (days)	16.8
Location	36.13263447616909, -120.13458957268438
County	Fresno
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2530
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

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
Refrigerated Warehouse-No Rail	2.00	1000sqft	28.0	2,000	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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.77	4.03	32.8	40.5	0.11	1.02	3.32	4.33	0.94	0.86	1.81	—	14,252	14,252	0.38	1.17	26.0	14,636
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.73	3.99	33.4	48.2	0.11	1.49	3.32	4.33	1.38	0.86	1.81	—	14,089	14,089	0.39	1.17	0.67	14,449
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.03	2.55	21.4	26.1	0.07	0.70	1.98	2.67	0.65	0.51	1.15	—	8,748	8,748	0.25	0.69	6.54	8,965
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.55	0.46	3.91	4.76	0.01	0.13	0.36	0.49	0.12	0.09	0.21	—	1,448	1,448	0.04	0.11	1.08	1,484

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2025	4.77	4.03	32.8	40.5	0.11	1.02	3.32	4.33	0.94	0.86	1.81	—	14,252	14,252	0.38	1.17	26.0	14,636
2026	4.58	3.86	31.5	39.6	0.11	0.94	3.32	4.26	0.88	0.86	1.74	—	14,083	14,083	0.38	1.17	23.0	14,465
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.73	3.99	33.4	48.2	0.11	1.49	3.32	4.33	1.38	0.86	1.81	—	14,089	14,089	0.39	1.17	0.67	14,449
2026	4.44	3.75	32.1	38.0	0.11	0.94	3.32	4.26	0.88	0.86	1.74	—	13,925	13,925	0.39	1.17	0.60	14,284
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.03	2.55	21.4	26.1	0.07	0.70	1.98	2.67	0.65	0.51	1.15	—	8,748	8,748	0.25	0.69	6.54	8,965
2026	1.49	1.25	10.6	12.7	0.04	0.31	1.09	1.41	0.29	0.28	0.58	—	4,647	4,647	0.13	0.39	3.30	4,770
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.55	0.46	3.91	4.76	0.01	0.13	0.36	0.49	0.12	0.09	0.21	—	1,448	1,448	0.04	0.11	1.08	1,484
2026	0.27	0.23	1.93	2.31	0.01	0.06	0.20	0.26	0.05	0.05	0.11	—	769	769	0.02	0.06	0.55	790

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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.1	23.1	< 0.005	< 0.005	0.00	23.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.1	23.1	< 0.005	< 0.005	0.00	23.3
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.1	23.1	< 0.005	< 0.005	0.00	23.3

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.82	3.82	< 0.005	< 0.005	0.00	3.86

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	23.1	23.1	< 0.005	< 0.005	—	23.3
Waste	—	—	—	—	—	—	—	—	—	—	—	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	0.00	0.00	0.00	0.00	0.00	0.00	23.1	23.1	< 0.005	< 0.005	0.00	23.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	23.1	23.1	< 0.005	< 0.005	—	23.3
Waste	—	—	—	—	—	—	—	—	—	—	—	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	0.00	0.00	0.00	0.00	0.00	0.00	23.1	23.1	< 0.005	< 0.005	0.00	23.3
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	23.1	23.1	< 0.005	< 0.005	—	23.3
Waste	—	—	—	—	—	—	—	—	—	—	—	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	0.00	0.00	0.00	0.00	0.00	0.00	23.1	23.1	< 0.005	< 0.005	0.00	23.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	3.82	3.82	< 0.005	< 0.005	—	3.86
Waste	—	—	—	—	—	—	—	—	—	—	—	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	0.00	0.00	0.00	0.00	0.00	0.00	3.82	3.82	< 0.005	< 0.005	0.00	3.86

3. Construction Emissions Details

3.1. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.57	3.00	26.2	40.8	0.06	1.28	—	1.28	1.18	—	1.18	—	6,419	6,419	0.26	0.05	—	6,441
Dust From Material Movement	—	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.72	1.12	< 0.005	0.04	—	0.04	0.03	—	0.03	—	176	176	0.01	< 0.005	—	176
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.13	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	29.1	29.1	< 0.005	< 0.005	—	29.2
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.30	0.22	2.41	0.00	0.00	0.03	0.03	0.00	0.00	0.00	—	430	430	0.02	0.02	0.05	437
Vendor	0.03	0.01	0.94	0.16	0.01	0.02	0.06	0.08	0.02	0.02	0.04	—	825	825	0.02	0.13	0.05	864
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	12.2	12.2	< 0.005	< 0.005	0.02	12.4

Vendor	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	22.6	22.6	< 0.005	< 0.005	0.02	23.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.02	2.02	< 0.005	< 0.005	< 0.005	2.06
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.74	3.74	< 0.005	< 0.005	< 0.005	3.92
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.38	3.68	30.8	45.6	0.07	1.48	—	1.48	1.36	—	1.36	—	7,124	7,124	0.29	0.06	—	7,148
Dust From Material Movement	—	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.69	2.50	< 0.005	0.08	—	0.08	0.07	—	0.07	—	390	390	0.02	< 0.005	—	392

Dust From Material Movemen	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.31	0.46	< 0.005	0.01	—	0.01	0.01	—	0.01	—	64.6	64.6	< 0.005	< 0.005	—	64.8
Dust From Material Movemen	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.30	0.22	2.41	0.00	0.00	0.03	0.03	0.00	0.00	0.00	—	430	430	0.02	0.02	0.05	437
Vendor	0.03	0.01	0.94	0.16	0.01	0.02	0.06	0.08	0.02	0.02	0.04	—	825	825	0.02	0.13	0.05	864
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.13	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	24.4	24.4	< 0.005	< 0.005	0.04	24.8
Vendor	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	45.2	45.2	< 0.005	0.01	0.05	47.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	4.04	4.04	< 0.005	< 0.005	0.01	4.11
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.48	7.48	< 0.005	< 0.005	0.01	7.84

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.44	2.87	25.4	30.0	0.06	0.91	—	0.91	0.84	—	0.84	—	5,530	5,530	0.22	0.04	—	5,549
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.44	2.87	25.4	30.0	0.06	0.91	—	0.91	0.84	—	0.84	—	5,530	5,530	0.22	0.04	—	5,549
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.97	1.64	14.5	17.2	0.03	0.52	—	0.52	0.48	—	0.48	—	3,160	3,160	0.13	0.03	—	3,171
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.30	2.65	3.13	0.01	0.09	—	0.09	0.09	—	0.09	—	523	523	0.02	< 0.005	—	525
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.09	1.03	0.55	8.93	0.00	0.00	0.08	0.08	0.00	0.00	0.00	—	1,455	1,455	0.04	0.06	5.45	1,480
Vendor	0.24	0.13	6.87	1.56	0.05	0.11	0.42	0.53	0.11	0.16	0.26	—	7,266	7,266	0.11	1.07	20.5	7,607
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.97	0.90	0.66	7.24	0.00	0.00	0.08	0.08	0.00	0.00	0.00	—	1,291	1,291	0.06	0.06	0.14	1,311
Vendor	0.24	0.12	7.37	1.58	0.05	0.11	0.42	0.53	0.11	0.16	0.26	—	7,267	7,267	0.11	1.07	0.53	7,588
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.56	0.52	0.34	4.21	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	764	764	0.03	0.04	1.34	777
Vendor	0.14	0.07	4.11	0.90	0.03	0.06	0.24	0.30	0.06	0.09	0.15	—	4,152	4,152	0.06	0.61	5.06	4,340
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.10	0.06	0.77	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	127	127	0.01	0.01	0.22	129
Vendor	0.02	0.01	0.75	0.16	0.01	0.01	0.04	0.06	0.01	0.02	0.03	—	687	687	0.01	0.10	0.84	719
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.33	2.78	24.5	29.9	0.06	0.84	—	0.84	0.77	—	0.77	—	5,530	5,530	0.22	0.04	—	5,549
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.33	2.78	24.5	29.9	0.06	0.84	—	0.84	0.77	—	0.77	—	5,530	5,530	0.22	0.04	—	5,549
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.11	0.92	8.14	9.95	0.02	0.28	—	0.28	0.26	—	0.26	—	1,840	1,840	0.07	0.01	—	1,846
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	0.17	1.49	1.82	< 0.005	0.05	—	0.05	0.05	—	0.05	—	305	305	0.01	< 0.005	—	306
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.02	0.95	0.50	8.22	0.00	0.00	0.08	0.08	0.00	0.00	0.00	—	1,425	1,425	0.04	0.06	4.95	1,449
Vendor	0.24	0.13	6.50	1.45	0.05	0.11	0.42	0.53	0.11	0.16	0.26	—	7,129	7,129	0.11	1.07	18.1	7,467
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.88	0.85	0.61	6.65	0.00	0.00	0.08	0.08	0.00	0.00	0.00	—	1,265	1,265	0.05	0.06	0.13	1,285

Vendor	0.24	0.12	7.00	1.47	0.05	0.11	0.42	0.53	0.11	0.16	0.26	—	7,130	7,130	0.11	1.07	0.47	7,450
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.29	0.18	2.25	0.00	0.00	0.03	0.03	0.00	0.00	0.00	—	436	436	0.02	0.02	0.71	443
Vendor	0.08	0.04	2.27	0.49	0.02	0.04	0.14	0.18	0.04	0.05	0.09	—	2,372	2,372	0.04	0.35	2.59	2,481
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.03	0.41	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	72.2	72.2	< 0.005	< 0.005	0.12	73.4
Vendor	0.01	0.01	0.41	0.09	< 0.005	0.01	0.03	0.03	0.01	0.01	0.02	—	393	393	0.01	0.06	0.43	411
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Refrigera Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigera ted Warehou se-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigera ted Warehou se-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	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	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigera ted Warehou se-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	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	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	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	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	23.1	23.1	< 0.005	< 0.005	—	23.3
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	23.1	23.1	< 0.005	< 0.005	—	23.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	23.1	23.1	< 0.005	< 0.005	—	23.3
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	23.1	23.1	< 0.005	< 0.005	—	23.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	3.82	3.82	< 0.005	< 0.005	—	3.86
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	3.82	3.82	< 0.005	< 0.005	—	3.86

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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
Site Preparation	Site Preparation	2/1/2025	2/14/2025	5.00	10.0	—
Grading	Grading	2/15/2025	3/14/2025	5.00	20.0	—

Energy Enclosure Installation	Building Construction	3/15/2025	6/19/2026	5.00	330	Energy Enclosure Installation

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
Site Preparation	Graders	Diesel	Average	4.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	4.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Energy Enclosure Installation	Cranes	Diesel	Average	2.00	8.00	367	0.29
Energy Enclosure Installation	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Energy Enclosure Installation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Site Preparation	Rubber Tired Loaders	Diesel	Average	4.00	8.00	150	0.36
Site Preparation	Skid Steer Loaders	Diesel	Average	4.00	8.00	71.0	0.37
Grading	Plate Compactors	Diesel	Average	4.00	8.00	8.00	0.43
Grading	Rollers	Diesel	Average	4.00	8.00	36.0	0.38
Grading	Rubber Tired Loaders	Diesel	Average	4.00	8.00	150	0.36
Grading	Skid Steer Loaders	Diesel	Average	4.00	8.00	71.0	0.37
Energy Enclosure Installation	Air Compressors	Diesel	Average	4.00	8.00	37.0	0.48
Energy Enclosure Installation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Energy Enclosure Installation	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43

Energy Enclosure Installation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Energy Enclosure Installation	Rough Terrain Forklifts	Diesel	Average	2.00	8.00	96.0	0.40
Energy Enclosure Installation	Skid Steer Loaders	Diesel	Average	2.00	8.00	71.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	80.0	7.70	LDA,LDT1,LDT2
Site Preparation	Vendor	4.00	60.0	HHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	—	HHDT
Grading	—	—	—	—
Grading	Worker	80.0	7.70	LDA,LDT1,LDT2
Grading	Vendor	4.00	60.0	HHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	0.00	—	HHDT
Energy Enclosure Installation	—	—	—	—
Energy Enclosure Installation	Worker	240	7.70	LDA,LDT1,LDT2
Energy Enclosure Installation	Vendor	40.0	60.0	HHDT,MHDT
Energy Enclosure Installation	Hauling	0.00	20.0	HHDT
Energy Enclosure Installation	Onsite truck	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)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	20.0	0.00	—
Grading	0.00	0.00	40.0	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Refrigerated Warehouse-No Rail	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	204	0.03	< 0.005

2026	0.00	204	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
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	3,000	1,000	—

5.10.3. Landscape Equipment

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

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)
Refrigerated Warehouse-No Rail	0.00	204	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)
Refrigerated Warehouse-No Rail	0.00	17,074,592

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Refrigerated Warehouse-No Rail	0.00	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)

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Based on Project specific information provided
Land Use	Based on project specific information
Construction: Off-Road Equipment	Project provided information
Construction: Trips and VMT	Based on project specific information provided
Operations: Vehicle Data	Mobile sources estimated under Phase 1 - Lithium Ion Battery Option
Operations: Consumer Products	No operational land uses modeled
Operations: Architectural Coatings	No operational land uses modeled
Operations: Landscape Equipment	No operational land uses modeled
Operations: Energy Use	No operational land uses modeled
Operations: Water and Waste Water	Dust Control for construction modeled here.
Operations: Solid Waste	No operational land uses modeled
Operations: Refrigerants	No operational land uses modeled

Lithium Ion Battery - Phase 3 CalEEMod Output (Annual, Winter, Summer)

Key Energy - Phase 3 Lithium Ion Battery Option Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Key Energy - Phase 3 Lithium Ion Battery Option
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.50
Precipitation (days)	16.8
Location	36.13263447616909, -120.13458957268438
County	Fresno
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2530
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

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
Refrigerated Warehouse-No Rail	3.00	1000sqft	76.0	3,000	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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.08	4.22	38.1	48.5	0.16	1.32	5.66	6.71	1.22	1.49	2.48	—	21,568	21,568	0.50	2.25	42.3	22,295
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.90	4.09	39.2	41.1	0.16	1.05	5.66	6.71	0.98	1.49	2.48	—	21,370	21,370	0.51	2.25	1.10	22,056
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.39	2.83	26.7	28.8	0.12	0.71	4.00	4.71	0.66	1.06	1.72	—	15,060	15,060	0.36	1.53	11.5	15,537
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.62	0.52	4.88	5.26	0.02	0.13	0.73	0.86	0.12	0.19	0.31	—	2,493	2,493	0.06	0.25	1.91	2,572

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2026	5.08	4.22	38.1	48.5	0.16	1.32	5.66	6.71	1.22	1.49	2.48	—	21,568	21,568	0.50	2.25	42.3	22,295
2027	4.87	4.08	36.7	42.0	0.16	0.99	5.66	6.65	0.93	1.49	2.42	—	21,222	21,222	0.49	2.14	37.4	21,910
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	4.90	4.09	39.2	41.1	0.16	1.05	5.66	6.71	0.98	1.49	2.48	—	21,370	21,370	0.51	2.25	1.10	22,056
2027	4.74	3.90	37.7	40.2	0.16	0.99	5.66	6.65	0.93	1.49	2.42	—	21,029	21,029	0.51	2.15	0.97	21,683
2028	4.47	3.76	36.1	39.4	0.16	0.92	5.66	6.58	0.86	1.49	2.36	—	20,650	20,650	0.51	2.15	0.86	21,303
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.72	1.43	12.8	15.9	0.05	0.42	1.43	1.85	0.39	0.36	0.75	—	5,948	5,948	0.16	0.53	4.29	6,115
2027	3.39	2.83	26.7	28.8	0.12	0.71	4.00	4.71	0.66	1.06	1.72	—	15,060	15,060	0.36	1.53	11.5	15,537
2028	0.49	0.41	3.93	4.33	0.02	0.10	0.61	0.71	0.09	0.16	0.26	—	2,269	2,269	0.05	0.23	1.56	2,342
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.31	0.26	2.33	2.90	0.01	0.08	0.26	0.34	0.07	0.07	0.14	—	985	985	0.03	0.09	0.71	1,012
2027	0.62	0.52	4.88	5.26	0.02	0.13	0.73	0.86	0.12	0.19	0.31	—	2,493	2,493	0.06	0.25	1.91	2,572
2028	0.09	0.08	0.72	0.79	< 0.005	0.02	0.11	0.13	0.02	0.03	0.05	—	376	376	0.01	0.04	0.26	388

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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	77.4	77.4	0.01	< 0.005	0.00	78.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	77.4	77.4	0.01	< 0.005	0.00	78.1

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	77.4	77.4	0.01	< 0.005	0.00	78.1
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.8	12.8	< 0.005	< 0.005	0.00	12.9

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	77.4	77.4	0.01	< 0.005	—	78.1
Waste	—	—	—	—	—	—	—	—	—	—	—	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	0.00	0.00	0.00	0.00	0.00	0.00	77.4	77.4	0.01	< 0.005	0.00	78.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	77.4	77.4	0.01	< 0.005	—	78.1
Waste	—	—	—	—	—	—	—	—	—	—	—	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	0.00	0.00	0.00	0.00	0.00	0.00	77.4	77.4	0.01	< 0.005	0.00	78.1

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	77.4	77.4	0.01	< 0.005	—	78.1
Waste	—	—	—	—	—	—	—	—	—	—	—	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	0.00	0.00	0.00	0.00	0.00	0.00	77.4	77.4	0.01	< 0.005	0.00	78.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	12.8	12.8	< 0.005	< 0.005	—	12.9
Waste	—	—	—	—	—	—	—	—	—	—	—	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	0.00	0.00	0.00	0.00	0.00	0.00	12.8	12.8	< 0.005	< 0.005	0.00	12.9

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.37	1.99	18.3	28.2	0.04	0.84	—	0.84	0.77	—	0.77	—	4,413	4,413	0.18	0.04	—	4,429

Dust From Material Movement	—	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.00	1.54	< 0.005	0.05	—	0.05	0.04	—	0.04	—	242	242	0.01	< 0.005	—	243
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.18	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	40.0	40.0	< 0.005	< 0.005	—	40.2
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.34	0.32	0.17	2.74	0.00	0.00	0.03	0.03	0.00	0.00	0.00	—	475	475	0.01	0.02	1.65	483
Vendor	0.04	0.01	1.28	0.23	0.01	0.02	0.10	0.12	0.02	0.03	0.06	—	1,212	1,212	0.03	0.19	2.88	1,273
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.12	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	23.9	23.9	< 0.005	< 0.005	0.04	24.3
Vendor	< 0.005	< 0.005	0.07	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	66.4	66.4	< 0.005	0.01	0.07	69.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	3.96	3.96	< 0.005	< 0.005	0.01	4.03
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.0	11.0	< 0.005	< 0.005	0.01	11.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.11	3.45	28.1	45.5	0.07	1.30	—	1.30	1.20	—	1.20	—	7,123	7,123	0.29	0.06	—	7,148
Dust From Material Movement	—	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.45	0.38	3.08	4.99	0.01	0.14	—	0.14	0.13	—	0.13	—	781	781	0.03	0.01	—	783
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.56	0.91	< 0.005	0.03	—	0.03	0.02	—	0.02	—	129	129	0.01	< 0.005	—	130
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.34	0.32	0.17	2.74	0.00	0.00	0.03	0.03	0.00	0.00	0.00	—	475	475	0.01	0.02	1.65	483
Vendor	0.04	0.01	1.28	0.23	0.01	0.02	0.10	0.12	0.02	0.03	0.06	—	1,212	1,212	0.03	0.19	2.88	1,273
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.25	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	47.9	47.9	< 0.005	< 0.005	0.08	48.7
Vendor	< 0.005	< 0.005	0.15	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	133	133	< 0.005	0.02	0.14	139

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.05	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	7.92	7.92	< 0.005	< 0.005	0.01	8.05
Vendor	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	22.0	22.0	< 0.005	< 0.005	0.02	23.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.33	2.78	24.5	29.9	0.06	0.84	—	0.84	0.77	—	0.77	—	5,530	5,530	0.22	0.04	—	5,549
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.33	2.78	24.5	29.9	0.06	0.84	—	0.84	0.77	—	0.77	—	5,530	5,530	0.22	0.04	—	5,549
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72	0.60	5.32	6.49	0.01	0.18	—	0.18	0.17	—	0.17	—	1,201	1,201	0.05	0.01	—	1,205
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.13	0.11	0.97	1.19	< 0.005	0.03	—	0.03	0.03	—	0.03	—	199	199	0.01	< 0.005	—	200
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.27	1.19	0.62	10.3	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,781	1,781	0.05	0.08	6.18	1,811
Vendor	0.48	0.25	13.0	2.90	0.11	0.21	0.85	1.06	0.21	0.32	0.53	—	14,257	14,257	0.22	2.13	36.2	14,934
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.09	1.06	0.76	8.31	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,581	1,581	0.07	0.08	0.16	1,606
Vendor	0.47	0.25	14.0	2.94	0.11	0.21	0.85	1.06	0.21	0.32	0.53	—	14,259	14,259	0.22	2.13	0.94	14,901
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.23	0.15	1.84	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	356	356	0.01	0.02	0.58	362
Vendor	0.10	0.05	2.96	0.63	0.02	0.05	0.18	0.23	0.05	0.07	0.11	—	3,097	3,097	0.05	0.46	3.39	3,240
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.34	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	58.9	58.9	< 0.005	< 0.005	0.10	59.9
Vendor	0.02	0.01	0.54	0.12	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	513	513	0.01	0.08	0.56	536
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2027) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.23	2.70	23.8	29.8	0.06	0.78	—	0.78	0.71	—	0.71	—	5,530	5,530	0.22	0.04	—	5,549
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.23	2.70	23.8	29.8	0.06	0.78	—	0.78	0.71	—	0.71	—	5,530	5,530	0.22	0.04	—	5,549
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.31	1.93	17.0	21.3	0.04	0.55	—	0.55	0.51	—	0.51	—	3,950	3,950	0.16	0.03	—	3,964
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.10	3.89	0.01	0.10	—	0.10	0.09	—	0.09	—	654	654	0.03	0.01	—	656
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.15	1.13	0.55	9.50	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,744	1,744	0.05	0.07	5.59	1,772
Vendor	0.48	0.25	12.4	2.69	0.11	0.21	0.85	1.06	0.21	0.32	0.53	—	13,949	13,949	0.22	2.02	31.8	14,589
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.03	0.95	0.69	7.70	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,549	1,549	0.07	0.08	0.14	1,573
Vendor	0.47	0.25	13.2	2.72	0.11	0.21	0.85	1.06	0.21	0.32	0.53	—	13,951	13,951	0.22	2.02	0.82	14,560
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.74	0.72	0.44	5.58	0.00	0.00	0.07	0.07	0.00	0.00	0.00	—	1,146	1,146	0.04	0.06	1.72	1,165
Vendor	0.34	0.18	9.29	1.93	0.08	0.15	0.60	0.76	0.15	0.23	0.38	—	9,964	9,964	0.16	1.45	9.80	10,409
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	0.08	1.02	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	190	190	0.01	0.01	0.29	193
Vendor	0.06	0.03	1.70	0.35	0.01	0.03	0.11	0.14	0.03	0.04	0.07	—	1,650	1,650	0.03	0.24	1.62	1,723
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2028) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.12	2.61	22.9	29.8	0.06	0.71	—	0.71	0.65	—	0.65	—	5,531	5,531	0.22	0.04	—	5,550
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.29	2.51	3.26	0.01	0.08	—	0.08	0.07	—	0.07	—	606	606	0.02	< 0.005	—	608
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.46	0.60	< 0.005	0.01	—	0.01	0.01	—	0.01	—	100	100	< 0.005	< 0.005	—	101
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.98	0.90	0.63	7.13	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,519	1,519	0.06	0.08	0.13	1,544
Vendor	0.37	0.25	12.6	2.50	0.11	0.21	0.85	1.06	0.21	0.32	0.53	—	13,600	13,600	0.22	2.02	0.73	14,210
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.06	0.80	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	172	172	0.01	0.01	0.24	175
Vendor	0.04	0.03	1.35	0.27	0.01	0.02	0.09	0.12	0.02	0.03	0.06	—	1,490	1,490	0.02	0.22	1.33	1,558
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.15	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	28.5	28.5	< 0.005	< 0.005	0.04	29.0
Vendor	0.01	0.01	0.25	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	247	247	< 0.005	0.04	0.22	258
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	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	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	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	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	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	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	77.4	77.4	0.01	< 0.005	—	78.1
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	77.4	77.4	0.01	< 0.005	—	78.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	77.4	77.4	0.01	< 0.005	—	78.1
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	77.4	77.4	0.01	< 0.005	—	78.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	12.8	12.8	< 0.005	< 0.005	—	12.9
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	12.8	12.8	< 0.005	< 0.005	—	12.9

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Site Preparation	Site Preparation	6/22/2026	7/17/2026	5.00	20.0	—
Grading	Grading	7/19/2026	9/11/2026	5.00	40.0	—
Energy Enclosure Installation	Building Construction	9/12/2026	2/25/2028	5.00	380	Energy Enclosure Installation

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
Site Preparation	Graders	Diesel	Average	4.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	4.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Energy Enclosure Installation	Cranes	Diesel	Average	2.00	8.00	367	0.29

Energy Enclosure Installation	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Energy Enclosure Installation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	0.00	8.00	367	0.40
Grading	Excavators	Diesel	Average	0.00	8.00	36.0	0.38
Grading	Rubber Tired Dozers	Diesel	Average	0.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	0.00	8.00	423	0.48
Energy Enclosure Installation	Forklifts	Diesel	Average	0.00	8.00	82.0	0.20
Energy Enclosure Installation	Welders	Diesel	Average	0.00	8.00	46.0	0.45
Site Preparation	Skid Steer Loaders	Diesel	Average	4.00	8.00	71.0	0.37
Grading	Plate Compactors	Diesel	Average	4.00	8.00	8.00	0.43
Grading	Rollers	Diesel	Average	4.00	8.00	36.0	0.38
Grading	Rubber Tired Loaders	Diesel	Average	4.00	8.00	150	0.36
Grading	Skid Steer Loaders	Diesel	Average	4.00	8.00	71.0	0.37
Energy Enclosure Installation	Air Compressors	Diesel	Average	4.00	8.00	37.0	0.48
Energy Enclosure Installation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Energy Enclosure Installation	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43
Energy Enclosure Installation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Energy Enclosure Installation	Rough Terrain Forklifts	Diesel	Average	2.00	8.00	96.0	0.40
Energy Enclosure Installation	Skid Steer Loaders	Diesel	Average	2.00	8.00	71.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	80.0	7.70	LDA,LDT1,LDT2
Site Preparation	Vendor	6.00	60.0	HHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	—	HHDT
Grading	—	—	—	—
Grading	Worker	80.0	7.70	LDA,LDT1,LDT2
Grading	Vendor	6.00	60.0	HHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	0.00	—	HHDT
Energy Enclosure Installation	—	—	—	—
Energy Enclosure Installation	Worker	300	7.70	LDA,LDT1,LDT2
Energy Enclosure Installation	Vendor	80.0	60.0	HHDT,MHDT
Energy Enclosure Installation	Hauling	0.00	20.0	HHDT
Energy Enclosure Installation	Onsite truck	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)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	20.0	0.00	—
Grading	0.00	0.00	40.0	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Refrigerated Warehouse-No Rail	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
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005
2028	0.00	204	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

Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	4,500	1,500	—

5.10.3. Landscape Equipment

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

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)
Refrigerated Warehouse-No Rail	0.00	204	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)
Refrigerated Warehouse-No Rail	0.00	57,219,436

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Refrigerated Warehouse-No Rail	0.00	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)

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Based on Project specific information provided

Land Use	Based on project specific information - Rounded up to 3 ksf because round numbers required
Construction: Off-Road Equipment	Project provided information . Equipment with a "0" quantity are default equipment that are not used in the analysis.
Construction: Trips and VMT	Based on project specific information provided
Operations: Vehicle Data	Mobile sources estimated under Phase 1 - Lithium Ion Battery Option
Operations: Consumer Products	No operational land uses modeled
Operations: Architectural Coatings	No operational land uses modeled
Operations: Landscape Equipment	No operational land uses modeled
Operations: Energy Use	No operational land uses modeled
Operations: Water and Waste Water	Dust Control for construction modeled here.
Operations: Solid Waste	No operational land uses modeled
Operations: Refrigerants	No operational land uses modeled
Construction: Dust From Material Movement	no import or export, material balanced onsite

Lithium Ion Battery - Phase 4 CalEEMod Output (Annual, Winter, Summer)

Key Energy - Phase 4 Lithium Ion Battery Option Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Key Energy - Phase 4 Lithium Ion Battery Option
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.50
Precipitation (days)	16.8
Location	36.13263447616909, -120.13458957268438
County	Fresno
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2530
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

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
Refrigerated Warehouse-No Rail	3.00	1000sqft	121	3,000	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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.59	3.89	35.2	49.6	0.16	1.08	5.66	6.58	1.00	1.49	2.36	—	20,839	20,839	0.49	2.14	33.0	21,522
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.47	3.76	36.1	48.9	0.16	1.08	5.66	6.58	1.00	1.49	2.36	—	20,650	20,650	0.51	2.15	0.86	21,303
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.64	2.22	20.6	25.3	0.10	0.58	3.36	3.88	0.54	0.89	1.38	—	12,155	12,155	0.30	1.22	7.52	12,533
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.48	0.40	3.77	4.61	0.02	0.11	0.61	0.71	0.10	0.16	0.25	—	2,012	2,012	0.05	0.20	1.25	2,075

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2028	4.59	3.89	35.2	49.6	0.16	1.08	5.66	6.58	1.00	1.49	2.36	—	20,839	20,839	0.49	2.14	33.0	21,522
2029	4.45	3.65	33.8	40.3	0.16	0.87	5.66	6.53	0.82	1.49	2.32	—	20,432	20,432	0.49	2.03	29.2	21,080
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	4.47	3.76	36.1	48.9	0.16	1.08	5.66	6.58	1.00	1.49	2.36	—	20,650	20,650	0.51	2.15	0.86	21,303
2029	4.34	3.53	34.8	38.7	0.16	0.87	5.66	6.53	0.82	1.49	2.32	—	20,247	20,247	0.51	2.04	0.76	20,869
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	2.64	2.22	19.9	25.3	0.08	0.58	2.75	3.32	0.54	0.71	1.25	—	10,646	10,646	0.27	1.00	6.68	10,957
2029	2.60	2.12	20.6	23.2	0.10	0.52	3.36	3.88	0.49	0.89	1.38	—	12,155	12,155	0.30	1.22	7.52	12,533
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	0.48	0.40	3.64	4.61	0.02	0.11	0.50	0.61	0.10	0.13	0.23	—	1,763	1,763	0.05	0.17	1.11	1,814
2029	0.47	0.39	3.77	4.24	0.02	0.10	0.61	0.71	0.09	0.16	0.25	—	2,012	2,012	0.05	0.20	1.25	2,075

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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	124	124	0.02	< 0.005	0.00	125
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	124	124	0.02	< 0.005	0.00	125
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	124	124	0.02	< 0.005	0.00	125

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.5	20.5	< 0.005	< 0.005	0.00	20.7

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	124	124	0.02	< 0.005	—	125
Waste	—	—	—	—	—	—	—	—	—	—	—	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	0.00	0.00	0.00	0.00	0.00	0.00	124	124	0.02	< 0.005	0.00	125
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	124	124	0.02	< 0.005	—	125
Waste	—	—	—	—	—	—	—	—	—	—	—	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	0.00	0.00	0.00	0.00	0.00	0.00	124	124	0.02	< 0.005	0.00	125
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	124	124	0.02	< 0.005	—	125
Waste	—	—	—	—	—	—	—	—	—	—	—	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	0.00	0.00	0.00	0.00	0.00	0.00	124	124	0.02	< 0.005	0.00	125
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	20.5	20.5	< 0.005	< 0.005	—	20.7
Waste	—	—	—	—	—	—	—	—	—	—	—	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	0.00	0.00	0.00	0.00	0.00	0.00	20.5	20.5	< 0.005	< 0.005	0.00	20.7

3. Construction Emissions Details

3.1. Site Preparation (2028) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.03	2.54	20.1	40.9	0.06	0.89	—	0.89	0.82	—	0.82	—	6,423	6,423	0.26	0.05	—	6,445
Dust From Material Movement	—	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.10	2.24	< 0.005	0.05	—	0.05	0.04	—	0.04	—	352	352	0.01	< 0.005	—	353
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.20	0.41	< 0.005	0.01	—	0.01	0.01	—	0.01	—	58.3	58.3	< 0.005	< 0.005	—	58.5
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.36	0.25	2.85	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	608	608	0.02	0.03	0.05	617
Vendor	0.05	0.02	1.71	0.29	0.01	0.03	0.13	0.16	0.03	0.04	0.07	—	1,538	1,538	0.02	0.25	0.08	1,612
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.16	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	34.5	34.5	< 0.005	< 0.005	0.05	35.0

Vendor	< 0.005	< 0.005	0.09	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	84.3	84.3	< 0.005	0.01	0.08	88.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	5.71	5.71	< 0.005	< 0.005	0.01	5.80
Vendor	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.9	13.9	< 0.005	< 0.005	0.01	14.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2028) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.76	3.16	24.5	45.7	0.07	1.05	—	1.05	0.97	—	0.97	—	7,128	7,128	0.29	0.06	—	7,152
Dust From Material Movement	—	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.76	3.16	24.5	45.7	0.07	1.05	—	1.05	0.97	—	0.97	—	7,128	7,128	0.29	0.06	—	7,152
Dust From Material Movement	—	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.35	2.69	5.01	0.01	0.12	—	0.12	0.11	—	0.11	—	781	781	0.03	0.01	—	784
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.06	0.49	0.91	< 0.005	0.02	—	0.02	0.02	—	0.02	—	129	129	0.01	< 0.005	—	130
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.41	0.20	3.54	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	684	684	0.02	0.03	2.01	695
Vendor	0.05	0.02	1.60	0.29	0.01	0.03	0.13	0.16	0.03	0.04	0.07	—	1,537	1,537	0.02	0.25	3.25	1,614
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.36	0.25	2.85	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	608	608	0.02	0.03	0.05	617
Vendor	0.05	0.02	1.71	0.29	0.01	0.03	0.13	0.16	0.03	0.04	0.07	—	1,538	1,538	0.02	0.25	0.08	1,612

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.02	0.32	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	69.0	69.0	< 0.005	< 0.005	0.10	70.0
Vendor	0.01	< 0.005	0.18	0.03	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	0.01	—	169	169	< 0.005	0.03	0.15	177
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	11.4	11.4	< 0.005	< 0.005	0.02	11.6
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	27.9	27.9	< 0.005	< 0.005	0.03	29.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2028) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.12	2.61	22.9	29.8	0.06	0.71	—	0.71	0.65	—	0.65	—	5,531	5,531	0.22	0.04	—	5,550
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.12	2.61	22.9	29.8	0.06	0.71	—	0.71	0.65	—	0.65	—	5,531	5,531	0.22	0.04	—	5,550
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.38	1.15	10.1	13.2	0.02	0.31	—	0.31	0.29	—	0.29	—	2,446	2,446	0.10	0.02	—	2,455
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.85	2.40	< 0.005	0.06	—	0.06	0.05	—	0.05	—	405	405	0.02	< 0.005	—	406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.10	1.03	0.49	8.84	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,710	1,710	0.05	0.07	5.02	1,737
Vendor	0.37	0.25	11.8	2.47	0.11	0.21	0.85	1.06	0.21	0.32	0.53	—	13,598	13,598	0.22	2.02	28.0	14,235
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.98	0.90	0.63	7.13	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,519	1,519	0.06	0.08	0.13	1,544
Vendor	0.37	0.25	12.6	2.50	0.11	0.21	0.85	1.06	0.21	0.32	0.53	—	13,600	13,600	0.22	2.02	0.73	14,210
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.41	0.25	3.22	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	696	696	0.02	0.03	0.96	707
Vendor	0.16	0.11	5.47	1.10	0.05	0.09	0.37	0.47	0.09	0.14	0.23	—	6,014	6,014	0.10	0.90	5.35	6,289
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.04	0.59	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	115	115	< 0.005	0.01	0.16	117
Vendor	0.03	0.02	1.00	0.20	0.01	0.02	0.07	0.09	0.02	0.03	0.04	—	996	996	0.02	0.15	0.89	1,041
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2029) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.04	2.54	22.3	29.6	0.06	0.66	—	0.66	0.61	—	0.61	—	5,531	5,531	0.22	0.04	—	5,550
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.04	2.54	22.3	29.6	0.06	0.66	—	0.66	0.61	—	0.61	—	5,531	5,531	0.22	0.04	—	5,550
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.82	1.52	13.3	17.8	0.03	0.40	—	0.40	0.37	—	0.37	—	3,312	3,312	0.13	0.03	—	3,323
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	0.28	2.43	3.24	0.01	0.07	—	0.07	0.07	—	0.07	—	548	548	0.02	< 0.005	—	550
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.03	0.96	0.43	8.25	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,679	1,679	0.04	0.07	4.49	1,705
Vendor	0.37	0.14	11.2	2.36	0.11	0.21	0.85	1.06	0.21	0.32	0.53	—	13,223	13,223	0.22	1.92	24.7	13,825
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.93	0.85	0.57	6.67	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,491	1,491	0.06	0.08	0.12	1,516
Vendor	0.37	0.14	11.9	2.39	0.11	0.21	0.85	1.06	0.21	0.32	0.53	—	13,225	13,225	0.22	1.92	0.64	13,803
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.56	0.51	0.30	4.04	0.00	0.00	0.06	0.06	0.00	0.00	0.00	—	925	925	0.03	0.04	1.16	939
Vendor	0.22	0.09	7.01	1.42	0.06	0.13	0.51	0.63	0.13	0.19	0.32	—	7,919	7,919	0.13	1.15	6.36	8,271
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.05	0.74	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	153	153	< 0.005	0.01	0.19	156
Vendor	0.04	0.02	1.28	0.26	0.01	0.02	0.09	0.12	0.02	0.03	0.06	—	1,311	1,311	0.02	0.19	1.05	1,369
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Refrigera Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	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	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	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	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	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	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	124	124	0.02	< 0.005	—	125
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	124	124	0.02	< 0.005	—	125

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	124	124	0.02	< 0.005	—	125
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	124	124	0.02	< 0.005	—	125
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	20.5	20.5	< 0.005	< 0.005	—	20.7
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	20.5	20.5	< 0.005	< 0.005	—	20.7

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Refrigera Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Site Preparation	Site Preparation	2/28/2028	3/24/2028	5.00	20.0	—
Grading	Grading	3/25/2028	5/19/2028	5.00	40.0	—
Energy Enclosure Installation	Building Construction	5/20/2028	11/2/2029	5.00	380	Energy Enclosure Installation

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
Site Preparation	Graders	Diesel	Average	4.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	4.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Energy Enclosure Installation	Cranes	Diesel	Average	2.00	8.00	367	0.29
Energy Enclosure Installation	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Energy Enclosure Installation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	0.00	8.00	367	0.40
Grading	Excavators	Diesel	Average	0.00	8.00	36.0	0.38
Grading	Rubber Tired Dozers	Diesel	Average	0.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	0.00	8.00	423	0.48

Energy Enclosure Installation	Forklifts	Diesel	Average	0.00	8.00	82.0	0.20
Energy Enclosure Installation	Welders	Diesel	Average	0.00	8.00	46.0	0.45
Site Preparation	Rubber Tired Loaders	Diesel	Average	4.00	8.00	150	0.36
Site Preparation	Skid Steer Loaders	Diesel	Average	4.00	8.00	71.0	0.37
Grading	Plate Compactors	Diesel	Average	4.00	8.00	8.00	0.43
Grading	Rollers	Diesel	Average	4.00	8.00	36.0	0.38
Grading	Rubber Tired Loaders	Diesel	Average	4.00	8.00	150	0.36
Grading	Skid Steer Loaders	Diesel	Average	4.00	8.00	71.0	0.37
Energy Enclosure Installation	Air Compressors	Diesel	Average	4.00	8.00	37.0	0.48
Energy Enclosure Installation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Energy Enclosure Installation	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43
Energy Enclosure Installation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Energy Enclosure Installation	Rough Terrain Forklifts	Diesel	Average	2.00	8.00	96.0	0.40
Energy Enclosure Installation	Skid Steer Loaders	Diesel	Average	2.00	8.00	71.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	120	7.70	LDA,LDT1,LDT2
Site Preparation	Vendor	8.00	60.0	HHDT

Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	—	HHDT
Grading	—	—	—	—
Grading	Worker	120	7.70	LDA,LDT1,LDT2
Grading	Vendor	8.00	60.0	HHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	0.00	—	HHDT
Energy Enclosure Installation	—	—	—	—
Energy Enclosure Installation	Worker	300	7.70	LDA,LDT1,LDT2
Energy Enclosure Installation	Vendor	80.0	60.0	HHDT,MHDT
Energy Enclosure Installation	Hauling	0.00	20.0	HHDT
Energy Enclosure Installation	Onsite truck	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)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	20.0	0.00	—
Grading	0.00	0.00	40.0	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Refrigerated Warehouse-No Rail	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
2028	0.00	204	0.03	< 0.005
2029	0.00	204	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
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	4,500	1,500	—

5.10.3. Landscape Equipment

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

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)
Refrigerated Warehouse-No Rail	0.00	204	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)
Refrigerated Warehouse-No Rail	0.00	91,629,301

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)

Refrigerated Warehouse-No Rail	0.00	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)

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Based on Project specific information provided
Land Use	Based on project specific information
Construction: Off-Road Equipment	Project provided information . Equipment with a "0" quantity are default equipment that are not used in the analysis.
Construction: Trips and VMT	Based on project specific information provided
Operations: Vehicle Data	Mobile sources estimated under Phase 1 - Lithium Ion Battery Option
Operations: Consumer Products	No operational land uses modeled
Operations: Architectural Coatings	No operational land uses modeled
Operations: Landscape Equipment	No operational land uses modeled
Operations: Energy Use	No operational land uses modeled

Operations: Water and Waste Water	Dust Control for construction modeled here.
Operations: Solid Waste	No operational land uses modeled
Operations: Refrigerants	No operational land uses modeled
Construction: Dust From Material Movement	no import or export, material balanced onsite
Operations: Fleet Mix	Updated to reflect 100% MDV for worker truck access to site

Lithium Ion Battery w Iron Flow - Phase 1 CalEEMod Output (Annual, Winter, Summer)

Key Energy - Lithium Ion and Iron Flow Battery Option - Phase 1 Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Key Energy - Lithium Ion and Iron Flow Battery Option - Phase 1
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.50
Precipitation (days)	16.8
Location	36.13263447616909, -120.13458957268438
County	Fresno
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2530
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

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
Refrigerated Warehouse-No Rail	0.75	1000sqft	69.0	750	0.00	—	—	—
General Office Building	1.00	1000sqft	0.50	1,000	0.00	—	—	—

Unrefrigerated Warehouse-No Rail	2.00	1000sqft	0.50	2,000	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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.74	6.39	67.4	68.8	0.21	2.18	4.99	7.18	2.02	1.34	3.36	—	26,315	26,315	0.68	2.26	45.0	27,050
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	11.6	9.78	86.4	96.5	0.21	3.96	9.00	12.7	3.65	3.97	7.56	—	26,195	26,195	0.69	2.26	1.17	26,886
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.07	3.40	29.1	35.2	0.09	1.07	3.02	4.09	0.99	0.90	1.89	—	11,239	11,239	0.33	0.94	8.85	11,535
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.74	0.62	5.31	6.42	0.02	0.19	0.55	0.75	0.18	0.16	0.34	—	1,861	1,861	0.05	0.16	1.47	1,910

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	5.13	4.28	34.7	45.4	0.11	1.12	3.95	5.07	1.04	1.01	2.05	—	15,110	15,110	0.44	1.19	29.4	15,506
2025	7.74	6.39	67.4	68.8	0.21	2.18	4.99	7.18	2.02	1.34	3.36	—	26,315	26,315	0.68	2.26	45.0	27,050
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	11.6	9.78	86.4	96.5	0.14	3.96	9.00	12.7	3.65	3.97	7.56	—	17,008	17,008	0.65	1.19	0.76	17,151
2025	7.67	6.32	68.5	67.4	0.21	2.18	4.99	7.18	2.02	1.34	3.36	—	26,195	26,195	0.69	2.26	1.17	26,886
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.07	3.40	29.1	35.2	0.08	1.07	3.02	4.09	0.99	0.90	1.89	—	10,385	10,385	0.33	0.72	7.57	10,616
2025	3.45	2.91	27.4	30.2	0.09	0.86	2.55	3.40	0.80	0.66	1.46	—	11,239	11,239	0.29	0.94	8.85	11,535
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.74	0.62	5.31	6.42	0.01	0.19	0.55	0.75	0.18	0.16	0.34	—	1,719	1,719	0.05	0.12	1.25	1,758
2025	0.63	0.53	4.99	5.52	0.02	0.16	0.46	0.62	0.15	0.12	0.27	—	1,861	1,861	0.05	0.16	1.47	1,910

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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.06	0.14	0.05	0.81	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	< 0.005	348	348	0.02	0.01	0.67	352
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.06	0.14	0.07	0.58	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	< 0.005	328	328	0.02	0.01	0.02	331

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.04	0.12	0.04	0.45	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	< 0.005	270	270	0.02	0.01	0.21	273
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.02	0.01	0.08	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	44.8	44.8	< 0.005	< 0.005	0.03	45.2

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.06	0.06	0.05	0.81	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	235	235	< 0.005	0.01	0.67	238
Area	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	35.4	35.4	0.01	< 0.005	—	35.8
Water	—	—	—	—	—	—	—	—	—	—	—	< 0.005	77.6	77.6	0.01	< 0.005	—	78.4
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.06	0.14	0.05	0.81	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	< 0.005	348	348	0.02	0.01	0.67	352
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.06	0.05	0.07	0.58	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	214	214	0.01	0.01	0.02	216
Area	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	35.4	35.4	0.01	< 0.005	—	35.8
Water	—	—	—	—	—	—	—	—	—	—	—	< 0.005	77.6	77.6	0.01	< 0.005	—	78.4
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

Total	0.06	0.14	0.07	0.58	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	< 0.005	328	328	0.02	0.01	0.02	331
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.04	0.04	0.04	0.45	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	157	157	< 0.005	< 0.005	0.21	159
Area	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	35.4	35.4	0.01	< 0.005	—	35.8
Water	—	—	—	—	—	—	—	—	—	—	—	< 0.005	77.6	77.6	0.01	< 0.005	—	78.4
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.04	0.12	0.04	0.45	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	< 0.005	270	270	0.02	0.01	0.21	273
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.01	0.01	0.01	0.08	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.1	26.1	< 0.005	< 0.005	0.03	26.3
Area	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	5.86	5.86	< 0.005	< 0.005	—	5.92
Water	—	—	—	—	—	—	—	—	—	—	—	< 0.005	12.9	12.9	< 0.005	< 0.005	—	13.0
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.01	0.02	0.01	0.08	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	44.8	44.8	< 0.005	< 0.005	0.03	45.2

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.84	3.23	29.2	40.8	0.06	1.46	—	1.46	1.34	—	1.34	—	6,415	6,415	0.26	0.05	—	6,438
Dust From Material Movement	—	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.18	1.60	2.24	< 0.005	0.08	—	0.08	0.07	—	0.07	—	352	352	0.01	< 0.005	—	353
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.29	0.41	< 0.005	0.01	—	0.01	0.01	—	0.01	—	58.2	58.2	< 0.005	< 0.005	—	58.4
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.33	0.34	3.37	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	644	644	0.02	0.03	0.08	653
Vendor	0.03	0.01	0.98	0.16	0.01	0.02	0.06	0.08	0.02	0.02	0.04	—	841	841	0.02	0.13	0.05	882
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.19	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	36.6	36.6	< 0.005	< 0.005	0.07	37.2
Vendor	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	46.1	46.1	< 0.005	0.01	0.05	48.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	6.06	6.06	< 0.005	< 0.005	0.01	6.15
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.63	7.63	< 0.005	< 0.005	0.01	8.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	5.60	4.70	46.3	41.3	0.06	2.06	—	2.06	1.90	—	1.90	—	6,674	6,674	0.27	0.05	—	6,697

Dust From Material Movement	—	—	—	—	—	—	6.81	6.81	—	3.50	3.50	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	0.26	2.54	2.27	< 0.005	0.11	—	0.11	0.10	—	0.10	—	366	366	0.01	< 0.005	—	367
Dust From Material Movement	—	—	—	—	—	—	0.37	0.37	—	0.19	0.19	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.46	0.41	< 0.005	0.02	—	0.02	0.02	—	0.02	—	60.5	60.5	< 0.005	< 0.005	—	60.8
Dust From Material Movement	—	—	—	—	—	—	0.07	0.07	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.17	0.17	1.68	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	322	322	0.01	0.01	0.04	326
Vendor	0.06	0.03	1.95	0.32	0.01	0.03	0.13	0.16	0.03	0.04	0.07	—	1,683	1,683	0.03	0.27	0.11	1,763
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	18.3	18.3	< 0.005	< 0.005	0.03	18.6
Vendor	< 0.005	< 0.005	0.10	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	92.2	92.2	< 0.005	0.01	0.10	96.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	3.03	3.03	< 0.005	< 0.005	0.01	3.08
Vendor	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.3	15.3	< 0.005	< 0.005	0.02	16.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.71	3.95	33.9	45.7	0.07	1.69	—	1.69	1.55	—	1.55	—	7,120	7,120	0.29	0.06	—	7,144
Dust From Material Movement	—	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.43	3.71	5.01	0.01	0.18	—	0.18	0.17	—	0.17	—	780	780	0.03	0.01	—	783

Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.68	0.91	< 0.005	0.03	—	0.03	0.03	—	0.03	—	129	129	0.01	< 0.005	—	130
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.33	0.34	3.37	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	644	644	0.02	0.03	0.08	653
Vendor	0.03	0.01	0.98	0.16	0.01	0.02	0.06	0.08	0.02	0.02	0.04	—	841	841	0.02	0.13	0.05	882
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.39	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	73.2	73.2	< 0.005	< 0.005	0.14	74.3
Vendor	< 0.005	< 0.005	0.10	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	92.2	92.2	< 0.005	0.01	0.10	96.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	12.1	12.1	< 0.005	< 0.005	0.02	12.3
Vendor	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.3	15.3	< 0.005	< 0.005	0.02	16.0

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Grading (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	6.31	5.30	50.0	45.4	0.07	2.25	—	2.25	2.07	—	2.07	—	7,240	7,240	0.29	0.06	—	7,265
Dust From Material Movement	—	—	—	—	—	—	6.81	6.81	—	3.50	3.50	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.15	1.37	1.24	< 0.005	0.06	—	0.06	0.06	—	0.06	—	198	198	0.01	< 0.005	—	199
Dust From Material Movement	—	—	—	—	—	—	0.19	0.19	—	0.10	0.10	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.25	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	32.8	32.8	< 0.005	< 0.005	—	33.0

Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.17	0.17	1.68	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	322	322	0.01	0.01	0.04	326
Vendor	0.03	0.01	0.98	0.16	0.01	0.02	0.06	0.08	0.02	0.02	0.04	—	841	841	0.02	0.13	0.05	882
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	9.15	9.15	< 0.005	< 0.005	0.02	9.29
Vendor	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	23.0	23.0	< 0.005	< 0.005	0.02	24.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.51	1.51	< 0.005	< 0.005	< 0.005	1.54
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.82	3.82	< 0.005	< 0.005	< 0.005	4.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.61	3.02	26.7	30.2	0.06	1.01	—	1.01	0.93	—	0.93	—	5,530	5,530	0.22	0.04	—	5,549
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.61	3.02	26.7	30.2	0.06	1.01	—	1.01	0.93	—	0.93	—	5,530	5,530	0.22	0.04	—	5,549
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.01	1.68	14.8	16.8	0.03	0.56	—	0.56	0.52	—	0.52	—	3,073	3,073	0.12	0.02	—	3,084
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.31	2.71	3.06	0.01	0.10	—	0.10	0.09	—	0.09	—	509	509	0.02	< 0.005	—	511
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.22	1.14	0.79	13.4	0.00	0.00	0.12	0.12	0.00	0.00	0.00	—	2,182	2,182	0.11	0.08	8.81	2,218
Vendor	0.29	0.13	7.25	1.78	0.05	0.11	0.42	0.53	0.11	0.16	0.26	—	7,398	7,398	0.11	1.07	20.6	7,739
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.09	0.99	1.01	10.1	0.00	0.00	0.12	0.12	0.00	0.00	0.00	—	1,932	1,932	0.06	0.08	0.23	1,958
Vendor	0.29	0.12	7.80	1.74	0.05	0.11	0.42	0.53	0.11	0.16	0.26	—	7,399	7,399	0.11	1.07	0.53	7,720
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.61	0.56	0.48	5.88	0.00	0.00	0.07	0.07	0.00	0.00	0.00	—	1,113	1,113	0.06	0.05	2.12	1,130
Vendor	0.16	0.07	4.24	0.96	0.03	0.06	0.24	0.29	0.06	0.09	0.15	—	4,112	4,112	0.06	0.59	4.92	4,295
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.09	1.07	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	184	184	0.01	0.01	0.35	187
Vendor	0.03	0.01	0.77	0.18	0.01	0.01	0.04	0.05	0.01	0.02	0.03	—	681	681	0.01	0.10	0.81	711
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.44	2.87	25.4	30.0	0.06	0.91	—	0.91	0.84	—	0.84	—	5,530	5,530	0.22	0.04	—	5,549
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.44	2.87	25.4	30.0	0.06	0.91	—	0.91	0.84	—	0.84	—	5,530	5,530	0.22	0.04	—	5,549
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.25	1.04	9.18	10.9	0.02	0.33	—	0.33	0.30	—	0.30	—	2,002	2,002	0.08	0.02	—	2,009
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.19	1.68	1.99	< 0.005	0.06	—	0.06	0.06	—	0.06	—	331	331	0.01	< 0.005	—	333
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.15	1.07	0.72	12.3	0.00	0.00	0.12	0.12	0.00	0.00	0.00	—	2,135	2,135	0.04	0.08	8.07	2,169
Vendor	0.24	0.13	6.87	1.56	0.05	0.11	0.42	0.53	0.11	0.16	0.26	—	7,266	7,266	0.11	1.07	20.5	7,607
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.03	0.94	0.88	9.26	0.00	0.00	0.12	0.12	0.00	0.00	0.00	—	1,892	1,892	0.06	0.08	0.21	1,918
Vendor	0.24	0.12	7.37	1.58	0.05	0.11	0.42	0.53	0.11	0.16	0.26	—	7,267	7,267	0.11	1.07	0.53	7,588
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.38	0.35	0.29	3.52	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	710	710	0.02	0.03	1.26	721
Vendor	0.09	0.05	2.61	0.57	0.02	0.04	0.15	0.19	0.04	0.06	0.10	—	2,631	2,631	0.04	0.39	3.20	2,750

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.64	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	118	118	< 0.005	< 0.005	0.21	119
Vendor	0.02	0.01	0.48	0.10	< 0.005	0.01	0.03	0.03	0.01	0.01	0.02	—	436	436	0.01	0.06	0.53	455
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Building Construction (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	6.68	5.60	53.3	59.6	0.10	1.97	—	1.97	1.81	—	1.81	—	10,714	10,714	0.43	0.09	—	10,751
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	6.68	5.60	53.3	59.6	0.10	1.97	—	1.97	1.81	—	1.81	—	10,714	10,714	0.43	0.09	—	10,751
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.46	1.23	11.7	13.1	0.02	0.43	—	0.43	0.40	—	0.40	—	2,348	2,348	0.10	0.02	—	2,356
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.27	0.22	2.13	2.38	< 0.005	0.08	—	0.08	0.07	—	0.07	—	389	389	0.02	< 0.005	—	390
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.57	0.53	0.36	6.13	0.00	0.00	0.06	0.06	0.00	0.00	0.00	—	1,068	1,068	0.02	0.04	4.04	1,084
Vendor	0.48	0.25	13.7	3.12	0.11	0.21	0.85	1.06	0.21	0.32	0.53	—	14,533	14,533	0.22	2.13	41.0	15,214
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.52	0.47	0.44	4.63	0.00	0.00	0.06	0.06	0.00	0.00	0.00	—	946	946	0.03	0.04	0.10	959
Vendor	0.47	0.25	14.7	3.16	0.11	0.21	0.85	1.06	0.21	0.32	0.53	—	14,534	14,534	0.22	2.13	1.07	15,176
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.09	1.06	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	215	215	0.01	0.01	0.38	218
Vendor	0.10	0.05	3.16	0.69	0.02	0.05	0.19	0.23	0.05	0.07	0.12	—	3,185	3,185	0.05	0.47	3.88	3,330
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.19	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	35.6	35.6	< 0.005	< 0.005	0.06	36.1
Vendor	0.02	0.01	0.58	0.13	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	527	527	0.01	0.08	0.64	551
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Building Construction (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.19	0.99	8.33	8.29	0.02	0.32	—	0.32	0.30	—	0.30	—	1,714	1,714	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.11	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23.5	23.5	< 0.005	< 0.005	—	23.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.89	3.89	< 0.005	< 0.005	—	3.90
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.34	0.31	0.29	3.09	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	631	631	0.02	0.03	0.07	639
Vendor	0.05	0.02	1.89	0.32	0.01	0.03	0.13	0.16	0.03	0.04	0.07	—	1,650	1,650	0.03	0.26	0.11	1,727
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	8.95	8.95	< 0.005	< 0.005	0.02	9.09
Vendor	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	22.6	22.6	< 0.005	< 0.005	0.02	23.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.48	1.48	< 0.005	< 0.005	< 0.005	1.50
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.74	3.74	< 0.005	< 0.005	< 0.005	3.92
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Building Construction (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.28	2.63	3.47	0.01	0.11	—	0.11	0.10	—	0.10	—	547	547	0.02	< 0.005	—	549
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.0	15.0	< 0.005	< 0.005	—	15.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.48	2.48	< 0.005	< 0.005	—	2.49
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.34	0.31	0.29	3.09	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	631	631	0.02	0.03	0.07	639
Vendor	0.05	0.02	1.89	0.32	0.01	0.03	0.13	0.16	0.03	0.04	0.07	—	1,650	1,650	0.03	0.26	0.11	1,727
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	17.9	17.9	< 0.005	< 0.005	0.03	18.2
Vendor	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	45.2	45.2	< 0.005	0.01	0.05	47.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.97	2.97	< 0.005	< 0.005	0.01	3.01
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.48	7.48	< 0.005	< 0.005	0.01	7.84
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.19. Architectural Coating (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	0.51	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.4	12.4	< 0.005	< 0.005	—	12.5
Architectural Coatings	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.06	2.06	< 0.005	< 0.005	—	2.07
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	17.8	17.8	< 0.005	< 0.005	0.07	18.1

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.52	1.52	< 0.005	< 0.005	< 0.005	1.54
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.25	0.25	< 0.005	< 0.005	< 0.005	0.26
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	0.00	0.00	0.00	0.00	0.00	—	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.06	0.06	0.05	0.81	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	235	235	< 0.005	0.01	0.67	238

General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.06	0.06	0.05	0.81	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	235	235	< 0.005	0.01	0.67	238
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.06	0.05	0.07	0.58	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	214	214	0.01	0.01	0.02	216
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.06	0.05	0.07	0.58	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	214	214	0.01	0.01	0.02	216
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.01	0.01	0.01	0.08	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.1	26.1	< 0.005	< 0.005	0.03	26.3
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Unrefrigerated Warehou Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.01	0.01	0.01	0.08	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.1	26.1	< 0.005	< 0.005	0.03	26.3

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	10.3	10.3	< 0.005	< 0.005	—	10.4
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	13.1	13.1	< 0.005	< 0.005	—	13.2
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	12.0	12.0	< 0.005	< 0.005	—	12.1
Total	—	—	—	—	—	—	—	—	—	—	—	—	35.4	35.4	0.01	< 0.005	—	35.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Refrigerated Warehouse-No	—	—	—	—	—	—	—	—	—	—	—	—	10.3	10.3	< 0.005	< 0.005	—	10.4
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	13.1	13.1	< 0.005	< 0.005	—	13.2
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	12.0	12.0	< 0.005	< 0.005	—	12.1
Total	—	—	—	—	—	—	—	—	—	—	—	—	35.4	35.4	0.01	< 0.005	—	35.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1.70	1.70	< 0.005	< 0.005	—	1.72
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	2.17	2.17	< 0.005	< 0.005	—	2.19
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1.99	1.99	< 0.005	< 0.005	—	2.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	5.86	5.86	< 0.005	< 0.005	—	5.92

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	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	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	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	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Refrigerated Warehou Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	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	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	77.6	77.6	0.01	< 0.005	—	78.4
General Office Building	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.01
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	< 0.005	77.6	77.6	0.01	< 0.005	—	78.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	77.6	77.6	0.01	< 0.005	—	78.4
General Office Building	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.01
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	< 0.005	77.6	77.6	0.01	< 0.005	—	78.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	12.9	12.9	< 0.005	< 0.005	—	13.0
General Office Building	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	< 0.005	12.9	12.9	< 0.005	< 0.005	—	13.0

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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
Site Preparation	Site Preparation	1/1/2024	1/26/2024	5.00	20.0	—
Project Substation Site Prep	Site Preparation	1/1/2024	1/26/2024	5.00	20.0	Project Substation Site Prep
Grading	Grading	1/27/2024	3/22/2024	5.00	40.0	—
Project Substation Site Grading	Grading	1/27/2024	2/9/2024	5.00	10.0	—
Energy Storage Enclosure Installation	Building Construction	3/23/2024	7/4/2025	5.00	335	Energy Storage Enclosure Installation
Project Substation Installation	Building Construction	7/5/2025	10/24/2025	5.00	80.0	Project Substation Installation

Gen-Tie Foundation and Tower Erection	Building Construction	10/25/2025	10/31/2025	5.00	5.00	Gen-Tie Foundation and Tower Erection
Gen-Tie Stringing and Pulling	Building Construction	11/1/2025	11/14/2025	5.00	10.0	Gen-Tie Stringing and Pulling
Architectural Coating	Architectural Coating	5/20/2025	7/4/2025	5.00	34.0	—

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
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	4.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Energy Storage Enclosure Installation	Cranes	Diesel	Average	2.00	8.00	367	0.29
Energy Storage Enclosure Installation	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Energy Storage Enclosure Installation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Project Substation Site Prep	Rubber Tired Dozers	Diesel	Average	4.00	8.00	367	0.40
Project Substation Site Prep	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Project Substation Site Grading	Rubber Tired Dozers	Diesel	Average	4.00	8.00	367	0.40
Project Substation Site Grading	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Project Substation Installation	Cranes	Diesel	Average	2.00	8.00	367	0.29

Project Substation Installation	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Project Substation Installation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Gen-Tie Foundation and Tower Erection	Cranes	Diesel	Average	1.00	8.00	367	0.29
Gen-Tie Foundation and Tower Erection	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Gen-Tie Foundation and Tower Erection	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Gen-Tie Foundation and Tower Erection	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Gen-Tie Stringing and Pulling	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Gen-Tie Stringing and Pulling	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Gen-Tie Stringing and Pulling	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	0.00	8.00	367	0.40
Grading	Excavators	Diesel	Average	0.00	8.00	36.0	0.38
Grading	Rubber Tired Dozers	Diesel	Average	0.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	0.00	8.00	423	0.48
Project Substation Site Grading	Excavators	Diesel	Average	0.00	8.00	36.0	0.38
Project Substation Site Grading	Graders	Diesel	Average	0.00	8.00	148	0.41
Project Substation Site Grading	Scrapers	Diesel	Average	0.00	8.00	423	0.48
Energy Storage Enclosure Installation	Forklifts	Diesel	Average	0.00	8.00	82.0	0.20
Energy Storage Enclosure Installation	Welders	Diesel	Average	0.00	8.00	46.0	0.45

Project Substation Installation	Forklifts	Diesel	Average	0.00	8.00	82.0	0.20
Project Substation Installation	Welders	Diesel	Average	0.00	8.00	46.0	0.45
Gen-Tie Foundation and Tower Erection	Tractors/Loaders/Backhoes	Diesel	Average	0.00	7.00	84.0	0.37
Gen-Tie Stringing and Pulling	Cranes	Diesel	Average	0.00	7.00	367	0.29
Gen-Tie Stringing and Pulling	Welders	Diesel	Average	0.00	8.00	46.0	0.45
Site Preparation	Graders	Diesel	Average	4.00	8.00	148	0.41
Site Preparation	Skid Steer Loaders	Diesel	Average	4.00	8.00	71.0	0.37
Site Preparation	Rubber Tired Loaders	Diesel	Average	4.00	8.00	150	0.36
Grading	Plate Compactors	Diesel	Average	4.00	8.00	8.00	0.43
Grading	Rollers	Diesel	Average	4.00	8.00	36.0	0.38
Grading	Rubber Tired Loaders	Diesel	Average	4.00	8.00	150	0.36
Grading	Skid Steer Loaders	Diesel	Average	4.00	8.00	71.0	0.37
Project Substation Site Grading	Rollers	Diesel	Average	4.00	8.00	36.0	0.38
Energy Storage Enclosure Installation	Air Compressors	Diesel	Average	4.00	8.00	37.0	0.48
Energy Storage Enclosure Installation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Energy Storage Enclosure Installation	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43
Energy Storage Enclosure Installation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Energy Storage Enclosure Installation	Rough Terrain Forklifts	Diesel	Average	2.00	8.00	96.0	0.40
Energy Storage Enclosure Installation	Skid Steer Loaders	Diesel	Average	2.00	8.00	71.0	0.37

Project Substation Installation	Aerial Lifts	Diesel	Average	6.00	8.00	46.0	0.31
Project Substation Installation	Air Compressors	Diesel	Average	2.00	8.00	37.0	0.48
Project Substation Installation	Bore/Drill Rigs	Diesel	Average	2.00	8.00	83.0	0.50
Project Substation Installation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Project Substation Installation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Project Substation Installation	Rough Terrain Forklifts	Diesel	Average	2.00	8.00	96.0	0.40
Project Substation Installation	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Project Substation Installation	Skid Steer Loaders	Diesel	Average	2.00	8.00	71.0	0.37
Project Substation Installation	Trenchers	Diesel	Average	4.00	8.00	40.0	0.50
Gen-Tie Foundation and Tower Erection	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Gen-Tie Foundation and Tower Erection	Pumps	Diesel	Average	1.00	8.00	11.0	0.74

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	80.0	11.4	LDA,LDT1,LDT2
Site Preparation	Vendor	4.00	60.0	HHDT
Site Preparation	Hauling	0.00	20.0	HHDT

Site Preparation	Onsite truck	0.00	—	HHDT
Grading	—	—	—	—
Grading	Worker	80.0	11.4	LDA,LDT1,LDT2
Grading	Vendor	4.00	60.0	HHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	0.00	—	HHDT
Energy Storage Enclosure Installation	—	—	—	—
Energy Storage Enclosure Installation	Worker	240	11.4	LDA,LDT1,LDT2
Energy Storage Enclosure Installation	Vendor	40.0	60.0	HHDT,MHDT
Energy Storage Enclosure Installation	Hauling	0.00	20.0	HHDT
Energy Storage Enclosure Installation	Onsite truck	0.00	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.00	11.4	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	8.53	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	—	HHDT
Project Substation Site Prep	—	—	—	—
Project Substation Site Prep	Worker	40.0	11.4	LDA,LDT1,LDT2
Project Substation Site Prep	Vendor	8.00	60.0	HHDT
Project Substation Site Prep	Hauling	0.00	20.0	HHDT
Project Substation Site Prep	Onsite truck	0.00	—	HHDT
Project Substation Site Grading	—	—	—	—
Project Substation Site Grading	Worker	40.0	11.4	LDA,LDT1,LDT2
Project Substation Site Grading	Vendor	4.00	60.0	HHDT
Project Substation Site Grading	Hauling	0.00	20.0	HHDT
Project Substation Site Grading	Onsite truck	0.00	—	HHDT
Project Substation Installation	—	—	—	—

Project Substation Installation	Worker	120	11.4	LDA,LDT1,LDT2
Project Substation Installation	Vendor	80.0	60.0	HHDT,MHDT
Project Substation Installation	Hauling	0.00	20.0	HHDT
Project Substation Installation	Onsite truck	0.00	—	HHDT
Gen-Tie Foundation and Tower Erection	—	—	—	—
Gen-Tie Foundation and Tower Erection	Worker	80.0	11.4	LDA,LDT1,LDT2
Gen-Tie Foundation and Tower Erection	Vendor	8.00	60.0	HHDT
Gen-Tie Foundation and Tower Erection	Hauling	0.00	20.0	HHDT
Gen-Tie Foundation and Tower Erection	Onsite truck	0.00	—	HHDT
Gen-Tie Stringing and Pulling	—	—	—	—
Gen-Tie Stringing and Pulling	Worker	80.0	11.4	LDA,LDT1,LDT2
Gen-Tie Stringing and Pulling	Vendor	8.00	60.0	HHDT
Gen-Tie Stringing and Pulling	Hauling	0.00	20.0	HHDT
Gen-Tie Stringing and Pulling	Onsite truck	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)
Architectural Coating	0.00	0.00	5,625	1,875	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	20.0	0.00	—
Project Substation Site Prep	0.00	0.00	40.0	0.00	—
Grading	0.00	0.00	40.0	0.00	—
Project Substation Site Grading	0.00	0.00	20.0	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Refrigerated Warehouse-No Rail	0.00	0%
General Office Building	0.00	0%
Unrefrigerated Warehouse-No Rail	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
2024	0.00	204	0.03	< 0.005
2025	0.00	204	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
Refrigerated Warehouse-No Rail	16.0	0.00	0.00	4,171	238	0.00	0.00	61,997
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	5,625	1,875	—

5.10.3. Landscape Equipment

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

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)
Refrigerated Warehouse-No Rail	18,420	204	0.0330	0.0040	0.00
General Office Building	23,446	204	0.0330	0.0040	0.00
Unrefrigerated Warehouse-No Rail	21,480	204	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)
Refrigerated Warehouse-No Rail	0.00	57,414,946
General Office Building	1,008	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Refrigerated Warehouse-No Rail	0.00	0.00
General Office Building	0.00	0.00
Unrefrigerated Warehouse-No Rail	0.00	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
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

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)

8. User Changes to Default Data

Screen	Justification
Land Use	Total acreage for Phase 1 is 70 acres, 69 acres used for Refrigerated warehouse land use, 0.5 used for each of the O&M building land use types added
Construction: Construction Phases	Project construction schedule provided
Construction: Off-Road Equipment	Based on project provided construction equipment
Operations: Vehicle Data	Models operational trips for Annual Maintenance Activities. Average day/month trip emissions modeled in Lithium Ion Batter Option Phase 1
Operations: Landscape Equipment	No Landscaping
Operations: Energy Use	No natural gas connection to site. Electrical consumption based on cooling energy use only for refrigerated warehouse use.
Operations: Water and Waste Water	Water usage for Refrigerated warehouse is for construction activities for dust control. General Office Building is the total water usage for the O&M building
Operations: Solid Waste	No solid waste collection at site. All carry in/carry out for waste.

Operations: Refrigerants	No cold storage onsite
Operations: Fleet Mix	All trips MDV for worker truck use
Construction: Trips and VMT	Based on project specific information
Construction: Dust From Material Movement	All material balanced onsite, no import or export

Lithium Ion Battery w Iron Flow - Phase 2 CalEEMod Output (Annual, Winter, Summer)

Key Energy - Phase 2 Lithium Ion and Iron Flow Battery Option Custom Report

Table of Contents

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Key Energy - Phase 2 Lithium Ion and Iron Flow Battery Option
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.50
Precipitation (days)	16.8
Location	36.13263447616909, -120.13458957268438
County	Fresno
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2530
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

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
Refrigerated Warehouse-No Rail	2.00	1000sqft	55.0	2,000	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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.58	3.86	31.5	39.6	0.11	0.94	3.32	4.26	0.88	0.86	1.74	—	14,083	14,083	0.38	1.17	23.0	14,465
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.73	3.99	32.1	48.2	0.11	1.49	3.32	4.26	1.38	0.86	1.74	—	13,925	13,925	0.39	1.17	0.60	14,284
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.21	2.69	22.7	27.4	0.08	0.68	2.31	2.99	0.63	0.60	1.23	—	9,879	9,879	0.27	0.82	6.94	10,138
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.59	0.49	4.14	5.00	0.01	0.12	0.42	0.55	0.12	0.11	0.22	—	1,636	1,636	0.05	0.14	1.15	1,678

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2026	4.58	3.86	31.5	39.6	0.11	0.94	3.32	4.26	0.88	0.86	1.74	—	14,083	14,083	0.38	1.17	23.0	14,465
2027	4.40	3.73	30.4	38.8	0.11	0.88	3.32	4.20	0.82	0.86	1.68	—	13,899	13,899	0.37	1.11	20.4	14,261
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.73	3.99	31.9	48.2	0.07	1.49	1.21	2.70	1.38	0.22	1.60	—	8,379	8,379	0.33	0.21	0.10	8,449
2026	4.44	3.75	32.1	47.9	0.11	1.32	3.32	4.26	1.21	0.86	1.74	—	13,925	13,925	0.39	1.17	0.60	14,284
2027	4.29	3.58	31.0	37.3	0.11	0.88	3.32	4.20	0.82	0.86	1.68	—	13,744	13,744	0.39	1.12	0.53	14,088
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.28	0.24	1.93	2.98	< 0.005	0.09	0.08	0.17	0.08	0.01	0.10	—	523	523	0.02	0.01	0.11	527
2026	3.21	2.69	22.7	27.4	0.08	0.68	2.31	2.99	0.63	0.60	1.23	—	9,879	9,879	0.27	0.82	6.94	10,138
2027	1.36	1.15	9.76	11.9	0.03	0.28	1.04	1.32	0.26	0.27	0.53	—	4,371	4,371	0.12	0.35	2.79	4,483
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.05	0.04	0.35	0.54	< 0.005	0.02	0.01	0.03	0.02	< 0.005	0.02	—	86.6	86.6	< 0.005	< 0.005	0.02	87.3
2026	0.59	0.49	4.14	5.00	0.01	0.12	0.42	0.55	0.12	0.11	0.22	—	1,636	1,636	0.05	0.14	1.15	1,678
2027	0.25	0.21	1.78	2.16	0.01	0.05	0.19	0.24	0.05	0.05	0.10	—	724	724	0.02	0.06	0.46	742

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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.2	50.2	0.01	< 0.005	—	50.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.2	50.2	0.01	< 0.005	—	50.7

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.2	50.2	0.01	< 0.005	—	50.7
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.31	8.31	< 0.005	< 0.005	—	8.39

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	50.2	50.2	0.01	< 0.005	—	50.7
Waste	—	—	—	—	—	—	—	—	—	—	—	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	0.00	0.00	0.00	0.00	0.00	0.00	50.2	50.2	0.01	< 0.005	—	50.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	50.2	50.2	0.01	< 0.005	—	50.7
Waste	—	—	—	—	—	—	—	—	—	—	—	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	0.00	0.00	0.00	0.00	0.00	0.00	50.2	50.2	0.01	< 0.005	—	50.7

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	50.2	50.2	0.01	< 0.005	—	50.7
Waste	—	—	—	—	—	—	—	—	—	—	—	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	0.00	0.00	0.00	0.00	0.00	0.00	50.2	50.2	0.01	< 0.005	—	50.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	8.31	8.31	< 0.005	< 0.005	—	8.39
Waste	—	—	—	—	—	—	—	—	—	—	—	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	0.00	0.00	0.00	0.00	0.00	0.00	8.31	8.31	< 0.005	< 0.005	—	8.39

3. Construction Emissions Details

3.1. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.57	3.00	26.2	40.8	0.06	1.28	—	1.28	1.18	—	1.18	—	6,419	6,419	0.26	0.05	—	6,441
Dust From Material Movement	—	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.72	1.12	< 0.005	0.04	—	0.04	0.03	—	0.03	—	176	176	0.01	< 0.005	—	176
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.13	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	29.1	29.1	< 0.005	< 0.005	—	29.2
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.30	0.22	2.41	0.00	0.00	0.03	0.03	0.00	0.00	0.00	—	430	430	0.02	0.02	0.05	437

Vendor	0.03	0.01	0.94	0.16	0.01	0.02	0.06	0.08	0.02	0.02	0.04	—	825	825	0.02	0.13	0.05	864
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	12.2	12.2	< 0.005	< 0.005	0.02	12.4
Vendor	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	22.6	22.6	< 0.005	< 0.005	0.02	23.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.02	2.02	< 0.005	< 0.005	< 0.005	2.06
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.74	3.74	< 0.005	< 0.005	< 0.005	3.92
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.38	3.68	30.8	45.6	0.07	1.48	—	1.48	1.36	—	1.36	—	7,124	7,124	0.29	0.06	—	7,148
Dust From Material Movement	—	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.14	1.14	1.70	< 0.005	0.05	—	0.05	0.05	—	0.05	—	265	265	0.01	< 0.005	—	266
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.31	< 0.005	0.01	—	0.01	0.01	—	0.01	—	43.9	43.9	< 0.005	< 0.005	—	44.0
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.30	0.22	2.41	0.00	0.00	0.03	0.03	0.00	0.00	0.00	—	430	430	0.02	0.02	0.05	437
Vendor	0.03	0.01	0.94	0.16	0.01	0.02	0.06	0.08	0.02	0.02	0.04	—	825	825	0.02	0.13	0.05	864
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	16.6	16.6	< 0.005	< 0.005	0.03	16.9
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	30.7	30.7	< 0.005	< 0.005	0.03	32.1

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.74	2.74	< 0.005	< 0.005	< 0.005	2.79
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.08	5.08	< 0.005	< 0.005	0.01	5.32
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.11	3.45	28.1	45.5	0.07	1.30	—	1.30	1.20	—	1.20	—	7,123	7,123	0.29	0.06	—	7,148
Dust From Material Movement	—	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.50	0.80	< 0.005	0.02	—	0.02	0.02	—	0.02	—	125	125	0.01	< 0.005	—	126
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.8	20.8	< 0.005	< 0.005	—	20.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.28	0.20	2.22	0.00	0.00	0.03	0.03	0.00	0.00	0.00	—	422	422	0.02	0.02	0.04	428
Vendor	0.03	0.01	0.91	0.15	0.01	0.02	0.06	0.08	0.02	0.02	0.04	—	808	808	0.02	0.13	0.05	847
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	7.69	7.69	< 0.005	< 0.005	0.01	7.82
Vendor	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.2	14.2	< 0.005	< 0.005	0.01	14.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.27	1.27	< 0.005	< 0.005	< 0.005	1.29
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.36	2.36	< 0.005	< 0.005	< 0.005	2.47
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.33	2.78	24.5	29.9	0.06	0.84	—	0.84	0.77	—	0.77	—	5,530	5,530	0.22	0.04	—	5,549
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.33	2.78	24.5	29.9	0.06	0.84	—	0.84	0.77	—	0.77	—	5,530	5,530	0.22	0.04	—	5,549
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.32	1.93	17.1	20.8	0.04	0.58	—	0.58	0.54	—	0.54	—	3,853	3,853	0.16	0.03	—	3,866
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.11	3.80	0.01	0.11	—	0.11	0.10	—	0.10	—	638	638	0.03	0.01	—	640
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.02	0.95	0.50	8.22	0.00	0.00	0.08	0.08	0.00	0.00	0.00	—	1,425	1,425	0.04	0.06	4.95	1,449
Vendor	0.24	0.13	6.50	1.45	0.05	0.11	0.42	0.53	0.11	0.16	0.26	—	7,129	7,129	0.11	1.07	18.1	7,467
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.88	0.85	0.61	6.65	0.00	0.00	0.08	0.08	0.00	0.00	0.00	—	1,265	1,265	0.05	0.06	0.13	1,285
Vendor	0.24	0.12	7.00	1.47	0.05	0.11	0.42	0.53	0.11	0.16	0.26	—	7,130	7,130	0.11	1.07	0.47	7,450
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.65	0.60	0.38	4.72	0.00	0.00	0.06	0.06	0.00	0.00	0.00	—	913	913	0.03	0.04	1.49	928
Vendor	0.17	0.09	4.75	1.02	0.04	0.07	0.29	0.37	0.07	0.11	0.18	—	4,967	4,967	0.08	0.74	5.43	5,195
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.07	0.86	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	151	151	0.01	0.01	0.25	154
Vendor	0.03	0.02	0.87	0.19	0.01	0.01	0.05	0.07	0.01	0.02	0.03	—	822	822	0.01	0.12	0.90	860
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2027) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.23	2.70	23.8	29.8	0.06	0.78	—	0.78	0.71	—	0.71	—	5,530	5,530	0.22	0.04	—	5,549
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.23	2.70	23.8	29.8	0.06	0.78	—	0.78	0.71	—	0.71	—	5,530	5,530	0.22	0.04	—	5,549
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.02	0.86	7.54	9.45	0.02	0.25	—	0.25	0.23	—	0.23	—	1,753	1,753	0.07	0.01	—	1,759
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.38	1.73	< 0.005	0.04	—	0.04	0.04	—	0.04	—	290	290	0.01	< 0.005	—	291
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.92	0.90	0.44	7.60	0.00	0.00	0.08	0.08	0.00	0.00	0.00	—	1,395	1,395	0.04	0.06	4.47	1,417
Vendor	0.24	0.13	6.18	1.34	0.05	0.11	0.42	0.53	0.11	0.16	0.26	—	6,974	6,974	0.11	1.01	15.9	7,295
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.82	0.76	0.55	6.16	0.00	0.00	0.08	0.08	0.00	0.00	0.00	—	1,239	1,239	0.05	0.06	0.12	1,259

Vendor	0.24	0.12	6.62	1.36	0.05	0.11	0.42	0.53	0.11	0.16	0.26	—	6,975	6,975	0.11	1.01	0.41	7,280
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.26	0.16	1.98	0.00	0.00	0.03	0.03	0.00	0.00	0.00	—	407	407	0.01	0.02	0.61	414
Vendor	0.08	0.04	2.06	0.43	0.02	0.03	0.13	0.17	0.03	0.05	0.08	—	2,211	2,211	0.04	0.32	2.18	2,310
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.36	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	67.3	67.3	< 0.005	< 0.005	0.10	68.5
Vendor	0.01	0.01	0.38	0.08	< 0.005	0.01	0.02	0.03	0.01	0.01	0.02	—	366	366	0.01	0.05	0.36	382
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Refrigera Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigera ted Warehou se-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigera ted Warehou se-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	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	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigera ted Warehou se-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	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	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	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	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	50.2	50.2	0.01	< 0.005	—	50.7
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	50.2	50.2	0.01	< 0.005	—	50.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	50.2	50.2	0.01	< 0.005	—	50.7
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	50.2	50.2	0.01	< 0.005	—	50.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	8.31	8.31	< 0.005	< 0.005	—	8.39
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	8.31	8.31	< 0.005	< 0.005	—	8.39

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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
Site Preparation	Site Preparation	12/1/2025	12/12/2025	5.00	10.0	—
Grading	Grading	12/13/2025	1/9/2026	5.00	20.0	—

Energy Enclosure Installation	Building Construction	1/10/2026	6/11/2027	5.00	370	Energy Enclosure Installation

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
Site Preparation	Graders	Diesel	Average	4.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	4.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Energy Enclosure Installation	Cranes	Diesel	Average	2.00	8.00	367	0.29
Energy Enclosure Installation	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Energy Enclosure Installation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	0.00	8.00	367	0.40
Grading	Excavators	Diesel	Average	0.00	8.00	36.0	0.38
Grading	Rubber Tired Dozers	Diesel	Average	0.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	0.00	8.00	423	0.48
Energy Enclosure Installation	Forklifts	Diesel	Average	0.00	8.00	82.0	0.20
Energy Enclosure Installation	Welders	Diesel	Average	0.00	8.00	46.0	0.45
Site Preparation	Rubber Tired Loaders	Diesel	Average	4.00	8.00	150	0.36
Site Preparation	Skid Steer Loaders	Diesel	Average	4.00	8.00	71.0	0.37
Grading	Plate Compactors	Diesel	Average	4.00	8.00	8.00	0.43

Grading	Rollers	Diesel	Average	4.00	8.00	36.0	0.38
Grading	Rubber Tired Loaders	Diesel	Average	4.00	8.00	150	0.36
Grading	Skid Steer Loaders	Diesel	Average	4.00	8.00	71.0	0.37
Energy Enclosure Installation	Air Compressors	Diesel	Average	4.00	8.00	37.0	0.48
Energy Enclosure Installation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Energy Enclosure Installation	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43
Energy Enclosure Installation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Energy Enclosure Installation	Rough Terrain Forklifts	Diesel	Average	2.00	8.00	96.0	0.40
Energy Enclosure Installation	Skid Steer Loaders	Diesel	Average	2.00	8.00	71.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	80.0	7.70	LDA,LDT1,LDT2
Site Preparation	Vendor	4.00	60.0	HHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	—	HHDT
Grading	—	—	—	—
Grading	Worker	80.0	7.70	LDA,LDT1,LDT2
Grading	Vendor	4.00	60.0	HHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	0.00	—	HHDT

Energy Enclosure Installation	—	—	—	—
Energy Enclosure Installation	Worker	240	7.70	LDA,LDT1,LDT2
Energy Enclosure Installation	Vendor	40.0	60.0	HHDT,MHDT
Energy Enclosure Installation	Hauling	0.00	20.0	HHDT
Energy Enclosure Installation	Onsite truck	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)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	20.0	0.00	—
Grading	0.00	0.00	40.0	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Refrigerated Warehouse-No Rail	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	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2027	0.00	204	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
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	3,000	1,000	—

5.10.3. Landscape Equipment

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

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)
Refrigerated Warehouse-No Rail	0.00	204	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)
Refrigerated Warehouse-No Rail	0.00	37,114,429

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Refrigerated Warehouse-No Rail	0.00	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)

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Based on Project specific information provided
Land Use	Based on project specific information - rounded up to 2,000 square feet from 1.75 since CalEEmod won't allow for fractions after 1,000 sqft. 55 acres from 54.25 since CalEEMod won't allow for partial acres over 1 acre
Construction: Off-Road Equipment	Project provided information . Equipment with a "0" quantity are default equipment that are not used in the analysis.
Construction: Trips and VMT	Based on project specific information provided
Operations: Vehicle Data	Mobile sources estimated under Phase 1 - Lithium Ion Battery Option for daily/monthly, and Lithium Ion and Iron Flow Phase 1 for annual maintenance activities
Operations: Consumer Products	No operational land uses modeled
Operations: Architectural Coatings	No operational land uses modeled
Operations: Landscape Equipment	No operational land uses modeled
Operations: Energy Use	No operational land uses modeled
Operations: Water and Waste Water	Dust Control for construction modeled here.
Operations: Solid Waste	No operational land uses modeled
Operations: Refrigerants	No operational land uses modeled

Construction: Dust From Material Movement	no import or export, material balanced onsite
Operations: Fleet Mix	mobile not modeled

Lithium Ion Battery w Iron Flow - Phase 3 CalEEMod Output (Annual, Winter, Summer)

Key Energy - Phase 3 Lithium Ion and Iron Flow Battery Option Custom Report

Table of Contents

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Key Energy - Phase 3 Lithium Ion and Iron Flow Battery Option
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.50
Precipitation (days)	16.8
Location	36.13263447616909, -120.13458957268438
County	Fresno
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2530
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

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
Refrigerated Warehouse-No Rail	5.00	1000sqft	136	5,000	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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.87	4.08	36.7	49.7	0.16	1.20	5.66	6.65	1.11	1.49	2.42	—	21,222	21,222	0.49	2.14	37.4	21,910
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.74	3.90	37.7	40.2	0.16	0.99	5.66	6.65	0.93	1.49	2.42	—	21,029	21,029	0.51	2.15	0.97	21,683
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.21	2.70	25.7	28.3	0.12	0.66	4.01	4.67	0.62	1.06	1.68	—	14,828	14,828	0.36	1.53	10.2	15,304
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.59	0.49	4.68	5.17	0.02	0.12	0.73	0.85	0.11	0.19	0.31	—	2,455	2,455	0.06	0.25	1.69	2,534

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2027	4.87	4.08	36.7	49.7	0.16	1.20	5.66	6.65	1.11	1.49	2.42	—	21,222	21,222	0.49	2.14	37.4	21,910
2028	4.59	3.89	35.2	41.1	0.16	0.92	5.66	6.58	0.86	1.49	2.36	—	20,839	20,839	0.49	2.14	33.0	21,522
2029	4.45	3.65	33.8	40.3	0.16	0.87	5.66	6.53	0.82	1.49	2.32	—	20,432	20,432	0.49	2.03	29.2	21,080
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	4.74	3.90	37.7	40.2	0.16	0.99	5.66	6.65	0.93	1.49	2.42	—	21,029	21,029	0.51	2.15	0.97	21,683
2028	4.47	3.76	36.1	39.4	0.16	0.92	5.66	6.58	0.86	1.49	2.36	—	20,650	20,650	0.51	2.15	0.86	21,303
2029	4.34	3.53	34.8	38.7	0.16	0.87	5.66	6.53	0.82	1.49	2.32	—	20,247	20,247	0.51	2.04	0.76	20,869
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.79	1.50	13.1	17.2	0.05	0.42	1.57	1.99	0.39	0.40	0.79	—	6,407	6,407	0.17	0.55	4.17	6,581
2028	3.21	2.70	25.7	28.3	0.12	0.66	4.01	4.67	0.62	1.06	1.68	—	14,828	14,828	0.36	1.53	10.2	15,304
2029	1.35	1.10	10.7	12.1	0.05	0.27	1.74	2.02	0.26	0.46	0.72	—	6,316	6,316	0.15	0.63	3.91	6,512
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.33	0.27	2.39	3.14	0.01	0.08	0.29	0.36	0.07	0.07	0.14	—	1,061	1,061	0.03	0.09	0.69	1,090
2028	0.59	0.49	4.68	5.17	0.02	0.12	0.73	0.85	0.11	0.19	0.31	—	2,455	2,455	0.06	0.25	1.69	2,534
2029	0.25	0.20	1.96	2.20	0.01	0.05	0.32	0.37	0.05	0.08	0.13	—	1,046	1,046	0.03	0.10	0.65	1,078

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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	151	151	0.02	< 0.005	0.00	152
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	151	151	0.02	< 0.005	0.00	152

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	151	151	0.02	< 0.005	0.00	152
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.0	25.0	< 0.005	< 0.005	0.00	25.2

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	151	151	0.02	< 0.005	—	152
Waste	—	—	—	—	—	—	—	—	—	—	—	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	0.00	0.00	0.00	0.00	0.00	0.00	151	151	0.02	< 0.005	0.00	152
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	151	151	0.02	< 0.005	—	152
Waste	—	—	—	—	—	—	—	—	—	—	—	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	0.00	0.00	0.00	0.00	0.00	0.00	151	151	0.02	< 0.005	0.00	152

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	151	151	0.02	< 0.005	—	152
Waste	—	—	—	—	—	—	—	—	—	—	—	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	0.00	0.00	0.00	0.00	0.00	0.00	151	151	0.02	< 0.005	0.00	152
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	25.0	25.0	< 0.005	< 0.005	—	25.2
Waste	—	—	—	—	—	—	—	—	—	—	—	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	0.00	0.00	0.00	0.00	0.00	0.00	25.0	25.0	< 0.005	< 0.005	0.00	25.2

3. Construction Emissions Details

3.1. Site Preparation (2027) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.16	2.66	21.7	40.8	0.06	0.99	—	0.99	0.91	—	0.91	—	6,421	6,421	0.26	0.05	—	6,443

Dust From Material Movement	—	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.15	1.19	2.24	< 0.005	0.05	—	0.05	0.05	—	0.05	—	352	352	0.01	< 0.005	—	353
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.22	0.41	< 0.005	0.01	—	0.01	0.01	—	0.01	—	58.3	58.3	< 0.005	< 0.005	—	58.5
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.46	0.45	0.22	3.80	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	698	698	0.02	0.03	2.23	709
Vendor	0.05	0.02	1.66	0.29	0.01	0.03	0.13	0.16	0.03	0.04	0.07	—	1,578	1,578	0.02	0.25	3.54	1,655
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.17	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	35.2	35.2	< 0.005	< 0.005	0.05	35.7
Vendor	< 0.005	< 0.005	0.09	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	86.5	86.5	< 0.005	0.01	0.08	90.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	5.82	5.82	< 0.005	< 0.005	0.01	5.92
Vendor	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.3	14.3	< 0.005	< 0.005	0.01	15.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2027) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.93	3.30	26.2	45.6	0.07	1.17	—	1.17	1.08	—	1.08	—	7,126	7,126	0.29	0.06	—	7,150
Dust From Material Movement	—	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.43	0.36	2.87	5.00	0.01	0.13	—	0.13	0.12	—	0.12	—	781	781	0.03	0.01	—	784
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.52	0.91	< 0.005	0.02	—	0.02	0.02	—	0.02	—	129	129	0.01	< 0.005	—	130
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.46	0.45	0.22	3.80	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	698	698	0.02	0.03	2.23	709
Vendor	0.05	0.02	1.66	0.29	0.01	0.03	0.13	0.16	0.03	0.04	0.07	—	1,578	1,578	0.02	0.25	3.54	1,655
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.34	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	70.3	70.3	< 0.005	< 0.005	0.11	71.5
Vendor	0.01	< 0.005	0.19	0.03	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	0.01	—	173	173	< 0.005	0.03	0.17	181

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	11.6	11.6	< 0.005	< 0.005	0.02	11.8
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	28.6	28.6	< 0.005	< 0.005	0.03	30.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2027) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.23	2.70	23.8	29.8	0.06	0.78	—	0.78	0.71	—	0.71	—	5,530	5,530	0.22	0.04	—	5,549
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.23	2.70	23.8	29.8	0.06	0.78	—	0.78	0.71	—	0.71	—	5,530	5,530	0.22	0.04	—	5,549
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.75	0.63	5.54	6.94	0.01	0.18	—	0.18	0.17	—	0.17	—	1,288	1,288	0.05	0.01	—	1,292
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.14	0.11	1.01	1.27	< 0.005	0.03	—	0.03	0.03	—	0.03	—	213	213	0.01	< 0.005	—	214
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.15	1.13	0.55	9.50	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,744	1,744	0.05	0.07	5.59	1,772
Vendor	0.48	0.25	12.4	2.69	0.11	0.21	0.85	1.06	0.21	0.32	0.53	—	13,949	13,949	0.22	2.02	31.8	14,589
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.03	0.95	0.69	7.70	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,549	1,549	0.07	0.08	0.14	1,573
Vendor	0.47	0.25	13.2	2.72	0.11	0.21	0.85	1.06	0.21	0.32	0.53	—	13,951	13,951	0.22	2.02	0.82	14,560
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.24	0.14	1.82	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	373	373	0.01	0.02	0.56	380
Vendor	0.11	0.06	3.03	0.63	0.02	0.05	0.20	0.25	0.05	0.07	0.12	—	3,249	3,249	0.05	0.47	3.20	3,394
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.33	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	61.8	61.8	< 0.005	< 0.005	0.09	62.9
Vendor	0.02	0.01	0.55	0.11	< 0.005	0.01	0.04	0.04	0.01	0.01	0.02	—	538	538	0.01	0.08	0.53	562
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2028) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.12	2.61	22.9	29.8	0.06	0.71	—	0.71	0.65	—	0.65	—	5,531	5,531	0.22	0.04	—	5,550
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.12	2.61	22.9	29.8	0.06	0.71	—	0.71	0.65	—	0.65	—	5,531	5,531	0.22	0.04	—	5,550
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.24	1.87	16.4	21.3	0.04	0.51	—	0.51	0.47	—	0.47	—	3,962	3,962	0.16	0.03	—	3,975
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.34	2.99	3.89	0.01	0.09	—	0.09	0.09	—	0.09	—	656	656	0.03	0.01	—	658
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.10	1.03	0.49	8.84	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,710	1,710	0.05	0.07	5.02	1,737
Vendor	0.37	0.25	11.8	2.47	0.11	0.21	0.85	1.06	0.21	0.32	0.53	—	13,598	13,598	0.22	2.02	28.0	14,235
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.98	0.90	0.63	7.13	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,519	1,519	0.06	0.08	0.13	1,544
Vendor	0.37	0.25	12.6	2.50	0.11	0.21	0.85	1.06	0.21	0.32	0.53	—	13,600	13,600	0.22	2.02	0.73	14,210
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.71	0.66	0.40	5.21	0.00	0.00	0.07	0.07	0.00	0.00	0.00	—	1,127	1,127	0.04	0.05	1.55	1,144
Vendor	0.27	0.18	8.85	1.78	0.08	0.15	0.61	0.76	0.15	0.23	0.38	—	9,740	9,740	0.16	1.45	8.66	10,185
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.07	0.95	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	187	187	0.01	0.01	0.26	189
Vendor	0.05	0.03	1.62	0.32	0.01	0.03	0.11	0.14	0.03	0.04	0.07	—	1,613	1,613	0.03	0.24	1.43	1,686
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2029) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.04	2.54	22.3	29.6	0.06	0.66	—	0.66	0.61	—	0.61	—	5,531	5,531	0.22	0.04	—	5,550
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.04	2.54	22.3	29.6	0.06	0.66	—	0.66	0.61	—	0.61	—	5,531	5,531	0.22	0.04	—	5,550
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.79	6.92	9.23	0.02	0.21	—	0.21	0.19	—	0.19	—	1,721	1,721	0.07	0.01	—	1,727
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.26	1.68	< 0.005	0.04	—	0.04	0.03	—	0.03	—	285	285	0.01	< 0.005	—	286
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.03	0.96	0.43	8.25	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,679	1,679	0.04	0.07	4.49	1,705
Vendor	0.37	0.14	11.2	2.36	0.11	0.21	0.85	1.06	0.21	0.32	0.53	—	13,223	13,223	0.22	1.92	24.7	13,825
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.93	0.85	0.57	6.67	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,491	1,491	0.06	0.08	0.12	1,516
Vendor	0.37	0.14	11.9	2.39	0.11	0.21	0.85	1.06	0.21	0.32	0.53	—	13,225	13,225	0.22	1.92	0.64	13,803
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.27	0.15	2.10	0.00	0.00	0.03	0.03	0.00	0.00	0.00	—	481	481	0.01	0.02	0.60	488
Vendor	0.12	0.04	3.64	0.74	0.03	0.07	0.26	0.33	0.07	0.10	0.16	—	4,115	4,115	0.07	0.60	3.31	4,298

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.38	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	79.6	79.6	< 0.005	< 0.005	0.10	80.8
Vendor	0.02	0.01	0.67	0.13	0.01	0.01	0.05	0.06	0.01	0.02	0.03	—	681	681	0.01	0.10	0.55	712
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	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	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Refrigerated	—	—	—	—	—	—	—	—	—	—	—	—	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	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	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	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	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	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	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	151	151	0.02	< 0.005	—	152
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	151	151	0.02	< 0.005	—	152
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	151	151	0.02	< 0.005	—	152
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	151	151	0.02	< 0.005	—	152
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	25.0	25.0	< 0.005	< 0.005	—	25.2
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	25.0	25.0	< 0.005	< 0.005	—	25.2

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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
Site Preparation	Site Preparation	6/12/2027	7/9/2027	5.00	20.0	—
Grading	Grading	7/10/2027	9/3/2027	5.00	40.0	—
Energy Enclosure Installation	Building Construction	9/4/2027	6/8/2029	5.00	460	Energy Enclosure Installation

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

Site Preparation	Graders	Diesel	Average	4.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	4.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Energy Enclosure Installation	Cranes	Diesel	Average	2.00	8.00	367	0.29
Energy Enclosure Installation	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Energy Enclosure Installation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	0.00	8.00	367	0.40
Grading	Excavators	Diesel	Average	0.00	8.00	36.0	0.38
Grading	Rubber Tired Dozers	Diesel	Average	0.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	0.00	8.00	423	0.48
Energy Enclosure Installation	Forklifts	Diesel	Average	0.00	8.00	82.0	0.20
Energy Enclosure Installation	Welders	Diesel	Average	0.00	8.00	46.0	0.45
Site Preparation	Rubber Tired Loaders	Diesel	Average	4.00	8.00	150	0.36
Site Preparation	Skid Steer Loaders	Diesel	Average	4.00	8.00	71.0	0.37
Grading	Plate Compactors	Diesel	Average	4.00	8.00	8.00	0.43
Grading	Rollers	Diesel	Average	4.00	8.00	36.0	0.38
Grading	Rubber Tired Loaders	Diesel	Average	4.00	8.00	150	0.36
Grading	Skid Steer Loaders	Diesel	Average	4.00	8.00	71.0	0.37
Energy Enclosure Installation	Air Compressors	Diesel	Average	4.00	8.00	37.0	0.48
Energy Enclosure Installation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38

Energy Enclosure Installation	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43
Energy Enclosure Installation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Energy Enclosure Installation	Rough Terrain Forklifts	Diesel	Average	2.00	8.00	96.0	0.40
Energy Enclosure Installation	Skid Steer Loaders	Diesel	Average	2.00	8.00	71.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	120	7.70	LDA,LDT1,LDT2
Site Preparation	Vendor	8.00	60.0	HHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	—	HHDT
Grading	—	—	—	—
Grading	Worker	120	7.70	LDA,LDT1,LDT2
Grading	Vendor	8.00	60.0	HHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	0.00	—	HHDT
Energy Enclosure Installation	—	—	—	—
Energy Enclosure Installation	Worker	300	7.70	LDA,LDT1,LDT2
Energy Enclosure Installation	Vendor	80.0	60.0	HHDT,MHDT
Energy Enclosure Installation	Hauling	0.00	20.0	HHDT
Energy Enclosure Installation	Onsite truck	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)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	20.0	0.00	—
Grading	0.00	0.00	40.0	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Refrigerated Warehouse-No Rail	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

2027	0.00	204	0.03	< 0.005
2028	0.00	204	0.03	< 0.005
2029	0.00	204	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
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	7,500	2,500	—

5.10.3. Landscape Equipment

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

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)
Refrigerated Warehouse-No Rail	0.00	204	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)
Refrigerated Warehouse-No Rail	0.00	111,441,042

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Refrigerated Warehouse-No Rail	0.00	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)

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Based on Project specific information provided
Land Use	Based on project specific information - rounded up to 136 acres from 135.75 since CalEEMod won't allow for partial acres over 1 acre
Construction: Off-Road Equipment	Project provided information . Equipment with a "0" quantity are default equipment that are not used in the analysis.
Construction: Trips and VMT	Based on project specific information provided
Operations: Vehicle Data	Mobile sources estimated under Phase 1 - Lithium Ion Battery Option for daily/monthly, and Lithium Ion and Iron Flow Phase 1 for annual maintenance activities
Operations: Consumer Products	No operational land uses modeled
Operations: Architectural Coatings	No operational land uses modeled
Operations: Landscape Equipment	No operational land uses modeled
Operations: Energy Use	No operational land uses modeled
Operations: Water and Waste Water	Dust Control for construction modeled here.
Operations: Solid Waste	No operational land uses modeled
Operations: Refrigerants	No operational land uses modeled
Construction: Dust From Material Movement	no import or export, material balanced onsite
Operations: Fleet Mix	mobile not modeled

Decommissioning CalEEMod Output (Annual, Winter, Summer)

Key Energy - Decommissioning Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Key Energy - Decommissioning
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.50
Precipitation (days)	16.8
Location	36.13263447616909, -120.13458957268438
County	Fresno
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2530
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

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
Refrigerated Warehouse-No Rail	3.00	1000sqft	122	3,000	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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.93	3.38	27.5	49.0	0.18	0.58	8.43	9.01	0.54	1.88	2.42	—	18,510	18,510	0.46	1.47	0.35	18,960
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.92	3.36	28.1	47.6	0.18	0.58	8.43	9.01	0.54	1.88	2.42	—	18,291	18,291	0.47	1.48	0.01	18,743
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.78	2.39	19.9	34.0	0.13	0.41	5.96	6.37	0.38	1.33	1.71	—	13,073	13,073	0.33	1.05	0.11	13,395
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.51	0.44	3.63	6.21	0.02	0.07	1.09	1.16	0.07	0.24	0.31	—	2,164	2,164	0.05	0.17	0.02	2,218

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2050	3.93	3.38	27.5	49.0	0.18	0.58	8.43	9.01	0.54	1.88	2.42	—	18,510	18,510	0.46	1.47	0.35	18,960
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2050	3.92	3.36	28.1	47.6	0.18	0.58	8.43	9.01	0.54	1.88	2.42	—	18,291	18,291	0.47	1.48	0.01	18,743
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2050	2.78	2.39	19.9	34.0	0.13	0.41	5.96	6.37	0.38	1.33	1.71	—	13,073	13,073	0.33	1.05	0.11	13,395
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2050	0.51	0.44	3.63	6.21	0.02	0.07	1.09	1.16	0.07	0.24	0.31	—	2,164	2,164	0.05	0.17	0.02	2,218

3. Construction Emissions Details

3.1. Grading (2050) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.21	2.69	20.3	41.5	0.08	0.47	—	0.47	0.43	—	0.43	—	7,804	7,804	0.32	0.06	—	7,831
Dust From Material Movement	—	—	—	—	—	—	2.12	2.12	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.21	2.69	20.3	41.5	0.08	0.47	—	0.47	0.43	—	0.43	—	7,804	7,804	0.32	0.06	—	7,831
Dust From Material Movement	—	—	—	—	—	—	2.12	2.12	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.29	1.91	14.5	29.6	0.05	0.33	—	0.33	0.31	—	0.31	—	5,559	5,559	0.23	0.05	—	5,578
Dust From Material Movement	—	—	—	—	—	—	1.51	1.51	—	0.16	0.16	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	2.64	5.40	0.01	0.06	—	0.06	0.06	—	0.06	—	920	920	0.04	0.01	—	924
Dust From Material Movement	—	—	—	—	—	—	0.28	0.28	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.56	0.56	0.29	6.19	0.00	0.00	0.14	0.14	0.00	0.00	0.00	—	1,996	1,996	0.03	0.02	0.20	2,002
Vendor	0.15	0.14	6.90	1.29	0.11	0.11	0.85	0.95	0.11	0.32	0.42	—	8,710	8,710	0.11	1.39	0.15	9,126
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.56	0.54	0.31	4.82	0.00	0.00	0.14	0.14	0.00	0.00	0.00	—	1,775	1,775	0.04	0.03	0.01	1,784
Vendor	0.15	0.14	7.48	1.31	0.11	0.11	0.85	0.95	0.11	0.32	0.42	—	8,712	8,712	0.11	1.39	< 0.005	9,128
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.38	0.38	0.21	3.56	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,309	1,309	0.02	0.02	0.06	1,315
Vendor	0.11	0.10	5.16	0.92	0.08	0.08	0.60	0.68	0.08	0.23	0.30	—	6,205	6,205	0.08	0.99	0.05	6,502
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.04	0.65	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	217	217	< 0.005	< 0.005	0.01	218
Vendor	0.02	0.02	0.94	0.17	0.01	0.01	0.11	0.12	0.01	0.04	0.06	—	1,027	1,027	0.01	0.16	0.01	1,076
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Decommissioning	Grading	1/1/2050	12/31/2050	5.00	260	—

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
Decommissioning	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Decommissioning	Graders	Diesel	Average	4.00	8.00	148	0.41
Decommissioning	Rubber Tired Dozers	Diesel	Average	0.00	8.00	367	0.40
Decommissioning	Scrapers	Diesel	Average	0.00	8.00	423	0.48
Decommissioning	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Decommissioning	Air Compressors	Diesel	Average	4.00	8.00	37.0	0.48
Decommissioning	Cranes	Diesel	Average	2.00	8.00	367	0.29
Decommissioning	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Decommissioning	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43
Decommissioning	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Decommissioning	Rough Terrain Forklifts	Diesel	Average	2.00	8.00	96.0	0.40
Decommissioning	Skid Steer Loaders	Diesel	Average	2.00	8.00	71.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Decommissioning	—	—	—	—
Decommissioning	Worker	420	7.70	LDA,LDT1,LDT2
Decommissioning	Vendor	80.0	60.0	HHDT,MHDT
Decommissioning	Hauling	0.00	20.0	HHDT
Decommissioning	Onsite truck	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)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Decommissioning	0.00	0.00	520	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Refrigerated Warehouse-No Rail	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
2050	0.00	204	0.03	< 0.005

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)

8. User Changes to Default Data

Screen	Justification
Land Use	Assumed larges land use scenario for decommissioning activities.
Construction: Construction Phases	Only modeling for decommissioning.

Construction: Off-Road Equipment	Project supplied equipment
Construction: Trips and VMT	Based on project information

Appendix D2
Fuel Use Calculations

Source: Annual Unmitigated Run for the Lithium Ion Battery option located in Appendix B of *Air Quality and Greenhouse Gas Study* (Rincon, 2022)

Energy Usage

	Phase 1		Phase 2		Phase 3		Phase 4	
	kWh/year	Page in PDF	kWh/year	Page in PDF	kWh/year	Page in PDF	kWh/year	Page in PDF
Refrigerated Warehouse-No Rail	18420	137	0	173	0	209	0	245
General Office Building	23446	137						
Unrefrigerated Warehouse-No Rail	21480	137						

Fuel Usage

Total CO2e from Haul and Vendor Trips:	7194.26
Total CO2e from Worker Trips:	963.58
Total CO2e from Offroad Equipment:	4083.96

Phase 1		
3.1 Site Preparation (2024)		Page in PDF
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	29.2	101
Worker	3.08	102
Hauling	0	102
Vendor	4	102
3.3 Site Preparation (2024)		
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	60.8	103
Worker	3.08	103
Hauling	0	103
Vendor	16	103
3.5 Grading (2024)		
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	64.8	104
Worker	6.15	105
Hauling	0	105
Vendor	8	105
3.7 Grading (2024)		
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	33	106
Worker	1.54	107
Hauling	0	107
Vendor	8	107
3.9 Building Construction (2024)		
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	301	108
Worker	115	109
Hauling	0	109
Vendor	438	109
3.11 Building Construction (2024)		
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	390	110
Worker	36.9	110
Hauling	0	110
Vendor	561	110
3.13 Building Construction (2024)		
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	3.9	111
Worker	1.54	112
Hauling	0	112
Vendor	4	112
3.15 Building Construction (2024)		
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	2.49	113
Worker	3.08	113
Hauling	0	113
Vendor	8	113
3.17 Architectural Coating (2024)		
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	2.07	114
Worker	0.26	115
Hauling	0	115
Vendor	0	115

Phase 2		
3.1 Site Preparation (2025)		Page in PDF
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	29.2	152
Worker	2.06	153
Hauling	0	153
Vendor	3.92	153
3.3 Grading (2025)		
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	64.8	154
Worker	4.11	154
Hauling	0	154
Vendor	7.84	154
3.5 Building Construction (2025)		
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	525	155
Worker	129	156
Hauling	0	156
Vendor	719	156
3.7 Building Construction (2026)		
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	306	157
Worker	73.4	158
Hauling	0	158
Vendor	411	158

Phase 3		
3.1 Site Preparation (2026)		Page in PDF
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	40.2	187
Worker	4.03	188
Hauling	0	188
Vendor	11.5	188
3.3 Grading (2026)		
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	130	189
Worker	8.05	190
Hauling	0	190
Vendor	23.1	190
3.5 Building Construction (2026)		
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	200	191
Worker	59.9	191
Hauling	0	191
Vendor	536	191
3.7 Building Construction (2027)		
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	656	192
Worker	193	193
Hauling	0	193
Vendor	1723	193
3.9 Building Construction (2028)		
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	101	194
Worker	29	194
Hauling	0	194
Vendor	258	194

Phase 4		
3.1 Site Preparation (2028)		Page in PDF
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	58.5	224
Worker	5.8	225
Hauling	0	225
Vendor	14.6	225
3.3 Grading (2028)		
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	130	226
Worker	11.6	227
Hauling	0	227
Vendor	29.3	227
3.5 Building Construction (2028)		
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	406	228
Worker	117	228
Hauling	0	228
Vendor	1041	228
3.7 Building Construction (2029)		
Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	550	229
Worker	156	230
Hauling	0	230
Vendor	1369	230

Source: Annual Unmitigated Run for the Lithium Ion Battery with Iron Flow option located in Appendix B of *Air Quality and Greenhouse Gas Study* (Rincon, 2022)

Energy Usage

	Phase 1		Phase 2		Phase 3	
	kWh/year	Page in PDF	kWh/year	Page in PDF	kWh/year	Page in PDF
Refrigerated Warehouse-No Rail	18420	300	0	339	0	378
General Office Building	23446	300				
Unrefrigerated Warehouse-No Rail	21480	300				
	63346		5200000000	0.001218		

Fuel Usage

Total CO2e from Haul and Vendor Trips:	6031.47
Total CO2e from Worker Trips:	949
Total CO2e from Offroad Equipment:	3896.16

Phase 1

3.1 Site Preparation (2024)

Location (Annual)	CO2e (MT/yr)	Page in PDF
Off-road Equipment	58.4	261
Worker	6.15	262
Hauling	0	262
Vendor	8	262

3.3 Site Preparation (2024)

Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	60.8	263
Worker	3.08	264
Hauling	0	264
Vendor	16	264

3.5 Grading (2024)

Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	130	265
Worker	12.3	265
Hauling	0	266
Vendor	16	265

3.7 Grading (2024)

Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	33	266
Worker	1.54	267
Hauling	0	267
Vendor	4	267

3.9 Building Construction (2024)

Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	511	268
Worker	187	269
Hauling	0	269
Vendor	711	269

3.11 Building Construction (2025)

Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	333	270
Worker	119	271
Hauling	0	271
Vendor	455	271

3.13 Building Construction (2025)

Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	390	272
Worker	36.1	272
Hauling	0	272
Vendor	551	272

3.15 Building Construction (2025)

Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	3.9	273
Worker	1.5	274
Hauling	0	274
Vendor	3.92	274

3.17 Building Construction (2025)

Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	2.49	275
Worker	3.01	275
Hauling	0	275
Vendor	7.84	275

3.19 Architectural Coating (2025)

Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	2.07	276
Worker	0.26	277
Hauling	0	277
Vendor	0	277

Phase 2

3.1 Site Preparation (2025)

Location (Annual)	CO2e (MT/yr)	Page in PDF
Off-road Equipment	29.2	316
Worker	2.06	317
Hauling	0	317
Vendor	3.92	317

3.3 Grading (2025)

Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	44	318
Worker	2.79	319
Hauling	0	319
Vendor	5.32	319

3.5 Grading (2026)

Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	20.8	320
Worker	1.29	320
Hauling	0	320
Vendor	2.47	320

3.7 Building Construction (2026)

Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	640	321
Worker	154	322
Hauling	0	322
Vendor	860	322

3.9 Building Construction (2027)

Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	291	323
Worker	68.5	324
Hauling	0	324
Vendor	382	324

Phase 3

3.1 Site Preparation (2027)

Location (Annual)	CO2e (MT/yr)	Page in PDF
Off-road Equipment	58.5	355
Worker	5.92	356
Hauling	0	356
Vendor	15	356

3.3 Grading (2027)

Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	130	357
Worker	11.8	358
Hauling	0	358
Vendor	30	358

3.5 Building Construction (2027)

Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	214	359
Worker	62.9	359
Hauling	0	359
Vendor	562	359

3.7 Building Construction (2028)

Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	658	360
Worker	189	361
Hauling	0	361
Vendor	1686	361

3.9 Building Construction (2029)

Location (Annual)	CO2e (MT/yr)	
Off-road Equipment	286	362
Worker	80.8	363
Hauling	0	363
Vendor	712	363

Heartland Hydrogen - Project Fuel Use Calculations Project Construction

Lithium Ion Battery

Diesel Emissions				
Offroad Equipment	4,083.96	MT		
Onroad (Haul & Vendor Trips)	7194.26	MT		
Total Diesel Emissions	11278.22	MT		
	1000	kg/MT		
Total CO2 Emissions	11278220	kg		
Diesel fuel combustion rate	10.21	kg/gallon	Overall Diesel in Fresno	Percentage
Diesel fuel consumption	1104625	gallons	182000000	0.606937

Gasoline Emissions				
Worker Trips	963.58	MT		
	1000	kg/MT		
Total Emissions	963580	kg		
Gasoline combustion rate	8.78	kg/gallon	Overall Gasoline in Fresno	Percentage
Gasoline consumption	109747.2	gallons	387000000	0.028358

Note: (The Climate Registry, 2022) Combustion rates taken from The Climate Registry 2022 default emission factors (Table 2.1)

Lithium Ion Battery with Iron Flow

Diesel Emissions				
Offroad Equipment	3,896.16	MT		
Onroad (Haul & Vendor Trips)	6031.47	MT		
Total Diesel Emissions	9927.63	MT		
	1000	kg/MT		
Total CO2 Emissions	9927630	kg		
Diesel fuel combustion rate	10.21	kg/gallon	Overall Diesel in Fresno	Percentage
Diesel fuel consumption	972343.8	gallons	182000000	0.534255

Gasoline Emissions				
Worker Trips	949	MT		
	1000	kg/MT		
Total Emissions	949000	kg		
Gasoline combustion rate	8.78	kg/gallon	Overall Gasoline in Fresno	Percentage
Gasoline consumption	108086.6	gallons	387000000	0.027929

Note: (The Climate Registry, 2022) Combustion rates taken from The Climate Registry 2022 default emission factors (Table 2.1)

Appendix E
Biological Resources

TABLE 3-X
SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR WITHIN THE PROJECT SITE

Species	Status Fed/State/CNPS*	Habitat	Potential to Occur
Plants			
Atriplex depressa brittlescale	--/--/1B.2	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland, vernal pools; alkaline, clay. Annual herb. Blooms Apr–Oct. Elevation 3–1050 m.	**Not Present.** Suitable meadow, scrub, playa or grassland habitat is not present at the Project site. There are no occurrences within approximately 5 miles of the Project site (CDFW 2023).
Caulanthus californicus California jewelflower	FE/SE/1B.1	Non-native grassland, upper Sonoran scrub, and juniper woodland. Typically occurs in areas with dense herbaceous cover and in primarily subalkaline, sandy loams. Annual herb. Elevation 240 and 2,950 feet. Blooms February through May.	**Unlikely.** The Project site lacks grassland, scrub or woodland habitat. Nearest occurrence approximately 5 miles north of the Project site (CDFW 2023).
Caulanthus lemmoni Lemmon's jewelflower	--/--/1B.2	Grasslands, chaparral and scrub habitats. Annual herb. Elevation 260 to 3,280 feet. Blooms March through May.	**Not Present.** Suitable scrub, chaparral or grassland habitat is not present on-site. There are no occurrences within approximately 5 miles of the Project site (CDFW 2023).
Deinandra halliana Hall's tarplant	--/--/1B.2	Clay, sometimes alkaline; chenopod scrub; cismontane woodland; valley and foothill grassland. Annual herb. Blooms Apr-May. Elevation 260-950 m.	**Not Present.** Suitable scrub, alkaline clay, or grassland habitat is not present on-site. There are no occurrences within approximately 5 miles of the Project site (CDFW 2023).
Delphinium recurvatum recurved larkspur	--/--/1B.2	Chenopod scrub, meadows and seeps, playa, valley and foothill grassland; alkaline. Perennial herb. Blooms Mar–June. Elevation 10–2592 m.	**Not Present.** Suitable scrub, woodland, alkali playa or grassland habitat is not present on-site. There are no occurrences within approximately 5 miles of the Project site (CDFW 2023).
Eremalche parryi ssp. kernensis Kern mallow	FE/--/1B.2	Valley saltbush scrub habitats in alkaline sandy loam or clay soil. Annual herb. Elevation 315 to 900 feet. Blooms March to May	**Not Present.** Suitable saltbrush scrub habitat is not present on the Project site. No occurrences within approximately 5 miles of the Project site (CDFW 2023).
Lasthenia chrysantha alkali-sink goldfields	--/--/1B.1	Valley grassland, alkali sink, wetland-riparian. Annual herb. Blooms Feb-June.	**Not Present.** Suitable alkali sink, grassland or riparian habitat is not present on-site. No occurrences within approximately 5 miles of the Project site (CDFW 2023).
Layia heterotricha Pale yellow tidy-tips	--/--/1B.1	Chenopod scrub, valley and foothill grassland (alkaline clay). Annual herb. Blooms Mar–Apr. Elevation 492–2297 m.	**Not Present.** Suitable scrub, alkali or grassland habitat is not present on-site. No occurrences within approximately 5 miles of the Project site (CDFW 2023).
Lepidium jaredii ssp. *album* Panoche peppergrass	--/--/1B.2	Valley and foothill grassland (steep slopes, clay). Annual herb. Blooms Feb– June. Elevation 607–902 m.	**Not Present.** Suitable grassland habitat is not present on-site. Also, the site is outside of the species' known elevation range. No occurrences within approximately 5 miles of the Project site (CDFW 2023).
Madia radiata Showy golden madia	--/--/1B.1	Cismontane woodland, valley and foothill grassland. Annual herb. Blooms Mar-May. Elevation 25 - 1215 m.	**Not Present.** Site lacks suitable woodland or grassland habitat for this species.

TABLE 3-X
SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR WITHIN THE PROJECT SITE

Species	Status Fed/State/CNPS*	Habitat	Potential to Occur
Monolopia congdonii San Joaquin woollythreads	FE/--/1B.2	Chenopod scrub, valley and foothill grassland (sandy). Annual herb. Blooms Feb–May. Elevation 197–2625 m.	**Unlikely.** Project site lacks suitable scrub or sandy grassland habitat. Nearest occurrences approximately 5 miles north of the Project site (CDFW 2023).
Senecio aphanactis Chaparral ragwort	--/--/2B.2	Marshes and swamps (assorted shallow freshwater). Perennial rhizomatous herb. Blooms May–Oct (Nov). Elevation 0–2133 m.	**Not Present.** Project site lacks marsh and swamp habitat. There are no occurrences within approximately 5 miles of the Project site (CDFW 2023).
Invertebrates			
Bombus crotchii Crotch bumblebee	--/CE	Inhabits grassland and scrubland in hot, dry areas. Nests underground, often in abandoned rodent burrows.	**Unlikely.** The Project site consists of active agricultural land and disturbed land, which do not contain suitable burrows for this species.
Reptiles and Amphibians			
Anniella pulchra California legless lizard	--/SSC	Coastal dunes, stabilized dunes, beaches, dry washes, valley–foothill, chaparral, and scrubs; pine, oak, and riparian woodlands; associated with sparse vegetation and sandy or loose, loamy soils.	**Unlikely.** The Project site consists of actively farmed agricultural lands and disturbed areas that do not provide suitable habitat for this species.
Arizona elegans occidentalis California glossy snake	--/SSC	Chaparral, sagebush, valley-foothill hardwood, pine-juniper, and annual grasslands, in small mammal burrows and rock outcrops.	**Unlikely.** The Project site consists of actively farmed agricultural areas and disturbed areas that do not provide suitable habitat for this species
Gambelia sila blunt-nosed leopard lizard	FE/SE, FP	Sparsely vegetated alkali and desert scrubs, including semi-arid grasslands, alkali flats, and washes.	**Unlikely.** The Project site consists of active agricultural areas and disturbed land. The nearest CNDDB occurrences were recorded approximately 4-5 miles west and southwest, primarily near native vegetation of the Kettleman Hills (CDFW 2023).
Masticophis flagellum ruddocki San Joaquin whipsnake	--/SSC	Open, dry, treeless areas including grassland and saltbush scrub. This species needs mammal burrows for refuge.	**Unlikely.** The Project site consists of actively farmed agricultural lands and disturbed areas that do not provide suitable habitat for this species.
Rana boylii Foothill yellow-legged frog	--/SE	Rivers and streams with rocky substrate in conifer, coastal scrub, mixed chaparral, riparian or wet meadow habitat.	**Not Present.** The Project site lacks suitable aquatic habitat for this species. No CNDDB occurrences within approximately 5 miles of the Project site (CDFW 2023).
Spea hammondii western spadefoot	--/SSC	Primarily grassland and vernal pools, but also ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture.	**Not Present.** The Project site lacks suitable aquatic habitat for this species. The nearest CNDDB occurrence is approximately 5 miles north of the Project site (CDFW 2023).
Birds			
Agelaius tricolor tricolored blackbird	--/Candidate Endangered	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture.	**Unlikely.** The Project site lacks suitable marsh nesting habitat, though it may provide foraging areas within cultivated agricultural lands. Nearest CNDDB occurrence 5 miles southeast of the Project site (CDFW 2023).

TABLE 3-X
SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR WITHIN THE PROJECT SITE

Species	Status Fed/State/CNPS*	Habitat	Potential to Occur
Asio otis long-eared owl	--/SSC	Grassland, prairies, dunes, meadows, irrigated lands, and saline and freshwater emergent wetlands. Nests on ground in salt or freshwater marshes, irrigated grain or alfalfa fields, ungrazed grasslands, and old pastures.	**Unlikely.** This species may forage in agricultural fields within the Project site but suitable nesting habitat is not present. No occurrences within approximately 5 miles of the Project site (CDFW 2023).
Athene cunicularia burrowing owl	--/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows. This species requires short vegetation with sparse shrubs and burrows for roosting and nesting.	**Unlikely.** The Project site has minimal habitat features to support this species. No suitable burrows observed during surveys. The nearest CNDDB occurrences approximately 4.5 miles from the Project site (CDFW 2023).
Buteo swainsoni Swainson's hawk	--/ST	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture.	**Unlikely.** No suitable nest trees on the Project site; potential foraging habitat in the row crops in the vicinity of the Project. One Swainson's hawk observed at site during burrowing owl surveys. Nearest CNDDB occurrence approx. 5 miles northeast (CDFW 2023).
Coccyzus americanus occidentalis Western yellow-billed cuckoo	FT/SE	Nests in dense riparian woodlands and forest with well-developed understories.	**Not Present.** Suitable riparian habitat is absent from the Project site.
Lanius ludovicianus loggerhead shrike	--/SSC	Nests and forages in open habitats with scattered shrubs, trees, or other perches.	**Moderate Potential.** The Project site contains suitable foraging habitat and barbed wire in the agricultural fields. Nearest CNDDB occurrence approximately 4 miles southeast.
Toxostoma lecontei LeConte's thrasher	--/SSC	Found in sandy, open deserts with saltbush, shadscale, cholla cactus, creosote, yucca, or mesquite in flat or rolling landscapes of arroyos, open flats, or dunes.	**Unlikely**. The Project site consists of disturbed agricultural land which is not suitable habitat for this species. It may occasionally fly over or forage in the vicinity.
Xanthocephalus xanthocephalus Yellow-headed blackbird	--/SSC	Nests in marshes and prairie meadows, and in winter forages in croplands, ranchlands and savanna. Found in large flocks with other blackbirds.	**Unlikely.** The Project site lacks suitable marsh nesting habitat, though it may provide foraging areas within cultivated agricultural lands. Nearest CNDDB occurrence 5 miles southeast of the Project site (CDFW 2023).
Mammals			
Ammospermophilus nelsoni Nelson's antelope squirrel	--/ST	Arid annual grassland or shrubland with rolling hills or sandy washes, with or without shrubs including saltbush *(Atriplex spp*.), California jointfir (*Ephedra californica*), bladderpod (*Physaria* spp.*),* goldenbush (*Astereae*), snakeweed (*Gutierrezia* spp.*)* Prefers fine-textured soils.	**Unlikely.** Project site is highly disturbed and lacks suitable grassland or shrubland habitat. Nearest CNDDB occurrence is a historic sighting approximately 3 miles west of the Project site; west of I-5 (CDFW 2023).
Dipodomys nitratoides brevinasus Short-nosed kangaroo rat	--/SSC	Burrows in loose soils with sparse vegetation on flat or gentlynrolling terrain in grassland or scrubland.	**Unlikely.** The Project site lacks suitable grassland or scrubland habitat. Nearest CNDDB occurrence approximately 5 miles west in the Guijarral Hills, west of I-5 (CDFW 2023).

TABLE 3-X
SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR WITHIN THE PROJECT SITE

Species	Status Fed/State/CNPS*	Habitat	Potential to Occur
Eumops perotis californicus western mastiff bat	--/SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; Suitable habitat consists of extensive open areas with abundant roost locations provided by crevices in rock outcrops, trees, tunnels, and buildings.	**Unlikely.** No suitable crevices or caves for roosting. The Project site provides suitable foraging habitat over agricultural fields. Nearest CNDDB occurrence approximately 4.5 miles north (CDFW 2022).
Onychomys torridus tularensis Tulare grasshopper mouse	--/SSC	Low, open scrub, and semi-scrub habitats in arid semi-desert associations.	**Unlikely.** The Project site is highly disturbed and lacks shrubland communities typically associated with this species. Nearest CNDDB occurrence approximately 5 miles south of the Project site (CDFW 2023).
Taxidea taxus American badger	--/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils.	**Unlikely.** Badgers burrow in open areas, including ranchlands and agricultural fields; however, the Project site is regularly tilled and surrounded by other agricultural sites. Nearest CNDDB occurrence 4.5 miles north of the Project site (CDFW 2023).
Vulpes macrotis mutica San Joaquin kit fox	FE/ST	Grasslands and scrublands, including disturbed areas; oak woodland, alkali sink scrubland, vernal pools, and alkali meadows.	**Unlikely.** Low potential to occur within the site based on disturbance and lack of suitable denning habitat in the vicinity. May sporadically traverse the area. No CNDDB occurrences within 3 miles but several records within 3 and 5 miles (CDFW 2023).

USGS 7.5-minute quads Guijarral Hills, La Cima, Avenal, Huron, Harris Ranch, Calflax, Domengine Ranch, Kreyenhagen Hills, Coalinga

***STATUS LEGEND:**

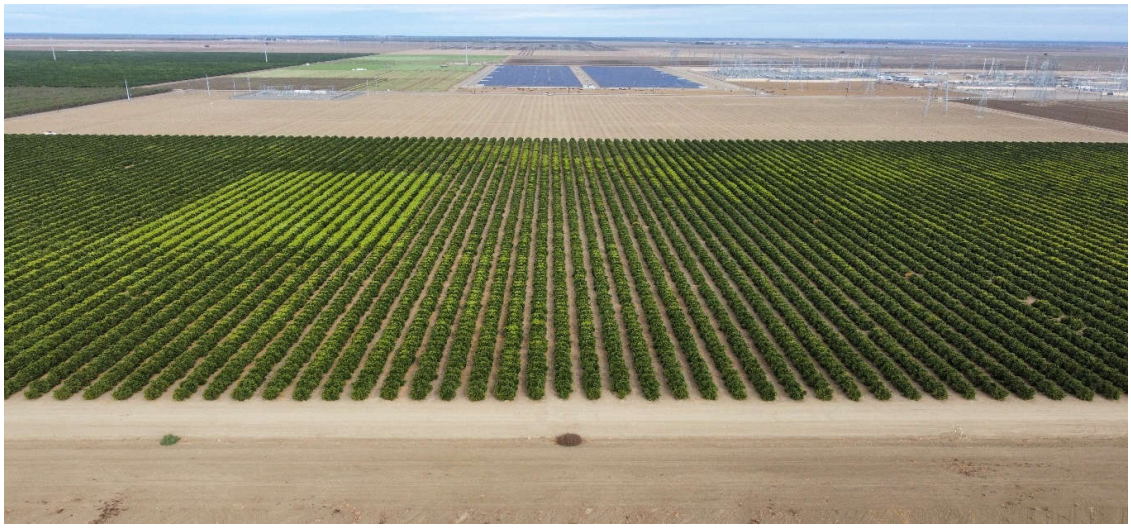
FE = Federally Endangered.
FT = Federally Threatened.
FP = CDFW Fully Protected Species.
FDL=Federally Delisted.
SE = State Endangered.
ST = State Threatened.
SSC = California Species of Concern.
SDL=State Delisted.
BCC=Bird of Conservation Concern

CRPR:

1B: Plants rare, threatened, or endangered in California and elsewhere
2B: Plants rare, threatened, or endangered in California, but more common elsewhere
4: Plants of limited distribution – watch list

THREAT RANK:

1 – Seriously threatened in California
2 – Fairly threatened in California
3 - Fairly threatened in California and elsewhere



Key Energy Storage Project

Biological Resources Assessment

prepared for

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October 2022

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Executive Summary

Rincon Consultants, Inc. (Rincon) conducted a Biological Resources Assessment for the Key Energy Storage Project (Project). The Project includes the construction of an energy storage facility on up to 260 acres in Fresno County. The Project is subject to the California Environmental Quality Act (CEQA) and County of Fresno will serve as the lead agency. The CEQA Guidelines, Appendix G – Initial Study Checklist, were used as the basis to evaluate potential environmental effects.

Rincon performed a literature review to obtain baseline information about the potential biological resources on site and compiled a list of special status species potentially found at the Project site. A field reconnaissance survey was conducted following the literature review to document conditions on site. Subsequent focused surveys for burrowing owl and rare plants were conducted on four occasions between January and July 2022. Conclusions regarding which special status species have the potential to occur onsite were based on background research and literature review and the results of field surveys.

The Fresno County General Plan land use designation for the Project site is Agriculture. The Project site is in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District. The entire Project site is designated as Prime Farmland that is covered by Williamson Act Contracts. A portion of the Project site is actively being used for agriculture and has been developed routinely for cultivation purposes. There is minimal native vegetation outside of cultivated crops; the majority of vegetation exists within the margins of agricultural fields and within two tailwater basins used for irrigation practices. No sensitive plant communities are located within the Project site and no regional wildlife linkages or corridors are mapped within the Project site.

Rincon determined that San Joaquin kit fox, tricolored blackbird, Swainson's hawk, northern harrier, loggerhead shrike, burrowing owl, prairie falcon, and other nesting birds have potential to be found on and/or adjacent to the site either for nesting and/or foraging, or transient species during Project implementation. The Project may potentially impact these species through injury or mortality or disruption of normal adult behaviors resulting in the abandonment or harm to eggs and nestlings. Construction occurring within the vicinity of nesting birds or Swainson's hawk may also indirectly impact individuals with construction noise and dust. Measures to reduce potential impacts include confining construction activities to occur outside of the nesting season, and performance of preconstruction surveys, Swainson's hawk protocol-level surveys, avoidance buffer implementation, and biological monitoring. Implementation of these recommended measures would reduce potential impacts to San Joaquin kit fox, nesting birds and raptors, including Swainson's hawk, burrowing owl and prairie falcon, to less than significant levels.

1 Introduction

This report documents the findings of a biological resources assessment conducted by Rincon Consultants, Inc. (Rincon) for the Key Energy Storage Project located north of the City of Avenal in unincorporated Fresno County, California. The purpose of this report is to document existing conditions at the Project site and to evaluate the potential for impacts to special status biological resources in compliance with the California Environmental Quality Act (CEQA) review process.

1.1 Project Location

The Project site is in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, approximately 7.5 miles north of the City of Avenal, California, and approximately 0.4 miles east of Interstate 5 (Figure 1). The Project site is located southwest of the Gates Substation along West Jayne Avenue. The Project would be developed on up to 260 acres of a 318-acre site comprised of three parcels (Assessor Parcel Numbers [APNs] 085-040-36S, 085-040-37S, and 085-040-58S) (Figure 2). All areas and associated habitat within the 318-acre Project site south of West Jayne Avenue were evaluated as part of the biological resource assessment (Study Area) (Figure 3). The generation tie line (gen-tie line) north of the Project site was not part of the Study Area and thus not evaluated as part of the biological resource assessment.

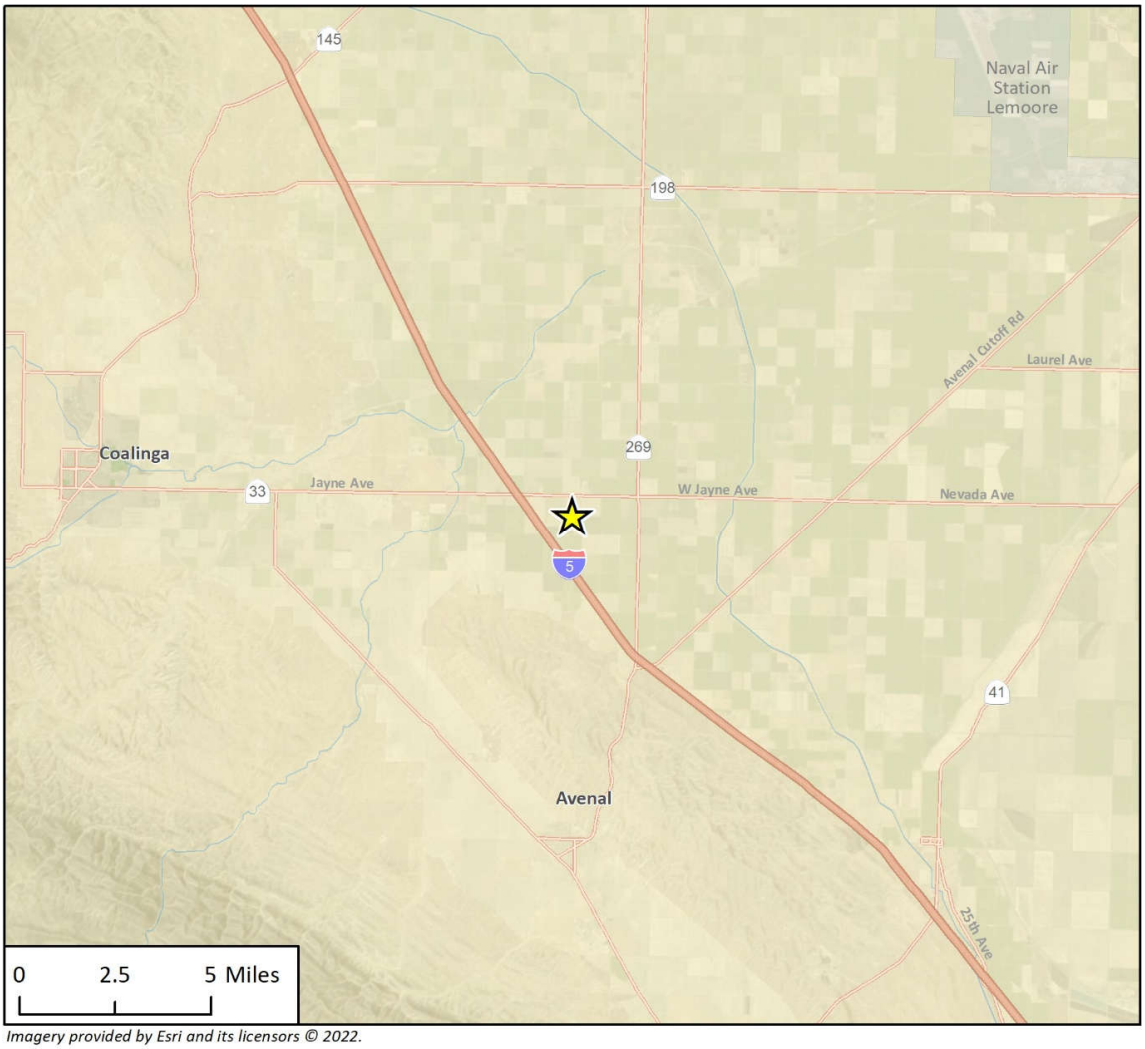
The Project site is depicted on the *Avenal* and *Guijarral Hills, California* U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles and is within Section 4 of Township 21, Range 17 within the Mount Diablo Principal Meridian. The approximate center of the Project is at latitude 36° 7'56.56"N and longitude 120° 7'59.71"W. Adjacent land uses include agricultural fields in all directions, as well as a solar field directly to the west, and a substation to the north. The site currently consists of barren and active agricultural fields, including a mature orchard grove, tailwater basins, and existing compacted dirt roads bordering on all sides.

1.2 Project Description

The applicant proposes to construct and operate the Project on up to 260 acres within the 318-acre Study Area in unincorporated Fresno County. The Project would include development of an energy storage system facility and associated on-site support facilities including a substation, inverters, collector lines, fencing, access roads, supervisory control and data acquisition (SCADA) system, and other ancillary facilities or equipment. The energy storage facility is anticipated to consist of batteries with the potential to store approximately three (3)-gigawatt (GW) of energy.[1] The Project would also include a 500-kilovolt (kV) overhead gen-tie line, which would extend north to the adjacent substation. Buildout of the Project would occur in phases, with construction beginning in 2024. For the purposes of this analysis, Rincon has assumed the Project will involve full buildout of 260 acres of the Project site.

[1] The megawatt capacity is an estimate based on currently available technology as the energy storage industry has quickly evolved in the last few years and is anticipated to continue to evolve. While the components and total megawatts of the Project may change, the overall size of the Project (up to approximately 260 acres) would remain consistent.

Figure 1 Regional Location



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Project Location

N

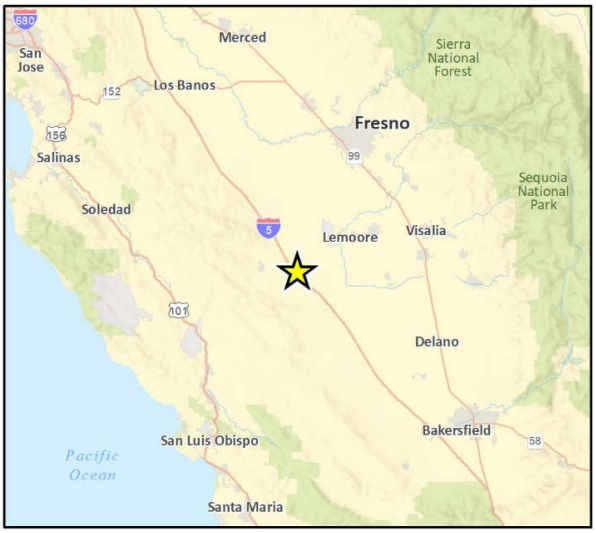
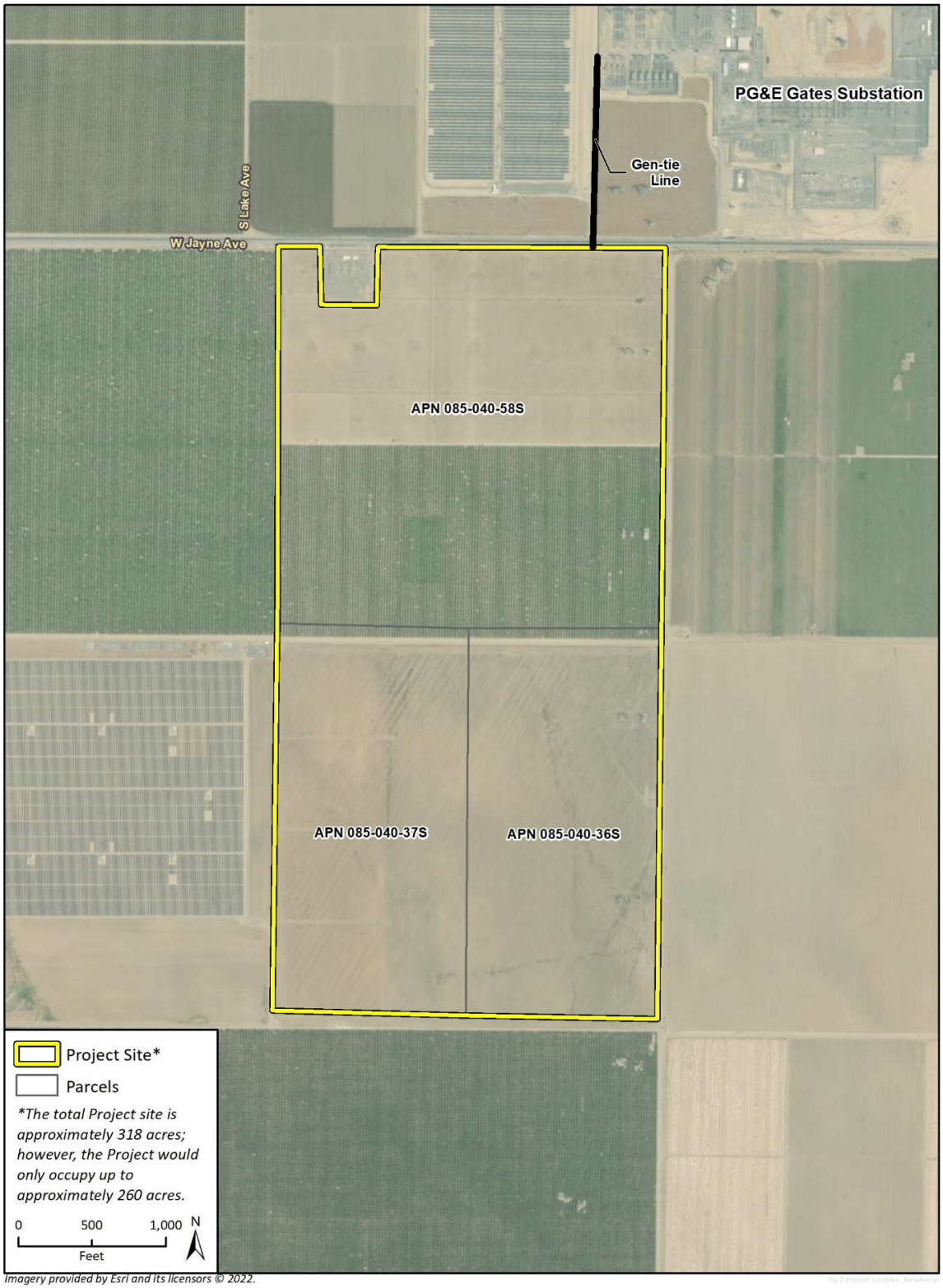


Figure 2 Project Location and Study Area



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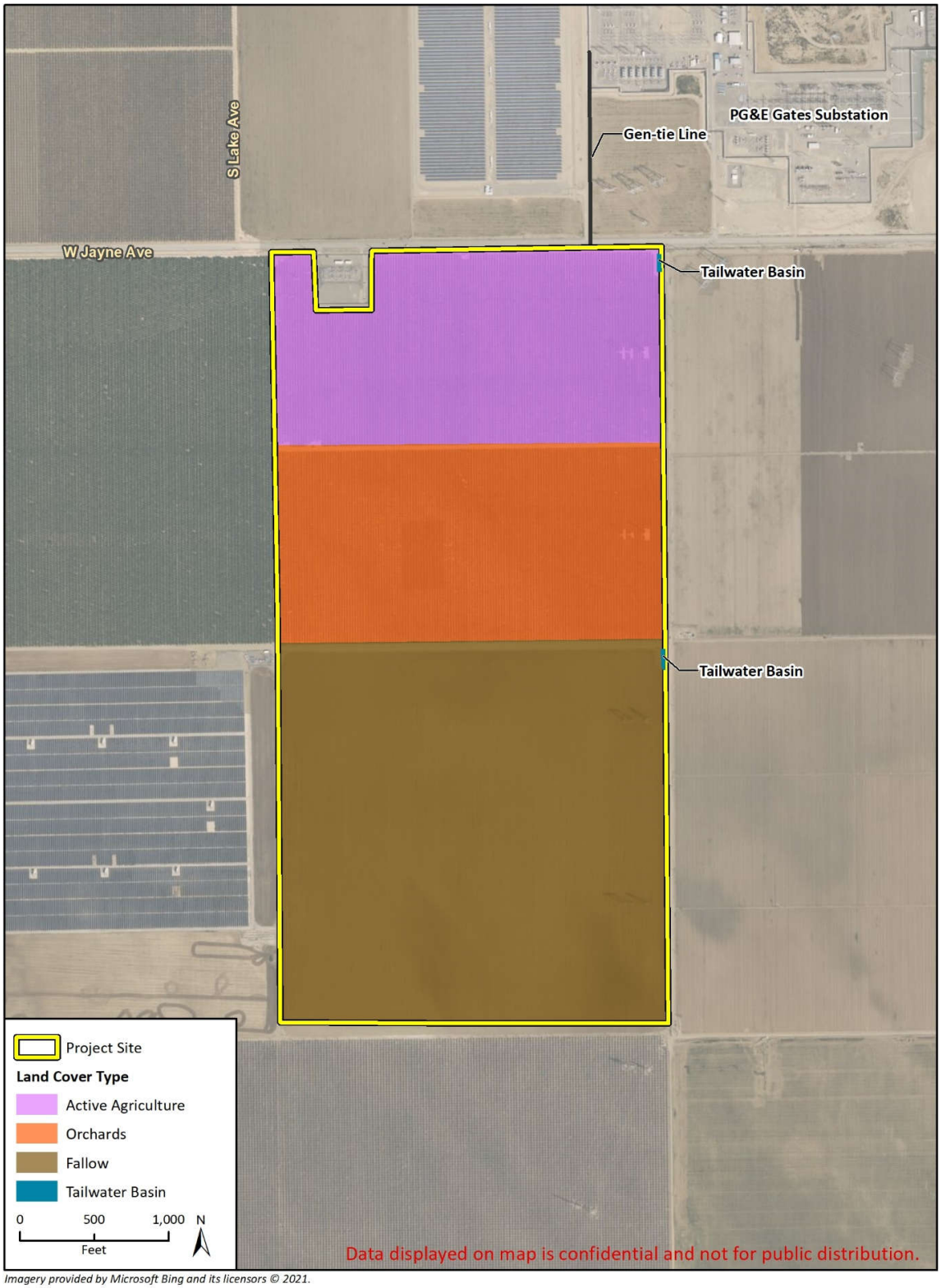
Additional data provided by Fresno County, 2021.

Figure 3 Land Cover within the Project Site/Study Area



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The Project would support state policies necessary to improve the reliability of California's energy grid. California has taken action to advance energy storage, including the passage of Assembly Bill 2514 and the resulting California Public Utilities Commission decision for energy storage procurement targets for each of the investor-owned utilities. Locally, Fresno County provides a large share of the region's renewable energy. The Project would substantially increase local energy storage capacity and address the limitations of the electric grid and the increasing demand for renewable energy. Layering energy storage systems into the energy grid improves the reliability of the grid and makes it more resilient to disturbances and peaks in energy demand. The Project and other energy storage system projects are used to supply power during brief disturbances, reduce outages and associated impacts to the community, and substitute for certain large footprint transmission and distribution upgrades.

2 Methodology

2.1 Regulatory Overview

Regulated or sensitive resources studied and analyzed herein include special status plant and wildlife species, nesting birds and raptors, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement, and locally protected resources, such as protected trees. Regulatory authority over biological resources is shared by Federal, State, and local authorities. Primary authority for regulation of general biological resources lies within the land use control and planning authority of local jurisdictions (in this instance, Fresno County).

2.1.1 Definition of Special Status Species

For the purposes of this report, special status species include:

- Species listed as threatened or endangered under the Federal Endangered Species Act (ESA); species that are under review may be included if there is a reasonable expectation of listing within the life of the Project;
- Species listed as candidate, threatened, or endangered under the California Endangered Species Act (CESA);
- Species designated as Fully Protected, Species of Special Concern, or Watch List by the California Department of Fish and Wildlife (CDFW);
- Species designated as locally important by the Local Agency and/or otherwise protected through ordinance or local policy;
- Plant species with a California Rare Plant Rank of 1B and 2.

2.1.2 Environmental Statutes

For the purpose of this report, potential impacts to biological resources were analyzed based on the following statutes (Appendix A):

- California Environmental Quality Act (CEQA)
- Federal Endangered Species Act (ESA)
- California Endangered Species Act (CESA)
- Federal Clean Water Act (CWA)
- California Fish and Game Code (FGC)
- The Bald and Golden Eagle Protection Act
- Porter-Cologne Water Quality Control Act
- Fresno County General Plan

2.1.3 Guidelines for Determining CEQA Significance

The following threshold criteria, as defined by the CEQA Guidelines Appendix G Initial Study Checklist, were used to evaluate potential environmental effects. The proposed Project would have a significant effect on biological resources if it fit any of the following criteria:

a) Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.

c) Have a substantial adverse effect on state and federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

2.2 Literature Review

Queries of scientific databases including the CDFW California Natural Diversity Database (CNDDB) (CDFW, 2021a), the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) System Query (USFWS, 2021c), and the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants of California (CNPS, 2021) were conducted to obtain comprehensive information regarding special status species considered to have potential to occur within the *Avenal* and *Guijarral Hills, California* USGS 7.5-minute topographic quadrangle and the surrounding ten USGS quadrangles (*Huron, Calflax, Harris Ranch, Domengine Ranch, Coalinga, Kreyenhagen Hills, The Dark Hole, Garza Peak, Kettleman Plain, and La Cima, California*). The results of database queries are presented in Appendix D. Rincon assessed the potential for each species to occur within the Project site based on the Project site's existing conditions as observed during the biological field surveys in the context of the specific habitat requirements of each species, as well as focused survey methodologies where appropriate

Additional sources of information were reviewed by Rincon regarding sensitive biological resources included:

- CDFW Biogeographic Information and Observation System Viewer Application for the Biological Study Area (CDFW 2021b);
- USFWS Critical Habitat Portal (USFWS 2021b);
- USFWS National Wetlands Inventory (NWI) Mapper (USFWS 2021d); and
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA, NRCS 2021).

2.3 Field Surveys

Field Reconnaissance Survey

Rincon conducted an initial biological resource reconnaissance survey to assess the habitat suitability for potential special status species, map the existing vegetation, map any evidence of sensitive biological resources currently on site, note the presence of potential jurisdictional waters or wetlands, document any wildlife connectivity/movement features, and record plant and wildlife species within the Project site. Rincon Biologists Dustin Groh and Morgan Craig conducted the site visit on November 9, 2021, between the hours of 8:35 a.m. and 12:50 p.m. Weather conditions were calm and clear at the time of the survey, with temperatures ranging from 55 degrees Fahrenheit (°F) to 63°F with wind speeds of 3-5 miles per hour (mph) gusting at 8-10 mph. Site photos from the survey are included as Appendix B.

During the field survey, Rincon biologists inventoried plant species present within the Project site and document the general site conditions. Plant species nomenclature and taxonomy followed the Jepson Manual: Vascular Plants of California, second edition (Baldwin et al., 2012). Data collected during the field survey was used to formally classify vegetation communities and land cover types. The vegetation classification used for this analysis is based on *A Manual of California Vegetation, Second Edition* (MCV2; Sawyer et al., 2009), modified as necessary to accurately describe existing vegetation communities on site.

During the reconnaissance survey the potential for special status species to occur in the Project site or otherwise be impacted by the proposed Project was assessed by Rincon and was based on factors such as historical occurrence, habitat conditions, and presence of plants, wildlife, or wildlife "sign" (e.g., burrows, scat, tracks). The detection of wildlife species was limited by seasonal and temporal factors. The survey was conducted in the fall; therefore, potentially occurring winter migrants or flora with a typical springtime blooming period would not have been observed or identifiable. As the survey was performed during the day, identification of nocturnal animals was limited to sign if present on-site. However, the survey was sufficient to accurately identify vegetation communities and land cover types, evaluate the site's capacity to support special status and sensitive biological resources, and assess potential impacts to biological resources under CEQA.

Burrowing Owl Surveys

Rincon conducted focused surveys for burrowing owl (BUOW; *Athene cunicularia*) following the *Burrowing Owl Survey Protocol and Mitigation Guidelines* (California Burrowing Owl Consortium, 1993) and *the Staff Report on Burrowing Owl Mitigation* (CDFW, 2012). Survey dates were chosen to occur during the winter non-breeding season (September 1 through January 31), and breeding season (February 1 through August 31). One non-breeding season survey was conducted on January 31, 2022, and three breeding season surveys, spaced at least three weeks apart to capture as much of the breeding season as possible, were conducted on March 24, May 18, and July 8, 2022. Surveys were conducted under optimal weather and temperature conditions for detecting BUOW, and no factors were present that may have impaired visibility or detection probability. Per the survey protocol, surveys were timed to coincide with local sunrise times, starting approximately 30-minutes prior to sunrise and concluding prior to 10:00 AM. Survey dates, times, conditions, and personnel are outlined in Table 1, included at the end of this section. Survey times in Table 1 reflect total time on site and include additional botanical surveys.

Potential BUOW habitat within the Study Area was determined to be present in the fallow areas on the southern side of the property. The remainder of the property was active agriculture, orchard, or substation infrastructure and was determined to not be suitable habitat for BUOW. These non-suitable habitat portions of the Study Area were visually surveyed using binoculars and on foot aided by binoculars where needed to search for BUOW, sign, potential dens, or other indications of habitat suitability or potential occupancy. A 500-foot buffer around the entire Project site was also visually surveyed with binoculars where possible. The southern fallow region of potentially suitable habitat was surveyed by pedestrian transects spaced seven to twenty meters apart and adjusted as needed to visually cover 100% of the survey area. The entire transect area was regularly scanned with binoculars for BUOW, their sign, or any potential dens during transects. The fallow area was vegetated with annual grasses and other forbs during the first survey conducted on January 31, 2022 but following that survey the field was disked multiple times and nearly entirely bare of vegetation on all subsequent surveys. Because some burrowing mammal activity was observed within the middle citrus orchard on July 8, 2022, this portion of the Study Area was surveyed with pedestrian transects aided by binoculars to confirm no potential burrows were present. Results of BUOW surveys are detailed in Section 4.1.2.

Rare Plant Surveys

Rincon conducted protocol-level botanical surveys to determine presence or absence of any federally listed, state listed, or other special status plant species in accordance with Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants (USFWS, 2021a), and Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW, 2018). Four botanical preconstruction surveys were performed between January 31, 2022 and July 8, 2022, as shown in Table 1. Results of all botanical observations made during surveys are included in Appendix C. Spring and summer focused botanical surveys were conducted to capture bloom periods of sensitive species with potential to occur on site.

The botanical surveys were conducted by Rincon Biologists Nicole Argueta and Ryan Wardle. Intuitively controlled transects were walked throughout the entire Study Area so that 100% visual inspection was achieved. During field surveys, an inventory of all plant species observed was compiled, vegetation communities were classified, and the general site conditions were documented.

Prior to initiation of field botanical surveys, Rincon biologists conducted desktop reviews on special status species with potential to occur in the general vicinity. The biologists conducted visits at reference populations and occurrences for Kern mallow (*Eremalche parryi* ssp. *kernensis*) and California jewelflower (*Caulanthus californicus*) in the Cuyama Valley, and a reference population for San Joaquin woollythreads (*Monolopia congdonii*) in the Carrizo Plain.

The Jepson Manual, Second Edition (Baldwin et al., 2012), and a 10x hand lens aided in confirmation of species identity in the field. Identification of collected specimens was confirmed through literature review and cross-referencing species occurrences on Calflora (2021).

Spring and Summer Botanical Surveys

The spring and summer botanical field surveys conducted on March 24, May 18, and July 8, 2022, were floristic in nature, meaning that all vascular plant species encountered on site were identified to the lowest possible taxonomic level, which is required to determine the presence or absence and phenological stage (e.g., vegetative, flowering, fruiting) of the special status plant species with

potential to occur onsite. During the spring and summer botanical surveys, there were five plant species lacking floristic parts and could not be identified to the lowest possible taxonomic level. All of these species were identified to be ruderal species that typically occur in disturbed, agricultural areas and was determined that none of these species were listed as special status. Rare plant survey results are described in Section 4.1.1.

Table 1 Field Surveys

Date	Personnel	Time	Temperature	Weather Conditions	Survey Type(s)
11/9/21	Dustin Groh & Morgan Craig	0835 - 1250	55-63°F	Winds 3-5 mph, clear skies (0%)	Field Reconnaissance
1/31/22	Ryan Wardle & Nicole Argueta	0630 - 1030	37-54°F	Winds 0-3 mph, partly cloudy (50%)	BUOW & Rare Plant
3/24/22	Ryan Wardle & Nicole Argueta	0630 - 0930	50-75°F	Winds 0-3 mph, clear skies (0%)	BUOW & Rare Plant
5/18/22	Ryan Wardle & Nicole Argueta	0530 - 0830	58 – 87°F	Winds 0-3 mph, clear skies (0%)	BUOW & Rare Plant
7/8/22	Ryan Wardle & Nicole Argueta	0530-1130	69-94°F	Winds 0-3 mph, clear skies (0%)	BUOW & Rare Plant

3 Existing Conditions

This section summarizes the results of the literature review, field reconnaissance survey and vegetation mapping, and provides further analysis of the data related to existing conditions. Discussions regarding the general environmental setting, vegetation communities present, and plant and wildlife species observed are presented below. Representative photographs of the Study Area are provided in Appendix B and a completed list of all the plant and wildlife species observed on site during the field surveys is provided in Appendix C.

3.1 Physical Characteristics

The Projects is located in Fresno County within the western San Joaquin Valley. The San Joaquin Valley extends from the Sacramento-San Joaquin River Delta in the north to the Tehachapi Mountains in the south, and from the California coastal ranges in the west to the Sierra Nevada range in the east. The San Joaquin River drains the northern half of the valley into the Sacramento-San Joaquin River Delta with the Kings and Kern Rivers draining the southern half of the valley. Climate within the San Joaquin Valley is considered Mediterranean, with hot, dry summers and cool, wet winters. The average high temperature during summer months (June through September) within the Study Area is 96°F and the average low temperature is 62°F. The average high temperature during the winter months (December through March) is 62°F and the average low temperature is 38°F. Average annual precipitation is 7.62 inches, with the majority of rainfall occurring during December through March (Western Regional Climate Center 2021).

Terrain within the Study Area is flat with a slight elevation change across the site, decreasing from the west to the east. The elevation ranges from approximately 435 feet to 408 feet along West Jayne Avenue. Land use within the Study Area and surrounding properties consists of active agriculture, specifically citrus production and fallow, barren fields.

3.1.1 Watershed and Drainages

The Study Area is located within the Tulare-Buena Vista Lakes watershed unit (USGS, 1987). There are no natural waterways or drainages present within the Study Area, and the Study Area has been routinely developed for agricultural cultivation, including irrigation practices. No aquatic features are depicted on the NWI (USFWS, 2021d) or the National Hydrography Dataset (NHD) within the Study Area. Two constructed tailwater basins used in irrigation for on-site agriculture activities were observed within the Study Area (Figure 3). The two tailwater basins were not observed to have direct connectivity to any navigable waters, based on online database searches, aerial imagery investigations (Google Earth, 2021) and field observations. No water was observed within either basin during our reconnaissance site survey. A small amount of water was present in the northeastern tailwater basin during the survey on July 8, 2022. Water was draining from an irrigation pipe and formed a small pool approximately one inch deep in the bottom of the basin.

3.1.2 Soils

The Study Area is located within the Fresno County, California, Western Part Soil Survey (NRCS, 2021). Three soil map units were identified within the Study Area and include:

- Kimberlina sandy loam, dry, 0 to 2 percent slopes, MLRA 17, 30
- Westhaven loam, 0 to 2 percent slopes, MLRA 17
- Wasco sandy loam, dry, 2 to 5 percent slopes, MLRA 17, 30

The locations of each soil map unit within the Study Area are depicted in Figure 4, and the soil series are described below using the NRCS Official Soils Series Descriptions (2021). These soil units are from the USDA NRCS Soil Survey of Fresno County, California, Western Part, which was conducted on a broader scale than this study and did not necessarily include on site observations. The physical characteristics of the soil units described below are generalized and not specific to the Project site. None of the described soils are considered hydric soil types (NRCS, 2021).

Kimberlina Series

The Kimberlina series consists of very deep, well drained soils on flood plains and alluvial fans. These soils formed in mixed alluvium derived dominantly from igneous and/or sedimentary rock. The soil between the depths of 8 and 24 inches is dry in all parts from April to mid-January and is moist in some or all parts for only 60 consecutive days in winter. This soil is used for growing irrigated field, forage, row crops, and livestock grazing. When not irrigated, vegetation is annual grasses, forbs, and atriplex spp. in the San Joaquin Valley (NRCS, 2021).

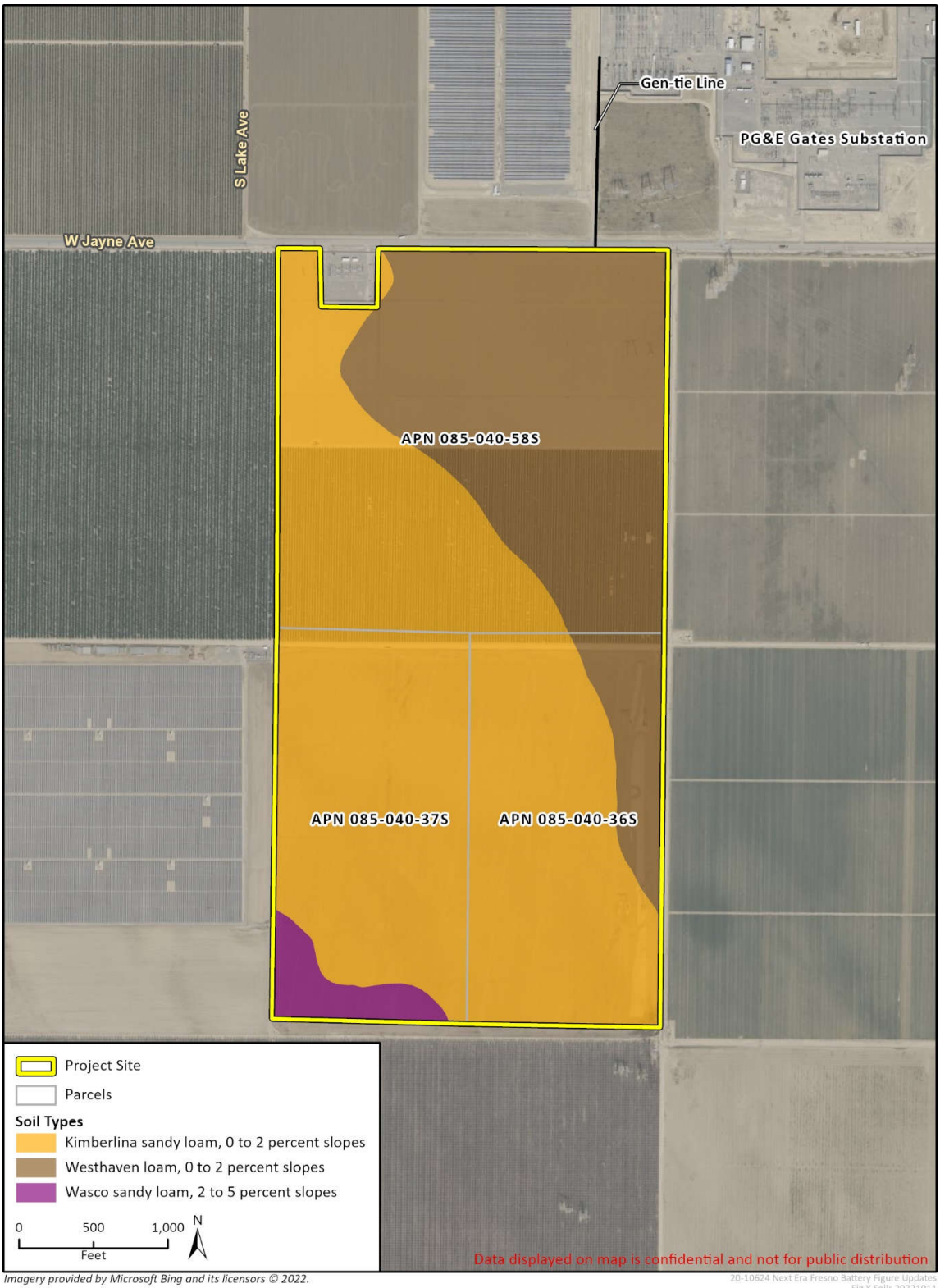
Westhaven Series

The Westhaven series consists of very deep, well drained soils on alluvial fans and flood plains. These soils formed in stratified mixed alluvium derived from igneous and/or sedimentary rock. The soil depths of 4 to 12 inches is usually dry from April to December and is not moist in some or all parts for as long as 90 consecutive days. They are principally used for crops such as wheat, lettuce, cotton, tomatoes, almonds, grapes, and peaches. Some areas are used for home site development. Native vegetation is annual grasses, forbs, and saltbush (NRCS, 2021).

Wasco Series

The Wasco series consists of very deep, well drained soils on alluvial fans and flood plains. These soils formed in mixed alluvium derived from igneous and/or sedimentary rock. The soil depths of 8 to 24 inches is usually dry from mid-April to mid-January and is continuously moist in some or all parts for as long as 60 to 90 consecutive days in winter. This soil is used for growing irrigated field, forage, and row crops. Some areas are used for livestock grazing, wildlife habitat, recreation and homesites. Native vegetation is Atriplex spp., annual grasses, and forbs (NRCS, 2021).

Figure 4 USDA NRCS Soil Survey Mapped Soil Units



Imagery provided by Microsoft Bing and its licensors © 2022.
Additional data provided by USDA and Fresno County, 2021.

3.2 Vegetation and Other Land Cover

Vegetation types in the San Joaquin Valley have been significantly modified and disturbed by anthropogenic activity. The region once consisted of a diverse assemblage of perennial bunchgrass ecosystems that included a variety of vegetation communities and habitats including prairies, oak-grass savannas, desert grasslands, riparian woodlands, freshwater marshes, alkali sink, and vernal pools. Extensive agricultural and urban development during the 19th and 20th centuries has resulted in substantial modification to virtually all of the San Joaquin Valley's habitats. Grasslands in the region are now dominated by introduced non-native grasses and most wetlands and lakes have been drained to support the extensive irrigation infrastructure of the San Joaquin Valley. In general, agricultural development, urban expansion, and changes to the hydrologic regimes have resulted in a loss of the majority of natural habitats and native vegetation communities (Sawyer et al., 2009).

The Study Area is comprised of four land cover types: active agriculture, orchard, fallow, and tailwater basin. No natural vegetation communities occur in the Study Area. Compacted dirt roads border and separate each land cover type and are likely used for agriculture maintenance activities.

A complete list of plant species identified within each land cover type is included in Appendix C. Figure 3 shows these land cover types within the Study Area and are discussed in greater detail below.

Agriculture

Active agriculture land cover within the Study Area exists in the northern portion of the Project site (Figure 3). Ongoing agriculture and maintenance activities were observed to comprise the entire portion of the agriculture area. This land cover was tilled and disked, irrigation was installed, and crop rows had been established (Appendix B; Photograph 7). This land cover consists of a monotypic block of crop and the remainder of this section was unvegetated. No other plant or animal resources or sign were observed within the agriculture area during reconnaissance surveys on November 9, 2021. Subsequent surveys identified the northern block to be establishing pistachio saplings. Because agriculture is a man-made land cover type it is not identified in MCV2 (Sawyer, et al., 2009) as a defined vegetation community.

Orchard

An orchard occurs in the central portion of the Study Area (Figure 3). The orchard grove on site contains planted rows of maintained citrus trees that were mature and fruiting during the reconnaissance site visit. This land cover consists of a monotypic stand of citrus orchard and the remainder of this section was unvegetated. No other plant or animal resources or sign were observed within the orchard area during reconnaissance surveys on November 9, 2021. Because orchards are a man-made land cover type it is not identified in MCV2 (Sawyer, et al., 2009) as a defined vegetation community.

Fallow

Fallow cropland comprised the entire southern half of the Study Area. This land cover is likely part of a rotating crop cycle in which this portion of land was left out of active production for the current season to allow for moisture and nutrient growth in the area. The fallow area was recently disked and appears to remain at least partially active through soil maintenance and preparation. The majority of land cover was barren soil (Appendix B; Photograph 2). Russian thistle (*Salsola tragus*) was common and scattered throughout portions of the fallow area (Appendix B; Photograph 4).

Other non-native species such as cheeseweed mallow (*Malva parviflora*) and ripgut brome (*Bromus diandrus*) were observed intermittently throughout the fallow portion of the Study Area. Because fallow fields are a man-made land cover type it is not identified in MCV2 (Sawyer, et al., 2009) as a defined vegetation community.

Tailwater Basin

The eastern edge of the Study Area contains two small irrigation ponds or tailwater basins (Figure 3). These basins are associated with on-site agriculture activities and are likely used for redistribution of water as part of on-site irrigation for crops. Neither the northern nor southern tailwater basins contained water during the November 9, 2021, reconnaissance survey. The northern tailwater basin contained a small amount of water flowing from an irrigation pipe on the July 8, 2022 site survey, forming pooled water approximately one inch deep pond. Species observed within the basins included non-native horseweed (*Erigeron canadensis)*, prostrate pigweed (*Amaranthus blitoides*), curly dock (*Rumex crispus*), and non-native grasses such as smilo grass (*Stipa miliacea*).

3.3 General Wildlife

The Study Area and the surrounding vicinity consists predominantly of disturbed agricultural lands. Observed wildlife abundance and diversity was low, as expected for an agricultural and disturbed site. Wildlife species observed included avian species such as house finch (*Haemorhous mexicanus*), northern harrier (*Circus cyaneus*)*,* common raven (*Corvus corax*), western meadowlark (*Sturnella neglecta*), say's phoebe (*Sayornis saya*), white-crowned sparrow (*Zonotrichia leucophrys*), and American pipit (*Anthus rubescens*). Transmission and distribution towers within the survey area provide perching habitat for many avian species and could provide habitat for nesting birds. Several active nests were observed during field surveys, and are described in Section 4.1.3. Burrows of Botta's pocket gopher (*Thomomys bottae*), coyote scat and tracks (*Canis latrans*), and black-tailed jack rabbit (*Lepus californicus*) were also observed on site. A complete list of wildlife species observed is included in Appendix C.

4 Sensitive Biological Resources

Local, state, and federal agencies regulate special status species and other sensitive biological resources. CEQA requires an assessment of the potential impacts to special status species on site prior to the approval of proposed development on a property. This section evaluates the potential for the Project site to support sensitive biological resources and the potential impacts to those resources from Project development. Assessments for the potential occurrence of special status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB, species occurrence records from other sites in the vicinity of the survey area, previous reports for the Project site, the results of survey of the Project site, and the vegetation communities present on site. The potential for each special status species to occur in the Study Area was evaluated according to the following criteria:

- **No Potential.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on site if present (e.g., oak trees). Protocol surveys (if conducted) did not detect species.
- **Low Potential.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site. Protocol surveys (if conducted) did not detect species.
- **Moderate Potential.** Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High Potential.** All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- **Present.** Species is observed on the site or has been recorded (e.g., CNDDB, other reports) on the site recently (within the last five years).

4.1 Special Status Species

This section describes the general potential for special status species to occur within the Project site. As discussed in Section 2.2, an analysis was conducted to determine which of the regionally occurring special status species have the potential to occur within the Project site (Appendix D). Species with potential to occur onsite are discussed in detail below.

4.1.1 Special Status Plant Species

Eighteen special status plant species have been previously documented by the CNPS and CNDDB within the *Avenal* and *Guijarral Hills, California* and surrounding USGS 7.5-minute quadrangles (Appendix D). The Study Area does not contain suitable habitat for any of the special status plant species known to occur in the region. Rincon's determinations for the lack of potential of these species to occur were based on the disturbance history of the site from ongoing agriculture activities, lack of suitable soils, inappropriate hydrological conditions, absence of appropriate vegetation communities, and/or being outside the elevational range of the species. Seasonally timed botanical surveys were conducted between January 31, and July 8, 2022, to further confirm

presence or absence of any special status plant species that could potentially occur within the Study Area. The survey timing covered the potential blooming period for all special-status plants with potential to occur. No special status plant species were observed in any portion of the Study Area throughout all survey efforts. The entire Study Area was subject to high levels of disturbance from active agriculture, disking, and other related activities. Only small patches of ruderal vegetation persist within the Study Area, it is unlikely for any special status plants to occur within the Study Area.

4.1.2 Special Status Animal Species

Rincon evaluated twenty-three special status wildlife species for their potential to occur within the *Avenal* and *Guijarral Hills, California* USGS 7.5-minute quadrangle and surrounding quadrangles (Appendix D). Six of these species have a low potential to occur and one species was detected within the Project site during the field reconnaissance survey and is, therefore, considered present. Table 2 lists each of these species, their status, and their potential to occur within the Study Area.

Table 2 Special status Wildlife Species with Potential to Occur within the Study Area

Common Name	Scientific Name	Status	Potential to Occur
San Joaquin kit fox	*Vulpes macrotis mutica*	FE, ST	Low Potential
Tricolored blackbird	*Agelaius tricolor*	ST, SSC	Low Potential (foraging)
Swainson's hawk	*Buteo swainsoni*	ST	Low Potential (foraging)
Northern harrier	*Circus hudsonius*	SSC	Present (foraging)
Loggerhead shrike	*Lanius ludovicianus*	SSC	Low Potential
Burrowing Owl	*Athene cunicularia*	SSC	Low Potential
Prairie falcon	*Falco mexicanus*	WL	Low Potential (foraging)

FE = Federally Endangered FT = Federally Threatened SE = State Endangered ST = State Threatened
SSC = CDFW Species of Special Concern FP = State Fully Protected WL = CDFW Watch List

The remaining sixteen species, as discussed in Appendix D, are not expected to occur in the Study Area or immediate vicinity based on the absence of riparian, grassland, woodland, scrub, vernal pool, or other suitable natural habitats or vegetation communities, and/or because the range of the species does not overlap with the Study Area. Additionally, the Project site is surrounded by agriculture and roadways that likely further limits connectivity of species movements in and around the site. Special status wildlife species that have potential or are known to occur on site are discussed in further detail below.

San Joaquin Kit Fox

The San Joaquin kit fox (SJKF) is a federally endangered and state threatened species. SJKF is endemic to California west of the Sierra Nevada Mountains. This species occurs in the Central Valley generally from the Sacramento area south to the southern end of the San Joaquin Valley, in the Carrizo Plain, the Panoche Valley, and from northern San Luis Obispo County north through the Salinas Valley. Individuals are about the size of a house cat, weighing 4-7 pounds and are approximately 30 inches in length. Diet consists primarily of kangaroo rats (*Dipodomys* sp.) and other small mammals, occasionally including black-tailed jackrabbits, desert cottontails, and ground squirrels (*Otospermophilus* sp.) SJKF will also eat insects, reptiles, small birds, bird eggs, and

vegetation. Predators include coyotes, large raptors, bobcat, red fox, and feral dogs. SJKF are most commonly found in gently sloping to relatively flat terrain vegetated with grasslands or grassy open stages with scattered shrubby vegetation. They may occur on a limited basis in areas under less intense agricultural production, such as dry-land grain farming and orchards, and they are known to occur in urban areas (California State University Stanislaus 2021). The species requires loose-textured sandy soils for burrowing, and breeding can occur from December to March. Pups are born within dens after a 48- to 52-day gestation period (United States Environmental Protection Agency, 2021).

There are multiple reported occurrences from CNDDB of SJKF within 5 miles of the Study Area, however, they are all historical from 1975 to 1981. During the field reconnaissance survey, no burrows of a suitable size for SJKF (greater than 4 inches in diameter) were detected within the Study Area. The intensive agricultural activities on site, minimal sign of prey species on site, and the presence of coyotes substantially reduce the habitat value within the Study Area, and SJKF are not expected to use the site for breeding. There is a low potential for SJKF to use the site as a transient for foraging and dispersal; however, presence of coyote and lack of cover likely discourage the species' on-site presence. No SJKF, suitable dens, or sign were observed during all field surveys.

Tricolored Blackbird

Tricolored blackbird is a state threatened species, with a low potential to forage on site, and no potential to nest within 100 feet of the Project site. This species nests in a variety of substrates and exhibits a range of foraging behaviors. The tricolored blackbird breeds in dense colonies and may travel far distances to forage. Colonies require suitable nesting substrate surrounded by foraging habitats that may include semi-natural grasslands, agricultural croplands, or alkali scrub habitats, and a nearby source of freshwater. Suitable nesting substrate must be protected (i.e., flooded or surrounded by thorny or spiny vegetation), such as cattails (*Typha* spp.), bulrushes (*Schoenoplectus* spp.), and Himalayan blackberry (*Rubus armeniacus*). Tricolored blackbirds also utilize agricultural crops such as triticale, a wheat/rye hybrid grain.

The closest reported occurrence of tricolored blackbird is from 2007 and was identified approximately 4.3 miles southeast of the Study Area. Suitable nesting habitat is not likely present within the tailwater basins on the eastern edge of the Project site due to irregular water levels from agricultural practices which would likely reduce potential for a reliable aquatic resource that this species relies on. Additionally, appropriate emergent vegetation was not observed within the basins during reconnaissance surveys. Suitable foraging habitat is present within the Study Area as this species is an opportunistic forager of a variety of prey items. No tricolored blackbirds were observed during the field surveys.

Swainson's Hawk

Swainson's hawk is a state listed (threatened) species, with a potential to forage on site, and a low potential to nest within 0.5 mile of the Project site. This species breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, and agricultural or ranch lands with groves or lines of trees. Suitable foraging areas such as grasslands, or agricultural fields such as fallow fields, alfalfa, low-growing crops such as beet and tomato, and irrigated and dryland pasture, are required adjacent to the nesting habitat.

No documented occurrences of nesting Swainson's hawk are located within five miles of the Project site; however, a single transitory Swainson's hawk was observed in the vicinity during burrowing owl surveys in March of 2022. Ten documented nests have been reported within 10 miles of the Project

site, recorded on dates ranging from 2005 to 2016. Based on review of aerial imagery potential foraging habitat, in the form of agricultural lands, occurs within 10 miles of the nest occurrences. The nests reported in the CNDDB within 10 miles of the Project range in distances of approximately 5.5 miles to 9.5 miles away from the Project site. According to previous studies, assessment of suitable agricultural foraging habitat is based primarily on two factors: 1) prey abundance; and 2) prey accessibility, which is influenced by vegetation structure (Estep, 2009). Land uses considered suitable for Swainson's hawk foraging include crops comprised of alfalfa hay; irrigated cropland typically cultivated in a rotation of cotton, wheat, and tomatoes, but also including silage crops such as triticale, sorghum, and corn; irrigated pasture; and uncultivated land that has retained some natural soil and vegetation (Estep, 2017). Land uses considered unsuitable for Swainson's hawk foraging include developed land; orchards and vineyards; solar facilities; and open water (Helix Environmental Planning [Helix], 2018).

As discussed in Section 3.2 and displayed in Figure 3, the Study Area consists of orchard, active agriculture, and fallow cropland. The orchard portion of the Study Area is considered unsuitable or low-quality foraging habitat due the tall, dense structure and layout of the citrus trees within the orchard. The fallow cropland and active agriculture portions of the Study Area could provide better quality foraging habitat due to the openness of the areas and lack of tall, dense vegetation, however, the minimal amount of small mammal burrows and lack of native or low growing vegetation observed during the reconnaissance survey suggest these portions of the Study Area are also low-quality foraging habitat areas. The northern active agriculture section of the Study Area has immature pistachio trees planted which will also mature into a tall, dense tree layout and be considered poor quality foraging habitat. The southern fallow cropland area is frequently disked, with disking occurring multiple times between field survey dates. This regular disturbance kept vegetation very minimal, and the majority of the field was bare, loose soil with no vegetation cover. The frequent disking also likely prevents the establishment of small mammal burrows and the establishment of other prey populations. As a result of the lack of vegetation and prey, the southern area would also be considered low-quality foraging habitat. Additionally, foraging habitat surrounding the Study Area would also be considered low quality because these areas consist of fields of solar panels to the north and west and orchards to the south. Based on these factors, the Study Area is low quality or unsuitable foraging habitat for Swainson's hawk.

This species typically prefers to nest within a grove or lines of trees but are known to nest within smaller trees and isolated trees when higher quality nesting habitat is absent. There is marginally suitable nesting habitat for Swainson's hawk within 0.5 mile of the Study Area on power poles or other manmade structures. Habitat within 0.5 miles of the Project site consists primarily of orchards and active agriculture which likely do not provide suitable nesting habitat due to ongoing activities associated with agriculture production. The Study Area is low-quality foraging and nesting habitat, and therefore Swainson's hawk is considered to have a low potential to occur.

Northern Harrier

Northern harrier is a CDFW Species of Special Concern (SSC) that inhabits a range of habitats with low vegetation, including deserts, grasslands, dry plains, estuaries, and agricultural fields. Diet consists primarily of voles during the winter months but also includes other small rodents, rabbits, songbirds, and small reptiles and amphibians. Breeding typically occurs in the northern US and Canada in a variety of habitats, such as freshwater and brackish marshes, dry upland prairies, or riverside woodlands. Nests are constructed on the ground in dense vegetation, including willows, sedges, cattails, or grasses.

A northern harrier was observed flying above the Project site during the field reconnaissance survey on November 9, 2021. Suitable nesting habitat does not occur within the Project site and there is marginally suitable foraging habitat for the species in disked fields on site. The northern harrier is present as a winter forager and has no potential to nest within the Study Area.

Loggerhead Shrike

Loggerhead shrike is a CDFW SSC that inhabits shrublands or woodlands throughout most of California except for the primarily forested coastal slope, the Coast Ranges, the Klamath and Siskiyou mountains of northwestern California, the Sierra Nevada and southern Cascades, and high elevations of the Transverse Ranges. They require tall shrubs or trees, fences, and powerlines for hunting perches, territorial advertisement, and pair maintenance; open areas of short grasses, forbs, or bare ground for hunting; and large trees for nest placement. They also require impaling sites for prey manipulation or storage, which can include sharp, thorny plants and barbed-wire fences. Diet consists primarily of large insects, but will also take small birds, mammals, amphibians, reptiles, fish, carrion, and various other invertebrates (CDFW, 2008). The closest reported known occurrence from CNDDB is from 3.6 miles southeast of the Project from 2001. Suitable nesting habitat could potentially exist within the orchard on site, as well as Russian thistle shrubs found in the fallow agriculture fields in the southern portion of the site. Suitable foraging habitat for this species could also exist within the open agriculture fields in the northern and southern portions of the Study Area. Loggerhead shrike were not observed on site during any field surveys.

Burrowing Owl

The burrowing owl is a CDFW SSC that occupies open, treeless areas within grassland, low density scrub, and desert biomes. This species generally inhabits gently sloping areas, characterized by low, sparse vegetation, and is often associated with high densities of burrowing mammals. Burrowing owls often use relatively disturbed areas such as agricultural fields, golf courses, cemeteries, and vacant urban lots in addition to natural breeding habitats. Nests are most often in fossorial wildlife burrows, such as California ground squirrel or American badger, but atypical nests such as culverts or rubble piles may also be used. Nest sites are typically selected in an area with a high density of burrows (Cornell Lab of Ornithology, 2022). The closest reported known occurrence from CNDDB is from 3.9 miles southeast of the Project from 2003.

Throughout both non-breeding and breeding season surveys, no burrowing owls were observed within the Study Area. No burrows of sufficient size to accommodate burrowing owl were detected and no burrowing owl sign was observed during all site surveys. In the absence of California ground squirrel colonies or other suitable burrows and cover, and the active agricultural uses over most of the Project site, the site consists of marginal and unoccupied habitat for the species. Because no potential burrows or other sign was observed during each survey, subsequent surveys followed the same transect methodology. No point counts, calls, cameras, or any other survey methods were utilized during any survey since no potential dens or sign were observed. Based on the results of the protocol surveys, the high levels of disturbance and lack of potential burrows, burrowing owls are not expected to occur on the Project site.

Prairie falcon

The prairie falcon is a CDFW Watchlist (WL) species that inhabits dry open habitats such as desert, grasslands, and agricultural fields that are relatively flat or hilly and nests are placed in cliff faces.

They primarily prey upon small mammals but will also take small birds, reptiles, or insects. The nearest recorded observation of prairie falcon from CNDDB is 8.9 miles from the Study Area.

The establishing pistachio saplings and active citrus orchard portions of the Study Area are not suitable habitat for prairie falcon given the density of trees. Sign of prey such as small mammals and reptiles was virtually non-existent; the active agricultural activity, including regular disking of fallow fields, and maintenance of orchards, and pesticide use are likely reducing the presence of small mammals and other prey. No suitable nesting sites occur within the vicinity of the Study Area. Due to the low-quality foraging habitat and lack of prey, and absence of available nest sites, prairie falcons have a low potential to occur.

4.1.3 Other Protected Species

Nesting Birds

Non-game migratory birds protected under the California Fish and Game Code (CFGC) Section 3503, such as native avian species common to grasslands, agricultural, developed and ruderal areas, have the potential to breed and forage throughout the Project site. Power lines provide nesting habitat for some common passerine species including American crow (*Corvus brachyrhynchos*) and common raven (*Corvus corax*), as well as raptors such as Swainson's hawk (*Buteo swasoi*) and red-tailed hawk (*Buteo jamaicensis*). Ground nesting birds such as western meadowlark (*Sturnella neglecta*) could potentially utilize fallow fields adjacent to the Study Area. During the course of field surveys three active nests were documented within the Study Area: two common raven and one house finch. One common raven nest was located on the top of the transmission line pole to the west of the substation in the northern portion of the site. The nest was first observed during March 24, 2022 surveys with incubating adults present, confirmed to still be active with large nestlings present on May 18, 2022, and assumed to have successfully fledged prior to the final survey on July 8, 2022. The second common raven nest was located on the top of the transmission tower on the eastern side of the southern field. This nest was first observed during the May 18, 2022 surveys with incubating adults present, and assumed to be still active with both adults present in and around the nest on the July 8, 2022 survey. A house finch nest was located with the active citrus orchard during the May 18, 2022, survey in the incubation phase.

4.2 Sensitive Plant Communities and Critical Habitats

One sensitive natural community is documented in the CNDDB within the nine USGS quadrangles surrounding the Study Area: Great Valley Mesquite Scrub (CDFW, 2021a). This community, nor other sensitive plant communities, occur within the Study Area. The Sensitive Natural Communities List in the CNDDB is not currently maintained and no new information has been added. Therefore, vegetation types on site were also compared with the List of California Sensitive Natural Communities (CDFW, 2021e). According to the CDFW's Vegetation Program, Alliances with State ranks of S1-S3 are considered imperiled, and thus, potentially of special concern. None of the land cover types mapped within the Study Area are natural and not considered sensitive by CDFW.

There is no USFWS designated critical habitat within the Study Area (USFWS, 2021a).

4.3 Jurisdictional Waters and Wetlands

Two tailwater basins are present along the eastern edge of the Study Area, adjacent to the active agriculture and fallow cropland areas (Figure 3). These tailwater basins are manmade and are likely used to support irrigation for on-site agriculture activities. These basins are not mapped by NWI (USFWS, 2021d). Neither of these features are considered navigable waters, nor do they abut or are connected to any navigable waters, and they are therefore not expected to be subject to U.S. Army Corps of Engineers (USACE) jurisdiction. These features were excavated for agricultural purposes, have no connectivity with any other waterways, and are also not expected to fall under CDFW jurisdiction. The tailwater basins are also not likely State wetlands per the Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB, 2021) because they are less than one acre in size, were constructed for agricultural crop irrigation not by modifying a surface water of the state and appear to be maintained. The tailwater basins were also not constructed as compensatory mitigation purposes nor are they identified in a water quality control plan as a wetland or other water of the state. Additionally, the Central Valley RWQCB does not typically require permits for these types of human-made features.

4.4 Wildlife Movement

Wildlife movement corridors, or habitat linkages, are generally defined as connections between areas of suitable habitat that allow for physical and genetic exchange between otherwise isolated wildlife populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein wildlife periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young wildlife. A group of habitat linkages in an area can form a wildlife corridor network. The California Essential Habitat Connectivity Project, commissioned by the California Department of Transportation (Caltrans) and CDFW, identifies “Natural Landscape Blocks” which support native biodiversity and the “Essential Connectivity Areas” which link them (Spencer et al., 2010).

Disked fields, fence lines, and existing roads within and adjacent to the Project site could provide local-scale opportunities for wildlife movement, particularly disturbance-tolerant species such as coyote. However, there are no Natural Landscape Blocks or Essential Connectivity Areas mapped within the Project site and wildlife movement within the Project site and surrounding land has long been disrupted by intensive agriculture.

4.5 Resources Protected By Local Policies and Ordinances

The Fresno County General Plan land use designation for the Project site is Agriculture. The Project site is in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District. The entire Project site is designated as Prime Farmland that is covered by Williamson Act Contracts. The Project site is actively using the site for agriculture and has been developed routinely for cultivation purposes. No native trees were observed on site or are proposed for removal.

Policy LU-B.13 In conjunction with environmental reviews under CEQA, the County shall require applicants to identify biological resources to determine if there are sensitive and/or important flora and fauna that require special protection measures.

4.6 Habitat Conservation Plans

The Study Area is not included in any adopted Habitat Conservation Plans or Natural Community Conservation Plans.

5 Impact Analysis and Mitigation Measures

This section discusses the possible impacts and adverse effects from implementation of the Project that could represent significant impacts under CEQA.

5.1 Special Status Species

The proposed Project would have a significant effect on biological resources if it would:

a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*

5.1.1 Special status Plant Species

No special status plant species were observed within the Project site during focused botanical surveys. Given the high levels of both historic and ongoing disturbance related to active agriculture activities in the Study Area, and the results of the focused botanical surveys, special status plants are not expected to occur, and therefore no impacts to special status plant species are expected.

5.1.2 Special status Wildlife Species

Seven special status wildlife species were identified as having potential to occur within the Study Area: Tricolored blackbird, Swainson's hawk, northern harrier, loggerhead shrike, San Joaquin kit fox, burrowing owl, and prairie falcon. No tricolored blackbirds were present nesting within the Study Area during the breeding season and are not expected to nest within the Project site. Based on the results of protocol surveys, burrowing owl is considered absent, and not expected to occur based on site conditions. A northern harrier was observed foraging within the Project site during the field reconnaissance survey but is not expected to nest within the Project site. Swainson's hawk, loggerhead shrike, San Joaquin kit fox have low potential to occur within the Study Area Potential impacts to each of the special status wildlife species with potential to occur within the Study Area are described below. Nesting birds protected under the MBTA and CFGC have potential to occur throughout the Study Area during the nesting season (February 1 to September 15). While these species are not considered special-status, impacts to active nests would be considered a violation of CFGC and/or MBTA.

San Joaquin Kit Fox

The SJKF has a low potential to occur on site. No burrows of sufficient size to accommodate SJKF were detected during site surveys and no sign of the species was observed. The site provides marginal foraging habitat for the species with minimal sign of small mammal burrows observed, but the presence of coyote predators likely further deters SJKF from the area. SJKF individuals may occur within the Project site irregularly during dispersal as they travel through the region but are not otherwise expected to be found on site. Direct impacts to SJKF, if present during construction, could include injury or mortality of individuals (due to vehicle strikes, entrapment, etc.). Therefore, impacts to SJKF are potentially significant.

Tricolored Blackbird

Marginally suitable nesting habitat is present within the tailwater basins on the eastern edges of the Project site; however, water levels in these basins are likely irregular and do not produce a reliable aquatic resource. Additionally, no suitable nesting emergent vegetation occur within these basins such as cattails (*Typha* spp.), bulrushes (*Schoenoplectus* spp.), and Himalayan blackberry (*Rubus armeniacus*). Ongoing agriculture activities and relatively low water source availability would discourage this species from nesting within the Project. This species is not likely to nest within the Project site. Suitable foraging habitat is present within the Project site as this species are opportunistic foragers of a variety of prey items. This species could occur as a transient species to temporarily forage within the Project site; however, implementation of the Project is not expected to result in significant impacts to the species.

Swainson's Hawk

Ten nests have been previously reported within 10 miles of the Study Area most recently from 2016 (CNDDB 2021a). Helix 2018 conducted an analysis of impacts to Swainson's hawk foraging habitat at a 4,089-acre solar development site (19 times larger than the proposed Project) approximately 33 miles north of the Study Area and situated in a regional setting similar to the proposed Project within agricultural land. The Helix analysis found that at the project level, impacts to the regional population of Swainson's hawk through foraging habitat loss by converting 4,089 acres of active agricultural land into a solar PV generating facility would be less than significant, and no compensatory mitigation would be required (Helix 2018). The proposed Project would be converting a much smaller footprint of agricultural land to energy storage and the land that would be converted would be lower quality foraging habitat compared to the nearby solar development site. Given the low-quality foraging habitat within and adjacent to the Study Area (Section 4.1.2), the relatively small Project size of up to 260 acres, conversion of poor suitable foraging habitat, as well as no known nesting Swainson's hawk within 10 miles of the Study Area within the last 5 years, we conclude that the loss of Swainson's hawk foraging habitat would not be significant. Marginal suitable nesting habitat for the Swainson's hawk could potentially exist within 0.5 miles of the Project site on power poles or other manmade structures or scattered trees in the vicinity. The orchards on the Project site are not likely suitable nesting habitat due to ongoing agriculture activities and disturbances, such as cultivation and crop maintenance. No impacts to nesting Swainson's hawks are expected from implementation of the proposed Project within the Study Area, however this species could nest within 0.5 miles of the Project site.

Northern Harrier

The northern harrier is present as a winter forager within the Project site. Marginally suitable nesting habitat is found within the Project site and there is marginally suitable foraging habitat for the species in disked fields on site. The northern harrier is present as a winter forager and has a low potential to nest within 500 feet of the Study Area. Were the species to nest on or near the Project site, the Project could directly impact breeding through ground disturbance activities destroying the nest, or through disruption of normal biological behaviors during construction of the Project resulting in nest failure. Indirect impacts could include disturbance of breeding habitat. Impacts to nesting northern harrier are potentially significant.

Loggerhead Shrike

Suitable nesting habitat exists within the orchard on site, as well as Russian thistle shrubs found in the fallow agriculture fields in the southern portion of the site. Suitable foraging habitat for this species could also exist within the open agriculture fields in the northern and southern portions of the Project site. Were the species to nest within Project site, the Project could directly impact breeding through ground or vegetation disturbance activities destroying the nest, or through disruption of normal biological behaviors during construction of the Project resulting in nest failure. Indirect impacts could include disturbance of nesting habitat. Impacts to nesting loggerhead shrike are potentially significant.

Burrowing Owl

BUOW has low potential to occur on site. No burrows of sufficient size to accommodate BUOW were detected and no burrowing owl sign was observed during site surveys. The site provides poor nesting and foraging habitat for the species as no California ground squirrel burrows were observed and very few small mammal burrows were observed within the Study Area. BUOW individuals are unlikely to occur within the Project site. Protocol level surveys conducted during 2022 confirmed no BUOW, BUOW burrows, or sign were present within the Study Area. Impacts to BUOW during Project implementation are not expected.

Prairie falcon

The foraging habitat within the Study Area is low quality lacking a prey base or much suitable habitat. There also is no available nesting habitat given the lack of cliffs within the Study Area. Prairie falcons have a low potential to occur for foraging, and impacts to prairie falcon during Project implementation are not expected.

5.2 Sensitive Plant Communities

The proposed Project would have a significant effect on biological resources if it would:

b) Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.

No sensitive vegetation communities or riparian habitats occur on site and therefore no impacts from the proposed Project are expected and no measures are recommended.

5.3 Jurisdictional Waters and Wetlands

The proposed Project would have a significant effect on biological resources if it would:

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

As discussed in Section 4.3, the manmade tailwater basins are not likely jurisdictional water features by any federal, state, or local agency. The proposed Project does not have the potential to result in impacts on state or federally protected wetlands and no measures are recommended.

5.4 Wildlife Movement

The proposed Project would have a significant effect on biological resources if it would:

d) Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites.

There are no Natural Landscape Blocks or Essential Connectivity Areas mapped within the Study Area. Wildlife movement within the Study Area and surrounding land has long been disrupted by intensive agriculture. In the vicinity of the Study Area disked fields, fence lines, and existing roads could provide local scale opportunities for wildlife movement, particularly disturbance-tolerant species such as coyote. The Project could reduce wildlife movement areas by development of disked and fallow fields, however, fence lines and existing roads around the perimeter of the Project site will likely remain as a local scale opportunity for wildlife movement. The Project is not expected to substantially alter existing wildlife movement or interfere with established resident or migratory wildlife corridors. Therefore, impacts to wildlife movement would be less than significant.

5.5 Local Policies and Ordinances

The proposed Project would have a significant effect on biological resources if it would:

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance

The Fresno County General Plan land use designation for the Project site is Agriculture. The Project site is in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District. The entire Project site is designated as Prime Farmland that is covered by Williamson Act Contracts. The Project site is actively using the site for agriculture and has been developed routinely for cultivation purposes.

Policy LU-B.13 In conjunction with environmental reviews under CEQA, the County shall require applicants to identify biological resources to determine if there are sensitive and/or important flora and fauna that require special protection measures.

No native trees were observed on site or are proposed for removal. The Project will not conflict with any local policies or ordinances protecting biological resources.

5.6 Adopted or Approved Plans

The proposed Project would have a significant effect on biological resources if it would:

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The Project is not included in any adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plans. Therefore, no conflict will occur, and no additional measures are recommended. The Study Area is not included in any adopted Habitat Conservation Plans or Natural Community Conservation Plans. Due to the absence of applied plans, no measures are recommended.

6 Limitations, Assumptions, and Use Reliance

This Biological Resources Assessment has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. Reconnaissance biological surveys for certain taxa may have been conducted as part of this assessment but were not performed during a particular blooming period, nesting period, or particular portion of the season when positive identification would be expected if present, and therefore, cannot be considered definitive. The biological surveys are limited also by the environmental conditions present at the time of the surveys. In addition, general biological (or protocol) surveys do not guarantee that the organisms are not present and will not be discovered in the future within the site. In particular, mobile wildlife species could occupy the site on a transient basis, or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, jurisdictional areas, review of CNDDB RareFind5, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDB, may vary with regard to accuracy and completeness. In particular, the CNDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

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Appendix A

Regulatory Setting

Regulatory Setting

The following is a brief summary of the regulatory context under which biological resources are managed at the federal, state, and local levels. A number of federal and state statutes provide a regulatory structure that guides the protection of biological resources. Agencies with the responsibility for protection of biological resources within the Project site include:

- U.S. Army Corps of Engineers (wetlands and other waters of the United States);
- U.S. Fish and Wildlife Service (federally listed species and migratory birds);
- National Marine Fisheries Service (marine animals and anadromous fishes);
- Central Valley Regional Water Quality Control Board (waters of the State);
- California Department Fish and Wildlife (riparian areas, streambeds, and lakes; state-listed species; nesting birds, marine resources);
- California Coastal Commission;
- County of Fresno

United States Army Corps of Engineers

The United States Army Corps of Engineers (USACE) is responsible for administering several federal programs related to ensuring the quality and navigability of the nation's waters.

Clean Water Act Section 404

Congress enacted the Clean Water Act (CWA) "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Section 404 of the CWA authorizes the Secretary of the Army, acting through the USACE, to issue permits regulating the discharge of dredged or fill materials into the "navigable waters at specified disposal sites."

Section 502 of the CWA further defines "navigable waters" as "waters of the United States, including the territorial seas." "Waters of the United States" are broadly defined at 33 CFR Part 328.3 to include navigable waters, perennial and intermittent streams, lakes, rivers, ponds, as well as wetlands, marshes, and wet meadows. In recent years the USACE and US Environmental Protection Agency (USEPA) have undertaken several efforts to modernize their regulations defining "waters of the United States" (e.g., the 2015 Clean Water Rule and 2020 Navigable Waters Protection Rule), but these efforts have been frustrated by legal challenges which have invalidated the updated regulations. Thus, the agencies' longstanding definition of "waters of the United States," which dates from 1986, remains in effect albeit with supplemental guidance interpreting applicable court decisions as described below.

Waters of the U.S.

In summary, USACE and USEPA regulations define "waters of the United States" as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

    i. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

    ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

    iii. Which are used or could be used for industrial purpose by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States;
5. Tributaries of waters identified in paragraphs (a)(1)-(4) of this section;
6. The territorial sea;
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in items 1-6 above.

Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the USEPA.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA are not waters of the United States.

The lateral limits of USACE jurisdiction in non-tidal waters is defined by the "ordinary high-water mark" (OHWM) unless adjacent wetlands are present. The OHWM is a line on the shore or edge of a channel established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed upon the bank, shelving, changes in the character of soil, destruction of vegetation, or the presence of debris (33 CFR 328.3(e)). As such, waters are recognized in the field by the presence of a defined watercourse with appropriate physical and topographic features. If wetlands occur within, or adjacent to, waters of the United States, the lateral limits of USACE jurisdiction extend beyond the OHWM to the outer edge of the wetlands (33 CFR 328.4 (c)). The upstream limit of jurisdiction in the absence of adjacent wetlands is the point beyond which the OHWM is no longer perceptible (33 CFR 328.4; see also 51 FR 41217).

Wetlands

The USACE defines wetlands as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3). The USACE’s delineation procedures identify wetlands in the field based on indicators of three wetland parameters: hydrophytic vegetation, hydric soils, and wetland hydrology. The following is a discussion of each of these parameters.

Hydrophytic Vegetation

Hydrophytic vegetation dominates areas where frequency and duration of inundation or soil saturation exerts a controlling influence on the plant species present. Plant species are assigned wetland indicator status according to the probability of their occurring in wetlands. More than fifty percent of the dominant plant species must have a wetland indicator status to meet the hydrophytic vegetation criterion. The USACE published the National Wetland Plant List (USACE 2018), which separates vascular plants into the following four basic categories based on plant species frequency of occurrence in wetlands:

- **Obligate Wetland (OBL).** Almost always occur in wetlands
- **Facultative Wetland (FACW).** Usually occur in wetlands, but occasionally found in non-wetlands
- **Facultative (FAC).** Occur in wetlands or non-wetlands
- **Facultative Upland (FACU).** Usually occur in non-wetlands, but may occur in wetlands
- **Obligate Upland (UPL).** Almost never occur in wetlands

The USACE considers OBL, FACW and FAC species to be indicators of wetlands. An area is considered to have hydrophytic vegetation when greater than 50 percent of the dominant species in each vegetative stratum (tree, shrub, and herb) fall within these categories. Any species not appearing on the United States Fish and Wildlife Service's list is assumed to be an upland species, almost never occurring in wetlands. In addition, an area needs to contain at least 5% vegetative cover to be considered as a vegetated wetland.

Hydric Soils

Hydric soils are saturated or inundated for a sufficient duration during the growing season to develop anaerobic or reducing conditions that favor the growth and regeneration of hydrophytic vegetation. Field indicators of wetland soils include observations of ponding, inundation, saturation, dark (low chroma) soil colors, bright mottles (concentrations of oxidized minerals such as iron), gleying (indicates reducing conditions by a blue-grey color), or accumulation of organic material. Additional supporting information includes documentation of soil as hydric or reference to wet conditions in the local soils survey, both of which must be verified in the field.

Wetland Hydrology

Wetland hydrology is inundation or soil saturation with a frequency and duration long enough to cause the development of hydric soils and plant communities dominated by hydrophytic vegetation. If direct observation of wetland hydrology is not possible (as in seasonal wetlands), or records of wetland hydrology are not available (such as stream gauges), assessment of wetland hydrology is frequently supported by field indicators, such as water marks, drift lines, sediment deposits, or drainage patterns in wetlands.

Applicable Case Law and Agency Guidance

The USACE's regulations defining "waters of the United States" have been subject to legal interpretation, and two influential Supreme Court decisions have narrowed the definition to exclude certain classes of waters that bear an insufficient connection to navigable waters. In *Solid Waste Agency of Northern Cook County v. Army Corps of Engineers* (2001), the United States Supreme Court stated that the USACE's CWA jurisdiction does not extend to ponds that "are not adjacent to open water." In reaching its decision, the Court concluded that the "Migratory Bird Rule," which

served as the basis for the USACE's asserted jurisdiction, was not supported by the CWA. The Migratory Bird Rule extended CWA jurisdiction to intrastate waters "which are or would be used as habitat by birds protected by Migratory Bird Treaties or which are or would be used as habitat by other migratory birds which cross state lines…" The Court was concerned that application of the Migratory Bird Rule resulted in "reading the term 'navigable waters' out of the statute. Highlighting the language of the CWA to determine the statute's jurisdictional reach, the Court stated, "the term 'navigable' has at least the import of showing us what Congress had in mind as its authority for enacting the CWA: its traditional jurisdiction over waters that were or had been navigable in fact or which could reasonably be so made." This decision stands for the proposition that non-navigable isolated, intrastate waters are not waters of the United States and thus are not jurisdictional under the CWA.

In 2006 the United States Supreme Court decided *Rapanos v. United States* and *Carabell v. United States* (collectively "Rapanos"), which were consolidated cases determining the extent of CWA jurisdiction over waters that carry only an infrequent surface flow. The court issued no majority opinion in Rapanos. Instead, the justices authored five separate opinions including the "plurality" opinion, authored by Justice Scalia (joined by three other justices), and a concurring opinion by Justice Kennedy. To guide implementation of the decision, the USACE and USEPA issued a joint guidance memorandum ("Rapanos Guidance Memorandum") in 2008 stating that "regulatory jurisdiction under the CWA exists over a water body if either the plurality's or Justice Kennedy's standard is satisfied."

According to the plurality opinion in Rapanos, "the waters of the United States include only relatively permanent, standing or flowing bodies of water" and do not include "ordinarily dry channels through which water occasionally or intermittently flows." In addition, while all wetlands that meet the USACE definition are considered adjacent wetlands, only those adjacent wetlands that have a continuous surface connection because they directly abut the tributary (e.g., they are not separated by uplands, a berm, dike, or similar feature) are considered jurisdictional under the plurality standard.

Under Justice Kennedy's opinion, "the USACE's jurisdiction over wetlands depends upon the existence of a significant nexus between the wetlands in question and navigable waters in the traditional sense. Wetlands possess the requisite nexus, and thus come within the statutory phrase 'navigable waters,' if the wetlands, either alone or in combination with similarly situated lands in the region, significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as 'navigable.' When, in contrast, wetlands' effects on water quality are speculative or insubstantial, they fall outside the zone fairly encompassed by the statutory term 'navigable waters.'" Justice Kennedy identified "pollutant trapping, flood control, and runoff storage" as some of the critical functions wetlands can perform relative to other waters. He concluded that, given wetlands' ecological role, "mere adjacency" to a non-navigable tributary was insufficient to establish CWA jurisdiction, and that "a more specific inquiry, based on the significant nexus standard, is therefore necessary."

Interpreting these decisions, and according to the Rapanos Guidance Memorandum, the USACE and USEPA will assert jurisdiction over the following waters:

- Traditional navigable waters;
- Wetlands adjacent to traditional navigable waters;
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and,

- Wetlands that directly abut such tributaries.

The USACE and USEPA will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent;
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent; and,
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary.

Where a significant nexus analysis is required, the USACE and USEPA will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters; and,
- Significant nexus includes consideration of hydrologic and ecologic factors.

The USACE and USEPA generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow); and,
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

Rivers and Harbors Act Section 10

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from the USACE for the construction of any structure in or over any navigable water of the United States. Structures or work outside the limits defined for navigable waters of the United States require a Section 10 permit if the structure or work affects the course, location, or condition of the water body. The law applies to any dredging or disposal of dredged materials, excavation, filling, re-channelization, or any other modification of a navigable water of the United States, and applies to all structures and work. It further includes, without limitation, any wharf, dolphin, weir, boom breakwater, jetty, groin, bank protection (e.g., riprap, revetment, bulkhead), mooring structures such as pilings, aerial or subaqueous power transmission lines, intake or outfall pipes, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aids to navigation, and any other permanent, or semi-permanent obstacle or obstruction. It is important to note that Section 10 applies only to navigable waters, and thus does not apply to work in non-navigable wetlands or tributaries. In some cases, Section 10 authorization is issued by the USACE concurrently with CWA Section 404 authorization, such as when certain Nationwide Permits are used.

Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs) have jurisdiction over “waters of the State,” which are defined as any surface water or groundwater, including saline waters, within the boundaries of the state (California Water Code sec. 13050(e)). These agencies also have responsibilities for administering portions of the CWA.

Clean Water Act Section 401

Section 401 of the CWA requires an applicant requesting a federal license or permit for an activity that may result in any discharge into navigable waters (such as a Section 404 Permit) to provide state certification that the proposed activity will not violate state and federal water quality standards. In California, CWA Section 401 Water Quality Certification (Section 401 Certification) is issued by the RWQCBs and by the SWRCB for multi-region projects. The process begins when an applicant submits an application to the RWQCB and informs the USACE (or the applicable agency from which a license or permit was requested) that an application has been submitted. The USACE will then determine a "reasonable period of time" for the RWQCB to act on the application; this is typically 60 days for routine projects and longer for complex projects but may not exceed one year. When the period has elapsed, if the RWQCB has not either issued or denied the application for Section 401 Certification, the USACE may determine that Certification has been waived and issue the requested permit. If a Section 401 Certification is issued it may include binding conditions, imposed either through the Certification itself or through the requested federal license or permit.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 et seq.), the policy of the State is as follows:

The quality of all the waters of the State shall be protected

All activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason

The State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation

The Porter-Cologne Act established nine RWQCBs (based on watershed boundaries) and the SWRCB, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, the SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The SWRCB and RWQCBs have numerous nonpoint source related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

Section 13260 of the Porter-Cologne Act requires any person discharging or proposing to discharge waste that could affect the quality of waters of the State to file a Report of Waste Discharge with the appropriate RWQCB. The RWQCB may then authorize the discharge, subject to conditions, by issuing Waste Discharge Requirements (WDRs). While this requirement was historically applied primarily to outfalls and similar point source discharges, the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*, effective May 2020, make it clear that the agency will apply the Porter-Cologne Act's requirements to discharges of dredge and fill material as well. The *Procedures* state that they are to be used in issuing CWA Section 401 Certifications and WDRs, and largely mirror the existing review requirements for CWA

Section 404 Permits and Section 401 Certifications, incorporating most elements of the USEPA's *Section 404(b)(1) Guidelines*. Following issuance of the *Procedures*, the SWRCB produced a consolidated application form for dredge/fill discharges that can be used to obtain a CWA Section 401 Water Quality Certification, WDRs, or both.

Non-Wetland Waters of the State

The SWRCB and RWQCBs have not established regulations for field determinations of waters of the state except for wetlands currently. In many cases the RWQCBs interpret the limits of waters of the State to be bounded by the OHWM unless isolated conditions or ephemeral waters are present. However, in the absence of statewide guidance each RWQCB may interpret jurisdictional boundaries within their region and the SWRCB has encouraged applicants to confirm jurisdictional limits with their RWQCB before submitting applications. As determined by the RWQCB, waters of the State may include riparian areas or other locations outside the OHWM, leading to a larger jurisdictional area over a given water body compared to the USACE.

Wetland Waters of the State

Procedures for defining wetland waters of the State pursuant to the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* went into effect May 28, 2020. The SWRCB defines an area as wetland if, under normal circumstances:

(i) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both;

the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and

the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The SWRCB's *Implementation Guidance for the Wetland Definition and Procedures for Discharges of Dredge and Fill Material to Waters of the State* (2020), states that waters of the U.S. and waters of the State should be delineated using the standard USACE delineation procedures, taking into consideration that the methods shall be modified only to allow for the fact that a lack of vegetation does not preclude an area from meeting the definition of a wetland.

United States Fish and Wildlife Service

The United States Fish and Wildlife Service (USFWS) implements several laws protecting the Nation's fish and wildlife resources, including the Endangered Species Act (ESA; 16 United States Code [USC] Sections 153 et seq.), the Migratory Bird Treaty Act (MBTA; 16 USC Sections 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668).

Endangered Species Act

The USFWS and National Marine Fisheries Service (NMFS) share responsibility for implementing the ESA. Generally, the USFWS implements the ESA for terrestrial and freshwater species, while the NMFS implements the ESA for marine and anadromous species. Projects that would result in "take" of any threatened or endangered animal species, or a threatened or endangered plant species if occurring on federal land, are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan)

of the ESA, depending on the involvement by the federal government in funding, authorizing, or carrying out the Project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. “Take” under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of the ESA; however, the USFWS and NMFS advise Project applicants that they could be elevated to listed status at any time.

Migratory Bird Treaty Act

The MBTA of 1918 implements four international conservation treaties that the U.S. entered into with Canada in 1916, Mexico in 1936, Japan in 1972, and Russia in 1976. It is intended to ensure the sustainability of populations of all protected migratory bird species. The law has been amended with the signing of each treaty, as well as when any of the treaties were amended, such as with Mexico in 1976 and Canada in 1995. The MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the USFWS.

The list of migratory bird species protected by the law, in regulations at 50 CFR Part 10.13, is primarily based on bird families and species included in the four international treaties. A migratory bird species is included on the list if it meets one or more of the following criteria:

1. It occurs in the United States or U.S. territories as the result of natural biological or ecological processes and is currently, or was previously listed as, a species or part of a family protected by one of the four international treaties or their amendments.

2. Revised taxonomy results in it being newly split from a species that was previously on the list, and the new species occurs in the United States or U.S. territories as the result of natural biological or ecological processes.

3. New evidence exists for its natural occurrence in the United States or U.S. territories resulting from natural distributional changes and the species occurs in a protected family.

In 2004, the Migratory Bird Treaty Reform Act limited the scope of the MBTA by stating the MBTA applies only to migratory bird species that are native to the United States or U.S. territories, and that a native migratory bird species is one that is present as a result of natural biological or ecological processes. The MBTRA requires the USFWS to publish a list of all nonnative, human-introduced bird species to which the MBTA does not apply, and an updated list was published in 2020. The 2020 update identifies species belonging to biological families referred to in treaties the MBTA implements but are not protected because their presence in the United States or U.S. territories is solely the result of intentional or unintentional human-assisted introductions.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the USFWS, from "taking" bald or golden eagles, including their parts (including feathers), nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any

golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

"Disturb" means “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) derives its authority from the Fish and Game Code of California and administers several State laws protecting fish and wildlife resources and the habitats upon which they depend.

California Endangered Species Act

The California Endangered Species Act (CESA) (Fish and Game Code Section 2050 et. seq.) prohibits take of state listed threatened or endangered. Take under CESA is defined as “Hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill” (Fish and Game Code sec. 86). This definition does not prohibit indirect harm by way of habitat modification, except where such harm is the proximate cause of death of a listed species. Where incidental take would occur during construction or other lawful activities, CESA allows the CDFW to issue an Incidental Take Permit upon finding, among other requirements, that impacts to the species have been minimized and fully mitigated. Unlike the federal ESA, CESA’s protections extend to candidate species during the period (typically one year) while the California Fish and Game Commission decides whether the species warrants CESA listing.

Native Plant Protection Act

The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (Fish and Game Code Section 1900 et seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare, and prohibits the take of listed plant species. Effective in 2015, CDFW promulgated regulations (14 CCR 786.9) under the authority of the NPPA, establishing that the CESA’s permitting procedures would be applied to plants listed under the NPPA as "Rare." With this change, there is little practical difference for the regulated public between plants listed under CESA and those listed under the NPPA.

Fully Protected Species Laws

The CDFW enforces Sections 3511, 4700, 5050, and 5515 of the Fish and Game Code, which prohibit take of species designated as Fully Protected. The CDFW is not allowed to issue an Incidental Take Permit for Fully Protected species; therefore, impacts to these species must be avoided. The exception is situations where a Natural Community Conservation Plan (NCCP) is in place that authorizes take of the fully protected species.

Avian Protection Laws

California Fish and Game Code sections 3503, 3503.5, and 3513 describe unlawful take, possession, or destruction of native birds, nests, and eggs. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs. Section 3513 makes it a state-level offense to take any bird in violation of the federal Migratory Bird Treaty Act.

Protection of Lakes and Streambeds

California Fish and Game Code section 1602 states that it is unlawful for any person to "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake" without first notifying the California Department of Fish and Wildlife (CDFW) of that activity. Thereafter, if CDFW determines and informs the entity that the activity will not substantially adversely affect any existing fish or wildlife resources, the entity may commence the activity. If, however, CDFG determines that the activity may substantially adversely affect an existing fish or wildlife resource, the entity may be required to obtain from CDFW a Streambed Alteration Agreement (SAA), which will include reasonable measures necessary to protect the affected resource(s), before the entity may conduct the activity described in the notification. Upon receiving a complete Notification of Lake/Streambed Alteration, CDFW has 60 days to present the entity with a Draft SAA. Upon review of the Draft SAA by the applicant, any problematic terms are negotiated with CDFW and a final SAA is executed.

The CDFW has not defined the term “stream” for the purposes of implementing its regulatory program under Section 1602, and the agency has not promulgated regulations directing how jurisdictional streambeds may be identified, or how their limits should be delineated. However, four relevant sources of information offer insight as to the appropriate limits of CDFW jurisdiction as discussed below.

- **The plain language of Section 1602 of CFGC** establishes the following general concepts:
  - References “river,” “stream,” and “lake”
  - References “natural flow”
  - References “bed,” “bank,” and “channel”
- **Applicable court decisions**, in particular *Rutherford v. State of California* (188 Cal App. 3d 1276 (1987), which interpreted Section 1602’s use of “stream” to be as defined in common law. The Court indicated that a “stream” is commonly understood to:
  - Have a source and a terminus
  - Have banks and a channel
  - Convey flow at least periodically, but need not flow continuously and may at times appear outwardly dry
  - Represent the depression between the banks worn by the regular and usual flow of the water
  - Include the area between the opposing banks measured from the foot of the banks from the top of the water at its ordinary stage, including intervening sand bars
  - Include the land that is covered by the water in its ordinary low stage
  - Include lands below the OHWM

- **CDFW regulations** defining "stream" for other purposes, including sport fishing (14 CCR 1.72) and streambed alterations associated with cannabis production (14 CCR 722(c)(21)), which indicate that a stream:
  - Flows at least periodically or intermittently
  - Flows through a bed or channel having banks
  - Supports fish or aquatic life
  - Can be dry for a period of time
  - Includes watercourses where surface or subsurface flow supports or has supported riparian vegetation
- **Guidance documents**, *including A Field Guide to Lake and Streambed Alteration Agreements* (CDFG 1994) and *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants* (Brady and Vyverberg 2013), which suggest the following:
  - A stream may flow perennially or episodically
  - A stream is defined by the course in which water currently flows, or has flowed during the historic hydrologic course regime (approximately the last 200 years)
  - Width of a stream course can reasonably be identified by physical or biological indicators
  - A stream may have one or more channels (single thread vs. compound form)
  - Features such as braided channels, low-flow channels, active channels, banks associated with secondary channels, floodplains, islands, and stream-associated vegetation, are interconnected parts of the watercourse
  - Canals, aqueducts, irrigation ditches, and other means of water conveyance can be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife
  - Biologic components of a stream may include aquatic and riparian vegetation, all aquatic animals including fish, amphibians, reptiles, invertebrates, and terrestrial species which derive benefits from the stream system
  - The lateral extent of a stream can be measured in different ways depending on the particular situation and the type of fish or wildlife resource at risk

The tenets listed above, among others, are applied to establish the boundaries of streambeds in various environments. Importance of each factor may be weighted based on site-specific considerations and the applicability of the indicators to the streambed at hand.

Local Jurisdiction

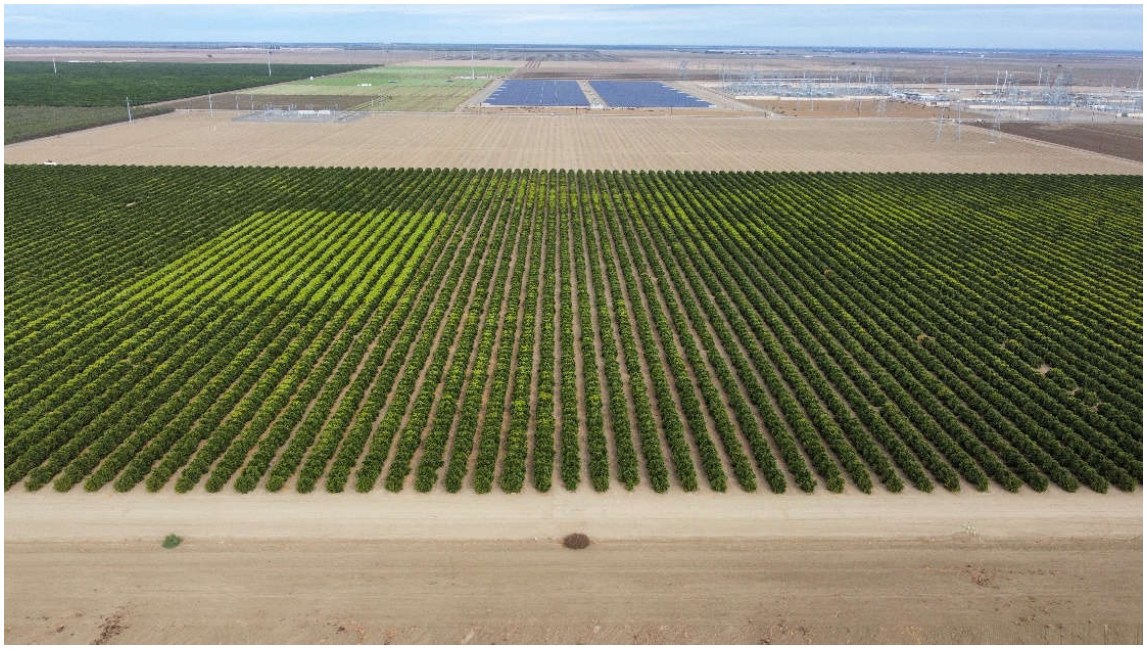
Fresno County General Plan

The Fresno County General Plan land use designation for the Project site is Agriculture. The Project site is in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District. The entire Project site is designated as Prime Farmland that is covered by Williamson Act Contracts. The Project site is actively using the site for agriculture and has been developed routinely for cultivation purposes.

Policy LU-B.13 In conjunction with environmental reviews under CEQA, the County shall require applicants to identify biological resources to determine if there are sensitive and/or important flora and fauna that require special protection measures.

Appendix B

Site Photographs



Photograph 1. Aerial overview photo of Project site showing Orchard grove in center and active agriculture in background. View north. November 9, 2021.

Photograph 2. Fallow cropland showing sign of recent tilling/disking. View east. November 9, 2021.

Photograph 3. Compacted dirt road with active agriculture on left and orchard grove on right. View east. November 9, 2021.

Photograph 4. Fallow cropland with scattered Russian thistle. View west. November 9, 2021.

Photograph 5. Orchard grove rows from middle portion of orchard area. View south. November 9, 2021.

Photograph 6. Dry tailwater basin on eastern portion of Project site adjacent to fallow cropland. View north. November 9, 2021.

Photograph 7. Active agriculture area in northern portion of Project site with grow tubes and irrigation. View north. November 9, 2021.

Photograph 8. Dry tailwater basin on northeastern portion of Project site adjacent to active agriculture area. View west. November 9, 2021.

Appendix C

Floral and Faunal Compendium

Plant Species Observed Within the Study Area

Scientific Name	Common Name	Status	Native/ Introduced	Obs. Nov. 9, 2021	Obs. Jan. 31, 2022	Obs. Mar. 24, 2022	Obs. May 18, 2022	Obs. Jul. 8, 2022
Shrubs/Trees								
Citrus sinensis	Orange	None	Introduced, Cultivated	X	X	X	X	X
Pistacia spp.	Pistachio	None	Introduced, Cultivated		X	X	X	X
Salix spp.	Willow	None	Native			X	X	X
Herbs								
Amaranthus blitoides	Prostrate pigweed	None	Native	X	X	X	X	X
Amsinckia spp.	Fiddlenecks	None	Unknown		X	X	X	
Brassica tournefortii	Asian mustard	None	Non-native			X		
Calistegia sp.	Morning Glory	None	Native	X				
Capsella bursa	Shepherd's Purse	None	Non-native		X	X	X	
Chenopodium album	Lambs quarters	None	Non-native	X	X		X	X
Chenopodium murale	Nettleleaf goosefoot	None	Non-Native			X		
Chondrilla juncea	Skeleton weed	None	Non-native	X	X	X	X	X
Cyperus spp.	Nutsedge	None	Non-native			X		
Erigeron canadensis	Horseweed	None	Native	X	X	X	X	X
Erodium cicutarium	Redstem filaree	None	Non-native		X	X	X	X
Lactuca serriola	Prickly lettuce	None	Non-native	X	X	X	X	X
Malva parviflora	Cheeseweed mallow	None	Non-native	X	X	X	X	X
Polygonum aviculare	Prostrate knotweed	None	Introduced	X	X	X	X	X
Portulaca oleracea	Purslane	None	Non-native	X	X	X	X	X
Rumex crispus	Curly dock	None	Invasive, non-native	X	X	X	X	
Salsola tragus	Russian thistle	None	Invasive, non-native	X	X	X	X	X
Sisymbrium spp.	Hedge mustard	None	Unknown		X	X	X	
Solanum spp.	Nightshade	None	Unknown		X	X	X	X
Sonchus oleraceus	Common sow thistle	None	Non-native	X	X	X	X	X
Grasses								
Agrostis spp.	Bentgrass	None	Unknown			X		

Scientific Name	Common Name	Status	Native/ Introduced	Obs. Nov. 9, 2021	Obs. Jan. 31, 2022	Obs. Mar. 24, 2022	Obs. May 18, 2022	Obs. Jul. 8, 2022
Bromus diandrus	Ripgut brome	None	Introduced. Cal-IPC rating: Moderate	X	X	X	X	X
Hordeum sp.	Barley	None	Unknown	X	X	X	X	X
Polypogon monspeliensis	Annual beard-grass	None	Non-native			X		
Stipa miliacea	Smilo grass	None	Non-native	X		X		

Animal Species Observed Within the Study Area

Scientific Name	Common Name	Status	Native/ Introduced	Obs. Nov. 9, 2021	Obs. Jan. 31, 2022	Obs. Mar. 24, 2022	Obs. May 18, 2022	Obs. Jul. 8, 2022
Birds								
Anthus rubescens	American pipet	None	Native	X				
Buteo jamaicensis	Red-tailed hawk	None	Native	X	X	X		
Buteo swainsoni	Swainson's hawk	ST	Native			X		
Charadrius vociferus	Killdeer	None	Native			X		
Chondestes grammacus	Lark sparrow	None	Native			X		X
Circus cyaneus	Northern harrier	SSC	Native	X				
Columba livia	Rock pigeon	None	Introduced	X				
Corvus brachyrhynchos	American crow	None	Native	X				
Corvus corax	Common raven	None	Native	X	X	X	X	X
Eremophila alpestris	Horned lark	None	Native		X	X	X	X
Euphagus cyanocephalus	Brewer's blackbird	None	Native	X		X	X	X
Falco sparverius	American kestrel	None	Native		X	X	X	X
Geococcyx californianus	Greater roadrunner	None	Native			X		X
Haemorhous mexicanus	House finch	None	Native	X	X	X	X	X
Junco hyemalis	Dark-eyed junco	None	Native	X				
Mimus polyglottos	Northern mockingbird	None	Native	X				X
Passer domesticus	House sparrow	None	Introduced			X		
Petrochelidon pyrrhonota	Cliff swallow	None	Native					X

Scientific Name	Common Name	Status	Native/ Introduced	Obs. Nov. 9, 2021	Obs. Jan. 31, 2022	Obs. Mar. 24, 2022	Obs. May 18, 2022	Obs. Jul. 8, 2022
Phalacrocorax auritus	Double crested cormorant	None	Native		X			
Sayornis nigricans	Black phoebe	None	Native		X	X	X	X
Sayornis saya	Say's phoebe	None	Native	X	X			
Setophaga coronate	Yellow-rumped warbler	None	Native			X		
Sturnella neglecta	Western meadowlark	None	Native	X				
Sturnus vulgaris	European starling	None	Introduced		X	X	X	
Turdus migratorius	American robin	None	Native			X		
Tyrannus verticalis	Western kingbird	None	Native			X	X	X
Zenaida macroura	Mourning dove	None	Native		X	X	X	X
Zonotrichia leucophrys	White-crowned sparrow	None	Native	X	X	X	X	
Mammals								
Canis latrans	Coyote	None	Native	X*	X			X
Lepus californicus	Black-tailed jack rabbit	None	Native	X			X	X
Sylvilagus audubonii	Desert cottontail rabbit	None	Native				X	X
Thomomys bottae	Botta's pocket gopher	None	Native	X*				
Reptiles								
Uta stansburiana	Common side-blotched lizard	None	Native			X		

ST- State Threatened; SSC – State Species of Special Concern; WL – State Watch List; FP – State Fully Protected

* - observed sign by species only (i.e., tracks, scat, burrow)

Appendix D

Special Status Species Evaluation Tables

Special Status Plant Species in the Regional Vicinity of the Study Area

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Atriplex depressa brittlescale	None/None G2/S2 1B.2	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland, vernal pools. Usually in alkali scalds or alkaline clay in meadows or annual grassland; rarely associated with riparian, marshes, or vernal pools. 1-325 m. annual herb. Blooms Apr-Oct	Not Expected	No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur.
Atriplex minuscula lesser saltscale	None/None G2/S2 1B.1	Chenopod scrub, playas, valley and foothill grassland. Sandy, alkaline soils. 0-225 m. annual herb. Blooms May-Oct	Not Expected	No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur.
Caulanthus californicus California jewelflower	FE/SE G1/S1 1B.2	Chenopod scrub, pinyon and juniper woodland, valley and foothill grassland. Sandy. 61-1000m. annual herb. Blooms Feb-May	Not Expected	No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur.
Caulanthus lemmonii lemmon's jewelflower	None/None G3/S3 1B.2	Pinyon and juniper woodland, Valley and foothill grassland. 80 - 1580 m. annual herb. Blooms Feb-May	Not Expected	No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Deinandra halliana hall's tarplant	None/None G3/S3 1B.1	Chenopod scrub, Cismontane woodland, Valley and foothill grassland. Reported from a variety of substrates including clay, sand, and alkaline soils. 260-950m. Blooms (Mar)Apr-May.	Not Expected	No suitable habitat occurs within the Project site, including site being out of elevation range. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur.
Delphinium recurvatum recurved larkspur	None/None G2?/S2? 1B.2	Chenopod scrub, valley and foothill grassland, cismontane woodland. On alkaline soils; often in valley saltbush or valley chenopod scrub. 3-790 m. perennial herb. Blooms Mar-Jun	Not Expected	No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur.
Eremalche parryi ssp. *kernensis* kern mallow	FE/None G3G4T3/S3 1B.2	Chenopod scrub, Pinyon and juniper woodland, Valley and foothill grassland. On dry, open sandy to clay soils; often at edge of balds. 70 - 1290 m. annual herb. Blooms Jan,Mar,Apr,May(Feb)	Not Expected	No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur.
Eriastrum hooveri hoover's eriastrum	FD/None G3/S3 4.2	Chenopod scrub, valley and foothill grassland. Hillsides, in white-grey alkaline clay soils, w/grasses and chenopod scrub associates. 45-765 m. annual herb. Blooms Mar-Apr	Not Expected	No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Eriogonum temblorense	None/None G2/S2 1B.2	Valley and foothill grasslands on barren clay or sandstone substrates. 230 – 840m. Annual herb. Blooms May.	Not Expected.	No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Soil substrate not present. Species is not expected to occur.
Lagophylla diabolensis	None/None G2/S2 1B.2	Cismontane woodland, valley and foothill grasslands on clay soils. 365-1070 m. Annual herb. Blooms April-August.	Not Expected	No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Soil substrate not present. Species is not expected to occur.
Lasthenia chrysantha alkali-sink goldfields	None/None G1/S1 1B.2	Vernal pools. alkaline. 0 - 200 m. annual herb. Blooms Feb-Apr	Not Expected	No suitable habitat within tailwater basins. Irregular flooding and potential maintenance of these basins reduce potential for this species to occur. No CNDDB occurrences of this species have been reported within 5 miles of the Project site. Species is not expected to occur.
Layia heterotricha pale-yellow layia	None/None G2/S2 1B.1	Cismontane woodland, Coastal scrub, Pinyon and juniper woodland, Valley and foothill grassland. alkaline or clay. 300 - 1705 m. annual herb. Blooms Mar-Jun	Not Expected	No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Lepidium jaredii ssp. *Album* panoche pepper-grass	None/None G2G3T2T3/S2S3 1B.1	Valley and foothill grassland. White or grey clay lenses on steep slopes; incidental in alluvial fans and washes. Clay and gypsum-rich soils. 185-745m. Blooms Feb-Jun.	Not Expected	No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur.
Madia radiata showy golden madia	None/None G2/S2 1B.1	Valley and foothill grassland, cismontane woodland. Mostly on adobe clay in grassland or among shrubs. 75-1220 m. annual herb. Blooms Mar-May.	Not Expected	Suitable habitat elements such as adobe clay are not present. Disturbance history of Project site due to ongoing agriculture activities further limit the possibility of occurrence and suitable habitat. Species is not expected to occur.
Malacothamnus aboriginum	None/ None G3/S3 1B.2	Cismontane woodland and chaparral on granitic outcrops and sandy, often disturbed soil. 150-1130 m. Shrub. Blooms April – October.	Not expected	No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Soil substrate not present. Species is not expected to occur.
Monolopia congdonii San Joaquin woollythreads	FE/None G2/S2 1B.2	Chenopod scrub, valley and foothill grassland. Alkaline or loamy plains; sandy soils, often with grasses and within chenopod scrub. 55-840 m. annual herb. Blooms Feb-May.	Not Expected	No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Navarretia nigelliformis ssp. radians	None/ None G4T2/S2 1B.2	Cismontane woodland, valley and foothill grassland and vernal pools. 60-975m. Annual herb. Blooms April – July.	Not Expected	No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Soil substrate not present. Species is not expected to occur.
Senecio aphanactis chaparral ragwort	None/None G3/S2 2B.2	Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. 20-855 m. annual herb. Blooms Jan-Apr(May).	Not Expected	No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur.

Regional Vicinity refers to within a 9-quad search radius of site.

FE = Federally Endangered FT = Federally Threatened FC = Federal Candidate Species

SE = State Endangered ST = State Threatened SC = State Candidate SR = State Rare

CRPR (CNPS California Rare Plant Rank)

1A = Presumed Extinct in California

1B = Rare, Threatened, or Endangered in California and elsewhere

2A = Plants presumed extirpated in California, but more common elsewhere

2B = Plants Rare, Threatened, or Endangered in California, but more common elsewhere

CRPR Threat Code Extension

.1 = Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)

.2 = Fairly endangered in California (20-80% occurrences threatened)

.3 = Not very endangered in California (<20% of occurrences threatened)

Special Status Animal Species in the Regional Vicinity of the Study Area

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Amphibians				
Rana boylii foothill yellow-legged frog	None/SE G3/S3 SSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	Not Expected	No suitable aquatic habitat is present within the Study Area.
Spea hammondii western spadefoot	None/None G2G3/S3 SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Not Expected	Required breeding habitat is potentially present in tailwater basins, but water is only present intermittently throughout the year depending on agriculture activities. There are no known reported occurrences within 5 miles of the Project. Disturbance history of Study Area and lack of primary habitat further limits the possibility of occurrence.
Reptiles				
Anniella alexanderae Temblor legless lizard	None/None G1/S1 SSC	Sandy soil at the southeast base of the Temblor Ranges, southwestern San Joaquin Valley, Kern County. Microhabitat of this species is poorly known. Other legless lizard species occur in sparsely vegetated areas with moist, loose soil. Often found underneath leaf litter, rocks, and logs.	Not Expected	No suitable habitat occurs within the Study Area. Disturbance history of Study Area limits the possibility of occurrence.
Anniella spp. California legless lizard	None/None G3G4/S3S4 SSC	Contra Costa County south to San Diego, within a variety of open habitats. This element represents California records of Anniella not yet assigned to new species within the Anniella pulchra complex. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	Not Expected	No suitable habitat occurs within the Study Area. Disturbance history of Study Area limits the possibility of occurrence.
Emys marmorata Western pond turtle	None/None G3G4/S3 SSC	Fully aquatic habitats: ponds, marshes, rivers, streams, irrigation ditches, usually with aquatic vegetation.	Not Expected	No suitable habitat occurs within the Study Area. Tailwater basins present, but usually dry with no connectivity to other aquatic features.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Gambelia sila blunt-nosed leopard lizard	FE/SE G1/S1 FP	Resident of sparsely vegetated alkali and desert scrub habitats, in areas of low topographic relief. Seeks cover in mammal burrows, under shrubs or structures such as fence posts; they do not excavate their own burrows.	Not Expected	No suitable burrows to potentially use as refuge were observed within the Study Area. Disturbance history of Study Area limits the possibility of occurrence.
Masticophis flagellum ruddocki San Joaquin coachwhip	None/None G5T2T3/S2? SSC	Open, dry habitats with little or no tree cover. Found in valley grassland and saltbush scrub in the San Joaquin Valley. Needs mammal burrows for refuge and oviposition sites.	Not Expected	No suitable burrows to potentially use as refuge were observed within the Study Area. Disturbance history of Study Area limits the possibility of occurrence.
Birds				
Agelaius tricolor tricolored blackbird	None/ST G2G3/S1S2 SSC	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	Moderate Potential	Depending on available nearby water sources, this species could potentially be found foraging and within the active agriculture or fallow agriculture habitat, and potentially nesting within the orchard or fallow agriculture within the Project site. Ongoing agriculture activities and relatively low water source availability could potentially discourage the species from nesting within the Study Area.
Asio otus long-eared owl	None/None G5/S3? SSC	Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses. Require adjacent open land, productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	Not expected	Suitable nesting habitat is not present. Disturbance history of Study Area limits the possibility of occurrence and there are no reported occurrences within 5 miles of the Study Area.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Athene cunicularia burrowing owl	None/None G4/S3 SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Not Expected	Burrows required for this species are not present. Very few rodent burrows observed on site that could attract this species to forage. Disturbance history of Study Area limits the possibility of occurrence. Multiple protocol level surveys across breeding and non-breeding season were negative for BUOW, potential dens, or sign.
Buteo swainsoni Swainson's hawk	None/ST G5/S3	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Low Potential	Species may occasionally use the site for foraging, however, ongoing active agriculture activities likely prevent suitable nesting habitat within the Study Area. Nesting habitat could potentially exist outside the Project site on trees or less likely on power poles. One individual observed flying over Study Area during field surveys; determined to be transitory and not indicative of foraging or nesting in area.
Falco columbarius merlin	None/None G5/S3S4 WL	Seacoast, tidal estuaries, open woodlands, savannahs, edges of grasslands and deserts, farms and ranches. Clumps of trees or windbreaks are required for roosting in open country.	Not Expected	Suitable nesting habitat is not present. Disturbance history of Study Area limits the possibility of occurrence and there are no reported occurrences within 5 miles of the Study Area.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Falco mexicanus	None/None G5/S4 WL	Open deserts, grasslands, and agricultural fields. Nests on cliffsides.	Low Potential	Species may occasionally use the site for foraging, however, ongoing active agriculture activities limit prey and lead to low-quality habitat.
Lanius ludovicianus loggerhead shrike	None/None G4/S4 SSC	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	Low Potential	Suitable nesting habitat for the species potentially exists within orchards, as well as tumbleweeds in fallow cropland.
Toxostoma lecontei Le Conte's thrasher	None/None G4/S3 SSC	Desert resident; primarily of open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats. Commonly nests in a dense, spiny shrub or densely branched cactus in desert wash habitat, usually 2-8 feet above ground.	Not Expected	Suitable nesting habitat is not present. Disturbance history of Study Area limits the possibility of occurrence.
Xanthocephalus xanthocephalus yellow-headed blackbird	None/None G5/S3 SSC	Nests in freshwater emergent wetlands with dense vegetation and deep water. Often along borders of lakes or ponds. Nests only where large insects such as Odonata are abundant, nesting timed with maximum emergence of aquatic insects.	Not Expected	Suitable nesting habitat is not present. Disturbance history of Study Area limits the possibility of occurrence.
Mammals				
Ammospermophilus nelson Nelson's antelope squirrel	None/ST G2G3/S2S3	Occurs in Western San Joaquin Valley from 200-1200 feet elevation. Uses dry, sparsely vegetated areas with a variety of soils suitable for digging. Digs burrows or uses kangaroo rat or other small mammal burrows. Needs widely scattered shrubs, forbs, and grasses in broken terrain, often with gullies and washes.	Not Expected	Suitable habitat is not present and no potential burrow systems were detected. Disturbance history of Study Area limits the possibility of occurrence.
Dipodomys nitratoides brevinasus short-nosed kangaroo rat	None/None G3T1T2/S1S2 SSC	Occurs along the western side of San Joaquin Valley in grassland and desert shrub associations, especially Atriplex. Can occur in highly alkaline soils among others, require friable soils for burrowing. Favors flat to gently sloping terrain.	Not Expected	Suitable habitat is not present and no potential precincts were detected. Disturbance history of Study Area limits the possibility of occurrence.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Eumops perotis californicus western mastiff bat	None/None G5T4/S3S4 SSC	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	Not Expected	The orchard habitat ono site could provide some foraging habitat, however, ongoing active agriculture activities likely prevent suitable roosting habitat. Disturbance history of Study Area limits the possibility of occurrence.
Onychomys torridus tularensis Tulare grasshopper mouse	None/None G5T1T2/S1S2 SSC	Hot, arid valleys and scrub deserts in the southern San Joaquin Valley. Diet almost exclusively composed of arthropods, therefore needs abundant supply of insects.	Not Expected	Suitable habitat is not present and no potential burrow systems were detected. Disturbance history of Study Area limits the possibility of occurrence.
Perognathus inornatus San Joaquin pocket mouse	None/None G2G3/S2S3	Grassland, oak savanna and arid scrubland in the southern Sacramento Valley, Salinas Valley, San Joaquin Valley and adjacent foothills, south to the Mojave Desert. Associated with fine-textured, sandy, friable soils.	Not Expected	Suitable habitat is not present and no potential burrow systems were detected. Disturbance history of Study Area limits the possibility of occurrence.
Taxidea taxus American badger	None/None G5/S3 SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Not Expected	No burrows of sufficient size were observed, and species was not detected during sit visit. Ongoing agricultural activities discourage occupancy and availability of preferred prey base.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Vulpes macrotis mutica San Joaquin kit fox	FE/ST G4T2/S2	Annual grasslands or grassy open stages with scattered shrubby vegetation. Need loose-textured sandy soils for burrowing, and suitable prey base.	Low Potential	Suitable habitat was not observed within the Study Area. No suitable burrows were observed, and species was not detected during focused surveys. Site is within range, but ongoing agricultural activities discourage occupancy. Could potentially occur as a rare transient, however, coyote presence likely discourages presence of kit fox.

Regional Vicinity refers to the 9 USGS quads surrounding the Project Site.

FT = Federally Threatened
FC = Federal Candidate Species
FE = Federally Endangered
FS=Federally Sensitive
SE = State Endangered
ST = State Threatened
SR = State Rare
SS=State Sensitive

G-Rank/S-Rank = Global Rank and State Rank as per NatureServe and CDFW's CNDDB RareFind3
SC = CDFW Species of Special Concern
FP = Fully Protected
WL = Watch List

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Appendix F
Cultural Resources and Tribal Cultural Resources

ounty of Fresno

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Heather Airey
Cultural Resources Director
Picayune Rancheria of the
Chukchansi Indians
PO Box 2226
Oakhurst CA 93644
Postmark Here
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions
7020 3160 0000 6655 3200

February 4, 2 RTIFIED MAIL

Heather Airey
Picayune Rar
PO Box 2226
Oakhurst, CA

Subject: Tribal Cultural Resources under the California [illegible] ntal Quality Act, AB 52 (Gatto, 2014). Formal Notification of Determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Ms. Airey:

The County of Fresno is acting as the Lead Agency in the preparation of Environmental Impact Report No. 8189 and Conditional Use Permit (CUP) Application No. 3734.

Under California state law, the project is subject to the California Environmental Quality Act (CEQA), and the County may have to prepare an environmental document consisting of a 1) Negative Declaration; 2) Mitigated Negative Declaration; or 3) Environmental Impact Report.

State law under Assembly Bill 52 (PRC Section 21080.3.1) allows California Native American tribes 30 days to request consultation regarding possible significant effects that implementation of the proposed project may have on tribal cultural resources. The request must be in writing to the County of Fresno and must identify a lead contact person. The County will begin the consultation process within 30 days of receiving the tribe's request for consultation. The consultation may include a discussion concerning the type of environmental review necessary for the project, the significance of tribal cultural resources discovered, the significance of the project's impacts on tribal cultural resources, and, if necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend.

A copy of the agency routing package prepared for th[illegible]
letter which includes the pr[illegible]
contact for this project is gi[illegible]

Pursuant to PRC § 21080.3
consultation, in writing, with

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1. Article Addressed to:
Heather Airey
Cultural Resources Director
Picayune Rancheria of the
Chukchansi Indians
PO Box 2226
Oakhurst CA 93644
9590 9402 3768 8032 8449 88
2. Article Number (Transfer from service label)
7020 3160 0000 6655 3200

COMPLETE THIS SECTION ON DELIVERY
A. Signature
X
☑ Agent
☐ Addressee
B. Received by (Printed Name) Jared Mona
C. Date of Delivery 2/7/22
D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No
3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☐ Certified Mail®
☑ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
☐ Insured Mail Restricted Delivery (over $500)
☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☑ Return Receipt for Merchandise
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery
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County of Fresno

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Street
City,
Postmark Here
Robert Ledger
Tribal Chairman
Dumna Wo Wah Tribal Government
2191 W. Pico Avenue
Fresno CA 93705
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions
7020 3160 0000 6655 3194

February

CERTIFIED MAIL

Robert Le
Dumna W
2191 W. P
Fresno, C

Subject: T mental Quality Act, AB 52
(t a Project Application is
Complete or Decision to Undertake a Project, and Notification of Consultation
Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Mr. Ledger:

The County of Fresno is acting as the Lead Agency in the preparation of Environmental Impact Report No. 8189 and Conditional Use Permit (CUP) Application No. 3734.

Under California state law, the project is subject to the California Environmental Quality Act (CEQA), and the County may have to prepare an environmental document consisting of a 1) Negative Declaration; 2) Mitigated Negative Declaration; or 3) Environmental Impact Report.

State law under Assembly Bill 52 (PRC Section 21080.3.1) allows California Native American tribes 30 days to request consultation regarding possible significant effects that implementation of the proposed project may have on tribal cultural resources. The request must be in writing to the County of Fresno and must identify a lead contact person. The County will begin the consultation process within 30 days of receiving the tribe's request for consultation. The consultation may include a discussion concerning the type of environmental review necessary for the project, the significance of tribal cultural resources discovered, the significance of the project's impacts on tribal cultural resources, and, if necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend.

A copy of the agency routing package prepared for the subject proposal
letter which includes the p
contact for this project is g

Pursuant to PRC § 21080.
consultation, in writing, wit

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1. Article Addressed to:
Robert Ledger
Tribal Chairman
Dumna Wo Wah Tribal Government
2191 W. Pico Avenue
Fresno CA 93705
9590 9402 3768 8032 8449 95
2. Article Number *(Transfer from service label)*
7020 3160 0000 6655 3194

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☐ Addressee
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County of Fresno
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STEVEN E. WHITE, DIRECTOR

February 4, 20

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Ruben Barrios
Santa Rosa R
Cultural Depa
PO Box 8
Lemoore, CA

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Ruben Barrios, Tribal Chairman
Santa Rosa Rancheria Tachi Yokut Tribe
Cultural Department
PO Box 8
Lemoore CA 93245
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions
7020 3160 0000 6655 3217

Subject: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of Determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Mr. Barrios:

The County of Fresno is acting as the Lead Agency in the preparation of Environmental Impact Report No. 8189 and Conditional Use Permit (CUP) Application No. 3734.

Under California state law, the project is subject to the California Environmental Quality Act (CEQA), and the County may have to prepare an environmental document consisting of a 1) Negative Declaration; 2) Mitigated Negative Declaration; or 3) Environmental Impact Report.

State law under Assembly Bill 52 (PRC Section 21080.3.1) allows California Native American tribes 30 days to request consultation regarding possible significant effects that implementation of the proposed project may have on tribal cultural resources. The request must be in writing to the County of Fresno and must identify a lead contact person. The County will begin the consultation process within 30 days of receiving the tribe's request for consultation. The consultation may include a discussion concerning the type of environmental review necessary for the project, the significance of tribal cultural resources discovered, the significance of the project's impacts on tribal cultural resources, and, if necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend.

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consultation, in writing, with

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1. Article Addressed to:
Ruben Barrios, Tribal Chairman
Santa Rosa Rancheria Tachi Yokut Tribe
Cultural Department
PO Box 8
Lemoore CA 93245
9590 9402 3768 8032 8449 64
2. Article Number (Transfer from service label)
7020 3160 0000 6655 3217
PS Form 3811, July 2015 PSN 7530-02-000-9053

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X
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C. Date of Delivery 2.8.22
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February 4

CERTIFIED MAIL

Robert Pennell
Tribal Cultural Resources Director
Table Mountain Rancheria
PO Box 410
Friant CA 93626

Robert Per
Table Mou
PO Box 41
Friant, CA

Subject: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of Determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Mr. Pennell:

The County of Fresno is acting as the Lead Agency in the preparation of Environmental Impact Report No. 8189 and Conditional Use Permit (CUP) Application No. 3734.

Under California state law, the project is subject to the California Environmental Quality Act (CEQA), and the County may have to prepare an environmental document consisting of a 1) Negative Declaration; 2) Mitigated Negative Declaration; or 3) Environmental Impact Report.

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letter which includes the pro
contact for this project is giv

Pursuant to PRC § 21080.3.
consultation, in writing, with

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SENDER: COMPLETE THIS SECTION
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■ Print your name and address on the reverse so that we can return the card to you.
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1. Article Addressed to:
Robert Pennell
Tribal Cultural Resources Director
Table Mountain Rancheria
PO Box 410
Friant CA 93626
9590 9402 3768 8032 8449 71
2. Article Number (Transfer from service label)
7020 3160 0000 6655 3224

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From:	Samantha McCarty
To:	Shaw, Jeremy
Cc:	Shana Powers; Paige Berggren; Damion Cuara; William K. Barrios; Maria Gonzales
Subject:	Environmental Impact Report No. 8189 and Conditional Use Permit Application No. 3734
Date:	Monday, February 14, 2022 4:37:25 PM

CAUTION!!! - EXTERNAL EMAIL - THINK BEFORE YOU CLICK

Dear Jeremy,

Thank you for contacting the Santa Rosa Rancheria Tachi-Yokut Tribe regarding: EIR No. 8189 and CUP No. 3734. The Tribe is requesting to have tribal monitors on site for all ground disturbance related to the project and to have a curation agreement put into place. If you have any questions, comments, and or concerns please contact the Santa Rosa Rancheria Cultural Department. Thank you.

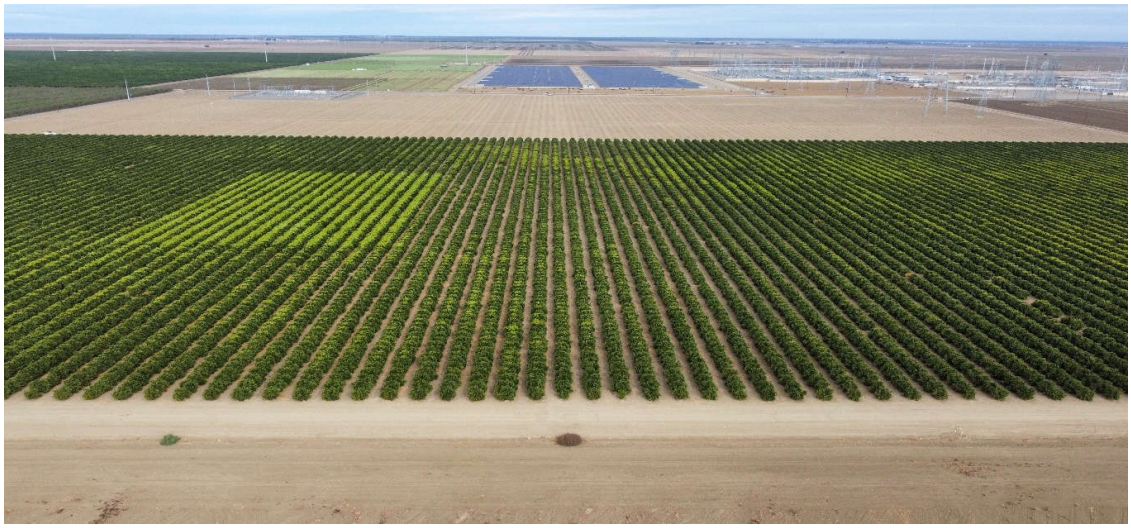
Sincerely,

Samantha McCarty
Santa Rosa Rancheria Tachi-Yokut Tribe
Cultural Specialist II
SMcCarty@tachi-yokut-nsn.gov
Office: (559) 924-1278 x 4091
Cell: (559) 633-6640

***PLEASE KEEP ALL CULTURAL STAFF IN EMAILS UNLESS STATED OTHERWISE**

Appendix G
Geological and Paleontological Resources

Appendix G1
Geology and Geohazards Desktop Review



Key Energy Storage Project

Geology and Geohazards Desktop Review

prepared for

Key Energy Storage, LLC
700 Universe Boulevard
Juno Beach, Florida 33408
Attn: Virginia Thompson / Patti Murphy

prepared by

Rincon Consultants, Inc.
7080 North Whitney Avenue, Suite 101
Fresno, California 93720

October 2022

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

Table of Contents

Figures

1 Introduction

The purpose of the Geology and Geohazards Desktop Review is to document the existing site conditions related to geology and geohazards for the Key Energy Storage Project ("Project"). This report is based upon the desktop review of publicly available published maps, professional publications, and reports pertaining to the geology, soils, and seismicity of the Project area. The following geologic hazards are considered in this evaluation:

- Faults, including Alquist-Priolo Earthquake Fault Zones
- Seismically induced ground shaking
- Fault rupture
- Seismic-related ground failure, including liquefaction
- Slope stability and landslides
- Erosion and loss of topsoil
- Unstable and expansive soils
- Soil adequacy to support use of septic tanks or alternative wastewater disposal systems

2 Project Description

2.1 Project Location

The Project site is in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, approximately 7.5 miles north of the City of Avenal, California, and approximately 0.4 miles east of Interstate 5 (Figure 1). The Project site is located southwest of the Pacific Gas and Electric (PG&E) Gates Substation along West Jayne Avenue. The Project would be developed on up to 260 acres of a 318-acre site comprised of three parcels (Assessor Parcel Numbers [APNs] 085-040-36S, 085-040-37S, and 085-040-58S) (Figure 2).

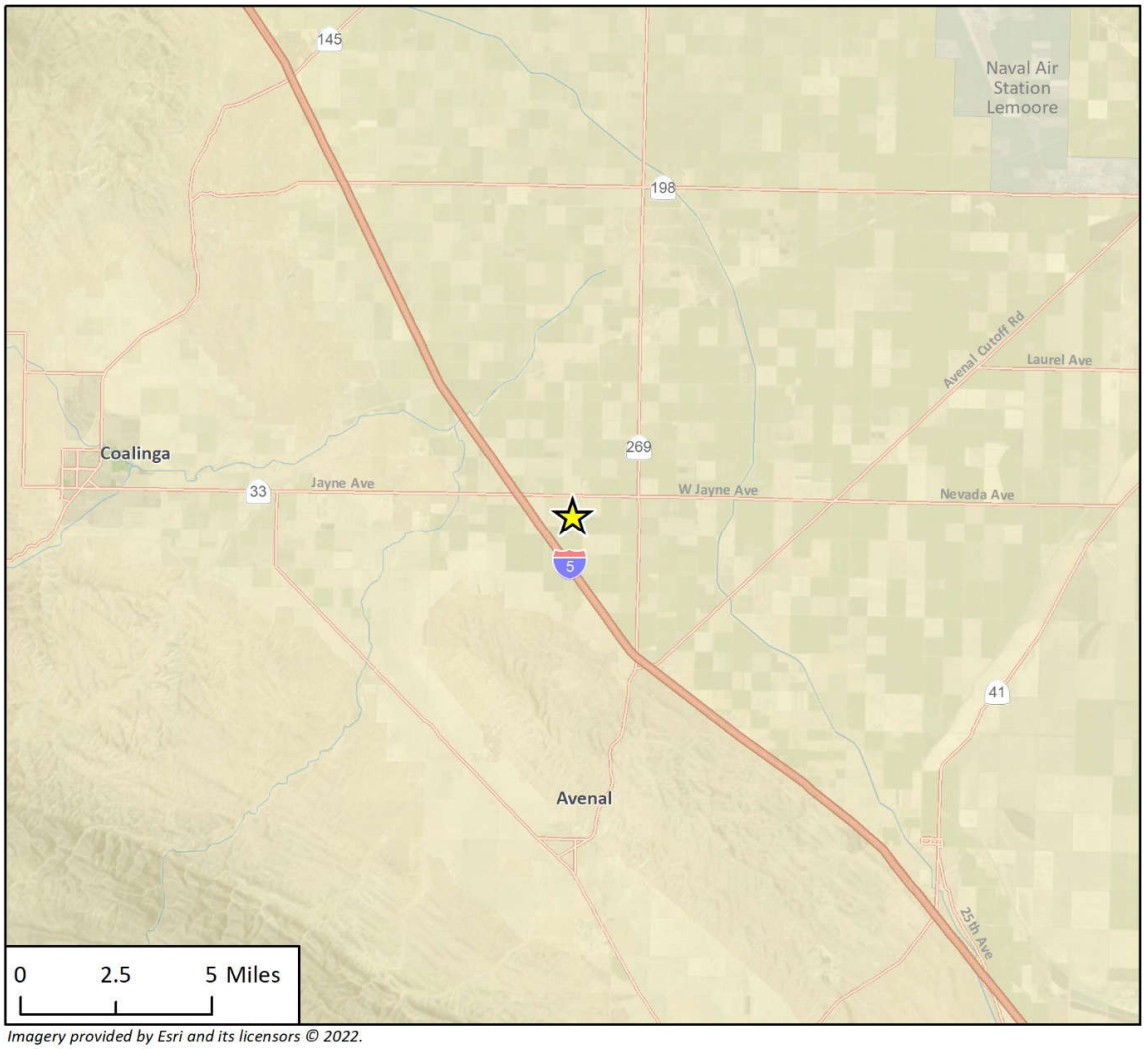
2.2 Project Description

Key Energy Storage, LLC (Applicant) proposes to construct and operate the Key Energy Storage Project (Project) on up to 260 acres within the 318-acre Study Area in unincorporated Fresno County. The Project would include development of an energy storage system facility and associated on-site support facilities including a substation, inverters, collector lines, fencing, access roads, supervisory control and data acquisition (SCADA) system, and other ancillary facilities or equipment. The energy storage facility is anticipated to consist of batteries with the potential to store approximately three (3)-gigawatt (GW) of energy.[1] The Project would also include a 500-kilovolt (kV) overhead generation tie line (gen-tie line), which would extend north to the adjacent PG&E Gates Substation. Buildout of the Project would occur in phases, with construction beginning in 2024. For the purposes of this analysis, Rincon Consultants, Inc. (Rincon) has assumed the Project will involve full buildout of the entire 260-acre Project site.

The Project would support state policies necessary to improve the reliability of California's energy grid. California has taken action to advance energy storage, including the passage of Assembly Bill 2514 and the resulting California Public Utilities Commission decision for energy storage procurement targets for each of the investor-owned utilities. Locally, Fresno County provides a large share of the region's renewable energy. The Project would substantially increase local energy storage capacity and address the limitations of the electric grid and the increasing demand for renewable energy. Layering energy storage systems into the energy grid improves the reliability of the grid and makes it more resilient to disturbances and peaks in energy demand. The Project and other energy storage system projects are used to supply power during brief disturbances, reduce outages and associated impacts to the community, and substitute for certain large footprint transmission and distribution upgrades.

[1] The megawatt capacity is an estimate based on currently available technology as the energy storage industry has quickly evolved in the last few years and is anticipated to continue to evolve. While the components and total megawatts of the Project may change, the overall size of the Project (up to 260 acres) would remain consistent.

Figure 1 Regional Location



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Project Location

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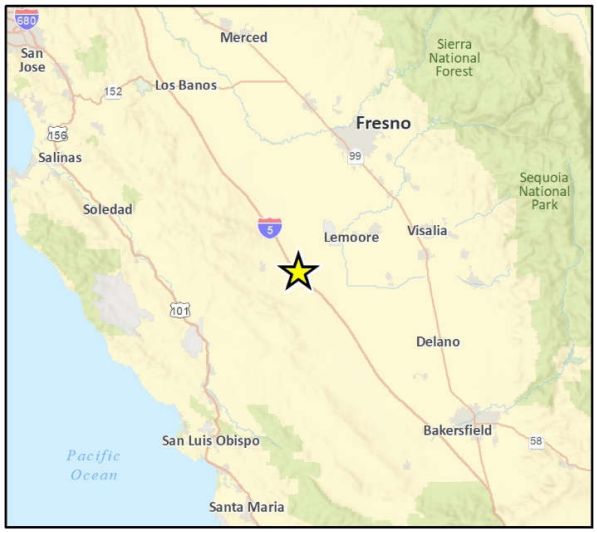
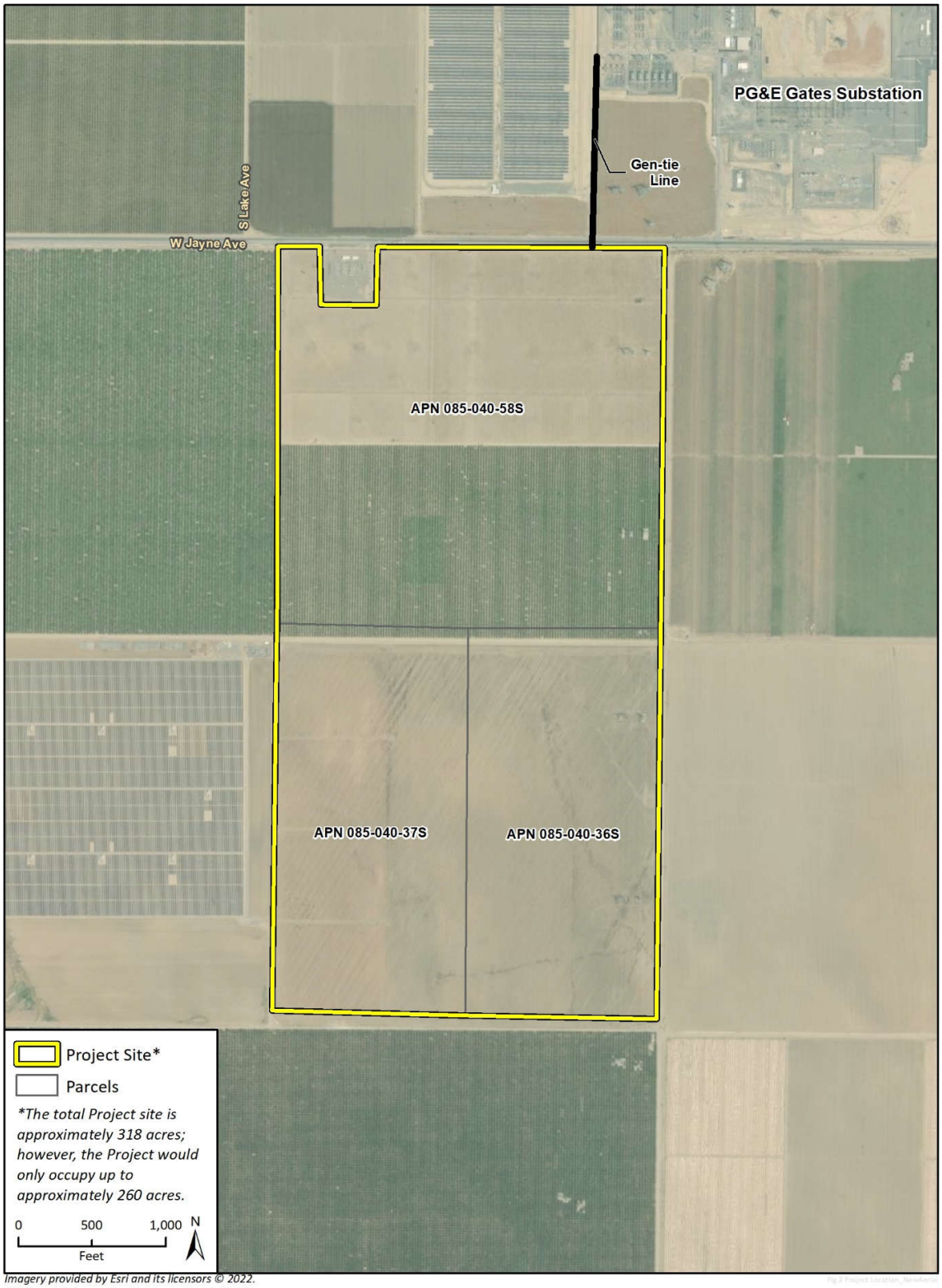


Figure 2 Project Location



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Additional data provided by Fresno County, 2021.

3 Methodology

As part of our scope of services, Rincon reviewed available on-line information to assess the potential geology and geohazards that could impact Project development. Our review included a review of information available from:

- Google Earth aerial imagery
- California Department of Conservation
- California Department of Water Resources (DWR)
- California Geological Survey
- County of Fresno General Plan
- State Water Resources Control Board (SWRCB)
- United States Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS)
- United States Geologic Survey (USGS)
- University of California at Davis (UC Davis)

The desktop review is preliminary and considers the following geology and geohazard conditions to the practical extent they can be determined from the above sources:

- Faults, including Alquist-Priolo Earthquake Fault Zones
- Seismically induced ground shaking
- Fault rupture
- Seismic-related ground failure, including liquefaction
- Slope stability and landslides
- Erosion and loss of topsoil
- Unstable and expansive soils
- Soil adequacy to support use of septic tanks or alternative wastewater disposal systems

4 Results

The results of the geology and geohazards desktop review for the Project site are included below.

Faults, including Alquist-Priolo Earthquake Fault Zones

The Project site is not located within an Earthquake Fault Zone as designated by the Alquist-Priolo Earthquake Fault Zoning Act (California Geological Survey 2021). The closest Alquist-Priolo Fault Zones are the Nunez fault, located approximately 20 miles northwest of the Project site, and the San Andreas Fault, located approximately 30 miles to the west of the Project site.

The Nunez fault is a historically active and relatively minor oblique-slip fault that dips steeply eastward and is located in the southwest part of Fresno County. The Nunez fault experienced surface rupture during the 1983 Coalinga earthquake. The San Andreas Fault Zone is located within two miles of the San Luis Obispo County/Fresno County line along the southwest border (County of Fresno 2021). The most recent rupture event associated with the Cholame-Carrizo section of the San Andreas Fault occurred during the 1857 Fort Tejon earthquake. For a view of these fault lines on a map, refer to Figure 3.

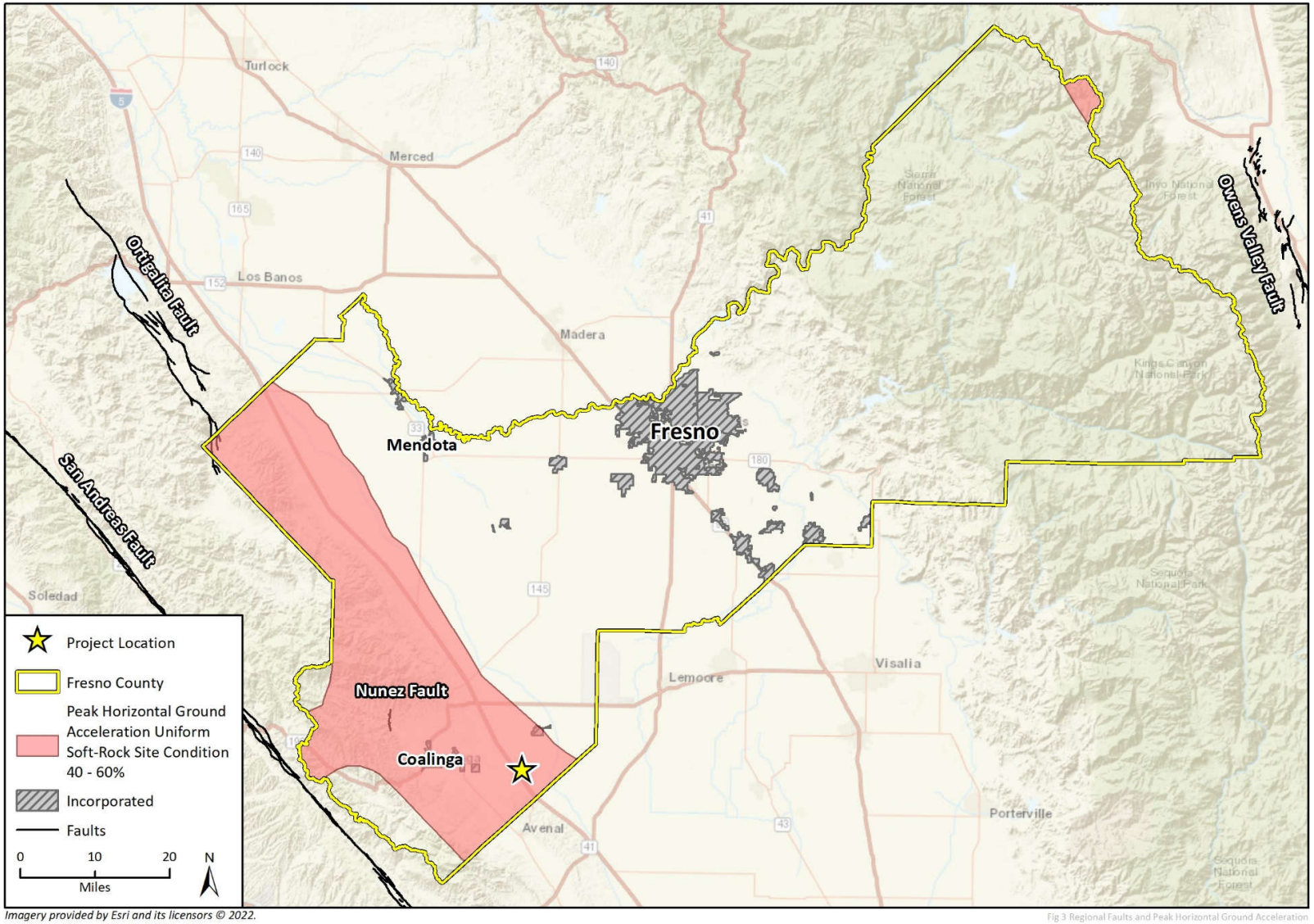
Seismically Induced Ground Shaking

As with all of California, the Project site is located in an area with the potential for strong ground shaking. The intensity of ground motion depends upon the magnitude of an earthquake, distance from epicenter, and geology between epicenter and Project site. The western part of Fresno County, where the Project site is located, is most susceptible to ground shaking due to the quaternary alluvium which makes up its regional geology (California Department of Conservation 2018). Fault systems along the western and eastern boundaries of Fresno County have the potential to produce high magnitude earthquakes (County of Fresno 2021). The Fresno County General Plan estimates a peak horizontal ground acceleration of 40 to 60 percent of the acceleration of gravity (g-units) (i.e., 0.4 g to 0.6 g) at a 10% probability in 50 years for the Project site (County of Fresno 2000; Figure 3).

Ground Surface Fault Rupture

Alquist-Priolo Fault Earthquake Fault Rupture hazard zones indicates active faults with a potential for fault rupture. Fault rupture refers to displacement of the ground surface along a fault, and generally occurs during earthquakes of approximately magnitude 5.0 or greater. Fault rupture can endanger life and property if structures are constructed on, or cross over, a fault. Fault rupture tends to occur along or near previous ruptures that define the fault zone. As discussed previously, the Project site is not located in an Earthquake Fault Rupture hazard zone as defined under the Alquist-Priolo Earthquake Fault Zoning Act, and no active or potentially active faults are mapped in the immediate vicinity of the Project site. Therefore, fault ruptures on the Project site are unlikely.

Figure 3 Regional Faults and Peak Horizontal Ground Acceleration (10% Probability in 50 Years)



Seismic-Related Ground Failure

Liquefaction

Liquefaction is a process during which saturated soil temporarily becomes fluid during intense and prolonged ground shaking or because of a sudden shock or strain. Liquefaction typically occurs in areas where the groundwater is less than 30 feet from the surface and where the soils are composed of low-density non-plastic soils. Liquefaction-induced lateral spreading is the finite, lateral displacement of gently sloping ground from pore-pressure buildup or liquefaction in a shallow underlying deposit during an earthquake. No specific assessments to identify liquefaction hazards have been completed in Fresno County (County of Fresno 2021).

Based on a review of the SWRCB GeoTracker database, Rincon identified a shallow-screened monitoring well approximately 12 miles to the northeast. The measured depth to groundwater at this well was 39.97 feet below ground surface (ft bgs) in October 2005 (SWRCB 2022). Rincon also reviewed the Department of Water Resources Sustainable Groundwater Management Act (SGMA) Data Viewer portal, but no production wells with shallow screens could be identified to evaluate water levels in the upper 50 feet (DWR 2022).

As shown in Figure 4, soils on the Project site were classified as Kimberlina sandy loam, Westhaven loam, and Wasco sandy loam (UC Davis 2021). Kimberlina is a coarse soil averaging 5 to 20 percent clay (USDA-NRCS 2003a), Westhaven averages 18 to 35 percent clay (USDA-NRCSb 2003), and Wasco is a coarse-loamy soil (USDA-NRCSc 2003a, 2003b, 2003c). These series represent a range of non to moderately plastic soils with mixed coarse-grained textures. Because the soils are well drained and groundwater is likely to be deeper than 30 ft bgs, the liquefaction risk for the Project site is low.

Settlement

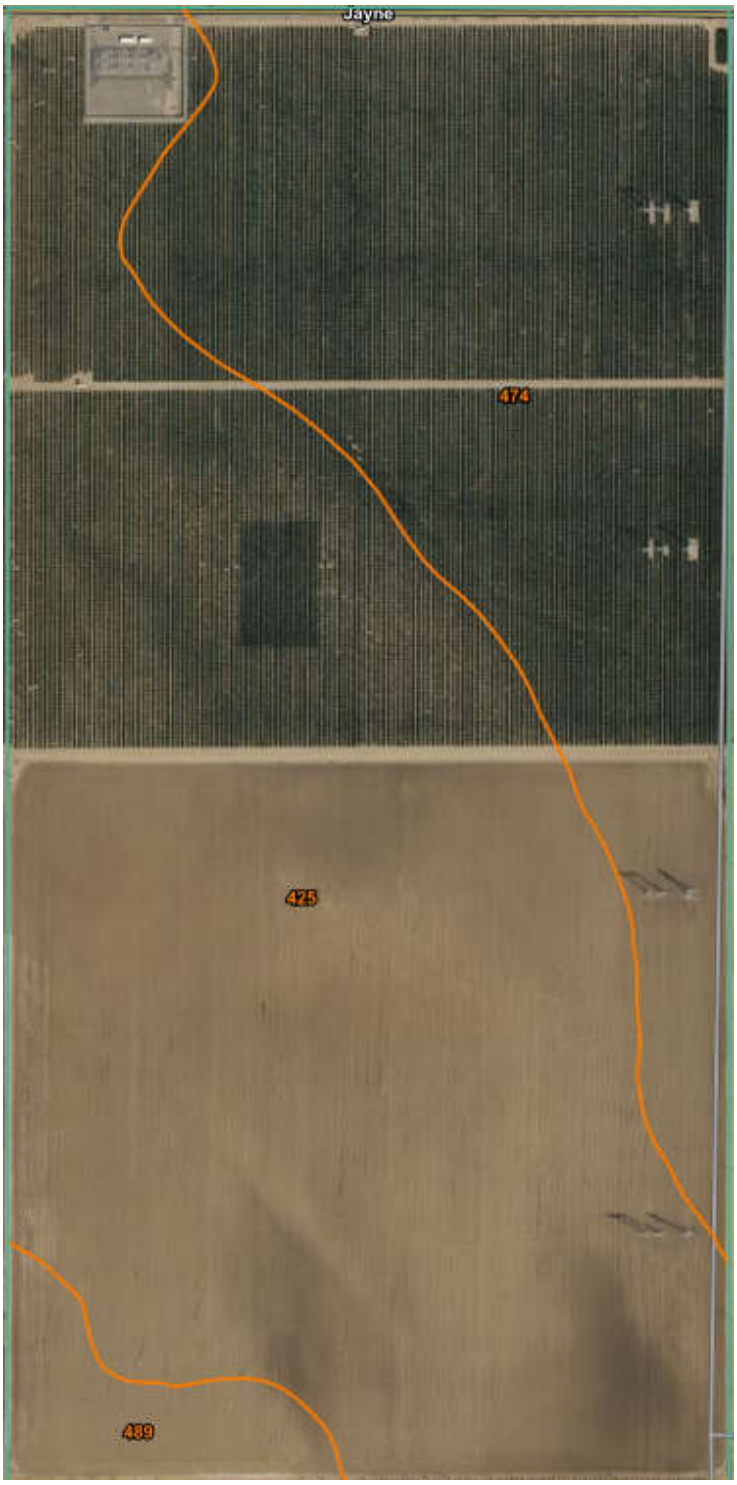
Settlement is the vertical movement of the ground in response to a load, can occur in poorly consolidated soils during compressive ground shaking of an earthquake (County of Fresno 2021). Differential settlement of sufficient magnitude to cause significant structural damage is normally associated with rapidly deposited alluvial soils or improper fill (County of Fresno 2021). According to the Coalinga and Guijarral Hills geologic quadrangle, the Project site overlays quaternary alluvial gravels and sands (Diblee Geologic Foundation 2007). Additionally, Kimberlina, Westhaven, and Wasco soils are found on alluvial fans and flood plains in the region. Therefore, the potential for soil settlement exists at the Project site; however, the relative risk cannot be assessed without a geotechnical evaluation of specific onsite soils.

Subsidence

Similar to settlement, subsidence is the downward movement of the ground due to the collapse of soil pore space. In the Central Valley, the most common cause for subsidence is the over-pumping of groundwater, which reduces pore pressure and allows the soil substrate to compress and surface elevations to decrease. Subsidence is generally viewed as a regional change in surface elevation; however, localized differential displacements of the ground surface can damage foundations and structures as does settlement.

Based on a review of the United States Geological Survey's Central Valley Drought Indicators interactive map (USGS 2022), a subsidence of approximately 25 millimeters was observed at the site between 2008 and 2010.

Figure 4 Soils on Project Site



Source: USDA-NRCS, Web Soil Survey, accessed February 2, 2022
Note: Soil 474 corresponds to Westhaven loam, 0 to 2 percent slopes. Soil 425 corresponds to Kimberlina sandy loam, 0 to 2 percent slopes. Soil 489 corresponds to Wasco sandy loam, 2 to 5 percent slopes.

Slope Stability and Landslides

Landside hazard areas are found in the foothill and mountain areas of Fresno County near the Sierra Nevada mountain range (County of Fresno 2021) and in the Jacalitos and Alcalde Hills of the Coast Ranges to the west; however, landslides are not expected to be a concern due to the flat topography of the Project site and its immediate surroundings.

Erosion and Loss of Topsoil

Erosion is a natural process whereby soil and highly weathered rock materials are worn away and transported, most commonly by wind or water. The Project site is not mapped within an Erosion Hazard Area (County of Fresno 2021). However, soils in the western part of Fresno County are susceptible to erosion due to human activity, and these soils are often associated with alluvial fans (County of Fresno 2021). The site has been mapped on alluvial deposits, and both Kimberlina and Westhaven soils form on alluvial fans.

Erosion factor K indicates the susceptibility of a soil to erode by sheet and rill erosion as a result of surface water flows. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by surface water flows. The northeastern portion of the Project site consists of Westhaven loam which has a K factor of 0.49, which indicates a moderately-high erosion potential. The southwestern portion of the Project site consists of Kimberlina sandy loam and Wasco sandy loam which indicates a moderately-low erosion potential (USDA-NRCS 2022).

Unstable and Expansive Soils

Soils with relatively high clay content are considered expansive (County of Fresno 2021). However, the Project site is not mapped within an area with moderately high to high soil expansion potential (County of Fresno 2021). Kimberlina, Westhaven, and Wasco soils have clay content less than 50 percent, which classifies as a slight to moderate swelling potential (USGS 2021). Therefore, expansion is not expected to be a concern on the Project site.

Soil Adequacy to Support Use of Septic Tanks or Alternative Wastewater Disposal Systems

Rincon understands that neither septic tanks nor alternative waste water disposal systems are included in the Project plans; however, Kimberlina, Westhaven, and Wasco soils are well drained and do not exhibit high swelling potential, which lowers the risk of effluent surfacing (Krenz, Lee, & Owens n.d.). Additionally, the flat topography would not be expected to present challenges to the construction or maintenance of septic tanks or alternative wastewater disposal systems.

5 Limitations

Rincon has performed our work in a manner consistent with the level of care and skill ordinarily exercised by other members of the environmental profession. We based our conclusions, opinions, and recommendations on a limited number of observations and data. Conditions could vary between or beyond the data evaluated. Rincon makes no other representation, guarantee or warranty, express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

Our work was preliminary in nature and performed solely from a review of available public information. No interviews were conducted, regulatory agency personnel contacted or consulted, site reconnaissance performed, samples obtained, and no form of site or laboratory testing completed. Therefore, the term “desktop” strictly applies to the on-line research performed.

Although risk can never be eliminated, more detailed and extensive studies will yield more information, which may help understand and manage the level of risk involved. Since detailed study and analysis involves greater expense, our clients participate in determining levels of service that provide adequate information for their purposes at acceptable levels of risk. More extensive studies could be performed to reduce these uncertainties. The Limitations of this report apply to any electronic data submitted to the client that is associated with this desktop review.

6 List of Prepares

6.1 Signatures

Rincon Consultants, Inc.

This document has been digitally signed and sealed by Torin Snyder, PG, CHG on 10/11/2022.

Alex Cruz, PG
Senior Environmental Geologist

Torin Snyder, PG, CHG
Principal

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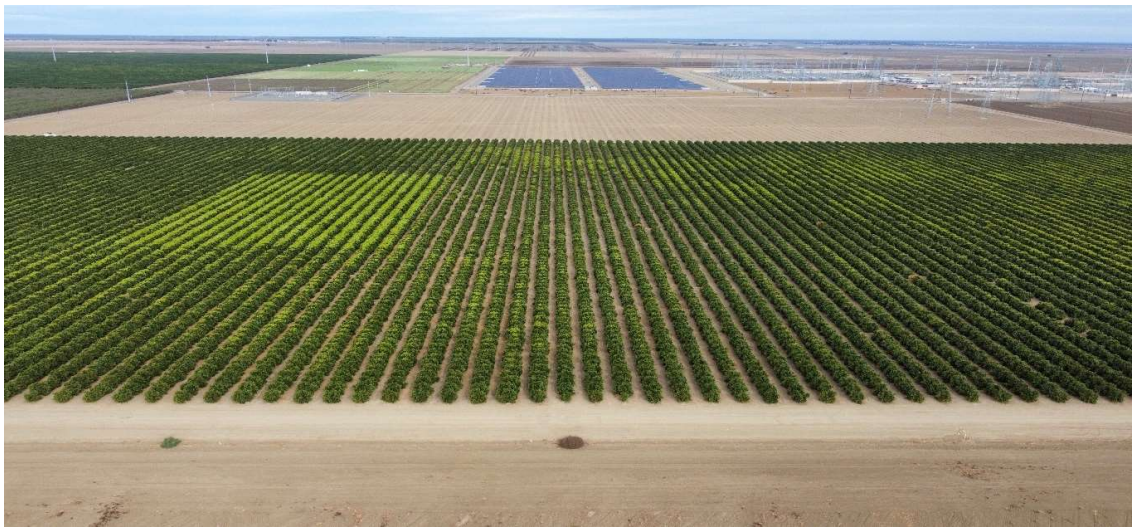
Appendix G2
Paleontological Resources Assessment Report



Key Energy Storage Project

Paleontological Resources Assessment Report

prepared for

Key Energy Storage, LLC
700 Universe Boulevard
Juno Beach, Florida 33408
Attn: Sean Wazlaw/Patti Murphy

prepared by

Rincon Consultants, Inc.
7080 North Whitney Avenue, Suite 101
Fresno, California 93720

March 2022

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

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Executive Summary

Purpose and Scope

Rincon Consultants, Inc. (Rincon) was retained to conduct a desktop paleontological resources assessment for the Key Energy Storage Project ("Project") located in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, approximately 7.5 miles north of the City of Avenal, California, and approximately 0.4 miles west of Interstate 5. This study includes a fossil locality search, literature review, paleontological sensitivity assessment, and reporting consistent with the professional standards of the Society of Vertebrate Paleontology (SVP) (2010).

Results of Investigation

One geologic unit, Recent alluvial fan deposits (Qf), is mapped at the surface within the Project site (Dibblee and Minch 2006, 2007; Jefferson 2010; Jennings and Strand 1958). This geologic unit is Holocene in age and is assigned a low paleontological sensitivity because middle and late Holocene sediments (i.e., less than 5,000 years old) are considered too young to preserve paleontological resources per Society of Vertebrate Paleontology (SVP) guidelines (SVP 2010). A second geologic unit, Pleistocene (i.e., 11,700 to 2.6 million years ago) non-marine deposits (Qc), is mapped less than 200 feet south of the Project site, and may underlie, possibly at shallow depths, surface Qf deposits within the Project site (Dibblee and Minch 2006, 2007; Jefferson 2010; Jennings and Strand 1958). Pleistocene Qc deposits have produced fossils throughout California, including within Fresno County. Therefore, Qc is assigned high paleontological sensitivity. A formal fossil locality search from the Natural History Museum of Los Angeles recovered no known fossil localities within the Project site.

1 Introduction

Rincon Consultants, Inc. (Rincon) conducted a desktop paleontological resource assessment for the Key Energy Storage Project (Project) in Fresno County, California. This assessment includes a fossil locality search, literature review, paleontological sensitivity assessment, and reporting consistent with the professional standards of the Society of Vertebrate Paleontology (SVP) (2010).

Paleontological resources (i.e., fossils) are the remains or traces of prehistoric life. Fossils are typically preserved in layered sedimentary rocks and the distribution of fossils across the landscape is controlled by the distribution and exposure of the fossiliferous sedimentary rock units at and near the surface. Construction related impacts that typically affect or have the potential to affect paleontological resources include mass excavation operations, drilling/borehole excavations, trenching/tunneling, and grading. Ground-disturbing construction activities would mainly consist of grading. This Paleontological Resources Assessment provides a list of the formations mapped at the surface within the Project site and formations that underlie those mapped at the surface which may be impacted by construction activities.

This Paleontological Resources Assessment also provides a description of the formations, including types of fossils known to occur within the formations (if any) and the paleontological sensitivity for each formation.

1.1 Project Location

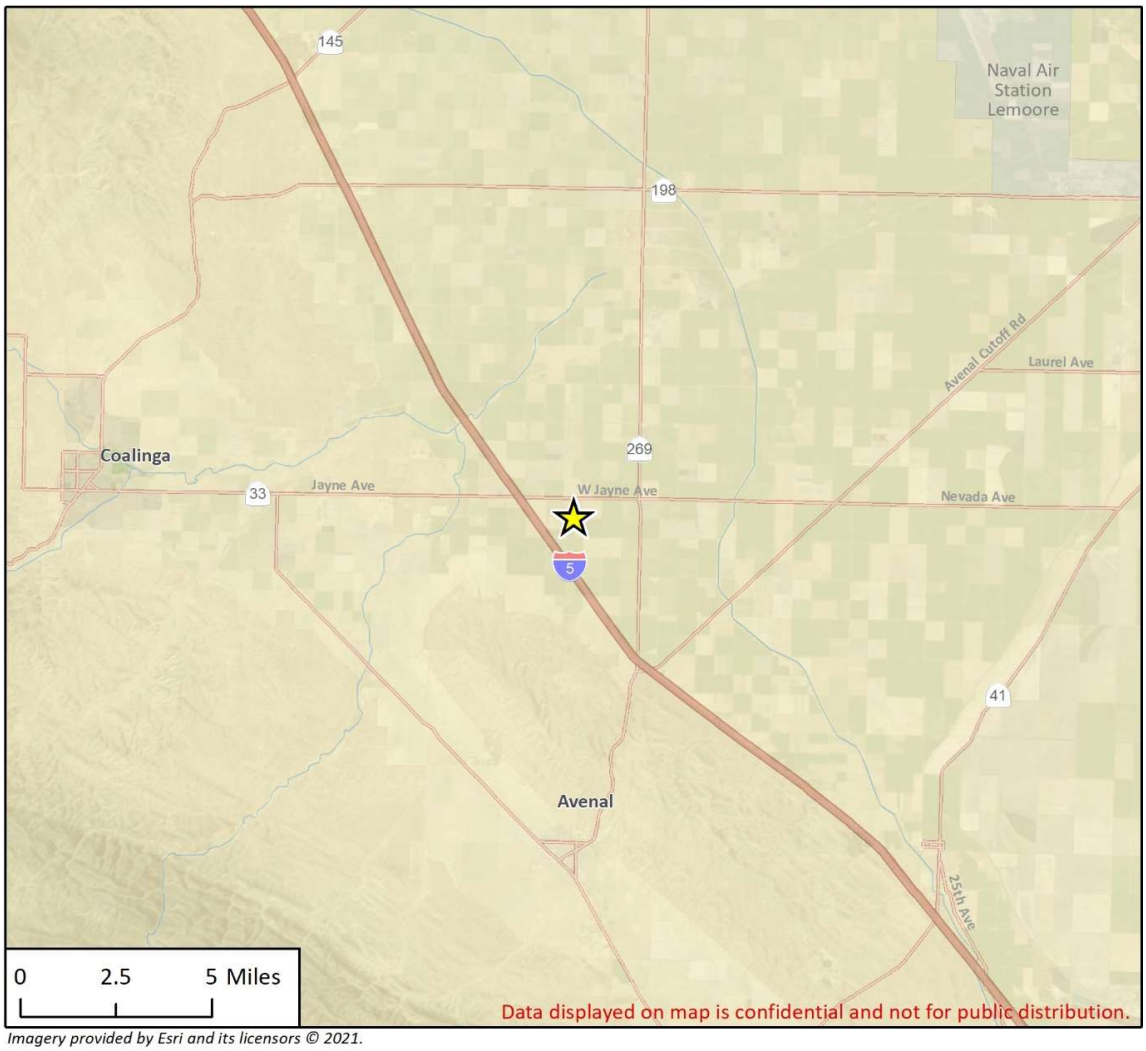
The Project site is in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, approximately 7.5 miles north of the City of Avenal, California, and approximately 0.4 miles west of Interstate 5 (Figure 1). The Project site is located on the *Avenal* and *Guijarral Hills* 7.5-minute United States Geological Survey (USGS) topographic quadrangles. The Project site is located southwest of the Pacific Gas and Electric (PG&E) Gates Substation along West Jayne Avenue. The Project would be developed on up to 208 acres of a 318-acre site comprised of three parcels (Assessor Parcel Numbers 085-040-36S, 085-040-37S, and 085-040-58S) (Figure 2).

Adjacent land uses include agricultural fields in all directions, as well as a solar field directly to the west, and a PG&E substation to the north. The site currently consists of barren and active agricultural fields, including a mature orchard grove, and existing compacted dirt roads bordering on all sides.

1.2 Project Description

The Applicant proposes to construct and operate the Project on approximately 208 acres within the 318-acre Study Area in unincorporated Fresno County. The Project would include development of an energy storage system facility and associated on-site support facilities including a substation, inverters, collector lines, fencing, access roads, supervisory control, data acquisition (SCADA) system, and other ancillary facilities or equipment. The energy storage facility is anticipated to consist of lithium-ion batteries with the potential to store approximately three (3)-gigawatt (GW) of

Figure 1 Regional Location



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Project Location

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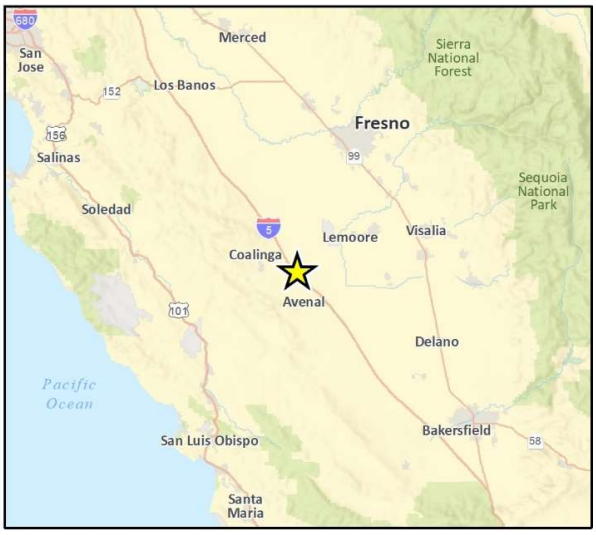
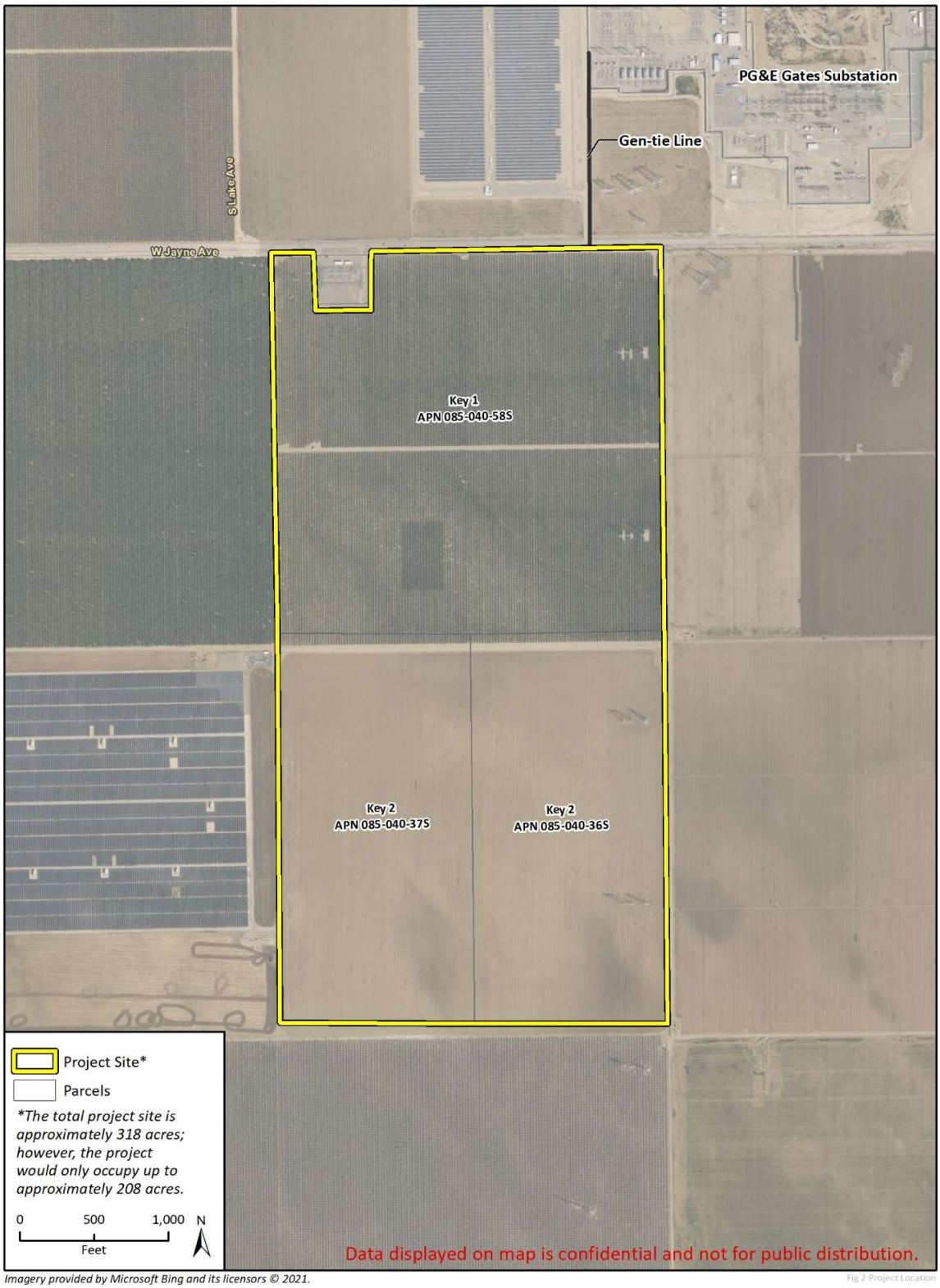


Figure 2 Project Site and Project Parcel Map



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Additional data provided by Fresno County, 2021.

energy.[1] The Project would also include a 500-kilovolt (kV) overhead generation tie line (gen-tie line), which would extend north to the adjacent PG&E Gates Substation.

Buildout of the Project would occur in phases, with Phase I expected to come online in 2025, and Phase 2 expected to come online by 2026. After that, Phases 3 and 4 are expected to come online between 1 to 3 years after the previous phase, based on the region's increasing demand for energy storage. The timing of when phases would be online is approximate.

The Project would support state policies necessary to improve the reliability of California's energy grid. California has taken action to advance energy storage, including the passage of Assembly Bill 2514 and the resulting California Public Utilities Commission decision for energy storage procurement targets for each of the investor-owned utilities. Locally, Fresno County provides a large share of the region's renewable energy. The Project would substantially increase local energy storage capacity and address the limitations of the electric grid and the increasing demand for renewable energy. Layering energy storage systems into the energy grid improves the reliability of the grid and makes it more resilient to disturbances and peaks in energy demand. The Project and other energy storage system projects are used to supply power during brief disturbances, reduce outages and associated impacts to the community, and substitute for certain large footprint transmission and distribution upgrades.

[1] The megawatt capacity is an estimate based on currently available technology as the energy storage industry has quickly evolved in the last few years and is anticipated to continue to evolve. While the components and total megawatts of the Project may change, the overall size of the Project (up to approximately 208 acres) would remain consistent.

2 Regulations

2.1 Federal Regulations

Federal regulatory protection for paleontological resources would apply if a specific project involves federally owned or managed lands, a federal license, permit, approval or funding,and/or crosses federal lands. The Project site does not cross federally owned or managed lands, thus, federal protection does not apply to the Project.

2.2 State Regulations

California Environmental Quality Act – Paleontological Resources

Paleontological resources are protected under CEQA, which states in part a project will "normally" have a significant effect on the environment if it, among other things, will disrupt or adversely affect a paleontological site except as part of a scientific study. Specifically, in Section VII(f) of Appendix G of the State CEQA Guidelines, the Environmental Checklist Form, the question is posed thus: "Will the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature." To determine the uniqueness of a given paleontological resource, it must first be identified or recovered (i.e., salvaged). Therefore, CEQA mandates mitigation of adverse impacts, to the extent practicable, to paleontological resources.

CEQA does not define "a unique paleontological resource or site." However, the Society of Vertebrate Paleontology (SVP) has defined a "significant paleontological resource" in the context of environmental review as follows:

> Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information.

Paleontological resources are typically to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years) (SVP 2010).

The loss of paleontological resources meeting the criteria outlined above (i.e., a significant paleontological resource) would be a significant impact under CEQA, and the CEQA lead agency is responsible for ensuring that impacts to paleontological resources are mitigated, where practicable, in compliance with CEQA and other applicable statutes.

California Public Resources Code

Section 5097.5 of the Public Resources Code states:

> No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

Here “public lands” means those owned by, or under the jurisdiction of, the state or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, public agencies are required to comply with Public Resources Code Section 5097.5 for their own activities, including construction and maintenance, and for permit actions (e.g., encroachment permits) undertaken by others.

2.3 Regional and Local Regulations

2000 Fresno County General Plan

Fresno County addresses Paleontological Resources within the 2000 Fresno County General Plan, Open Space and Conservation Element, Section J, Historical, Cultural, and Geologic Resources (County of Fresno 2000). In areas of known paleontological resources, the County is to identify and protect these resources when feasible. The specific Open Space and Conservation Element goals and policies related to paleontological resources are:

> **Goal OS-J**: To identify, protect, and enhance Fresno County’s important historical, archeological, paleontological, geological, and cultural sites and their contributing environment.
>
> **Policy OS-J.1**: The County shall require that discretionary development projects, as part of any required CEQA review, identify and protect important historical, archeological, paleontological, and cultural sites and their contributing environment from damage, destruction, and abuse to the maximum extent feasible. Project-level mitigation shall include accurate site surveys, consideration of project alternatives to preserve archeological and historic resources, and provision for resource recovery and preservation when displacement is unavoidable.

3 Paleontological Resources Assessment Guidelines

Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value and are afforded protection under state and local laws and regulations. This Paleontological Resources Assessment satisfies Public Resources Code Section 5097.5 (Stats 1965, c 1136, p. 2792) requirements, follows guidelines and significance criteria specified by the Society of Vertebrate Paleontology (SVP) (2010).

3.1 Paleontological Sensitivity

Paleontological sensitivity refers to the potential for a geologic unit to produce scientifically significant fossils. Direct impacts to paleontological resources occur when earthwork activities, such as grading or trenching, cut into the geologic deposits within which fossils are buried and physically destroy the fossils. Since fossils are the remains of prehistoric animal and plant life, they are considered to be nonrenewable. Such impacts have the potential to be significant and, under the CEQA Guidelines, may require mitigation. Sensitivity is determined by rock type, history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey.

The discovery of a vertebrate fossil locality is of greater significance than that of an invertebrate fossil locality, especially if it contains a microvertebrate assemblage. The recognition of new vertebrate fossil locations could provide important information on the geographical range of the taxa, their radiometric age, evolutionary characteristics, depositional environment, and other important scientific research questions. Vertebrate fossils are almost always significant because they occur more rarely than invertebrates or plants. Thus, geological units having the potential to contain vertebrate fossils are considered the most sensitive.

3.2 Resource Assessment Criteria

The SVP outlines in its Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010) guidelines for categorizing paleontological sensitivity of geologic units within a project area. The SVP (2010) describes sedimentary rock units as having a high, low, undetermined, or no potential for containing significant nonrenewable paleontological resources. This criterion is based on rock units within which vertebrates or significant invertebrate fossils have been determined by previous studies to be present or likely to be present. Significant paleontological resources are fossils or assemblages of fossils, which are unique, unusual, rare, uncommon, diagnostically, stratigraphically, taxonomically, or regionally. The paleontological sensitivity of the project site has been evaluated according to the following SVP (2010) categories:

- **High Potential (Sensitivity).** Rock units from which significant vertebrate or significant invertebrate fossils or significant suites of plant fossils have been recovered are considered to have a high potential for containing significant non-renewable fossiliferous resources. These units include but are not limited to, sedimentary formations and some volcanic formations which contain significant nonrenewable paleontological resources anywhere within their

geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas which contain potentially datable organic remains older than recent, including deposits associated with nests or middens, and areas that may contain new vertebrate deposits, traces, or trackways are also classified as significant. Full-time monitoring is typically recommended during any project-related ground disturbance in geologic units with high sensitivity.

- **Low Potential (Sensitivity).** Sedimentary rock units that are potentially fossiliferous but have not yielded fossils in the past or contain common and/or widespread invertebrate fossils of well documented and understood taphonomic (processes affecting an organism following death, burial, and removal from the ground), phylogenetic species (evolutionary relationships among organisms), and habitat ecology. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils prior to the start of construction. Generally, these units will be poorly represented by specimens in institutional collections and will not require protection or salvage operations.
- **Undetermined Potential (Sensitivity).** Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials. Field surveys by a qualified vertebrate paleontologist to specifically determine the potentials of the rock units are required before programs of impact mitigation for such areas may be developed.
- **No Potential.** Rock units of metamorphic or igneous origin are commonly classified as having no potential for containing significant paleontological resources

4 Methods

Rincon reviewed published geologic maps and primary literature to identify the geologic units present at and below the surface within the Project site boundaries (Dibblee and Minch 2006, 2007; Jefferson 2010; Jennings and Strand 1958). We based our determination on the paleontological sensitivity of the geologic units on the known fossil record for each geologic unit and assessed the potential impacts to non-renewable paleontological resources from Project construction based on the potential for groundwork to disturb high sensitivity geologic units.

Based on a review of aerial imagery, the Project site is generally flat, lacking any substantial topographic relief, and consists predominantly of active and fallow agricultural land. No bedrock is exposed at the surface within the Project site; therefore, no paleontological field survey was conducted for this analysis.

Rincon requested a formal paleontological locality search from the Natural History Museum of Los Angeles (NHMLA) on February 6, 2022. In addition, Rincon reviewed the online paleontological collections database of the University of California Museum of Paleontology (UCMP) and Paleobiology Database (PBDB) to identify known fossil localities in Fresno County from the same geologic units and ages as those identified within the Project site.

Paleontological sensitivity ratings of the geological formations were assigned based on the findings of the record search and literature review, and on the potential impact to nonrenewable paleontological resources from Project construction following SVP (2010) guidelines.

5 Description of Resources

5.1 Geologic Setting

The Project site is located within the southern portion of the Great Valley geomorphic province, one of the eleven geomorphic provinces of California (California Geological Survey [CGS] 2002). The Great Valley is an elongate lowland approximately 50 miles wide and 400 miles long. It is bounded to the east by the Sierra Nevada Range and to the west by the Coast Range. A relatively undeformed basin, the Great Valley rises from about sea level to approximately 400 feet in elevation at the north and south ends. The northern portion of the valley, referred to as the Sacramento Valley, is drained by the Sacramento River, while the southern portion of the valley, referred to as the San Joaquin Valley, is drained by the San Joaquin River. Both rivers converge in the Central Valley and drain into San Francisco Bay. The Great Valley is predominantly alluvial, flood, and delta plains formed by these two major riversystems.

The sedimentary record in the Great Valley includes typically shallow water marine units from the late Jurassic and Cretaceous, thick units of marine sediments from the Miocene, and brackish and freshwater lake deposits from the late Cenozoic. The San Joaquin Valley was likely an open deepwater marine embayment throughout the Oligocene and Miocene (Addicott 1970), and the thickest sequences of Miocene marine sediments were likely deposited in narrow, deep seaways extending into the Pacific across the site of the Coast Range in the southern portion of the San Joaquin Valley (Bandy and Arnel 1969; Norris and Webb 1990). By the Pliocene the southern connection to the Pacific had closed and uplift had drained the San Joaquin Valley to the north through the Carquinez Strait. Pliocene-Pleistocene deposits consist of alluvial sediments including those associated with a number of ancient lake systems, Tulare Lake in the central San Joaquin Valley being the most recent of the ancient systems.

The Project site is located approximately two miles from the northern end of the Kettleman Hills and three miles west of the Guijarral Hills.

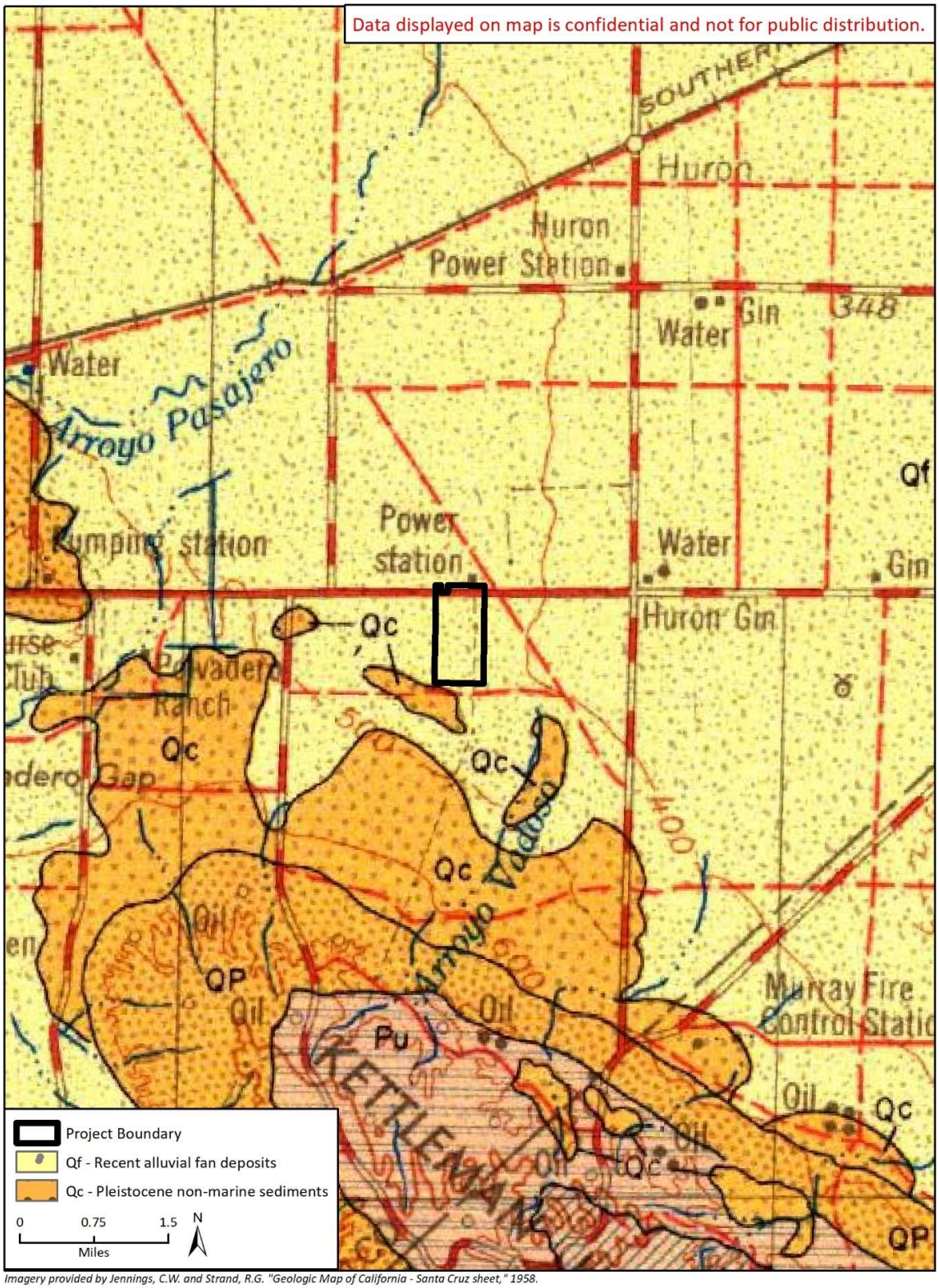
5.2 Geology of the Project Site

The Project site was mapped at a scale of 1:250,000 by Jennings and Strand (1958) who identified a single geologic unit underlying the Project site: Quaternary fan deposits (Qf) (Figure 3). However, Quaternary nonmarine sediments (Qc), are mapped less than 200 feet from the Project site, and may underlie surface Qf deposits, possibly at shallow depths, especially in the southern end of the Project site. Therefore, the lithology of both units is described below.

Recent Alluvial Fan Deposits (Qf)

The entire Project site is underlain by Recent alluvial fan deposits (Qf) (Figure 3). Qf consists of gravel, sand, and clay, that is found in valley areas (Dibblee and Minch 2006, 2007; Jennings and Strand 1958). Qf is Holocene in age, which is generally considered too young to preserve scientifically significant fossil resources (i.e., less than5,000 years old) (SVP 2010). Therefore, Qf is assigned a **low paleontological sensitivity**.

Figure 3 Geologic Map of Project Site



Imagery provided by Jennings, C.W. and Strand, R.G. "Geologic Map of California - Santa Cruz sheet," 1958.

Pleistocene Non-Marine Deposits (Qc)

Pleistocene (i.e., 1.8 to 2.6 million years ago) non-marine deposits (Qc) are found just south of the Project site (Figure 3), and may underlie surface Qf deposits, possibly at shallow depths, within the Project site. Qc consists of alluvial gravel, sand, and clay (Jennings and Strand 1958). When exposed at the surface, Qc exhibits a degree of soil development that suggests it is Pleistocene in age. Unnamed Pleistocene alluvial sediments are known to be fossiliferous in Fresno County, producing taxa such as bison (*Bison*), deer (*Cervus*, *Odocoileus*), hares (*Lepus*), fox (*Urocyon*, *Vulpes*), turtles (*Actinemys*), and snakes (*Crotalus*, *Charina*) (Jefferson 2010; PBDB 2022; UCMP 2022). Given the fossil productivity of similar units in Fresno County, Qc is assigned a **high paleontological sensitivity**.

5.3 Fossil Locality Search Results

A search of the paleontological records at NHMLA produced no previously recorded fossil localities in the Project site (Bell 2022). Two fossil localities, LACM VP 4087 and LACM VP 6701, both yielding mammoth (*Mammuthus*) fossils, were reported from unnamed Pleistocene terrestrial sediments. However, both localities are approximately 60 miles east of the Project site.

6 Conclusions

This paleontological resources assessment analyzed the paleontological sensitivity per SVP (2010) guidelines of the proposed site for the Key Energy Storage Project in Fresno County, California. The Project site is underlain by a single geologic unit at the surface, Recent alluvial fan deposits (Qf) (Figure 3; Jennings and Strand 1958). Qf is assigned low paleontological sensitivity due to its young age. A second geologic unit, Pleistocene non-marine deposits (Qc), is exposed at the surface just south of the Project site, suggesting that it is possible to encounter this unit at an unknown, possibly shallow, subsurface depth during grading activities associated with the proposed Project. Qc is assigned high paleontological sensitivity due to the fossil-producing history of similar sediments in Fresno County and throughout California (Jefferson 2010; PBDB 2022; UCMP 2022).

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Appendix H

Phase I Environmental Site Assessment

Key Energy Storage Project

Phase I Environmental Site Assessment

prepared for

Key Energy Storage, LLC
700 Universe Boulevard
Juno Beach, Florida 33408
Attn: Virginia Thompson / Patti Murphy

prepared by

Rincon Consultants, Inc.
7080 North Whitney Avenue, Suite 101
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October 2022

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October 12, 2022
Project No.: 20-10624

Patti Murphy
Key Energy Storage, LLC
700 Universe Boulevard
Juno Beach, Florida 33408
Via email: Patti.Murphy@nexteraenergy.com

Subject: Phase I Environmental Site Assessment, Key Energy Storage Project
Fresno County, California

Dear Ms. Murphy:

This report presents the findings of a Phase I Environmental Site Assessment (ESA) completed by Rincon Consultants, Inc. (Rincon) for the Key Energy Storage Project located in Fresno County, California.

The accompanying report presents our findings and provides an opinion regarding the presence of recognized environmental conditions in connection with the subject property. Our scope of services was intended to meet the guidelines outlined in the American Society for Testing and Materials (ASTM), Standard Practice for Environmental Site Assessments: *Phase I Environmental Site Assessment Process* (ASTM Standard E1527-13 and E1527-21). Pursuant to ASTM practice, it did not include any inquiries with respect to asbestos-containing building materials unrelated to releases into the environment; biological agents; cultural and historic resources; ecological resources; endangered species; health and safety; indoor air quality unrelated to releases of hazardous substances or petroleum products into the environment; industrial hygiene; lead-based paint unrelated to releases into the environment; lead in drinking water; mold or microbial growth conditions; polychlorinated biphenyl-containing building materials (e.g., interior fluorescent light ballasts, paint, and caulk); naturally-occurring radon; regulatory compliance; substances not defined as hazardous substances (including some substances sometimes generally referred to as emerging contaminants) unless or until such substances are classified as a Comprehensive Environmental Response, Compensation, and Liability Act hazardous substance; and wetlands.

Thank you for selecting Rincon for this project. If you have any questions, or if we can be of any future assistance, please contact us.

Sincerely,
Rincon Consultants, Inc.

Lauren Kodama Roenicke
Project Manager, Due Diligence

Ryan Thacher, PhD, PE
Director of Site Assessment and Remediation

Julie Lynne Welch
Director of Due Diligence

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Executive Summary

This report presents the findings of a Phase I Environmental Site Assessment (ESA) for the Key Energy Storage Project in Fresno County, California (subject property). The Phase I ESA was performed for Key Energy, LLC (applicant) by Rincon Consultants, Inc. (Rincon). The applicant has requested this assessment and will use the information for the purpose of purchasing and developing the subject property. The subject property is currently planted agricultural land, an orchard, and vacant land. Properties in the vicinity of the subject property include vacant land, agricultural land, solar arrays, and an electrical substation.

During the completion of this Phase I ESA, Rincon performed a site reconnaissance and interviews with the user of the report (the applicant) and owners of the subject property. In addition, Rincon reviewed potential vapor migration sources, online agency records, and historical records: including aerial photographs, topographic maps, and city directories. Fire insurance maps were also requested for the subject property, but were not available.

Also, the user and subject property owners completed questionnaires regarding the subject property and vicinity. Title reports for the parcels were also provided.

Deviations and/or data gaps were not encountered during the preparation of this report.

Based on the findings of this Phase I ESA, it is our opinion that no recognized environmental conditions were identified in connection with the subject property. Additionally, three Notable Findings in connection with the subject property were identified as summarized below.

Notable Findings

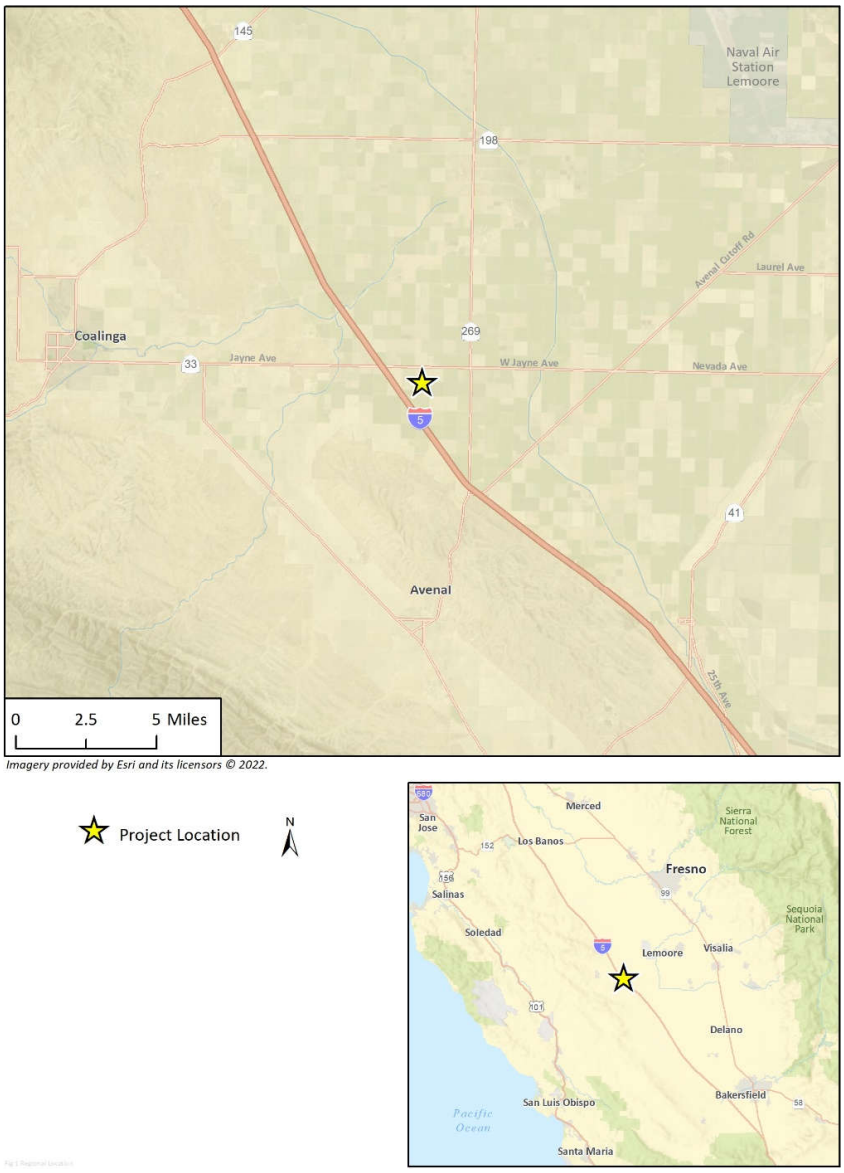
1. Onsite natural gas pipeline and onsite petroleum and natural gas easements
2. Former onsite groundwater well
3. Onsite diesel aboveground storage tank (AST) with stained soil

Rincon recommends confirming that the former onsite groundwater well has been properly abandoned if site redevelopment activities are planned in that area. Rincon also recommends that the utility companies are contacted for locations of the onsite pipelines. Additionally, if the diesel AST remains onsite, caution should be taken when working in the vicinity of the AST. If the AST is to be removed from the subject property, stained soil should also be removed and disposed appropriately.

1 Introduction

This report presents the findings of a Phase I Environmental Site Assessment (ESA) conducted for the Key Energy Storage Project in Fresno County, California (subject property; Figure 1). The Phase I ESA was performed by Rincon Consultants, Inc. (Rincon) for Key Energy, LLC (applicant) in general conformance with American Society for Testing and Materials (ASTM) E1527-13 and E1527-21. The following sections present our findings and provide our opinion as to the presence of recognized environmental conditions (REC) on the subject property.

Figure 1 Vicinity



1.1 Purpose and Definitions

The applicant requested this assessment and will use the information for the purpose of purchasing the subject property. The purpose of this Phase I ESA was to determine if there are RECs on the subject property, taking into account commonly and reasonably ascertainable information and to qualify for Landowner Liability Protections under the Brownfields Amendments to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Recognized Environmental Condition

A REC is defined pursuant to ASTM E1527-21 as,

> "(1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment;
>
> (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or
>
> (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment."

As stated in ASTM E1527-21,

> "likely is that which is neither certain nor proved, but can be expected or believed by a reasonable observer based on the logic and/or experience of the environmental professional, and/or available evidence, as stated in the report to support the opinions given therein."

Controlled REC

A Controlled REC is defined pursuant to ASTM E1527-21 as,

> "recognized environmental condition affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities with hazardous substances or petroleum products allowed to remain in place subject to implementation of required controls (for example, activity and use limitations or other property use limitations)."

Historical REC

A Historical REC is defined pursuant to ASTM E1527-21 as,

> "a previous release of hazardous substances or petroleum products affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the subject property to any controls (for example, activity and use limitations or other property use limitations). A historical recognized environmental condition is not a recognized environmental condition."

De minimis

A *de minimis* condition is defined pursuant to ASTM E1527-21 as,

> "a condition related to a release that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. A condition determined to be a de minimis

condition is not a recognized environmental condition nor a controlled recognized environmental condition."

Property Use Limitation

A Property Use Limitation (PUL) is defined pursuant to ASTM E1527-21 as,

"a limitation or restriction on current or future use of a property in connection with a response to a release, in accordance with the applicable regulatory authority or authorities that allows hazardous substances or petroleum products to remain in place at concentrations exceeding unrestricted use criteria."

Significant Data Gap

A Significant Data Gap is defined pursuant to ASTM E1527-21 as,

"a data gap that affects the ability of the environmental professional to identify a recognized environmental condition."

Notable Finding

Although not defined by ASTM E1527-13 or E1527-21, Rincon utilizes the term *Notable Finding* for potential environmental concerns present at or possibly present at a property that do not specifically fit one of the above ASTM-defined situations, yet may impact current or future use of the subject property.

1.2 Scope of Services

The scope of services conducted during this study is outlined below:

- Performed a reconnaissance of the subject property to identify obvious indicators of the existence of hazardous materials.
- Observed adjacent or nearby properties from public thoroughfares in an attempt to see if such properties are likely to use, store, generate, or dispose of hazardous materials.
- Obtained and reviewed an environmental records database search to obtain information about the potential for hazardous materials to exist at the subject property or at properties located in the vicinity of the subject property.
- Reviewed files for the subject property and immediately adjacent properties as identified in the database report, as applicable.
- Reviewed the current United States Geological Survey (USGS) topographic map to obtain information about the subject property and regional topography and uses of the subject property and surrounding sites.
- Reviewed additional pertinent record sources (e.g., California Geologic Energy Management Division [CalGEM] records, online databases of hazardous substance release sites), as necessary, to identify the presence of RECs at the subject property.
- Reviewed the California State Water Resources Control Board (SWRCB) Statewide Per- and Polyfluoroalkyl Substances (PFAS) Investigation online Public Map Viewer regarding current PFAS orders issued to facilities located in the vicinity of the subject property.

- Reviewed reasonably ascertainable historical resources (e.g., aerial photographs, topographic maps, fire insurance maps, city directories) to assess the historical land use of the subject property and adjacent properties.
- Provided a user interview questionnaire to a representative of the applicant, the user of the Phase I ESA.
- Provided property owner interview questionnaires to the property owners or designated subject property representatives identified to Rincon by the applicant.
- Conducted interviews with other property representatives (e.g., key site manager, occupants), as applicable.
- Reviewed available applicant-provided information (e.g., previous environmental reports, title documentation).
- Requested Title Search Information Reports from the User of the report.

1.3 Significant Assumptions, Limitations, Deviations, Exceptions, Special Terms, and Conditions

This work is intended to adhere to good commercial, customary, and generally accepted environmental investigation practices for similar investigations conducted at this time and in this geographic area. No guarantee or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from a site reconnaissance, review of an environmental database report, specified regulatory records and historical sources, and comments made by interviewees. This report is not intended as a comprehensive site characterization and should not be construed as such. Standard data sources relied upon during the completion of Phase I ESAs may vary with regard to accuracy and completeness. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research.

Rincon has not found evidence that hazardous materials or petroleum products exist at the subject property at levels likely to warrant mitigation. Rincon does not under any circumstances warrant or guarantee that not finding evidence of hazardous materials or petroleum products means that hazardous materials or petroleum products do not exist on the subject property. Additional research, including surface or subsurface sampling and analysis, can reduce the applicant's risks, but no techniques commonly employed can eliminate these risks altogether.

In addition, pursuant to ASTM E1527-13 and E1527-21 practice, our scope of services did not include any inquiries with respect to asbestos-containing building materials unrelated to releases into the environment; biological agents; cultural and historic resources; ecological resources; endangered species; health and safety; indoor air quality unrelated to releases of hazardous substances or petroleum products into the environment; industrial hygiene; lead-based paint unrelated to releases into the environment; lead in drinking water; mold or microbial growth conditions; polychlorinated biphenyl (PCB)-containing building materials (e.g., interior fluorescent light ballasts, paint, and caulk); naturally-occurring radon; regulatory compliance; substances not defined as hazardous substances (including some substances sometimes generally referred to as emerging contaminants) unless or until such substances are classified as a CERCLA hazardous substance; and wetlands.

1.4 ASTM Deviations

Deviations from ASTM E1527-13 and E1527-21 practice were not encountered during the completion of this Phase I ESA. A lien search was not completed as part of this assessment; however, one was requested from the user.

1.5 User Reliance

The applicant has requested this assessment and will use the information for the purpose of purchasing or acquiring and developing the subject property. This Phase I ESA was prepared for use solely and exclusively by the applicant and the County of Fresno. No other use or disclosure is intended or authorized by Rincon. Also, this report is issued with the understanding that it is to be used only in its entirety. It is intended for use only by the applicant and the County of Fresno, and no other person or entity may rely upon the report without the express written consent of Rincon.

1.6 Site Description

Location

The subject property is a 309-acre property located southeast of the intersection of West Jayne Avenue and South Lake Avenue in Fresno County, California (Figure 2). The property is identified as Assessor Parcel Numbers (APNs) 085-040-58S (northern property) and APNs 085-040-36S and -37S (southern property).

Subject Property and Vicinity General Characteristics

The northern property (APN 085-040-58S) is recently planted agricultural land and an orchard. The southern property (APNs 085-040-36S and -37S) is currently vacant land.

The subject property is located in an area that is primarily composed of agricultural, solar, electrical, and vacant land uses. Properties in the vicinity of the subject property include vacant land, agricultural land, solar arrays, and an electrical substation. The current adjacent land uses are described in Table 1 and depicted on Figure 3.

Table 1 Current Uses of Adjacent Properties

Area	Use
Northern Properties	West Jayne Avenue and an electrical substation followed by agricultural land, an orchard, a solar array, and the Pacific Gas & Electric (PG&E) Gates Substation
Eastern Properties	Dirt road followed by agricultural and vacant land
Southern Properties	Dirt road followed by agricultural land
Western Properties	Dirt road followed by agricultural land, solar array, and vacant land

Figure 2 Subject Property

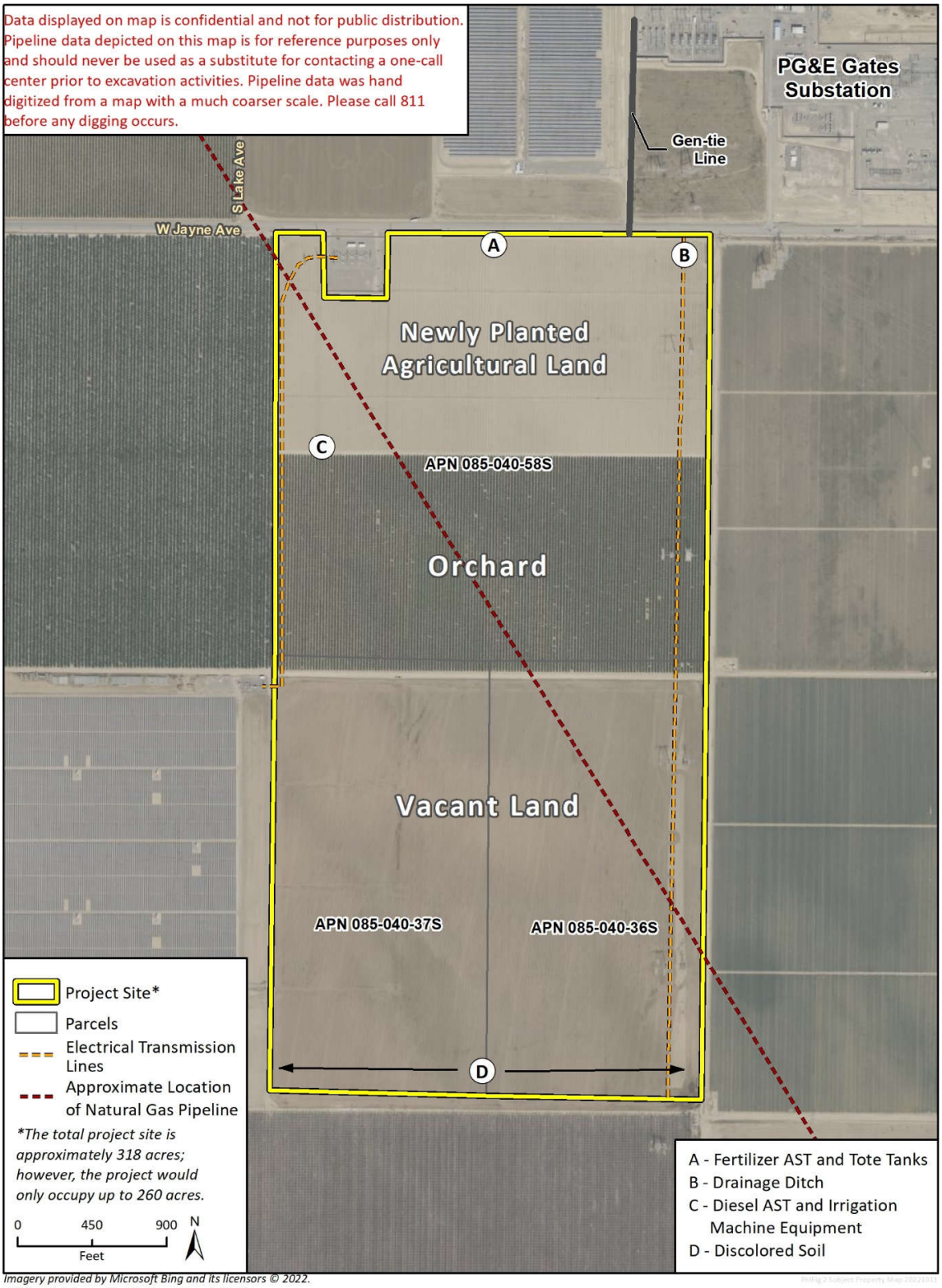
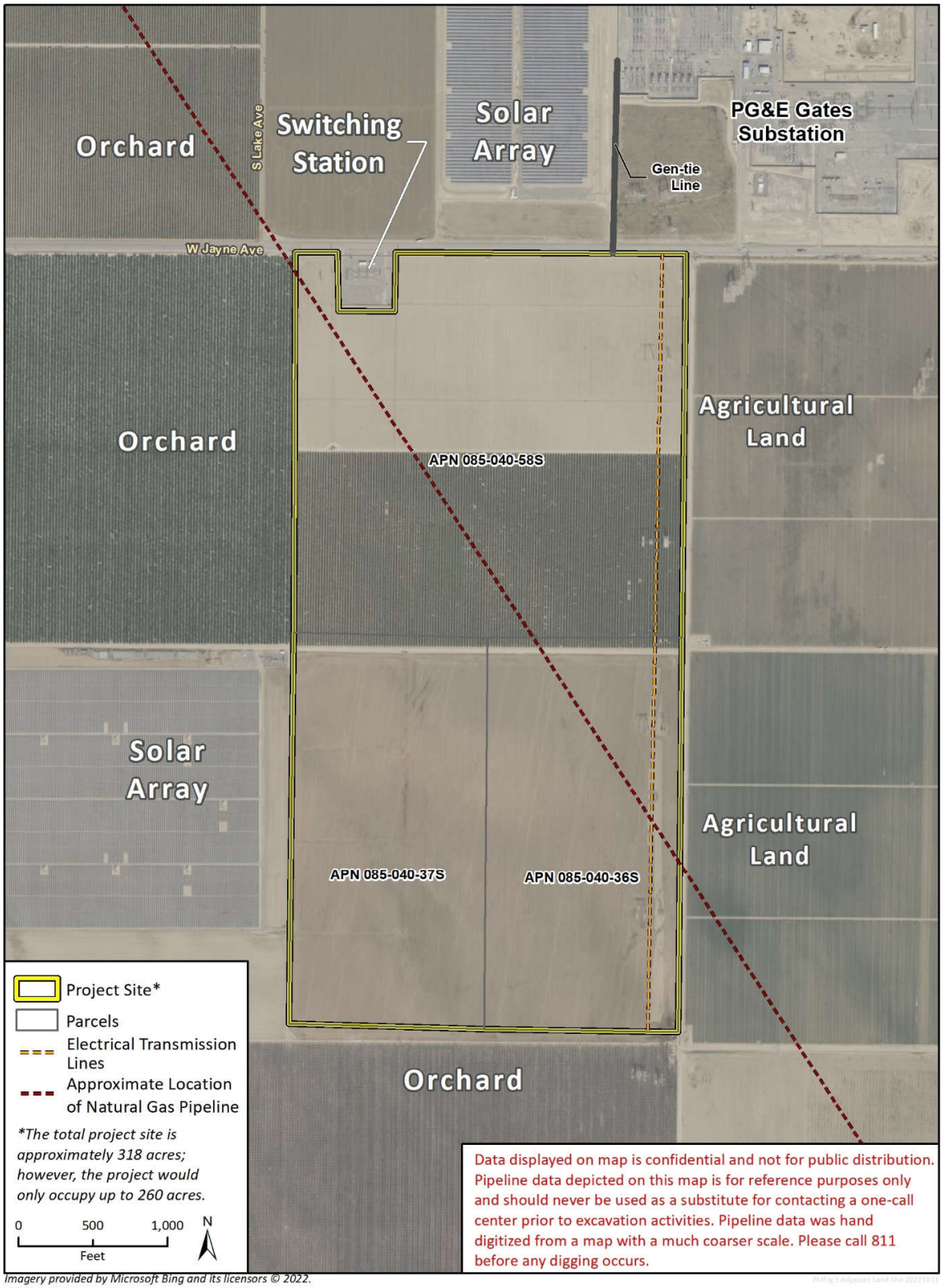


Figure 3 Adjacent Land Use



Imagery provided by Microsoft Bing and its licensors © 2022.
Additional data provided by Fresno County, 2021.

Descriptions of Structures, Roads, and Other Improvements on the Subject Property

During the site reconnaissance, no structures, roads, or other improvements were observed on the subject property. Access to the subject property is available from a driveway on dirt roads branching off from West Jayne Avenue.

The following utility providers service the area in which the subject property is located:

- Electrical and Natural Gas Service – PG&E
- Water Service – Westlands Water District
- Sewer Service – Unknown
- Solid Waste Service – Mid Valley Disposal

2 User-Provided Information and Responsibilities

2.1 Review Land Title Records and Judicial Records for Environmental Liens and Activity and Use Limitations

Rincon requested title search information reports from the User of the report. Pursuant to ASTM E1527-21,

> "the title search information reports shall identify environmental covenants, environmental easements, land use covenant and agreements, declaration of environmental land use restrictions, environmental land use controls, environmental use controls, environmental liens, or any other recorded instrument that restricts, affects, or encumbers the title to the subject property due to restrictions or encumbrances associated with the presence of hazardous substances or petroleum products. Title search information reports shall review land title records for documents recorded between 1980 and the present. If judicial records are not reviewed, the title search information report shall include a statement providing that the law or custom in the jurisdiction at issue does not require a search for judicial records in order to identify environmental liens."
>
> As stated in ASTM E1527-21 it is the "user's responsibility to search for environmental liens and activity and land use limitations (AULs)." This is in "addition to the environmental professional's search of institutional control and engineering control registries described in" ASTM E1527-21 Section 8.2.

A copy of the title search information records provided by the User is included in Appendix A.

2.2 User Questionnaires

As described in ASTM E1527-13 Section 6 and E1527-21 Section 6, User Questionnaires as provided by ASTM E1527-13 Appendix X3 and E1527-21 Appendix X3 were provided to the applicant. The purpose of the User Questionnaire is for the User of the Phase I ESA to provide actual knowledge pertaining to the subject property to help identify RECs. Completed questionnaires are included as Appendix A.

Parcel 085-040-58S (Northern Property)

Sean Wazlaw, Project Director for Key Energy Storage, LLC, completed the User Questionnaire pertaining to Parcel 085-040-58S (Northern Property) on February 10, 2022.

Based on our review of the completed questionnaire, Mr. Wazlaw indicated the following:

- The Phase I ESA is being conducted to fulfill County of Fresno permitting requirements and for due diligence purposes.
- A purchase transaction is planned for the parcel.

- The parcel is under the Williamson Act.
- The parcel has been used for agricultural purposes.

Based on our review of the completed questionnaire, Mr. Wazlaw reviewed the following sources of information and is unaware of information regarding the following:

- Recorded land title records (or judicial records, where appropriate) that identify any environmental liens filed or recorded against the subject property
- Title Report that identifies information pertaining to environmental cleanup liens or AULs for the subject property

Based on our review of the completed questionnaire, Mr. Wazlaw is unaware of information regarding the following:

- Specialized knowledge or experience related to the subject property or nearby properties
- Reduction in value for the subject property relative to any known environmental issues
- Obvious indicators that point to the presence or likely presence of releases at the subject property
- Pending, threatened, or past litigation relevant to hazardous substances or petroleum products, in, on, or from the subject property
- Pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the subject property
- Notice from any government entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products

The following document regarding Parcel 085-040-58S was provided by the applicant:

- *Condition of Title, Parcel 085-040-58* prepared by Fidelity National Title and dated May 7, 2021 – The following easements were identified:
  - "Two pipelines for transportation of oil, gas, water, and/or other substances" to Superior Oil Company
  - "An anchor and guy wires and cables for supporting a pole line" to PG&E
  - "A line of poles to PG&E
  - "Two independent lines of towers" to PG&E
  - "A pipeline for conveying gas" to PG&E
  - "Electric transmission lines, consisting of one or more lines of towers, poles, and/or other structures" to PG&E
  - "A line of poles, etc." to PG&E

Parcels 085-040-36S and -37S (Southern Property)

Sean Wazlaw, Project Director for Key Energy Storage, LLC, completed the User Questionnaire pertaining to Parcels 085-040-36S and -37S (Southern Property) on February 10, 2022.

Based on our review of the completed questionnaire, Mr. Wazlaw indicated the following:

- The Phase I ESA is being conducted to fulfill County of Fresno permitting requirements and for due diligence purposes.

- A purchase transaction is planned for the parcels.
- The parcels are under the Williamson Act.
- The purchase price is higher than the fair market value of the parcels.
- The parcels have been used for agricultural purposes.

Based on our review of the completed questionnaire, Mr. Wazlaw reviewed the following sources of information and is unaware of information regarding the following:

- Recorded land title records (or judicial records, where appropriate) that identify any environmental liens filed or recorded against the subject property
- Title Report that identifies information pertaining to environmental cleanup liens or AULs for the subject property

Based on our review of the completed questionnaire, Mr. Wazlaw is unaware of information regarding the following:

- Specialized knowledge or experience related to the subject property or nearby properties
- Reduction in value for the subject property relative to any known environmental issues
- Obvious indicators that point to the presence or likely presence of releases at the subject property
- Pending, threatened, or past litigation relevant to hazardous substances or petroleum products, in, on, or from the subject property
- Pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the subject property
- Notice from any government entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products

The following document regarding Parcels 085-040-36S and -37S was provided by Key Energy Storage, LLC:

- *Condition of Title, Parcels 085-040-36 and -37* prepared by Chicago Title Insurance Company and dated May 24, 2021 – The following easements were identified:
  - "Pipelines" to Shell Oil Company
  - "Pipelines and public utilities" to Super Oil and Company
  - "Maintenance for lines and wires" to PG&E
  - "Maintenance of pipelines" to PG&E
  - "Maintenance of piles and wires" to PG&E
  - "Maintenance of poles and wires" to PG&E
  - "Water pipes" to Westlands Water District
  - "Ingress and egress for repairs and maintenance" to Westlands Solar Farms, LLC

2.3 User-Provided Information of Concern

Based on the information obtained during our review of user-provided documents, the following conditions have the potential to impact the subject property:

- Onsite agricultural use
- Onsite petroleum and natural gas pipelines

3 Records Review

3.1 Physical Setting Sources

Topography

The current USGS topographic map (La Cima, Avenal, Guijarral Hills, Huron Quadrangles 2015) indicates that the subject property is situated at an elevation of approximately 440 feet above mean sea level with topography sloping down to the east. A copy of the current USGS topographic map is included in Appendix B (ERIS 2022, page 17).

Geology and Hydrogeology

According to the current USGS Geologic Map (Coalinga and Guijarral Hills Quadrangles 2007), the subject property is underlain by surficial sediments described as "alluvial gravel, sand, and clay of valley areas."

During the preparation of this Phase I ESA, we reviewed the California SWRCB's online GeoTracker database to determine groundwater flow direction in the vicinity of the subject property. Groundwater is reported to be expected at greater than 300 feet below ground surface at a site located 4.72 miles to the north-northeast of the subject property (Central Valley RWQCB 2016). Information pertaining to groundwater flow direction was not available.

3.2 Government Record Sources

Rincon obtained a regulatory database search from Environmental Risk Information Services (ERIS). The results of the regulatory database search include records of sites that generate, store, treat, or dispose of hazardous materials and sites for which a hazardous material release incident has occurred. The regulatory database search was conducted for the subject property and included data from surrounding sites within specified radii of the property. A copy of the database report, which specifies the ASTM E1527-13 and ASTM E1527-21 search distance for each public list, is included as Appendix B. As shown on the database report, federal, state, and county lists were reviewed as part of the research effort. Please refer to Appendix B for a complete listing of sites reported by ERIS and a description of the databases reviewed.

The Map Findings Summary, included in the database report, provides a summary of the databases searched, the number of reported facilities within the search radii, and whether the facility is located onsite or adjacent to the subject property. The following information is based on our review of the Map Findings Summary and the information contained in the database report.

Subject Property

The subject property was not listed on any of the regulatory databases reviewed.

Offsite Properties

Offsite properties listed in the database report fall under two general categories of databases: those reporting unauthorized releases of hazardous substances (e.g., Leaking Underground Storage Tank [LUST], National Priority List [a.k.a. Superfund sites], and corrective action facilities), and those

reported as businesses permitted to use hazardous materials or generate hazardous wastes, for which an unauthorized release has not been reported to a regulatory agency.

Rincon reviewed the database maps and select detailed listings to evaluate their potential to impact the subject property, based on the following factors:

- Reported distance of the facility from the subject property;
- The nature of the database on which the facility is listed, and/or whether the facility was listed on a database reporting unauthorized releases of hazardous materials, petroleum products, or hazardous wastes;
- Reported case type (e.g., soil only, failed underground storage tank [UST] test only);
- Reported substance released (e.g., chlorinated solvents, gasoline, metals);
- Reported regulatory agency status (e.g., case closed, "no further action"); and,
- Location of the facility with respect to the reported groundwater flow direction (discussed in the Geology and Hydrogeology section of this report)

Facilities/properties that were interpreted by Rincon to be of potential environmental concern to the subject property, based on one or more of the factors listed above, are summarized in Table 2. In accordance with ASTM E1527-13 and E1527-21, contamination migration pathways in soil, groundwater, and soil vapor were considered in our analysis of offsite properties of potential environmental concern.

Orphan Listings

No orphan or unmapped site listings were reported in the database report.

Table 2 Database Listing Summary of Select Sites Within One-Eighth Mile of the Subject Property

Site Name	Database Site ID	Site Address	Distance from Subject Property	Database Reference	Comments
Adjacent Properties					
Century Link – Huron / PG&E: West Gates Solar Station/Level 3 Communications, LLC	1	18364 West Jayne Avenue	Adjacent Property – Northeast	CERS HAZ	Identified as a Chemical Storage Facility. Violations noted; all returned to compliance.
				CUPA FRESNO	Identified as a Small Hazardous Materials Handler
				EMISSIONS	No pertinent information provided.
PG&E: Gates Substation	2	18336 West Jayne Avenue	Adjacent Property – Northeast	AST SWRCB	One 3,000-gallon aboveground storage tank (AST) listed in 2003, 2006, and 2007; contents not specified.
				DELISTED CTNK	One delisted petroleum tank as of May 6, 2019

Regulatory agency information reviewed for the listings in the table above are summarized in the Review of Agency Files section of this report.

AST SWRCB: SWRCB Historical ASTs

CERS HAZ: California Environmental Reporting System (CERS) Hazardous Waste Sites

CUPA FRESNO: Certified Unified Program Agency of Fresno County

DELISTED CTNK: Delisted CERS Tanks

EMISSIONS: Toxic Pollutant Emissions Facilities

3.3 Review of Agency Files

As a follow-up to the database search, Rincon reviewed regulatory information for the subject property and facilities within the specified search radii that were interpreted to have the potential to impact the subject property, based on one or more factors previously discussed (e.g., distance, open case status, upgradient location, soil vapor migration).

The following is a summary of our review of regulatory information obtained from online sources (e.g., SWRCB GeoTracker database, Department of Toxic Substances Control [DTSC] EnviroStor database, local fire department) and/or files requested from the applicable regulatory agency, as described below.

Subject Property

The subject property was not listed in any of the databases searched or the online databases reviewed; therefore, records regarding the subject property were not requested from regulatory agencies.

Adjacent Properties

Two adjacent properties were listed in databases searched. However, based on the records reviewed and the lack of reported releases, these adjacent properties are not expected to impact the subject property.

Nearby Properties

No nearby properties were listed in databases searched.

3.4 Review of State of California Geologic Energy Management Division (CalGEM) Records

A review of the CalGEM Online Mapping System indicates that no oil wells are located on the subject property or adjacent properties, or within 0.25 mile of the subject property (CalGEM 2022). Additionally, the Guijarral Hills Oil Field is located approximately 1.5 miles to the west of the subject property.

3.5 Review of National Pipeline Mapping System Records

A review of the National Pipeline Mapping System (NPMS) online Public Map Viewer indicates that a natural gas transmission pipeline traverses the subject property, trending northwest to southeast. The pipeline is reported to be an active PG&E natural gas pipeline, and is reportedly 46.35 miles long (United States Department of Transportation [US DOT] 2022). In addition, a 9.71-mile active PG&E natural gas pipeline and a 67.49 mile active Crimson Pipeline crude oil pipeline are located approximately 330 feet north of the subject property (US DOT 2022).

3.6 Review of California Statewide PFAS Investigation

Beginning in 2019, the California SWRCB sent assessment requirements to property owners of sites that may be potential sources of PFAS. These sites currently include select landfills, airports, chrome plating facilities, publicly owned treatment works facilities, Department of Defense sites, and bulk fuel storage terminals and refineries. According to the SWRCB, "PFAS are a large group of human-made substances that do not occur naturally in the environment and are resistant to heat, water, and oil" (SWRCB 2022).

Our February 9, 2022, review of the California Statewide PFAS Investigation online Public Map Viewer indicates that there are no current chrome plating, airport, landfill, publicly owned treatment works or Department of Defense facilities with PFAS orders listed as located within 0.5 mile of the subject property (SWRCB 2022). Based on our review of the SWRCB's March 12, 2021, Bulk Fuel Terminal/Refinery Investigative Order, the subject property is not listed on the Bulk Fuel Storage Terminals and Refineries List (Attachment 1 of the Order). In addition, none of the Bulk Fuel Storage Terminals or Refineries on the list are located within 0.5 mile of the subject property (SWRCB 2021).

Our February 9, 2022, review of the California Statewide Drinking Water System Quarterly Testing Results online Public Map Viewer indicates that drinking water wells within 40 miles of the subject property have not been tested for perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) (SWRCB 2022).

3.7 Records Review Information of Concern

Based on the information obtained during our records review documented above, the following conditions have the potential to impact the subject property:

Subject Property

- Onsite active PG&E natural gas pipeline

Nearby Properties

- Nearby active PG&E natural gas pipeline and active Crimson crude oil pipeline

4 Historical Records

The historical records review completed for this Phase I ESA includes aerial photographs, topographic maps, fire insurance maps, and city directories as detailed in the following sections. Copies of the historical resources reviewed are included in Appendix C. Table 3 provides a summary of the historical use information available for the subject property and adjacent properties.

4.1 Methodology

Review of Aerial Photographs

Aerial photographs from ERIS's aerial photograph collection were obtained (1942-2020). In addition, a current aerial photograph from Google Earth was reviewed. The aerial photographs were reviewed on February 9, 2022.

Review of Historical Topographic Maps

Historical topographic maps from ERIS's map collection were obtained (1930-2015). The historical topographic maps were reviewed on February 9, 2022.

Review of City Directory Listings

ERIS was contracted to provide copies of city directory listings for the subject property. The city directory listings were reviewed on February 9, 2022.

Review of Fire Insurance Maps

As indicated in the attached report, fire insurance maps were not available for the subject property or adjacent properties.

Review of City Building Permit Records

Based on the sufficient amount of information obtained from the above sources, building permit records were not reviewed.

Other Historical Sources

Based on the sufficiency of historical information obtained for the purposes of this report, no additional historical sources were reviewed.

4.2 Summary of Subject Property and Adjacent Historical Uses

Table 3 Historical Use of the Subject Property and Adjoining Properties

Year	Source	Subject Property Use	Adjoining Property Use
1930	Topographic Map (TM)	Southern boundary is vacant land with a dirt road. No coverage for remainder of subject property.	North (N): No coverage East (E): Vacant land on southern portion South (S): Vacant land West (W): vacant land on southern portion
1933	TM	No coverage for southern boundary. Remainder of subject property is vacant land with dirt road.	N: Vacant land with dirt road E: vacant land S: No coverage W: No coverage for southern portion. Remainder is vacant land
1934	TM	Southern boundary is vacant land with a dirt road. No coverage for remainder of subject property.	N: No coverage E: Vacant land on southern portion S: Vacant land with dirt road (identified as The Washboard) W: Southern portion is vacant land
1936, 1937	TM	No coverage for southern boundary. Remainder of subject property is vacant land with dirt road.	N: West Jayne Avenue followed by vacant land with dirt road E: vacant land S: No coverage W: No coverage for southern portion. Remainder is vacant land
1942	TM	Vacant land	N: Road followed by vacant land with dirt road E: Vacant land S: Dirt road and vacant land (identified as The Washboard) W: Vacant land
1942	Aerial Photograph (AP)	Undeveloped land	N: Road followed by undeveloped land with dirt road E: Undeveloped land with dirt road S: Undeveloped land with dirt road W: Undeveloped land
1950, 1954	TM	Southern boundary is vacant land with a dirt road. No coverage for remainder of subject property.	N: No coverage E: Vacant land on southern portion (1954 TM shows one well and one AST to southeast) S: Vacant land with dirt road (identified as The Washboard) W: Southern portion is vacant land
1955	AP	**Agricultural land use** on northern portion; southern portion appears to be cleared land	N: Road followed by agricultural and vacant land, substation visible to northeast E: Agricultural and vacant land S: Undeveloped land W: Vacant land

Year	Source	Subject Property Use	Adjoining Property Use
1956	TM	No coverage for southern boundary. Remainder of subject property is vacant land with dirt road extending south from West Jayne Avenue leading to a **well**. Electrical transmission lines are present along the eastern boundary trending in the north-south direction and leading to northeastern Gates Substation.	N: West Jayne Avenue followed by vacant land. Electrical transmission lines extending northeast to Gates Substation E: Vacant land S: No coverage W: No coverage for southern portion. Remainder is vacant land identified as The Washboard
1965	AP	Northern portion is **agricultural land.** Southern portion is disturbed land. Electrical transmission lines visible along eastern boundary.	N: Road followed by agricultural land use (appears to be dry farming). Electrical transmission lines visible on eastern portion E: Northern portion is agricultural land. Southern portion is vacant land with inundated areas visible) S: Vacant land. Nearby AST visible to southeast. W: Majority is agricultural land (row crops) and small orchard on eastern boundary
1971	TM	Vacant land with dirt road extending south from West Jayne Avenue leading to a **well**. Electrical transmission lines are present along the eastern boundary trending in the north-south direction and leading to northeastern Gates Substation.	N: West Jayne Avenue followed by vacant land. Pipeline identified to northeast, and electrical transmission lines extending northeast to Gates Substation E: Dirt road followed by vacant land S: Vacant land with electrical transmission lines trending in the northeast-southwest direction. Well and tank to southeast. Identified as The Washboard W: Vacant land identified as The Washboard
1971	AP	**Agricultural land.** Electrical transmission lines visible on eastern portion.	N: West Jayne Avenue followed by vacant land. Substation visible to northeast. E: Agricultural and vacant land S: Undeveloped land. AST visible to southeast. W: Agricultural land and small orchard
1978	TM	Southern boundary is vacant land with electrical transmission line along eastern boundary. No coverage for remainder of subject property.	N: No coverage E: Southern portion is vacant land with dirt roads S: Vacant land with electrical transmission lines trending in the northeast-southwest direction. Well and tank to southeast. Identified as The Washboard W: Southern portion is vacant land
1981, 1994	AP	**Agricultural land (orchard)** is present in southwestern corner in 1994, electrical transmission lines are visible on eastern portion and **possible well area visible on western boundary.**	N: West Jayne Avenue followed by vacant land. Substation visible to northeast. E: Agricultural (orchard) and vacant land. Electrical transmission lines visible, trending southeast to northwest. S: Undeveloped land. AST visible to southeast in 1981, removed by 1994. W: Agricultural land

Year	Source	Subject Property Use	Adjoining Property Use
2004	AP	Northern portion is **agricultural.** Southern portion appears to be fallow. Electrical transmission lines visible on eastern boundary.	N: West Jayne Avenue followed by agricultural land. Substation to northeast. E: Agricultural land. Electrical transmission lines visible, trending southeast to northwest. S: Vacant land W: Agricultural and vacant land
2005, 2006	AP	**Agricultural land**. Electrical transmission lines visible on eastern boundary.	N: West Jayne Avenue followed by agricultural land. Substation to northeast. E: Agricultural land. Electrical transmission lines visible, trending southeast to northwest. S: Agricultural land (vacant land in 2006) W: Agricultural land
2010	AP	Northern portion is **agricultural.** Southern portion appears to be cleared. Electrical transmission lines visible on eastern boundary.	N: West Jayne Avenue followed by agricultural land. Substation to northeast. E: Agricultural land. Electrical transmission lines visible, trending southeast to northwest. S: Agricultural land W: Agricultural and vacant land
2012	AP	**Agricultural land**. Electrical transmission lines visible on eastern boundary.	N: West Jayne Avenue followed by agricultural land. Substation to northeast. E: Agricultural land. Electrical transmission lines visible, trending southeast to northwest. S: Agricultural land W: Agricultural land
2014	AP	Northern portion is **agricultural**. Southern portion appeared to be cleared. Inundated area visible, possibly for grazing animals. Electrical transmission lines visible on eastern boundary.	N: Substation visible south of West Jayne Avenue, followed by West Jayne Avenue, agricultural land, a solar array, and substation to the northeast (current configuration). E: Agricultural land. Electrical transmission lines visible, trending southeast to northwest. S: Agricultural land W: Agricultural land on northern portion. Solar array on southern portion (current configuration).
2016	AP	Similar to 2014 AP.	N: Similar to 2014 AP E: Fallow agricultural land. Electrical transmission lines visible, trending southeast to northwest. S: Similar to 2014 AP W: Similar to 2014 AP
2016	City Directory	Not listed.	N: PG&E W: Westlands Solar Farm
2018, 2020, 2021	AP	Similar to 2016 AP.	N: Similar to 2016 AP E: Agricultural land. Electrical transmission lines visible, trending southeast to northwest. S: Similar to 2016 AP W: Similar to 2016 AP

*__Bold__ listings indicate commercial/industrial uses with the potential to impact the subject property

4.3 Gaps in Historical Sources

Several gaps of greater than five years were identified in the historical records reviewed, from 1942 to 1950, from 1956 to 1965, from 1965 to 1971, from 1971 to 1978, from 1981 to 1994, and from 1994 to 2004. These gaps are considered insignificant because the subject property use appears to be similar prior to and following the gaps.

4.4 Historical Use Information of Concern

Based on Table 3 above, the following historical uses of the subject property have the potential to impact the subject property:

- Agricultural land use
- Groundwater well

5 Interviews

Rincon performed interviews regarding the subject property and surrounding areas. The purpose of the interviews was to discuss current and historical conditions and to obtain information indicating the presence of RECs in connection with the subject property.

5.1 Interview Summary

Interview with Owners

Interview questionnaires were provided to the property owners prior to the site reconnaissance. The following completed questionnaires were returned to Rincon.

Parcels 085-040-36S and -37S

Rebecca Kaser, Trustee for the Rebecca L Avellar Living Trust, completed the Owner Questionnaire. A copy of the completed questionnaire is included in Appendix A. The following information is based on our review of the completed questionnaire.

Ms. Kaser indicated the following:

- Parcels 085-040-36S and -37S were formerly used for farming and are currently fallow agricultural land.
- Adjacent properties have been used for agricultural and solar land use.
- Rebecca L Avellar Living Trust has owned Parcels 085-040-36S and -37S since April 1, 2021.
- Boyce Land Co., Inc. was the former subject property owner.
- As of April 1, 2021, all Product Use Reports for pesticide/herbicide application for Parcels 085-040-36S and -37S are on file with the county.

Ms. Kaser indicated that she is unaware of the presence of industrial drums, storage tanks (above or below ground), fill dirt, pits, ponds, lagoons, sumps, clarifiers, solvent degreasers, stained soil, vent pipes, fill pipes, or access ways, stained surfaces, private wells, non-public water systems, transformers, capacitors, or hydraulic equipment, or records indicating the presence of polychlorinated biphenyls.

Ms. Kaser indicated that she is not aware of any pending, threatened, or past litigation or administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the subject property. In addition, she is not aware of any notice from any government entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products at the subject property.

Ms. Kaser provided the following document pertaining to Parcels 085-040-36S and -37S:

- *CLTA Standard Coverage Policy of Title Insurance* prepared by Old Republic National Title Insurance Company and dated April 1, 2021 – This document indicates that the following easements pertaining to hazardous materials or petroleum products are associated with Parcels 085-040-36S and -37S:
    - Shell Oil Company for “pipe lines”

- Superior Oil and Company for “pipe lines and public utilities”
- PG&E for “maintenance of lines and wires”
- PG&E for “maintenance of pipe lines”
- PG&E for “maintenance of poles and wires”
- Westlands Water District for “water pipes”
- Westlands Solar Farms, LLC for “ingress and egress for repairs and maintenance”

Parcel 085-040-58S

John Dresick, Vice President of Operations with Dresick Farms, Inc., completed the Owner Questionnaire. A copy of the completed questionnaire is included in Appendix A. The following information is based on our review of the completed questionnaire.

Mr. Dresick indicated the following:

- Parcel 085-040-58S was formerly and is currently used for farming.
- Adjacent properties have been used for agricultural and solar/substation land use.
- Ann Dresick Family Trust has owned Parcel 085-040-58S since 2000.
- Pesticides and/or herbicides are used on Parcel 085-040-58S for farming; a Material Use Report is available upon request.

Mr. Dresick indicated that he is unaware of the presence of industrial drums, storage tanks (above or below ground), fill dirt, pits, ponds, lagoons, sumps, clarifiers, solvent degreasers, stained soil, vent pipes, fill pipes, or access ways, stained surfaces, private wells, non-public water systems, transformers, capacitors, or hydraulic equipment, or records indicating the presence of polychlorinated biphenyls.

Mr. Dresick indicated that he is not aware of any pending, threatened, or past litigation or administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the subject property. In addition, he is not aware of any notice from any government entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products at the subject property.

Interview with Site Manager

A site manager was not identified to Rincon.

Interviews with Occupants

Because the subject property is currently vacant and agricultural land, no occupants were interviewed as part of this research effort.

Interviews with Local Government Officials

Based on the sufficient information obtained from various sources, no local government officials were interviewed as part of this Phase I ESA.

Interviews with Others

Rincon did not attempt to interview neighboring property owners or others as part of this Phase I ESA.

5.2 Interview Information of Concern

Based on the information obtained during interviews, the following concerns have the potential to impact the subject property:

- Onsite agricultural use and use of pesticides/herbicides
- Onsite petroleum and natural gas pipelines

6 Site Reconnaissance

Rincon performed an unaccompanied reconnaissance of the subject property on February 11, 2022. The purpose of the reconnaissance was to observe existing subject property conditions and to obtain information indicating the presence of RECs in connection with the subject property.

6.1 Methodology and Limiting Conditions

The site reconnaissance was conducted by:

1. Observing the subject property from public thoroughfares,
2. Observing the adjacent properties from public thoroughfares, and
3. Observing the subject property from driveways, roads, and walking paths.

Because of the large size of the subject property, several transects were completed across the subject property.

6.2 General Subject Property Information

Current Use of the Property and Adjacent Properties

The northern portion of Parcel 085-040-58S is currently newly planted agriculture, while the southern portion of Parcel 085-040-58S is currently an orchard. Parcels 085-040-36S and 085-040-37s are currently vacant land. Adjacent properties include orchards, a switching station, solar arrays, fallow agricultural land, and a PG&E substation.

Past Use of the Property and Adjacent Properties

Based on our site reconnaissance, past uses at the subject property and adjacent properties are not readily apparent.

Current or Past Uses in the Surrounding Areas

The subject property is surrounded by agricultural, vacant and industrial land uses as detailed in the Site Description section of this report. It appears that adjacent properties were formerly used for agricultural purposes.

Geologic, Hydrogeologic, Hydrologic, and Topographic Conditions

Geologic, hydrogeologic, hydrologic, and topographic information are as previously stated in the Physical Setting Sources section of this report.

General Description of Structures

There are currently no onsite structures.

Roads

West Jayne Avenue is located to the north of the subject property. In addition, several dirt roads traverse the subject property in an east-west trending direction.

Potable Water Supply

Westlands Water District supplies potable water to the subject property.

Sewage Disposal System

No sewage disposal system is located at the subject property.

Stormwater Runoff

Surface water runoff was not apparent at the subject property. However, a small ditch was observed in the northeastern corner of the subject property.

6.3 Observations

Table 4 provides details regarding the observations noted during the site reconnaissance. Photographs 1 through 16 are shown below.

Table 4 Observations

Item	Observed	Photograph Number	Description
Hazardous Substances and Petroleum Products in Connection with Identified Uses	Yes	6	One container of sulfuric acid 989 observed on Parcel 085-040-58S, along northern boundary of subject property. No staining was observed. Two tote tanks (one labeled Soil Basics, plant food) observed on western portion of Parcel 085-040-58S, in the vicinity of Cal West Rain irrigation equipment. Slight staining was observed in the vicinity of the tote tanks.
Aboveground or Underground Storage Tanks	Yes	5	One AST of diesel observed on Parcel 085-040-58S. Staining was observed in the vicinity of the diesel AST.
Odors	No	Not Applicable (N/A)	None noted
Pools of Liquid	No	N/A	None observed
Drums	No	N/A	None observed
Hazardous Substances and Petroleum Products Containers Not in Connection with Identified Uses	No	N/A	None observed
Unidentified Substance Containers	No	N/A	None observed
Indications of PCBs	Yes	4	Pole-mounted transformers observed on electric transmission line poles
Heating/Cooling Systems	No	N/A	None observed

Item	Observed	Photograph Number	Description
Stains or Corrosion	No	N/A	None observed
Drains, Clarifiers, and Sumps	No	N/A	None observed
Degreasers/Parts Washers	No	N/A	None observed
Pits, Ponds, and Lagoons	Yes	3	One ditch with municipal solid waste in the northeastern corner of subject property
Stained Soil or Stained Pavement	Yes	5, 11	Staining observed in the vicinity of the diesel AST. Several areas of discolored soil observed on the southern boundary of the subject property. According to information provided by Rebecca Kaser in an email dated February 17, 2022, the discolored soil is ash from burning tumbleweeds.
Stressed Vegetation	No	N/A	None observed
Solid Waste/Debris	Yes	3	Municipal solid waste observed in the drainage ditch in the northeastern corner of the subject property
Wastewater	No	N/A	None observed
Wells	Yes	N/A	Irrigation well and machinery observed on western portion of Parcel 085-040-58S
Septic Systems/Effluent Disposal Systems	No	N/A	None observed
Soil Piles	No	N/A	None observed
Fill Material	No	N/A	None observed

Photographs 1-4

Photograph 1. View of the northern portion of Parcel 085-040-58S.

Photograph 2. View of the electrical transmission lines along the eastern subject property boundary.

Photograph 3. View of the drainage ditch in the northeastern corner of the subject property.

Photograph 4. View of a pole-mounted transformer on the northwestern corner of the subject property.

Photographs 5-8

Photograph 5. View of the diesel AST and associated machinery observed on the western portion of Parcel 085-040-58S.

Photograph 6. View of the tote tanks, sulfuric acid AST, and associated irrigation equipment observed along the northern boundary of the subject property.

Photograph 7. View of orchards on southern portion of Parcel 085-040-58S.

Photograph 8. View of the Parcel 085-040-36S and the electrical transmission lines along the eastern boundary.

Photographs 9-12

Photograph 9. View of Parcel 085-040-36S.

Photograph 10. View of Parcel 085-040-37S.

Photograph 11. View of one of several areas of discolored soil observed on the southern boundary of Parcels 085-040-36S and 085-040-37S.

Photograph 12. View of Parcel 085-040-37S, facing east.

Photographs 13-16

Photograph 13. View of the northern adjacent PG&E substation, facing north across West Jayne Avenue.

Photograph 14. View of the eastern adjacent property, facing east.

Photograph 15. View of the southern adjacent orchard, facing south.

Photograph 16. View of the western adjacent solar array, facing west.

6.4 Site Reconnaissance Information of Concern

Based on the information obtained during the site reconnaissance, the following concerns have the potential to impact the subject property:

- Onsite agricultural use
- Onsite diesel AST and stained soil

7 Potential Vapor Migration

The database report and other resources were reviewed to identify nearby known or suspect contaminated sites that have the potential for contaminated vapor originating from the nearby sites to migrate beneath the subject property. Based on the ASTM E2600-15, *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions*, the following minimum search distances were initially used to determine if contaminated soil vapors from a nearby known or suspect contaminated site have the potential to be migrating beneath the subject property:

- 1/10 mile (528 feet) for petroleum hydrocarbons
- 1/3 mile (1,760 feet) for other contaminants of concern (COC)

Groundwater depth and flow direction is also utilized to determine risk of vapor migration. Groundwater in the vicinity of the subject property is reportedly present at greater than 300 feet, with an unknown direction of flow (Section 3.1).

If known or suspect contaminated sites are located:

- Onsite or adjacent to the subject property,
- Within 100 feet, or
- Within the above referenced distances from the subject property and upgradient or cross-gradient to the subject property,

Then online resources are reviewed to determine the extent of the contaminated plume at those sites.

The following describes search distances for contaminated plumes of petroleum hydrocarbons (30 feet from the subject property) and other COCs (100 feet from the subject property). Per ASTM E2600-15, vapors associated with impacted soil or groundwater present within these distances have the potential to migrate beneath the subject property.

7.1 Petroleum Hydrocarbons

Based on our review of the database report and other information as indicated above, there are no known or suspect petroleum hydrocarbon-impacted sites within 528 feet of the subject property. Therefore, per ASTM E2600-15, as this distance exceeds the 30-foot distance considered the critical distance wherein such migration may pose a threat to the subject property, there are no potential threats to the subject property posed by the potential migration of petroleum hydrocarbon vapors from listed sites.

However, it should be noted that one natural gas pipeline traverses the subject property. Additionally, one natural gas pipeline and one crude oil pipeline are located nearby the subject property.

7.2 Other COCs

Based on our review of the database report, there are no known or suspect sites impacted with other COCs within 1,760 feet of the subject property. Therefore, per ASTM E2600-15, as this

distance exceeds the 100-foot distance considered the critical distance wherein such migration may pose a threat to the subject property, there are no potential threats to the subject property posed by the potential migration of other COC vapors from listed sites.

7.3 Vapor Intrusion Information of Concern

Based on the information above, there are no vapor intrusion threats from petroleum hydrocarbons within 30 feet or other COCs within 100 feet of the subject property.

8 Evaluation

Rincon has performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-13 and E1527-21 for the Key Energy Storage site in Fresno County, California. Any exceptions to, or deletions from, this practice are described in the Deviations section of this report. This assessment has revealed the following Notable Findings in connection with the subject property, as detailed below in Table 5.

8.1 Significant Data Gaps

No significant data gaps were identified during the preparation of this report.

Table 5 Findings, Opinions, and Conclusions

No.	Finding	Opinion	Conclusion
1	Onsite agricultural use	According to the historical resources reviewed, the subject property and adjacent properties appear to have been used for agricultural purposes since at least 1955. Agriculture is typically associated with the use of pesticides, herbicides, insecticides, and arsenic. The legal and common application of such chemicals typically associated with historical agricultural uses may result in those compounds being present in soil and/or groundwater. Information regarding the possible historical use of herbicides and pesticides on the subject property was not available during this assessment. Therefore, if such chemicals were used and applied to land consistent with their intended use, this application is not considered a release and any residual environmental impact is exempt from CERCLA liability if the property remains used for agricultural or non-residential purposes. It is Rincon's understanding that the subject property will be redeveloped as a solar facility with limited grading and no soil will be transported offsite. As such, the use of the subject property for agricultural purposes is considered *de minimis.* However, if future redevelopment of the subject property involves a change in land use, additional assessment may be warranted.	De minimis
2	Onsite natural gas pipeline, and onsite petroleum and natural gas easements	According to the records reviewed, a natural gas pipeline traverses the subject property. Based on the proposed development of the subject property as a solar array, the onsite natural gas pipeline is considered a Notable Finding. Additionally, easements pertaining to petroleum and oil were identified in the Title Reports.	Notable Finding
3	Nearby natural gas and crude oil pipelines	According to the resources reviewed, a natural gas pipeline and crude oil pipeline are located nearby to the subject property. Because no releases have been reported, and based on the planned use of the subject property as a solar array with no planned habitable structures, the nearby pipelines are considered *de minimis.*	De minimis
4	Onsite tote tanks with staining	During the site reconnaissance, two tote tanks were observed along the northern portion of the subject property. Staining was observed in the vicinity of the tote tanks; however, because it appears that the tote tanks are associated with SoilBasics, a plant food/fertilizer, minor releases to the soil are not expected to impact the subject property, and are considered de minimis.	De minimis

No.	Finding	Opinion	Conclusion
5	Former onsite groundwater well	According to the historical resources reviewed, a groundwater well was formerly located along the western boundary of the subject property. If the property is to be redeveloped (involving grading) in the vicinity of the former well, confirmation that the groundwater well has been property abandoned may be warranted. Therefore, the former onsite groundwater well is considered a Notable Finding.	Notable Finding
6	Onsite diesel AST with stained soil	During the site reconnaissance, a diesel AST was observed on the western portion of northern Parcel 085-040-58S. Staining was observed in the vicinity of the diesel AST, indicative of minor releases associated with the diesel AST. Based on the proposed development of the subject property as a solar array, the diesel AST with stained soil is not expected to impact the subject property. However, if the AST and associated equipment is to be removed, impacted soil should also be removed from the subject property and disposed appropriately.	Notable Finding

9 References

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Central Valley Regional Water Quality Control Board (RWQCB). 2016. "Case Closure Summary Memorandum, Underground Storage Tank Leak, Huron Star Mart #11 (aka Texaco), 36509 Lassen Avenue, Huron, Fresno County, RB Case 5T10000502." February 23, 2016. https://documents.geotracker.waterboards.ca.gov/regulators/deliverable_documents/6335011363/Huron%20Star%20Mart%20Closure%20Memo.pdf (accessed February 2022).

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_____. 2022. Topographic Maps. February 3, 2022.

United States Department of Transportation (USDOT). 2022. "National Pipeline Mapping System (NPMS) Public Map Viewer." Pipeline and Hazardous Materials Safety Administration (PHMSA). Last modified: 2022. https://www.npms.phmsa.dot.gov/PublicViewer/ (accessed February 2022).

United State Geological Survey (USGS). Geologic Map. Coalinga and Guijarral Hills Quadrangles. 2007.

10 Signatures of Environmental Professionals

The qualified environmental professionals that are responsible for preparing the report include Ryan Thacher, Julie Lynne Welch, and Lauren Kodama Roenicke. Their qualifications are summarized in the following section.

"We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in 312.10 of 40 CFR 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312."

Signature	Date
Ryan Thacher, PhD, PE	Director, Site Assessment and Remediation
Name	Title

Signature	Date
Julie Lynne Welch	Director, Due Diligence
Name	Title

Signature	Date
Lauren Kodama Roenicke	Project Manager, Due Diligence
Name	Title

11 Qualifications of Environmental Consultants

The environmental consultants responsible for conducting this Phase I ESA and preparing the report include Ryan Thacher, Julie Lynne Welch, Lauren Kodama Roenicke, and Ethan Knox. Their qualifications are summarized below.

Environmental Professional Qualifications	X2.1.1 (2) (i) - Professional Engineer or Professional Geologist License or Registration, and 3 years of full-time relevant experience	X2.1.1 (2) (ii) - Licensed or certified by the Federal Government, State, Tribe, or U.S. Territory to perform environmental inquiries	X2.1.1 (2) (iii) – Baccalaureate or Higher Degree from and accredited institution of higher education in a discipline of engineering or science and the equivalent of 5 years of full-time relevant experience	X2.1.1 (2) (iii) – Equivalent of 10 years of full-time relevant experience
Ryan Thacher	PE		PhD Environmental Engineering	12 years
Julie Lynne Welch			BS Environmental Engineering	26 years
Lauren Kodama Roenicke			BS Environmental Studies	9 years
Ethan Knox			BS Environmental Management and Protection	4 months

Dr. Ryan Thacher, PE, is a Director of Site Assessment and Remediation with Rincon Consultants. He holds a Bachelor of Science degree in Chemical Engineering from the University of California, Santa Barbara and a Doctorate degree in Environmental Engineering from the University of Southern California. He has 12 years of experience conducting research related to chemical contaminant fate and transport in soil and groundwater and developing and implementing site assessments and remediation for contaminated sites in California, including the preparation of Phase I and Phase II Environmental Site Assessments. Dr. Thacher is a Professional Engineer (#87757) with the State of California.

Julie Lynne Welch serves as the Director of Rincon's Due Diligence team, which involves the execution of hundreds of Phase I and II ESAs annually. Ms. Welch has 26 years of professional experience in the field of environmental science and assessment, during which time she has managed and contributed to a variety of successful land use, water and energy planning, and residential, commercial, industrial and infrastructure projects.

She holds a Bachelor of Science degree in environmental engineering from Rensselaer Polytechnic Institute, Troy, New York, a Hazardous Materials Management Certificate from the University of California, Santa Barbara Extension program, and a Business Management Certificate from the University of California, San Diego Extension program.

Ms. Welch is also a member of the ASTM Committee E50 on Environmental Assessment, Risk Management and Corrective Action (2021) and continuously attends webinars and conferences regarding ASTM E1527-13 and the proposed 2021 Phase I ESA ASTM updates.

Lauren G. Kodama Roenicke is a Project Manager with Rincon Consultants. She holds a Bachelor of Science degree in Environmental Studies with an outside concentration of Ecology, Evolution, and Marine Biology from the University of California, Santa Barbara. Ms. Roenicke has experience

working on Phase I ESAs for a variety of commercial, rural, and industrial properties. In addition, Ms. Roenicke has been involved in working on large scale, multi-site projects for developers, banks, regulatory agencies, and other public and private clients. Ms. Roenicke's responsibilities at Rincon include implementation of Phase I and Phase II ESA reports, which involve soil, groundwater, and soil vapor assessments.

Ethan Knox is an Environmental Planner with Rincon Consultants. He holds a Bachelor of Science degree in Environmental Management and Protection from California Polytechnic State University, San Luis Obispo. Mr. Knox has experience preparing multiple types of CEQA documentation including Initial Studies, Negative/Mitigated Negative Declarations, and Environmental Impact Reports at a project and programmatic level. His experience also includes preparing geologic desktop reviews, Mitigation Monitoring and Reporting programs, and addendums to Environmental Impact Reports. Ethan has assisted with the preparation of Initial Studies and Mitigated Negative Declarations for various solar projects in California.

Appendix A

Interview Documentation

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

User Questionnaire

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 2, APN 085-040-36S and -37S, Fresno County, California

To qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments"), the user must provide the following information to the environmental professional. Failure to conduct these inquiries could result in a determination that "all appropriate inquiries" is not complete.

We respectfully request that you fill out this form and email it to Lauren Roenicke at LRoenicke@Rinconconsultants.com within one week from the date of this transmittal.

Project Description

1. **Why is the Phase I ESA required or being performed?**

   Required by County for Use Permit and for our own due diligence

2. **What type of property transaction is planned? (i.e. sale, purchase, exchange)**

   Purchase

3. **What is the entire site address?**

   N/A

4. **What is the Assessor's Parcel Number(s)?**

   APN 085-040-36S and APN 085-040-37S

5. **Are any considerations beyond the requirements of Practice E1527 to be considered? (i.e. lien search, asbestos & lead based paint, radon)**

   No

6. **Identify all parties who will rely on the Phase I report.**

Key Energy Storage, LLC
County of Fresno

7. **Identify the Site Manager/Contact and how the contact can be reached.**

Virginia Thompson
916-402-8912

8. **Identify the Site Owner and how the owner can be reached.**

Key Energy Storage, LLC
Project Director Contact: Virginia Thompson, (916) 402-8912

9. **Do you have copies of any available prior environmental site assessment reports, documents, correspondence, etc., concerning any other knowledge or experience with the property that may be pertinent to the environmental professional (i.e. lien search, title report, chain of title, previous Ph Iand II ESAs, Environmental Impact Studies)?**

Title report

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 2, APN 085-040-36S and -37S, Fresno County, California

Subject Property Information

1. **Did a search of recorded land title records (or judicial records, where appropriate) identify any environmental liens filed or recorded against the property?**

Please mark the box with the most appropriate response:

- ☐ I **have not** reviewed the records and **do not know** if there are any filed or recorded environmental liens.
- ■ I **have** reviewed the records, and **No, there aren't any** filed or recorded environmental liens.
- ☐ I **have** reviewed the records, and **Yes, there are** environmental liens. Explain:

2. **Did a search of recorded land title records (or judicial records, where appropriate) identify any activity and land use limitations (AULs), such as engineering controls, land use restrictions or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state or local law?**

Please mark the box with the most appropriate response:

- ☐ I **have not** reviewed the records and **do not know** if there are any filed/recorded AULs or any AULs in place at the site.
- ☐ I **have** reviewed the records, and **No, there aren't any** filed/recorded AULs or any AULs in place at the site.
- ■ I **have** reviewed the records, and **Yes, there are** AULs filed, recorded, and/or in place at the site. Explain:

This property is under the Williamson Act

3. **Does the Title Report provide any information pertaining to environmental cleanup liens or activity and use limitations (AULs) for the subject property?**

Please mark the box with the most appropriate response:

- ☐ I **have not** reviewed the Title Report and **do not know** if it provides environmental cleanup liens or AULs information.
- ■ I **have** reviewed the Title Report, and **No, it does not provide** environmental cleanup liens or AULs information..
- ☐ I **have** reviewed the Title Report, and **Yes, it does provide** environmental cleanup liens or AULs information. Explain:

4. **Do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?**

Please mark the box with the most appropriate response:

- [■] **No,** I **do not** have any specialized knowledge and/or experience related to the property or nearby properties.
- [ ] Yes, I **do** have specialized knowledge and/or experience related to the property or nearby properties. Explain:

5. **As the user of this ESA, based on your knowledge and experience related to the property, are you aware of any information pertaining to a reduction in value for the subject property relative to any known environmental issues?**

Please mark the box with the most appropriate response:

- [■] **No**, I **do not** have any information about a reduction in property value relative to environmental issues.
- [ ] **Yes**, I **do** have information about a reduction in property value relative to environmental issues. Explain:

6. **Does the purchase price being paid for this property reasonably reflect the fair market value of the property?**

Please mark the box with the most appropriate response:

- [■] **Yes**, I **do** believe the purchase price being paid for this property reasonably reflects the fair market value of the property. Skip to question #7.
- [ ] **No**, I **do not** believe the purchase price being paid for this property reasonably reflects the fair market value of the property. Proceed to question #6a.

   a. **If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property? (40 CFR 312.29)**

      Please mark the box with the most appropriate response

      - [ ] **No**, I **have not** considered the idea that known or believed contamination at the site has caused the lower purchase price.
      - [ ] **Yes**, I **have** considered the idea that known or believed contamination at the site has caused the lower purchase price. Explain:

Purchase price is higher than fair market value of Property

7. Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example:

Please mark the box with the most appropriate response:

a. Do you know the past uses of the property?

- ☐ I **do not** know.
- ■ I **do** know. Explain:

Agriculture

b. Do you know of specific chemicals are present or once were present at the property?

- ■ I **do not** know.
- ☐ I **do** know. Explain:

c. Do you know of any spills or other chemical releases that have taken place at the property?

- ■ I **do not** know.
- ☐ I **do** know. Explain:

d. Do you know of any environmental cleanups have taken place at the property?

- ■ I **do not** know.
- ☐ I **do** know. Explain:

8. Based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of releases at the property?

Please mark the box with the most appropriate response:

- ■ **No**, I do not know and/or do not have any experience with any obvious indicators that point to the presence or likely presence of contamination at the property.
- ☐ **Yes**, I do know of and/or do have experience with obvious indicators that point to the presence or likely presence of contamination at the property. Explain:

9. Are you aware of any pending, threatened, or past litigation relevant to hazardous substances or petroleum products, in, on, or from the site?

Please mark the box with the most appropriate response:

- [■] **No**, I am not aware of any pending, threatened, or past litigation relevant to hazardous substances or petroleum products, in, on, or from the site.
- [ ] **Yes**, I am aware of pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the site. Explain:

10. Are you aware of any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the site?

Please mark the box with the most appropriate response:

- [■] **No**, I am not aware of any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the site.
- [ ] **Yes**, I am aware of pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the site. Explain:

11. Are you aware of any notice from any government entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products?

Please mark the box with the most appropriate response:

- [■] **No**, I am not aware of any notice from any government entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products..
- [ ] **Yes**, I am aware of a notice, or notices, from a government entity (or multiple government entities) regarding a possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products. Explain:

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 2, APN 085-040-36S and -37S, Fresno County, California

This questionnaire was completed by (please print)

Name	Sean Wazlaw
Title	Project Director
Firm	Key Energy Storage, LLC
Street Address	1 California Street, Suite 1600
City, State, Zip Code	San Francisco, CA 94111
Phone Number	619-372-6142
Fax Number	

What is the Preparer's relationship to the property (i.e., owner, occupant, property manager, employee, agent, consultant, etc.)? Project Director

Copies of the completed questionnaire should be faxed, emailed (preferably) or mailed to:

Rincon Consultants, Inc.
Attention: Environmental Site Assessment Division
2215 Faraday Avenue, Suite A
Carlsbad, CA 92008
Fax: (760) 918-9444
Email: LRoenicke@rinconconsultants.com

Preparer represents that to the best of the preparer's knowledge the above statements and facts are true and correct and to the best of the preparer's knowledge no material facts have been suppressed or misstated.

Signature Sean Wazlaw Digitally signed by Sean Wazlaw Date: 2022.02.10 10:16:30 -08'00' Date

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

Property Owner Interview Questionnaire

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 2, APNs 085-040-36S and -37S, Fresno County, California

This questionnaire should be completed by the current property owner or a designated representative of the current property owner. We respectfully request that you fill out and return this form via fax at (760) 918-9444 or email to us at LRoenicke@rinconconsultants.com within one week from the date of this transmittal.

---

1. Was the subject property or any adjoining property ever used as:

- ☐ an airport
- ☐ a fire training area
- ☐ a gasoline or other fueling station
- ☐ a motor vehicle repair facility
- ☐ a commercial printing facility
- ☐ a dry cleaners
- ☐ a photo developing laboratory
- ☐ a metal plating facility
- ☒ a farm
- ☐ a Department of Defense facility or training area
- ☐ a junkyard or landfill
- ☐ a waste treatment, storage, disposal, processing or recycling facility
- ☐ a machine shop
- ☐ a manufacturing facility
- ☐ an oil production facility (including oil wells)
- ☐ any other industrial use

Please check all that apply above and describe:

To my knowledge as of April 1, 2021, the parcels have been used for farming.

2. Please describe the current land uses of the subject property and those surrounding your property. Please indicate all businesses/companies located on property.

2a. Current Use of Subject Property:

Please check all that apply:	Please include a brief description of current operation:
☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other- Please Describe	Agriculture

2b. Current Use of Northern Adjoining Properties:

Please check all that apply:	Please include a brief description of current operation:
☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other- Please Describe	Agriculture

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 2, APNs 085-040-36S and -37S, Fresno County, California

2c. Current Use of Eastern Adjoining Properties:

Please check all that apply:	Please include a brief description of current operation:
☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ■ Other- Please Describe	Agriculture

2d. Current Use of Southern Adjoining Properties:

Please check all that apply:	Please include a brief description of current operation:
☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ■ Other- Please Describe	Agriculture

2e. Current Use of Western Adjoining Properties:

Please check all that apply:	Please include a brief description of current operation:
☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ■ Industrial (manufacturing, warehousing, processing) ☐ Other- Please Describe	Solar

3. Please describe the previous land uses of your property and those surrounding your property. Include property ownership and dates of operation if known.

3a. Previous Use of Subject Property:

Please check all that apply:	Please include a brief description of current operation:
☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ■ Other- Please Describe	Current ownership as of April 1, 2021. Agriculture (fallow land) on property

3b. Previous Use of Northern Adjoining Properties:

Please check all that apply:	Please include a brief description of current operation:
☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ■ Other- Please Describe	Agriculture, orchards

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 2, APNs 085-040-36S and -37S, Fresno County, California

3c. Previous Use of Eastern Adjoining Properties:

Please check all that apply:	Please include a brief description of current operation:
☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ■ Other- Please Describe	Agriculture, unknown

3d. Previous Use of Southern Adjoining Properties:

Please check all that apply:	Please include a brief description of current operation:
☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ■ Other- Please Describe	Agriculture, orchards

3e. Previous Use of Western Adjoining Properties:

Please check all that apply:	Please include a brief description of current operation:
☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ■ Other- Please Describe	Solar

4. Who is the current owner of the property?

The Rebecca L Avellar Living Trustt

5. When did current ownership begin?

April 1, 2021

6. What is the age of the on-site facility?

n/a

7. Who is the previous owner of the property?

Boyce Land Co. Inc.

8. Please indicate the property's current:

Electrical service provider	n/a
Natural Gas service provider	n/a
Water service provider	Westlands Water District
Sewer service provider	n/a
Solid waste hauler	Mid Valley Disposal

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 2, APNs 085-040-36S and -37S, Fresno County, California

9. To the best of your knowledge, has your facility previously or does your facility currently store or use any of the following in individual containers larger than 5 gallons in volume or 50 gallons in the aggregate? (if Yes or Unknown, include how many, type, and size)

☐ Damaged or discarded automotive or industrial batteries	
☐ Paints	
☐ Oils or solvents	
☐ Motor vehicle fleet	
☐ Pesticides or herbicides	
☐ Other chemicals or hazardous substances	

10. Please indicate any wastes generated at the facility:

Hazardous Waste	Quantity	Disposal Method

11. Are there currently or to the best of your knowledge have there been previously, any industrial drums (typically 55 gallon) or sacks of chemicals located on the property or at the facility?

☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe:

12. Are there currently or to the best of your knowledge have there been previously, any evidence of fill dirt having been brought onto the property that originated from a contaminated site or that is of an unknown origin?

☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe:

13. Are there currently or to the best of your knowledge have there been previously, any pits, ponds or lagoons located on the property in connection with waste treatment or waste disposal?

☐ Yes ■ No ☐ Unknown	If Yes or Unknown, please describe:

14. Are there currently or to the best of your knowledge have there been previously, any sumps, clarifiers, or solvent degreasers on the property?

☐ Yes ■ No ☐ Unknown	If Yes or Unknown, please describe:

15. Are there currently or to the best of your knowledge have there been previously, any stained soil on the property?

☐ Yes ■ No ☐ Unknown	If Yes or Unknown, please describe:

16. Are there currently or to the best of your knowledge have there been previously, any storage tanks (above or below ground) located on the property?

☐ Yes ■ No ☐ Unknown	If Yes or Unknown, please describe:

17. Are there currently or to the best of your knowledge have there been previously, any vent pipes, fill pipes, or access ways (etc.) indicating a fill pipe protruding from the ground on the property or adjacent to any structure located on the property?

☐ Yes ■ No ☐ Unknown	If Yes or Unknown, please describe:

18. If the property is served by a private well or non-public water system, have contaminants been identified in the well or system that exceed guidelines applicable to the water system or has the well been designated as contaminated by any government agency?

☐ Yes ■ No ☐ Unknown	If Yes or Unknown, please describe:

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 2, APNs 085-040-36S and -37S, Fresno County, California

19. Are there currently or to the best of your knowledge have there been previously, any flooring, drains, or walls located within the facility that are stained by substances other than water, or are emitting foul odors?

☐ Yes ■ No ☐ Unknown	If Yes or Unknown, please describe:

20. To the best of your knowledge has your facility previously or does your facility currently, discharge wastewater on or adjacent to the property other than storm water into a sanitary sewer system?

☐ Yes ■ No ☐ Unknown	If Yes or Unknown, please describe:

21. Have any of the following ever been dumped above grade, buried and/or burned on the property? (please check all that apply and describe if possible)

☐ Hazardous substances	
☐ Petroleum products	
☐ Unidentified waste materials	
☐ Tires	
☐ Automotive or industrial batteries	
☐ Other waste materials (please describe)	

22. Are there currently or to the best of your knowledge have there been previously, a transformer, capacitor or any hydraulic equipment on the property?

☐ Yes ■ No ☐ Unknown	If Yes or Unknown, please describe:

23. Are there currently or to the best of your knowledge have there been previously any records indicating the presence of PCBs?

☐ Yes ■ No ☐ Unknown	If Yes or Unknown, please describe:

24. Are there currently or to the best of your knowledge have there been previously any records indicating the presence of pesticides or herbicides?

■ Yes ☐ No ☐ Unknown	If Yes or Unknown, please describe: Since current ownership as of April 1, 2021, all Product Use Reports are on file with the county.

25. Do you have any knowledge of environmental liens that may have been recorded against the property or governmental notification relating to past or recurrent violations of environmental laws with respect to the property or any facility located on the property?

☐ Yes ■ No ☐ Unknown	If Yes or Unknown, please describe:

26. Do you have any knowledge of activity and use limitations (AULs) such as engineering controls, deed restrictions, land use restrictions, or institutional controls that may have been recorded against the property?

■ Yes ☐ No ☐ Unknown	If Yes or Unknown, please describe: See attached title report

27. Have you been informed of the past or current existence of hazardous substances, petroleum products, or environmental violations with respect to the property or any facility located on the property?

☐ Yes ■ No ☐ Unknown	If Yes or Unknown, please describe:

28. Do you have any knowledge of any environmental site assessments of the property or facility?

☐ Yes ■ No ☐ Unknown	If Yes or Unknown, please describe:

29. Do you know of any past, threatened, or pending lawsuits or administrative proceedings concerning a release of any hazardous substances or petroleum products involving the property by any owner or occupant of the property?

☐ Yes ■ No ☐ Unknown	If Yes or Unknown, please describe:

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 2, APNs 085-040-36S and -37S, Fresno County, California

30. Are there any site-specific geotechnical or geologic reports available for the subject property?

☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe:

31. Is there a Title Report available for the subject property?

☒ Yes ☐ No ☐ Unknown	If Yes or Unknown, please describe: Title Report for Escrow

This questionnaire was completed by (please print)

Name	Rebecca Kaser
Title	Trustee
Firm	The Rebecca L Avellar Living Trust
Street Address	466 W Fallbrook Ave, Ste 107
City, State, Zip Code	Fresno, CA 93711
Phone Number	559-313-5588
Fax Number	559-981-2458

What is the Preparer's relationship to the property (i.e., owner, occupant, property manager, employee, agent, consultant, etc.)? Trustee

Copies of the completed questionnaire should be faxed, emailed (preferably) or mailed to:

Rincon Consultants, Inc.
Attention: Environmental Site Assessment Division
2215 Faraday Avenue, Suite A
Carlsbad, CA 92008
Fax: (760) 918-9444
Email: LRoenicke@rinconconsultants.com

Preparer represents that to the best of the preparer's knowledge the above statements and facts are true and correct and to the best of the preparer's knowledge no material facts have been suppressed or misstated.

Signature _____ Date _____

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

Property Owner Interview Questionnaire

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

This questionnaire should be completed by the current property owner or a designated representative of the current property owner. We respectfully request that you fill out and return this form via fax at (760) 918-9444 or email to us at LRoenicke@rinconconsultants.com within one week from the date of this transmittal.

1. **Was the subject property or any adjoining property ever used as:**

- ☐ an airport
- ☐ a fire training area
- ☐ a gasoline or other fueling station
- ☐ a motor vehicle repair facility
- ☐ a commercial printing facility
- ☐ a dry cleaners
- ☐ a photo developing laboratory
- ☐ a metal plating facility
- ☒ a farm
- ☐ a Department of Defense facility or training area
- ☐ a junkyard or landfill
- ☐ a waste treatment, storage, disposal, processing or recycling facility
- ☐ a machine shop
- ☐ a manufacturing facility
- ☐ an oil production facility (including oil wells)
- ☐ any other industrial use

Please check all that apply above and describe:

2012-2020 = Citrus 156 Ac, 2021 = Citrus 78 Ac (S2) & Pistachio 78 Ac (N2)

2. **Please describe the current land uses of the subject property and those surrounding your property. Please indicate all businesses/companies located on property.**

2a. Current Use of Subject Property:

Please check all that apply:	Please include a brief description of current operation:
☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other- Please Describe	Citrus & Pistachio

2b. Current Use of Northern Adjoining Properties:

Please check all that apply:	Please include a brief description of current operation:
☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other- Please Describe	Fallow (Row Crops) & PG&E Solar/Substation

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

2c. Current Use of Eastern Adjoining Properties:

Please check all that apply:	Please include a brief description of current operation:
☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ■ Other- Please Describe	Farming - Row Crops

2d. Current Use of Southern Adjoining Properties:

Please check all that apply:	Please include a brief description of current operation:
☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ■ Other- Please Describe	Fallow

2e. Current Use of Western Adjoining Properties:

Please check all that apply:	Please include a brief description of current operation:
☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ■ Other- Please Describe	Farming - Almonds

3. Please describe the previous land uses of your property and those surrounding your property. Include property ownership and dates of operation if known.

3a. Previous Use of Subject Property:

Please check all that apply:	Please include a brief description of current operation:
☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ■ Other- Please Describe	Farming - Citrus

3b. Previous Use of Northern Adjoining Properties:

Please check all that apply:	Please include a brief description of current operation:
☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ■ Other- Please Describe	Farming (Row crops) & PG&E Solar/Substation

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

3c. Previous Use of Eastern Adjoining Properties:

Please check all that apply:	Please include a brief description of current operation:
☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ■ Other- Please Describe	Farming - Row Crops

3d. Previous Use of Southern Adjoining Properties:

Please check all that apply:	Please include a brief description of current operation:
☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ■ Other- Please Describe	Fallow

3e. Previous Use of Western Adjoining Properties:

Please check all that apply:	Please include a brief description of current operation:
☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ■ Other- Please Describe	Farming - Almonds

4. Who is the current owner of the property?

Ann Dresick Family Trust

5. When did current ownership begin?

2000

6. What is the age of the on-site facility?

Citrus (S2) = 10 years & Pistachio (N2) = 1 Year

7. Who is the previous owner of the property?

n/a

8. Please indicate the property's current:

Electrical service provider	Pacific Gas & Electric (PG&E)
Natural Gas service provider	n/a
Water service provider	Westlands Water District & Well Water
Sewer service provider	n/a
Solid waste hauler	n/a

9. **To the best of your knowledge, has your facility previously or does your facility currently store or use any of the following in individual containers larger than 5 gallons in volume or 50 gallons in the aggregate? (if Yes or Unknown, include how many, type, and size)**

☐ Damaged or discarded automotive or industrial batteries	n/a
☐ Paints	n/a
☐ Oils or solvents	n/a
☐ Motor vehicle fleet	n/a
☐ Pesticides or herbicides	n/a
☐ Other chemicals or hazardous substances	n/a

10. **Please indicate any wastes generated at the facility:**

Hazardous Waste	Quantity	Disposal Method
n/a		

11. **Are there currently or to the best of your knowledge have there been previously, any industrial drums (typically 55 gallon) or sacks of chemicals located on the property or at the facility?**

☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe:

12. **Are there currently or to the best of your knowledge have there been previously, any evidence of fill dirt having been brought onto the property that originated from a contaminated site or that is of an unknown origin?**

☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe:

13. **Are there currently or to the best of your knowledge have there been previously, any pits, ponds or lagoons located on the property in connection with waste treatment or waste disposal?**

☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe:

14. **Are there currently or to the best of your knowledge have there been previously, any sumps, clarifiers, or solvent degreasers on the property?**

☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe:

15. **Are there currently or to the best of your knowledge have there been previously, any stained soil on the property?**

☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe:

16. **Are there currently or to the best of your knowledge have there been previously, any storage tanks (above or below ground) located on the property?**

☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe:

17. **Are there currently or to the best of your knowledge have there been previously, any vent pipes, fill pipes, or access ways (etc.) indicating a fill pipe protruding from the ground on the property or adjacent to any structure located on the property?**

☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe:

18. **If the property is served by a private well or non-public water system, have contaminants been identified in the well or system that exceed guidelines applicable to the water system or has the well been designated as contaminated by any government agency?**

☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe:

19. Are there currently or to the best of your knowledge have there been previously, any flooring, drains, or walls located within the facility that are stained by substances other than water, or are emitting foul odors?

☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe:

20. To the best of your knowledge has your facility previously or does your facility currently, discharge wastewater on or adjacent to the property other than storm water into a sanitary sewer system?

☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe:

21. Have any of the following ever been dumped above grade, buried and/or burned on the property? (please check all that apply and describe if possible)

☐ Hazardous substances	n/a
☐ Petroleum products	n/a
☐ Unidentified waste materials	n/a
☐ Tires	n/a
☐ Automotive or industrial batteries	n/a
☐ Other waste materials (please describe)	n/a

22. Are there currently or to the best of your knowledge have there been previously, a transformer, capacitor or any hydraulic equipment on the property?

☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe:

23. Are there currently or to the best of your knowledge have there been previously any records indicating the presence of PCBs?

☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe:

24. Are there currently or to the best of your knowledge have there been previously any records indicating the presence of pesticides or herbicides?

☒ Yes ☐ No ☐ Unknown	If Yes or Unknown, please describe: Used applicable to crops. Material Use Report available, upon request

25. Do you have any knowledge of environmental liens that may have been recorded against the property or governmental notification relating to past or recurrent violations of environmental laws with respect to the property or any facility located on the property?

☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe:

26. Do you have any knowledge of activity and use limitations (AULs) such as engineering controls, deed restrictions, land use restrictions, or institutional controls that may have been recorded against the property?

☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe:

27. Have you been informed of the past or current existence of hazardous substances, petroleum products, or environmental violations with respect to the property or any facility located on the property?

☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe:

28. Do you have any knowledge of any environmental site assessments of the property or facility?

☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe:

29. Do you know of any past, threatened, or pending lawsuits or administrative proceedings concerning a release of any hazardous substances or petroleum products involving the property by any owner or occupant of the property?

☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe:

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

30. Are there any site-specific geotechnical or geologic reports available for the subject property?

☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe:

31. Is there a Title Report available for the subject property?

☒ Yes ☐ No ☐ Unknown	If Yes or Unknown, please describe:

This questionnaire was completed by (please print)

Name	John Dresick
Title	VP - Operations
Firm	Dresick Farms, Inc.
Street Address	19536 Jayne Ave (P O Box 1260)
City, State, Zip Code	Huron, CA 93234
Phone Number	559-945-2513
Fax Number	n/a

What is the Preparer's relationship to the property (i.e., owner, occupant, property manager, employee, agent, consultant, etc.)? Manager

Copies of the completed questionnaire should be faxed, emailed (preferably) or mailed to:

Rincon Consultants, Inc.
Attention: Environmental Site Assessment Division
2215 Faraday Avenue, Suite A
Carlsbad, CA 92008
Fax: (760) 918-9444
Email: LRoenicke@rinconconsultants.com

Preparer represents that to the best of the preparer's knowledge the above statements and facts are true and correct and to the best of the preparer's knowledge no material facts have been suppressed or misstated.

Signature _____ Date 4/11/22

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

User Questionnaire

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

To qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments"), the user must provide the following information to the environmental professional. Failure to conduct these inquiries could result in a determination that "all appropriate inquiries" is not complete.

We respectfully request that you fill out this form and email it to Lauren Roenicke at LRoenicke@Rinconconsultants.com within one week from the date of this transmittal.

Project Description

1. **Why is the Phase I ESA required or being performed?**

   Required by County for Use Permit and for our own due diligence

2. **What type of property transaction is planned? (i.e. sale, purchase, exchange)**

   Purchase

3. **What is the entire site address?**

   18364 W Jayne Ave, Coalinga, CA 93210

4. **What is the Assessor's Parcel Number(s)?**

   085-040-58S

5. **Are any considerations beyond the requirements of Practice E1527 to be considered? (i.e. lien search, asbestos & lead based paint, radon)**

   No

6. **Identify all parties who will rely on the Phase I report.**

Key Energy Storage, LLC
County of Fresno

7. **Identify the Site Manager/Contact and how the contact can be reached.**

Virginia Thompson
916-402-8912

8. **Identify the Site Owner and how the owner can be reached.**

Key Energy Storage, LLC
Project Director Contact: Virginia Thompson, (916) 402-8912

9. **Do you have copies of any available prior environmental site assessment reports, documents, correspondence, etc., concerning any other knowledge or experience with the property that may be pertinent to the environmental professional (i.e. lien search, title report, chain of title, previous Ph Iand II ESAs, Environmental Impact Studies)?**

Title report

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

Subject Property Information

1. **Did a search of recorded land title records (or judicial records, where appropriate) identify any environmental liens filed or recorded against the property?**

Please mark the box with the most appropriate response:

- ☐ I **have not** reviewed the records and **do not know** if there are any filed or recorded environmental liens.
- ■ I **have** reviewed the records, and **No, there aren't any** filed or recorded environmental liens.
- ☐ I **have** reviewed the records, and **Yes, there are** environmental liens. Explain:

2. **Did a search of recorded land title records (or judicial records, where appropriate) identify any activity and land use limitations (AULs), such as engineering controls, land use restrictions or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state or local law?**

Please mark the box with the most appropriate response:

- ☐ I **have not** reviewed the records and **do not know** if there are any filed/recorded AULs or any AULs in place at the site.
- ☐ I **have** reviewed the records, and **No, there aren't any** filed/recorded AULs or any AULs in place at the site.
- ■ I **have** reviewed the records, and **Yes, there are** AULs filed, recorded, and/or in place at the site. Explain:

This property is under the Williamson Act

3. **Does the Title Report provide any information pertaining to environmental cleanup liens or activity and use limitations (AULs) for the subject property?**

Please mark the box with the most appropriate response:

- ☐ I **have not** reviewed the Title Report and **do not know** if it provides environmental cleanup liens or AULs information.
- ■ I **have** reviewed the Title Report, and **No, it does not provide** environmental cleanup liens or AULs information..
- ☐ I **have** reviewed the Title Report, and **Yes, it does provide** environmental cleanup liens or AULs information. Explain:

4. **Do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?**

Please mark the box with the most appropriate response:

- [■] **No,** I **do not** have any specialized knowledge and/or experience related to the property or nearby properties.
- [ ] Yes, I **do** have specialized knowledge and/or experience related to the property or nearby properties. Explain:

5. **As the user of this ESA, based on your knowledge and experience related to the property, are you aware of any information pertaining to a reduction in value for the subject property relative to any known environmental issues?**

Please mark the box with the most appropriate response:

- [■] **No,** I **do not** have any information about a reduction in property value relative to environmental issues.
- [ ] **Yes**, I **do** have information about a reduction in property value relative to environmental issues. Explain:

6. **Does the purchase price being paid for this property reasonably reflect the fair market value of the property?**

Please mark the box with the most appropriate response:

- [■] **Yes**, I **do** believe the purchase price being paid for this property reasonably reflects the fair market value of the property. Skip to question #7.
- [ ] **No**, I **do not** believe the purchase price being paid for this property reasonably reflects the fair market value of the property. Proceed to question #6a.

   a. **If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property? (40 CFR 312.29)**

      Please mark the box with the most appropriate response

      - [ ] **No**, I **have not** considered the idea that known or believed contamination at the site has caused the lower purchase price.
      - [ ] **Yes**, I **have** considered the idea that known or believed contamination at the site has caused the lower purchase price. Explain:

Purchase price is higher than fair market value of Property

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

7. Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example:

Please mark the box with the most appropriate response:

a. Do you know the past uses of the property?

- ☐ I **do not** know.
- ■ I **do** know. Explain:

Agriculture

b. Do you know of specific chemicals are present or once were present at the property?

- ■ I **do not** know.
- ☐ I **do** know. Explain:

c. Do you know of any spills or other chemical releases that have taken place at the property?

- ■ I **do not** know.
- ☐ I **do** know. Explain:

d. Do you know of any environmental cleanups have taken place at the property?

- ■ I **do not** know.
- ☐ I **do** know. Explain:

8. Based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of releases at the property?

Please mark the box with the most appropriate response:

- ■ **No**, I do not know and/or do not have any experience with any obvious indicators that point to the presence or likely presence of contamination at the property.
- ☐ **Yes**, I do know of and/or do have experience with obvious indicators that point to the presence or likely presence of contamination at the property. Explain:

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

9. **Are you aware of any pending, threatened, or past litigation relevant to hazardous substances or petroleum products, in, on, or from the site?**

Please mark the box with the most appropriate response:

- [■] **No**, I am not aware of any pending, threatened, or past litigation relevant to hazardous substances or petroleum products, in, on, or from the site.
- [ ] **Yes**, I am aware of pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the site. Explain:

10. **Are you aware of any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the site?**

Please mark the box with the most appropriate response:

- [■] **No**, I am not aware of any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the site.
- [ ] **Yes**, I am aware of pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the site. Explain:

11. **Are you aware of any notice from any government entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products?**

Please mark the box with the most appropriate response:

- [■] **No**, I am not aware of any notice from any government entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products..
- [ ] **Yes**, I am aware of a notice, or notices, from a government entity (or multiple government entities) regarding a possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products. Explain:

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

This questionnaire was completed by (please print)

Name	Sean Wazlaw
Title	Project Director
Firm	Key Energy Storage, LLC
Street Address	1 California Street, Suite 1600
City, State, Zip Code	San Francisco, CA 94111
Phone Number	619-372-6142
Fax Number	

What is the Preparer's relationship to the property (i.e., owner, occupant, property manager, employee, agent, consultant, etc.)? Project Director

Copies of the completed questionnaire should be faxed, emailed (preferably) or mailed to:

Rincon Consultants, Inc.
Attention: Environmental Site Assessment Division
2215 Faraday Avenue, Suite A
Carlsbad, CA 92008
Fax: (760) 918-9444
Email: LRoenicke@rinconconsultants.com

Preparer represents that to the best of the preparer's knowledge the above statements and facts are true and correct and to the best of the preparer's knowledge no material facts have been suppressed or misstated.

Signature Sean Wazlaw Digitally signed by Sean Wazlaw Date: 2022.02.10 10:14:13 -08'00' Date

Appendix B

Regulatory Records Search

DATABASE REPORT

Project Property:	*Key Energy Storage Site* *Key Energy Storage Site* *Coalinga CA*
Project No:	*20-10624*
Report Type:	*Database Report*
Order No:	*22020200451*
Requested by:	*Rincon Consultants, Inc.*
Date Completed:	*February 3, 2022*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Table of Contents

Executive Summary

Property Information:

Project Property:	*Key Energy Storage Site* *Key Energy Storage Site Coalinga CA*
Project No:	*20-10624*
Coordinates:	
Latitude:	*36.13050486*
Longitude:	*-120.13319482*
UTM Northing:	*4,002,230.90*
UTM Easting:	*757,985.03*
UTM Zone:	*UTM Zone 10S*
Elevation:	*422 FT*

Order Information:

Order No:	*22020200451*
Date Requested:	*February 2, 2022*
Requested by:	*Rincon Consultants, Inc.*
Report Type:	*Database Report*

Historicals/Products:

Aerial Photographs	*Historical Aerials (with Project Boundaries)*
City Directory Search	*CD - 2 Street Search*
ERIS Xplorer	*ERIS Xplorer*
Excel Add-On	*Excel Add-On*
Fire Insurance Maps	*US Fire Insurance Maps*
Physical Setting Report (PSR)	*Physical Setting Report (PSR)*
Topographic Map	*Topographic Maps*

Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Standard Environmental Records								
Federal								
DOE FUSRAP	Y	1	0	0	0	0	0	0
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	0.5	0	0	0	0	-	0
SEMS	Y	0.5	0	0	0	0	-	0
ODI	Y	0.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	0.5	0	0	0	0	-	0
CERCLIS	Y	0.5	0	0	0	0	-	0
IODI	Y	0.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	0.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	0.5	0	0	0	0	-	0
RCRA LQG	Y	0.25	0	0	0	-	-	0
RCRA SQG	Y	0.25	0	0	0	-	-	0
RCRA VSQG	Y	0.25	0	0	0	-	-	0
RCRA NON GEN	Y	0.25	0	0	0	-	-	0
RCRA CONTROLS	Y	0.5	0	0	0	0	-	0
FED ENG	Y	0.5	0	0	0	0	-	0
FED INST	Y	0.5	0	0	0	0	-	0
LUCIS	Y	0.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	0.5	0	0	0	0	-	0
FEMA UST	Y	0.25	0	0	0	-	-	0
FRP	Y	0.25	0	0	0	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
HIST GAS STATIONS	Y	0.25	0	0	0	-	-	0
REFN	Y	0.25	0	0	0	-	-	0
BULK TERMINAL	Y	0.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0
State								
RESPONSE	Y	1	0	0	0	0	0	0
ENVIROSTOR	Y	1	0	0	0	0	0	0
DELISTED ENVS	Y	1	0	0	0	0	0	0
SWF/LF	Y	0.5	0	0	0	0	-	0
SWRCB SWF	Y	0.5	0	0	0	0	-	0
WMUD	Y	0.5	0	0	0	0	-	0
HWP	Y	1	0	0	0	0	0	0
SWAT	Y	0.5	0	0	0	0	-	0
C&D DEBRIS RECY	Y	0.5	0	0	0	0	-	0
RECYCLING	Y	0.5	0	0	0	0	-	0
PROCESSORS	Y	0.5	0	0	0	0	-	0
CONTAINER RECY	Y	0.5	0	0	0	0	-	0
LDS	Y	0.5	0	0	0	0	-	0
LUST	Y	0.5	0	0	0	0	-	0
DELISTED LST	Y	0.5	0	0	0	0	-	0
UST	Y	0.25	0	0	0	-	-	0
UST CLOSURE	Y	0.5	0	0	0	0	-	0
HHSS	Y	0.25	0	0	0	-	-	0
UST SWEEPS	Y	0.25	0	0	0	-	-	0
AST	Y	0.25	0	0	0	-	-	0
AST SWRCB	Y	0.25	0	0	**1**	-	-	**1**
TANK OIL GAS	Y	0.25	0	0	0	-	-	0
DELISTED TNK	Y	0.25	0	0	0	-	-	0
CERS TANK	Y	0.25	0	0	0	-	-	0
DELISTED CTNK	Y	0.25	0	0	**1**	-	-	**1**
HIST TANK	Y	0.25	0	0	0	-	-	0
LUR	Y	0.5	0	0	0	0	-	0
CALSITES	Y	0.5	0	0	0	0	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
HLUR	Y	0.5	0	0	0	0	-	0
DEED	Y	0.5	0	0	0	0	-	0
VCP	Y	0.5	0	0	0	0	-	0
CLEANUP SITES	Y	0.5	0	0	0	0	-	0
DELISTED COUNTY	Y	0.25	0	0	0	-	-	0
Tribal								
INDIAN LUST	Y	0.5	0	0	0	0	-	0
INDIAN UST	Y	0.25	0	0	0	-	-	0
DELISTED ILST	Y	0.5	0	0	0	0	-	0
DELISTED IUST	Y	0.25	0	0	0	-	-	0
County								
CUPA FRESNO	Y	0.25	0	**2**	0	-	-	**2**
Additional Environmental Records								
Federal								
FINDS/FRS	Y	PO	0	-	-	-	-	0
TRIS	Y	PO	0	-	-	-	-	0
PFAS TRI	Y	0.5	0	0	0	0	-	0
PFAS NPL	Y	0.5	0	0	0	0	-	0
PFAS WATER	Y	0.5	0	0	0	0	-	0
PFAS SSEHRI	Y	0.5	0	0	0	0	-	0
HMIRS	Y	0.125	0	0	-	-	-	0
NCDL	Y	0.125	0	0	-	-	-	0
TSCA	Y	0.125	0	0	-	-	-	0
HIST TSCA	Y	0.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	0.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED FED DRY	Y	0.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
FORMER NIKE	Y	1	0	0	0	0	0	0
PIPELINE INCIDENT	Y	PO	0	-	-	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	0.25	0	0	0	-	-	0
SMCRA	Y	1	0	0	0	0	0	0
MRDS	Y	1	0	0	0	0	0	0
URANIUM	Y	1	0	0	0	0	0	0
ALT FUELS	Y	0.25	0	0	0	-	-	0
SSTS	Y	0.25	0	0	0	-	-	0
PCB	Y	0.5	0	0	0	0	-	0
State								
DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DRYC GRANT	Y	0.25	0	0	0	-	-	0
PFAS	Y	0.5	0	0	0	0	-	0
PFAS GW	Y	0.5	0	0	0	0	-	0
HWSS CLEANUP	Y	0.5	0	0	0	0	-	0
TOXIC PITS	Y	1	0	0	0	0	0	0
DTSC HWF	Y	0.5	0	0	0	0	-	0
INSP COMP ENF	Y	1	0	0	0	0	0	0
SCH	Y	1	0	0	0	0	0	0
CHMIRS	Y	PO	0	-	-	-	-	0
HIST CHMIRS	Y	PO	0	-	-	-	-	0
HAZNET	Y	PO	0	-	-	-	-	0
HIST MANIFEST	Y	PO	0	-	-	-	-	0
HW TRANSPORT	Y	0.125	0	0	-	-	-	0
WASTE TIRE	Y	PO	0	-	-	-	-	0
MEDICAL WASTE	Y	0.25	0	0	0	-	-	0
HIST CORTESE	Y	0.5	0	0	0	0	-	0
CDO/CAO	Y	0.5	0	0	0	0	-	0
CERS HAZ	Y	0.125	0	**2**	-	-	-	**2**
DELISTED HAZ	Y	0.5	0	0	0	0	-	0
GEOTRACKER	Y	0.125	0	0	-	-	-	0
MINE	Y	1	0	0	0	0	0	0
LIEN	Y	PO	0	-	-	-	-	0
WASTE DISCHG	Y	0.25	0	0	0	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
EMISSIONS	Y	0.25	0	**3**	0	-	-	**3**
CDL	Y	0.125	0	0	-	-	-	0

Tribal ***No Tribal additional environmental record sources available for this State.***

County ***No County additional environmental databases were selected to be included in the search.***

Total:	0	**7**	**2**	0	0	**9**

**** PO – Property Only***
**** 'Property and adjoining properties' database search radii are set at 0.25 miles.***

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number

No records found in the selected databases for the project property.

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
1	CUPA FRESNO	CENTURY LINK-HURON CA03	18364 W JAYNE AVE HURON CA 93234	N	0.08 / 414.27	2	18
1	CUPA FRESNO	PG&E WEST GATES SOLAR STATION	18364 W JAYNE AVE HURON CA 93234	N	0.08 / 414.27	2	18
1	CERS HAZ	CENTURYLINK - HURON - HURNCA03	18364 W JAYNE AVE HURON CA 93234	N	0.08 / 414.27	2	18
1	CERS HAZ	PG&E: West Gates Solar Station	18364 W JAYNE AVE HURON CA 93234	N	0.08 / 414.27	2	21
1	EMISSIONS	LEVEL 3 COMMUNICATIONS LLC	18364 W JAYNE HURON CA	N	0.08 / 414.27	2	23
1	EMISSIONS	WILTEL COMMUNICATIONS LLC	18364 W JAYNE HURON CA	N	0.08 / 414.27	2	24
1	EMISSIONS	LEVEL 3 COMMUNICATIONS LLC	18364 W JAYNE HURON CA 93234	N	0.08 / 414.27	2	24
2	DELISTED CTNK	PG&E: Gates Substation	18336 WEST JAYNE AVENUE HURON CA 93234	NE	0.20 / 1,054.74	-9	29
2	AST SWRCB	GATES SUBSTATION	18336 W. JAYNE AVE. HURON CA 93234	NE	0.20 / 1,054.74	-9	30

Executive Summary: Summary by Data Source

Standard

State

AST SWRCB - SWRCB Historical Aboveground Storage Tanks

A search of the AST SWRCB database, dated Dec 1, 2007 has found that there are 1 AST SWRCB site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
GATES SUBSTATION	18336 W. JAYNE AVE. HURON CA 93234	NE	0.20 / 1,054.74	2

DELISTED CTNK - Delisted California Environmental Reporting System (CERS) Tanks

A search of the DELISTED CTNK database, dated Dec 8, 2021 has found that there are 1 DELISTED CTNK site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
PG&E: Gates Substation	18336 WEST JAYNE AVENUE HURON CA 93234	NE	0.20 / 1,054.74	2

County

CUPA FRESNO - Fresno County - CUPA/Solid Waste Programs Resource List

A search of the CUPA FRESNO database, dated Apr 9, 2021 has found that there are 2 CUPA FRESNO site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
PG&E WEST GATES SOLAR STATION	18364 W JAYNE AVE HURON CA 93234	N	0.08 / 414.27	1
CENTURY LINK-HURON CA03	18364 W JAYNE AVE HURON CA 93234	N	0.08 / 414.27	1

Non Standard

State

CERS HAZ - California Environmental Reporting System (CERS) Hazardous Waste Sites

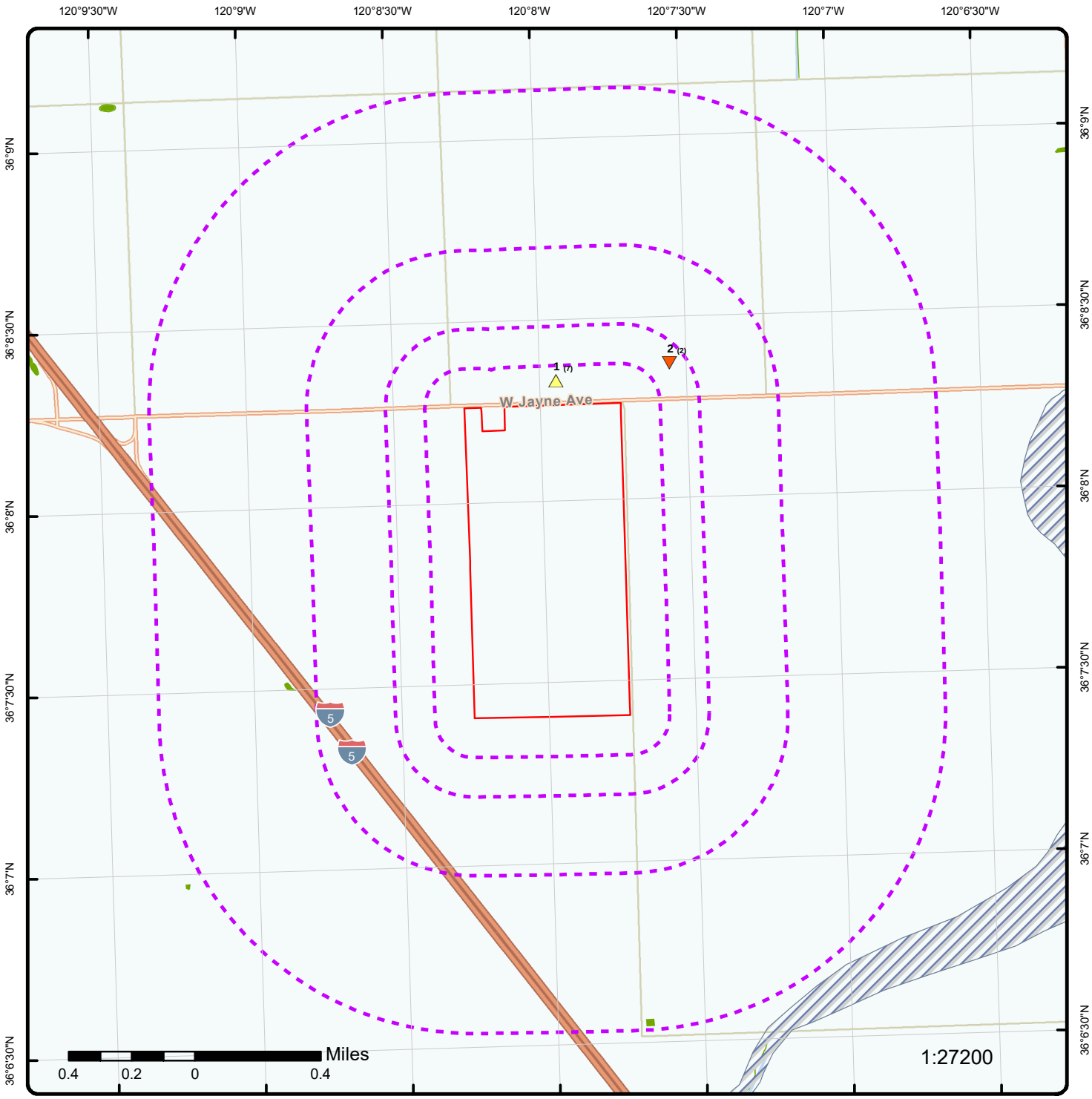
A search of the CERS HAZ database, dated Dec 8, 2021 has found that there are 2 CERS HAZ site(s) within approximately 0.12 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
CENTURYLINK - HURON - HURNCA03	18364 W JAYNE AVE HURON CA 93234	N	0.08 / 414.27	1
PG&E: West Gates Solar Station	18364 W JAYNE AVE HURON CA 93234	N	0.08 / 414.27	1

EMISSIONS - Toxic Pollutant Emissions Facilities

A search of the EMISSIONS database, dated Dec 31, 2019 has found that there are 3 EMISSIONS site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
LEVEL 3 COMMUNICATIONS LLC	18364 W JAYNE HURON CA 93234	N	0.08 / 414.27	1
WILTEL COMMUNICATIONS LLC	18364 W JAYNE HURON CA	N	0.08 / 414.27	1
LEVEL 3 COMMUNICATIONS LLC	18364 W JAYNE HURON CA	N	0.08 / 414.27	1



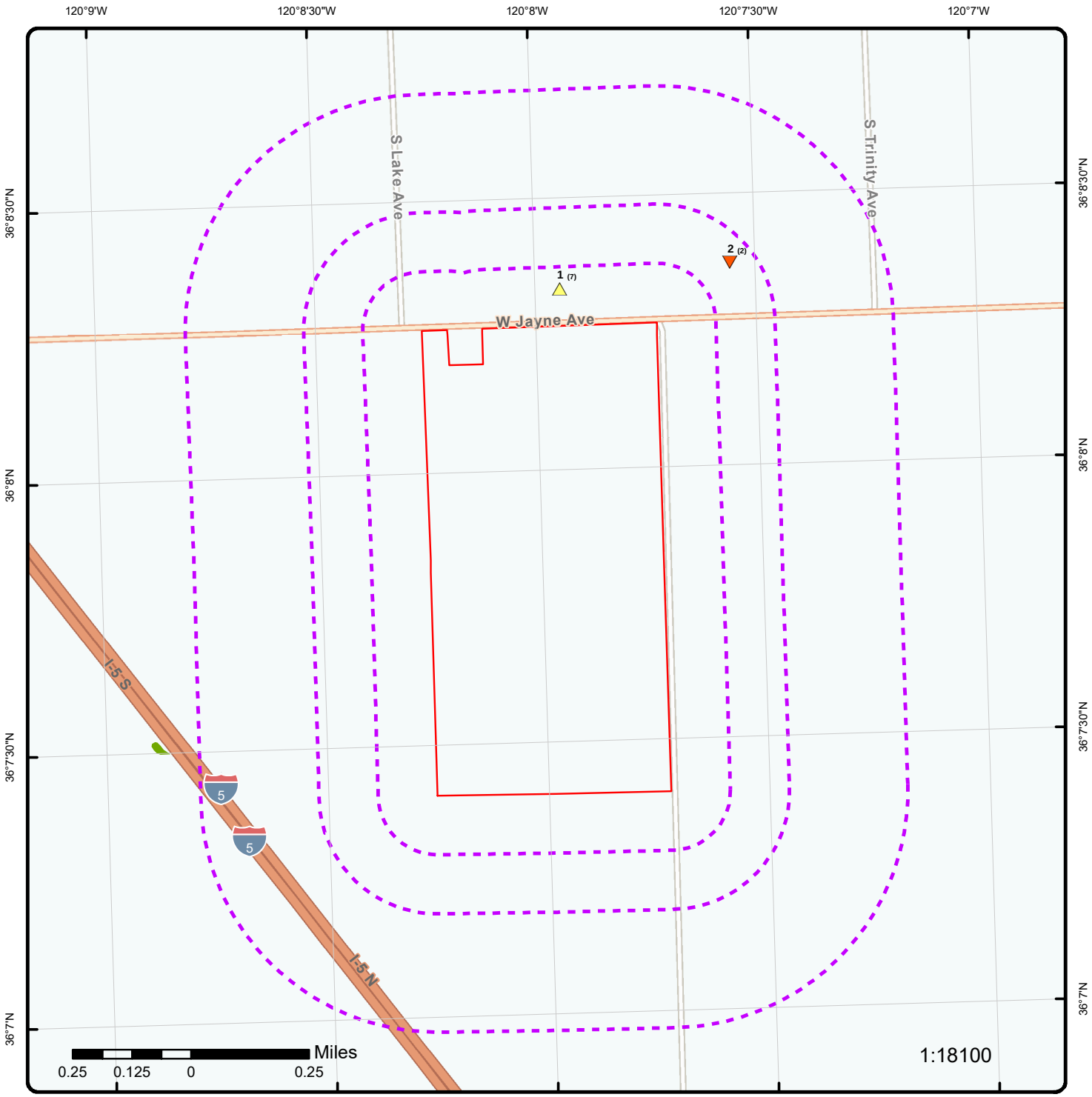
Map: 1.0 Mile Radius

Order Number: 22020200451

Address: Key Energy Storage Site, Coalinga, CA

Project Property
Buffer Outline
Eris Sites with Higher Elevation
Eris Sites with Same Elevation
Eris Sites with Lower Elevation
Eris Sites with Unknown Elevation
Eris Areas with Higher Elevation
Eris Areas with Same Elevation
Eris Areas with Lower Elevation
Eris Areas with Unknown Elevation
Freeways; Highways
Traffic Circle; Ramp
Major & Minor Arterial
Traffic Circle; Ramp
Local Road
Rail
State
Country
National Priority List Sites
National Wetland
Indian Reserve Land
Historic Fill
100 Year Flood Zone
500 Year Flood Zone
FWS Special Designation Areas
Plume

Source: © 2021 ESRI StreetMap Premium



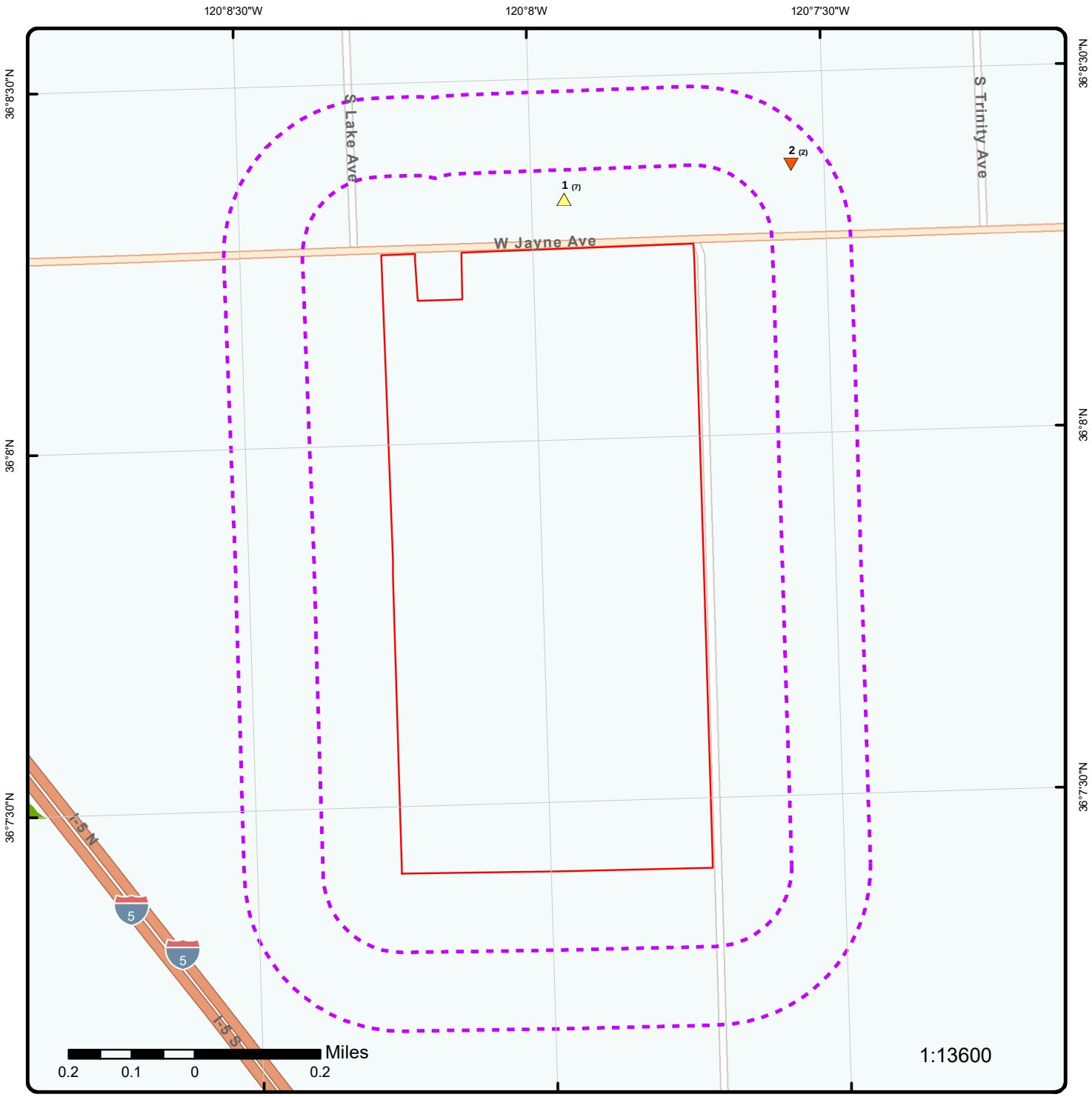
Map: 0.5 Mile Radius

Order Number: 22020200451

Address: Key Energy Storage Site, Coalinga, CA

- Project Property
- Buffer Outline
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- Eris Areas with Higher Elevation
- Eris Areas with Same Elevation
- Eris Areas with Lower Elevation
- Eris Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- Plume

Source: © 2021 ESRI StreetMap Premium



Map: 0.25 Mile Radius

Order Number: 22020200451

Address: Key Energy Storage Site, Coalinga, CA

- Project Property
- Buffer Outline
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- Eris Areas with Higher Elevation
- Eris Areas with Same Elevation
- Eris Areas with Lower Elevation
- Eris Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- Plume

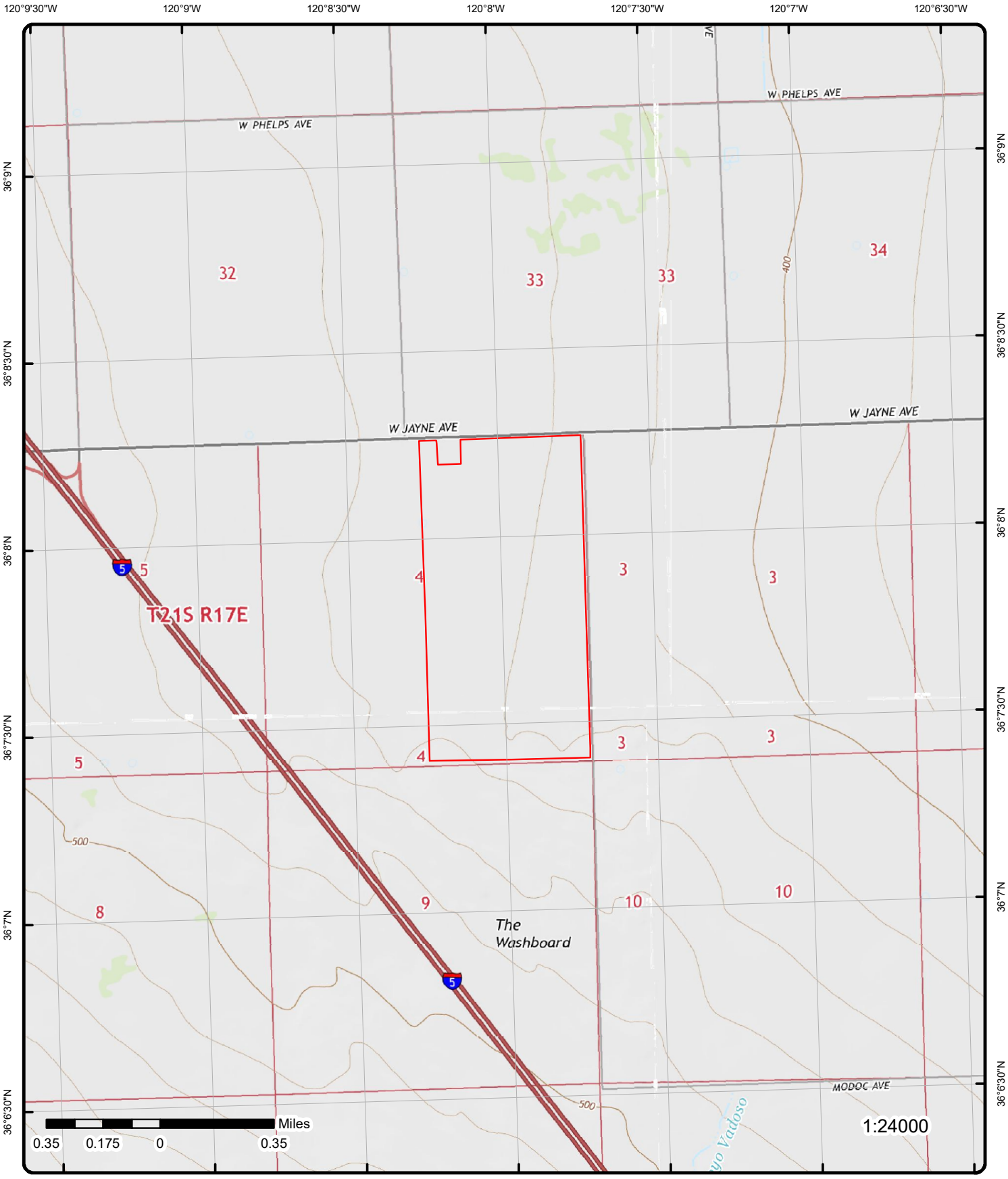
Source: © 2021 ESRI StreetMap Premium

Aerial **Year: 2021**

Order Number: 22020200451

Address: Key Energy Storage Site, Coalinga, CA

Source: ESRI World Imagery



Topographic Map

Year: 2015

Order Number: 22020200451

Address: Key Energy Storage Site, CA

Quadrangle(s): La Cima, CA; Avenal, CA; Guijarral Hills, CA; Huron, CA

Source: USGS Topographic Map

Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	1 of 7	N	0.08 / 414.27	423.86 / 2	CENTURY LINK-HURON CA03 18364 W JAYNE AVE HURON CA 93234	CUPA FRESNO

Facility ID: FA0278134
CERS ID: 10669456
SWIS No:
APN: 07506018SU
Zip: 93234
GIS Longitude: -120.127172
GIS Latitude: 36.13908
Cross Street:

Detail(s)

Program Element: SMALL HAZARDOUS MATERIALS HANDLER
Program Identifier:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	2 of 7	N	0.08 / 414.27	423.86 / 2	PG&E WEST GATES SOLAR STATION 18364 W JAYNE AVE HURON CA 93234	CUPA FRESNO

Facility ID: FA0283130
CERS ID: 10449898
SWIS No:
APN: 07506045SU
Zip: 93234
GIS Longitude: -120.1327
GIS Latitude: 36.1388
Cross Street:

Detail(s)

Program Element: SMALL HAZARDOUS MATERIALS HANDLER
Program Identifier:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	3 of 7	N	0.08 / 414.27	423.86 / 2	CENTURYLINK - HURON - HURNCA03 18364 W JAYNE AVE HURON CA 93234	CERS HAZ

Site ID: 396490
Latitude: 36.137796
Longitude: -120.132742
County:

Regulated Programs

EI ID: 10669456
EI Description: Chemical Storage Facilities

Violations

Violation Date: 10/04/2013
Violation Program: HMRRP
Violation Source: CERS
Violation Division: Fresno County Department of Public Health
Citation: HSC 6.95 25504(c) - California Health and Safety Code, Chapter 6.95, Section(s) 25504(c)
Violation Notes:

Returned to compliance on 12/03/2013. Operator to submit proof of employee training documentation.

Violation Description:

Failure to include an adequate training program in the business plan, which is reasonable and appropriate for the size of the business and the nature of the hazardous material handled.

Violations

Violation Date: 01/27/2017
Violation Source: CERS
Violation Program: HMRRP
Violation Division: Fresno County Department of Public Health
Citation: HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Notes:

Returned to compliance on 02/26/2017.

Violation Description:

Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.

Violations

Violation Date: 01/27/2017
Violation Source: CERS
Violation Program: HMRRP
Violation Division: Fresno County Department of Public Health
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Notes:

Returned to compliance on 02/26/2017.

Violation Description:

Failure to complete and electronically submit a site map with all required content.

Violations

Violation Date: 10/04/2013
Violation Source: CERS
Violation Program: HMRRP
Violation Division: Fresno County Department of Public Health
Citation: HSC 6.95 25504(b) - California Health and Safety Code, Chapter 6.95, Section(s) 25504(b)
Violation Notes:

Returned to compliance on 12/03/2013. Operator to provide spill control equipment/supplies.

Violation Description:

Failure to include adequate emergency response procedures in the business plan for a release or threatened release.

Evaluations

Eval Date: 01/27/2017
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Fresno County Department of Public Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Eval Date: 10/04/2013
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Fresno County Department of Public Health
Eval Program: HMRRP

Eval Source: CERS
Eval Notes:

Affiliations

Affil Type Desc: Document Preparer
Entity Name: Robert Gurdikian
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Environmental Contact
Entity Name: Robert Gurdikian
Entity Title:
Address: 700 W Mineral Avenue, UT D25.09
City: Littleton
State: CO
Country:
Zip Code: 80120
Phone:

Affil Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title:
Address: 700 W Mineral Avenue, UT D25.09
City: Littleton
State: CO
Country:
Zip Code: 80120
Phone:

Affil Type Desc: CUPA District
Entity Name: Fresno County Community Health Department
Entity Title:
Address: 1221 Fulton St., 3rd FloorP.O. Box 11867
City: Fresno
State: CA
Country:
Zip Code: 93775
Phone: (559) 600-3271

Affil Type Desc: Operator
Entity Name: CenturyLink Communications
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone: (720) 888-0676

Affil Type Desc: Parent Corporation
Entity Name: CenturyLink
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Legal Owner
Entity Name: CenturyLink Communications

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Entity Title:
Address: 1025 Eldorado Blvd.
City: Broomfield
State: CO
Country: United States
Zip Code: 80021
Phone: (720) 888-1000

Affil Type Desc: Identification Signer
Entity Name: Robert Gurdikian
Entity Title: Regional EHS Manager III
Address:
City:
State:
Country:
Zip Code:
Phone:

Coordinates

Env Int Type Code: HMBP
Program ID: 10669456
Latitude: 36.137800
Longitude: -120.132740
Coord Name:
Ref Point Type Desc: Center of a facility or station.

1	*4 of 7*	*N*	*0.08 / 414.27*	*423.86 / 2*	***PG&E: West Gates Solar Station*** ***18364 W JAYNE AVE*** ***HURON CA 93234***	***CERS HAZ***

Site ID: 143567
Latitude: 36.137796
Longitude: -120.132742
County:

Regulated Programs

EI ID: 10449898
EI Description: Chemical Storage Facilities

Evaluations

Eval Date: 01/08/2015
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Fresno County Department of Public Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

FOGGY day heading to Huron. met Mike Martin & Bob Holsinger.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Affiliations

Affil Type Desc: Environmental Contact
Entity Name: Michael Martin
Entity Title:
Address: 33755 Old Mill Road
City: Auberry
State: CA
Country:
Zip Code: 93602
Phone:

Affil Type Desc: Identification Signer

Entity Name: Sam Garcia
Entity Title: Environmental Manager
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Operator
Entity Name: Pacific Gas & Electric Company
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone: (559) 263-5035

Affil Type Desc: Document Preparer
Entity Name: Michael Martin
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Parent Corporation
Entity Name: PG&E
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title:
Address: PO Box 7640
City: San Francisco
State: CA
Country:
Zip Code: 94120
Phone:

Affil Type Desc: Legal Owner
Entity Name: Pacific Gas & Electric Company
Entity Title:
Address: c/o Environmental Services, 3401 Crow Canyon Road
City: San Ramon
State: CA
Country: United States
Zip Code: 94583
Phone: (415) 973-7000

Affil Type Desc: CUPA District
Entity Name: Fresno County Community Health Department
Entity Title:
Address: 1221 Fulton St., 3rd FloorP.O. Box 11867
City: Fresno
State: CA
Country:
Zip Code: 93775
Phone: (559) 600-3271

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Coordinates

Env Int Type Code:	HMBP	**Longitude:**	-120.132740
Program ID:	10449898	**Coord Name:**	
Latitude:	36.137800	**Ref Point Type Desc:**	Center of a facility or station.

1	5 of 7	N	0.08 / 414.27	423.86 / 2	**LEVEL 3 COMMUNICATIONS LLC** **18364 W JAYNE** **HURON CA**	EMISSIONS

2006 Criteria Data

Facility ID:	3805	**CERR Code:**	
Facility SIC Code:	4813	**TOGT:**	.000839787228668521572845703358431934982 67
CO:	10	**ROGT:**	.000702649974226952
Air Basin:	SJV	**COT:**	.000729949973225594
District:	SJU	**NOXT:**	.0172691993665695
COID:	FRE	**SOXT:**	.000462149983048439
DISN:	SAN JOAQUIN VALLEY APCD	**PMT:**	.001107530697080932377049180327868852459016
CHAPIS:		**PM10T:**	.00108094996035099

2006 Toxic Data

Facility ID:	3805	**COID:**	FRE
Facility SIC Code:	4813	**DISN:**	SAN JOAQUIN VALLEY APCD
CO:	10	**CHAPIS:**	
Air Basin:	SJV	**CERR Code:**	
District:	SJU		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2007 Criteria Data

Facility ID:	3805	**CERR Code:**	
Facility SIC Code:	4813	**TOGT:**	.000113487556074502569618740289231504720927
CO:	10	**ROGT:**	.0000949550381675363
Air Basin:	SJV	**COT:**	.0000986443180963397
District:	SJU	**NOXT:**	.00233373307496309
COID:	FRE	**SOXT:**	.00000186220796406269
DISN:	SAN JOAQUIN VALLEY APCD	**PMT:**	.000149669997111634221311475409836065573 77
CHAPIS:		**PM10T:**	.000146077917180955

2007 Toxic Data

Facility ID:	3805	**COID:**	FRE
Facility SIC Code:	4813	**DISN:**	SAN JOAQUIN VALLEY APCD
CO:	10	**CHAPIS:**	
Air Basin:	SJV	**CERR Code:**	
District:	SJU		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Non-Cancer Acute Haz Ind:						
1	6 of 7	N	0.08 / 414.27	423.86 / 2	WILTEL COMMUNICATIONS LLC 18364 W JAYNE HURON CA	EMISSIONS

2004 Criteria Data

Facility ID:	3805	CERR Code:	
Facility SIC Code:	4813	TOGT:	.00105942395659662483566391777220031074 4592
CO:	10	ROGT:	.000886420024484396
Air Basin:	SJV	COT:	.000920860025435686
District:	SJU	NOXT:	.021785760601759
COID:	FRE	SOXT:	.000583020016103983
DISN:	SAN JOAQUIN VALLEY APCD	PMT:	.00139719266154360655737704918032786885 2459
CHAPIS:		PM10T:	.00136366003766656

2004 Toxic Data

Facility ID:	3805	COID:	FRE
Facility SIC Code:	4813	DISN:	SAN JOAQUIN VALLEY APCD
CO:	10	CHAPIS:	
Air Basin:	SJV	CERR Code:	
District:	SJU		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2005 Criteria Data

Facility ID:	3805	CERR Code:	
Facility SIC Code:	4813	TOGT:	.00105942395659662483566391777220031074 4592
CO:	10	ROGT:	.000886420024484396
Air Basin:	SJV	COT:	.000920860025435686
District:	SJU	NOXT:	.021785760601759
COID:	FRE	SOXT:	.000583020016103983
DISN:	SAN JOAQUIN VALLEY APCD	PMT:	.00139719266154360655737704918032786885 2459
CHAPIS:		PM10T:	.00136366003766656

2005 Toxic Data

Facility ID:	3805	COID:	FRE
Facility SIC Code:	4813	DISN:	SAN JOAQUIN VALLEY APCD
CO:	10	CHAPIS:	
Air Basin:	SJV	CERR Code:	
District:	SJU		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

1	7 of 7	N	0.08 / 414.27	423.86 / 2	LEVEL 3 COMMUNICATIONS LLC 18364 W JAYNE	EMISSIONS

2008 Criteria Data

Facility ID:	3805	***CERR Code:***	
Facility SIC Code:	4813	***TOGT:***	.00018914592679083781522648500059758575 3556
CO:	10	***ROGT:***	.00015825839694589 4
Air Basin:	SJV	***COT:***	.00016440719682723 3
District:	SJU	***NOXT:***	.00388955512493849
COID:	FRE	***SOXT:***	.00000310367994010448
DISN:	SAN JOAQUIN VALLEY APCD	***PMT:***	.00024944999518605737704918032786885245 9016
CHAPIS:		***PM10T:***	.00024346319530159 2

2008 Toxic Data

Facility ID:	3805	***COID:***	FRE
Facility SIC Code:	4813	***DISN:***	SAN JOAQUIN VALLEY APCD
CO:	10	***CHAPIS:***	
Air Basin:	SJV	***CERR Code:***	
District:	SJU		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2009 Criteria Data

Facility ID:	3805	***CERR Code:***	
Facility SIC Code:	4813	***TOGT:***	.00226742567142107087367037169833871160 5115
CO:	10	***ROGT:***	.00189715505927801
Air Basin:	SJV	***COT:***	.00197086506158113
District:	SJU	***NOXT:***	.0466268414568901
COID:	FRE	***SOXT:***	.000037206001162529
DISN:	SAN JOAQUIN VALLEY APCD	***PMT:***	.00299033308523844262295081967213114754 0984
CHAPIS:		***PM10T:***	.00291856509119272

2009 Toxic Data

Facility ID:	3805	***COID:***	FRE
Facility SIC Code:	4813	***DISN:***	SAN JOAQUIN VALLEY APCD
CO:	10	***CHAPIS:***	
Air Basin:	SJV	***CERR Code:***	
District:	SJU		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2010 Toxic Data

Facility ID:	3805	***COID:***	FRE
Facility SIC Code:	4813	***DISN:***	SAN JOAQUIN VALLEY APCD
CO:	10	***CHAPIS:***	
Air Basin:	SJV	***CERR Code:***	

District: SJU
TS:
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:

2011 Criteria Data

Facility ID: 3805
Facility SIC Code: 4813
CO: 10
Air Basin: SJV
District: SJU
COID: FRE
DISN: SAN JOAQUIN VALLEY APCD
CHAPIS:
CERR Code:
TOGT: .000189145926790837815226485000597585753556
ROGT: .000158258396945894
COT: .000164407196827233
NOXT: .00388955512493849
SOXT: .00000310367994010448
PMT: .000249449995186057377049180327868852459016
PM10T: .000243463195301592

2011 Toxic Data

Facility ID: 3805
Facility SIC Code: 4813
CO: 10
Air Basin: SJV
District: SJU
TS:
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:
COID: FRE
DISN: SAN JOAQUIN VALLEY APCD
CHAPIS:
CERR Code:

2012 Criteria Data

Facility ID: 3805
Facility SIC Code: 4813
CO: 10
Air Basin: SJV
District: SJU
COID: FRE
DISN: SAN JOAQUIN VALLEY APCD
CHAPIS:
CERR Code:
TOGT: .000189145926790837815226485000597585753556
ROGT: .000158258396945894
COT: .000164407196827233
NOXT: .00388955512493849
SOXT: .00000310367994010448
PMT: .000249449995186057377049180327868852459016
PM10T: .000243463195301592

2012 Toxic Data

Facility ID: 3805
Facility SIC Code: 4813
CO: 10
Air Basin: SJV
District: SJU
TS:
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:
COID: FRE
DISN: SAN JOAQUIN VALLEY APCD
CHAPIS:
CERR Code:

2013 Criteria Data

Facility ID: 3805
CERR Code:

Facility SIC Code:	4813	**TOGT:**	.00024018212862834376778599886169607285 1451
CO:	10	**ROGT:**	.000211
Air Basin:	SJV	**COT:**	.000219
District:	SJU	**NOXT:**	.00519
COID:	FRE	**SOXT:**	.00000414
DISN:	SAN JOAQUIN VALLEY APCD	**PMT:**	.00033299180327868852459016393442622950 8197
CHAPIS:		**PM10T:**	.000325

2013 Toxic Data

Facility ID:	3805	**COID:**	FRE
Facility SIC Code:	4813	**DISN:**	SAN JOAQUIN VALLEY APCD
CO:	10	**CHAPIS:**	
Air Basin:	SJV	**CERR Code:**	
District:	SJU		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2014 Criteria Data

Facility ID:	3805	**CERR Code:**	
Facility SIC Code:	4813	**TOGT:**	.00006004871824924826408651109846328969 834946
CO:	10	**ROGT:**	.0000527527989819646
Air Basin:	SJV	**COT:**	.0000548023989424109
District:	SJU	**NOXT:**	.0012965183749795
COID:	FRE	**SOXT:**	.00000103455998003483
DISN:	SAN JOAQUIN VALLEY APCD	**PMT:**	.00008314999839535256147540983606557377 04918
CHAPIS:		**PM10T:**	.0000811543984338641

2014 Toxic Data

Facility ID:	3805	**COID:**	FRE
Facility SIC Code:	4813	**DISN:**	SAN JOAQUIN VALLEY APCD
CO:	10	**CHAPIS:**	
Air Basin:	SJV	**CERR Code:**	
District:	SJU		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2015 Criteria Data

Facility ID:	3805	**CERR Code:**	
Facility SIC Code:	4813	**TOGT:**	.00058281161070005691519635742743312464 428
CO:	10	**ROGT:**	.000512
Air Basin:	SJV	**COT:**	.000531
District:	SJU	**NOXT:**	.01258
COID:	FRE	**SOXT:**	.00001004
DISN:	SAN JOAQUIN VALLEY APCD	**PMT:**	.00080737704918032786885245901639344262 2951
CHAPIS:		**PM10T:**	.000788

2015 Toxic Data

Facility ID:	3805	***COID:***	FRE
Facility SIC Code:	4813	***DISN:***	SAN JOAQUIN VALLEY APCD
CO:	10	***CHAPIS:***	
Air Basin:	SJV	***CERR Code:***	
District:	SJU		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2016 Criteria Data

Facility ID:	3805	***CERR CODE:***	
Facility SIC Code:	4813	***TOGT:***	.000557768924302788844621513944223107569721
CO:	10	***ROGT:***	.00049
Air Basin:	SJV	***COT:***	.000509
District:	SJU	***NOXT:***	.012
COID:	FRE	***SOXT:***	.00000961
DISN:	SAN JOAQUIN VALLEY APCD	***PMT:***	.000772540983606557377049180327868852459016
CHAPIS:		***PM10T:***	.000754

2016 Toxic Data

Facility ID:	3805	***TS:***	
Facility SIC Code:	4813	***HRA:***	
CERR CODE:		***CH Index:***	
COID:	FRE	***AH Index:***	
CO:	10	***Air Basin:***	SJV
DISN:	SAN JOAQUIN VALLEY APCD	***District:***	SJU
CHAPIS:			

2017 Criteria Data

Facility ID:	3805	***CERR Code:***	
Facility SIC Code:	4813	***TOGT:***	.000557768924302788844621513944223107569721
CO:	10	***ROGT:***	.000185
Air Basin:	SJV	***COT:***	.000192
District:	SJU	***NOXT:***	.00454
COID:	FRE	***SOXT:***	.00000362
DISN:	SAN JOAQUIN VALLEY APCD	***PMT:***	.000772540983606557377049180327868852459016
CHAPIS:		***PM10T:***	.000284

2017 Toxic Data

Facility ID:	3805	***COID:***	FRE
Facility SIC Code:	4813	***DISN:***	SAN JOAQUIN VALLEY APCD
CO:	10	***CHAPIS:***	
Air Basin:	SJV	***CERR Code:***	
District:	SJU		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Non-Cancer Acute Haz Ind:

2018 Criteria Data

Facility ID:	3805	**CERR Code:**	
Facility SIC Code:	4813	**TOGT:**	.000225384177575412635173591348890153671 03
CO:	10	**ROGT:**	.000198
Air Basin:	SJV	**COT:**	.000206
District:	SJU	**NOXT:**	.00486
COID:	FRE	**SOXT:**	.00000388
DISN:	SAN JOAQUIN VALLEY APCD	**PMT:**	.000305835010060362173038229376257545271 63
CHAPIS:		**PM10T:**	.000304

2018 Toxic Data

Facility ID:	3805	**COID:**	FRE
Facility SIC Code:	4813	**DISN:**	SAN JOAQUIN VALLEY APCD
CO:	10	**CHAPIS:**	
Air Basin:	SJV	**CERR Code:**	
District:	SJU		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2019 Criteria Data

CO:	10	**CHAPIS:**	
Air Basin:	SJV	**CERR Code:**	
Facility ID:	3805	**ROGT:**	.0001482
District:	SJU	**COT:**	.0001538
Facility SIC Code:	4813	**NOXT:**	.00363
CO ID:	FRE	**SOXT:**	.000002898
DISN:	SAN JOAQUIN VALLEY APCD		
PM10T:	.0002269		
TOGT:	.000168696642003414911781445645987478656801		
PMT:	.000228269617706237424547283702213279678068		

2019 Toxic Data

CO:	10	**CHAPIS:**	
Air Basin:	SJV	**CERR Code:**	
Faccility ID:	3805	**TS:**	
District:	SJU	**Health Risk Asmt:**	
Facility SIC Code:	4813	**NonCncrChrnicHazInd :**	
COID:	FRE	**NonCncrActeHazInd:**	
DISN:	SAN JOAQUIN VALLEY APCD		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	1 of 2	NE	0.20 / 1,054.74	412.38 / -9	PG&E: Gates Substation 18336 WEST JAYNE AVENUE HURON CA 93234	DELISTED CTNK

Site ID:	399443	**Latitude:**	
County:		**Longitude:**	
Tank Type:			
Original Source:	CTNK		
Record Date:	06-MAY-2019		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	2 of 2	NE	0.20 / 1,054.74	412.38 / -9	GATES SUBSTATION 18336 W. JAYNE AVE. HURON CA 93234	AST SWRCB

Total Gals: 3000
Owner Name: PG & E
Data Source: SWRCB Aboveground Storage Tanks Listing 2003;SWRCB Aboveground Storage Tanks Listing 2005;SWRCB Aboveground Storage Tanks Listing 2006;SWRCB Aboveground Storage Tanks Listing 2007

Unplottable Summary

Total: 0 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID

No unplottable records were found that may be relevant for the search criteria.

Unplottable Report

No unplottable records were found that may be relevant for the search criteria.

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13 and E1527-21, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

Formerly Utilized Sites Remedial Action Program: DOE FUSRAP

The U.S. Department of Energy (DOE) established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from the Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations. The DOE Office of Legacy Management (LM) established long-term surveillance and maintenance (LTS&M) requirements for remediated FUSRAP sites. DOE evaluates the final site conditions of a remediated site on the basis of risk for different future uses. DOE then confirms that LTS&M requirements will maintain protectiveness.

Government Publication Date: Mar 4, 2017

National Priority List: NPL

National Priorities List (Superfund)-NPL: EPA's (United States Environmental Protection Agency) list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action.

Government Publication Date: Dec 30, 2021

National Priority List - Proposed: PROPOSED NPL

Includes sites proposed (by the EPA, the state, or concerned citizens) for addition to the NPL due to contamination by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.

Government Publication Date: Dec 30, 2021

Deleted NPL: DELETED NPL

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Government Publication Date: Dec 30, 2021

SEMS List 8R Active Site Inventory: SEMS

The Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted.

Government Publication Date: Dec 30, 2021

Inventory of Open Dumps, June 1985: ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

SEMS List 8R Archive Sites: SEMS ARCHIVE

The Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time.

Government Publication Date: Dec 30, 2021

Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS: CERCLIS

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

EPA Report on the Status of Open Dumps on Indian Lands: IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

CERCLIS - No Further Remedial Action Planned: CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens: CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action: RCRA CORRACTS

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Nov 17, 2021

RCRA non-CORRACTS TSD Facilities: RCRA TSD

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Government Publication Date: Nov 17, 2021

RCRA Generator List: RCRA LQG

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Nov 17, 2021

RCRA Small Quantity Generators List: RCRA SQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Nov 17, 2021

RCRA Very Small Quantity Generators List: RCRA VSQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Very Small Quantity Generators (VSQG) generate 100 kilograms or less per month of hazardous waste, or one kilogram or less per month of acutely hazardous waste. Additionally, VSQG may not accumulate more than 1,000 kilograms of hazardous waste at any time.

Government Publication Date: Nov 17, 2021

RCRA Non-Generators: RCRA NON GEN

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Nov 17, 2021

RCRA Sites with Controls: RCRA CONTROLS

List of Resource Conservation and Recovery Act (RCRA) facilities with institutional controls in place. RCRA gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

Government Publication Date: Nov 17, 2021

Federal Engineering Controls-ECs: FED ENG

Engineering controls (ECs) encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Dec 30, 2021

Federal Institutional Controls- ICs: FED INST

Institutional controls are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's (United States Environmental Protection Agency) expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site.

Government Publication Date: Dec 30, 2021

Land Use Control Information System: LUCIS

The LUCIS database is maintained by the U.S. Department of the Navy and contains information for former Base Realignment and Closure (BRAC) properties across the United States.

Government Publication Date: Sep 1, 2006

Emergency Response Notification System: ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System: ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System: ERNS

Database of oil and hazardous substances spill reports made available by the United States Coast Guard National Response Center (NRC). The NRC fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. These data contain initial incident data that has not been validated or investigated by a federal/state response agency.

Government Publication Date: Jul 26, 2021

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database: FED BROWNFIELDS

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Aug 20, 2021

FEMA Underground Storage Tank Listing: FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Facility Response Plan: FRP

List of facilities that have submitted Facility Response Plans (FRP) to EPA. Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit Facility Response Plans (FRPs). Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments.

Government Publication Date: Dec 2, 2020

Historical Gas Stations: HIST GAS STATIONS

This historic directory of service stations is provided by the Cities Service Company. The directory includes Cities Service filling stations that were located throughout the United States in 1930.

Government Publication Date: Jul 1, 1930

Petroleum Refineries: REFN

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

Government Publication Date: Jul 10, 2020

Petroleum Product and Crude Oil Rail Terminals: BULK TERMINAL

List of petroleum product and crude oil rail terminals made available by the U.S. Energy Information Administration (EIA). Includes operable bulk petroleum product terminals located in the 50 States and the District of Columbia with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil that were active between 2017 and 2018. Petroleum product terminals comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings. Survey locations adjusted using public data.

Government Publication Date: Apr 28, 2020

LIEN on Property: SEMS LIEN

The EPA Superfund Enterprise Management System (SEMS) provides LIEN information on properties under the EPA Superfund Program.

Government Publication Date: Dec 30, 2021

Superfund Decision Documents: SUPERFUND ROD

This database contains a listing of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD), along with other associated memos and files. This information is maintained and made available by the US EPA (Environmental Protection Agency).

Government Publication Date: Nov 16, 2021

State

State Response Sites: RESPONSE

A list of identified confirmed release sites where the Department of Toxic Substances Control (DTSC) is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk. This database is state equivalent NPL.

Government Publication Date: Jan 6, 2022

EnviroStor Database: ENVIROSTOR

The EnviroStor Data Management System is made available by the Department of Toxic Substances Control (DTSC). Includes Corrective Action sites, Tiered Permit sites, Historical Sites and Evaluation/Investigation sites. This database is state equivalent CERCLIS.

Government Publication Date: Jan 6, 2022

Delisted State Response Sites: DELISTED ENVS

Sites removed from the list of State Response Sites made available by the EnviroStor Data Management System, Department of Toxic Substances Control (DTSC).

Government Publication Date: Jan 6, 2022

Solid Waste Information System (SWIS): SWF/LF

The Solid Waste Information System (SWIS) database made available by the Department of Resources Recycling and Recovery (CalRecycle) contains information on solid waste facilities, operations, and disposal sites throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites.

Government Publication Date: Nov 2, 2021

Solid Waste Disposal Sites with Waste Constituents Above Hazardous Waste Levels: SWRCB SWF

This is a list of solid waste disposal sites identified by California State Water Resources Control Board with waste constituents above hazardous waste levels outside the waste management unit.

Government Publication Date: Sep 20, 2006

Waste Management Unit Database: WMUD

The Waste Management Unit Database System tracks and inventories waste management units. CCR Title 27 contains criteria stating that Waste Management Units are classified according to their ability to contain wastes. Containment shall be determined by geology, hydrology, topography, climatology, and other factors relating to the ability of the Unit to protect water quality. Water Code Section 13273.1 requires that operators submit a water quality solid waste assessment test (SWAT) report to address leak status. The WMUDS was last updated by the State Water Resources control board in 2000.

Government Publication Date: Jan 1, 2000

EnviroStor Hazardous Waste Facilities: HWP

A list of hazardous waste facilities including permitted, post-closure and historical facilities found in the Department of Toxic Substances Control (DTSC) EnviroStor database.

Government Publication Date: Jan 6, 2022

Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report: SWAT

In a 1993 Memorandum of Understanding, the State Water Resources Control Board (SWRCB) agreed to submit a comprehensive report on the Solid Waste Assessment Test (SWAT) Program to the California Integrated Waste Management Board (CIWMB). This report summarizes the work completed to date on the SWAT Program, and addresses both the impacts that leakage from solid waste disposal sites (SWDS) may have upon waters of the State and the actions taken to address such leakage.

Government Publication Date: Dec 31, 1995

Construction and Demolition Debris Recyclers: C&D DEBRIS RECY

This listing of Construction and Demolition Debris Recyclers is maintained by the California Intergrated Waste Management Board-common C&D materials include lumber, drywall, metals, masonry (brick, concrete, etc.), carpet, plastic, pipe, rocks, dirt, paper, cardboard, or green waste related to land development.

Government Publication Date: Jun 20, 2018

Recycling Centers: RECYCLING

This list of Certified Recycling Centers that are operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

Government Publication Date: Dec 17, 2021

Listing of Certified Processors: PROCESSORS

This list of Certified Processors that are operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

Government Publication Date: Dec 20, 2021

Listing of Certified Dropoff, Collection, and Community Service Programs: CONTAINER RECY

This list of Certified Dropoff, Collection, and Community Service Programs (non-buyback) operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

Government Publication Date: Dec 17, 2021

Land Disposal Sites: LDS

Land Disposal Sites in GeoTracker, the State Water Resources Control Board (SWRCB)'s data management system. The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units. Waste management units include waste piles, surface impoundments, and landfills.

Government Publication Date: Oct 20, 2021

Leaking Underground Fuel Tank Reports: LUST

List of Leaking Underground Storage Tanks within the Cleanup Sites data in GeoTracker database. GeoTracker is the State Water Resources Control Board's (SWRCB) data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense and Site Cleanup Program) as well as permitted facilities such as operating Underground Storage Tanks. The Leak Prevention Program that overlooks LUST sites is the SWRCB in California's Environmental Protection Agency.

Government Publication Date: Jun 22, 2021

Delisted Leaking Storage Tanks: DELISTED LST

List of Leaking Underground Storage Tanks (LUST) cleanup sites removed from GeoTracker, the State Water Resources Control Board (SWRCB)'s database system, as well as sites removed from the SWRCB's list of UST Case closures.

Government Publication Date: Jun 22, 2021

Permitted Underground Storage Tank (UST) in GeoTracker: UST

List of Permitted Underground Storage Tank (UST) sites made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA).

Government Publication Date: Jan 3, 2022

Proposed Closure of Underground Storage Tank Cases: UST CLOSURE

List of UST cases that are being considered for closure by either the California Environmental Protection Agency, State Water Resources Control Board or the Executive Director that have been posted for a 60-day public comment period.

Government Publication Date: May 5, 2021

Historical Hazardous Substance Storage Information Database: HHSS

The Historical Hazardous Substance Storage database contains information collected in the 1980s from facilities that stored hazardous substances. The information was originally collected on paper forms, was later transferred to microfiche, and recently indexed as a searchable database. When using this database, please be aware that it is based upon self-reported information submitted by facilities which has not been independently verified. It is unlikely that every facility responded to the survey and the database should not be expected to be a complete inventory of all facilities that were operating at that time. This database is maintained by the California State Water Resources Control Board's (SWRCB) Geotracker.

Government Publication Date: Aug 27, 2015

Statewide Environmental Evaluation and Planning System: UST SWEEPS

The Statewide Environmental Evaluation and Planning System (SWEEPS) is a historical listing of active and inactive underground storage tanks made available by the California State Water Resources Control Board (SWRCB).

Government Publication Date: Oct 1, 1994

Aboveground Storage Tanks: AST

A statewide list from 2009 of aboveground storage tanks (ASTs) made available by the Cal FIRE Office of the State Fire Marshal (OSFM). This list is no longer maintained or updated by the Cal FIRE OSFM.

Government Publication Date: Aug 31, 2009

SWRCB Historical Aboveground Storage Tanks: AST SWRCB

A list of aboveground storage tanks made available by the California State Water Resources Control Board (SWRCB). Effective January 1, 2008, the Certified Unified Program Agencies (CUPAs) are vested with the responsibility and authority to implement the Aboveground Petroleum Storage Act (APSA).

Government Publication Date: Dec 1, 2007

Oil and Gas Facility Tanks: TANK OIL GAS

Locations of oil and gas tanks that fall under the jurisdiction of the Geologic Energy Management Division of the California Department of Conservation (CalGEM) (CCR 1760). CalGEM was formerly the Division of Oil, Gas, and Geothermal Resources (DOGGR).

Government Publication Date: Dec 9, 2021

Delisted Storage Tanks: DELISTED TNK

This database contains a list of storage tank sites that were removed by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA) and the Cal FIRE Office of State Fire Marshal (OSFM).

Government Publication Date: Jan 3, 2022

California Environmental Reporting System (CERS) Tanks: CERS TANK

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: Dec 8, 2021

Delisted California Environmental Reporting System (CERS) Tanks: DELISTED CTNK

This database contains a list of Aboveground Petroleum Storage and Underground Storage Tank sites that were removed from in the California Environmental Protection Agency (CalEPA) Regulated Site Portal.

Government Publication Date: Dec 8, 2021

Historical Hazardous Substance Storage Container Information - Facility Summary: HIST TANK

The State Water Resources Control Board maintained the Hazardous Substance Storage Containers listing and inventory in th 1980s. This facility summary lists historic tank sites where the following container types were present: farm motor vehicle fuel tanks; waste tanks; sumps; pits, ponds, lagoons, and others; and all other product tanks. This set, published in May 1988, lists facility and owner information, as well as the number of containers. This data is historic and will not be updated.

Government Publication Date: May 27, 1988

Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions: LUR

The Department of Toxic Substances Control (DTSC) Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents land use restrictions that are active. Some sites have multiple land use restrictions.

Government Publication Date: Jan 6, 2022

CALSITES Database: CALSITES

This historical database was maintained by the Department of Toxic Substance Control (DTSC) for more than a decade. CALSITES contains information on Brownfield properties with confirmed or potential hazardous contamination. In 2006, DTSC introduced EnviroStor as the latest Brownfields site database.

Government Publication Date: May 1, 2004

Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions: HLUR

The Department of Toxic Substances Control (DTSC) Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Government Publication Date: Feb 18, 2021

Deed Restrictions and Land Use Restrictions: DEED

List of Deed Restrictions, Land Use Restrictions and Covenants in GeoTracker made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency. A deed restriction (land use covenant) may be required to facilitate the remediation of past environmental contamination and to protect human health and the environment by reducing the risk of exposure to residual hazardous materials.

Government Publication Date: Oct 20, 2021

Voluntary Cleanup Program: VCP

List of sites in the Voluntary Cleanup Program made available by the Department of Toxic Substances and Control (DTSC). The Voluntary Cleanup Program was designed to respond to lower priority sites. Under the Voluntary Cleanup Program, DTSC enters site-specific agreements with project proponents for DTSC oversight of site assessment, investigation, and/or removal or remediation activities, and the project proponents agree to pay DTSC's reasonable costs for those services.

Government Publication Date: Jan 6, 2022

GeoTracker Cleanup Program Sites: CLEANUP SITES

A list of Cleanup Program sites in the state of California made available by The State Water Resources Control Board (SWRCB) of the California Environmental Protection Agency (EPA). SWRCB tracks leaking underground storage tank cleanups as well as other water board cleanups.

Government Publication Date: Jun 22, 2021

Delisted County Records: DELISTED COUNTY

Records removed from county or CUPA databases. Records may be removed from the county lists made available by the respective county departments because they are inactive, or because they have been deemed to be below reportable thresholds.

Government Publication Date: Jan 19, 2022

Tribal

Leaking Underground Storage Tanks (LUSTs) on Indian Lands: INDIAN LUST

LUSTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Apr 8, 2020

Underground Storage Tanks (USTs) on Indian Lands: INDIAN UST

USTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Apr 8, 2020

Delisted Tribal Leaking Storage Tanks: DELISTED ILST

Leaking Underground Storage Tank facilities which have been removed from the Regional Tribal LUST lists made available by the EPA.

Government Publication Date: Apr 14, 2020

Delisted Tribal Underground Storage Tanks: DELISTED IUST

Underground Storage Tank facilities which have been removed from the Regional Tribal UST lists made available by the EPA.

Government Publication Date: Apr 14, 2020

County

Fresno County - CUPA/Solid Waste Programs Resource List: CUPA FRESNO

A list of facilities associated with various Certified Unified Program Agency (CUPA) programs in Fresno County. This list is made available by Fresno County Department of Environmental Health Division which is approved by Cal-EPA as CUPA for the County.

Government Publication Date: Apr 9, 2021

Additional Environmental Record Sources

Federal

Facility Registry Service/Facility Index: FINDS/FRS

The Facility Registry Service (FRS) is a centrally managed database that identifies facilities, sites, or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, and data collected from EPA's Central Data Exchange registrations and data management personnel. This list is made available by the Environmental Protection Agency (US EPA).

Government Publication Date: Nov 2, 2020

Toxics Release Inventory (TRI) Program: TRIS

The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U. S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.

Government Publication Date: Aug 24, 2021

Perfluorinated Alkyl Substances (PFAS) Releases: PFAS TRI

List of Toxics Release Inventory (TRI) facilities at which the reported chemical is a Per- or polyfluorinated alkyl substance (PFAS) included in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances. The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment.

Government Publication Date: Aug 24, 2021

PFOA/PFOS Contaminated Sites: PFAS NPL

List of sites where PFOA or PFOS contaminants have been found in drinking water or soil. Made available by the Federal Environmental Protection Agency (EPA).

Government Publication Date: Sep 17, 2021

Perfluorinated Alkyl Substances (PFAS) Water Quality: PFAS WATER

The Water Quality Portal (WQP) is a cooperative service sponsored by the United States Geological Survey (USGS), the Environmental Protection Agency (EPA), and the National Water Quality Monitoring Council (NWQMC). This listing includes records from the Water Quality Portal where the characteristic (environmental measurement) is in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances.

Government Publication Date: Jul 20, 2020

SSEHRI PFAS Contamination Sites: PFAS SSEHRI

This PFAS Contamination Site Tracker database is compiled by the Social Science Environmental Health Research Institute (SSEHRI) at Northeastern University. According to the SSEHRI, the database records qualitative and quantitative data from each known site of PFAS contamination, including timeline of discovery, sources, levels, health impacts, community response, and government response. The goal of this database is to compile information and support public understanding of the rapidly unfolding issue of PFAS contamination. All data presented was extracted from government websites, news articles, or publicly available documents, and this is cited in the tracker. Disclaimer: The source conveys this database undergoes regular updates as new information becomes available, some sites may be missing and/or contain information that is incorrect or outdated, as well as their information represents all contamination sites SSEHRI is aware of, not all possible contamination sites. This data is not intended to be used for legal purposes. Limited location details are available with this data. Access the following for the most current informations https://pfasproject.com/pfas-contamination-site-tr acker/

Government Publication Date: Dec 12, 2019

Hazardous Materials Information Reporting System: HMIRS

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.

Government Publication Date: Sep 1, 2020

National Clandestine Drug Labs: NCDL

The U.S. Department of Justice ("the Department") provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

Government Publication Date: Oct 5, 2020

Toxic Substances Control Act: TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.
The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).
Government Publication Date: Apr 11, 2019

Hist TSCA: HIST TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.
The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.
Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing: FTTS ADMIN

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.
Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing: FTTS INSP

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.
Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List: PRP

Early in the cleanup process, the Environmental Protection Agency (EPA) conducts a search to find the potentially responsible parties (PRPs). EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site.
Government Publication Date: Oct 20, 2021

State Coalition for Remediation of Drycleaners Listing: SCRD DRYCLEANER

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.
Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS): ICIS

The Integrated Compliance Information System (ICIS) is a system that provides information for the Federal Enforcement and Compliance (FE&C) and the National Pollutant Discharge Elimination System (NPDES) programs. The FE&C component supports the Environmental Protection Agency's (EPA) Civil Enforcement and Compliance program activities. These activities include Compliance Assistance, Compliance Monitoring and Enforcement. The NPDES program supports tracking of NPDES permits, limits, discharge monitoring data and other program reports.
Government Publication Date: Oct 14, 2021

Drycleaner Facilities: FED DRYCLEANERS

A list of drycleaner facilities from Enforcement and Compliance History Online (ECHO) online search. The Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.
Government Publication Date: May 5, 2021

Delisted Drycleaner Facilities: DELISTED FED DRY

List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).

Government Publication Date: May 5, 2021

Formerly Used Defense Sites: FUDS

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DoD) is responsible for an environmental restoration. This list is published by the U.S. Army Corps of Engineers.

Government Publication Date: May 26, 2021

Former Military Nike Missile Sites: FORMER NIKE

This information was taken from report DRXTH-AS-IA-83A016 (Historical Overview of the Nike Missile System, 12/1984) which was performed by Environmental Science and Engineering, Inc. for the U.S. Army Toxic and Hazardous Materials Agency Assessment Division. The Nike system was deployed between 1954 and the mid-1970's. Among the substances used or stored on Nike sites were liquid missile fuel (JP-4); starter fluids (UDKH, aniline, and furfuryl alcohol); oxidizer (IRFNA); hydrocarbons (motor oil, hydraulic fluid, diesel fuel, gasoline, heating oil); solvents (carbon tetrachloride, trichloroethylene, trichloroethane, stoddard solvent); and battery electrolyte. The quantities of material a disposed of and procedures for disposal are not documented in published reports. Virtually all information concerning the potential for contamination at Nike sites is confined to personnel who were assigned to Nike sites. During deactivation most hardware was shipped to depot-level supply points. There were reportedly instances where excess materials were disposed of on or near the site itself at closure. There was reportedly no routine site decontamination.

Government Publication Date: Dec 2, 1984

PHMSA Pipeline Safety Flagged Incidents: PIPELINE INCIDENT

A list of flagged pipeline incidents made available by the U.S. Department of Transportation (US DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA). PHMSA regulations require incident and accident reports for five different pipeline system types.

Government Publication Date: Jul 7, 2020

Material Licensing Tracking System (MLTS): MLTS

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: May 11, 2021

Historic Material Licensing Tracking System (MLTS) sites: HIST MLTS

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File: MINES

The Master Index File (MIF) contains mine identification numbers issued by the Department of Labor Mine Safety and Health Administration (MSHA) for mines active or opened since 1971. Note that addresses may or may not correspond with the physical location of the mine itself.

Government Publication Date: Nov 2, 2021

Surface Mining Control and Reclamation Act Sites: SMCRA

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by the Office of Surface Mining Reclamation and Enforcement (OSMRE) to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of Abandoned Mine Land (AML) impacts, as well as information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Government Publication Date: Dec 18, 2020

Mineral Resource Data System: MRDS

The Mineral Resource Data System (MRDS) is a collection of reports describing metallic and nonmetallic mineral resources throughout the world. Included are deposit name, location, commodity, deposit description, geologic characteristics, production, reserves, resources, and references. This database contains the records previously provided in the Mineral Resource Data System (MRDS) of USGS and the Mineral Availability System/Mineral Industry Locator System (MAS/MILS) originated in the U.S. Bureau of Mines, which is now part of USGS. The USGS has ceased systematic updates of the MRDS database with their focus more recently on deposits of critical minerals while providing a well-documented baseline of historical mine locations from USGS topographic maps.

Government Publication Date: Mar 15, 2006

Uranium Mill Tailings Radiation Control Act Sites: URANIUM

The Legacy Management Office of the Department of Energy (DOE) manages radioactive and chemical waste, environmental contamination, and hazardous material at over 100 sites across the U.S. The L.M. Office manages this database of sites registered under the Uranium Mill Tailings Control Act (UMTRCA).

Government Publication Date: Mar 4, 2017

Alternative Fueling Stations: ALT FUELS

List of alternative fueling stations made available by the US Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Biodiesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE). The National Renewable Energy Laboratory (NREL) obtains information about new stations from trade media, Clean Cities coordinators, a Submit New Station form on the Station Locator website, and through collaborating with infrastructure equipment and fuel providers, original equipment manufacturers (OEMs), and industry groups.

Government Publication Date: Dec 21, 2021

Registered Pesticide Establishments: SSTS

List of active EPA-registered foreign and domestic pesticide-producing and device-producing establishments based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that facilities producing pesticides, active ingredients, or devices be registered. The list of establishments is made available by the EPA.

Government Publication Date: Apr 13, 2021

Polychlorinated Biphenyl (PCB) Notifiers: PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: Jan 20, 2022

State

Dry Cleaning Facilities: DRYCLEANERS

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial, linen supply, commercial laundry, dry cleaning and pressing machines - Coin Operated Laundry and Dry Cleaning. This is provided by the Department of Toxic Substance Control.

Government Publication Date: Dec 20, 2021

Delisted Drycleaners: DELISTED DRYCLEANERS

Sites removed from the list of drycleaner related facilities that have EPA ID numbers, made available by the California Department of Toxic Substance Control.

Government Publication Date: Dec 20, 2021

Non-Toxic Dry Cleaning Incentive Program: DRYC GRANT

A list of grant recipients of the Non-Toxic Dry Cleaning Incentive Program made available by the California Air Resources Board (CARB). The program provides grants to eligible dry cleaning businesses to assist them in transitioning away from PERC machines to alternative non-toxic and non-smog forming technologies.

Government Publication Date: Feb 28, 2018

Per- and Polyfluoroalkyl Substances (PFAS): PFAS

List of sites from the State Water Resources Control Board (SWRCB)'s GeoTracker at which one or more of the potential contaminants of concern are in the PFAS Master List of PFAS Substances made available by the Environmental Protection Agency (US EPA).

Government Publication Date: Jun 22, 2021

PFOA/PFOS Groundwater: PFAS GW

A list of water wells from the Groundwater Ambient Monitoring and Assessment Program (GAMA) Groundwater Information System with the groundwater chemical perfluorooctanoic acid (PFOA) (NL = 0.014 UG/L) or perfluorooctanoic sulfonate (PFOS) (NL = 0.013 UG/L). The GAMA Groundwater Information System search is made available by California Water Boards.

Government Publication Date: Oct 22, 2020

Hazardous Waste and Substances Site List - Site Cleanup: HWSS CLEANUP

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. This list is published by California Department of Toxic Substance Control.

Government Publication Date: May 20, 2021

Toxic Pit Cleanup Act Sites: TOXIC PITS

The Toxic Pits Cleanup Act (TPCA) list identifies sites suspected of containing hazardous substances where cleanup has not yet been completed. This list was maintained by the State Water Resources Control Board (SWRCB), is not longer maintained, and updates are not planned.

Government Publication Date: Jul 1, 1995

List of Hazardous Waste Facilities Subject to Corrective Action: DTSC HWF

This is a list of hazardous waste facilities identified in Health and Safety Code (HSC) § 25187.5. These facilities are those where Department of Toxic Substances Control (DTSC) has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under HSC § 25187, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment.

Government Publication Date: Jul 18, 2016

EnviroStor Inspection, Compliance, and Enforcement: INSP COMP ENF

A list of permitted facilities with inspections and enforcements tracked in the Department of Toxic Substance Control (DTSC) EnviroStor.

Government Publication Date: Apr 29, 2021

School Property Evaluation Program Sites: SCH

A list of sites registered with The Department of Toxic Substances Control (DTSC) School Property Evaluation and Cleanup (SPEC) Division. SPEC is responsible for assessing, investigating and cleaning up proposed school sites. The Division ensures that selected properties are free of contamination or, if the properties were previously contaminated, that they have been cleaned up to a level that protects the students and staff who will occupy the new school.

Government Publication Date: Jan 6, 2022

California Hazardous Material Incident Report System (CHMIRS): CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS). This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Aug 1, 2021

Historical California Hazardous Material Incident Report System (CHMIRS): HIST CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS) prior to 1993. This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Jan 1, 1993

Hazardous Waste Manifest Data: HAZNET

A list of hazardous waste manifests received each year by Department of Toxic Substances Control (DTSC). The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Oct 24, 2016

Historical Hazardous Waste Manifest Data: HIST MANIFEST

A list of historic hazardous waste manifests received by the Department of Toxic Substances Control (DTSC) from year the 1980 to 1992. The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Dec 31, 1992

DTSC Registered Hazardous Waste Transporters: HW TRANSPORT

The California Department of Toxic Substances Control (DTSC) maintains this list of Registered Hazardous Waste Transporters.

Government Publication Date: Oct 19, 2020

Registered Waste Tire Haulers: WASTE TIRE

This list of registered waste tire haulers is maintained by the California Department of Resources Recycling and Recovery.

Government Publication Date: Dec 17, 2021

California Medical Waste Management Program Facility List: MEDICAL WASTE

This list of Medical Waste Management Program Facilities is maintained by the California Department of Public Health. The Medical Waste Management Program (MWMP) regulates the generation, handling, storage, treatment, and disposal of medical waste by providing oversight for the implementation of the Medical Waste Management Act (MWMA). The MWMP permits and inspects all medical waste off-site treatment facilities, medical waste transporters, and medical waste transfer stations. This list contains transporters, treatment, and transfer facilities.

Government Publication Date: Dec 31, 2020

Historical Cortese List: HIST CORTESE

List of sites which were once included on the Cortese list. The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements for providing information about the location of hazardous sites.

Government Publication Date: Nov 13, 2008

Cease and Desist Orders and Cleanup and Abatement Orders: CDO/CAO

The California Environment Protection Agency "Cortese List" of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO). This list contains many CDOs and CAOs that do NOT concern the discharge of wastes that are hazardous materials. Many of the listed orders concern, as examples, discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials, but the Water Boards' database does not distinguish between these types of orders.

Government Publication Date: Dec 6, 2021

California Environmental Reporting System (CERS) Hazardous Waste Sites: CERS HAZ

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: Dec 8, 2021

Delisted Environmental Reporting System (CERS) Hazardous Waste Sites: DELISTED HAZ

This database contains a list of sites that were removed from the California Environmental Protection Agency (CalEPA) in the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator.

Government Publication Date: Nov 29, 2018

Sites in GeoTracker: GEOTRACKER

GeoTracker is the State Water Resource Control Boards' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. This is a list of sites in GeoTracker that aren't otherwise categorized as LUST, Land Disposal Sites (LDS), Cleanup Sites, or sites having Waste Discharge Requirements (WDR). This listing includes program types such as Underground Injection Control (UIC), Confined Animal Facilities (CAF), Irrigated Lands Regulatory Program, plans, and non-case information.

Government Publication Date: Jun 22, 2021

Mines Listing: MINE

This list includes mine site locations extracted from the Mines Online database, maintained by the California Department of Conservation. Mines Online (MOL) is an interactive web map designed with GIS features that provide information such as the mine name, mine status, commodity sold, location, and other mine specific data. Please note: Mine location information is provided to assist experts in determining the location of mine operators in accordance with California Civil Code section 1103.4 and reflects information reported by mine operators in annual reports provided under Public Resources Code section 2207. While the Division of Mine Reclamation (DMR) attempts to populate MOL with accurate location information, the DMR cannot guarantee the accuracy of operator reported location information.

Government Publication Date: Dec 17, 2021

Recorded Environmental Cleanup Liens: LIEN

The California Department of Toxic Substance Control (DTSC) maintains this list of liens placed upon real properties. A lien is utilized by the DTSC to obtain reimbursement from responsible parties for costs associated with the remediation of contaminated properties.

Government Publication Date: Dec 15, 2021

Waste Discharge Requirements: WASTE DISCHG

List of sites in California State Water Resources Control Board (SWRCB) Waste Discharge Requirements (WDRs) Program in California, made available by the SWRCB via GeoTracker. The WDR program regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Government Publication Date: Oct 20, 2021

Toxic Pollutant Emissions Facilities: EMISSIONS

A list of criteria and toxic pollutant emissions data for facilities in California made available by the California Environmental Protection Agency - Air Resources Board (ARB). Risk data may be based on previous inventory submittals. The toxics data are submitted to the ARB by the local air districts as requirement of the Air Toxics "Hot Spots" Program. This program requires emission inventory updates every four years.

Government Publication Date: Dec 31, 2019

Clandestine Drug Lab Sites: CDL

The Department of Toxic Substances Control (DTSC) maintains a listing of drug lab sites. DTSC is responsible for removal and disposal of hazardous substances discovered by law enforcement officials while investigating illegal/clandestine drug laboratories.

Government Publication Date: Jan 19, 2021

Tribal

No Tribal additional environmental record sources available for this State.

County

No County additional environmental databases were selected to be included in the search.

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

Appendix C

Historical Research Documentation

TOPOGRAPHIC MAPS

Project Property:	Key Energy Storage Site Key Energy Storage Site Coalinga CA None
Project No:	20-10624
Requested By:	Rincon Consultants, Inc.
Order No:	22020200451
Date Completed:	February 03, 2022

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We have searched USGS collections of current topographic maps and historical topographic maps for the project property. Below is a list of maps found for the project property and adjacent area. Maps are from 7.5 and 15 minute topographic map series, if available.

Year	Map Series
2015	7.5
1978	7.5
1971	7.5
1963	7.5
1956	7.5
1954	7.5
1950	7.5
1937	7.5
1936	7.5
1934	7.5
1933	7.5
1930	7.5
1942	15

Topographic Map Symbology for the maps may be available in the following documents:

Pre-1947

Page 223 of 1918 Topographic Instructions

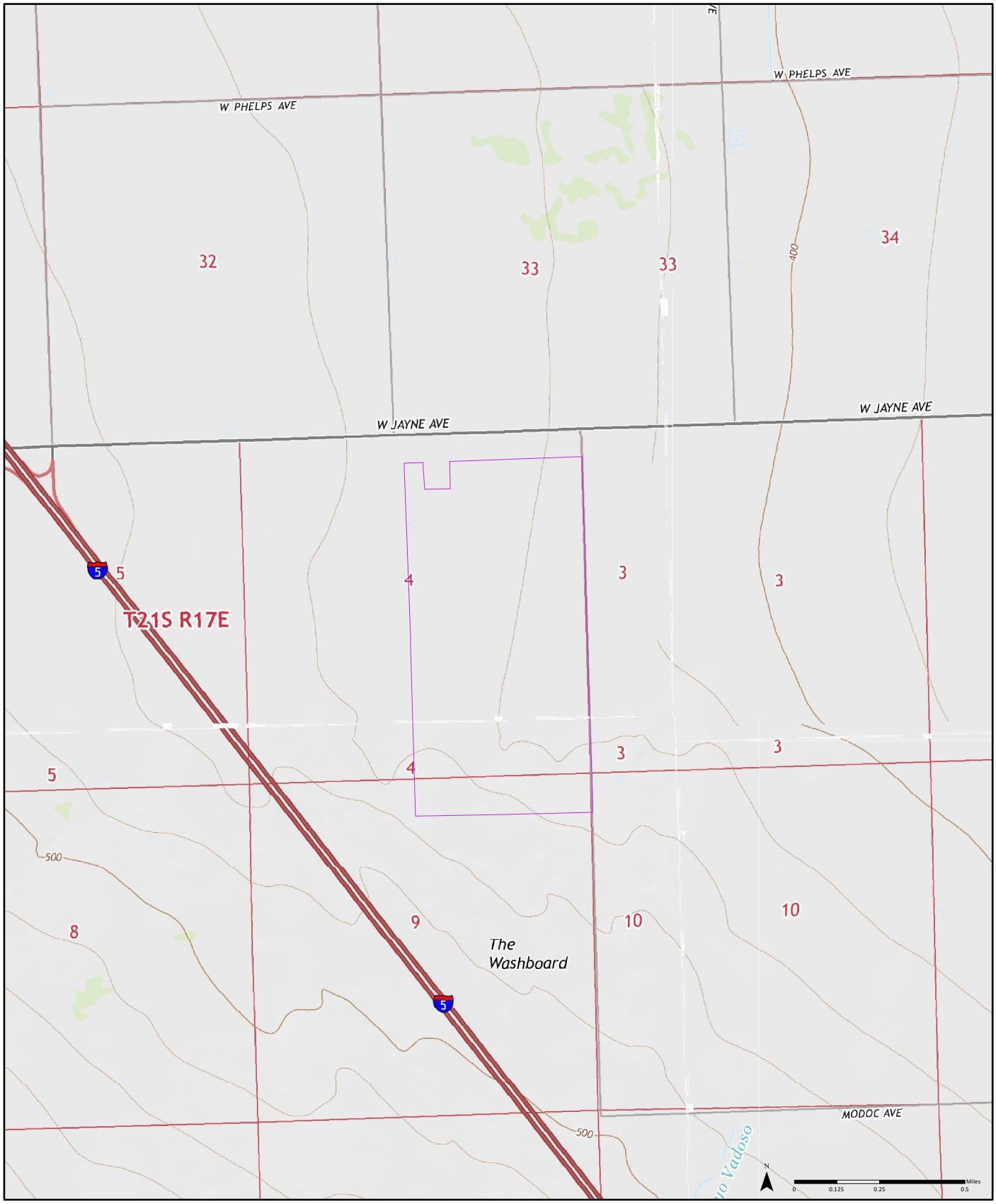
Page 130 of 1928 Topographic Instructions

1947-2009

Topographic Map Symbols

2009-present

US Topo Map Symbols

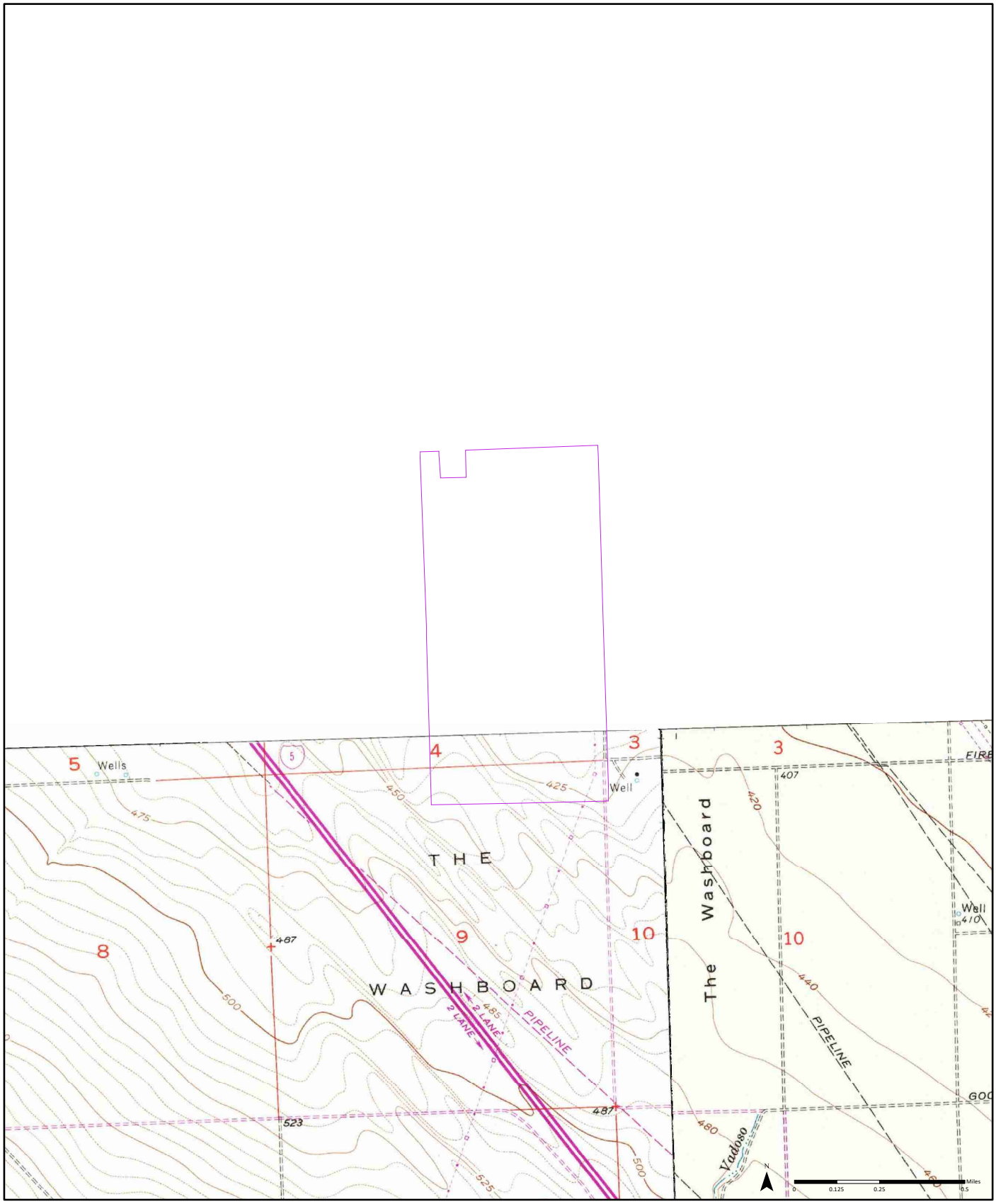


2015

Quadrangle(s): Guijarral Hills, CA; La Cima, CA; Avenal, CA; Huron, CA

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map



1978

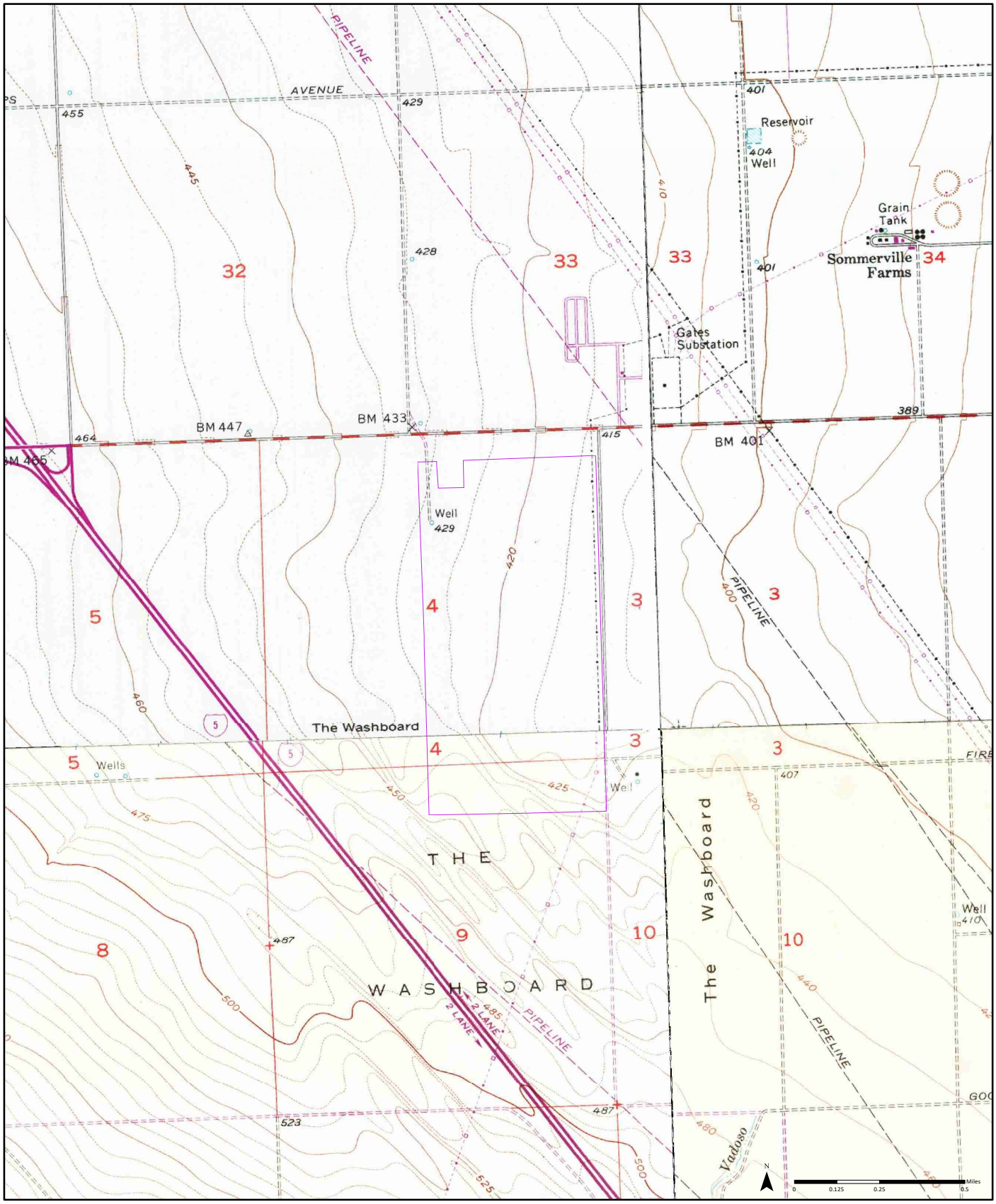
(1) *Aerial Photo Year: 1971*
Photo Revision Year: 1971

(2) *Aerial Photo Year: 1978*
Photo Revision Year: 1971

Quadrangle(s): Avenal, CA(1); La Cima, CA(2)

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map



1971

(1) *Aerial Photo Year: 1971*
Photo Revision Year: 1971

(2) *Aerial Photo Year: 1971*
Photo Revision Year: 1971

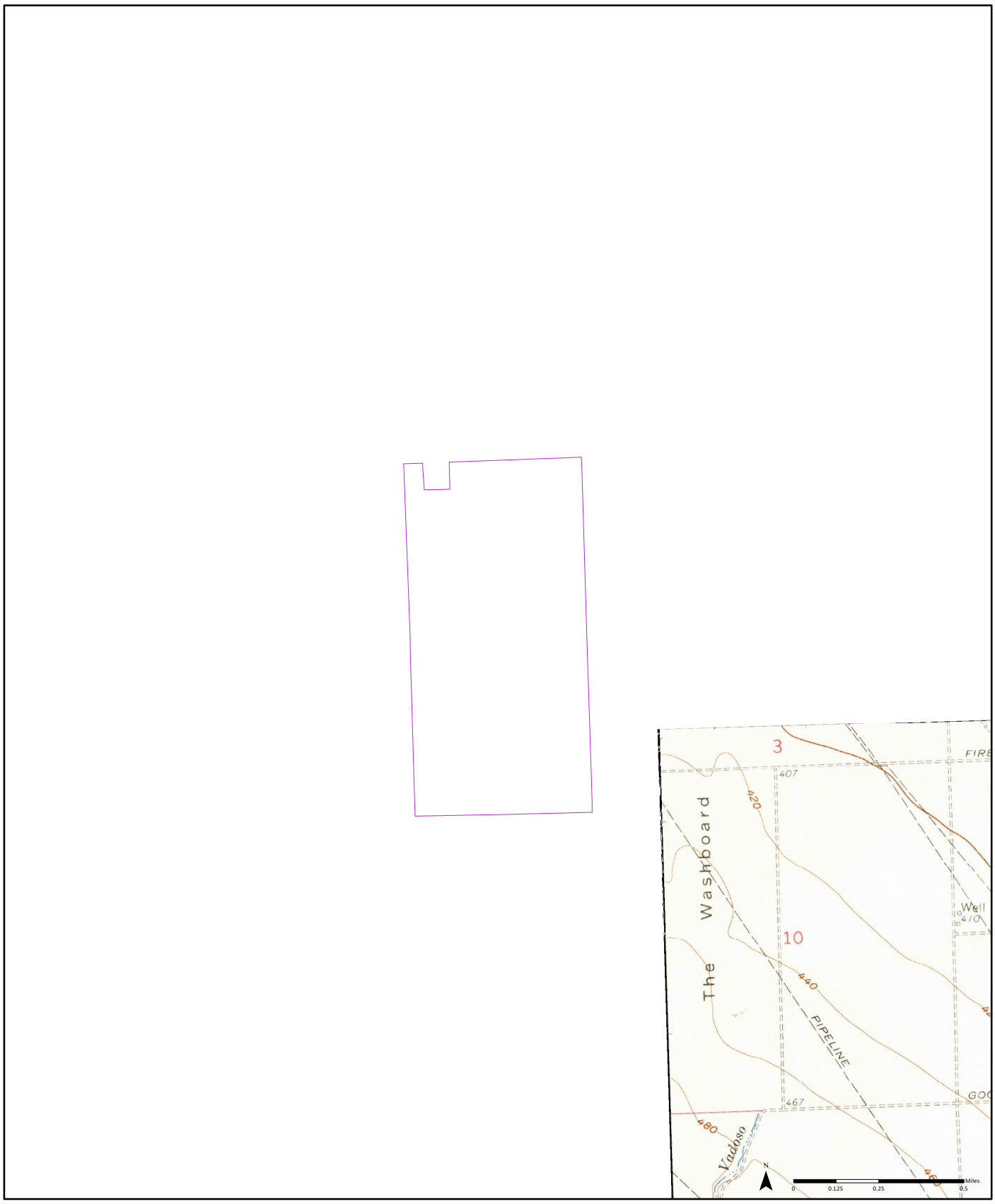
(3) *Aerial Photo Year: 1971*
Photo Revision Year: 1971

(4) *Aerial Photo Year: 1971*
Photo Revision Year: 1971

Quadrangle(s): Avenal, CA(1); Huron, CA(2); La Cima, CA(3); Guijarral Hills, CA(4)

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map

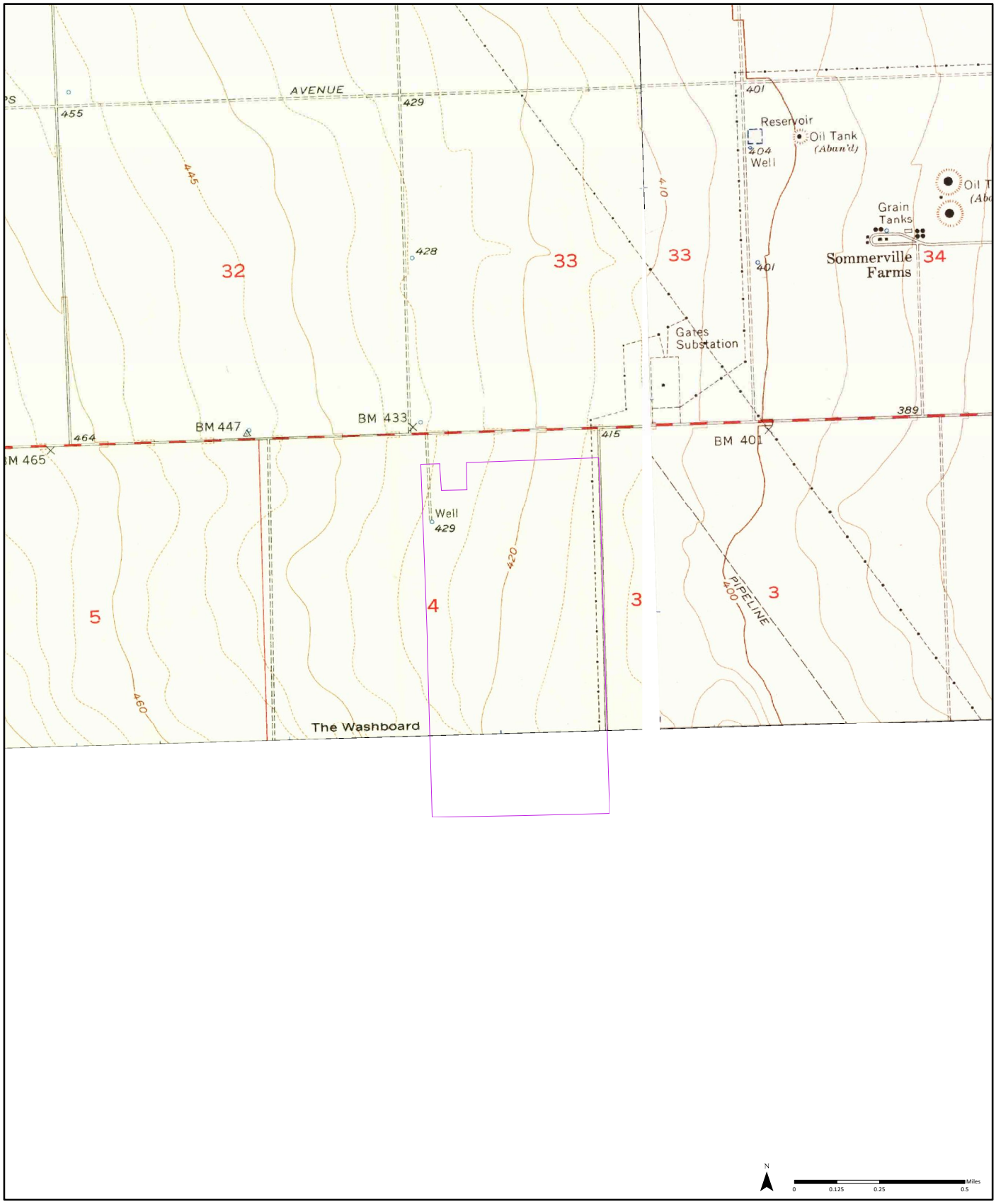


1963 [1] *Aerial Photo Year: 1962*

Quadrangle(s): La Cima, CA[1]

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map

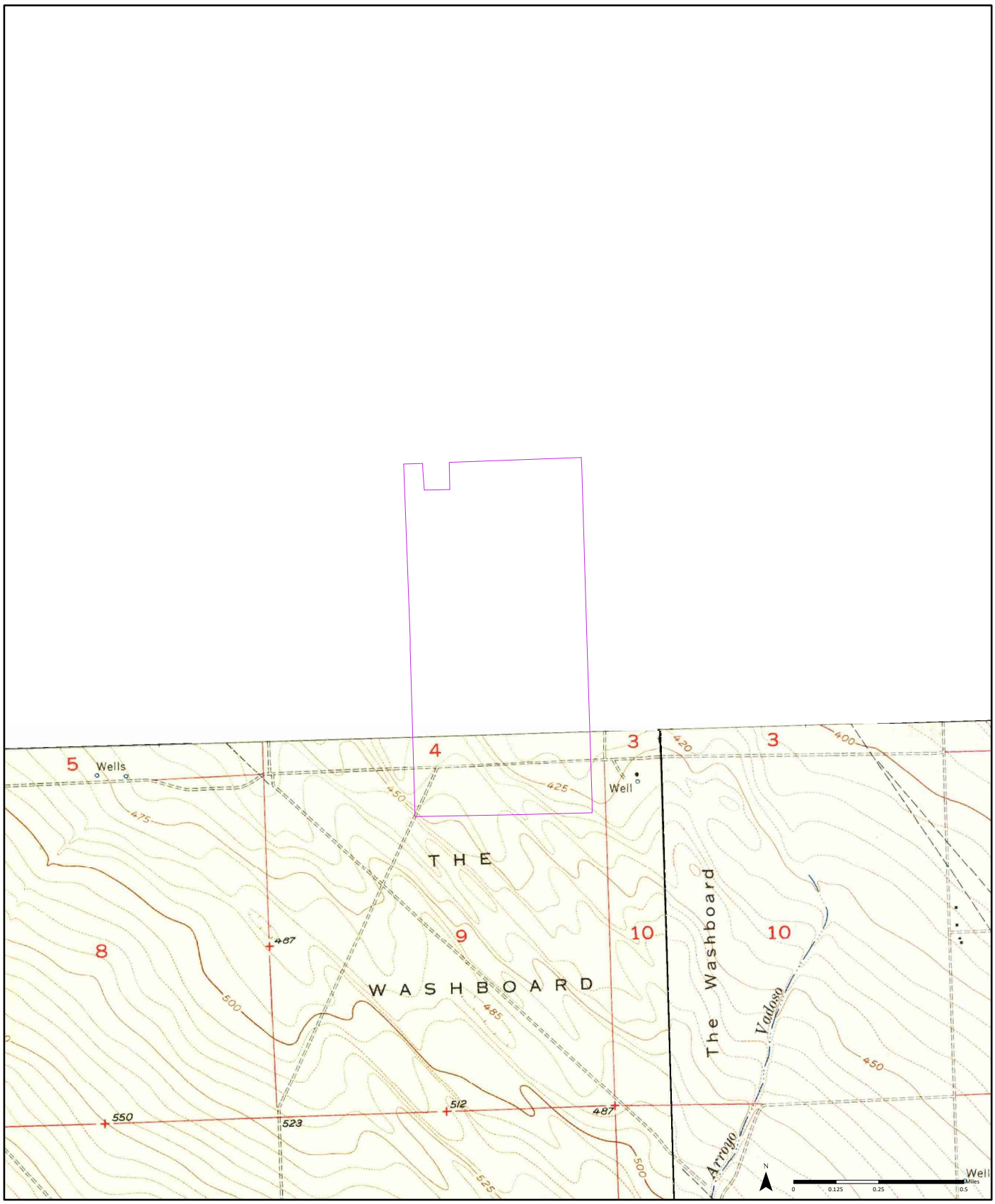


1956 (1) *Aerial Photo Year: 1955* (2) *Aerial Photo Year: 1955*

Quadrangle(s): Huron, CA(1); Guijarral Hills, CA(2)

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map

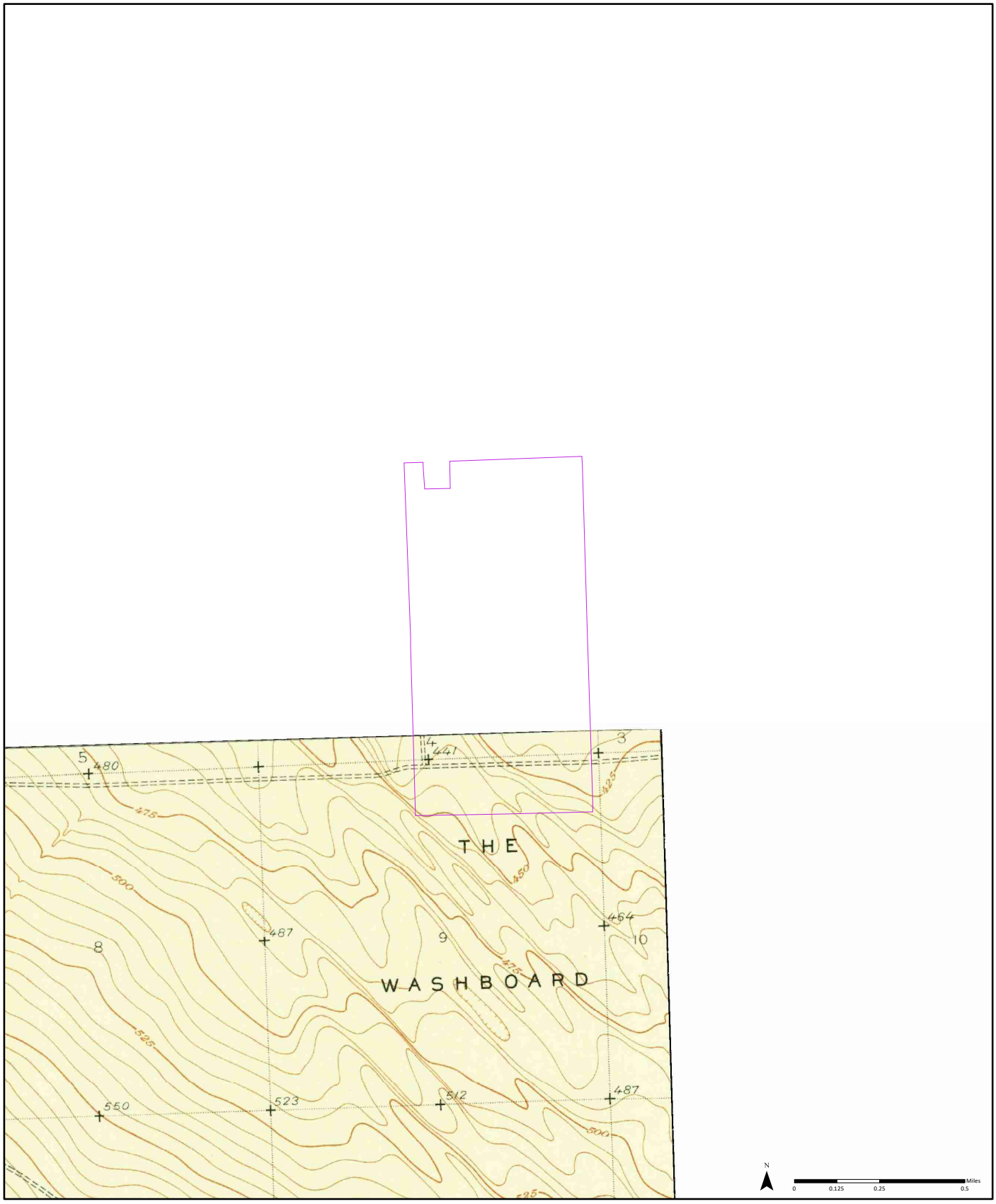


1954 (1) *Aerial Photo Year: 1950* (2) *Aerial Photo Year: 1950*

Quadrangle(s): La Cima, CA(1); Avenal, CA(2)

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map



1950

Quadrangle(s): Canoas Creek, CA

Order No. 22020200451

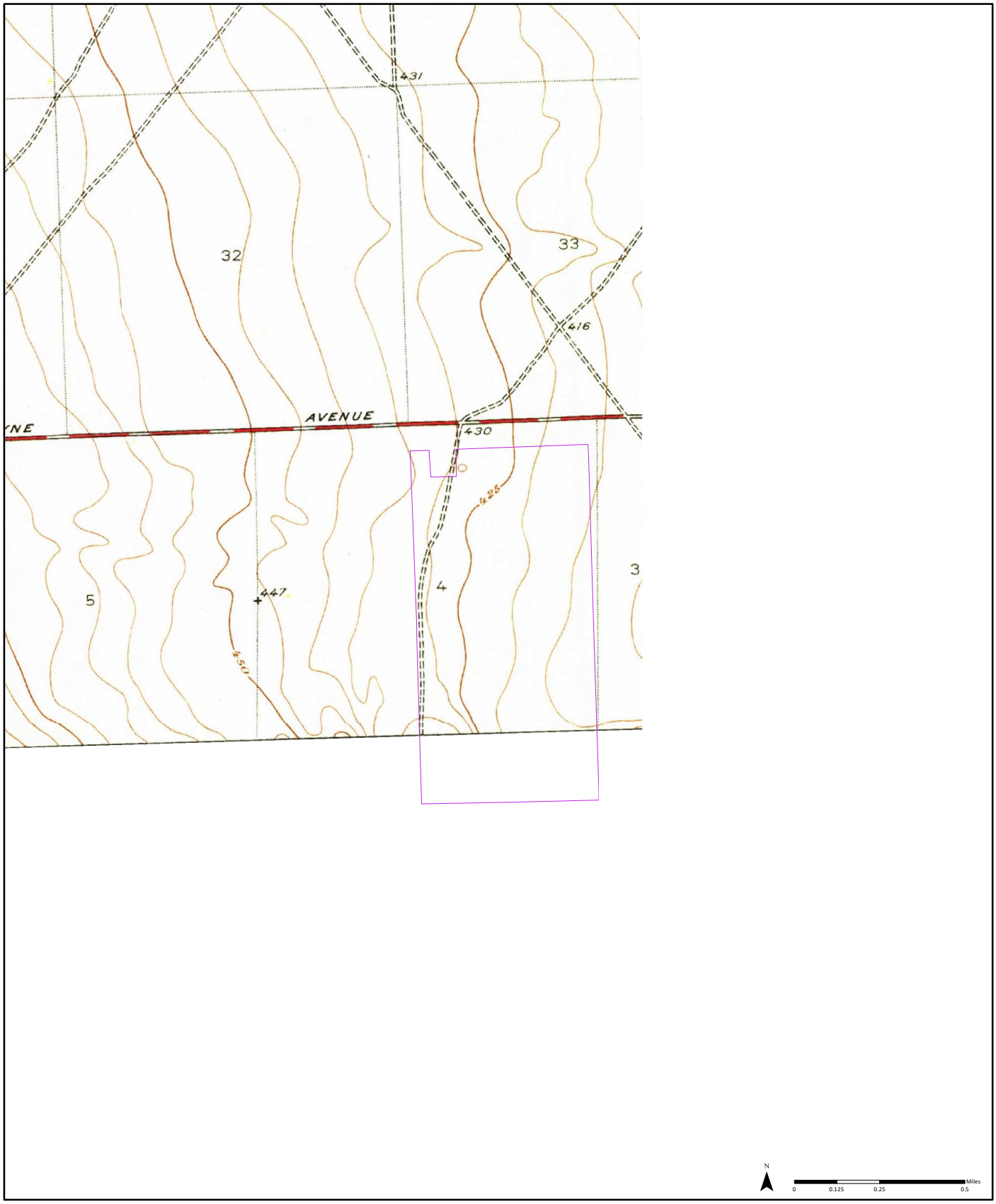
Source: USGS 7.5 Minute Topographic Map

1937

Quadrangle(s): Huron, CA; Guijarral Hills, CA

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map

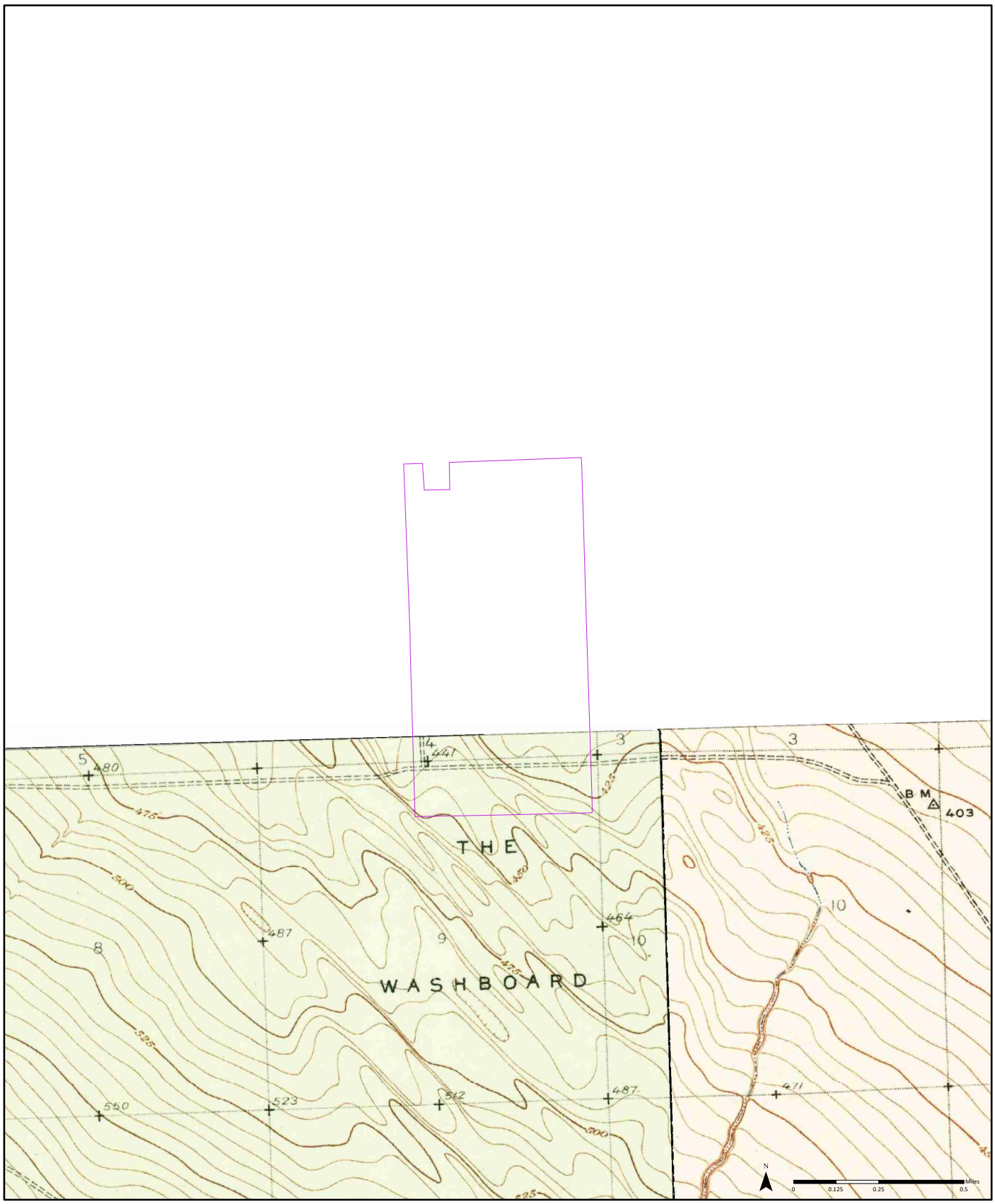


1936

Quadrangle(s): Guijarral Hills, CA

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map

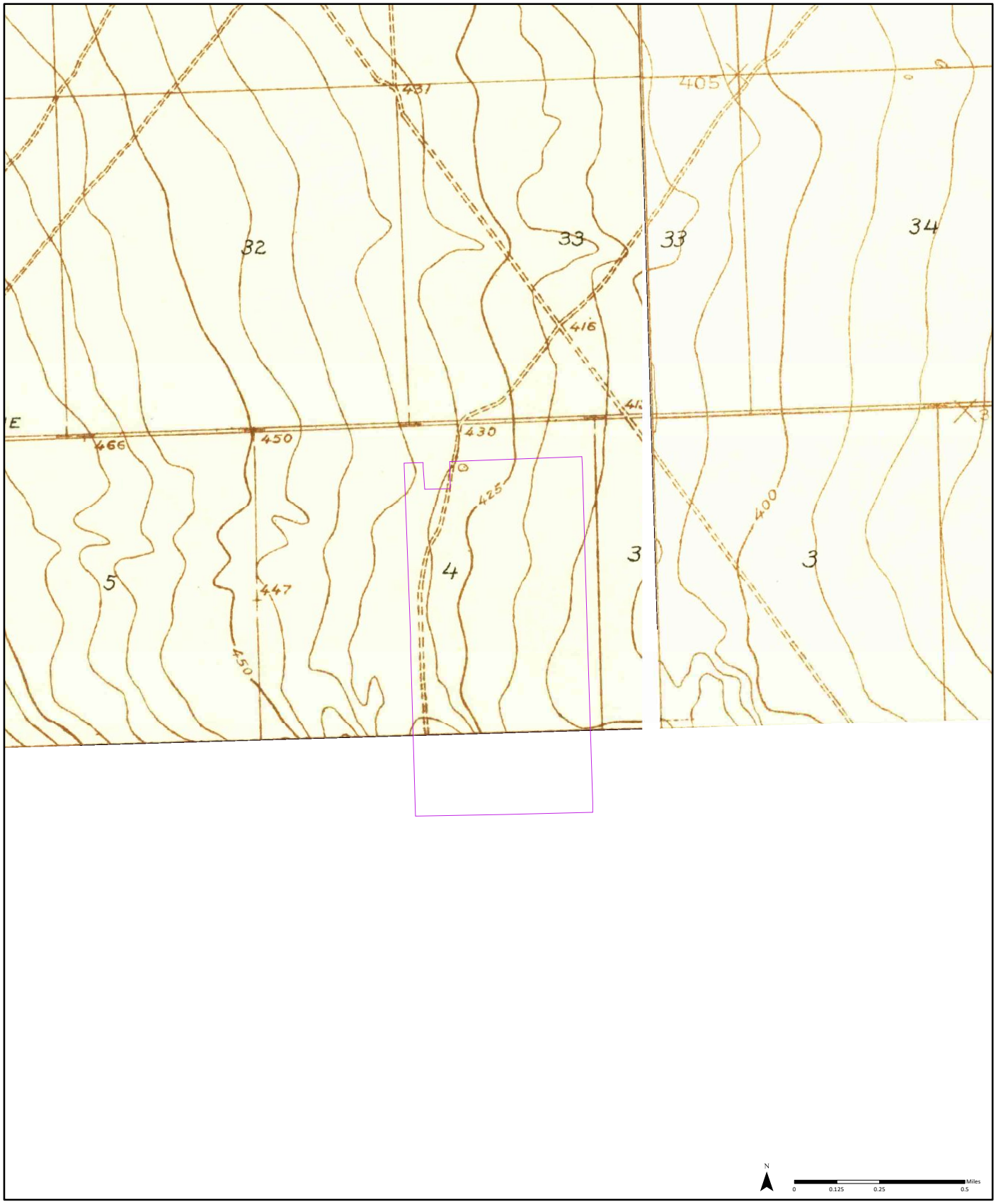


1934

Quadrangle(s): Canoas Creek, CA; La Cima, CA

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map



1933

Quadrangle(s): Huron, CA; Guijarral Hills, CA

Order No. 22020200451

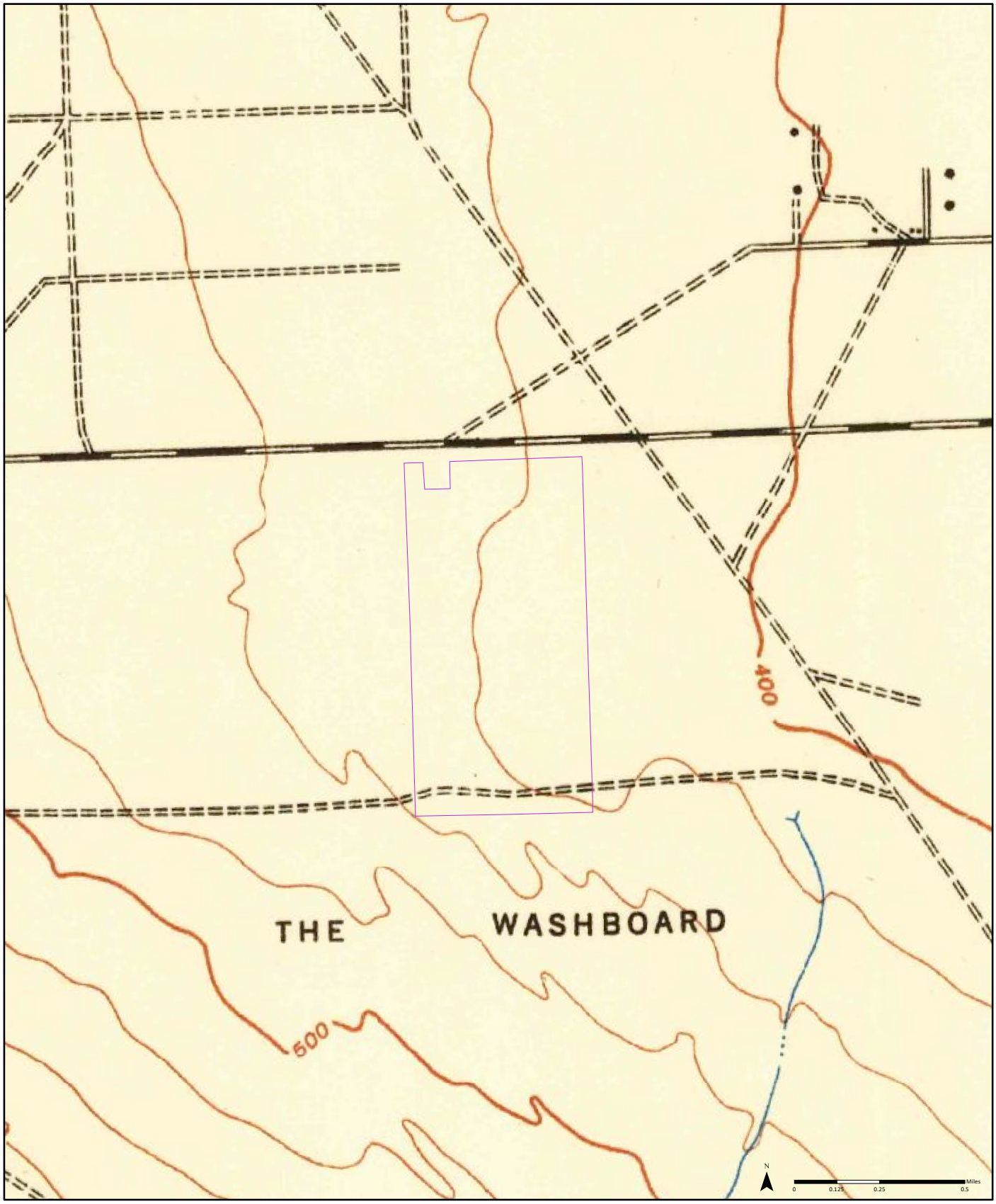
Source: USGS 7.5 Minute Topographic Map

1930

Quadrangle(s): Discovery Well, CA; Canoas Creek, CA

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map



1942 [1] *Aerial Photo Year: 1940*

Quadrangle(s): Polvadero Gap, CA(1)

Order No. 22020200451

Source: USGS 15 Minute Topographic Map

FIRE INSURANCE MAPS

Project Property:	Key Energy Storage Site Key Energy Storage Site Coalinga CA
Project No:	20-10624
Requested By:	Rincon Consultants, Inc.
Order No:	22020200451
Date Completed:	February 03, 2022

Please note that no information was found for your site or adjacent properties.

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CITY DIRECTORY

Project Property:	*Key Energy Storage Site* *Key Energy Storage Site* *Huron, CA 93210*
Project No:	*20-10624*
Requested By:	*Rincon Consultants, Inc.*
Order No:	*22020200451*
Date Completed:	*February 4, 2022*

Environmental Risk Information Services
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1.866.517.5204 | info@erisinfo.com | erisinfo.com

February 4, 2022
RE: CITY DIRECTORY RESEARCH
Key Energy Storage Site
Key Energy Storage Site Huron, CA

Thank you for contacting ERIS for an City Directory Search for the site described above. Our staff has conducted a reverse listing City Directory search to determine prior occupants of the subject site and adjacent properties. We have provided the nearest addresses(s) when adjacent addresses are not listed. If we have searched a range of addresses, all addresses in that range found in the Directory are included.

Note: Reverse Listing Directories generally are focused on more highly developed areas. Newly developed areas may be covered in the more recent years, but the older directories will tend to cover only the "central" parts of the city. To complete the search, we have either utilized the ACPL, Library of Congress, State Archives, and/or a regional library or history center as well as multiple digitized directories. These do not claim to be a complete collection of all reverse listing city directories produced.

ERIS has made every effort to provide accurate and complete information but shall not be held liable for missing, incomplete or inaccurate information. To complete this search we used the general range(s) below to search for relevant findings. If you believe there are additional addresses or streets that require searching please contact us at 866-517-5204.

Search Criteria:
18330-19940 of West Jayne Avenue
of S Lake Avenue

Search Results Summary

Date	Source	Comment
2020	DIGITAL BUSINESS DIRECTORY	
2016	DIGITAL BUSINESS DIRECTORY	
2012	DIGITAL BUSINESS DIRECTORY	
2008	DIGITAL BUSINESS DIRECTORY	
2004	DIGITAL BUSINESS DIRECTORY	
2000	DIGITAL BUSINESS DIRECTORY	
1995	HAINES	
1995	HAINES	
1990	HAINES	
1990	HAINES	
1985	HAINES	
1985	HAINES	
1980	HAINES	
1980	HAINES	
1975	HAINES	
1975	HAINES	
1972	HAINES	

2020 S LAKE AVENUE
SOURCE: DIGITAL BUSINESS DIRECTORY

NO LISTING FOUND FOR THIS YEAR...

2020 WEST JAYNE AVENUE
SOURCE: DIGITAL BUSINESS DIRECTORY

19935 **DANDY COOLING CO LLC**...*Restaurant Equipment & Supplies (whls)*
19935 **DANDY COOLING CO LLC**...*Air Conditioning Contractors & Systems*
19935 **DRESICK COOLING CO**...*Warehousescold Storage*
19935 **DRESICK COOLING CO**...*Precooling*

2016
SOURCE: DIGITAL BUSINESS DIRECTORY

S LAKE AVENUE

NO LISTING FOUND FOR THIS YEAR...

2016
SOURCE: DIGITAL BUSINESS DIRECTORY

WEST JAYNE AVENUE

18336 **PACIFIC GAS & ELECTRIC CO**...*Electric Companies*
18393 **WESTLANDS SOLAR FARMS**...*Farms*
19536 **BHN RESEARCH**...*Research Service*
19935 **DANDY COOLING CO LLC**...*Air Conditioning Contractors & Systems*
19935 **DRESICK COOLING CO**...*Precooling*

2012 S LAKE AVENUE
SOURCE: DIGITAL BUSINESS DIRECTORY

NO LISTING FOUND FOR THIS YEAR...

2012 WEST JAYNE AVENUE
SOURCE: DIGITAL BUSINESS DIRECTORY

NO LISTING FOUND FOR THIS YEAR...

2008 S LAKE AVENUE
SOURCE: DIGITAL BUSINESS DIRECTORY

NO LISTING FOUND FOR THIS YEAR...

2008 WEST JAYNE AVENUE
SOURCE: DIGITAL BUSINESS DIRECTORY

NO LISTING FOUND FOR THIS YEAR...

2004 S LAKE AVENUE
SOURCE: DIGITAL BUSINESS DIRECTORY

NO LISTING FOUND FOR THIS YEAR...

2004 WEST JAYNE AVENUE
SOURCE: DIGITAL BUSINESS DIRECTORY

NO LISTING FOUND FOR THIS YEAR...

2000 S LAKE AVENUE
SOURCE: DIGITAL BUSINESS DIRECTORY

NO LISTING FOUND FOR THIS YEAR...

2000 WEST JAYNE AVENUE
SOURCE: DIGITAL BUSINESS DIRECTORY

NO LISTING FOUND FOR THIS YEAR...

1995
SOURCE: HAINES

WEST JAYNE AVENUE

16980	★AMER COOLING	945-4001
19435	★K G M HARVESTING CO	945-9274
19500	XXXX	00
19536	★DRESICK FARMS INC	945-2513
	★FRESH WESTERN MRKTG	945-9410
19935	★DRESICK COOLING CO	945-2254
	★ 9 BUS 5 RES	1 NEW

1995
SOURCE: HAINES

S LAKE AVENUE

STREET NOT LISTED

1990
SOURCE: HAINES

WEST JAYNE AVENUE

19435	★CUSTOM COOLING CO	945-2254 +
19500	XXXX	00
19536	★D&H FARMS INC	945-2513
	★ 7 BUS 7 RES	1 NEW

1990
SOURCE: HAINES

S LAKE AVENUE

STREET NOT LISTED

1985
SOURCE: HAINES

WEST JAYNE AVENUE

	THE GARAN CO COOLER	945-9203
19500	XXXX	00
19536	D&H FARMS INC	945-2513
	HERNANDEZ MOSIES	945-2751
	PEREZ IMELDA J	945-2841
NO #	GREEN LARRY	945-2373
NO #	THOMAS VERNON L INC	864-3074
NO #	THOMAS VERNON L INC	945-2001
	7 BUS 11 RES	1 NEW

1985
SOURCE: HAINES

S LAKE AVENUE

STREET NOT LISTED

1980
SOURCE: HAINES

WEST JAYNE AVENUE

15531	XXXX	00
19536	PRO AG INC	945-2155
	WESTWOOD FARMS	945-2155
NO #	GREEN LARRY	945-2373
NO #	THOMAS VERNON L INC	945-2001
NO #	THOMAS VERNON L INC	864-3074
★	6 BUS 7 RES	1 NEW

1980
SOURCE: HAINES

S LAKE AVENUE

STREET NOT LISTED

Report ID: 22020200451 - 2/4/2022
www.erisinfo.com

1975
SOURCE: HAINES

WEST JAYNE AVENUE

19536*PRO AG INC 945-2155+
NO #*ANDERSON C&CO 945-2153+
NO # BOREHAM GARY 945-2300+
NO # BURROWS LUTHER 945-2609+
NO # GARZA RAMIRO 945-2683+
NO # GREEN LARRY 945-2373
NO # SCHWARTZ VERN 945-2785
NO #*THOMAS VERNON L INC 945-2001
NO # THOMAS VERNON L 945-2156
* 3 BUS 6 RES 5 NEW

1975
SOURCE: HAINES

S LAKE AVENUE

STREET NOT LISTED

1972
SOURCE: HAINES

S LAKE AVENUE

STREET NOT LISTED

1972
SOURCE: HAINES

WEST JAYNE AVENUE

NO # ESPARZA JOSE 945-2489
NO # MCCRAY RUFFUS 945-2183
NO # OLSON VERNON F 945-2106
NO #*SAN JOAQUN CTTN OIL945-2153
NO # THOMAS VERNON L 945-2156
NO #*THOMAS V RNCH FREMN945-2451
NO #*THOMAS VERNON L INC864-3074
NO #*THOMAS VERNON L INC945-2001
NO # UPTON RONALD 945-2478
* 4 BUS 5 RES

--- END REPORT ---

HISTORICAL AERIALS

Project Property: Key Energy Storage Site
Key Energy Storage Site
Coalinga CA

Project No: 20-10624

Requested By: Rincon Consultants, Inc.

Order No: 22020200451

Date Completed: February 04,2022

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Date	Source	Scale	Comments
2020	United States Department of Agriculture	1" = 800'	
2018	United States Department of Agriculture	1" = 800'	
2016	United States Department of Agriculture	1" = 800'	
2014	United States Department of Agriculture	1" = 800'	
2012	United States Department of Agriculture	1" = 800'	
2010	United States Department of Agriculture	1" = 800'	
2006	United States Department of Agriculture	1" = 800'	
2005	United States Department of Agriculture	1" = 800'	
2004	United States Department of Agriculture	1" = 800'	
1994	United States Geological Survey	1" = 800'	
1981	United States Geological Survey	1" = 800'	
1971	United States Geological Survey	1" = 800'	
1965	Cartwright Aerial Surveys	1" = 800'	
1955	United States Geological Survey	1" = 800'	
1942	Agricultural Stabilization & Conserv. Service	1" = 800'	

Year: 2020
Source: USDA
Scale: 1" = 800'
Comment:

Address: Key Energy Storage Site, Coalinga, CA
Approx Center: -120.13319482,36.13050486

Order No: 22020200451

ERIS

Year: 2018
Source: USDA
Scale: 1" = 800'
Comment:

Address: Key Energy Storage Site, Coalinga, CA
Approx Center: -120.13319482,36.13050486

Order No: 22020200451

ERIS

Year: 2016
Source: USDA
Scale: 1" = 800'
Comment:

Address: Key Energy Storage Site, Coalinga, CA
Approx Center: -120.13319482,36.13050486

Order No: 22020200451

ERIS

Year: 2014
Source: USDA
Scale: 1" = 800'
Comment:

Address: Key Energy Storage Site, Coalinga, CA
Approx Center: -120.13319482,36.13050486

Order No: 22020200451

ERIS

Year: 2012
Source: USDA
Scale: 1" = 800'
Comment:

Address: Key Energy Storage Site, Coalinga, CA
Approx Center: -120.13319482,36.13050486

Order No: 22020200451

ERIS

Year: 2010
Source: USDA
Scale: 1" = 800'
Comment:

Address: Key Energy Storage Site, Coalinga, CA
Approx Center: -120.13319482,36.13050486

Order No: 22020200451

ERIS

Year: 2006
Source: USDA
Scale: 1" = 800'
Comment:

Address: Key Energy Storage Site, Coalinga, CA
Approx Center: -120.13319482,36.13050486

Order No: 22020200451

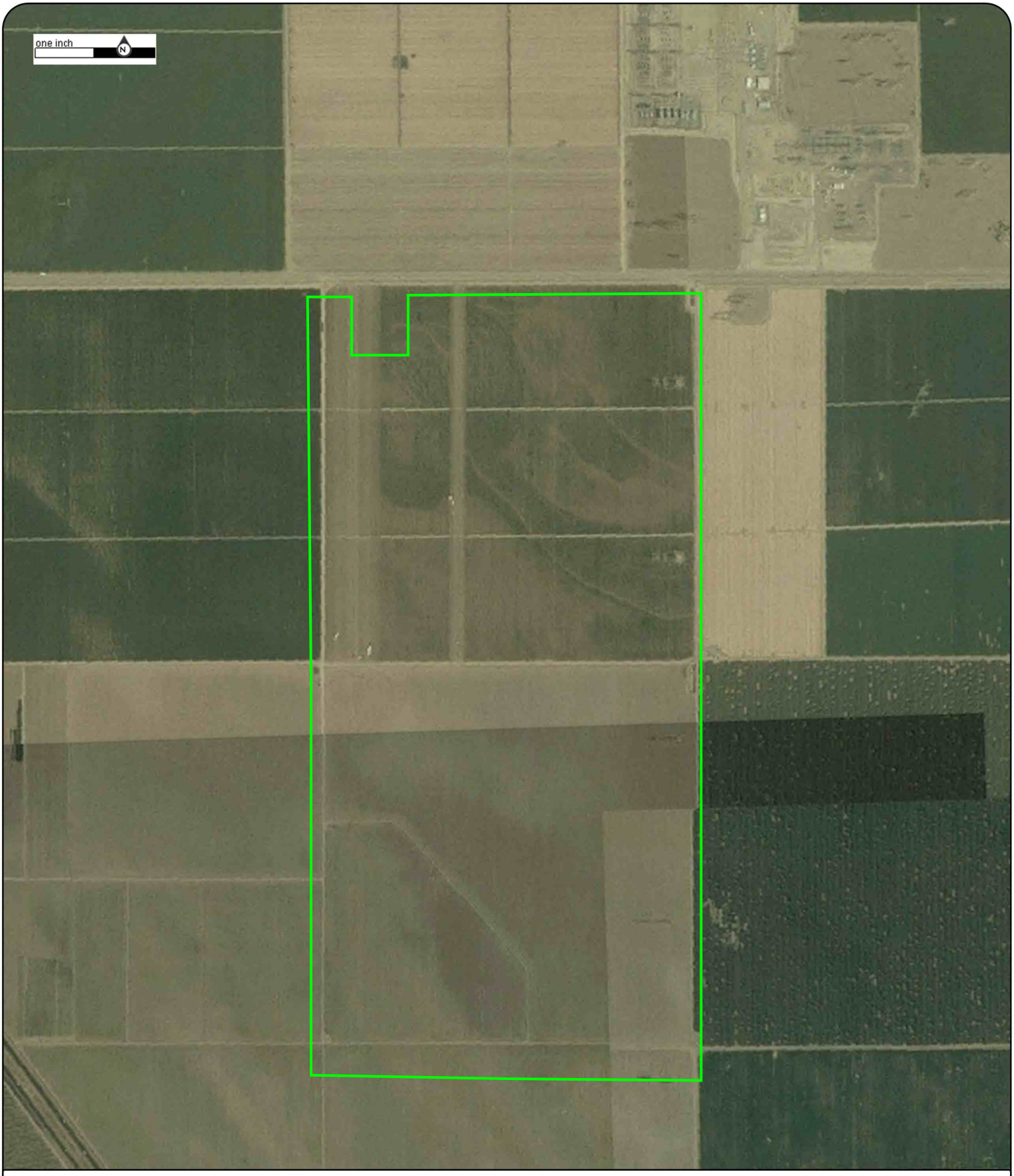
ERIS

Year: 2005
Source: USDA
Scale: 1" = 800'
Comment:

Address: Key Energy Storage Site, Coalinga, CA
Approx Center: -120.13319482,36.13050486

Order No: 22020200451

ERIS



Year: 2004
Source: USDA
Scale: 1" = 800'
Comment:

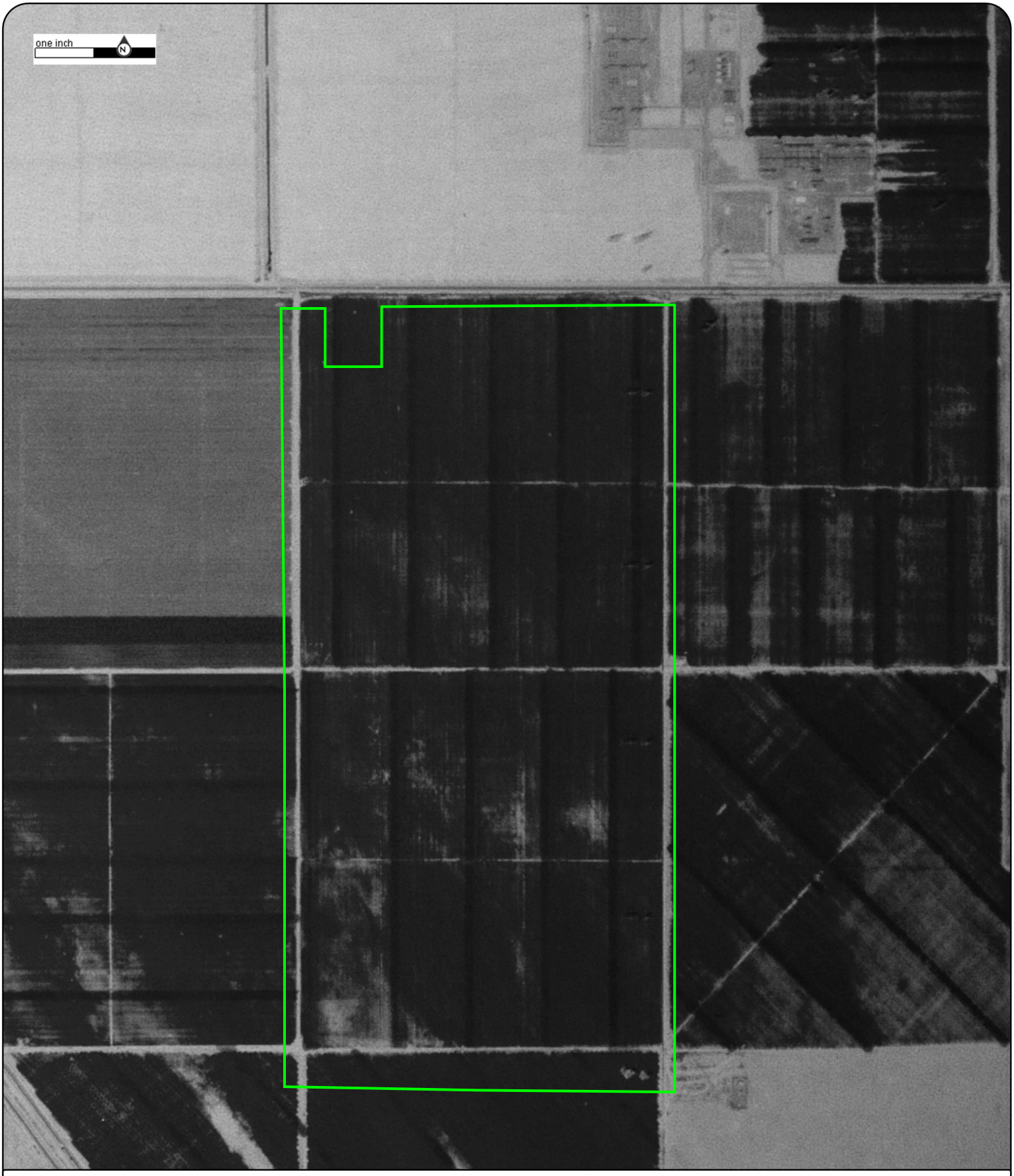
Address: Key Energy Storage Site, Coalinga, CA
Approx Center: -120.13319482,36.13050486

Order No: 22020200451

Year: 1994
Source: USGS
Scale: 1" = 800'
Comment:

Address: Key Energy Storage Site, Coalinga, CA
Approx Center: -120.13319482,36.13050486

Order No: 22020200451



Year: 1981
Source: USGS
Scale: 1" = 800'
Comment:

Address: Key Energy Storage Site, Coalinga, CA
Approx Center: -120.13319482,36.13050486

Order No: 22020200451

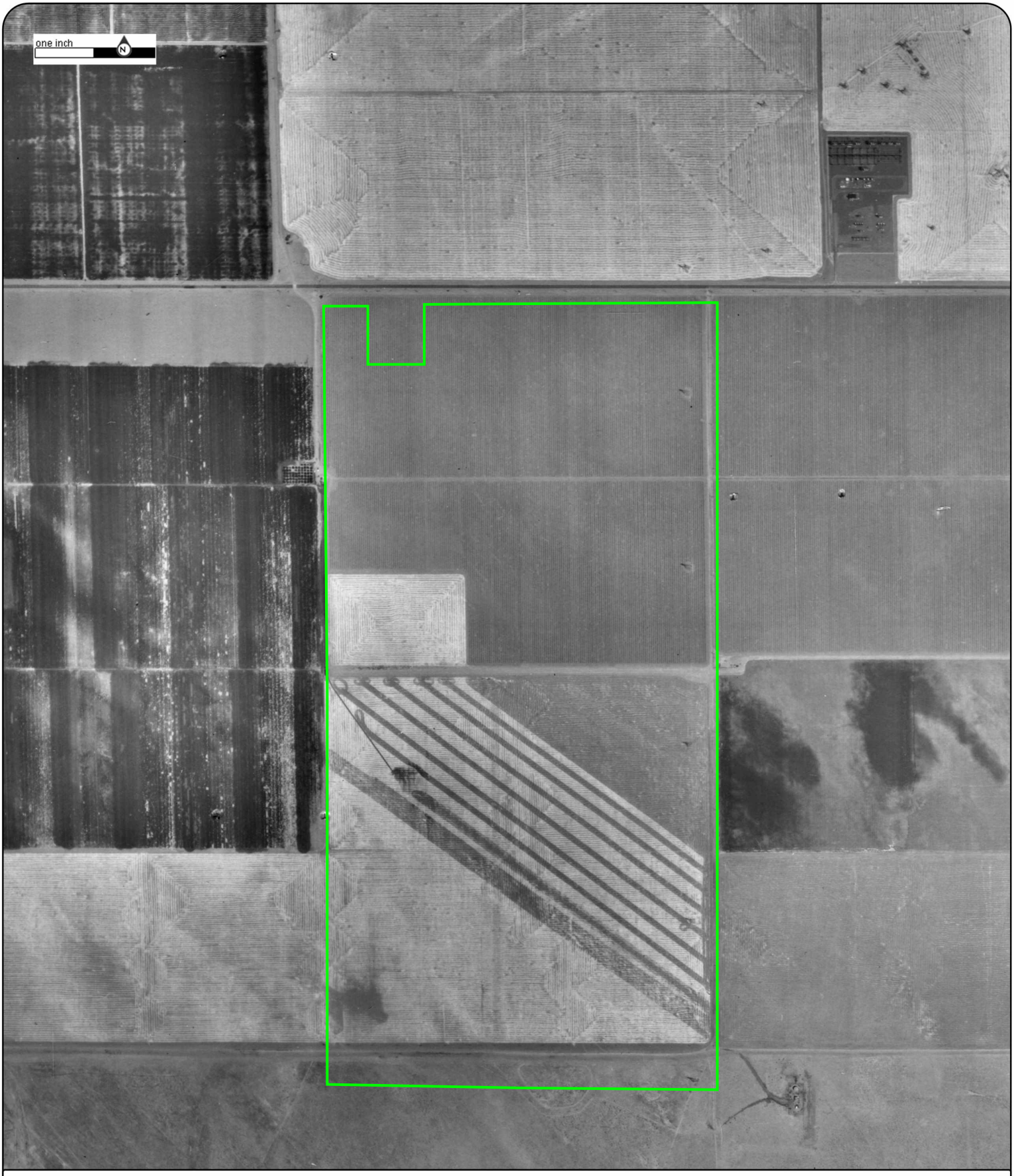
ERIS

Year: 1971
Source: USGS
Scale: 1" = 800'
Comment:

Address: Key Energy Storage Site, Coalinga, CA
Approx Center: -120.13319482,36.13050486

Order No: 22020200451

ERIS



Year: 1965
Source: CAS
Scale: 1" = 800'
Comment:

Address: Key Energy Storage Site, Coalinga, CA
Approx Center: -120.13319482,36.13050486

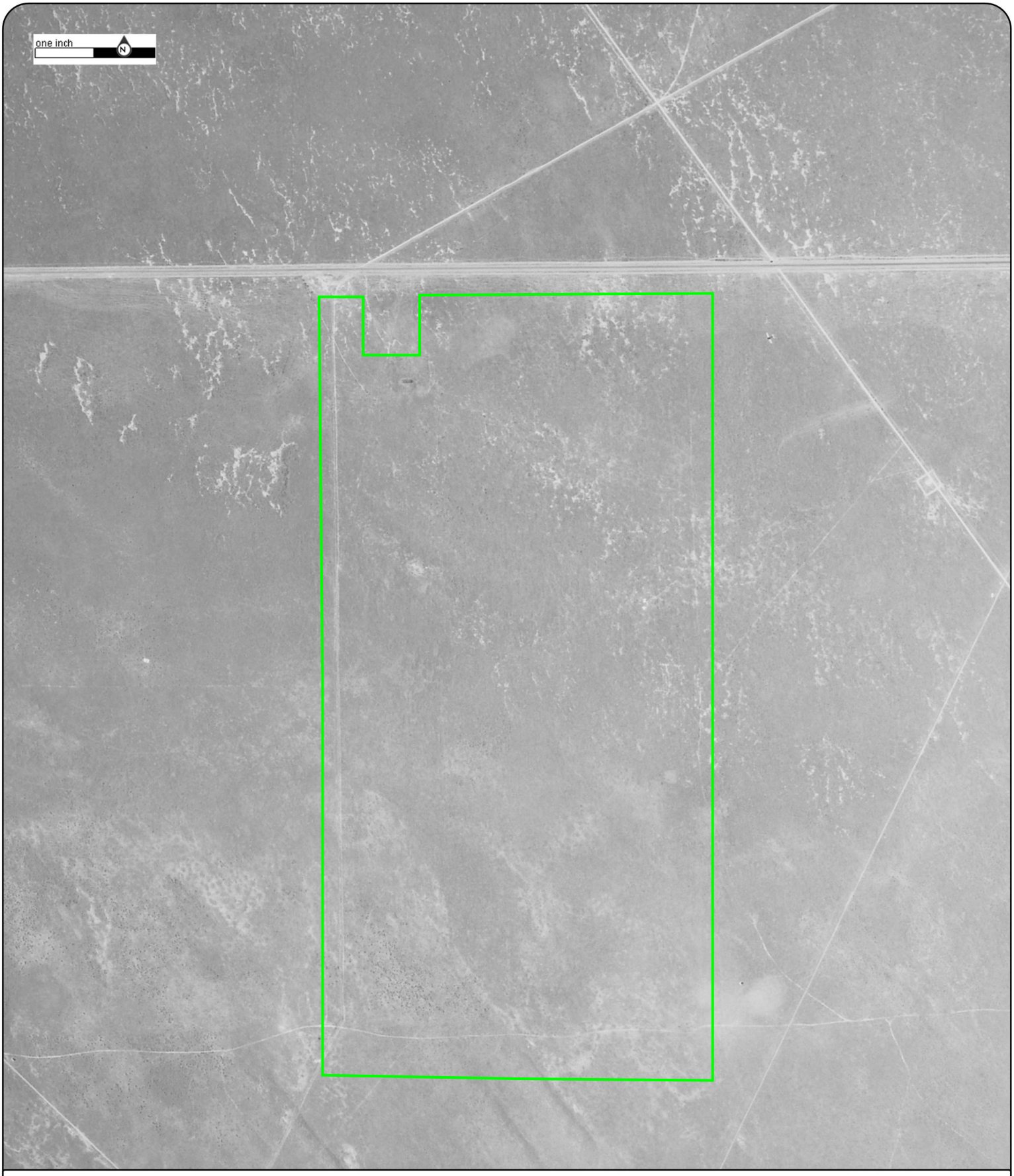
Order No: 22020200451

ERIS

Year: 1955
Source: USGS
Scale: 1" = 800'
Comment:

Address: Key Energy Storage Site, Coalinga, CA
Approx Center: -120.13319482,36.13050486

Order No: 22020200451



Year: 1942
Source: ASCS
Scale: 1" = 800'
Comment:

Address: Key Energy Storage Site, Coalinga, CA
Approx Center: -120.13319482,36.13050486

Order No: 22020200451

ERIS

Appendix I
Land Use and Planning

Appendix I1

Consistency with Fresno County General Plan

APPENDIX I1
Consistency with Fresno County General Plan

I.1 Approach to Analysis

Pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15125(d), this analysis describes applicable general plans and regional plans and policies and the manner in which they apply to the Key Energy Storage Project (the Project), and then evaluates the consistency of the Project with these plans and policies. Each environmental resource section in Chapter 3, *Environmental Analysis*, identifies the applicable statutes, regulations, ordinances, plans, policies, and standards that pertain to that resource. The following analysis specifically addresses the Project's consistency with the Fresno County General Plan. The consistency analysis for other applicable plans, policies, and regulations is provided in the pertinent topical sections of Chapter 3, in the context of the subject resource area. **Table I1-1** provides an index of such discussions, listing both CEQA significance criteria and location in this document where the reader can find the impact evaluation.

The Fresno County General Plan contains seven policy elements that guide physical development within the County: Economic Development; Agriculture and Land Use; Transportation and Circulation; Public Facilities and Services; Open Space and Conservation; Health and Safety; and Housing. Consistent with CEQA Guidelines section 15125(d), General Plan policies that are not relevant to the Project are not discussed here. For example, policies guiding County review of specific plans or policies related to land use designations that are not present within the Project boundary are not addressed.

Because the policy language found in a general plan is susceptible to varying interpretations, it is often difficult to determine whether a proposed project is consistent or inconsistent with such policies. Furthermore, because plans often contain numerous policies emphasizing differing legislative goals, a project may be consistent with a general plan, taken as a whole, even though it may appear to be inconsistent with specific policies within the plan. The board or commission that enacted the plan or policy generally determines the meaning of such policies; these interpretations prevail if they are "reasonable," even though other reasonable interpretations may also exist. In light of these considerations, the consistency evaluation in this Draft EIR reflects the County's determination that, as a whole, that the Project is consistent with applicable plans and policies.[1] Finally, the Project is compared to policies in each of the General Plan elements.

[1] Direct and indirect physical impacts resulting from Project implementation are not addressed in this section, but in the appropriate technical sections of this Draft EIR (See Chapter 4, *Environmental Analysis*). Any conflict between the Project and General Plan policies that relates to physical environmental issues are discussed in Chapter 4. The compatibility of the Project with Fresno County General Plan policies that do not relate to physical environmental issues

TABLE I1-1
CEQA SIGNIFICANCE CRITERIA REQUIRING EVALUATION OF CONSISTENCY WITH PLANS AND POLICIES

Significance Criteria (from Appendix G of the CEQA Guidelines)	EIR Section
Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state or locally designated scenic highway	Section 3.2, *Aesthetics*
Conflict with existing zoning for agricultural use, or a Williamson Act contract	Section 3.3, *Agriculture and Forestry Resources*
Conflict with or obstruct implementation of the applicable air quality plan	Section 3.4, *Air Quality*
Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	Section 3.5, *Biological Resources*
Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	Section 3.5, *Biological Resources*
Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.	Section 3.9, *Greenhouse Gas Emissions*
Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	Section 3.12, *Land Use and Planning*
Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan	Section 3.13, *Mineral Resources*
Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies	Section 3.14, *Noise and Acoustics*
Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.	Section 3.18, *Transportation*
Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	Section 3.18, *Transportation*

Tables I1-2 through I1-6 summarizes the Project's consistency with applicable objectives, goals, and policies of the Fresno County General Plan is discussed below. As shown in the table, after the implementation of the various mitigation measures identified in this Draft EIR, the Project would be consistent with applicable objectives, goals, and policies.

I.2 Consistency with the Fresno County General Plan Agriculture and Land Use Element

The Agriculture and Land Use Element describes the Countywide land use concept and is intended to help the County achieve integrated and coordinated land use, open space, and transportation by defining areas of intended growth and areas that should be preserved.

will be considered by decision-makers as part of their decision about whether to approve or deny the Project. Any potential conflicts identified as part of the process would not alter the physical environmental effects of the Project.

The Project site is zoned AE40, Exclusive Agricultural with a minimum lot size of 40 acres (Fresno County 2011). As indicated in Section 816 of the Fresno County Zoning Code, permitted uses in AE districts include raising livestock, poultry, and plant crops; single-family residences and accessory and farm buildings; and other agricultural and home occupation uses. Electrical transmission and distribution substations are allowed in AE districts subject to director review and approval (Section 816.2(D)). Additionally, Fresno County processes PV solar facilities through the Unclassified Conditional Use Permit process based on Section 853.B(14) of the Zoning Ordinance. Although the Project would occupy land designated as agriculture, it would not conflict with the County's preservation and conservation objectives. The Project's physical environmental impacts on habitat, recreation, scenic values, mineral resource extraction, and natural resource preservation are discussed in Chapter 3 of this Draft EIR. **Table I1-2** evaluates the Project's consistency with the Countywide agriculture and land use policies.

TABLE I1-2
FRESNO COUNTY GENERAL PLAN AGRICULTURE AND LAND USE ELEMENT POLICIES

Goal/Objective/Policy Text	Project Consistency Evaluation
***Policy LU-A.1*:** The County shall maintain agriculturally-designated areas for agriculture use and shall direct urban growth away from valuable agricultural lands to cities, unincorporated communities, and other areas planned for such development where public facilities and infrastructure are available.	***Consistent.*** The Project site is zoned AE40 (Exclusive Agricultural, 40-acre minimum). As indicated in Section 816.2(D) of the Fresno County Zoning Code, permitted uses in AE districts include electrical transmission and distribution.
***Policy LU-A.2*:** The County shall allow by right in areas designated Agriculture activities related to the production of food and fiber and support uses incidental and secondary to the on-site agricultural operation. Uses listed in Table LU-3 are illustrative of the range of uses allowed in areas designated Agriculture.	***Consistent.*** The Project site is AE40 (Exclusive Agricultural, 40-acre minimum). As indicated in Section 816.2(D) of the Fresno County Zoning Code, permitted uses in AE districts include electrical transmission and distribution.
***Policy LU-A.3*:** The County may allow by discretionary permit in areas designated Agriculture, special agricultural uses and agriculturally-related activities, including value added processing facilities, and certain non-agricultural uses listed in Table LU-3. Approval of these and similar uses in areas designated Agriculture shall be subject to the following applicable criteria: a. The use shall provide a needed service to the surrounding agricultural area which cannot be provided more efficiently within urban areas or which requires location in a non-urban area because of unusual site requirements or operational characteristics; b. The use should not be sited on productive agricultural lands if less productive land is available in the vicinity; c. The operational or physical characteristics of the use shall not have a detrimental impact on water resources or the use or management of surrounding properties within at least one-quarter (1/4) mile radius; d. A probable workforce should be located nearby or be readily available	***Not applicable.*** The policies pertain to County policy actions that are not related to the Project or review of its associated permit applications.
Policy LU-A.4: The County shall require that the recovery of mineral resources and the exploration and extraction of oil and natural gas in areas designated Agriculture comply with the Mineral Resources Section of the Open Space and Conservation Element.	***Not Applicable.*** The Project does not include mineral resources recovery of oil and natural gas extraction.
Policy LU-A.5: The County shall allow the Agricultural Commercial (AC) center zone district to remain in areas designated Agriculture if the land was so zoned prior to September 20, 1990. Commercial uses legally established prior to that date shall be deemed conforming, but expansion or the addition of new commercial uses shall require a discretionary permit as provided in Policy LU-A.3.	***Not Applicable.*** The Project site is zoned AE40, Exclusive Agricultural.

TABLE I1-2 (CONTINUED)
FRESNO COUNTY GENERAL PLAN AGRICULTURE AND LAND USE ELEMENT POLICIES

Goal/Objective/Policy Text	Project Consistency Evaluation
Policy LU-A.6: The County shall maintain twenty (20) acres as the minimum permitted parcel size in areas designated Agriculture, except as provided in Policies LU-A.9, LUA. 10, and LU-A.11. The County may require parcel sizes larger than twenty (20) acres based on zoning, local agricultural conditions, and to help ensure the viability of agricultural operations.	***Not Applicable.*** The Project does not include subdivision of land into smaller parcels.
Policy LU-A.7: The County shall generally deny requests to create parcels less than the minimum size specified in Policy LU-A.6 based on concerns that these parcels are less viable economic farming units, and that the resultant increase in residential density increases the potential for conflict with normal agricultural practices on adjacent parcels. Evidence that the affected parcel may be an uneconomic farming unit due to its current size, soil conditions, or other factors shall not alone be considered a sufficient basis to grant an exception. The decision-making body shall consider the negative incremental and cumulative effects such land divisions have on the agricultural community.	***Not Applicable.*** The Project does not include subdivision of land into smaller parcels.
Policy LU-A.8: The County shall allow by right on each parcel designated Agriculture and zoned for agricultural use one (1) single family residential unit. One (1) additional single family residential unit shall be allowed for each twenty (20) acres in excess of twenty (20) acres where the required minimum parcel size is twenty (20) acres. One (1) additional single family residential unit shall be allowed for each forty (40) acres in excess of forty (40) acres where the required minimum parcel size is forty (40) acres. The County may, by discretionary permit, allow a second unit on parcels otherwise limited by this policy to a single unit.	***Not Applicable.*** The Project does not propose any dwelling units.
Policy LU-A.9: The County may allow creation of homesite parcels smaller than the minimum parcel size required by Policy LU-A.6, if the parcel involved in the division is at least twenty (20) acres in size, subject to the following criteria: a. The minimum lot size shall be sixty thousand (60,000) square feet of gross area, except that a lesser area shall be permitted when the owner submits evidence satisfactory to the Health Officer that the soils meet the Water Quality Control Board Guidelines for liquid waste disposal, but in no event shall the lot be less than one (1) gross acre; and b. One of the following conditions exists: 1. A lot less than twenty (20) acres is required for financing construction of a residence to be owned and occupied by the owner of abutting property; or 2. The lot or lots to be created are intended for use by persons involved in the farming operation and related to the owner by adoption, blood, or marriage within the second degree of consanguinity, there is only one (1) lot per related person, and there is no more than one (1) gift lot per twenty (20) acres; or 3. The present owner owned the property prior to the date these policies were implemented and wishes to retain his/her homesite and sell the remaining acreage for agricultural purposes. Each homesite created pursuant to this policy shall reduce by one (1) the number of residential units otherwise authorized on the remainder parcel created from the original parcel. The remainder parcel shall be entitled to no less than one residential unit.	***Not Applicable.*** The Project does not propose homesites.
Policy LU-A.10: The County may allow by discretionary permit creation of substandard lots when necessary for the development of an agricultural commercial center pursuant to Policy LU-A.3 or in conjunction with development within a designated commercial interchange within the Westside Freeway Corridor Overlay. Approval of such parcels shall take into consideration the proposed use of the property, surrounding uses, and the potential for abandonment of the planned commercial use at a future date. Appropriate conditions shall be applied to minimize adverse impacts on surrounding agricultural operations. Parcels for agricultural commercial centers shall in no case be less than one (1) gross acre.	***Not Applicable.*** The Project does not propose an agricultural commercial center.

TABLE I1-2 (CONTINUED)
FRESNO COUNTY GENERAL PLAN AGRICULTURE AND LAND USE ELEMENT POLICIES

Goal/Objective/Policy Text	Project Consistency Evaluation
Policy LU-A.11: The County may allow by discretionary permit creation of substandard size lots when such action is deemed necessary by the Board of Supervisors for the recovery of mineral resources and the exploration and extraction of oil and gas in accordance with the policies of Section OS-C, Mineral Resources, of the Open Space and Conservation Element. In no case shall such action result in creation of lots less than five (5) gross acres in size.	***Not Applicable.*** The Project does not include mineral resources recovery of oil and natural gas extraction.
Policy LU-A.12: In adopting land uses policies, regulations and programs, the County shall seek to protect agricultural activities from encroachment of incompatible land uses.	***Consistent.*** This policy is intended to address compatibility between agricultural activities and other land uses within the County. The Project would maintain a buffer between the Project and adjacent agricultural operations and would implement a reclamation plan to return the site to a state of readiness for agricultural use after Project decommissioning. This Draft EIR documents the County's process of evaluating the Project's impacts to the environment, infrastructure, and services, and the County will consider its impacts to the agricultural activities when making decisions regarding approval or disapproval of the permit applications. Section 3.3, *Agriculture and Forestry Resources,* discusses potential impacts to agricultural resources.
Policy LU-A.13: The County shall protect agricultural operations from conflicts with nonagricultural uses by requiring buffers between proposed non-agricultural uses and adjacent agricultural operations.	***Consistent.*** The Project would maintain a buffer between the Project and adjacent agricultural operations and would implement a reclamation plan to return the site to a state of readiness for agricultural use after Project decommissioning. The Project would be subject to review as part of the unclassified conditional use permit (UCUP) process. Section 3.3, *Agriculture and Forestry Resources,* discusses potential impacts to agricultural resources.
Policy LU-A.14: The County shall ensure that the review of discretionary permits includes an assessment of the conversion of productive agricultural land and that mitigation be required where appropriate.	***Consistent.*** The Project site is zoned AE40, Exclusive Agricultural. As indicated in Section 816.2(D) of the Fresno County Zoning Code, permitted uses in AE districts include electrical transmission and distribution substations.
Policy LU-A.15: The County shall generally condition discretionary permits for residential development within or adjacent to agricultural areas upon the recording of a Right-to-Farm Notice, which is an acknowledgment that residents in the area should be prepared to accept the inconveniences and discomfort associated with normal farming activities and that an established agricultural operation shall not be considered a nuisance due to changes in the surrounding area.	***Consistent.*** Although the Project does not include residential development, the Applicant would be required to record with the County recorder a Right-to-Farm Notice indicating that adjacent agricultural operations shall not become a nuisance due to the changed condition of the Project site.
Policy LU-A.16: The County should consider the use of agricultural land preservation programs that improve the competitive capabilities of farms and ranches, thereby ensuring long-term conservation of viable agricultural operations. Examples of programs to be considered should include: land trusts; conservation easements; dedication incentives; new and continued Williamson Act contracts; Farmland Security Act contracts; the California Farmland Conservancy Program Fund; agricultural education programs; zoning regulations; agricultural mitigation fee program; urban growth boundaries; transfer of development rights; purchase of development rights; and agricultural buffer policies.	***Not Applicable.*** The Project does not conflict with the County's ability to establish agricultural preservation programs. Owners of property enrolled in the Williamson Act program are free to unenroll subject to the process requirements summarized in Section 3.3, *Agriculture and Forestry Resources*.

TABLE I1-2 (CONTINUED)
FRESNO COUNTY GENERAL PLAN AGRICULTURE AND LAND USE ELEMENT POLICIES

Goal/Objective/Policy Text	Project Consistency Evaluation
Policy LU-A.17: The County shall accept California Land Conservation contracts on all designated agricultural land subject to location, acreage, and use limitations established by the County.	***Not Applicable.*** The Project site owners are not offering to enter into a California Land Conservation Act contract.
Policy LU-A.18: The County shall encourage land improvement programs to increase soil productivity in areas containing lesser quality agricultural soils.	***Not Applicable.*** The Project would not conflict with the County's ability to encourage land improvement programs.
Policy LU-A.19: The County shall encourage landowners to participate in programs that reduce soil erosion and increase soil productivity. To this end, the County shall promote coordination between the Natural Resources Conservation Service, Resource Conservation Districts, UC Cooperative Extension, and other agencies and organizations.	***Consistent.*** Section 3.8, *Geology, Soils, and Paleontological Resources*, includes an evaluation of potential erosion-related impacts. The Project would comply with a Construction General Permit, and implementation of a Stormwater Pollution Prevention Plan (SWPPP) would limit the impact of construction-related soil erosion by enacting best management practices (BMPs) to address sediment control and limit erosion, such as installation of silt fencing and implementation of temporary sediment disposal measures. In addition, the Applicant-proposed erosion and sediment control and pollution prevention measures described in Draft EIR Section 2.5.9.3 would be enforced during construction to reduce the possibility that substantial erosion or loss of topsoil could result. Operation of the Project would not include activities that are likely to cause erosion.
Policy LU-A.20: Water Resources. The County shall adopt and support policies and programs that seek to protect and enhance surface water and groundwater resources critical to agriculture.	***Consistent.*** The impact of the Project on surface water quality would be less than significant with mitigation incorporated, surface water movement and infiltration is not expected to change significantly. Mitigation would ensure that any contaminated soils caused or encountered by the Project would be properly removed and disposed of in accordance with all applicable federal, state, and local regulations. This would prevent adverse water quality effects from the management of contaminated materials. Additionally, the Project would have a less than significant impact on groundwater supplies and groundwater recharge which is summarized in Section 3.11, *Hydrology and Water Quality*.
Program LU-A.C: The County shall develop and implement guidelines for design and maintenance of buffers to be required when new non-agricultural uses are approved in agricultural areas. Buffer design and maintenance guidelines shall include, but not be limited to, the following: a. Buffers shall be physically and biologically designed to avoid conflicts between agriculture and non-agricultural uses. b. Buffers shall be located on the parcel for which a permit is sought and shall protect the maximum amount of farmable land, c. Buffers generally shall consist of a physical separation between agricultural and non-agricultural uses. The appropriate width shall be determined on a site-by-site basis taking into account the type of existing agricultural uses, the nature of the proposed development, the natural features of the site, and any other factors that affect the specific situation.	***Consistent.*** A Pest Management Plan would be implemented to control the introduction or establishment of pests or weeds during Project activities. Implementation of this plan would prevent the Project site from becoming a nuisance to adjacent agricultural operations through the introduction of pests or weeds. Consistent with the Fresno County Solar Facility guidelines and as summarized in Section 2.5.4.3 of the Project Description, the Project would include a sufficient buffer to minimize impacts of the operation to adjacent properties.

TABLE I1-2 (CONTINUED)
FRESNO COUNTY GENERAL PLAN AGRICULTURE AND LAND USE ELEMENT POLICIES

Goal/Objective/Policy Text	Project Consistency Evaluation
d. Appropriate types of land uses for buffers include compatible agriculture, open space and recreational uses such as parks and golf courses, industrial uses, and cemeteries. e. The County may condition its approval of a project on the ongoing maintenance of buffers. f. A homeowners' association or other appropriate entity shall be required to maintain buffers to control litter, fire hazards, pests, and other maintenance problems. g. Buffer restrictions may be removed if agricultural uses on all adjacent parcels have permanently ceased. (See Policy LU-A.16)	
Program LU-A.E: The County shall continue to implement the County's Right-to-Farm Ordinance, and will provide information to the local real estate industry to help make the public aware of the right-to-farm provisions in their area. (See Policy LU-A.15)	***Consistent.*** The Applicant would be required to record with the County recorder a Right-to-Farm Notice indicating that adjacent agricultural operations shall not become a nuisance due to the changed condition of the Project site.
Policies LU-B.1 – LU-B.14	***Not Applicable.*** The Project is not Located within the Westside Rangelands Area.
Policies LU-C.1 – LU-C.10	***Not Applicable.*** The Project is not Located within the River Influence Areas.
Policies LU-D.1 – LU-D.7	***Not Applicable.*** The Project is not Located within the Westside Freeway Corridor.
Policies LU-E.1 – LU-E.28	***Not Applicable.*** The Project does not include Rural Residential development.
Policies LU-F.1 – LU-F.42	***Not Applicable.*** The Project does not include Urban Transit, Residential, Commercial, or Industrial development.
Policies LU-G.1 – LU-G.23	***Not Applicable.*** The Project is not Located within the incorporated or City fringe areas or an unincorporated community.

I.3 Consistency with Other Elements of the Fresno County General Plan

I.3.1 Transportation and Circulation Element

Fresno County's General Plan includes policies regarding access and safety standards of roadway facilities, bike facilities, and public transit. Although the General Plan seeks to coordinate multiple forms of transportation, including cars, commercial vehicles, buses, transit, bicycles, and pedestrian traffic, the General Plan does not contain specific policies governing pedestrian traffic. Fresno County also has adopted a Regional Bicycle and Recreational Trails Master Plan (Fresno County 2013) that addresses non-motorized transportation systems and identifies barriers to trails and bikeways. Fresno County and The Fresno Council of Governments are in the process of developing the 2020 Fresno County Regional Trails Plan. The Plan is intended to create a vision and recommendations for the ongoing development of new trail connections that create a safe, comfortable, and connected network for walking/hiking, off-road biking, and horseback riding.

Since the 2020 Fresno County Regional Trails Plan is not yet final, the Draft EIR relies on the 2013 plan.

Section 3.18, *Transportation*, evaluates potential impacts of the Project relative to the significance criteria provided in the CEQA Guidelines Appendix G environmental checklist. Project consistency with specific Transportation and Circulation Element policies is presented in **Table I1-3** below.

TABLE I1-3
FRESNO COUNTY GENERAL PLAN TRANSPORTATION AND CIRCULATION ELEMENT POLICIES

Goal/Objective/Policy Text	Project Consistency Evaluation
Policy TR-A.3: The County shall require that new or modified access to property abutting a roadway and to intersecting roads conform to access specifications in the Circulation Diagram and Standards section. Exceptions to the access standards may be permitted in the manner and form prescribed in the Fresno County Zoning and Subdivision Ordinances, provided that the designed safety and operational characteristics of the existing and planned roadway facility will not be substantially diminished.	***Consistent.*** Project related traffic would have a less than significant impact related to local roadways abutting the Project site after the implementation of Mitigation Measure 3.18-1. Design and construction of Project access road intersections would conform with Fresno County standards (per General Plan Policies). Among the applicable requirements are rights-of-way and setback requirements.
Policy TR-A.5: The County shall require dedication of right-of-way or dedication and construction of planned road facilities as a condition of land development, and require an analysis of impacts of traffic from all land development projects including impacts from truck traffic. Each such project shall construct or fund improvements necessary to mitigate the effects of traffic from the project. The County may allow a project to fund a fair share of improvements that provide significant benefit to others through traffic impact fees.	***Consistent.*** An assessment of potential traffic impacts, including truck traffic, is provided in Section 3.18.
Policy TR-A.8: The County shall ensure that land development that affects roadway use or operation or requires roadway access to plan, dedicate, and construct required improvements consistent with the criteria in the Circulation Diagram and Standards section of this element.	***Consistent.*** Section 3.18, *Transportation*, notes that design and construction of Project access road intersections would be required to conform with Fresno County standards. This would ensure that Project elements would not increase transportation-related hazards.

I.3.2 Public Facilities and Services Element

The Public Facilities and Services Element of the Fresno County General Plan contains goals, policies, and implementation program measures to ensure public facilities and services are adequately available and accessible in a timely fashion to serve new development. The Project's impacts with respect to public services, including police, fire, and education services, are primarily addressed in Sections 3.16, *Public Services.* Project consistency with specific Public Facilities and Services Element policies is presented in **Table I1-4** below.

TABLE I1-4
FRESNO COUNTY GENERAL PLAN PUBLIC FACILITIES AND SERVICES ELEMENT POLICIES

Goal/Objective/Policy Text	Project Consistency Evaluation
Policy PF-C.3: To reduce demand on the County's groundwater resources, the County	***Consistent.*** The Project would have a less than significant impact to groundwater resources. Groundwater extraction associated with

shall encourage the use of surface water to the maximum extent feasible.	construction, operation, and decommissioning would not cause substantial depletion of the groundwater basin. An analysis of the Project's impact to groundwater resources is provided in Section 3.11, *Hydrology and Water Quality.*
Policy PF-C.25: The County shall require that all new development within the County use water conservation technologies, methods, and practices as established by the County.	***Consistent.*** The Project would comply with the Fresno County Water Conservation Ordinance (Effective October 30, 2014). The Project would comply with water conservation measures outlined in the ordinance, as necessary.
Policy PF-D.6: The County shall permit individual on-site sewage disposal systems on parcels that have the area, soils, and other characteristics that permit installation of such disposal facilities without threatening surface or groundwater quality or posing any other health hazards and where community sewer service is not available and cannot be provided.	***Consistent.*** The Project would use portable restrooms during construction and decommissioning. During operation and maintenance, restrooms and a kitchen would be located within the O&M building. Wastewater from these facilities is expected to be disposed of using a septic tank or a wastewater removal service. The capacity of the septic tank would be determined based on site-specific soil conditions among other factors, as required by the Fresno County Local Agency Management Program.
Policy PF-E.7: The County shall require new development to pay its fair share of the costs of Fresno County storm drainage and flood control improvements within unincorporated areas.	***Consistent.*** During construction, stormwater facilities including a drainage swale and two retention basins would be constructed. These stormwater facilities would be designed to meet Fresno County and State Water Resources Control Board requirements. Development fees could be imposed as a condition of permit approval.
Policy PF-E.11: The County shall encourage project designs that minimize drainage concentrations and maintain, to the extent feasible, natural site drainage patterns.	***Consistent.*** As discussed in Section 3.11, *Hydrology and Water Quality*, the Project would not substantially alter the existing drainage pattern of the area. The Project would be designed to minimize substantial alterations to drainage patterns on the Project site and would restore the site upon site decommissioning. See Draft EIR Appendix B1, *Draft Reclamation Plan*.
Policy PF-E.13: The County shall encourage the use of natural storm water drainage systems to preserve and enhance natural drainage features.	***Consistent.*** The Project is not located in an area with an existing or planned stormwater drainage system. As discussed in Section 3.19, *Utilities and Service Systems,* water conveyance infrastructure on the Project site consists of agricultural ditches in some locations; other than these ditches, no drainage facilities that have connectivity to any natural water features are located on-site. As explained in the Basin Plan, direct precipitation typically percolates into valley groundwater if not lost through consumptive use, evapotranspiration, or evaporation.
Policy PF-E.14: The County shall encourage the use of retention-recharge basins for the conservation of water and the recharging of the groundwater supply.	***Consistent.*** Design measures, including bioswales and detention basins are proposed, which would collect stormwater flows, facilitate infiltration, and slow the rate of runoff, consistent with low impact development standards. The proposed stormwater collection and infiltration systems are shown on the site plans in Appendix B3.
Policy PF-E.21: The County shall require the use of feasible and practical best management practices (BMPs) to protect streams from the adverse effects of construction activities, and shall encourage the urban storm drainage systems and agricultural activities to use BMPs.	***Consistent.*** None of the new impervious surfaces would be adjacent to or otherwise directly connected to a stream. A storm water pollution prevention program (SWPPP) would be required for the Project and include best management practices (BMPs) to be implemented during construction, including erosion control, sediment control, and good housekeeping measures. The BMPs would include dewatering procedures, stormwater runoff quality control measures, concrete waste management, watering for dust control, and construction of perimeter silt fences, as needed.
Policy PF-F.1: The County shall continue to promote maximum use of solid waste source reduction, reuse, recycling, composting, and environmentally-safe transformation of wastes.	***Consistent.*** The Project would be required to comply with Fresno County's Construction and Demolition (C&D) Debris Recycling Program which requires a Waste Management Plan for recycling a minimum of 50 percent of all non-hazardous waste. Wooden construction waste would be sold, recycled, or chipped and spread on the Project site for weed control as appropriate. Other compostable materials, such as vegetation, might also be composted off-site. Operation and maintenance activities would produce negligible volumes of solid and liquid wastes that would be disposed of in accordance with all applicable requirements.

TABLE I1-4 (CONTINUED)
FRESNO COUNTY GENERAL PLAN PUBLIC FACILITIES AND SERVICES ELEMENT POLICIES

Goal/Objective/Policy Text	Project Consistency Evaluation
Policy PF-F.4: The County shall ensure that all new development complies with applicable provisions of the County Integrated Waste Management Plan.	***Consistent.*** The Project would generate solid waste during construction, operation and maintenance, and decommissioning activities. All handling and processing of construction, demolition, and inert debris would be in accordance with applicable regulatory requirements. Landfill waste generated by the Project would not exceed its permitted daily tonnage or deplete substantial long-term capacity.
Policy PF-J.3: The County shall require all new residential development along with new urban commercial and industrial development to underground utility lines onsite.	***Not Applicable.*** The Project is not a new residential or urban development.
Goal PF-G. To protect life and property by deterring crime and ensuring the prompt an efficient provision of law enforcement service and facility needs to meet the growing demand for police services associated with an increasing population.	***Consistent.*** The Project would not conflict with the County's ability to provide efficient law enforcement services. Police protection primarily may be required for incidents such as the theft of construction equipment and/or vandalism of the Project. To ensure Facility security, offsite security personnel could be dispatched during nighttime hours or could be onsite. In addition, appropriate security measures would be implemented to ensure control of site access and minimize security risks.
Policy PF-G.2: The County shall strive to maintain a staffing ratio of two (2) sworn officers serving unincorporated residents per 1,000 residents served. (This count of officers includes all ranks of deputy sheriff personnel and excludes all support positions and all sworn officers serving county wide population interests such as bailiffs, and sworn officers serving contract cities and grant specific populations).	***Consistent.*** The Project would not conflict with the County's ability to meet the desired staffing ratio; the Project would not result in new residents that could contribute to the demand for police services.
Policy PF-G.6: The County shall promote the incorporation of safe design features (e.g., lighting, adequate view from streets into parks) into new development by providing Sheriff Department review of development proposals.	***Consistent.*** Nighttime lighting for site security or maintenance requirements would be directed downward and shielded to focus illumination on the desired work areas only, and to prevent light spillage onto adjacent properties.
Goal PF-H. To ensure the prompt and efficient provision of fire and emergency medical facility and service needs, to protect residents of and visitors to Fresno County from injury and loss of life, and to protect property from fire.	***Consistent.*** Temporary construction- or decommissioning-related increases in demand on fire protection services would not affect the ability of Fresno County Fire Protection District to respond to incidents within the recommended time periods. Operation personnel would not contribute to a significant population increase and would not result in an increase to the demand for fire protection services or require new or altered facilities.
Policy PF-H.1: The County shall work cooperatively with local fire protection districts to ensure the provision of effective fire and emergency medical services to unincorporated areas within the county.	***Consistent.*** The Project would not conflict with the County's ability to provide effective emergency services. The Project would not result in new residents that could contribute to the demand for police services, and would incorporate onsite security measures.
Implementation Program PF-H.B: The County shall work with the California Department of Forestry and Fire Protection, local fire protection agencies, and city fire departments to maximize the use of resources to develop functional and/or operational consolidations and standardization of services and to maximize the efficient use of fire protection resources. (See Policy PF-H.1).	***Consistent.*** The Project would not affect the County's ability to develop interagency coordination.

TABLE I1-4 (CONTINUED)
FRESNO COUNTY GENERAL PLAN PUBLIC FACILITIES AND SERVICES ELEMENT POLICIES

Goal/Objective/Policy Text	Project Consistency Evaluation
Policy PF-H.2: Prior to the approval of development projects, the County shall determine the need for fire protection services. New development in unincorporated areas of the County shall not be approved unless adequate fire protection facilities are provided.	***Consistent.*** Increases in long-term demand for fire protection services typically are associated with substantial increases in population. Once operational, up to 7 workers could be on the site at any one time which would not contribute to a significant population increase, and would not result in an increase to the demand for fire protection services or require new or altered facilities.
Policy PF-H.5: The County shall require that new development be designed to maximize safety and minimize fire hazard risks to life and property.	***Consistent.*** Section 3.20, *Wildfire*, includes an evaluation of potential fire hazards. The Project is not located in a zone of very high fire severity hazard as defined by CAL FIRE. Regardless, best management practice/ fire prevention measures would be implemented to minimize fire risk.
Policy PF-H.8: The County shall encourage local fire protection agencies in the County to maintain the following as minimum standards for average first alarm response times to emergency calls: a. 5 minutes in urban areas; b. 15 minutes in suburban areas; and c. 20 minutes in rural areas.	***Consistent.*** Temporary construction- or decommissioning-related increases in demand on fire protection services would not affect the Fresno County Fire Protection District's ability to respond to incidents within the recommended time periods.
Policy PF-H.10: The County shall ensure that all proposed developments are reviewed for compliance with fire safety standards by responsible local fire agencies per the Uniform Fire Code and other State and local ordinances.	***Consistent.*** Section 3.20 includes an evaluation of potential fire hazards. The Project is not located in a zone of very high fire severity hazard as defined by CAL FIRE. Regardless, best management practice/ fire prevention measures would be implemented in order to minimize fire risk.
Policy PF-H.11: The County shall encourage local fire protection agencies to provide and maintain advanced levels of emergency medical services (EMS) to the public, consistent with current practice.	***Consistent.*** The Project would not affect emergency response agencies' ability to provide and maintain advanced emergency services. Construction and operation would result in a less than significant impact with mitigation incorporated to minimize the impact of any road closure necessitated to install the powerline across west Jayne Avenue. See Section 3.10, *Hazards and Hazardous Materials*, and Section 3.18, *Transportation*.
Goal PF-I. To provide for the educational needs of Fresno County and provide libraries for the educational, recreational, and literary needs of Fresno County residents.	***Consistent.*** No residences are proposed as part of the Project and in-migration of construction workers is not anticipated; therefore, the Project would neither generate a demand for new school facilities nor require the alteration of existing school facilities.
Policy PF-I.1: The County shall encourage school districts to provide quality educational facilities to accommodate projected student growth in locations consistent with land use policies of the General Plan.	***Consistent.*** No residences are proposed as part of the Project and in-migration of construction workers is not anticipated; therefore, the project would neither generate a demand for new school facilities nor require the alteration of existing school facilities.
Policy PF-I.4: The County shall work cooperatively with school districts in monitoring housing, population, and school enrollment trends and in planning for future school facility needs and shall assist school districts in locating appropriate sites for new schools.	***Consistent.*** No residences are proposed as part of the Project and in-migration of construction workers is not anticipated; therefore, the Project would neither generate a demand for new school facilities nor require the alteration of existing school facilities.

I.3.3 Open Space and Conservation Element

This purpose of this element is to guide the conservation, preservation, and/or development of open space and natural resources, including biological, cultural, mineral, and scenic resources. The Project's impacts with respect to species and habitat preservation, mineral resource extraction,

and aesthetics are primarily addressed in Sections 3.2, *Aesthetics*, 3.5, *Biological Resources*, 3.6, *Cultural and Tribal Resources*, and 3.13, *Mineral Resources.* The Project site intermittently has been cultivated for agricultural use for at least the past 10 years; no naturally occurring plant communities are present. The physical environmental impacts of the Project are described throughout the Draft EIR. Generally speaking, the Project would not contribute substantially to the degradation of natural resources after the implementation of mitigation measures.

The Open Space and Conservation Element of the Fresno County General Plan also evaluates the scenic resources of Fresno County and provides policies intended to protect the scenic resources of the County and ensure that development enhances those resources through various measures including identification, development review, acquisition, and other methods. The Project site has not been identified as a scenic resource. The Fresno County General Plan also includes policies intended to protect scenic resources along roadways of the County by identifying, developing, and maintaining scenic amenities along roads and highways in the County and ensuring that development enhances those resources. According to Policy OS-L.1, Fresno County has designated a system of scenic roadways that includes landscaped drives, scenic drives, and scenic highways. According to this element, the only designated scenic roadway in the vicinity of the Project site is Interstate 5 (2 miles west of the Project).

Project consistency with specific Open Space and Conservation Element policies is presented in **Table I1-5** below.

TABLE I1-5
FRESNO COUNTY GENERAL PLAN OPEN SPACE AND CONSERVATION ELEMENT POLICIES

Goal/Objective/Policy Text	Project Consistency Evaluation
Policy OS-A.25: The County shall minimize sedimentation and erosion through control of grading, cutting of trees, removal of vegetation, placement of roads and bridges, and use of off-road vehicles. The County shall discourage grading activities during the rainy season unless adequately mitigated to avoid sedimentation of creeks and damage to riparian habitat.	***Consistent.*** Section 3.8, *Geology, Soils, and Paleontological Resources*, includes an evaluation of potential erosion-related impacts and associated mitigation. The Project would comply with a Construction General Permit, and implementation of a SWPPP would limit the impact of construction-related soil erosion by enacting BMPs to address sediment control and limit erosion, such as installation of silt fencing and implementation of temporary sediment disposal measures. Operation of the Project would not include activities that are likely to cause erosion. Following construction, the site could be replanted with low-growing plant species appropriate for maintaining soil quality. The Project does not include tree removal or construction in creeks or riparian areas.
Policy OS-A.26: The County shall continue to require the use of feasible and practical best management practices (BMPs) to protect streams from the adverse effects of construction activities and urban runoff.	***Consistent.*** Impermeable surfaces are broken into individual areas that would drain through gravel that would help maximize infiltration and to disburse flows, and bioretention swales that would further slow runoff and facilitate infiltration. Section 3.8, *Geology, Soils, and Paleontological Resources*, includes an evaluation of potential erosion-related impacts. The Project would comply with a Construction General Permit, and implementation of a SWPPP would limit the impact of construction-related soil erosion by enacting BMPs to address sediment control and limit erosion, such as installation of silt fencing and implementation of temporary sediment disposal measures. Operation of the Project would not include activities that are likely to cause erosion.

TABLE I1-5 (CONTINUED)
FRESNO COUNTY GENERAL PLAN OPEN SPACE AND CONSERVATION ELEMENT POLICIES

Goal/Objective/Policy Text	Project Consistency Evaluation
OS-C.1: Incompatible Mining Uses. The County shall not permit incompatible land uses within the impact area of existing or potential surface mining areas.	***Consistent.*** There is no current surface mining onsite. There is no indication or evidence that the clay, silt, and sand present on the Project site would be suitable for aggregate production of statewide or regional significance. Aggregate resources are widely available throughout the region and neither the California State Mining and Geology Board (SMGB) nor Fresno County has officially designated the area as an aggregate resource area or mineral deposit of statewide or regional significance.
OS-C.2: Mineral Resource Zones. The County shall not permit land uses incompatible with mineral resource recovery within areas designated as Mineral Resource Zone 2 (MRZ-2).	***Consistent.*** The Project site is not within an MRZ.
OS-C.7: Mining Buffers. The County shall require that new non-mining land uses adjacent to existing mining operations be designed to provide a buffer between the new development and the mining operations. The buffer distance shall be based on an evaluation of noise, aesthetics, drainage, operating conditions, biological resources, topography, lighting, traffic, operating hours, and air quality.	***Consistent.*** There are no significant mineral resources at or adjacent to the Project site or in the area.
OS-C.10: Mineral Resource Lands Protection. The County shall not permit land uses that threaten the future availability of mineral resource or prelude future extraction of those resources.	***Consistent.*** There is no current surface mining onsite. There is no indication or evidence that the materials present on the Project site would be suitable for aggregate production of statewide or regional significance. Neither the SMGB nor Fresno County has officially designated the area as an aggregate resource area or mineral deposit of statewide or regional significance.
OS-C.12: New Development Compatibility. The County shall ensure that new discretionary land use developments are compatible with existing and potential surface mining areas and operations as identified on the Mineral Resource Zone Maps prepared by the State Division of Mines and Geology and other mineral resource areas identified by the County.	***Consistent.*** The Project site is not within an MRZ. There are no significant mineral resources at or adjacent to the Project site or in the area.
OS-C.13: Oil and Gas Regulation Areas. Fresno County shall be divided into three areas for the regulation of oil and gas development. A) Urban areas including all land within one- fourth mile of the planned urban boundaries shown on adopted community plans. B) Established oil and gas fields as determined and updated by the California Division of Oil and Gas, excluding urban areas except where specifically included in these policies. C) Non-urban areas including all land not within either established oil and gas fields or urban areas.	**Consistent.** According to the Phase I environmental assessment (Draft EIR Appendix H), there is no evidence that hazardous materials or petroleum products exist at the Project site at levels that would require mitigation. However, notable findings in connection with the Project site include the following: • On-site natural gas pipeline and on-site petroleum and natural gas easements that traverse the northern and southeastern Project site parcels; the location of the natural gas pipeline and easement has been accounted for in the Project design. • Contaminated soil from a diesel aboveground storage tank (AST) associated with a water supply well indicating a minor release observed on the western portion of the northernmost Project site parcel. As discussed in Section 2.5.5.1, *Water and Wastewater*, the water supply well may be used for water supply or may be capped and left in place.

TABLE I1-5 (CONTINUED)
FRESNO COUNTY GENERAL PLAN OPEN SPACE AND CONSERVATION ELEMENT POLICIES

Goal/Objective/Policy Text	Project Consistency Evaluation
Policy OS-E.1: The County shall support efforts to avoid the "net" loss of important wildlife habitat where practicable. In cases where habitat loss cannot be avoided, the County shall impose adequate mitigation for the loss of wildlife habitat that is critical to supporting special-status species and/or other valuable or unique wildlife resources. Mitigation shall be at sufficient ratios to replace the function, and value of the habitat that was removed or degraded. Mitigation may be achieved through any combination of creation, restoration, conservation easements, and/or mitigation banking. Conservation easements should include provisions for maintenance and management in perpetuity. The County shall recommend coordination with the U.S. Fish and Wildlife Service and the California Department of Fish and Game to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed. Important habitat and habitat components include nesting, breeding, and foraging areas, important spawning grounds, migratory routes, migratory stopover areas, oak woodlands, vernal pools, wildlife movement corridors, and other unique wildlife habitats (e.g., alkali scrub) critical to protecting and sustaining wildlife populations.	***Consistent.*** The Project site does not lie within a recognized terrestrial wildlife connectivity area identified in the *California Essential Habitat Connectivity Project*. Based on the agricultural use of the site and that the surrounding areas are heavily influenced by agriculture, limited opportunities for habitat continuity or wildlife movement are available due to the lack of open natural habitat. The site does not contain wildlife travel routes such as riparian strips, waterways or underpasses, nor does it provide connectivity between large areas of open space. While the site is not a preferred habitat, wildlife species such as the , San Joaquin kit fox; Swainson's hawk; and nesting birds may be present on site. Implementation of Mitigation Measures 3.5-1 through 3.5-3, including Worker Environmental Awareness Training and preconstruction nesting bird surveys, would prevent potential impacts to these species. See Section 2.5.9, Applicant- Proposed Measures and Design Features, including Section 2.5.9.5, *Wildlife-Friendly Design Features*, in Chapter 2, *Project Description*, for additional measures that would reduce potential impacts to species.
Policy OS-E.2: The County shall require adequate buffer zones between construction activities and significant wildlife resources, including both on-site habitats that are purposely avoided and significant habitats that are adjacent to the project site, in order to avoid the degradation and disruption of critical life cycle activities such as breeding and feeding. The width of the buffer zone should vary depending on the location, species, etc. A final determination shall be made based on informal consultation with the U.S. Fish and Wildlife Service and/or the California Department of Fish and Game.	**Consistent**. While the disked and actively cultivated agricultural lands on-site are not preferred denning habitat and only provide limited foraging habitat, the Project site is surrounded by other agricultural lands, which could potentially support San Joaquin kit fox residency or movement. Preconstruction clearance surveys, fencing, valley fever reduction measures (APM Section 2.5.9.3), and other minimization measures described in Mitigation Measures 3.5-1 and 3.5-2 would minimize potential impacts to San Joaquin kit fox during construction or decommissioning.
Policy OS-E.3: The County shall require development in areas known to have particular value for wildlife to be carefully planned and, where possible, located so that the value of the habitat for wildlife is maintained.	***Consistent.*** The Project site does not lie within a recognized terrestrial wildlife connectivity area identified in the California Essential Habitat Connectivity Project and has been heavily influenced by agriculture. The site does not contain wildlife travel routes such as riparian strips, waterways or underpasses, nor does it provide connectivity between large areas of open space. While the site is not preferred habitat, wildlife species such as the San Joaquin kit fox, Swainson's hawk, and nesting birds may be present on site. Implementation of Mitigation Measures 3.5-1 through 3.5-3, including preconstruction nesting bird surveys, would minimize adverse impacts on wildlife habitat values.
Policy OS-E.4: The County shall encourage private landowners to adopt sound wildlife habitat management practices, as recommended by the California Department of Fish and Game officials and the U.S. Fish and Wildlife Service.	***Consistent.*** The Project Applicant would provide Worker Environmental Awareness training and pre-construction surveys, and would monitor ground disturbing activities and restrict Project activities to designated staging and access areas, cover exposed trenches and pipes to prevent entrapment, and impose speed limits onsite.
Policy OS-E.6: The County shall ensure the conservation of large, continuous expanses of native vegetation to provide suitable habitat for maintaining abundant and diverse wildlife populations, as long as this preservation does not threaten the economic well-being of the County.	***Consistent.*** This Project does not conflict with the County's ability to implement land conservation.

TABLE I1-5 (CONTINUED)
FRESNO COUNTY GENERAL PLAN OPEN SPACE AND CONSERVATION ELEMENT POLICIES

Goal/Objective/Policy Text	Project Consistency Evaluation
Policy OS-E.9: Prior to approval of discretionary development permits, the County shall require, as part of any required environmental review process, a biological resources evaluation of the project site by a qualified biologist. The evaluation shall be based upon field reconnaissance performed at the appropriate time of year to determine the presence or absence of significant resources and/or special-status plants or animals. Such evaluation will consider the potential for significant impact on these resources and will either identify feasible mitigation measures or indicate why mitigation is not feasible.	***Consistent.*** Section 3.5 contains an analysis of potential impacts to biological resources. The analysis presented in this section is based on a review of relevant literature, field reconnaissance surveys, and focused biological surveys. It also relies on the Biological Resources Assessment provided in draft EIR Appendix E that documents existing conditions and the findings of various biological surveys on the Project site and in the surrounding vicinity.
Policy OS-E.10: The County shall support State and Federal programs to acquire significant fish and wildlife habitat areas for permanent protection and/or passive recreation use.	***Not Applicable.*** The Project would not conflict with the County's ability to support programs to acquire significant fish and wildlife habitat areas.
Policy OS-E.16: The County should preserve, to the maximum extent practicable, significant wildlife migration routes such as the North Kings Deer Herd migration corridors and fawn production areas.	***Consistent.*** Potential Impacts to migration routes are described in Section 3.5, *Biological* Resources. The Project site is within the Pacific Flyway, a significant avian migration route. The Mendota Wildlife Area, located approximately 4.5 miles east of the Project site, is a recognized stopover location for migratory birds travelling along the Pacific Flyway. The Project would not physically affect the Pacific Flyway. There are no other important migratory routes, corridors, or wildlife nursery sites near the Project site.
Policy OS-E.18: The County should preserve, to the maximum possible extent, areas defined as habitats for rare or endangered animal and plant species in a natural state consistent with State and Federal endangered species laws.	***Consistent.*** There is potential habitat for Swainson's hawk, loggerhead shrike, San Joaquin kit fox, and nesting raptors and migratory birds; however, pre-construction surveys will ensure nesting areas are avoided.
Policy OS-E.19: The County should preserve areas identified as habitats for rare or endangered plant and animal species primarily through the use of open space easements and appropriate zoning that restrict development in these sensitive areas.	***Consistent.*** The Project site is zoned AE40, Exclusive Agricultural, and is not preserved under an open space easement.
Policy OS-F.5: The County shall establish procedures for identifying and preserving rare, threatened, and endangered plant species that may be adversely affected by public or private development projects. The County shall require, as part of the environmental review process, a biological resources evaluation of the project site by a qualified biologist. The evaluation shall be based on field reconnaissance performed at the appropriate time of year to determine the presence or absence of significant plant resources and/or special-status plant species. Such evaluation shall consider the potential for significant impact on these resources and shall either identify feasible mitigation measures or indicate why mitigation is not feasible.	***Consistent.*** Based on the literature review and seasonally timed rare plant surveys conducted for the Project (Draft EIR Appendix E), no rare plants were observed or have potential to occur on site. The entire site was subject to disturbance from agriculture, disking and related activities. Only small patches of ruderal vegetation persisted.
Policy OS-F.7: The County should encourage landowners to maintain natural vegetation or plant suitable vegetation along fence lines, drainage and irrigation ditches and on unused or marginal land for the benefit of wildlife.	***Consistent.*** Based on the literature review and seasonally timed rare plant surveys conducted for the Project (Appendix E), no rare plants were observed or have potential to occur on site. The entire site was subject to disturbance from agriculture, disking and related activities. Only small patches of ruderal vegetation persisted.

TABLE I1-5 (CONTINUED)
FRESNO COUNTY GENERAL PLAN OPEN SPACE AND CONSERVATION ELEMENT POLICIES

Goal/Objective/Policy Text	Project Consistency Evaluation
Policy OS-G.12: The County shall continue, through its land use planning processes, to avoid inappropriate location of residential uses and sensitive receptors in relation to uses that include but are not limited to industrial and manufacturing uses and any other use which have the potential for creating a hazardous or nuisance effect.	***Consistent.*** The nearest sensitive receptors to the Project site are located approximately 3,300 feet to the west, 11,500 feet to the southeast, and 17,000 feet to the east of the Project site (Draft EIR Section 3.4, *Air Quality*). Based on the results of a health risk assessment, the predicted worst case increase in cancer risk is below the San Joaquin Valley Air Pollution Control District (SJVAPCD) threshold. The Project would not be a significant source of criteria pollutant emissions or fugitive dust during operation and maintenance. Impacts to sensitive receptors would be less than significant during construction, operation and maintenance, and decommissioning.
Policy OS-G.13: The County shall include fugitive dust control measures as a requirement for subdivision maps, site plans, and grading permits. This will assist in implementing the SJVUAPCD's particulate matter of less than ten (10) microns (PM_{10}) regulation (Regulation VIII). Enforcement actions can be coordinated with the Air District's Compliance Division.	***Consistent.*** The Applicant would submit a Fugitive Dust Control Plan to the SJVAPCD for review and approval. The Dust Control Plan shall meet the requirements in Rule 8021-1 and incorporate the Regulation VIII recommended fugitive dust control measures to reduce PM_{10} emissions to the extent practical. See Draft EIR Section 3.4, *Air Quality*, for details.
Policy OS-G.14: The County shall require all access roads, driveways, and parking areas serving new commercial and industrial development to be constructed with materials that minimize particulate emissions and are appropriate to the scale and intensity of use.	***Consistent.*** Gravel access roads would be constructed around the perimeter of the Project site and aggregate base access roads would be constructed between blocks of enclosures. On-site parking would meet Fresno County Municipal Code parking requirements. Regarding the control of particulate emissions, see Draft EIR Section 3.4, *Air Quality.*
Policy OS-G.15: The County shall continue to work to reduce PM_{10} and $PM_{2.5}$ emissions from County-maintained roads by considering shoulder treatments for dust control as part of road reconstruction projects.	***Consistent.*** The Project does not involve road reconstruction. Construction and operation of the Project will be implemented in compliance with SJVAPCD's Regulation VIII, Fugitive PM_{10} Prohibitions and the current $PM_{2.5}$ Plan.
Policy OS-H.2: The County shall strive to maintain a standard of five (5) to eight (8) acres of County-owned improved parkland per one thousand (1,000) residents in the unincorporated areas.	***Consistent.*** The Project would not be located on designated parkland, affect the amount of County-owned parkland, nor result in population growth within Fresno County. Therefore, the Project would not conflict with the County's ability to maintain the parkland ratio established in this policy.
Goal OS-J: To identify, protect, and enhance Fresno County's important historical, archeological, paleontological, geological, and cultural sites and their contributing environment, and promote and encourage preservation, restoration, and rehabilitation of Fresno County's historically significant resources in order to promote historical awareness, community identify, and to recognize the County's valued assets that have contributed to past County events, trends, styles of architecture, and economy.	***Consistent.*** The Project would not conflict with the County's ability to protect cultural resources because the Project would not affect cultural resources. There are no historic structures on the Project site.
Policy OS-J.1: Preservation of Historic Resources. The County shall encourage preservation of any sites and/or buildings identified as having historical significance pursuant to the list maintained by the Fresno County Historic Landmarks and Records Advisory Commission.	***Consistent.*** The Project would not impact preservation of historic sites or buildings. There are no historic structures on the Project site.
Policy OS-J.2: Historic Resources Consideration. The County shall consider historic resources during preparation or evaluation of plans and discretionary development projects.	***Consistent.*** Section 3.6, *Cultural and Tribal Cultural Resources*, contains results of a records search and field survey for the County's consideration of the Project.

TABLE I1-5 (CONTINUED)
FRESNO COUNTY GENERAL PLAN OPEN SPACE AND CONSERVATION ELEMENT POLICIES

Goal/Objective/Policy Text	Project Consistency Evaluation
Policy OS-J.14: Sites Protection and Mitigation. The County shall require that discretionary development projects, as part of any required CEQA review, identify and protect important historical, archeological, paleontological, and cultural sites and their contributing environment from damage, destruction, and abuse to the maximum extent feasible. Project-level mitigation shall include accurate site surveys, consideration of project alternatives to preserve archeological and historic resources, and provision for resource recovery and preservation when displacement is unavoidable.	***Consistent.*** Section 3.6, *Cultural and Tribal Cultural Resources*, provides an evaluation of potential Project impacts to cultural, archaeological, and historic resources. Section 3.8, *Geology, Soils, and Paleontological Resources*, analyzes potential impacts to paleontological resources. To evaluate the Project's potential effects on significant cultural resources, including prehistoric and historic archaeological sites, a cultural resources characterization and evaluation of the Project site were undertaken (Rincon Consultants 2022). These efforts included a literature review, a Native American contact program, geoarchaeological review, and field surveys for areas of potential permanent and temporary impacts where facilities would be installed. In the event that unknown archaeological resources are discovered during Project construction, the Applicant would implement Mitigation Measure 3.6-2, which requires the retention of a qualified archaeologist and cultural resources awareness training, and which governs procedures in the event of inadvertent discovery of archaeological materials.
Goal OS-K: To conserve, protect, and maintain the scenic quality of Fresno County and discourage development that degrades areas of scenic quality.	***Consistent.*** Project facilities including fencing, battery storage structures and overhead power lines would be visible and would transform the landscape from an agriculture visual character to an industrial character. However, the Project would not block or impair any existing significant visual resources or significantly impact the local visual character. See Draft EIR Section 3.2, *Aesthetics*, for details.
Policy OS-K.1: The County shall encourage the preservation of outstanding scenic views, panoramas, and vistas wherever possible. Methods to achieve this may include encouraging private property owners to enter into open space easements for designated scenic areas.	***Consistent.*** There are no designated scenic vistas within the viewshed of the entire Project site.
Policy OS-K.4: The County should require development adjacent to scenic areas, vistas, and roadways to incorporate natural features of the site and be developed to minimize impacts to the scenic qualities of the site.	***Consistent.*** There are no designated scenic vistas within the viewshed of the entire Project site.
Goal OS-L: To conserve, protect, and maintain the scenic quality of land and landscape adjacent to scenic roads in Fresno County.	***Consistent.*** There are no designated state scenic highways within the Project vicinity; nor roadways that are eligible for scenic designation within the Project viewshed.
Policy OS-L.1: The County designates a system of scenic roadways that includes landscaped drives, scenic drives, and scenic highways.	***Consistent.*** There are no designated state scenic highways within the Project vicinity or roadways eligible for scenic designation within the Project viewshed.
Policy OS-L.3: The County shall manage the use of land adjacent to scenic drives and scenic highways based on the following principles: b. Proposed high voltage overhead transmission lines, transmission line towers, and cell towers shall be routed and placed to minimize detrimental effects on scenic amenities visible from the right-of-way.	***Consistent.*** There are no designated state scenic highways or roadways eligible for scenic designation within the Project viewshed.

I.3.4 Health and Safety Element

The Health and Safety Element outlines Fresno County's planning strategies regarding emergency management and response, fire hazards, flood hazards, seismic and geological hazards, airport hazards, hazardous materials, and noise. The Project's impacts with respect to safety are primarily addressed in Section 3.8, *Geology, Soils, and Paleontological Resources*, Section 3.10, *Hazards and Hazardous Materials,* and Section 3.14*, Noise and Acoustics*. The design of the Project, as well as mitigation measures recommended in this Draft EIR, consider the potential seismic, soil instability, flood, fire, waste, and other hazards that are present in the Project area or that could result as a consequence of Project implementation. Although the Project would not avoid all hazards, even with Project consistency with specific Health and Safety Element policies is presented in **Table K1-6** below.

I.3.5 Housing Element

The Housing Element provides the County's goals, policies, and programs for the development, improvement, and maintenance of housing within the unincorporated areas of the County. As described in Section 3.15, *Population and Housing*, the Project would neither induce growth nor displace people or housing. The Project does not propose or require new housing. This element is therefore not applicable to the Project.

TABLE I1-6
FRESNO COUNTY GENERAL PLAN HEALTH AND SAFETY ELEMENT POLICIES

Goal/Objective/Policy Text	Project Consistency Evaluation
Policy HS-B.1: The County shall review project proposals to identify potential fire hazards and to evaluate the effectiveness of preventive measures to reduce the risk to life and property.	***Consistent.*** Section 3.10, *Hazards and Hazardous Materials*, and Section 3.20, *Wildfire*, include an evaluation of potential fire hazards. The Project is not located in a very high fire severity hazard zone as defined by CAL FIRE. Regardless, fire prevention measures would be implemented in order to minimize fire risk.
Policy HS-B.5: The County shall require development to have adequate access for fire and emergency vehicles and equipment.	***Consistent.*** The Project site would be accessible to emergency vehicles. See Section 3.10, *Hazards and Hazardous Materials*, and Section 3.18, *Transportation*.
Policy HS-B.8: The County shall refer development proposals in the unincorporated county to the appropriate local fire agencies for review of compliance with fire safety standards. If dual responsibility exists, both agencies shall review and comment relative to their area of responsibility. If standards are different or conflicting, the more stringent standards shall apply.	***Consistent.*** The Applicant would coordinate as needed with the Fresno County Fire District to address potential exposure to fire and other hazards in the Project site and would incorporated any standards or requirements required by the district.
Policy HS-D.3: The County shall require that a soils engineering and geologic-seismic analysis be prepared by a California-registered engineer or engineering geologist prior to permitting development, including public infrastructure projects, in areas prone to geologic or seismic hazards (i.e., fault rupture, groundshaking, lateral spreading, lurchcracking, fault creep, liquefaction, subsidence, settlement, landslides, mudslides, unstable slopes, or avalanche).	***Consistent.*** According to the Geology and Geohazards Desktop Review prepared for the Project site (see Draft EIR Appendix G), geologic hazards at the site are not significant. There is no risk of fault rupture, and the Project would not lead to significant impacts related to seismic ground shaking, liquefaction, erosion, or subsidence.

TABLE I1-6 (CONTINUED)
FRESNO COUNTY GENERAL PLAN HEALTH AND SAFETY ELEMENT POLICIES

Goal/Objective/Policy Text	Project Consistency Evaluation
Policy HS-D.4: The County shall require all proposed structures, additions to structures, utilities, or public facilities situated within areas subject to geologic-seismic hazards as identified in the soils engineering and geologic-seismic analysis to be sited, designed, and constructed in accordance with applicable provisions of the Uniform Building Code (Title 24 of the California Code of Regulations) and other relevant professional standards to minimize or prevent damage or loss and to minimize the risk to public safety.	***Consistent.*** A site-specific soils engineering and geologic-seismic analysis has been prepared for the Project site (see Draft EIR Appendix G1). The Project would be constructed in compliance with the geotechnical and seismic design criteria required for construction in accordance with the California Building Code (CBC).
Policy HS-D.5: Pursuant to the Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code, Chapter 7.5), the County shall not permit any structure for human occupancy to be placed within designated Earthquake Fault Zones unless the specific provisions of the Act and Title 14 of the California Code of Regulations have been satisfied.	***Consistent.*** While the Project site is not within a mapped Seismic Hazard Zone, the site may be subject to strong earthquake-related ground shaking at some point during the lifetime of the facility due to the potential for relatively large earthquakes to the south and west of the Project site. The Project would be constructed in compliance with the geotechnical and seismic design criteria required for construction in accordance with the CBC. The Project does not include structures for human occupancy.
Policy HS-D.8: The County shall require a soils report by a California-registered engineer or engineering geologist for any proposed development, including public infrastructure projects, that requires a County permit and is located in an area containing soils with high "expansive" or "shrink-swell" properties. Development in such areas shall be prohibited unless suitable design and construction measures are incorporated to reduce the potential risks associated with these conditions.	***Consistent.*** The Geology and Geohazards Desktop Review indicated that soils present at the Project site have a moderate to high potential for expansion. The Project would be required to comply with applicable building codes and structural improvements which would address any expansive soil hazards.
Policy HS-D.9: The County shall seek to minimize soil erosion by maintaining compatible land uses, suitable building designs, and appropriate construction techniques. Contour grading, where feasible, and revegetation shall be required to mitigate the appearance of engineered slopes and to control erosion.	***Consistent.*** The Project would comply with a Construction General Permit, and implementation of a SWPPP would limit the impact of construction-related soil erosion by enacting BMPs to address sediment control and limit erosion, such as installation of silt fencing and implementation of temporary sediment disposal measures. Operation of the Project would not include activities that are likely to cause erosion. Following construction, the site could be replanted with low-growing plant species appropriate for maintaining soil quality. See Draft EIR Section 3.8, *Geology, Soils, and Paleontological Resources*, for additional information.
Goal HS-F: To minimize the risk of loss of life, injury, serious illness, and damage to property resulting from the use, transport, treatment, and disposal of hazardous materials and hazardous wastes.	***Consistent.*** The use, storage, transport, and disposal of hazardous materials in connection with the Project would be carried out in accordance with federal, state, and local regulations. BMPs in the SWPPP would minimize the risk of hazardous materials leakage include: reporting of spills of hazardous materials to the appropriate regulatory entities; immediate cleanup of hazardous materials spills; and excavation and appropriate disposal of contaminated soils.
Policy HS-F.1: The County shall require that facilities that handle hazardous materials or hazardous wastes be designed, constructed, and operated in accordance with applicable hazardous materials and waste management laws and regulations.	***Consistent.*** The use, storage, transport, and disposal of hazardous materials in connection with the Project would be carried out in accordance with federal, state, and local regulations.
Policy HS-F.3: The County, through its Hazardous Materials Incident Response Plan, shall coordinate and cooperate with emergency response agencies to ensure adequate Countywide response to hazardous materials incidents.	***Consistent.*** As identified in Section 3.10, *Hazards and Hazardous Materials*, and Section 3.18, *Transportation,* the Project would not interfere with emergency response plans or times.

TABLE I1-6 (CONTINUED)
FRESNO COUNTY GENERAL PLAN HEALTH AND SAFETY ELEMENT POLICIES

Goal/Objective/Policy Text	Project Consistency Evaluation
Policy HS-D.4: The County shall require all proposed structures, additions to structures, utilities, or public facilities situated within areas subject to geologic-seismic hazards as identified in the soils engineering and geologic-seismic analysis to be sited, designed, and constructed in accordance with applicable provisions of the Uniform Building Code (Title 24 of the California Code of Regulations) and other relevant professional standards to minimize or prevent damage or loss and to minimize the risk to public safety.	***Consistent.*** A site-specific soils engineering and geologic-seismic analysis has been prepared for the Project site (see Draft EIR Appendix G1). The Project would be constructed in compliance with the geotechnical and seismic design criteria required for construction in accordance with the California Building Code (CBC).
Policy HS-D.5: Pursuant to the Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code, Chapter 7.5), the County shall not permit any structure for human occupancy to be placed within designated Earthquake Fault Zones unless the specific provisions of the Act and Title 14 of the California Code of Regulations have been satisfied.	***Consistent.*** While the Project site is not within a mapped Seismic Hazard Zone, the site may be subject to strong earthquake-related ground shaking at some point during the lifetime of the facility due to the potential for relatively large earthquakes to the south and west of the Project site. The Project would be constructed in compliance with the geotechnical and seismic design criteria required for construction in accordance with the CBC. The Project does not include structures for human occupancy.
Policy HS-D.8: The County shall require a soils report by a California-registered engineer or engineering geologist for any proposed development, including public infrastructure projects, that requires a County permit and is located in an area containing soils with high "expansive" or "shrink-swell" properties. Development in such areas shall be prohibited unless suitable design and construction measures are incorporated to reduce the potential risks associated with these conditions.	***Consistent.*** The Geology and Geohazards Desktop Review indicated that soils present at the Project site have a moderate to high potential for expansion. The Project would be required to comply with applicable building codes and structural improvements which would address any expansive soil hazards.
Policy HS-G.1: The County shall require that all proposed development incorporate design elements necessary to minimize adverse noise impacts on surrounding land uses.	***Consistent.*** Short-term construction and decommissioning activities would be exempt from the County's noise policies and standards because activities would occur between the hours of 6:00 a.m. and 9:00 p.m. on weekdays, or 7:00 a.m. and 9:00 p.m. on Saturdays and Sundays. Mitigation Measure 3.14-1a requires that a Construction Noise Reduction Plan be approved by the county prior to issuance of construction permits.
Policy HS-G.4: So that noise mitigation may be considered in the design of new projects, the County shall require an acoustical analysis as part of the environmental review process where: a) Noise sensitive land uses are proposed in areas exposed to existing or projected noise levels that are "generally unacceptable" or higher according to the Chart HS-1: "Land Use Compatibility for Community Noise Environments;" b) Proposed projects are likely to produce noise levels exceeding the levels shown in the County's Noise Control Ordinance at existing or planned noise-sensitive uses.	***Consistent.*** Section 3.14 includes an analysis of noise impacts associated with the Project.
Policy HS-G.6: The County shall regulate construction-related noise to reduce impacts on adjacent uses in accordance with the County's Noise Control Ordinance.	***Consistent.*** Short-term construction and decommissioning Project activities would be exempt from the County's noise policies and standards because activities would occur between the hours of 6:00 a.m. and 9:00 p.m. on weekdays, or 7:00 a.m. and 9:00 p.m. on Saturdays and Sundays.
Policy HS-G.8: The County shall evaluate the compatibility of proposed projects with existing and future noise levels through a comparison to Chart HS-1, "Land Use Compatibility for Community Noise Environments."	***Consistent.*** With the incorporation of Mitigation Measure 3.14-1a the Project would not exceed County noise standards and would not have a significant impact to noise levels.

I.4 References

Fresno County, 2013. Fresno County Regional Bicycle & Recreational Trails Master Plan. September 24, 2013. http://www.co.fresno.ca.us/ViewDocument.aspx?id=50346.

Fresno County, 2011. Fresno County Zoning Map.

Tetra Tech, Inc. 2020. Biological Resources Evaluation Report, Luna Valley Solar Project. Fresno County, California. September 16, 2020.

Rincon Consultants, Inc. 2022. [Confidential] Cultural Resources Assessment Report, Key Energy Storage Project.

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Appendix I2

Consistency with Fresno County's Solar Facility Guidelines.

APPENDIX I2

Consistency with Fresno County's Solar Facility Guidelines

Toward balancing the need to accommodate new renewable energy technology with the need to protect important farmlands and minimize impacts to existing agricultural operations, the County's land use process for evaluating solar facilities relies on flexible general guidelines and policies rather than specific standards. The Solar Facility Guidelines, adopted by the Fresno County Board of Supervisors in 2013 and revised in 2017, identify consideration to be evaluated as part of the County's process for evaluating solar facilities within the county (Fresno County 2017). Although the Key Energy Storage Project does not propose to develop a solar facility, the County's identified need to maintain flexibility to accommodate new renewable energy technologies, such as battery energy storage, which facilitates the use of solar-generated energy by addressing some of the limitations of the electric grid, applies equally to battery energy storage as to solar energy development.

TABLE I2-1
KEY ENERGY STORAGE PROJECT CONSISTENCY WITH FRESNO COUNTY SOLAR FACILITY GUIDELINES

Guideline	Consistency
1) Information shall be submitted regarding the historical agricultural operational/usage of the parcel including, specific crop type, for the last 10 years (if no agricultural operation in the last 10 years, specify when land was last in agricultural use).	Information regarding the historical agricultural operation of the Project site is provided in Section 3.3, *Agriculture and Forestry Resources*. A detailed 10-year crop history for the Project site is provided in the Land Evaluation and Site Assessment (LESA) included in Draft EIR Appendix C.
2) Information shall be submitted that identifies the source of water for the subject parcel (surface water from irrigation district, individual well(s), conjunctive system). If the source of water is via district delivery, the applicant shall submit information documenting the allocations received from the irrigation district and the actual disposition of the water (i.e., utilized on-site or moved to other locations) for the last 10 years. If an individual well system is used, provide production capacity of each well, water quality data and data regarding the existing water table depth.	Information regarding Project water sources is described in Section 2.5.5.1, *Water and Wastewater*, and in Section 3.19, *Utilities and Service Systems*. A Water Supply Assessment for the Project is provided in Appendix L.

Guideline	Consistency
3) Identify the current status of the parcel (Williamson Act Contract, Conservation Easement, retired land, etc.), the purpose of any easement and limitations of the parcel. The applicant shall submit a Title Report or Lot Book Guarantee for verification.	The current status of the Project site parcels is detailed in Section 3.3, *Agriculture and Forestry Resources*. Although the LESA and Project application materials suggested that all three Project site parcels were subject to Williamson Act Contract No. 2026, more current data from the County Assessor shows that the southern two Project site parcels (APNs 085-040-36 and 085-040-37S) were unenrolled from the California Land Conservation Act (Williamson Act) program in 2019 – an Assessor's notation for each of the two parcels says NR – 2019, signifying that a "notice of nonrenewal was filed and the year the parcel is no longer in the Williamson Act." A Preliminary Title Report submitted for the Project site indicates that only one Project site parcel (APN 085-040-58) is subject to a Williamson Act contract.
4) Identify (with supporting data) the current soil type and mapping units of the parcel pursuant to the standards of the California State Department of Conservation and the Natural Resources Conservation Service.	Soil types found on the Project site are described in Section 3.8, *Geology, Soils and Paleontological Resources,* and in the LESA included in Draft EIR Appendix C. Information is provided in draft EIR Section 3.3 and Appendix C about the Project site parcels' map categorization as "Prime Farmland" by the State Department of Conservation's Farmland Mapping and Monitoring Programs.
5) List all proposed measures and improvements intended to create a buffer between the proposed solar facility and adjacent agricultural operations (detailed information must be shown on site-plan) and provide factual/technical data supporting the effectiveness of said proposed buffering measures.	Proposed buffers are shown on the Site Plan provided with the December 2021 application materials and updated site plans dated September 22, 2022. They also are described in Section 2.5.4.3 of the Project Description (draft EIR Chapter 2) and in Section 3.3, *Agriculture and Forestry Resources*.
6) Provide a Reclamation Plan detailing the lease life, timeline for removal of the improvements and specific measures to return the site to the agricultural capability prior to installation of solar improvements. If the project is approved, adequate financial security to the satisfaction of the County shall be provided to ensure site reclamation. Financial security can be in the form of a cash deposit to be placed in a trust account by the County with additional deposits required as needed to adjust for inflation and/or a Letter of Credit to be renewed every year to adjust for inflation.	The Reclamation Plan is described in Section 2.5.7.3, *Site Reclamation*, and provided in Draft EIR Appendix B1.
7) Provide information documenting efforts to locate the proposed solar facility on non-agricultural lands and non-contracted parcels and detailed information explaining why the subject site was selected.	The evaluation of project alternatives is described in Chapter 4, *Alternatives*.
8) Develop and submit a project site pest management plan to identify methods and frequency to manage weeds, insects, disease and vertebrate pests that may impact adjacent sites.	An Integrated Pest Management Plan is provided in Draft EIR Appendix B2.

Guideline	Consistency
9) The applicant must acknowledge the County's Right to Farm Ordinance and shall be required to record a Right to Farm Notice prior to issuance of any permits. This shall be included as a recommended condition of approval of the land use entitlement.	The December 2021 Conditional Use Permit application materials submitted by the Applicant, Key Energy Storage, LLC, state, "Acknowledgement of the County's Right to Farm Ordinance. The Applicant shall be required to record a Right to Farm Notice prior to the issuance of any permits. This shall be included as a recommended Condition of Approval of the land use entitlement." Recordation of this notice will be included as a condition of approval.
10) Note: The life of the approved land use permit will expire upon expiration of the initial life of the solar lease. If the solar lease is to be extended, approval of new land use permit will need to be obtained.	Not applicable. The Project northernmost Project site parcel is owned by Michael Dresick; the two southern parcels are owned by Rebecca L. Kaser. All Project site parcels are under a purchase option agreement with the Applicant, who intends to purchase the land prior to starting Project construction. Because the Project site will be owned by the Applicant and because the Project proposed energy storage rather than solar energy generation, there will be no solar lease.
11) If the project is approved, the applicant shall make all reasonable efforts to establish a point of sale in Fresno County for equipment and construction related items necessary for the project.	As stated in materials accompanying the Applicant's December 2021 Conditional Use Permit application, the Applicant has committed to making reasonable efforts to establish a point of sale in Fresno County.
12) If the project is approved, the applicant shall make all reasonable efforts to conduct local recruitment efforts and/or coordinate with employment agencies in an attempt to hire from the local workforce.	As stated in materials accompanying the Applicant's December 2021 Conditional Use Permit application, the Applicant has committed to making reasonable efforts to hire from the local workforce.
13) In addition to disclosing the number of trips in the required project Operational Statement, the applicant shall disclose the weight of the shipments anticipated to the site. If the project is approved, pursuant to the CEQA analysis and based upon the existing road conditions and the weight/frequency of shipments to the site, the applicant shall mitigate impacts to County roads.	The Traffic Impact Study prepared for the Project (see Appendix K) included an analysis of potential pavement impacts, as required by Fresno County. Pavement impacts are analyzed based on a comparison of the TI with the Project to the TI without the Project. Based on the County's thresholds, the TI analysis concluded that construction of the Project would not result in a significant impact to the pavement on West Jayne Avenue adjacent to the Project site.
14) If the project is approved, the applicant shall make all reasonable efforts to purchase products and equipment from local (Fresno County) manufacturing facilities and./or vendors.	As stated in materials accompanying the Applicant's December 2021 Conditional Use Permit application, the Applicant has committed to making reasonable efforts to purchase products and equipment from local manufacturers and vendors.

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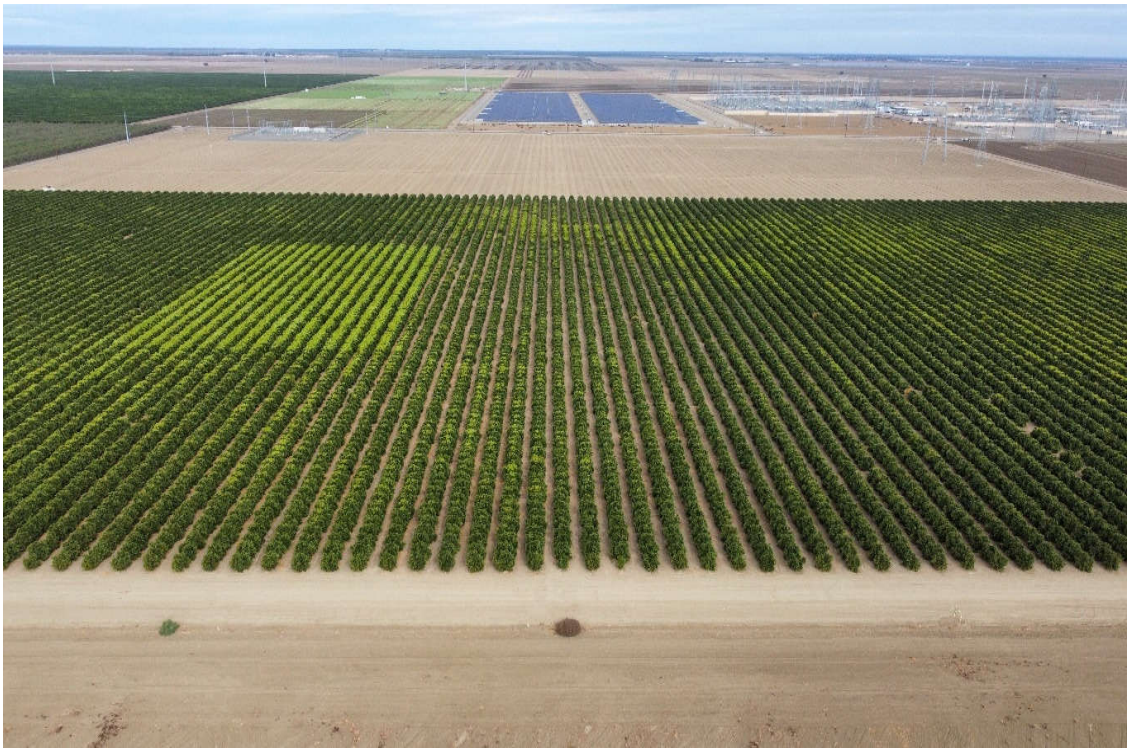
Appendix J
Noise and Vibration Study



Key Energy Storage Project

Noise and Vibration Study

prepared for

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prepared by

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October 2022

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
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1 Impact Summary and Project Description

1.1 Introduction and Impact Summary

This study analyzes the potential noise and vibration impacts associated with the construction, operation, and decommissioning of the Key Energy Storage Project (Project) in Fresno County, California. Rincon Consultants, Inc. (Rincon) prepared this study on behalf of the applicant for use in support of environmental documentation pursuant to the California Environmental Quality Act (CEQA). The purpose of this study is to analyze the noise and vibration levels related to both temporary construction activity and long-term operation of the Project. Table 1 provides a summary of potential Project impacts.

Table 1 Summary of Impacts

Issue	Proposed Project's Level of Significance
Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Less Than Significant
Would the Project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	Less Than Significant
For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	No Impact

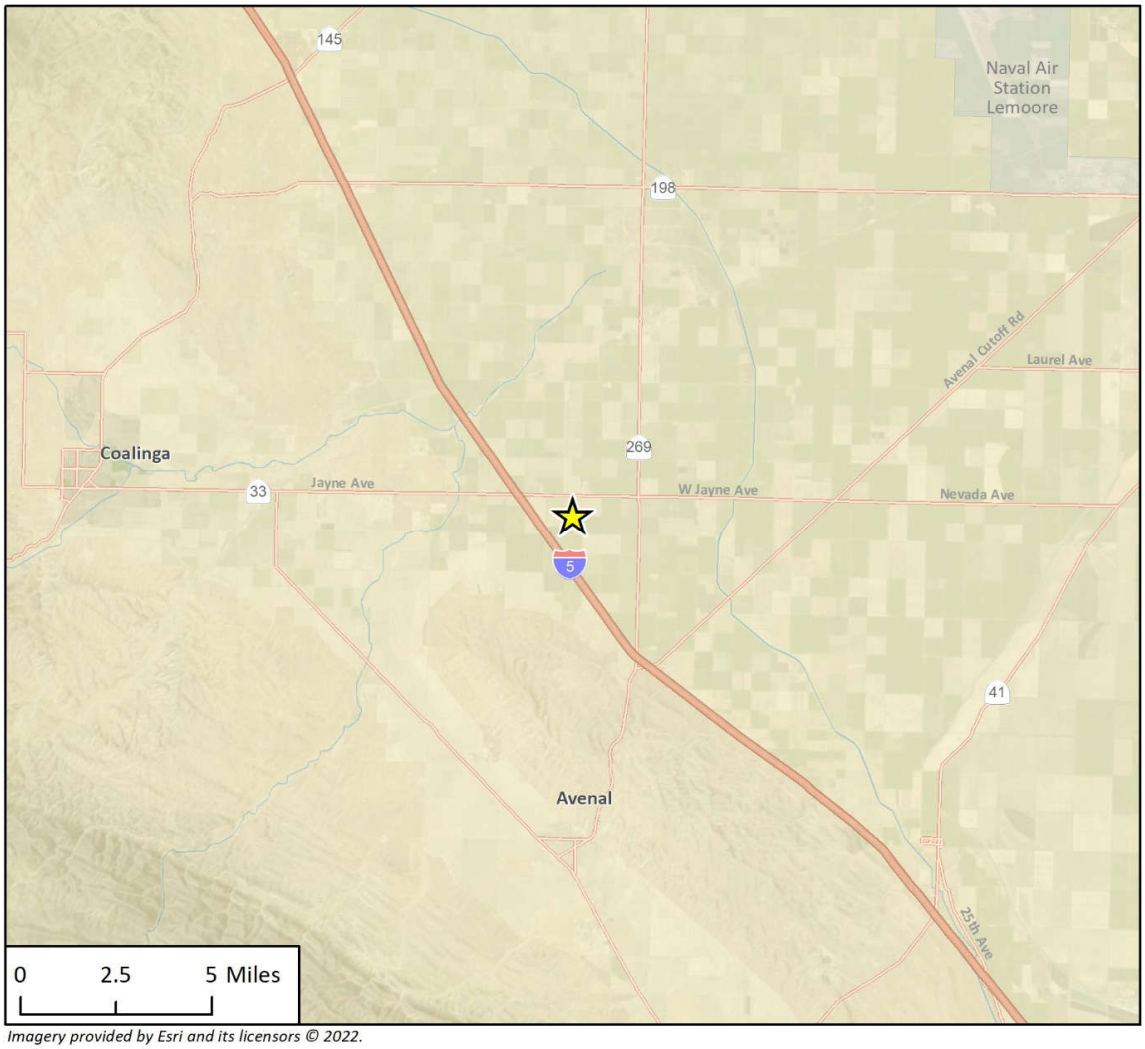
1.2 Project Summary

Project Location

The Project site is located in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, 7.5 miles north of the City of Avenal, and 0.4 mile east of Interstate 5. Figure 1 depicts the regional location of the Project site. The Project site is located southwest of the Pacific Gas and Electric (PG&E) Gates Substation along West Jayne Avenue. The Project would develop up to 260 acres of a 318-acre site comprised of three parcels (Assessor Parcel Numbers 085-040-36S, 085-040-37S, and 085-040-58S) (Figure 2).

The Project site consists of land that is either in agriculture production or fallow. The Project site is bound by West Jayne Avenue to the north and unpaved agricultural access roads to the east, south, and west. The Project site is surrounded by agricultural uses to the west, south, and east. Solar facilities are located to the north and southwest and the PG&E Gates Substation is located to the northeast of the Project site. A small substation is also located immediately adjacent to the northwest Project site boundary.

Figure 1 Regional Location



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Project Location

N

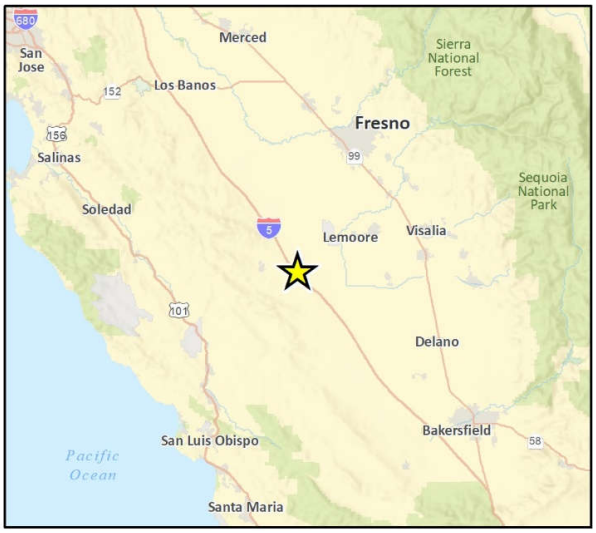
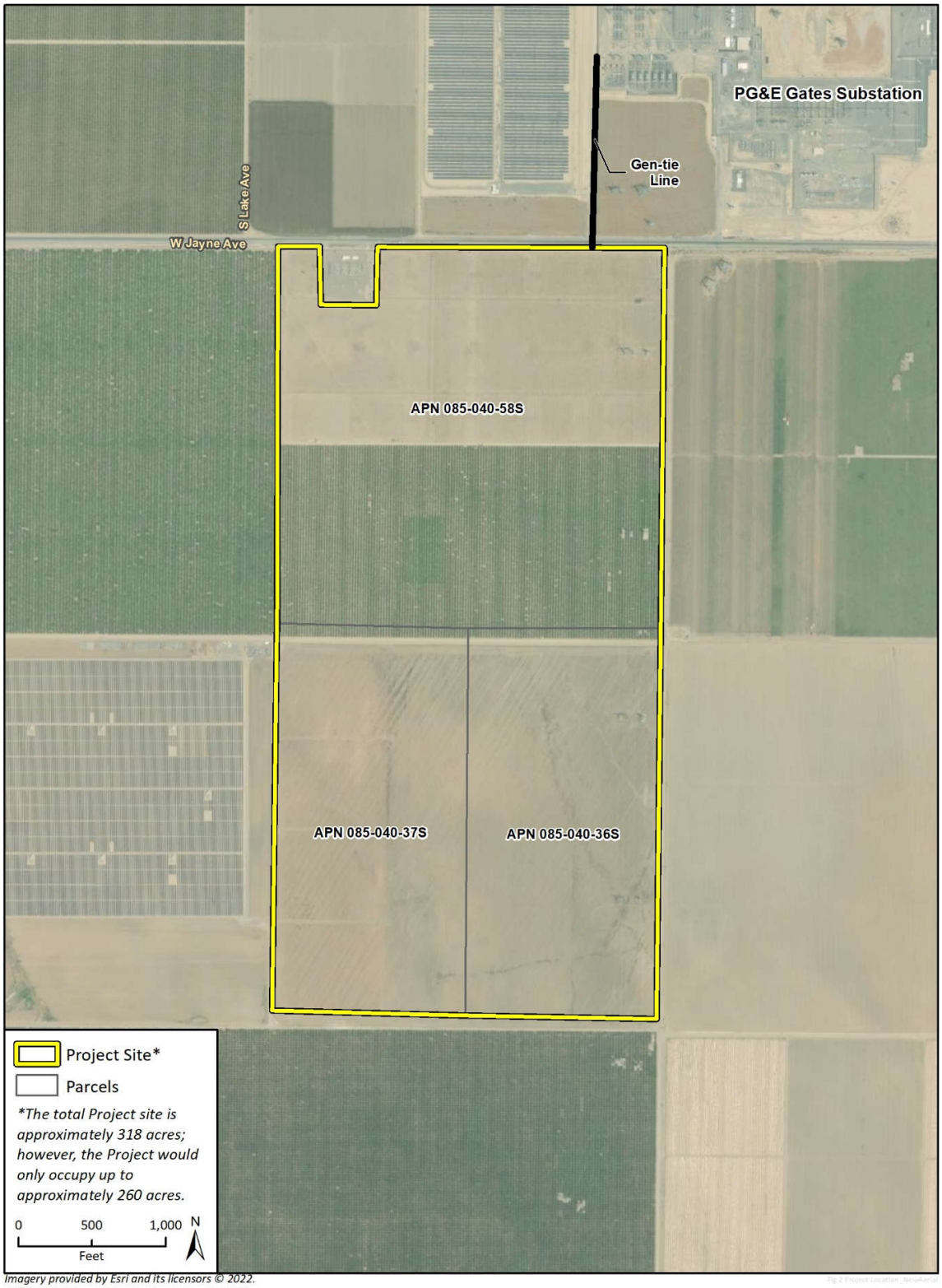


Figure 2 Project Site Location



Project Description

The Project involves the construction and operation of an energy storage system facility and associated on-site support facilities, including a substation, inverters, collector lines, fencing, access roads, supervisory control, data acquisition (SCADA) system, and other ancillary facilities or equipment. The energy storage facility would consist of batteries with the potential to store approximately three (3)-gigawatt (GW) of energy.[1] The Project would also include a 500-kilovolt (kV) overhead generation tie line (gen-tie line), which would extend north to the adjacent PG&E Gates Substation.

The Project would support state policies necessary to improve the reliability of California's energy grid. California has taken action to advance energy storage, including the passage of Assembly Bill 2514 and the resulting California Public Utilities Commission decision for energy storage procurement targets for each of the investor-owned utilities. Locally, Fresno County provides a large share of the region's renewable energy. The Project would substantially increase local energy storage capacity and address the limitations of the electric grid and the increasing demand for renewable energy. Layering energy storage systems into the energy grid improves the reliability of the grid and makes it more resilient to disturbances and peaks in energy demand. The Project and other energy storage system projects are used to supply power during brief disturbances, reduce outages and associated impacts to the community, and substitute for certain large footprint transmission and distribution upgrades.

Construction

Construction activities would include site preparation, fencing, and electrical work. Although the Project site is fairly level, grading would be required throughout most of the site, especially for the construction of roads, on-site substation, the energy storage enclosures, and inverter pads. This would be accomplished with scrapers, graders, water trucks, dozers, and compaction equipment. The enclosure modules would be off-loaded and installed using cranes, boom trucks, forklifts, rubber-tired loaders, rubber-tired backhoes, and other small- to medium-sized construction equipment, as needed. Staging and laydown areas would all be located on the Project site, and specific locations would be determined by the construction contractor.

Buildout of the Project would occur in phases, with construction beginning in 2024. Delivery of material and supplies would reach the Project site by on-road truck delivery through Interstate 5 to West Jayne Avenue. The majority of the truck deliveries would be for the energy storage enclosures and power conversion system installation, as well as any aggregate material that may be required for foundations. These loads would typically be limited to 40 tons, or 80,000 pounds, with a typical cargo load of approximately 25 tons, or 50,000 pounds. Low-bed transport trucks would transport the construction equipment to the site as needed. The size of the low-bed trucks (axles for weight distribution) would depend on the equipment transported. The heaviest delivery loads to the site would be for the step-up transformer, which may weigh up to 160,000 pounds.

Operations and Maintenance

The Project would operate 7 days per week, 365 days per year. The facility would be operated remotely. Only occasional, on-site maintenance is expected to be required following commissioning,

[1] The megawatt capacity is an estimate based on currently available technology as the energy storage industry has quickly evolved in the last few years and is anticipated to continue to evolve. While the components and total megawatts of the project may change, the overall size of the project (up to 260 acres) would remain consistent.

including replacement of inverter power modules, filters, and miscellaneous electrical repairs on an as-needed basis. During operation of the Project substation, operation and maintenance staff would visit the substation periodically for switching and other operation activities. Maintenance trucks would be utilized to perform routine maintenance, including but not limited to equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventative maintenance. Routine operations would require one or two workers in a light utility truck to visit the facility on a weekly basis. Typically, one major maintenance inspection would take place annually.

Decommissioning

The Project is anticipated to have an operating life of up to 30 years. Decommissioning is anticipated to start in approximately 2055 and take up to 24 months. Decommissioning equipment and personnel would be similar to or less than that required for construction. The Project components, including the energy storage system and on-site substation, would be recycled when the Project's operating life is over. Most parts of the proposed system are recyclable.

2 Setting

2.1 Overview of Sound Measurement

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (California Department of Transportation [Caltrans] 2013).

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response, which is most sensitive to frequencies around 4,000 Hertz and less sensitive to frequencies around and below 100 Hertz. Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; dividing the energy in half would result in a 3 dB decrease (Crocker 2007).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not "sound twice as loud" as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (half) as loud (Crocker 2007).

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line, the path the sound will travel, site conditions, and obstructions). Noise levels from a point source typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance (e.g., construction, industrial machinery, ventilation units). Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site, such as a parking lot or smooth body of water, receives no additional ground attenuation and the changes in noise levels with distance (drop-off rate) result from simply the geometric spreading of the source. An additional ground attenuation value of 1.5 dBA per doubling of distance applies to a soft site (e.g., soft dirt, grass, or scattered bushes and trees) (Caltrans 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features such as hills and dense woods, and man-made features such as buildings and walls, can substantially alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011). Structures can substantially reduce exposure to noise as well. The FHWA's guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows.

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of Project noise impacts. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. One of the most frequently used noise metrics is the equivalent noise level (L_{eq}); it considers both duration and sound power level. L_{eq} is defined as the single steady A-weighted level equivalent to the same amount of energy as that contained in the actual fluctuating levels over time.

Noise that occurs at night tends to be more disturbing than that occurring during the day. Community noise is usually measured using Day-Night Average Level (L_{dn}), which is the 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. It is also measured using the Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013). Noise levels described by L_{dn} and CNEL usually differ by about 1 dBA. The relationship between the peak-hour L_{eq} value and the L_{dn}/CNEL depends on the distribution of traffic during the day, evening, and night.

2.2 Vibration

Vibration refers to ground-borne noise and perceptible motion. Ground-borne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors, where the motion may be discernible, but without the effects associated with the shaking of a building, there is less adverse reaction.

Typical outdoor sources of vibration that propagates through the ground and creates perceptible ground-borne vibration in nearby buildings include construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is fairly smooth, vibration from rubber-tired traffic is rarely perceptible (Federal Transit Administration [FTA] 2018).

Vibration amplitudes are usually expressed in peak particle velocity (PPV), or root mean squared (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (Caltrans 2020). The vibration velocity level threshold of perception for humans is approximately 0.035 in/sec PPV (Caltrans 2020).

2.3 Sensitive Receivers

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. The Noise Element of the Fresno County General Plan (2000) identifies residential, school, library, church, hospital, and nursing home uses as noise-sensitive land uses within the County. Other sensitive receivers are identified as transient lodging and motel and hotel uses.

Vibration-sensitive receivers, which are similar to noise-sensitive receivers, include residences and institutional uses, such as schools, churches, and hospitals. However, vibration-sensitive receivers also include buildings where vibrations may interfere with vibration-sensitive equipment that is affected by vibration levels that may be well below those associated with human annoyance (e.g., recording studies or medical facilities with sensitive equipment) or historic buildings that could sustain damage from strong vibrations.

The Project site is not directly adjacent to sensitive receivers identified in the Fresno County General Plan. For the purposes of this analysis, the closest sensitive receivers identified include agricultural housing 3,300 feet to the west of the Project site on West Jayne Avenue, agricultural housing 11,500 feet to the southeast at the intersection of Modoc Avenue and West Goodrich Avenue, and a small row of houses 17,000 feet to the east on West Jayne Avenue.

2.4 Project Noise Setting

The noise environment of the area surrounding the Project Site is characterized by rural roadways, rural agricultural noise, existing solar facilities, and existing substations. Existing noise sources are primarily low-volume traffic, including on-road and off-road vehicles, tractors, trucks, and other farm equipment, and distant high-volume traffic noise along Interstate 5.

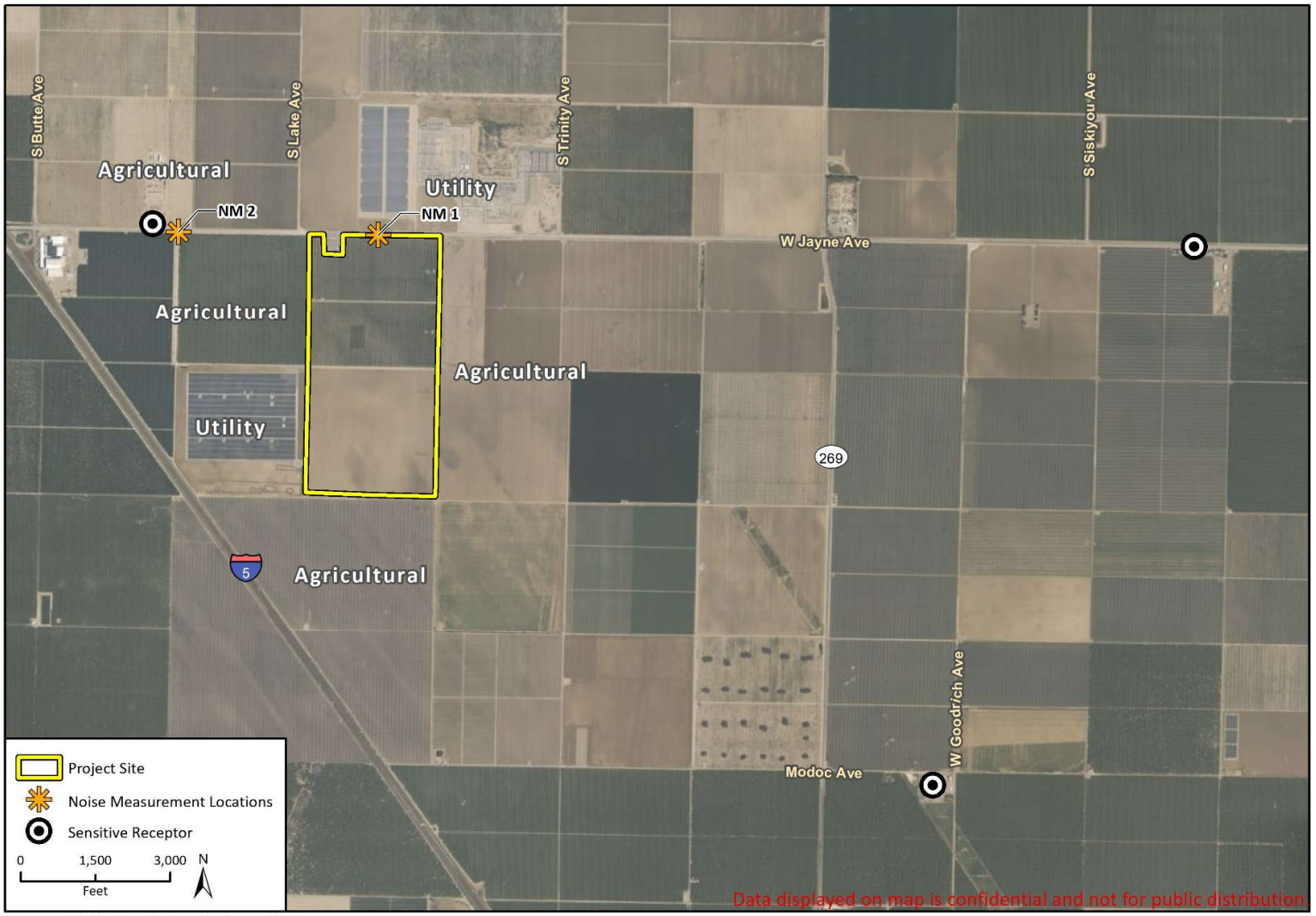
Two weekday 15-minute ambient noise measurements were taken on March 31, 2022 at the Project site using an ANSI Type 2 integrating sound level meter. The sound meter was calibrated prior to measurements. These noise measurements provide an estimate of the general noise environment on and around the Project site. Figure 3 shows the measurement locations and Table 2 summarizes the results of the short-term noise measurements.

Table 2 Project Sites Noise Monitoring Results – Short Term

Measurement Location	Measurement Location	Sample Times	Approximate Distance to Primary Noise Source	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)
NM1	North of Project site, along West Jayne Road, between Project site and PG&E Substation	11:11 – 11:26 a.m.	0.5 mile from substation	73	41	89
NM2	Northwest of Project site, at intersection of West Jayne Road and an agricultural access road	12:10 – 12:25 p.m.	10 to 15 feet from agricultural areas	75	56	88

Detailed sound level measurement data are included in Appendix A and locations are shown on Figure 3.

Figure 3 Noise Measurement Locations



2.5 Regulatory Setting

Federal

There are no specific federal noise standards that would be applicable to the Project other than federal noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 Code of Federal Regulations (CFR), Part 205, Subpart B. The federal truck pass by noise standard is 80 dBA at 15 meters (approximately 50 feet) from the vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers.

State

California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires each county and city to adopt a General Plan that includes a Noise Element prepared per guidelines adopted by the Governor's Office of Planning and Research. The purpose of the Noise Element is to limit the exposure of the community to excessive noise levels. CEQA requires all known environmental effects of a project be analyzed, including environmental noise and vibration impacts.

Local

Fresno County General Plan Noise Element

The Fresno County General Plan Health and Safety Element (Section G, Noise) identifies normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable noise levels for a variety of land use and development types (Fresno County 2000). Table 3 shows the County of Fresno acceptable community noise exposure levels. As shown, ambient noise levels up to 75 dBA L_{dn}/CNEL are normally acceptable for utility uses while ambient noise levels up to 80 dBA L_{dn}/CNEL are conditionally acceptable (Fresno County 2000).

The Noise Element also includes policies designed to meet General Plan Goal HS-G, to "protect residential and other noise-sensitive uses from exposure to harmful or annoying noise levels." These policies address requirements for new noise-sensitive land uses, development in areas that may be exposed to high levels of noise, construction of new noise-generating uses, procedures for acoustical analysis and environmental review, and regulations for construction activity and the use of heavy construction equipment in accordance with the County's Noise Control Ordinance. The following policies are applicable to the Project:

Policy HS-G.1: The County shall require that all proposed development incorporate design elements necessary to minimize adverse noise impacts on surrounding land uses.

Policy HS-G.4: So that noise mitigation may be considered in the design of new projects, the County shall require an acoustical analysis as part of the environmental review process where:

a. Noise sensitive land uses are proposed in areas exposed to existing or projected noise levels that are "generally unacceptable" or higher according to Table 3, "Land Use Compatibility for Community Noise Environments."

Table 3 Land Use and Noise Compatibility Matrix (CNEL)

Land Use	Normally Acceptible[1]	Conditionally Acceptable[2]	Generally Unacceptable[3]	Clearly Unacceptable[4]
Residential – Low Density Single-family, Duplex, Mobile Homes	50-60	55-65	65-75	75-85
Residential – Multiple Family	50-60	55-65	65-75	75-85
Transient Lodging – Motels, Hotels	50-65	60-70	70-80	80-85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-60	55-65	65-75	75-85
Auditoriums, Concert Halls, Amphitheaters	–	50-70	–	65-85
Sports Arena, Outdoor Spectator Sports	–	50-75	–	70-85
Playgrounds, Neighborhood Parks	50-70	–	67.5-75	72.5-85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50-75	70-77.5	–	80-85
Office Buildings, Business Commercial and Professional	50-70	67.5-77.5	75-85	–
Industrial, Manufacturing, Utilities, Agriculture	50-75	70-80	75-85	–

[1] Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements

[2] Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirement is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

[3] Generally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

[4] Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: Fresno County 2000.

b. Proposed projects are likely to produce noise levels exceeding the levels shown in the County's Noise Control Ordinance at existing or planned noise-sensitive uses.

Policy HS-G.5: Where noise mitigation measures are required to achieve acceptable levels according to land use compatibility or the Noise Control Ordinance, the County shall place emphasis of such measures upon site planning and projects design. These measures may include, but are not limited to, building orientation, setbacks, earthen berms, and building construction practices. The County shall consider the use of noise barriers, such as sound walls, as a means of achieving the noise standards after other design-related noise mitigation measures have been evaluated or integrated into the projects.

Policy HS-G.6: The County shall regulate construction-related noise to reduce impacts on adjacent uses in accordance with the County's Noise Control Ordinance.

Policy HS-G.8: The County shall evaluate the compatibility of proposed projects with existing and future noise levels through a comparison to Table 3, "Land Use Compatibility for Community Noise Environments."

Fresno County Noise Ordinance

The County's Code of Ordinances (Chapter 8.40, *Noise Control*) contains the noise measurement criteria, exterior noise thresholds, and noise source exemptions, referred to as the "County's Noise Control Ordinance" in the General Plan. Section 8.40.040 (Exterior Noise Standards) states that it is unlawful for any person to create noise on a property "which causes the exterior noise level when measured at any affected single- or multiple-family residence, school, hospital, church or public library situation [sic] in either the incorporated or unincorporated area to exceed the noise level standards as set forth in the following table". Table 4 summarizes the five exterior noise level standards for the nearby sensitive receptors established in Section 8.40.040 of the County Code of Ordinances. Each standard limits the number of minutes within any given hour during which noise generated on a property may exceed a certain noise level at sensitive receptors. The standards apply within 50 feet of the structure of affected sensitive receptors (Section 8.40.030).

Table 4 Fresno County Exterior Noise Level Standards (dBA, L_{eq})

Category	Cumulative Number of Minutes in any 1-hour Time Period	Noise Level Standard (dBA)	
		Daytime 7:00 a.m.to 10:00 p.m.	Nighttime 10:00 p.m. to 7:00 a.m.
1	30	50	45
2	15	55	50
3	5	60	55
4	1	65	60
5	0	70	65

Notes: In the event the measured ambient noise level exceeds the applicable noise level standard in any category above, the applicable standard shall be adjusted so as to equal the ambient noise level. Each of the noise level standards specified above shall be reduced by 5 dBA for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. If the intruding noise source is continuous and cannot reasonably be discontinued or stopped for a time period whereby the ambient noise level can be measured, the noise level measured while the source is in operation shall be compared directly to the noise level standards.

Source: Fresno County 1978

As indicate Table 4, it would be unlawful for on-site equipment during the Operation and Maintenance Phase of the proposed Project to generate noise exceeding 50 dBA for 30 or more minutes in any daytime hour.

Exempted activities from the County's Noise Control Ordinance applicable to the Project include:

- Noise sources associated with construction, provided such activities do not take place before 6:00 a.m. or after 9:00 p.m. on any day except Saturday or Sunday, or before 7:00 a.m. or after 5:00 p.m. on Saturday or Sunday; or
- Noise sources associated with work performed by private or public utilities in the maintenance or modification of its facilities.

In addition to the exterior noise standards, Section 8.40.090 of the Fresno County Municipal Code identifies a noise level limit of 50 dBA for electrical substations when measured 50 feet from an affected residence.

3 Methodology

The analysis of noise impacts considers the effects of both temporary construction-related noise and long-term noise associated with operation of the proposed Project. The analysis also includes a brief discussion of potential, future decommissioning of the Project.

3.1 Construction Noise

Reference noise levels for heavy-duty construction equipment were estimated using the FHWA Roadway Construction Noise Model (RCNM) (FHWA 2006). Due to the size of the Project site, a likely construction scenario includes simultaneous operation of an excavator, a grader, and a dozer working during grading or site preparation to excavate and move soil in close proximity to one another. In addition, medium-voltage stations may sit on concrete foundations or driven piles, pending final design. Therefore, a scenario of an excavator, a dozer, a grader, and an impact pile driver was analyzed. It is assumed that diesel engines would power all construction equipment. For reference noise levels, at a distance of 50 feet, an excavator, a dozer, and a grader would generate a noise level of 84 dBA L_{eq} and an excavator, a dozer, a grader, and an impact pile driver would generate a noise level of 94 dBA L_{eq} (RCNM calculations are included in Appendix B).

Noise levels associated with construction-related traffic along area highways and roadways were estimated using the federal Traffic Noise Model (TNM), Version 2.5 (FHWA 2004) (noise modeling data sheets can be viewed in Appendix B). Key modeling assumptions are as follows:

- Project construction will result in up to 380 trips per day based on a 300 one-way daily worker trips and 80 one-way daily vendor truck trips.
- The existing traffic volume for Jayne Avenue is 1,810 trips (Fresno County Association of Governments 2011). This is based on the Fresno County Association of Governments traffic count at Jayne Avenue near Butte Avenue.

3.2 Construction Vibration

The Project equipment that would have the greatest potential to generate high vibration levels would be impact pile driving. The FTA Transit Noise and Vibration Impact Assessment (2018) estimates pile driving to create a vibration level of 1.518 in/sec PPV at 25 feet. Vibration limits used in this analysis to determine a potential impact to local land uses from construction activities are based on information contained in Caltrans' *Transportation and Construction Vibration Guidance Manual* and the Federal Transit Administration and the FTA *Transit Noise and Vibration Impact Assessment Manual* (Caltrans 2020; FTA 2018).

3.3 Operational Noise

Long-term operational point sources of noise (including battery or electrolyzer tank storage containers, transformers, inverters, and the substation) were calculated using SoundPLAN noise modeling software, Version 8.2. SoundPLAN incorporates noise propagation algorithms and reference sound levels published by various government agencies and the scientific community. Noise sources, receivers, structures, and barriers are input using three-dimensional coordinates. In

all cases, receivers were modeled at the average height of the human ear, which is five feet above ground elevation.

On site noise sources were modeled based on collected reference data. Propagation of modeled stationary noise sources was based on International Organization for Standardization (ISO) Standard 9613-2, "Attenuation of Sound during Propagation Outdoors, Part 2: General Method of Calculation." The assessment methodology assumes that all receivers would be downwind of stationary sources. This is a worst-case assumption for total noise impacts since only some receivers would be downwind at any one time.

The Project's storage containers and inverters were assumed to cover the entire site (except for the easement on the eastern edge of the project site) for a conservative analysis given multiple potential site layouts. The following parameters were used to model the proposed Project's operational noise:

- Each battery or electrolyzer tank container would generate noise from two "silenced" heating, ventilation, and air conditioning (HVAC) units. The storage containers are modeled as point sources. From manufacturer data, each sound-attenuated ("silenced") HVAC unit would generate 51.2 dBA L_{eq} at a distance of 5 feet. For comparison purposes and per the same source of manufacturer data, without the noise silencing on the return air and supply air ducts, the HVAC unit demonstrates a noise level of 62 dBA L_{eq} at 5 feet. This unsilenced noise level is modeled for conservative purposes.
- Each set of four storage containers is served by a single inverter. The inverter is modeled as a point source using noise levels measured in a noise study for a Power Electronics HEM Inverter (On-Site Acoustic Testing 2019; included as Appendix C). That study measured noise levels on six sides from the structure, with the highest measured noise levels as 80.5 dBA at the front and at the back. The inverter point sources is conservatively represented as emanating 80.5 dBA in all directions.
- The six Project substation transformers are assumed to each yield a sound power level of 95.0 dBA.
- The container equipment, inverters, and substation are conservatively assumed to be in continuous operation.

3.4 Decommissioning

At the end of the Project's useful life (anticipated at 30 years), the energy storage system facility and associated on-site support facilities would be decommissioned in accordance with then-current decommissioning practices. It is not possible to quantitatively evaluate noise that might result from Project decommissioning in the future, as the technology and construction practices that will be available at that time are uncertain. Therefore, based on current decommissioning practices, as a reasonable-worst case, this analysis assumes that noise impacts generated during future decommissioning would be similar to noise impacts generated during construction of the Project.

3.5 Significance Thresholds

To determine whether a Project would have a significant noise impact, Appendix G of the CEQA Guidelines requires consideration of whether a Project would result in:

1. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
2. Generation of excessive groundborne vibration or groundborne noise levels; or,
3. For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the Project area to excessive noise levels.

On-Site Construction Noise

As discussed in Section 2.5, Fresno County Noise Ordinance Section 8.40.060 exempts construction noise from the exterior noise standards provided that such activities do not occur before 6:00 a.m. or after 9:00 p.m. on any day except Saturday or Sunday, or before 7:00 a.m. or after 5:00 p.m. on Saturday or Sunday. Construction would result in a significant noise impact if construction activities would occur outside of the permitted hours specified by the County's Noise Ordinance.

Off-site Construction Traffic Noise

For purposes of this analysis, a significant impact would occur if project-related traffic increases the ambient noise environment of noise-sensitive land uses by 3 dBA or more (a barely perceptible noise increase) if the locations are subject to noise levels in excess of conditionally acceptable levels, or by 5 dBA or more if the locations are not subject to noise levels in excess of the normally acceptable levels identified in the County of Fresno General Plan.

Operational Noise

The project site would be located in a mainly agricultural area of the County with utility areas to the north and west. As discussed in Section 2.5, Fresno County Noise Ordinance Section 8.40.040 establishes exterior noise standards that are assessed at property lines. The noise standards applicable at sensitive receiver property lines are 50 dBA L_{eq} between 7:00 a.m. to 10:00 p.m. and 45 dBA L_{eq} between 10:00 p.m. to 7:00 a.m. Operational noise could be significant if it exceeded these noise standards.

Vibration

The project would result in a significant vibration-related impact if construction or operation would result in distinctively perceptible vibration levels (0.24 in/sec PPV) at the nearest sensitive receptor.

4 Impact Analysis

4.1 Issue 1

Issue:	Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? **LESS THAN SIGNIFICANT**

Construction and Decommissioning Noise

Short-Term On-Site Construction and Decommissioning Noise

Operation of heavy equipment during construction would result in a temporary noise level increase. Project construction activities would involve the use of a variety of construction equipment throughout various phases of construction; these include transport of personnel and materials to the site, use of heavy machinery in grading and clearing the site, potential operation of pile drivers for medium-voltage stations, and operation of other equipment used during construction.

The nearest noise-sensitive uses near the Project site are agricultural residences 3,300 feet west of the Project site along West Jayne Avenue. Based on the modeling, at a distance of 3,300 feet, an excavator, a grader, and a dozer would generate an unshielded noise level of 47 dBA L_{eq} (8-hour) at the nearest sensitive receptor to the Project site. With the addition of impact pile driving (if medium-voltage stations would sit on driven piles), construction noise would generate a noise level of 58 dBA L_{eq} (8-hour) at 3,300 feet.

As discussed in Section 2.5, Fresno County Noise Ordinance Section 8.40.060 exempts construction noise from the exterior noise standards provided that such activities do not occur before 6:00 a.m. or after 9:00 p.m. Monday through Friday, or before 7:00 a.m. or after 5:00 p.m. on Saturday or Sunday. Project construction activities would primarily occur between the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday. A limited amount of construction work on the weekends may be required, depending on scheduling, equipment and material delivery schedules, and other logistical considerations. Limited weekend construction work would not occur outside 7:00 a.m. to 5:00 p.m. as specified in the County of Fresno Noise Control Ordinance. Therefore, daytime impacts to adjacent sensitive receptors during construction of the proposed Project would be less than significant.

This analysis assumes that Project decommissioning impacts would be similar to Project construction impacts and would be completed in approximately 24 months. Therefore, noise impacts to adjacent sensitive receptors during decommissioning of the Project would be less than significant.

Short-Term Off-Site Construction and Decommissioning Traffic Noise

During construction, the Project would generate new vehicle trips that would temporarily increase noise levels on nearby roadways. Project construction is anticipated to generate a maximum of 380 daily vehicle trips between workers and deliveries of equipment. The Project would not make alterations to roadway alignments or substantially change the vehicle classifications mix on local

roadways. Therefore, the primary factor affecting off-site noise levels would be increased traffic volumes.

The addition of 380 daily vehicle trips to traffic volumes on West Jayne Avenue would result in a traffic noise increase of approximately 0.8 dBA, which would not exceed the 3 dBA (barely perceptible noise increase) impact criterion for off-site traffic noise. Therefore, impacts would be less than significant.

This analysis assumes that decommissioning impacts would be similar to construction impacts and would be completed in approximately 24 months with up to 380 daily vehicle trips. Therefore, Project decommissioning would likewise result in less than significant short-term traffic noise impacts.

Operational Noise

Long-Term On-Site Operational Noise

The Project would operate continuously, seven days a week, adding sources of long-term operational noise to the Project site. Following the methodology discussed in Section 3.3, operational noise levels were modeled and noise ground-floor contours were estimated. Estimated noise levels at the nearest residential uses are summarized in Table 5 and ground-floor noise contours are shown in Figure 4.

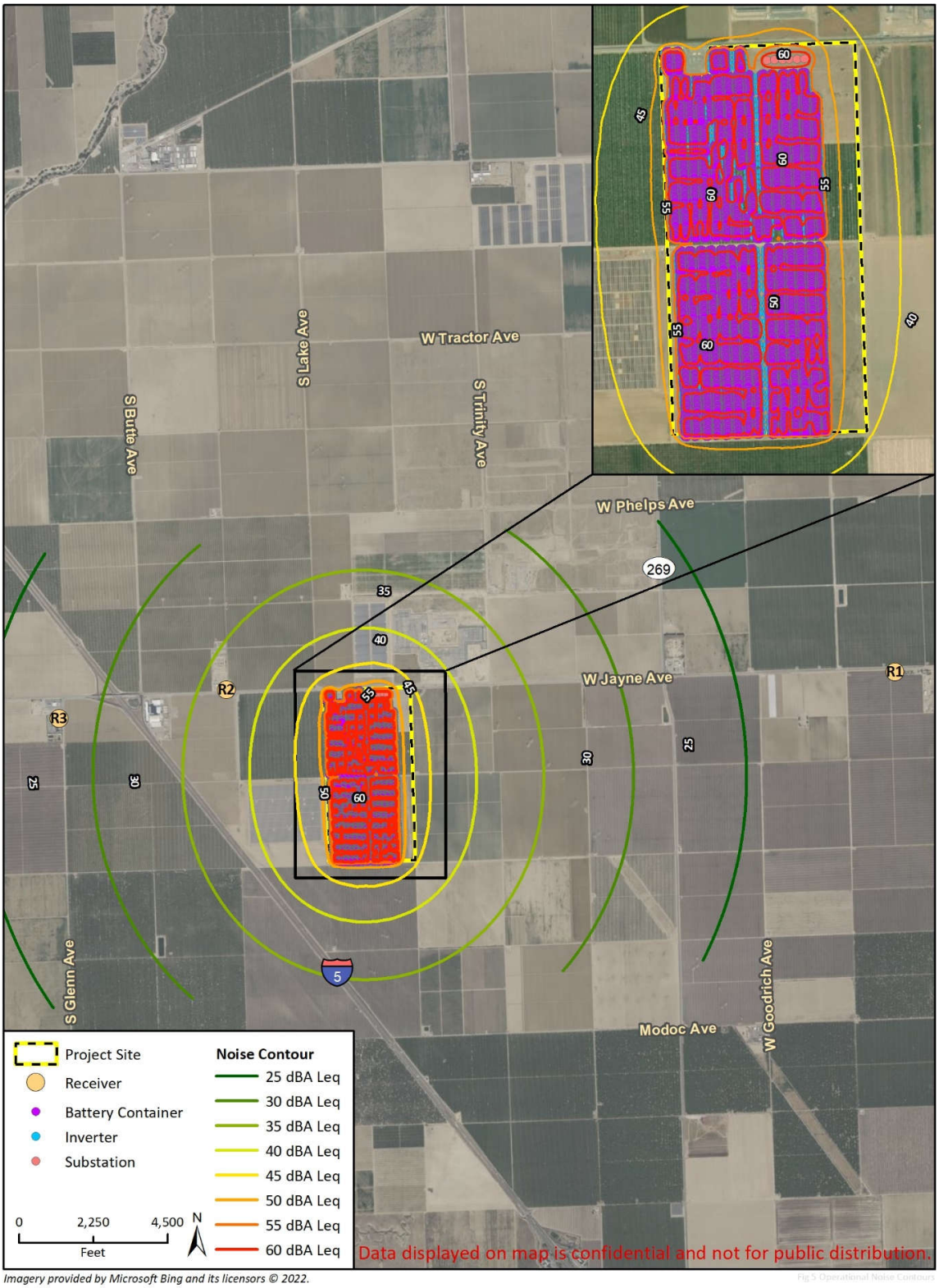
Table 5 Operational Noise Levels

Receiver	Description	Modeled Noise Level (dBA L_{eq})	Exceed Daytime Standard?[1]	Exceed Nighttime Standard?[1]
R1	Residences at 15015 West Jayne Avenue	17	No	No
R2	Agricultural Housing at 19536 West Jayne Avenue	37	No	No
R3	Almond Tree Oasis RV Park	28	No	No

[1] The applicable daytime threshold (7:00 a.m. to 10:00 p.m.) is 50 dBA L_{eq} at residential properties and the applicable nighttime threshold (10:00 p.m. to 7:00 a.m.) is 45 dBA L_{eq} at residential properties. The Fresno County Code does not define noise limits at commercial or industrial uses.

As shown in Table 5, noise levels attributable to Project operation would reach as high as 37 dBA L_{eq} at the nearest residential housing and not exceed County daytime (50 dBA L_{eq}) and nighttime (45 dBA L_{eq}) exterior noise standards of the County Noise Ordinance at the nearest residential uses. Project operational noise level would likely not be noticeable above ambient noise levels at the nearest residences. The proposed Project would be consistent with Fresno County General Plan Policies HS-G.4 and HS-G.8, as evidenced by the acoustical analysis contained herein, which illustrates that the proposed energy storage system facility and supporting infrastructure would not produce noise levels incompatible with existing land uses in the Project site vicinity. Therefore, long-term operational impacts would be less than significant.

Figure 4 Operational Noise Contours



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Long-Term Off-Site Traffic Noise

During operation of the Project substation, operation and maintenance staff would visit the substation periodically for switching and other operation activities. Maintenance trucks would be utilized to perform routine maintenance, including but not limited to equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventative maintenance.

Routine operations would require one or two workers in a light utility truck to visit the facility on a weekly basis. Typically, one major maintenance inspection would take place annually. This amount of additional vehicle trips on nearby roadways would result in a negligible addition of roadway traffic noise.

4.2 Issue 2

Issue:	Would the Project result in generation of excessive ground-borne vibration or ground-borne noise levels? **LESS THAN SIGNIFICANT**

Construction and Decommissioning Vibration

The greatest potential source of vibration from construction and decommissioning activity would involve pile drivers. Pile driving construction equipment may be used within 3,300 feet of the nearest residential structure. Impact pile driving creates approximately 1.518 in/sec PPV at a distance of 25 feet (Caltrans 2020). These vibration levels would attenuate to 0.007 in/sec PPV for a pile driver and 0.0004 in/sec PPV for a dozer at 3,300 feet. These vibration levels are lower than the threshold of 0.24 in/sec PPV. Therefore, temporary impacts associated with construction would be less than significant.

This analysis assumes that decommissioning impacts would be similar to construction impacts and would be completed in approximately 24 months. Therefore, Project decommissioning would likewise result in less than significant vibration impacts.

Operational Vibration

Operation of the Project would not include any substantial vibration sources. Therefore, operational vibration impacts would be less than significant.

4.3 Issue 3

Issue:	For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels? **NO IMPACT**

The airport nearest to the Project site, New Coalinga Municipal Airport, is located approximately seven miles to the northwest. The Project would not be located within the noise contours of the airport. Therefore, on-site construction workers or maintenance staff would not be exposed to airport noise, and no impacts would occur.

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Appendix A

Noise Measurement Data

- Freq Weight : A
- Time Weight : SLOW
- Level Range : 40-100
- Max dB : 88.6 - 2022/03/31 11:21:08
- Level Range : 40-100
- SEL : 102.5
- Leq : 73.0
-

No.s	Date Time	(dB)				
1	2022/03/31 11:12:17	63.5	62.5	65.9	65.7	71.5
6	2022/03/31 11:12:32	75.7	70.3	81.7	74.8	67.0
11	2022/03/31 11:12:47	66.3	58.4	57.4	56.0	58.6
16	2022/03/31 11:13:02	56.1	52.4	54.0	51.7	49.2
21	2022/03/31 11:13:17	50.9	61.9	78.7	68.6	65.8
26	2022/03/31 11:13:32	59.3	85.0	76.5	77.7	78.4
31	2022/03/31 11:13:47	81.2	71.5	62.5	54.8	49.0
36	2022/03/31 11:14:02	45.6	44.5	45.2	43.2	44.5
41	2022/03/31 11:14:17	43.0	41.6	42.8	43.0	44.7
46	2022/03/31 11:14:32	43.2	43.5	43.0	43.8	44.6
51	2022/03/31 11:14:47	41.5	41.3	44.7	42.3	43.5
56	2022/03/31 11:15:02	47.5	53.4	78.7	75.0	67.8
61	2022/03/31 11:15:17	62.9	52.7	47.0	48.6	65.6
66	2022/03/31 11:15:32	81.3	74.0	76.4	70.8	66.8
71	2022/03/31 11:15:47	78.4	75.1	67.0	55.8	46.8
76	2022/03/31 11:16:02	43.1	44.3	45.1	51.0	67.2
81	2022/03/31 11:16:17	82.7	78.0	83.9	75.0	65.6
86	2022/03/31 11:16:32	55.0	67.5	77.2	70.9	62.7
91	2022/03/31 11:16:47	52.1	46.3	43.1	43.4	44.3
96	2022/03/31 11:17:02	43.8	43.6	44.2	44.7	52.0
101	2022/03/31 11:17:17	69.0	79.7	71.3	63.7	55.0
106	2022/03/31 11:17:32	55.0	74.4	73.1	67.4	61.0
111	2022/03/31 11:17:47	52.7	45.8	44.9	44.1	44.2
116	2022/03/31 11:18:02	41.8	40.9	42.5	43.2	42.6
121	2022/03/31 11:18:17	45.1	46.4	46.5	46.9	66.9
126	2022/03/31 11:18:32	79.9	71.8	66.0	80.0	70.4
131	2022/03/31 11:18:47	85.0	75.6	69.5	78.4	73.9
136	2022/03/31 11:19:02	67.8	68.4	60.1	51.7	48.4
141	2022/03/31 11:19:17	48.5	48.4	46.7	44.6	44.0
146	2022/03/31 11:19:32	46.9	53.9	67.4	76.8	70.2
151	2022/03/31 11:19:47	61.0	51.3	50.1	66.2	75.9
156	2022/03/31 11:20:02	69.6	65.3	54.8	54.9	78.6
161	2022/03/31 11:20:17	82.7	74.7	66.4	55.3	48.3
166	2022/03/31 11:20:32	47.2	45.4	45.5	44.5	45.8
171	2022/03/31 11:20:47	45.1	44.9	45.8	46.2	53.3
176	2022/03/31 11:21:02	61.1	83.8	85.9	80.8	70.4
181	2022/03/31 11:21:17	68.5	63.6	67.2	81.9	73.2
186	2022/03/31 11:21:32	65.8	55.0	49.6	47.2	47.9
191	2022/03/31 11:21:47	48.2	45.1	45.4	45.1	44.0
196	2022/03/31 11:22:02	43.4	42.0	42.7	43.3	42.1
201	2022/03/31 11:22:17	42.9	45.6	51.3	80.9	72.1
206	2022/03/31 11:22:32	62.9	53.8	49.1	49.7	55.4
211	2022/03/31 11:22:47	67.6	76.5	73.4	61.9	78.3
216	2022/03/31 11:23:02	74.0	66.9	55.2	48.8	68.9
221	2022/03/31 11:23:17	78.1	70.2	58.3	49.6	46.4
226	2022/03/31 11:23:32	45.6	47.6	48.3	51.1	67.2
231	2022/03/31 11:23:47	74.8	79.2	73.3	67.6	56.1
236	2022/03/31 11:24:02	50.0	59.6	75.1	66.9	63.1
241	2022/03/31 11:24:17	53.3	45.2	45.0	53.2	78.8
246	2022/03/31 11:24:32	72.4	79.4	77.5	70.5	65.0
251	2022/03/31 11:24:47	58.3	77.3	74.2	72.3	67.1
256	2022/03/31 11:25:02	56.7	48.6	47.1	44.7	45.0
261	2022/03/31 11:25:17	43.8	44.7	55.0	80.5	74.1
266	2022/03/31 11:25:32	69.5	60.5	52.1	47.0	45.0
271	2022/03/31 11:25:47	43.2	45.9	45.3	46.3	53.9
276	2022/03/31 11:26:02	67.8	73.7	67.5	63.3	52.3
281	2022/03/31 11:26:17	44.0	42.8	47.7	62.5	78.8
286	2022/03/31 11:26:32	70.9	67.1	83.7	74.4	82.9
291	2022/03/31 11:26:47	84.1	75.4	67.9	59.2	53.3
296	2022/03/31 11:27:02	50.2	47.4	46.9	53.1	77.3

- Freq Weight : A
- Time Weight : SLOW
- Level Range : 40-100
- Max dB : 88.1 - 2022/03/31 12:21:57
- Level Range : 40-100
- SEL : 104.2
- Leq : 74.7
-

No.s	Date Time	(dB)				
1	2022/03/31 12:11:18	66.5	63.1	59.5	56.5	56.9
6	2022/03/31 12:11:33	63.1	81.9	75.9	68.2	65.5
11	2022/03/31 12:11:48	60.7	60.9	61.6	63.7	66.2
16	2022/03/31 12:12:03	81.9	78.3	78.3	77.5	75.3
21	2022/03/31 12:12:18	81.0	79.2	74.7	68.6	67.7
26	2022/03/31 12:12:33	67.4	86.9	82.0	77.5	74.7
31	2022/03/31 12:12:48	72.0	65.9	62.1	61.4	60.6
36	2022/03/31 12:13:03	76.3	79.2	74.6	72.6	67.8
41	2022/03/31 12:13:18	62.8	65.0	67.1	66.4	66.0
46	2022/03/31 12:13:33	65.1	70.1	86.4	82.1	76.1
51	2022/03/31 12:13:48	71.5	68.9	64.4	60.2	59.7
56	2022/03/31 12:14:03	59.0	59.2	59.7	60.1	60.4
61	2022/03/31 12:14:18	75.5	81.6	76.0	79.2	81.7
66	2022/03/31 12:14:33	72.1	68.6	76.4	76.8	76.0
71	2022/03/31 12:14:48	76.2	69.6	68.1	67.4	77.8
76	2022/03/31 12:15:03	79.6	73.4	69.4	66.8	72.9
81	2022/03/31 12:15:18	67.0	64.9	61.8	60.2	60.7
86	2022/03/31 12:15:33	59.8	59.7	70.8	75.5	69.7
91	2022/03/31 12:15:48	65.4	63.9	77.7	76.3	71.6
96	2022/03/31 12:16:03	82.9	74.5	68.3	67.6	69.5
101	2022/03/31 12:16:18	77.2	70.8	64.5	61.5	62.1
106	2022/03/31 12:16:33	62.0	61.5	61.7	61.5	62.3
111	2022/03/31 12:16:48	62.4	61.1	61.5	62.4	65.2
116	2022/03/31 12:17:03	77.8	83.6	77.3	70.8	68.7
121	2022/03/31 12:17:18	66.9	67.2	76.0	71.2	77.3
126	2022/03/31 12:17:33	70.2	67.6	68.6	66.2	63.8
131	2022/03/31 12:17:48	63.1	63.2	61.8	62.9	62.9
136	2022/03/31 12:18:03	62.4	62.4	72.9	75.5	79.7
141	2022/03/31 12:18:18	78.6	72.4	66.7	63.7	82.7
146	2022/03/31 12:18:33	75.6	71.7	69.4	75.2	71.7
151	2022/03/31 12:18:48	68.3	74.7	74.0	69.6	66.4
156	2022/03/31 12:19:03	65.4	63.5	63.3	63.7	63.4
161	2022/03/31 12:19:18	63.7	64.2	77.0	75.6	69.7
166	2022/03/31 12:19:33	68.0	65.2	67.1	81.4	83.3
171	2022/03/31 12:19:48	76.7	71.2	77.5	73.9	70.3
176	2022/03/31 12:20:03	69.8	69.0	68.6	68.6	71.5
181	2022/03/31 12:20:18	77.5	71.2	66.9	65.3	63.9
186	2022/03/31 12:20:33	64.1	64.0	65.9	80.6	75.2
191	2022/03/31 12:20:48	68.9	69.8	82.0	77.1	78.7
196	2022/03/31 12:21:03	78.5	71.7	67.9	80.0	81.5
201	2022/03/31 12:21:18	83.1	77.1	80.6	72.8	71.6
206	2022/03/31 12:21:33	70.5	78.8	73.4	67.0	65.2
211	2022/03/31 12:21:48	66.2	67.3	85.2	82.8	75.1
216	2022/03/31 12:22:03	75.8	79.2	71.9	68.6	67.7
221	2022/03/31 12:22:18	78.8	70.6	66.5	64.5	64.6
226	2022/03/31 12:22:33	66.1	66.9	68.2	72.1	77.3
231	2022/03/31 12:22:48	76.8	72.3	68.9	67.4	66.9
236	2022/03/31 12:23:03	65.0	64.8	65.1	65.5	64.6
241	2022/03/31 12:23:18	64.0	65.6	74.6	72.3	67.8
246	2022/03/31 12:23:33	67.4	80.0	83.0	78.0	70.5
251	2022/03/31 12:23:48	66.9	65.7	65.9	66.1	68.2
256	2022/03/31 12:24:03	78.0	71.5	72.1	76.4	70.7
261	2022/03/31 12:24:18	69.5	70.5	81.0	72.3	65.9
266	2022/03/31 12:24:33	66.2	68.8	78.3	75.4	69.7
271	2022/03/31 12:24:48	66.9	66.1	66.6	66.6	66.1
276	2022/03/31 12:25:03	66.3	66.5	67.7	79.0	74.9
281	2022/03/31 12:25:18	75.2	71.0	69.1	70.0	67.5
286	2022/03/31 12:25:33	69.5	69.2	71.6	79.0	72.3
291	2022/03/31 12:25:48	70.4	77.9	74.9	67.7	69.1
296	2022/03/31 12:26:03	73.7	78.4	76.0	83.7	73.7

Appendix B

Construction Noise Modeling Data

Report date: 4/27/2022
Case Description: NextEra BESS Project

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	50	0
Grader	No	40	85		50	0
Dozer	No	40		81.7	50	0

Results

		Calculated (dBA)	
Equipment		*Lmax	Leq
Excavator		80.7	76.7
Grader		85	81
Dozer		81.7	77.7
	Total	85	83.7

*Calculated Lmax is the Loudest value.

Report date: 4/27/2022
Case Description: NextEra BESS Project

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	3300	0
Grader	No	40	85		3300	0
Dozer	No	40		81.7	3300	0

Results

Calculated (dBA)

Equipment		*Lmax	Leq
Excavator		44.3	40.3
Grader		48.6	44.6
Dozer		45.3	41.3
	Total	48.6	47.3

*Calculated Lmax is the Loudest value.

Report date: 4/27/2022
Case Description: NextEra BESS Project

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	50	0
Grader	No	40	85		50	0
Dozer	No	40		81.7	50	0
Impact Pile Driver	Yes	20		101.3	50	0

Results

		Calculated (dBA)	
Equipment		*Lmax	Leq
Excavator		80.7	76.7
Grader		85	81
Dozer		81.7	77.7
Impact Pile Driver		101.3	94.3
	Total	101.3	94.6

*Calculated Lmax is the Loudest value.

Report date: 4/27/2022
Case Description: NextEra BESS Project

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	3300	0
Grader	No	40	85		3300	0
Dozer	No	40		81.7	3300	0
Impact Pile Driver	Yes	20		101.3	3300	0

Results

		Calculated (dBA)	
Equipment		*Lmax	Leq
Excavator		44.3	40.3
Grader		48.6	44.6
Dozer		45.3	41.3
Impact Pile Driver		64.9	57.9
	Total	64.9	58.3

*Calculated Lmax is the Loudest value.

Appendix C

Reference Inverter Noise Study

On-Site Acoustic Testing, LLC
PO Box 145 Pawlet, VT 05761 USA
1-800-665-0080 Toll Free
1-802-233-8700 Main Office
www.os-at.com

June 2019 - Sound Pressure Focus - P.E.

Stephen Giguere
Engineering Director
Power Electronics USA
Boston, MA
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SGiguere@power-electronics.com
www.power-electronics.com

RESULTS OF TESTING

Noise Emissions Testing of Power Electronics HEM Inverter

On-Site Acoustic Testing, LLC is pleased to submit this report for services to support Power Electronics.

Scope of work

- Frequency analysis (1/3rd octave band)
- Total Sound Pressure

ASTM/ANSI/ ISO Specifications for testing protocols to be conducted

- S1.4 – ANSI Standards for Sound Level Meters
- ASTM E1124 – Standard Test Method for Field Measurement of SPL
- ANSI/AHRI S – Standard 230 Sound Intensity Procedures
- ANSI/ARHI Standard 575 Method of Measuring Machinery Sound Within an Equipment Space
- ANSI/ASA S12.54 / ISO 3744 Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Engineering methods for an essentially free field over a reflecting plane

TESTING SERVICE

Testing equipment

- Bruel & Kjaer 2270 Generation 4 analyzer running BZ-7223 (Frequency Analysis) software (ANSI Type 1 precision)
- Bruel & Kjaer 4231 calibration instrument

Project Deliverables

The following information is contained in this testing report:

Deliverable	Description
Noise Level Measurements	Noise level in dBA, dBC and 1/3 octave bands

Testing was conducted in Ft. Pierce, Florida at the Nextera Interstate PV site by Richard Alan Salz – CEO of On-Site Acoustic Testing, LLC and Erika Ishkanian – Project Manager of On-Site Acoustic Testing, LLC

One HEM Inverter (serial number 30126792) was tested in an outdoor location.

The HEM Inverter was operation under typical (daylight) conditions.

The HEM Inverter was measured on front, back, right, left, and top measurement surfaces.

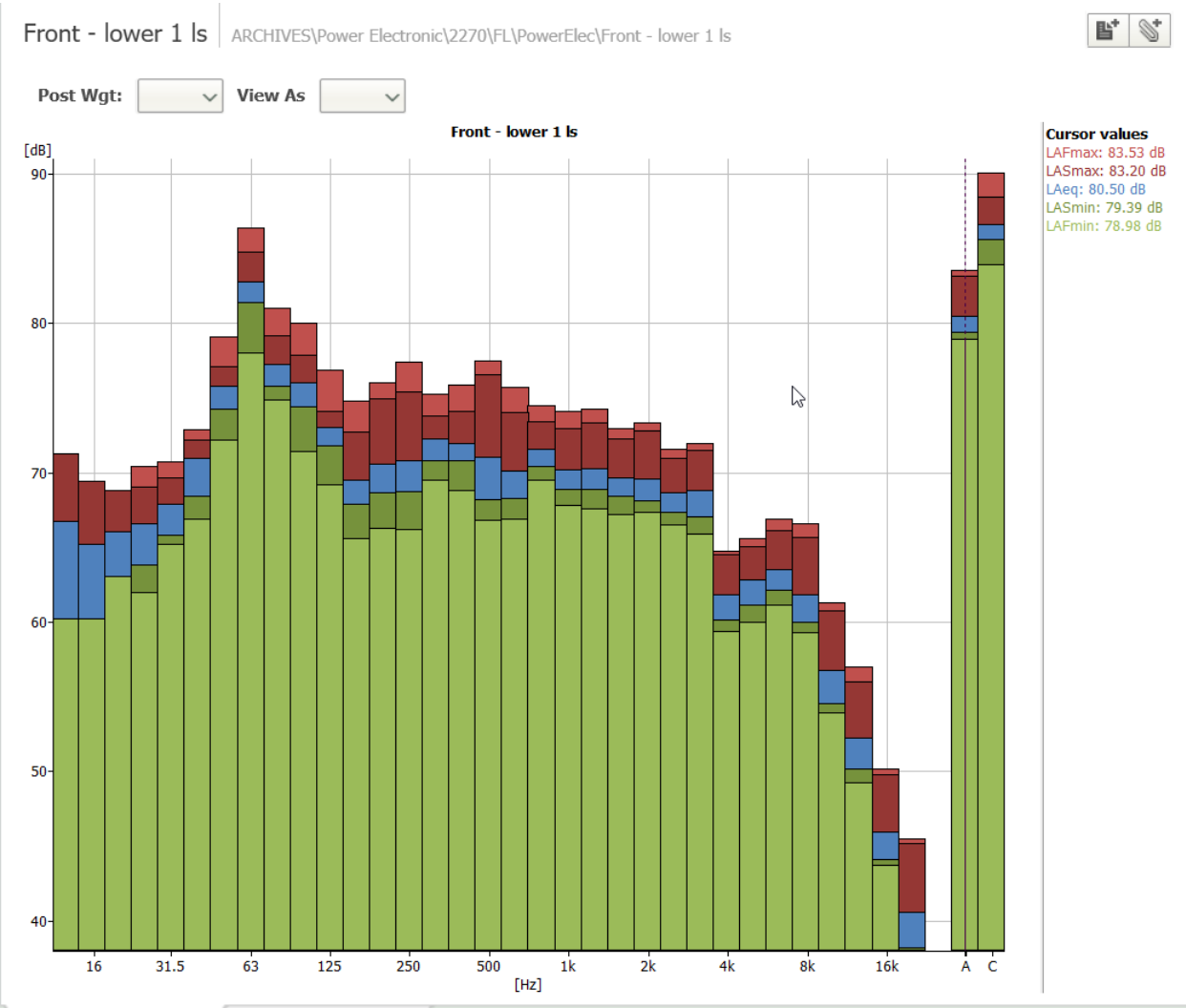
Individual measurements showing the sound pressure (with associated 1/3 octave band analysis) are shown below for each measurement taken.

Sound Pressure Summary of all Measurements

PowerElec | ARCHIVES\Power Electronic\2270\FL\PowerElec

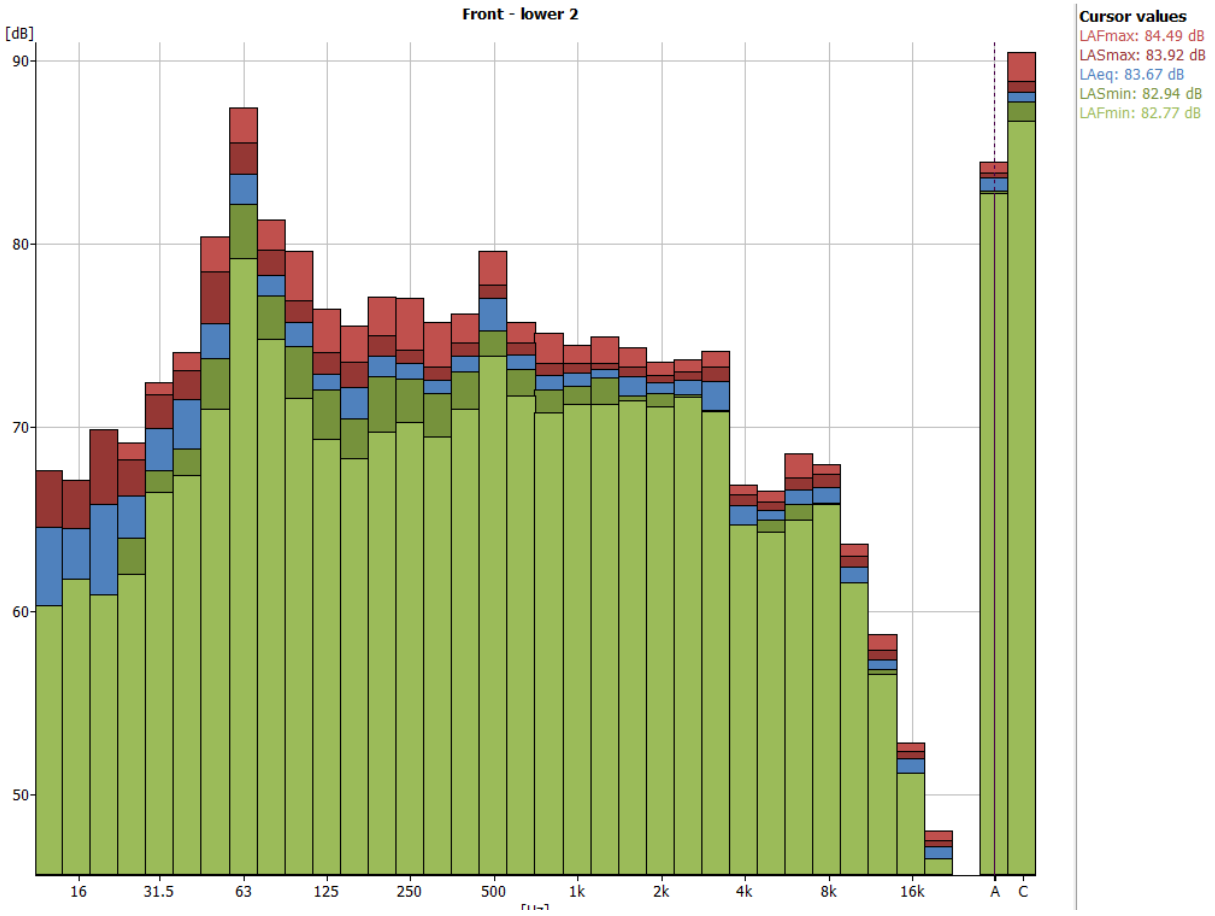
I	C	Name	Graph	Start Time	LAeq	LAFmax	LAFmin
		Back - lower 1 ls		3/21/2019 12:10:14 PM	80.8	81.4	80.0
		Back - lower 2		3/21/2019 12:10:38 PM	83.6	84.6	82.6
		Back - lower 3		3/21/2019 12:11:08 PM	86.1	86.9	85.3
		Back - lower 4		3/21/2019 12:12:38 PM	81.6	82.3	81.1
		Back - lower 5		3/21/2019 12:13:05 PM	78.5	79.6	77.8
		Back - upper 1 ls		3/21/2019 12:13:58 PM	75.9	76.6	75.2
		Back - upper 2		3/21/2019 12:14:35 PM	78.1	78.8	77.5
		Back - upper 3		3/21/2019 12:15:11 PM	80.4	81.1	79.7
		Back - upper 4		3/21/2019 12:15:51 PM	80.9	81.4	80.2
		Back - upper 5		3/21/2019 12:16:23 PM	79.2	80.1	78.7
		Front - lower 1 ls		3/21/2019 11:56:24 AM	80.5	83.5	79.0
		Front - lower 2		3/21/2019 11:56:58 AM	83.7	84.5	82.8
		Front - lower 3		3/21/2019 11:57:23 AM	87.3	87.9	86.6
		Front - lower 4		3/21/2019 11:57:47 AM	84.5	85.5	83.7
		Front - lower 5		3/21/2019 11:58:11 AM	80.5	81.3	79.9
		Front - lower 6		3/21/2019 11:58:38 AM	77.9	78.6	77.3
		Front - upper 1 ls		3/21/2019 11:59:56 AM	80.1	80.7	79.4
		Front - upper 2		3/21/2019 12:00:34 PM	82.6	83.3	82.0
		Front - upper 3		3/21/2019 12:01:14 PM	81.7	82.4	81.0
		Front - upper 4		3/21/2019 12:01:55 PM	78.8	79.4	78.2
		Front - upper 5		3/21/2019 12:02:31 PM	76.3	77.2	75.7
		Front - upper 6		3/21/2019 12:03:49 PM	69.5	70.4	68.8
		Left - bottom left		3/21/2019 12:16:58 PM	77.7	78.8	77.0
		Left - bottom right		3/21/2019 12:17:22 PM	77.5	78.8	76.7
		Left - top left		3/21/2019 12:17:52 PM	80.4	81.3	79.7
		Left - top right		3/21/2019 12:18:21 PM	80.3	81.3	79.2
		Right - lower left		3/21/2019 12:05:44 PM	68.6	69.7	67.8
		Right - lower right		3/21/2019 12:06:24 PM	66.3	67.3	65.4
		Right - upper left		3/21/2019 12:06:57 PM	67.1	67.7	66.3
		Right - upper right		3/21/2019 12:09:49 PM	77.4	78.0	76.7
		Top - back 1 left side		3/21/2019 12:25:11 PM	67.3	68.0	66.6
		Top - back 2		3/21/2019 12:25:41 PM	68.8	69.6	68.1
		Top - back 3		3/21/2019 12:26:51 PM	69.9	71.1	69.1
		Top - back 4		3/21/2019 12:27:22 PM	70.6	71.6	69.7
		Top - back 5		3/21/2019 12:28:08 PM	70.9	71.7	70.2
		Top - back 6		3/21/2019 12:28:32 PM	71.4	72.3	70.4
		Top - front 1 left side		3/21/2019 12:19:52 PM	71.6	72.5	70.7
		Top - front 2		3/21/2019 12:21:03 PM	71.3	72.4	70.5
		Top - front 3		3/21/2019 12:21:55 PM	71.6	72.6	70.5
		Top - front 4		3/21/2019 12:22:42 PM	70.1	71.0	69.4
		Top - front 5		3/21/2019 12:23:40 PM	68.4	69.3	67.8
		Top - front 6		3/21/2019 12:24:08 PM	66.8	67.7	65.9

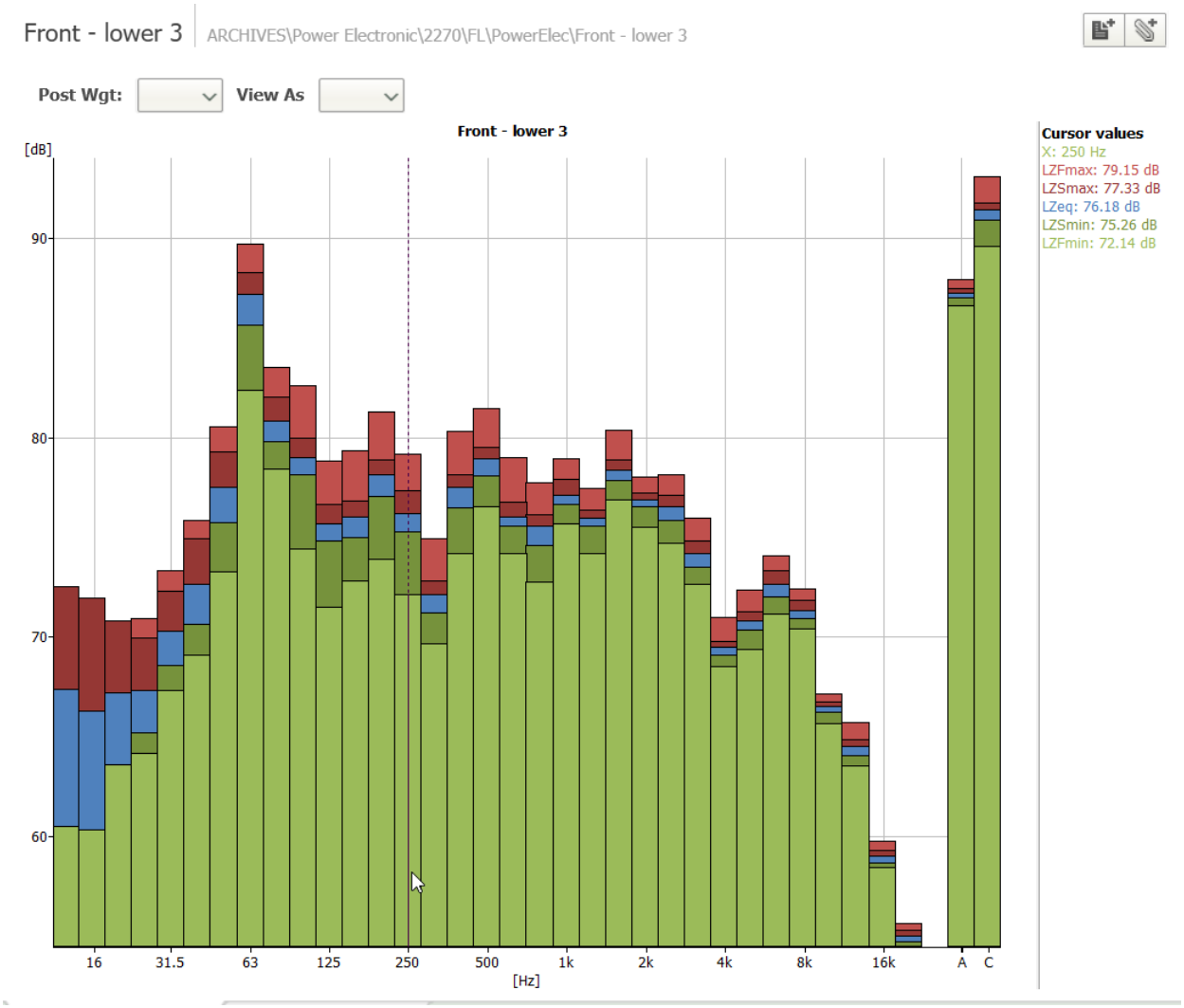
Sound Pressure – All Measurements



Front - lower 2 ARCHIVES\Power Electronic\2270\FL\PowerElec\Front - lower 2

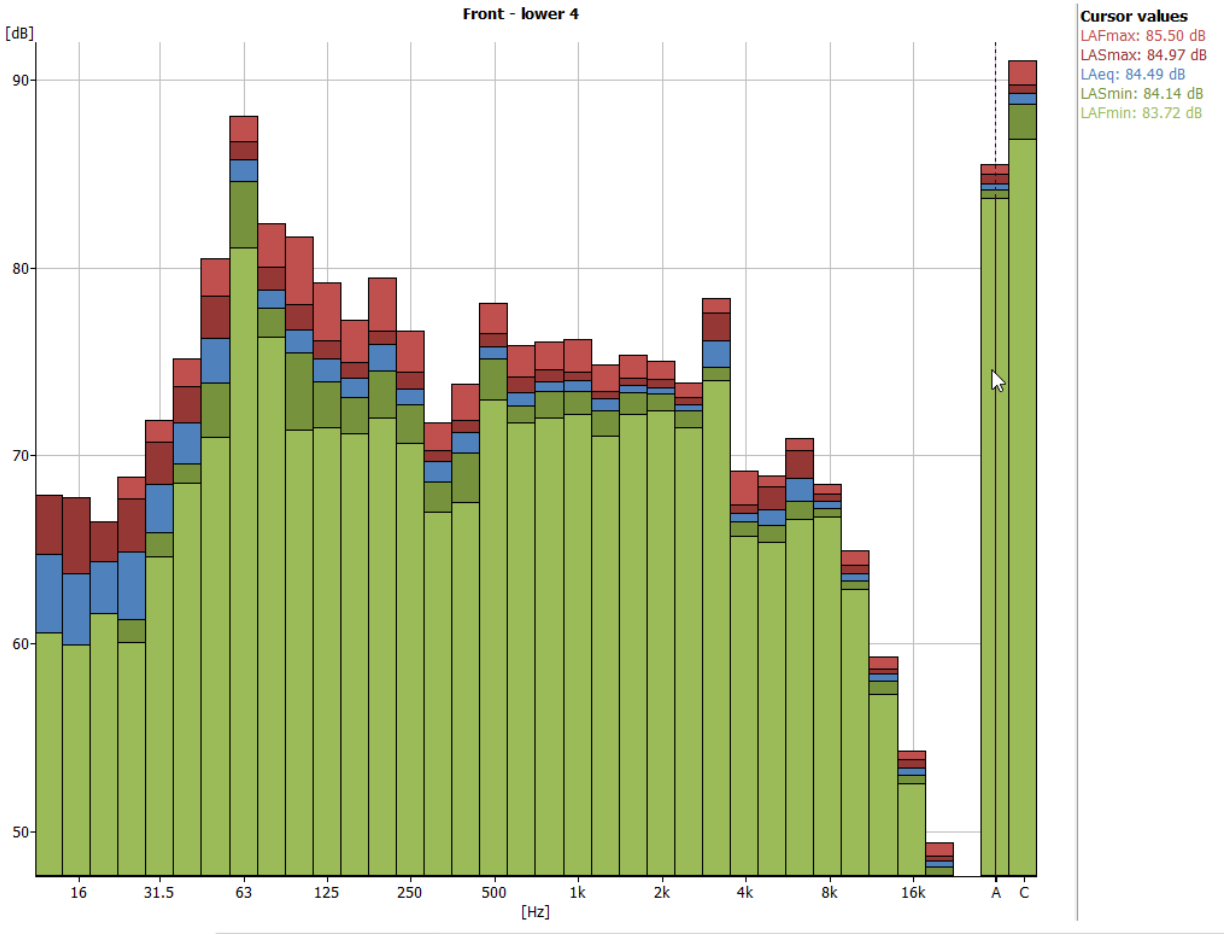
Post Wgt: View As




Front - lower 3
ARCHIVES\Power Electronic\2270\FL\PowerElec\Front - lower 3
Post Wgt:
View As
Front - lower 3
[dB]
90
80
70
60
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
X: 250 Hz
LZFmax: 79.15 dB
LZSmax: 77.33 dB
LZeq: 76.18 dB
LZSmin: 75.26 dB
LZFmin: 72.14 dB

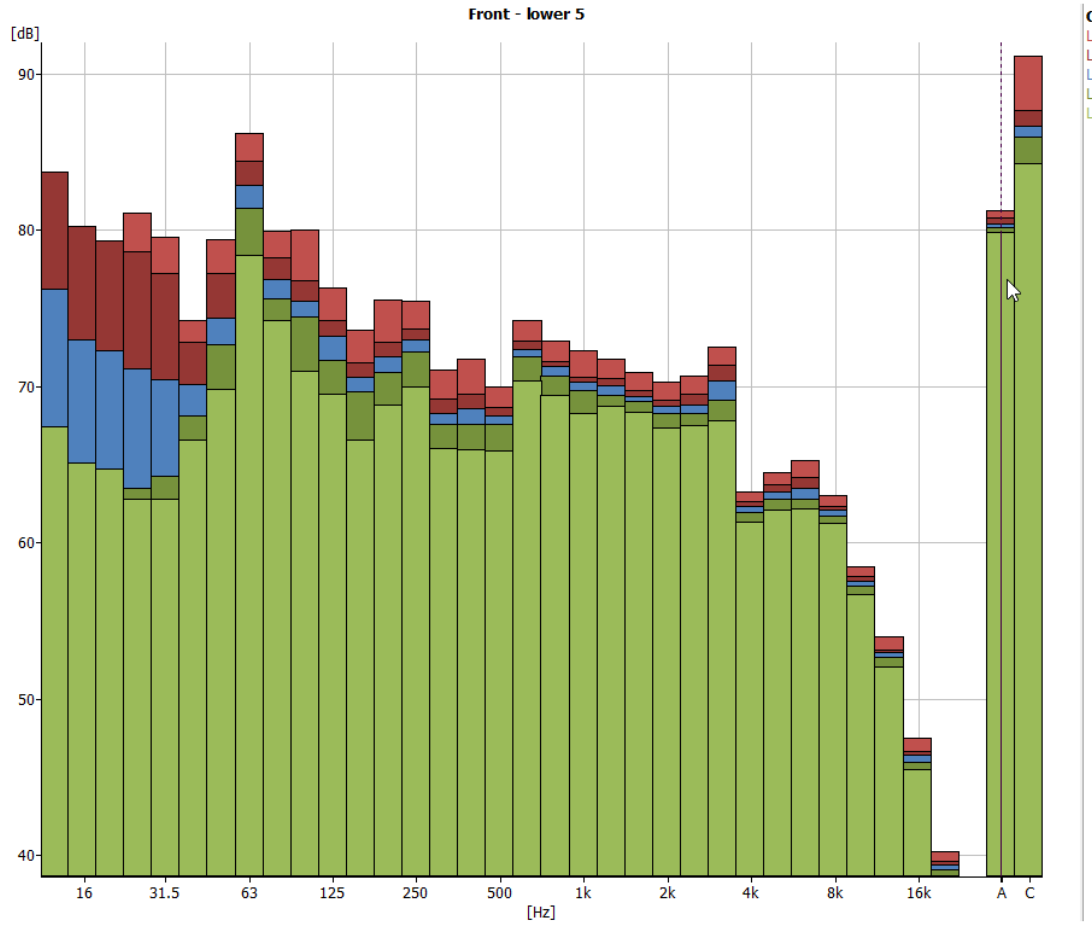
Front - lower 4 | ARCHIVES\Power Electronic\2270\FL\PowerElec\Front - lower 4

Post Wgt: View As



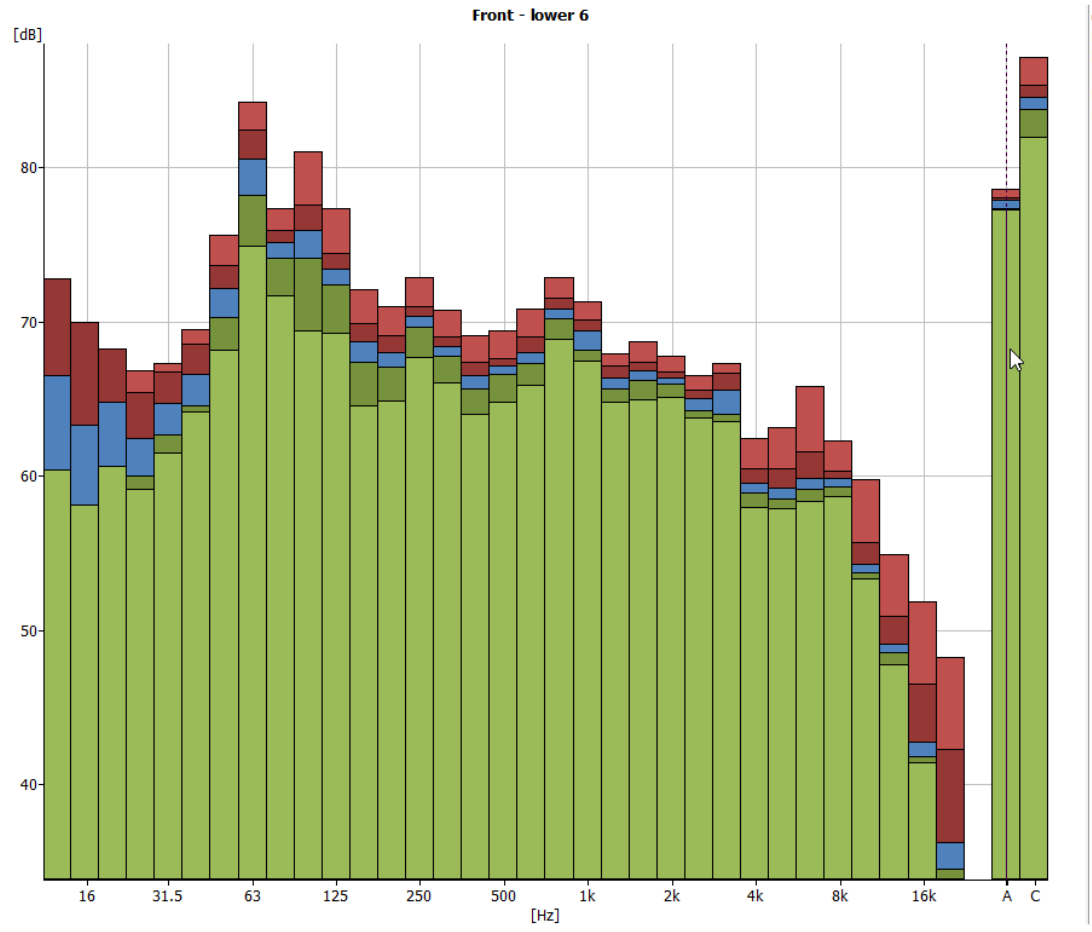
Front - lower 5 ARCHIVES\Power Electronic\2270\FL\PowerElec\Front - lower 5

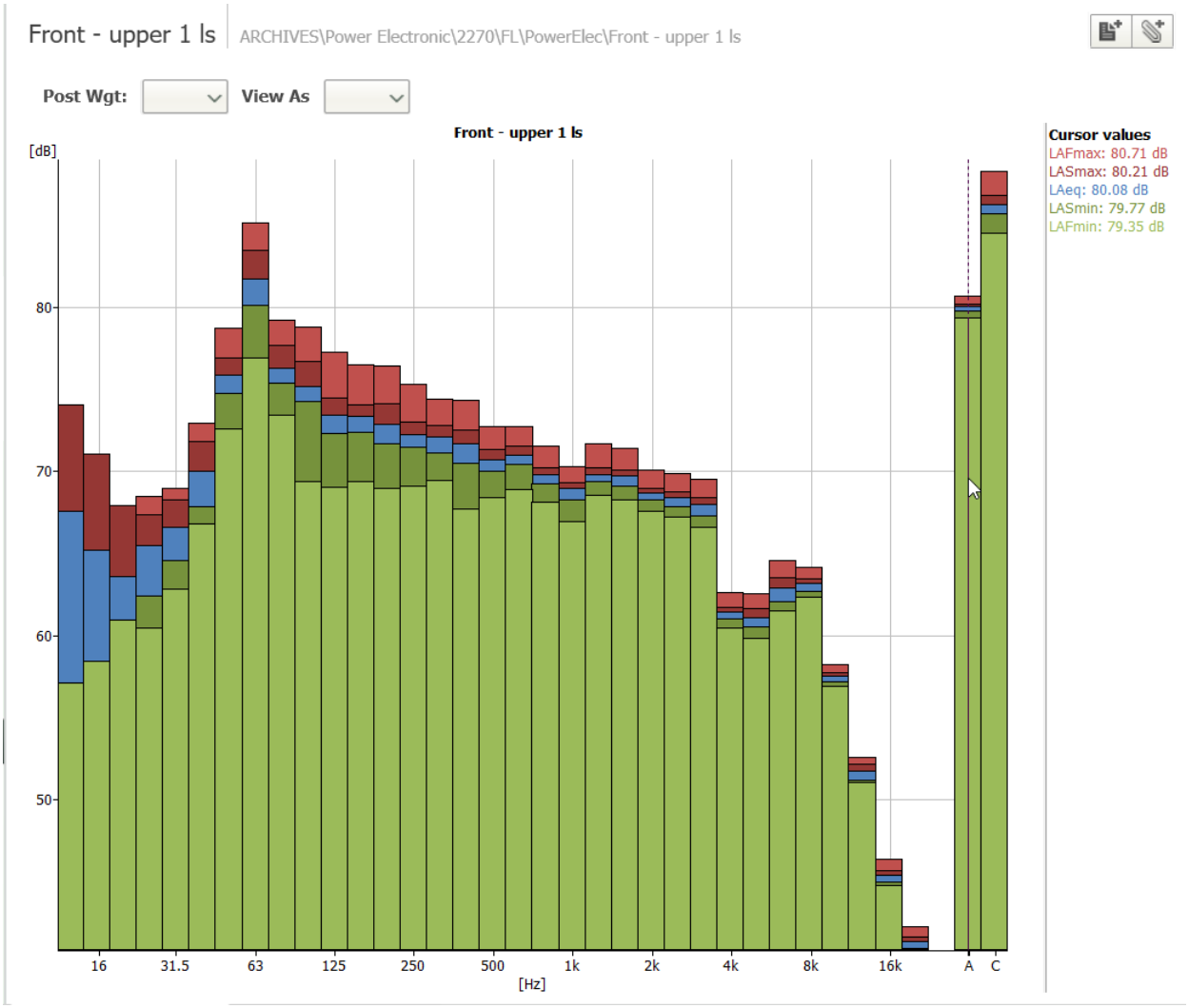
Post Wgt: View As



Front - lower 6 | ARCHIVES\Power Electronic\2270\FL\PowerElec\Front - lower 6

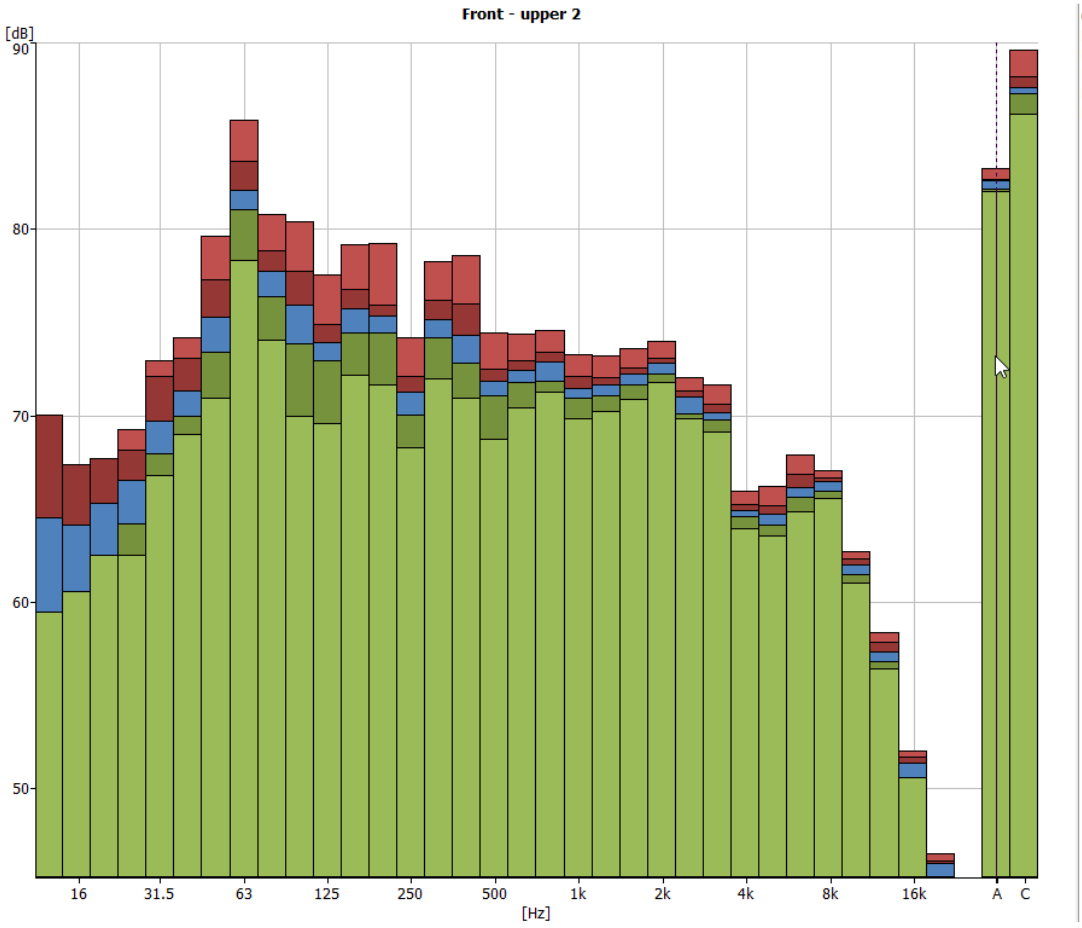
Post Wgt: View As

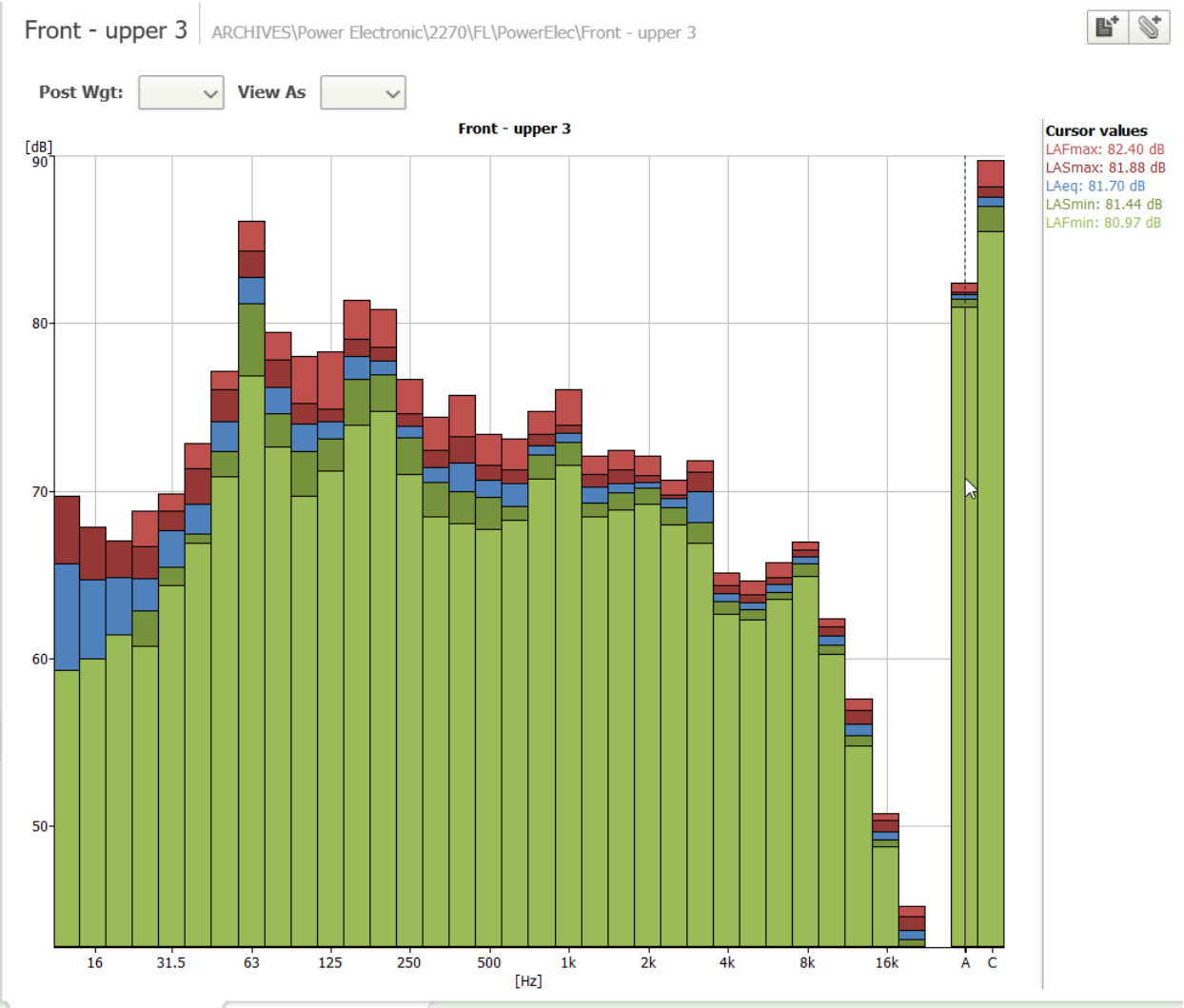


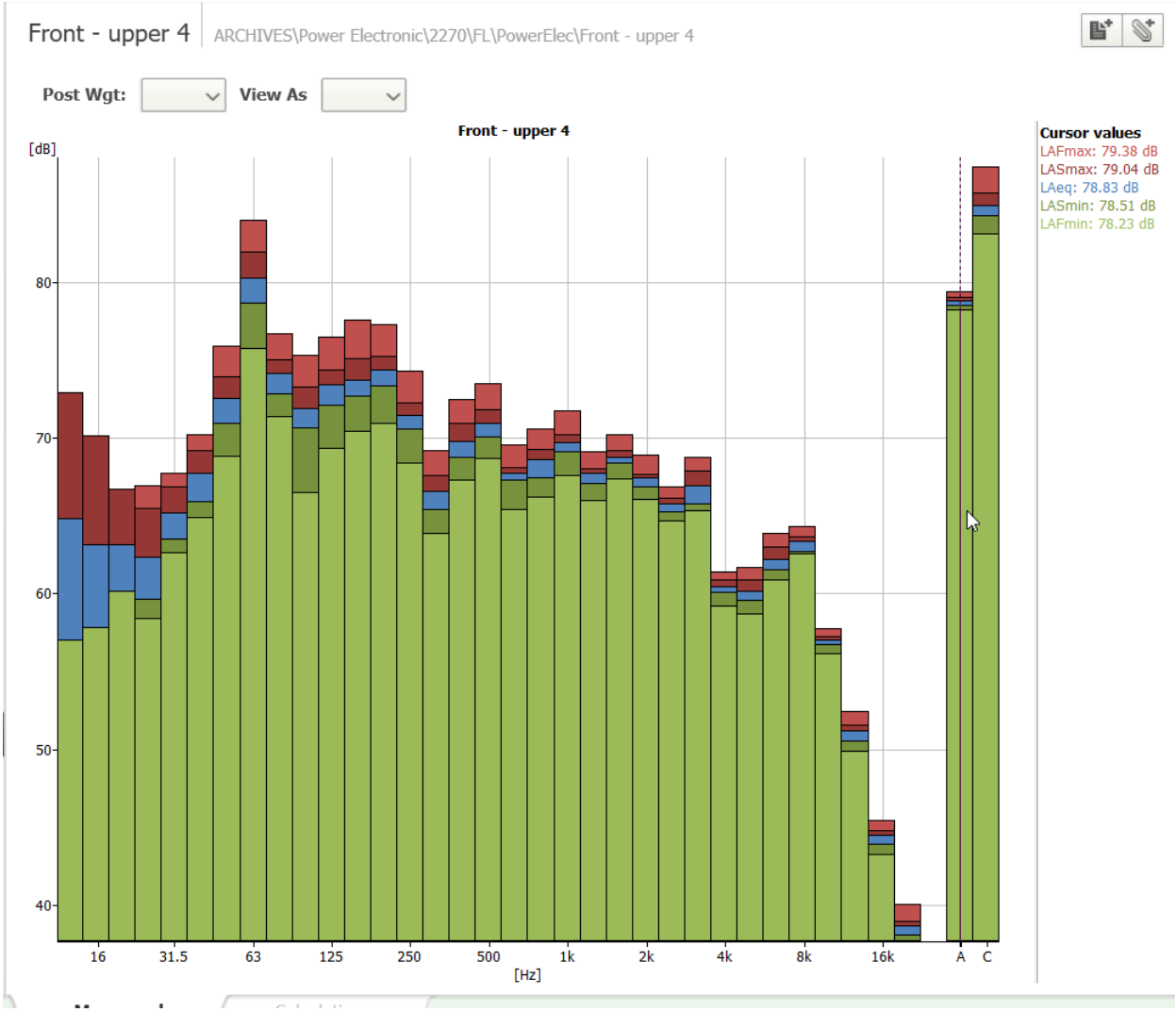

Front - upper 1 ls
ARCHIVES\Power Electronic\2270\FL\PowerElec\Front - upper 1 ls
Post Wgt:
View As
Front - upper 1 ls
[dB]
80
70
60
50
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
LAFmax: 80.71 dB
LASmax: 80.21 dB
LAeq: 80.08 dB
LASmin: 79.77 dB
LAFmin: 79.35 dB

Front - upper 2 | ARCHIVES\Power Electronic\2270\FL\PowerElec\Front - upper 2

Post Wgt: View As

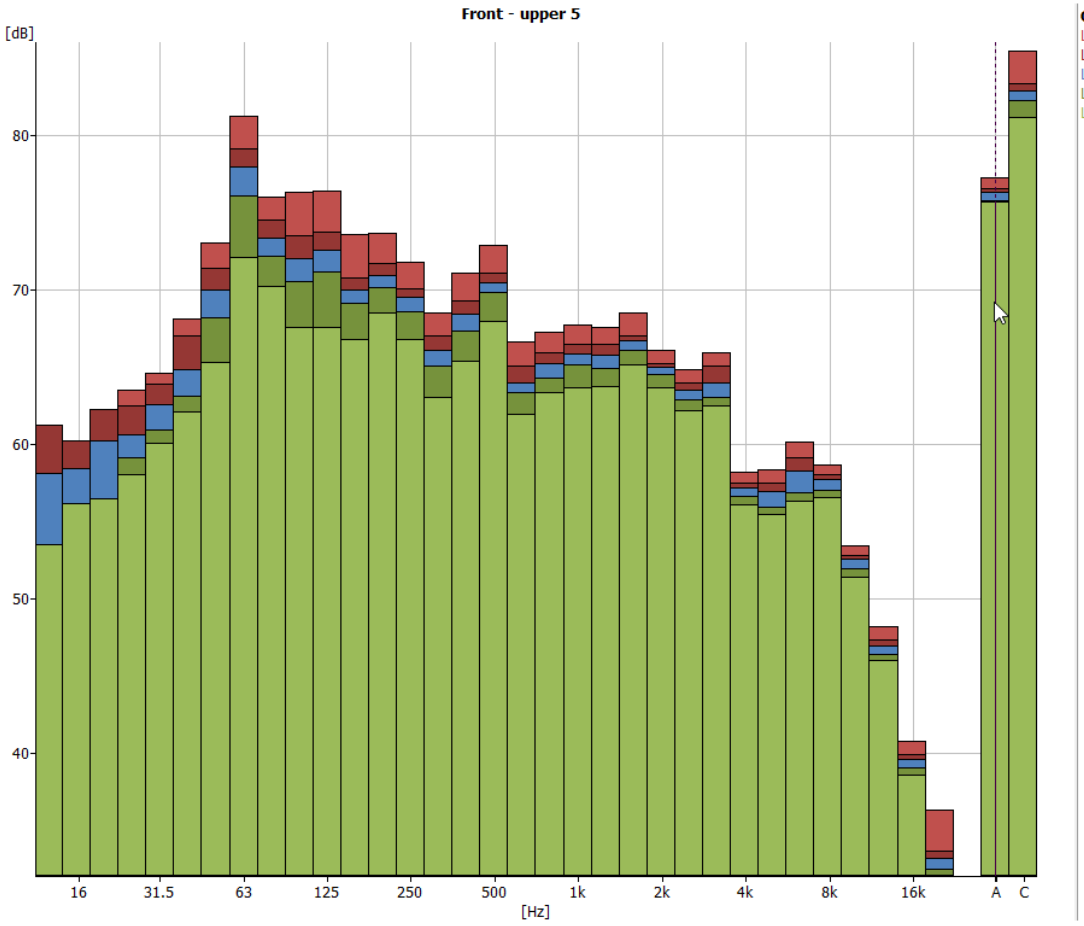


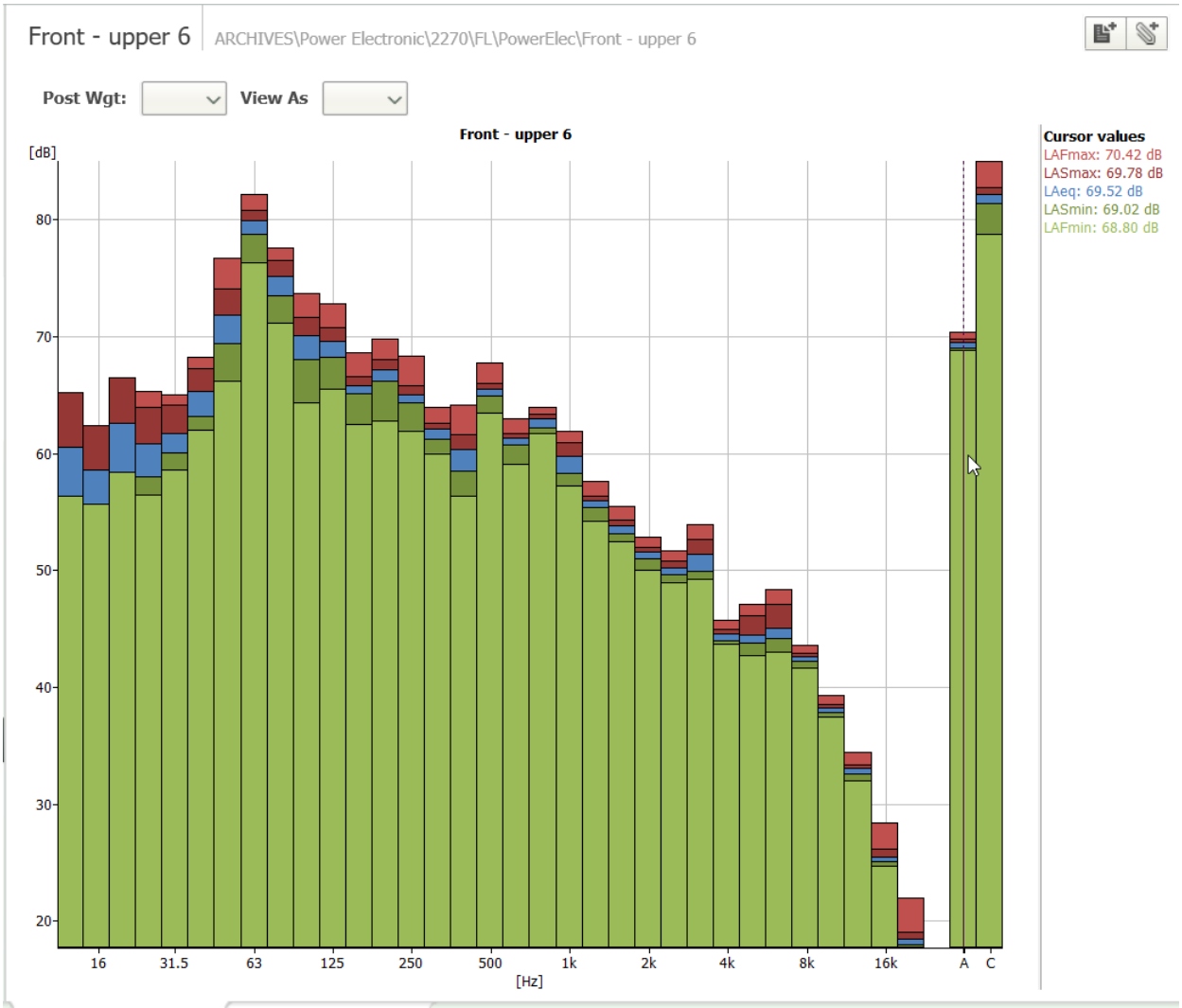

Front - upper 3
ARCHIVES\Power Electronic\2270\FL\PowerElec\Front - upper 3
Post Wgt:
View As
Front - upper 3
[dB]
90
80
70
60
50
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
LAFmax: 82.40 dB
LASmax: 81.88 dB
LAeq: 81.70 dB
LASmin: 81.44 dB
LAFmin: 80.97 dB

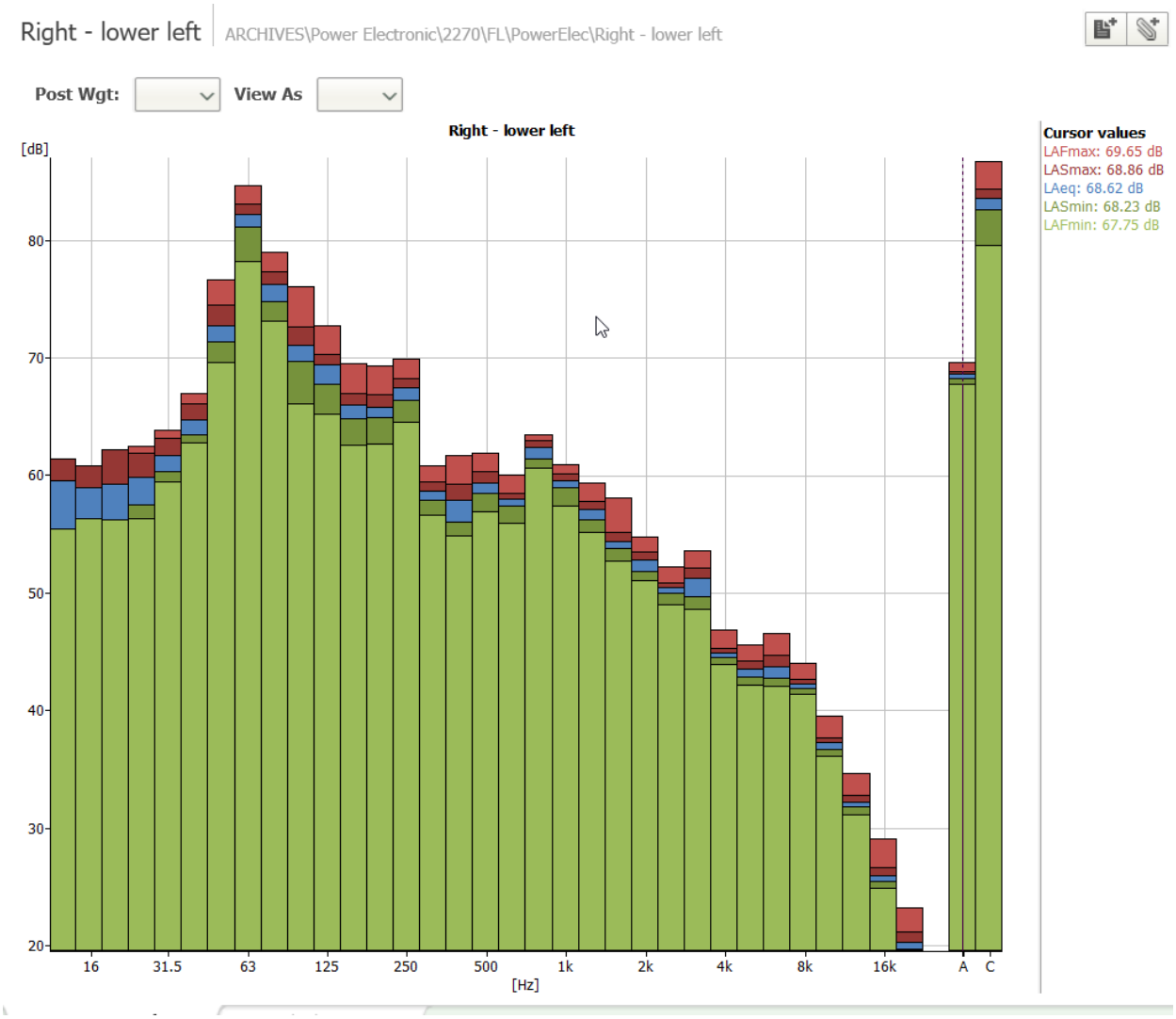

Front - upper 4
ARCHIVES\Power Electronic\2270\FL\PowerElec\Front - upper 4
Post Wgt:
View As
Front - upper 4
[dB]
80
70
60
50
40
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
LAFmax: 79.38 dB
LASmax: 79.04 dB
LAeq: 78.83 dB
LASmin: 78.51 dB
LAFmin: 78.23 dB

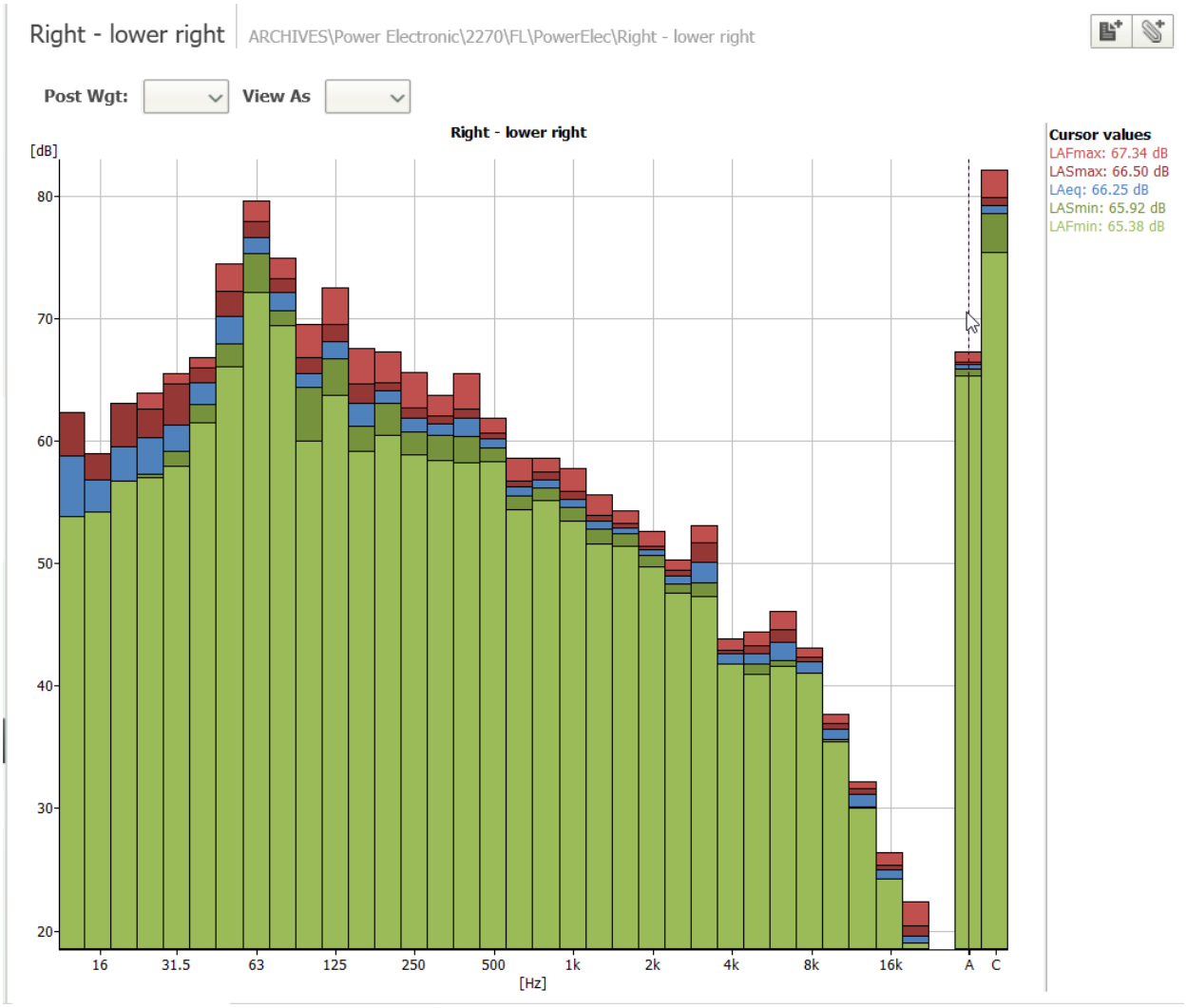
Front - upper 5 ARCHIVES\Power Electronic\2270\FL\PowerElec\Front - upper 5

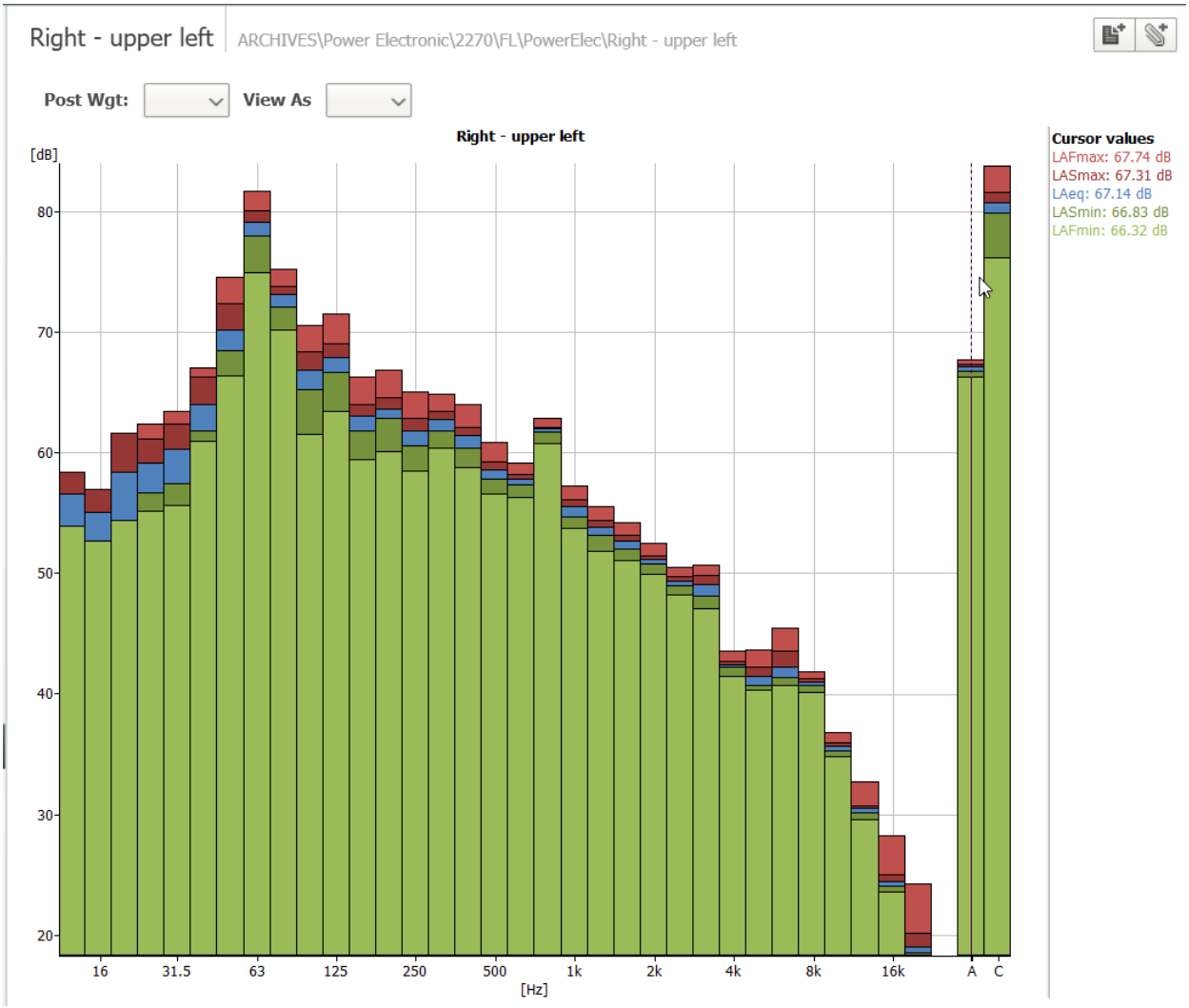
Post Wgt: View As




Front - upper 6
ARCHIVES\Power Electronic\2270\FL\PowerElec\Front - upper 6
Post Wgt:
View As
Front - upper 6
[dB]
80
70
60
50
40
30
20
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
LAFmax: 70.42 dB
LASmax: 69.78 dB
LAeq: 69.52 dB
LASmin: 69.02 dB
LAFmin: 68.80 dB

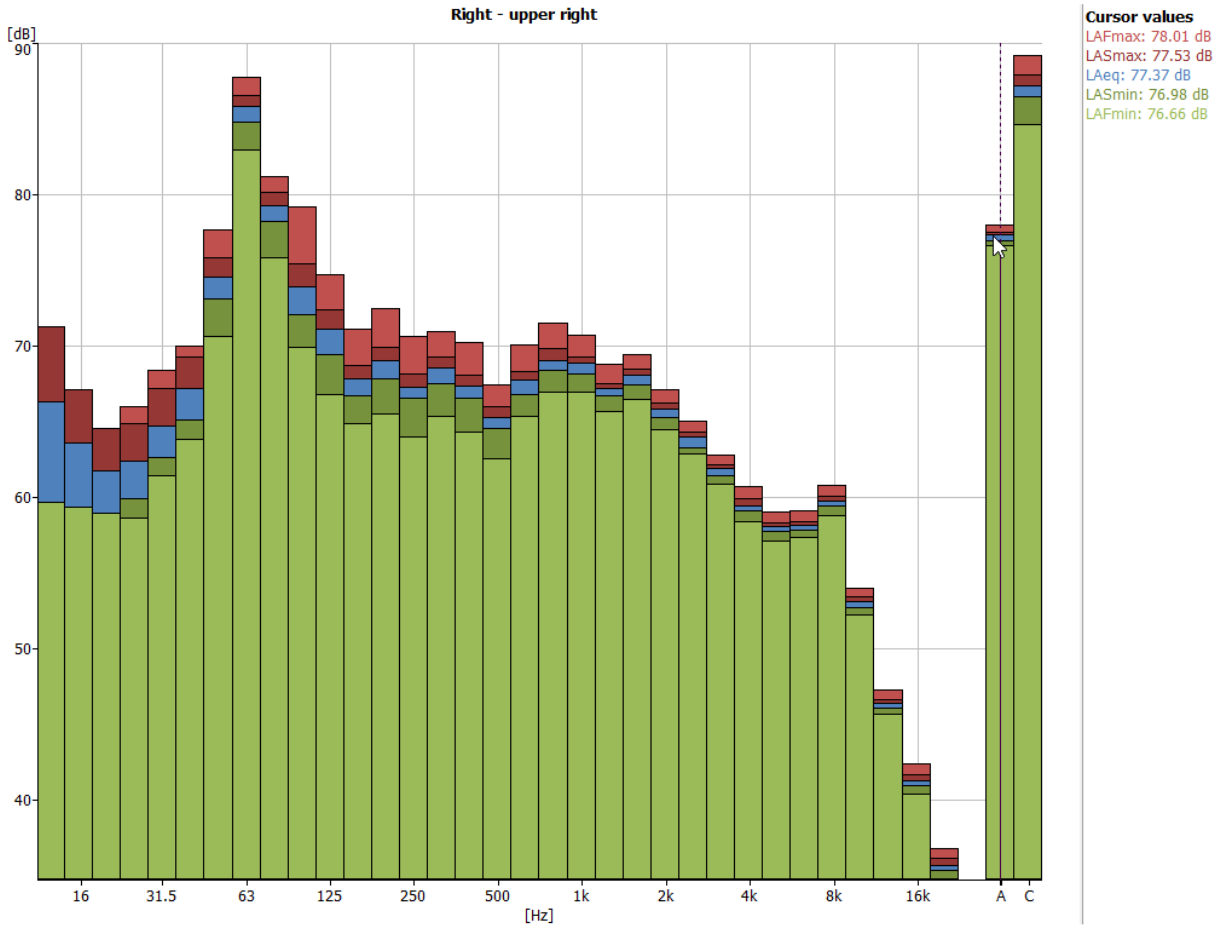

Right - lower left
ARCHIVES\Power Electronic\2270\FL\PowerElec\Right - lower left
Post Wgt:
View As
Right - lower left
[dB]
80
70
60
50
40
30
20
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
LAFmax: 69.65 dB
LASmax: 68.86 dB
LAeq: 68.62 dB
LASmin: 68.23 dB
LAFmin: 67.75 dB

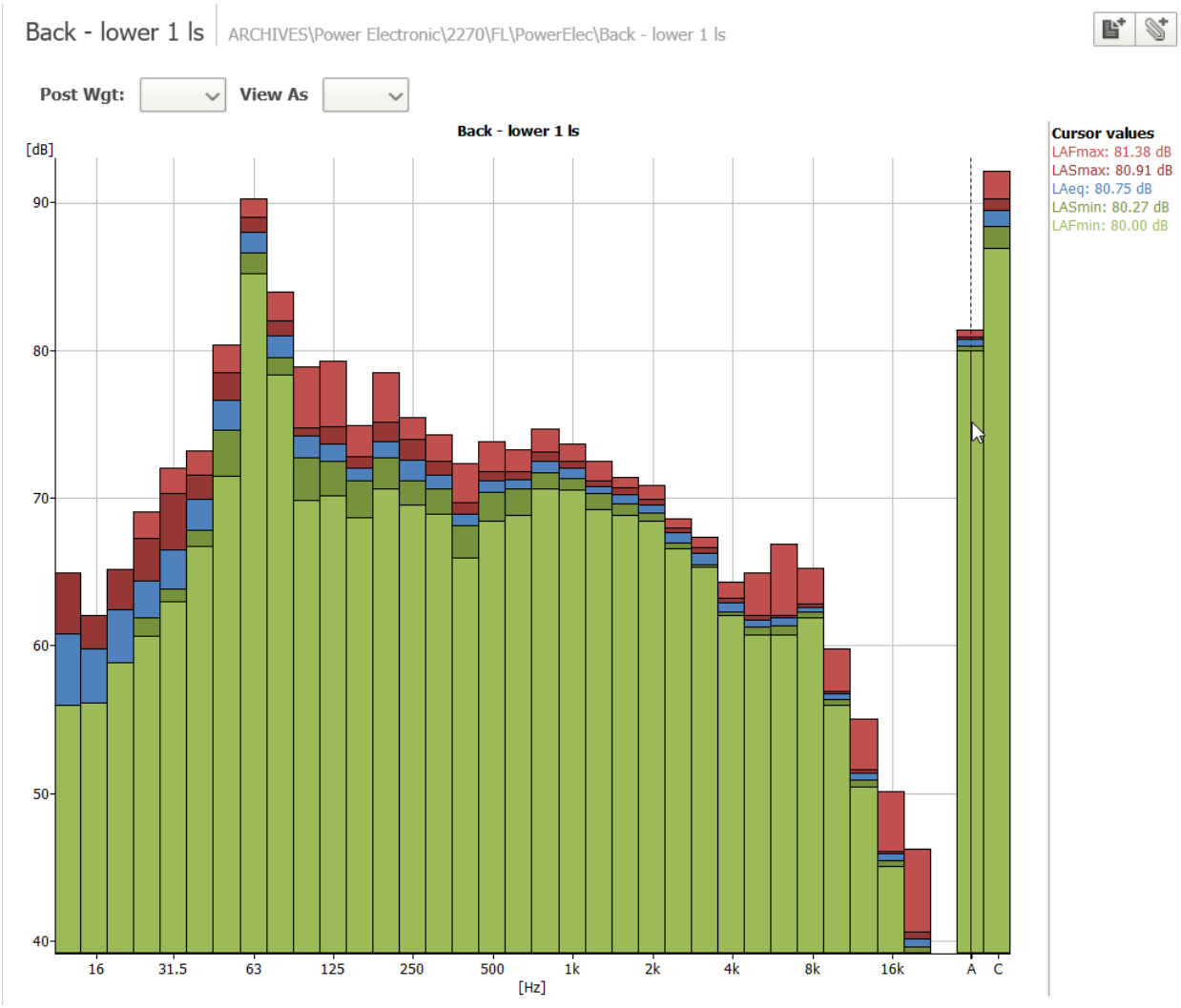

Right - lower right
ARCHIVES\Power Electronic\2270\FL\PowerElec\Right - lower right
Post Wgt:
View As
Right - lower right
[dB]
80
70
60
50
40
30
20
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
LAFmax: 67.34 dB
LASmax: 66.50 dB
LAeq: 66.25 dB
LASmin: 65.92 dB
LAFmin: 65.38 dB

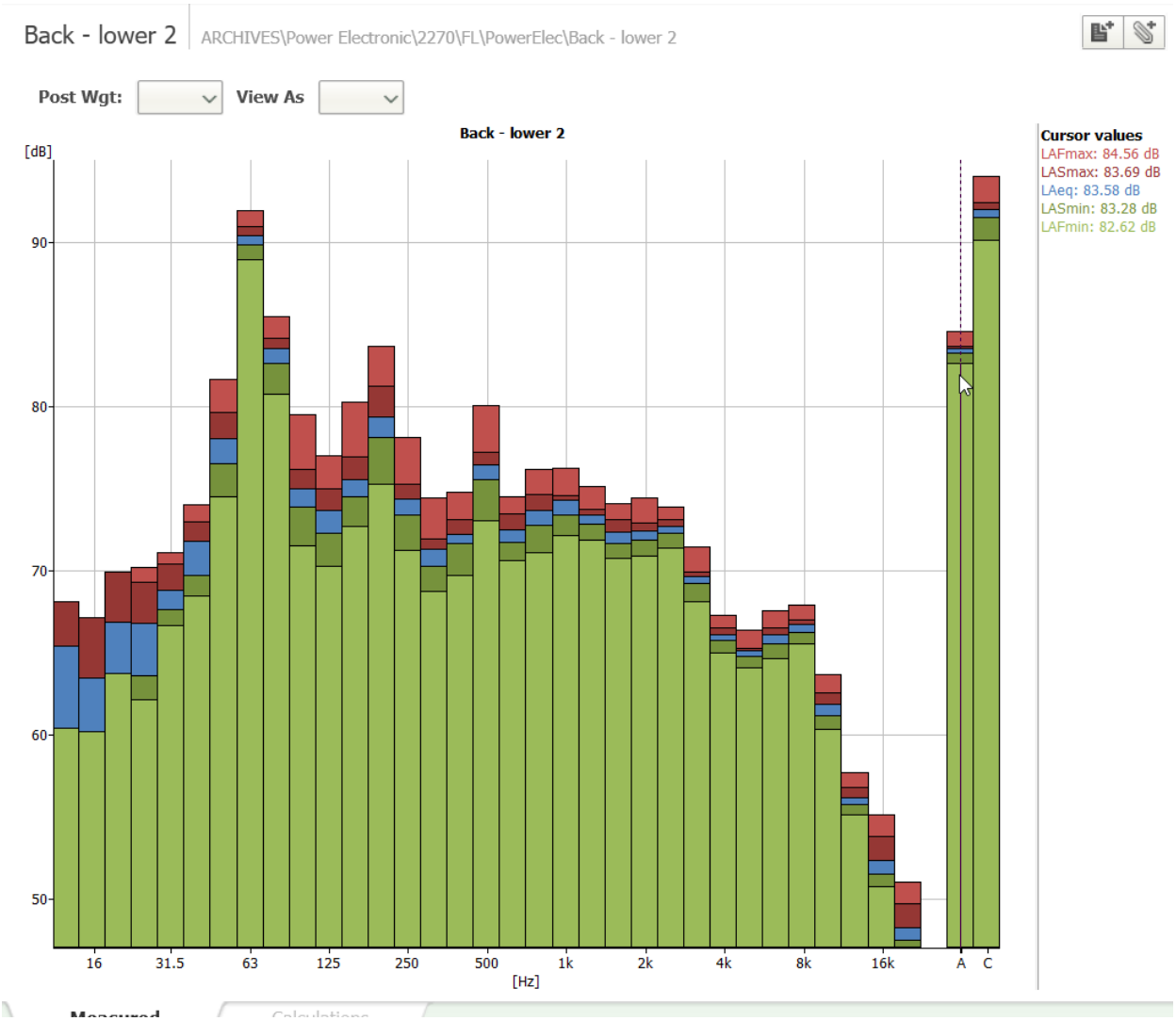

Right - upper left
ARCHIVES\Power Electronic\2270\FL\PowerElec\Right - upper left
Post Wgt:
View As
Right - upper left
[dB]
80
70
60
50
40
30
20
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
LAFmax: 67.74 dB
LASmax: 67.31 dB
LAeq: 67.14 dB
LASmin: 66.83 dB
LAFmin: 66.32 dB

Right - upper right | ARCHIVES\Power Electronic\2270\FL\PowerElec\Right - upper right

Post Wgt: | View As

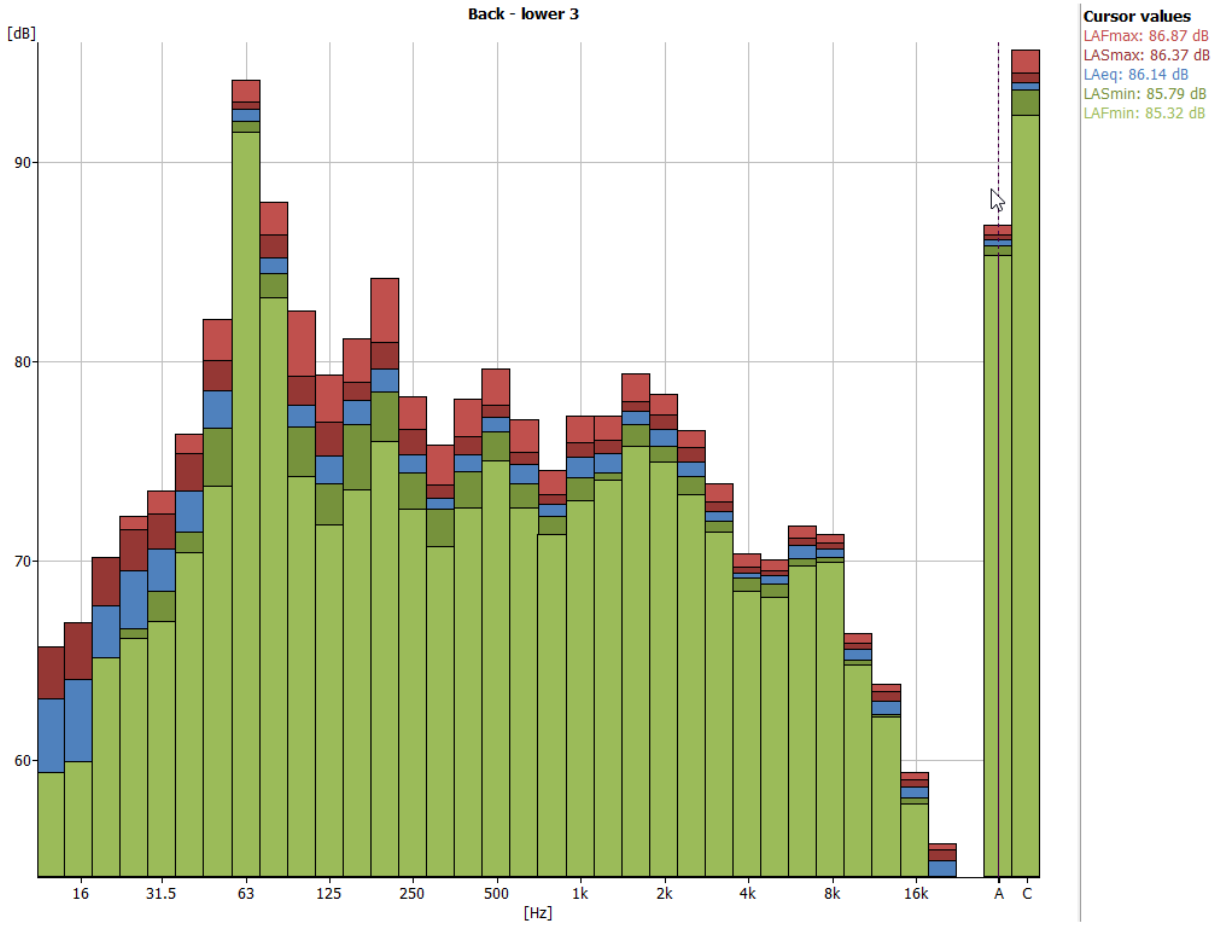


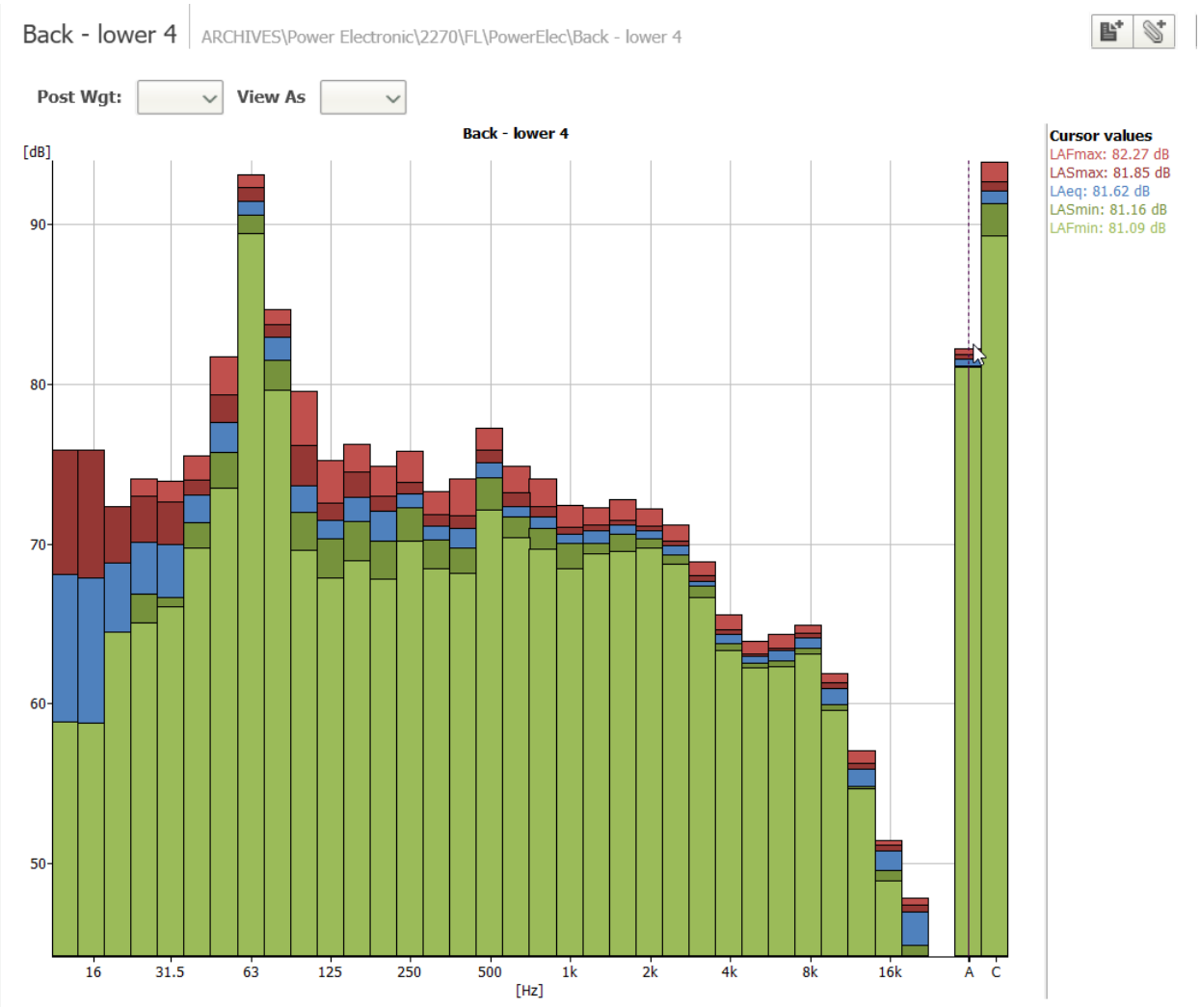

Back - lower 1 ls
ARCHIVES\Power Electronic\2270\FL\PowerElec\Back - lower 1 ls
Post Wgt:
View As
Back - lower 1 ls
[dB]
90
80
70
60
50
40
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
LAFmax: 81.38 dB
LASmax: 80.91 dB
LAeq: 80.75 dB
LASmin: 80.27 dB
LAFmin: 80.00 dB


Back - lower 2
ARCHIVES\Power Electronic\2270\FL\PowerElec\Back - lower 2
Post Wgt:
View As
Back - lower 2
[dB]
90
80
70
60
50
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
LAFmax: 84.56 dB
LASmax: 83.69 dB
LAeq: 83.58 dB
LASmin: 83.28 dB
LAFmin: 82.62 dB

Back - lower 3 | ARCHIVES\Power Electronic\2270\FL\PowerElec\Back - lower 3

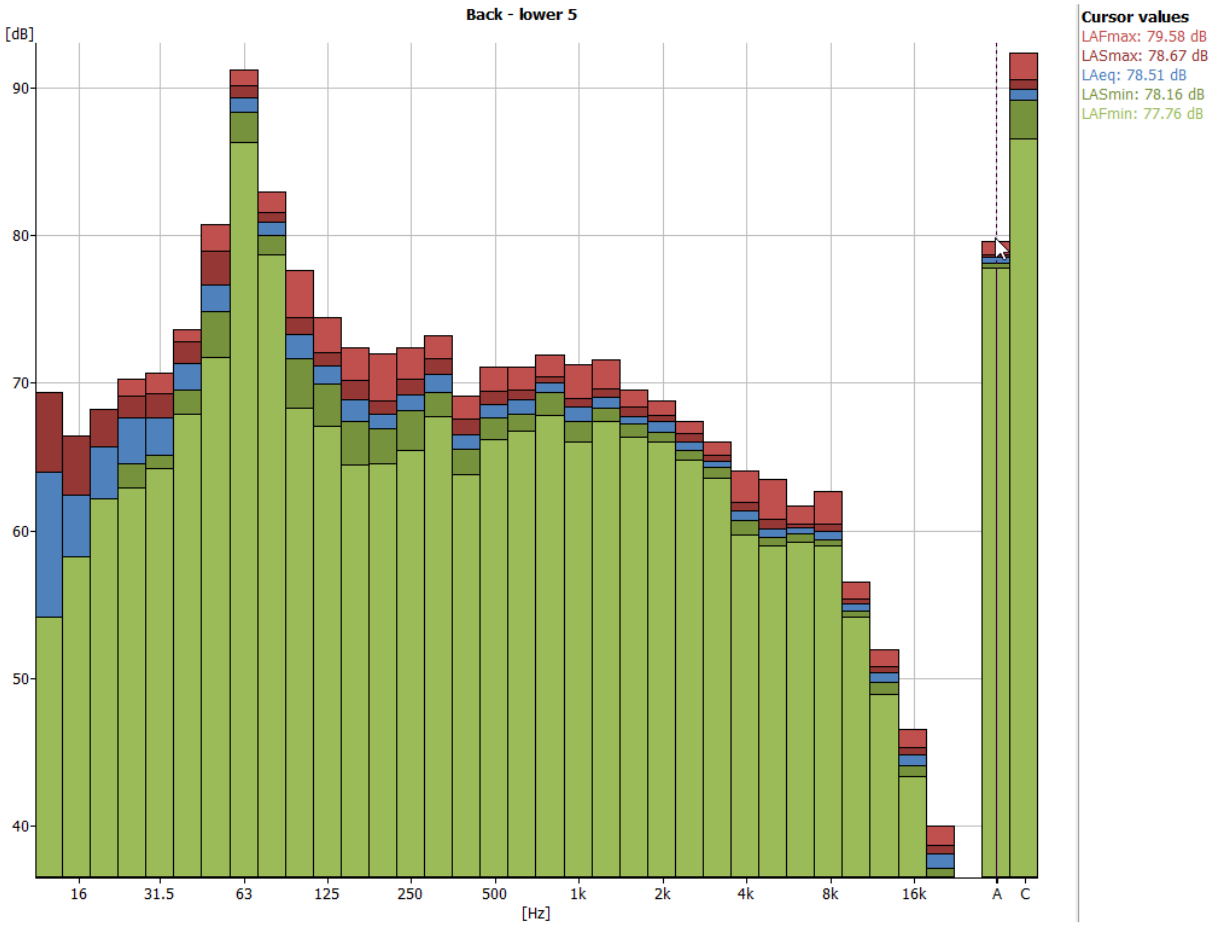
Post Wgt: View As




Back - lower 4
ARCHIVES\Power Electronic\2270\FL\PowerElec\Back - lower 4
Post Wgt:
View As
Back - lower 4
[dB]
90
80
70
60
50
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
LAFmax: 82.27 dB
LASmax: 81.85 dB
LAeq: 81.62 dB
LASmin: 81.16 dB
LAFmin: 81.09 dB

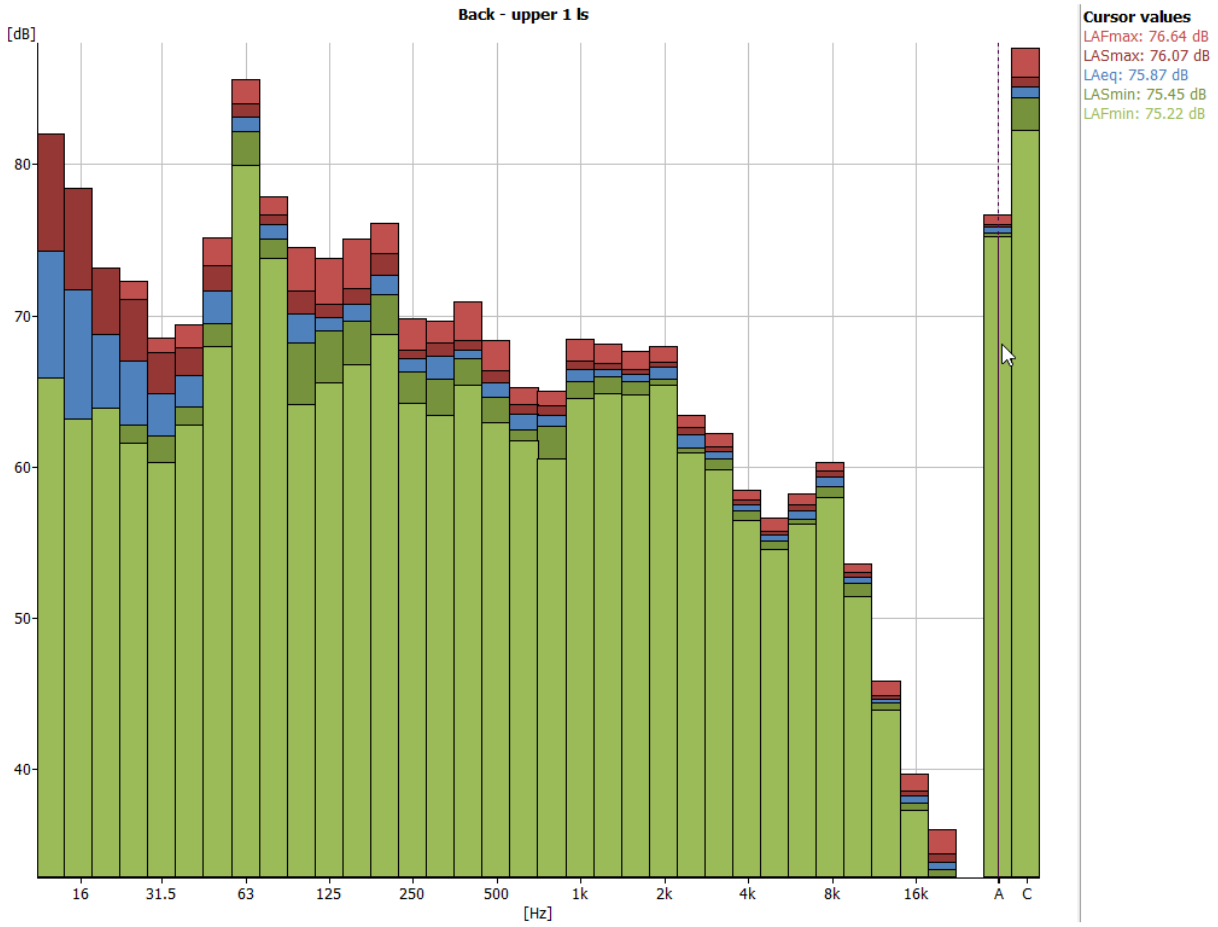
Back - lower 5 ARCHIVES\Power Electronic\2270\FL\PowerElec\Back - lower 5

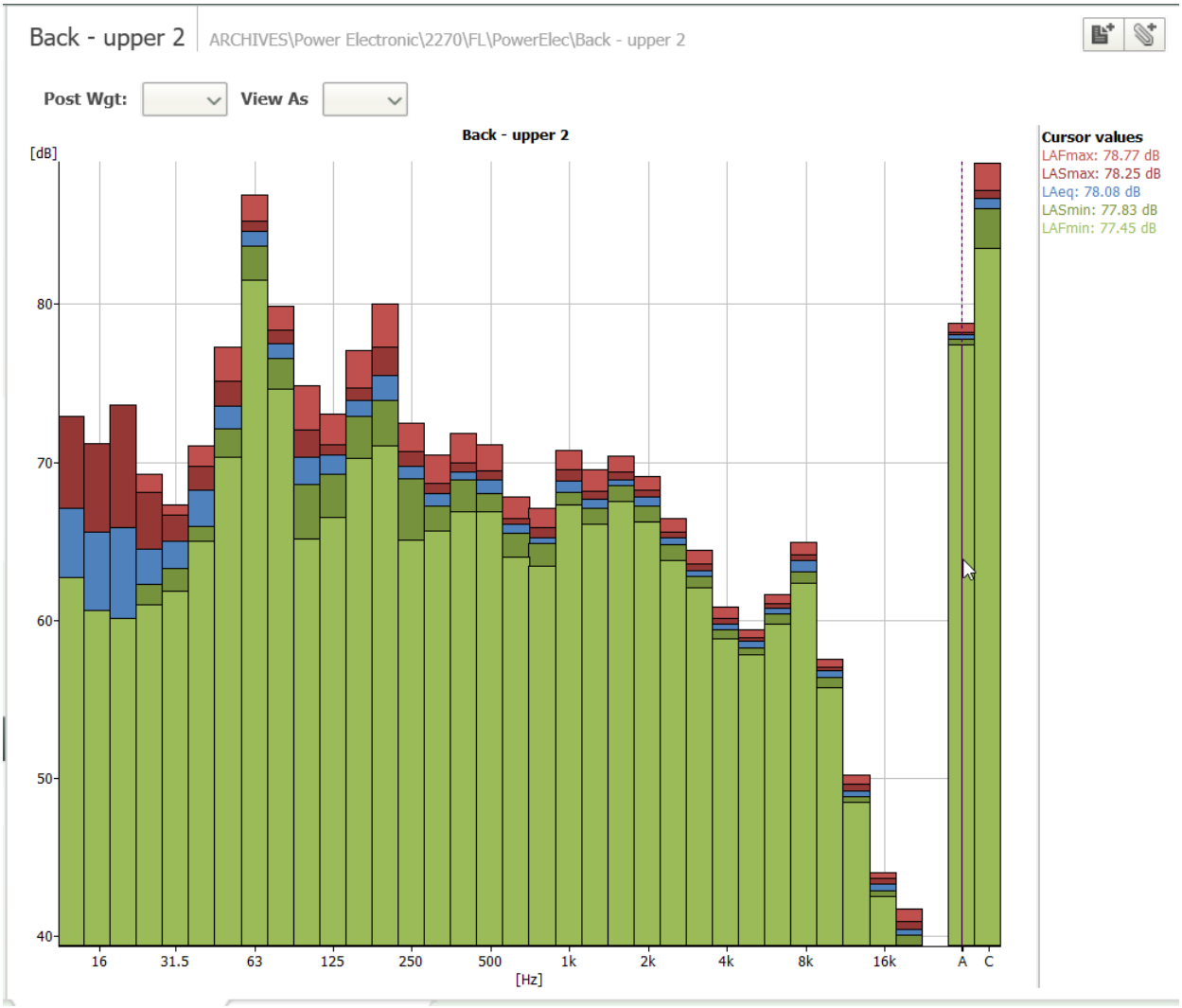
Post Wgt: View As

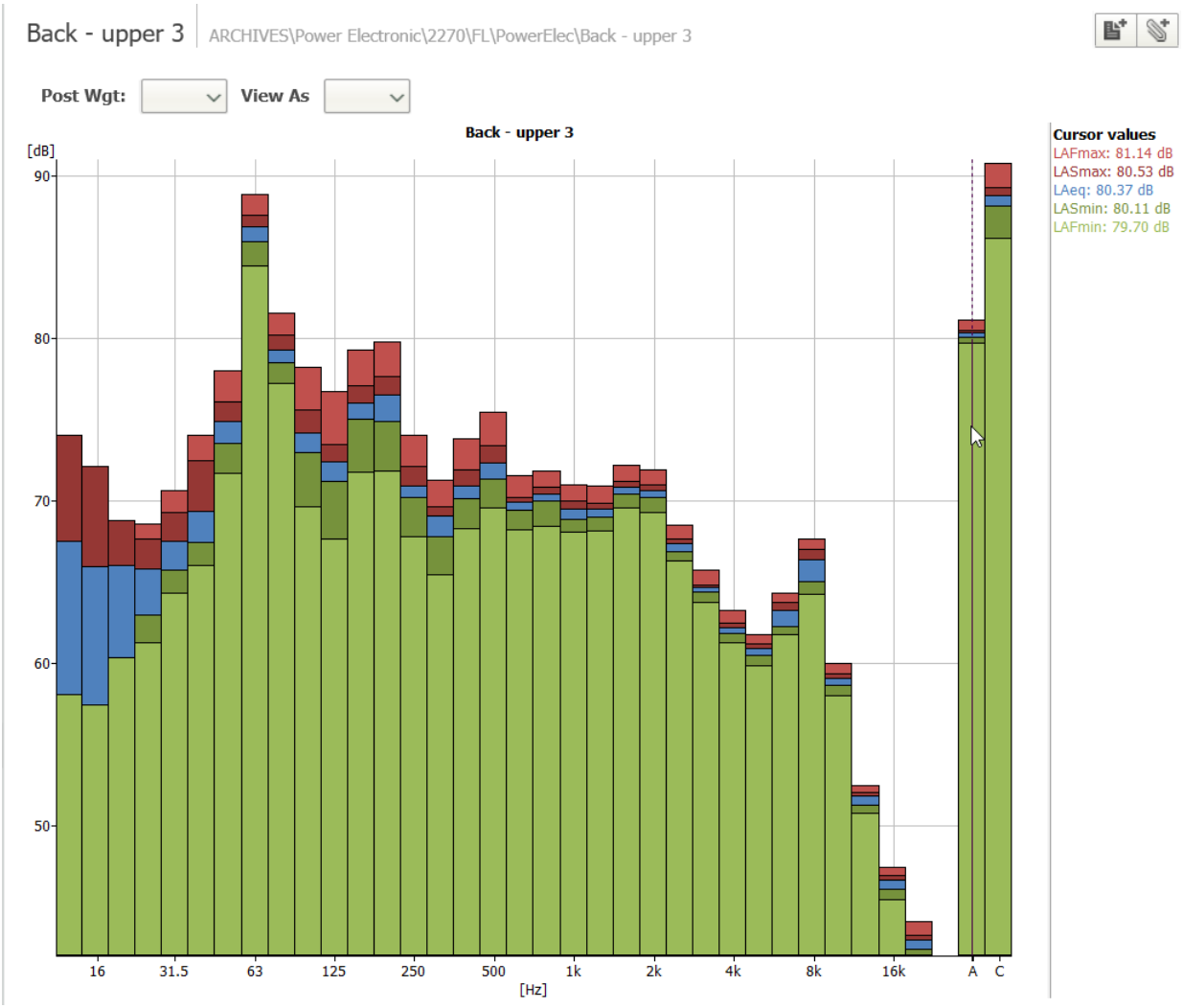


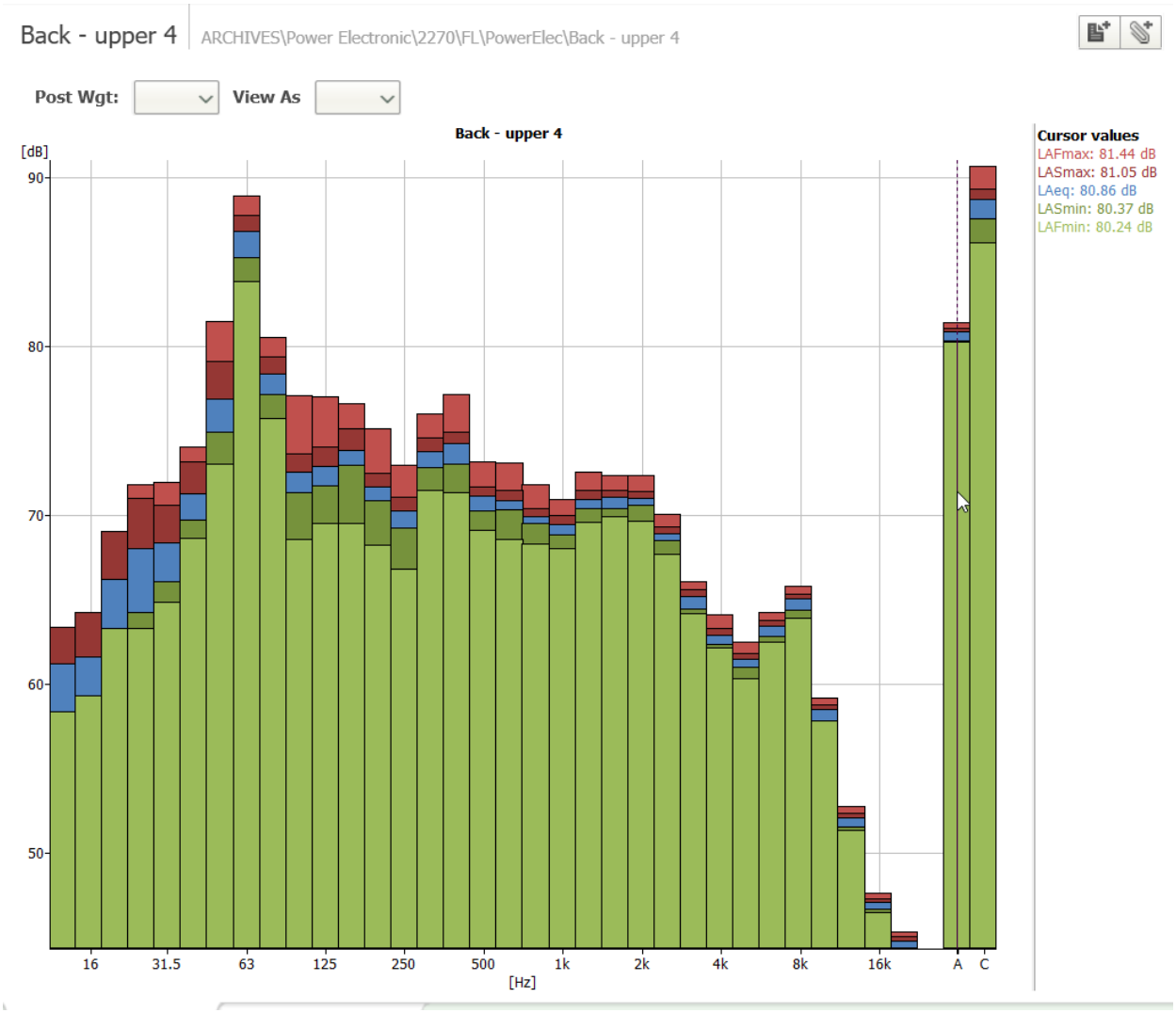
Back - upper 1 ls | ARCHIVES\Power Electronic\2270\FL\PowerElec\Back - upper 1 ls

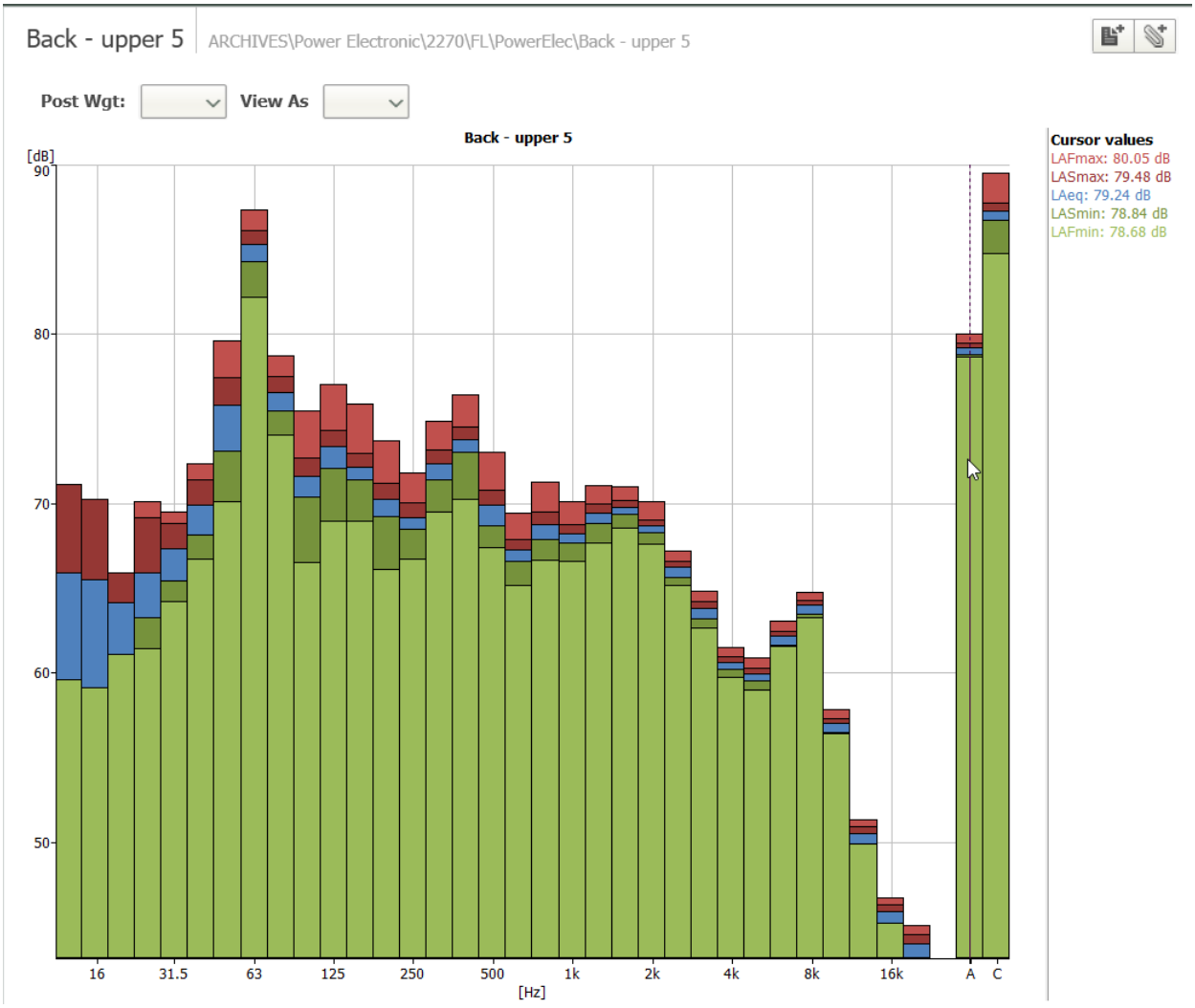
Post Wgt: View As

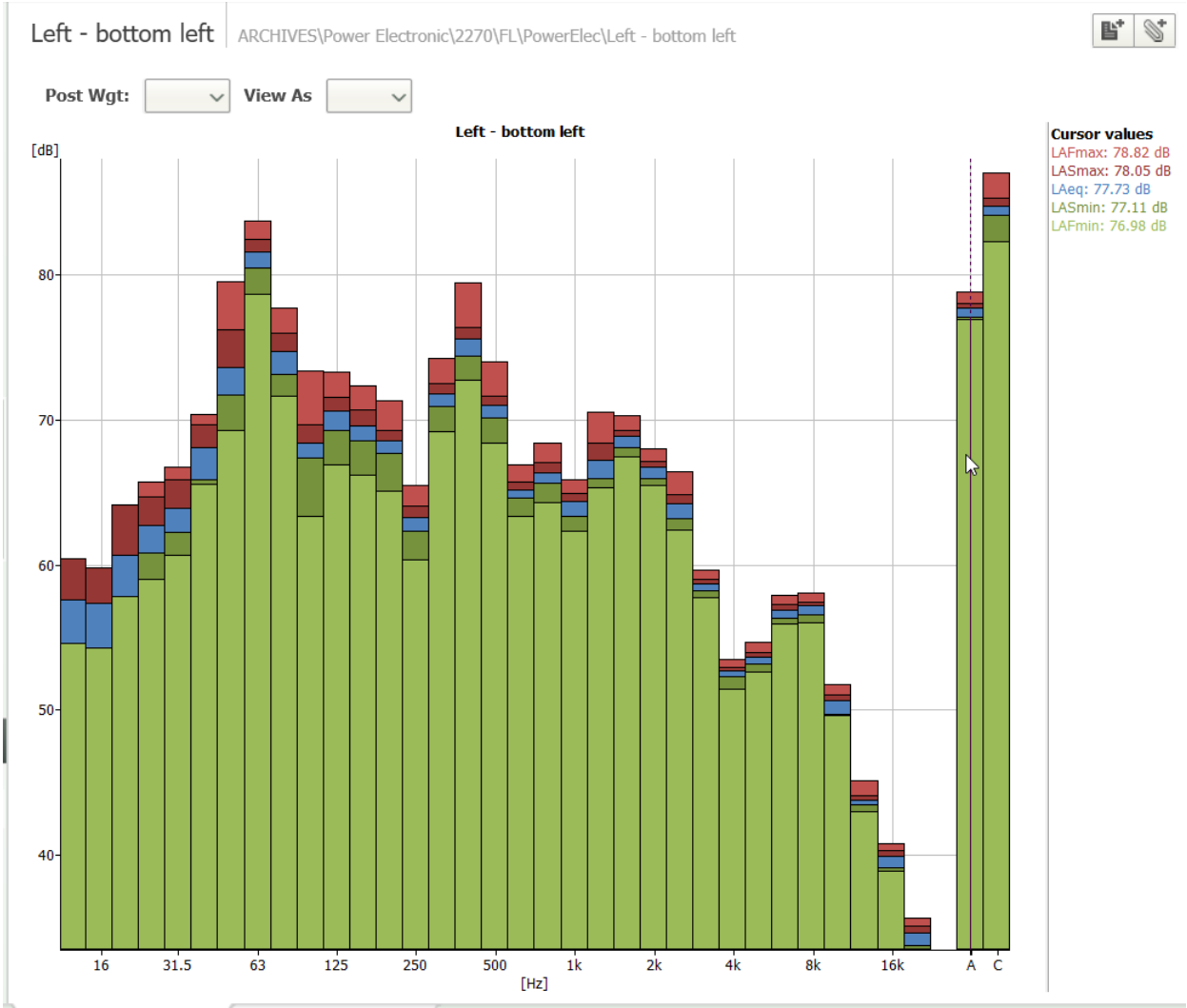



Back - upper 2
ARCHIVES\Power Electronic\2270\FL\PowerElec\Back - upper 2
Post Wgt:
View As
Back - upper 2
[dB]
80
70
60
50
40
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
LAFmax: 78.77 dB
LASmax: 78.25 dB
LAeq: 78.08 dB
LASmin: 77.83 dB
LAFmin: 77.45 dB


Back - upper 3
ARCHIVES\Power Electronic\2270\FL\PowerElec\Back - upper 3
Post Wgt:
View As
Back - upper 3
[dB]
90
80
70
60
50
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
LAFmax: 81.14 dB
LASmax: 80.53 dB
LAeq: 80.37 dB
LASmin: 80.11 dB
LAFmin: 79.70 dB

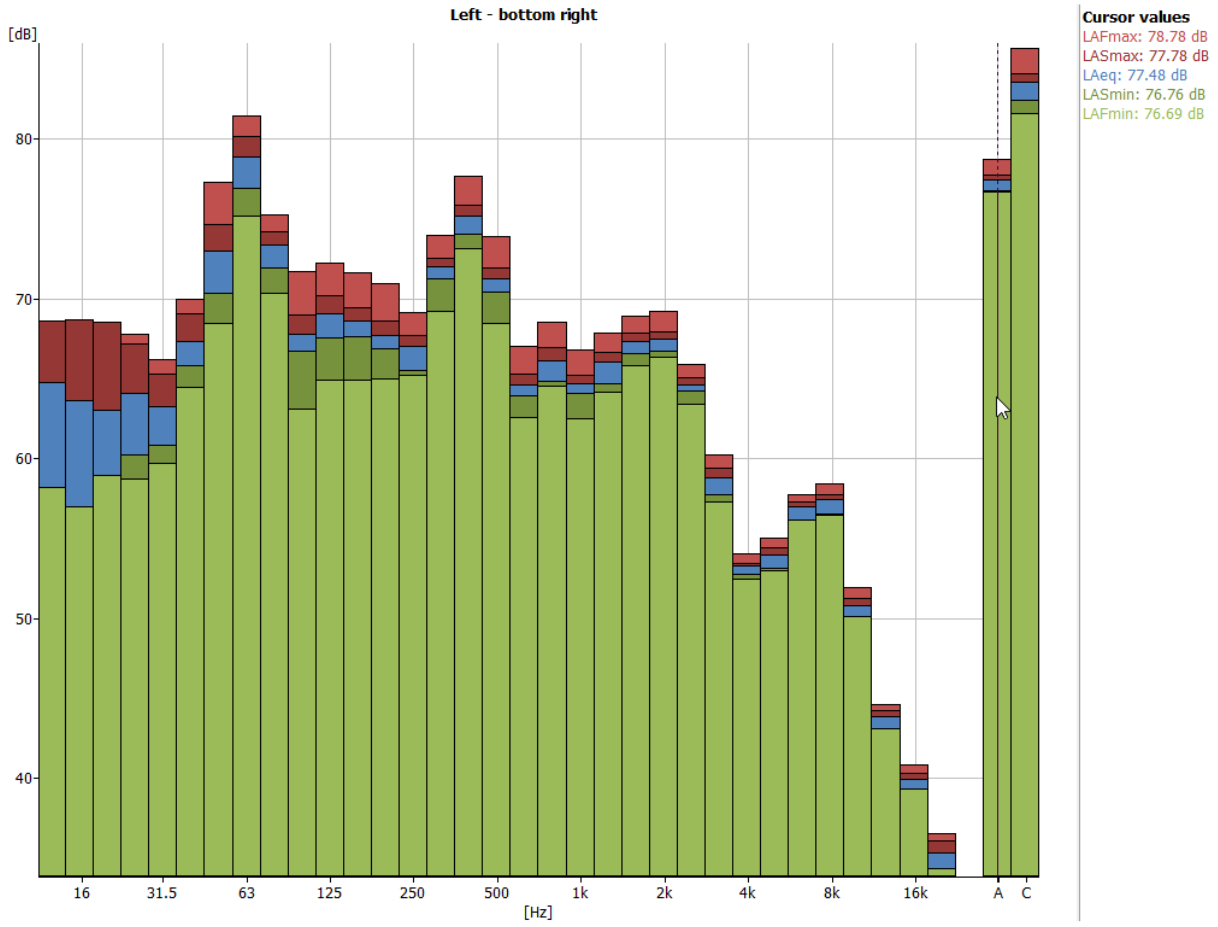

Back - upper 4
ARCHIVES\Power Electronic\2270\FL\PowerElec\Back - upper 4
Post Wgt:
View As
Back - upper 4
[dB]
90
80
70
60
50
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
LAFmax: 81.44 dB
LASmax: 81.05 dB
LAeq: 80.86 dB
LASmin: 80.37 dB
LAFmin: 80.24 dB


Back - upper 5
ARCHIVES\Power Electronic\2270\FL\PowerElec\Back - upper 5
Post Wgt:
View As
Back - upper 5
[dB]
90
80
70
60
50
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
LAFmax: 80.05 dB
LASmax: 79.48 dB
LAeq: 79.24 dB
LASmin: 78.84 dB
LAFmin: 78.68 dB


Left - bottom left
ARCHIVES\Power Electronic\2270\FL\PowerElec\Left - bottom left
Post Wgt:
View As
Left - bottom left
[dB]
80
70
60
50
40
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
LAFmax: 78.82 dB
LASmax: 78.05 dB
LAeq: 77.73 dB
LASmin: 77.11 dB
LAFmin: 76.98 dB

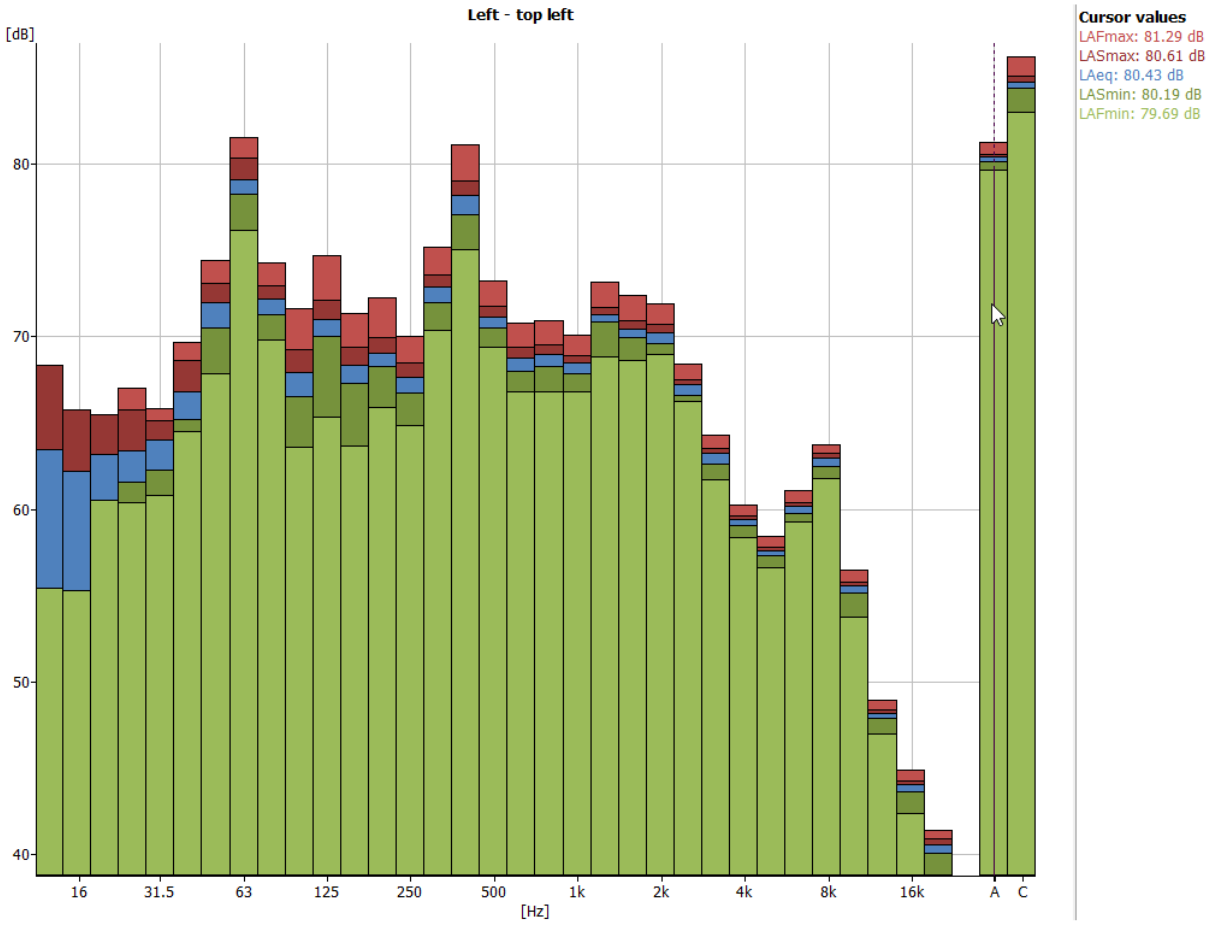
Left - bottom right ARCHIVES\Power Electronic\2270\FL\PowerElec\Left - bottom right

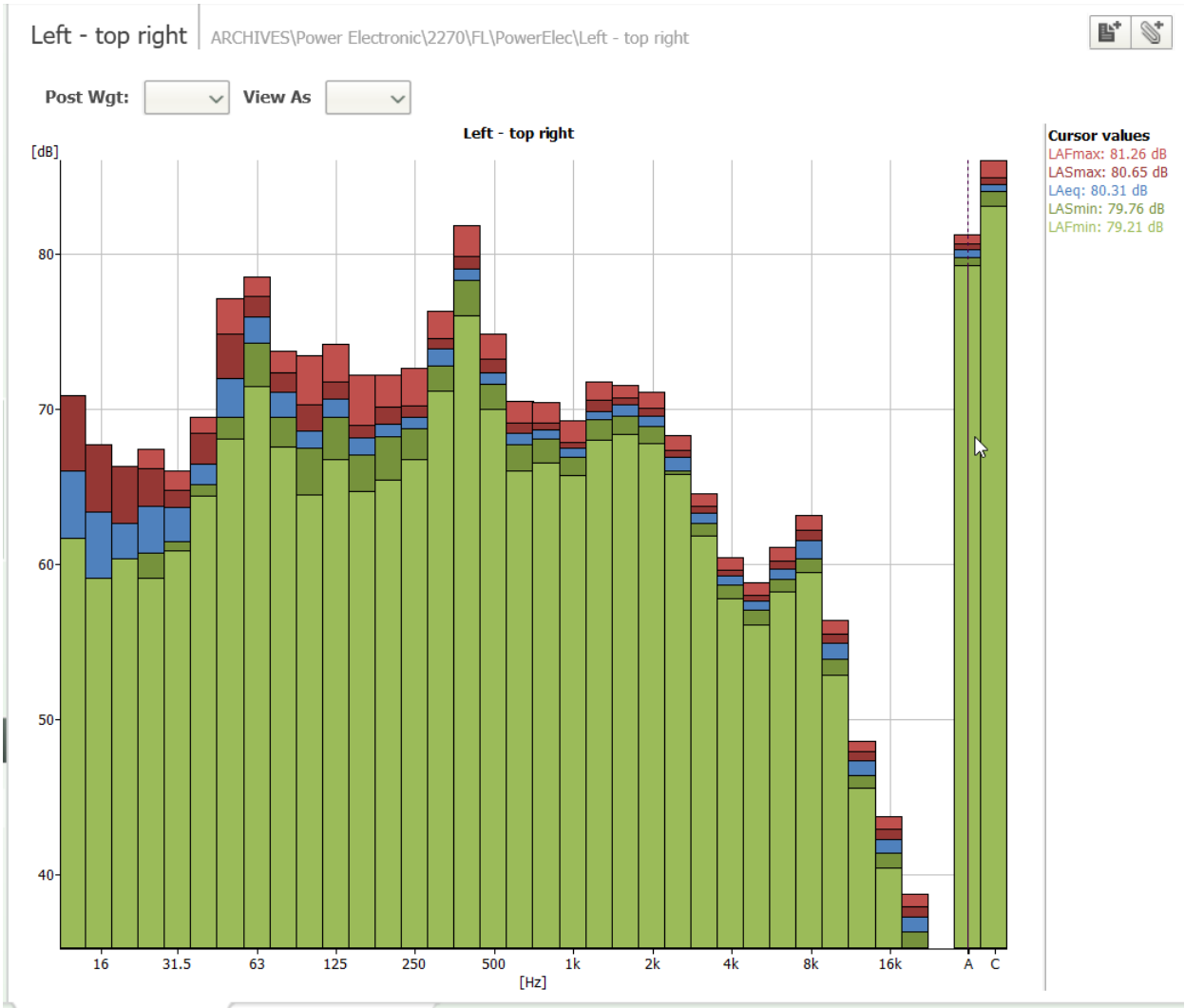
Post Wgt: View As

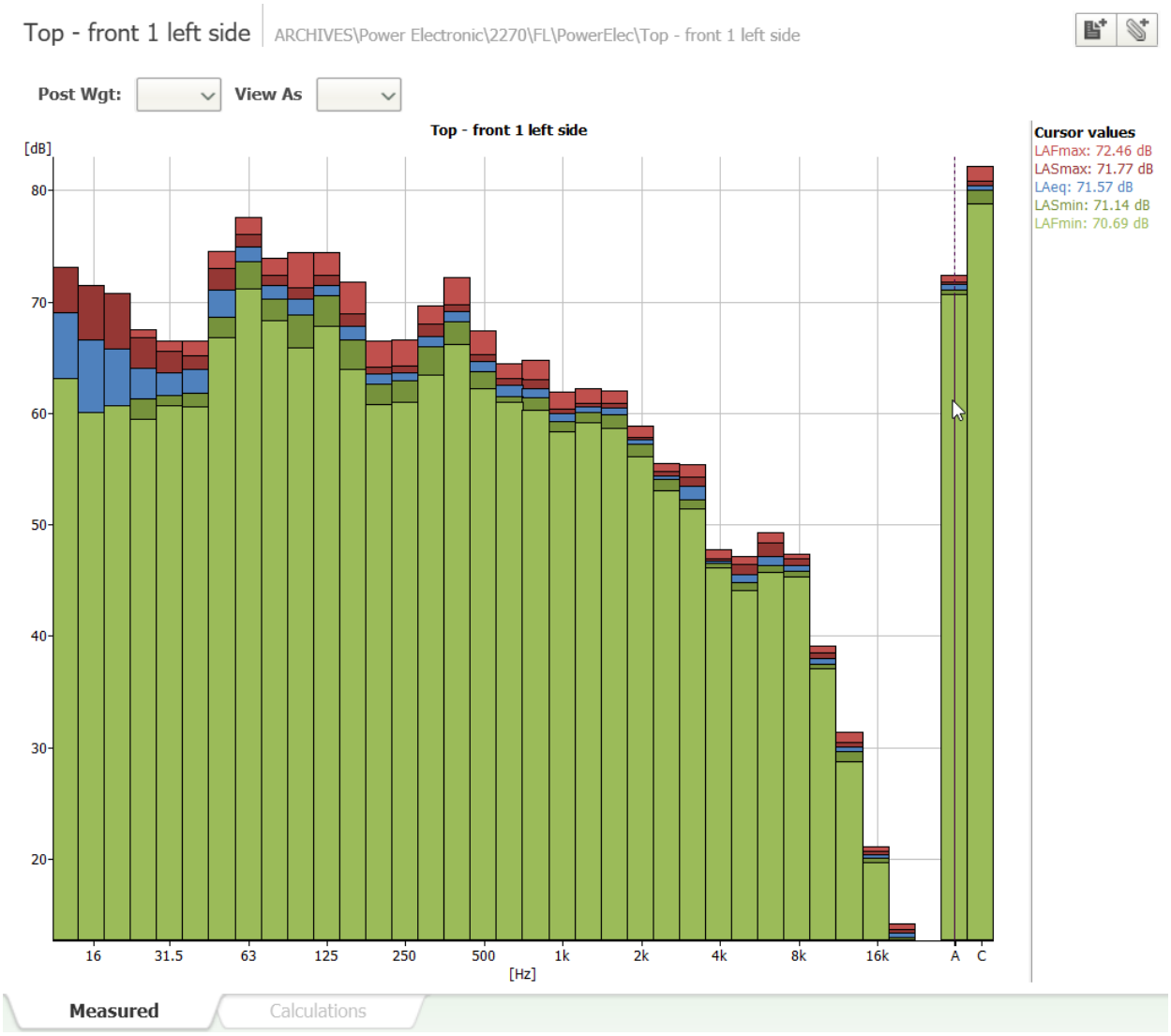


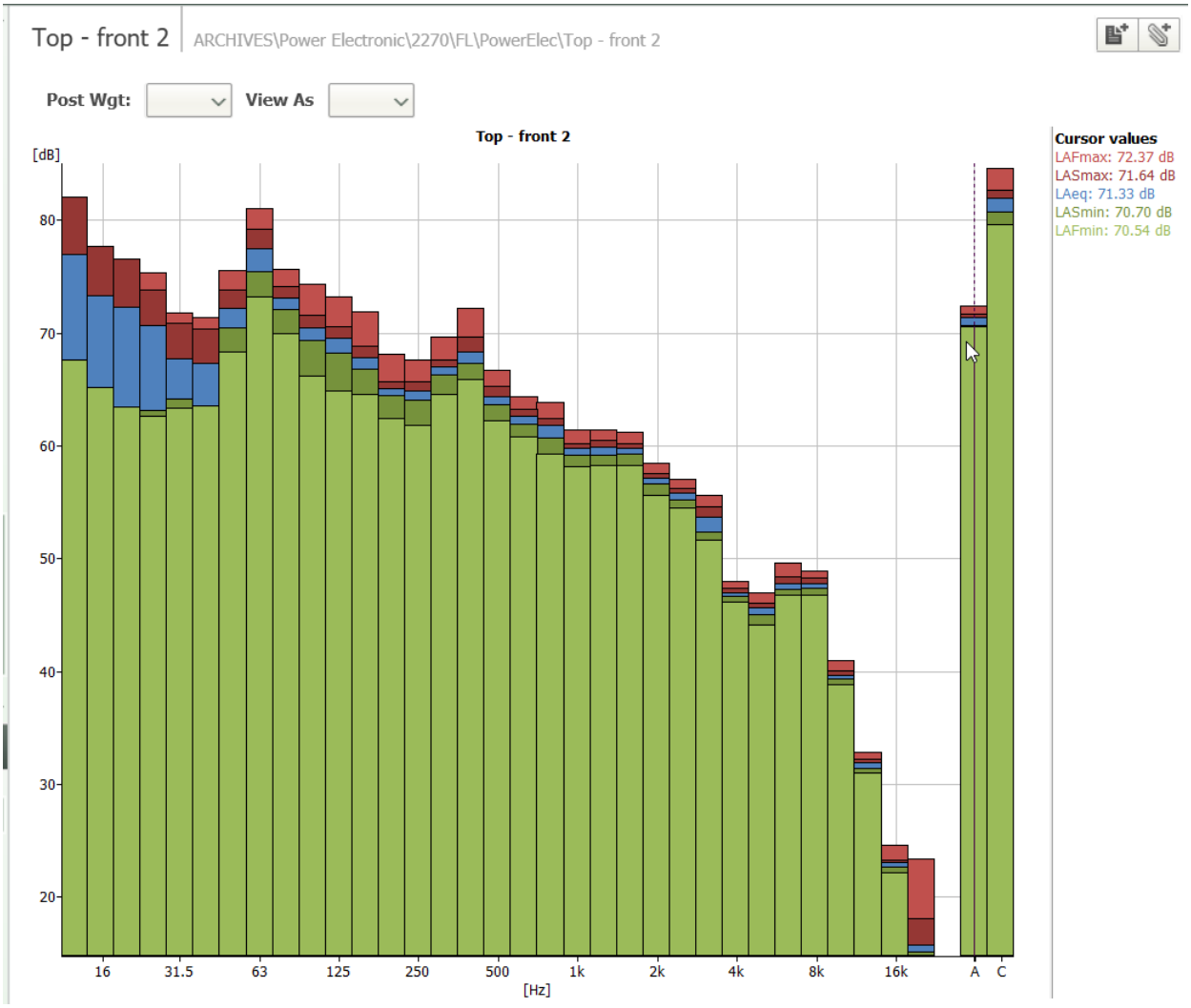
Left - top left | ARCHIVES\Power Electronic\2270\FL\PowerElec\Left - top left

Post Wgt: View As



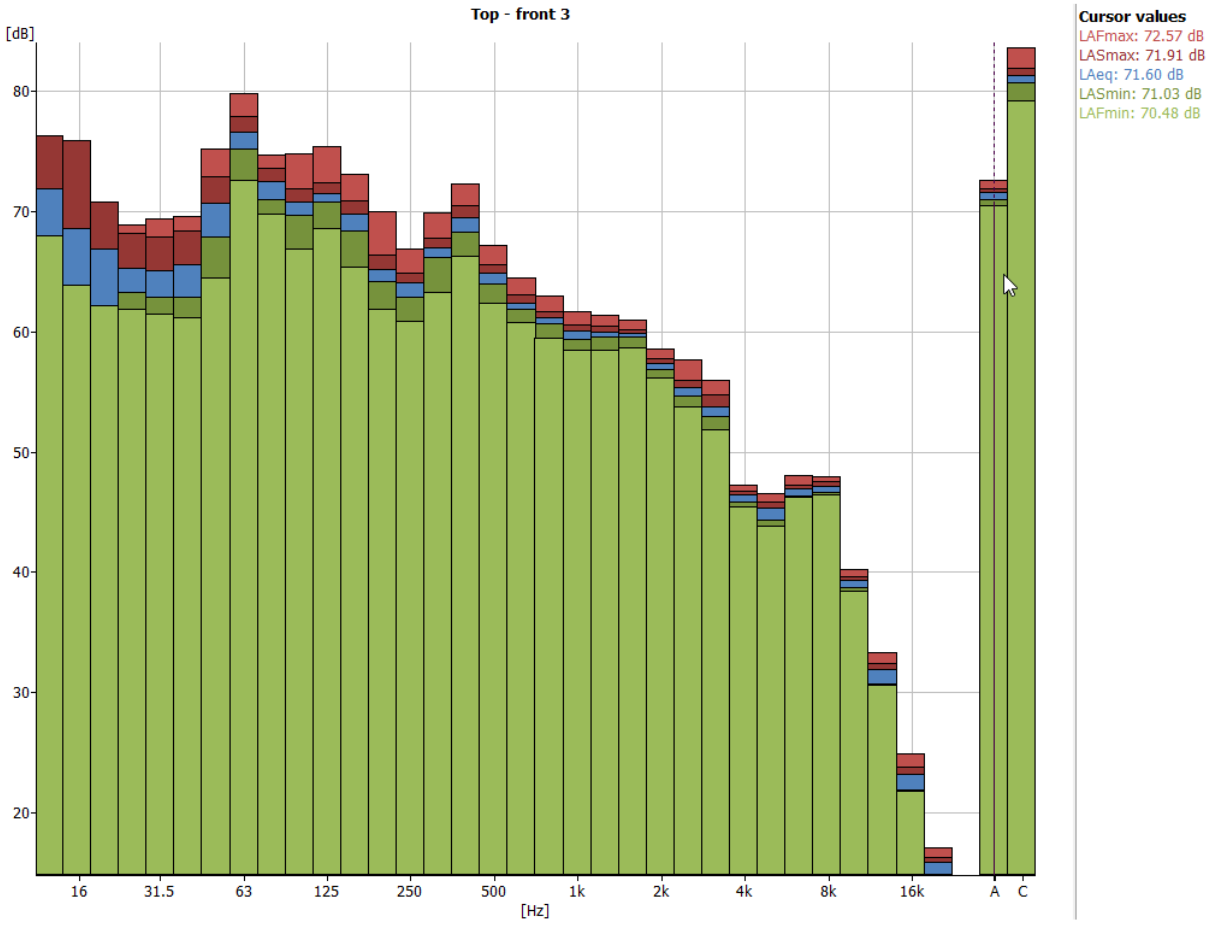

Left - top right
ARCHIVES\Power Electronic\2270\FL\PowerElec\Left - top right
Post Wgt:
View As
Left - top right
[dB]
80
70
60
50
40
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
LAFmax: 81.26 dB
LASmax: 80.65 dB
LAeq: 80.31 dB
LASmin: 79.76 dB
LAFmin: 79.21 dB

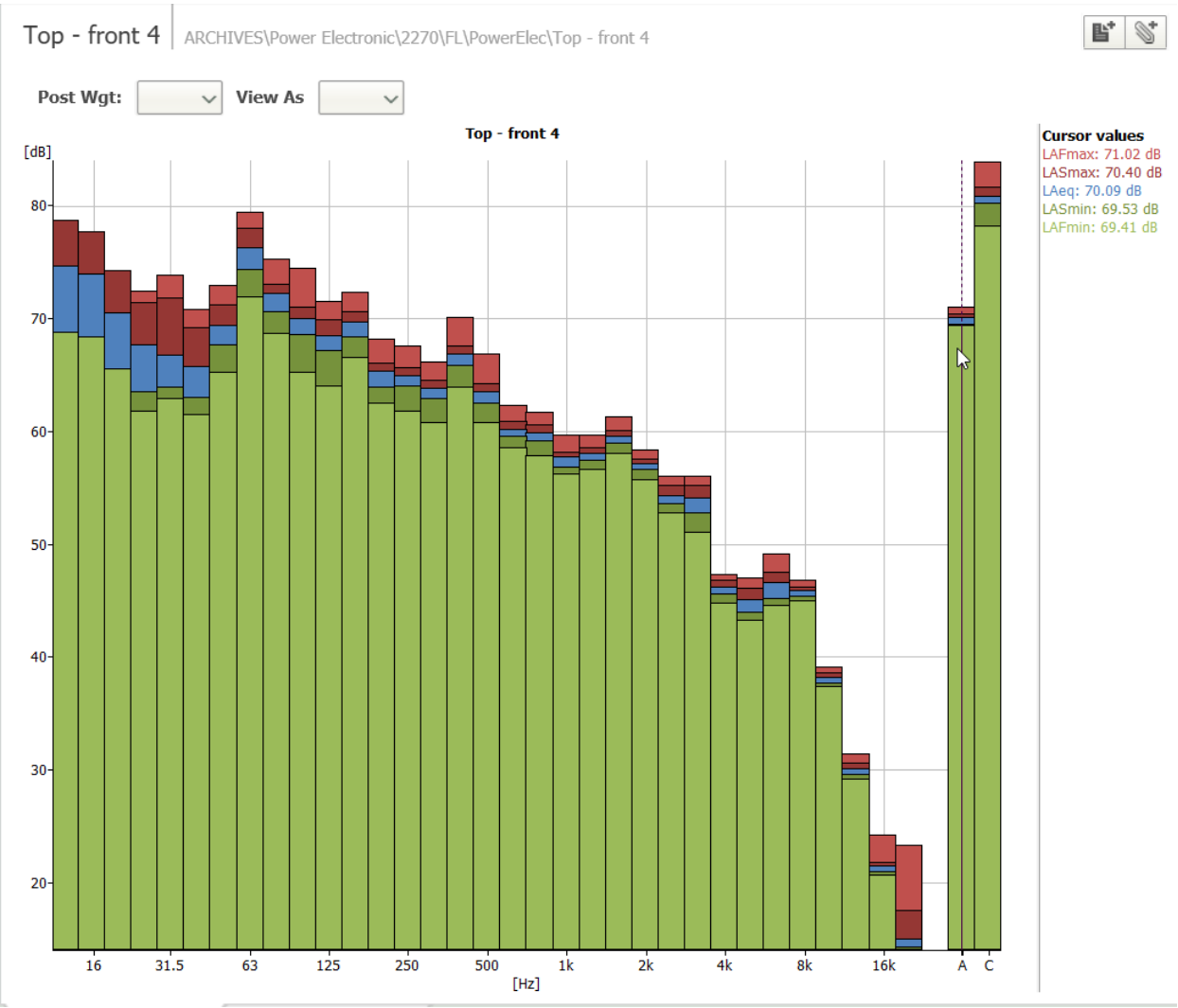

Top - front 1 left side
ARCHIVES\Power Electronic\2270\FL\PowerElec\Top - front 1 left side
Post Wgt:
View As
Top - front 1 left side
[dB]
80
70
60
50
40
30
20
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
LAFmax: 72.46 dB
LASmax: 71.77 dB
LAeq: 71.57 dB
LASmin: 71.14 dB
LAFmin: 70.69 dB
Measured
Calculations


Top - front 2
ARCHIVES\Power Electronic\2270\FL\PowerElec\Top - front 2
Post Wgt:
View As
Top - front 2
[dB]
80
70
60
50
40
30
20
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
LAFmax: 72.37 dB
LASmax: 71.64 dB
LAeq: 71.33 dB
LASmin: 70.70 dB
LAFmin: 70.54 dB

Top - front 3 | ARCHIVES\Power Electronic\2270\FL\PowerElec\Top - front 3

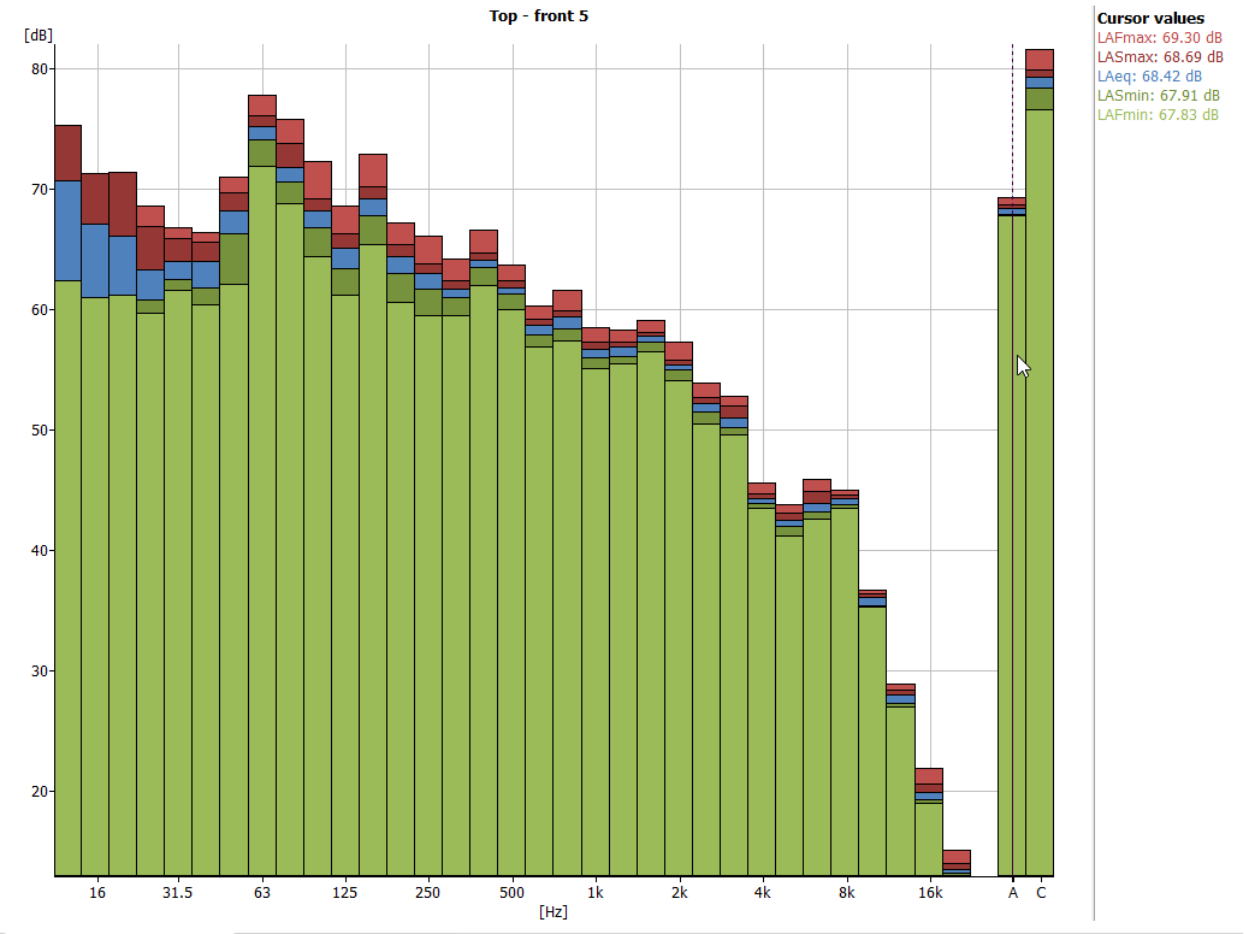
Post Wgt: View As

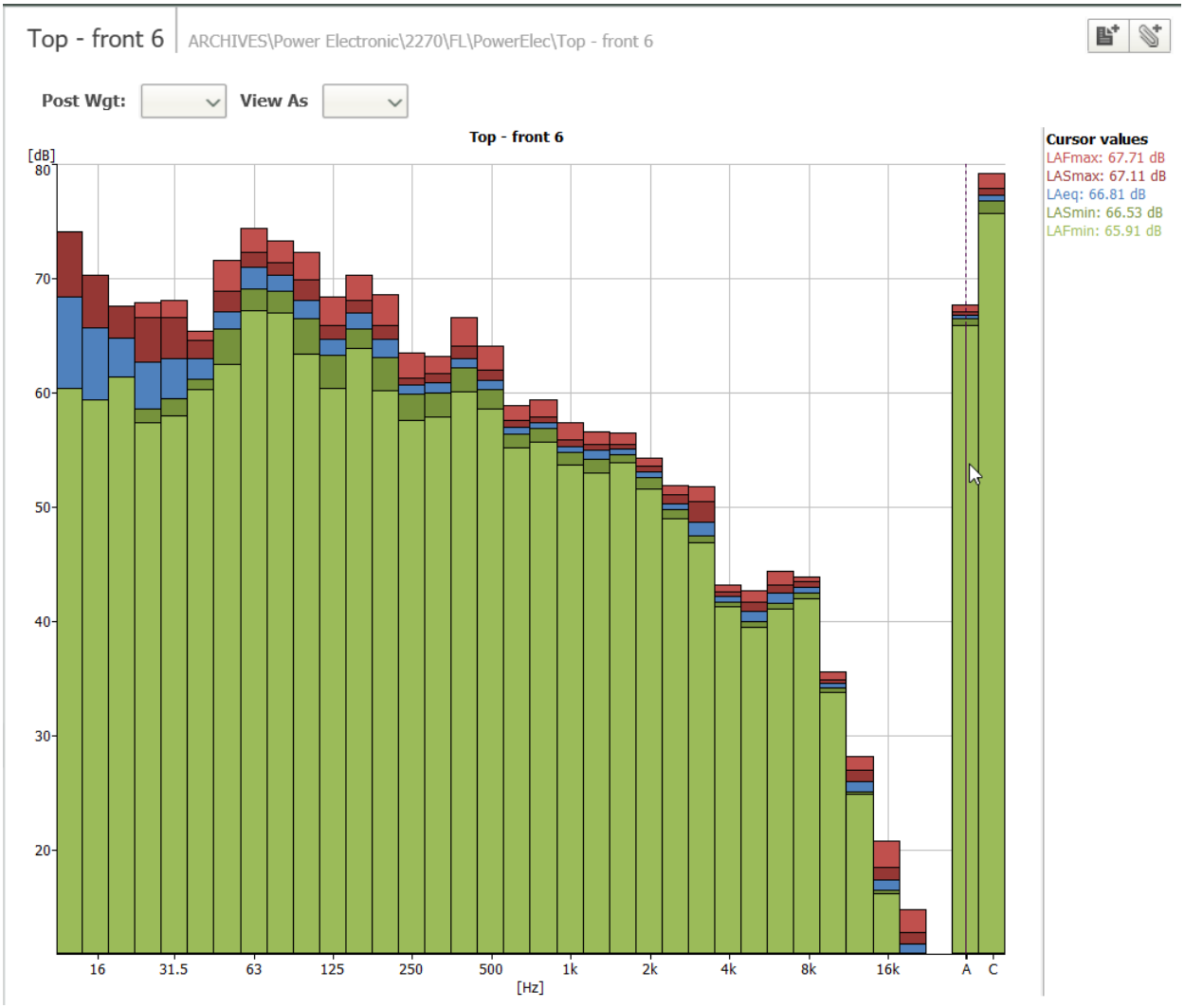



Top - front 4
ARCHIVES\Power Electronic\2270\FL\PowerElec\Top - front 4
Post Wgt:
View As
Top - front 4
[dB]
80
70
60
50
40
30
20
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
LAFmax: 71.02 dB
LASmax: 70.40 dB
LAeq: 70.09 dB
LASmin: 69.53 dB
LAFmin: 69.41 dB

Top - front 5 | ARCHIVES\Power Electronic\2270\FL\PowerElec\Top - front 5

Post Wgt: View As




Top - front 6
ARCHIVES\Power Electronic\2270\FL\PowerElec\Top - front 6
Post Wgt:
View As
Top - front 6
[dB]
80
70
60
50
40
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20
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31.5
63
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500
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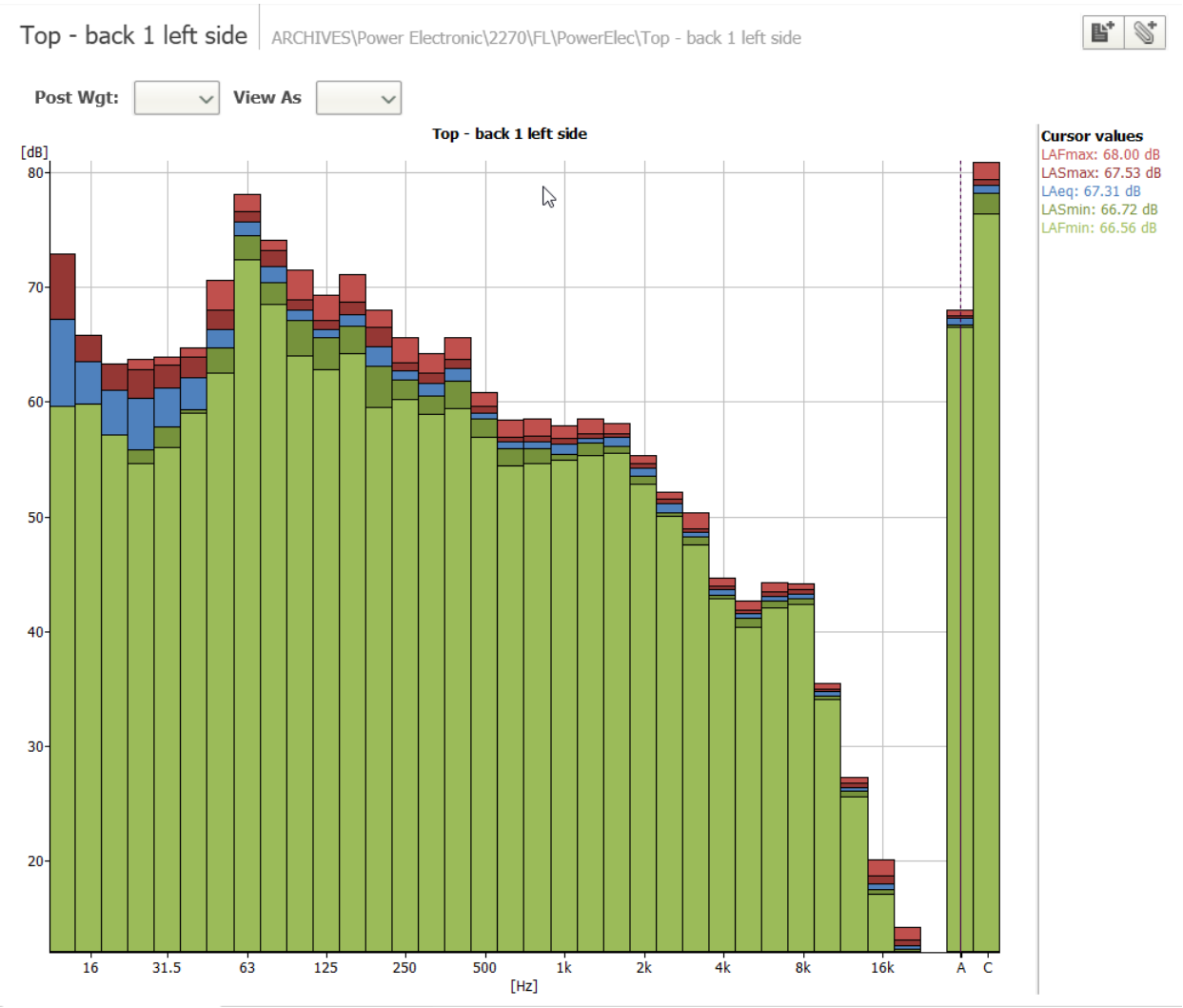
LAeq: 66.81 dB
LASmin: 66.53 dB
LAFmin: 65.91 dB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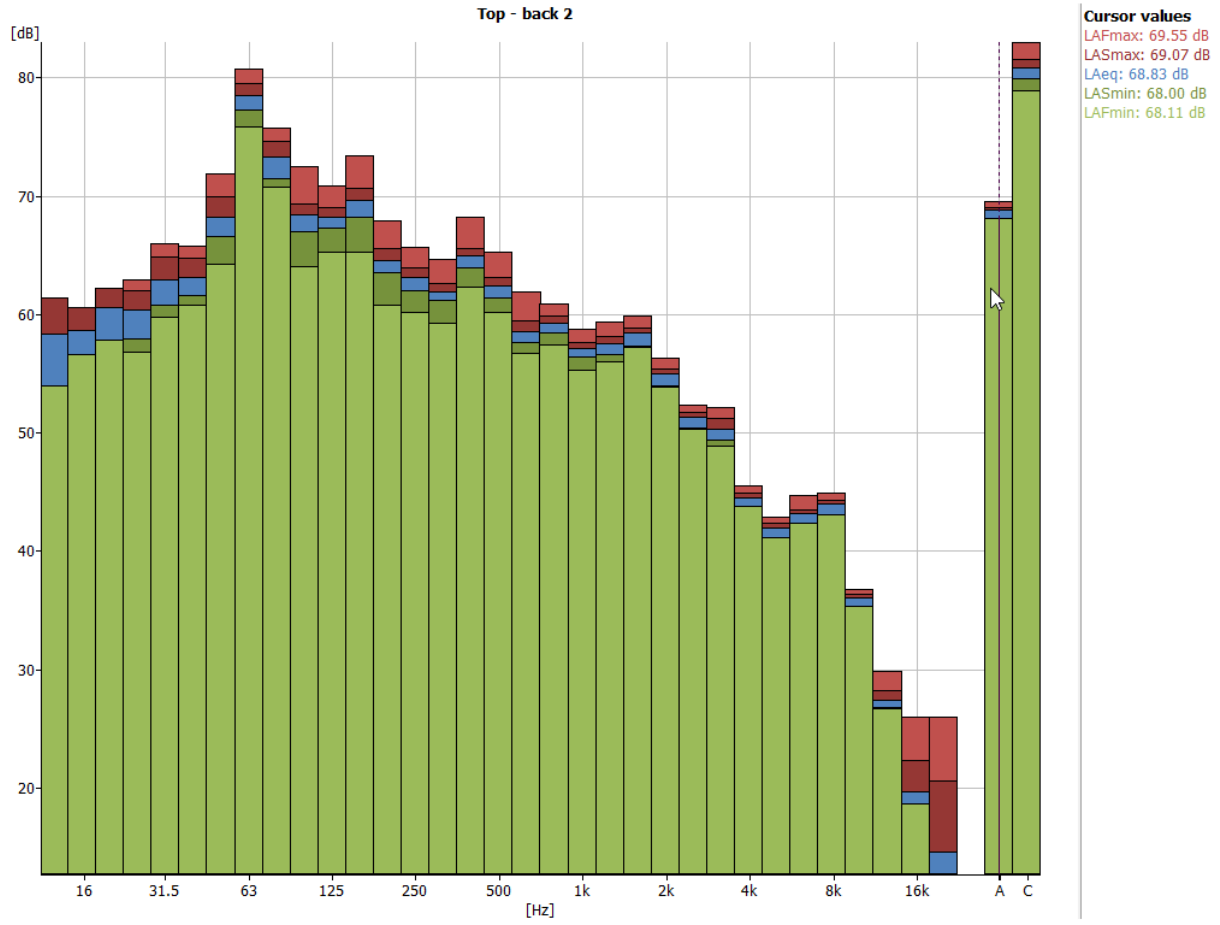

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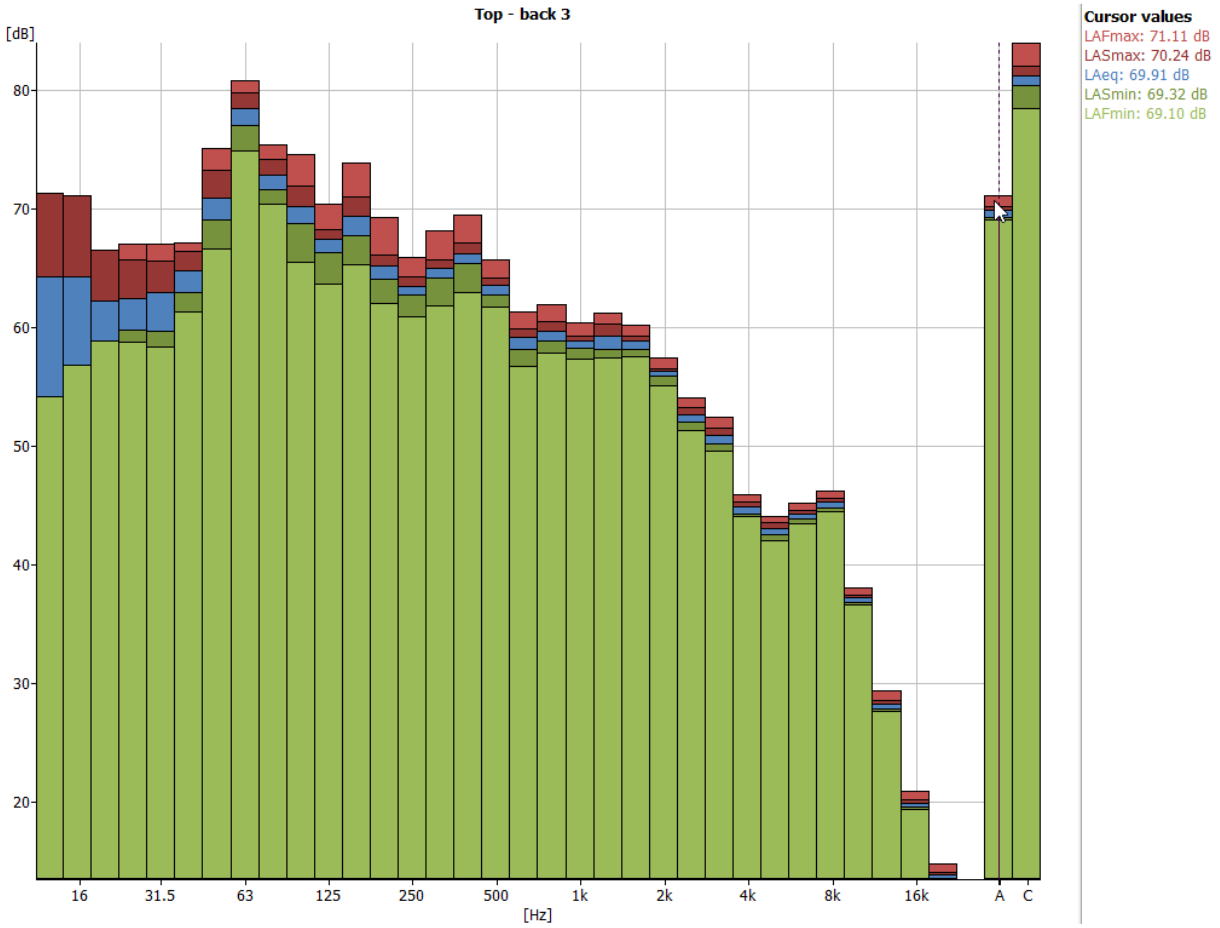

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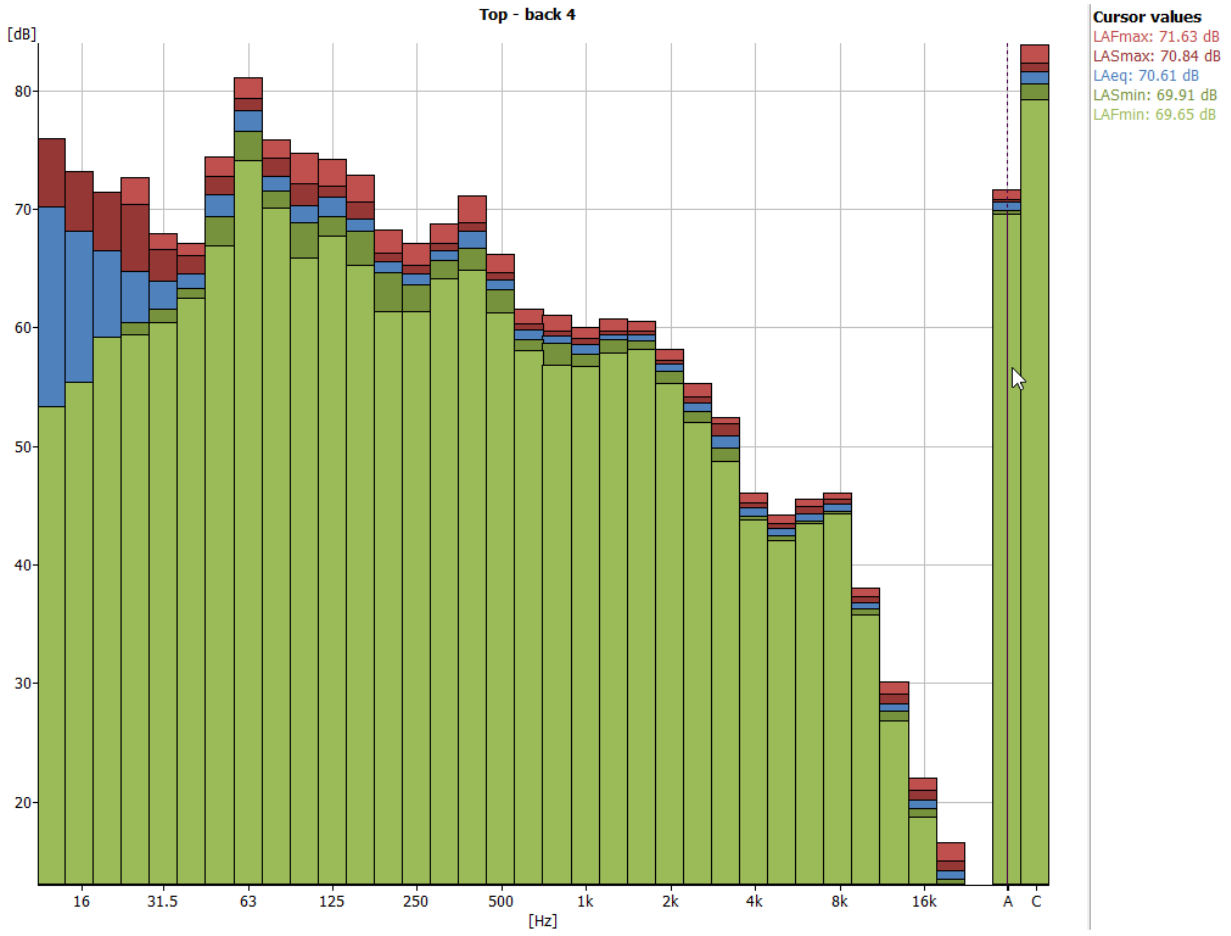

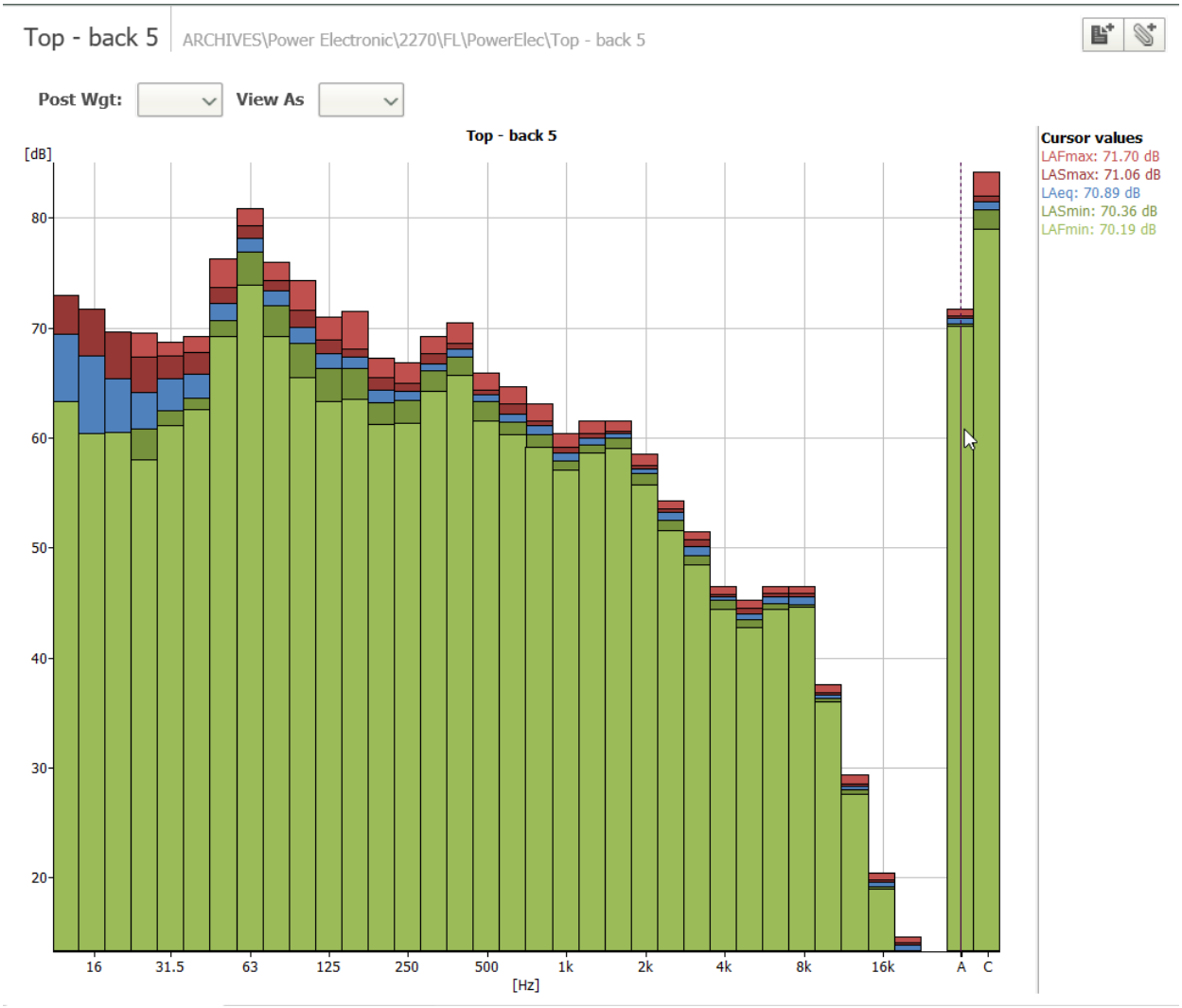
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LAFmin: 70.19 dB

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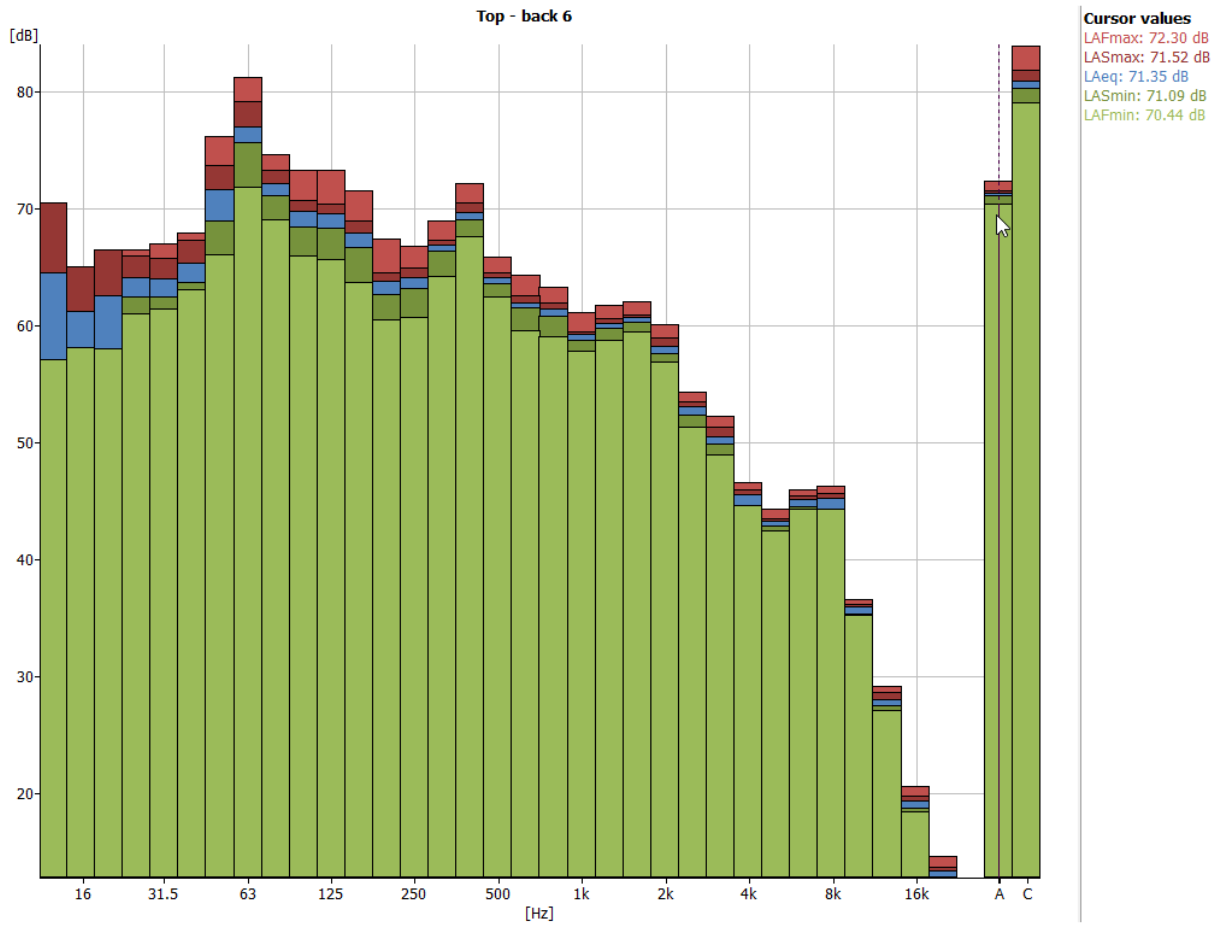


Summary of Results

Measurement Surface	Total Sound Pressure - dBA
Front	80.5
Left	78.9
Back	80.5
Right	69.8
Top	69.9

Please feel free to contact us for any further information concerning the testing that was performed, or this report.

Best Regards,

Richard Salz – CEO

On-Site Acoustic Testing, LLC

Appendix K

Trip Generation – Distribution Memorandum

MEMORANDUM

TO: Virginia Thompson, Key Energy Storage, Inc.
Patti Murphy, Key Energy Storage, Inc.

FROM: Erik Ruehr & Nisha Pathak, VRPA Technologies, Inc.

DATE: October 28, 2022

RE: Key Energy Storage Project
Trip Generation – Distribution Memorandum

VRPA Technologies, Inc. (VRPA) has prepared the following memorandum to document expected trip generation and distribution characteristics of the Key Energy Storage Project in Fresno County.

The remainder of the memorandum includes sections on the project description, trip generation, and trip distribution.

PROJECT DESCRIPTION

The Project site is in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, approximately 7.5 miles north of the City of Avenal, California, and approximately 0.4 miles east of Interstate 5. The Project site is located southwest of the Pacific Gas and Electric (PG&E) Gates Substation along West Jayne Avenue. The Project would be developed on up to 260 acres of 318 acres site comprised of three parcels (Assessor Parcel Numbers [APNs] 085-040-36S, 085-040-37S, and 085-040-58S).

Plans call for implementation of development of approximately 3 GW of energy storage on the Project site and a 500 kV overhead gen-tie line which would extend to the PG&E Gates Substation. Following is more detail from the Project Description:

The Project would include development of an energy storage system facility and associated on-site support facilities including a substation, inverters, collector lines, fencing, access roads, supervisory control and data acquisition (SCADA) system, and other ancillary facilities or equipment. The proposed Project could use any commercially available battery technology or similar technology; however, lithium ion and/or iron flow are the two options being considered at this time. The Project buildout would occur in phases, with construction beginning in 2024.

TRIP GENERATION

To assess the impacts that the project may have on the surrounding roadway network, the first step is to determine project trip generation. Due to the characteristics of the project, it has been determined that the day-to-day operations of the project once it is built will generate insignificant levels of traffic. However, construction of the project is expected to generate a substantial number of trips and an evaluation is considered to be necessary.

4630 W. Jennifer, Suite 105, Fresno, CA 93722 · Phone (559) 271-1200 · Fax (559) 271-1269
www.vrpatechnologies.com

Table 1 of the Project Description (included as an attachment) includes an estimate of auto trips and truck trips that would be generated by different phases of the project. The proposed Project has considered two alternatives for batteries, lithium ion and/or iron flow battery type. Regardless of the battery type, total number of daily construction trips during the maximum phases are equal in both options. The maximum level of construction activity in Lithium-Ion Battery Option will occur during Phases 3 and 4 with the Energy Storage Enclosure Installation generating an average 300 daily auto trips and 80 daily truck trips over a 76-week period. Similarly, maximum level of construction activity in Lithium-Ion and Iron Flow Battery Option will occur during Phase 3 with the Energy Storage Enclosure Installation generating an average of 300 daily auto trips and 80 daily truck trips are expected over a 92-week period. Since each alternatives has equal number of maximum construction trips, trip generation will remain same.

The determination of AM and PM peak hour trips for trucks and autos was based on the Manufacturing category (Land Use Code 140) from the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition). The expected trip generation is shown in Exhibit 1.

TRIP DISTRIBUTION

The project will take access to the street system from the south side of Jayne Avenue east of Lake Avenue. Trips were distributed to the roadway system based on analysis of potential origins and destinations of construction traffic and prevailing traffic patterns. The resulting traffic project AM and PM peak hour traffic is shown in Exhibit 2 for the peak construction scenario and the average construction scenario, respectively. The AM and PM peak hour trips shown in Exhibit 2 are expressed in terms of passenger car equivalents with each truck being treated as three autos.

Please feel free to contact me if you have any questions. We can be reached by email at npathak@vrpatechnologies.com, eruehr@vrpatechnologies.com or by phone at 858/361-7151

Exhibit 1
Key Energy Storage Project
Trip Generation at Maximum Level of Construction Activity

Autos

								AM Peak Hour Trips				PM Peak Hour Trips	
Land Use	ITE Code (1)	Units	Size	Daily Trip Generation Rate	Daily Trips	AM Peak Hour rate	In:Out Split	In	Out	PM Peak Hour rate	In:Out Split	In	Out
Energy Storage Facility	140	Employees	150	2.00	300	0.40	73:27	44	16	0.41	37:63	23	39
					300		Subtotal	44	16		Subtotal	23	39
							Total trips	60			Total trips	62	

Trucks

								AM Peak Hour Truck Trips				PM Peak Hour Truck Trips	
Land Use	ITE Code (1)	Units	Size	Daily Trip Generation Rate	External Daily Trips	AM Peak Hour rate	In:Out Split	In	Out	PM Peak Hour rate	In:Out Split	In	Out
Energy Storage Facility	140	Employees	150	0.53	80	0.03	59:41	3	2	0.02	37:63	1	2
					80		Subtotal	3	2		Subtotal	1	2
							Total trips	5			Total trips	3	

Total Vehicles

								AM Peak Hour Trips				PM Peak Hour Trips	
Land Use	ITE Code (1)	Units	Size	Daily Trip Generation Rate	External Daily Trips	AM Peak Hour rate	In:Out Split	In	Out	PM Peak Hour rate	In:Out Split	In	Out
Energy Storage Facility	140	Employees	150	N/A	380	N/A	N/A	47	18	N/A	N/A	24	41
					380		Subtotal	47	18		Subtotal	24	41
							Total trips	65			Total trips	65	

Passenger Car Equivalents (2)

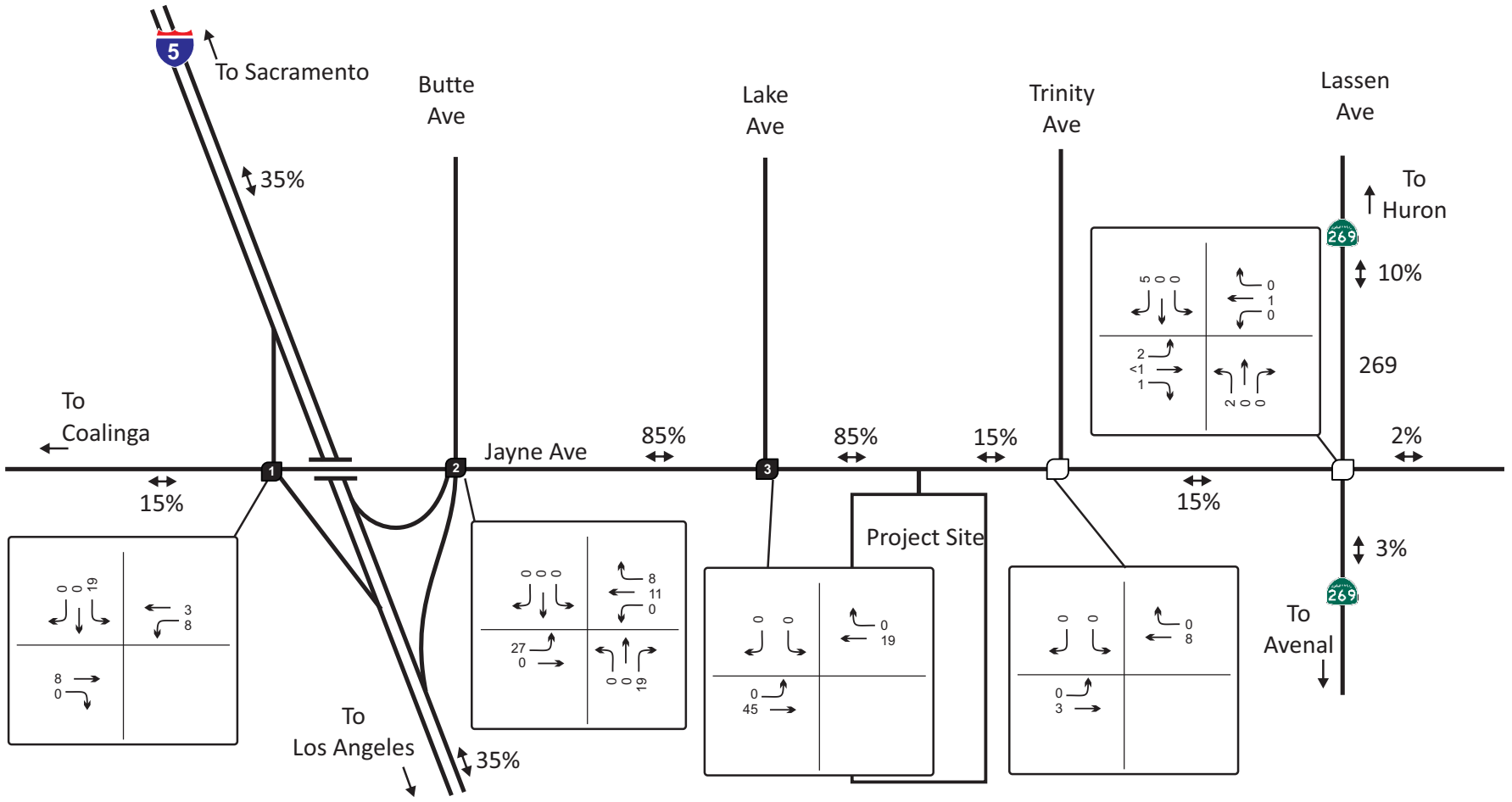
								AM Peak Hour Trips				PM Peak Hour Trips	
Land Use	ITE Code (1)	Units	Size	Daily Trip Generation Rate	External Daily Trips	AM Peak Hour rate	In:Out Split	In	Out	PM Peak Hour rate	In:Out Split	In	Out
Energy Storage Facility	140	Employees	150	N/A	540	N/A	N/A	53	22	N/A	N/A	27	46
					540		Subtotal	53	22		Subtotal	27	46
							Total trips	75			Total trips	72	

Notes:
(1) Daily total trip generation for autos and trucks was based on the project description. Peak hour trips were based on the Manufacturing category (Land Use Code 140) from the Institute of Transportation engineers Trip Generation Manual, 11th Edition.
(2) Passenger car equivalents were estimaed to be 1.0 for autos and 3.0 for trucks.

Key Energy Storage Project

AM Peak Hour Project Trips - Maximum Level of Construction Activity

Exhibit 2a



LEGEND

xx% Percent of Project Trips

xx Peak Hour Trips

Lane Geometry

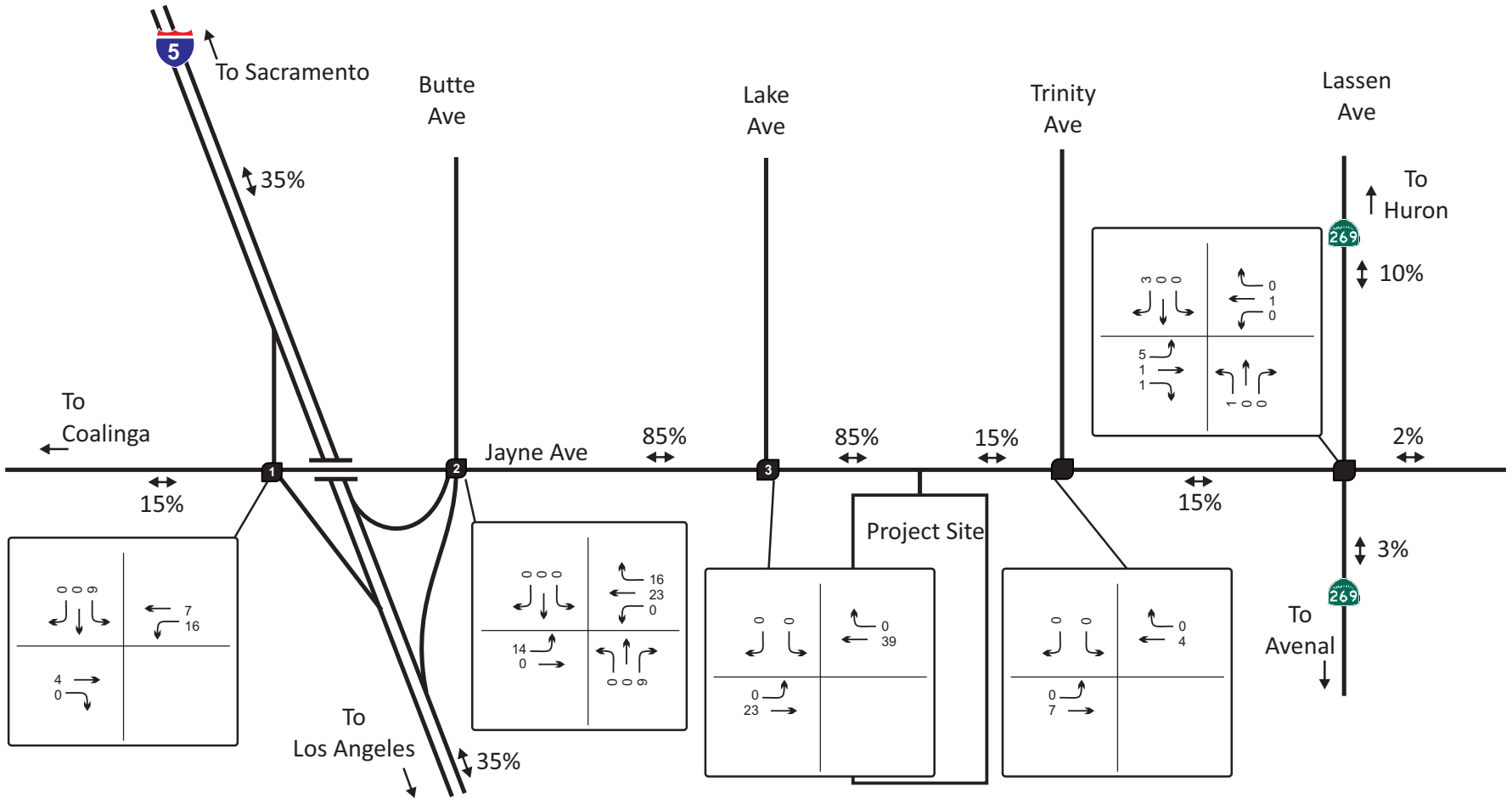
2 Study Intersection

VRPA TECHNOLOGIES, INC.

Key Energy Storage Project

PM Peak Hour Project Trips - Maximum Level of Construction Activity

Exhibit 2b



ATTACHMENT

PROJECT DESCRIPTION – TABLE !

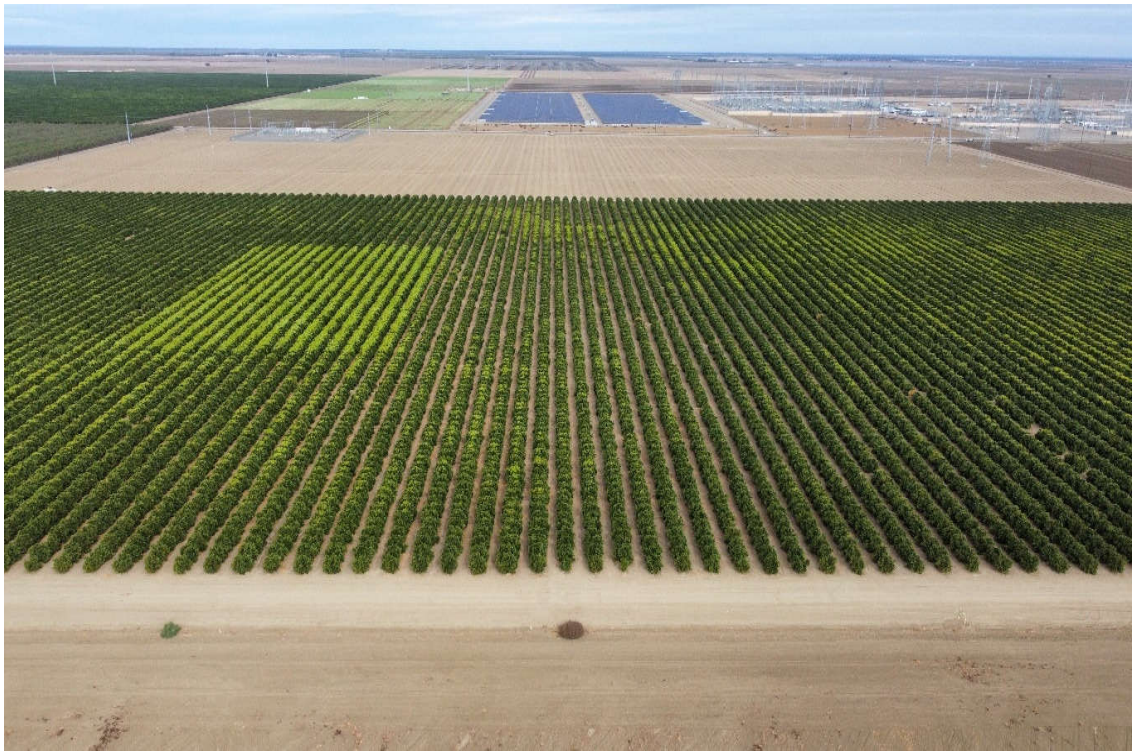
Table 1 Construction Vehicle Trips – Lithium-Ion Battery Option

Construction Phase	Phase Duration (weeks)	Construction Workforce (Number of Employees)	One-Way Vehicle Trips		
			Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips
Phase 1 (34.5 acres)					
Site Preparation	2	40	80	4	0
Project Substation Site Preparation	4	20	40	8	0
Grading	4	40	80	4	0
Project Substation Site Grading	2	20	40	8	0
Energy Storage Enclosure Installation	25	120	240	40	0
Project Substation Installation	16	60	120	80	0
Gen-tie Foundation and Tower Erection	1	40	80	8	0
Gen-Tie Stringing and Pulling	2	40	80	8	0
Phase 2 (27.75 acres)					
Site Preparation	2	40	80	4	0
Grading	4	40	80	4	0
Energy Storage Enclosure Installation	66	120	240	40	0
Phase 3 (76 acres)					
Site Preparation	4	40	80	6	0
Grading	8	40	80	6	0
Energy Storage Enclosure Installation	76	150	300	80	0
Phase 4 (121.75 acres)					
Site Preparation	4	60	120	8	0
Grading	8	60	120	8	0
Energy Storage Enclosure Installation	76	150	300	80	0

Table 2 Construction Vehicle Trips – Lithium Ion and Iron Flow Battery Option

Construction Phase	Phase Duration (weeks)	Construction Workforce (Number of Employees)	One-Way Vehicle Trips		
			Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips
Phase 1 (70 acres)					
Site Preparation	4	40	80	4	0
Project Substation Site Preparation	4	20	40	8	0
Grading	8	40	80	4	0
Project Substation Site Grading	2	20	20	4	0
Energy Storage Enclosure Installation	67	120	240	40	0
Project Substation Installation	16	60	120	80	0
Gen-tie Foundation and Tower Erection	1	40	80	8	0
Gen-Tie Stringing and Pulling	2	40	80	8	0
Phase 2 (54.25 acres)					
Site Preparation	2	40	80	4	0
Grading	4	40	60	4	0
Energy Storage Enclosure Installation	74	120	240	40	0
Phase 3 (135.75 acres)					
Site Preparation	4	60	120	8	0
Grading	8	60	120	8	0
Energy Storage Enclosure Installation	92	150	300	80	0

Appendix L
Water Supply Assessment



Key Energy Storage Project

Water Supply Assessment

prepared for

Key Energy Storage, LLC
700 Universe Boulevard
Juno Beach, Florida 33408
Attn: Virginia Thompson / Patti Murphy

prepared by

Rincon Consultants, Inc.
7080 North Whitney Avenue, Suite 101
Fresno, California 93720

January 2023

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

Table of Contents

Tables

Figures

Acronyms

AE	Agricultural Exclusive
AF	acre-feet
AFY	acre-feet per year
APN	Assessor Parcel Number
ASR	aquifer storage and recovery
BMP	Best Management Practice
CalEEMod	California Emissions Estimator Model
CEQA	California Environmental Quality Act
Coalition	Westlands Water Quality Coalition
CPUC	California Public Utilities Commission
CVP	Central Valley Project
DWR	Department of Water Resources
GSA	Groundwater Sustainability Agency
GW	gigawatt
ILRP	Irrigated Lands Regulatory Program
kV	kilovolt
MAF	million acre-feet
PG&E	Pacific Gas and Electric
PMAs	projects and management actions
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCADA	supervisory control and data acquisition
SGMA	Sustainable Groundwater Management Act
SWP	State Water Project
SWRCB	State Water Resources Control Board
TDS	Total Dissolved Solids
USBR	U.S. Bureau of Reclamation
UWMP	Urban Water Management Plan
WSA	Water Supply Assessment
WSGM	Westside Groundwater Model
WWD	Westlands Water District

1 Introduction

In 2001, California adopted Senate Bill (SB) 610, which amended California Water Code to require detailed analysis of water supply availability for certain types of development projects. The primary purpose of SB 610 is to improve the linkage between water availability and land use planning by ensuring greater communication between water providers and local planning agencies and ensuring that land use decisions for large development projects are fully informed as to whether sufficient water supplies are available to meet project demands. Certain types of development projects are required to provide detailed water supply assessments to planning agencies. Any proposed project which is subject to the California Environmental Quality Act (CEQA) and would demand more than 75 acre-feet per year (AFY) of water, or an amount of water equivalent to, or greater than, the amount of water required by a residential development with 500 or more dwelling units, is subject to SB 610 and is required to prepare a Water Supply Assessment (WSA).

This WSA has been prepared for the Key Energy Storage Project ("proposed project"), although the project does not meet the threshold requirements for a WSA as defined in SB 610. The project details are discussed in Section 2, *Project Description* which includes calculation of the water supply needs of the proposed project. The applicability of SB 610 to the proposed project is determined in Section 3, *Senate Bill 610 Applicability.* The proposed project does not meet any of the thresholds to trigger the requirement for a WSA; however, this WSA has been conservatively prepared for the project, to support full disclosure. Section 4, *Water Supply Overview, includes* an analysis of the sources and management of the water supply that would be necessary for implementation of the proposed project and Section 5, *Water Supply Reliability,* includes a discussion and analysis of the reliability of those supplies, including under future conditions of reduced supply due to drought, is included in.

This WSA has been prepared to inform decisions from project applicants, local and regional agencies, and the public about the availability of a water supply to support the proposed project in the decades to come after implementation. This document is not intended to address any CEQA impact issues; those issues are discussed in other environmental documents for the proposed project. Rather, this document is intended to provide a baseline analysis of the water supplies available to the project and of its impact upon those supplies.

2 Project Description

Key Energy Storage, LLC (Applicant) proposes to construct and operate the Key Energy Storage Project on up to 260 acres within the 318-acre project site in unincorporated Fresno County. The project would include development of an energy storage system facility and associated on-site support facilities including a substation, inverters, collector lines, fencing, access roads, supervisory control and data acquisition (SCADA) system, and other ancillary facilities or equipment. The energy storage facility is anticipated to consist of batteries with the potential to store approximately three (3)-gigawatt (GW) of energy.[1] The project would also include a 500-kilovolt (kV) overhead generation tie line (gen-tie line), which would extend north to the adjacent Pacific Gas and Electric (PG&E) Gates Substation.

Buildout of the project would occur in phases, as discussed below in Section 2.3, *Proposed Project Characteristics*. As described therein, two options are under consideration for the battery technology; one option would implement a lithium-ion battery, and the second option would implement iron flow and lithium ion batteries. Under either option, operational activities would be the same. However, construction phasing would differ between the two options; therefore, construction water demands would differ slightly between the two options. Therefore, this WSA considers the water demand for each option. Operation of the battery energy storage technology would not introduce a water demand. However, the project would include an operations and maintenance (O&M) building, which would include kitchen and lavatory facilities, the use of which would introduce a water demand. However, the project would largely be operated remotely, and new on-site water demand during operation would be negligible.

The project would support state policies necessary to improve the reliability of California's energy grid. California has taken action to advance energy storage, including the passage of Assembly Bill 2514 and the resulting California Public Utilities Commission (CPUC) decision for energy storage procurement targets for each of the investor-owned utilities. Locally, Fresno County provides a large share of the region's renewable energy. The project would substantially increase local energy storage capacity and address the limitations of the electric grid and the increasing demand for renewable energy. Layering energy storage systems into the energy grid improves the reliability of the grid and makes it more resilient to disturbances and peaks in energy demand. The project and other energy storage system projects are used to supply power during brief disturbances, reduce outages and associated impacts to the community, and substitute for certain large footprint transmission and distribution upgrades.

2.1 Project Location

The project site is located in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, 7.5 miles north of the City of Avenal, and 0.4 mile east of Interstate 5. The project site is located southwest of the PG&E Gates Substation along West Jayne Avenue. The site is approximately 318 acres in total size; however, the project development would be limited to up to 260 acres within the total 318 acres. The project site is bounded by West Jayne Avenue to the north

[1] The megawatt capacity is an estimate based on currently available technology as the energy storage industry has quickly evolved in the last few years and is anticipated to continue to evolve. While the components and total megawatts of the project may change, the overall size of the proposed development (up to 260 acres) would remain consistent.

and unpaved agricultural access roads to the east, south, and west. Figure 1 shows the regional location and Figure 2 depicts the proposed project site.

2.2 Existing Project Site Characteristics

The project site has historically been used for irrigated agriculture production, and is flat in topography. There is active agricultural production occurring on the northern half of the project site (APN 085-040-58S). The southern half of the project site (APNs 085-040-36S and 085-040-37S) are currently fallow (left unused for agricultural purposes). There is existing energy transmission infrastructure within the project site; the northern portion of the project site currently contains an overhead gen-tie line along the western boundary and a high voltage transmission line running north-to-south in the eastern portion of the site. In addition, the southern portion of the project site contains high voltage transmission lines running north-to-south in the eastern portion of the site.

2.2.1 Current Land Use Designation and Zoning

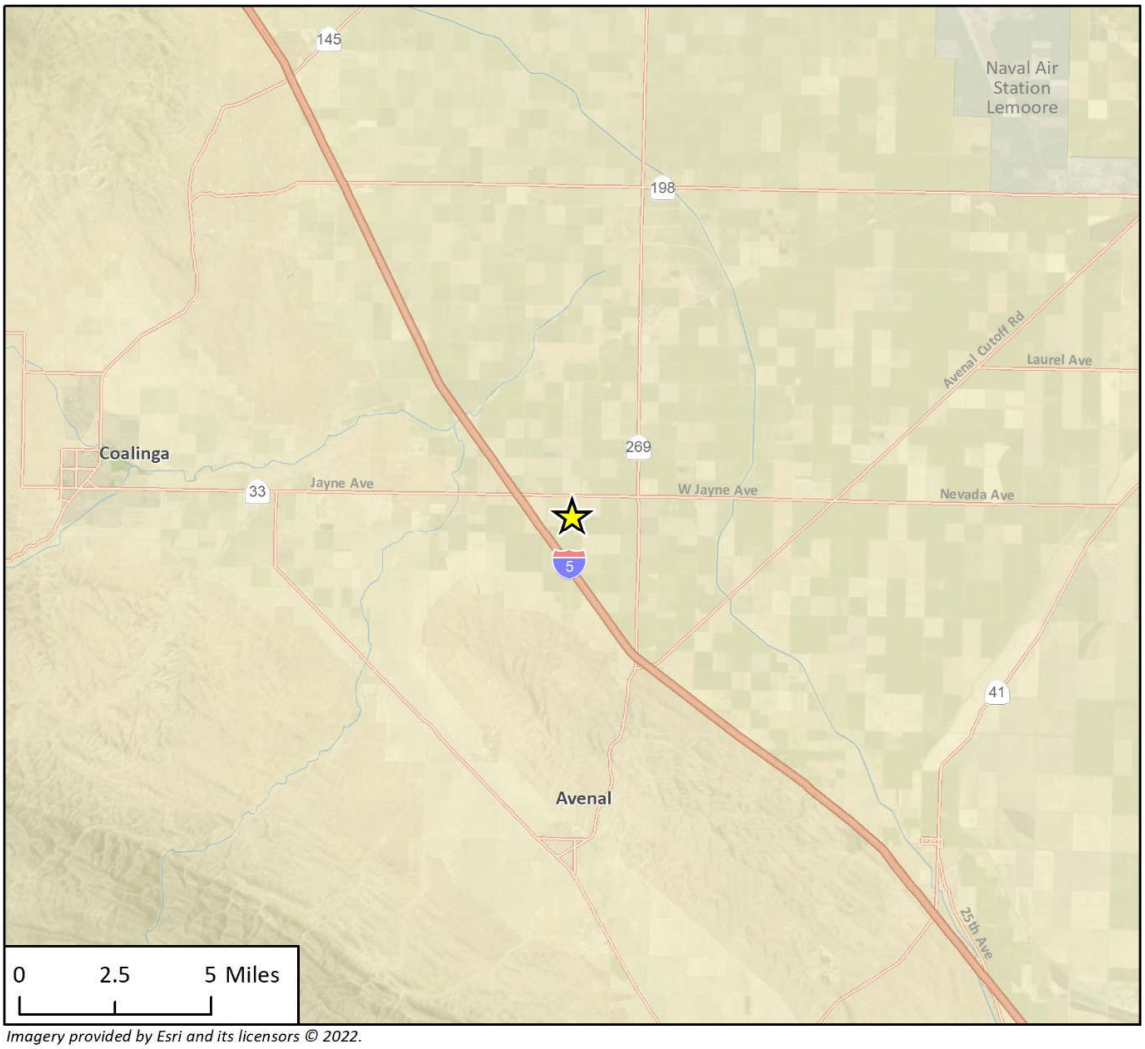
The Fresno County General Plan land use designation for the project site is Agriculture. The project site is in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District. The entire project site is designated as Prime Farmland and is covered by Williamson Act Contracts.

2.2.2 Surrounding Land Uses

The project site is generally surrounded by agricultural uses to the west, south, and east. Industrial land uses in the form of solar facilities are located to the north and southwest of the project site. The PG&E Gates Substation is located to the northeast of the project site. A small substation is also located immediately adjacent to the northwest project site boundary. The project site is bound by West Jayne Avenue to the north and unpaved agricultural access roads to the east, south, and west.

Surrounding development includes mostly solar facilities and distant small cities within Fresno County. These small cities are mostly comprised of single-family houses, commercial retail, industrial facilities, parks, and other public services buildings. The City of Huron is located approximately five miles northeast of the project site, the City of Coalinga approximately 11.5 miles west of the project site, and the City of Avenal approximately seven miles south of the project site.

Figure 1 Proposed Project Regional Location



Imagery provided by Esri and its licensors © 2022.

Project Location

N

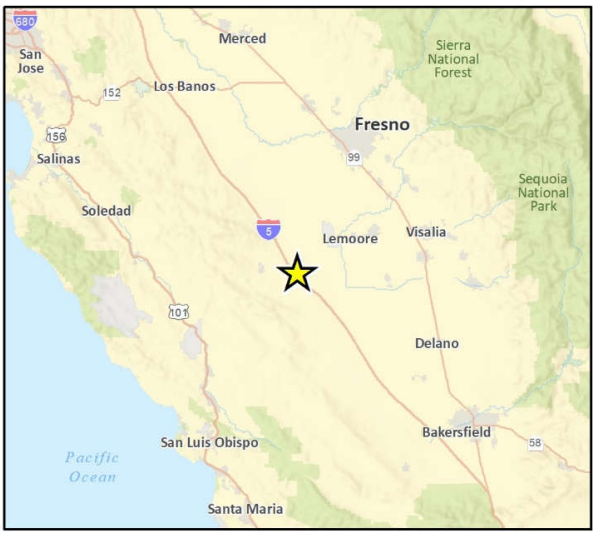
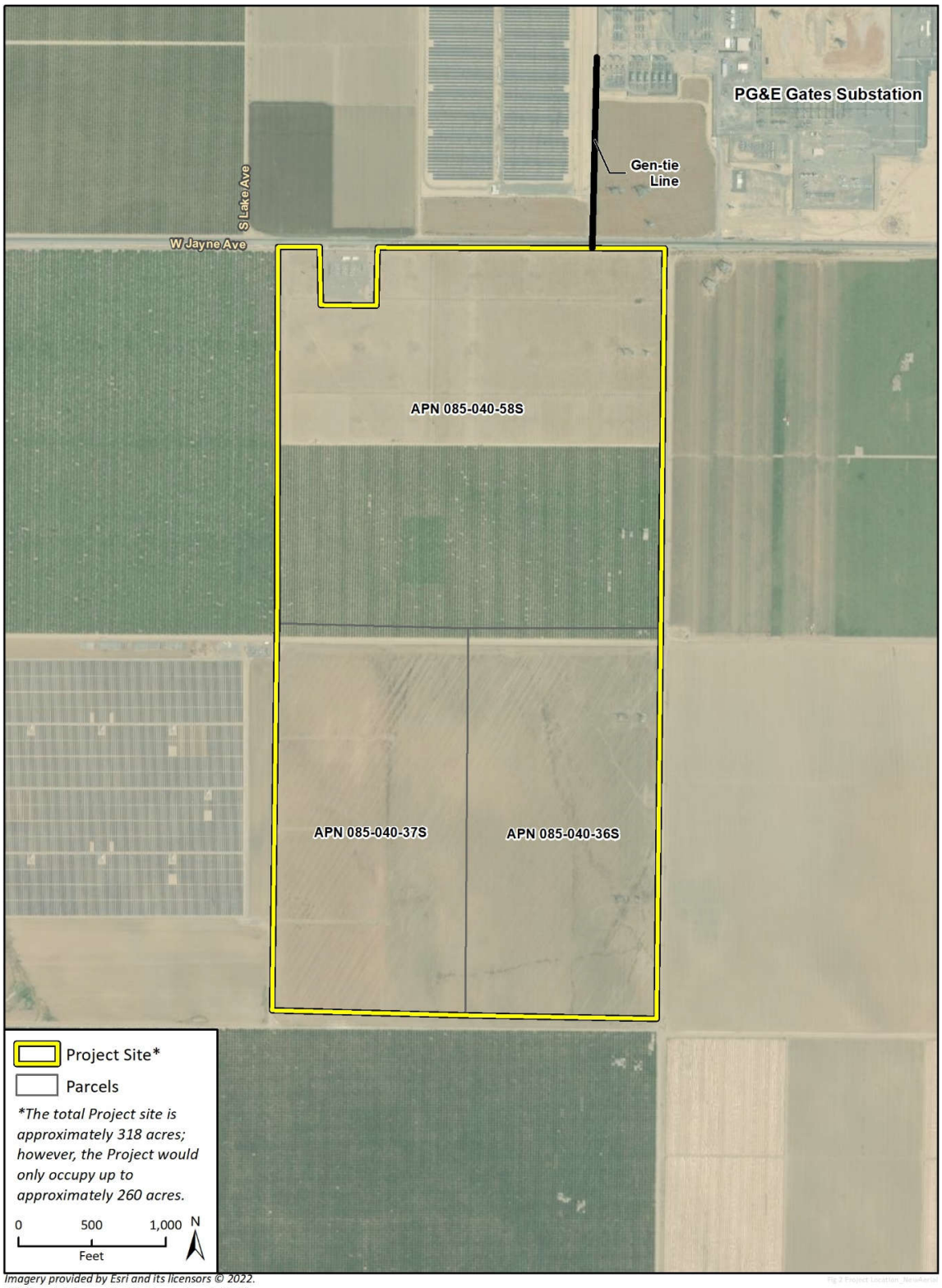


Figure 2 Proposed Project Site and Project Parcel Map



2.3 Proposed Project Characteristics

The project would occupy up to up to 260 acres of the 318-acre site. There are multiple parcels within the project site; the proposed development would occur on approximately 128 acres within the northern parcel (Assessor Parcel Number [APN] 085-040-58S) and up to 80 acres within the two 80-acre southern parcels (APNs 085-040-36S and 085-040-37S).

The project would involve the development of approximately three GW of energy storage and a 500-kV overhead gen-tie line which would extend to the PG&E Gates Substation north of the project site. The Project would include a lot line adjustment to merge parcels identified by APNs 085-040-36S, 085-040-37S, and 085-040-58S. Other components of the project include a collector substation, inverters, collector lines, fencing, access roads, SCADA system, and other ancillary facilities and equipment. Buildout of the project would occur in phases, with construction beginning in 2024.

The total megawatts and the timing of when phases would be online are approximate. The selection of batteries that would be used is also not yet finalized; as such, the capacity and size of the containers may change, as may the ratings of the conversion equipment (inverters and transformers). The number of containers, inverters, and transformers and expected total megawatt capacity are an estimate based on currently available technology as the energy storage industry has quickly evolved in the last few years and is anticipated to continue to evolve. While the components and total megawatts of the project may change, the overall size of the project (up to 260 acres within the overall 318-acre site) would remain constant. Of these 260 acres, approximately 208 acres are anticipated to be used for the permanent project footprint and 52 additional acres are anticipated to be used for construction and to provide additional flexibility.

The proposed project would include installation of stormwater facilities consisting of a drainage swale and two retention basins, which are designed to slow the rate of stormwater movement across the project site, thereby reducing or avoiding associated impacts such as related to erosion and sedimentation. These onsite stormwater detention and treatment systems would be provided to meet County and State Water Resources Control Board (SWRCB) requirements. A drainage swale would be installed along the eastern project boundary, and retention basins would be installed at the southeast corner of parcel 085-040-58S and the southeast corner of parcel 085-040-37S. In addition to providing stormwater management, the detention basins would also benefit to groundwater supply, because stormwater trapped in the basins would infiltrate the ground to the underlying groundwater basin. The proposed project does not include landscaping, and would not introduce new long-term water demands related to landscaping. The project would include an O&M building, which would include kitchen and lavatory facilities.

2.4 Water Demands

Construction

Water demand during construction was calcuated using a water demand factor of 1.26 AFY/acre, which was determined based upon water demand for other battery energy storage projects provided by Key Energy Storage, LLC. As noted in the introduction to this Project Description, two options for the battery technology are under consideration for the project.

Water demand during construction would largely be related to compliance with the National Pollutant Discharge Elimination System (NPDES) program's Construction General Permit (NPDES No.

CAS000002), which requires BMPs such as water application for dust suppression for any project disturbing more than one acre. The San Joaquin Valley Air Pollution Control District also requires water application for dust control under Rule 8021, as detailed in the *Air Quality and Greenhouse Gas Study* for the Key Energy Storage Project. Water would be required for site preparation including grading for compaction and other grading processes.

The estimated water demands for each option are provided in the tables below. Table 1 shows the anticipated water demand for the Lithium Ion Battery Option, and Table 2 shows the anticipated water demand for the Iron Flow and Lithium Ion Battery Option.

Table 1 Lithium Ion Battery Option - Construction Water Demand

Phase	Power at Point of Interconnection (MW)	Months	Acres	Water Demand (AFY)[1]	Total Water Demand (AF)
Phase 1	300	14	34.5	43.5	50.7
Phase 2	500	18	27.75	35.0	52.4
Phase 3	1,000	22	76	95.8	175.6
Phase 4	1,200	22	121.75	153.4	281.2
Totals	**3,000**	**76**	**260**	**N/A**	**560.0**

[1] A water demand factor of 1.26 AFY/acre was applied to this project, and was determined based upon water demand for other battery energy storage projects provided by Key Energy Storage, LLC.

As shown in Table 1, under the Lithium Ion Battery Option, construction would occur over four phases spanning 76 months (6.3 years), with a total water demand of 560 acre-feet. Annual water demands would vary, depending on the given phase. As shown above, construction of Phase 1 would have a water demand of 50.7 AF (over 14 months), Phase 2 would demand 52.4 AF (over 18 months), Phase 3 would demand 175.6 AF (over 22 months), and Phase 4 would demand 281.2 AF (over 22 months). Under the Lithium Ion Battery Option, during any given year, the project's construction water demand would not exceed 153.4 AFY.

Table 2 Iron Flow and Lithium Ion Option - Construction Water Demand

Phase	Power at Point of Interconnection (MW)	Months	Acres	Water Demand (AFY)[1]	Total Water Demand (AF)
Phase 1	300	24	70	88.2	176.2
Phase 2	700	20	54.25	68.36	113.9
Phase 3	2,000	24	135.75	171.0	342.0
Totals	**3,000**	**68**	**260**	**N/A**	**632.1**

[1] A water demand factor of 1.26 AFY/acre was applied to this project, and was determined based upon water demand for other battery energy storage projects provided by Key Energy Storage, LLC.

As shown in Table 2, under the Iron Flow and Lithium Ion Battery Option, construction would occur over three phases spanning 68 months (5.7 years), with a total water demand of 632.1 acre-feet. As with the Lithium Ion Battery Option, construction water demands would vary by year, depending upon the phase of implementation. This option would occur in fewer phases, but would have a higher water demand, by approximately 72 acre-feet. Under this option, Phase 1 would have a

demand of 176.2 AF (over 24 months), Phase 2 would have a demand of 113.9 AF (over 20 months), and Phase 3 would have a water demand of 342 AF (over 24 months). During any given year, construction water demand would not exceed 171.0 AFY under the Iron Flow and Lithium Ion Option.

Under either option, construction of each phase would not overlap with any other phases, and the associated water demands would also not overlap. Following the completion of construction, operational water demands of the project would be the same for both battery options.

Operation

Operation and maintenance of the project would be conducted remotely, with occasional on-site maintenance conducted on an as-needed basis. For the purposes of quantifying project characteristics to inform this analysis, it is assumed that routine maintenance activities would require one to two staff on-site per week, while annual maintenance would be conducted over one week with up to eight staff on-site during that time. Operational water demands would be specific to sanitary uses at the O&M building, as there would not be any landscaping requiring water, and no other aspect of project operations would introduce water demands. Operational water demand would be the same for the Lithium Ion Battery Option and Iron Flow and Lithium Ion Battery Option.

The new O&M building would be approximately 2,500 square feet in total area, split evenly between warehouse space and office space, including kitchen and lavatory. Use of the O&M building would introduce a new water demand correlated to the number of individuals using the facilities. The table below provides the assumptions used to estimate operational water demands.

Table 3 O&M Water Demand Assumptions

Factor	Quantity	Total
Weekly on-site staff	2 staff/day x 1 day/week x 52 weeks/year	104 staff days/year
Annual on-site staff (1 week)	8 staff/day x 5 days/week x 1 week/year	44 staff days/year
		148 total staff days/year
Toilet	1.6 gallons/flush, 3 flushes/day/staff = 4.8 gallons/staff/day	710.4 gallons/year
Sink (lavatory, kitchen)	2.2 gallons/minute, 1 minute/staff/day = 2.2 gallons/staff/day	325.6 gallons/year
		1,036 total gallons/year

Source: GSA 2023

Based on the data in Table 3, use of the project's O&M facility would introduce a water demand of 1,036 gallons per year; this equates to approximately 0.003 AFY, based upon one acre-foot being equivalent to 325,851 gallons.

The final project phase of decommissioning would include water demands for dust suppression, similar to the construction water demands, but decommissioning would occur beyond the scope of the projections provided in this WSA. However, water demands from decommissioning would likely be less than those for construction, and would likely not need to be phased.

3 Senate Bill 610 Applicability

Water requirements associated with the project are described in Section 2.4, *Water Demands*. The applicability of SB 610 to the proposed project is discussed in the following sections.

California Water Code, as amended by SB 610, requires a WSA to address the following questions:

- Is there a public water system that will service the proposed project? (see Section 3.3)
- Is there a current Urban Water Management Plan (UWMP) that accounts for the project demand? (see Section 3.4)
- Is groundwater a component of the supplies for the project? (see Section 3.5)
- Are there sufficient supplies to serve the project over the next twenty years? (see Section 3.6)

The primary question to be answered in a WSA is:

> *Will the total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection meet the projected water demand of the proposed project, in addition to existing and planned future uses of the identified water supplies, including agricultural and manufacturing uses?*

The following sections address the SB 610 WSA questions as they relate to the proposed project.

3.1 Is the Proposed Project Subject to CEQA?

California Water Code Section 10910(a) states that any city or county that determines a project (as defined in Section 10912) is subject to CEQA shall comply with Section 10910 of the California Water Code. The proposed project requires discretionary approval from the County of Fresno; therefore, the project is subject to CEQA.

3.2 Is the Proposed Project a "Project" Under SB 610?

California Water Code Section 10912(a) states that any proposed action which meets the definition of "project" under SB 610 is required to be analyzed in a WSA. SB 610 defines a "project" as any one of seven different development types, each of which is considered below.

3.2.1 Residential Development

A proposed residential development of more than 500 dwelling units is defined as a "project" under SB 610. The project does not include residential uses, and therefore does not classify as a project based on residential uses.

3.2.2 Shopping Center or Business Establishment

A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space is defined as a "project" under SB 610. The proposed project would not introduce commercial or retail area, and therefore does not classify as a project based on commercial or retail uses.

3.2.3 Commercial Office Building

A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space is defined as a "project" under SB 610. The proposed project does not include any component specifically proposed as commercial office space and therefore does not classify as a project based on commercial office development.

3.2.4 Hotel or Motel

A proposed hotel or motel, or both, having more than 500 rooms is defined as a "project" under SB 610. The proposed project is not a hotel or motel and does not qualify as a project under this category.

3.2.5 Industrial, Manufacturing, or Processing Plant or Industrial Park

A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area is defined as a "project" under SB 610. The proposed project does not include the proposed development of an industrial, manufacturing, or processing plant, or an industrial park and therefore does not classify as a project based on industrial development.

3.2.6 Mixed-Use Project

A proposed mixed-use project that includes one or more of the projects specified earlier is defined as a "project" under SB 610. The proposed project is not a mixed-use project and does not include any of the components that individually count as a "project" under SB 610 (residential. Shopping center or business establishment, commercial office building, hotel or motel, or industrial, manufacturing, or processing plan or industrial park). Therefore, the proposed project does not classify as a mixed-use project including one or more previously defined projects.

3.2.7 Equivalent Project

Any proposed use, regardless of type, which would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling unit project is defined as a "project" under SB 610. In order to estimate the water demands of a 500-unit residential development in the project area, water demand factors from the City of Fresno's 2020 UWMP are considered[2] (City of Fresno 2021). Average water demand factor for a single-family residential development in the City of Fresno is 2.54 acre-feet per acre, where 4.25 dwelling units occur per acre, which equates to approximately 0.60 AFY per residence (City of Fresno 2021). This was determined by dividing 2.54 (acre-feet/acre) by 4.25 (units/acre) to conclude 0.5976 acre-feet/unit, which is rounded up to 0.60 acre-feet/unit. Therefore, a 500-unit residential development would introduce a water demand of approximately 300 AFY (500 units multiplied by 0.60 acre-feet/unit).

As detailed in Section 2.4, *Water Demands,* under both the Lithium Ion Battery Option and the Iron Flow and Lithium Ion Battery Option, construction water demands would not exceed 300 AFY during

[2] The proposed project is not located within the jurisdiction of the City of Fresno; however, the City is the closest jurisdiction with an UWMP, and residential water demand factors contained therein are therefore reasonably representative of the project site, and are therefore used to inform the calculation of water demand for a 500-unit residential development to inform the "equivalent project" analysis of water demand.

any phase or year of implementation. Under the Lithium Ion Battery Option, construction demand would peak during Phase 4 at 153.4 AFY, and under the Iron Flow and Lithium Ion Battery Option, construction demand would peak during Phase 3 at 171.0 AFY. During operation, the use of the project's O&M facility would introduce a water demand of approximately 0.003 AFY. Under either option, water demand would be less than that of a 500-dwelling unit residential development, based upon water demand factors provided in the City of Fresno's current (2020) UWMP.

The proposed project does not meet the definition of a "project" based upon the "equivalent project" demands. Since the project also does not meet the preceding definitions of "project" as provided by SB 610 and detailed in Sections 3.2.1 through 3.2.6, a WSA is not required for the project. However, this WSA is being prepared to provide a conservative analysis of the proposed project, and to fully disclose the water supply availability conditions in the area, including within the Westside Subbasin (subbasin) of the San Joaquin Valley Groundwater Basin.

3.3 Is There a Public Water System that Will Serve the Proposed Project?

California Water Code Section 10912(c) defines a "public water system" as a system that has 3,000 or more service connections and provides piped water to the public for human consumption. The project area lies within unincorporated Fresno County and outside service areas of any other nearby cities. There is no public water system that would serve the project. The project is also outside the Sphere of Influence of any nearby cities and is not planned to be serviced by a public water system in the future.

3.4 Is There a Current UWMP that Accounts for the Project Demand?

In California, every urban water supplier (publicly or privately owned) that delivers more than 3,000 AFY of water annually or serves more than 3,000 connections is required to prepare an UWMP to assess, among other metrics, the reliability of the supplier's water sources over a 20-year period, and including with consideration to normal water-year, single-dry water-year (periodic drought), and multiple-dry water-year (sustained drought) scenarios. These are the same requirements of a WSA, as specified by SB 610, and therefore UWMPs, when available for the subject area, are used to inform project-specific WSAs. UWMPs must be updated and submitted to the California Department of Water Resources (DWR) every five years for review and approval, and are publicly available for review (DWR 2020).

There is no current UWMP that accounts for the project demand. The proposed project is located within the service territory of Westlands Water District (WWD) as the primary Groundwater Sustainability Agency (GSA). Approximately 93 percent of the Westside Subbasin is farmland, and the primary land-use is agriculture, with no anticipated changes. In addition to agricultural use, WWD provides a total of 232 urban use connections including commercial, industrial, and institutional uses. The population serviced by WWD is zero, as the agency does not provide urban connections for single-family or multi-family use (WWD 2022).

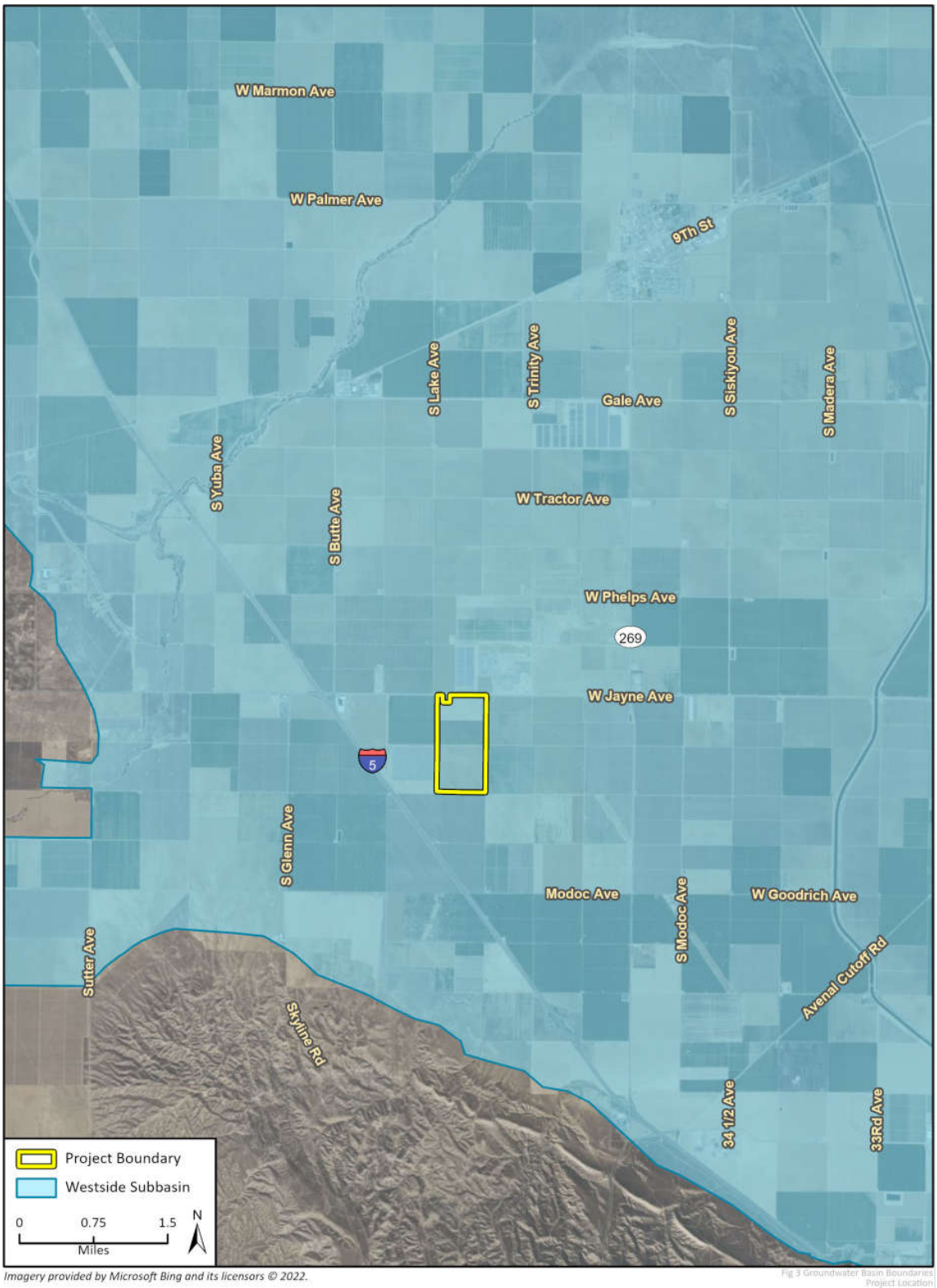
3.5 Is Groundwater a Component of the Supplies for the Project?

All water supply for the proposed project would be provided by the WWD, which produces local groundwater from the Westside Subbasin of the San Joaquin Valley Groundwater Basin, and purchases imported surface water from the federal Central Valley Project (CVP). WWD's water supply sources are detailed in Section 4 of this WSA, and supply reliability is discussed in Section 5, including as related to local groundwater sustainability. As discussed therein, within the WWD boundaries, local groundwater is relied upon to help offset reduced water supply deliveries CVP, which typically occur in response to drought conditions. As depicted in Figure 3, the project site is located entirely within the Westside Subbasin.

3.6 Are There Sufficient Supplies to Serve the Project Over the Next Twenty Years?

The sufficiency of water supplies identified as potential sources to serve the growth facilitated by the proposed project is assessed in the following sections, which address existing and potential future supplies. Water supply sources available in the project area are described in Section 4, *Water Supply Overview*, and water supply reliability is discussed in Section 5, *Water Supply Reliability*.

Figure 3 Groundwater Basin and Project Location



4 Water Supply Overview

This section characterizes the water supply sources that are available to the project site, and could be used to meet the project's water demands. These sources include the Westside Subbasin (of the San Joaquin Valley Groundwater Basin), which underlies the project site, and WWD, which is the local contractor of imported CVP water, as well as one of two GSAs responsible for managing the Westside Subbasin in a sustainable manner, in accordance with the Sustainable Groundwater Management Act (SGMA) of 2014. As detailed below in Section 4.1.1, *Groundwater Management*, SGMA established a framework for local groundwater management, under which the DWR assigns priority levels to groundwater basins based on existing water balance conditions, and all groundwater basins are required to be managed in sustainable conditions on a timeline determined based upon basin priority rankings.

4.1 Westside Subbasin

The project site overlies the Westside Subbasin of the San Joaquin Valley Groundwater Basin. The subbasin covers 972 square miles and lies within the western portion of the San Joaquin Valley Groundwater Basin. The Westside Subbasin, as with the larger San Joaquin Valley Groundwater Basin, is identified by DWR as being Critically Overdrafted. Directed by SGMA, DWR identifies critically overdrafted groundwater basins and subbasins when the average annual amount of groundwater extraction exceeds the long-term average of annual water supply to the basin. Critically overdrafted basins and subbasins are likely to result in adverse environmental, social, and economic impacts. This includes associated impacts of seawater intrusion, land subsidence, groundwater depletion and chronic lowering of groundwater levels. (DWR 2022).

The subbasin generally has a flat topographic setting, with higher elevation ranges on the western margin forming a gentle slope towards the San Joaquin Valley to the west. The subbasin is comprised of geologic deposits that are subdivided in three units or layers: the Upper Aquifer, the Lower Aquifer, and Corcoran Clay. The Corcoran Clay separates the Upper and Lower Aquifer with a thickens ranging from less than 20 feet to 100 feet and reaches about 400 to 800 feet in depth. Above the Upper Aquifer is the shallow zone, which comprises the upper 100 feet, but is not connected to the Upper Aquifer as the 100 feet are likely supported by recharge from irrigation. While historical data show the shallow zone having relatively stable water since the 1990s, and the Upper Aquifer has shown trends similar to the shallow zone, the project area has also affected by overdraft conditions; see Section 4.1.2, *Groundwater in Storage*, for further discussion on how data indicate there may be long-term historic balance in the basin. Groundwater levels for the Lower Aquifer are available dating back to the 1950s and show the lowest levels having occurred during the 1950s and 1960s with dramatic increases following the CVP water deliveries in 1968 (WWD 2022a).

4.1.1 Groundwater Management

The majority of the Westside Subbasin is within WWD's service territory and jurisdiction as a GSA. There are several small areas along the western and eastern edge of the subbasin that extend past WWD boundaries and fall within the jurisdiction of Fresno and Kings counties. The County of Fresno serves as the GSA for the portions of the Westside Subbasin located outside WWD's boundaries and within Fresno County. The portion of the subbasin that underlies Kings County is within the Naval

Air Station Lemoore, which is owned by the federal government and thus, is exempt from the requirements of SGMA (WWD 2021).

In 2014, SGMA was signed into law and established a framework for local groundwater management, under which the DWR assigns priority levels to groundwater basins based on existing water balance conditions. Designated GSAs are then required to develop and implement GSPs according to a schedule of prioritization specified by SGMA. The overall purpose of SGMA is to bring overdrafted basins into sustainable conditions. Under SGMA, critically overdrafted subbasins, such as the Westside Subbasin, are required to prepare and be managed under a GSP to evaluate and report on conditions of overdraft and to establish sustainability goals and management criteria. The GSP for the Westside Subbasin sets forth active management strategies to ensure groundwater sustainability including firming up access to more reliable surface water deliveries, conjunctive use, demand management through an allocation system.

The Westside Subbasin is managed jointly by two GSAs, the WWD GSA and the County of Fresno GSA-Westside Subarea, through implementation of one comprehensive GSP to achieve and maintain sustainable groundwater conditions by year 2040. The WWD GSA has entered into a Memorandum of Understanding with the County of Fresno GSA to implement the GSP in all portions of the Westside Subbasin, including those portions in unincorporated county jurisdiction, outside the WWD boundaries. Both the WWD GSA and the County of Fresno GSA has the authority to implement the GSP through its statutory land use and water management responsibilities pursuant to its constitutional police powers (WWD 2022a).

The GSAs have prepared a current (2022) GSP for the Westside Subbasin, which accounts for water demands associated with existing land uses on the project site. The GSP was developed to comply with the DWR requirements to prepare, adopt, and implement a plan with the objective that the basin be sustainably managed within 20 years without adversely affecting the ability of an adjacent basin to implement its GSP. This analysis utilizes the 2022 GSP for the Westside Subbasin and the 2021 GSP Annual Report, as they provide detail in water supply and demands.

4.1.2 Groundwater in Storage

The volume of water stored within an aquifer system can be analyzed by using a water budget. A water budget quantifies the amount of all water flowing into and leaving a defined area or aquifer. A water budget for the Westside Subbasin was developed to inform the GSP. It is based on defined historical, current, and projected periods, using a numerical integrated groundwater flow model, referenced as the Westside Groundwater Model (WSGM). The WSGM historical period includes 1989 through 2015 time period, the current water budget year selected is 2016, and the projected water budget period spanned from 2017 through 2070 (WWD 2022a). The WSGM also assessed three baseline scenarios, including: baseline with no climate change; 2030 climate change baseline; and 2070 climate change baseline (WWD 2022a). The climate change baselines are provided by DWR as a guidance scenario to evaluate climate conditions under extreme climate conditions such as variable precipitation and increased temperatures (DWR 2018).

The WSGM shows an average decline in the Westside Subbasin water budget by approximately 19,000 AFY, and over the entire historical water budget period (1989 through 2015), the cumulative decline in groundwater storage was approximately 517,000 acre-feet. In other words, over the 27 years between 1989 and 2015, 517,000 more acre-feet of water left the Westside Subbasin than were recharged to it. This trend is consistent with the subbasin's status as Critically Overdrafted, which occurs when more water chronically leaves a basin than is recharged to it. However, as discussed in the GSP for the Westside Subbasin (WWD 2022a), although the model indicates chronic

overdraft, the amount of overdraft (19,000 AFY) is relatively small compared to the sustainable yield of the subbasin for the same period (305,000 AFY). This suggests that the groundwater budget is relatively balanced over the historical water budget period (WWD 2022a).

Projected water budget scenarios were developed using the WSGM for all projects and management actions within the Westside Subbasin, and across each of the three different baseline scenarios described above. Water budgets are a defining tool in determining the maximum quantity of water that can be withdrawn annually from a groundwater supply without causing undesirable effects, which include overdraft, such as the 19,000-AFY overdraft that resulted in the Westside Subbasin being defined as Critically Overdrafted. This is known as the sustainable yield, a GSP requirement, which is quantifiable using historical and projected water budgets. Sustainable yield estimates for the Westside Subbasin are shown in Table 4, including for both historical and projected conditions, as determined by the WSGM and presented in the GSP (WWD 2022a).

Table 4 Sustainable Yield Estimates

Use Type	Water Budget Period	Sustainable Yield (AFY)
Historical Groundwater Budget	1989-2015	305,000
Projected Groundwater Budget Baseline	2017-2070	270,000 - 294,000

Source: WWD 2022a
AF: Acre-feet

Table 4 shows that during the historical period (1989-2015), sustainable yield for the Westside Subbasin was 305,000 AFY, meaning that up to 305,000 AFY could be withdrawn from the subbasin without causing undesirable effects such as overdraft. However, as discussed above, the subbasin was consistently overdrawn by an average of 19,000 AFY during that same historical period (1989-2015), where on average, 19,000 AFY was withdrawn from the subbasin in addition to withdrawal of the sustainable yield amount of 305,000 AFY, for a total average withdrawal amount of 324,000 AFY.

The purpose of the GSP is to bring the subbasin into sustainable conditions, and to maintain sustainable conditions by avoiding the recurrence of overdraft. The WSGM also calculated the sustainable yield amount that would be necessary to recover the basin from previous (19,000 AFY) overdraft conditions, and maintain it in balanced conditions, where the amount leaving the subbasin during any given year is comparable to the amount entering the basin. Table 4 shows the WSGM calculated future sustainable yield to be between 270,000 AFY and 294,000 AFY through year 2070. The future sustainable yield is lower than the historic sustainable yield to allow the subbasin to recover from overdraft. The actual sustainable yield amount for any given year will depend upon the rate at which the subbasin recovers from overdraft.

Sustainable yield is an annual total, which takes into consideration seasonal variations in the amount of groundwater in storage. There are typically seasonal highs in storage, when the subbasin is fuller because it has been replenished with precipitation and underground flows related to increased precipitation; there are also seasonal lows in storage, when the subbasin is less full because warmer and drier conditions result in increased groundwater pumping combined with reduced replenishment. Table 5 shows the changes in groundwater storage for water year 2021, as reported in the 2021 Annual Report for the Westside Subbasin GSP (WWD 2021). Groundwater storage change was estimated based on the change in seasonal high groundwater levels between 2020 and 2021.

Table 5 Estimated Groundwater in Storage Compared to Seasonal Highs

	Water in Storage (AF)				
Aquifer	**2018**	**2019**	**2020**	**2021**	**Cumulative**
Upper	32,000	-28,000	-9,000	-2,000	-7,000
Lower	237,000	-55,000	78,000	-110,000	150,000
Total	**269,000**	**-83,000**	**-69,000**	**-112,000**	**143,000**

Source: WWD 2021

AF: acre-feet

Table 5 indicates that the actual amount of groundwater in storage is consistently in flux, depending primarily upon climatic (drought) conditions, and the amount of groundwater pumping that occurs. In drought years when less imported surface water is available, water users typically pump more local groundwater to meet water demands, which reduces the amount of groundwater in storage. Factors that impact water deliveries by the CVP include climatic variables such as drought conditions and other, ongoing demands on the CVP supply, resulting in inconsistent surface water deliveries, which are commonly below the WWD's allocated amount, or the amount it is contracted to receive.

The 2021 Annual Report for the Westside Subbasin GSP (WWD 2021) states that although WWD groundwater recharge projects have increased in priority in recent years, both aquifers (especially the Upper Aquifer) of the Westside Subbasin have low excess storage available, and vary considerably through the years when compared to seasonal high groundwater levels. The comparison to seasonal high groundwater elevations is to ensure water extraction remains sustainable without surface water made available by the CVP. The ability of the Westside Subbasin to support continued extraction is discussed further in Section 5, *Water Supply Reliability*.

4.1.3 Groundwater Quality

The quality of groundwater in the Westside Subbasin is characterized by high concentrations of total dissolved solids (TDS), or salts and nutrients which are common to agricultural areas. Generally, groundwater quality is characterized by the occurrence of TDS, boron, selenium, arsenic, and sulfate that in some locations may exceed drinking water standards. Data demonstrates that the concentration of nitrate in groundwater in the Westside Subbasin is generally at or below background concentrations meaning that it is not impacted by anthropogenic discharges (WWD 2022a). Farming customers of WWD are currently implementing Best Management Practices (BMPs) such as switching to crops that can tolerate higher levels of salt, blending pumped groundwater with delivered surface water, and treatment such as reverse osmosis of groundwater. These BMPs allow farmers to continue to farm in areas where groundwater is affected by elevated TDS concentrations.

The Westlands Water Quality Coalition (Coalition) was formed as a response to new regulations adopted by the Central Valley Regional Water Quality Control Board (RWQCB), which is the RWQCB with jurisdiction over the project area. The new regulations work to prevent agricultural runoff from impairing surface waters as part of the Irrigated Lands Regulatory Program (ILRP) (Central Valley RWQCB 2022). The Coalition has been approved by the RWQCB to serve as a third party for administering the ILRP. As such, the Coalition represents owners and irrigated lands overlying the subbasin to comply with regulations set forth in the program to adhere to waste discharge requirements, protecting surface and groundwater. The Coalition now administers the ILRP's Groundwater Quality Trend Monitoring Plan, which assesses groundwater quality conditions underlying areas of irrigated agriculture. The Plan develops long-term groundwater quality

information that can be used to evaluate regional effects of irrigated agriculture and its practices. The Coalition monitors water quality through a network of wells primarily in the Upper Aquifer to sample for nitrate and nitrite, TDS, and general minerals every five years (WWD 2022b).

4.2 Westlands Water District

WWD provides water supply to customers in western Fresno and Kings counties, and serves as the primary GSA for the Westside Subbasin. Primary water supply sources include imported surface water supply purchased from the CVP, as well as locally produced groundwater supply. WWD also obtains supplemental water supplies through short and long-term purchases and transfers.

4.2.1 Surface Water Supply

Surface water supply is obtained by WWD through the CVP, a federal public works project constructed and operated by the U.S. Bureau of Reclamation (USBR). The CVP is a complex network of dams, reservoirs, canals, facilities, and hydroelectric powerplants stretching from as far north as Trinity County, one of the northern-most counties in the state, to the city of Bakersfield in the southern portion of the San Joaquin Valley, which spans the central portion of the state. The CVP supplies water to more than 250 contractors in 29 of 58 counties within California, averaging approximately five million AFY (MAFY) of water for farms, 600,000 AFY for municipal and industrial uses, 410,000 AFY for wildlife refuges in the Sacramento-San Joaquin Delta, and 800,000 AFY for other fish and wildlife needs (USBR 2021; Congressional Research Service 2017).

WWD has water service contracts with the USBR for 1.197 MAFY (WWD 2021). However, WWD does not often receive its full contractual allocation, due to climatic (drought) variations in surface water availability which reduce the amount of water available from the CVP. CVP water supplies fluctuate annually depending on available and utilized surface water supplies. The actual amount of water delivered is virtually always less than the contractual amounts depending on hydrological conditions, environmental regulations, and conveyance limitations or infrastructure conditions.

4.2.2 Groundwater Supply

This discussion is specific to the Westside Subbasin as the sole basin under WWD's jurisdiction. Within the Westside Subbasin, the reduction of CVP water and other surface water supplies resulting from ongoing drought conditions has resulted in increased groundwater pumping, as well as increased construction of new wells. Since 2000, there have been 605 new wells constructed within WWD's boundaries, by water users seeking to make up for the shortfall in surface irrigation water. Some wells in the Upper Aquifer exhibit considerable fluctuations in water levels although few consistent spatial patterns in these fluctuations and trends are evident (WWD 2016).

The delivery of CVP water into WWD's service area began in 1968. Prior to that time, groundwater pumping by water users within the service area ranged from approximately 800,000 to 1,000,000 AFY during the period of 1950-1968 (WWD 2016). Once CVP water became available in 1968, the groundwater surface rose steadily until reaching 89 feet above mean sea level in 1987, the highest average elevation on record dating back to the early 1940s (WWD 2016). The only exception during this period was in 1977 when a drought and drastic reduction of CVP deliveries resulted in groundwater pumping of approximately 472,000 AF and an accompanying drop in the groundwater surface elevation of approximately 97 feet (WWD 2016).

Measurable objectives for groundwater levels were established in the GSP by analyzing historical groundwater level data during the historical water budget period, when the subbasin was being over-pumped by approximately 19,000 AFY above the sustainable yield amount, estimated to be 305,000 AFY for that historical period. In order to avoid the undesirable results of overdraft in the future, WWD's path to achieve and maintain sustainable conditions will be accomplished through implementation of planned projects and management actions (PMAs), which are discussed below, in Section 4.2.3. The overall purpose of these PMAs is aimed at augmenting groundwater supply and reducing demand.

4.2.3 Projects and Management Actions

To achieve the subbasin sustainability goal by 2040 and avoid undesirable results through 2070, WWD is developing and implementing PMAs which include actions such as aquifer storage and recovery (ASR) projects, and percolation basins to recharge groundwater storage. An ASR program involving the direct injection and subsurface storage of groundwater using agricultural wells has been proposed by the GSAs to improve water supply reliability within the Westside Subbasin, as detailed below in Section 5.2.1.

The GSAs for Westside Subbasin are also proposing managed aquifer recharge through percolation ponds in selected areas of the subbasin to increase groundwater in storage. These ponds would be constructed on GSA-owned land where the Corcoran Clay is not present, thereby facilitating the infiltration of water through the ground surface, uninhibited by clay. The ponds would be used to contain excess water which will be allowed to infiltrate the ground to recharge the Upper Aquifer and Lower Aquifer. Currently, the GSA is investigating the feasibility of this project at potential sites located in the subbasin.

Projections of groundwater levels in the subbasin indicate that chronic lowering of groundwater levels below minimum thresholds are not expected to occur with the implementation of PMAs prior to 2040 and through 2070, which is the remainder of the planning and implementation horizon (WWD 2022).

5 Water Supply Reliability

As discussed in Section 4, *Water Supply Overview,* water supply in the project area consists of groundwater produced from the Westside Subbasin, and imported surface water purchased from the CVP. Water supply projects and PMAs help to supplement these supplies, and are discussed below with respect to water supply reliability. The purpose of this section is to examine the availability and reliability of existing water supply sources, with consideration to other existing and foreseeable demands, as well as climatic (drought) variations, to inform the conclusions drawn in Section 6.

5.1 Supply and Demand Projections

This section details WWD's pre-project water demands, which reflect the total water (groundwater and surface water) consumed within its boundary prior to implementation of the proposed project (Table 6), as well as the amount of groundwater produced under pre-project conditions (Table 7). In addition, this section identifies projected future water supplies (Table 8), including with consideration to varying climatic conditions towards the purpose of assessing water supply availability and reliability for the proposed project.

Table 6 below, shows WWD's actual total water use (groundwater and surface water) in 2021, by water use sector.

Table 6 Westland Water District Demand, Actual - 2021

Use Type	Groundwater Volume (AF)	Surface Water Volume (AF)	Total
Agricultural	632,000	215,000	847,000
Municipal	0	948	948
Small Water Systems	48	4,430	4,478
Domestic Wells	82	N/A	82
Environmental	0	213	213
Total	**632,130**	**220,591**	**852,721**

Source: WWD 2021
AF: Acre-feet

The data in Table 6 indicate that in 2021, 632,130 acre-feet of groundwater was produced from the Westside Subbasin, nearly entirely to support agricultural uses. Table 4, indicates that the sustainable yield range for years 2017 through 2070 ranges from 270,000 to 294,000 AFY, depending upon the rate of recovery of the subbasin from persistent overdraft conditions, and the severity of climate change effects that influence water supply. As discussed in the GSP (WWD 2022a), the sustainable yield amount of 294,000 AFY reflects baseline conditions for the 2070 climate change scenario, while the sustainable yield amount of 270,000 AFY reflects baseline conditions for the 2030 climate change scenario. In other words, in order to achieve and maintain sustainable groundwater conditions with future extreme climate change in 2070 and 2030, the maximum amount of water that can be produced from the Westside Subbasin is 294,000 AFY or 270,000 AFY, respectively.

The actual amount of groundwater pumped in 2021 exceeded the sustainable yield by 338,130 acre-feet for the 2070 extreme climate change scenario, and by 362,130 acre-feet for the 2030 extreme climate change scenario. This is consistent with ongoing drought conditions throughout California, which cause reduced surface water deliveries and, subsequently, increased groundwater pumping. To assess how the extent of groundwater pumping varies annually, Table 7 provides groundwater use by sector for years 2017 through 2021.

Table 7 Groundwater Use by Water Use Sector 2017 - 2021

	Volume Pumped (AF)				
Sector	**2017**	**2018**	**2019**	**2020**	**2021**
Agricultural	162,000	328,000	119,000	400,000	632,000
Municipal	0	0	0	0	0
Small Water Systems	54	71	25	48	48
Domestic Wells	82	82	82	82	82
Environmental	0	0	0	0	0
Total	**162,136**	**328,153**	**119,107**	**400,130**	**632,130**
Comparison to Sustainable Yield (270,000-294,000 AFY)	**LOWER** by 107,864 to 131,864 AF	**HIGHER** by 34,153 to 58,153 AF	**LOWER** by 150,893 to 174,983 AF	**HIGHER** by 106,130 to 130,130 AF	**HIGHER** by 338,130 to 362,130 AF

Source: WWD 2021

AF: Acre-Feet

Table 7 indicates that between 2017 and 2021, groundwater pumping varied substantially with the lowest in 2019 at 119,107 acre-feet, and the highest in 2021 at 632,130 acre-feet. As noted above Table 7, the rate of groundwater pumping in 2021 far exceeded the sustainable yield range of 270,000 through 294,000 AFY. However, as shown in Table 7, the total groundwater pumped in some years was far below the sustainable yield range, including in 2017, when groundwater pumping of 162,136 acre-feet was 107,864 to 131,864 acre-feet less than sustainable yield, and in year 2019, when groundwater pumping of 119,107 acre-feet was 150,893 to 174,893 acre-feet below sustainable yield.

The variability in the groundwater pumping rates shown above are reflective of the area's reliance on groundwater during years when reduced surface water supplies are available from the CVP. In order to consistently achieve groundwater pumping rates below the sustainable yield range for the Westside Subbasin, it is necessary to develop new water supply sources, and to reduce existing water demands to the extent practicable. Additional future supply development is discussed below, in Section 5.2, *Additional Future Supply.* Projected future water supplies for years 2025 through 2045 are shown in Table 8, below, based upon groundwater modeling projections developed for the Westside Subbasin GSP (WWD 2022a).

Table 8 Projected Future Water Supplies 2025 - 2045

	Volume (AF)				
Water Supply Type	**2025**	**2030**	**2035**	**2040**	**2045**
Groundwater Pumping	206,000	155,000	146,000	320,000	747,000
Imported Surface Water	755,000	884,000	955,000	662,000	235,000

Source: WWD 2022a
AF: acre-feet

The table above indicates that through 2035, the groundwater pumped from the Westside Subbasin will be within the sustainable yield of 294,000 AFY, however, at year 2040, groundwater pumping will not be sustainable as it exceeds 294,000 AFY. In addition, these projections show that imported surface water will be available at larger volumes until 2035, and will decrease substantially after 2040; as discussed in the Westside Subbasin GSP, the availability of imported surface water supplies were estimated based upon climatic projections, and the computerized models used to inform the GSP analyses (WWD 2022a). The actual amount of imported surface water available to WWD will depend upon climatic (drought) conditions and other demands on the CVP. In addition, the information in Table 8 further demonstrates that when surface water supplies decrease, groundwater pumping increases.

These demand projections provided above reflect pre-project conditions, and do not account for water demands associated with the proposed project. However, these projections assume current use of the project site, which is for irrigated agriculture, and implementation of the proposed project would remove the existing agricultural uses and cease irrigation of the site, replacing it instead with the battery storage project, which does not include an operational water demand. As such, following construction of the project, the existing water demands would be removed, resulting in an incremental reduction in demands on the Westside Subbasin and the WWD.

Overall, the proposed project would decrease current and future local water demand as the project would cease agricultural irrigation on the site. Based on the GSP, the water demand for a given farm is first met by uptake from the groundwater as crops roots intersect the water table, and then demand is met by groundwater pumping (WWD 2022a). Water demand under the proposed project would be temporary and limited to the construction period, totaling approximately 560 acre-feet over 6.3 years for the Lithium Ion Battery Option, or 632.1 acre-feet over 5.7 years for the Iron Flow and Lithium Ion Battery Option. Because these demands would cease upon the completion of construction, and operation of either battery option would not require a water supply, operation of the fully implemented proposed project would effectively remove existing water uses across the project site (see Section 2.4, *Water Demands,* for detailed discussion). No other water demands would be introduced as a result of the project. Therefore, implementation of the project would result in an incremental decrease in total water demands throughout the region.

5.2 Additional Future Supply

SGMA requires that High Priority basins including the Westside Subbasin are brought into sustainable conditions by 2040, and that “undesirable results” are avoided through 2070, meaning that unsustainable long-term overdraft conditions are not allowed to return to the basin once sustainable conditions are achieved. In order to meet these sustainability goals, water supply projects and management actions are being developed and implemented by WWD. These include actions such as aquifer storage and recovery, as well as the use of percolation basins to increase

groundwater recharge. Other efforts supporting future supply development include water conservation and sustainability programs, education, outreach, and services.

5.2.1 Aquifer Storage and Recovery (ASR)

Aquifer storage and recovery involves using existing agricultural wells to inject water directly into the groundwater basin for storage and future use. WWD has developed an ASR program that currently include 25 projects that have been approved, which have a total recharge capacity of up to 600 acre-feet per day. In 2020, 15 ASR projects collectively recharged approximately 600 AF via direct injection (WWD 2022a). No additional ASR projects were approved during the 2021 water year. Current additional ASR projects include the Broadview ASR project, which is currently in the design phase and is anticipated to deliver up to 2,000 AFY, demonstrating that projects in the ASR program can provide substantial additional sources of water supply that may be used to reduce reliance on groundwater resources during years of reduced surface water availability. However, ASR projects are also constrained by the availability of surface water resources, as a source of excess water supply is necessary to support recharge activities.

5.2.2 Passive Recharge Program

As described in the GSP (WWD 2022a), the GSA is proposing engaging in managed aquifer recharge through percolation basins in selected areas of the Westside Subbasin to increase groundwater in storage. These basins would be constructed where the Corcoran Clay is not present. As described in Section 4.1 *Westside Subbasin*, the Corcoran Clay separates the Upper and Lower Aquifers, creating a barrier. With this barrier, water cannot replenish the underlying aquifer, therefore, percolation basins will be selected in areas where the Corcoran Clay is not present, and will be located on WWD-owned lands. Currently, the GSA is investigating the feasibility of this project at potential sites, and anticipates the design will recharge up to 10,800 AFY in a wet hydrological year (WWD 2022a). The project design is at 30 percent completion with construction anticipated for the winter of 2022.

5.2.3 CVP Water Transfer Program

In drought years, water transfers and exchanges are a critical part of CVP water operations, and are authorized under the Central Valley Project Improvement Act (CVPIA) of 1992. CVP water transfers are subject to the conditions prescribed in the CVPIA §3405(a), *Interim Guidelines for Implementation of Water Transfers* (1993), and the *Final CVPIA Administrative Proposal on Water Transfers* (1998) (USBR 2015). Water transfer provisions of the CVPIA do not apply to the following:

- Permanent contract changes where a CVP contractor relinquishes its contractual right to CVP water;
- Water banking and recharge actions outside of the contractor's boundaries;
- Water for water exchanges;
- Forbearance actions whereby CVP contractors are paid not to exercise their right to water; and
- Transfers of base supply water in compliance with settlement contracts (USBR 2015).

Water transfers are intended to facilitate meeting existing water demands and must be approved by the USBR. Transfers or exchange agreements between CVP contractors relocate CVP contract supply within a given basin. In 2014, USBR facilitated the transfer of over 257,000 acre-feet of water, where 213,220 acre-feet was considered new water to the system, meaning actions such as reservoir reoperation, crop idling/shifting, and groundwater substitution were taken to make water available

(USBR 2015). In 2016 alone, transfers and exchanges to WWD totaled 164,777 AF (WWD 2017). This is a reflection of continued WWD efforts to improve the availability and reliability of imported surface water (WWD 2021).

5.2.4 Water Conservation

WWD has ongoing programs and services that increase water use efficiency for agricultural water users to ultimately conserve water supplies. The ILRP, which is introduced in Section 4.1.3 with respect to groundwater quality, also offers education and consulting services for efficient irrigation systems and management (Central Valley RWQCB 2022). In addition, WWD's Water Conservation Program has been effective for over 40 years, and evolves as better technology is available (WWD 2022a, 2022c). Practices include providing growers with satellite imagery that allows them to adjust irrigation based on visual evidence, as well as providing growers with current Irrigation Guides and the *Water Conservation and Management Handbook* (WWD 2013). In addition, WWD provides workshops and meetings for growers, and monitors groundwater to provide up-to-date information on the quality and depth of groundwater, and offers opportunities to growers to lease or own innovative efficient irrigation equipment (WWD 2022a).

6 Conclusions

In accordance with California Water Code, as amended by SB 610, this WSA identifies and characterizes all known and potential water demands of the project, in comparison to the water supplies available to the project over a 20-year projection, with consideration to varying drought conditions and ongoing long-term supply management activities. Water supplies considered for the purposes of this WSA include the Westside Subbasin and imported CVP surface water supplies purchased from WWD.

Construction of the proposed project would introduce a temporary water demand, which would be less than the water demand for a 500-unit residential development under either battery technology option under consideration. The rate of water demand would peak at 153.4 AFY during construction of the Lithium Ion Battery Option, and 171.0 AFY during construction of the Iron Flow and Lithium Ion Battery Option. During operation, the use of the project's O&M facility would introduce a water demand of approximately 0.003 AFY. As discussed in Section 5.1, *Supply and Demand Projections*, the project would retire agricultural lands, thereby removing irrigated agriculture water demands and reducing overall water demand on the project site.

This project does not inhibit the GSA's ability to comply with SGMA through implementation of the GSP, or the ability to achieve sustainable conditions in the Westside Subbasin by 2040, and to maintain those sustainable conditions through 2070. In addition, as discussed in Section 5.2, *Additional Future Supply*, WWD is working to develop additional water supplies including through ASR, passive recharge, and CVP water transfers and exchanges, which will supplement existing water supplies, and provide an alternative to groundwater during years when CVP deliveries are reduced. As discussed throughout this WSA, water users throughout WWD's territory increase reliance on groundwater during years when less surface water is available through the CVP. By having additional water supplies available, the extent of reliance on groundwater during those years will be reduced. In addition, WWD has adopted ongoing programs and projects to increase water efficiency and water conservation efforts, which include but are not limited to continual outreach for growers that provide assistance and services for water use efficiency.

While the Westside Subbasin continues to be in overdraft conditions, the project would not exacerbate those conditions because it would remove existing irrigation water demands from the site, and the water demands of the project would be short-term and temporary, predominately limited to the construction period. The project would have an operational water demand associated with the O&M building; however, this demand would be 1,036 gallons per year, which is equivalent to 5.2 days of one person's water demand in the City of Fresno, based upon the City's per capita rate of 198 gallons per person per day (City of Fresno 2021). This demand would not affect conditions across the groundwater basin. Additionally, the project's water demands are far lower than typical water demands for irrigated agriculture, and the project would incrementally decrease water demands in the area, by removing existing water uses from the site. As discussed above, the project water demand would be less than that of a 500-unit residential development, and the project does not meet the definition of "project" provided by SB 610; this WSA was prepared to conservatively characterize the water demand of the project. The information and analysis provided in this WSA indicate that sufficient water supply is available to meet the water demands of the proposed project under average water year, single-dry water year, and multiple-dry water year scenarios, over a future projection of at least 20 years.

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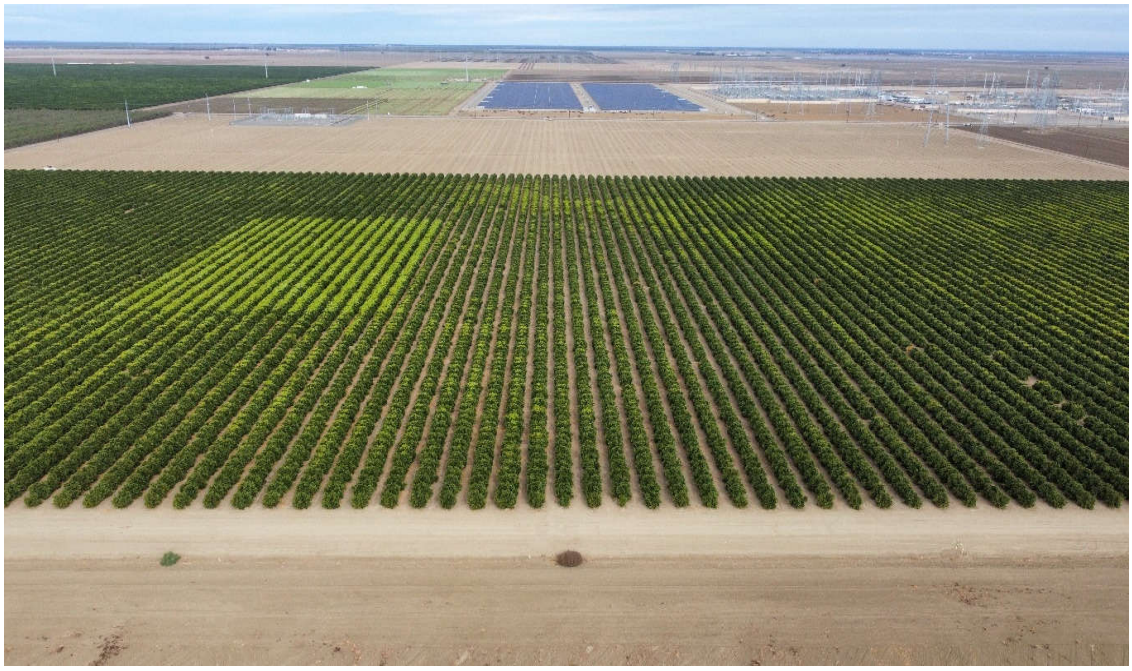
Appendix M
Visual Resources Assessment



Key Energy Storage Project

Visual Resources Assessment

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October 2022

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1 Introduction

1.1 Introduction

This Visual Resources Assessment has been prepared for the Key Energy Storage Project (Project). The purpose of this report is to provide an assessment of the Project's visual effects on the surrounding environment. This report is intended to describe the existing visual character of the Project site and its surrounding area and evaluate the Project's potential aesthetic-related effects. This study includes the following:

- A description of the Project and Project site setting;
- Regional and local visual character;
- Identification of key public viewing areas;
- A qualitative assessment of the existing visual character of the Project site as perceived from identified viewing locations;
- A description of the visual appearance of the Project;
- Character photographs of pre-Project conditions and visual simulations identifying post-Project visual conditions from key observation points (KOP); and
- An assessment of visual impacts, including discussion of potential impacts to officially designated scenic highways and other public viewpoints in the Project site vicinity based on the visual simulations and Project site reconnaissance completed as part of this evaluation.

1.2 Visual Concepts and Terminology

Individual values, familiarity with a landscape, concern for a landscape, or interpretation of scenic quality can lead to various determinations of scenic quality and different responses to changes made to a landscape. Due to unique attachments to values for a particular landscape, visual changes will affect viewers differently. General assumptions can be made, however, about viewer sensitivity to scenic quality and visual changes. For the purpose of this analysis, visual or aesthetic resources are both the natural and built features of the landscape that contribute to the public's experience and appreciation of a given environment. Definitions of the following terms and concepts are provided to aid in understanding the content in this section.

Visual Quality is the overall visual impression or attractiveness of an area as determined by the particular landscape characteristics, including landforms, rock forms, water features, and vegetation patterns. The attributes of line, form, and color combine in various ways to create landscape characteristics whose variety, vividness, coherence, uniqueness, harmony, and pattern contribute to the overall visual quality of an area. For the purposes of this evaluation, visual quality is defined according to three levels:

- **Indistinctive or industrial:** generally lacking in natural or cultural visual resource amenities typical of the region
- **Representative:** typical or characteristic of the region's natural and/or cultural visual amenities
- **Distinctive:** unique or exemplary of the region's natural and/or cultural scenic amenities

Viewer Exposure addresses variables that affect viewing conditions from potentially sensitive areas. Viewer exposure considers the following factors:

- **Landscape visibility:** the ability to see the landscape
- **Viewing distance:** the proximity of viewers to the Project
- **Viewing angle**: whether the Project would be viewed from above, below, or from a level line of sight
- **Extent of visibility**: whether the line of sight to the Project site vicinity is open and panoramic or restricted by terrain, vegetation, and/or structures
- **Duration of view:** the amount of time the Project would typically be seen from a given viewpoint

Viewer Types and Volumes of use pertain to the types of use (e.g., public viewers including motorists) and amount of use (e.g., number of recreational users or motorists) that various land uses receive. Generally, people who commute through a landscape daily to work are expected to have a lower concern for visual quality.

Visual Sensitivity is the overall measure of an existing landscape's susceptibility to adverse visual changes. People in different visual settings, typically characterized by different land uses surrounding a project, have varying degrees of sensitivity to changes in visual conditions depending on the overall visual characteristics of the place. Visual sensitivity is characteristically more pronounced in areas of more distinctive visual quality, such as designated scenic highways, designated scenic roads, parks, and recreation and natural areas. In areas of more indistinctive or representative visual quality, sensitivity to change tends to be less pronounced depending on the level of visual exposure. This analysis of visual sensitivity is based on the combined factors of visual quality, viewer types and volumes, and visual exposure to the Project. Visual sensitivity is discussed according to high, moderate, and low ranges.

The following terms are defined below as they are used to describe and assess the aesthetic setting and impacts from the Project.

- **Color** is the property of reflecting light of a particular intensity and wavelength (or mixture of wavelengths) to which the eye is sensitive. It is the major visual property of surfaces.
- **Contrast** is the opposition or unlikeness of different forms, lines, colors, or textures in a landscape. The contrast can be measured by comparing project features with the major features in the existing landscape.
- **Form** is the mass or shape of an object or objects that appear unified.
- **Key Observation Point (KOP)** is a point on a travel route or at a use area or a potential use area, where the view of a proposed activity would be most revealing. For the purposes of the following analysis, KOPs describe locations from which character photographs of pre-project conditions were taken.
- **Landscape character** is the arrangement of a particular landscape as formed by the variety and intensity of the landscape features and the four basic elements of form, line, color, and texture. These factors give the area a distinctive quality that distinguishes it from its immediate surroundings.
- **Line** is the path, real or imagined, the eye follows when perceiving abrupt differences in form, color, or texture. In landscapes, lines may appear as ridges, skylines, structures, changes in vegetative types, or individual trees and branches.

- **Scenic vista** is an area designated, signed, and accessible to the public for the purposes of viewing and sightseeing.
- **Scenic highway** is any stretch of public roadway designated as a scenic corridor by a federal, state, or local agency.
- **Sensitive receptors** include individuals or groups of individuals with views of a site afforded by a scenic vista, scenic highway, or public recreation area.
- **Sensitive viewpoints** include viewing locations of a site afforded by a scenic vista, scenic highway, or public recreation area.
- **Viewshed** for a project is the surrounding geographic area from which it is likely to be seen, based on topography, atmospheric conditions, land use patterns, and roadway orientations.

1.3 Project Description

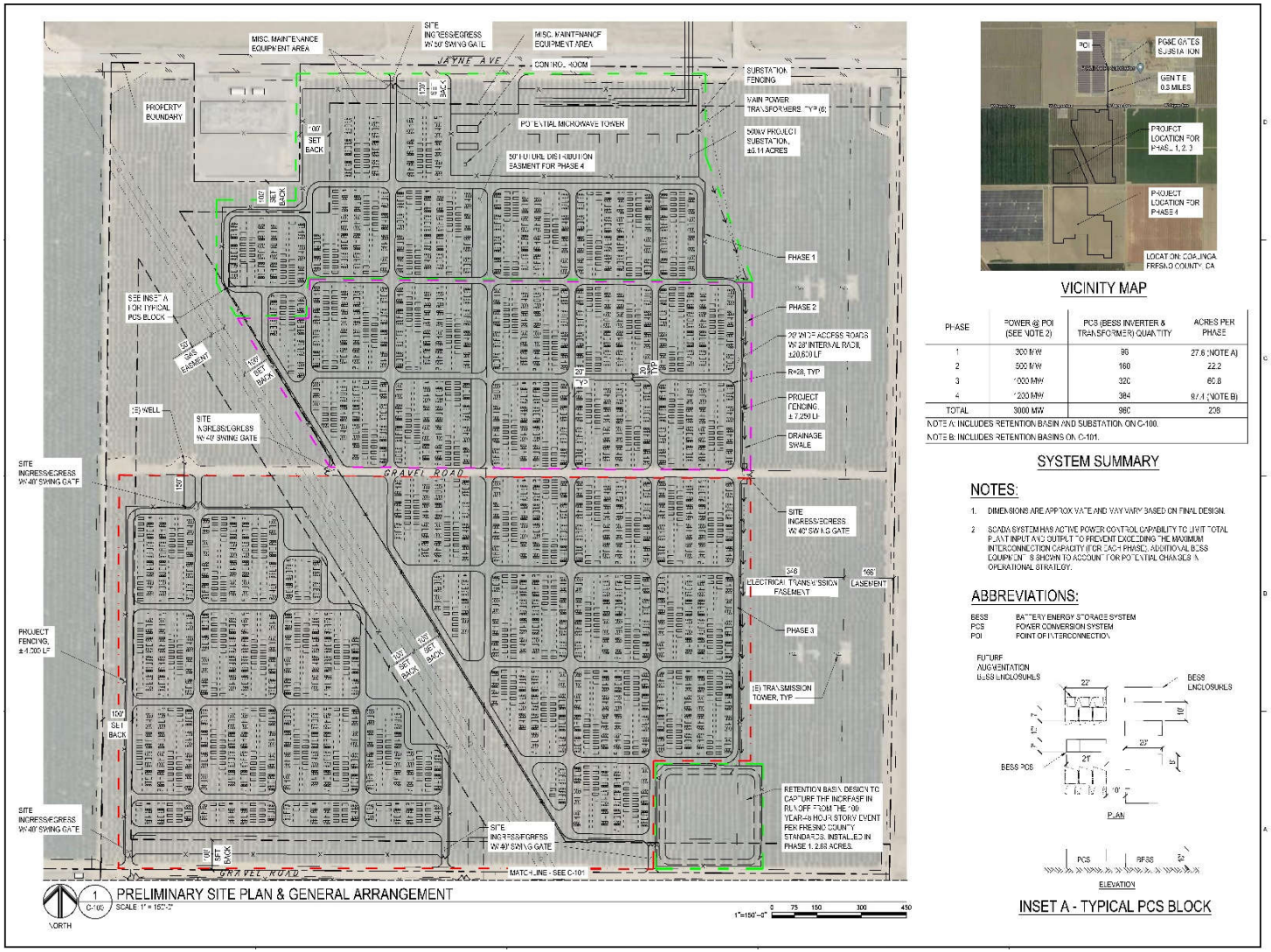
Key Energy Storage, LLC (Applicant) proposes to construct and operate the Key Energy Storage Project (Project) on up to 260 acres in unincorporated Fresno County. Two options are under consideration for the battery technology; one option would implement a lithium-ion battery, and the second option would implement iron flow and lithium-ion batteries. For the lithium-ion battery option, the Project would include the development of an energy storage system facility and associated on-site support facilities including:

- An open-air substation, approximately 5.14 acres in size, approximately 25 feet high (to the top of the insulators), surrounded by an 8-foot-high perimeter security fence topped with approximately 1 foot of barbed wire;
- Battery energy storage system (BESS) enclosures approximately 20 feet long, 8 feet wide, and 10 feet high (as exemplified in Figure 1);
- Power conversion system (PCS) enclosures approximately 21 or 22 feet long, 7 feet wide, and 10 feet high, consisting of an inverter, protection equipment, direct current (DC) and alternating current (AC) circuit breakers, filter equipment, equipment terminals, a transformer, and connection cabling system;
- 6-foot-tall chain-link perimeter fencing around the Project site topped with 1 foot of 3-strand barbed wire;
- 20-foot-wide gravel access lanes around the Project site perimeter and through major blocks of BESS and PCS enclosures;
- 10-foot-wide aggregate base access roads between BESS and PCS enclosures;
- Supervisory control and data acquisition (SCADA) system;
- A 500-kilovolt (kV) overhead generation tie line (gen-tie line), which would extend north to the adjacent Pacific Gas and Electric (PG&E) Gates Substation, would be installed on concrete or steel pole structures up to 150 feet tall and spaced approximately every 500 feet with a minimum 30-foot vertical clearance to the ground; and
- Other ancillary facilities or equipment.

Site plans for the lithium-ion Project option are shown in Figure 2 and Figure 3.

Figure 1 Examples of Energy Storage Units

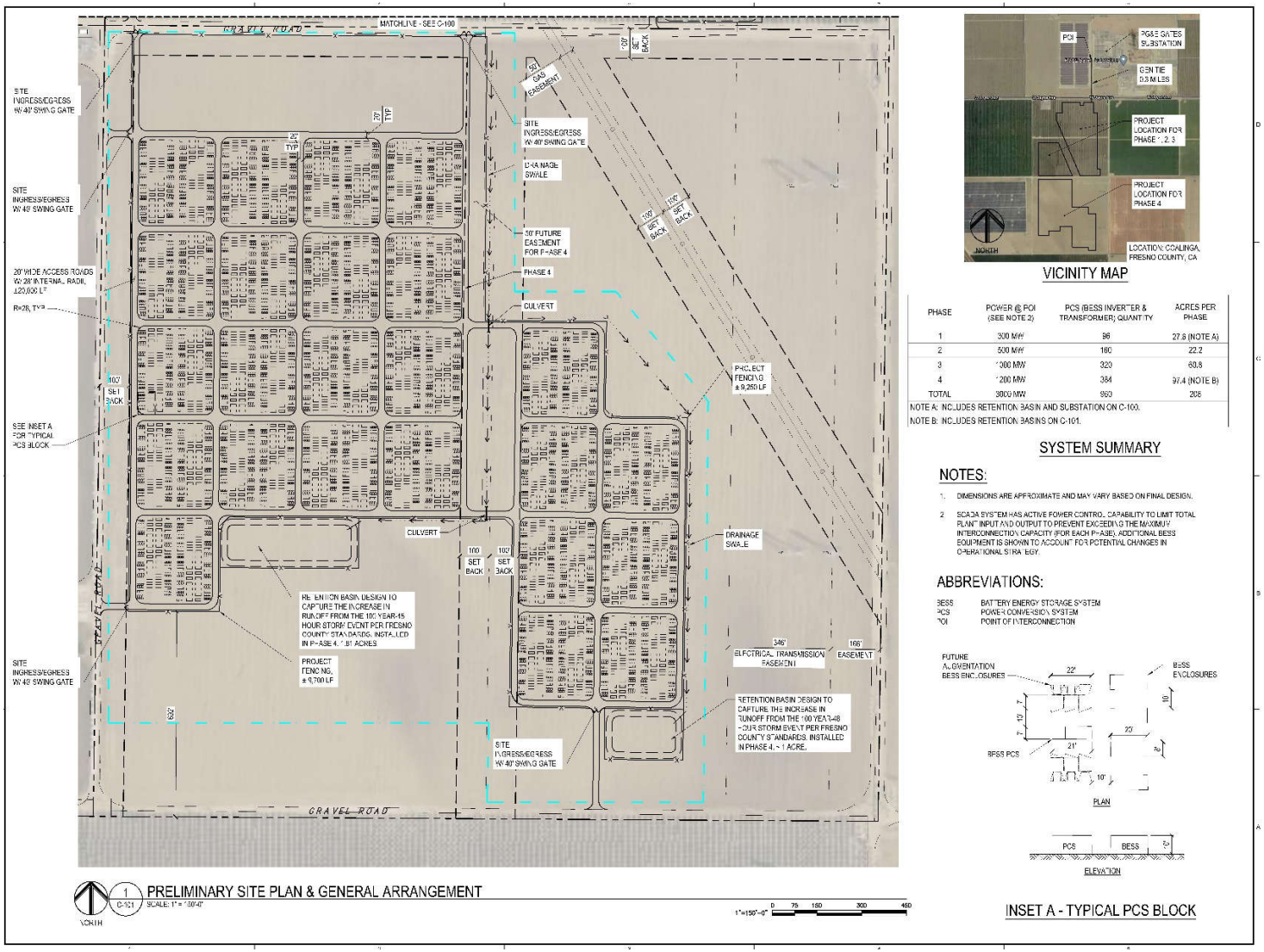
Figure 2 Project Site Plans – Lithium Ion Battery Option, Northern Parcel



PHASE	POWER @ POI (SEE NOTE 2)	PCS (BESS INVERTER & TRANSFORMER) QUANTITY	ACRES PER PHASE
1	300 MW	96	27.6 (NOTE A)
2	500 MW	160	22.2
3	1000 MW	320	60.8
4	1200 MW	384	97.4 (NOTE B)
TOTAL	3000 MW	960	208

NOTE A: INCLUDES RETENTION BASIN AND SUBSTATION, ON C-100.
NOTE B: INCLUDES RETENTION BASINS ON C-101.

Figure 3 Project Site Plans – Lithium Ion Battery Option, Southern Parcel



For the iron flow and lithium-ion battery option, the Project would include the development of an energy storage system facility and associated on-site support facilities including:

- An open-air substation, approximately 5.14 acres in size and approximately 25 feet high (to the top of the insulators), surrounded by an 8-foot-high perimeter security fence topped with approximately 1 foot of barbed wire;
- BESS enclosures approximately 20 feet long, 8 feet wide, and 10 feet high (as exemplified in Figure 1);
- PCS enclosures approximately 21 or 22 feet long, 7 or 8 feet wide, and 10 feet high consisting of an inverter, protection equipment, direct current (DC) and alternating current (AC) circuit breakers, filter equipment, equipment terminals, a transformer, and connection cabling system;
- Electrolyzer tanks approximately 12 feet in diameter and 18 feet high;
- BESS powertrain enclosures approximately 40 feet long, 8 feet wide, and 9.5 feet high;
- Auxiliary transformers approximately 12 feet long, 8 feet wide, and 9 feet high;
- Auxiliary power load centers approximately 20 feet long, 6 feet wide, and 7 feet high;
- 6-foot-tall chain-link perimeter fencing around the Project site topped with 1 foot of 3-strand barbed wire;
- 20-foot-wide gravel access lanes around the Project site perimeter and through major blocks of BESS and PCS enclosures;
- 10-foot-wide aggregate base access roads between BESS and PCS enclosures;
- SCADA system;
- A 500- kV overhead gen-tie line, which would extend north to the adjacent PG&E)Gates Substation, would be installed on concrete or steel pole structures up to 150 feet tall and spaced approximately every 500 feet with a minimum 30-foot vertical clearance to the ground; and
- Other ancillary facilities or equipment.

Site plans for the iron flow and lithium-ion Project option are shown in Figure 4 and Figure 5.

Figure 4 Project Site Plans – Iron Flow and Lithium Ion Battery Option, Northern Parcel

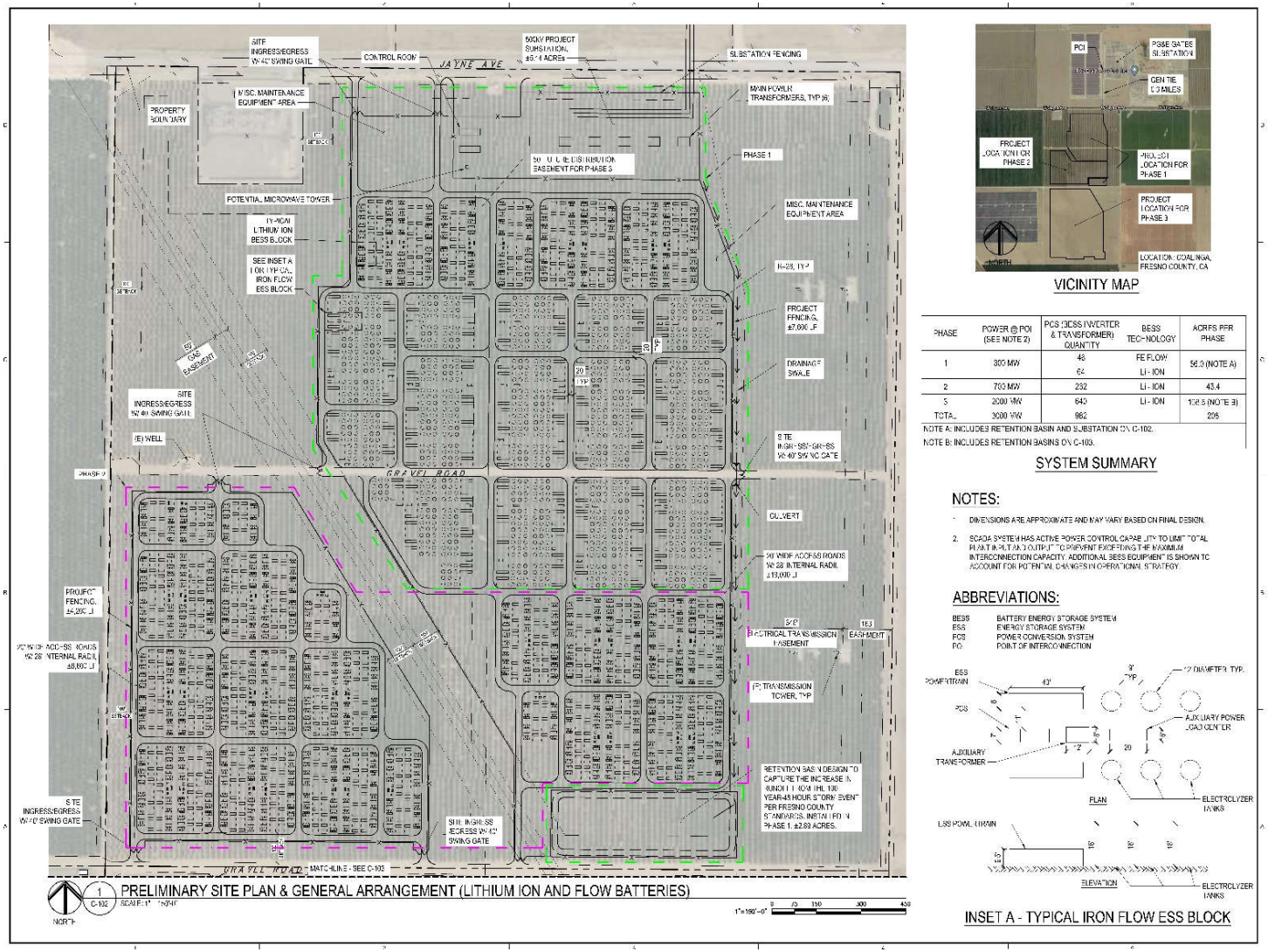
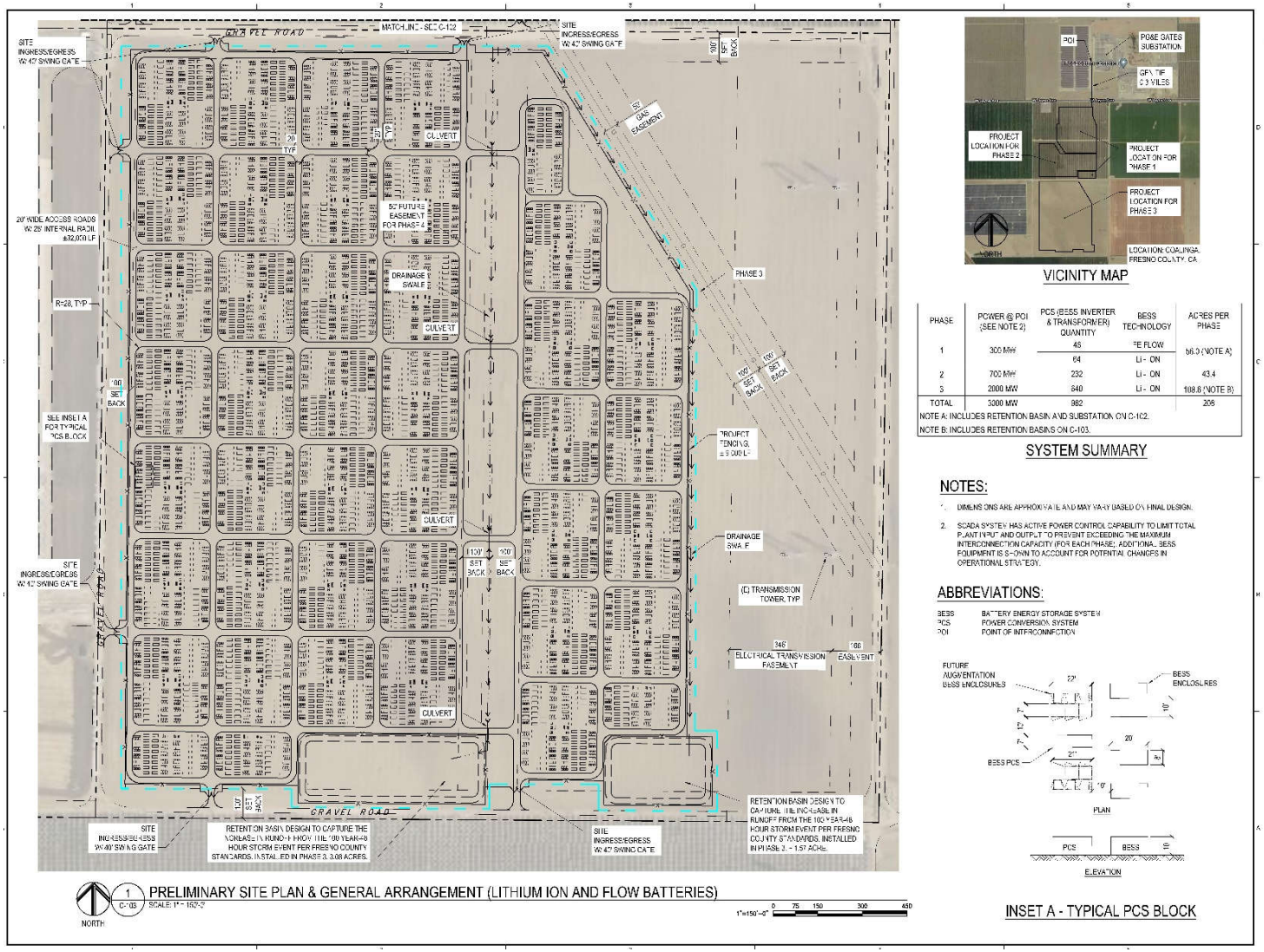


Figure 5 Project Site Plans – Iron Flow and Lithium Ion Battery Option, Southern Parcel



Regardless of the option, the energy storage facility is anticipated to consist of batteries with the potential to store approximately three (3)-gigawatt (GW) of energy. Buildout of the Project would occur in phases, with construction beginning in 2024.

The Project would support state policies necessary to improve the reliability of California's energy grid. California has taken action to advance energy storage, including the passage of Assembly Bill 2514 and the resulting California Public Utilities Commission (CPUC) decision for energy storage procurement targets for each of the investor-owned utilities. Locally, Fresno County provides a large share of the region's renewable energy. The Project would substantially increase local energy storage capacity and address the limitations of the electric grid and the increasing demand for renewable energy. Layering energy storage systems into the energy grid improves the reliability of the grid and makes it more resilient to disturbances and peaks in energy demand. The Project and other energy storage system projects are used to supply power during brief disturbances, reduce outages and associated impacts to the community, and substitute for certain large footprint transmission and distribution upgrades.

1.4 Project Location

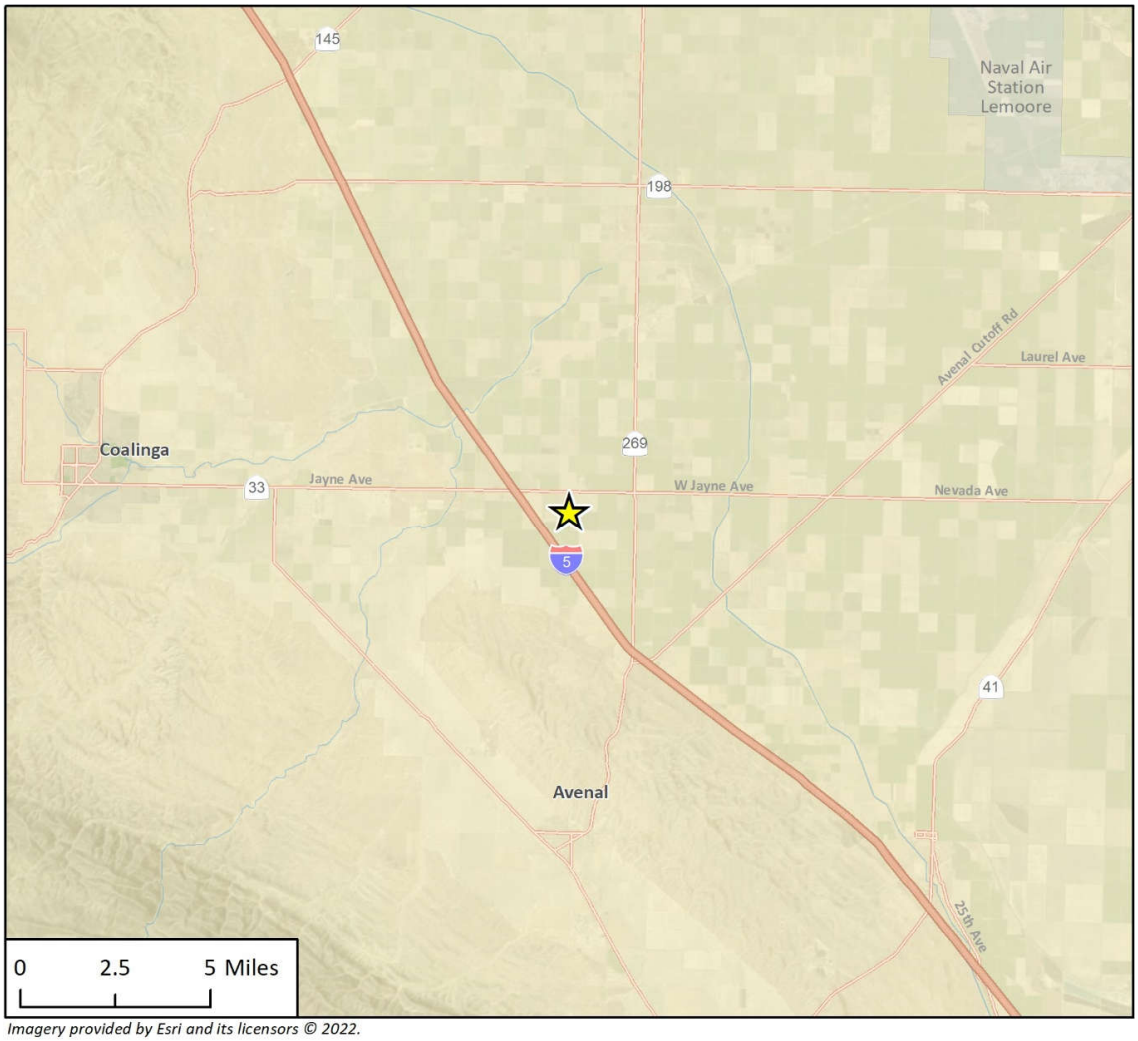
The Project site is in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, approximately 7.5 miles north of the City of Avenal, California, and approximately 0.4 miles east of Interstate 5 (I-5) (Figure 6). The Project site is located southwest of the PG&E Gates Substation along West Jayne Avenue. The Project would be developed on up to 260 acres of a 318-acre site comprised of three parcels (Assessor Parcel Numbers [APNs] 085-040-36S, 085-040-37S, and 085-040-58S) (Figure 7).

Existing Land Use

The northern portion of the Project site (APN 085-040-58S) consists of land in agriculture production, an overhead gen-tie line along the western boundary (Figure 8), and high voltage transmission lines running north-to-south in the eastern portion of the Project site. The southern portion of the Project site (085-040-36S and 085-040-37S) is currently fallow with high voltage transmission lines running north-to-south in the eastern portion of the Project site.

As shown in Figure 7, the Project site is bound by West Jayne Avenue to the north and unpaved agricultural access roads to the east, south, and west. Existing Project site access from West Jayne Avenue is provided via the agricultural roads along the eastern and western Project site boundaries.

Figure 6 Regional Location Map



Imagery provided by Esri and its licensors © 2022.

Project Location

N

Figure 7 Project Site and Project Parcel Map

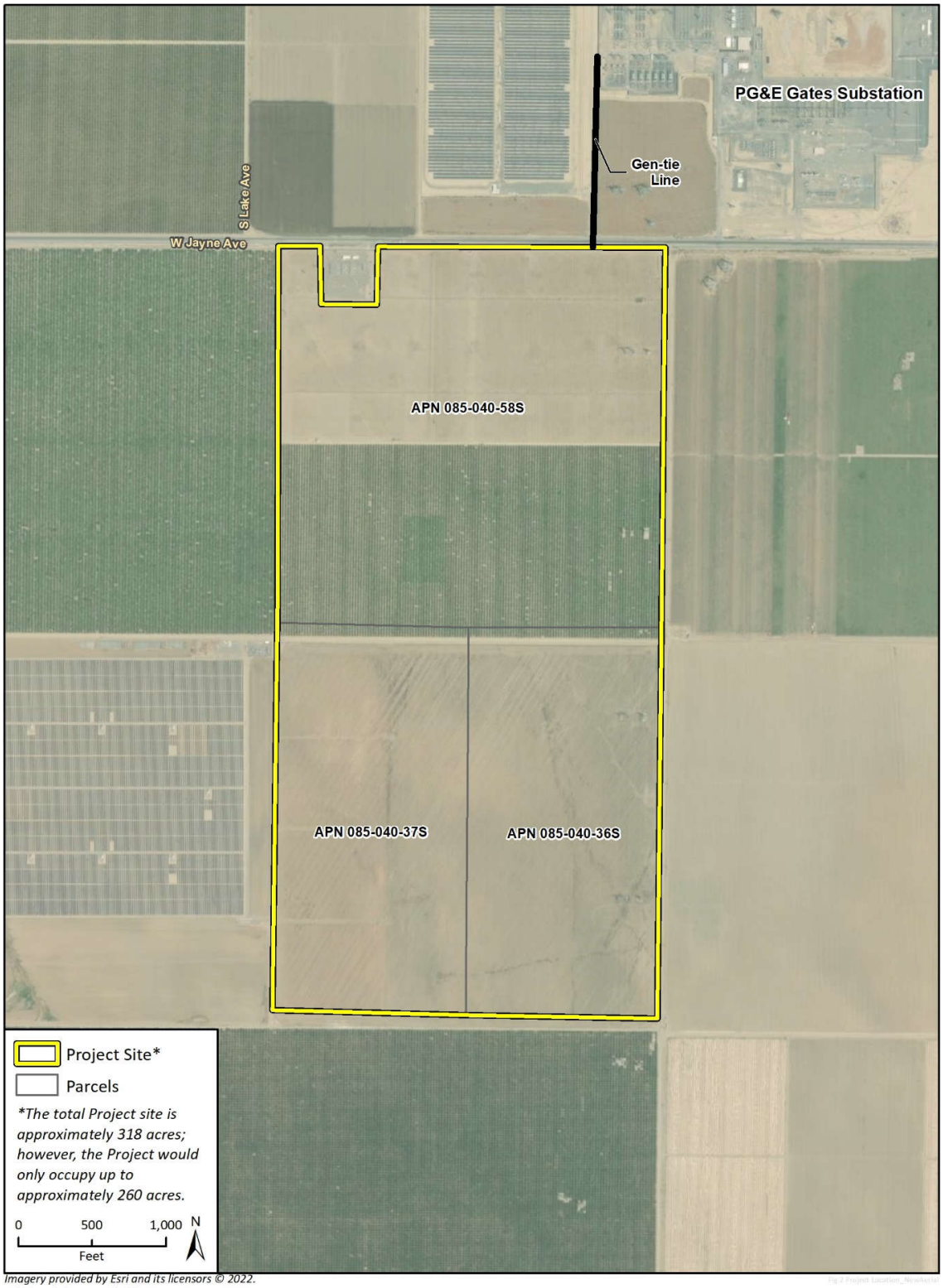


Figure 8 Existing Overhead Utilities

Surrounding Land Use

The Project site is surrounded by agricultural uses to the west, south, and east. Solar facilities are located to the north and southwest and the PG&E Gates Substation is located to the northeast of the Project site. A small substation is also located immediately adjacent to the northwest Project site boundary.

General Plan and Zoning Designations

The Fresno County General Plan land use designation for the Project site is Agriculture. The Project site is in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District. The entire Project site is designated as Prime Farmland that is covered by Williamson Act Contracts.

2 Environmental Setting

2.1 Regional Visual Character

Fresno County is historically defined by its economic base in agriculture and contains five distinct geographic areas: the Coast Range Foothill Area, the Westside Valley Area, the Eastside Valley Area, the Sierra Foothill Area, and the Sierra Nevada Mountain Area (Fresno County 2000). The Project site and the surrounding vicinity are located in the Westside Valley Area, which is visually characterized by the I-5 freeway, the flat valley floor, and expansive agricultural lands consisting of vineyards, orchards, row crops, and fallow lands. These large farms provide a sense of open space, emphasize the county's rural and farming heritage, and allow motorists opportunities for unrestricted panoramic views (Fresno County 2000b). The topography is relatively flat, and Project site vicinity offers open, expansive views of distant hills and mountains that frame the valley.

Approximately 4.5 miles south of the Project site, the southeast to northwest trending Kettleman Hills, North Dome (1365 feet amsl), and Elephant Hill (955 feet amsl) are distantly visible. Approximately 5 miles west-northwest of the Project site, the Guijarral Hills are distantly visible. While both sets of hills are distantly visible, the dusty haze from surrounding agricultural activities intermittently obscures their view from the Project site. During clearer, less windy conditions, the silhouette of the hills dominates the viewshed. At the base of these hills, the I-5 delineates the end of the foothills and the beginning of the broad, relatively flat, valley floor.

2.1.1 Local Visual Character

The Project site vicinity is characterized by a variable patchwork of parcels containing young and mature orchards, rows of ground crops and vineyards, and empty, fallow lands with bare tan soil and patches of dried grasses. The natural landscape of the Project site has been highly disturbed due to grading and tilling for crops, orchards, and vineyards. The built landscape in the Project site vicinity consists of utility infrastructure in the form of various metal high-voltage transmission structures, overhead electrical lines, electrical substation facilities, and solar facilities.

On-Site Views

The Project site landscape is characterized by bare soil dotted with rows of tree saplings on the northern half of APN 085-040-58S. A lush fruit orchard is located on the southern half of APN 085-040-58S. Dry, fallow lands containing intermittent patches of dried grasses are located on APNs 085-040-36S and 085-040-37s. Topography on the Project site is gently sloping downward from the southwest corner of the Project site. Elevation of the Project site ranges between approximately 420 and 440 feet above mean sea level (amsl) (USGS 2022).

As shown in Figure 8, existing utility infrastructure spans the Project site and adjacent parcels. Figure 9 shows the locations of the character photographs and KOPs of the Project site, and Figure 10 depicts existing landscape characteristics. An existing approximately 2.8-acre substation with overhead electrical lines strung across approximately 60 feet high tubular steel poles (TSP) and galvanized steel dead-end structures is located adjacent to the northwest Project site boundary. One overhead subtransmission line is strung from the substation to a TSP approximately 60 feet west, then approximately 150 feet north to another TSP that is situated in line with the wooden distribution poles that run from east to west in line with the southern side of West Jayne Avenue.

Another overhead subtransmission line is strung from the substation approximately 130 feet west, then approximately 150 feet southwest to a steel interset pole, before extending another 150 feet southwest to another TSP that sits on the westernmost edge of the Project site boundary. Along this western edge, this line is strung north-south across wooden subtransmission poles, spaced approximately 375 feet apart, until the northwesternmost corner of APN 085-040-37S, where the line ties into another small substation on an adjacent solar field parcel, situated immediately west. A third subtransmission line is strung from the substation on APN 085-040-58S to a TSP approximately 35 feet east of the substation, then approximately 150 feet north to another TSP that is situated in line with the wooden distribution poles that run from east to west in line with the southern side of West Jayne Avenue. On the east side of APN 085-040-58S, approximately 725 feet south of West Jayne Avenue, two high-voltage electrical transmission lines running north-south from the PGE&E Gates Substation connect to two lattice steel towers (LST). The first LST is comprised of two "columns" of steel lattice supported by four footings, which brace a horizontal lattice member on top, for a total of approximately 150 feet tall by 90 feet wide at its widest point. The second LST is comprised of a single lattice steel column stacked on four footings, for a total of approximately 120 feet tall by 30 feet wide at the base. The lines are then strung to identical towers every 1,200 feet, down the length of the Project site and beyond. Additionally, at the northwest corner of the Project site, a 25-foot segment of above-ground metal pipe with a concrete footing is visible. Parallel to this pipe, another pipe is intermittently exposed above ground across the length of the northern Project site boundary.

Off-Site Views

The built environment of the Project site vicinity is dominated by the PG&E Gates Substation, which is located immediately northeast of the Project site. The substation structure and its associated facilities and infrastructure dominate the views northeast of the Project site. The towering transmission structures and a latticework of overhead electrical lines are visible over the earth-tone substation perimeter wall and continue along a greater network of tall, metal structures throughout the surrounding parcels and down West Jayne Avenue. Wooden poles strung with distribution lines and large pipes with deep culverts line the south edge of West Jayne Avenue. There is also a solar facility immediately north of the Project site, just west of the Gates Substation. The solar facility, approximately 45 acres in size, is clearly visible despite being set back approximately 400 feet off West Jayne Avenue. Immediately west of the Project site is an approximately 85-acre solar facility. The other parcels immediately south and west of the Project site consist of mature fruit and nut orchards, providing visual screening.

Representative and KOP photo point locations are depicted in Figure 9. The visual character of the Project site and vicinity are illustrated and described in Figure 10, Project Vicinity Character Photographs.

Figure 9 KOP and Photo Point Location

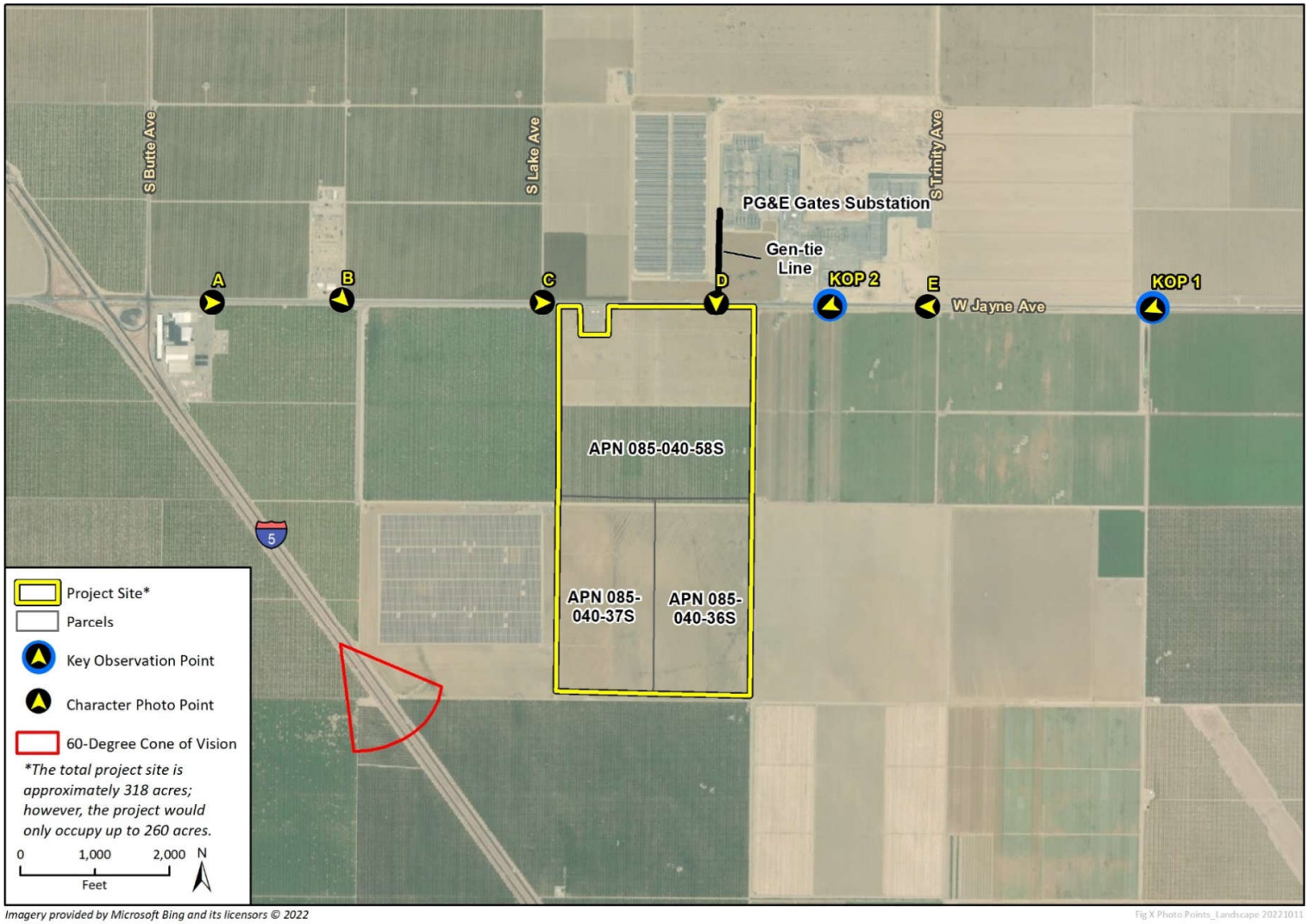


Figure 10 Project Vicinity Character Photographs

Photograph A. View looking east on West Jayne Avenue toward the northernmost extent of the Project site vicinity, approximately 0.9 miles distant. Photograph A is representative of views for motorists on West Jayne Avenue east of I-5. The area is generally flat and devoid of discernable geographic features. The landscape is characterized by a patchwork of agricultural lands, including fruit and nut orchards and recently tilled bare, tan soil. A deep drainage ditch and distribution lines supported by wooden poles run east-west along the south side of West Jayne Avenue, and larger high-voltage electric transmission infrastructure is distantly visible. The Project site is not visible beyond the orchard.

Photograph B. View looking southeast on West Jayne Avenue from the driveway of a nearby rural residence and storage yard toward the northwestern-most extent of the Project site vicinity, approximately 0.5 miles distant. Photograph B is representative of views for motorists on West Jayne Avenue. Views of the Project site are blocked by the fruit/nut orchard on the parcel immediately west of the Project site. A small, fenced-in storage area for above-ground storage tanks and a portable restroom are visible on the edge of the orchard. An electric distribution line supported by wooden poles runs east-west along the south side of West Jayne Avenue, and larger high-voltage electric transmission infrastructure is distantly visible.

Photograph C. View looking east on West Jayne Avenue toward the northwestern-most extent of the Project site vicinity. Photograph C is representative of views for motorists traveling east on West Jayne Avenue. The PG&E Gates Substation, approximately 1 mile distant, with high-voltage transmission structures and various electrical lines extending north-south across the view, dominates the horizon on the north side of the road. A parcel of bare, tan soil is visible in the foreground on the north side of the road. On the south side of the road, the limits of the mature orchard (also seen in Photograph B) are visible where the orchard ends, and the Project site begins. A small substation, located on APN 085-040-58S, is visible above the orchard tree line. A deep drainage ditch and distribution lines supported by wooden poles run east-west along the south side of West Jayne Avenue.

Photograph D. View looking south directly at the north end of the Project site from the intersection of West Jayne Avenue and the entrance/exit to the access road for the adjacent solar facility. Photograph D is representative of views for motorists looking 90 degrees over their shoulder on West Jayne Avenue at the Project site. The Project site is dotted with rows of tree saplings with sparse low vegetation and bare, pale soil between rows. Orchards located on the south side of the Project site create a dark, linear feature below the distant mountains and hills. Large, high voltage electric transmission structures and associated conductors run north-south along the east side of the Project site. The tall structures are skylined above the hills and mountains in the distance and are the most prominent built feature in the view.

Photograph E. View looking west on West Jayne Avenue toward the northeastern-most extent of the Project site, approximately 0.4 miles distant. Photograph E is representative of Project site views for westbound motorists along West Jayne Avenue. On the south side of the road, a parcel of green row crops covers the landscape, and a deep, irregular stormwater drainage and aboveground pipes parallel the road. On the north side of West Jayne Avenue, the landscape is characterized by exposed tan soils and sparse, low, dusty-green shrubs. The view is dominated by high-voltage electric transmission structures and wooden electric distribution structures and their associated conductors. Along the horizon, the distant hills and mountains are barely discernable.

2.1.2 Scenic Highways

Portions of State Route (SR) 198, approximately 15 miles northwest of the Project site, and SR 33, approximately 13 miles west of the Project site, are eligible for California State Scenic Highway Designation (California Department of Transportation [Caltrans] 2018); however, the Project site is not located within the viewshed of these highways.

Though not designated as a state scenic highway, Fresno County designates I-5 as a scenic roadway due to the continuous unrestrictive views of adjacent coastal foothills that extend westward (Fresno County 2000b: 4.16-1). The Project site is located approximately 0.4 miles east of I-5 but is not visible from the I-5 due to orchards and solar facilities blocking the view.

2.1.3 Scenic Vista

There are no Caltrans scenic vista points on state highways within the Project site vicinity. The nearest vista point identified by Caltrans is the Success Dam Vista Point in the Porterville, approximately 70 miles east of the Project site. The Project site is not visible from this vista point (Caltrans 2015).

The County of Fresno General Plan Open Space and Conservation Element identifies scenic vistas in the County, such as those near the City of Coalinga (County of Fresno 2000a). There are no designated scenic vistas in the Project site viewshed.

2.1.4 Sensitive Receptors

There are no parks or scenic vistas within 3 miles of the Project site; therefore, no sensitive receptors have views of the Project site. However, as detailed in Section 3.1, motorists along West Jayne Avenue are exposed to views of the Project site and would be considered primary viewers of the Project site.

3 Methodology

This visual assessment identifies and assesses potential long-term adverse visual impacts on aesthetics and visual resources that could result from implementation of the Project. This assessment included the following steps to assess potential visual effects:

- Reviewing planning documents applicable to the Project site vicinity to gain insight into the type of land uses intended for the general area, and the guidelines given for the protection or preservation of visual resources.
- Conducting a visit to the Project site on March 31, 2022 for the purposes of:
  - Surveying the on-site and surrounding uses to identify sensitive viewers and viewpoints for assessment of potential aesthetic impacts;
  - Analyzing the baseline visual quality and character of the identified views; and,
  - Taking photographs to document observed conditions.
- Identifying Project components that could affect representative views in the Project site vicinity in terms of visual quality and character, as informed by plans, descriptions, simulations, aerial photographs, and street-level photography.
- Assessing the Project's impacts to identified views by evaluating potential Project-caused change in the affected area's baseline visual quality and character.

Selection of the primary viewers, selection of Key Observation Point (KOP) locations, and simulation preparation methods are described below.

3.1 Viewer Groups

Sensitive receptors[1] and viewing areas that would be the most sensitive to the proposed Project's potential visual impacts were identified. Due to the Project site location and surrounding orchards, publicly-accessible views are primarily limited to motorist views westbound along West Jayne Avenue, and motorist views southbound along a 0.1 mile stretch of I-5, located to the west at distances ranging from 0.4 miles to 1.2 miles. Westbound motorists along West Jayne Avenue are the largest viewer group that would be exposed to Project views. Views of the Project site by eastbound motorists on West Jayne Avenue are largely obscured by intervening orchards. As detailed below, motorists views from I-5 were found to have very short duration due to the average freeway speed (60 miles per hour [mph]) and obstructed views of the Project site, and therefore have been ruled out as a primary viewer. Motorists along westbound West Jayne Avenue were found to have prolonged exposure to the Project site, and therefore are considered the primary viewer.

3.2 Viewer Exposures

Motorist viewer exposure is affected by the movement of the viewer in their vehicle, and viewsheds are directional to motorists along roadways. The United States Department of Transportation (DOT)

[1] Typically, residents and recreationists are considered to be sensitive receptors to changes in landscape. This is because of the potential for effects to their long-term views or their enjoyment of a particular landscape or activity.

Federal Highway Administration (FHWA) notes that "the faster a person moves, the smaller the area on which they are able to focus their attention. At 25 mph, a driver can see a view approximately 100° wide; at 45 mph, the view drops to 65°; and at 65 mph, it drops to a narrow 40°, substantially reducing what is seen" (FHWA 2015). Variables considered relative to how viewers might be affected include the angle of view, the extent to which views are open or screened, the duration of view, and viewing distance. Viewing angle and extent of visibility consider the relative location of the Project site to the viewer and whether visibility conditions would be open or panoramic, or limited by intervening vegetation, structures, or terrain. Duration of view pertains to the amount of time the Project typically would be seen from a sensitive viewpoint. In general, duration of view would be shorter in instances where the Project would be seen for short or intermittent periods (such as from major travel routes and recreation destination roads), and greater in instances where the Project would be seen regularly and repeatedly (such as from public use areas). Viewing distances are described according to whether the Project would be viewed in a foreground (within 0.5 mile or 2,640 feet), middle ground (0.5 mile to 2 miles), or background (beyond 2 miles) zone.

Westbound motorists are the main viewership that may be exposed to the Project site, along West Jayne Avenue. Eastbound views of the Project site along West Jayne Avenue are obscured due to a mature fruit orchard located on the parcel immediately west of the Project site. However, eastbound motorists would be able to briefly view the Project site when they are adjacent to the Project site if they look to their right.

While motorist views of the Project site from I-5 appear possible, they are very limited. Views of the Project site for motorists traveling northbound on I-5 are blocked by a large orchard located to the south of the Project site, unless they look back over their shoulder. Traveling southbound on I-5 north of the Project site, mature orchards and a solar facility located between Project site and I-5 completely block views of the Project site. Immediately south of the solar facility between I-5 and the Project site, for approximately 0.10 mile, the Project site is unobscured to southbound I-5 motorists. As shown in Figure 9, to approximate Project site viewership along I-5; an average speed of 60 mph and a 60° "cone of vision" was used. The "point" of the cone was placed in the location where the Project site would theoretically first become visible. At a speed of 60 mph, the 0.10 mile of unobscured view would be visible for approximately 6 seconds. However, even for this period of time, the Project site is not within the 60-degree cone of vision assumed for motorists along I-5, and motorists would have to look to their left in order to view the Project site.

3.3 Viewer Sensitivity

Visual sensitivity is determined by a composite measurement of the overall susceptibility of an area or viewer group to adverse visual or aesthetic impacts given the combination of existing landscape quality, viewer type, and exposure conditions. Table 1 summarizes the overall visual sensitivity of the major viewer types near the Project site.

Table 1 Summary of Visual Sensitivity Findings

Viewer Type	Visual Quality	Use and Visual Exposure Description	Visual Sensitivity
Primary			
Motorists along West Jayne Avenue (KOP 1 and 2)	Industrial	Brief views by local motorists at moderate speed, low view angle, unobstructed to westbound traffic, short view duration.	Low - Moderate
Other			
Motorists along I-5	Industrial	Very brief distant views by motorists at freeway speed, low view angle, obstructed by orchard trees and solar facility, very short view duration.	Very Low

3.4 KOP Selection

KOPs were established to provide a representative cross-section of affected landscapes in the visual study area. These locations, shown in Figure 9, were selected based on the Project site viewshed, visual exposure, and important viewer groups.

During the Project site visit, the Project site was evaluated from a variety of locations and viewing distances. KOPs were established to provide a representative cross-section of affected landscapes in the visual study area. These locations, shown in Figure 9, were selected based on the Project's viewshed, visual exposure, and viewer group. As there are no scenic vistas, scenic highways, or public recreation areas in the vicinity of the Project site, no sensitive receptors as defined in Sections 1.2 or 2.1.4 would be exposed to Project views. Therefore, this analysis focuses on the largest viewer group that would be exposed to Project views, which would be motorists along West Jayne Avenue.

Two KOPs were ultimately selected along West Jayne Avenue facing west. These KOPs represent views of motorists traveling west on West Jayne Avenue (a local street). Character photographs were taken from the KOPs and other proximate locations to represent the existing visual conditions of the Project site.

3.5 Visual Simulations

To provide a basis for evaluating the visual effect of the proposed Project on these views, visual simulations of each battery storage option were produced to illustrate the "after" visual conditions from each of the KOPs. The proposed facilities were modeled based on preliminary Project BESS and PCS enclosures, main power transformers, and 500 kV substation components for the lithium-ion Project option, and preliminary Project electrolyzer, BESS and PCS enclosures, main power transformers, and 500 kV substation components for the iron flow and lithium-ion Project option.

The simulations were produced from photography of the Project site vicinity and 3D modeling of a typical substation design. The perspective and lighting of each KOP view was matched to the 3D model and the proposed views were rendered. Foreground elements in the photographs were masked out and the 3D rendering was composited with the background. Atmosphere, noise, and blur was added to the 3D rendering to match the photography.

At each KOP, the existing visual conditions were compared to those under the development of the Project site vicinity, based on the visual simulations. The comparison, included in Section 4,

considers the existing quality of scenic backdrops, background vistas, and foreground views across the Project site vicinity and the Project's alteration of these scenic views.

3.6 Significance Criteria

The analysis evaluates whether the Project would substantially degrade the existing visual character or quality of public views of the Project site and its surroundings. An adverse visual impact may occur when (1) an action perceptibly changes the existing physical features of the landscape that are characteristic of the region or locale; (2) an action introduces new features to the physical landscape that are perceptibly uncharacteristic of the region or locale, or becomes visually dominant in the viewshed; or (3) an action blocks or totally obscures valued aesthetic features of the landscape. The degree of visual impact depends on how noticeable the adverse change is in conjunction with the visual sensitivity of the Project site. A noticeable visual impact is a function of the combination of Project features, context, and viewing conditions (angle of view, distance, and primary viewing directions). The key factors determining the degree of visual change are visual contrast, Project dominance, and view blockage.

Visual Contrast is a measure of the degree of change in line, form, color, and texture that the Project would create, when compared to the existing landscape. Visual contrast ranges from none to strong, and may be defined as:

- None –The element contrast is not visible or perceived
- Weak –The element contrast can be seen but does not attract attention
- Moderate –The element contrast begins to attract attention and begins to dominate the characteristic landscape
- Strong – The element contrast demands the viewer's attention and cannot be overlooked

Visual dominance is a measure of a Project feature's apparent size relative to other visible landscape features in the viewshed.

View blockage or impairment is a measure of the degree to which Project features would obstruct or block views of aesthetic features due to the Project's position and/or scale.

Overall adverse visual impact reflects the composite visual changes to both the directly affected landscape and from sensitive viewing locations.

4 Analysis of Visual Effects

4.1 KOP Evaluation – Lithium-Ion Battery Option

The lithium-ion battery option of the Project would include battery storage units, a substation, and a new generation transmission line. Figure 11 and Figure 12, presented at the end of this section, show how the Project components for the lithium-ion battery option would appear to viewer groups (motorists) at KOPs when compared to existing (pre-Project) views at these locations.

4.1.1 KOP 1

Figure 11, Photograph 1 documents the existing west-southwestern view toward the Project site from West Jayne Avenue near its intersection with an agricultural access road approximately 1 mile east of the Project site. The existing view to westbound motorists on West Jayne Avenue includes a patchwork of agricultural fields with varying states of growth ranging from empty, fallow lands to seedlings and saplings, to mature row crops and orchards. Along the south side of West Jayne Avenue where the road surface meets the soil, stormwater has eroded away a drainage culvert and created an irregular crack several feet in depth. Wooden posts with distribution lines run parallel to the roadway on either side. Barren agricultural fields dominate the view, with tall, metal transmission towers and wires line in the middleground and hills in the distance.

Figure 11, Photograph 2 shows a simulation of the view as it would appear after construction of the lithium-ion battery option. As shown in the simulated view, the energy storage facility presents with weak visual contrast as a faintly visible dotted, linear feature in the middleground of the view, beyond the vast agricultural fields. The existing high voltage transmission lines are skylined above the hills and mountains in the distance and remain the most prominent visual features in the middleground of the view. From KOP 1, the proposed infrastructure is nearly indistinguishable for motorists along West Jayne Avenue, and motorists would have low sensitivity to visual changes on the Project site. Existing high voltage electric transmission infrastructure and the mountains to the south and west remain the most prominent visual features.

4.1.2 KOP 2

Figure 12, Photograph 1 documents the existing west-southwest view toward the Project site from West Jayne Avenue, approximately 0.2 mile east of the Project site. The existing view for westbound motorists on West Jayne Avenue includes an extremely flat landscape flush with row crops and distant orchards. Large, metal pipes are laid atop the tan soil along the south side of West Jayne Avenue. Large, metal transmission structures and wooden distribution poles are strung along the roadway and throughout the surrounding agricultural fields. The Kettleman and Guijarral Hills are faintly visible in the distance. The existing high voltage transmission lines are skylined above the hills and mountains in the distance and remain the most prominent visual features.

Figure 12, Photograph 2 shows a simulation of the view as it would appear after construction of the lithium-ion battery option. As shown in the simulated view, new BESS and PCS enclosures, transformers, and substation components associated with the energy storage system facility would be moderately visible. Considering the flat terrain and frequent traffic along West Jayne Avenue, motorists would have a moderate sensitivity to visual changes on the Project site, as the new infrastructure contrasts somewhat with the low vegetation in the foreground. However, the

proposed infrastructure is consistent with the existing utility infrastructure, and the existing high voltage electric transmission lines would remain the most prominent visual feature.

4.1.3 Summary of Anticipated Visual Effects

As described above and illustrated in Figures 10, 11, and 12, the proposed lithium-ion battery option is minimally discernable in the landscape. Looking east along West Jayne Avenue, views of the Project site are generally obscured by the parcels of existing, mature orchards to the immediate west and northwest of the Project site. Looking west along West Jayne Avenue, the proposed Project adds slightly more industrial character to the landscape, but the degree of contrast introduced to the view is low. The proposed BESS and PCS enclosures, transformers, and substation components would be similar in form but less visually prominent than existing electrical infrastructure in the Project vicinity. Overall, the lithium-ion battery option would not substantially degrade the existing visual character or quality of public views of the Project site vicinity and its surroundings.

Figure 11 KOP 1 – Lithium-Ion Battery Option

Photograph 1. Existing view looking west-southwest toward the Project site vicinity from West Jayne Avenue.

Photograph 2. Simulated view after construction of the proposed lithium-ion battery option.

Figure 12 KOP 2 – Lithium-Ion Battery Option

Photograph 1. Existing view looking west-southwest toward the Project site vicinity from West Jayne Avenue, approximately 0.2 mile east of the Project site.

Photograph 2. Simulated view after construction of the proposed lithium-ion battery option.

4.2 KOP Evaluation – Iron Flow and Lithium-Ion Option

The iron flow and lithium-ion battery option would include electrolyzer and BESS powertrain units, battery storage units, a substation, and a new generation transmission line. Figure 13 and Figure 14, presented at the end of this section, show how the components for the iron flow and lithium-ion battery option would appear to viewer groups (motorists) at KOPs when compared to existing (pre-Project) views at these locations.

4.2.1 KOP 1

Figure 13, Photograph 1 documents the existing west-southwestern view toward the Project site from West Jayne Avenue near its intersection with an agricultural access road approximately 1 mile east of the Project site. The existing view to westbound motorists on West Jayne Avenue includes a patchwork of agricultural fields with varying states of growth ranging from empty, fallow lands to seedlings and saplings, to mature row crops and orchards. Along the south side of West Jayne Avenue where the road surface meets the soil, stormwater has eroded away a drainage culvert and created an irregular crack several feet in depth. Wooden posts with distribution lines run parallel to the roadway on either side. Barren agricultural fields dominate the view, with tall, metal transmission towers and wires line in the middleground and hills in the distance.

Figure 13, Photograph 2 shows a simulation of the view as it would appear after construction of the iron flow and lithium-ion battery option. As shown in the simulated view, the majority of the energy storage facility presents with weak visual contrast as a faintly visible dotted, linear feature in the middleground of the view, beyond the vast agricultural fields. The electrolyzer tanks are more distinct, sitting higher than the energy storage enclosures, and present as a thick, tan, line on the northern parcel. The existing high voltage transmission lines are skylined above the hills and mountains in the distance and remain the most prominent visual features in the middleground of the view. From KOP 1, the proposed infrastructure is faintly distinguishable for motorists along West Jayne Avenue, and motorists would have low sensitivity to visual changes on the Project site. Existing high voltage electric transmission infrastructure and the mountains to the south and west remain the most prominent visual features.

4.2.2 KOP 2

Figure 14, Photograph 1 documents the existing west-southwest view toward the Project site from West Jayne Avenue, approximately 0.2 mile east of the Project site. The existing view for westbound motorists on West Jayne Avenue includes an extremely flat landscape flush with row crops and distant orchards. Large, metal pipes are laid atop the tan soil along the south side of West Jayne Avenue. Large, metal transmission structures and wooden distribution poles are strung along the roadway and throughout the surrounding agricultural fields. The Kettleman and Guijarral Hills are faintly visible in the distance. The existing high voltage transmission lines are skylined above the hills and mountains in the distance and remain the most prominent visual features.

Figure 14, Photograph 2 shows a simulation of the view as it would appear after construction of the iron flow and lithium-ion battery option. As shown in the simulated view, new BESS and PCS enclosures, transformers, and substation components associated with the energy storage system facility would be moderately visible. The cylindrical electrolyzer tanks present more distinctly as a taller, tan mass amidst the surrounding Project components. Considering the flat terrain and frequent traffic along West Jayne Avenue, motorists would have a moderate sensitivity to visual

changes on the Project site, as the height of Project infrastructure contrasts with the low vegetation in the foreground. However, the proposed infrastructure is consistent with the existing utility infrastructure, and while the electrolyzer tanks compete for visual dominance in the middle ground, the existing high voltage electric transmission lines would remain the most prominent visual feature.

4.2.3 Summary of Anticipated Visual Effects

As described above and illustrated in Figures 10, 13 and 14, the iron flow and lithium-ion battery option is moderately discernable in the landscape. Looking east along West Jayne Avenue, views of the Project site are generally obscured by the parcels of existing, mature orchards to the immediate west and northwest of the Project site. Looking west along West Jayne Avenue, the iron flow and lithium-ion battery option adds more industrial character to the landscape, but the degree of contrast introduced to the view is low to moderate. The electrolyzer tanks are cylindrical and would add a variety in form and massing, and moderately contrast from their surroundings. The proposed BESS and PCS enclosures, transformers, and substation components would be similar in form but less visually prominent than existing electrical infrastructure in the Project vicinity. Overall, the iron flow and lithium-ion battery option would not substantially degrade the existing visual character or quality of public views of the Project site vicinity and its surroundings.

Figure 13 KOP 1 – Iron Flow and Lithium-Ion Battery Option

Photograph 1. Existing view looking west-southwest toward the Project site vicinity from West Jayne Avenue.

Photograph 2. Simulated view after construction of the proposed iron flow and lithium-ion battery option.

Figure 14 KOP 2 – Iron Flow and Lithium-Ion Battery Option

Photograph 1. Existing view looking west-southwest toward the Project site vicinity from West Jayne Avenue, approximately 0.2 mile east of the Project site.

Photograph 2. Simulated view after construction of the proposed iron flow and lithium-ion battery option.

5 References

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