Jim Minnick
DIRECTOR

March 19, 2024

Subject: Request for Proposal (RFP) for an Initial Study for a Battery Storage Alba Peaker Plant

Project Applicant: APEX ENERGY SOLUTIONS, LLC
Project Name: Alba Peaker BESS project

- Conditional Use Permit CUP #23-0025
- IS #23-0030

Dear Consultant:

The Imperial County Planning & Development Services Department is soliciting proposals for the preparation of an Initial Study # 23-0030 for the attached project Conditional Use Permit CUP #23-0025. **The Imperial County Planning & Development Services Department** will act as the "Lead Agency" for the preparation of the Initial Study pursuant to the California Environmental Quality Act (CEQA) for the project. The successful consultant will work directly for the Imperial County Planning & Development Services Director in the preparation of this CEQA document.

The ALBA PEAKER BESS project includes:

1. **Conditional Use Permit #23-0025**

   - 100 MW Battery Energy Storage facility (Alba Peaker Plant)
   - APN: 051-420-042-000; 6.30 AC
   - Zone M-2 (Medium Industrial)

   Please review project information on the attached email.

I. **The County hereby requests the following information: for each item (as appropriate) the hourly rate and estimated total hours for the specific task must be documented.**

- Project scope to be utilized in the preparation of a legally adequate CEQA document;
- Identified milestones representing specific tangible work products (tasks) to which payments by the County would be linked and become part of the legal contract. (Please note that all subsequent bills/invoices will be required to include both the identified milestones and percent completed).
  All potential subcontractor(s) that will be utilized along with their estimated staff time and cost breakdown;
- An estimated "not to exceed cost" to prepare the Initial Study documents;
  A digital (CD, USB Drive) version of all documents prepared by the prime CEQA consultant and potential subcontractor(s).
- Also, proposals must incorporate the cost estimate for the printing of the Final environmental documents.

801 Main St. El Centro, CA. 92243 (442) 265-1736 Fax (442) 265-1735 planninginfo@co.imperial.ca.us www.icpds.com

The proposal must provide that prior to any cost overruns; the consultant shall discuss first and then seek written approval from the County Planning and Development Services Director, Jim Minnick before such costs are incurred. Failure to get prior written approval may result in such costs being disallowed.

We request that you provide within your cost estimate for the proposed Initial Study-including costs for the preparation of the following studies and analysis.

- Aesthetics
- Air Quality/ Greenhouse Gas emissions (third party review) applicant submitted Air Quality & Greenhouse Gas Analysis.
- Hydrology and Water Quality
- Biological Resources (third party review) applicant submitted Biological Resources Report.
- Cultural Resources/Historical/Archaeology (third party review) applicant submitted Cultural Resources Report.
- Geology and soils
- Hazards and Hazardous Materials
- Land Use Planning
- Noise (third party review) applicant submitted Noise Analysis.
- Public Services (Police, Fire, Schools)
- Transportation (third party review) applicant submitted Transportation Analysis.
- Tribal Cultural Resources
- Utilities and Service System

The following sections may need to be addressed in the Initial Study and Findings of Fact for project.

- SB18/AB-52 Tribal Cultural Resources
- CEQA Findings for Project
- Mitigation, Monitoring & Reporting Program (MM&RP)

II. The following format should be used in preparing the proposal, additional information/items may be used to further bolster your proposal:

One page cover letter introducing your firm.

1. **Project Understanding**

2. **Project Team**

   - Identify all company and consultant team personnel who will work on the project and short description of their education and work experience.
   - Resumes of the prime and technical consultants should be included and can be attached to the proposal as an appendix.
   - Organization Charts-Elaborate organization charts are not necessary.

3. **Scope of Work**

   - Describe the proposed tasks to accomplish the scope of work.
   - Include deliverables, when applicable, for each task.
   - Include all applicable site visits, scoping meetings, staff meetings and public hearings.
   - Be specific regarding your approach to complete the CEQA noticing requirements.

4. The tasks should be presented as follows:

a) Project Initiation
Include research, site visit, data collection, CEQA notices, scoping meetings, etc;

b. Administrative Draft Initial Study
Include mandatory CEQA sections, required and optional technical studies, number of revisions, meetings and coordination with County Staff;

c. Public Review Draft Initial Study (EEC Hearing)
Include document preparation, CEQA notice, Scoping meeting, and coordination with County Staff;

d. Final Initial Study
Include document preparation, Response to Comments, CEQA notice, meetings, coordination with County Staff and attendance at Planning Commission and Board of Supervisors hearing;

e. Mitigation, Monitoring and Reporting Program
Include the preparation per CEQA identification of all mitigation measures, identification of all responsible parties, timing and enforcement;

f. CEQA Findings and Notice of Determination
Include the preparation per CEQA requirements;

g. Assumptions
Please provide a specific section for assumptions. Include your assumptions regarding travel time, mileage, public noticing, or anything else that needs clarification. The number of meetings and hearings that are included in your proposal should be detailed under each task.

5. Proposed Schedule

Provide the number of weeks for each task in tabular form from project initiation to public hearings, Planning Commission, and Board of Supervisors.

6. Cost Estimate/Milestones

- Provide a discussion of the proposed cost and any optional costs.
- Include a spread sheet that details your personnel, any subcontractors to be used, their estimated hours, and associated costs per task (can be attached as an appendix).
- A table of project milestones should be included in the Cost Estimate discussion.

7. Consultant Selection Criteria

a) **Understanding of the project:** the proposer should demonstrate understanding of key elements of the project and, accordingly, provide the names of personnel and their expertise.

b) **Approach to the project:** The selection process will evaluate the extent to which the proposer has recognized and identified special circumstances on the project and whether the proposer has provided logical approach to tasks and issues of the project.

c) **Professional qualifications necessary for satisfactory performance:** The project manager and key team members should be qualified to perform the work categories on the project; and the proposer's knowledge of standards and procedures will be examined.

d) **Specialized experience and technical competence in the type of work required:** The proposer should provide information about comparable projects they have been involved with and/or successfully accomplished; past performance on contracts with government agencies and private industry will be considered together with past performance evaluations; and the capacity to accomplish the work in the required time will also be evaluated.

III. **It is requested that you disclose any conflict** or potential conflict that you may have if you are submitting a proposal. The conflict by the County envisions, at the very minimum, current/ongoing or previous contracts (within the past year) with the applicant(s); this also includes current technical studies that either are or have been prepared for the applicant(s) within the last year.

IV. **Not providing the extent of information (including hourly rate and total estimated hours per task) may negatively impact the evaluation of your proposal.**

If you are interested in submitting a proposal, please submit it to the Director at Imperial County Planning & Development Services Department, 801 Main Street, El Centro, CA, 92243, **no later than April 18, 2024 at 5:00 PM.** This must be post-marked on or before this date and time.

Please note that it is **not necessary to present us with voluminous references or individualized background data** on persons or personnel within your organization. We may require this at a later date. We look forward to receiving your RFP submittal.

Please submit a total of 1 hard copy and 1 electronic: CD, USB Drive, Email

If you do have any questions, please contact the assigned Planner for this project, Evelia Jimenez, Planner II at ejimenez@co.imperial.ca.us or at ext. 1747.

Sincerely,

By: ______________________
Evelia Jimenez, Planner II

Jim Minnick, Director
Planning & Development Services Department

Attachments: Project Applications

CC: Jurg Heuberger jurgheuberger@gmail.com
Jim Minnick, Director of Planning and Development Services
Michael Abraham, AICP, Assistant Director of Planning & Development Services
Diana Robinson, Planning Division Manager
Project File: CUP 23-0025 Initial Study IS 23-0030
APN 051-420-042-000 +-7.1 acres
Files: 10.102; 10.101; 10.104; 10.105
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RECON

An Employee-Owned Company

June 6, 2023

Mr. Ramon Gonzalez
Senior Project Coordinator
Z Global
750 W. Main Street
El Centro, CA 92243

Reference: Air Quality Analysis for the Alba Peaker BESS Project, Seeley, California (RECON Number 10324)

Dear Mr. Gonzalez:

The purpose of this report is to assess potential short-term local and regional air quality impacts resulting from development of the Alba Peaker Battery Energy Storage Site (BESS) Project (project). The analysis of impacts is based on state and federal Ambient Air Quality Standards (AAQS) and assessed in accordance with the regional guidelines, policies, and standards and the Imperial County Air Pollution Control District (ICAPCD).

1.0 Project Description

The project site is located within the unincorporated community of Seeley in Imperial County, approximately 7.5 miles west of the city of El Centro and approximately one mile north of Interstate 8 (Figure 1). The project site is comprised of Assessor Parcel Number 051-420-042, totaling approximately 7.1 acres. The project is located to the east of Drew Road, south of West Evan Hewes Highway, and north of the Seeley Drain (Figure 2). Land uses surrounding the project site consist of active agricultural uses to the west and south, disturbed land and railroad tracks to the north, and an agricultural facility and fields to the east.

The project would construct and operate a 100-megawatt BESS facility that would connect to an existing 92-kilovolt gen-tie line (Figure 3). The BESS facility would include battery containers and storage sites, a control room, and associated facilities surrounded by fencing. The BESS would store energy generation from the electrical grid, and optimally discharge that energy back into the grid as firm, reliable generation and/or grid services.

2.0 Environmental Setting

2.1 Regulatory Setting

2.1.1 Federal Regulations

AAQS represent the maximum levels of background pollution considered safe, with an adequate margin of safety, to protect the public health and welfare. The federal Clean Air Act (CAA) was enacted in 1970 and amended in 1977 and 1990 (42 U.S. Code [U.S.C.] 7401) for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity. In 1971, in order to achieve the purposes of Section 109 of the CAA [42 U.S.C. 7409], the U.S. Environmental Protection Agency (U.S. EPA) developed primary and secondary National AAQS (NAAQS).

Six pollutants of primary concern were designated: ozone, carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), lead (Pb), particulate matter with a diameter of 10 microns and less (PM_{10}), and particulate matter with a diameter of 2.5 microns and less ($PM_{2.5}$). The primary NAAQS "in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health . . . .” and the secondary standards “. . . protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air” [42 U.S.C. 7409(b)(2)]. The primary NAAQS were established, with a margin of safety, considering long-term exposure for the most sensitive groups in the general population (i.e., children, senior citizens, and people with breathing difficulties). The NAAQS are presented in Table 1 (California Air Resources Board [CARB] 2016).

If an air basin is not in either federal or state attainment for a particular pollutant, the basin is classified as non-attainment area for that pollutant. The project is located within the Salton Sea Air Basin (SSAB). The County is classified as a federal moderate non-attainment area for the 2008 8-hour ozone standards, marginal non-attainment area for the 2015 8-hour ozone standards, and a partial moderate non-attainment area for the $PM_{2.5}$ standards.

2.1.2 State Regulations

Criteria Pollutants

The CARB has developed the California AAQS (CAAQS) and generally has set more stringent limits on the criteria pollutants than the NAAQS (see Table 1). In addition to the federal criteria pollutants, the CAAQS also specify standards for visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride.

Similar to the federal CAA, the state classifies either “attainment” or “non-attainment” areas for each pollutant based on the comparison of measured data with the CAAQS. The County is a non-attainment area for the state ozone standards and the state PM_{10} standard. The California CAA, which became effective on January 1, 1989, requires all areas of the state to attain the CAAQS at the earliest practicable date. The California CAA has specific air quality management strategies that must be adopted by the agency responsible for the non-attainment area. In the case of the SSAB, the responsible agency is the ICAPCD.

Toxic Air Contaminants

The public’s exposure to toxic air contaminants (TACs) is a significant public health issue in California. Diesel particulate matter (DPM) emissions have been identified as TACs. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health (Assembly Bill [AB] 1807: Health and Safety Code Sections 39650–39674). The California Legislature established a two-step process to address the potential health effects from TACs. The first step is the risk assessment (or identification) phase. The second step is the risk management (or control) phase of the process.

The California Air Toxics Program establishes the process for the identification and control of TACs and includes provisions to make the public aware of significant toxic exposures and for reducing risk. Additionally, the Air Toxics “Hot Spots” Information and Assessment Act (AB 2588, 1987, Connelly Bill) was enacted in 1987 and requires stationary sources to report the types and quantities of certain substances routinely released into the air.

The goals of the Air Toxics “Hot Spots” Act are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks, and to reduce those significant risks to acceptable levels.

Table 1
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.07 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM_{10})[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		–		
Fine Particulate Matter ($PM_{2.5}$)[9]	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-dispersive Infrared Photometry	35 ppm (40 mg/m^3)	–	Non-dispersive Infrared Photometry
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	–	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–	–	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemi-luminescence	100 ppb (188 µg/m^3)	–	Gas Phase Chemi-luminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	–	Ultraviolet Fluorescence; Spectro-photometry (Pararosaniline Method)
	3 Hour	–		–	0.5 ppm (1,300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[11]	–	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	–	–	High Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	–		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chroma-tography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chroma-tography			

Table 1 Ambient Air Quality Standards
NOTES: ppm = parts per million; ppb = parts per billion; μg/m^3 = micrograms per cubic meter; – = not applicable. 1 California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations. 2 National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies. 3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas. 4 Any equivalent measurement method which can be shown to the satisfaction of the Air Resources Board to give equivalent results at or near the level of the air quality standard may be used. 5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health. 6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. 7 Reference method as described by the U.S. EPA. An “equivalent method” of measurement may be used but must have a ”consistent relationship to the reference method” and must be approved by the U.S. EPA. 8 On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm. 9 On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 μg/m^3 to 12.0 μg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/m^3, as was the annual secondary standards of 15 μg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 μg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years. 10 To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national standards are in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm. 11 On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm. 12 The CARB has identified lead and vinyl chloride as ‘toxic air contaminants’ with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants. 13 The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 μg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved. 14 In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are “extinction of 0.23 per kilometer” and “extinction of 0.07 per kilometer” for the statewide and Lake Tahoe Air Basin standards, respectively. SOURCE: CARB 2016.

The Children's Environmental Health Protection Act, California Senate Bill 25 (Chapter 731, Escutia, Statutes of 1999), focuses on children's exposure to air pollutants. The act requires CARB to review its air quality standards from a children's health perspective, evaluate the statewide air monitoring network, and develop any additional air toxic control measures needed to protect children's health. Locally, toxic air pollutants are regulated through the ICAPCD Regulation X. Of particular concern statewide are DPM emissions. DPM was established as a TAC in 1998 and is estimated to represent a majority of the cancer risk from TACs statewide (based on the statewide average). Diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB and are listed as carcinogens either under the state's Proposition 65 or under the federal Hazardous Air Pollutants program.

Following the identification of DPM as a TAC in 1998, CARB has worked on developing strategies and regulations aimed at reducing the risk from DPM. The overall strategy for achieving these reductions is found in the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (CARB 2000). A stated goal of the plan is to reduce the statewide cancer risk arising from exposure to DPM by 85 percent by 2020.

In April 2005, CARB published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB 2005). The handbook makes recommendations directed at protecting sensitive land uses from air pollutant emissions while balancing a myriad of other land use issues (e.g., housing, transportation needs, economics, etc.). Sensitive land uses include but are not limited to, schools, hospitals, residences, resident care facilities, and day-care centers. The handbook is not regulatory or binding on local agencies and recognizes that application takes a qualitative approach. Therefore, the CARB has provided guidelines for the siting of land uses near heavily traveled roadways. Of pertinence to this study, the CARB guidelines indicate that siting new sensitive land uses within 500 feet of a freeway or urban roads with 100,000 or more vehicles/day should be avoided when possible.

As an ongoing process, CARB will continue to establish new programs and regulations for the control of DPM and other air-toxics emissions as appropriate. The continued development and implementation of these programs and policies will ensure that the public's exposure to DPM and other TACs will continue to decline.

State Implementation Plan

The State Implementation Plan (SIP) is a collection of documents that set forth the state's strategies for achieving the NAAQS. In California, the SIP is a compilation of new and previously submitted plans, programs (such as air quality management plans, monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls. The CARB is the lead agency for all purposes related to the SIP under state law. Local air districts and other agencies, such as the Department of Pesticide Regulation and the Bureau of Automotive Repair, prepare SIP elements and submit them to CARB for review and approval. The CARB then forwards SIP revisions to the U.S. EPA for approval and publication in the Federal Register. All of the items included in the California SIP are listed in the Code of Federal Regulations (CFR) at 40 CFR 52.220.

The ICAPCD is the air district responsible for the project area. Applicable ICAPCD SIPs include:

- Imperial County 2009 State Implementation Plan for Particulate Matter Less than 10 Microns in Aerodynamic Diameter;
- Imperial County 2013 State Implementation Plan for the 2006 24-Hour $PM_{2.5}$ Moderate Non-attainment Area; and
- Imperial County 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard.

California Environmental Quality Act

Section 15125(d) of the California Environmental Quality Act (CEQA) Guidelines requires discussion of any inconsistencies between the project and applicable general plans and regional plans, including the applicable air quality attainment or maintenance plan (or SIP).

2.1.3 Local Regulations

CEQA Air Quality Handbook

The ICAPCD adopted its *CEQA Air Quality Handbook: Guidelines for the Implementation of the California Environmental Quality Act of 1970* in 2007 and amended the handbook in December 2017 (ICAPCD 2017a). The ICAPCD CEQA Air Quality Handbook provides guidance on how to determine the significance of impacts, including air pollutant emissions, related to the development of residential, commercial, and industrial projects. Where impacts are determined to be significant, the ICAPCD CEQA Air Quality Handbook provides guidance to mitigate adverse impacts to air quality from development projects.

Stationary Source Permitting

Pursuant to ICAPCD Rule 207 (New & Modified Stationary Source Review) and associated rules such as Rule 201 (Permits Required) and Rule 208 (Permit to Operate), the construction, installation, modification, replacement, and operation of any equipment which may emit air contaminants requires ICAPCD permits. The ICAPCD requires that all such equipment be assessed for the potential to result in health risk impacts, and permits to operate equipment must be renewed each year equipment is in use or upon the modification of equipment.

Policy Number 5–Off-site Mitigation/In-Lieu Fee

The ICAPCD issued Policy Number 5, Off-site Mitigation/In-lieu Fee in April 2014. The policy references the ICAPCD CEQA Air Quality Handbook and discusses how project proponents may achieve additional mitigation by either proposing an off-site mitigation project or paying an in-lieu mitigation fee. Mitigation fees collected by the ICAPCD are used to fund the emissions offsets projects through the ICAPCD Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program). Specific projects funded by the program achieve emissions reductions by replacing old, highly polluting equipment with newer, cleaner equipment earlier than required by regulation or through normal attrition. As outlined in Policy Number 5, total in-lieu fees for mitigation of construction emissions are calculated based on the quantity and duration of the project's construction emissions and the cost-effectiveness of the Carl Moyer Program for offsetting oxides of nitrogen (NO_X) and PM_{10} emissions.

Operational Development Fee Mitigation Program

Adopted in November 2007, Rule 310, Operational Development Fee Mitigation Program, is designed to assist in the reduction of excess air emissions resulting from new residential and commercial development (warehousing is considered a commercial use under the program) in Imperial County. Funds collected by the program are used to offset NO_X and PM_{10} emissions through local emission reduction projects, such as paving unpaved roadways to reduce fugitive dust.

Fugitive Dust Control

The ICAPCD Regulation VIII regulates emissions of fugitive dust. Fugitive dust is:

> Particulate Matter entrained in the ambient air which is caused from man-made and natural activities such as, but not limited to, movement of soil, vehicles, equipment, blasting, and wind. This excludes Particulate Matter emitted directly in the exhaust of motor vehicles or other fuel combustion devices, from portable brazing, soldering, or welding equipment, pile drivers, and stack emissions from stationary sources (ICAPCD, Rule 800 (c)(18)).

Regulation VIII includes the following specific rules:

- Rule 800–Fugitive Dust Requirements for Control of $PM_{2.5}$
- Rule 801–Construction and Earthmoving Activities
- Rule 802–Bulk Materials
- Rule 803–Carry Out and Track Out
- Rule 804–Open Areas
- Rule 805–Paved and Unpaved Roads
- Rule 806–Conservation Management Practices

ICAPCD Rule 428

Adopted on September 11, 2018, Rule 428, Wood Burning Appliances, is to limit emissions of particulate matter from wood burning appliances. This rule applies to any person who manufactures, sells, offers for sale, or operates a permanently installed, indoor or outdoor, wood burning appliance within the Imperial County $PM_{2.5}$ nonattainment area. This rule also applies to any person who installs a wood burning appliance in any residential or commercial, single- or multi-building unit within the Imperial County $PM_{2.5}$ nonattainment area.

2.2 Existing Air Quality

2.2.1 Climate and Meteorology

Climate conditions at the project site, like the rest of Imperial County, are governed by the large-scale sinking and warming of air in the semi-permanent tropical high-pressure center of the Pacific Ocean. The high-pressure ridge blocks out most storms except in winter when it is weakest and farthest south. The coastal mountains prevent the intrusion of any cool, damp air found in California coastal environs. Because of the barrier and weakened storms, Imperial County experiences clear skies, extremely hot summers, mild winters, and little rainfall (ICAPCD 2017b).

Winters are mild and dry with daily average temperatures ranging between 65 and 75 degrees Fahrenheit. Summers are extremely hot with daily average temperatures ranging between 104 and 115 degrees Fahrenheit. The flat terrain and the strong temperature differentials created by intense solar heating result in moderate winds and deep thermal convection. The combination of subsiding air, protective mountains, and distance from the ocean all combine to severely limit precipitation (ICAPCD 2017b).

Imperial County experiences surface inversions almost every day of the year. Due to strong surface heating, these inversions are usually broken and allow pollutants to be more easily dispersed. In some circumstances, the presence of the Pacific high-pressure cell can cause the air to warm to a temperature higher than the air below. This highly stable atmospheric condition, termed a subsidence inversion, can act as a nearly impenetrable lid to the vertical mixing of pollutants. The strength of these inversions makes them difficult to disrupt. Consequently, they can persist for one or more days, causing air stagnation and the buildup of pollutants. Highest and worst-case ozone levels are often associated with the presence of subsidence inversions (ICAPCD 2017b).

The large daily oscillation of temperature produces a corresponding large variation in the relative humidity. Nocturnal humidity rises to 50 to 60 percent but drops to about 10 percent during the day. Prevailing winds are from the west-northwest through southwest; a secondary flow maximum from the southeast is also evident. The prevailing winds from the west and northwest occur seasonally from fall through spring and are known to be from the Los Angeles area. Occasionally, Imperial County experiences periods of extremely high wind speeds. Wind speeds can exceed 31 miles per hour (mph), and this occurs most frequently during the months of April and May. However, speeds of less than 6.8 mph account for more than one-half of the observed wind measurements (ICAPCD 2017b).

2.2.2 Background Air Quality

Air quality at a particular location is a function of the kinds, amounts, and dispersal rates of pollutants being emitted into the air locally and throughout the basin. The major factors affecting pollutant dispersion are wind speed and direction, the vertical dispersion of pollutants (which is affected by inversions), and the local topography.

Air quality is commonly expressed as the number of days in which air pollution levels exceed state standards set by the CARB or federal standards set by the U.S. EPA. The ICAPCD maintains air quality monitoring stations throughout the SSAB. Air pollutant concentrations and meteorological information are continuously recorded at these stations. Measurements are then used by scientists to help forecast daily air pollution levels.

The El Centro – 9th Street monitoring station, located at 150 9th Street, approximately seven miles east of the project site, is the nearest station to the project site. The El Centro monitoring station measures ozone, NO_2, PM_{10}, and $PM_{2.5}$. Table 2 provides a summary of measurements collected at the El Centro monitoring station for the years 2017 through 2021.

Table 2 Summary of Air Quality Measurements Recorded at the El Centro Monitoring Station					
Pollutant/Standard	2017	2018	2019	2020	2021
Ozone					
Federal Max 8-hour (ppm)	0.092	0.090	0.071	0.077	0.083
Days 2015 Federal 8-hour Standard Exceeded (0.07 ppm)	17	14	1	2	6
Days 2008 Federal 8-hour Standard Exceeded (0.075 ppm)	8	3	0	1	2
State Max 8-hour (ppm)	0.092	0.090	0.071	0.077	0.084
Days State 8-hour Standard Exceeded (0.07 ppm)	17	15	1	2	7
Max. 1-hour (ppm)	0.110	0.102	0.080	0.097	0.096
Days State 1-hour Standard Exceeded (0.09 ppm)	4	2	0	1	1
Nitrogen Dioxide					
Max 1-hour (ppm)	0.0488	0.0341	0.0367	0.0448	0.0558
Days State 1-hour Standard Exceeded (0.18 ppm)	0	0	0	0	0
Days Federal 1-hour Standard Exceeded (0.100 ppb)	0	0	0	0	0
Annual Average (ppm)	--	--	--	--	--
PM_{10}*					
Federal Max. Daily (μg/m^3)	268.5	256.3	123.9	197.5	194.5
Measured Days Federal 24-hour Standard Exceeded (150 μg/m^3)	5	5	0	2	1
Calculated Days Federal 24-hour Standard Exceeded (150 μg/m^3)	5.0	5.1	0.0	2.0	1.0
Federal Annual Average (μg/m^3)	41.6	47.3	34.9	41.5	41.8
State Max. Daily (μg/m^3)	186.4	253.0	130.0	197.7	186.9
Measured Days State 24-hour Standard Exceeded (50 μg/m^3)	60	111	53	92	88
Calculated Days State 24-hour Standard Exceeded (50 μg/m^3)	--	113.0	53.7	92.0	88.6
State Annual Average (μg/m^3)	--	46.8	35.6	41.5	41.6
$PM_{2.5}$*					
Federal Max. Daily (μg/m^3)	23.2	22.4	21.4	28.5	19.1
Measured Days Federal 24-hour Standard Exceeded (35 μg/m^3)	0	0	0	0	0
Calculated Days Federal 24-hour Standard Exceeded (35 μg/m^3)	0.0	0.0	0.0	0.0	0.0
Federal Annual Average (μg/m^3)	8.4	8.6	7.8	9.7	8.2
State Max. Daily (μg/m^3)	23.2	22.4	21.4	28.5	19.1
State Annual Average (μg/m^3)	8.4	8.7	7.9	9.8	8.3

SOURCE: CARB 2023.
ppm = parts per million; μg/m^3 = micrograms per cubic meter; -- = Not available.
*Calculated days value. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.

3.0 Thresholds of Significance

Thresholds used to evaluate potential impacts to air quality are based on applicable criteria in the CEQA Guidelines Appendix G. The project would have a significant air quality impact if it 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 non-attainment under an applicable federal or state ambient air quality standard.
3. Expose sensitive receptors to substantial pollutant concentrations.
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

As stated in the State CEQA Guidelines, these questions are "intended to encourage thoughtful assessment of impacts and do not necessarily represent thresholds of significance" (Title 14, Division 6, Chapter 3 Guidelines for Implementation of the CEQA, Appendix G, Environmental Checklist Form). The State CEQA Guidelines encourage lead agencies to adopt regionally specific thresholds of significance. When adopting these thresholds, the amended Guidelines allow lead agencies to consider thresholds of significance adopted or recommended by other public agencies, or recommended by experts, provided that the thresholds are supported by substantial evidence.

The ICAPCD CEQA Air Quality Handbook establishes the following four separate evaluation categories (ICAPCD 2017a):

1. Comparison of calculated project emissions to ICAPCD emission thresholds.
2. Consistency with the most recent Clean Air Plan for Imperial County.
3. Comparison of predicted ambient pollutant concentrations resulting from the project to state and federal health standards, when applicable.
4. The evaluation of special conditions which apply to certain projects.

Any development with a potential to emit criteria pollutants below significance levels defined by the ICAPCD is called a "Tier I project," and is considered by the ICAPCD to have less than significant potential adverse impacts on local air quality. For Tier I projects, the project proponent should implement a set of feasible "standard" mitigation measures (enumerated by the ICAPCD) to reduce the air quality impact to an insignificant level. A "Tier II project" is one whose emissions exceed any of the thresholds. Its impact is significant and the project proponent should select and implement all feasible "discretionary" mitigation measures (also enumerated by the ICAPCD) in addition to the standard measures.

3.1 Operational Impacts

Table 3 provides general guidelines for determining the significance of impacts based on the total emissions that are expected from project operation established by the ICAPCD.

Table 3
Significance Thresholds for Operations

Pollutant	Tier I	Tier II
NO_X and ROG	Less than 137 lbs/day	137 lbs/day and greater
PM_{10} and SO_X	Less than 150 lbs/day	150 lbs/day and greater
CO and $PM_{2.5}$	Less than 550 lbs/day	550 lbs/day and greater

ROG = reactive organic gas; NO_X = oxides of nitrogen; SO_X = oxides of sulfur; CO = carbon monoxide; PM_{10} = particulate matter with an aerodynamic diameter 10 microns or less; $PM_{2.5}$ = particulate matter with an aerodynamic diameter 2.5 microns or less; lbs/day = pounds per day
SOURCE: ICAPCD 2017a.

As stated above, Tier 1 projects are required to implement all feasible standard measures specified by the ICAPCD. Tier II projects are required to implement all feasible standard measures as well as all feasible discretionary measures specified by the ICAPCD.

3.2 Construction Impacts

The ICAPCD has also established thresholds of significance for project construction. Table 4 provides general guidelines for determining significance of impacts based on the total emissions that are expected from project construction.

Table 4 Significance Thresholds for Construction	
Pollutant	Thresholds (pounds/day)
PM_{10}	150
ROG	75
NO_X	100
CO	550

ROG = reactive organic gas; NO_X = oxides of nitrogen; CO = carbon monoxide; PM_{10} = particulate matter with an aerodynamic diameter 10 microns or less.
SOURCE: ICAPCD 2017a.

Regardless of project size, all feasible standard measures specified by the ICAPCD for construction equipment and fugitive PM_{10} control for construction activities should be implemented at construction sites. Control measures for fugitive PM_{10} construction emissions in Imperial County are found in ICAPCD Regulation VIII and in the ICAPCD CEQA Air Quality Handbook and are discussed below.

3.3 Public Nuisance Law (Odors)

State of California Health and Safety Code Sections 41700 and 41705 and ICAPCD Rule 407 prohibit emissions from any source whatsoever in quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to the public health or damage to property.

The ICAPCD CEQA Air Quality Handbook provides screening level distances for potential odor sources. If a project is proposed within one mile of a wastewater treatment plant, sanitary landfill, composting station, feedlot, asphalt plant, painting and coating operation, or rendering plant, a potential odor problem may result (ICAPCD 2017a).

4.0 Emission Calculations

The project would result in air pollutant emissions associated with the construction and operation. Emissions were calculated using California Emissions Estimator Model (CalEEMod) Version 2022.1 (California Air Pollution Control Officers Association 2022). The CalEEMod program is a tool used to estimate emissions resulting from land development projects in the state of California. CalEEMod was developed with the participation of several state air districts.

CalEEMod estimates parameters such as the type and amount of construction equipment required, trip generation, and utility consumption based on the size and type of each specific land use using data collected from surveys performed by the South Coast Air Quality Management District (AQMD). Where available, parameters were modified to reflect project-specific data.

4.1 Construction-related Emissions

Construction-related activities are temporary, short-term sources of air pollutant emissions. Sources of construction-related emissions include the following:

- Fugitive dust from grading activities;
- Exhaust emissions from construction equipment;
- Application of chemical coatings (paints, stains, sealants, etc.); and
- Exhaust and fugitive dust emission from on-road vehicles (trips by workers, delivery trucks, and material-hauling trucks).

Heavy-duty construction equipment is usually diesel powered. Based on CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation, heavy-duty construction equipment includes off-road diesel vehicles 25 horsepower or greater. In general, emissions from diesel-powered equipment contain more NO_X, SO_X, and particulate matter than gasoline-powered engines. However, diesel-powered engines generally produce less CO and less ROG than do gasoline-powered engines. Standard construction equipment includes tractors/loaders/backhoes, rubber-tired dozers, excavators, graders, cranes, forklifts, rollers, paving equipment, generator sets, welders, cement and mortar mixers, and air compressors.

Primary inputs are the numbers of each piece of equipment and the length of each construction stage. The construction equipment estimates are based on surveys performed by the South Coast AQMD and the Sacramento Metropolitan AQMD of typical construction projects which provide a basis for scaling equipment needs and schedule with a project's size. Air emission estimates in CalEEMod are based on the duration of construction phases; construction equipment type, quantity, and usage; grading area; season; and ambient temperature, among other parameters.

The construction schedule and equipment were obtained from the applicant. Construction activities were modeled beginning in January 2024 and lasting approximately five months. Construction stages would include grading, pile installation, fence installation, electrical installation, and container installation.

4.1.1 Fugitive Dust

Fugitive dust would be associated with construction activities that involve ground disturbance. Fugitive dust emissions vary greatly during construction and are dependent on the amount and type of activity, silt content of the soil, and the weather. Vehicles moving over paved and unpaved surfaces, demolition, excavation, earth movement, grading, and wind erosion from exposed surfaces are all sources of fugitive dust. Calculation of fugitive dust emissions are based on the area of disturbed ground and the fugitive dust measures implemented. Based on discussion with ICAPCD staff, watering during ground disturbing activities would achieve a 50 percent reduction in fugitive dust.

The ICAPCD requires that, regardless of the size of a project, all feasible standard measures for fugitive PM_{10} must be implemented at construction sites. Additionally, all feasible discretionary measures for PM_{10} apply to those construction sites that are 5 acres or more for non-residential developments or 10 acres or more in size for residential developments. The project footprint consists of 3.8 acres of the 7.1-acre project site. However, because other portions of the project site may be used for staging areas, it was assumed that the total disturbed area could exceed 5 acres. Standard and discretionary measures from the ICAPCD handbook include the following:

Standard Measures for Fugitive PM_{10} Control:

a) All disturbed areas, including bulk material storage which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material such as vegetative ground cover.

b) All on-site and off-site unpaved roads will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.

c) All unpaved traffic areas one acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emission shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering. The transport of bulk materials shall be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at delivery site after removal of bulk material.

d) The transport of bulk materials shall be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at delivery site after removal of bulk material.

e) All track-out or carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area.

f) Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers or by sheltering or enclosing the operation and transfer line.

g) The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.

Discretionary Measures for Fugitive PM_{10} Control

a) Water exposed soil with adequate frequency for continued moist soil.

b) Replace ground cover in disturbed areas as quickly as possible.

c) Automatic sprinkler system installed on all soil piles.

d) Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.

e) Develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees.

f) Implement a shuttle service to and from retail services and food establishments during lunch hours.

4.1.2 Construction Equipment

CalEEMod calculates emissions of all pollutants from construction equipment using emission factors from CARB's off-road diesel equipment emission factors database. All construction equipment required during a phase was modeled over the entire duration of the phase even if it would only be required for a portion of the phase. Additionally, an off-highway truck and a generator were added to each phase to account for a water truck and a generator needed to power the construction office. The modeled construction equipment is summarized in Table 5.

Table 5 Construction Phases and Equipment		
Equipment	Quantity	Daily Operation Time (hours)
Grading (14 days)		
Tractors/Loaders/Backhoes	2	8
Dump Truck	1	8
Scraper	1	8
Roller	1	8
Water Truck	1	8
Office Generator	1	8
Pile Installation (15 days)		
Drill Rigs	3	8
Welder	1	8
Water Truck	1	8
Office Generator	1	8
Fence Installation (5 days)		
Air Compressor	1	8
Generator	1	8
Water Truck	1	8
Office Generator	1	8
Electrical Installation (30 days)		
Tractors/Loaders/Backhoes	3	8
Generators	5	8
Air Compressors	5	8
Forklift	1	8
Water Truck	1	8
Office Generator	1	8
Container Installation (14 days)		
Crane	1	8
Water Truck	1	8
Office Generator	1	8
NOTE: Each phase would also include vehicles associated with work commutes, dump trucks for hauling, and trucks for deliveries.		

The ICAPCD requires that, regardless of the size of a project, all feasible standard measures for construction equipment must be implemented at construction sites. Standard measures from the ICAPCD handbook include the following:

Standard Measures for Construction Combustion Equipment

a) Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel powered equipment.

b) Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum.

c) Limit, to the extent feasible, the hours of operation of heavy duty equipment and/or the amount of equipment in use.

d) Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).

4.1.3 On-Road Vehicles

Construction would generate mobile source emissions from worker trips, hauling trips, and vendor trips. CalEEMod calculates emissions of all pollutants from on-road trucks and passenger vehicles using emission factors derived from CARB's motor vehicle emission inventory program EMFAC2017 (CARB 2017). Vehicle emission factors were multiplied by the model default total estimated number of trips and the average trip length to calculate the total mobile emissions. The project would require up to 50 workers per day and seven deliveries per day. The average worker, hauling, and vendor trip lengths were increased to 20 miles to be conservative.

CalEEMod calculates dust emissions from travel on paved and unpaved roads. By default, CalEEMod assumes the percentage of paved and unpaved roads for each district as provided by the district. For Imperial County, the default assumption is 50 percent paved and 50 percent unpaved. However, this is not characteristic of the roads in the vicinity of the project site. Construction vehicles would access the site via I-8, West Evan Hewes Highway, and Drew Road, which are all paved. However, it should be noted that Imperial County roadways do experience higher levels of entrained roadway dust. To account for these dust emissions, ICAPCD recommends modeling 90 percent paved roads during construction activities.

Additionally, the project would water the project site, including the unpaved portion of Drew Road, and would reduce speeds on unpaved roads to 25 miles per hour. These measures would be required per the ICAPCD measures listed in Section 4.1.1. As discussed, watering during ground disturbing activities would achieve a 50 percent reduction in fugitive dust. Reducing speed would achieve an additional 44 percent reduction in fugitive dust (CAPCOA 2022).

4.1.4 Construction Emission Estimates

Table 6 provides a summary of the criteria pollutant emissions generated by the project construction. CalEEMod output files for project construction and operations are contained in Attachment 1. Fugitive dust emission reduction calculations are contained in Attachment 2.

Table 6 Maximum Daily Construction Air Pollutant Emissions						
	Maximum Daily Emissions (pounds)					
Emission Source	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Grading	2	14	20	<1	82	9
Pile Installation	2	11	20	<1	94	10
Fence Installation	1	8	14	<1	93	10
Electrical Installation	3	20	29	<1	94	10
Container Installation	2	10	20	<1	93	10
Max Daily Emissions	**3**	**20**	**29**	**<1**	**94**	**10**
Significance Threshold	*75*	*100*	*550*	-	*150*	-
Exceeds Threshold?	***No***	***No***	***No***	**-**	***No***	**-**

SOURCE: Attachments 1 and 2.
NOTE: Totals may vary due to independent rounding.
ROG = reactive organic gas; NO_X = oxides of nitrogen; CO = carbon monoxide;
PM_{10} = particulate matter with an aerodynamic diameter 10 microns or less;
$PM_{2.5}$ = particulate matter with an aerodynamic diameter 2.5 microns or less.

As shown in Table 6, emissions associated with future construction of the project site would be less than all applicable ICAPCD significance thresholds. The emissions summarized in Table 6 account for the 50 percent reduction in dust due to daily watering, but do not account for any other emission reductions from any other standard or discretionary measure for dust control or construction equipment. Therefore, these emissions are conservative.

With implementation of the standard and discretionary measures for fugitive PM_{10} control and standard measures for construction combustion equipment, project construction would not result in a cumulatively considerable net increase of criteria pollutants, and impacts would be less than significant.

4.2 Operation-related Emissions

Operation-related sources of air pollutant emissions include the direct emission of criteria pollutants. Common direct emission sources associated with typical projects include mobile sources such as project-generated traffic, area sources such as the use of landscaping equipment, and energy sources such as the combustion of natural gas.

4.2.1 Mobile Sources

CalEEMod calculates mobile source emissions using emission factors derived from CARB's motor vehicle emission inventory program, EMFAC2017 (CARB 2017). The project would be an unmanned facility that would be operated remotely. Therefore, the project would not generate routine daily trips. Occasional maintenance trips would be required. To account for these trips, a total of one round trip (two one-way trips) was modeled per weekday. The default trip length was increased to 20 miles. CalEEMod default emission factors for the soonest operational year of 2024 were modeled.

As discussed under the construction emission methodology for on-road vehicles, CalEEMod calculates dust emissions from travel on paved and unpaved roads. For Imperial County, the default assumption is 50 percent paved and 50 percent unpaved. However, this is not characteristic of the roads in the vicinity of the project site. During project operation, the majority of the access route to and from the project site would be paved, with only the segment of Drew Road being unpaved. Therefore, as with construction activities, to account for these dust emissions and any entrained dust on paved roads, 90 percent paved roads was modeled for operation.

4.2.2 Area and Energy Sources

Area source emissions associated with typical development projects include consumer products, natural gas used in space and water heating, architectural coatings, landscaping equipment, and mechanical equipment such as boilers or backup generators. Hearths (fireplaces) and woodstoves are also a source of area emissions. Emissions are generated from energy use such as the combustion of natural gas used in space and water heating. As discussed in Section 4.2.1 above, the project would be an unmanned facility that would not be a source of area or energy emissions. However, as a conservative analysis, the project was modeled as a light industrial land use and default emission factors for light industrial area and energy sources were modeled.

4.2.3 Operational Emission Estimates

Table 7 provides a summary of the criteria pollutant emissions generated by the project operations. CalEEMod output files for project construction and operations are contained in Attachment 1.

Table 7
Maximum Daily Operations Air Pollutant Emissions

Emission Source	Maximum Daily Emissions (pounds)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Mobile Sources	<1	<1	<1	<1	1	<1
Area Sources	2	<1	2	<1	<1	<1
Energy Sources	<1	<1	<1	<1	<1	<1
Total Operations	**2**	**<1**	**3**	**<1**	**1**	**<1**
Significance Threshold	*137*	*137*	*550*	*150*	*150*	*550*
Exceeds Threshold?	***No***	***No***	***No***	***No***	***No***	***No***

SOURCE: Attachment 1.
NOTE: Totals may vary due to independent rounding.
ROG = reactive organic gas; NO_X = oxides of nitrogen; CO = carbon monoxide;
PM_{10} = particulate matter with an aerodynamic diameter 10 microns or less;
$PM_{2.5}$ = particulate matter with an aerodynamic diameter 2.5 microns or less.

As shown in Table 7, operation of the project would result in minimal emissions that would be less than the applicable thresholds for all criteria pollutants. Therefore, operation of the project would not result in a cumulatively considerable net increase of criteria pollutants, and impacts would be less than significant.

5.0 Air Quality Impact Analysis

1. Would the project conflict with or obstruct implementation of the applicable air quality plan?

CARB is the lead agency for preparation of the SIP, which outlines the state measures to achieve NAAQS. CARB delegates responsibility for preparation of SIP elements to local air districts and requires local air districts to prepare Air Quality Attainment Plans outlining measures required to achieve CAAQS.

The ICAPCD is the air district responsible for the project area. Applicable ICAPCD air quality plans include:

- Imperial County 2009 State Implementation Plan for Particulate matter Less than 10 Microns in Aerodynamic Diameter;
- Imperial County 2013 State Implementation Plan for the 2006 24-Hour $PM_{2.5}$ Moderate Non-attainment Area; and
- Imperial County 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard.

The primary concern for assessing consistency with air quality plans is whether the project would induce growth that would result in a net increase in criteria pollutant emissions that exceed the assumptions used to develop the plan. The criteria pollutant emission projections for the ICAPCD air quality plans are based on Southern California Association of Governments' (SCAG) population growth and regional vehicle miles traveled projections, which are based in part on the land uses established by local general plans. As such, projects that propose development that is consistent with the local land use plans would be consistent with growth projections and air quality plans criteria pollutant emissions estimates. In the event that a project would result in development that is less dense than anticipated by the growth projections, the project would be considered consistent with the air quality plans. In the event a project would result in development that results in greater than anticipated growth projections, the project would result in air pollutant emissions that may not have been accounted for in the air quality plans and thus may obstruct or conflict with the air quality plans.

The project site is designated as an Urban Area land use in the Imperial County General Plan. The Urban Area designation includes areas surrounding the following seven incorporated cities: Brawley, El Centro, Westmorland, Holtville, Calipatria, Imperial, and Calexico. It is anticipated that these areas will eventually be annexed or incorporated. The project would construct a BESS that would not be a significant source of emissions. The project would be consistent with the growth projections and air quality plans criteria pollutant emissions estimates. Furthermore, the project would not construct housing or other uses that would result in regional population growth. The project would provide needed energy storage for the region and the state. Therefore, the project would not result in new growth beyond what was originally anticipated in SCAG's growth projections for Imperial County. Additionally, as summarized in Tables 6 and 7 above, construction and operation of the project would result in emissions that are below all applicable project-level significance thresholds. Therefore, project emissions would be consistent with SCAG's growth projections and the ICAPCD's air quality plans, and impacts would be less than significant.

2. *Would the project 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?*

The project site is in non-attainment areas for NAAQS and CAAQS for ozone and particulate matter. The majority of regional PM_{10} and $PM_{2.5}$ emissions originate from dust stirred up by wind or by vehicle traffic on unpaved roads (ICAPCD 2009). Other PM_{10} and $PM_{2.5}$ emissions originate from grinding operations, combustion sources such as motor vehicles, power plants, wood burning, forest fires, agricultural burning, and industrial processes. Ozone is not emitted directly, but is a result of atmospheric activity on precursors. NO_X and ROG are known as the chief "precursors" of ozone. These compounds react in the presence of sunlight to produce ozone. Approximately 88 percent of NO_X and 40 percent of ROG regional emissions originate from on- and off-road vehicles (ICAPCD 2010). Other major sources include solvent evaporation and miscellaneous processes such as pesticide application.

As shown in Table 6 above, project construction would not exceed the applicable regional emissions thresholds. These thresholds are designed to provide limits below which project emissions would not significantly change regional air quality. The project would implement all standard and discretionary measures for fugitive PM_{10} control and standard measures for construction combustion equipment. Therefore, project construction would not result in a cumulatively considerable net increase in emissions of ozone, PM_{10}, or $PM_{2.5}$, and impacts would be less than significant.

Long-term emissions of regional air pollutants occur from operational sources. As shown in Table 7 above, operation of the project would result in minimal emissions that would be less than the applicable thresholds for all criteria pollutants. Therefore, project operation would not result in a cumulatively considerable net increase in emissions of ozone, PM_{10}, or $PM_{2.5}$, and impacts would be less than significant.

3. *Would the project expose sensitive receptors (including, but not limited to, schools, hospitals, resident care facilities, day-care centers and project residents) to substantial pollutant concentrations?*

Sensitive land uses include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities. The nearest sensitive receptors are the residential uses located approximately 500 feet north of the project site, on the north side of the railroad tracks and West Evan Hewes Highway.

Diesel Particulate Matter – Construction

Construction of the project and associated infrastructure would result in short-term diesel exhaust emissions from on-site heavy-duty equipment. Construction of the project would result in the generation of diesel-exhaust DPM emissions from the use of off-road diesel equipment required for site preparation and grading, and other construction activities and on-road diesel equipment used to bring materials to and from the project site.

Generation of DPM from construction projects typically occurs in a single area for a short period. Construction is anticipated to last for approximately five months. The dose of DPM to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project (OEHHA 2015). Thus, if the duration of proposed construction activities near any specific sensitive receptor were five months, the exposure would be one percent (5 months divided by 30 years) of the total exposure period used for health risk calculation. Further, the project would implement the standard measures for construction combustion equipment summarized in Section 4.1.2 above. Additionally, with ongoing implementation of U.S. EPA and CARB requirements for cleaner fuels; off-road diesel engine retrofits; and new, low-emission diesel engine types, the DPM emissions of individual equipment would be reduced over time. All construction equipment is subject to the CARB In-Use Off-Road Diesel-Fueled Fleets Regulation, which limits unnecessary idling to 5 minutes, requires all construction fleets to be labeled and reported to CARB, bans Tier 0 equipment and phases out Tier 1 and 2 equipment (thereby replacing fleets with cleaner equipment), and requires that fleets comply with Best Available Control Technology requirements. Therefore, due to the limited duration of construction activities, implementation of standard measures for construction combustion equipment, and implementation of the In-Use Off-Road Diesel-Fueled Fleets Regulation, DPM generated by project construction is not expected to create conditions where the probability is greater than 10 in 1 million of contracting cancer for the Maximally Exposed Individual or to generate ground-level concentrations of non-carcinogenic TACs that exceed a Hazard Index greater than 1 for the Maximally Exposed Individual. Therefore, project construction would not expose sensitive receptors to substantial pollutant concentration, and impacts would be less than significant.

Carbon Monoxide Hot Spots

A CO hot spot is an area of localized CO pollution that is caused by severe vehicle congestion on major roadways, typically near signalized intersections. CO hot spots have the potential to violate state and federal CO standards at intersections, even if the broader basin is in attainment for federal and state levels. Due to increased requirements for cleaner vehicles, equipment, and fuels, CO levels in the state have dropped substantially. All air basins are attainment or maintenance areas for CO. Therefore, recent screening procedures based on more current methodologies have been developed. The Sacramento Metropolitan Air Quality Management District developed a screening threshold in 2011, which states that any project involving an intersection experiencing 31,600 vehicles per hour or more will require detailed analysis. In addition, the Bay Area Air Quality Management District developed a screening threshold in 2010, which states that any project involving an intersection experiencing 44,000 vehicles per hour would require detailed analysis. No intersections in the vicinity of the project carry this substantial amount of traffic. Additionally, there are no signalized intersections in the vicinity of the project site. Traffic generated by the project would not result in any heavily congested intersections. Therefore, project construction and operation would not result in a CO hot spot, and impacts would be less than significant.

4. *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

The potential for an odor impact is dependent on a number of variables including the nature of the odor source, distance between the receptor and odor source, and local meteorological conditions. Project construction would result in the emission of diesel fumes and other odors typically associated with construction activities. Sensitive receptors near the project site include residential uses; however, exposure to odors associated with project construction would be short term (five months) and temporary in nature. Further, per CARB's Airborne Toxic Control Measures 13 (California Code of Regulations Chapter 10 Section 2485), the applicant shall not allow idling time to exceed 5 minutes unless more time is required per engine manufacturers' specifications or for safety reasons. Therefore, project construction would not generate odors adversely affecting a substantial number of people, and impacts would be less than significant.

The ICAPCD CEQA Air Quality Handbook provides screening level distances for potential odor sources. If a project is proposed within one mile of a wastewater treatment plant, sanitary landfill, composting station, feedlot, asphalt plant, painting and coating operation, or rendering plant, a potential odor problem may result (ICAPCD 2017a). The project does not include the construction of any of these uses. Energy storage facilities are not known to emit odors during operation. Project operation would include occasional inspection and maintenance. These operational activities are not known to emit odors. Therefore, project operation would not generate odors adversely affecting a substantial number of people, and impacts would be less than significant.

6.0 Conclusions

The project's potential to result in impacts to air quality was assessed in accordance with the guidelines, policies, and standards established by the ICAPCD. The applicable ICAPCD air quality plans include the 2009, 2013, and 2017 SIPs for reducing PM_{10}, $PM_{2.5}$, and ozone. The project would construct a BESS that would not be a significant source of emissions. The project would be consistent with the growth projections and air quality plans criteria pollutant emissions estimates. Additionally, the project would not result in an air quality violation. Therefore, the project would not conflict with or obstruct the implementation of the regional air quality plans, and impacts would be less than significant.

As shown in Table 6 above, project construction would not exceed the applicable regional emissions thresholds. The project would implement all standard and discretionary measures for fugitive PM_{10} control and standard measures for construction combustion equipment. As shown in Table 7 above, operation of the project would result in minimal emissions that would be less than the applicable thresholds for all criteria pollutants. Therefore, project construction and operation would not result in a cumulatively considerable net increase in emissions of ozone, PM_{10}, or $PM_{2.5}$, and impacts would be less than significant.

Project construction would not result in the exposure of sensitive receptors to significant levels of DPM that could result in excess cancer risks. Additionally, the project would not result in the creation of a CO hot spot. Therefore, construction and operation of the project would not expose sensitive receptors to substantial pollutant concentrations, and impacts would be less than significant.

During construction, potential odor sources would be associated with construction equipment; however, exposure to odors associated with project construction would be short term and temporary in nature. Operation of the project would not include any uses that would generate substantial odors. Therefore, the project would not generate odors adversely affecting a substantial number of people, and impacts would be less than significant.

If you have any questions about the results of this analysis, please contact me at jfleming@reconenvironmental.com or (619) 308-9333 extension 177.

Sincerely,

Jessica Fleming

Jessica Fleming
Senior Air Quality Specialist

JLF:jg

Attachment

7.0 Certification

The following is a list of preparers, persons, and organizations involved with the air quality analysis.

RECON Environmental, Inc.
- Jessica Fleming, County-approved Air Quality Consultant
- Jennifer Gutierrez, Production Specialist
- Frank McDermott, GIS Manager

8.0 References Cited

California Air Pollution Control Officers Association (CAPCOA)

2022 California Emissions Estimator Model (CalEEMod), Version 2022.1.

California Air Resources Board (CARB)

2000 Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. California Air Resources Board. Stationary Source Division, Mobile Source Control Division. October.

2005 *Air Quality and Land Use Handbook: A Community Health Perspective*. April.

2016 Ambient Air Quality Standards. May 4.

2017 EMFAC2017 Emissions Database Inventory Model.

2023 California Air Quality Data Statistics. Available at http://www.arb.ca.gov/adam/welcome.html. Top 4 Summary and Hourly Listing. Accessed on February 9, 2023.

Imperial County Air Pollution Control District (ICAPCD)

2009 2009 Imperial County State Implementation Plan for Particulate Matter Less Than 10 Microns in Aerodynamic Diameter. August.

2010 2009 1997 8-Hour Ozone Modified Air Quality Management Plan. July.

2017a *CEQA Air Quality Handbook, Guidelines for the Implementation of the California Environmental Quality Act of 1970*. December.

2017b 2017 Imperial County State Implementation Plan for the 2008 8-Hour Ozone Standard, Draft March.

Office of Environmental Health Hazard Assessment (OEHHA)

2015 Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments (Guidance Manual), February.

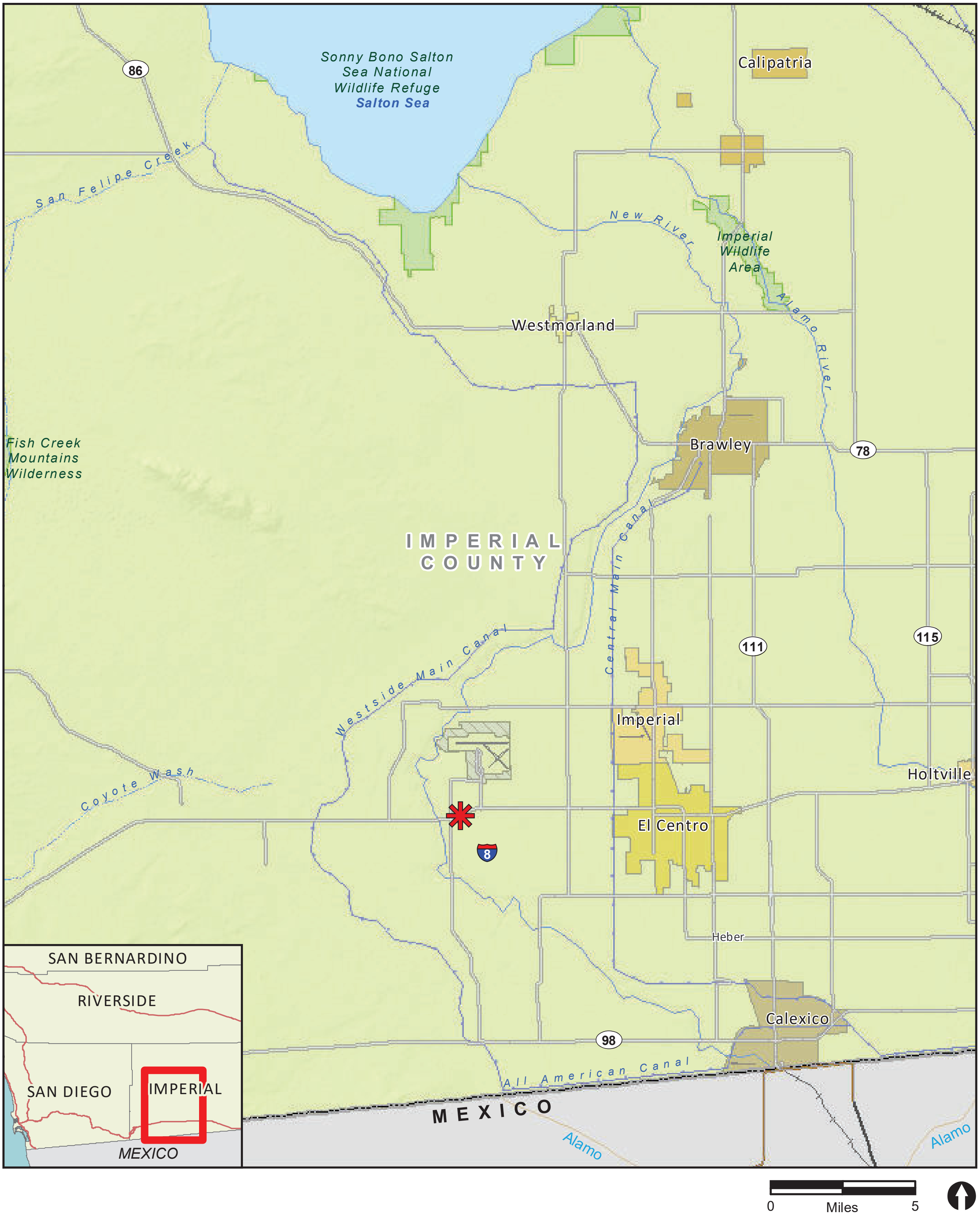
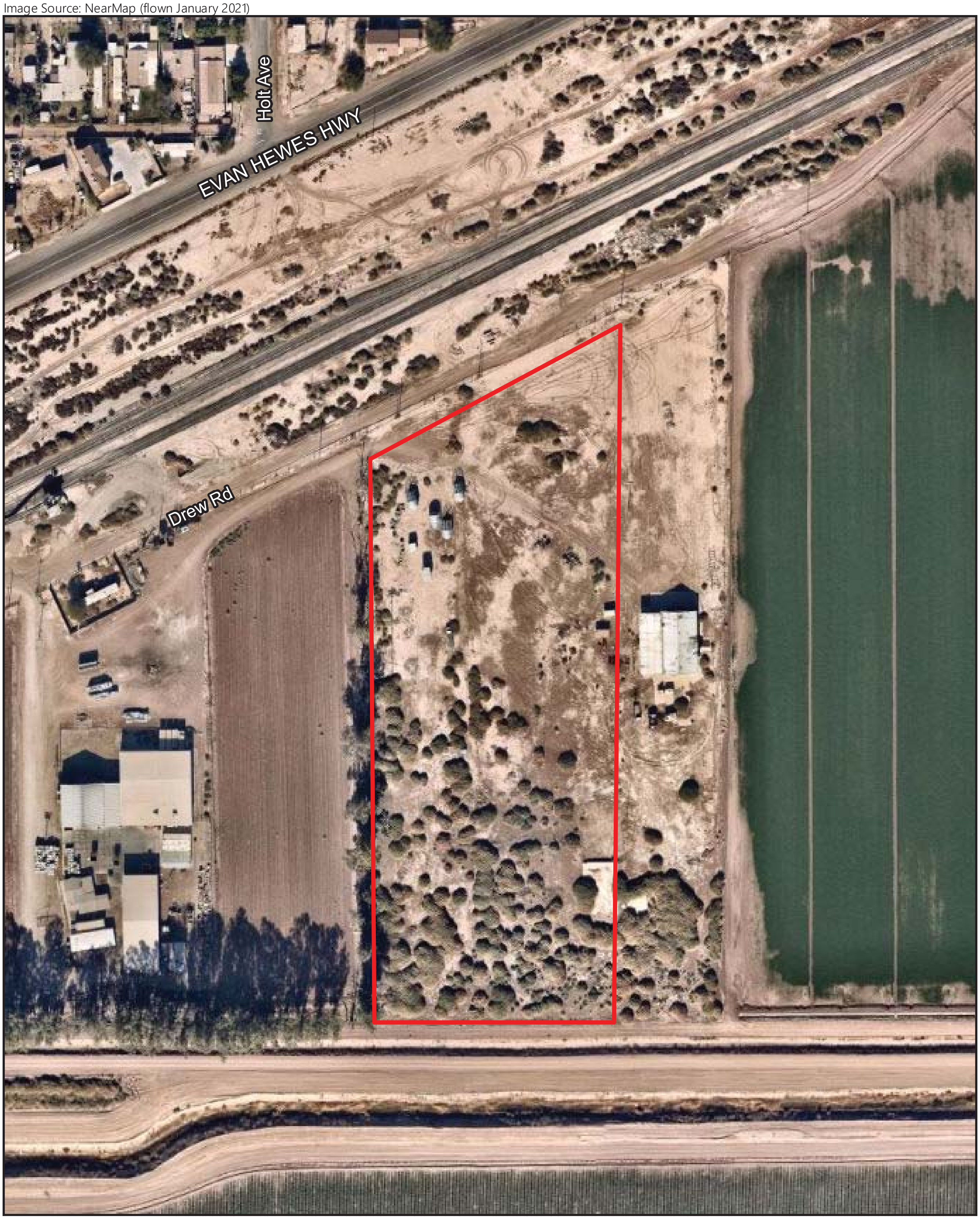


FIGURE 1
Regional Location

RECON
M:\JOBS6\10324\common_gis\MXD\fig1.mxd 03/08/2023 bma

Image Source: NearMap (flown January 2021)



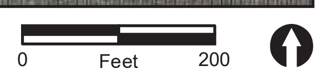


FIGURE 2
Project Location on Aerial Photograph

RECON

M:\JOBS6\10324\common_gis\MXD\fig2_air.mxd 6/5/2023 fmm

Map Source: ZGLOBAL

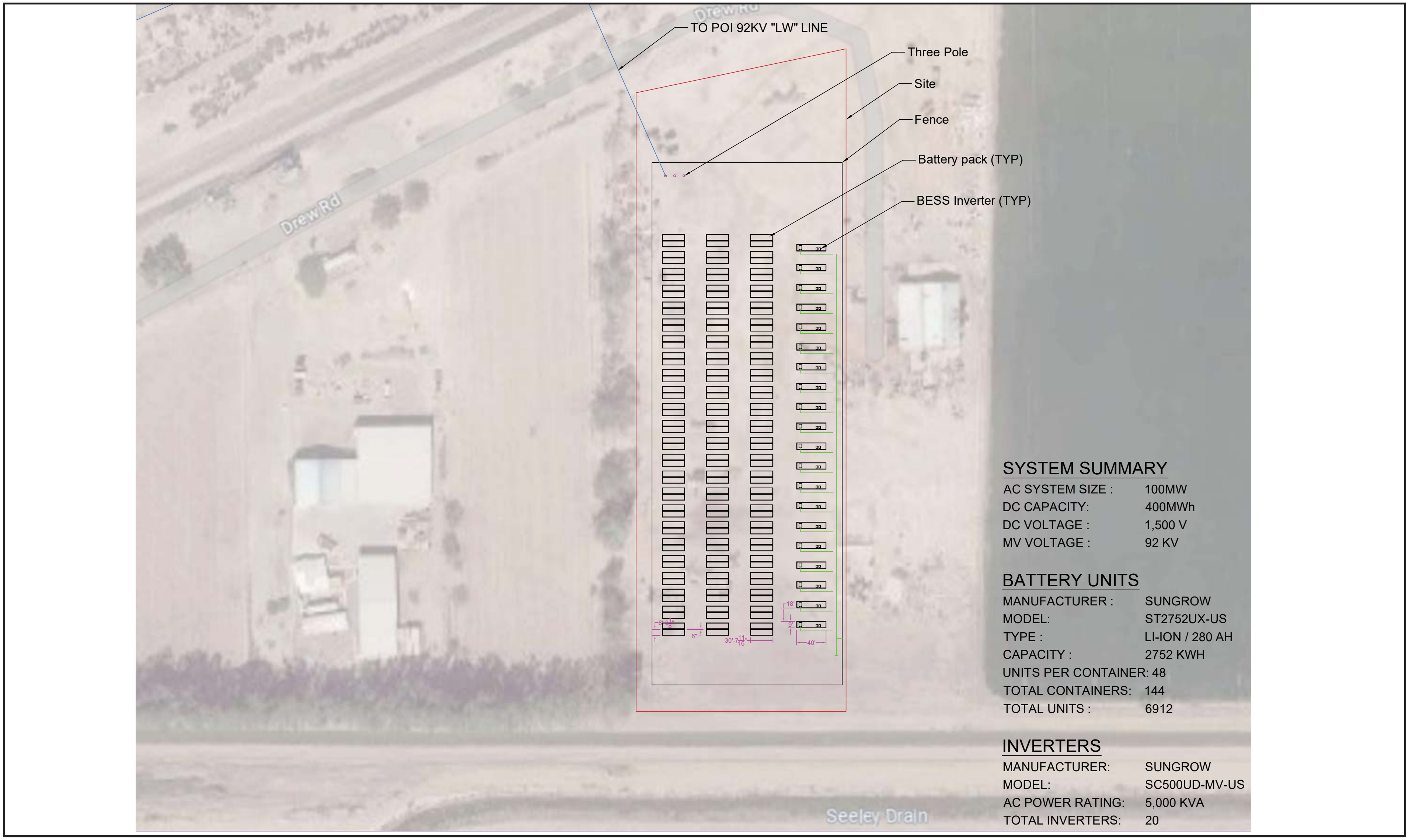


FIGURE 3
Site Plan

ATTACHMENTS

ATTACHMENT 1

CalEEMod Output Files

Alba Peaker Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Alba Peaker
Construction Start Date	1/1/2024
Operational Year	2024
Lead Agency	Imeprial County
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.30
Precipitation (days)	4.80
Location	32.791194308087086, -115.68507278016418
County	Imperial
City	Unincorporated
Air District	Imperial County APCD
Air Basin	Salton Sea
TAZ	5605
EDFZ	19
Electric Utility	Imperial Irrigation District
Gas Utility	Southern California Gas
App Version	2022.1.1.13

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

General Light Industry	48.3	1000sqft	7.10	48,260	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.	2.02	1.73	9.54	20.8	0.03	0.32	333	333	0.29	33.5	33.8	—	4,987	4,987	0.17	0.19	8.77	5,057
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.58	2.98	20.2	28.7	0.05	0.74	333	333	0.68	33.5	34.2	—	6,165	6,165	0.24	0.20	0.23	6,232
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.57	0.49	3.14	5.15	0.01	0.11	69.6	69.7	0.10	7.00	7.10	—	1,143	1,143	0.04	0.04	0.77	1,156
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.10	0.09	0.57	0.94	< 0.005	0.02	12.7	12.7	0.02	1.28	1.30	—	189	189	0.01	0.01	0.13	191
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0	100	550	—	—	—	150	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	No	—	—	—	Yes	—	—	—	—	—	—	—	—	—	—

Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0	100	550	—	—	—	150	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	No	—	—	—	No	—	—	—	—	—	—	—	—	—	—

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	2.02	1.73	9.54	20.8	0.03	0.32	333	333	0.29	33.5	33.8	—	4,987	4,987	0.17	0.19	8.77	5,057
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.58	2.98	20.2	28.7	0.05	0.74	333	333	0.68	33.5	34.2	—	6,165	6,165	0.24	0.20	0.23	6,232
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.57	0.49	3.14	5.15	0.01	0.11	69.6	69.7	0.10	7.00	7.10	—	1,143	1,143	0.04	0.04	0.77	1,156
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.10	0.09	0.57	0.94	< 0.005	0.02	12.7	12.7	0.02	1.28	1.30	—	189	189	0.01	0.01	0.13	191

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.	0.43	1.60	0.45	2.63	< 0.005	0.04	0.58	0.61	0.04	0.09	0.12	0.00	2,381	2,381	0.18	0.02	12.7	2,403
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.06	1.25	0.44	0.47	< 0.005	0.03	0.58	0.61	0.03	0.09	0.12	0.00	2,368	2,368	0.18	0.02	12.6	2,390
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.24	1.42	0.44	1.48	< 0.005	0.03	0.41	0.44	0.03	0.06	0.10	0.00	2,364	2,364	0.18	0.02	12.6	2,387
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.04	0.26	0.08	0.27	< 0.005	0.01	0.08	0.08	0.01	0.01	0.02	0.00	391	391	0.03	< 0.005	2.09	395
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137	137	550	150	—	—	150	—	—	551	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137	137	550	150	—	—	150	—	—	551	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

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	0.01	0.01	0.02	0.18	< 0.005	< 0.005	0.58	0.58	< 0.005	0.09	0.09	—	36.1	36.1	< 0.005	< 0.005	0.14	36.7

Area	0.37	1.56	0.02	2.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.63	8.63	< 0.005	< 0.005	—	8.66
Energy	0.05	0.02	0.42	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	2,336	2,336	0.18	0.02	—	2,345
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.6	12.6
Total	0.43	1.60	0.45	2.63	< 0.005	0.04	0.58	0.61	0.04	0.09	0.12	0.00	2,381	2,381	0.18	0.02	12.7	2,403
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.01	0.01	0.02	0.11	< 0.005	< 0.005	0.58	0.58	< 0.005	0.09	0.09	—	31.6	31.6	< 0.005	< 0.005	< 0.005	32.1
Area	—	1.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.05	0.02	0.42	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	2,336	2,336	0.18	0.02	—	2,345
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.6	12.6
Total	0.06	1.25	0.44	0.47	< 0.005	0.03	0.58	0.61	0.03	0.09	0.12	0.00	2,368	2,368	0.18	0.02	12.6	2,390
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.01	0.01	0.01	0.10	< 0.005	< 0.005	0.41	0.41	< 0.005	0.06	0.06	—	23.9	23.9	< 0.005	< 0.005	0.04	24.3
Area	0.18	1.39	0.01	1.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.26	4.26	< 0.005	< 0.005	—	4.27
Energy	0.05	0.02	0.42	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	2,336	2,336	0.18	0.02	—	2,345
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.6	12.6
Total	0.24	1.42	0.44	1.48	< 0.005	0.03	0.41	0.44	0.03	0.06	0.10	0.00	2,364	2,364	0.18	0.02	12.6	2,387
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	3.96	3.96	< 0.005	< 0.005	0.01	4.02
Area	0.03	0.25	< 0.005	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.70	0.70	< 0.005	< 0.005	—	0.71
Energy	0.01	< 0.005	0.08	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	387	387	0.03	< 0.005	—	388

Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.08	2.08
Total	0.04	0.26	0.08	0.27	< 0.005	0.01	0.08	0.08	0.01	0.01	0.02	0.00	391	391	0.03	< 0.005	2.09	395

3. Construction Emissions Details

3.1. 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	1.70	1.42	13.2	12.1	0.03	0.53	—	0.53	0.49	—	0.49	—	2,948	2,948	0.12	0.02	—	2,958
Dust From Material Movement	—	—	—	—	—	—	0.53	0.53	—	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	0.05	0.51	0.47	< 0.005	0.02	—	0.02	0.02	—	0.02	—	113	113	< 0.005	< 0.005	—	113

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	0.01	0.01	0.09	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.7	18.7	< 0.005	< 0.005	—	18.8
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	0.65	0.55	0.88	7.73	0.00	0.00	292	292	0.00	29.4	29.4	—	1,435	1,435	0.07	0.05	0.17	1,453
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.03	0.38	0.00	0.00	11.2	11.2	0.00	1.13	1.13	—	59.2	59.2	< 0.005	< 0.005	0.11	60.0
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	0.01	0.07	0.00	0.00	2.04	2.04	0.00	0.21	0.21	—	9.80	9.80	< 0.005	< 0.005	0.02	9.93
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

3.3. 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	1.34	1.12	9.58	12.4	0.03	0.35	—	0.35	0.32	—	0.32	—	2,786	2,786	0.11	0.02	—	2,796
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	0.06	0.05	0.39	0.51	< 0.005	0.01	—	0.01	0.01	—	0.01	—	115	115	< 0.005	< 0.005	—	115
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	0.07	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.0	19.0	< 0.005	< 0.005	—	19.0
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.65	0.55	0.88	7.73	0.00	0.00	292	292	0.00	29.4	29.4	—	1,435	1,435	0.07	0.05	0.17	1,453
Vendor	0.04	0.02	0.96	0.36	0.01	0.01	40.9	40.9	0.01	4.13	4.14	—	863	863	0.01	0.12	0.06	899
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	0.03	0.03	0.03	0.40	0.00	0.00	12.0	12.0	0.00	1.21	1.21	—	63.4	63.4	< 0.005	< 0.005	0.11	64.3
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	1.68	1.68	< 0.005	0.17	0.17	—	35.5	35.5	< 0.005	< 0.005	0.04	37.0
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.07	0.00	0.00	2.19	2.19	0.00	0.22	0.22	—	10.5	10.5	< 0.005	< 0.005	0.02	10.6
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.31	0.31	< 0.005	0.03	0.03	—	5.87	5.87	< 0.005	< 0.005	0.01	6.12
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 (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	1.01	0.84	5.92	5.59	0.02	0.22	—	0.22	0.20	—	0.20	—	1,716	1,716	0.07	0.01	—	1,722
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	0.08	< 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	0.01	0.01	< 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	0.65	0.55	0.88	7.73	0.00	0.00	292	292	0.00	29.4	29.4	—	1,435	1,435	0.07	0.05	0.17	1,453
Vendor	0.04	0.02	0.96	0.36	0.01	0.01	40.9	40.9	0.01	4.13	4.14	—	863	863	0.01	0.12	0.06	899
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	0.13	0.00	0.00	4.00	4.00	0.00	0.40	0.40	—	21.1	21.1	< 0.005	< 0.005	0.04	21.4
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.56	0.56	< 0.005	0.06	0.06	—	11.8	11.8	< 0.005	< 0.005	0.01	12.3
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	0.73	0.73	0.00	0.07	0.07	—	3.50	3.50	< 0.005	< 0.005	0.01	3.55
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.10	0.10	< 0.005	0.01	0.01	—	1.96	1.96	< 0.005	< 0.005	< 0.005	2.04
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 (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	2.90	2.41	18.4	20.6	0.04	0.73	—	0.73	0.67	—	0.67	—	3,867	3,867	0.16	0.03	—	3,880
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	1.51	1.69	< 0.005	0.06	—	0.06	0.05	—	0.05	—	318	318	0.01	< 0.005	—	319
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	0.28	0.31	< 0.005	0.01	—	0.01	0.01	—	0.01	—	52.6	52.6	< 0.005	< 0.005	—	52.8
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	0.65	0.55	0.88	7.73	0.00	0.00	292	292	0.00	29.4	29.4	—	1,435	1,435	0.07	0.05	0.17	1,453
Vendor	0.04	0.02	0.96	0.36	0.01	0.01	40.9	40.9	0.01	4.13	4.14	—	863	863	0.01	0.12	0.06	899
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	0.06	0.05	0.07	0.80	0.00	0.00	24.0	24.0	0.00	2.41	2.41	—	127	127	0.01	< 0.005	0.23	129
Vendor	< 0.005	< 0.005	0.08	0.03	< 0.005	< 0.005	3.36	3.36	< 0.005	0.34	0.34	—	70.9	70.9	< 0.005	0.01	0.08	74.0
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.15	0.00	0.00	4.38	4.38	0.00	0.44	0.44	—	21.0	21.0	< 0.005	< 0.005	0.04	21.3
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.61	0.61	< 0.005	0.06	0.06	—	11.7	11.7	< 0.005	< 0.005	0.01	12.2
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

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	1.14	0.96	7.91	6.69	0.02	0.31	—	0.31	0.28	—	0.28	—	2,424	2,424	0.10	0.02	—	2,432
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	1.14	0.96	7.91	6.69	0.02	0.31	—	0.31	0.28	—	0.28	—	2,424	2,424	0.10	0.02	—	2,432

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	0.04	0.04	0.30	0.26	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.0	93.0	< 0.005	< 0.005	—	93.3
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	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.4	15.4	< 0.005	< 0.005	—	15.4
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	0.84	0.75	0.75	13.7	0.00	0.00	292	292	0.00	29.4	29.4	—	1,700	1,700	0.06	0.05	6.37	1,724
Vendor	0.04	0.03	0.88	0.37	0.01	0.01	40.9	40.9	0.01	4.13	4.14	—	863	863	0.01	0.12	2.40	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.65	0.55	0.88	7.73	0.00	0.00	292	292	0.00	29.4	29.4	—	1,435	1,435	0.07	0.05	0.17	1,453
Vendor	0.04	0.02	0.96	0.36	0.01	0.01	40.9	40.9	0.01	4.13	4.14	—	863	863	0.01	0.12	0.06	899
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	0.03	0.02	0.03	0.38	0.00	0.00	11.2	11.2	0.00	1.13	1.13	—	59.2	59.2	< 0.005	< 0.005	0.11	60.0
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	1.57	1.57	< 0.005	0.16	0.16	—	33.1	33.1	< 0.005	< 0.005	0.04	34.5
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.01	0.07	0.00	0.00	2.04	2.04	0.00	0.21	0.21	—	9.80	9.80	< 0.005	< 0.005	0.02	9.93
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.29	0.29	< 0.005	0.03	0.03	—	5.48	5.48	< 0.005	< 0.005	0.01	5.72
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.01	0.01	0.02	0.18	< 0.005	< 0.005	0.58	0.58	< 0.005	0.09	0.09	—	36.1	36.1	< 0.005	< 0.005	0.14	36.7
Total	0.01	0.01	0.02	0.18	< 0.005	< 0.005	0.58	0.58	< 0.005	0.09	0.09	—	36.1	36.1	< 0.005	< 0.005	0.14	36.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.01	0.01	0.02	0.11	< 0.005	< 0.005	0.58	0.58	< 0.005	0.09	0.09	—	31.6	31.6	< 0.005	< 0.005	< 0.005	32.1
Total	0.01	0.01	0.02	0.11	< 0.005	< 0.005	0.58	0.58	< 0.005	0.09	0.09	—	31.6	31.6	< 0.005	< 0.005	< 0.005	32.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	3.96	3.96	< 0.005	< 0.005	0.01	4.02
Total	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	3.96	3.96	< 0.005	< 0.005	0.01	4.02

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	1,834	1,834	0.13	0.02	—	1,842
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,834	1,834	0.13	0.02	—	1,842
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	1,834	1,834	0.13	0.02	—	1,842
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,834	1,834	0.13	0.02	—	1,842
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	304	304	0.02	< 0.005	—	305
Total	—	—	—	—	—	—	—	—	—	—	—	—	304	304	0.02	< 0.005	—	305

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.05	0.02	0.42	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	502	502	0.04	< 0.005	—	504
Total	0.05	0.02	0.42	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	502	502	0.04	< 0.005	—	504
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.05	0.02	0.42	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	502	502	0.04	< 0.005	—	504
Total	0.05	0.02	0.42	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	502	502	0.04	< 0.005	—	504
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.01	< 0.005	0.08	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	83.2	83.2	0.01	< 0.005	—	83.4
Total	0.01	< 0.005	0.08	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	83.2	83.2	0.01	< 0.005	—	83.4

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	—	1.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	—	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.37	0.34	0.02	2.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.63	8.63	< 0.005	< 0.005	—	8.66
Total	0.37	1.56	0.02	2.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.63	8.63	< 0.005	< 0.005	—	8.66
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	1.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.03	0.03	< 0.005	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.70	0.70	< 0.005	< 0.005	—	0.71
Total	0.03	0.25	< 0.005	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.70	0.70	< 0.005	< 0.005	—	0.71

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	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 Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.6	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.6	12.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.6	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.6	12.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.08	2.08
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.08	2.08

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
Grading	Grading	1/1/2024	1/18/2024	5.00	14.0	—
Pile Installation	Building Construction	1/19/2024	2/8/2024	5.00	15.0	—
Fence Installation	Building Construction	2/9/2024	2/15/2024	5.00	5.00	—
Electrical Installation	Building Construction	2/16/2024	3/28/2024	5.00	30.0	—
Container Installation	Building Construction	3/29/2024	4/17/2024	5.00	14.0	—

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
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38
Grading	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Grading	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Off-Highway Trucks	Diesel	Average	1.00	1.00	376	0.38

Grading	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Pile Installation	Bore/Drill Rigs	Diesel	Average	3.00	8.00	83.0	0.50
Pile Installation	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Pile Installation	Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38
Pile Installation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Fence Installation	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Fence Installation	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Fence Installation	Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38
Electrical Installation	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Electrical Installation	Generator Sets	Diesel	Average	6.00	8.00	14.0	0.74
Electrical Installation	Air Compressors	Diesel	Average	5.00	8.00	37.0	0.48
Electrical Installation	Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38
Electrical Installation	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Container Installation	Cranes	Diesel	Average	1.00	8.00	367	0.29
Container Installation	Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38
Container Installation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Grading	—	—	—	—
Grading	Worker	100	20.0	LDA,LDT1,LDT2
Grading	Vendor	—	20.0	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Pile Installation	—	—	—	—

Pile Installation	Worker	100	20.0	LDA,LDT1,LDT2
Pile Installation	Vendor	14.0	20.0	HHDT,MHDT
Pile Installation	Hauling	0.00	20.0	HHDT
Pile Installation	Onsite truck	—	—	HHDT
Fence Installation	—	—	—	—
Fence Installation	Worker	100	20.0	LDA,LDT1,LDT2
Fence Installation	Vendor	14.0	20.0	HHDT,MHDT
Fence Installation	Hauling	0.00	20.0	HHDT
Fence Installation	Onsite truck	—	—	HHDT
Electrical Installation	—	—	—	—
Electrical Installation	Worker	100	20.0	LDA,LDT1,LDT2
Electrical Installation	Vendor	14.0	20.0	HHDT,MHDT
Electrical Installation	Hauling	0.00	20.0	HHDT
Electrical Installation	Onsite truck	—	—	HHDT
Container Installation	—	—	—	—
Container Installation	Worker	100	20.0	LDA,LDT1,LDT2
Container Installation	Vendor	14.0	20.0	HHDT,MHDT
Container Installation	Hauling	0.00	20.0	HHDT
Container Installation	Onsite truck	—	—	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 (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Grading	—	—	14.0	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	Other	50%	50%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Light Industry	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	457	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
General Light Industry	1.98	0.00	0.00	516	39.6	0.00	0.00	10,317

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	72,390	24,130	—

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Light Industry	1,465,870	457	0.0330	0.0040	1,567,707

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Light Industry	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Light Industry	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 Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	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)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit

Temperature and Extreme Heat	27.6	annual days of extreme heat
Extreme Precipitation	0.00	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

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

6.3. Adjusted Climate Risk Scores

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	58.3
AQ-PM	38.1
AQ-DPM	5.72
Drinking Water	68.6
Lead Risk Housing	41.2

Pesticides	86.9
Toxic Releases	14.4
Traffic	2.20
Effect Indicators	—
CleanUp Sites	78.0
Groundwater	95.2
Haz Waste Facilities/Generators	7.35
Impaired Water Bodies	99.5
Solid Waste	80.0
Sensitive Population	—
Asthma	90.6
Cardio-vascular	83.9
Low Birth Weights	5.49
Socioeconomic Factor Indicators	—
Education	64.5
Housing	51.4
Linguistic	90.5
Poverty	81.2
Unemployment	96.6

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	20.96753497
Employed	1.93763634
Median HI	22.3662261

Education	—
Bachelor's or higher	24.38085461
High school enrollment	100
Preschool enrollment	39.0606955
Transportation	—
Auto Access	40.90850764
Active commuting	78.6603362
Social	—
2-parent households	59.96407032
Voting	36.99473887
Neighborhood	—
Alcohol availability	72.73193892
Park access	8.533299115
Retail density	3.785448479
Supermarket access	12.52406005
Tree canopy	1.860644168
Housing	—
Homeownership	48.19709996
Housing habitability	56.46092647
Low-inc homeowner severe housing cost burden	79.66123444
Low-inc renter severe housing cost burden	47.27319389
Uncrowded housing	38.58591043
Health Outcomes	—
Insured adults	40.25407417
Arthritis	0.0
Asthma ER Admissions	6.4
High Blood Pressure	0.0

Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	22.5
Cognitively Disabled	41.3
Physically Disabled	20.3
Heart Attack ER Admissions	5.9
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	59.8
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	26.6
Elderly	44.5
English Speaking	14.8
Foreign-born	55.7
Outdoor Workers	4.7

Climate Change Adaptive Capacity	—
Impervious Surface Cover	87.7
Traffic Density	18.5
Traffic Access	23.0
Other Indices	—
Hardship	75.1
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	80.0
Healthy Places Index Score for Project Location (b)	20.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Approximately 48,260 square feet inverters and BESS containers 7.1 acre project site
Construction: Construction Phases	Construction equipment and schedule provided by construction team
Construction: Off-Road Equipment	Construction equipment provided by construction team Bobcat modeled as tractor/loader/backhoe Water truck (off-highway truck) and generator (construction office) added to each phase Forklift added to electrical phase for cables/conduit deliveries
Construction: Trips and VMT	50 workers per day (100 one-way trips) Maximum of 7 deliveries per day (14 one-way trips) All trip lengths increased to 20 miles
Construction: On-Road Fugitive Dust	All roads used to access project site are paved. ICAPCD recommends modeling 90 percent paved roads during construction activities.
Operations: Vehicle Data	Unmanned/remote facility. 1 round trip (0.041 trips/ksf) modeled to account for any routine maintenance. Trip length increased to 20 miles.
Operations: Road Dust	Used same paved road % as construction workers
Operations: Water and Waste Water	Unmanned facility, no water use
Operations: Solid Waste	Unmanned facility, no solid waste

ATTACHMENT 2

Fugitive Dust Emission Reduction Calculations

Alba Peaker - Fugitive Dust Emission Reduction Calculations

Measure	PM Reduction
Water Exposed Areas	50%
Speed Limit	44%

GRADING

	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
On-Site Emissions, No Dust Control						
Off-Road Equipment	0.53		0.53	0.49		0.49
Dust From Material Movement		0.53	0.53		0.06	0.06
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.53	0.53	1.06	0.49	0.06	0.55
Off-Site Emissions, No Dust Control	0.00	291.86	291.86	0.00	29.36	29.36
TOTAL	0.53	292.39	292.92	0.49	29.41	29.90
On-Site Emissions, With Dust Control						
Off-Road Equipment	0.53		0.53	0.49		0.49
Dust From Material Movement		0.27	0.27		0.03	0.03
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.53	0.27	0.80	0.49	0.03	0.52
Off-Site Emissions, With Dust Control	0.00	81.72	81.72	0.49	8.22	8.71
TOTAL	0.53	81.99	82.52	0.98	8.25	9.23

PILE INSTALLATION

	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
On-Site Emissions, No Dust Control	0.35	0.00	0.35	0.32	0.00	0.32
Off-Site Emissions, No Dust Control	0.01	332.75	332.77	0.01	33.48	33.50
TOTAL	0.36	332.75	333.12	0.34	33.48	33.82
On-Site Emissions, With Dust Control	0.35	0.00	0.35	0.32	0.00	0.32
Off-Site Emissions, With Dust Control	0.36	93.17	93.53	0.01	9.38	9.39
TOTAL	0.71	93.17	93.89	0.34	9.38	9.71

FENCE INSTALLATION

	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
On-Site Emissions, No Dust Control	0.22	0.00	0.22	0.20	0.00	0.20
Off-Site Emissions, No Dust Control	0.01	332.75	332.77	0.01	33.48	33.50
TOTAL	0.23	332.75	332.99	0.21	33.48	33.70
On-Site Emissions, With Dust Control	0.22	0.00	0.22	0.20	0.00	0.20
Off-Site Emissions, With Dust Control	0.23	93.17	93.40	0.01	9.38	9.39
TOTAL	0.45	93.17	93.62	0.21	9.38	9.59

ELECTRICAL INSTALLATION

	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
On-Site Emissions, No Dust Control	0.73	0.00	0.73	0.67	0.00	0.67
Off-Site Emissions, No Dust Control	0.01	332.75	332.77	0.01	33.48	33.50
TOTAL	0.74	332.75	333.49	0.68	33.48	34.16
On-Site Emissions, With Dust Control	0.73	0.00	0.73	0.67	0.00	0.67
Off-Site Emissions, With Dust Control	0.74	93.17	93.91	0.01	9.38	9.39
TOTAL	1.47	93.17	94.64	0.68	9.38	10.06

CONTAINER INSTALLATION

	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
On-Site Emissions, No Dust Control	0.31	0.00	0.31	0.28	0.00	0.28
Off-Site Emissions, No Dust Control	0.01	332.75	332.77	0.01	33.48	33.50
TOTAL	0.32	332.75	333.07	0.29	33.48	33.78
On-Site Emissions, With Dust Control	0.31	0.00	0.31	0.28	0.00	0.28
Off-Site Emissions, With Dust Control	0.32	93.17	93.49	0.01	9.38	9.39
TOTAL	0.62	93.17	93.79	0.29	9.38	9.67

Biological Resources Report for the Alba Peaker Battery Energy Storage System Project
Imperial County, California

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May 24, 2023

Gerry Scheid

Gerry Scheid, Senior Biologist

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FIGURES

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Acronyms and Abbreviations

BESS	Battery Energy Storage System
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
ESA	Endangered Species Act
MBTA	Migratory Bird Treaty Act
project	Alba Peaker Battery Energy Storage System Project
RECON	RECON Environmental, Inc.
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1.0 Introduction

This biological resource report was prepared by RECON Environmental, Inc. (RECON) for the Alba Peaker Battery Energy Storage System (BESS) Project (project). The purpose of this biological resources report is to (1) document the existing biological conditions within the project survey area; (2) evaluate the survey area for the potential to support sensitive biological resources; (3) provide an analysis of potential impacts associated with the proposed project; and (4) provide a discussion of potential avoidance, minimization, and mitigation measures that may be required to reduce potential impacts to sensitive biological resources to below a level of significance.

1.1 Project Location

The project site is in the unincorporated community of Seeley in Imperial County, approximately 7.5 miles west of the city of El Centro and approximately one mile north of Interstate 8 (Figures 1 and 2). The project site is comprised of Assessor's Parcel Number (APN) 051-420-042, totaling approximately 7.1 acres. The project is located to the east of Drew Road, south of West Evan Hewes Highway, and north of the Seeley Drain (Figure 3). Land uses surrounding the project site consist of active agriculture to the west and south, disturbed land and railroad tracks to the north, and an agricultural facility and fields to the east.

1.2 Project Description

The project would construct and operate a 100-megawatt BESS that would connect to an existing 92-kilovolt gen-tie line. The BESS facility would include battery containers and storage sites, a control room, and associated facilities surrounded by fencing. The BESS would store energy generation from the electrical grid, and optimally discharge that energy back into the grid as firm, reliable generation and/or grid services.

2.0 Methods

Biological resource data for the project resulted from a combination of literature review and a general biological survey. The general biology survey occurred on March 24, 2023, under clear skies, mild winds, and temperatures between 70–72 degrees Fahrenheit. Plant and wildlife species lists were compiled along with mapping of vegetation communities on a recent aerial photograph of the site.

Zoological nomenclature is in accordance with the Checklist of North and Middle American Birds (Chesser et al. 2022); Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico (Crother et al. 2017); the Revised Checklist of North American Mammals North of Mexico (Baker et al. 2003). Floral nomenclature for common plants follows Baldwin (2012) as updated by the Jepson Online Interchange (University of California 2023) and for sensitive plants the California Native Plant Society online database (CNPS; 2019).

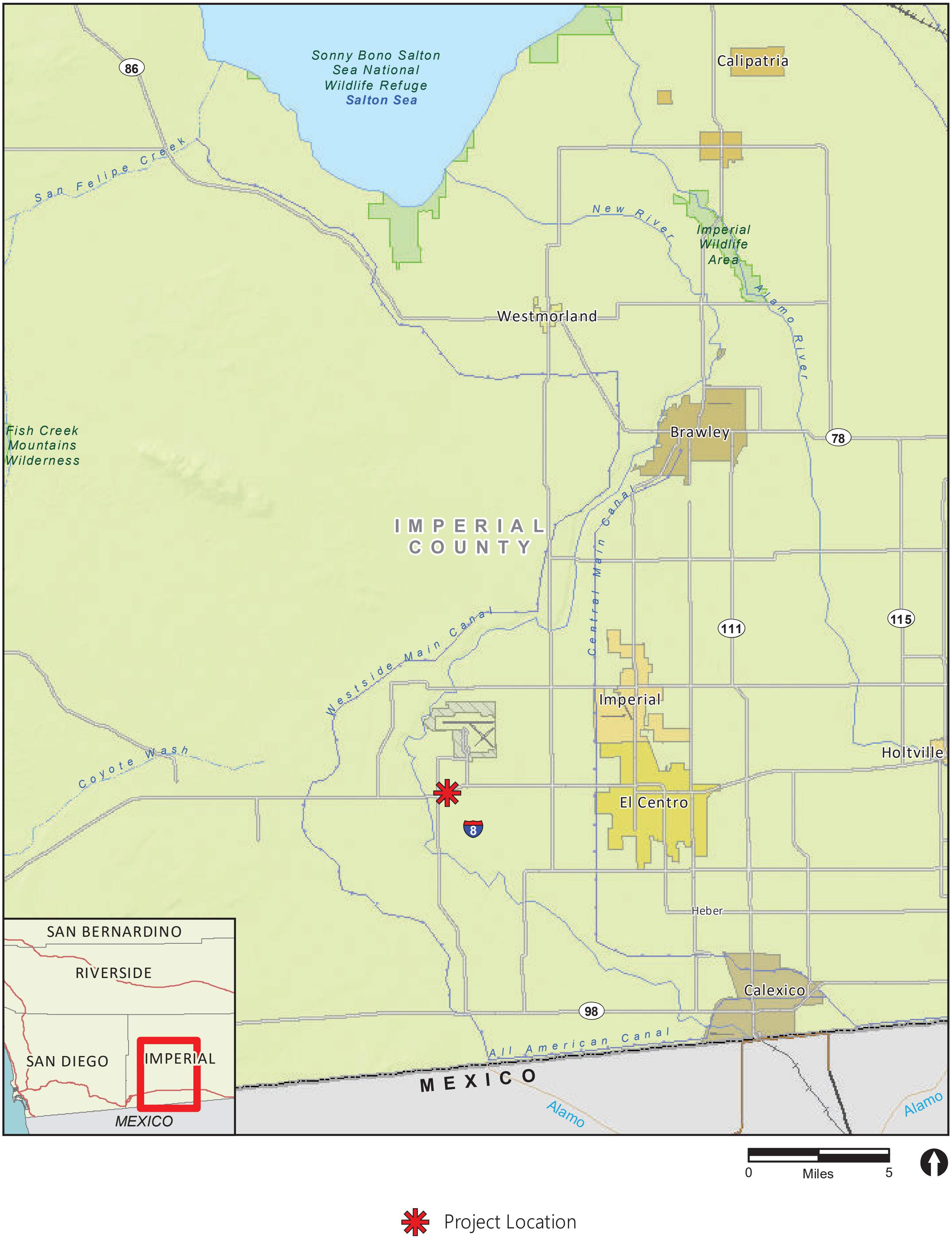

FIGURE 1
Regional Location

RECON
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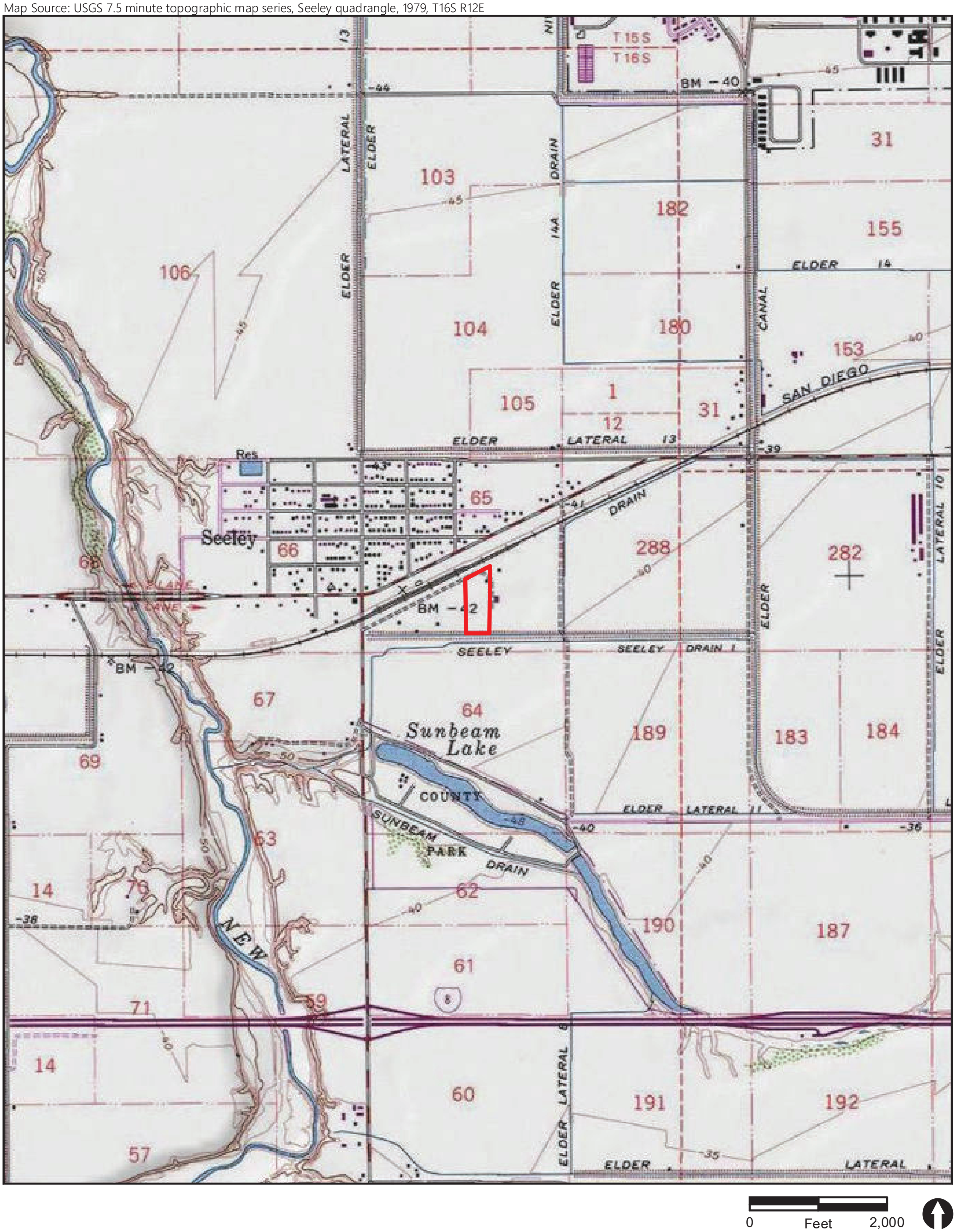
Map Source: USGS 7.5 minute topographic map series, Seeley quadrangle, 1979, T16S R12E



Project Boundary

FIGURE 2
Project Location on USGS Map

RECON

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Image Source: NearMap (flown January 2021)

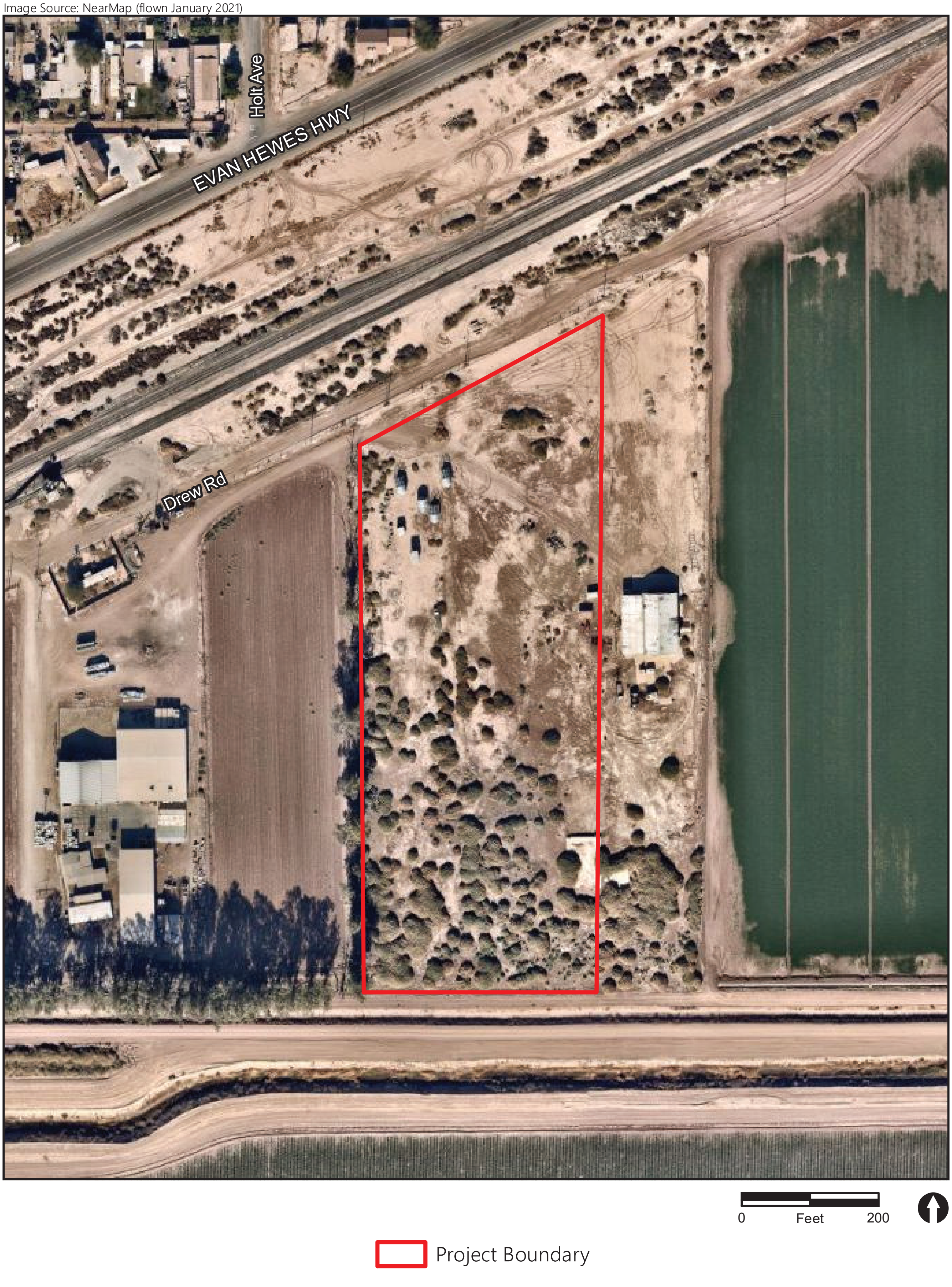

FIGURE 3
Project Location on Aerial Photograph

RECON

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RECON conducted an analysis of existing sensitive species data recorded within one mile of the project site. This analysis included searches of the California Natural Diversity Database (CNDDB; California Department of Fish and Wildlife [CDFW] 2023a), and the All Species Occurrences Database (U.S. Fish and Wildlife Service [USFWS] 2019. Additional maps, imagery, and databases reviewed included U.S. Geological Survey (USGS) topographic maps (1979), soils survey maps (U.S. Department of Agriculture [USDA] 1981), and online aerial images.

3.0 Survey Results/Existing Conditions

This section describes the existing physical and biological conditions of the project site. This includes a summary of land use, topographical features, soils, and observed biological resources on the project site.

3.1 Physical Characteristics

3.1.1 Existing Land Use

The project site consists of agriculturally-zoned land that was previously used for agricultural cultivation but has not been actively tilled for at least two decades. Some minor vehicle access still occurs in the north and eastern portion of the site as these areas are devoid of any vegetation. Re-establishment of patches of native vegetation within the less active southern half of the site has occurred.

3.1.2 Topography and Soils

Topography within the project site is generally level. Two soil types are mapped within the project site, Imperial-Glenbar silty clay loams 0 – 2 percent, and Holtville silty clay 0 – 2 percent (USDA 1981; Figure 4). Permeability on both soil types is slow in the surface layers and both are saline to slightly saline. These two soils can be used for crops with irrigation supplied.

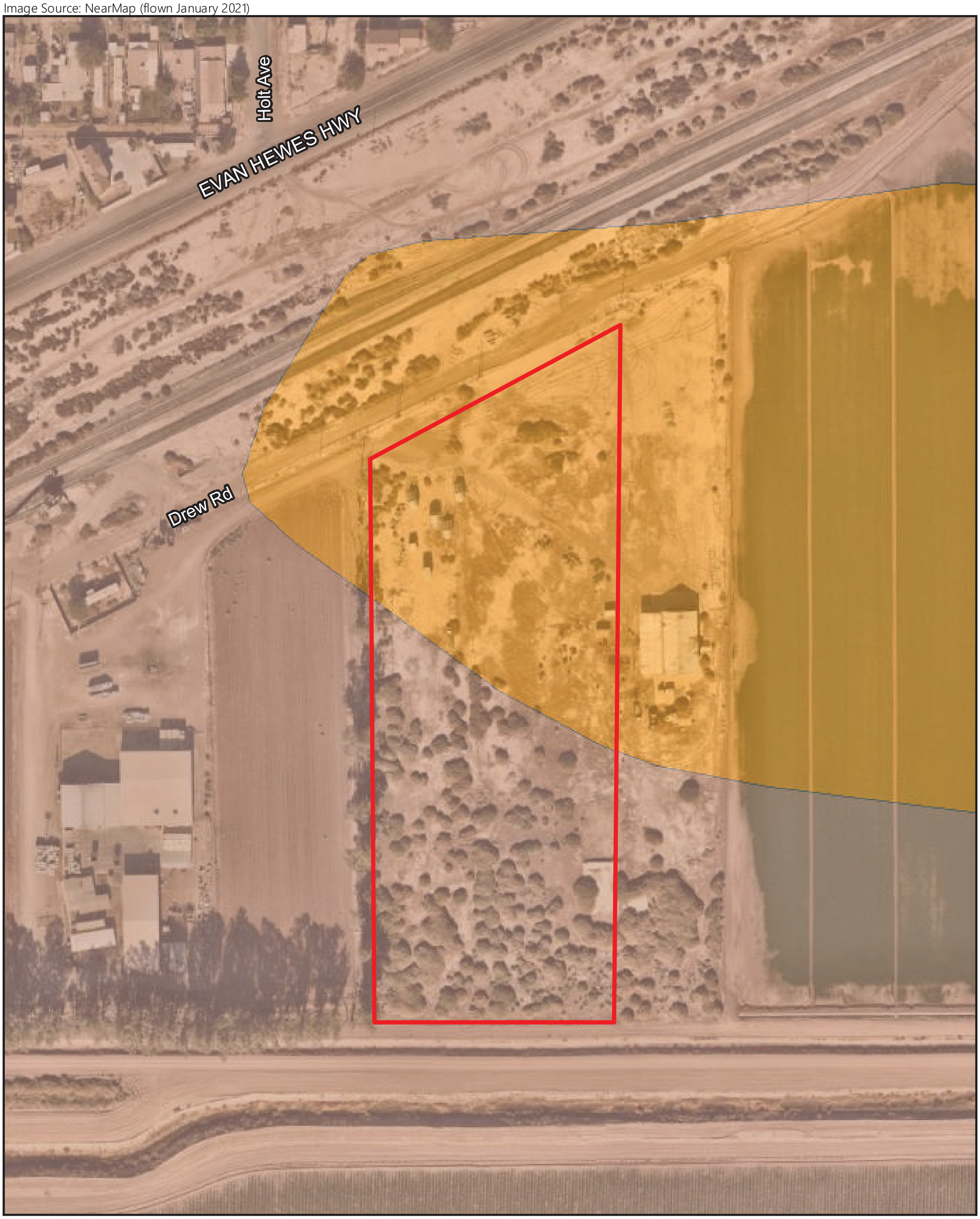
3.2 Biological Resources

The botanical and wildlife species observed during the general survey are discussed below. A map showing the location of the vegetation communities that occur on the project site are shown on Figure 5.

3.2.1 Botanical Resources

Two vegetation communities were mapped within the project site; desert saltbush scrub and disturbed land (see Figure 5). Each community is discussed below.

Image Source: NearMap (flown January 2021)



Project Boundary

Soil Type

Holtville Silty Clay, Wet

Imperial-Glenbar Silty Clay Loams, Wet, 0-2% Slopes

0 Feet 200

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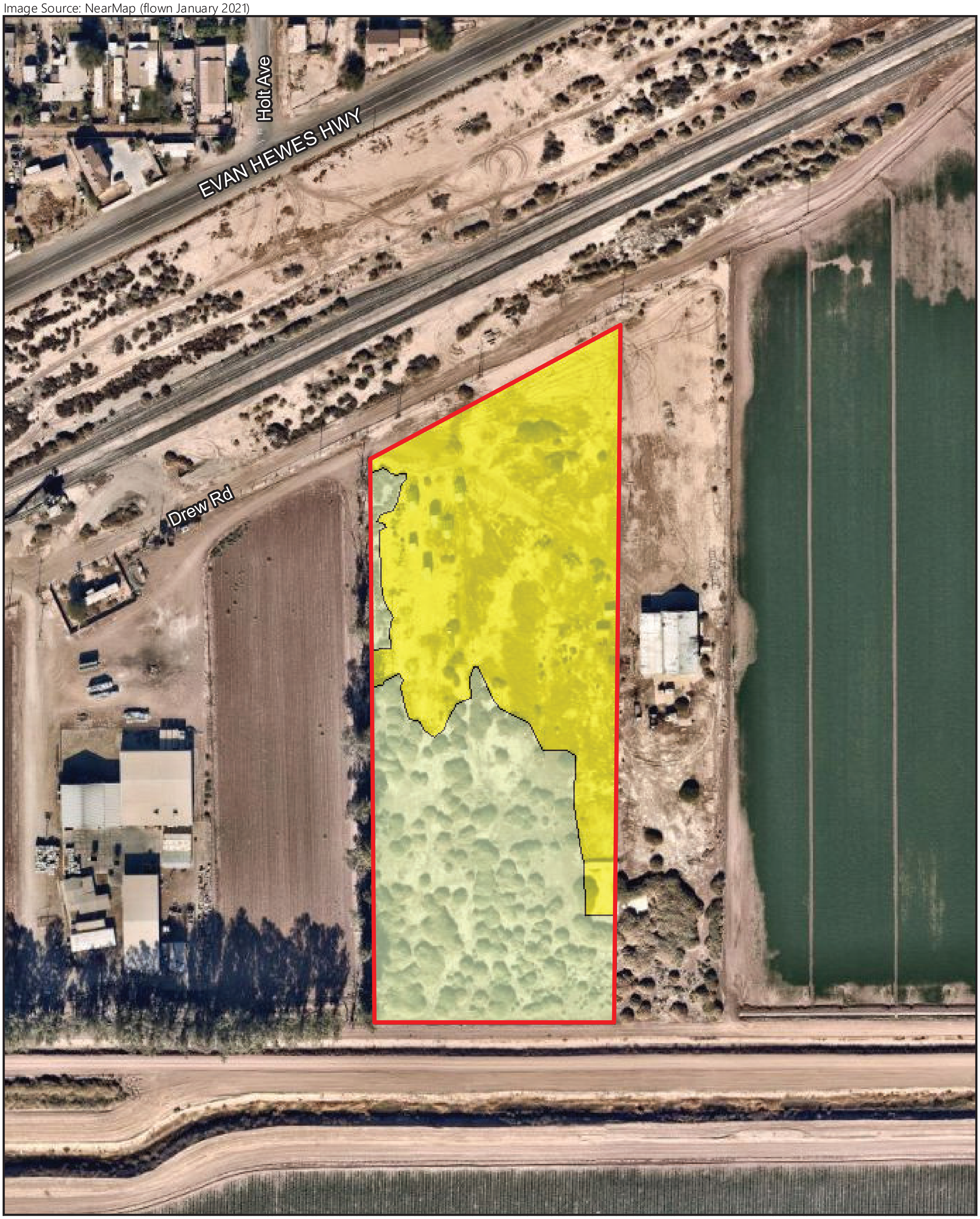
FIGURE 4

Soils

Image Source: NearMap (flown January 2021)



Project Boundary

Vegetation Communities

Disturbed Desert Saltbush Scrub

Disturbed Land

0 Feet 200

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FIGURE 5
Vegetation Communities

Desert saltbush scrub is the predominant vegetation community on the southern half of the project site and as a narrow strip along the western boundary. It is comprised of a single shrub species, big saltbush (*Atriplex lentiformis*). These bushes have colonized the site and have grown to a large stature (Photographs 1 and 2). Total shrub cover ranges between 20 and 60 percent. It occurs on 3.2 acres of the project site.

Disturbed land consists of mostly bare ground that is subjected to continued disturbance, preventing establishment of substantial vegetation cover. The disturbed land areas occur primarily on the northern half of the site and along the eastern boundary (see Figure 5). Some areas contain abandoned farm equipment, vehicles, wooden crates, and other debris in scattered small piles (Photographs 3 and 4). It occurs on 3.9 acres of the project site.

3.2.2 Zoological Resources

A total of eight animal species were detected within the project site. Seven bird species and one mammal species were identified and are typical of Colorado Desert communities and agricultural areas (Table 1). The lack of plant species diversity, soil type, and level of disturbance limit the number of wildlife species that can be supported on the site.

Table 1
Wildlife Species Observed

Major Wildlife Group	Family	Scientific / Common Name	Origin*
Birds	Odontophoridae / New World Quail	*Callipepla gambelii* / Gambel's quail	N
	Falconidae / Falcons	*Falco sparverius* / American kestrel	N
	Columbidae / Pigeons & Doves	*Zenaida macroura* / mourning dove	N
	Trochilidae / Hummingbirds	*Calypte anna* / Anna's hummingbird	N
	Tyrannidae / Tyrant Flycatchers	*Tyrannus verticalis* / western kingbird	N
	Remizidae / Verdin	*Auriparus flaviceps* / verdin	N
	Mimidae / Mockingbirds & Thrashers	*Mimus polyglottos* / northern mockingbird	N
Mammals	Leporidae / Rabbits & Hares	*Sylvilagus audubonii* / desert cottontail	N
*N =Native to locality.			

3.3 Sensitive Biological Resources

3.3.1 Regulatory Setting

3.3.1.1 Regulatory Framework

Various federal and state regulations or policies apply to biological resources on the project site and are summarized below.

PHOTOGRAPH 1
View of Desert Saltbush Scrub Looking South

PHOTOGRAPH 2
View of Desert Saltbush Scrub Showing Size of
Big Saltbush (*Atriplex lentiformis*)

PHOTOGRAPH 3
View of Disturbed Land on Northern Portion of Site Looking North

PHOTOGRAPH 4
View of Disturbed Land on Northern Portion of Site Looking West

a. Federal Regulations

The federal Endangered Species Act (ESA) provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered 'take' under the ESA. Section 9(a) of the ESA defines 'take' as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." The ESA is administered by the USFWS.

The Migratory Bird Treaty Act (MBTA; 16 United States Code 703 et seq.) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of bird species covered by the MBTA is listed at 50 Code of Federal Regulations (CFR) 10.13. The regulatory definition of "migratory bird" is broad and includes any mutation or hybrid of a listed species and any part, egg, or nest of such birds (50 CFR 10.12). The MBTA, which is enforced by USFWS, makes it unlawful "by any means or in any manner, to pursue, hunt, take, capture, [or] kill" any migratory bird, or attempt such actions, except as permitted by regulation. The take, possession, import, export, transport, sale, purchase, barter, or offering of these activities is prohibited, except under a valid permit or as permitted in the implementing regulations (50 CFR 21.11). Pursuant to U.S. Department of the Interior Memorandum M-37050, the federal MBTA is no longer interpreted to cover incidental take of migratory birds (U.S. Department of the Interior 2017). Therefore, impacts that are incidental to implementation of an otherwise lawful project would not be considered significant.

b. State Regulations

The California Environmental Quality Act (CEQA) requires an environmental review for projects with potentially adverse impacts on the environment. Adverse environmental impacts are typically mitigated in accordance with state laws and regulations.

The California ESA is similar to the federal ESA in that it provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction.

Section 3503 of the California Fish and Game Code states that it is "unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto," and Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird" unless authorized (State of California 1991).

3.3.1.2 Sensitivity Criteria

Vegetation communities are considered sensitive natural communities if they are of limited distribution; have federal, state, or local laws regulating their development; and/or support concentrations of sensitive plant or wildlife species. For purposes of this report, the following natural communities are considered sensitive: (1) communities with state rarity ranks of S1-S3, as reviewed by the Vegetation Classification and Mapping Program (VegCAMP) and CNPS, and recognized by CDFW (2023a); and (2) wetlands and waters under the jurisdiction of federal and state agencies.

For purposes of this report, plant and wildlife species would be considered sensitive if they are: (1) listed by state or federal agencies as rare, threatened, or endangered or are proposed for listing; (2) given a California Rare Plant Rank 1B (considered endangered throughout its range), 2 (considered endangered in California but more common elsewhere), 3 (more information about the plant's distribution and rarity needed), or 4 (plants of limited distribution) in the CNPS Inventory of Rare and Endangered Vascular Plants of California (2023); (3) considered rare, endangered, or threatened by CDFW (2023b-f); or (4) identified by another recognized conservation or scientific group as being depleted, potentially depleted, declining, rare, critical, endemic, endangered, or threatened.

3.3.2 Sensitive Vegetation Communities

No sensitive vegetation communities occur on the site.

3.3.3 Sensitive Plant Species

No sensitive plant species were observed and no sensitive plant species were determined to have a potential to occur within project site. Two sensitive plant species have historic records from the vicinity of the project but have not been documented in the area in decades. The two species include chaparral sand verbena (*Abronia villosa* var. *aurita*) and mud nama (*Nama stenocarpa*; Table 2). Given the level of past and current disturbance and lack of suitable habitat, these species are not expected to occur on the site.

3.3.4 Sensitive Wildlife Species

Based on an assessment of species location records, the following three sensitive wildlife species were found to have historic records in the vicinity of the project site. These species include mountain plover (*Charadrius montanus*), Yuma ridgeway's rail (*Rallus obsoletus yumanensis*), and California black rail (*Laterallus jamaicensis coturniculus*; Table 3). The mountain plover is a winter resident species that prefers grasslands and fields which do not occur on the project site. The Yuma ridgeway's rail and California black rail prefer emergent marshland vegetation associated with wetlands and rivers which do not occur on the project site.

One other sensitive wildlife species, burrowing owl (*Athene cunicularia*), was evaluated for presence on the project site given species observations in the Imperial Valley. This species is not expected to use or breed on the site due to the lack of suitable burrows, evidence of small burrowing mammals (prey species), and overall level of disturbance.

Table 2 Sensitive Plant Species Observed or with the Potential to Occur								
Major Plant Group	Family	Scientific Name / Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat Preference / Requirements	Potential to Occur On-site	Basis for Determination of Occurrence Potential
Angiosperms: Eudicots	Namaceae / Nama Family	*Nama stenocarpum* / mud nama	--	--	2B.2	Annual/perennial herb; marshes and swamps, lake margins, riverbanks; blooms January–July; elevation less than 1,700 feet.	Low	Site lacks suitable wet habitat required by the species.
	Nyctaginaceae / Four O'clock Family	*Abronia villosa* var. *aurita* / chaparral sand verbena, foothill sand-verbena*	--	--	1B.1	Annual herb; sandy floodplains in inland, arid areas of coastal sage scrub and open chaparral; blooms January–September; elevation 300–5,300 feet.	Low	Site is not part of a sandy floodplain; lacks suitable habitat.

California Native Plant Society (CNPS): California Rare Plant Ranks (CRPR)
1B = Species rare, threatened, or endangered in California and elsewhere. These species are eligible for state listing.
2B = Species rare, threatened, or endangered in California but more common elsewhere. These species are eligible for state listing.
0.1 = Species seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat).
0.2 = Species fairly threatened in California (20-80% occurrences threatened; moderate degree and immediacy of threat).

Table 3 Sensitive Wildlife Species Observed or with the Potential to Occur							
Major Wildlife Group	Family	Scientific Name / Common Name	Federal Status	State Status	Habitat Preference / Requirements	Potential to Occur On-Site	Basis for Determination of Occurrence Potential
Birds	Rallidae / Rails, Gallinules, & Coots	*Laterallus jamaicensis coturniculus* / California black rail		ST, CFP	Tidal marshes, grassy marshes. Resident populations extirpated.	Low	Site lacks suitable wetland emergent vegetation. The past and current level of disturbance make it unlikely for the site to support this species.
		Rallus obsoletus [=*longirostris*] *yumanensis* / Yuma Ridgway's [=clapper] rail	FE	ST, CFP	Marshland vegetation, dense cattail stands, bulrush, reeds. Resident.	Low	Site lacks suitable wetland emergent vegetation. The past and current level of disturbance make it unlikely for the site to support this species.
	Charadriidae / Lapwings & Plovers	*Charadrius montanus* / mountain plover		SSC	Grasslands, fields, valleys. Localized winter resident.	Low	Site lacks suitable habitat for this species. The past and current level of disturbance makes the site unlikely to support this species.
	Strigidae / Typical Owls	*Athene cunicularia* / burrowing owl		SSC	Grassland, agricultural land, coastal dunes. Require rodent burrows. Declining resident.	Low	Site lacks suitable burrowing mammals and associated burrows. No evidence of burrowing owl habitat or usage was observed on the site.

STATUS CODES

Federal Status
FE = Listed as endangered by the federal government

<u>State Status</u>
CFP = California fully protected species
ST = Listed as threatened by the state of California
SSC = California Department of Fish and Wildlife species of special concern

3.3.5 Wildlife Movement Corridors

Wildlife movement corridors are defined as areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. The project site lies adjacent to a large expanse of agricultural land, which isolates the project site from undisturbed desert habitats. While the project site functions as part of general habitat that provides for local movement of terrestrial wildlife, it does not serve as a corridor between native desert habitat.

4.0 Project Impact Analysis

Although the final footprint of the completed BESS facility would not occupy the entire project site, construction activities would likely have direct impacts to the entire 7.1 acres (Figure 6). Thus, there would be impacts to 3.2 acres of desert salt bush scrub and 3.9 acres of disturbed land. The significance of these impacts to biological resources is discussed below.

In accordance with Appendix G of the CEQA Guidelines, the project would have a significant impact if it would:

- 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 CDFW or USFWS;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or USFWS;

- 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;

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Image Source: NearMap (flown January 2021)

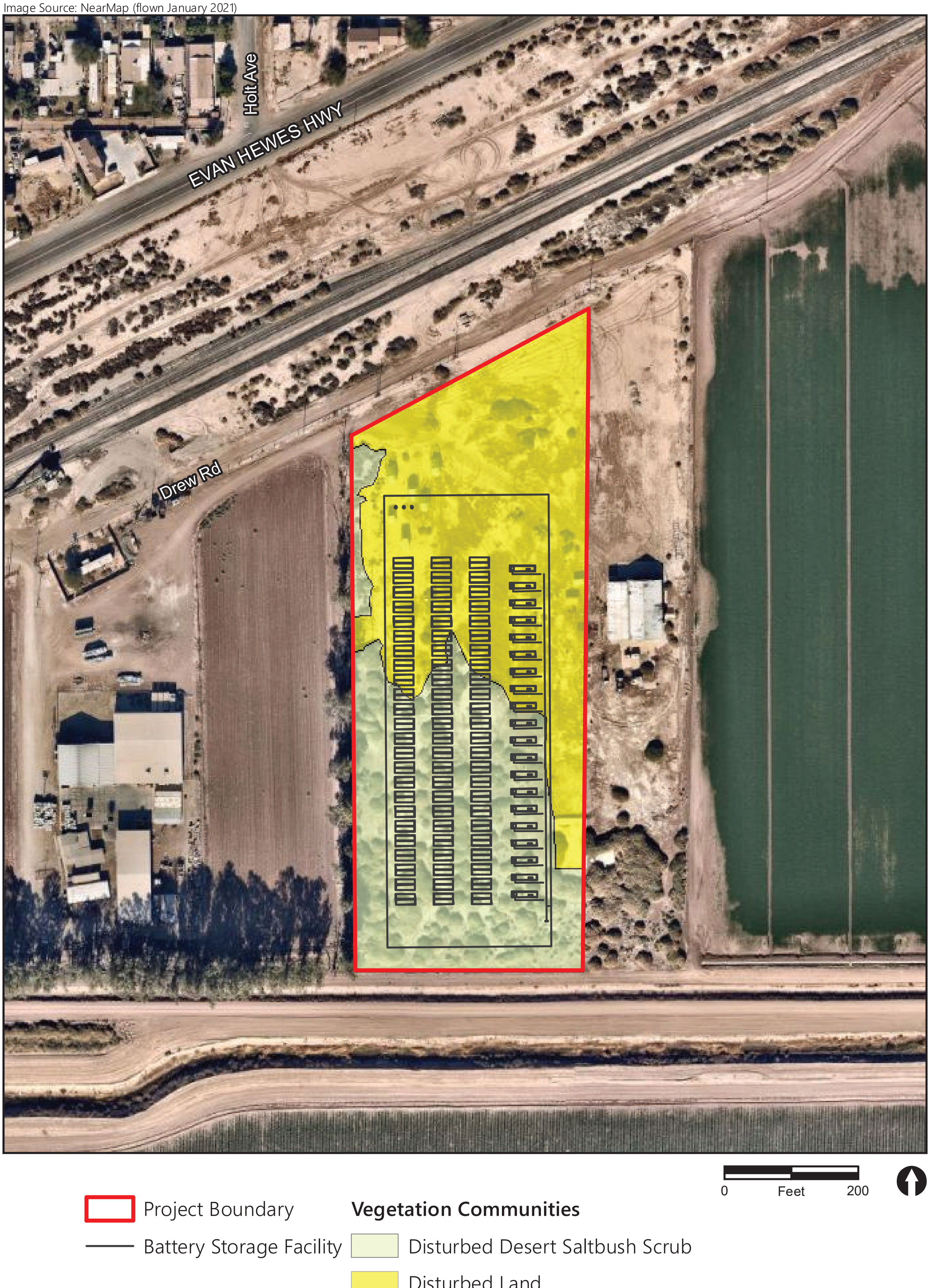

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FIGURE 6
Project Impacts

The project site does not support, nor would it affect, any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the CDFW or USFWS. The project site does not support any riparian habitat or other sensitive natural community. The project site does not contain any federally protected wetlands. Development of the site would not conflict with any local policies or ordinances protecting biological resources nor would it conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan. Therefore, no significant impacts to biological resources in these categories would occur from the project.

Nesting birds including raptors covered under the California Fish and Game Code Sections 3503 and 3503.5 have potential to be directly impacted by the project if construction activities (i.e., clearing, grubbing, grading) occur during the general nesting season of February 1 to September 15. Direct impacts to nesting birds and raptors would be considered significant and require avoidance measures.

5.0 Avoidance Measures and Monitoring Recommendations

As currently designed, the project has the potential to result in significant direct impacts to nesting birds. The following general mitigation for biological resource protection during construction would be included in the environmental document:

> To avoid direct impacts to avian species, removal of habitat that supports active nests in the proposed area of disturbance should occur outside the general breeding season for these species (February 1 to September 15). If removal of habitat in the proposed area of disturbance must occur during the breeding season, the qualified biological monitor would conduct a pre-construction survey to determine the presence or absence of nesting birds on the proposed area of disturbance. The pre-construction survey would be conducted within 10 calendar days prior to the start of construction activities (including removal of vegetation). The applicant would submit the results of the pre-construction survey for review and approval prior to initiating any construction activities.
>
> If nesting birds are detected, a letter report or mitigation plan in conformance with applicable state and federal law (i.e., appropriate follow up surveys, monitoring schedules, construction and noise barriers/buffers, etc.) would be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan would be submitted for review and approval.

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RECON

An Employee-Owned Company

May 31, 2023

Mr. Ramon Gonzalez
Senior Project Coordinator
Z Global
750 W. Main Street
El Centro, CA 92243

Reference: Cultural Resources Report for the Alba Peaker Battery Energy Storage System Project, Seeley, California (RECON Number 10324)

Dear Mr. Gonzalez:

This report details the results of a cultural resources survey conducted for the Alba Peaker Battery Energy Storage System (BESS) Project (project). This report has been prepared to provide necessary information to identify the effects of the project on historical resources.

PROJECT LOCATION AND DESCRIPTION

The project site is located within the unincorporated community of Seeley, in Imperial County, approximately 7.5 miles west of the city of El Centro and approximately one mile north of Interstate 8 (Figure 1). The project site occurs within Section 72, Township 16 South, Range 12 East of the U.S. Geological Survey 7.5-minute topographic map, Seeley quadrangle (Figure 2). The project site is comprised of Assessor's Parcel Number (APN) 051-420-042, totaling approximately 7.1 acres. The project is located to the east of Drew Road, south of West Evan Hewes Highway, and north of the Seeley Drain. Land uses surrounding the project site consist of active agricultural uses to the west and south, disturbed land and railroad tracks to the north, and an agricultural facility and fields to the east (Figure 3).

The project would construct and operate a 100-megawatt BESS facility that would connect to an existing 92-kilovolt gen-tie line (see Figure 3). The BESS facility would include battery containers and storage sites, a control room, and associated facilities surrounded by fencing. The BESS would store energy generation from the electrical grid, and optimally discharge that energy back into the grid as firm, reliable generation and/or grid services.

Area of Potential Effect

The 7.1-acre parcel is considered the area potential effect (APE).

METHODS

To determine if the project would adversely impact historical resources, background research, review of topographic maps and historic aerial photographs, and an on-foot survey were completed. Prior to the survey, a records search was requested from the California Historical Resources Information System, South Coastal Information Center (SCIC) to identify any previously recorded cultural resources within a one-mile radius of the APE. On March 22, 2023, RECON Environmental, Inc. (RECON) archaeologists Nathanial Yerka and Charlie Musser accompanied by Anthony LaChappa, a Native American monitor from Red Tail Environmental, conducted a pedestrian survey of the APE using 15-meter transects. Carmen Zepeda-Herman served as principal investigator. Ms. Zepeda-Herman is a member of the

Register of Professional Archaeologists (RPA) and meets the Secretary of the Interior Standards for Archaeology and Historic Preservation.

The primary goal of this survey was to determine (1) if there are previously unrecorded cultural resources present, and if so, document the resources' locations and what they consist of and (2) to update conditions of previously recorded cultural resources. The APE was inspected for evidence of archaeological materials such as flaked and ground stone tools or fragments, ceramics, milling features, and human remains. Photographs were taken to document the environmental setting and general conditions. RECON used an Apple iPad running ESRI's ArcGIS Collector application paired with a Trimble R1 sub-meter global positioning system (GPS) containing shapefiles and aerial photography to pinpoint our location in real-time, which was used to navigate the APE.

NATIVE AMERICAN CONSULTATION

A letter was sent on March 8, 2023, to the Native American Heritage Commission (NAHC) requesting a search of their Sacred Lands File to identify spiritually significant and/or sacred sites or traditional use areas in the project vicinity. The NAHC was also asked to provide a list of local Native American tribes, bands, or individuals that may have concerns or interests regarding cultural resources potentially occurring within the APE. The NAHC responded on March 22, 2023, indicating that their search of the Sacred Lands File was positive. The NAHC attached a list of Native American tribes who may also have knowledge of cultural resources in the project area (Attachment 1).

BACKGROUND RESEARCH

The SCIC records search indicated that there have been eight cultural investigations conducted within one mile of the APE, one of which includes a portion of the APE (Confidential Attachment 1). The record search also indicated five historic-era cultural resources situated within one mile of the APE (Table 1). These cultural resources are comprised of a railroad, a highway, a government building, foundations, a monument, and a trash scatter. None of the previously recorded cultural resources were mapped within the APE.

Table 1
Cultural Resources within a One-Mile Radius of the APE

Primary #	Trinomial	Period	Site Type	Recording Events
P-13-008418	CA-IMP-007886	Historic	Highway	2001, 2009, 2011 (ASM Affiliates); 2007 (McKenna); 2007 (SWCA); 2009 (URS); 2011 (AECOM)
P-13-009223		Historic	Trash scatter	2007 (Jones & Stokes)
P-13-009224		Historic	Foundations; Monument	2007 (Jones & Stokes)
P-13-009225		Historic	Government building	2007 (Jones & Stokes)
P-13-009302	CA-IMP-008489	Historic	Railroad	2007, 2009 (McKenna et al.); 2007 (SWCA); 2009, 2011 (ASM); 2009 (URS); 2010, 2011 (AECOM)

A review of topographic maps and historic aerial photographs show that the APE has been subject to agricultural cultivation since at least 1953—the first available aerial photograph—with the northern boundary being the present-day Drew Road alignment, the southern boundary on the down slope of a drain alignment, and the western and eastern boundaries established by tilling rows. The next available aerial from 1984 exhibits the parcel free of all vegetation and a building towards the southeastern corner of the APE. Also in 1984, the building adjacent to the eastern boundary near the center of the parcel is exhibited. By 1985, the superstructure of the southern building is removed leaving only a concrete foundation. A structure is represented as occurring at the northeast corner of the APE on the 1958 topographic map and continues on the subsequent 1961, 1976, 1980, and 1983 maps. The structure does not appear on any available photographs. The 1980 topographic map first represents the building adjacent to the east and continues to appear on subsequent maps. The building towards the south within the APE is never represented on any topographic map. By 2002, several alignments of vehicle and materials storage occur across the APE. The parcel is kept free of vegetation through 2016, but by 2017, most vehicles and materials have been removed from the southern two-thirds and non-native vegetation takes over. No apparent changes occur within the APE in subsequent photographs dating to 2019 and 2020 (Nationwide Environmental Title Research LLC 2023).

RESULTS OF SURVEY

No significant or potentially significant prehistoric or historic cultural resources were observed during the survey of the APE. RECON and Red Tail Environmental completed the survey under sunny and mild conditions. The survey commenced in the southeast corner utilizing east-west transects and translated north across the APE. The entirety of the APE has been subject to ground disturbance from past agricultural activity. Ground visibility averaged approximately 60 percent across the APE with areas of dense ground cover composed of non-native weeds and bushes, as well as materials staging and dumping, assorted vehicles, and assorted agricultural equipment. The remainder is open soil (Photographs 1-3). The APE is fenced on the western, northern, and southern sides, with the eastern boundary open to the adjacent parcel. The dominant feature of the APE is the circa 1980, 75-foot (north/south) by 50-foot (east/west) concrete foundation that is 1 foot in height on the south side and 3 feet in height on the north side. Along the eastern edge of the concrete foundation and towards its southeast corner is an angled metal traffic guard that is approximately 8 feet in length (Photographs 4 and 5). Towards the southeast corner of the APE, there are several utility poles that make up the eastern boundary. A pair of north-south pole alignments is situated near the western boundary that was used as a mid-2000s shade structure for vehicle storage (Photograph 6). There are three areas along the western boundary used as wheel and tire dumps. Other staged material includes numerous stacked wooden pallets, cut wood rounds, and agricultural equipment. Other surface disturbances include several trash burn areas, assorted metal, concrete and asphalt fragments, dimensional lumber, and modern rubbish comprised of assorted paper, plastic, and consumer bottle glass.

REGULATORY CONTEXT

The project is subject to state and County of Imperial environmental regulations. The County is the lead agency for the California Environmental Quality Act (CEQA) guidelines and regulations.

California Environmental Quality Act

The regulatory framework and methods for determining impacts on cultural resources include compliance with CEQA requirements as defined in Section 15064.5 of the CEQA Guidelines, Determining the Significance of Impacts to Archaeological and Historical Resources. These guidelines require the identification of cultural resources that could be affected by the project, the evaluation of the significance of such resources, an assessment of project impacts on significant resources, and a development of a research design and data recovery program to avoid or address adverse effects to significant resources. Significant resources, also called historical resources, are those cultural resources (whether prehistoric or historic) that have been evaluated and determined to be eligible for listing in the California Register of Historical Resources.

According to CEQA Section 15064.5(a), a historical resource includes the following:

1. A resource listed in, or determined to be eligible for listing on, the California Register of Historical Resources.
2. A resource included in the local register.

3. A resource which an agency determines to be historically significant. Generally, a resource shall be considered to be "historically significant," if the resource meets the criteria for listing on the California Register of Historical Places (Public Resources Code Section 5024.1 Title 14 California Code of Regulations, Section 4852) including the following:
    A. Is associated with events that have made a significant contribution to the broad patterns of California's history or cultural heritage;
    B. Is associated with the lives of persons important in our past;
    C. Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of an important creative individual, or possesses high artistic values; or
    D. Has yielded, or maybe likely to yield, information important to prehistory or history.
4. The fact that a resource is not listed in or determined to be eligible for listing in the California Register of Historical Resources or a local register does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code Sections 5020.1(j) or 5024.1.

A resource must meet one of the above criteria and must have integrity; that is, it must evoke the resource's period of significance or, in the case of criterion D, it may be disturbed, but it must retain enough intact and undisturbed deposits to make a meaningful data contribution to regional research issues.

MANAGEMENT RECOMMENDATIONS

No significant or potentially significant prehistoric or historic cultural resources were observed during the survey of the APE. The SCIC records search was negative for the APE and returned only historic-era resources within the requested search area. The possibility of intact buried significant cultural resources being present within the APE is considered low due to past agricultural cultivation. RECON recommends no additional cultural resource work for this project.

Please call Ms. Zepeda-Herman at (619) 308-9333 ext. 133 if you have any questions or concerns about this project.

Sincerely,

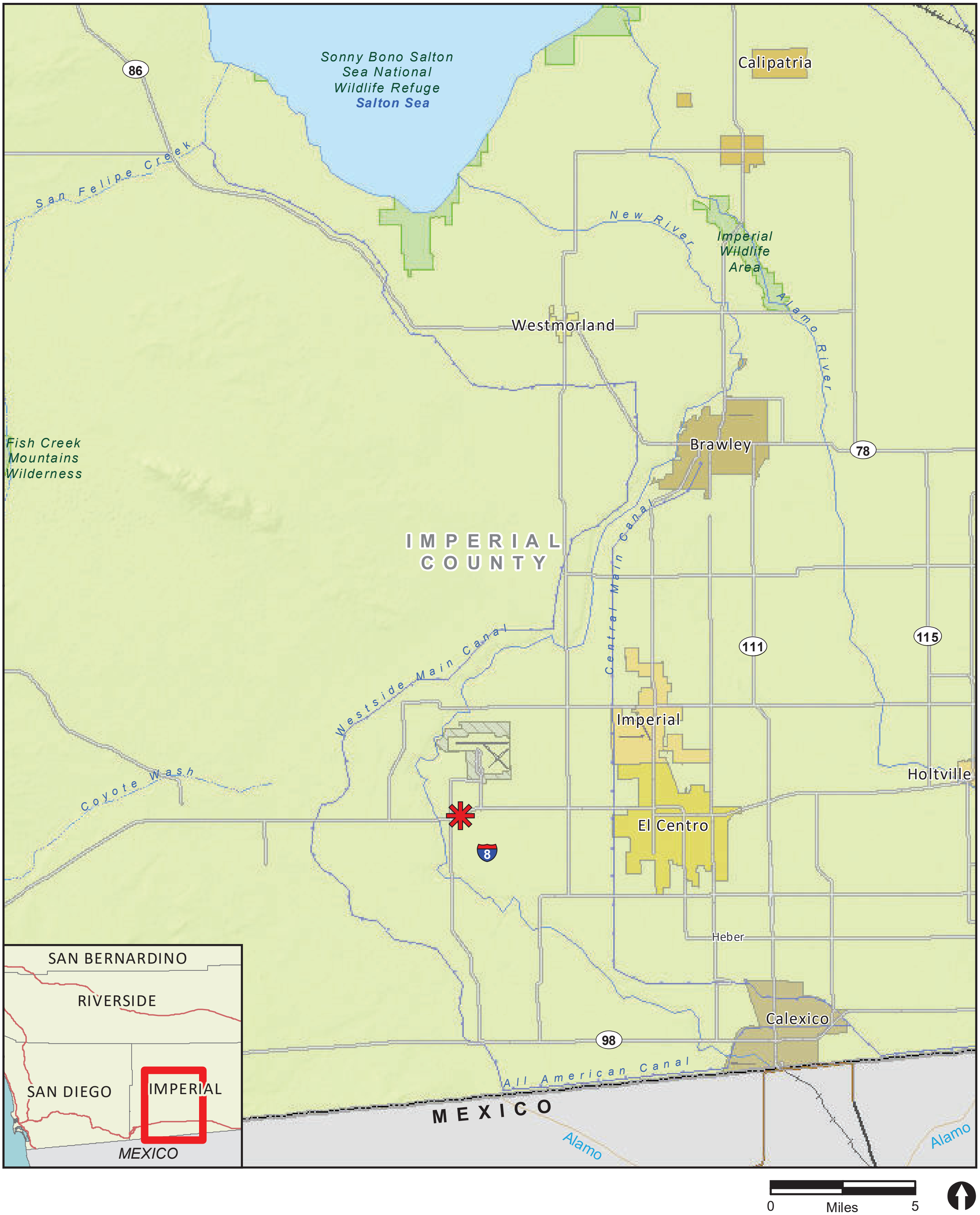
Nathanial Yerka,	Carmen Zepeda-Herman, M.A., RPA
Project Archaeologist	Principal Investigator

NDY:CZH:sh

Attachment

REFERENCE CITED

Nationwide Environmental Title Research
2023 Historic Aerials. http://www.historicaerials.com/. Accessed on May 19, 2023.



Project Location

RECON

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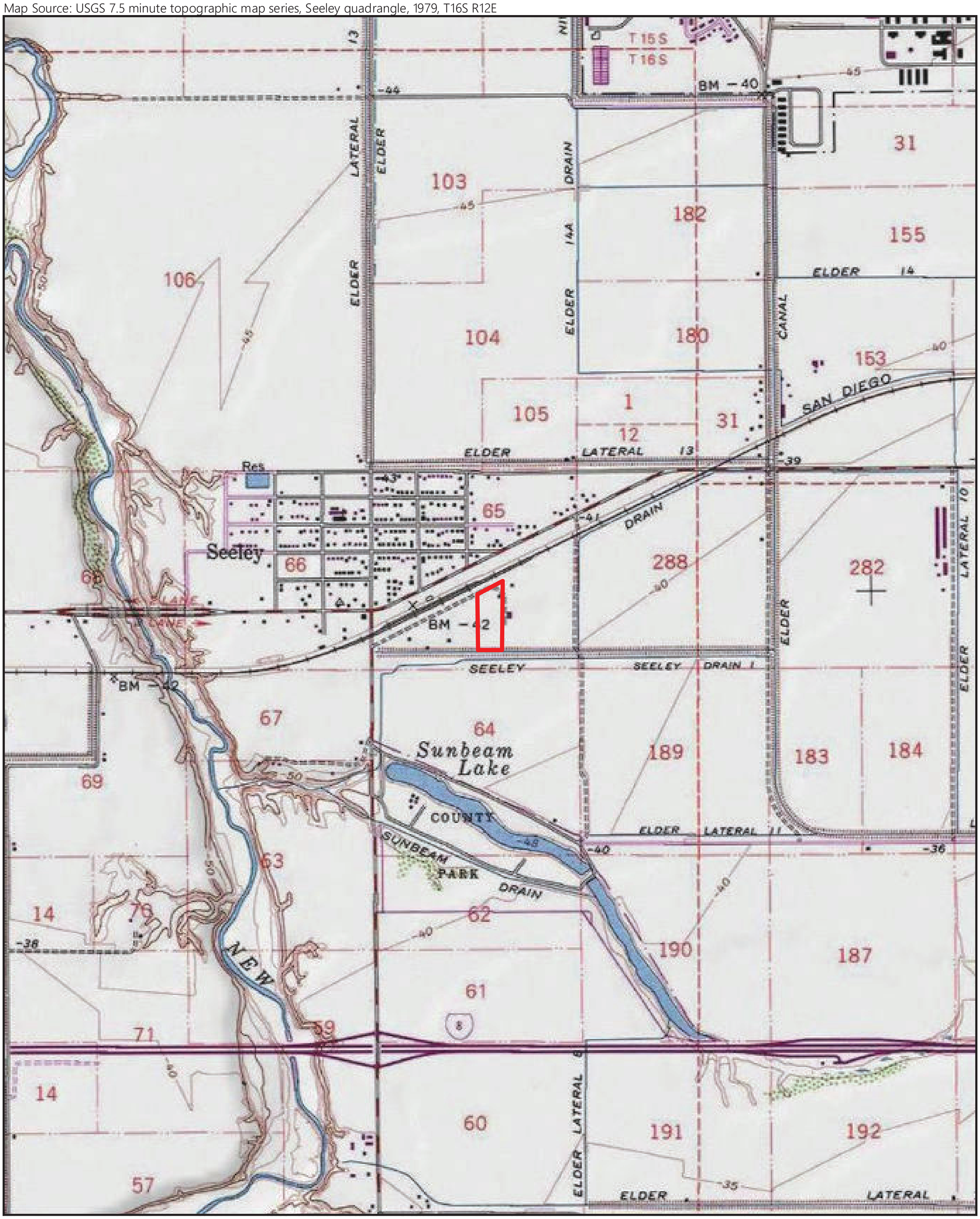
FIGURE 1
Regional Location

Map Source: USGS 7.5 minute topographic map series, Seeley quadrangle, 1979, T16S R12E



0 Feet 2,000

Project Boundary

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FIGURE 2
Project Location on USGS Map

Image Source: NearMap (flown January 2021)

Project Boundary

FIGURE 3

Project Location on Aerial Photograph

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PHOTOGRAPH 1
Overview of Survey Area in Southern Portion of APE, Looking North

PHOTOGRAPH 2
Overview of Materials Staging in Northern Portion of APE,
Looking North-Northeast

PHOTOGRAPH 3
Overview of Survey Area from Northwestern APE Corner, Looking Southeast

PHOTOGRAPH 4
Overview of circa 1980 Concrete Foundation in Southeast Project APE, Looking Northwest

PHOTOGRAPH 5
Overview of circa 1980 Concrete Foundation in Southeast Project APE,
Looking Southeast

PHOTOGRAPH 6
Overview of Shade Structure Support Poles, Looking Southwest

ATTACHMENT 1

Native American Heritage Commission Correspondence

NATIVE AMERICAN HERITAGE COMMISSION

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

March 22, 2023

Carmen Zepeda-Herman
RECON Environmental, Inc.

Via Email to: czepeda@reconenvironmental.com

Re: 10324 Alba Peaker Battery Project, Imperial County

Dear Ms. Zepeda-Herman:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were positive. Please contact the tribes on the attached list for more information. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Pricilla.Torres-Fuentes@nahc.ca.gov.

Sincerely,

Pricilla Torres-Fuentes

Pricilla Torres-Fuentes
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Imperial County
3/22/2023

Barona Group of the Capitan Grande
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1095 Barona Road — Diegueno
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Phone: (619) 443 - 6612
Fax: (619) 443-0681
counciloffice@barona-nsn.gov

Campo Band of Diegueno Mission Indians
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36190 Church Road, Suite 1 — Diegueno
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Phone: (619) 478 - 9046
Fax: (619) 478-5818
rgoff@campo-nsn.gov

Cocopah Indian Reservation
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14515 S. Veterans Drive — Cocopah
Sommerton, AZ, 85350
Phone: (928) 722 - 7521
mccormickj@cocopah.com

Ewiiaapaayp Band of Kumeyaay Indians
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4054 Willows Road — Diegueno
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Ewiiaapaayp Band of Kumeyaay Indians
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Iipay Nation of Santa Ysabel
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Iipay Nation of Santa Ysabel
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Inaja-Cosmit Band of Indians
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Jamul Indian Village
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Kwaaymii Laguna Band of Mission Indians
Carmen Lucas,
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La Posta Band of Diegueno Mission Indians
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Fax: (619) 478-2125
jmiller@LPtribe.net

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed 10324 Alba Peaker Battery Project, Imperial County.

Native American Heritage Commission
Native American Contact List
Imperial County
3/22/2023

La Posta Band of Diegueno Mission Indians
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Mesa Grande Band of Diegueno Mission Indians
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Quechan Tribe of the Fort Yuma Reservation
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San Pasqual Band of Diegueno Mission Indians
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Sycuan Band of the Kumeyaay Nation
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Viejas Band of Kumeyaay Indians
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Fax: (619) 445-5337

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed 10324 Alba Peaker Battery Project, Imperial County.

Viejas Band of Kumeyaay Indians

Ernest Pingleton, Tribal Historic Officer, Resource Management 1 Viejas Grade Road Alpine, CA, 91901 Phone: (619) 659 - 2314 epingleton@viejas-nsn.gov	Diegueno

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed 10324 Alba Peaker Battery Project, Imperial County.

CONFIDENTIAL ATTACHMENT 1

(Not for Public Review)

RECON

An Employee-Owned Company

June 6, 2023

Mr. Ramon Gonzalez
Senior Project Coordinator
Z Global
750 W. Main Street
El Centro, CA 92243

Reference: Greenhouse Gas Analysis for the Alba Peaker BESS Project, Seeley, California (RECON Number 10324)

Dear Mr. Gonzalez:

The purpose of this letter report is to assess potential greenhouse gas (GHG) impacts associated with construction and operation of the Alba Peaker Battery Energy Storage Site (BESS) Project (project). As discussed in this analysis, the project would not make a cumulatively considerable contribution to total GHG emissions in Imperial County or California. As California procures increasing amounts of renewable energy to meet the goals of Senate Bill (SB) 100, the state will need to deploy a significant amount of energy storage capability. As the project would provide energy storage, it would assist the state's goal of utilizing 100 percent renewable energy by 2045. Therefore, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs, and impacts would be less than significant.

1.0 Project Description

The project site is located within the unincorporated community of Seeley in Imperial County, approximately 7.5 miles west of the city of El Centro and approximately one mile north of Interstate 8 (Figure 1). The project site is comprised of Assessor Parcel Number 051-420-042, totaling approximately 7.1 acres. The project is located to the east of Drew Road, south of West Evan Hewes Highway, and north of the Seeley Drain (Figure 2). Land uses surrounding the project site consist of active agricultural uses to the west and south, disturbed land and railroad tracks to the north, and an agricultural facility and fields to the east.

The project would construct and operate a 100-megawatt BESS facility that would connect to an existing 92-kilovolt gen-tie line (Figure 3). The BESS facility would include battery containers and storage sites, a control room, and associated facilities surrounded by fencing. The BESS would store energy generation from the electrical grid, and optimally discharge that energy back into the grid as firm, reliable generation and/or grid services.

2.0 Environmental Setting

2.1 State GHG Inventory

The California Air Resources Board (CARB) performs statewide GHG inventories. The inventory is divided into nine broad sectors of economic activity: agriculture, commercial, electricity generation, forestry, high global warming potential (GWP) emitters, industrial, recycling and waste, residential, and transportation. Emissions are quantified in million metric tons of carbon dioxide equivalent (MMT CO_2E). Table 1 shows the estimated statewide GHG emissions for the years 1990, 2005, 2012, and 2018. Although annual GHG inventory data is available for years 2000 through 2020, the years 1990, 2005, 2012, and 2018 are highlighted in Table 1 because 1990 is the baseline year for established reduction targets, and 2005, 2012, and 2018 correspond to the same years for which inventory data for the region is available.

Table 1 California GHG Emissions by Sector				
Sector	1990[1] Emissions in MMT CO_2E (% total)[2]	2005[3] Emissions in MMT CO_2E (% total)[2]	2012[3] Emissions in MMT CO_2E (% total)[2]	2018[3] Emissions in MMT CO_2E (% total)[2]
Electricity Generation	110.5 (25.7%)	108.1 (22.6%)	99.1 (22.8%)	65.1 (15.8%)
Transportation	150.6 (35.0%)	187.6 (39.2%)	161.8 (37.2%)	169.6 (41.3%)
Industrial	105.3 (24.4%)	102.3 (21.4%)	91.0 (20.9%)	93.7 (22.8%)
Commercial	14.4 (3.4%)	16.1 (3.4%)	19.6 (4.5%)	22.3 (5.4%)
Residential	29.7 (6.9%)	30.3 (7.0%)	27.9 (6.4%)	28.1 (6.8%)
Agriculture & Forestry	18.9 (4.4%)	33.7 (7.0%)	35.2 (8.1%)	32.2 (7.8%)
Not Specified	1.3 (0.3%)	--	--	--
Total[4]	**430.7**	**478.1**	**434.6**	**411.0**

SOURCE: CARB 2007 and 2022a.
[1]1990 data was obtained from the CARB 2007 source and are based on Intergovernmental Panel on Climate Change (IPCC) fourth assessment report GWPs.
[2]Percentages may not total 100 due to rounding.
[3]2005, 2012, and 2018 data was retrieved from the CARB 2022a source and are based on IPCC fourth assessment report GWPs.
[4]Totals may vary due to independent rounding.

As shown in Table 1, statewide GHG source emissions totaled approximately 431 MMT CO_2E in 1990, 478 MMT CO_2E in 2005, 435 MMT CO_2E in 2012, and 411 MMT CO_2E in 2018. Many factors affect year-to-year changes in GHG emissions, including economic activity, demographic influences, environmental conditions such as drought, and the impact of regulatory efforts to control GHG emissions. As shown in Table 1, transportation-related emissions consistently contribute to the most GHG emissions.

2.2 Regional GHG Inventory

The Imperial County (County) Regional Climate Action Plan (Regional CAP) was adopted in June 2021 (Imperial County 2021). The Regional CAP inventoried existing emissions within the County and each of its incorporated cities. The results of the countywide emissions inventories are summarized in Table 2. As shown in Table 2, agricultural-related GHG emissions contributed the most countywide.

Table 2 Imperial Valley Regional GHG Emissions Inventory							
	2005		2012		2018		
Emissions Sector	MT CO_2E[1]	% Total	MT CO_2E[1]	% Total	MT CO_2E[1]	% Total	% Change from 2005
Transportation	656,655	16.3%	650,729	17.3%	748,111	19.7%	+13.9%
Energy	1,006,987	25.1%	757,037	20.2%	484,863	12.8%	-51.9%
Water	28,114	0.7%	30,158	0.8%	34,291	0.9%	+22.0%
Solid Waste	218,847	5.4%	132,773	3.5%	148,337	3.9%	-32.2%
Agriculture	2,081,481	51.8%	2,155,325	57.4%	2,354,168	61.9%	+13.1%
Propane	13,698	0.3%	14,856	0.4%	19,112	0.5%	+39.5%
Calexico POE[2]	12,649	0.3%	12,649	0.3%	12,649	0.3%	0.0%
Total[3]	**4,018,430**	**100%**	**3,753,527**	**100%**	**3,801,531**	**100%**	**-5.4%**

SOURCE: Imperial County 2021.
NOTE: Totals may vary due to independent rounding.
[1]MT CO_2E = metric tons of carbon dioxide equivalent.
[2]Data for emissions at the ports of entry (POEs) was only available for 2015. For purposes of this inventory, emissions estimates from 2015 were assumed constant for each inventory year. Emissions from POEs are not apportioned to individual jurisdictions.
[3]Electricity consumption associated with potable water treatment and delivery is not included in this total, as data for this activity was not available for unincorporated County.

2.4 Regulatory Setting

In response to rising concern associated with increasing GHG emissions and global climate change impacts, several plans and regulations have been adopted at the international, national, and state levels with the aim of reducing GHG emissions. The main source of GHG emissions associated with the project would be construction activities. The following is a discussion of the plans and regulations most applicable to the project.

2.4.1 Federal

On September 27, 2019, the United States Environmental Protection Agency (U.S. EPA) and the National Highway Traffic Safety Administration published the “Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program” (84 Federal Register 51310). The Part One Rule revokes California’s authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. On April 30, 2020, the U.S. EPA and the National Highway Traffic Safety Administration published the final SAFE Vehicles Rule: Part Two (85 Federal Register 24174). The SAFE Vehicles Rule proposes amended Corporate Average Fuel Economy and Light-Duty Vehicle Greenhouse Gas Emissions Standards. The SAFE Rule relaxed federal GHG emissions and Corporate Average Fuel Economy standards to increase in stringency at only about 1.5 percent per year from model year 2020 levels over model years 2021 through 2026. The previously established emission standards and related “augural” fuel economy standards would have achieved about 4 percent per year improvements through model year 2025. Part Two of the SAFE Vehicles Rule set amended fuel economy and CO_2 standards for Passenger Cars and Light Trucks for model years 2021 through 2026.

2.4.2 State

2.4.2.1 Executive Orders and statewide GHG Emission Targets

Executive Order S-3-05

This Executive Order (EO) established the following GHG emission reduction targets for the state of California:

- by 2010, reduce GHG emissions to 2000 levels;
- by 2020, reduce GHG emissions to 1990 levels; and
- by 2050, reduce GHG emissions to 80 percent below 1990 levels.

This EO also directs the secretary of the California Environmental Protection Agency to oversee the efforts made to reach these targets, and to prepare biannual reports on the progress made toward meeting the targets and on the impacts to California related to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. With regard to impacts, the report shall also prepare and report on mitigation and adaptation plans to combat the impacts. The first Climate Action Team Assessment Report was produced in March 2006 and has been updated every two years.

Executive Order B-30-15

This EO establishes an GHG emission reduction goal for the State of California by 2030 of 40 percent below 1990 levels. This EO also directed all state agencies with jurisdiction over GHG-emitting sources to implement measures designed to achieve the 2030 goal, as well as the pre-existing, long-term 2050 goal identified in EO S-3-05. Additionally, this EO directed California Air Resources Board (CARB) to update its Climate Change Scoping Plan to address the 2030 goal.

2.4.2.2 California Global Warming Solutions Act

In response to EO S-3-05, the California Legislature passed Assembly Bill 32 (AB) 32, the California Global Warming Solutions Act of 2006, and thereby enacted Sections 38500–38599 of the California Health and Safety Code. The heart of AB 32 is its requirement that CARB establish an emissions cap and adopt rules and regulations that would reduce GHG emissions to 1990 levels by 2020. AB 32 also required CARB to adopt a plan by January 1, 2009, indicating how emission reductions would be achieved from significant GHG sources via regulations, market mechanisms, and other actions.

In 2008, CARB estimated that annual statewide GHG emissions were 427 MMT CO_2E in 1990 and would reach 596 MMT CO_2E by 2020 under a business as usual (BAU) condition (CARB 2008). To achieve the mandate of AB 32, CARB determined that a 169 MMT CO_2E (or approximate 28.5 percent) reduction in BAU emissions was needed by 2020. In 2010, CARB prepared an updated 2020 forecast to account for the recession and slower forecasted growth. CARB determined that the economic downturn reduced the 2020 BAU by 55 MMT CO_2E; as a result, achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7 (not 28.5) percent from the 2020 BAU. California has achieved its 2020 goal.

Approved in September 2016, SB 32 updates the California Global Warming Solutions Act of 2006 and enacts EO B-30-15. Under SB 32, the state would reduce its GHG emissions to 40 percent below 1990 levels by 2030. This is equivalent to an emissions level of approximately 260 MMT CO_2E for 2030. In implementing the 40 percent reduction goal, CARB is required to prioritize emissions reductions to consider the social costs of the emissions of GHGs; where "social costs" is defined as "an estimate of the economic damages, including, but not limited to, changes in net agricultural productivity; impacts to public health; climate adaptation impacts, such as property damages from increased flood risk; and changes in energy system costs, per metric ton of greenhouse gas emission per year."

2.4.2.3 Climate Change Scoping Plan

As directed by the California Global Warming Solutions Act of 2006, in 2008, CARB adopted the *Climate Change Scoping Plan: A Framework for Change* (*Scoping Plan*), which identified the main strategies California implemented to achieve the GHG reductions necessary to reduce forecasted BAU emissions in 2020 to the state's historic 1990 emissions level (CARB 2008). The 2020 reduction goals were met. In November 2017, CARB released the 2017 Climate Change Scoping Plan Update, the Strategy for Achieving California's 2030 Greenhouse Gas Target (2017 Scoping Plan; CARB 2017a). The 2017 Scoping Plan identifies state strategies for achieving the state's 2030 GHG emissions reduction target codified by SB 32. Measures under the 2017 Scoping Plan Scenario build on existing programs such as the Low Carbon Fuel Standard, Advanced Clean Cars Program, Renewables Portfolio Standard (RPS), Sustainable Communities Strategy, Short-Lived Climate Pollutant Reduction Strategy, and the Cap-and-Trade Program. Additionally, the 2017 Scoping Plan proposes new policies to address GHG emissions from natural and working lands. The 2022 Scoping Plan was adopted in December 2022. The 2022 Scoping Plan assesses the progress towards the 2030 GHG emissions reduction target identified in the 2017 Scoping Plan and lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279. The 2022 Scoping Plan identifies strategies related to clean technology, energy development, 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 2022b).

2.4.2.4 Regional Emissions Targets – Senate Bill 375

SB 375, the 2008 Sustainable Communities and Climate Protection Act, was signed into law in September 2008 and requires CARB to set regional targets for reducing passenger vehicle GHG emissions in accordance with the Scoping Plan. The purpose of SB 375 is to align regional transportation planning efforts, regional GHG reduction targets, and fair-share housing allocations under state housing law. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy or Alternative Planning Strategy to address GHG reduction targets from cars and light-duty trucks in the context of that MPO's Regional Transportation Plan. Southern California Association of Governments (SCAG) is the region's MPO. In 2018, CARB set targets for the SCAG region of an 8 percent reduction in GHG emissions per capita from automobiles and light-duty trucks compared to 2005 levels by 2020 and a 19 percent reduction by 2035. These targets are periodically reviewed and updated.

2.4.2.5 Renewables Portfolio Standard

The RPS promotes diversification of the state's electricity supply and decreased reliance on fossil fuel energy sources. Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. Originally adopted in 2002 with a goal to achieve a 20 percent renewable energy mix by 2020 (referred to as the "Initial RPS"), the goal has been accelerated and increased by EOs S-14-08 and S-21-09 to a goal of 33 percent by 2020. In April 2011, SB 2 (1X) codified California's 33 percent RPS goal. SB 350 (2015) increased California's renewable energy mix goal to 50 percent by year 2030. SB 100 (2018) further increased the standard set by SB 350 establishing the RPS goal of 44 percent by the end of 2024, 52 percent by the end of 2027, and 60 percent by 2030.

2.4.3 Local

2.4.3.1 Regional Climate Action Plan

The Regional CAP was prepared to address the impacts of climate change and reduce GHG emissions in the Imperial Valley region which includes the County and its seven incorporated cities. The Regional CAP is consistent with statewide legislation and regulatory mandates, and establishes local strategies, measures, and actions aimed at reducing GHG emissions. Reduction targets for the County were established in alignment with SB 32 and EO S-3-05, based on the 2005 GHG inventory and sector-specific targets in the 2017 Scoping Plan. For the County, they include reducing emissions to 24 percent below 2005 levels by 2030 and to 34 percent below 2005 levels by 2050. To meet these targets, the County would need to reduce communitywide emissions to 2,022,285 MT CO_2E by 2030 and 1,771,509 MT CO_2E by 2050 (Imperial County 2021).

2.4.3.2 Imperial County General Plan

The Imperial County General Plan Renewable Energy and Transmission Element was adopted in October 2015. As stated in the element, the benefits of renewable energy development include reduction in potential GHG by displacing fossil-fuel-generated electricity with renewable energy, which does not add to the greenhouse effect; contribution towards meeting the state's RPS mandate; and minimization of impacts to local communities, agriculture, and sensitive resources (Imperial County 2015). Of importance to the project, the General Plan contains the following objectives:

3.3 Encourage the development of services and industrial associated with renewable energy facilities.

5.2 Encourage development of utility-scale distributed generation projects in the County.

3.0 Guidelines for Determining Significance

Based on the CEQA Guidelines Appendix G, impacts related to GHG emissions would be significant if the project would:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs.

As stated in the State CEQA Guidelines, these questions are "intended to encourage thoughtful assessment of impacts and do not necessarily represent thresholds of significance" (Title 14, Division 6, Chapter 3 Guidelines for Implementation of the CEQA, Appendix G, Environmental Checklist Form). The State CEQA Guidelines encourage lead agencies to adopt regionally specific thresholds of significance. When adopting these thresholds, the amended Guidelines allow lead agencies to consider thresholds of significance adopted or recommended by other public agencies, or recommended by experts, provided that the thresholds are supported by substantial evidence.

The project site is in the Salton Sea Air Basin. The Imperial County Air Pollution Control District (ICAPCD) is responsible for regulating air quality within the Imperial County portion of the Salton Sea Air Basin. No GHG emission significance threshold has been adopted by the County or the ICAPCD for land development projects. Thus, in the absence of a threshold of significance for GHG emissions that has been adopted in a public process following environmental review, this analysis considers guidance promulgated by other agencies.

The County is a member of Southern California Association of Governments (SCAG). SCAG is comprised of several different counties including Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. Air districts responsible for managing air quality within the SCAG boundaries include the South Coast Air Quality Management District (AQMD), the Mojave Desert Air Pollution Control District (APCD), Ventura County APCD, and the Antelope Valley AQMD.

Due to the climate and land use patterns, the Antelope Valley AQMD and Mojave Desert APCD are air districts that are most similar to the ICAPCD's jurisdiction. The Antelope Valley AQMD is within the northern part of Los Angeles County, and the Mojave Desert APCD contains San Bernardino County's high desert region and Riverside County's Palo Verde Valley region. These jurisdictions are in inland desert regions with rural land use patterns; with a substantial number large-scale agricultural, warehousing/distribution, industrial, and military operations. Additionally, both of these agencies have adopted GHG thresholds for use in CEQA analysis. As outlined in the Antelope Valley AQMD's 2016 *California Environmental Quality Act (CEQA) and Federal Conformity Guidelines and Mojave Desert APCD's 2016 California Environmental Quality Act (CEQA) and Federal Conformity Guidelines*, the two air districts both recommend use of a GHG emissions significance threshold of 100,000 short tons of CO_2E per year (90,718 MT CO_2E). Projects with emissions that exceed this threshold are required to incorporate mitigation sufficient to reduce emissions to less than this significance threshold or must incorporate all feasible mitigation.

This recommended significance threshold is consistent with the federal trigger level for GHG emissions "subject to regulation" under the U.S. EPA's Clean Air Act Title V Permitting requirements (40 Code of Federal Regulations 70.2). Additionally, as ICAPCD Title IX Regulations are based on Clean Air Act Title V Permitting requirements, this recommended significance threshold is also consistent with local ICAPCD Rule 900–Procedures for Issuing Permits to Operate for Sources Subject to Title V of the Federal Clean Air Act Amendments of 1990 and Rule 904–Prevention of Significant Deterioration Permit Program.

In the absence of adopted GHG significance thresholds, the threshold of 90,718 MT CO_2E is an appropriate CEQA significance threshold for the assessment of GHG emissions for the purposes of this project. The project was also evaluated qualitatively for how it will support the state's renewable energy goals.

4.0 Project Impact Analysis

1. *Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*

Operational GHG emissions associated with a project break down into the following five categories: mobile (on-road vehicles), energy (electricity, natural gas), area (landscape maintenance equipment), water and wastewater, and solid waste sources. GHG emissions also result from construction activities. Emissions were calculated using California Emissions Estimator Model (CalEEMod) Version 2022.1 (California Air Pollution Control Officers Association [CAPCOA] 2022). The CalEEMod program is a tool used to estimate emissions resulting from land development projects in the state of California. CalEEMod was developed with the participation of several state air districts.

CalEEMod estimates parameters such as the type and amount of construction equipment required, trip generation, and utility consumption based on the size and type of each specific land use using data collected from surveys performed in South Coast AQMD. Where available, parameters were modified to reflect project-specific data.

4.1 Construction-related Emissions

Construction activities emit GHGs primarily through combustion of fuels (mostly diesel) in the engines of off-road construction equipment and through combustion of diesel and gasoline in on-road construction vehicles and the commute vehicles of the construction workers.

Primary inputs are the numbers of each piece of equipment and the length of each construction stage. The construction equipment estimates are based on surveys performed by the South Coast AQMD and the Sacramento Metropolitan AQMD of typical construction projects which provide a basis for scaling equipment needs and schedule with a project's size. GHG emission estimates in CalEEMod are based on the duration of construction phases;

construction equipment type, quantity, and usage; grading area; season; and ambient temperature, among other parameters.

The construction schedule and equipment were obtained from the applicant. Construction activities were modeled beginning in January 2024 and lasting approximately five months. Construction stages would include grading, pile installation, fence installation, electrical installation, and container installation.

CalEEMod calculates emissions of all pollutants from construction equipment using emission factors from CARB's off-road diesel equipment emission factors database. All construction equipment required during a phase was modeled over the entire duration of the phase even if it would only be required for a portion of the phase. Additionally, an off-highway truck and a generator were added to each phase to account for a water truck and a generator needed to power the construction office. The modeled construction equipment is summarized in Table 3.

Table 3
Construction Phases and Equipment

Equipment	Quantity	Daily Operation Time (hours)
Grading (14 days)		
Tractors/Loaders/Backhoes	2	8
Dump Truck	1	8
Scraper	1	8
Roller	1	8
Water Truck	1	8
Office Generator	1	8
Pile Installation (15 days)		
Drill Rigs	3	8
Welder	1	8
Water Truck	1	8
Office Generator	1	8
Fence Installation (5 days)		
Air Compressor	1	8
Generator	1	8
Water Truck	1	8
Office Generator	1	8
Electrical Installation (30 days)		
Tractors/Loaders/Backhoes	3	8
Generators	5	8
Air Compressors	5	8
Forklift	1	8
Water Truck	1	8
Office Generator	1	8
Container Installation (14 days)		
Crane	1	8
Water Truck	1	8
Office Generator	1	8
NOTE: Each phase would also include vehicles associated with work commutes, dump trucks for hauling, and trucks for deliveries.		

The ICAPCD requires that, regardless of the size of a project, all feasible standard measures for construction equipment must be implemented at construction sites. Standard measures from the ICAPCD handbook include the following (ICAPCD 2017):

<u>Standard Measures for Construction Combustion Equipment</u>

a) Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel powered equipment.

b) Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum.

c) Limit, to the extent feasible, the hours of operation of heavy duty equipment and/or the amount of equipment in use.

d) Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).

Construction would also generate mobile source emissions from worker trips, hauling trips, and vendor trips. CalEEMod calculates emissions of all pollutants from on-road trucks and passenger vehicles using emission factors derived from CARB's motor vehicle emission inventory program EMFAC2017 (CARB 2017b). Vehicle emission factors were multiplied by the model default total estimated number of trips and the average trip length to calculate the total mobile emissions. The project would require up to 50 workers per day and seven deliveries per day. The average worker, hauling, and vendor trip lengths were increased to 20 miles to be conservative.

Based on guidance from the SCAQMD, total construction GHG emissions resulting from a project should be amortized over 30 years and added to operational GHG emissions to account for their contribution to GHG emissions over the lifetime of a project (SCAQMD 2009).

4.2 Operation-related Emissions

4.2.1 Mobile Sources

GHG emissions from vehicles come from the combustion of fossil fuels in vehicle engines. The vehicle emissions are calculated based on the vehicle type and the trip rate for each land use. CalEEMod calculates mobile source emissions using emission factors derived from CARB's motor vehicle emission inventory program, EMFAC2017 (CARB 2017b). The project would be an unmanned facility that would be operated remotely. Therefore, the project would not generate routine daily trips. Occasional maintenance trips would be required. To account for these trips, a total of one round trip (two one-way trips) was modeled per weekday. The default trip length was increased to 20 miles. CalEEMod default emission factors for the soonest operational year of 2024 were modeled.

4.2.2 Energy Sources

GHGs are emitted as a result of activities in buildings for which electricity and natural gas are used as energy sources. GHGs are emitted during the generation of electricity from fossil fuels off-site in power plants. These emissions are considered indirect but are calculated in association with a building's operation. Combustion of fossil fuel emits criteria pollutants and GHGs directly into the atmosphere. When this occurs in a building, this is considered a direct emissions source associated with that building. Energy source GHG emissions were calculated using the default emission factors for a light industrial land use. This is conservative since the project would not be a source of natural gas emissions.

4.2.3 Area Sources

Area sources include GHG emissions that would occur from the use of landscaping equipment. The use of landscape equipment emits GHGs associated with the equipment's fuel combustion. The project would not include any landscape maintenance. However, as a conservative analysis, area-source emissions were calculated using the default emission factors for a light industrial land use.

4.2.4 Water and Wastewater Sources

The amount of water used and wastewater generated by a project has indirect GHG emissions associated with it. These emissions are a result of the energy used to supply, distribute, and treat the water and wastewater. In addition to the indirect GHG emissions associated with energy use, wastewater treatment can directly emit both methane and nitrous oxide. As the project would be an unmanned facility, it would not include any water use.

4.2.5 Solid Waste Sources

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. As the project would be an unmanned facility, it would not generate any operational waste.

4.2.6 Refrigerant Sources

Small amounts of GHG emissions result from refrigerants used in air conditioning and refrigeration equipment. CalEEMod quantifies refrigerant emissions from leaks during regular operation and routine servicing over the equipment lifetime and then derives average annual emissions from the lifetime estimate. Emissions due to refrigerants were calculated using CalEEMod default values for a light industrial land use, which are based on industry data from the U.S. EPA.

4.3 Total GHG Emissions

Table 4 shows the estimated annual GHG construction emissions associated with the project, as well as the amortized construction emissions over a 30-year project life. Table 5 summarizes the total project GHG emissions.

Table 4
Construction-Related GHG Emissions

Year	GHG Emissions ($MT\ CO_2E$)
2024	191
Amortized Over 30 Years	*6*
SOURCE: Attachment 1.	

Table 5 Total GHG Emissions	
Source	GHG Emissions (MT CO_2E)
Mobile	4
Energy	388
Area	<1
Water	0
Solid Waste	0
Refrigerants	2
Construction	6
Total	**401**
Screening Threshold	*90,718*
Exceeds Threshold?	No
SOURCE: Attachment 1. NOTE: Totals may vary due to independent rounding.	

As shown in Table 5, the project would result in a total emission of 401 MT CO_2E annually. This is less than the 90,718 MT CO_2E screening threshold. Therefore, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and impacts would be less than significant.

2. *Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs?*

State GHG emissions reduction policy was established by EOs S-3-05 and B-30-15 and was subsequently codified by AB 32 and SB 32. EO S-3-05 established GHG emission reduction targets of year 2000 GHG emission levels by 2010, year 1990 GHG emission levels by 2020, and 80 percent below year 1990 levels by 2050; and EO B-30-15 established an interim GHG emission reduction target of 40 percent below year 1990 levels by 2030. AB 32 launched the CARB Climate Change Scoping Plan that outlined the reduction measures needed to reach the 2020 target, which has been achieved. SB 32 enacts the EO B-30-15 target of reducing GHG emissions to 40 percent below year 1990 levels by 2030.

As shown in Table 5 above, the project's annual GHG emissions would be less than the screening threshold of 90,718 MT CO_2E per year. Additionally, the project would support the state's goal to increase use of renewable energy. In September 2018, the California Legislature passed SB 100, which set a goal that "renewable energy resources and zero-carbon resources supply 100 percent of retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045." As California procures increasing amounts of renewable energy to meet the goals of SB 100, the state will need to deploy a significant amount of energy storage capability. Renewable energy resources such as wind and solar generate electricity intermittently. Energy storage allows utilities and system operators to manage the effect of intermittent renewable generation on the grid and create reliable, dispatchable generation upon demand. Energy storage also allows excess solar energy produced during the day to be stored and dispatched optimally during peak evening hours or other periods of high demand. Therefore, the project would serve as an integral component of the state's overarching renewable energy strategy that would reduce use of fossil fuel and associated GHG emissions by providing necessary energy storage. The project would assist the state's goal of utilizing 100 percent renewable energy by 2045, which would result in a net decrease in use of fossil fuel and GHG emissions. Therefore, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs, and impacts would be less than significant.

If you have any questions about the results of this analysis, please contact me at jfleming@reconenvironmental.com or (619) 308-9333 extension 177.

Sincerely,

Jessica Fleming

Jessica Fleming
Air Quality Specialist

JLF:jg

5.0 Certification

The following is a list of preparers, persons, and organizations involved with the GHG analysis.

RECON Environmental, Inc.
Jessica Fleming, County-approved Air Quality Consultant
Jennifer Gutierrez, Production Specialist
Frank McDermott, GIS Manager

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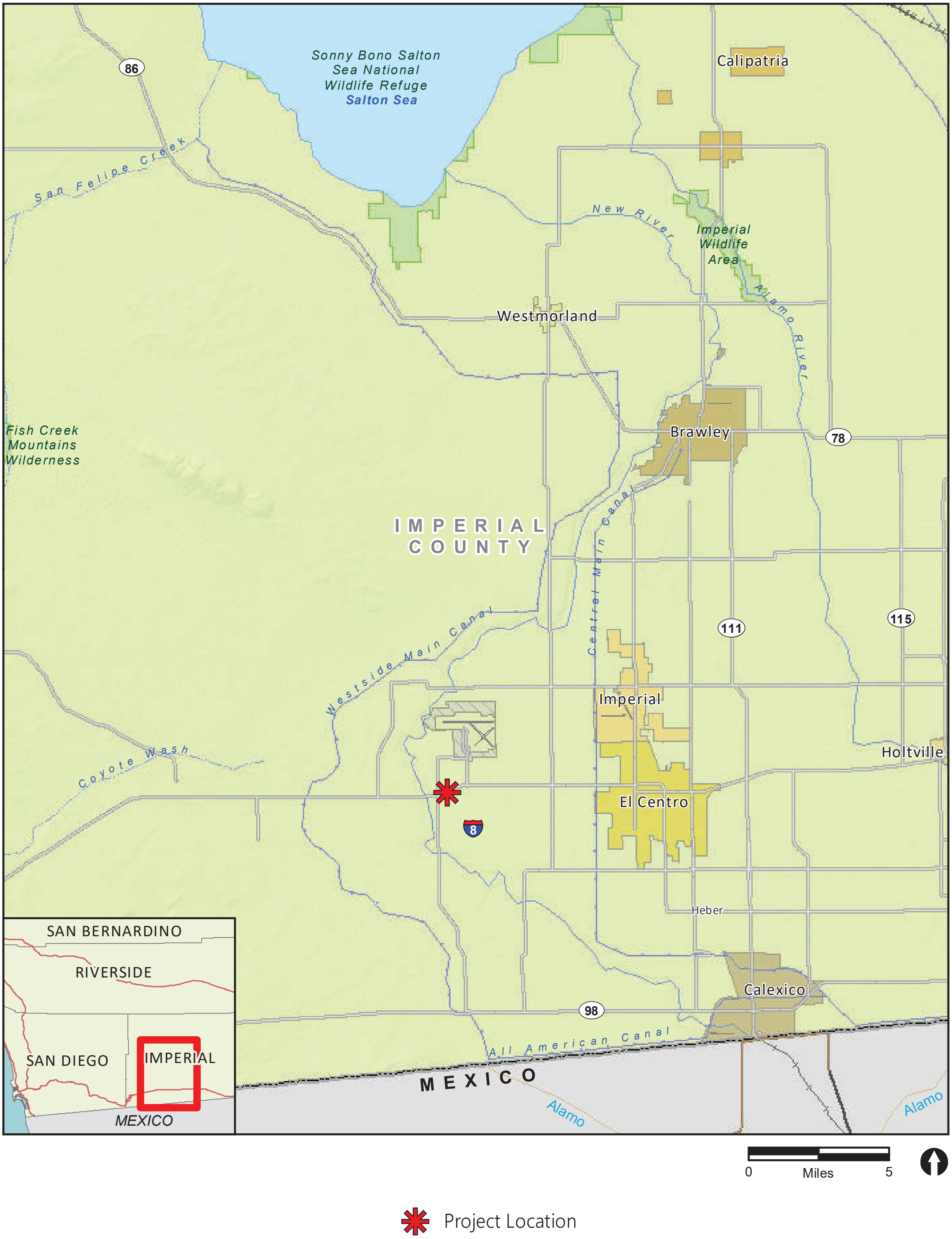

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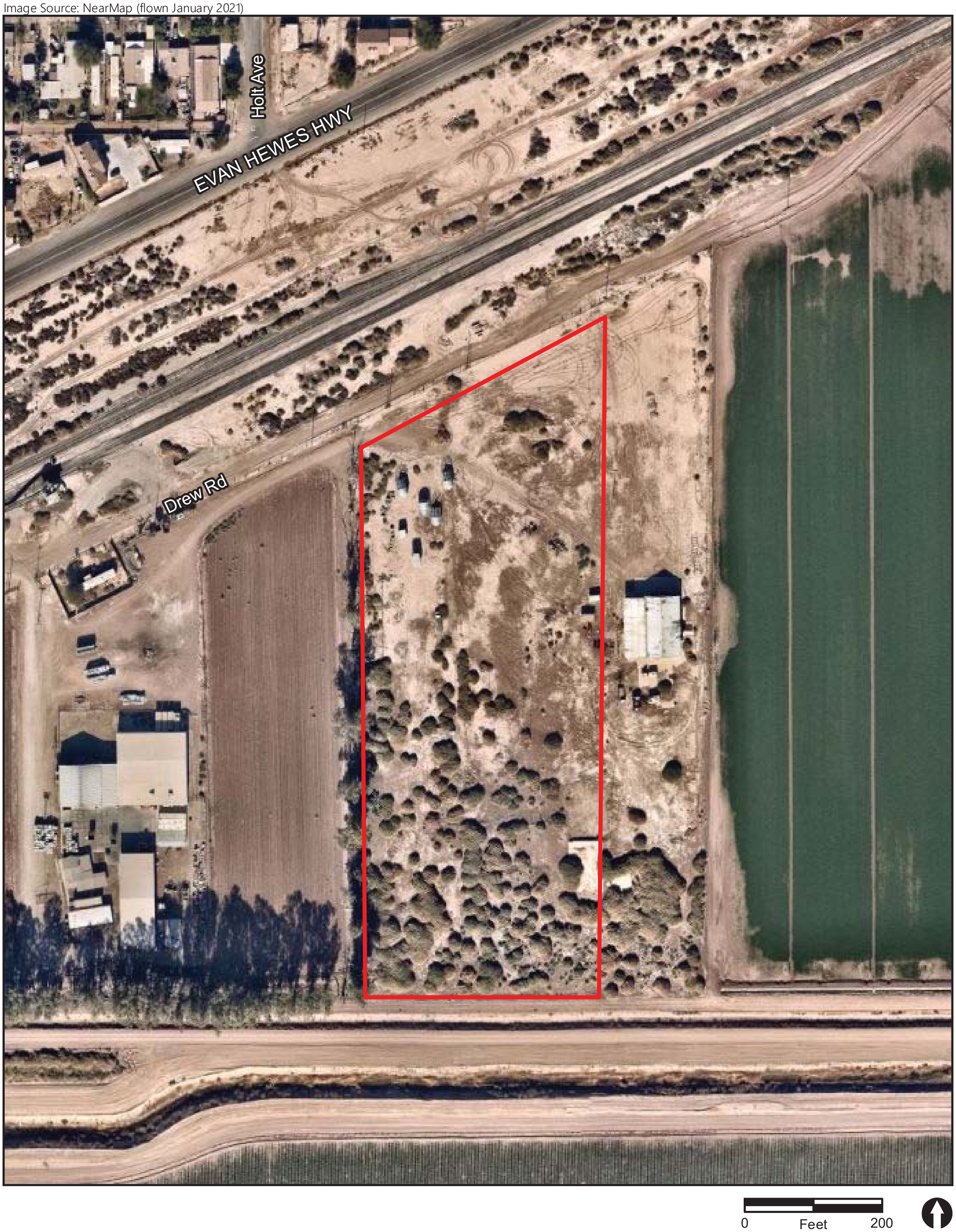
FIGURE 1
Regional Location

Image Source: NearMap (flown January 2021)



Project Boundary

FIGURE 2
Project Location on Aerial Photograph

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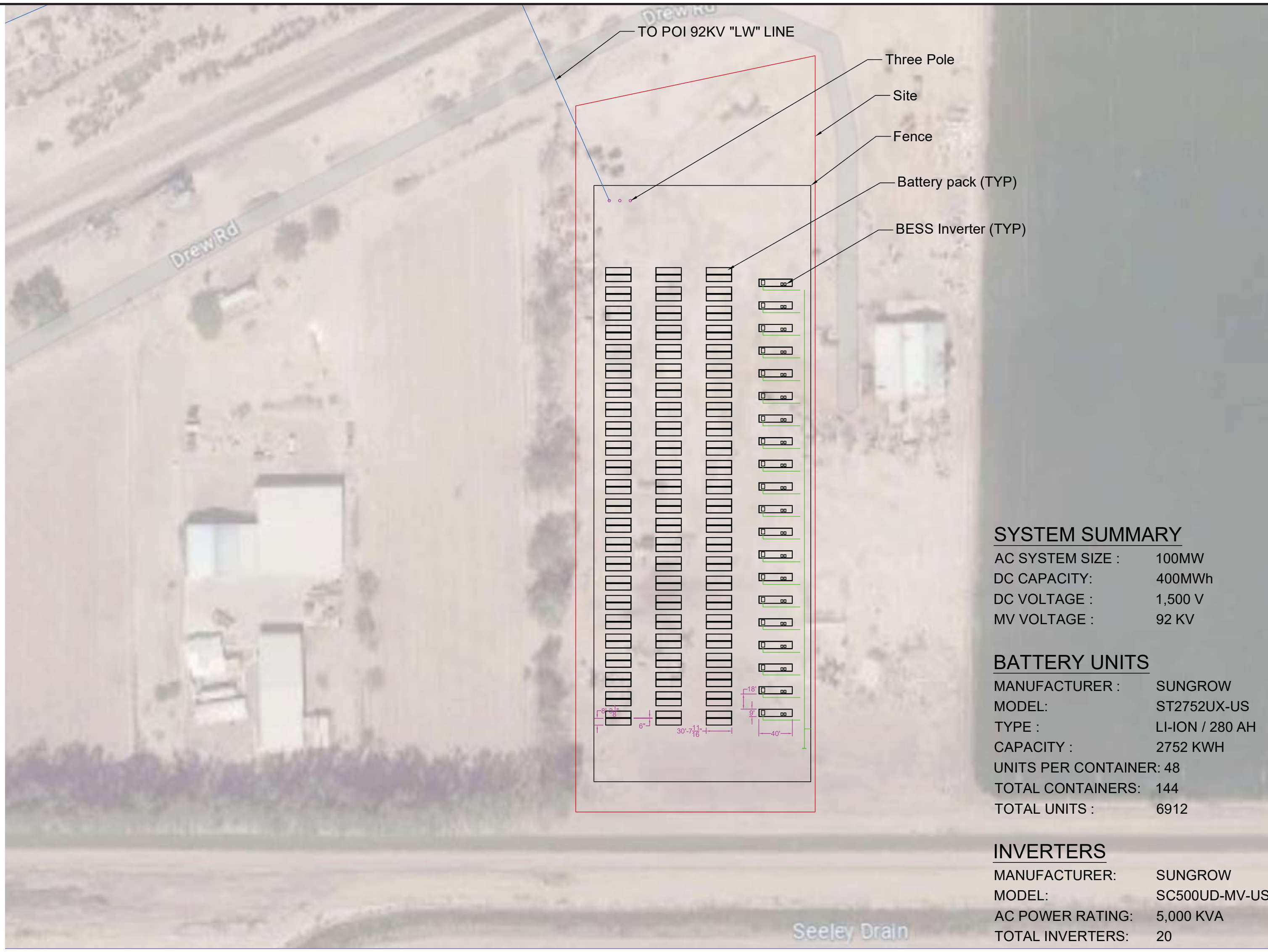
Map Source: ZGLOBAL



SYSTEM SUMMARY

AC SYSTEM SIZE :	100MW
DC CAPACITY:	400MWh
DC VOLTAGE :	1,500 V
MV VOLTAGE :	92 KV

BATTERY UNITS

MANUFACTURER :	SUNGROW
MODEL:	ST2752UX-US
TYPE :	LI-ION / 280 AH
CAPACITY :	2752 KWH
UNITS PER CONTAINER:	48
TOTAL CONTAINERS:	144
TOTAL UNITS :	6912

INVERTERS

MANUFACTURER:	SUNGROW
MODEL:	SC500UD-MV-US
AC POWER RATING:	5,000 KVA
TOTAL INVERTERS:	20

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FIGURE 3
Site Plan

ATTACHMENT 1

CalEEMod Output Files

Alba Peaker Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Alba Peaker
Construction Start Date	1/1/2024
Operational Year	2024
Lead Agency	Imeprial County
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.30
Precipitation (days)	4.80
Location	32.791194308087086, -115.68507278016418
County	Imperial
City	Unincorporated
Air District	Imperial County APCD
Air Basin	Salton Sea
TAZ	5605
EDFZ	19
Electric Utility	Imperial Irrigation District
Gas Utility	Southern California Gas
App Version	2022.1.1.13

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

General Light Industry	48.3	1000sqft	7.10	48,260	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.	2.02	1.73	9.54	20.8	0.03	0.32	333	333	0.29	33.5	33.8	—	4,987	4,987	0.17	0.19	8.77	5,057
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.58	2.98	20.2	28.7	0.05	0.74	333	333	0.68	33.5	34.2	—	6,165	6,165	0.24	0.20	0.23	6,232
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.57	0.49	3.14	5.15	0.01	0.11	69.6	69.7	0.10	7.00	7.10	—	1,143	1,143	0.04	0.04	0.77	1,156
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.10	0.09	0.57	0.94	< 0.005	0.02	12.7	12.7	0.02	1.28	1.30	—	189	189	0.01	0.01	0.13	191
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0	100	550	—	—	—	150	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	No	—	—	—	Yes	—	—	—	—	—	—	—	—	—	—

Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0	100	550	—	—	—	150	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	No	—	—	—	No	—	—	—	—	—	—	—	—	—	—

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	2.02	1.73	9.54	20.8	0.03	0.32	333	333	0.29	33.5	33.8	—	4,987	4,987	0.17	0.19	8.77	5,057
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.58	2.98	20.2	28.7	0.05	0.74	333	333	0.68	33.5	34.2	—	6,165	6,165	0.24	0.20	0.23	6,232
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.57	0.49	3.14	5.15	0.01	0.11	69.6	69.7	0.10	7.00	7.10	—	1,143	1,143	0.04	0.04	0.77	1,156
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.10	0.09	0.57	0.94	< 0.005	0.02	12.7	12.7	0.02	1.28	1.30	—	189	189	0.01	0.01	0.13	191

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.	0.43	1.60	0.45	2.63	< 0.005	0.04	0.58	0.61	0.04	0.09	0.12	0.00	2,381	2,381	0.18	0.02	12.7	2,403
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.06	1.25	0.44	0.47	< 0.005	0.03	0.58	0.61	0.03	0.09	0.12	0.00	2,368	2,368	0.18	0.02	12.6	2,390
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.24	1.42	0.44	1.48	< 0.005	0.03	0.41	0.44	0.03	0.06	0.10	0.00	2,364	2,364	0.18	0.02	12.6	2,387
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.04	0.26	0.08	0.27	< 0.005	0.01	0.08	0.08	0.01	0.01	0.02	0.00	391	391	0.03	< 0.005	2.09	395
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137	137	550	150	—	—	150	—	—	551	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137	137	550	150	—	—	150	—	—	551	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

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	0.01	0.01	0.02	0.18	< 0.005	< 0.005	0.58	0.58	< 0.005	0.09	0.09	—	36.1	36.1	< 0.005	< 0.005	0.14	36.7

Area	0.37	1.56	0.02	2.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.63	8.63	< 0.005	< 0.005	—	8.66
Energy	0.05	0.02	0.42	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	2,336	2,336	0.18	0.02	—	2,345
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.6	12.6
Total	0.43	1.60	0.45	2.63	< 0.005	0.04	0.58	0.61	0.04	0.09	0.12	0.00	2,381	2,381	0.18	0.02	12.7	2,403
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.01	0.01	0.02	0.11	< 0.005	< 0.005	0.58	0.58	< 0.005	0.09	0.09	—	31.6	31.6	< 0.005	< 0.005	< 0.005	32.1
Area	—	1.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.05	0.02	0.42	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	2,336	2,336	0.18	0.02	—	2,345
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.6	12.6
Total	0.06	1.25	0.44	0.47	< 0.005	0.03	0.58	0.61	0.03	0.09	0.12	0.00	2,368	2,368	0.18	0.02	12.6	2,390
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.01	0.01	0.01	0.10	< 0.005	< 0.005	0.41	0.41	< 0.005	0.06	0.06	—	23.9	23.9	< 0.005	< 0.005	0.04	24.3
Area	0.18	1.39	0.01	1.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.26	4.26	< 0.005	< 0.005	—	4.27
Energy	0.05	0.02	0.42	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	2,336	2,336	0.18	0.02	—	2,345
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.6	12.6
Total	0.24	1.42	0.44	1.48	< 0.005	0.03	0.41	0.44	0.03	0.06	0.10	0.00	2,364	2,364	0.18	0.02	12.6	2,387
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	3.96	3.96	< 0.005	< 0.005	0.01	4.02
Area	0.03	0.25	< 0.005	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.70	0.70	< 0.005	< 0.005	—	0.71
Energy	0.01	< 0.005	0.08	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	387	387	0.03	< 0.005	—	388

Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.08	2.08
Total	0.04	0.26	0.08	0.27	< 0.005	0.01	0.08	0.08	0.01	0.01	0.02	0.00	391	391	0.03	< 0.005	2.09	395

3. Construction Emissions Details

3.1. 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	1.70	1.42	13.2	12.1	0.03	0.53	—	0.53	0.49	—	0.49	—	2,948	2,948	0.12	0.02	—	2,958
Dust From Material Movement	—	—	—	—	—	—	0.53	0.53	—	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	0.05	0.51	0.47	< 0.005	0.02	—	0.02	0.02	—	0.02	—	113	113	< 0.005	< 0.005	—	113

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	0.01	0.01	0.09	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.7	18.7	< 0.005	< 0.005	—	18.8
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	0.65	0.55	0.88	7.73	0.00	0.00	292	292	0.00	29.4	29.4	—	1,435	1,435	0.07	0.05	0.17	1,453
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.03	0.38	0.00	0.00	11.2	11.2	0.00	1.13	1.13	—	59.2	59.2	< 0.005	< 0.005	0.11	60.0
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	0.01	0.07	0.00	0.00	2.04	2.04	0.00	0.21	0.21	—	9.80	9.80	< 0.005	< 0.005	0.02	9.93
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

3.3. 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	1.34	1.12	9.58	12.4	0.03	0.35	—	0.35	0.32	—	0.32	—	2,786	2,786	0.11	0.02	—	2,796
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	0.06	0.05	0.39	0.51	< 0.005	0.01	—	0.01	0.01	—	0.01	—	115	115	< 0.005	< 0.005	—	115
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	0.07	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.0	19.0	< 0.005	< 0.005	—	19.0
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.65	0.55	0.88	7.73	0.00	0.00	292	292	0.00	29.4	29.4	—	1,435	1,435	0.07	0.05	0.17	1,453
Vendor	0.04	0.02	0.96	0.36	0.01	0.01	40.9	40.9	0.01	4.13	4.14	—	863	863	0.01	0.12	0.06	899
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	0.03	0.03	0.03	0.40	0.00	0.00	12.0	12.0	0.00	1.21	1.21	—	63.4	63.4	< 0.005	< 0.005	0.11	64.3
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	1.68	1.68	< 0.005	0.17	0.17	—	35.5	35.5	< 0.005	< 0.005	0.04	37.0
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.07	0.00	0.00	2.19	2.19	0.00	0.22	0.22	—	10.5	10.5	< 0.005	< 0.005	0.02	10.6
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.31	0.31	< 0.005	0.03	0.03	—	5.87	5.87	< 0.005	< 0.005	0.01	6.12
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 (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	1.01	0.84	5.92	5.59	0.02	0.22	—	0.22	0.20	—	0.20	—	1,716	1,716	0.07	0.01	—	1,722
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	0.08	< 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	0.01	0.01	< 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	0.65	0.55	0.88	7.73	0.00	0.00	292	292	0.00	29.4	29.4	—	1,435	1,435	0.07	0.05	0.17	1,453
Vendor	0.04	0.02	0.96	0.36	0.01	0.01	40.9	40.9	0.01	4.13	4.14	—	863	863	0.01	0.12	0.06	899
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	0.13	0.00	0.00	4.00	4.00	0.00	0.40	0.40	—	21.1	21.1	< 0.005	< 0.005	0.04	21.4
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.56	0.56	< 0.005	0.06	0.06	—	11.8	11.8	< 0.005	< 0.005	0.01	12.3
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	0.73	0.73	0.00	0.07	0.07	—	3.50	3.50	< 0.005	< 0.005	0.01	3.55
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.10	0.10	< 0.005	0.01	0.01	—	1.96	1.96	< 0.005	< 0.005	< 0.005	2.04
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 (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	2.90	2.41	18.4	20.6	0.04	0.73	—	0.73	0.67	—	0.67	—	3,867	3,867	0.16	0.03	—	3,880
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	1.51	1.69	< 0.005	0.06	—	0.06	0.05	—	0.05	—	318	318	0.01	< 0.005	—	319
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	0.28	0.31	< 0.005	0.01	—	0.01	0.01	—	0.01	—	52.6	52.6	< 0.005	< 0.005	—	52.8
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	0.65	0.55	0.88	7.73	0.00	0.00	292	292	0.00	29.4	29.4	—	1,435	1,435	0.07	0.05	0.17	1,453
Vendor	0.04	0.02	0.96	0.36	0.01	0.01	40.9	40.9	0.01	4.13	4.14	—	863	863	0.01	0.12	0.06	899
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	0.06	0.05	0.07	0.80	0.00	0.00	24.0	24.0	0.00	2.41	2.41	—	127	127	0.01	< 0.005	0.23	129
Vendor	< 0.005	< 0.005	0.08	0.03	< 0.005	< 0.005	3.36	3.36	< 0.005	0.34	0.34	—	70.9	70.9	< 0.005	0.01	0.08	74.0
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.15	0.00	0.00	4.38	4.38	0.00	0.44	0.44	—	21.0	21.0	< 0.005	< 0.005	0.04	21.3
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.61	0.61	< 0.005	0.06	0.06	—	11.7	11.7	< 0.005	< 0.005	0.01	12.2
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

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	1.14	0.96	7.91	6.69	0.02	0.31	—	0.31	0.28	—	0.28	—	2,424	2,424	0.10	0.02	—	2,432
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	1.14	0.96	7.91	6.69	0.02	0.31	—	0.31	0.28	—	0.28	—	2,424	2,424	0.10	0.02	—	2,432

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	0.04	0.04	0.30	0.26	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.0	93.0	< 0.005	< 0.005	—	93.3
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	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.4	15.4	< 0.005	< 0.005	—	15.4
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	0.84	0.75	0.75	13.7	0.00	0.00	292	292	0.00	29.4	29.4	—	1,700	1,700	0.06	0.05	6.37	1,724
Vendor	0.04	0.03	0.88	0.37	0.01	0.01	40.9	40.9	0.01	4.13	4.14	—	863	863	0.01	0.12	2.40	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.65	0.55	0.88	7.73	0.00	0.00	292	292	0.00	29.4	29.4	—	1,435	1,435	0.07	0.05	0.17	1,453
Vendor	0.04	0.02	0.96	0.36	0.01	0.01	40.9	40.9	0.01	4.13	4.14	—	863	863	0.01	0.12	0.06	899
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	0.03	0.02	0.03	0.38	0.00	0.00	11.2	11.2	0.00	1.13	1.13	—	59.2	59.2	< 0.005	< 0.005	0.11	60.0
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	1.57	1.57	< 0.005	0.16	0.16	—	33.1	33.1	< 0.005	< 0.005	0.04	34.5
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.01	0.07	0.00	0.00	2.04	2.04	0.00	0.21	0.21	—	9.80	9.80	< 0.005	< 0.005	0.02	9.93
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.29	0.29	< 0.005	0.03	0.03	—	5.48	5.48	< 0.005	< 0.005	0.01	5.72
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.01	0.01	0.02	0.18	< 0.005	< 0.005	0.58	0.58	< 0.005	0.09	0.09	—	36.1	36.1	< 0.005	< 0.005	0.14	36.7
Total	0.01	0.01	0.02	0.18	< 0.005	< 0.005	0.58	0.58	< 0.005	0.09	0.09	—	36.1	36.1	< 0.005	< 0.005	0.14	36.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.01	0.01	0.02	0.11	< 0.005	< 0.005	0.58	0.58	< 0.005	0.09	0.09	—	31.6	31.6	< 0.005	< 0.005	< 0.005	32.1
Total	0.01	0.01	0.02	0.11	< 0.005	< 0.005	0.58	0.58	< 0.005	0.09	0.09	—	31.6	31.6	< 0.005	< 0.005	< 0.005	32.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	3.96	3.96	< 0.005	< 0.005	0.01	4.02
Total	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	3.96	3.96	< 0.005	< 0.005	0.01	4.02

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	1,834	1,834	0.13	0.02	—	1,842
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,834	1,834	0.13	0.02	—	1,842
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	1,834	1,834	0.13	0.02	—	1,842
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,834	1,834	0.13	0.02	—	1,842
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	304	304	0.02	< 0.005	—	305
Total	—	—	—	—	—	—	—	—	—	—	—	—	304	304	0.02	< 0.005	—	305

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.05	0.02	0.42	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	502	502	0.04	< 0.005	—	504
Total	0.05	0.02	0.42	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	502	502	0.04	< 0.005	—	504
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.05	0.02	0.42	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	502	502	0.04	< 0.005	—	504
Total	0.05	0.02	0.42	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	502	502	0.04	< 0.005	—	504
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.01	< 0.005	0.08	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	83.2	83.2	0.01	< 0.005	—	83.4
Total	0.01	< 0.005	0.08	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	83.2	83.2	0.01	< 0.005	—	83.4

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	—	1.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	—	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.37	0.34	0.02	2.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.63	8.63	< 0.005	< 0.005	—	8.66
Total	0.37	1.56	0.02	2.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.63	8.63	< 0.005	< 0.005	—	8.66
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	1.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.03	0.03	< 0.005	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.70	0.70	< 0.005	< 0.005	—	0.71
Total	0.03	0.25	< 0.005	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.70	0.70	< 0.005	< 0.005	—	0.71

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	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 Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.6	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.6	12.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.6	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.6	12.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.08	2.08
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.08	2.08

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
Grading	Grading	1/1/2024	1/18/2024	5.00	14.0	—
Pile Installation	Building Construction	1/19/2024	2/8/2024	5.00	15.0	—
Fence Installation	Building Construction	2/9/2024	2/15/2024	5.00	5.00	—
Electrical Installation	Building Construction	2/16/2024	3/28/2024	5.00	30.0	—
Container Installation	Building Construction	3/29/2024	4/17/2024	5.00	14.0	—

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
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38
Grading	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Grading	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Off-Highway Trucks	Diesel	Average	1.00	1.00	376	0.38

Grading	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Pile Installation	Bore/Drill Rigs	Diesel	Average	3.00	8.00	83.0	0.50
Pile Installation	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Pile Installation	Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38
Pile Installation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Fence Installation	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Fence Installation	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Fence Installation	Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38
Electrical Installation	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Electrical Installation	Generator Sets	Diesel	Average	6.00	8.00	14.0	0.74
Electrical Installation	Air Compressors	Diesel	Average	5.00	8.00	37.0	0.48
Electrical Installation	Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38
Electrical Installation	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Container Installation	Cranes	Diesel	Average	1.00	8.00	367	0.29
Container Installation	Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38
Container Installation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Grading	—	—	—	—
Grading	Worker	100	20.0	LDA,LDT1,LDT2
Grading	Vendor	—	20.0	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Pile Installation	—	—	—	—

Pile Installation	Worker	100	20.0	LDA,LDT1,LDT2
Pile Installation	Vendor	14.0	20.0	HHDT,MHDT
Pile Installation	Hauling	0.00	20.0	HHDT
Pile Installation	Onsite truck	—	—	HHDT
Fence Installation	—	—	—	—
Fence Installation	Worker	100	20.0	LDA,LDT1,LDT2
Fence Installation	Vendor	14.0	20.0	HHDT,MHDT
Fence Installation	Hauling	0.00	20.0	HHDT
Fence Installation	Onsite truck	—	—	HHDT
Electrical Installation	—	—	—	—
Electrical Installation	Worker	100	20.0	LDA,LDT1,LDT2
Electrical Installation	Vendor	14.0	20.0	HHDT,MHDT
Electrical Installation	Hauling	0.00	20.0	HHDT
Electrical Installation	Onsite truck	—	—	HHDT
Container Installation	—	—	—	—
Container Installation	Worker	100	20.0	LDA,LDT1,LDT2
Container Installation	Vendor	14.0	20.0	HHDT,MHDT
Container Installation	Hauling	0.00	20.0	HHDT
Container Installation	Onsite truck	—	—	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 (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Grading	—	—	14.0	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	Other	50%	50%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Light Industry	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	457	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
General Light Industry	1.98	0.00	0.00	516	39.6	0.00	0.00	10,317

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	72,390	24,130	—

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Light Industry	1,465,870	457	0.0330	0.0040	1,567,707

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Light Industry	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Light Industry	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 Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	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)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit

Temperature and Extreme Heat	27.6	annual days of extreme heat
Extreme Precipitation	0.00	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

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

6.3. Adjusted Climate Risk Scores

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	58.3
AQ-PM	38.1
AQ-DPM	5.72
Drinking Water	68.6
Lead Risk Housing	41.2

Pesticides	86.9
Toxic Releases	14.4
Traffic	2.20
Effect Indicators	—
CleanUp Sites	78.0
Groundwater	95.2
Haz Waste Facilities/Generators	7.35
Impaired Water Bodies	99.5
Solid Waste	80.0
Sensitive Population	—
Asthma	90.6
Cardio-vascular	83.9
Low Birth Weights	5.49
Socioeconomic Factor Indicators	—
Education	64.5
Housing	51.4
Linguistic	90.5
Poverty	81.2
Unemployment	96.6

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	20.96753497
Employed	1.93763634
Median HI	22.3662261

Education	—
Bachelor's or higher	24.38085461
High school enrollment	100
Preschool enrollment	39.0606955
Transportation	—
Auto Access	40.90850764
Active commuting	78.6603362
Social	—
2-parent households	59.96407032
Voting	36.99473887
Neighborhood	—
Alcohol availability	72.73193892
Park access	8.533299115
Retail density	3.785448479
Supermarket access	12.52406005
Tree canopy	1.860644168
Housing	—
Homeownership	48.19709996
Housing habitability	56.46092647
Low-inc homeowner severe housing cost burden	79.66123444
Low-inc renter severe housing cost burden	47.27319389
Uncrowded housing	38.58591043
Health Outcomes	—
Insured adults	40.25407417
Arthritis	0.0
Asthma ER Admissions	6.4
High Blood Pressure	0.0

Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	22.5
Cognitively Disabled	41.3
Physically Disabled	20.3
Heart Attack ER Admissions	5.9
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	59.8
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	26.6
Elderly	44.5
English Speaking	14.8
Foreign-born	55.7
Outdoor Workers	4.7

Climate Change Adaptive Capacity	—
Impervious Surface Cover	87.7
Traffic Density	18.5
Traffic Access	23.0
Other Indices	—
Hardship	75.1
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	80.0
Healthy Places Index Score for Project Location (b)	20.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Approximately 48,260 square feet inverters and BESS containers 7.1 acre project site
Construction: Construction Phases	Construction equipment and schedule provided by construction team
Construction: Off-Road Equipment	Construction equipment provided by construction team Bobcat modeled as tractor/loader/backhoe Water truck (off-highway truck) and generator (construction office) added to each phase Forklift added to electrical phase for cables/conduit deliveries
Construction: Trips and VMT	50 workers per day (100 one-way trips) Maximum of 7 deliveries per day (14 one-way trips) All trip lengths increased to 20 miles
Construction: On-Road Fugitive Dust	All roads used to access project site are paved. ICAPCD recommends modeling 90 percent paved roads during construction activities.
Operations: Vehicle Data	Unmanned/remote facility. 1 round trip (0.041 trips/ksf) modeled to account for any routine maintenance. Trip length increased to 20 miles.
Operations: Road Dust	Used same paved road % as construction workers
Operations: Water and Waste Water	Unmanned facility, no water use
Operations: Solid Waste	Unmanned facility, no solid waste

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TECHNICAL APPENDICES

ALBA PEAKER

Imperial County, California
June 12, 2023

LLG Ref. 3-23-3740

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Greenspan, Engineers

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APPENDIX A

INTERSECTION COUNT SHEETS

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of Imperial
N/S: Drew Road / Haskell Road
E/W: Evan Hewes Highway
Weather: Clear

File Name : 01_CIM_DREW_EVAN HEWES_AM
Site Code : 05723502
Start Date : 5/18/2023
Page No : 1

Groups Printed- Total Volume

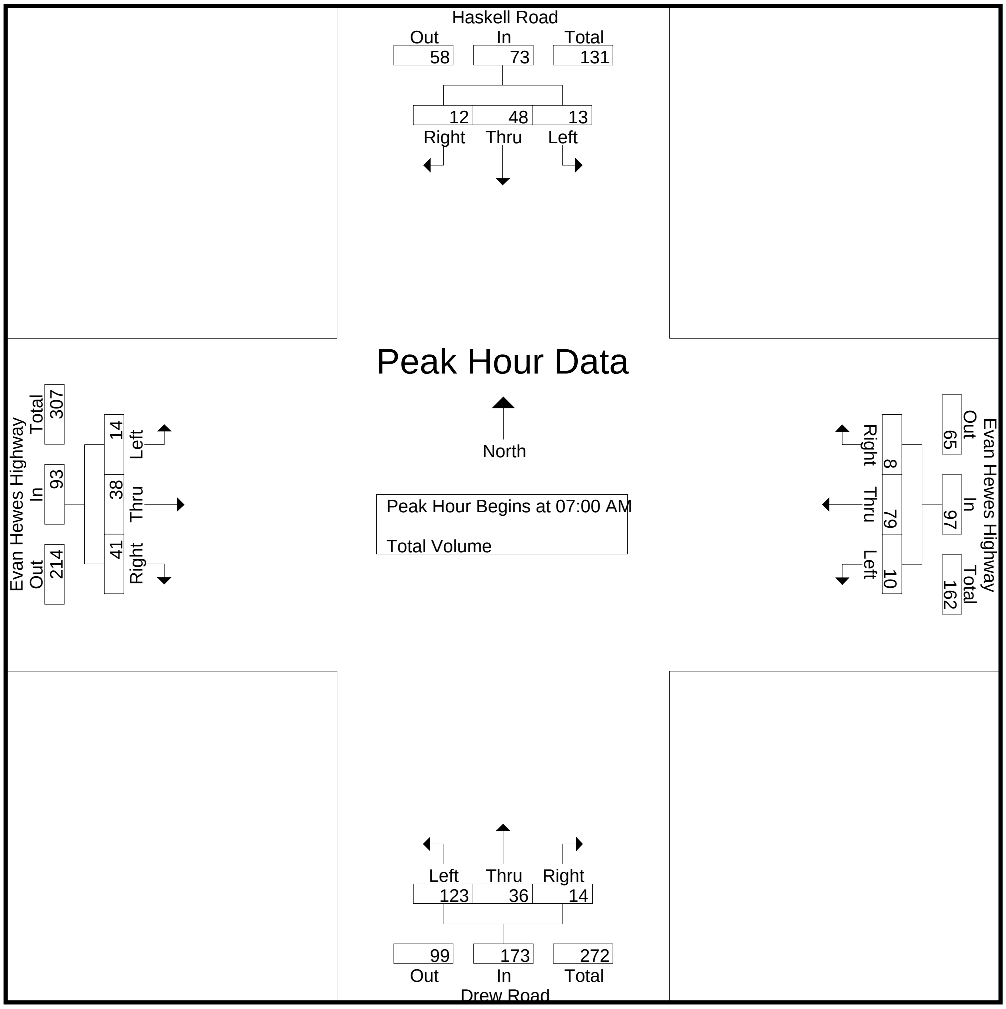
	Haskell Road Southbound				Evan Hewes Highway Westbound				Drew Road Northbound				Evan Hewes Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	4	3	7	2	12	0	14	17	1	1	19	1	12	11	24	64
06:15 AM	1	3	2	6	4	18	0	22	25	4	4	33	0	9	17	26	87
06:30 AM	0	10	1	11	3	25	1	29	29	2	4	35	0	6	10	16	91
06:45 AM	0	7	0	7	3	11	0	14	17	1	3	21	0	8	12	20	62
Total	1	24	6	31	12	66	1	79	88	8	12	108	1	35	50	86	304
07:00 AM	3	3	4	10	2	8	2	12	15	5	4	24	4	8	9	21	67
07:15 AM	3	9	3	15	1	15	1	17	26	6	3	35	1	11	11	23	90
07:30 AM	0	23	2	25	5	31	2	38	49	15	5	69	3	9	7	19	151
07:45 AM	7	13	3	23	2	25	3	30	33	10	2	45	6	10	14	30	128
Total	13	48	12	73	10	79	8	97	123	36	14	173	14	38	41	93	436
Grand Total	14	72	18	104	22	145	9	176	211	44	26	281	15	73	91	179	740
Apprch %	13.5	69.2	17.3		12.5	82.4	5.1		75.1	15.7	9.3		8.4	40.8	50.8		
Total %	1.9	9.7	2.4	14.1	3	19.6	1.2	23.8	28.5	5.9	3.5	38	2	9.9	12.3	24.2	

	Haskell Road Southbound				Evan Hewes Highway Westbound				Drew Road Northbound				Evan Hewes Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	3	3	**4**	10	2	8	2	12	15	5	4	24	4	8	9	21	67
07:15 AM	3	9	3	15	1	15	1	17	26	6	3	35	1	**11**	11	23	90
07:30 AM	0	**23**	2	**25**	**5**	**31**	2	**38**	**49**	**15**	**5**	**69**	3	9	7	19	**151**
07:45 AM	**7**	13	3	23	2	25	**3**	30	33	10	2	45	**6**	10	**14**	**30**	128
Total Volume	13	48	12	73	10	79	8	97	123	36	14	173	14	38	41	93	436
% App. Total	17.8	65.8	16.4		10.3	81.4	8.2		71.1	20.8	8.1		15.1	40.9	44.1		
PHF	.464	.522	.750	.730	.500	.637	.667	.638	.628	.600	.700	.627	.583	.864	.732	.775	.722

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of Imperial
N/S: Drew Road / Haskell Road
E/W: Evan Hewes Highway
Weather: Clear

File Name : 01_CIM_DREW_EVAN HEWES_AM
Site Code : 05723502
Start Date : 5/18/2023



Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	3	3	**4**	10	2	8	2	12	15	5	4	24	4	8	9	21
+15 mins.	3	9	3	15	1	15	1	17	26	6	3	35	1	**11**	11	23
+30 mins.	0	**23**	2	**25**	**5**	**31**	2	**38**	**49**	**15**	**5**	**69**	3	9	7	19
+45 mins.	**7**	13	3	23	2	25	**3**	30	33	10	2	45	**6**	10	**14**	**30**
Total Volume	13	48	12	73	10	79	8	97	123	36	14	173	14	38	41	93
% App. Total	17.8	65.8	16.4		10.3	81.4	8.2		71.1	20.8	8.1		15.1	40.9	44.1	
PHF	.464	.522	.750	.730	.500	.637	.667	.638	.628	.600	.700	.627	.583	.864	.732	.775

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PO Box 1178
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County of Imperial
N/S: Drew Road / Haskell Road
E/W: Evan Hewes Highway
Weather: Clear

File Name : 01_CIM_DREW_EVAN HEWES_PM
Site Code : 05723502
Start Date : 5/18/2023
Page No : 1

Groups Printed- Total Volume

	Haskell Road Southbound				Evan Hewes Highway Westbound				Drew Road Northbound				Evan Hewes Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	1	4	2	7	3	11	1	15	11	6	3	20	5	22	27	54	96
03:15 PM	4	11	8	23	8	12	5	25	18	13	5	36	9	35	37	81	165
03:30 PM	3	3	4	10	2	2	1	5	7	7	2	16	1	10	6	17	48
03:45 PM	4	3	4	11	4	6	3	13	7	6	3	16	8	21	27	56	96
Total	12	21	18	51	17	31	10	58	43	32	13	88	23	88	97	208	405
04:00 PM	1	5	3	9	5	7	0	12	4	9	2	15	4	34	45	83	119
04:15 PM	2	5	3	10	7	10	1	18	6	6	2	14	4	36	33	73	115
04:30 PM	6	5	8	19	9	12	5	26	8	11	6	25	5	39	31	75	145
04:45 PM	4	4	3	11	3	11	1	15	4	4	1	9	1	12	4	17	52
Total	13	19	17	49	24	40	7	71	22	30	11	63	14	121	113	248	431
Grand Total	25	40	35	100	41	71	17	129	65	62	24	151	37	209	210	456	836
Apprch %	25	40	35		31.8	55	13.2		43	41.1	15.9		8.1	45.8	46.1		
Total %	3	4.8	4.2	12	4.9	8.5	2	15.4	7.8	7.4	2.9	18.1	4.4	25	25.1	54.5	

	Haskell Road Southbound				Evan Hewes Highway Westbound				Drew Road Northbound				Evan Hewes Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:45 PM																	
03:45 PM	4	3	4	11	4	6	3	13	7	6	3	16	**8**	21	27	56	96
04:00 PM	1	**5**	3	9	5	7	0	12	4	9	2	15	4	34	**45**	**83**	119
04:15 PM	2	5	3	10	7	10	1	18	6	6	2	14	4	36	33	73	115
04:30 PM	**6**	5	**8**	**19**	**9**	**12**	**5**	**26**	**8**	**11**	**6**	**25**	5	**39**	31	75	**145**
Total Volume	13	18	18	49	25	35	9	69	25	32	13	70	21	130	136	287	475
% App. Total	26.5	36.7	36.7		36.2	50.7	13		35.7	45.7	18.6		7.3	45.3	47.4		
PHF	.542	.900	.563	.645	.694	.729	.450	.663	.781	.727	.542	.700	.656	.833	.756	.864	.819

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County of Imperial
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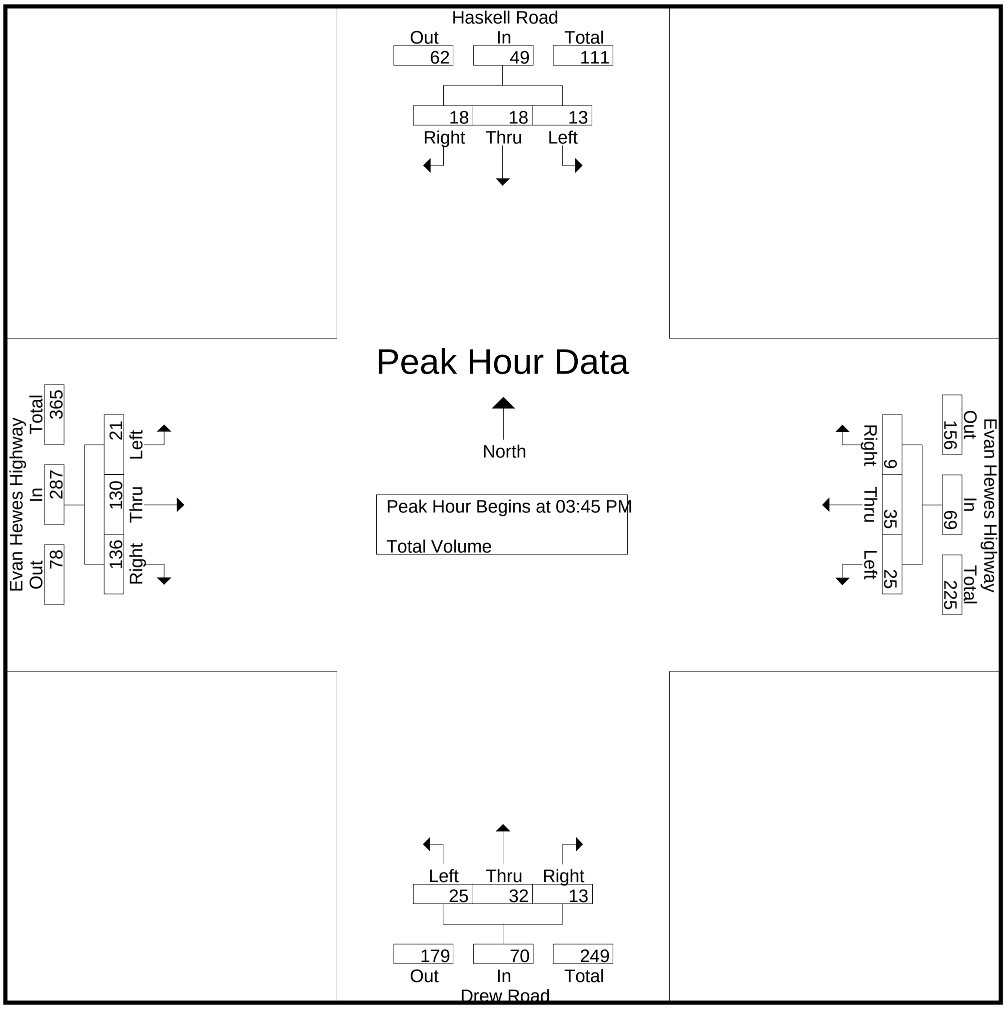
File Name : 01_CIM_DREW_EVAN HEWES_PM
Site Code : 05723502
Start Date : 5/18/2023
Page No : 2



Peak Hour Analysis From 03:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:15 PM				04:00 PM				03:00 PM				03:45 PM			
+0 mins.	**4**	**11**	**8**	**23**	5	7	0	12	11	6	3	20	**8**	21	27	56
+15 mins.	3	3	4	10	7	10	1	18	**18**	**13**	**5**	**36**	4	34	**45**	**83**
+30 mins.	4	3	4	11	**9**	**12**	**5**	**26**	7	7	2	16	4	36	33	73
+45 mins.	1	5	3	9	3	11	1	15	7	6	3	16	5	**39**	31	75
Total Volume	12	22	19	53	24	40	7	71	43	32	13	88	21	130	136	287
% App. Total	22.6	41.5	35.8		33.8	56.3	9.9		48.9	36.4	14.8		7.3	45.3	47.4	
PHF	.750	.500	.594	.576	.667	.833	.350	.683	.597	.615	.650	.611	.656	.833	.756	.864

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County of Imperial
N/S: Drew Road
E/W: I-8 Westbound Ramps
Weather: Clear

File Name : 02_CIM_DREW_8 WB_AM
Site Code : 05723502
Start Date : 5/18/2023
Page No : 1

Groups Printed- Total Volume

	Drew Road Southbound				I-8 WB Off Ramp Westbound				Drew Road Northbound				I-8 WB On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	20	1	21	20	0	13	33	1	9	0	10	0	0	0	0	64
06:15 AM	0	15	0	15	19	0	14	33	1	13	0	14	0	0	0	0	62
06:30 AM	0	25	1	26	21	0	25	46	0	10	0	10	0	0	0	0	82
06:45 AM	0	19	2	21	19	0	16	35	0	7	0	7	0	0	0	0	63
Total	0	79	4	83	79	0	68	147	2	39	0	41	0	0	0	0	271
07:00 AM	0	15	1	16	7	0	14	21	0	8	0	8	0	0	0	0	45
07:15 AM	0	21	1	22	6	0	20	26	0	7	0	7	0	0	0	0	55
07:30 AM	0	27	1	28	5	0	47	52	1	15	0	16	0	0	0	0	96
07:45 AM	0	24	0	24	6	0	36	42	0	7	0	7	0	0	0	0	73
Total	0	87	3	90	24	0	117	141	1	37	0	38	0	0	0	0	269
Grand Total	0	166	7	173	103	0	185	288	3	76	0	79	0	0	0	0	540
Apprch %	0	96	4		35.8	0	64.2		3.8	96.2	0		0	0	0		
Total %	0	30.7	1.3	32	19.1	0	34.3	53.3	0.6	14.1	0	14.6	0	0	0	0	

	Drew Road Southbound				I-8 WB Off Ramp Westbound				Drew Road Northbound				I-8 WB On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:00 AM																	
06:00 AM	0	20	1	21	20	0	13	33	**1**	9	0	10	0	0	0	0	64
06:15 AM	0	15	0	15	19	0	14	33	1	**13**	0	**14**	0	0	0	0	62
06:30 AM	0	**25**	1	**26**	**21**	0	**25**	**46**	0	10	0	10	0	0	0	0	**82**
06:45 AM	0	19	**2**	21	19	0	16	35	0	7	0	7	0	0	0	0	63
Total Volume	0	79	4	83	79	0	68	147	2	39	0	41	0	0	0	0	271
% App. Total	0	95.2	4.8		53.7	0	46.3		4.9	95.1	0		0	0	0		
PHF	.000	.790	.500	.798	.940	.000	.680	.799	.500	.750	.000	.732	.000	.000	.000	.000	.826

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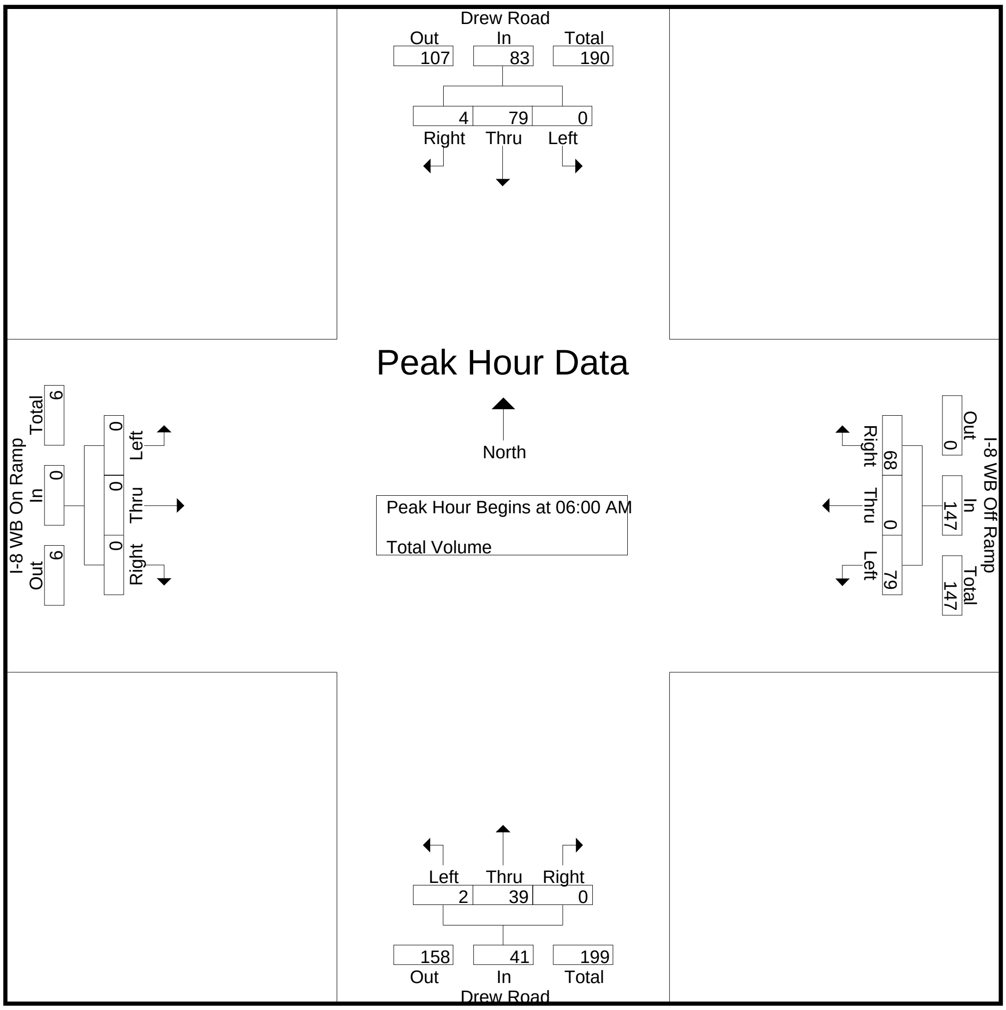
County of Imperial
N/S: Drew Road
E/W: I-8 Westbound Ramps
Weather: Clear

File Name : 02_CIM_DREW_8 WB_AM
Site Code : 05723502
Start Date : 5/18/2023
Page No : 2



Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				06:00 AM				06:00 AM				06:00 AM			
+0 mins.	0	15	**1**	16	20	0	13	33	**1**	9	0	10	0	0	0	0
+15 mins.	0	21	1	22	19	0	14	33	1	**13**	0	**14**	0	0	0	0
+30 mins.	0	**27**	1	**28**	**21**	0	**25**	**46**	0	10	0	10	0	0	0	0
+45 mins.	0	24	0	24	19	0	16	35	0	7	0	7	0	0	0	0
Total Volume	0	87	3	90	79	0	68	147	2	39	0	41	0	0	0	0
% App. Total	0	96.7	3.3		53.7	0	46.3		4.9	95.1	0		0	0	0	
PHF	.000	.806	.750	.804	.940	.000	.680	.799	.500	.750	.000	.732	.000	.000	.000	.000

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County of Imperial
N/S: Drew Road
E/W: I-8 Westbound Ramps
Weather: Clear

File Name : 02_CIM_DREW_8 WB_PM
Site Code : 05723502
Start Date : 5/18/2023
Page No : 1

Groups Printed- Total Volume

	Drew Road Southbound				I-8 WB Off Ramp Westbound				Drew Road Northbound				I-8 WB On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	34	5	39	9	1	10	20	0	8	0	8	0	0	0	0	67
03:15 PM	0	30	4	34	15	0	16	31	0	10	0	10	0	0	0	0	75
03:30 PM	0	29	6	35	9	1	12	22	0	7	0	7	0	0	0	0	64
03:45 PM	0	35	1	36	14	0	10	24	0	7	0	7	0	0	0	0	67
Total	0	128	16	144	47	2	48	97	0	32	0	32	0	0	0	0	273
04:00 PM	0	46	3	49	16	0	9	25	0	5	0	5	0	0	0	0	79
04:15 PM	0	48	2	50	14	0	9	23	1	7	0	8	0	0	0	0	81
04:30 PM	0	27	3	30	23	0	14	37	1	10	0	11	0	0	0	0	78
04:45 PM	0	26	3	29	15	0	9	24	0	10	0	10	0	0	0	0	63
Total	0	147	11	158	68	0	41	109	2	32	0	34	0	0	0	0	301
Grand Total	0	275	27	302	115	2	89	206	2	64	0	66	0	0	0	0	574
Apprch %	0	91.1	8.9		55.8	1	43.2		3	97	0		0	0	0		
Total %	0	47.9	4.7	52.6	20	0.3	15.5	35.9	0.3	11.1	0	11.5	0	0	0	0	

	Drew Road Southbound				I-8 WB Off Ramp Westbound				Drew Road Northbound				I-8 WB On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:45 PM																	
03:45 PM	0	35	1	36	14	0	10	24	0	7	0	7	0	0	0	0	67
04:00 PM	0	46	**3**	49	16	0	9	25	0	5	0	5	0	0	0	0	79
04:15 PM	0	**48**	2	**50**	14	0	9	23	**1**	7	0	8	0	0	0	0	**81**
04:30 PM	0	27	3	30	**23**	0	**14**	**37**	1	**10**	0	**11**	0	0	0	0	78
Total Volume	0	156	9	165	67	0	42	109	2	29	0	31	0	0	0	0	305
% App. Total	0	94.5	5.5		61.5	0	38.5		6.5	93.5	0		0	0	0		
PHF	.000	.813	.750	.825	.728	.000	.750	.736	.500	.725	.000	.705	.000	.000	.000	.000	.941

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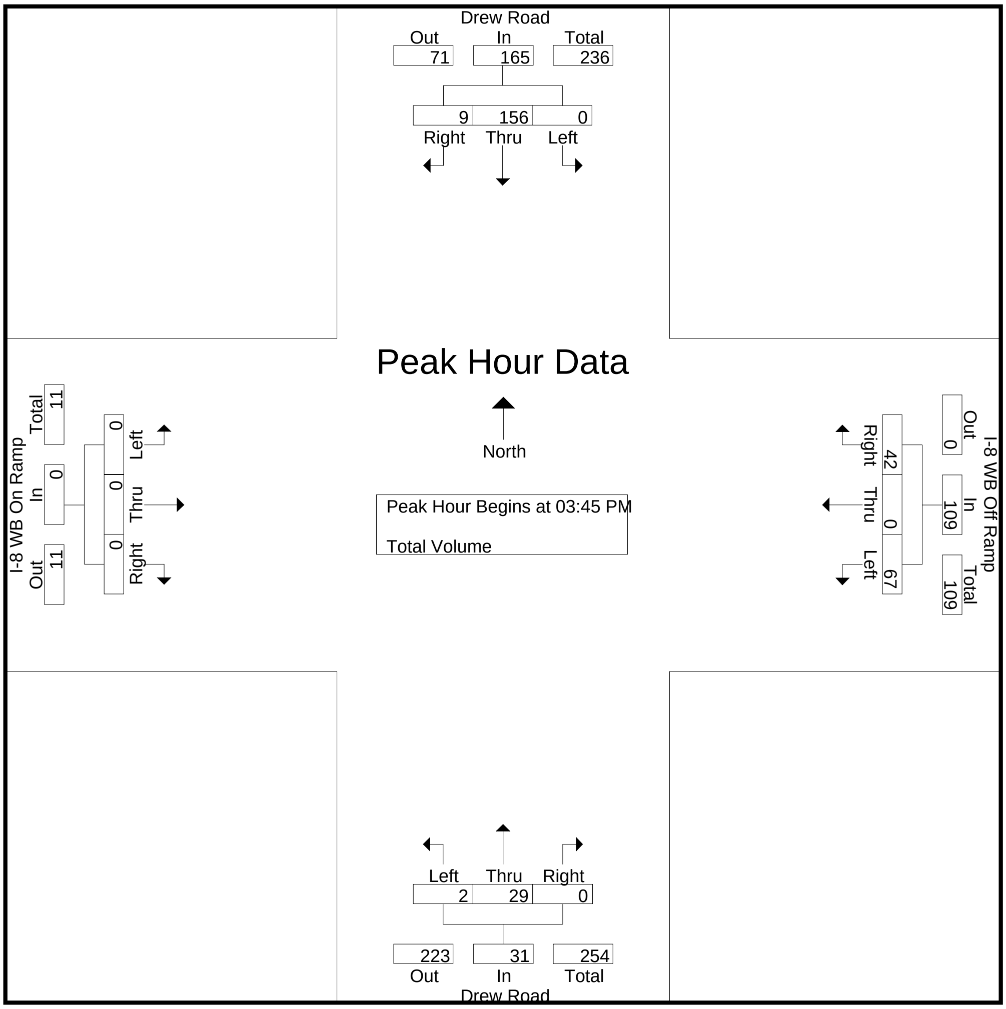
County of Imperial
N/S: Drew Road
E/W: I-8 Westbound Ramps
Weather: Clear

File Name : 02_CIM_DREW_8 WB_PM
Site Code : 05723502
Start Date : 5/18/2023



Peak Hour Analysis From 03:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:30 PM				03:45 PM				04:00 PM				03:00 PM			
+0 mins.	0	29	**6**	35	14	0	10	24	0	5	0	5	0	0	0	0
+15 mins.	0	35	1	36	16	0	9	25	**1**	7	0	8	0	0	0	0
+30 mins.	0	46	3	49	14	0	9	23	1	**10**	0	**11**	0	0	0	0
+45 mins.	0	**48**	2	**50**	**23**	0	**14**	**37**	0	10	0	10	0	0	0	0
Total Volume	0	158	12	170	67	0	42	109	2	32	0	34	0	0	0	0
% App. Total	0	92.9	7.1		61.5	0	38.5		5.9	94.1	0		0	0	0	
PHF	.000	.823	.500	.850	.728	.000	.750	.736	.500	.800	.000	.773	.000	.000	.000	.000

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County of Imperial
N/S: Drew Road
E/W: I-8 Eastbound Ramps
Weather: Clear

File Name : 03_CIM_DREW_8 EB_AM
Site Code : 05723502
Start Date : 5/18/2023
Page No : 1

Groups Printed- Total Volume

	Drew Road Southbound				I-8 EB On Ramp Westbound				Drew Road Northbound				I-8 EB Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	15	27	0	42	0	0	0	0	0	10	6	16	0	0	0	0	58
06:15 AM	12	22	0	34	0	0	0	0	0	12	2	14	2	0	0	2	50
06:30 AM	16	31	0	47	0	0	0	0	0	10	7	17	1	0	1	2	66
06:45 AM	13	24	0	37	0	0	0	0	0	4	7	11	3	1	0	4	52
Total	56	104	0	160	0	0	0	0	0	36	22	58	6	1	1	8	226
07:00 AM	9	14	0	23	0	0	0	0	0	3	4	7	5	0	1	6	36
07:15 AM	22	5	0	27	0	0	0	0	0	5	6	11	2	0	1	3	41
07:30 AM	18	12	0	30	0	0	0	0	0	9	10	19	6	0	1	7	56
07:45 AM	19	13	0	32	0	0	0	0	0	7	6	13	2	0	0	2	47
Total	68	44	0	112	0	0	0	0	0	24	26	50	15	0	3	18	180
Grand Total	124	148	0	272	0	0	0	0	0	60	48	108	21	1	4	26	406
Apprch %	45.6	54.4	0		0	0	0		0	55.6	44.4		80.8	3.8	15.4		
Total %	30.5	36.5	0	67	0	0	0	0	0	14.8	11.8	26.6	5.2	0.2	1	6.4	

	Drew Road Southbound				I-8 EB On Ramp Westbound				Drew Road Northbound				I-8 EB Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:00 AM																	
06:00 AM	15	27	0	42	0	0	0	0	0	10	6	16	0	0	0	0	58
06:15 AM	12	22	0	34	0	0	0	0	0	**12**	2	14	2	0	0	2	50
06:30 AM	**16**	**31**	0	**47**	0	0	0	0	0	10	**7**	**17**	1	0	**1**	2	**66**
06:45 AM	13	24	0	37	0	0	0	0	0	4	7	11	**3**	**1**	0	**4**	52
Total Volume	56	104	0	160	0	0	0	0	0	36	22	58	6	1	1	8	226
% App. Total	35	65	0		0	0	0		0	62.1	37.9		75	12.5	12.5		
PHF	.875	.839	.000	.851	.000	.000	.000	.000	.000	.750	.786	.853	.500	.250	.250	.500	.856

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County of Imperial
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File Name : 03_CIM_DREW_8 EB_AM
Site Code : 05723502
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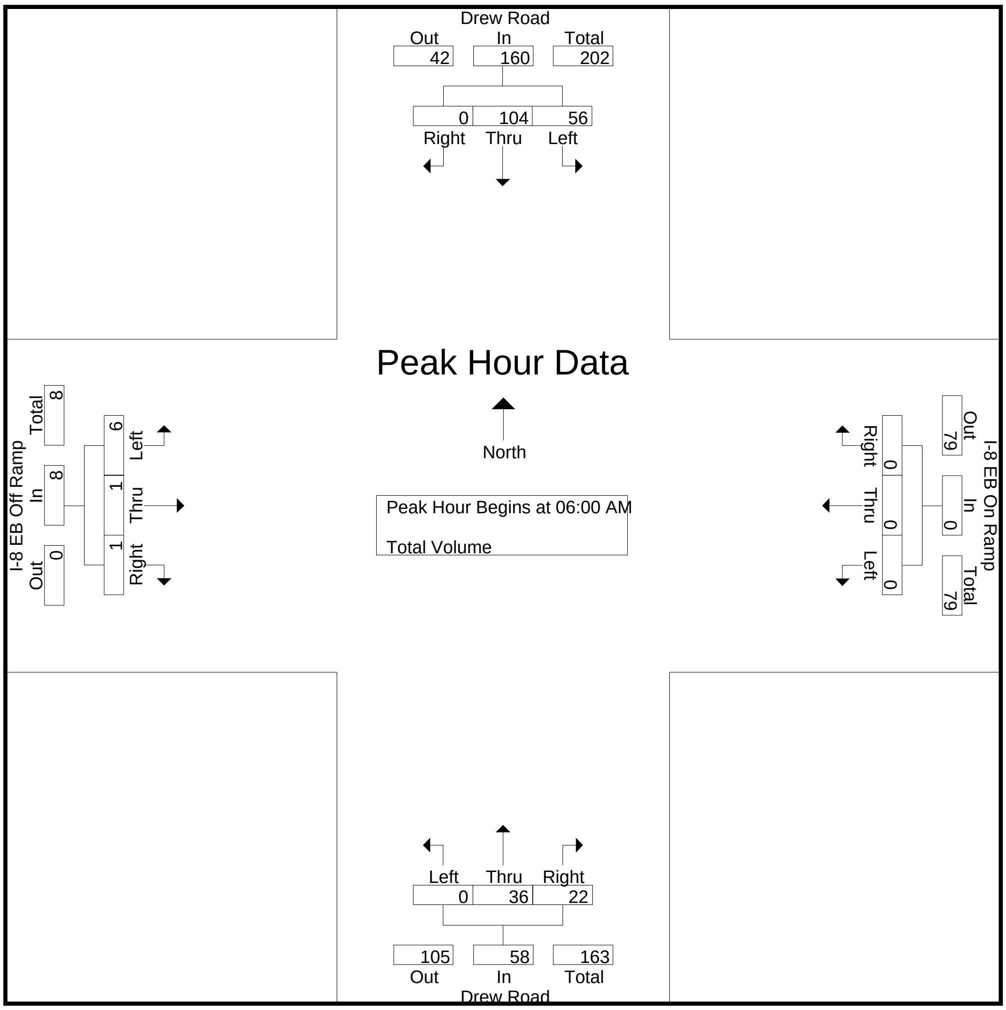

Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 AM				06:00 AM				06:00 AM				06:45 AM			
+0 mins.	15	27	0	42	0	0	0	0	0	10	6	16	3	**1**	0	4
+15 mins.	12	22	0	34	0	0	0	0	0	**12**	2	14	5	0	**1**	6
+30 mins.	**16**	**31**	0	**47**	0	0	0	0	0	10	**7**	**17**	2	0	1	3
+45 mins.	13	24	0	37	0	0	0	0	0	4	7	11	**6**	0	1	**7**
Total Volume	56	104	0	160	0	0	0	0	0	36	22	58	16	1	3	20
% App. Total	35	65	0		0	0	0		0	62.1	37.9		80	5	15	
PHF	.875	.839	.000	.851	.000	.000	.000	.000	.000	.750	.786	.853	.667	.250	.750	.714

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File Name : 03_CIM_DREW_8 EB_PM
Site Code : 05723502
Start Date : 5/18/2023
Page No : 1

Groups Printed- Total Volume

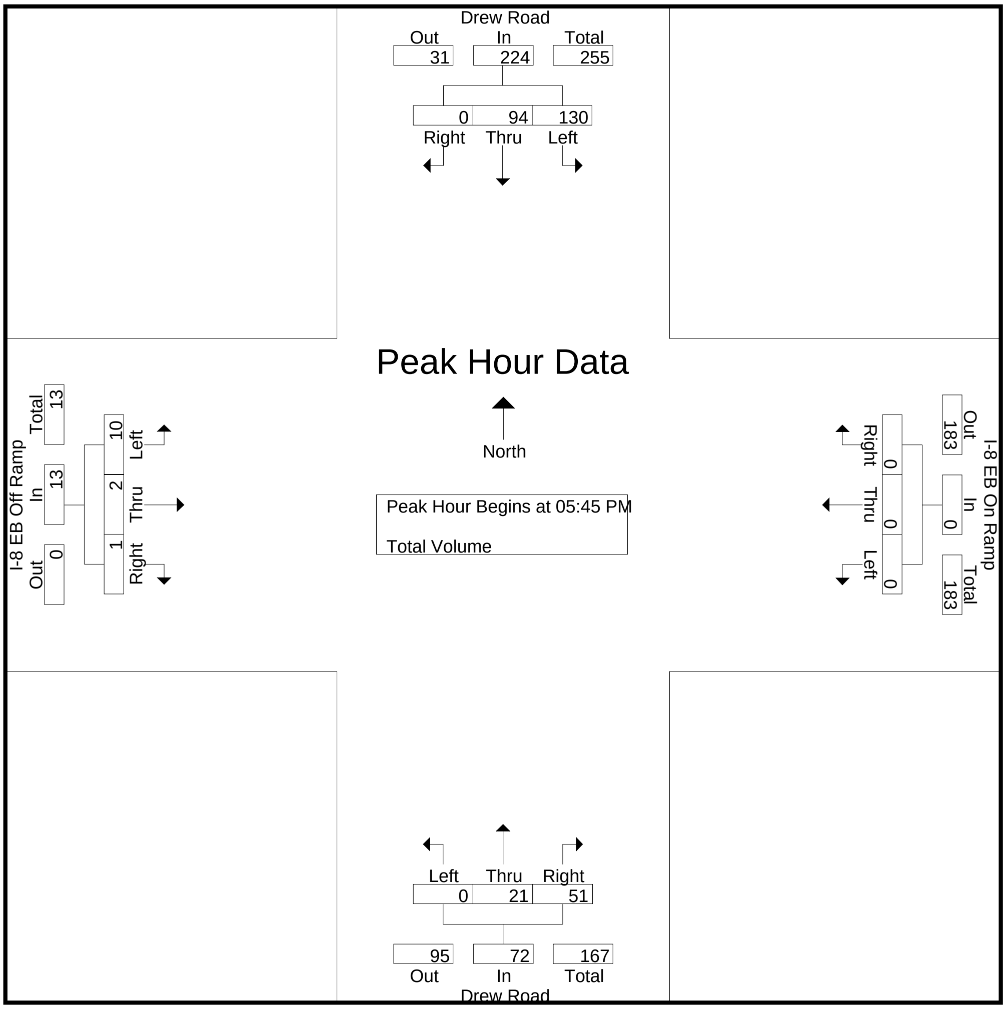
	Drew Road Southbound				I-8 EB On Ramp Westbound				Drew Road Northbound				I-8 EB Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	33	11	0	44	0	0	0	0	0	7	15	22	1	0	1	2	68
05:15 PM	22	23	0	45	0	0	0	0	0	7	10	17	3	0	1	4	66
05:30 PM	20	16	0	36	0	0	0	0	0	5	11	16	2	0	0	2	54
05:45 PM	32	21	0	53	0	0	0	0	0	4	12	16	3	0	0	3	72
Total	107	71	0	178	0	0	0	0	0	23	48	71	9	0	2	11	260
06:00 PM	43	20	0	63	0	0	0	0	0	4	14	18	2	0	1	3	84
06:15 PM	39	24	0	63	0	0	0	0	0	2	5	7	5	1	0	6	76
06:30 PM	16	29	0	45	0	0	0	0	0	11	20	31	0	1	0	1	77
06:45 PM	18	24	0	42	0	0	0	0	0	9	9	18	3	0	1	4	64
Total	116	97	0	213	0	0	0	0	0	26	48	74	10	2	2	14	301
Grand Total	223	168	0	391	0	0	0	0	0	49	96	145	19	2	4	25	561
Apprch %	57	43	0		0	0	0		0	33.8	66.2		76	8	16		
Total %	39.8	29.9	0	69.7	0	0	0	0	0	8.7	17.1	25.8	3.4	0.4	0.7	4.5	

	Drew Road Southbound				I-8 EB On Ramp Westbound				Drew Road Northbound				I-8 EB Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:45 PM																	
05:45 PM	32	21	0	53	0	0	0	0	0	4	12	16	3	0	0	3	72
06:00 PM	**43**	20	0	**63**	0	0	0	0	0	4	14	18	2	0	**1**	3	**84**
06:15 PM	39	24	0	63	0	0	0	0	0	2	5	7	**5**	**1**	0	**6**	76
06:30 PM	16	**29**	0	45	0	0	0	0	0	**11**	**20**	**31**	0	1	0	1	77
Total Volume	130	94	0	224	0	0	0	0	0	21	51	72	10	2	1	13	309
% App. Total	58	42	0		0	0	0		0	29.2	70.8		76.9	15.4	7.7		
PHF	.756	.810	.000	.889	.000	.000	.000	.000	.000	.477	.638	.581	.500	.500	.250	.542	.920

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of Imperial
N/S: Drew Road
E/W: I-8 Eastbound Ramps
Weather: Clear

File Name : 03_CIM_DREW_8 EB_PM
Site Code : 05723502
Start Date : 5/18/2023
Page No : 2



Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:45 PM				05:00 PM				06:00 PM				05:30 PM			
+0 mins.	32	21	0	53	0	0	0	0	0	4	14	18	2	0	0	2
+15 mins.	**43**	20	0	**63**	0	0	0	0	0	2	5	7	3	0	0	3
+30 mins.	39	24	0	63	0	0	0	0	0	**11**	**20**	**31**	2	0	**1**	3
+45 mins.	16	**29**	0	45	0	0	0	0	0	9	9	18	**5**	**1**	0	**6**
Total Volume	130	94	0	224	0	0	0	0	0	26	48	74	12	1	1	14
% App. Total	58	42	0		0	0	0		0	35.1	64.9		85.7	7.1	7.1	
PHF	.756	.810	.000	.889	.000	.000	.000	.000	.000	.591	.600	.597	.600	.250	.250	.583

APPENDIX B

INTERSECTION PEAK HOUR ANALYSIS WORKSHEETS

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	36	41	10	79	8	123	36	14	131	73	58
Future Vol, veh/h	14	36	41	10	79	8	123	36	14	131	73	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	39	45	11	86	9	134	39	15	142	79	63
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	8.8	9.1	9.7	10.5
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	71%	44%	0%	20%	0%	50%
Vol Thru, %	21%	56%	31%	80%	83%	28%
Vol Right, %	8%	0%	69%	0%	17%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	173	32	59	50	48	262
LT Vol	123	14	0	10	0	131
Through Vol	36	18	18	40	40	73
RT Vol	14	0	41	0	8	58
Lane Flow Rate	188	35	64	54	52	285
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.257	0.058	0.094	0.088	0.081	0.37
Departure Headway (Hd)	4.911	6.016	5.302	5.882	5.66	4.678
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	726	590	669	604	627	766
Service Time	2.973	3.803	3.088	3.667	3.445	2.733
HCM Lane V/C Ratio	0.259	0.059	0.096	0.089	0.083	0.372
HCM Control Delay	9.7	9.2	8.6	9.2	9	10.5
HCM Lane LOS	A	A	A	A	A	B
HCM 95th-tile Q	1	0.2	0.3	0.3	0.3	1.7

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	79	0	68	2	39	0	0	79	4
Future Vol, veh/h	0	0	0	79	0	68	2	39	0	0	79	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	86	0	74	2	42	0	0	86	4

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	134	136	42	90	0	-	-	-	0
Stage 1	46	46	-	-	-	-	-	-	-
Stage 2	88	90	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	860	755	1029	1505	-	0	0	-	-
Stage 1	976	857	-	-	-	0	0	-	-
Stage 2	935	820	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	859	0	1029	1505	-	-	-	-	-
Mov Cap-2 Maneuver	859	0	-	-	-	-	-	-	-
Stage 1	975	0	-	-	-	-	-	-	-
Stage 2	935	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1505	-	859	1029	-	-
HCM Lane V/C Ratio	0.001	-	0.1	0.072	-	-
HCM Control Delay (s)	7.4	0	9.7	8.8	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	0.2	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	1	1	0	0	0	0	38	22	56	104	0
Future Vol, veh/h	6	1	1	0	0	0	0	38	22	56	104	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	1	1	0	0	0	0	41	24	61	113	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	288	300	113				-	0	0	65	0	0
Stage 1	235	235	-				-	-	-	-	-	-
Stage 2	53	65	-				-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22				-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-				-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318				-	-	-	2.218	-	-
Pot Cap-1 Maneuver	702	612	940				0	-	-	1537	-	0
Stage 1	804	710	-				0	-	-	-	-	0
Stage 2	970	841	-				0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	673	0	940				-	-	-	1537	-	-
Mov Cap-2 Maneuver	673	0	-				-	-	-	-	-	-
Stage 1	804	0	-				-	-	-	-	-	-
Stage 2	929	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0	2.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	673	940	1537	-
HCM Lane V/C Ratio	-	-	0.011	0.001	0.04	-
HCM Control Delay (s)	-	-	10.4	8.8	7.4	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0.1	-

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	130	136	25	35	9	25	32	13	111	49	62
Future Vol, veh/h	21	130	136	25	35	9	25	32	13	111	49	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	141	148	27	38	10	27	35	14	121	53	67
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.6	9	8.9	10.3
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	36%	24%	0%	59%	0%	50%
Vol Thru, %	46%	76%	32%	41%	66%	22%
Vol Right, %	19%	0%	68%	0%	34%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	86	201	43	27	222
LT Vol	25	21	0	25	0	111
Through Vol	32	65	65	18	18	49
RT Vol	13	0	136	0	9	62
Lane Flow Rate	76	93	218	46	29	241
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.109	0.144	0.299	0.077	0.043	0.328
Departure Headway (Hd)	5.14	5.534	4.933	5.964	5.426	4.886
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	691	644	723	595	653	731
Service Time	3.219	3.303	2.702	3.753	3.214	2.947
HCM Lane V/C Ratio	0.11	0.144	0.302	0.077	0.044	0.33
HCM Control Delay	8.9	9.2	9.8	9.3	8.5	10.3
HCM Lane LOS	A	A	A	A	A	B
HCM 95th-tile Q	0.4	0.5	1.3	0.2	0.1	1.4

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	67	0	42	2	29	0	0	156	9
Future Vol, veh/h	0	0	0	67	0	42	2	29	0	0	156	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	73	0	46	2	32	0	0	170	10

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	211	216	32	180	0	-	-	-	0
Stage 1	36	36	-	-	-	-	-	-	-
Stage 2	175	180	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	777	682	1042	1396	-	0	0	-	-
Stage 1	986	865	-	-	-	0	0	-	-
Stage 2	855	750	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	776	0	1042	1396	-	-	-	-	-
Mov Cap-2 Maneuver	776	0	-	-	-	-	-	-	-
Stage 1	985	0	-	-	-	-	-	-	-
Stage 2	855	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1396	-	776	1042	-	-
HCM Lane V/C Ratio	0.002	-	0.094	0.044	-	-
HCM Control Delay (s)	7.6	0	10.1	8.6	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	2	1	0	0	0	0	21	51	130	94	0
Future Vol, veh/h	10	2	1	0	0	0	0	21	51	130	94	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	2	1	0	0	0	0	23	55	141	102	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	435	462	102				-	0	0	78	0	0
Stage 1	384	384	-				-	-	-	-	-	-
Stage 2	51	78	-				-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22				-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-				-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318				-	-	-	2.218	-	-
Pot Cap-1 Maneuver	578	497	953				0	-	-	1520	-	0
Stage 1	688	611	-				0	-	-	-	-	0
Stage 2	971	830	-				0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	521	0	953				-	-	-	1520	-	-
Mov Cap-2 Maneuver	521	0	-				-	-	-	-	-	-
Stage 1	688	0	-				-	-	-	-	-	-
Stage 2	876	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.8	0	4.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	521	953	1520	-
HCM Lane V/C Ratio	-	-	0.025	0.001	0.093	-
HCM Control Delay (s)	-	-	12.1	8.8	7.6	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	0.3	-

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	37	42	10	81	8	125	37	14	134	74	59
Future Vol, veh/h	14	37	42	10	81	8	125	37	14	134	74	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	40	46	11	88	9	136	40	15	146	80	64
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	8.9	9.2	9.8	10.6
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	71%	43%	0%	20%	0%	50%
Vol Thru, %	21%	57%	31%	80%	84%	28%
Vol Right, %	8%	0%	69%	0%	16%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	176	33	61	51	49	267
LT Vol	125	14	0	10	0	134
Through Vol	37	19	19	41	41	74
RT Vol	14	0	42	0	8	59
Lane Flow Rate	191	35	66	55	53	290
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.262	0.059	0.097	0.09	0.083	0.379
Departure Headway (Hd)	4.932	6.042	5.331	5.907	5.69	4.696
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	723	588	665	601	624	760
Service Time	2.998	3.83	3.119	3.696	3.478	2.753
HCM Lane V/C Ratio	0.264	0.06	0.099	0.092	0.085	0.382
HCM Control Delay	9.8	9.2	8.7	9.3	9	10.6
HCM Lane LOS	A	A	A	A	A	B
HCM 95th-tile Q	1	0.2	0.3	0.3	0.3	1.8

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	81	0	69	2	40	0	0	81	4
Future Vol, veh/h	0	0	0	81	0	69	2	40	0	0	81	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	88	0	75	2	43	0	0	88	4

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	137	139	43	92	0	-	-	-	0
Stage 1	47	47	-	-	-	-	-	-	-
Stage 2	90	92	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	856	752	1027	1503	-	0	0	-	-
Stage 1	975	856	-	-	-	0	0	-	-
Stage 2	934	819	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	855	0	1027	1503	-	-	-	-	-
Mov Cap-2 Maneuver	855	0	-	-	-	-	-	-	-
Stage 1	974	0	-	-	-	-	-	-	-
Stage 2	934	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1503	-	855	1027	-	-
HCM Lane V/C Ratio	0.001	-	0.103	0.073	-	-
HCM Control Delay (s)	7.4	0	9.7	8.8	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	0.2	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	1	1	0	0	0	0	39	22	57	106	0
Future Vol, veh/h	6	1	1	0	0	0	0	39	22	57	106	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	1	1	0	0	0	0	42	24	62	115	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	293	305	115				-	0	0	66	0	0
Stage 1	239	239	-				-	-	-	-	-	-
Stage 2	54	66	-				-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22				-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-				-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318				-	-	-	2.218	-	-
Pot Cap-1 Maneuver	698	608	937				0	-	-	1536	-	0
Stage 1	801	708	-				0	-	-	-	-	0
Stage 2	969	840	-				0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	668	0	937				-	-	-	1536	-	-
Mov Cap-2 Maneuver	668	0	-				-	-	-	-	-	-
Stage 1	801	0	-				-	-	-	-	-	-
Stage 2	927	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0	2.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	668	937	1536	-
HCM Lane V/C Ratio	-	-	0.011	0.001	0.04	-
HCM Control Delay (s)	-	-	10.5	8.8	7.4	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0.1	-

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	133	139	26	36	9	26	33	13	113	50	63
Future Vol, veh/h	21	133	139	26	36	9	26	33	13	113	50	63
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	145	151	28	39	10	28	36	14	123	54	68
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.7	9	8.9	10.5
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	36%	24%	0%	59%	0%	50%
Vol Thru, %	46%	76%	32%	41%	67%	22%
Vol Right, %	18%	0%	68%	0%	33%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	72	88	206	44	27	226
LT Vol	26	21	0	26	0	113
Through Vol	33	67	67	18	18	50
RT Vol	13	0	139	0	9	63
Lane Flow Rate	78	95	223	48	29	246
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.112	0.147	0.307	0.08	0.045	0.335
Departure Headway (Hd)	5.173	5.554	4.955	5.995	5.46	4.911
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	686	641	719	593	649	727
Service Time	3.258	3.325	2.725	3.785	3.249	2.975
HCM Lane V/C Ratio	0.114	0.148	0.31	0.081	0.045	0.338
HCM Control Delay	8.9	9.3	9.9	9.3	8.5	10.5
HCM Lane LOS	A	A	A	A	A	B
HCM 95th-tile Q	0.4	0.5	1.3	0.3	0.1	1.5

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	68	0	43	2	30	0	0	159	9
Future Vol, veh/h	0	0	0	68	0	43	2	30	0	0	159	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	74	0	47	2	33	0	0	173	10

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	215	220	33	183	0	-	-	-	0
Stage 1	37	37	-	-	-	-	-	-	-
Stage 2	178	183	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	773	678	1041	1392	-	0	0	-	-
Stage 1	985	864	-	-	-	0	0	-	-
Stage 2	853	748	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	772	0	1041	1392	-	-	-	-	-
Mov Cap-2 Maneuver	772	0	-	-	-	-	-	-	-
Stage 1	984	0	-	-	-	-	-	-	-
Stage 2	853	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1392	-	772	1041	-	-
HCM Lane V/C Ratio	0.002	-	0.096	0.045	-	-
HCM Control Delay (s)	7.6	0	10.2	8.6	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	0.1	-	-

Intersection												
Int Delay, s/veh	3.7											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	2	1	0	0	0	0	21	52	133	96	0
Future Vol, veh/h	10	2	1	0	0	0	0	21	52	133	96	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	2	1	0	0	0	0	23	57	145	104	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	446	474	104				-	0	0	80	0	0
Stage 1	394	394	-				-	-	-	-	-	-
Stage 2	52	80	-				-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22				-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-				-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318				-	-	-	2.218	-	-
Pot Cap-1 Maneuver	570	489	951				0	-	-	1518	-	0
Stage 1	681	605	-				0	-	-	-	-	0
Stage 2	970	828	-				0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	512	0	951				-	-	-	1518	-	-
Mov Cap-2 Maneuver	512	0	-				-	-	-	-	-	-
Stage 1	681	0	-				-	-	-	-	-	-
Stage 2	872	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.9	0	4.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	512	951	1518	-
HCM Lane V/C Ratio	-	-	0.025	0.001	0.095	-
HCM Control Delay (s)	-	-	12.2	8.8	7.6	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	0.3	-

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	37	42	12	81	10	125	37	15	134	74	59
Future Vol, veh/h	14	37	42	12	81	10	125	37	15	134	74	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	40	46	13	88	11	136	40	16	146	80	64
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	2			2			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			2			2		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			2			2		
HCM Control Delay	8.9			9.2			9.8			10.7		
HCM LOS	A			A			A			B		

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	71%	43%	0%	23%	0%	50%
Vol Thru, %	21%	57%	31%	77%	80%	28%
Vol Right, %	8%	0%	69%	0%	20%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	177	33	61	53	51	267
LT Vol	125	14	0	12	0	134
Through Vol	37	19	19	41	41	74
RT Vol	15	0	42	0	10	59
Lane Flow Rate	192	35	66	57	55	290
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.264	0.059	0.098	0.094	0.086	0.38
Departure Headway (Hd)	4.943	6.05	5.339	5.926	5.669	4.711
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	721	586	664	599	626	760
Service Time	3.01	3.843	3.131	3.718	3.461	2.769
HCM Lane V/C Ratio	0.266	0.06	0.099	0.095	0.088	0.382
HCM Control Delay	9.8	9.2	8.7	9.3	9	10.7
HCM Lane LOS	A	A	A	A	A	B
HCM 95th-tile Q	1.1	0.2	0.3	0.3	0.3	1.8

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	81	0	113	2	45	0	0	91	4
Future Vol, veh/h	0	0	0	81	0	113	2	45	0	0	91	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	88	0	123	2	49	0	0	99	4

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	154	156	49	103	0	-	-	-	0
Stage 1	53	53	-	-	-	-	-	-	-
Stage 2	101	103	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	838	736	1020	1489	-	0	0	-	-
Stage 1	970	851	-	-	-	0	0	-	-
Stage 2	923	810	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	837	0	1020	1489	-	-	-	-	-
Mov Cap-2 Maneuver	837	0	-	-	-	-	-	-	-
Stage 1	969	0	-	-	-	-	-	-	-
Stage 2	923	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1489	-	837	1020	-	-
HCM Lane V/C Ratio	0.001	-	0.105	0.12	-	-
HCM Control Delay (s)	7.4	0	9.8	9	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.4	0.4	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	1	1	0	0	0	0	39	22	67	106	0
Future Vol, veh/h	11	1	1	0	0	0	0	39	22	67	106	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	1	1	0	0	0	0	42	24	73	115	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	315	327	115				-	0	0	66	0	0
Stage 1	261	261	-				-	-	-	-	-	-
Stage 2	54	66	-				-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22				-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-				-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318				-	-	-	2.218	-	-
Pot Cap-1 Maneuver	678	591	937				0	-	-	1536	-	0
Stage 1	783	692	-				0	-	-	-	-	0
Stage 2	969	840	-				0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	643	0	937				-	-	-	1536	-	-
Mov Cap-2 Maneuver	643	0	-				-	-	-	-	-	-
Stage 1	783	0	-				-	-	-	-	-	-
Stage 2	920	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0	2.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	643	937	1536	-
HCM Lane V/C Ratio	-	-	0.02	0.001	0.047	-
HCM Control Delay (s)	-	-	10.7	8.8	7.5	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	0.1	-

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	133	139	26	36	9	26	33	15	113	50	63
Future Vol, veh/h	21	133	139	26	36	9	26	33	15	113	50	63
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	145	151	28	39	10	28	36	16	123	54	68
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.8	9	8.9	10.5
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	35%	24%	0%	59%	0%	50%
Vol Thru, %	45%	76%	32%	41%	67%	22%
Vol Right, %	20%	0%	68%	0%	33%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	74	88	206	44	27	226
LT Vol	26	21	0	26	0	113
Through Vol	33	67	67	18	18	50
RT Vol	15	0	139	0	9	63
Lane Flow Rate	80	95	223	48	29	246
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.115	0.147	0.308	0.08	0.045	0.335
Departure Headway (Hd)	5.16	5.56	4.961	6.001	5.466	4.916
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	688	641	719	592	648	727
Service Time	3.245	3.33	2.731	3.792	3.256	2.98
HCM Lane V/C Ratio	0.116	0.148	0.31	0.081	0.045	0.338
HCM Control Delay	8.9	9.3	10	9.3	8.5	10.5
HCM Lane LOS	A	A	A	A	A	B
HCM 95th-tile Q	0.4	0.5	1.3	0.3	0.1	1.5

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	68	0	53	2	31	0	0	203	14
Future Vol, veh/h	0	0	0	68	0	53	2	31	0	0	203	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	74	0	58	2	34	0	0	221	15

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	267	274	34	236	0	-	-	-	0
Stage 1	38	38	-	-	-	-	-	-	-
Stage 2	229	236	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	722	633	1039	1331	-	0	0	-	-
Stage 1	984	863	-	-	-	0	0	-	-
Stage 2	809	710	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	721	0	1039	1331	-	-	-	-	-
Mov Cap-2 Maneuver	721	0	-	-	-	-	-	-	-
Stage 1	982	0	-	-	-	-	-	-	-
Stage 2	809	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1331	-	721	1039	-	-
HCM Lane V/C Ratio	0.002	-	0.103	0.055	-	-
HCM Control Delay (s)	7.7	0	10.6	8.7	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	0.2	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	2	1	0	0	0	0	21	52	177	96	0
Future Vol, veh/h	11	2	1	0	0	0	0	21	52	177	96	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	2	1	0	0	0	0	23	57	192	104	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	540	568	104				-	0	0	80	0	0
Stage 1	488	488	-				-	-	-	-	-	-
Stage 2	52	80	-				-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22				-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-				-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318				-	-	-	2.218	-	-
Pot Cap-1 Maneuver	503	432	951				0	-	-	1518	-	0
Stage 1	617	550	-				0	-	-	-	-	0
Stage 2	970	828	-				0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	436	0	951				-	-	-	1518	-	-
Mov Cap-2 Maneuver	436	0	-				-	-	-	-	-	-
Stage 1	617	0	-				-	-	-	-	-	-
Stage 2	840	0	-				-	-	-	-	-	-

Approach	EB						NB			SB		
HCM Control Delay, s	13.2						0			5		
HCM LOS	B											

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	436	951	1518	-
HCM Lane V/C Ratio	-	-	0.032	0.001	0.127	-
HCM Control Delay (s)	-	-	13.5	8.8	7.7	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	0.4	-

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June 7, 2023

Mr. Ramon Gonzalez
Senior Project Coordinator
Z Global
750 W. Main Street
El Centro, CA 92243

Reference: Noise Analysis for the Alba Peaker BESS Project, Seeley, California (RECON Number 10324)

Dear Mr. Gonzalez:

The purpose of this report is to assess potential noise impacts from construction and operation of the Alba Peaker Battery Energy Storage Site (BESS) Project (project). Noise impacts were evaluated using standards established by Imperial County (County).

1.0 Project Description

The project site is located within the unincorporated community of Seeley in Imperial County, approximately 7.5 miles west of the city of El Centro and approximately one mile north of Interstate 8 (Figure 1). The project site is comprised of Assessor Parcel Number 051-420-042, totaling approximately 7.1 acres. The project is located to the east of Drew Road, south of West Evan Hewes Highway, and north of the Seeley Drain (Figure 2). Land uses surrounding the project site consist of active agricultural uses to the west and south, disturbed land and railroad tracks to the north, and an agricultural facility and fields to the east.

The project would construct and operate a 100-megawatt BESS facility that would connect to an existing 92-kilovolt gen-tie line (Figure 3). The BESS facility would include battery containers and storage sites, a control room, and associated facilities surrounded by fencing. The BESS would store energy generation from the electrical grid, and optimally discharge that energy back into the grid as firm, reliable generation and/or grid services.

2.0 Environmental Setting

2.1 Noise Terminology

Sound levels are described in units called the decibel (dB). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; a halving of the energy would result in a 3 dB decrease. Additionally, in technical terms, sound levels are described as either a "sound power level" or a "sound pressure level," which while commonly confused, are two distinct characteristics of sound.

Both share the same unit of measure, the dB. However, sound power, expressed as L_{pw}, is the energy converted into sound by the source. The L_{pw} is used to estimate how far a noise will travel and to predict the sound levels at various distances from the source. As sound energy travels through the air, it creates a sound wave that exerts pressure on receivers such as an eardrum or microphone and is the sound pressure level. Noise measurement instruments only measure sound pressure, and noise level limits used in standards are generally sound pressure levels.

The human ear is not equally sensitive to all frequencies within the sound spectrum. To accommodate this phenomenon, the A-scale, which approximates the frequency response of the average young ear when listening to most ordinary everyday sounds, was devised. When people make relative judgments of the loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Therefore, the "A-weighted" noise scale is used for measurements and standards involving the human perception of noise. Noise levels using A-weighted measurements are designated with the notation dB(A).

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. In addition, most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors has been developed. The noise descriptors used for this study are the one-hour equivalent noise level (L_{eq}) and the maximum equivalent noise level (L_{max}). The L_{max} is the maximum generated noise level while the L_{eq} is the average noise level over a specified period of time, typically one-hour. Sound from a small, localized source (approximating a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern, known as geometric spreading. The sound level decreases or drops off at a rate of 6 dB(A) for each doubling of the distance.

The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site (such as parking lots or smooth bodies of water) receives no additional ground attenuation, and the changes in noise levels with distance (drop-off rate) are simply the geometric spreading of the source. A soft site (such as soft dirt, grass, or scattered bushes and trees) receives an additional ground attenuation value of 1.5 dB(A) per doubling of distance. Thus, a point source over a soft site would attenuate at 7.5 dB(A) per doubling of distance.

Human perception of noise has no simple correlation with acoustical energy. A change in noise levels is generally perceived as follows: 3 dB(A) barely perceptible, 5 dB(A) readily perceptible, and 10 dB(A) perceived as a doubling or halving of noise (California Department of Transportation 2013).

2.2 Applicable Standards

The project site is designated as an Urban Area land use in the Imperial County General Plan. The Urban Area designation includes areas surrounding the following seven incorporated cities: Brawley, El Centro, Westmorland, Holtville, Calipatria, Imperial, and Calexico. It is anticipated that these areas will eventually be annexed or incorporated. The Seeley Urban Area, located west of the city of El Centro and south of the Naval Air Facility, is bounded on the west by the New River, on the north by El Centro Street, on the east by Bennett Road, and on the south by I-8. Noise generated by the project was evaluated using the standards established by the County.

2.2.1 Construction

County General Plan Noise Element Section IV.C.3 addresses noise generated by construction activities. It states:

- Construction noise, from a single piece of equipment or a combination of equipment, shall not exceed 75 dB L_{eq}, when averaged over an eight (8) hour period, and measured at the nearest sensitive receptor. This standard assumes a construction period, relative to an individual sensitive receptor of days or weeks. In cases of extended length construction times, the standard may be tightened so as not to exceed 75 dB L_{eq} when averaged over a one (1) hour period.
- Construction equipment operation shall be limited to the hours of 7 a.m. to 7 p.m., Monday through Friday, and 9 a.m. to 5 p.m. Saturday. No commercial construction operations are permitted on Sunday or holidays. In cases of a person constructing or modifying a residence for himself/herself, and if the work is not being performed as a business, construction equipment operations may be performed on

Sundays and holidays between the hours of 9 a.m. and 5 p.m. Such non-commercial construction activities may be further restricted where disturbing, excessive, or offensive noise causes discomfort or annoyance to reasonable persons of normal sensitivity residing in an area.

Based on these standards, the applicable limit for project construction activities is 75 dB(A) L_{eq} at the nearest sensitive receptor.

2.2.2 Operation

The County General Plan Noise Element (Imperial County 2015) identifies property line noise level limits that apply to noise generation from one property to an adjacent property (excluding construction noise). As stated in the Noise Element, the property line noise level limits imply the existence of a sensitive receptor on the adjacent, or receiving, property. In the absence of a sensitive receptor, an exception or variance to the standards may be appropriate.

County Code of Ordinances Title 9, Division 7: Noise Abatement and Control, specifies noise level limits. Noise level limits are summarized in Table 1. Noise level limits do not apply to construction equipment.

Table 1
Imperial County Property Line Noise Limits

Zone	Time	One-Hour Average Sound Level [dB(A) L_{eq}]
Low-Density Residential Zones	7:00 a.m. to 10:00 p.m.	50
	10:00 p.m. to 7:00 a.m.	45
Medium to High-Density Residential Zones	7:00 a.m. to 10:00 p.m.	55
	10:00 p.m. to 7:00 a.m.	50
Commercial Zones	7:00 a.m. to 10:00 p.m.	60
	10:00 p.m. to 7:00 a.m.	55
Manufacturing/Light Industrial/ Industrial Park Zones including agriculture	(anytime)	70
General Industrial Zones	(anytime)	75

SOURCE: Imperial County Noise Abatement and Control Ordinance, Tit. 9, Div. 7, § 90702.00(A).

The project site and properties to the north, south, east, and west are zoned M-2 (Medium Industrial), and the property south of the Seeley Drain is zoned R-1 (Low Density Residential). It should be noted that the R-1 designated parcel consists mostly of active agricultural land with the single-family residence located approximately 2,500 feet from the project site. Other residentially zoned parcels (R-1 and R-4) are located approximately 500 feet north of the project site, north of the railroad tracks and West Evan Hewes Highway.

3.0 Existing Conditions

Existing noise levels at the project site were measured on March 23, 2023, using one Larson-Davis LxT Sound Expert Sound Level Meter, serial number 3896. The following parameters were used:

Filter:	A-weighted
Response:	Slow
Time History Period:	5 seconds

The meter was calibrated before and after the measurements. Noise measurements were taken to obtain typical ambient noise levels at the project site and in the vicinity. The weather was mild and partly cloudy with a slight breeze. The measurement was located near the center of the project site. The meter was set five feet above the ground level. Noise levels were typical of a rural agricultural environment. The main source of noise was agricultural equipment to the west. Noise levels were measured for approximately one hour. The average measured noise level was 50.1 dB(A) L_{eq}. The measurement location is shown on Figure 4, and detailed data is presented in Attachment 1.

4.0 Methodology

Noise level predictions and contour mapping for construction and on-site noise sources were developed using noise modeling software, SoundPlan Essential, version 4.1 (Navcon Engineering 2018). SoundPLAN calculates noise propagation based on the International Organization for Standardization method (ISO 9613-2 – Acoustics, Attenuation of Sound during Propagation Outdoors). The model calculates noise levels at selected receiver locations using input parameter estimates such as total noise generated by each noise source; distances between sources, barriers, and receivers; and shielding provided by intervening terrain, barriers, and structures. The model outputs can be developed as noise level contour maps or noise levels at specific receivers. In all cases, receivers were modeled at five feet above ground elevation, which represents the average height of the human ear.

4.1 Construction

Construction activities associated with the project would include grading and installation activity for the placement of the BESS storage containers and inverters. Project construction noise would be generated by diesel engine-driven construction equipment. Noise impacts from construction are a function of the noise generated by equipment, the location and sensitivity of nearby land uses, and the timing and duration of the noise-generating activities. Table 2 presents a list of noise generation levels for various types of construction equipment. The duty cycle is the amount of time that equipment generates the reported noise level during typical, standard equipment operation. The noise levels and duty cycles summarized in Table 2 are based on measurements and studies conducted by Federal Highway Administration and the Federal Transit Authority.

Table 2 Typical Construction Equipment Noise Levels		
Equipment	Noise Level at 50 Feet [dB(A) L_{eq}]	Typical Duty Cycle
Auger Drill Rig	85	20%
Backhoe	80	40%
Blasting	94	1%
Chain Saw	85	20%
Clam Shovel	93	20%
Compactor (ground)	80	20%
Compressor (air)	80	40%
Concrete Mixer Truck	85	40%
Concrete Pump	82	20%
Concrete Saw	90	20%
Crane (mobile or stationary)	85	20%
Dozer	85	40%
Dump Truck	84	40%
Excavator	85	40%
Front End Loader	80	40%
Generator (25 kilovolt amps or less)	70	50%
Generator (more than 25 kilovolt amps)	82	50%
Grader	85	40%
Hydra Break Ram	90	10%
Impact Pile Driver (diesel or drop)	95	20%
In situ Soil Sampling Rig	84	20%
Jackhammer	85	20%
Mounted Impact Hammer (hoe ram)	90	20%
Paver	85	50%
Pneumatic Tools	85	50%
Pumps	77	50%
Rock Drill	85	20%
Roller	74	40%
Scraper	85	40%
Tractor	84	40%
Vacuum Excavator (vac-truck)	85	40%
Vibratory Concrete Mixer	80	20%
Vibratory Pile Driver	95	20%
SOURCE: Federal Highway Administration 2006 and 2008, Federal Transit Authority 2006. dB(A) L_{eq} = A-weighted decibels average noise level		

The loudest construction activities would be those associated with grading. Construction noise levels were calculated assuming the simultaneous use of the following three pieces of construction equipment: a grader, a loader, and a water truck. Water truck noise levels were assumed to be equivalent to a dump truck. Although more construction equipment would be present on-site, not all would be used at the same time. Simultaneous use of this equipment would generate an average hourly noise level of 84.3 dB(A) L_{eq} at 50 feet, which is equivalent to a sound power level of 115.9 dB(A) L_{pw}. This noise level was modeled as an area source distributed over the footprint of the development area.

4.2 Operation

Once construction is complete, the primary noise sources would be the inverters and the BESS containers. The project would include 20 Sungrow Model SC5000UD-MV-US inverters surrounded by 144 Sungrow Model ST2752UX-US BESS containers, each consisting of 48 battery units. It was assumed that noise levels generated by the inverters would be similar to Sungrow Model SG3600-UD-MV, which generate a sound power level of 92 dB(A) L_{pw} (TRC Companies, Inc. 2022). Manufacturer specifications for the BESS containers indicate that three facades of the containers generate a noise level of 54 dB(A) L_{eq} at five meters and one façade generates a noise level of 53 dB(A) L_{eq} at five meters (Assured Environmental 2022). The louder noise level, which equates to a sound power level of 76 dB(A) L_{pw}, was modeled. All inverters and BESS containers were modeled with a 100 percent usage factor.

5.0 Noise Impact Analysis

5.1 Construction

Noise associated with project construction would potentially result in short-term impacts to surrounding properties. As discussed in Section 1.0 above, land uses surrounding the project site consist of active agricultural uses to the west and south, disturbed land and railroad tracks to the north, and an agricultural facility and fields to the east. The nearest sensitive receptors are the residential uses located approximately 500 feet north of the project site, north of the railroad tracks and West Evan Hewes Highway. Construction noise levels were calculated based on the simultaneously use of a grader, loader, and water truck.

Noise levels were modeled at a series of 10 receivers located at the adjacent properties and the nearest residential uses. The results are summarized in Table 3. Modeled receiver locations and construction noise contours are shown on Figure 5. SoundPLAN data is contained in Attachment 2.

Table 3
Construction Noise Levels

Receiver	Zoning	Construction Noise Level [dB(A) L_{eq}]
1	M-2 (Medium Industrial)	64
2	M-2 (Medium Industrial)	68
3	M-2 (Medium Industrial)	67
4	M-2 (Medium Industrial)	67
5	M-2 (Medium Industrial)	68
6	M-2 (Medium Industrial)	69
7	M-2 (Medium Industrial)	66
8	M-2 (Medium Industrial)	62
9	M-2 (Medium Industrial)	61
10	R-1 (Low Density Residential) R-4 (High Density Residential and Mobile Park/Subdivision)	54

dB(A) L_{eq} = A-weighted decibels equivalent noise level.

As shown in Table 3, construction noise levels are not anticipated to exceed the County's construction noise level limit of 75 dB(A) L_{eq} at the adjacent properties. Construction activities would only occur during the times allowable by the County Municipal Codes (7 a.m. to 7 p.m., Monday through Friday, and 9 a.m. to 5 p.m. Saturday). No construction activities that generate impulsive noise levels would be required. Although the existing nearby residences would be exposed to construction noise levels that could be heard above ambient conditions, the exposure would be temporary. Therefore, project construction would not exceed noise level limits established in the County's Municipal Code and would only occur during the daytime hours, and temporary increases in noise levels during construction would be less than significant.

5.2 Operation

The primary noise sources on-site would be the inverters and the BESS containers. Using the on-site noise source parameters discussed in Section 4.2, noise levels were modeled at a series of 10 receivers located at the adjacent properties and the nearest residential uses. Modeled receivers and operational noise contours are shown in Figure 6. Modeled data is included in Attachment 3. Future projected noise levels are summarized in Table 4.

Table 4
Operational Noise Levels

Receiver	Zoning	Applicable Limit Daytime/Nighttime [dB(A) L_{eq}]	Operational Noise Level [dB(A) L_{eq}]
1	M-2 (Medium Industrial)	70/70	50
2	M-2 (Medium Industrial)	70/70	58
3	M-2 (Medium Industrial)	70/70	55
4	M-2 (Medium Industrial)	70/70	52
5	M-2 (Medium Industrial)	70/70	52
6	M-2 (Medium Industrial)	70/70	54
7	M-2 (Medium Industrial)	70/70	49
8	M-2 (Medium Industrial)	70/70	47
9	M-2 (Medium Industrial)	70/70	47
10	R-1 (Low Density Residential) R-4 (High Density Residential and Mobile Park/Subdivision)	50/45 55/50	39

dB(A) L_{eq} = A-weighted decibels equivalent noise level.

As shown in Table 4, operational noise levels would not exceed the County's most restrictive noise level limits. Therefore, project operation would not result in noise levels that exceed City or County standards, and operational noise impacts would be less than significant.

6.0 Conclusions

Based on the preceding analysis, the project is not anticipated to generate construction or operational noise levels that exceed the applicable noise limits. Impacts associated with the project would be less than significant.

If you have any questions about the results of this analysis, please contact me at jfleming@reconenvironmental.com or (619) 308-9333 extension 177.

Sincerely,

Jessica Fleming

Jessica Fleming
Noise Specialist

JLF:sh

7.0 Certification

The following is a list of preparers, persons, and organizations involved with the noise assessment.

RECON Environmental, Inc.
Jessica Fleming, County-approved Noise Consultant
Stacey Higgins, Senior Production Specialist
Benjamin Arp, GIS Specialist

8.0 References Cited

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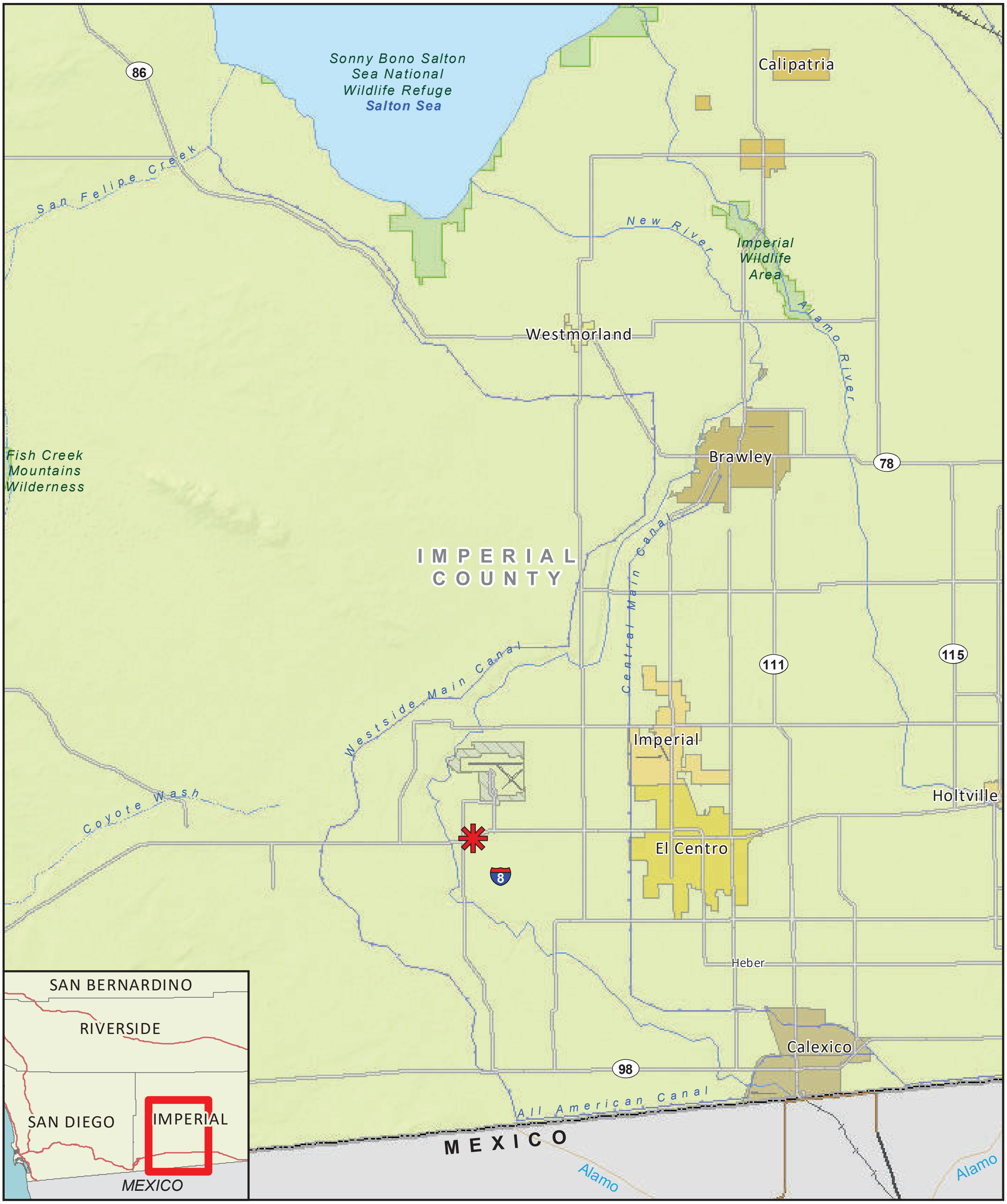
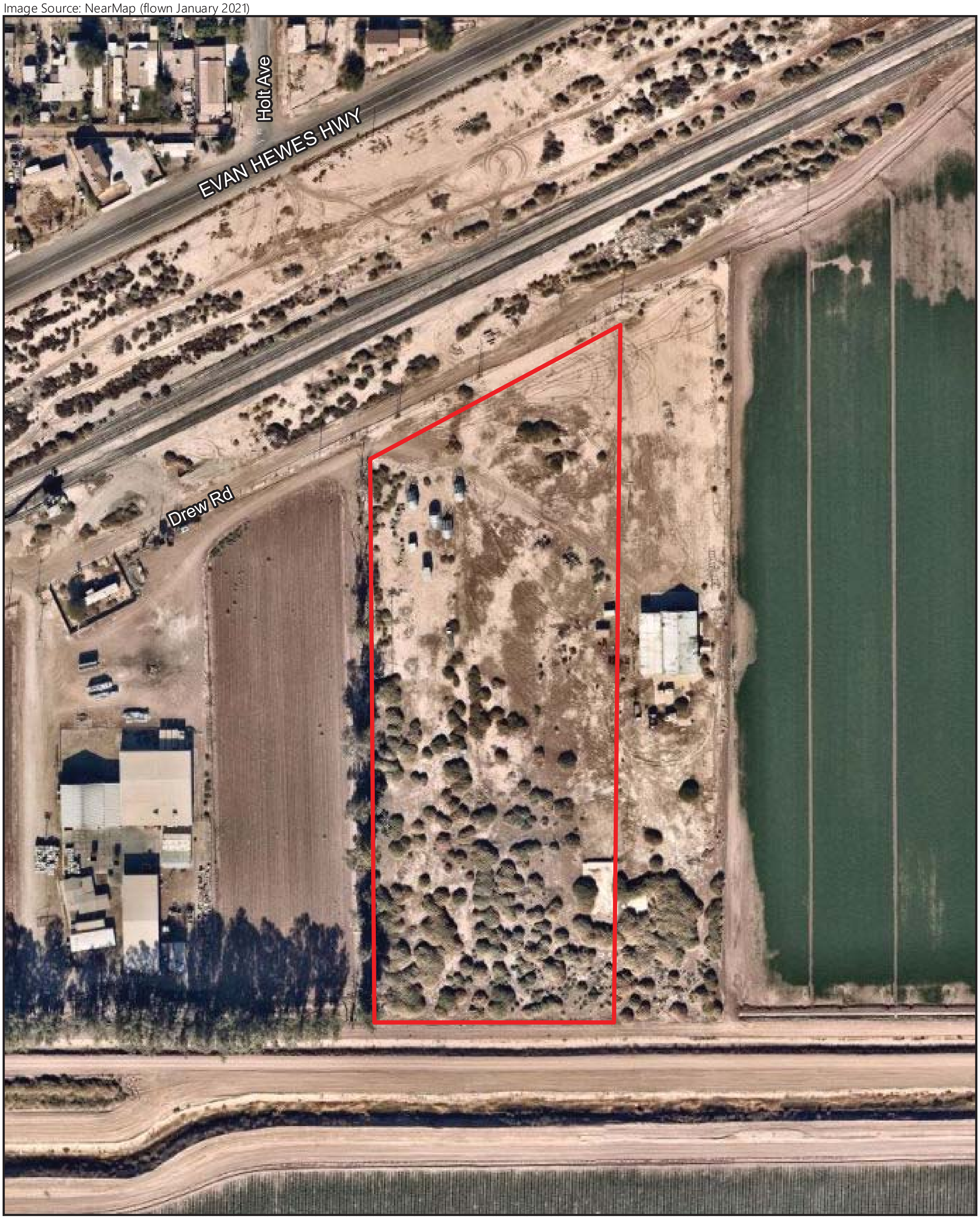


Project Location

FIGURE 1
Regional Location

RECON
M:\JOBS6\10324\common_gis\MXD\fig1.mxd 03/08/2023 bma

Image Source: NearMap (flown January 2021)



Project Boundary

FIGURE 2
Project Location on Aerial Photograph

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Map Source: ZGLOBAL

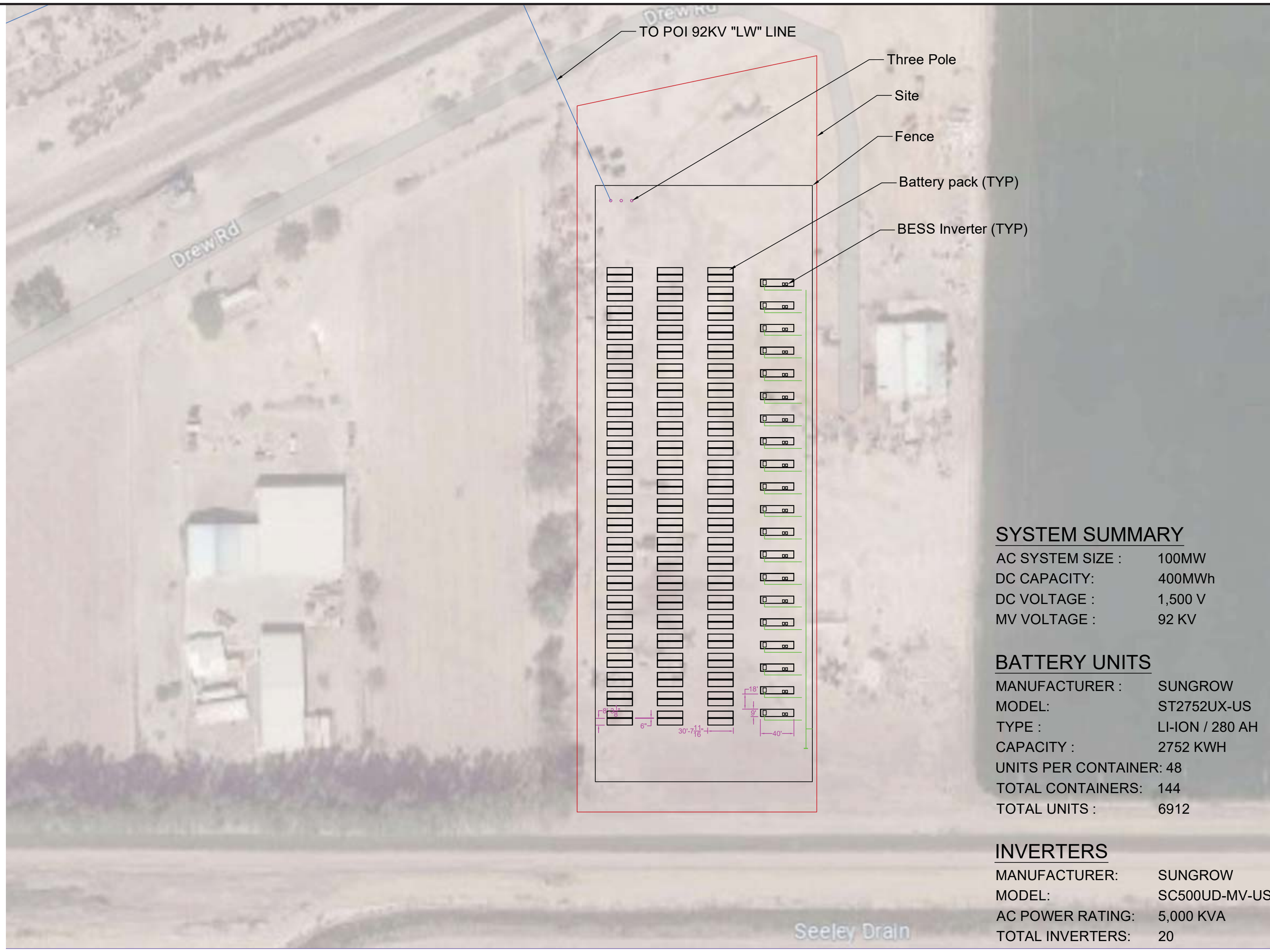

FIGURE 3
Site Plan

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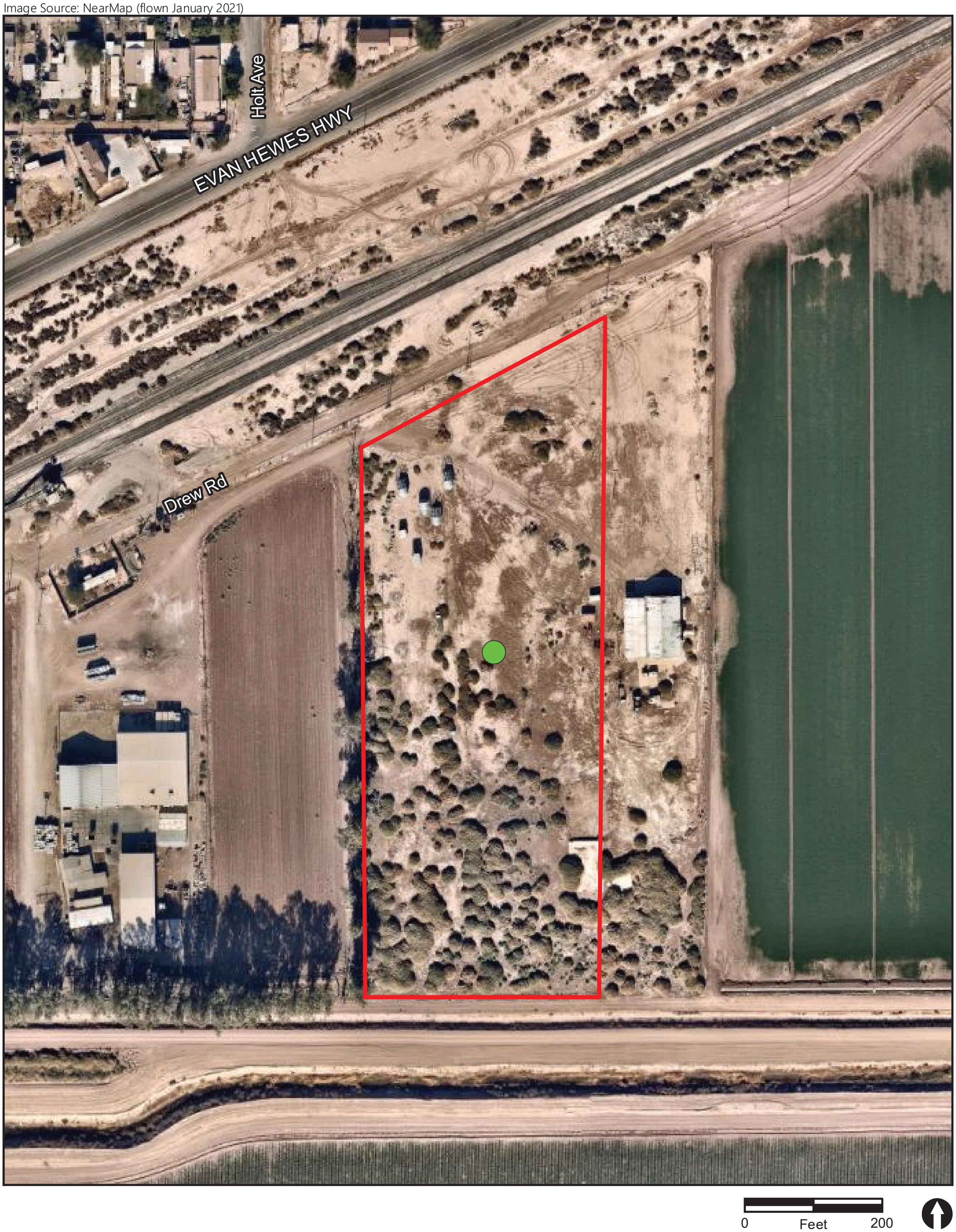
Image Source: NearMap (flown January 2021)



Project Boundary

Noise Measurement Location

FIGURE 4
Noise Measurement Location

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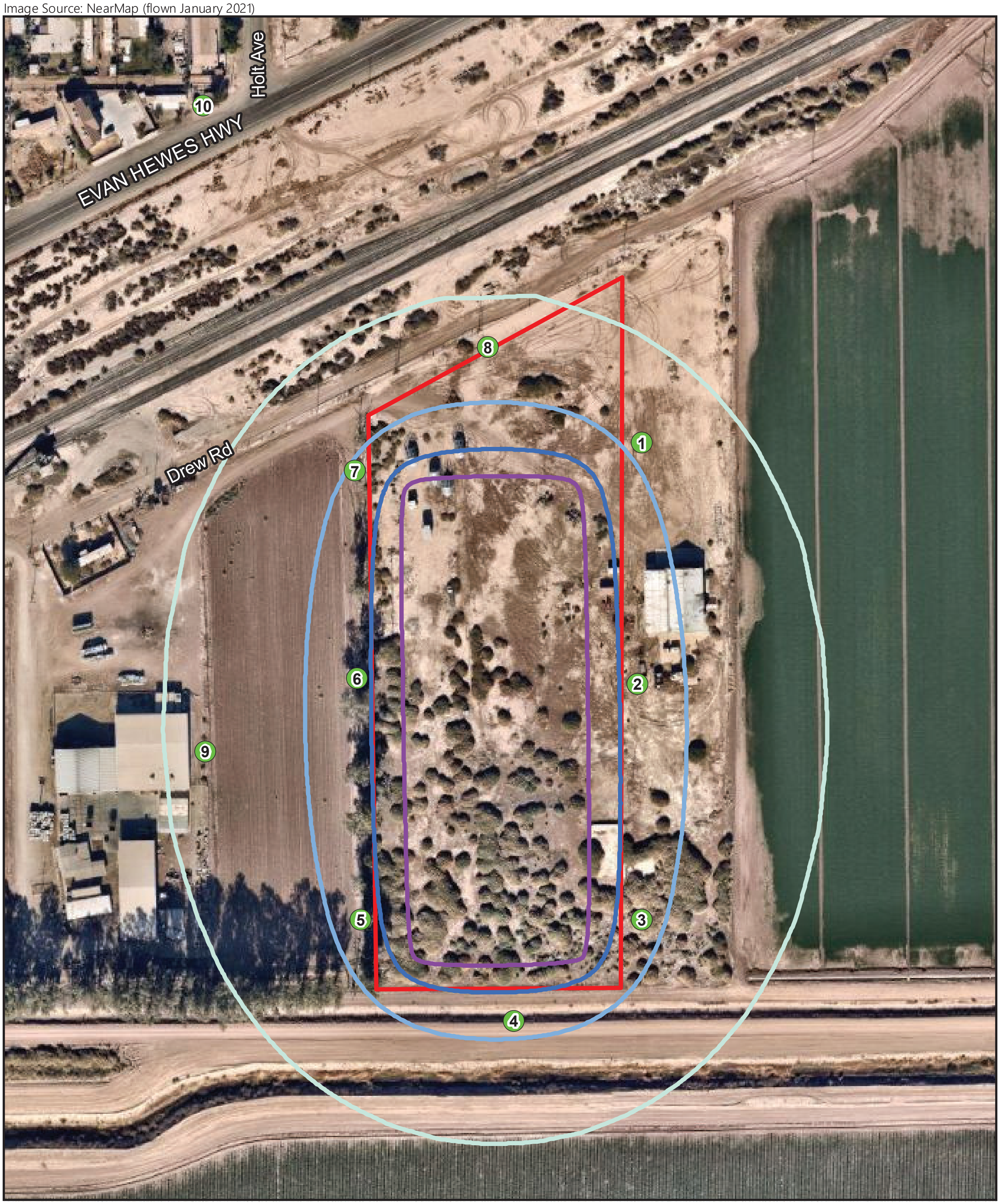
Image Source: NearMap (flown January 2021)



Project Boundary

Receivers

Construction Noise Contours

60 dB(A) L_{eq}

65 dB(A) L_{eq}

70 dB(A) L_{eq}

75 dB(A) L_{eq}

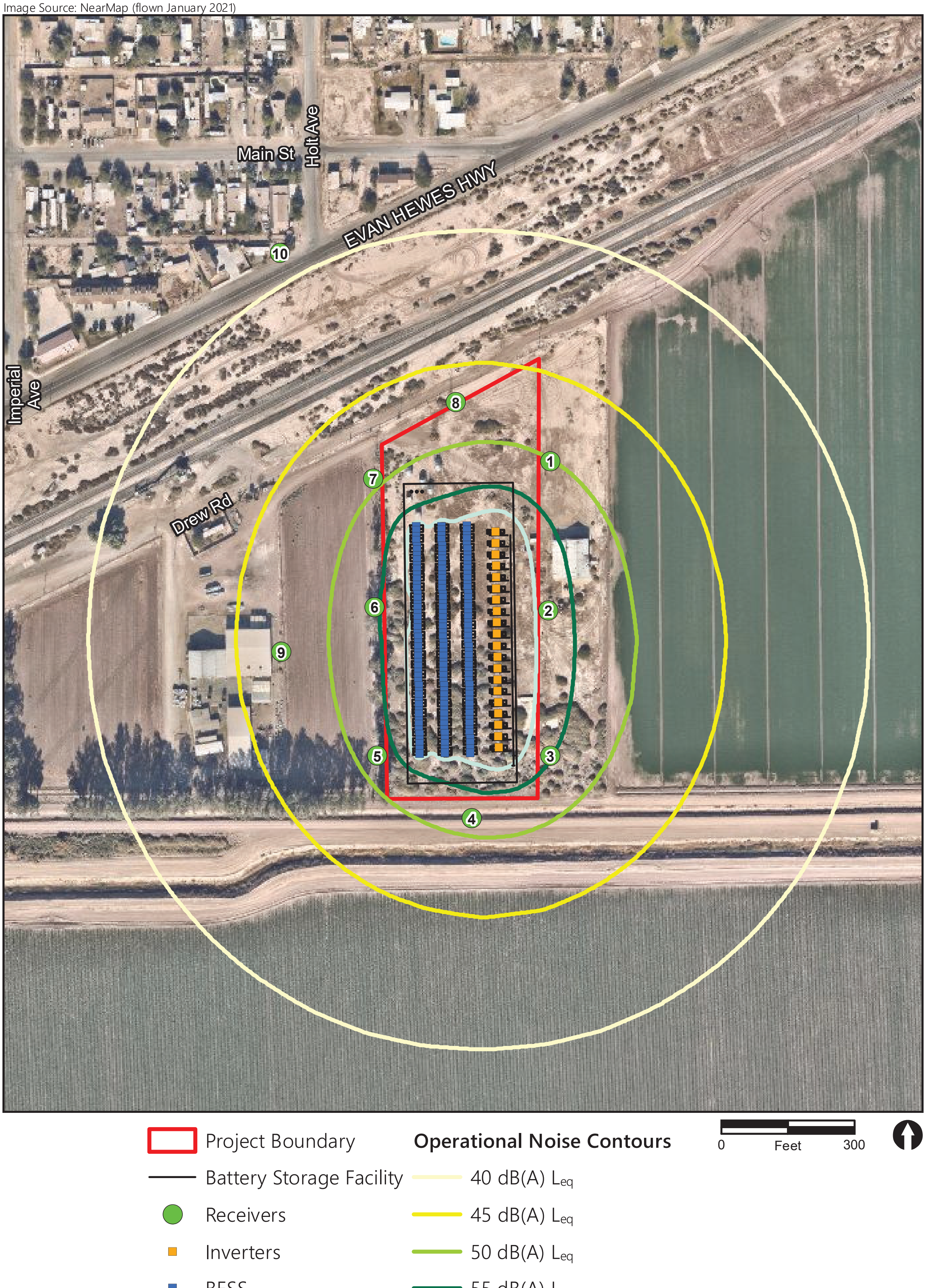
RECON

M:\JOBS6\10324\common_gis\MXD\nos\fig5.mxd 6/6/2023 fmm

FIGURE 5

Construction Noise Contours

Image Source: NearMap (flown January 2021)



RECON

FIGURE 6
Operational Noise Contours

M:\JOBS6\10324\common_gis\MXD\nos\fig6.mxd 6/6/2023 fmm

ATTACHMENTS

ATTACHMENT 1

Noise Measurement Data

10324 Alba Peaker
Noise Measurement Summary

Summary			
File Name on Meter	LxT_Data.216.s		
File Name on PC	LxT_0003896-20230323 101754-LxT_Data.216.ldbin		
Serial Number	0003896		
Model	SoundTrack LxT®		
Firmware Version	2.404		
User			
Location			
Job Description			
Note			

Measurement			
Description			
Start	2023-03-23 10:17:54		
Stop	2023-03-23 11:21:25		
Duration	01:03:31.8		
Run Time	01:03:06.4		
Pause	00:00:25.4		
Pre-Calibration	2023-03-23 10:15:56		
Post-Calibration	None		
Calibration Deviation	---		

Overall Settings			
RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamplifier	PRMLxT1		
Microphone Correction	Off		
Integration Method	Linear		
Overload	144.7 dB		
	A	C	Z
Under Range Peak	100.6	97.6	102.6 dB
Under Range Limit	37.8	37.5	44.6 dB
Noise Floor	28.7	28.4	35.4 dB

Results		
L_{Aeq}	50.1	
LAE	85.9	
EA	43.323 μPa²h	
EA8	329.522 μPa²h	
EA40	1.648 mPa²h	
$L_{Apeak\ (max)}$	2023-03-23 10:18:22	97.5 dB
L_{ASmax}	2023-03-23 10:42:22	68.5 dB
L_{ASmin}	2023-03-23 10:30:52	41.2 dB
SEA	-99.9 dB	
LAS > 60.0 dB (Exceedance Counts / Duration)	10	56.5 s
LAS > 70.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{Apeak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{Apeak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{Apeak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{Ceq}	73.8 dB	
L_{Aeq}	50.1 dB	
L_{Ceq} - L_{Aeq}	23.7 dB	
L_{AIeq}	53.0 dB	
L_{Aeq}	50.1 dB	
L_{AIeq} - L_{Aeq}	2.8 dB	

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
L_{eq}	50.1		73.8			
$L_{S(max)}$	68.5	2023/03/23 10:42:22				
$L_{S(min)}$	41.2	2023/03/23 10:30:52				
$L_{Peak(max)}$	97.5	2023/03/23 10:18:22				

Overload Count	0
Overload Duration	0.0 s

Dose Settings		
Dose Name	OSHA-1	OSHA-2
Exchange Rate	5	5 dB
Threshold	90	80 dB
Criterion Level	90	90 dB
Criterion Duration	8	8 h

Results		
Dose	-99.94	-99.94 %
Projected Dose	-99.94	-99.94 %
TWA (Projected)	-99.9	-99.9 dB
TWA (t)	-99.9	-99.9 dB
Lep (t)	41.3	41.3 dB

Statistics	
LA5.00	53.9 dB
LA10.00	51.7 dB
LA33.30	48.4 dB
LA50.00	47.1 dB
LA66.60	46.0 dB
LA90.00	44.3 dB

ATTACHMENT 2

SoundPLAN Data – Construction

10324 Alba Peaker

SoundPLAN Data - Construction

Source name	Reference	Noise Level	Corrections Cwall	CI	CT
		dB(A)	dB(A)	dB(A)	dB(A)
Construction	Lw/unit	115.9	-	-	-

10324 Alba Peaker

SoundPLAN Data - Construction

No.	Coordinates X (meters)	Coordinates Y (meters)	Noise Level dB(A)
1	623200.49	3628938.09	63.7
2	623198.91	3628835.69	68.1
3	623200.49	3628735.68	66.9
4	623146.52	3628692.82	66.6
5	623081.43	3628735.68	67.5
6	623079.84	3628838.08	68.5
7	623079.05	3628926.18	65.6
8	623135.41	3628978.57	61.9
9	623015.55	3628807.12	61.2
10	623014.75	3629080.96	54.1

ATTACHMENT 3

SoundPLAN Data – Operation

Source name	Reference	Level Leq1 dB(A)
BESS1	Lw/unit	76
BESS2	Lw/unit	76
BESS3	Lw/unit	76
BESS4	Lw/unit	76
BESS5	Lw/unit	76
BESS6	Lw/unit	76
BESS7	Lw/unit	76
BESS8	Lw/unit	76
BESS9	Lw/unit	76
BESS10	Lw/unit	76
BESS11	Lw/unit	76
BESS12	Lw/unit	76
BESS13	Lw/unit	76
BESS14	Lw/unit	76
BESS15	Lw/unit	76
BESS16	Lw/unit	76
BESS17	Lw/unit	76
BESS18	Lw/unit	76
BESS19	Lw/unit	76
BESS20	Lw/unit	76
BESS21	Lw/unit	76
BESS22	Lw/unit	76
BESS23	Lw/unit	76
BESS24	Lw/unit	76
BESS25	Lw/unit	76
BESS26	Lw/unit	76
BESS27	Lw/unit	76
BESS28	Lw/unit	76
BESS29	Lw/unit	76
BESS30	Lw/unit	76
BESS31	Lw/unit	76
BESS32	Lw/unit	76
BESS33	Lw/unit	76
BESS34	Lw/unit	76
BESS35	Lw/unit	76
BESS36	Lw/unit	76
BESS37	Lw/unit	76
BESS38	Lw/unit	76
BESS39	Lw/unit	76
BESS40	Lw/unit	76
BESS41	Lw/unit	76
BESS42	Lw/unit	76
BESS43	Lw/unit	76
BESS44	Lw/unit	76
BESS45	Lw/unit	76
BESS46	Lw/unit	76
BESS47	Lw/unit	76
BESS48	Lw/unit	76
BESS49	Lw/unit	76
BESS50	Lw/unit	76
BESS51	Lw/unit	76
BESS52	Lw/unit	76
BESS53	Lw/unit	76
BESS54	Lw/unit	76
BESS55	Lw/unit	76
BESS56	Lw/unit	76
BESS57	Lw/unit	76
BESS58	Lw/unit	76
BESS59	Lw/unit	76
BESS60	Lw/unit	76
BESS61	Lw/unit	76
BESS62	Lw/unit	76
BESS63	Lw/unit	76
BESS64	Lw/unit	76
BESS65	Lw/unit	76
BESS66	Lw/unit	76
BESS67	Lw/unit	76
BESS68	Lw/unit	76
BESS69	Lw/unit	76
BESS70	Lw/unit	76
BESS71	Lw/unit	76

BESS72	Lw/unit	76
BESS73	Lw/unit	76
BESS74	Lw/unit	76
BESS75	Lw/unit	76
BESS76	Lw/unit	76
BESS77	Lw/unit	76
BESS78	Lw/unit	76
BESS79	Lw/unit	76
BESS80	Lw/unit	76
BESS81	Lw/unit	76
BESS82	Lw/unit	76
BESS83	Lw/unit	76
BESS84	Lw/unit	76
BESS85	Lw/unit	76
BESS86	Lw/unit	76
BESS87	Lw/unit	76
BESS88	Lw/unit	76
BESS89	Lw/unit	76
BESS90	Lw/unit	76
BESS91	Lw/unit	76
BESS92	Lw/unit	76
BESS93	Lw/unit	76
BESS94	Lw/unit	76
BESS95	Lw/unit	76
BESS96	Lw/unit	76
BESS97	Lw/unit	76
BESS98	Lw/unit	76
BESS99	Lw/unit	76
BESS100	Lw/unit	76
BESS101	Lw/unit	76
BESS102	Lw/unit	76
BESS103	Lw/unit	76
BESS104	Lw/unit	76
BESS105	Lw/unit	76
BESS106	Lw/unit	76
BESS107	Lw/unit	76
BESS108	Lw/unit	76
BESS109	Lw/unit	76
BESS110	Lw/unit	76
BESS111	Lw/unit	76
BESS112	Lw/unit	76
BESS113	Lw/unit	76
BESS114	Lw/unit	76
BESS115	Lw/unit	76
BESS116	Lw/unit	76
BESS117	Lw/unit	76
BESS118	Lw/unit	76
BESS119	Lw/unit	76
BESS120	Lw/unit	76
BESS121	Lw/unit	76
BESS122	Lw/unit	76
BESS123	Lw/unit	76
BESS124	Lw/unit	76
BESS125	Lw/unit	76
BESS126	Lw/unit	76
BESS127	Lw/unit	76
BESS128	Lw/unit	76
BESS129	Lw/unit	76
BESS130	Lw/unit	76
BESS131	Lw/unit	76
BESS132	Lw/unit	76
BESS133	Lw/unit	76
BESS134	Lw/unit	76
BESS135	Lw/unit	76
BESS136	Lw/unit	76
BESS137	Lw/unit	76
BESS138	Lw/unit	76
BESS139	Lw/unit	76
BESS140	Lw/unit	76
BESS141	Lw/unit	76
BESS142	Lw/unit	76
BESS143	Lw/unit	76
BESS144	Lw/unit	76

		Frequency spectrum [dB(A)]																												Corrections		
Source name	Reference	20	25	31	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1	1.3	1.6	2	2.5	3.2	4	5	6.3	8	10	Cwall	CI	CT
		Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	dB(A)	dB(A)	dB(A)
Inverter 1	Lw/unit	19.7	31.5	41.8	47.7	51.3	54.2	56.7	61	67.9	66.2	66.6	72.1	76.8	82.2	82.3	78.7	77.3	76	74.8	75.5	76.2	77.6	76.1	71.6	88.1	80.1	72.8	70.6	-	-	-
Inverter 2	Lw/unit	19.7	31.5	41.8	47.7	51.3	54.2	56.7	61	67.9	66.2	66.6	72.1	76.8	82.2	82.3	78.7	77.3	76	74.8	75.5	76.2	77.6	76.1	71.6	88.1	80.1	72.8	70.6	-	-	-
Inverter 3	Lw/unit	19.7	31.5	41.8	47.7	51.3	54.2	56.7	61	67.9	66.2	66.6	72.1	76.8	82.2	82.3	78.7	77.3	76	74.8	75.5	76.2	77.6	76.1	71.6	88.1	80.1	72.8	70.6	-	-	-
Inverter 4	Lw/unit	19.7	31.5	41.8	47.7	51.3	54.2	56.7	61	67.9	66.2	66.6	72.1	76.8	82.2	82.3	78.7	77.3	76	74.8	75.5	76.2	77.6	76.1	71.6	88.1	80.1	72.8	70.6	-	-	-
Inverter 5	Lw/unit	19.7	31.5	41.8	47.7	51.3	54.2	56.7	61	67.9	66.2	66.6	72.1	76.8	82.2	82.3	78.7	77.3	76	74.8	75.5	76.2	77.6	76.1	71.6	88.1	80.1	72.8	70.6	-	-	-
Inverter 6	Lw/unit	19.7	31.5	41.8	47.7	51.3	54.2	56.7	61	67.9	66.2	66.6	72.1	76.8	82.2	82.3	78.7	77.3	76	74.8	75.5	76.2	77.6	76.1	71.6	88.1	80.1	72.8	70.6	-	-	-
Inverter 7	Lw/unit	19.7	31.5	41.8	47.7	51.3	54.2	56.7	61	67.9	66.2	66.6	72.1	76.8	82.2	82.3	78.7	77.3	76	74.8	75.5	76.2	77.6	76.1	71.6	88.1	80.1	72.8	70.6	-	-	-
Inverter 8	Lw/unit	19.7	31.5	41.8	47.7	51.3	54.2	56.7	61	67.9	66.2	66.6	72.1	76.8	82.2	82.3	78.7	77.3	76	74.8	75.5	76.2	77.6	76.1	71.6	88.1	80.1	72.8	70.6	-	-	-
Inverter 9	Lw/unit	19.7	31.5	41.8	47.7	51.3	54.2	56.7	61	67.9	66.2	66.6	72.1	76.8	82.2	82.3	78.7	77.3	76	74.8	75.5	76.2	77.6	76.1	71.6	88.1	80.1	72.8	70.6	-	-	-
Inverter 10	Lw/unit	19.7	31.5	41.8	47.7	51.3	54.2	56.7	61	67.9	66.2	66.6	72.1	76.8	82.2	82.3	78.7	77.3	76	74.8	75.5	76.2	77.6	76.1	71.6	88.1	80.1	72.8	70.6	-	-	-
Inverter 11	Lw/unit	19.7	31.5	41.8	47.7	51.3	54.2	56.7	61	67.9	66.2	66.6	72.1	76.8	82.2	82.3	78.7	77.3	76	74.8	75.5	76.2	77.6	76.1	71.6	88.1	80.1	72.8	70.6	-	-	-
Inverter 12	Lw/unit	19.7	31.5	41.8	47.7	51.3	54.2	56.7	61	67.9	66.2	66.6	72.1	76.8	82.2	82.3	78.7	77.3	76	74.8	75.5	76.2	77.6	76.1	71.6	88.1	80.1	72.8	70.6	-	-	-
Inverter 13	Lw/unit	19.7	31.5	41.8	47.7	51.3	54.2	56.7	61	67.9	66.2	66.6	72.1	76.8	82.2	82.3	78.7	77.3	76	74.8	75.5	76.2	77.6	76.1	71.6	88.1	80.1	72.8	70.6	-	-	-
Inverter 14	Lw/unit	19.7	31.5	41.8	47.7	51.3	54.2	56.7	61	67.9	66.2	66.6	72.1	76.8	82.2	82.3	78.7	77.3	76	74.8	75.5	76.2	77.6	76.1	71.6	88.1	80.1	72.8	70.6	-	-	-
Inverter 15	Lw/unit	19.7	31.5	41.8	47.7	51.3	54.2	56.7	61	67.9	66.2	66.6	72.1	76.8	82.2	82.3	78.7	77.3	76	74.8	75.5	76.2	77.6	76.1	71.6	88.1	80.1	72.8	70.6	-	-	-
Inverter 16	Lw/unit	19.7	31.5	41.8	47.7	51.3	54.2	56.7	61	67.9	66.2	66.6	72.1	76.8	82.2	82.3	78.7	77.3	76	74.8	75.5	76.2	77.6	76.1	71.6	88.1	80.1	72.8	70.6	-	-	-
Inverter 17	Lw/unit	19.7	31.5	41.8	47.7	51.3	54.2	56.7	61	67.9	66.2	66.6	72.1	76.8	82.2	82.3	78.7	77.3	76	74.8	75.5	76.2	77.6	76.1	71.6	88.1	80.1	72.8	70.6	-	-	-
Inverter 18	Lw/unit	19.7	31.5	41.8	47.7	51.3	54.2	56.7	61	67.9	66.2	66.6	72.1	76.8	82.2	82.3	78.7	77.3	76	74.8	75.5	76.2	77.6	76.1	71.6	88.1	80.1	72.8	70.6	-	-	-
Inverter 19	Lw/unit	19.7	31.5	41.8	47.7	51.3	54.2	56.7	61	67.9	66.2	66.6	72.1	76.8	82.2	82.3	78.7	77.3	76	74.8	75.5	76.2	77.6	76.1	71.6	88.1	80.1	72.8	70.6	-	-	-
Inverter 20	Lw/unit	19.7	31.5	41.8	47.7	51.3	54.2	56.7	61	67.9	66.2	66.6	72.1	76.8	82.2	82.3	78.7	77.3	76	74.8	75.5	76.2	77.6	76.1	71.6	88.1	80.1	72.8	70.6	-	-	-

10324 Alba Peaker

SoundPLAN Data - Operation

No.	Coordinates X	Y	Noise Level
	(meters)		dB(A)
1	623200.49	3628938.09	50.2
2	623198.91	3628835.69	58.0
3	623200.49	3628735.68	55.3
4	623146.52	3628692.82	51.6
5	623081.43	3628735.68	52.0
6	623079.84	3628838.08	54.0
7	623079.05	3628926.18	49.2
8	623135.41	3628978.57	47.0
9	623015.55	3628807.12	47.1
10	623014.75	3629080.96	39.2

Source name				Noise Level dB(A)
1	1.Fl	50.2	0.0	
BESS1				23.5
BESS2				23.4
BESS3				25.1
BESS4				24.9
BESS5				26.9
BESS6				26.7
BESS7				26.3
BESS8				26.1
BESS9				24.7
BESS10				24.5
BESS11				23.2
BESS12				23.1
BESS13				22.9
BESS14				22.8
BESS15				24.3
BESS16				24.1
BESS17				25.8
BESS18				25.5
BESS19				25.2
BESS20				25.0
BESS21				23.9
BESS22				23.7
BESS23				22.6
BESS24				22.5
BESS25				22.3
BESS26				22.1
BESS27				23.4
BESS28				23.3
BESS29				24.6
BESS30				24.4
BESS31				24.1
BESS32				23.9
BESS33				23.0
BESS34				22.9
BESS35				21.9
BESS36				21.8
BESS37				21.6
BESS38				21.5
BESS39				22.6
BESS40				22.4
BESS41				23.6
BESS42				23.4
BESS43				21.3
BESS44				21.1
BESS45				22.2
BESS46				22.0
BESS47				23.0
BESS48				22.9
BESS49				20.9
BESS50				21.8
BESS51				22.5
BESS52				22.4
BESS53				21.6
BESS54				20.8
BESS55				20.6
BESS56				21.4
BESS57				22.1
BESS58				21.9
BESS59				21.2
BESS60				20.4
BESS61				20.2
BESS62				20.9
BESS63				21.6
BESS64				21.4
BESS65				20.8
BESS66				20.1
BESS67				19.9
BESS68				20.6
BESS69				21.2
BESS70				21.0
BESS71				20.4
BESS72				19.8
BESS73				19.6
BESS74				20.2
BESS75				20.7
BESS76				20.6
BESS77				20.0
BESS78				19.5
BESS79				19.3

BESS80	19.8
BESS81	20.3
BESS82	20.2
BESS83	19.7
BESS84	19.1
BESS85	18.9
BESS86	19.5
BESS87	19.9
BESS88	19.8
BESS89	19.3
BESS90	18.8
BESS91	18.6
BESS92	19.1
BESS93	19.6
BESS94	19.4
BESS95	19.0
BESS96	18.5
BESS97	18.3
BESS98	18.8
BESS99	19.2
BESS100	19.0
BESS101	18.6
BESS102	18.2
BESS103	18.0
BESS104	18.4
BESS105	18.8
BESS106	18.7
BESS107	18.3
BESS108	17.9
BESS109	17.7
BESS110	18.1
BESS111	18.5
BESS112	18.3
BESS113	18.0
BESS114	17.6
BESS115	17.4
BESS116	17.8
BESS117	18.1
BESS118	18.0
BESS119	17.7
BESS120	17.3
BESS121	17.2
BESS122	17.5
BESS123	17.8
BESS124	17.7
BESS125	17.4
BESS126	17.1
BESS127	16.9
BESS128	17.2
BESS129	17.5
BESS130	17.4
BESS131	17.1
BESS132	16.8
BESS133	16.6
BESS134	16.9
BESS135	17.2
BESS136	17.1
BESS137	16.8
BESS138	16.5
BESS139	16.3
BESS140	16.6
BESS141	16.9
BESS142	16.8
BESS143	16.5
BESS144	16.2
Inverter1	42.1
Inverter2	41.0
Inverter3	40.0
Inverter4	39.0
Inverter5	38.0
Inverter6	37.2
Inverter7	36.3
Inverter8	35.5
Inverter9	34.7
Inverter10	34.0
Inverter11	33.3
Inverter12	32.7
Inverter13	32.0
Inverter14	31.4
Inverter15	30.9
Inverter16	30.3
Inverter17	29.8
Inverter18	29.3

Inverter19				28.8
Inverter20				28.4
2	1.Fl	58.0	0.0	
BESS1				23.1
BESS2				23.2
BESS3				24.4
BESS4				24.6
BESS5				25.9
BESS6				26.1
BESS7				26.5
BESS8				26.7
BESS9				24.9
BESS10				25.0
BESS11				23.4
BESS12				23.5
BESS13				23.7
BESS14				23.8
BESS15				25.3
BESS16				25.4
BESS17				27.1
BESS18				27.3
BESS19				27.7
BESS20				27.9
BESS21				25.7
BESS22				25.8
BESS23				24.0
BESS24				24.1
BESS25				24.2
BESS26				24.3
BESS27				26.0
BESS28				26.2
BESS29				28.3
BESS30				28.5
BESS31				28.8
BESS32				28.9
BESS33				26.4
BESS34				26.5
BESS35				24.4
BESS36				24.5
BESS37				24.6
BESS38				24.7
BESS39				26.6
BESS40				26.7
BESS41				29.2
BESS42				29.3
BESS43				24.7
BESS44				24.8
BESS45				26.8
BESS46				26.9
BESS47				29.5
BESS48				29.6
BESS49				24.8
BESS50				26.9
BESS51				29.7
BESS52				29.8
BESS53				26.9
BESS54				24.8
BESS55				24.8
BESS56				26.9
BESS57				29.8
BESS58				29.8
BESS59				26.9
BESS60				24.8
BESS61				24.8
BESS62				26.9
BESS63				29.7
BESS64				29.6
BESS65				26.8
BESS66				24.7
BESS67				24.7
BESS68				26.7
BESS69				29.4
BESS70				29.3
BESS71				26.7
BESS72				24.6
BESS73				24.5
BESS74				26.5
BESS75				29.0
BESS76				28.9
BESS77				26.4
BESS78				24.5
BESS79				24.3
BESS80				26.2

BESS81	28.6
BESS82	28.4
BESS83	26.1
BESS84	24.3
BESS85	24.1
BESS86	25.9
BESS87	28.0
BESS88	27.8
BESS89	25.8
BESS90	24.0
BESS91	23.9
BESS92	25.5
BESS93	27.5
BESS94	27.2
BESS95	25.4
BESS96	23.8
BESS97	23.6
BESS98	25.1
BESS99	26.9
BESS100	26.6
BESS101	25.0
BESS102	23.5
BESS103	23.3
BESS104	24.7
BESS105	26.2
BESS106	26.0
BESS107	24.5
BESS108	23.1
BESS109	22.9
BESS110	24.3
BESS111	25.7
BESS112	25.4
BESS113	24.1
BESS114	22.8
BESS115	22.6
BESS116	23.8
BESS117	25.1
BESS118	24.8
BESS119	23.7
BESS120	22.5
BESS121	22.3
BESS122	23.4
BESS123	24.5
BESS124	24.3
BESS125	23.2
BESS126	22.1
BESS127	21.9
BESS128	22.9
BESS129	23.9
BESS130	23.7
BESS131	22.8
BESS132	21.8
BESS133	21.6
BESS134	22.5
BESS135	23.4
BESS136	23.2
BESS137	22.3
BESS138	21.4
BESS139	21.2
BESS140	22.1
BESS141	22.9
BESS142	22.7
BESS143	21.9
BESS144	21.1
Inverter1	41.5
Inverter2	42.6
Inverter3	43.8
Inverter4	45.0
Inverter5	46.1
Inverter6	47.1
Inverter7	47.8
Inverter8	48.0
Inverter9	47.7
Inverter10	47.0
Inverter11	46.1
Inverter12	44.9
Inverter13	43.7
Inverter14	42.5
Inverter15	41.4
Inverter16	40.3
Inverter17	39.3
Inverter18	38.3
Inverter19	37.4

Inverter20				36.5
3	1.Fl	55.3	0.0	
BESS1				18.0
BESS2				18.1
BESS3				18.4
BESS4				18.6
BESS5				18.8
BESS6				18.9
BESS7				19.1
BESS8				19.3
BESS9				18.8
BESS10				18.9
BESS11				18.3
BESS12				18.4
BESS13				18.6
BESS14				18.7
BESS15				19.1
BESS16				19.2
BESS17				19.5
BESS18				19.7
BESS19				19.9
BESS20				20.1
BESS21				19.5
BESS22				19.6
BESS23				18.9
BESS24				19.1
BESS25				19.3
BESS26				19.4
BESS27				19.8
BESS28				20.0
BESS29				20.3
BESS30				20.5
BESS31				20.7
BESS32				20.9
BESS33				20.2
BESS34				20.3
BESS35				19.6
BESS36				19.7
BESS37				19.9
BESS38				20.1
BESS39				20.6
BESS40				20.7
BESS41				21.2
BESS42				21.3
BESS43				20.3
BESS44				20.4
BESS45				21.0
BESS46				21.1
BESS47				21.6
BESS48				21.8
BESS49				20.6
BESS50				21.4
BESS51				22.1
BESS52				22.2
BESS53				21.5
BESS54				20.7
BESS55				21.0
BESS56				21.8
BESS57				22.5
BESS58				22.7
BESS59				22.0
BESS60				21.1
BESS61				21.3
BESS62				22.2
BESS63				23.1
BESS64				23.2
BESS65				22.4
BESS66				21.5
BESS67				21.7
BESS68				22.6
BESS69				23.6
BESS70				23.8
BESS71				22.8
BESS72				21.8
BESS73				22.0
BESS74				23.1
BESS75				24.1
BESS76				24.3
BESS77				23.3
BESS78				22.2
BESS79				22.4
BESS80				23.5
BESS81				24.7

BESS82	24.9
BESS83	23.7
BESS84	22.5
BESS85	22.7
BESS86	24.0
BESS87	25.3
BESS88	25.5
BESS89	24.1
BESS90	22.8
BESS91	23.1
BESS92	24.4
BESS93	25.9
BESS94	26.1
BESS95	24.6
BESS96	23.2
BESS97	23.4
BESS98	24.9
BESS99	26.5
BESS100	26.7
BESS101	25.0
BESS102	23.5
BESS103	23.7
BESS104	25.3
BESS105	27.1
BESS106	27.3
BESS107	25.4
BESS108	23.8
BESS109	24.0
BESS110	25.7
BESS111	27.6
BESS112	27.9
BESS113	25.8
BESS114	24.1
BESS115	24.2
BESS116	26.0
BESS117	28.2
BESS118	28.4
BESS119	26.1
BESS120	24.3
BESS121	24.4
BESS122	26.3
BESS123	28.7
BESS124	28.9
BESS125	26.4
BESS126	24.5
BESS127	24.6
BESS128	26.6
BESS129	29.2
BESS130	29.3
BESS131	26.7
BESS132	24.6
BESS133	24.7
BESS134	26.8
BESS135	29.5
BESS136	29.6
BESS137	26.8
BESS138	24.7
BESS139	24.8
BESS140	26.9
BESS141	29.7
BESS142	29.7
BESS143	26.9
BESS144	24.8
Inverter1	31.1
Inverter2	31.7
Inverter3	32.3
Inverter4	33.0
Inverter5	33.6
Inverter6	34.4
Inverter7	35.1
Inverter8	35.9
Inverter9	36.7
Inverter10	37.6
Inverter11	38.5
Inverter12	39.5
Inverter13	40.6
Inverter14	41.7
Inverter15	42.8
Inverter16	44.0
Inverter17	45.2
Inverter18	46.3
Inverter19	47.2
Inverter20	47.8

4	1.Fl	51.6	0.0	
BESS1				17.0
BESS2				17.1
BESS3				17.1
BESS4				17.2
BESS5				17.1
BESS6				17.2
BESS7				17.4
BESS8				17.5
BESS9				17.4
BESS10				17.5
BESS11				17.3
BESS12				17.4
BESS13				17.6
BESS14				17.7
BESS15				17.7
BESS16				17.8
BESS17				17.7
BESS18				17.9
BESS19				18.1
BESS20				18.2
BESS21				18.0
BESS22				18.2
BESS23				17.9
BESS24				18.0
BESS25				18.3
BESS26				18.4
BESS27				18.4
BESS28				18.5
BESS29				18.4
BESS30				18.6
BESS31				18.8
BESS32				19.0
BESS33				18.8
BESS34				18.9
BESS35				18.6
BESS36				18.7
BESS37				19.0
BESS38				19.1
BESS39				19.1
BESS40				19.3
BESS41				19.2
BESS42				19.3
BESS43				19.4
BESS44				19.5
BESS45				19.5
BESS46				19.7
BESS47				19.6
BESS48				19.8
BESS49				19.8
BESS50				19.9
BESS51				20.0
BESS52				20.2
BESS53				20.1
BESS54				19.9
BESS55				20.2
BESS56				20.4
BESS57				20.4
BESS58				20.6
BESS59				20.5
BESS60				20.3
BESS61				20.6
BESS62				20.8
BESS63				20.9
BESS64				21.1
BESS65				21.0
BESS66				20.8
BESS67				21.0
BESS68				21.3
BESS69				21.4
BESS70				21.6
BESS71				21.5
BESS72				21.2
BESS73				21.5
BESS74				21.8
BESS75				21.9
BESS76				22.1
BESS77				22.0
BESS78				21.7
BESS79				22.0
BESS80				22.3
BESS81				22.4
BESS82				22.7

BESS83	22.5
BESS84	22.2
BESS85	22.5
BESS86	22.9
BESS87	23.0
BESS88	23.3
BESS89	23.1
BESS90	22.7
BESS91	23.1
BESS92	23.5
BESS93	23.6
BESS94	23.9
BESS95	23.7
BESS96	23.3
BESS97	23.7
BESS98	24.1
BESS99	24.3
BESS100	24.6
BESS101	24.4
BESS102	23.9
BESS103	24.3
BESS104	24.8
BESS105	25.0
BESS106	25.3
BESS107	25.1
BESS108	24.5
BESS109	25.0
BESS110	25.6
BESS111	25.8
BESS112	26.1
BESS113	25.9
BESS114	25.2
BESS115	25.6
BESS116	26.4
BESS117	26.6
BESS118	27.0
BESS119	26.7
BESS120	25.9
BESS121	26.4
BESS122	27.3
BESS123	27.6
BESS124	28.0
BESS125	27.6
BESS126	26.7
BESS127	27.2
BESS128	28.2
BESS129	28.7
BESS130	29.1
BESS131	28.6
BESS132	27.5
BESS133	28.0
BESS134	29.3
BESS135	29.9
BESS136	30.4
BESS137	29.8
BESS138	28.4
BESS139	29.0
BESS140	30.6
BESS141	31.3
BESS142	31.9
BESS143	31.1
BESS144	29.3
Inverter1	28.5
Inverter2	29.0
Inverter3	29.5
Inverter4	30.0
Inverter5	30.5
Inverter6	31.1
Inverter7	31.7
Inverter8	32.3
Inverter9	33.0
Inverter10	33.7
Inverter11	34.4
Inverter12	35.2
Inverter13	36.0
Inverter14	36.9
Inverter15	37.9
Inverter16	38.9
Inverter17	40.0
Inverter18	41.2
Inverter19	42.5
Inverter20	43.9

5	1.Fl	52.0	0.0

BESS1	19.3
BESS2	19.4
BESS3	19.0
BESS4	19.2
BESS5	18.7
BESS6	18.8
BESS7	19.0
BESS8	19.2
BESS9	19.4
BESS10	19.5
BESS11	19.7
BESS12	19.8
BESS13	20.1
BESS14	20.2
BESS15	19.8
BESS16	19.9
BESS17	19.4
BESS18	19.5
BESS19	19.8
BESS20	19.9
BESS21	20.2
BESS22	20.3
BESS23	20.5
BESS24	20.7
BESS25	20.9
BESS26	21.1
BESS27	20.6
BESS28	20.8
BESS29	20.2
BESS30	20.3
BESS31	20.5
BESS32	20.7
BESS33	21.0
BESS34	21.2
BESS35	21.4
BESS36	21.6
BESS37	21.9
BESS38	22.1
BESS39	21.5
BESS40	21.7
BESS41	21.0
BESS42	21.1
BESS43	22.4
BESS44	22.7
BESS45	22.0
BESS46	22.2
BESS47	21.4
BESS48	21.5
BESS49	23.0
BESS50	22.5
BESS51	21.8
BESS52	22.0
BESS53	22.7
BESS54	23.2
BESS55	23.6
BESS56	23.0
BESS57	22.3
BESS58	22.4
BESS59	23.2
BESS60	23.8
BESS61	24.2
BESS62	23.6
BESS63	22.7
BESS64	22.9
BESS65	23.8
BESS66	24.5
BESS67	24.9
BESS68	24.1
BESS69	23.2
BESS70	23.4
BESS71	24.4
BESS72	25.2
BESS73	25.6
BESS74	24.7
BESS75	23.7
BESS76	23.9
BESS77	25.0
BESS78	25.9
BESS79	26.4
BESS80	25.4
BESS81	24.2
BESS82	24.4
BESS83	25.6

BESS84				26.7
BESS85				27.2
BESS86				26.0
BESS87				24.7
BESS88				24.9
BESS89				26.3
BESS90				27.5
BESS91				28.1
BESS92				26.7
BESS93				25.2
BESS94				25.4
BESS95				27.0
BESS96				28.5
BESS97				29.1
BESS98				27.4
BESS99				25.7
BESS100				25.9
BESS101				27.7
BESS102				29.5
BESS103				30.2
BESS104				28.1
BESS105				26.2
BESS106				26.4
BESS107				28.4
BESS108				30.6
BESS109				31.3
BESS110				28.9
BESS111				26.7
BESS112				26.8
BESS113				29.1
BESS114				31.8
BESS115				32.6
BESS116				29.6
BESS117				27.1
BESS118				27.2
BESS119				29.8
BESS120				33.0
BESS121				33.9
BESS122				30.2
BESS123				27.5
BESS124				27.6
BESS125				30.4
BESS126				34.3
BESS127				35.1
BESS128				30.8
BESS129				27.8
BESS130				27.9
BESS131				30.9
BESS132				35.6
BESS133				36.2
BESS134				31.2
BESS135				28.0
BESS136				28.0
BESS137				31.3
BESS138				36.5
BESS139				36.8
BESS140				31.4
BESS141				28.1
BESS142				28.1
BESS143				31.5
BESS144				36.9
Inverter1				30.0
Inverter2				30.5
Inverter3				31.0
Inverter4				31.5
Inverter5				32.0
Inverter6				32.5
Inverter7				33.0
Inverter8				33.6
Inverter9				34.1
Inverter10				34.7
Inverter11				35.2
Inverter12				35.8
Inverter13				36.3
Inverter14				36.8
Inverter15				37.2
Inverter16				37.6
Inverter17				38.0
Inverter18				38.3
Inverter19				38.5
Inverter20				38.6
6	1.Fl	54.0	0.0	
BESS1				28.5

BESS2	28.9
BESS3	27.0
BESS4	27.2
BESS5	25.4
BESS6	25.6
BESS7	25.9
BESS8	26.1
BESS9	27.7
BESS10	28.0
BESS11	29.5
BESS12	29.9
BESS13	30.6
BESS14	31.0
BESS15	28.4
BESS16	28.7
BESS17	26.4
BESS18	26.5
BESS19	26.8
BESS20	27.0
BESS21	29.1
BESS22	29.4
BESS23	31.8
BESS24	32.3
BESS25	33.0
BESS26	33.5
BESS27	29.8
BESS28	30.0
BESS29	27.2
BESS30	27.4
BESS31	27.6
BESS32	27.7
BESS33	30.4
BESS34	30.6
BESS35	34.3
BESS36	34.8
BESS37	35.5
BESS38	35.9
BESS39	30.9
BESS40	31.1
BESS41	27.8
BESS42	27.9
BESS43	36.5
BESS44	36.7
BESS45	31.3
BESS46	31.4
BESS47	28.0
BESS48	28.1
BESS49	36.9
BESS50	31.4
BESS51	28.1
BESS52	28.1
BESS53	31.4
BESS54	36.9
BESS55	36.7
BESS56	31.4
BESS57	28.1
BESS58	28.0
BESS59	31.3
BESS60	36.5
BESS61	36.0
BESS62	31.1
BESS63	27.9
BESS64	27.9
BESS65	30.9
BESS66	35.5
BESS67	34.8
BESS68	30.6
BESS69	27.7
BESS70	27.6
BESS71	30.4
BESS72	34.3
BESS73	33.5
BESS74	30.0
BESS75	27.4
BESS76	27.2
BESS77	29.8
BESS78	33.0
BESS79	32.3
BESS80	29.4
BESS81	27.0
BESS82	26.8
BESS83	29.1
BESS84	31.8

BESS85				31.0
BESS86				28.7
BESS87				26.5
BESS88				26.4
BESS89				28.4
BESS90				30.6
BESS91				29.9
BESS92				27.9
BESS93				26.1
BESS94				25.9
BESS95				27.7
BESS96				29.5
BESS97				28.9
BESS98				27.2
BESS99				25.6
BESS100				25.4
BESS101				27.0
BESS102				28.5
BESS103				27.9
BESS104				26.5
BESS105				25.1
BESS106				24.9
BESS107				26.3
BESS108				27.6
BESS109				27.0
BESS110				25.9
BESS111				24.6
BESS112				24.4
BESS113				25.6
BESS114				26.7
BESS115				26.2
BESS116				25.2
BESS117				24.1
BESS118				23.9
BESS119				25.0
BESS120				25.9
BESS121				25.4
BESS122				24.6
BESS123				23.6
BESS124				23.4
BESS125				24.3
BESS126				25.2
BESS127				24.7
BESS128				24.0
BESS129				23.1
BESS130				22.9
BESS131				23.8
BESS132				24.5
BESS133				24.1
BESS134				23.4
BESS135				22.6
BESS136				22.4
BESS137				23.2
BESS138				23.8
BESS139				23.4
BESS140				22.9
BESS141				22.2
BESS142				22.0
BESS143				22.7
BESS144				23.2
Inverter1				36.8
Inverter2				37.3
Inverter3				37.7
Inverter4				38.0
Inverter5				38.3
Inverter6				38.5
Inverter7				38.6
Inverter8				38.6
Inverter9				38.5
Inverter10				38.3
Inverter11				38.0
Inverter12				37.6
Inverter13				37.2
Inverter14				36.8
Inverter15				36.3
Inverter16				35.7
Inverter17				35.2
Inverter18				34.7
Inverter19				34.1
Inverter20				33.6
7	1.Fl	49.2	0.0	
BESS1				32.0
BESS2				31.6

BESS3	29.3
BESS4	29.0
BESS5	26.9
BESS6	26.8
BESS7	26.5
BESS8	26.3
BESS9	28.6
BESS10	28.3
BESS11	30.8
BESS12	30.4
BESS13	29.7
BESS14	29.3
BESS15	27.8
BESS16	27.6
BESS17	26.0
BESS18	25.8
BESS19	25.5
BESS20	25.3
BESS21	27.1
BESS22	26.8
BESS23	28.6
BESS24	28.3
BESS25	27.7
BESS26	27.4
BESS27	26.4
BESS28	26.1
BESS29	25.0
BESS30	24.8
BESS31	24.5
BESS32	24.3
BESS33	25.7
BESS34	25.5
BESS35	26.8
BESS36	26.5
BESS37	26.0
BESS38	25.7
BESS39	25.1
BESS40	24.8
BESS41	24.0
BESS42	23.8
BESS43	25.3
BESS44	25.0
BESS45	24.5
BESS46	24.2
BESS47	23.5
BESS48	23.3
BESS49	24.6
BESS50	23.9
BESS51	23.0
BESS52	22.8
BESS53	23.7
BESS54	24.3
BESS55	23.9
BESS56	23.3
BESS57	22.5
BESS58	22.3
BESS59	23.1
BESS60	23.7
BESS61	23.3
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LINSCOTT LAW & GREENSPAN engineers

TRANSPORTATION ANALYSIS
ALBA PEAKER
Imperial County, California
June 12, 2023

LLG Ref. 3-23-3740

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ALBA PEAKER
Imperial County, California
June 12, 2023

1.0 PROJECT AND STUDY DESCRIPTION

Linscott, Law and Greenspan, Engineers (LLG) has prepared this Transportation Analysis report to assess the impacts as a result of the Alba Peaker project (Project), located in Imperial County.

The traffic analysis presented in this report includes the following:

Section 1. Project and Study Description.
Section 2. Vehicle Miles Traveled Assessment
Section 3. Local Mobility Analysis
Section 4. Existing Conditions
Section 5. Project Traffic
Section 6. Cumulative Traffic Volumes
Section 7. Capacity Analysis
Section 8. Conclusions

1.1 Project Location and Vicinity Map

The approximately 8-acre site is located in the area north of Interstate 8 (I-8), and east of Drew Road in the unincorporated County of Imperial.

Figure 1–1 is the Vicinity Map depicting the Project location. ***Figure 1–2*** depicts a more detailed Project Area Map.

1.2 Project Size and Description

The Alba Peaker Battery Energy Storage System (BESS) Project (project) would construct and operate a 100-megawatt BESS that would connect to an existing 92-kilovolt gen-tie line. The BESS facility would include battery containers and storage sites, a control room, and associated facilities surrounded by fencing. The BESS would store energy generation from the electrical grid, and optimally discharge that energy back into the grid as firm, reliable generation and/or grid services.

The project site is in the unincorporated community of Seeley in Imperial County, approximately 7.5 miles west of the city of El Centro and approximately one mile north of Interstate 8. The project site totals approximately 7.1 acres. The project is located to the east of Drew Road, south of West Evan Hewes Highway, and north of the Seeley Drain. Land uses surrounding the project site consist of active agriculture to the west and south, disturbed land and railroad tracks to the north, and an agricultural facility and fields to the east.

Project Access

Access to the site will be provided via one driveway onto Drew Road. It should be noted that based on discussions with the client, all trucks would be coming from the east.

As a Project feature, the Project will require inbound and outbound equipment deliveries via trucks to adhere to the following designated truck routes. The designated truck routes are intended to restrict heavy vehicles from turning across multiple lanes of oncoming traffic at unsignalized intersections on Drew Road. The truck route requirements will be included as a Condition of Approval and will be enforced through on-site signage, off-site signage as appropriate, and in contracts with outside trucking agencies.

- When leaving the site, trucks heading towards I-8 will utilize Street 'A', turn right onto Drew Road and head south to reach the I-8 ramps.

- Inbound trucks coming from the south will exit I-8 at Drew Road. Trucks will drive north along Drew Road before making a right-turn onto Street 'A'.

Figure 1-3 shows the Project Site Plan.

1.3 Proposed Construction Year and Analysis Scenarios

The Project's construction year is projected to be 2024. The following analysis scenarios are analyzed in this study.

- Existing
- Construction Year (Existing + Cumulative Growth) without Project
- Construction Year + Project

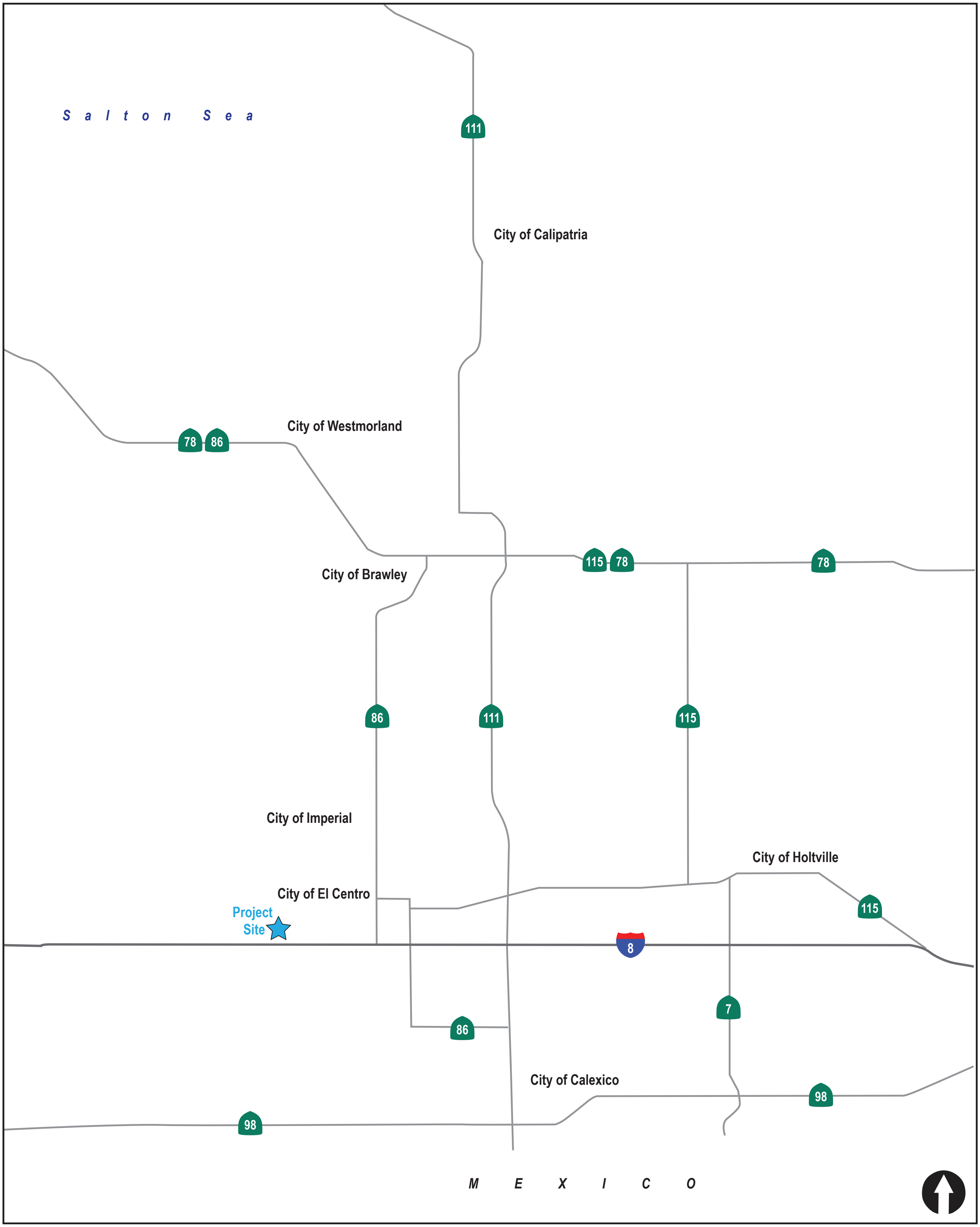

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Figure 1-1
Vicinity Map

ALBA PEAKER

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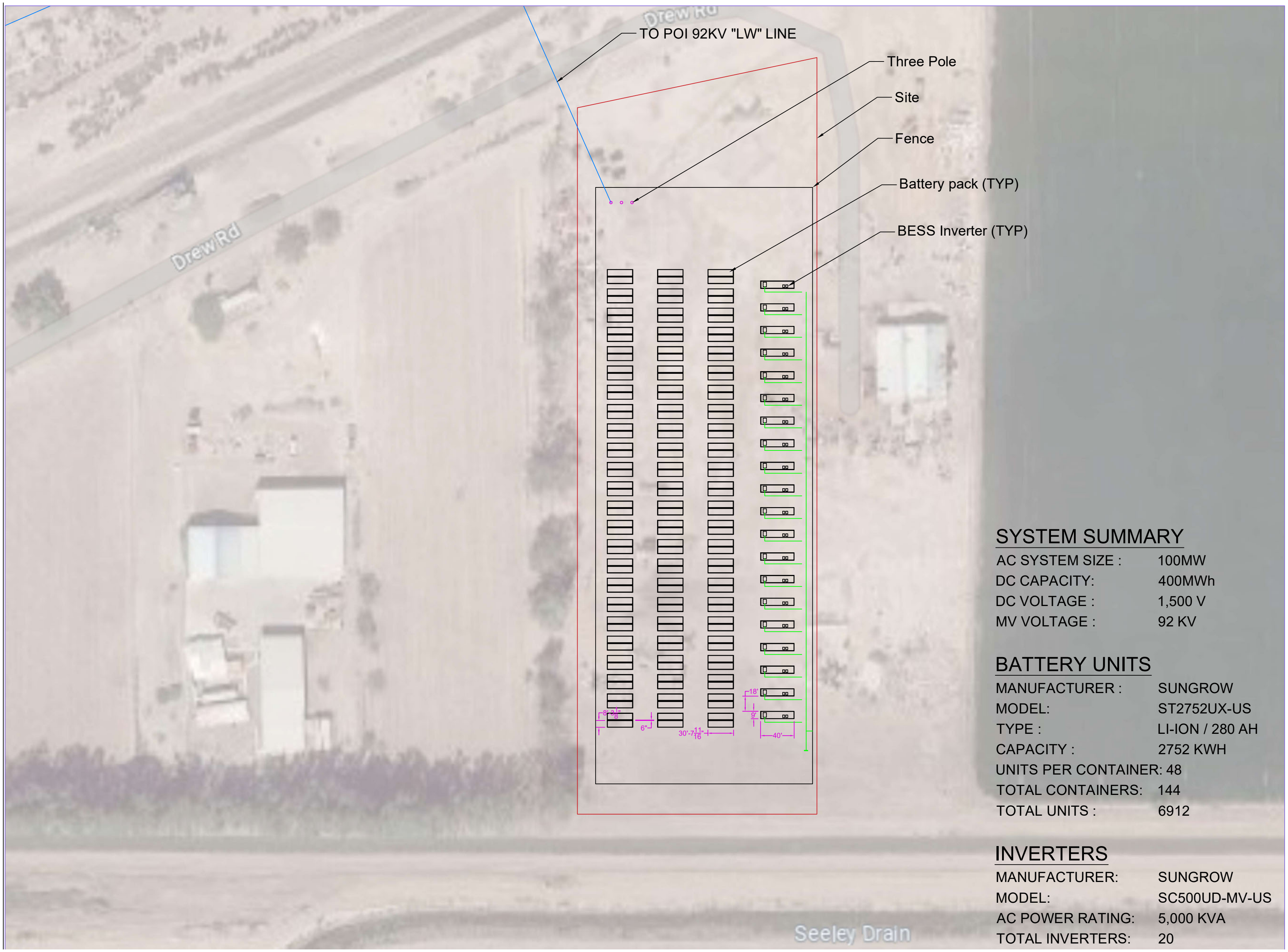
Figure 1-2
Project Area Map

Alba Peaker



SYSTEM SUMMARY

AC SYSTEM SIZE :	100MW
DC CAPACITY:	400MWh
DC VOLTAGE :	1,500 V
MV VOLTAGE :	92 KV

BATTERY UNITS

MANUFACTURER :	SUNGROW
MODEL:	ST2752UX-US
TYPE :	LI-ION / 280 AH
CAPACITY :	2752 KWH
UNITS PER CONTAINER:	48
TOTAL CONTAINERS:	144
TOTAL UNITS :	6912

INVERTERS

MANUFACTURER:	SUNGROW
MODEL:	SC500UD-MV-US
AC POWER RATING:	5,000 KVA
TOTAL INVERTERS:	20

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Figure 1-3
Site Plan

ALBA PEAKER

2.0 VEHICLE MILES TRAVELED ASSESSMENT

2.1 Background

In September 2013, the Governor's Office signed SB 743 into law, starting a process that fundamentally changes the way transportation impact analysis is conducted under CEQA. These changes include the elimination of auto delay, level of service (LOS), and similar measurements of vehicular roadway capacity and traffic congestion as the basis for determining significant impacts. The justification for this paradigm shift is that Auto Delay/LOS impacts lead to improvements that increase roadway capacity and therefore induce more traffic and greenhouse gas emissions. The VMT standard for evaluating transportation impacts under CEQA became mandatory statewide on July 1, 2020.

Vehicle Miles Traveled (VMT) is defined as a measurement of miles traveled by vehicles within a specified region and for a specified time period. VMT is a measure of the use and efficiency of the transportation network. VMT's are calculated based on individual vehicle trips generated and their associated trip lengths. VMT accounts for two-way (round trip) travel and is typically estimated on a weekday for the purpose of measuring potential transportation impacts.

2.2 Methodology

Imperial County has not yet formally developed guidelines or adopted significance criteria or technical methodologies for VMT analysis. Therefore, LLG utilized the Governor's Office of Planning and Research (OPR) guidelines from the *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018, to develop technical methodologies for this Project.

The Project will generate trips from two distinct types of vehicles: heavy vehicles, which consist of the Project's feedstock and compost trucks, and employee passenger vehicles. Heavy vehicles and passenger vehicles are classified as different vehicle types in the OPR guidelines and are considered differently in regards to VMT analysis.

2.2.1 *Equipment Delivery Vehicles*

Per OPR guidelines, "vehicle miles traveled" refers to the amount and distance of ***automobile*** travel attributable to a project. Here the term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks. VMT does not include trips from heavy-duty trucks. Therefore, the trips generated by the Project's truck deliveries are excluded from VMT analysis.

2.2.2 *Employee Passenger Vehicles*

Many agencies use "screening thresholds" to quickly identify when a project should be expected to cause a less-than-significant impact. OPR contains a screening threshold for small projects which states that, "absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 100 trips per day generally may be assumed to cause a less-than-significant transportation impact."

The Project's employee passenger vehicles are calculated to generate 107 ADT, as shown in ***Table 5-1***. Therefore, the employee component of the Project can be considered a "small project", assumed to cause a less-than significant transportation impact per OPR guidelines.

2.3 Reduction in Vehicle Miles Traveled

Under Existing conditions many commodities are currently transported via truck from the Ports of Los Angeles and Long Beach, through the Inland Empire and Palm Desert, to the Calexico East Port of Entry via SR 86 and SR 111, or otherwise to/from destinations/origins within Imperial County. Development of the Project site with loop tracks and ladder tracks that tie into the adjacent Union Pacific Railroad will accommodate in-bound and out-bound trains with commodities as well as transloading to and from trucks, thereby reducing the number of truck trips from Los Angeles and Long Beach. For example, a truckload of lumber or other commodities from Long Beach currently travels approximately 80-miles one-way within Imperial County. Post Project, the same lumber could be brought in via rail, and would only require an approximate 25-mile one-way trip by heavy vehicle to reach the same destination, thereby reducing the vehicle miles traveled by truck.

3.0 LOCAL MOBILITY ANALYSIS

3.1 Analysis Approach and Methodology

In addition to the VMT analysis presented above, a Local Mobility Analysis (LMA) was also prepared that focuses on automobile delay and Level of Service (LOS). The LOS analysis was conducted to identify Project effects on the roadway operations in the Project study area and recommend Project improvements to address noted deficiencies.

3.1.1 *Level of Service*

Level of service (LOS) is the term used to denote the different operating conditions which occur on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. Level of service provides an index to the operational qualities of a roadway segment or an intersection. Level of service designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. Level of service designation is reported differently for signalized and unsignalized intersections.

3.1.2 *Intersections*

Unsignalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay and LOS was determined based upon the procedures found in Chapters 20 and 21 of the *HCM 6* with the assistance of the *Synchro* (version 11) computer software. ***Appendix B*** contains the analysis worksheets.

3.1.3 *Street Segments*

Street segments were analyzed based upon the comparison of ADT to the County of Imperial *Roadway Classifications, Levels of Service (LOS) and Average Daily Traffic (ADT)* table (see ***Table 3–2*** below).

3.2 Substantial Effect Criteria

Imperial County does not have published substantial effect criteria. However, the County General Plan does state that the level of service (LOS) goal for intersections is to operate at LOS C or better. Therefore, if a segment degrades from LOS C or better to LOS D or worse with the addition of project traffic, the Project has a substantial effect. If the location operates at LOS D or worse with and without project traffic, the project has a substantial effect if the project causes the intersection delta to increase by more than two (2) seconds, or the V/C ratio to increase by more than 0.02.

TABLE 3–1
TRAFFIC IMPACT SUBSTANTIAL EFFECT CRITERIA

Level of Service with Project [a]	Allowable Increase Due to Project Impacts [b]					
	Freeways		Roadway Segments		Intersections	Ramp Metering
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min.)
D, E & F	0.01	1	0.02	1	2	2[c]

Footnotes:

a. All level of service measurements are based upon HCM procedures for peak-hour conditions. However, V/C ratios for Roadway Segments may be estimated on an ADT/24-hour traffic volume. The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped or not densely developed locations per jurisdiction definitions). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.

b. If a proposed project's traffic causes the values shown in the table to be exceeded, the Project has a substantial effect. These impact changes may be measured from appropriate computer programs or expanded manual spreadsheets. The project applicant shall then identify feasible mitigations (within the Traffic Impact Study [TIS] report) that will maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see note a above), or if the project adds a significant amount of peak hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, the project applicant shall be responsible for mitigating Project's substantial effect.

c. The allowable increase in delay at a ramp meter with more than 15 minutes of delay and freeway LOS E is 2 minutes and at LOS F is 1 minute.

General Notes:

1. V/C = Volume to Capacity Ratio
2. Speed = Arterial speed measured in miles per hour
3. Delay = Average stopped delay per vehicle measured in seconds for intersections, or minutes for ramp meters.
4. LOS = Level of Service

TABLE 3–2
IMPERIAL COUNTY STANDARD STREET CLASSIFICATION AVERAGE DAILY VEHICLE TRIPS

Road		Level of Service W/ADT*				
Class	X-Section	A	B	C	D	E
Expressway (6-lane)	128 / 210	30,000	42,000	60,000	70,000	80,000
Prime Arterial	106 / 136	22,200	37,000	44,600	50,000	57,000
Minor Arterial	82 / 102	14,800	24,700	29,600	33,400	37,000
Major Collector (Collector)	64 / 84	13,700	22,800	27,400	30,800	34,200
Minor Collector (Local Collector)	40 / 70	1,900	4,100	7,100	10,900	16,200
Residential Street	40 / 60	*	*	< 1,500	*	*
Residential Cul-de-Sac / Loop Street	40/60	*	*	< 1,500	*	*
Industrial Collector	76 / 96	5,000	10,000	14,000	17,000	20,000
Industrial Local Street	44 / 64	2,500	5,000	7,000	8,500	10,000

* Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

4.0 EXISTING CONDITIONS

Effective evaluation of the traffic impacts associated with the proposed project requires an understanding of the existing transportation system within the project area. ***Figure 4–1*** shows an existing conditions diagram, including signalized/unsignalized intersections and lane configurations.

4.1 Study Area

The study area includes the following intersections and street segments based on the anticipated distribution of the Project traffic and areas of potential effect:

Intersections:

1. Drew Road / West Evan Hewes Highway
2. Drew Road / I-8 Westbound Ramps
3. Drew Road / I-8 Eastbound Ramps

Street Segments:

1. Drew Road: West Evan Hewes Highway to I-8 Westbound Ramps

The facilities analyzed in this report fall under the jurisdiction of the Imperial County. The following is a brief description of the streets in the project area:

Drew Road is classified as a two-lane undivided Local Collector on the Imperial County Circulation Element. It is currently built as an north-south two-lane undivided roadway. The posted speed limit is 55 mph. There are no bus stops provided and on-street parking is prohibited.

West Evan Hewes Highway is classified as a two-lane undivided Local Collector west of Drew Road and a Major Collector east of Drew Road on the Imperial County Circulation Element. It is currently built as an east-west two-lane undivided roadway. The posted speed limit is 40 mph. There are no bike lanes or bus stops provided and on-street parking is prohibited.

Street 'A' is an unclassified unpaved roadway which serves as the access point tot site.

4.2 Existing Traffic Volumes

Peak hour (6AM to 8AM and 3PM to 5PM) intersection turning movement counts were conducted at the study area intersections in May 2023.

In addition, average daily traffic (ADT) volumes are analyzed as part of this traffic report. A segment along Drew Road between West Evan Hewes Highway and I-8 Westbound Ramps was identified based on the projects trip distribution and discussions with the client. The ADT was estimated based on relationship that the ADT is 10% of the PM peak hour.

Figure 4–2 shows the Existing Traffic Volumes. ***Appendix A*** contains the manual count sheets.

4.3 Peak Hour Intersection Operations

Table 4–1 summarizes the Existing intersection level of service. As seen in *Table 4–1*, the study intersections are calculated to currently operate acceptably at LOS B or better.

4.4 Street Segment Operations

Table 4–2 summarizes the Existing, street segment operations under along the study area roadways. As shown in *Table 4-2*, the Drew Road street segment is calculated to currently operate acceptably at LOS B on a daily basis.

TABLE 4–1
EXISTING INTERSECTION OPERATIONS

Intersection	Control Type	Movement / Approach	Peak Hour	Delay[a]	LOS[b]
1. West Evan Hewes Hwy / Drew Road	AWSC[c]	Overall	AM PM	9.8 9.7	A A
2. Drew Road / I-8 Westbound Ramps	OWSC[d]	MSSC[e]	AM PM	9.3 9.5	A A
3. Drew Road / I-8 Eastbound Ramps	OWSC	MSSC	AM PM	10.2 11.8	B B

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. AWSC – All-Way Stop Controlled intersection. Overall, LOS and delay reported.
d. OWSC – One Way Stop controlled intersection. Minor street delay reported.
e. MSSC – Minor Street Stop Controlled intersection. Worst-case LOS and delay reported.
f. Intersection does not exist under Existing conditions.

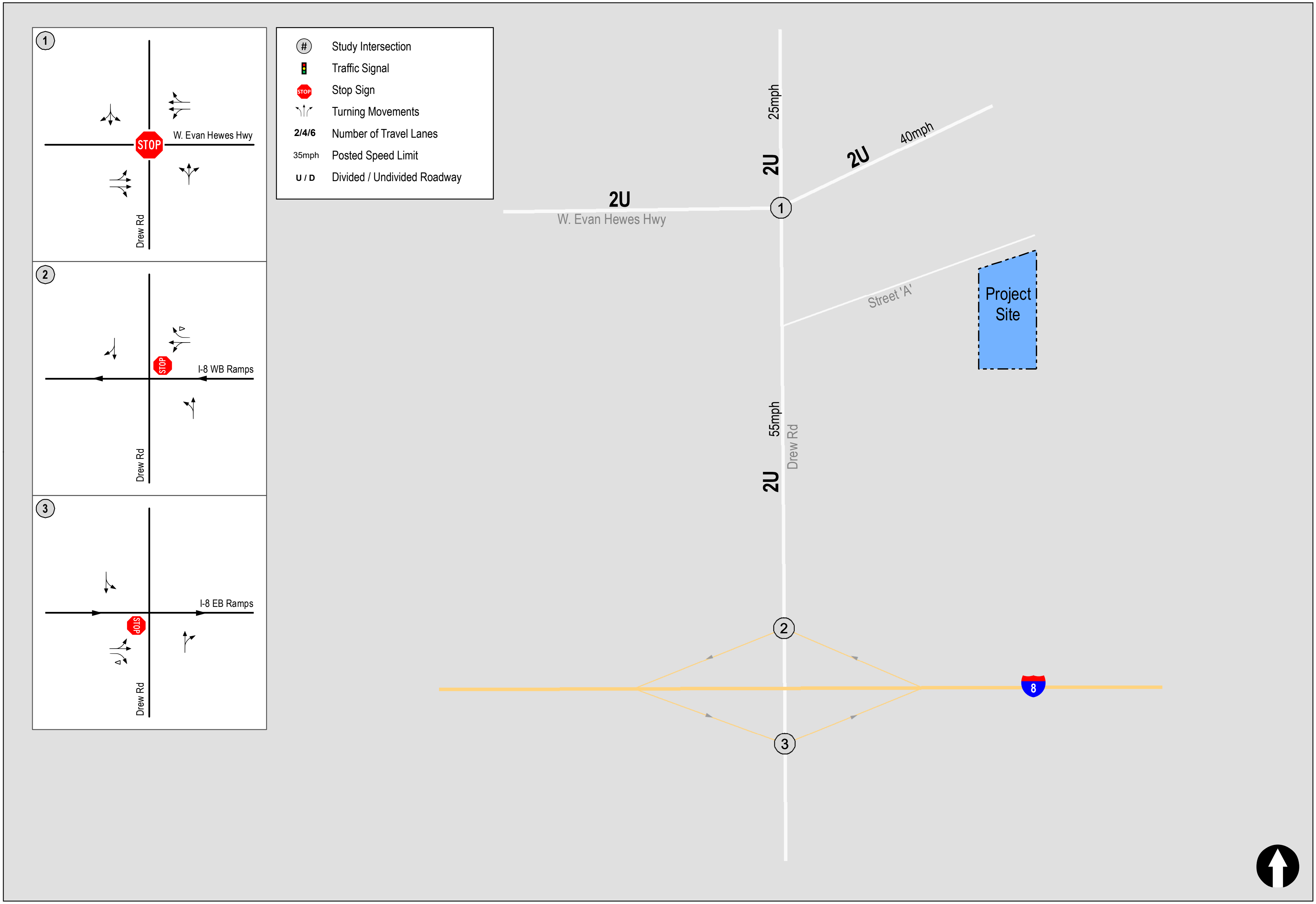
UNSIGNALIZED	
Delay	LOS
0.0 ≤ 10.0	A
10.1 to 15.0	B
15.1 to 25.0	C
25.1 to 35.0	D
35.1 to 50.0	E
≥ 50.1	F

TABLE 4–2
EXISTING STREET SEGMENT OPERATIONS

Street Segment	Functional Capacity	Capacity (LOS E) [a]	ADT [b]	LOS [c]	V/C [d]
Drew Road					
West Evan Hewes Highway to I-8 Westbound Ramps	Local Collector	16,200	2,800	B	0.17

Footnotes:

a. Capacity at which the roadway currently functions and based on County of Imperial Roadway Classification Tables.
b. Average Daily Traffic Volumes.
c. Level of Service
d. Volume to Capacity ratio.



Linscott Law & Greenspan engineers

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Figure 4-1

Project Traffic Volumes

Alba Peaker

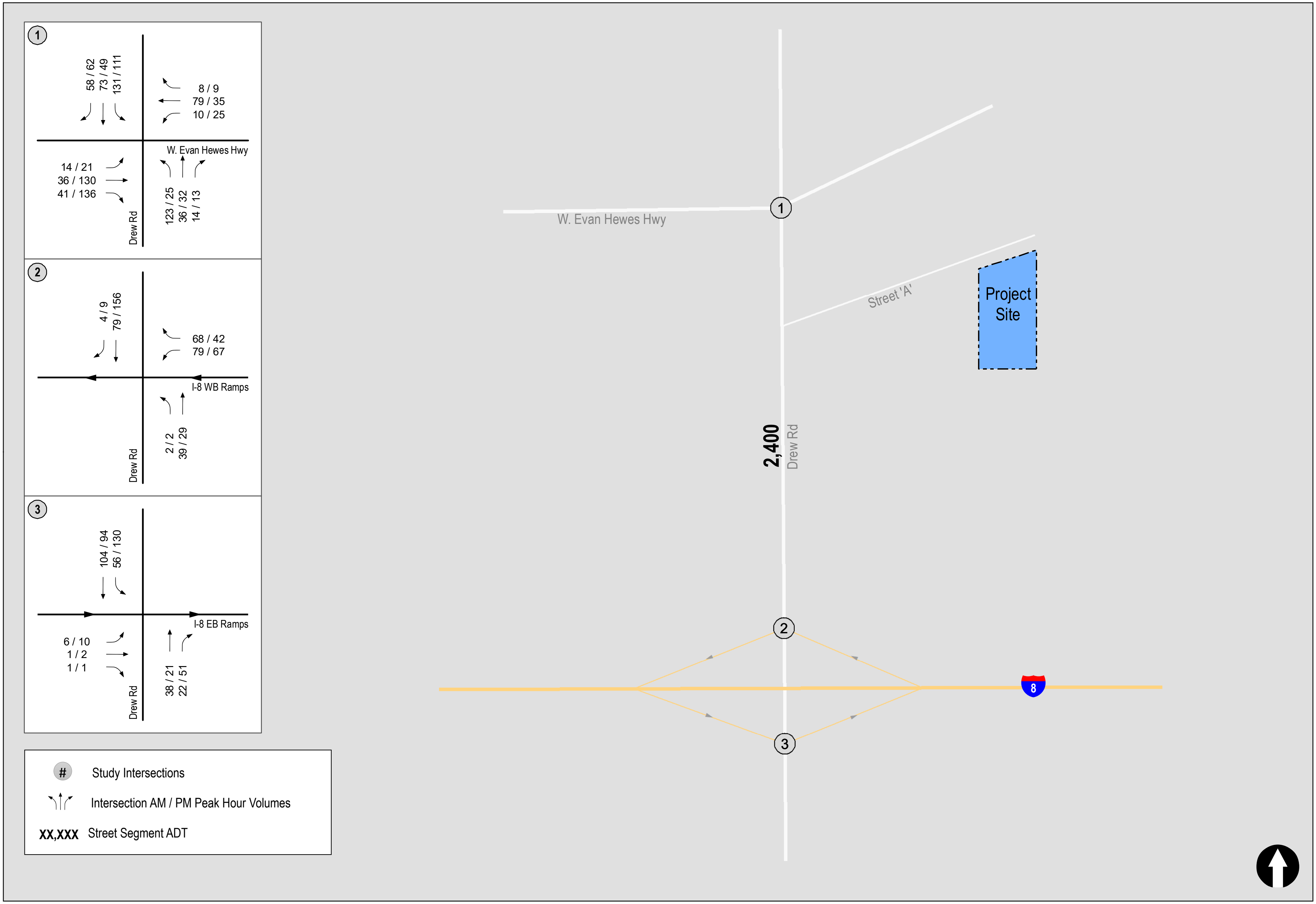

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Figure 4-2

Existing Traffic Volumes

ALBA PEAKER

5.0 PROJECT TRAFFIC

5.1 Trip Generation

Trip generation estimates for the Project are based on information provided by the applicant. Based on these discussions, it was determined that the construction phase of the project would generate more trips than when the project is built and operational. The operational trips will be nominal.

The construction traffic generated by the Project will consist of several unique trip types as described below. Project traffic generation was calculated for each trip type as shown in ***Table 5-1.*** As seen in *Table 5–1,* the construction phase which includes employee trips, equipment delivery trips, and general delivery trips are calculated to generate a total of 138 ADT, with 51 inbound / 11 outbound trips during the AM peak hour, and 11 inbound / 51 outbound trips during the PM peak hour. The volumes include a passenger car equivalence factor (PCE), as discussed below.

5.2 Trip Distribution and Assignment

Access to the site will be provided to Drew Road and to Street 'A'. Project trip distribution was developed based on existing traffic patterns, the regional roadway network, and Project specific origin / destination considerations.

As a Project feature, the Project will require inbound and outbound heavy trucks to adhere to the following designated truck routes. Trucks will be oriented to / from the east on I-8.

- When leaving the site, trucks heading towards I-8 will utilize Street 'A', turn right onto Drew Road and head south to reach the I-8 ramps.

- Inbound trucks coming from the south will exit I-8 at Drew Road. Trucks will drive north along Drew Road before making a right-turn onto Street 'A'.

Because of these heavy truck route restrictions, two separate Project trip distribution figures were developed: one for on-site employees and one for heavy vehicles.

Figure 5-1a depicts the Project trip distribution for Employees, and ***Figure 5-1b*** depicts the Project trip distribution for heavy trucks. ***Figure 5-2a*** depicts the Project trip assignment for Employees and ***Figure 5-2b*** depicts the Project trip assignment for the equipment delivery trucks. ***Figure 5-3*** depicts the total Project trip assignment.

TABLE 5-1
PROJECT CONSTRUCTION TRIP GENERATION

Number and Type of Trips	Daily Trips			AM Peak Hour (w/PCE)			PM Peak Hour (w/PCE)[d]		
	ADT[a]	PCE[b]	PCE Adjusted ADT	In	Out	Total	In	Out	Total
Construction Phase									
50 Worker Vehicles [c]	100	1.0	100	45	5	50	5	45	50
Equipment Truck Deliveries[d] (6)	12	2.0	24	4	4	8	4	4	8
General Delivery Truck Trips (7)	14	1.0	14	2	2	4	2	2	4
Total Trips:	**126**	**-**	**138**	**51**	**11**	**62**	**11**	**51**	**62**

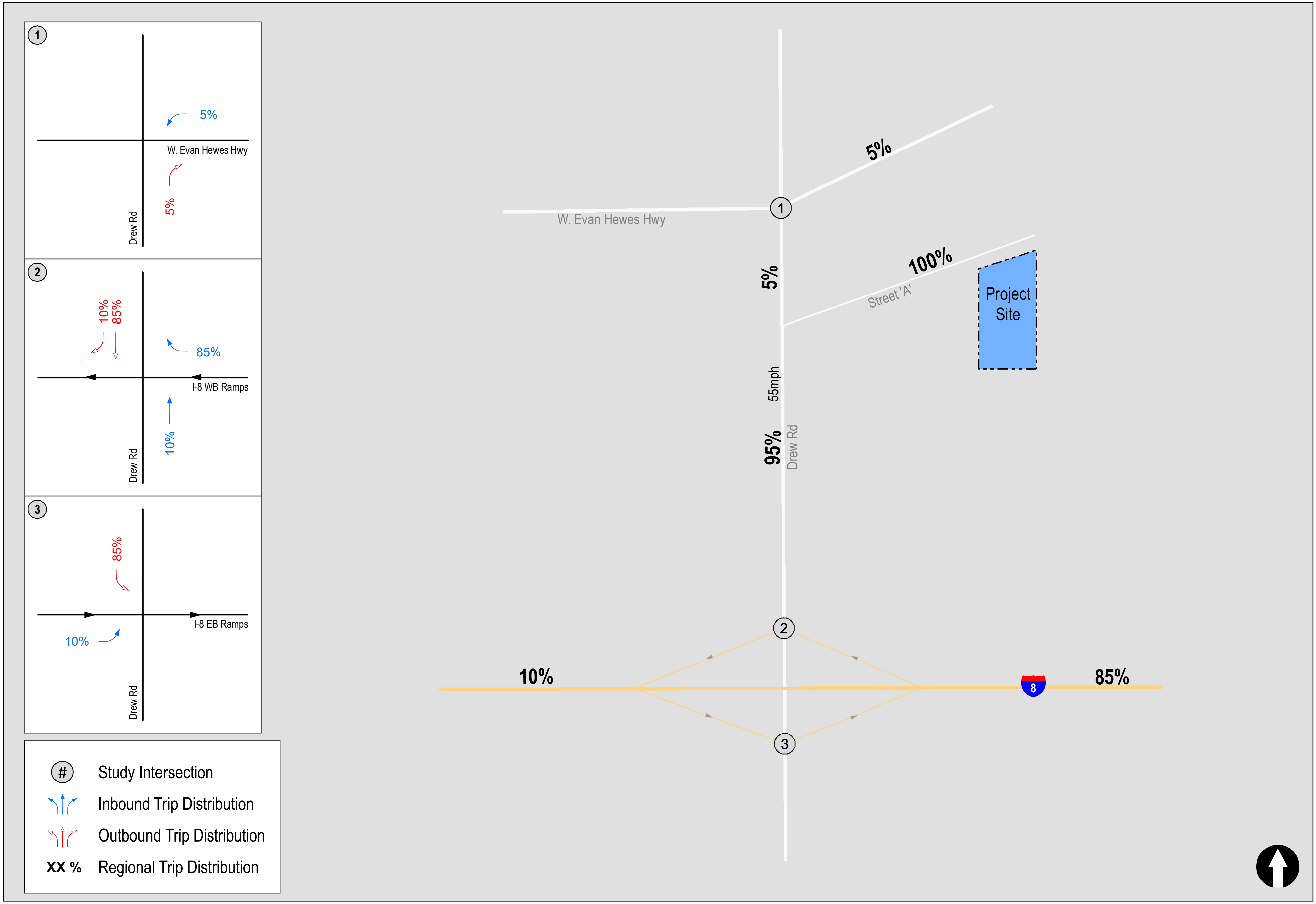
Footnotes:

a. Average Daily Trips

b. Passenger Car Equivalents. Based on the *Highway Capacity Manual,* a Passenger Car Equivalent (PCE) factor of 2.0 was applied to the Project's heavy-truck trips.

c. A total of 50 on-site employees are expected each day during the construction phase. Based on data provided in the *Imperial County Transportation Commission Regional Active Transportation Plan,* February 2022, 9% of the on-site employees (5 people total) were assumed to carpool with other employees.

d. 25% of trucks trips were assumed to access the site during the peak periods.



LINSCOTT LAW & GREENSPAN engineers

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Figure 5-1a

Project Trip Distribution

(Employee Trips)

ALBA PEAKER

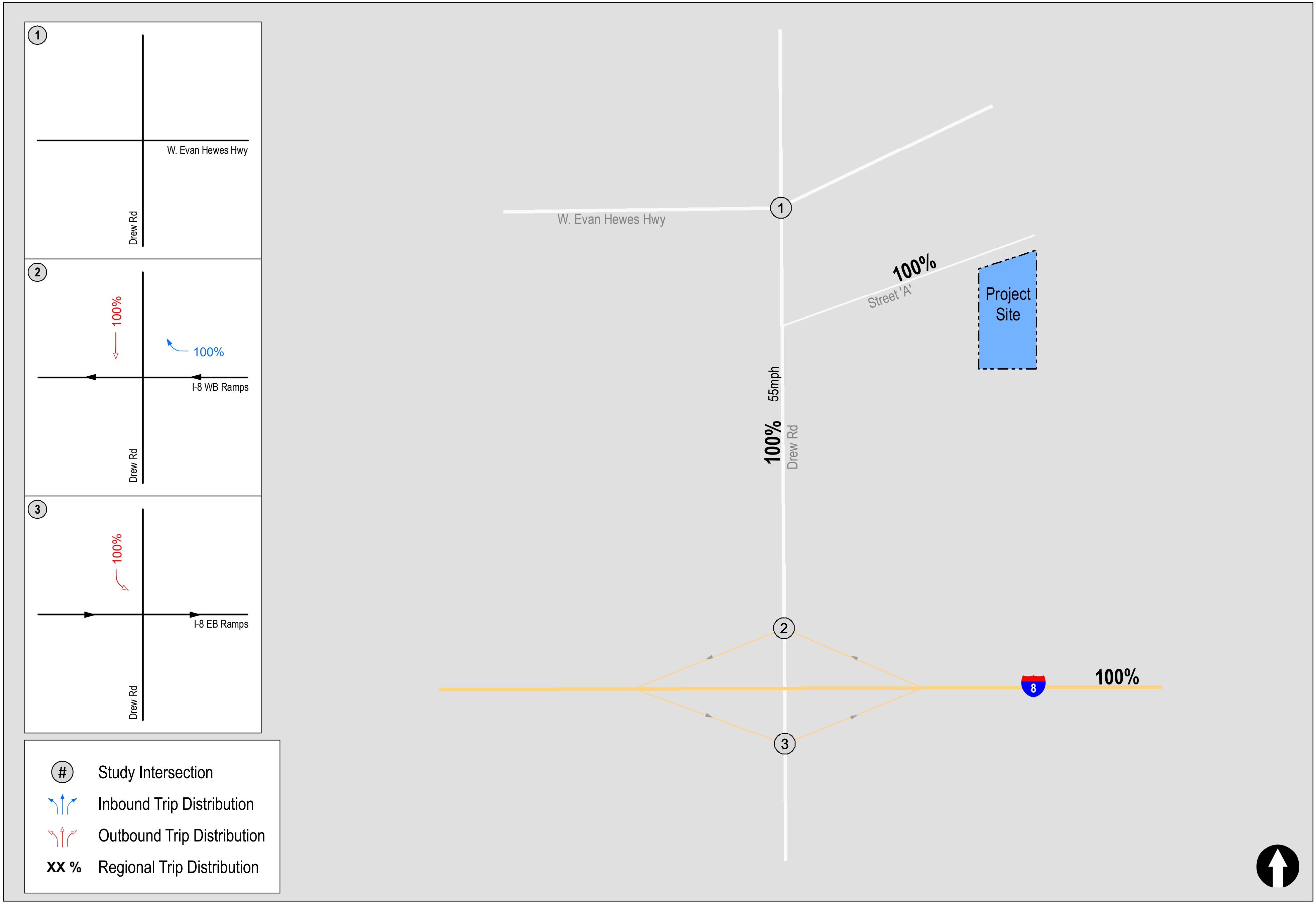

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Figure 5-1b

Project Trip Generation

(Equipment Delivery Trips)

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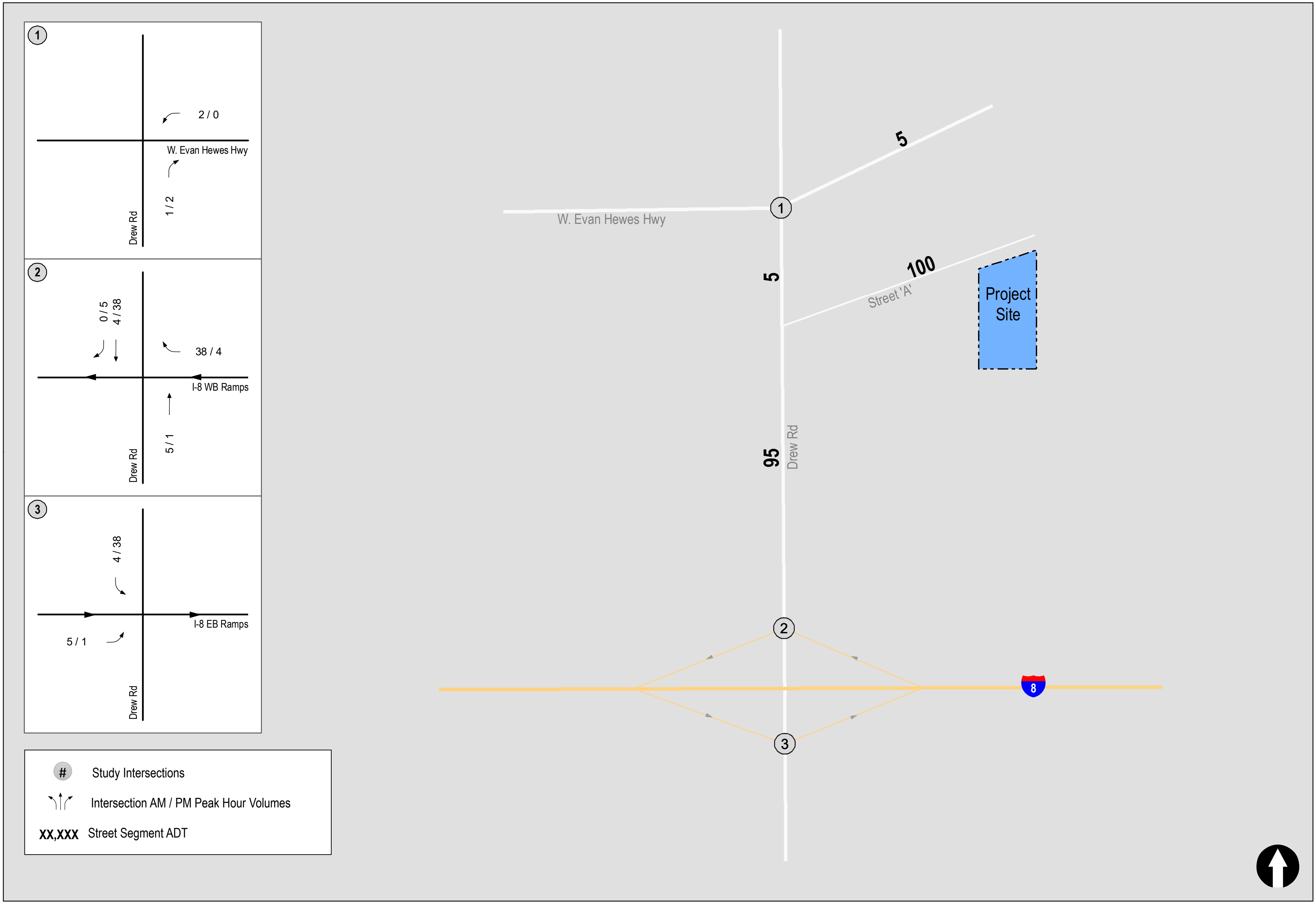

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Figure 5-2a

Project Traffic Volumes

(Employee Trips)

Alba Peaker

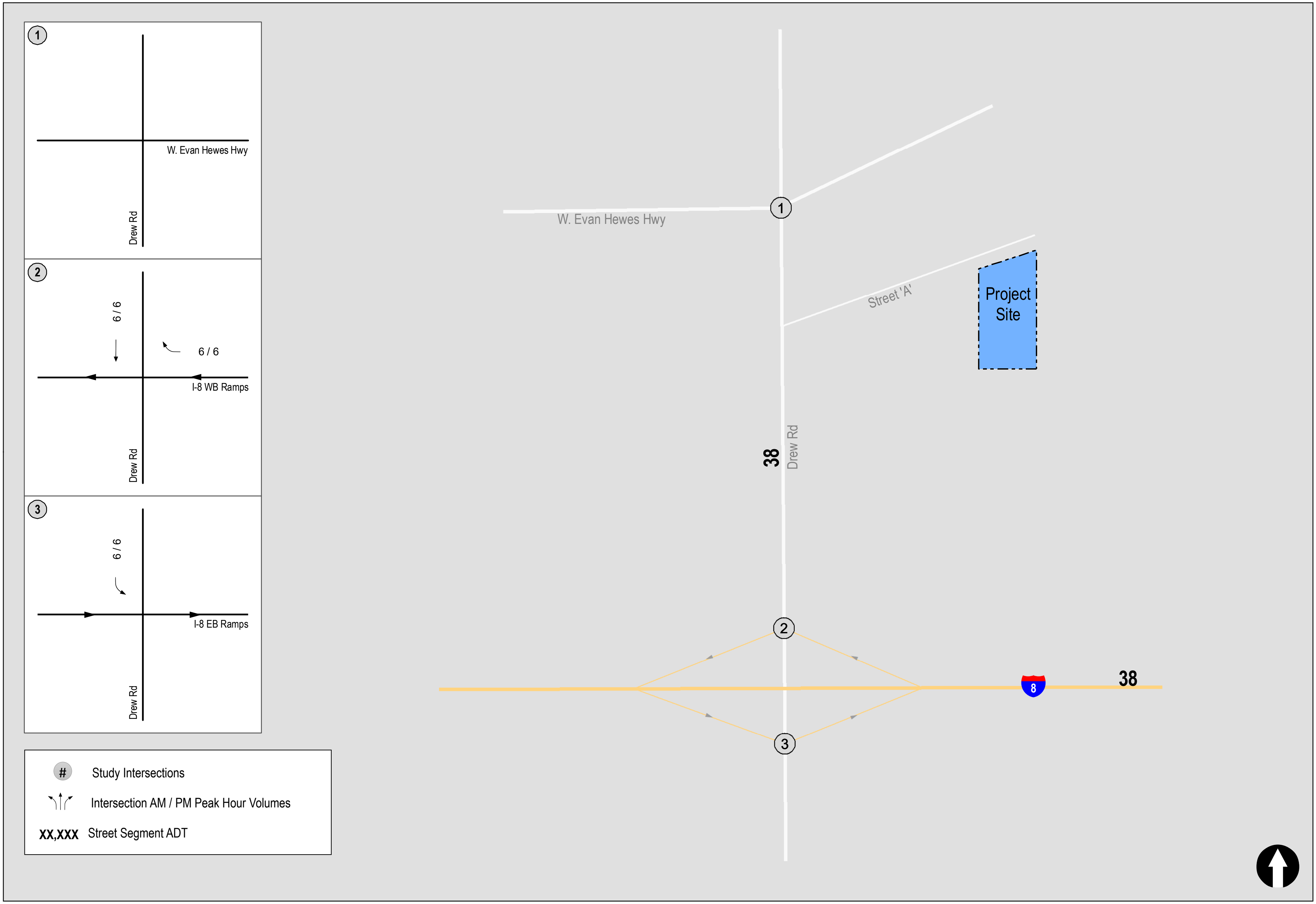

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Figure 5-2b

Project Traffic Volumes

(Equipment Delivery Trips)

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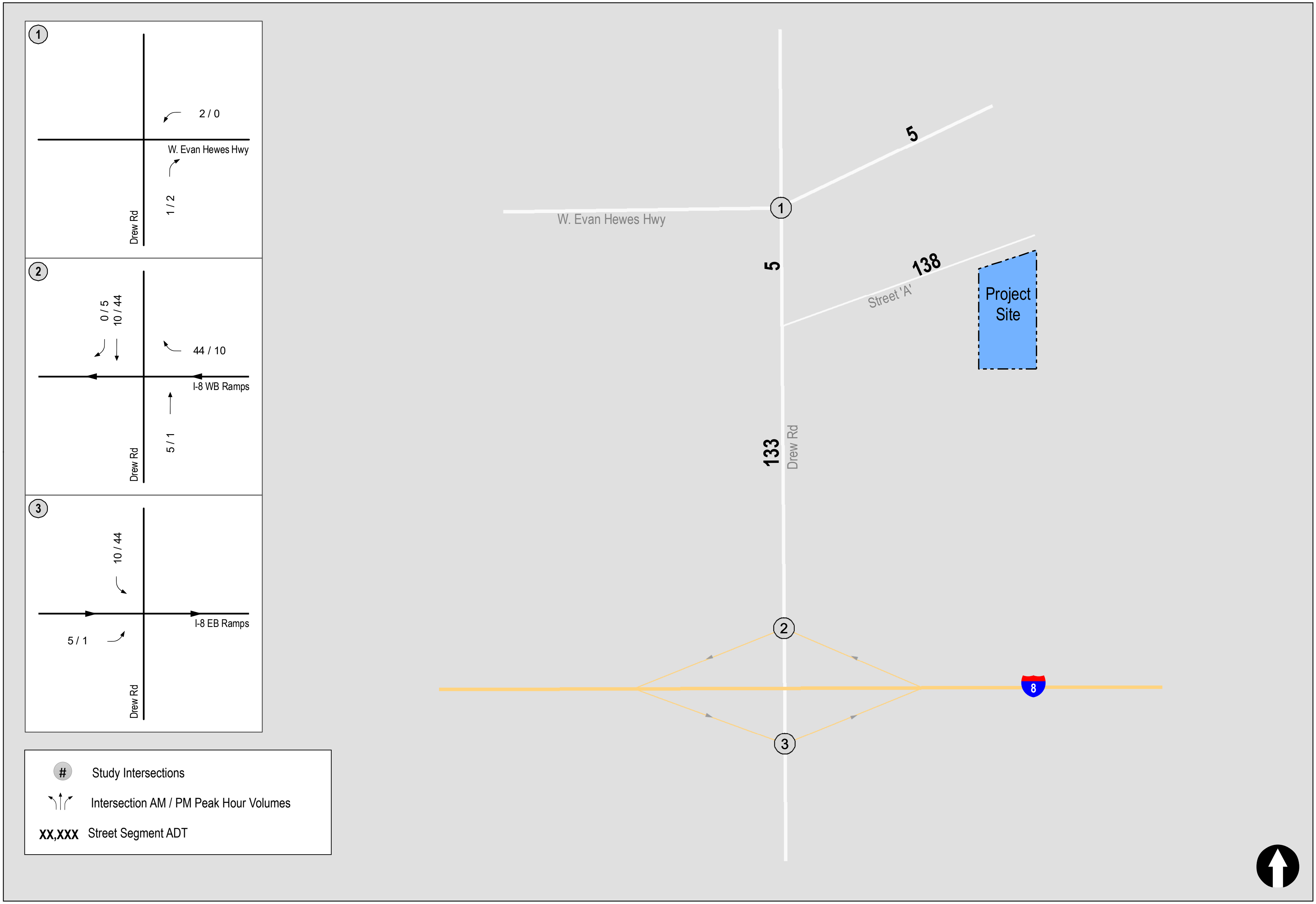

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Figure 5-3

Project Traffic Volumes

(Total Trips)

Alba Peaker

6.0 CONSTRUCTION YEAR WITHOUT PROJECT TRAFFIC VOLUMES

With the construction phase anticipated to be completed within a year, no cumulative projects were identified for inclusion in the analysis. Therefore, a 2% growth factor was applied to existing traffic volumes to account for cumulative projects.

Figure 6-1 depicts the Construction Year (Existing + Cumulative Projects) without Project traffic volumes, ***Figure 6-2*** depicts the Construction Year + Project traffic volumes.

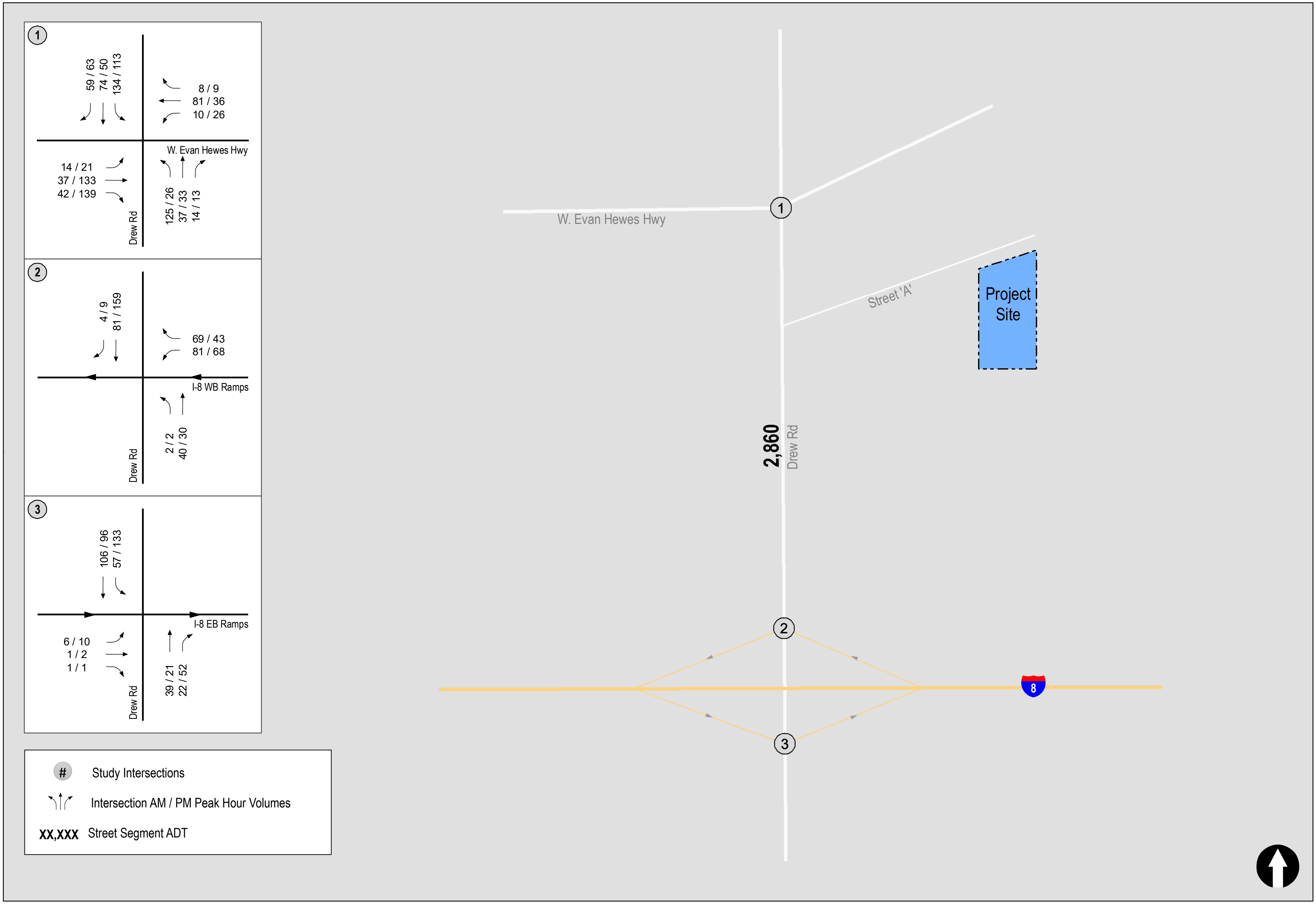

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Figure 6-1
Construction Year without Project Traffic Volumes

ALBA PEAKER

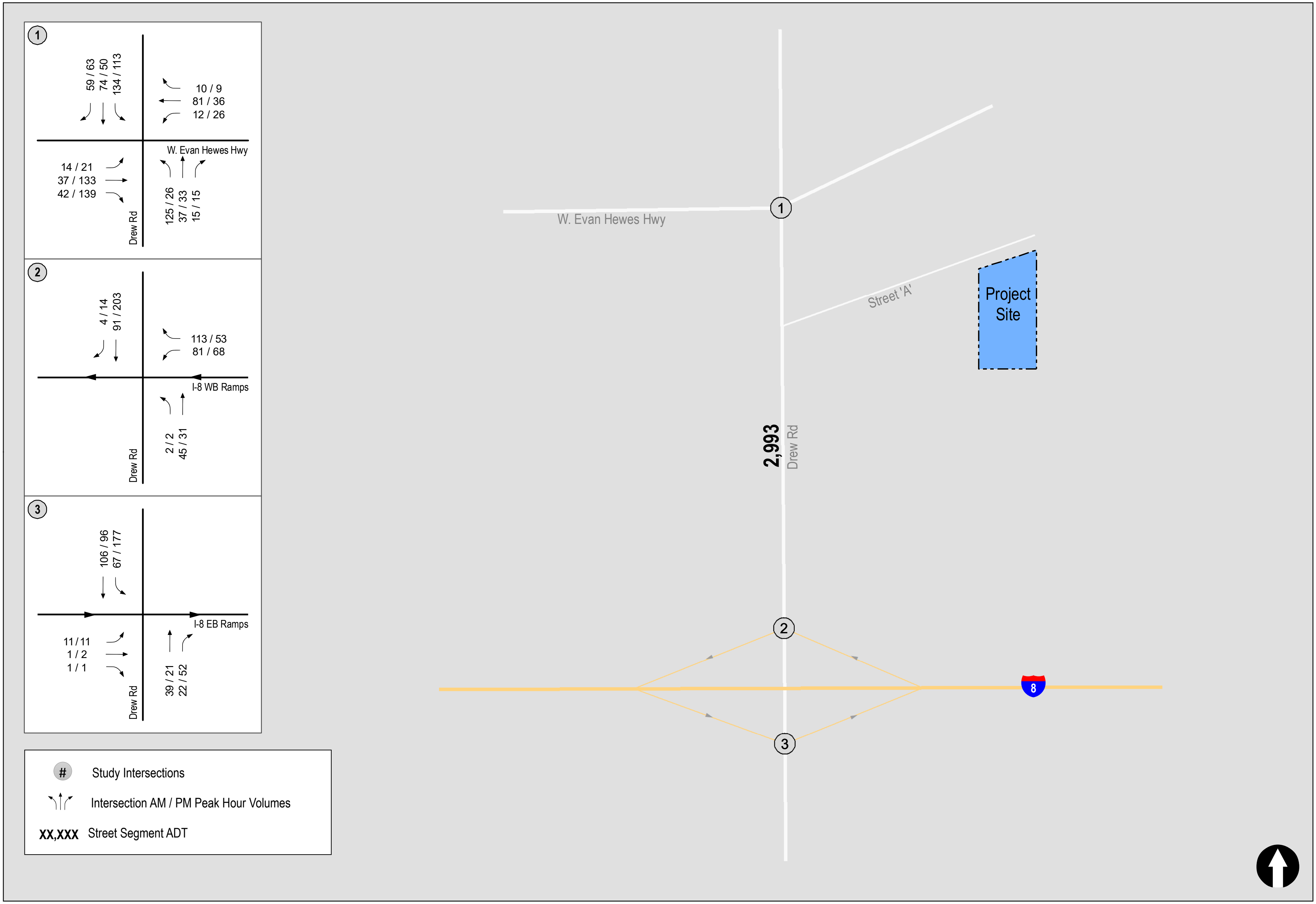

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Figure 6-2

Construction Year + Project Traffic Volumes

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ALBA PEAKER

7.0 CAPACITY ANALYSIS

The following section presents the analysis of the study area intersections under Construction Year conditions.

7.1 Construction Year without Project Conditions

7.1.1 *Peak Hour Intersection Operations*

Table 7–1 summarizes the Opening Year without Project intersection operations. As shown in *Table 7–1,* the study intersections are calculated to operate acceptably at LOS B or better.

7.1.2 *Street Segment Operations*

Table 7–2 summarizes the Construction Year without Project street segment operations. As shown in *Table 7-2*, the Drew Road street segment is calculated to operate acceptably at LOS B on a daily basis.

7.2 Construction Year + Project Conditions

7.2.1 *Peak Hour Intersection Operations*

Table 7–1 summarizes the Construction Year + Project intersection operations. As shown in *Table 7–1,* the study intersections are calculated to continue to operate acceptably at LOS B or better.

7.3 Street Segment Operations

Table 7–2 summarizes the Construction Year + Project street segment operations. As shown in *Table 7-2*, the Drew Road street segment is calculated to continue to operate acceptably at LOS B on a daily basis.

TABLE 7–1
CONSTRUCTION YEAR INTERSECTION OPERATIONS

Intersection	Control Type	Movement/ Approach	Peak Hour	Construction Year		Construction Year + Project		Δ[e]
				Delay[a]	LOS[b]	Delay[a]	LOS[b]	
1. West Evan Hewes Hwy / Drew Road	AWSC[c]	Overall	AM PM	9.9 9.8	A A	9.9 9.9	A A	0.0 0.1
2. Drew Road / I-8 Westbound Ramps	OWSC	MSSC[d]	AM PM	9.3 9.6	A A	9.3 9.8	A A	0.0 0.2
3. Drew Road / I-8 Eastbound Ramps	OWSC	MSSC	AM PM	10.3 11.9	B B	10.6 13.2	B B	0.3 1.3

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. AWSC – All-Way Stop Controlled intersection. Overall, LOS and delay reported.
d. MSSC – Minor-Street Stop Controlled intersection. Worst case LOS and delay reported.

UNSIGNALIZED	
Delay	LOS
0.0 ≤ 10.0	A
10.1 to 15.0	B
15.1 to 25.0	C
25.1 to 35.0	D
35.1 to 50.0	E
≥ 50.1	F

TABLE 7-2
CONSTRUCTION YEAR STREET SEGMENT OPERATIONS

Street Segment	Functional Capacity	Capacity (LOS E) [a]	Construction Year Without Project			Construction Year + Project			Δ V/C [e]	Impact?
			ADT [b]	LOS [c]	V/C [d]	ADT [b]	LOS [c]	V/C [d]		
Drew Road										
West Evan Hewes Highway to I-8 Westbound Ramps	Local Collector	16,200	2,860	B	0.17	2,993	B	0.18	0.01	No

e. Footnotes:

a. Capacity at which the roadway currently functions and based on County of Imperial Roadway Classification Table.
b. Average Daily Traffic Volumes.
c. Level of Service
d. Volume to Capacity ratio.
e. Δ denotes the increase in V/C due to Project.

8.0 CONCLUSIONS

8.1 VMT Assessment

8.1.1 *Heavy Vehicles*

Per OPR guidelines, "vehicle miles traveled" refers to the amount and distance of ***automobile*** travel attributable to a project. Here the term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks. VMT does not include trips from heavy trucks. Therefore, the trips generated by the construction truck trips are excluded from VMT analysis.

8.1.2 *Employee Passenger Vehicles*

The Project's employee passenger vehicles are calculated to generate 100 ADT, as shown in *Table 5-1*. Therefore, the employee component of the Project can be considered a "small project", assumed to cause a less-than significant transportation impact per OPR guidelines.

The designated truck routes, which based on client discussions will be oriented to / from the east, are intended to restrict heavy vehicles from turning across multiple lanes of oncoming traffic at unsignalized intersections on. The truck route requirements will be included as a Condition of Approval and will be enforced through on-site signage, off-site signage as appropriate, and in contracts with outside trucking agencies.

- When leaving the site, trucks heading towards I-8 will utilize Street 'A', turn right onto Drew Road and head south to reach the I-8 ramps.

- Inbound trucks coming from the south will exit I-8 at Drew Road. Trucks will drive north along Drew Road before making a right-turn onto Street 'A'.

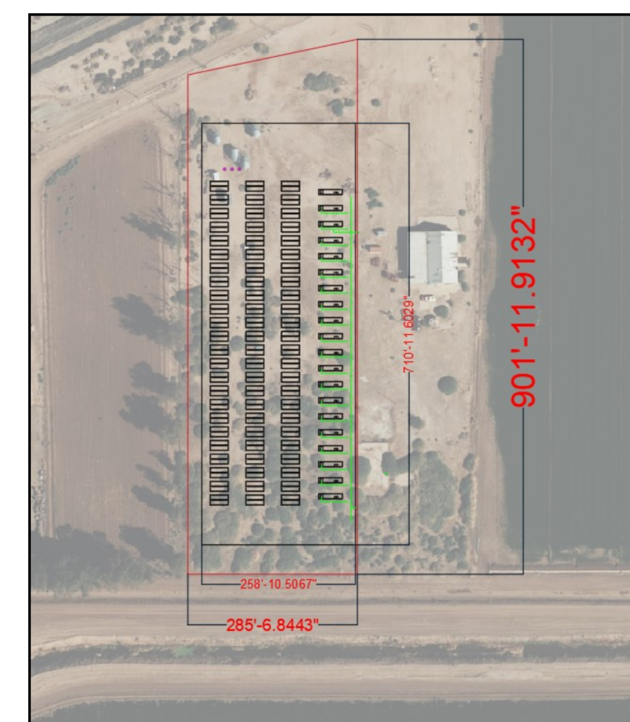
ALBA PEAKER-SEELEY, CA

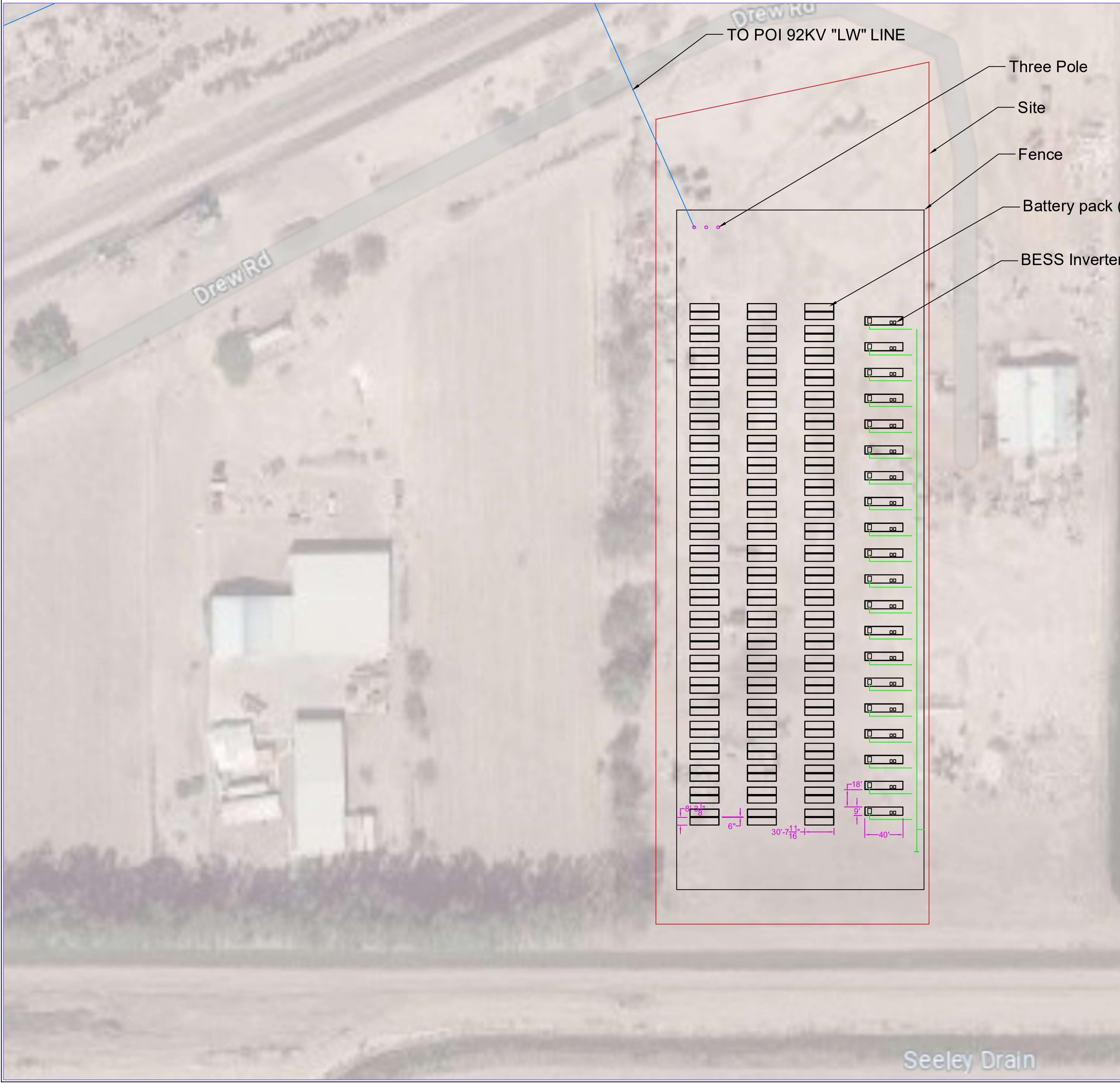
Apex Energy SOLUTIONS

Proposed Gen-Tie Lines

- Gen-Tie Route 1
- Gen-Tie Route 2
- Existing 92 KV "LW" line
- Project Area

GEN-TIE ROUTE 1: 3519.7 FT
GEN-TIE ROUTE 2: 3659.2 FT





SYSTEM SUMMARY

AC SYSTEM SIZE :	100MW
DC CAPACITY:	400MWh
DC VOLTAGE :	1,500 V
MV VOLTAGE :	92 KV

BATTERY UNITS

MANUFACTURER :	SUNGROW
MODEL:	ST2752UX-US
TYPE :	LI-ION / 280 AH
CAPACITY :	2752 KWH
UNITS PER CONTAINER:	48
TOTAL CONTAINERS:	144
TOTAL UNITS :	6912

INVERTERS

MANUFACTURER:	SUNGROW
MODEL:	SC500UD-MV-US
AC POWER RATING:	5,000 KVA
TOTAL INVERTERS:	20

ALBA PEAKER

REV.	BY	DESCRIPTION	DATE	APPR'D BY
1	RO		05/08/2023	HP

NOT FOR CONSTRUCTION

ZGLOBAL
Power Engineering & Energy Solutions
604 SUTTER ST, STE 250
FOLSOM, CA 95630
Phone : 916.985.9461
Fax: 916.985.9467

SHEET TITLE:

DRAWN BY: RO
CHECKED: BR
SCALE:
JOB NO:
DATE:
DRAWING No.
REV No. 1