FINAL ENVIRONMENTAL ASSESSMENT

SACRAMENTO INTERNATIONAL AIRPORT (SMF)
PROPOSED SACRAMENTO COUNTY WATT EV COMMERCIAL CHARGING CENTER PROJECT
Council on Environmental Quality Identification Number:
EAXX-12-021-ARP-1736762925

Sacramento International Airport
Sacramento, Sacramento County, California

Prepared for:

SACRAMENTO COUNTY DEPARTMENT OF AIRPORTS

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
As lead Federal Agency pursuant to the National Environmental Policy Act of 1969

Prepared by:

Environmental Science Associates

April 2025

This Environmental Assessment becomes a Federal document when evaluated, signed and dated by the Responsible FAA Official.

DAVID MATTHEW WICKENS

Responsible FAA Official **Date**

GENERAL INFORMATION ABOUT THIS DOCUMENT

WHAT'S IN THIS DOCUMENT? This document contains a Final Environmental Assessment (Final EA) for the proposed Sacramento County Watt Electric Vehicle (EV) Commercial Charging Center on land owned by Sacramento County Department of Airports at Sacramento International Airport (SMF). The proposed improvements analyzed in the Final EA include: site preparation, grading, installation of drainage features; extension of utilities; construction of a 15.3-acre charging area/rest area configured with two truck charging areas separated by a publicly accessible central plaza; construction of a two-story 14,000-square-foot (sf) convenience store and visitor center, a 3,000-sf single story operations and maintenance facility, and a 3,000-sf single story office building; construction of two truck charging areas designed for heavy and medium duty trucks; construction of 30 CCS chargers dedicated to passenger vehicle use and an automobile parking lot with 200 automobile parking spaces; construction of an approximately 88.9-acre Photovoltaic (PV) solar array, with solar modules mounted on tracker arrays; installation of electrical substation equipment; installation of a Battery Energy Storage System (BESS); and installation of perimeter fencing, secured gates, and lighting. This document discloses the analysis and findings of the potential impacts of the Proposed Project and the No Action Alternative.

BACKGROUND. The Project consists of several elements for charging electric powered vehicles operating along Interstate 5 in the vicinity of Sacramento International Airport. The project is located within the 100-year floodplain for the Sacramento River. This proposed facility does not include any changes to the airfield at SMF, nor would it increase the number of existing or forecasted aircraft operations. There would be no change to the approach and departure flight paths to and from the Airport under the Proposed Project. Watt EV is the proponent of the proposed facility, and it would meet an unmet demand for electric vehicle charging in the Natomas Basin. The proposed Sacramento County WattEV Commercial Charging Center requires FAA approval of a change to the portion of the Airport Layout Plan that depicts the proposed facility and FAA approval of a change in land use from aeronautical to non-aeronautical pursuant to 49 U.S.C. § 47107.

WHAT SHOULD YOU DO? Read this Final EA to understand the potential environmental effects of the Proposed Project. Copies of the document are available on the Sacramento County Department of Airports website at https://www.sacramento.aero/DraftEA and office and at FAA's Airports District Office, in Walnut Creek, California.

WHAT HAPPENS AFTER THIS? Following review of the Final EA, FAA will either issue a Finding of No Significant Impact (FONSI) or decide to prepare an Environmental Impact Statement (EIS).

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CHAPTER 1
Purpose and Need

1.1 Introduction

The Sacramento County Department of Airports (SCDOA) proposes a land use change to allow development of the Sacramento County/Watt EV Commercial Charging Center project (Proposed Project) within the Sacramento International Airport (SMF or Airport) property boundaries to accommodate demand for Electric Vehicle (EV) charging. The SCDOA, which owns and operates the Airport, seeks the Federal Aviation Administration's (FAA) approval to change the land use from aeronautical to non-aeronautical for the portion of the Airport Layout Plan that depicts the proposed improvements. The Proposed Project would provide a publicly accessible EV charging facility adjacent to Interstate 5 (I-5), proximate to State Route 99 (SR-99) and SMF, and would satisfy an unmet need for EV charging for shippers and transporters as well as public transportation and passenger vehicles. A detailed description of the Proposed Project is provided in Section 1.4.

The Proposed Project requires approval (action) by the FAA, and this federal action is subject to environmental review under the *National Environmental Policy Act of 1969* (NEPA) (42 United States Code [U.S.C.] §§ 4321-4335, as amended). This Environmental Assessment (EA) has been prepared pursuant to the requirements of Section 102(2)(c) of NEPA and Title 40, Code of Federal Regulations (CFR) Parts 1500-1508, the Council on Environmental Quality's (CEQ) implementing regulations for NEPA.[1] This EA has also been prepared in accordance with FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, guidance provided in the 1050.1 Desk Reference, and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*. This EA has been prepared to identify and consider the potential environmental impacts associated with the Proposed Project that would result from the requested federal action. The FAA is the lead federal agency to ensure compliance with NEPA for the purpose of the Proposed Project.

This chapter provides a brief description of the Airport; a description of the Proposed Project; a discussion of the purpose and need for the Proposed Project; a description of the requested federal actions; and a description of the format of this EA.

1.2 Airport Information

1.2.1 Airport Physical Setting

SMF is a public use commercial service airport located approximately 7.5 miles northwest of the city center of Sacramento, California, in Sacramento County, California. The Airport property boundary encompasses approximately 5,900 acres which includes the Airport facilities as well as buffer and habitat mitigation areas. These buffer and habitat mitigation areas make up more than 50 percent of the Airport's total land

[1] On January 20, 2025, President Trump issued Executive Order (EO) No. 14154, *Unleashing American Energy*, which revoked EO 11991, Relating to Protection and Enhancement of Environmental Quality (May 24, 1977), and instructed the Chair of the CEQ to rescind its NEPA-implementing regulations. On February 25, 2024, the CEQ issued an interim final rule to remove the existing implementing regulations for NEPA (90 FR 10610 (Feb. 25, 2025)). The Draft EA was prepared in accordance with CEQ's National Environmental Policy Act Implementing Regulations Revision Phase 2, 89 FR 35442 (May 1, 2024) (Phase 2 final rule), now pending recission.

area. SMF has two runways, oriented north/south in a parallel configuration with 6,000 feet of separation. Runway 17L/35R is 8,605 feet long and Runway 17R/35L is 8,598 feet long. Both runways are 150 feet wide. The passenger terminal is centrally located between the two runways. Air cargo facilities are located southwest of the terminal facilities. **Figure 1-1** depicts the regional location of the Airport.

Airport facilities include the ground-based facilities that support the aircraft and pilot/passenger handling functions. These facilities include aircraft parking aprons and support facilities such as fuel storage, automobile parking, utilities, and aircraft rescue and firefighting facilities, a fixed base operator (FBO), and aircraft storage and maintenance hangars. The Airport also has an Airport Traffic Control Tower (ATCT) which is centrally located south of the terminal area. The site's location within the Airport is depicted on **Figure 1-2**. Additional Airport details are shown on the Airport Layout Plan (included as **Appendix B**).

The Airport is located within a semi-rural environment, generally bounded by Power Line Road to the east, Garden Highway to the west, the Sacramento River to the west and south, and West Riego Road to the north. I-5 is located immediately south of the airfield and SR-99 is located further to the east.

1.2.2 Airport Role, Services, and Activity

SMF is a public-use airport and is included in the FAA's *National Plan of Integrated Airport Systems* (NPIAS).[2] The Airport is classified as a Commercial Service Primary Medium Hub airport.[3] In FY2023, SMF accommodated 133,860 aircraft operations with the majority being air carrier operations.[4,5]

1.3 Proposal for New EV Charging Facilities at SMF

In 2023, Sacramento County and WattEV, a private company, entered into a public/private partnership to construct, own, operate, and provide cost-share for the Proposed Project. The Proposed Project will accommodate the unmet demand for EV charging for shippers and transporters as well as public transportation and passenger vehicles in Sacramento County through the development of the Proposed Project and supporting infrastructure at SMF. A decision by the FAA to approve a change in land use from aeronautical to non-aeronautical would be necessary for the Proposed Project to proceed. If the FAA does not approve the change in land use, the Proposed Project may be deferred or relocated to an alternate site, and the Airport/County may not be able to accommodate the unmet demand for EV charging facilities.

1.4 Description of the Proposed Project

The following sections describe the Proposed Project. The proposed location and layout of the Proposed Project components are shown in **Figures 1-3** and **1-4**.

1.4.1 Proposed Project

As detailed in the grant application submitted by Sacramento County, the Proposed Project involves development of a publicly accessible Electric Vehicle (EV) charging facility and related facilities that would be built on a 139.2-acre parcel of land located south of and adjacent to I-5 on the south side of the

[2] *Report to Congress, National Plan of Integrated Airport Systems (NPIAS) 2023-2027.* Federal Aviation Administration. September 30, 2022.

[3] Medium Hub airports are commercial service airports that serve between 0.25 percent and 1 percent of total U.S. passenger enplanements.

[4] *FAA Air Traffic Activity System* (ATADS), July 6, 2024.

[5] Aircraft Operation is either one takeoff or one landing. (Advisory Circular 150/5000-17, *Critical Aircraft and Regular Use Determination*, U.S. Department of Transportation, Federal Aviation Administration. May 6, 2017).

Airport along the extended Runway 35R arrival centerline. This project will be partly funded by a grant from the California Transportation Commission, as well as by a private developer. The project will not be funded by the FAA. The Proposed Project consists of the following:

1.4.1.1 Project Components

- Construction of a 15.3-acre charging area/rest area configured with two truck charging areas separated by a publicly accessible central plaza. The facility would include a two-story 14,000-square-foot (sf) convenience store and visitor center, a 3,000-sf single story operations and maintenance facility, and a 3,000-sf single story office building.
- Construction of two truck charging areas providing a total of 18 Megawatt Charging Standard (MCS) chargers and 90 240 kW Combined Charging Standard (CCS) chargers designed for heavy and medium duty trucks. Eighty truck parking stalls would also be provided.
- Construction of 30 CCS chargers dedicated to passenger vehicle use and an automobile parking lot with 200 automobile parking spaces.
- Construction of access improvements along Bayou Way, which borders the site to the north and is directly south and parallel to I-5. Direct access to the Proposed Project site would be provided through the construction of three sets of ingress and egress points (six total access points) along Bayou Way.
- Installation of drought tolerant landscaping in the northern portion of the Proposed Project site where the vehicle charging/rest area would be located. Installation of an illuminated pylon sign that would be visible from I-5. Onsite lighting would also be provided.
- Construction of an 88.9-acre Photovoltaic (PV) solar array, with solar modules mounted on tracker arrays. Each rack would hold up to 90 panels (72 Cell Modules). Five 3.6 Megavolt Ampere (MVA) inverters and transformers would be installed on concrete pads located within the solar field. The solar array would also be developed according to FAA's policy, *Review of Solar Energy System Projects on Federally-Obligated Airports,* to ensure that there would be no adverse glare impacts to Airport Traffic Control Tower (ATCT) personnel or pilots.[6] A solar glare/glint study was conducted to confirm the solar panels would not impact controllers or pilots and is included in **Appendix B**.
- Installation of a substation and associated substation equipment. The proposed powerline intertie would connect from the substation switchgear to the Sacramento Metropolitan Utility District's (SMUD) existing facilities located along Power Line Road. Due to the distance between the proposed substation and point of interconnection, which could be up to 650 feet, a new 69 kV power line would be required to connect the substation to SMUD facilities. The substation would be located within a fenced 200-foot by 200-foot pad in which the electrical gears would occupy an approximately 12,000-square-foot area.
- Installation of a Battery Energy Storage System (BESS). The enclosure would be placed outdoors on a concrete pad near the substation and main switch gear.
- A fence would be installed around the perimeter of the solar facilities. Controlled access would be provided at secured gates intersecting the new interior access roads. Security lighting would be installed.
- Installation of two access gates and construction of internal road network. One access gate would be located to the south of the east truck charging and storage lot and one to the south of the west truck charging and storage lot. Internal access roads would be unpaved with an aggregate base.
- Project Commitment 1: Offsite improvements including paving and widening at the intersections of Bayou Way and Airport Boulevard and Bayou Way and Power Line Road as well as widening Bayou

[6] 86 FR 25801

Way to facilitate truck turns and movement; in total, all of the off-site improvements would encompass 3.36 acres of land.

- Project Commitment 2: Although this land is no longer used for agriculture due to its location near SMF within the 10,000' critical zone, its historical use as farmland is sufficient to be designated as "Farmland of Local Importance" by the County of Sacramento. This parcel is maintained consistent with SMF's approved Wildlife Hazard Management Plan. Regardless, in order to ensure no net loss of land with this designation, the County has committed to setting aside an equal amount of identified airport land of like classification.
- Project Commitment 3: Conduct a construction ozone precursor screening, and analysis if applicable. Mitigation for construction impacts could include fleet emissions reduction, best management practices to reduce dust and emissions, and mitigation fees if impacts can't be fully offset.

1.4.1.2 Site Preparation and Utilities

- Site preparation would include land clearing, excavation, embankment, and grading. The northern 15.3-acre portion of the parcel, which includes the public plaza and the trucks charging stations, would be graded with an average of 3 feet of fill to increase the elevation of the current grade. Utilities would be extended to the Proposed Project site including electrical, water, communications, and other related infrastructure. An onsite septic system would be constructed approximately 150 feet east of the parking area of the convenience store/visitor center. The septic tank and a pump would be located on a 500-sf pad.
- Surface water drainage conveyance to vegetative swales which would flow to underground storm drain culverts that would convey the water under Bayou Way and into an existing drainage channel that lies between Bayou Way and I-5. The conveyance work would be limited to the Proposed Project site. The ground beneath the solar panels and adjoining disturbed areas would be hydroseeded with native seed mix.

The Proposed Project would be open 24 hours per day, seven days per week and would be integrated into the electric grid so continuous operation can occur. The Proposed Project is designed to charge a maximum of 108 trucks and 30 cars at any given time. Overnight truck parking would be allowed.

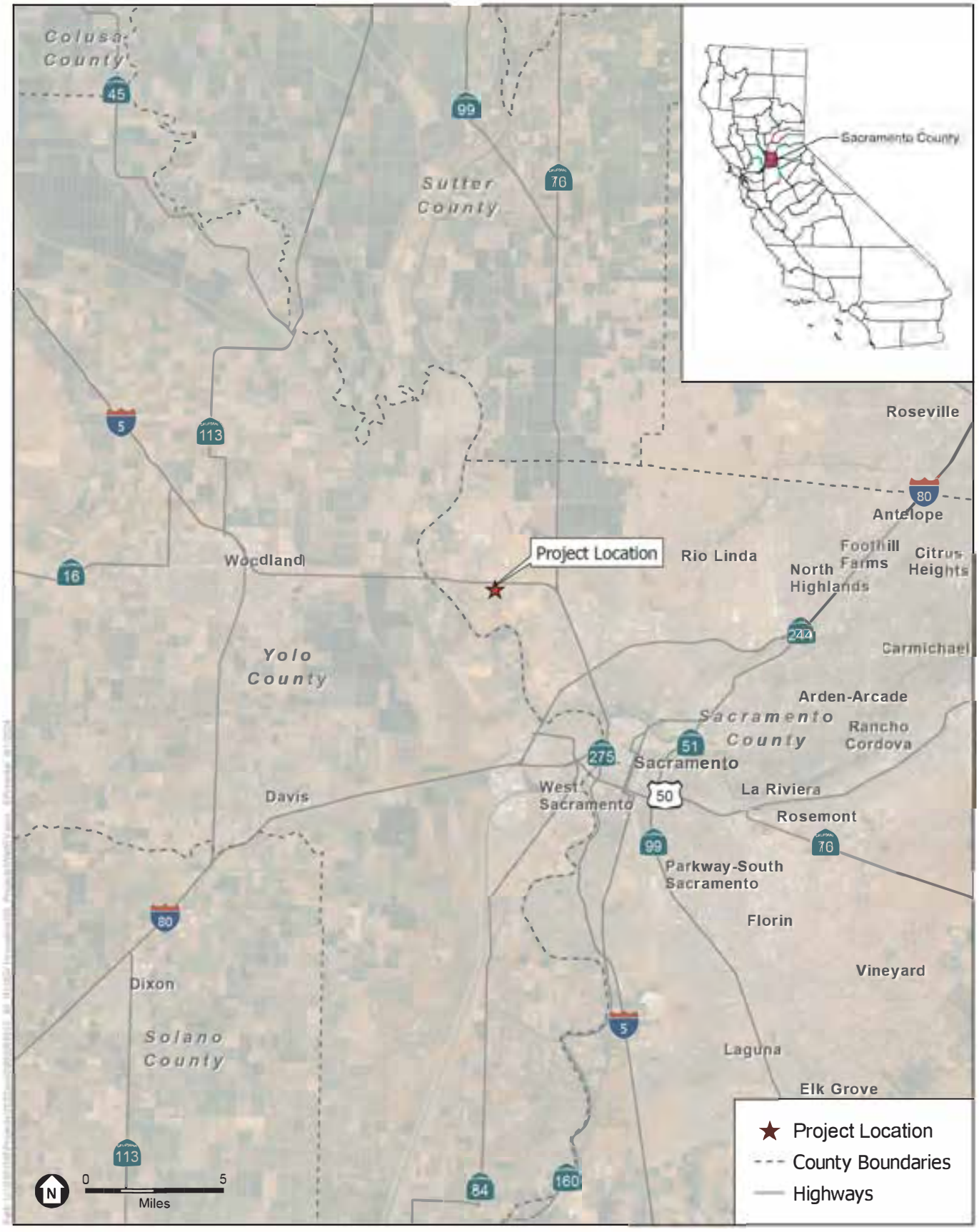
1.4.2 Induced Activity

As a non-aeronautical use, the Proposed Project would not induce additional aircraft operations. **Table 1-1** shows anticipated charger demand.

TABLE 1-1
CHARGER DEMAND

	Year					
Charger	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
MCS Truck Chargers	39	57	79	100	123	123
CCS Truck Chargers	50	80	108	135	167	167
CCS Passenger Vehicle Chargers	78	136	170	209	258	326

Source: WattEV, 2023

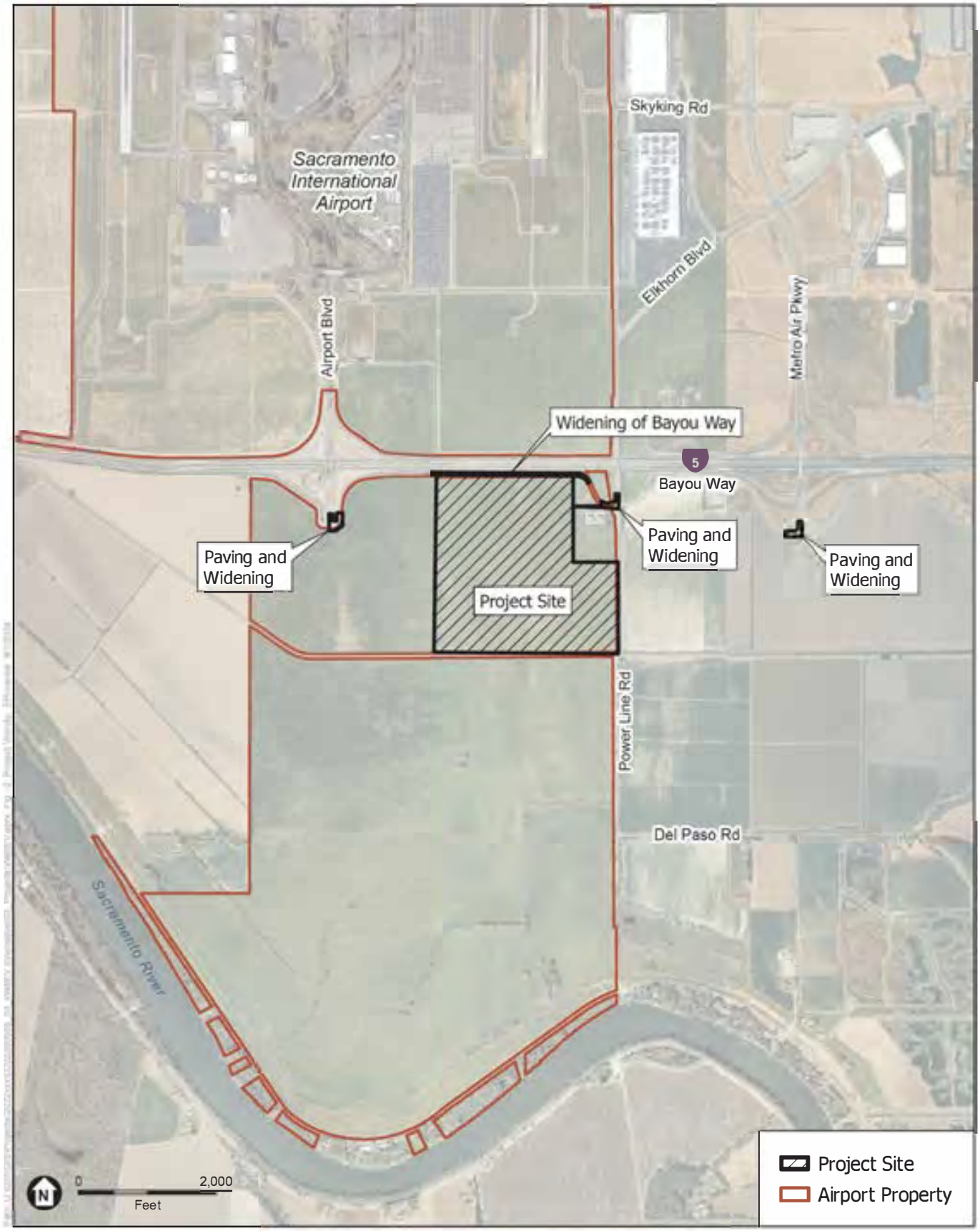


SOURCE: Esri, 2024; ESA, 2024

WattEV Commercial Charging Center

Figure 1-1
Regional Location

ESA



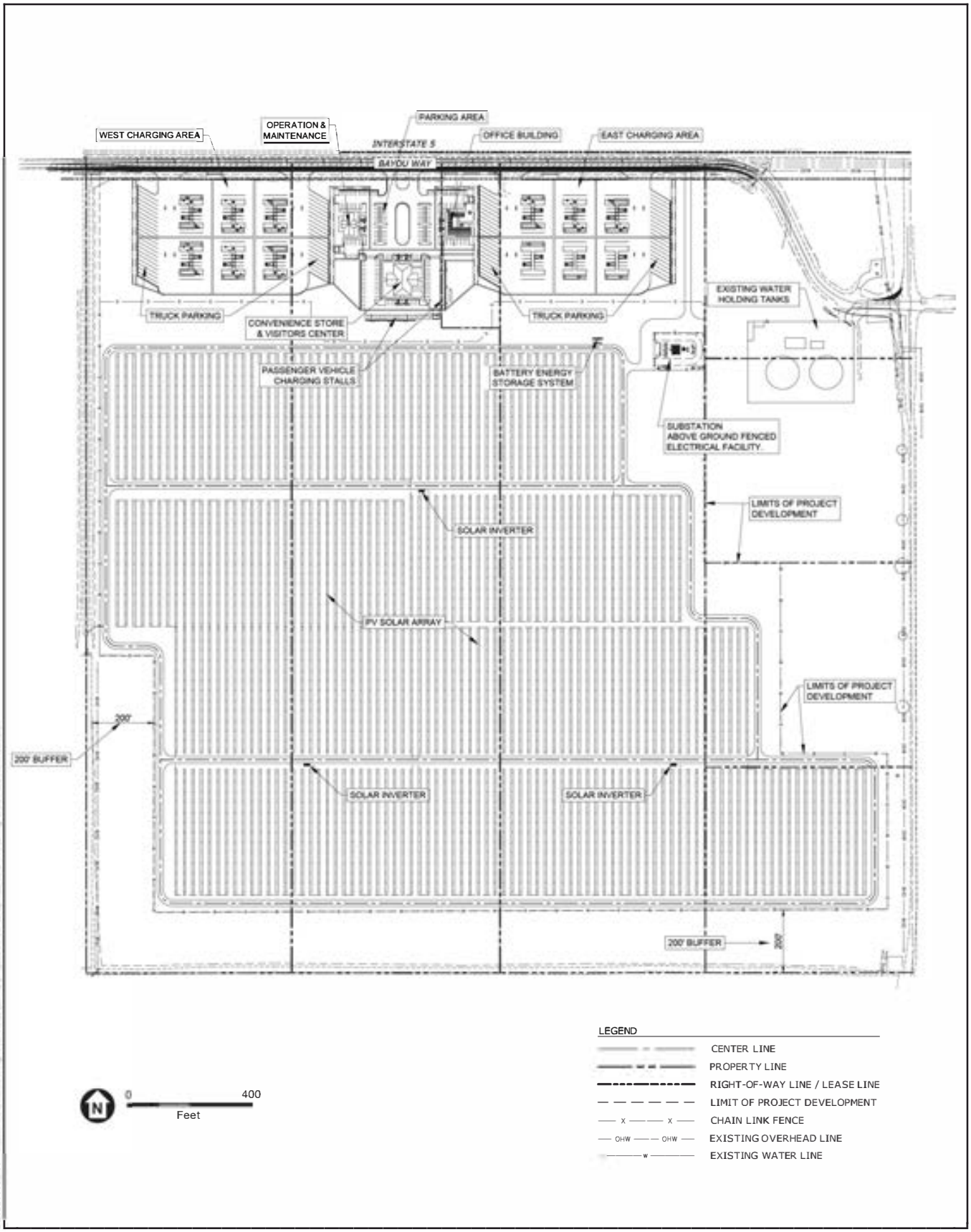
SOURCE: Esri, 2024; ESA, 2024

WattEV Commercial Charging Center

Figure 1-2
Project Vicinity

Note: The project site includes paving and widening at the intersections of Bayou Way/Airport Boulevard and Bayou Way/Power Line Road; as well as widening Bayou Way to facilitate truck turns and movement.

ESA



SOURCE: WattEV, 2023

WattEV Commercial Charging Center

Figure 1-3
Preliminary Site Plan

ESA



SOURCE: WattEV, 2024

WattEV Commercial Charging Center

Figure 1-4
Proposed Project Renderings

ESA

D202200555.03 wattev innovative height terminal (swift) project eir\05 Graphics-GIS-Modeling-LBE AZURE Illustrator

For CCS chargers, it takes approximately one hour to charge a car and three hours to charge a truck, while for MCS chargers it takes approximately 30 to 45 minutes to charge a truck. Over the course of a day, the Proposed Project is expected to generate 1,726 vehicle trips (car and truck). It is conservatively estimated that all these trips would require charging and thus the daily throughput for charging would equal daily trips.

1.4.3 Proposed Project Implementation Schedule

If the Proposed Project is approved by the FAA, construction would occur over the course of 13 months. Construction would begin in spring 2025 and last approximately 13 months. Operation of the Proposed Project would begin in late 2025/early 2026.

As shown in **Table 1-2**, site preparation activities (i.e., vegetation clearance) and grading (i.e., cut/fill of land) would occur first, followed by infrastructure improvements (i.e., installation of water, wastewater, storm drain, electrical, telecommunications facilities, etc.) and paving (i.e., placement of concrete and/or asphalt). Next, project buildings would be constructed, and the solar arrays would be installed followed by the administration of architectural coating (i.e., interior and exterior painting) on the proposed structures.

TABLE 1-2
CONSTRUCTION SCHEDULE

Phase	Start Date (Month/Year)	End Date (Month/Year)
Site Preparation	June 2025	July 2025
Grading	July 2025	September 2025
Infrastructure Improvements	September 2025	October 2025
Paving	October 2025	November 2025
Building Construction/Solar Panel Installation	November 2025	May 2026
Architectural Coating	May 2026	June 2026

Source: WattEV, 2023

Construction activities would occur Monday through Friday, during daytime hours (typically 7 a.m. – 7 p.m.). The schedule may change based on overall construction timing, or worker safety such as avoidance of excessive midday heat. Work at night would be performed occasionally within some areas of the site only if necessary to comply with traffic control permits or weather conditions to meet construction specifications. Construction, regardless of the time of day, would not be allowed to interfere with runway operations.

The on-site construction workforce would consist of laborers, craftspeople, supervisory personnel, and support personnel. The on-site assembly and construction workforce is expected to reach a peak of approximately 23 workers; on average about 10 to 15 workers are expected to be onsite at any given time.

1.4.4 Project Cost and Funding

The Proposed Project's development cost is approximately $62 million. Funding for the Proposed Project would be offset by a $33.688 million grant (CTC, 2023) awarded to Sacramento County from the Trade Corridor Enhancement Program (TCEP), as administered by the California Transportation Commission (CTC). The balance of the project would be funded by the public/private partnership. There are no funds from the FAA for this proposed non-aeronautical project.

1.5 Purpose and Need

Pursuant to NEPA and FAA Orders 1050.1F and 5050.4B, an EA must include a description of the purpose for a proposed action and why it is needed. Identification of the purpose and need for a proposed project provides the rationale for the proposed federal action and forms the foundation for identification of reasonable alternatives that can meet the purpose of the project and therefore, address the need or problem.

The FAA's statutory mission is to ensure the safe and efficient use of navigable airspace in the United States pursuant to Title 49, United States Code (USC) § 47101(a). In Advisory Circular 150/5300-13B, *Airport Design – Change 1*, the FAA provides airport design standards for airport operators to use (FAA, 2024). Implementation of the Proposed Project requires a change in designated land use of airport owned land from aeronautical land use to non-aeronautical that would result in a lease of land owned by the Airport for nonaeronautical development purposes. Pursuant to 49 U.S.C. § 47107, the FAA must approve this change, as the land was originally acquired with FAA funding for noise mitigation and to prevent the introduction of noncompatible land uses. Thus, FAA's purpose and need is to ensure that SMF is in compliance with all FAA grant-in-aid assurances and obligations.

Since Sacramento County is the grant applicant, the purpose of the Proposed Project is to develop a charging facility for electric vehicles in Sacramento County that is accessible and convenient to major freight and transportation corridors that meets the objectives and evaluation criteria of the California Transportation Commission's Trade Corridor Enhancement Program and supports the goals of the National Highway Freight Program, the California Freight Mobility Program, and the California Sustainable Freight Action Plan. The Proposed Project would cogenerate green energy onsite for a net-zero facility. Additionally, there is an unmet demand for equitable access to zero emission technology for small carriers and independent freight vehicle owner operators, private EV automobiles, and EV charging facilities in general.

The need for the Proposed Project is to reduce vehicle generated air pollutant emissions and to support a large portion of the EV charging demand in Sacramento County adjacent to the major freight and travel corridors that traverse the area. The areas immediately adjacent to the Proposed Project site have some of the highest diesel pollution and environmental burden in the region according to the CalEnviroScreen 4.0 screening tool. Provision of a zero-emissions charging facility on the site will provide greater deployment of zero emissions vehicles in the area, particularly in the medium- and heavy-duty (MHD) sector, with resultant decreases in diesel emissions. As part of the Proposed Project, it is anticipated that more than 300 passenger vehicles would be accommodated each day, further reducing internal combustion engine emissions by automobiles using I-5.

In order to achieve the stated purpose and need, the project proponent requires:

- A site in Sacramento County large enough (>100 acres) to provide sufficient EV charging stations for freight trucks and passenger vehicles, onsite amenities, and administrative functions as well as a solar field of the size needed to provide for a net-zero facility.
- A site directly adjacent to the National Highway Freight Network (NHFN) as well as industrial development. The goal of the NHFP is to improve efficient movement of freight along the NHFN. The location must be strategically located to serve multiple high-capacity freight corridors including I-5, I-80, SR-99, and US-50, as well as in proximity to established interchanges on I-5 and SR-99 to provide for efficient and safe movements to and from the project site.

- A site in proximity to SMUD 69 kV distribution lines which are necessary to transmit power to and from the existing electrical grid. The site's proximity to these existing distribution facilities negates the need to construct lengthy generation tie-lines.
- A site that is feasible without unreasonably high costs that would limit the ability to be a net-zero facility.

1.6 Proposed Federal Actions

The proposed FAA actions subject to NEPA review include the following:

- Approval of a change in land use from aeronautical to non-aeronautical use pursuant to 49 U.S.C. § 47107.
- Unconditional approval of the portion of the Airport Layout Plan for the Airport depicting the proposed improvements pursuant to 49 U.S.C. § 47107(a)(16)(B),(x).

1.7 Document Organization

This EA contains the following chapters:

Chapter 1, Purpose and Need: provides a brief description of SMF, a description of the Proposed Project and its purpose and need, timeframes associated with the Proposed Project, and the proposed federal action.

Chapter 2, Alternatives: provides an overview of the identification and screening of alternatives considered as part of the environmental evaluation process.

Chapter 3, Affected Environment: describes existing environmental conditions within the project study area.

Chapter 4, Environmental Consequences: discusses and compares the environmental impacts associated with the Proposed Project, including the federal action, feasible alternatives to the Proposed Project, and the No Action Alternative; and it also identifies avoidance, minimization, and mitigation options considered.

Chapter 5, Coordination and Public Involvement: describes the coordination and public involvement associated with the EA process and presents a list of federal, state, and local agencies and other interested parties that have been involved in EA coordination efforts.

Chapter 6, List of Preparers and Reviewers: provides a list and summary of qualification of those individuals that contributed to the preparation of this EA.

The **Appendices**, which include various reference materials, technical studies prepared in support of the EA, and records of coordination activities.

CHAPTER 2
Alternatives

2.1 Introduction

This chapter describes the alternatives to the proposed Sacramento County/WattEV Commercial Charging Center station at Sacramento International Airport (SMF). As referenced in Section 1.4.4, *Project Cost and Funding*, the cost of the project would be substantially offset by a $33.688 million grant from the Trade Corridor Enhancement Program (TCEP), as administered by the California Transportation Commission (CTC) (CTC, 2023). The purpose of the TCEP is to provide funding for infrastructure improvements on federally designated Trade Corridors of National and Regional Significance, on California's portion of the National Highway Freight Network (NHFN), as identified in California Freight Mobility Plan, and along other corridors that have a high volume of freight movement. The TCEP also supports the goals of the National Highway Freight Program (NHFP), the California Freight Mobility Plan (CFMP), and the guiding principles in the California Sustainable Freight Action Plan (CSFAP). Grant funds are limited and are competitively awarded. Eligible applicants apply for program funds through the nomination of projects. All projects nominated must be identified in a currently adopted regional transportation plan, and the CTC is required to evaluate and select submitted applications. WattEV and Sacramento County entered into a Public-Private Partnership and submitted a grant proposal to the CTC for the development of the Proposed Project. The Proposed Project competed against other applicants and was awarded a grant based on established performance metrics developed by CTC. A significant factor in the project's grant award was the range of benefits provided by the Proposed Project's location. An evaluation was conducted as part of this EA to determine if there are other alternatives that can meet the purpose and need while satisfying the project proponent's minimum requirements.

2.1.1 Requirements of the National Environmental Policy Act and Scope of the Alternatives Analysis

The *National Environmental Policy Act of 1969* (NEPA) (42 U.S.C. § 4321 *et seq*., as amended), CEQ's NEPA-implementing regulations (40 CFR Parts 1500-1508), FAA's policies and procedures for compliance with NEPA (FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*), and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*) require that federal agencies consider a reasonable range of alternatives that are technically and economically feasible and meet the purpose and need.[4] NEPA also requires that an alternative of No Action be evaluated.

This chapter summarizes the screening process conducted to identify, compare, and evaluate alternatives to the Proposed Project. This chapter presents the following:

- An overview of the alternatives screening process and analysis used for this EA.

[4] On January 20, 2025, President Trump issued Executive Order (EO) No. 14154, *Unleashing American Energy*, which revoked EO 11991, Relating to Protection and Enhancement of Environmental Quality (May 24, 1977), and instructed the Chair of the CEQ to rescind its NEPA-implementing regulations. On February 25, 2024, the CEQ issued an interim final rule to remove the existing implementing regulations for NEPA (90 FR 10610 (Feb. 25, 2025)). The Draft EA was prepared in accordance with CEQ's National Environmental Policy Act Implementing Regulations Revision Phase 2, 89 FR 35442 (May 1, 2024) (Phase 2 final rule), now pending recission.

- A description of the reasonable alternatives to the Proposed Project considered, including the No Action Alternative.
- A concise statement explaining why some alternatives considered have been eliminated from evaluation in this EA.
- Identification of reasonable alternatives retained for further evaluation in this EA.
- A list of applicable laws, regulations, executive orders and associated permits, licenses, and/or reviews.

Six alternatives were evaluated using the screening criteria described below. Alternatives that did not meet the purpose and need were not advanced for further analysis. As required under 40 CFR § 1502.14(c), the No Action Alternative was advanced through the alternatives analysis as a basis of comparison against which the impacts of the other alternatives were evaluated.

2.1.2 Requirements of the National Environmental Policy Act

The Council on Environmental Quality (CEQ) regulations (40 CFR § 1502.14) for implementing the *National Environmental Policy Act of 1969* (NEPA) (42 U.S.C. § 4321 *et seq*., as amended) requires that federal:

- Rigorously explore and objectively evaluate all reasonable alternatives and, for alternatives which were eliminated from detailed study, briefly discuss the reasons for their elimination.
- Discuss each alternative considered in detail, including the Proposed Project, so that reviewers may evaluate their comparative merits.
- Consider a reasonable range of alternatives that are technically and economically feasible and meet the purpose and need.
- Include the no action alternative.

2.2 Alternatives Screening and Evaluation

Sacramento County has determined that there is an unmet demand for Electric Vehicle (EV) charging facilities for freight and passenger vehicles convenient to major freight corridors. As discussed in Section 1.5 of this EA, the purpose of the Proposed Project is to satisfy the unmet demand for equitable access to EV freight, public transit, and passenger vehicle charging through development of an EV charging facility that uses green energy to meet the objectives and evaluation criteria of the CTC's TCEP, and supports the goals of the NHFP, the CFMP, and the CSFAP. As discussed in Section 1.3 of this EA, Sacramento County and the project proponent, WattEV, entered into an agreement to develop facilities at the Airport to accommodate the unmet demand for EV charging for shippers and transporters as well as public transportation and passenger vehicles, in Sacramento County through the development of the Proposed Project. The agreement proposes the development and operation of an EV charging facility at SMF. A decision by the FAA approving the proposed land use change to allow construction of the Proposed Project would be necessary for the project to proceed. In the event that FAA does not approve the Proposed Project, the project may be deferred, and the Airport may not be able to accommodate the unmet demand for EV charging facilities.

Reasonable alternatives to the Proposed Project, including the No Action Alternative, are identified and evaluated in this EA in accordance with NEPA and its implementing regulations and FAA guidance and policy.

2.2.1 Alternatives Screening Process Overview

The alternatives evaluation involves a three-step screening process. **Figure 2-1** depicts this screening process. The first step addresses whether the alternatives meet the purpose and need for the Proposed Project as identified in Chapter 1, *Purpose and Need*. This is established through demonstration that the alternative includes enough land for development of EV charging for freight, public transportation, and passenger vehicles, vehicle parking, a convenience store/visitor center, and a solar field capable of supporting net zero charging. It also identifies additional needs including location and proximity to highways and industrial areas. The second step is to determine if the alternatives would be practical and feasible from a technical and economic standpoint, including constructability and operational considerations. This is established by determining whether the alternative could accommodate the functional needs and implementation requirements of the Proposed Project. The third step entails further analysis in this EA. Alternatives that did not meet the evaluation criteria established at steps one and/or two were eliminated from further consideration and were not subject to a detailed analysis of environmental impacts in this EA.

2.2.1.1 Step 1: Meet the Purpose and Need

The first step of this evaluation focused on whether an alternative met the purpose and need for the Proposed Project as described in Chapter 1, *Purpose and Need*. Alternatives that did not meet the purpose and need criteria were eliminated from further consideration. As discussed in Section 1.5 of this EA, Sacramento County has identified that there is an unmet demand for EV charging facilities at SMF. This includes demand for an EV charging facility capable of supporting heavy and medium duty trucks as well as electric powered public transportation vehicles, electric powered passenger automobiles, and access to major freight corridors to support the movement of cargo throughout the region. To determine whether the alternative meets the purpose and need for the Proposed Project, the following evaluation criteria is employed.

Evaluation Criteria:

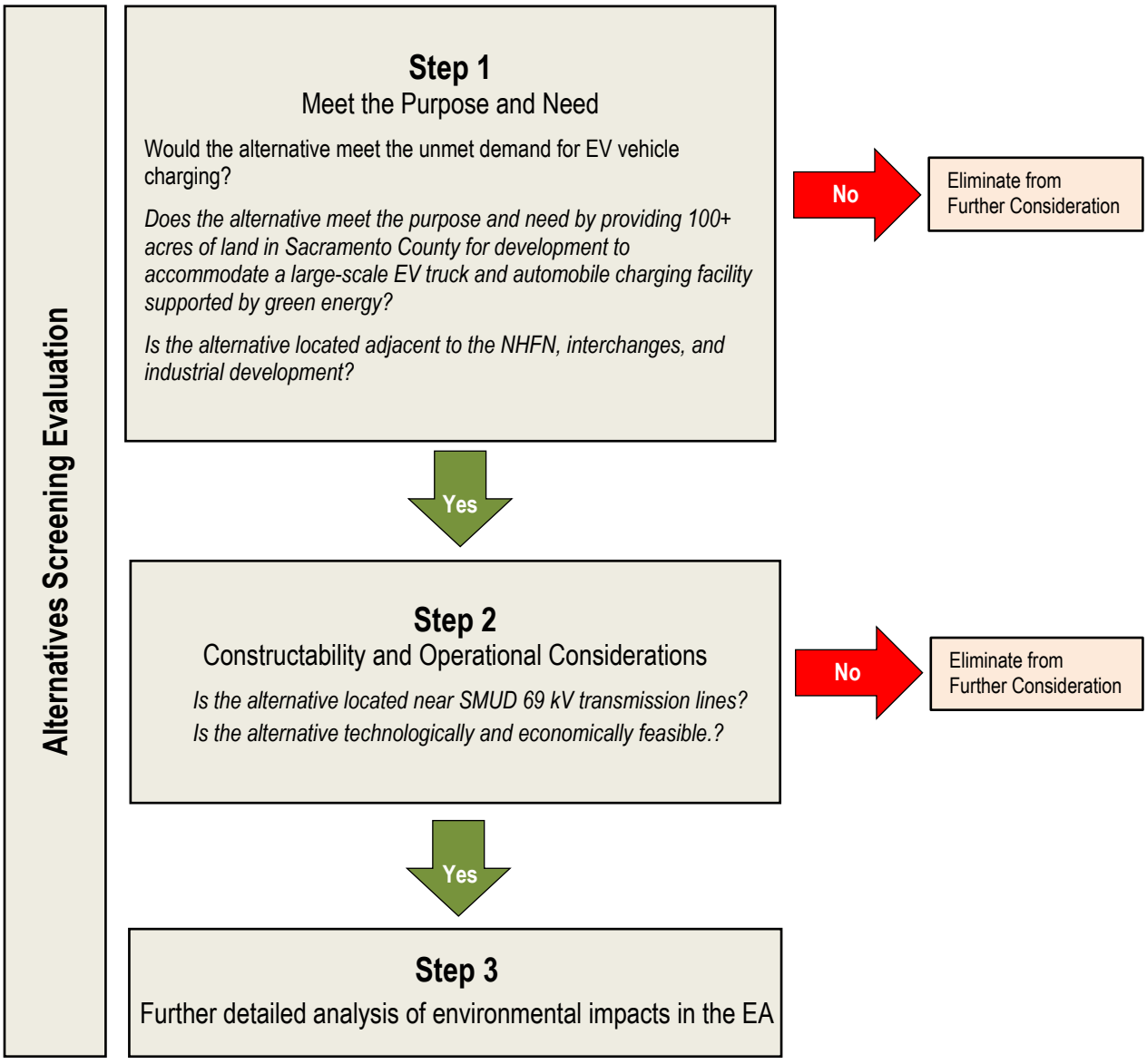
- **Meet the Purpose and Need.** This criterion ensures the alternative would meet the unmet demand for EV charging.
- **Adequate Land Available for Development.** This criterion considers whether an alternative site is available at the Airport or elsewhere in Sacramento County that could provide at least 100 acres of land, in a layout that allows for development necessary to accommodate a large-scale EV truck and automobile charging facility with a solar field of the size and configuration needed to provide for a net-zero facility, passenger amenities, administrative functions, and parking.
- **Access to Freight Corridors and Industrial Development.** This criterion considers sites directly adjacent to the NHFN and industrial development. A site must be strategically located to serve multiple high-capacity freight corridors including I-5, I-80, SR-99, and US-50, as well as in proximity to established highway interchanges and industrial development.

2.2.1.2 Step 2: Constructability and Operational Considerations

The second step of this evaluation focused on whether the alternatives would be practical and feasible from a technical and economic standpoint, including constructability and operational considerations. To determine whether the alternative is practical and feasible, the following evaluation criteria is employed.

Evaluation Criterion:

- This criterion is based on an assessment of the technical, logistical, and financial factors for each alternative, including:
  - In close proximity to Sacramento Municipal Utility District (SMUD) 69kV distribution lines.
  - Technologically and economically feasible without unreasonably high costs that would limit the ability to fully implement the Proposed Project.



SOURCE: Environmental Science Associates, 2024.

Figure 2-1
Alternatives Screening Process

2.3 Alternatives Considered

2.3.1 Proposed Project Alternative

The Proposed Project is described in detail in Section 1.4.1. In summary, the major project components would include:

- Construction of a 15.3-acre charging area/rest area configured with two truck charging areas separated by a publicly accessible central plaza. The facility would include a two-story 14,000-square-foot (sf) convenience store and visitor center, a 3,000-sf single story operations and maintenance facility, and a 3,000-sf single story office building.
- Construction of two truck charging areas providing a total of 18 Megawatt Charging Standard (MCS) chargers and 90 240 kW Combined Charging Standard (CCS) chargers designed for heavy and medium duty trucks as well as public transportation vehicles (e.g., buses). Eighty truck parking stalls would also be provided.
- Construction of 30 CCS chargers dedicated to passenger vehicle use and an automobile parking lot with 200 automobile parking spaces.
- Construction of an 88.9-acre Photovoltaic (PV) solar array, with solar modules mounted on tracker arrays. Each rack would hold up to 90 panels (72 Cell Modules). Five 3.6 Megavolt Ampere (MVA) inverters and transformers would be installed on concrete pads located within the solar field.

2.3.1.1 Step 1: Meet the Purpose and Need

The Proposed Project would satisfy the unmet demand for large-scale EV charging facilities. The Proposed Project site would provide at least 100 acres of land, configurable for efficient highway access, EV charging facilities, support facilities, passenger amenities and parking, and green energy and zero emissions technology.

2.3.1.2 Step 2: Constructability and Operational Considerations

The project site is also in close proximity to the SMUD 69kV powerlines along Powerline Road. The site is owned by Sacramento County and is not considered 'prime real estate' because considerable infrastructure investment and fill would be required to fully develop the site. As a result, this site can be made available for a large-scale low impact development such as a solar array without a cost structure that would make development of this alternative infeasible by inhibiting development of any part of the project.

2.3.1.3 Conclusion

The Proposed Project satisfied the Step 2 screening criteria and was carried forward for detailed evaluation in the EA.

2.3.2 No Solar Array Alternative

This alternative would be similar to the Proposed Project but would not include construction of a solar array. The charging areas and associated support facilities would occupy 15.3 acres of land on the northern portion of the project site plus an additional 10-12 acres for the power supply infrastructure for a total footprint of approximately 25 acres. All energy would be obtained from the existing power grid.

2.3.2.1 Step 1: Meet the Purpose and Need

The No Solar Array Alternative would not fully meet the purpose and need. While this alternative would satisfy the unmet demand for large-scale EV charging facilities, it would not provide the green energy and

net zero technology required to fully meet the purpose and need. The solar component and zero emissions technology were key factors in the project's selection for grant funding as well as addressing the unmet demand for EV charging. As such, an alternative that eliminates the proposed onsite solar generation component would not meet the purpose and need of the project and was eliminated from further consideration.

2.3.2.2 Conclusion

This alternative did not satisfy the Step 1 screening criteria and was not carried forward for detailed evaluation in the EA.

2.3.3 North Airport Alternative

This alternative would develop EV charging facilities at an existing vacant site previously identified for nonaeronautical development on the Airport (see **Figure 2-2**). This alternative is located north of Elverta Road between the extended centerline of the two runways.

2.3.3.1 Step 1: Meet the Purpose and Need

The North Airport Alternative site would accommodate the proposed facilities and satisfy the unmet demand for large-scale EV charging facilities. The project site would provide a large area of land with EV charging facilities, access support facilities, passenger amenities and parking, and green energy and zero emissions technology. There is adequate space on Airport property (more than 100 acres) in a layout conducive to development of the EV charging facility. The site is located in close proximity to the Metro Air Park Industrial Park. While the project site has access to the SR-99 freight corridor, the interchange is four miles to the east. The site does not have direct access to the I-5 corridor or associated interchanges.

While the site is large enough to accommodate the proposed facilities, it does not have direct access to the freight corridors or interchanges along major freight corridors (I-5 or I-99). Thus, it does not meet freight corridor access requirements for large-scale EV charging facilities.

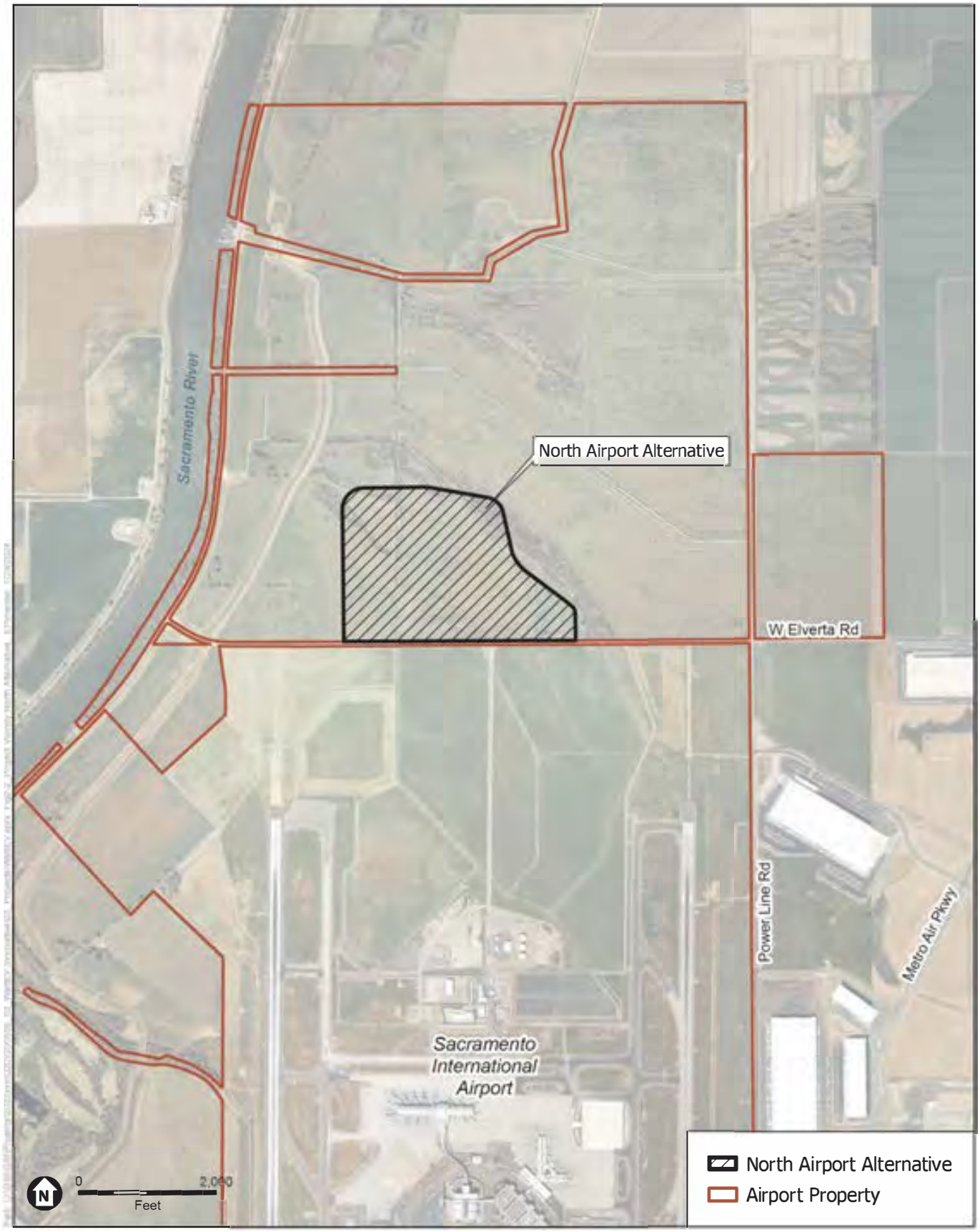
2.3.3.3 Conclusion

This alternative did not satisfy the criteria included under Step 1 of the screening analysis. No further evaluation of this alternative is warranted.

2.3.4 Metro Air Park Off-Airport Alternative

This alternative would construct an EV charging facility at an off-airport site located within the 1,900-acre Metro Air Park master planned development industrial park east of the airport (see **Figure 2-3**). Planning for Metro Air Park began more than 30 years ago, and the first development occurred in 2017 with the development of an Amazon distribution facility. Of the 1,900-acre site, 1,320 acres are fully entitled for development and significant investment has been made in infrastructure to support modern distribution facilities and corporate campuses.[5] Much of the available land has either already been developed or is in some phase of development and Metro Air Park has received proposals for as many as 10 hotels. One of the most recent developments, the Target food distribution center, included acquisition of 75 acres for $32 million. Available sites within the Metro Air Park range between 3 and 166 acres.

[5] More than $125 million has been invested in Metro Air Park infrastructure to date. https://www.greatersacramento.com/wp-content/uploads/2021/01/GSEC-Metro_Air_Park_Flyer-web.pdf.

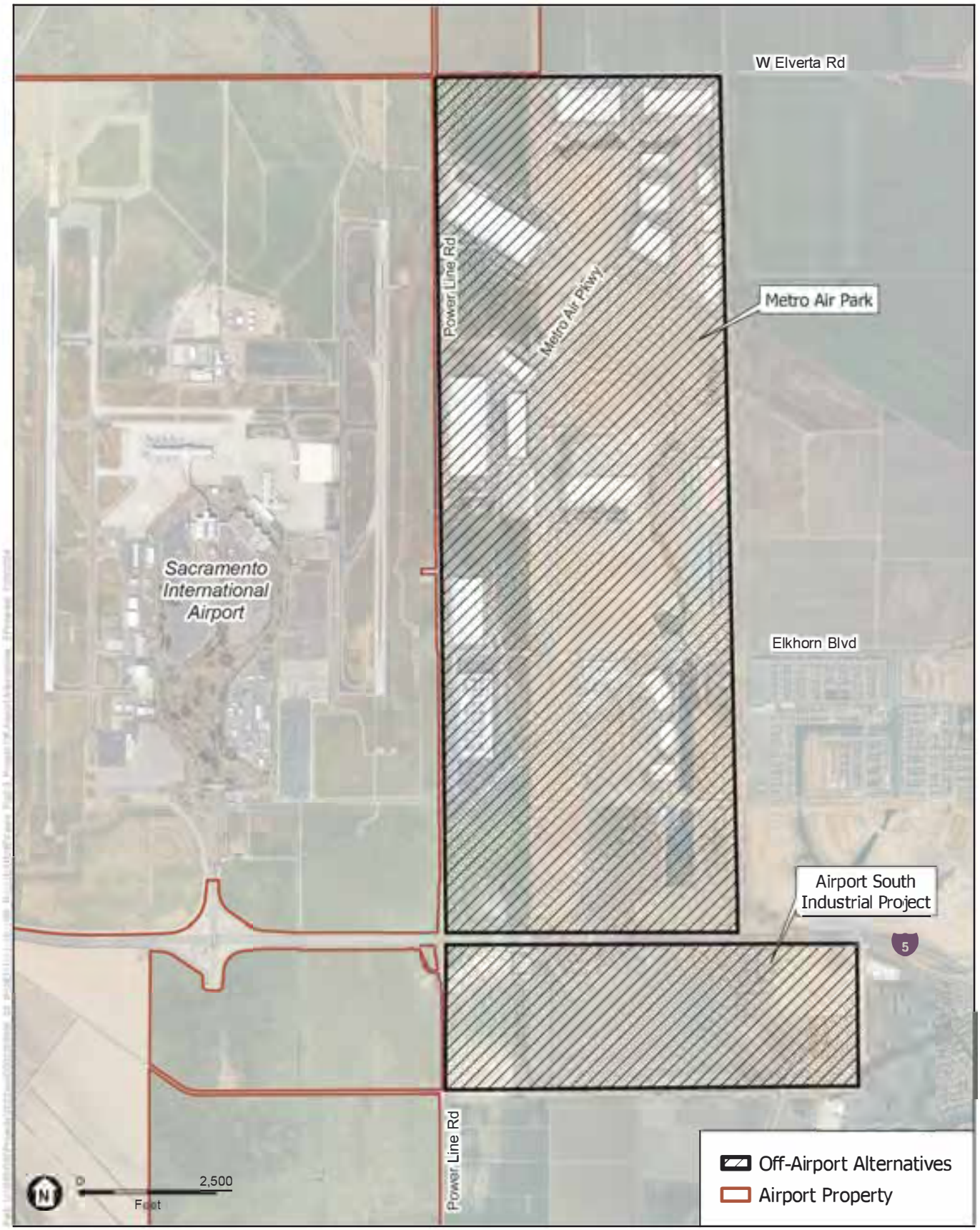


SOURCE: Esri, 2024; ESA, 2024

WattEV Commercial Charging Center

Figure 2-2
Project Vicinity - North Airport Alternative

ESA



SOURCE: Esri, 2024; ESA, 2024

WattEV Commercial Charging Center

Figure 2-3
Project Vicinity - Off-Airport Alternatives

ESA

2.3.4.1 Step 1: Meet the Purpose and Need

The Metro Air Park Off-Airport Alternative would not fully meet the purpose and need. Based on discussions with the Metro Air Park developer, there were no sites suitable for the solar array as the site infrastructure was developed for warehouse/industrial use and the Metro Air Park developer indicated only the EV truck terminal would be possible at Metro Air Park. Additionally, the project proponent would not be able to construct a private substation or connect to the SMUD grid. Accordingly, all energy would be obtained from the existing power grid. A site could be found to satisfy the unmet demand for large-scale EV charging facilities; however, it would not provide the green energy and net zero technology required to fully meet the purpose and need. The solar component and zero emissions technology were key factors in the project's selection for grant funding. As such, an alternative that inhibits the proposed onsite solar generation component would not meet the purpose and need of the project and was eliminated from further consideration.

2.3.4.2 Conclusion

This alternative did not satisfy the criteria included under Step 1 of the screening analysis. No further evaluation of this alternative is warranted.

2.3.5 Airport South Industrial Project Off-Airport Alternative

This alternative would construct an EV charging facility at an off-airport site located within the future Airport South Industrial Project site. This proposed industrial park would be located at the intersection of Powerline Road and I-5, southeast of the Airport (see Figure 2-3). This industrial park is anticipated to include industrial uses across approximately 350 acres, and 13 acres of the site would be used for retail/ commercial, hotel/hospitality, and parking.

2.3.5.1 Step 1: Meet the Purpose and Need

The Off Airport Alternative would satisfy the unmet demand for large-scale EV charging facilities. There is at least 100 acres of land available to potentially support development of EV charging facilities, access, support facilities, passenger amenities and parking, and green energy and zero emissions technology. The acreage would be available within the Airport South Industrial Project to support the proposed development; however, it is not consistent with the identified uses of the Airport South Industrial Project. The Airport South Industrial Project has direct access to the freight corridors/interchanges along major freight corridors (I-5 or I-99). Thus, it does meet freight corridor access requirements for large-scale EV charging facilities.

2.3.5.2 Step 2: Constructability and Operational Considerations

Investigation of the Airport South Industrial Project indicates the land is primarily owned by "NP MAP LAND HOLDING COMPANY LLC" and based on preliminary plans, land uses are similar to the Metro Air Park and the site is being developed for warehousing/industrial uses. The infrastructure investments to develop property for warehousing/industrial uses carry a higher acquisition cost which is not operationally or financially feasible for development of the Proposed Project unless the solar array was removed. The significant land required to accommodate the solar array would not generate revenue consistent with the infrastructure investments, pricing structure, and premium development (industrial and commercial) focus of the Airport South Industrial Project. In addition to the high cost of electricity without a solar array, and not meeting the Purpose and Need, utilizing a site at the Airport South Industrial Project would double the cost of the project, if it were even deemed consistent with their development plans, which would make this alternative prohibitively expensive.

2.3.5.3 Conclusion

This alternative did not satisfy the criteria included under Step 2 of the screening analysis. No further evaluation of this alternative is warranted.

2.3.6 No Action Alternative

Sacramento County entered into a Public/Private Partnership with WattEV to build an EV Commercial Charging Center in Sacramento County and the County is the grant applicant for the Proposed Project. Under the No Action Alternative, the Proposed Project would not be built. The $33 million grant for Sacramento County to administer development of the EV Commercial Charging Center would be forfeited. There would be no production of green energy and implementation of net zero technology and the reduction in emissions and along the primary freight corridors in Sacramento County would not be achieved.

Table 2-1 summarizes the results of the alternatives screening evaluation. In accordance with NEPA requirements, the No Action Alternative is evaluated throughout the EA for comparison against other alternatives.

2.4 Alternatives Retained for Further Analysis

The Proposed Project and No Action Alternative have been retained for further analysis in this EA. These alternatives are discussed in further detail below.

2.4.1 Proposed Project

The Proposed Project is a reasonable alternative because it meets the purpose and need by satisfying the unmet demand for large-scale EV charging facilities with green energy and zero emissions technology. **Figure 2-4** depicts the Proposed Project.

2.4.2 No Action Alternative

The purpose and need of the Proposed Project would not be satisfied by the No Action Alternative as the No Action Alternative would not satisfy the unmet demand for large-scale EV charging facilities.

While the No Action Alternative does not meet the Proposed Project's purpose and need, it has been retained for detailed analysis under for comparison purposes with the Proposed Project and other reasonable alternatives.

2.4.3 Summary of Alternatives Analysis

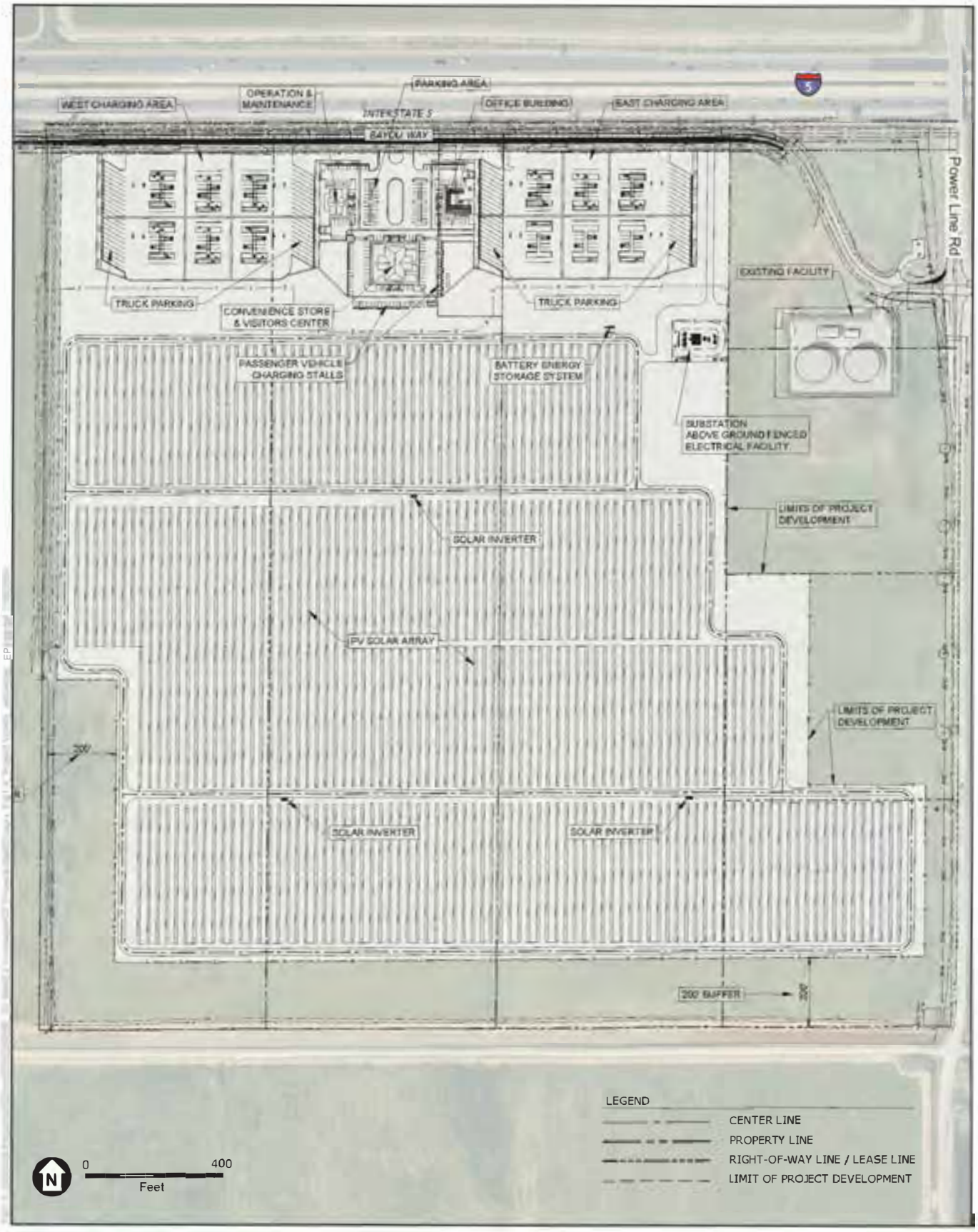
For the reasons presented above, the alternatives retained for consideration were the Proposed Project and the No Action Alternative.

2.5 Federal Laws and Regulations Considered

Relevant federal laws and statutes, executive orders, and other federal regulations considered during preparation of this EA are listed in **Table 2-2**, **Table 2-3**, and **Table 2-4**.

TABLE 2-1
ALTERNATIVES EVALUATION SUMMARY

Screening Level	Screening Criteria	Proposed Action	No Solar Array Alternative	North Airport Alternative	Metro Air Park Off-Airport Alternative	Airport South Industrial Park Off-Airport Alternative	No Action Alternative
Step 1 Meet the Purpose and Need	Meet unmet demand for equitable access to EV freight and passenger vehicle charging.	Meets unmet demand for large-scale EV charging facilities.	The No Solar Array Alternative would not provide the green energy and net zero technology required to fully meet the purpose and need.	Meets unmet demand for large-scale EV charging facilities.	Meets unmet demand for large-scale EV charging facilities.	Meets unmet demand for large-scale EV charging facilities.	Does not meet unmet demand for large-scale EV charging facilities. No development would occur under this alternative.
	A minimum of 100 contiguous acres of land in Sacramento County to accommodate a large-scale EV charging facility and solar field, as well as passenger amenities and parking.	The Proposed Project includes more than 100 acres of contiguous land located within Sacramento County that can accommodate a large-scale EV charging facilities, green energy/zero emissions technology, and associated facilities.	-- --	There is adequate space on Airport property (more than 100 acres) to develop the EV charging facility within Sacramento County.	This site cannot accommodate green energy/ zero emissions technology and would not fully meet the purpose and need.	This site has sufficient acreage to accommodate a large-scale EV charging facilities, green energy/ zero emissions technology, and passenger amenities and parking. This site is located in Sacramento County; however, it is being developed for industrial and commercial uses.	Not applicable.
	Access to multiple freight corridors included in the NHFN as well as industrial development.	The Proposed Project has access to multiple freight corridors (I-5 and SR-99) included in the NHFN and is located in close proximity to the Metro Air Park Industrial Park.	-- --	Access to the SR-99 freight corridor interchange is four miles to the east. Additionally, the site does not have direct access to the I-5 corridor.	-- --	This site includes access to I-5 and SR-99 and is part of a proposed Industrial Park.	Not applicable.
Continue to Step 2 evaluation?		Yes	No	No	No	Yes	Yes
Step 2 Constructability and Operational Considerations	Access to Sacramento Municipal Utility District (SMUD) 69kV distribution lines.	The Proposed Project is in close proximity to the SMUD 69kV powerlines along Powerline Road.	-- --	-- --	-- --	The site is in close proximity to the SMUD 69kV powerlines along Powerline Road.	Not applicable.
	Technologically and economically feasible.	The Proposed Project site would not inhibit development of any project component due to technological or economical constraints.	-- --	-- --	-- --	The significant land required would not generate revenue consistent with industrial land uses. The cost of the project would double and it would not be economically feasible; or would require omitting the solar array, which would then not fully meet the purpose and need.	Not applicable.
Retain for detailed analysis?		Yes	No	No	No	No	Yes



SOURCE: Esri, 2024; ESA, 2024

WattEV Commercial Charging Center

Figure 2-4
Proposed Project Site Plan

ESA

TABLE 2-2
FEDERAL LAWS AND STATUTES CONSIDERED

Airport and Airway Improvement Act of 1982, as amended	49 U.S.C. 47101 *et seq.*
National Environmental Policy Act of 1969	42 U.S.C. 4321 *et seq.*
FAA Reauthorization Act of 2024	P.L. 118-63
Aviation Safety and Noise Abatement Act of 1979	49 U.S.C. 47501 *et seq.*
Clean Air Act of 1970, as amended	42 U.S.C. 7401 *et seq.*
Endangered Species Act of 1973, as amended	16 U.S.C. 1531 *et seq.*
Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Community Environmental Response Facilitation Act of 1992	42 U.S.C. 9601 *et seq.*
Resource Conservation and Recovery Act of 1976, as amended by the Solid Waste Disposal Act of 1980	42 U.S.C. 6901 *et seq.*
Policy on Lands, Wildlife and Waterfowl Refuges, and Historic Sites [recodified from and formerly known as Section 4(f) of the *Department of Transportation Act of 1966*]	49 U.S.C. Section 303
National Historic Preservation Act	54 U.S.C. 300101 *et seq.*
Archaeological and Historic Preservation Act	54 U.S.C. 312501 *et seq.*
Land and Water Conservation Fund Act of 1965	16 U.S.C. 4601 *et seq.*
Clean Water Act	33 U.S.C. 1251 *et seq.*
Rivers and Harbors Act of 1899	33 U.S.C. 401 *et seq.*
Farmland Protection Policy Act	7 U.S.C. 4201 *et seq.*
Uniform Relocation Assistance and Real Property Acquisition Policies for Federal and Federally Assisted Programs	42 U.S.C. 61 *et seq.*
Wild and Scenic Rivers Act	16 U.S.C. 1271 *et seq.*
Migratory Bird Treaty Act of 1972	16 U.S.C. 703-711
American Indian Religious Freedom Act	42 U.S.C. 1996
Antiquities Act of 1906	54 U.S.C. 320301 *et seq.*
Archaeological Resources Protection Act	16 U.S.C. 470 *et seq.*
Federal Aviation Act of 1958, as amended	49 U.S.C. 40101 *et seq.*
National Flood Insurance Act	42 U.S.C. 4001 *et seq.*
Native American Graves Protection and Repatriation Act	25 U.S.C. 3001 *et seq.*
Pollution Prevention Act	42 U.S.C. 13101 *et seq.*
Protection of Historic and Cultural Properties	36 CFR Part 800
Safe Water Drinking Act of 1974	42 U.S.C. 300 *et seq.*
U.S. Department of Transportation Act, Section 4	49 U.S.C. 303[c]

Notes: U.S.C. = United States Code; P.L. = Public Law; CFR = Code of Federal Regulations

TABLE 2-3
EXECUTIVE ORDERS CONSIDERED

Executive Order 11593, *Protection and Enhancement of the Cultural Environment*	36 Federal Register 8921
Executive Order 11988, *Floodplain Management*	42 Federal Register 26951
Executive Order 11990, *Protection of Wetlands*	42 Federal Register 26961
Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*	62 Federal Register 19885
Executive Order 13175, Consultation and Coordination with Indian Tribal Governments	65 Federal Register 67249
Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds	66 Federal Register 3853
Executive Order 14154, Unleashing American Energy	90 Federal Register 8353

TABLE 2-4
FAA ORDERS, ADVISORY CIRCULARS, AND FEDERAL REGULATIONS CONSIDERED

U.S. Department of Transportation and FAA Orders
U.S. Department of Transportation (DOT), FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*
U.S. DOT, FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions of Airport Actions*
U.S. DOT, Order 5650.2, *Floodplain Management and Protection*
U.S. DOT Order 5610.1C, *Procedures for Considering Environmental Impacts*
U.S. DOT, FAA Order 1050.10D, *Environmental Pollution Control and Abatement at FAA Facilities*
U.S. DOT, FAA Order 1210.20, *American Indian and Alaska Native Tribal Consultation Policy and Procedures*
U.S. DOT, FAA Order 5100.38D, Change 1, *Airport Improvement Program Handbook*
U.S. DOT, Order 5650.1, *Protection and Enhancement of the Cultural Environment*
FAA Advisory Circulars
U.S. DOT, FAA AC 150/5070-6B, *Airport Master Plans*
U.S. DOT, FAA AC 150/5200-33C, *Hazardous Wildlife Attractants on or Near Airports*
U.S. DOT, FAA AC 150/5300-13B, *Airport Design*
U.S. DOT, FAA AC 150/5370-10H, *Standards for Specifying Construction of Airports*
U.S. DOT, FAA AC 150/5020-1, *Noise Control and Compatibility Planning for Airports*
Code of Federal Regulations
Title 14 CFR Part 77, *Safe, Efficient Use and Preservation of the Navigable Airspace*
Title 14 CFR Part 139, *Airport Operations Specifications*
Title 14 CFR Part 150, *Airport Noise Compatibility Planning*
Title 36 CFR Part 800 (39 Federal Register [FR] 3365, January 25, 1974, and 51 FR 31115, September 2, 1986), *Protection of Historic Properties*
Title 40 CFR Part 93, *Determining Conformity of Federal Actions to State or Federal Implementation Plans*, Subpart B
Title 40 CFR Part 122, *EPA Administered Permit Programs: The National Pollutant Discharge Elimination System*
Note: CFR = Code of Federal Regulations

CHAPTER 3
Affected Environment

3.1 Introduction

This chapter describes existing physical, natural, and human environmental conditions within those areas that would be directly, or indirectly, affected by the Proposed Project and its alternatives. The information describes the airport environs and provides information by which potential environmental impacts of the alternatives retained for detailed evaluation can be assessed and compared. The environmental resource categories described in this chapter are organized as identified in the *Desk Reference* for the Federal Aviation Administration (FAA) (Order 1050.1), and FAA's directive for NEPA compliance, *Environmental Impacts: Policies and Procedures* (FAA Order 1050.1). The potential environmental impacts of the Proposed Project and the No Action Alternative are discussed in Chapter 4, *Environmental Consequences*.

FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, states the affected environment section of an Environmental Assessment (EA) should succinctly describe only those environmental resources the Proposed Project and its reasonable alternatives are likely to affect. The amount of information on potentially affected resources is based on the expected impact and is commensurate with the importance of the impact as directed in FAA Order 1050.1 and the 1050.1F Desk Reference.

3.1.1 Study Areas

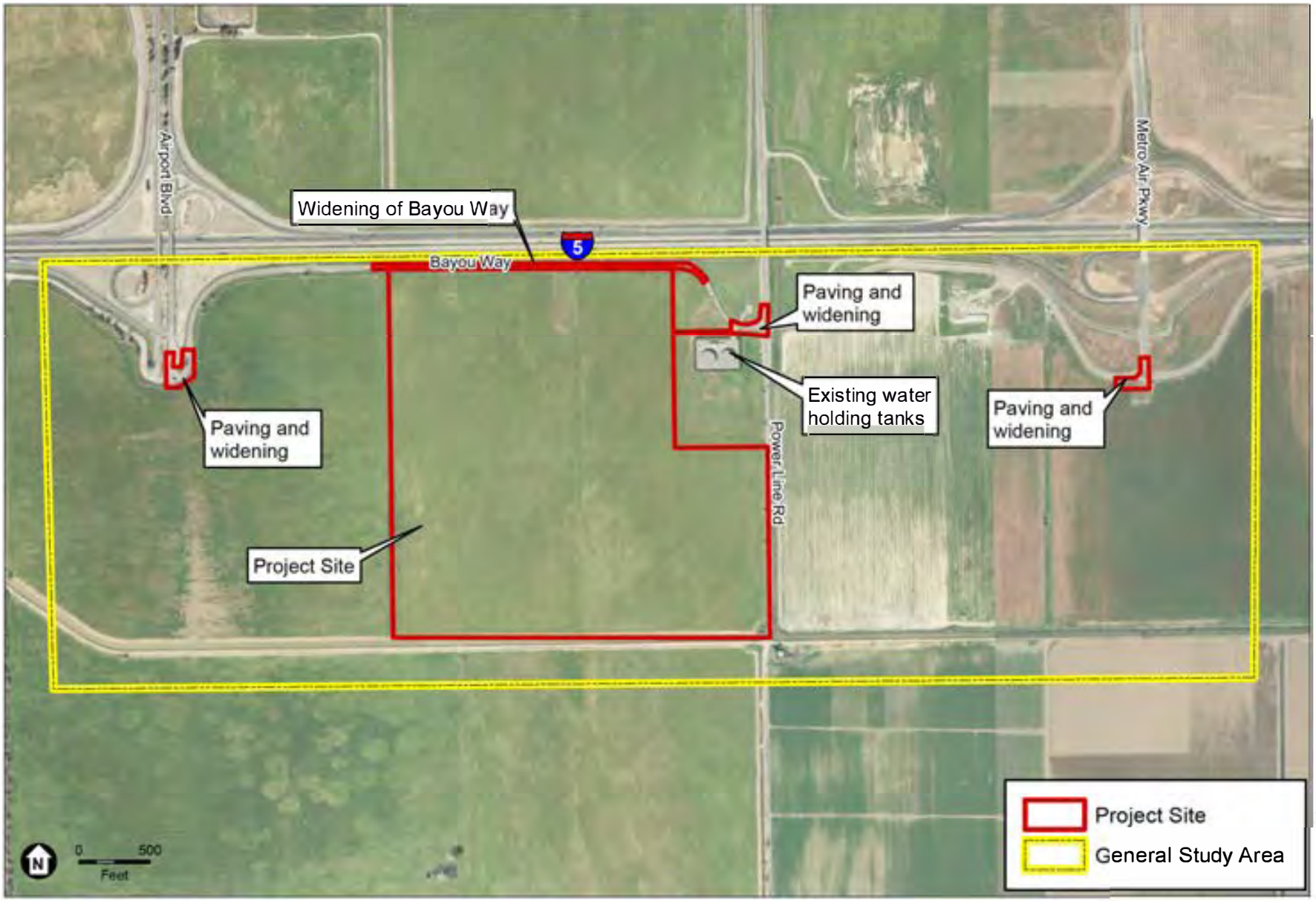
Study areas were identified to describe existing conditions in the vicinity of Sacramento International Airport (SMF, or the Airport) and to assess direct and indirect impacts of the Proposed Project and its alternatives. For the purposes of this EA, two study areas have been defined. The General Study Area (GSA) depicts the area surrounding the Airport's Proposed Project site. A further refined Detailed Study Area (DSA) depicts the areas that may be physically disturbed with development of the Proposed Project. The study areas are shown in **Figures 3-1** and **3-2**.

Specialized study areas for some environmental topics were also developed based on special purpose laws and other regulatory requirements. These specialized study areas include the Area of Potential Effects (APE) for Historic Resources and an Action Area (AA) for Biological Resources. These study areas are permitted by Order 1050.1F Desk Reference.[1] Information regarding these specialized study areas is described, where applicable, within each environmental impact category. Each of the study areas in this EA serves a purpose to comply with federal legal and regulatory requirements and are designed to allow for the most appropriate level of analysis for each environmental resource.

3.1.1.1 General Study Area

The GSA is defined as the area where both direct and indirect impacts may result from the development of the Proposed Project (see Figure 3-1). The purpose of the GSA is to establish the study area for the quantification of impacts to resource categories that involve issues that are regional in scope and scale, including air quality, noise, land use, and socioeconomic impacts. For the purposes of this EA, the GSA is

[1] Federal Aviation Administration (FAA) Order 1050.1F Desk Reference, available at: https://www.faa.gov/about/office_org/headquarters_offices/apl/environ_policy_guidance/policy/faa_nepa_order/desk_ref/.



SOURCE: Esri; ESA, 2024

Sacramento County/WattEV Commercial Charging Center

Figure 3-1
General Study Area



SOURCE: Esri, 2024; ESA, 2024

Sacramento County/WattEV Commercial Charging Center Project

Figure 3-2
Detailed Study Area

ESA

roughly the region in the vicinity of the Proposed Project site on lands lying south of Interstate 5 (I-5), to include the Airport Boulevard and Metro Air Parkway interchanges to the west and east of the site through which Proposed Project vehicle and truck traffic would be expected to flow from and to the site from I-5 via Bayou Way. The GSA includes lands within the Airport boundary as well as areas of unincorporated Sacramento County.

3.1.1.2 Detailed Study Area

The DSA is generally defined as the areas where direct physical impacts may result from the Proposed Project, and the DSA boundaries were developed using the description of the Proposed Project. The purpose of the DSA is to establish the study area for environmental considerations that deal with specific and direct physical construction or operational issues that directly affect natural resources such as water resources, biological resources, and hazardous materials. The DSA includes directly impacted areas on the Proposed Project site and also off-site areas that would be directly affected by project development, such as intersection and roadway improvement areas. The establishment of the DSA does not preclude analysis of indirect impacts beyond the DSA.

3.1.2 Resource Categories Not Affected

The environmental resources that would not be affected by either the Proposed Project or the No Action Alternative are summarized below in **Table 3-1**. In accordance with guidance provided in FAA Order 1050.1F, the 1050.1F Desk Reference, and FAA Order 5050.4B, no further analysis of these resources is provided within this EA.[2]

TABLE 3-1
RESOURCES NOT AFFECTED

Resources Not Affected	Rationale
Coastal Resources	Sacramento County is outside the coastal zone and the Airport is located approximately 85 miles east of the Pacific Ocean. Accordingly, the Proposed Project and its alternatives would not directly or indirectly affect coastal resources.
Department of Transportation Act, Section 4(f) and Land and Water Conservation Act, Section 6(f)	No DOT Section 4(f) or LWCF Section 6(f) resources are present within the DSA or GSA. The Proposed Project site and the lands surrounding it are not a part of a publicly-owned park, recreation area, wildlife refuge, or a public or private historic site. Further, no lands within the DSA or GSA were purchased using monies from the Land and Water Conservation Fund.
Noise and Noise Compatible Land Use	The Proposed Project would not increase the number of existing or forecasted aircraft operations, therefore, there would be no change to the approach and departure flight paths to and from the Airport under the Proposed Project. The aircraft noise conditions would be the same under both the No Action and Proposed Project alternatives. Therefore, the analysis of noise and noise compatible land use impacts in this EA is focused on construction related noise.
Wild and Scenic Rivers	There are no Wild and Scenic Rivers located within the GSA. The nearest designated Wild and Scenic River is the Lower American River, the nearest segment of which lies approximately six miles southeast of the Project site.

NOTES:
1. The California Coastal Zone is generally defined as land and water area of the State of California from the Oregon border to the border of the Republic of Mexico extending seaward to the state's outer limit of jurisdiction, and extending inland generally 1,000 yards from the mean high tide line of the sea (California Public Resources Code § 30103).
2. The California Coastal Zone is generally defined as land and water area of the State of California from the Oregon border to the border of the Republic of Mexico extending seaward to the state's outer limit of jurisdiction, and extending inland generally 1,000 yards from the mean high tide line of the sea (California Public Resources Code § 30103).

2 See FAA Order 1050.1F, Para. 4-2.c., p. 4-2 ("If an environmental impact category is not relevant to the proposed action or any of the reasonable alternatives identified (i.e., the resources included in the category are not present or the category is not otherwise applicable to the proposed action and alternatives), the reason why should be briefly noted and no further analysis is required.").

3. Section 4(f) resources refer to Section 4(f) of the U.S. Department of Transportation Act of 1966 (49 U.S.C. § 303), which defines these resources as significant publicly owned parks, recreational areas, wildlife and waterfowl refuges, and public and private historic sites. Section 6(f) resources refer to Section 6(f) of the Land and Water Conservation Fund (16 U.S.C. § 4601 et. seq.) and are public recreation lands that were acquired or developed with financial assistance from the Land and Water Conservation Fund State Assistance Program. Neither class of resource is present on or around the Project site.
4. Directives related to FAA's responsibility regarding noise and noise compatible land use review can found in FAA Order 1050.1.
5. Wild and Scenic Rivers are those rivers having remarkable scenic, recreational, geologic, fish, wildlife, historic, or cultural values as defined by the Wild and Scenic Rivers Act (16 U.S.C. §§ 1271-1287).

3.1.3 Existing Condition Study Year

The year used to identify existing conditions in this EA is 2024.

3.1.4 Potentially Affected Resource Categories

This chapter provides information on the current conditions for environmental resource categories or components that the Proposed Project could potentially affect. Environmental resource categories evaluated in this EA are listed below in **Table 3-2**.

The current conditions for each of these resource categories are described in the following sections.

TABLE 3-2
POTENTIALLY AFFECTED RESOURCE CATEGORIES

Resources Potentially Affected	
Air Quality	Land Use
Biological Resources	Natural Resources and Energy Supply
Climate	Noise (Construction)
Farmlands	Socioeconomics and Children's Environmental Health and Safety Risks
Hazardous Materials, Solid Waste, and Pollution Prevention	Visual Effects
Historical, Architectural, Archeological, and Cultural Resources	Water Resources

3.2 Air Quality

This section contains a brief discussion of existing air quality conditions in the GSA. Information on applicable air quality standards, current attainment/nonattainment designations, and existing air monitoring data is also provided. Air quality and climate change technical studies and supporting data are provided in Appendix C.

3.2.1 Introduction

The federal Clean Air Act of 1970 (CAA) (42 U.S.C. § 7401 et seq. [1970]), as amended, requires the U.S. Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for principal air pollutants considered harmful to public health and the environment. States are required to identify those areas where the NAAQS are not met for these air pollutants. Those areas where the NAAQS are not met are designated as being in "nonattainment." A state with a nonattainment area must prepare a State Implementation Plan that details the programs and requirements the state will use to meet the NAAQS by the deadlines specified in the 1990 amendments to the CAA.

The EPA, established primary and secondary NAAQS for seven air pollutants, described as "criteria air pollutants." These pollutants include: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur

dioxide (SO_2), particulate matter less than or equal to 10 microns in diameter (coarse particulates, or PM_{10}), particulate matter less than or equal to 2.5 microns in diameter (fine particulates, or $PM_{2.5}$), and lead (Pb). The primary standards were established at levels sufficient to protect public health with a satisfactory margin of safety. The secondary standards were established to protect public welfare from other adverse effects of air pollution.

The California Air Resources Board (CARB) manages air quality, regulates mobile emissions sources, and oversees the activities of county and regional air districts within California. CARB also regulates local air quality indirectly through the California Ambient Air Quality Standards (CAAQS), vehicle emissions standards, and by conducting research, planning, and coordination activities. The CAAQS are generally more stringent than the federal standards.

The Proposed Project is located in the Sacramento Valley Air Basin (Basin). The Basin falls within the jurisdiction of the Sacramento Metropolitan Air Quality Management District (SMAQMD). SMAQMD is responsible for ensuring that federal and state air quality standards are met within the Basin, which includes the greater Sacramento area. SMAQMD monitors ambient air pollutant levels throughout the region and implements strategies to bring the Basin into attainment of the NAAQS and CAAQS by the applicable dates.

3.2.2 Regulatory Context

3.2.2.1 Attainment Status

The Basin's attainment status for each of the NAAQS is provided in **Table 3-3**. Currently, the entire Basin is classified as nonattainment of the NAAQS for O_3 and PM 2.5.

3.2.2.2 Clean Air Plans

The SMAQMD and CARB have adopted several Air Quality Management Plans (AQMP) that cover the Basin, as well as plans that address specific pollutants in specific areas within the Basin. The following are the most recent air quality plans applicable to the area of the Proposed Project:

- 2023 Sacramento Regional Plan for the 2015 NAAQS 70-ppb 8-Hour Ozone Standard (2023 Plan) (SMAQMD, 2023). The 2023 Plan has not yet been approved by the U.S. EPA.
- Sacramento Regional 2008 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan (SMAQMD, 2017).
- Second 10-Year PM10 Maintenance Plan for Sacramento County (SMAQMD, 2021).
- SMAQMD's Triennial Report and Air Quality Plan Revision (SMAQMD, 2015).
- PM2.5 Maintenance Plan and Redesignation Request (SMAQMD, 2013).
- 2004 Revision to the California State Implementation Plan for CO (SMAQMD, 2004).

3.2.2.3 Ambient Air Quality Conditions

SMAQMD and CARB operate eight permanent multi-pollutant air quality monitoring stations in the Basin. The closest air quality monitoring station to the Airport is the SMAQMD Bercut Drive monitoring station (EPA site ID 060670015), located approximately 6.4 miles southeast of the Proposed Project site. The station monitors for CO, NO_2, and $PM_{2.5}$. The second closest air quality monitoring station to the Airport is the CARB T Street monitoring station (EPA site ID 060670010), located approximately 8.2 miles southeast of the Proposed Project site. The station monitors for O_3, NO_2, PM_{10} and $PM_{2.5}$.

TABLE 3-3
NATIONAL AMBIENT AIR QUALITY STANDARDS – SACRAMENTO VALLEY AIR BASIN

Pollutant	Primary/ Secondary	Averaging Time	Federal Standards (NAAQS)		
			Federal Standard	Attainment Status - Basin	Form
Ozone (O_3)	Primary and secondary	1 Hour	0.12 ppm[a]	Nonattainment (Severe-15)	Attainment is defined when the expected number of days per calendar year, with maximum hourly average concentration greater than 0.12 ppm, is equal to or less than 1
	Primary and secondary	8 Hour	0.070 ppm	Nonattainment (Serious)	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Respirable Particulate Matter (PM_{10})	Primary and secondary	24 Hour	150 µg/m^3	Attainment (Maintenance)	Not to be exceeded more than once per year on average over 3 years
Fine Particulate Matter ($PM_{2.5}$)	Primary	1 Year	9.0 µg/m^3	To Be Determined[b] (Attainment under prior standard of 12 µg/m^3)	annual mean, averaged over 3 years
	Secondary	1 Year	15.0 µg/m^3	Attainment	annual mean, averaged over 3 years
	Primary and secondary	24 Hours	35 µg/m^3	Nonattainment (Moderate)	98th percentile, averaged over 3 years
Carbon Monoxide (CO)	Primary	1 Hour	35 ppm	Attainment (Maintenance)	Not to be exceeded more than once per year
		8 Hour	9 ppm	Attainment (Maintenance)	
Nitrogen Dioxide (NO_2)	Primary	1 Hour	0.100 ppm	Unclassified/Attainment	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	Primary and secondary	1 Year	0.053 ppm	Unclassified/Attainment	Annual Mean
Sulfur Dioxide (SO_2)	Primary	1 Hour	0.075 ppm	Unclassified/Attainment	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	Secondary	3 Hour	0.5 ppm	Unclassified/Attainment	Not to be exceeded more than once per year
Lead (Pb)	Primary and secondary	Rolling 3 month Average	0.15 µg/m^3	Attainment	Not to be exceeded

NOTES: AAM = Annual Arithmetic Mean; µg/m^3 = micrograms per cubic meter; NAAQS = National Ambient Air Quality Standards; PM_{10} = particulate matter less than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; ppm = parts per million

a. 1-hour O_3 standard (0.12 ppm) was revoked, effective June 15, 2005; however, the Air Basin has not attained this standard based on 2008-2010 data and is still subject to anti-backsliding requirements.
b. On May 6, 2024, the national annual PM2.5 primary standard was lowered from 12.0 µg/m^3 to 9.0 µg/m^3. Approved EPA attainment designations of the 2024 PM2.5 NAAQS are expected February 2026.

SOURCE: EPA, 2024 (Green Book)

Table 3-4 provides the most recent three years of data and identifies the number of days that ambient air quality standards were exceeded in the Basin. These data are considered representative of the local air quality at the Proposed Project site (CARB, 2024). Data for Pb and SO_2 has been omitted because attainment is regularly met in the Basin and few monitoring stations measure Pb or SO_2 concentrations.

TABLE 3-4
PROPOSED PROJECT AREA AIR QUALITY MONITORING SUMMARY 2021–2023

Pollutant	Standard	Year		
		2021	2022	2023
Ozone (O_3)				
Maximum 8-Hour Concentration (ppm)		0.080	0.079	0.071
Number of Days Exceeding Federal 8-Hour Standard	> 0.070 ppm	1	3	1
Number of Days Exceeding Health Advisory	≥ 0.15 ppm	--	--	--
Carbon Monoxide (CO)				
Maximum 1-Hour Concentration (ppm)	35 ppm	2.2	2.0	1.9
Maximum 8-Hour Concentration (ppm)	9 ppm	1.3	1.6	1.3
Nitrogen Dioxide (NO_2)				
Maximum 1-Hour Concentration (ppm)	0.100 ppm	0.044	0.046	0.045
Annual Arithmetic Mean Concentration (ppm)	0.053 ppm	0.090*	0.094*	0.095
Number of Days Exceeding 1-Hour Standard	> 0.1 ppm	0	0	0
Particulate Matter ≤ 10 Microns (PM_{10})				
Maximum 24-Hour Concentration (µg/m^3)		132	59	62
Number of Samples		351	354	349
Number of Samples Exceeding Federal Standard	> 150 µg/m^3	0	0	0
Particulate Matter ≤ 2.5 Microns ($PM_{2.5}$)				
Maximum 24-Hour Concentration (µg/m^3)		87.0	36.0	38.1
Annual Arithmetic Mean (µg/m^3)		10.9	9.4	9.4
Number of Samples Exceeding Federal 24-Hour Standard	> 35 µg/m^3	0	0	0

NOTES:
-- = data not available from SMAQMD or CARB
* = There was insufficient (or no) data available to determine the value.
SOURCE: U.S. Environmental Protection Agency Monitor Values Report, 2024

3.3 Biological Resources

3.3.1 Introduction

This section describes biotic communities, including plant communities, wildlife, and protected species that could be affected by the Proposed Project. Federally listed species are present on and in the vicinity of SMF, but not in the Action Area (as described below) for the Proposed Project. Due to the proximity of federally listed species outside the Action Area, a Biological Assessment (BA) was prepared to address potential construction and operational effects of the Proposed Project (ESA, 2024), and the information in this section is based on that BA (see **Appendix D)**.

Of note, the Proposed Project site was included in a Biological Opinion (BO) issued by the U.S. Fish and Wildlife Service (USFWS) in 2008 for the 2008 Sacramento International Airport Terminal Modernization Project (TMP). That BO (also see **Appendix D**) considered a number of SMF elements that made up the proposed TMP. Further discussion of the BO and its determinations are provided in Chapter 4.

3.3.1.1 Biological Assessment Action Area

The Project Action Area (AA) defined the scope of analysis in the BA.[3] The main site where the proposed WattEV charging center and associated solar arrays would be constructed is 139.2 acres in size, while the various smaller off-site improvement areas total 3.36 acres. The Proposed Project's actual footprint would be 112.3 acres plus 3.36 acres for the off-site roadway improvement areas. This area constitutes the Proposed Project's *direct* AA. The *indirect* AA expands on this area and includes the larger 139.2 acres that make up the parcels within which the Proposed Project would be developed. With offsite Proposed Project areas added, the indirect AA totals 142.56 acres. **Figure 3-3** provides a detailed view of the Proposed Project area, with the AA delineated.

3.3.2 Regulatory Context

The Endangered Species Act (ESA)[4] requires all federal agencies to seek to conserve threatened and endangered species. Section 7(a)(2) requires federal agencies, in consultation with the Services (USFWS and/or the National Marine Fisheries Service (NMFS), to ensure that any action the agency authorizes, funds, or carries out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat.

3.3.3 Existing Conditions

3.3.3.1 Vegetation Communities

A biological resources survey and habitat assessment was conducted by qualified biologists to describe existing conditions of the direct and indirect AAs. The site is surrounded by agriculture, fallow fields, and roads, and it is bordered by a dry ditch to the north, a ditch to the west that is only inundated in roughly the southern third of its extent, the Western Drainage Ditch to the south, and Power Line Road to the east. The site supports the following vegetation and wildlife habitat types: non-native annual grassland, ditches/ canals, and developed/disturbed areas. Of these, all but developed/disturbed areas are considered natural communities by the California Department of Fish and Wildlife (CDFW). **Table 3-5** shows the acreages associated with each vegetation type. **Figure 3-4** shows the locations of these vegetation communities within the AA.

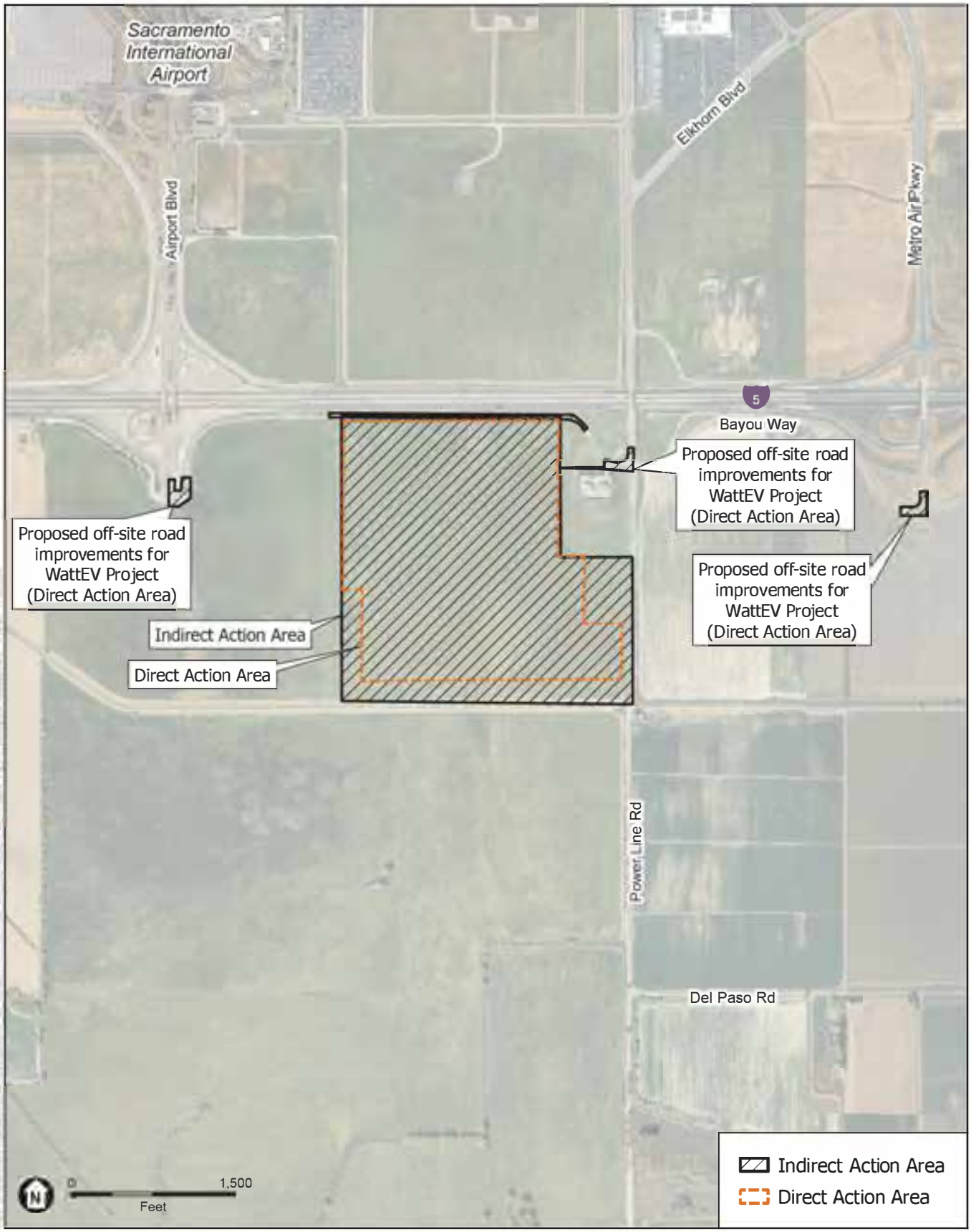
3.3.3.2 Wildlife

Field surveys conducted in the AA observed wildlife activity, including scat, trails, tracks, burrows, skeletal remains, calls, and visual sightings. Wildlife species observed included birds observed perched near Bayou Way or flying overhead and included turkey vulture (*Cathartes aura*), northern mockingbird (*Mimus polyglottos*), and Eurasian collared-dove (*Streptopelia decaocto*). Other wildlife species common to annual grassland include black-tailed jackrabbit (*Lepus californicus*), coyote (*Canis latrans*), gopher snake (*Pituophis catenifer*), western fence lizard (*Sceloporus occidentalis*), killdeer (*Charadrius vociferus*), and mourning dove (*Zenaida macroura*). One Swainson's hawk (*Buteo swainsoni*) adult was observed perched on one of the black mulberry trees. There were very limited small mammal burrows observed in the annual grassland area and they mostly occurred close to the adjacent ditches, and no rodent activity was observed during the surveys.

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[3] In accordance with FAA 1050.1F Desk Reference, the Proposed Project's Action Area (AA) encompasses all areas that may be affected directly or indirectly by the Proposed Project including the construction footprint, stockpile and staging areas, as well as immediate adjacent areas outside of the Proposed Project Site. The action area is further defined in 50 CFR § 402.02, *as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action."*

[4] 16 USC 668 et seq.

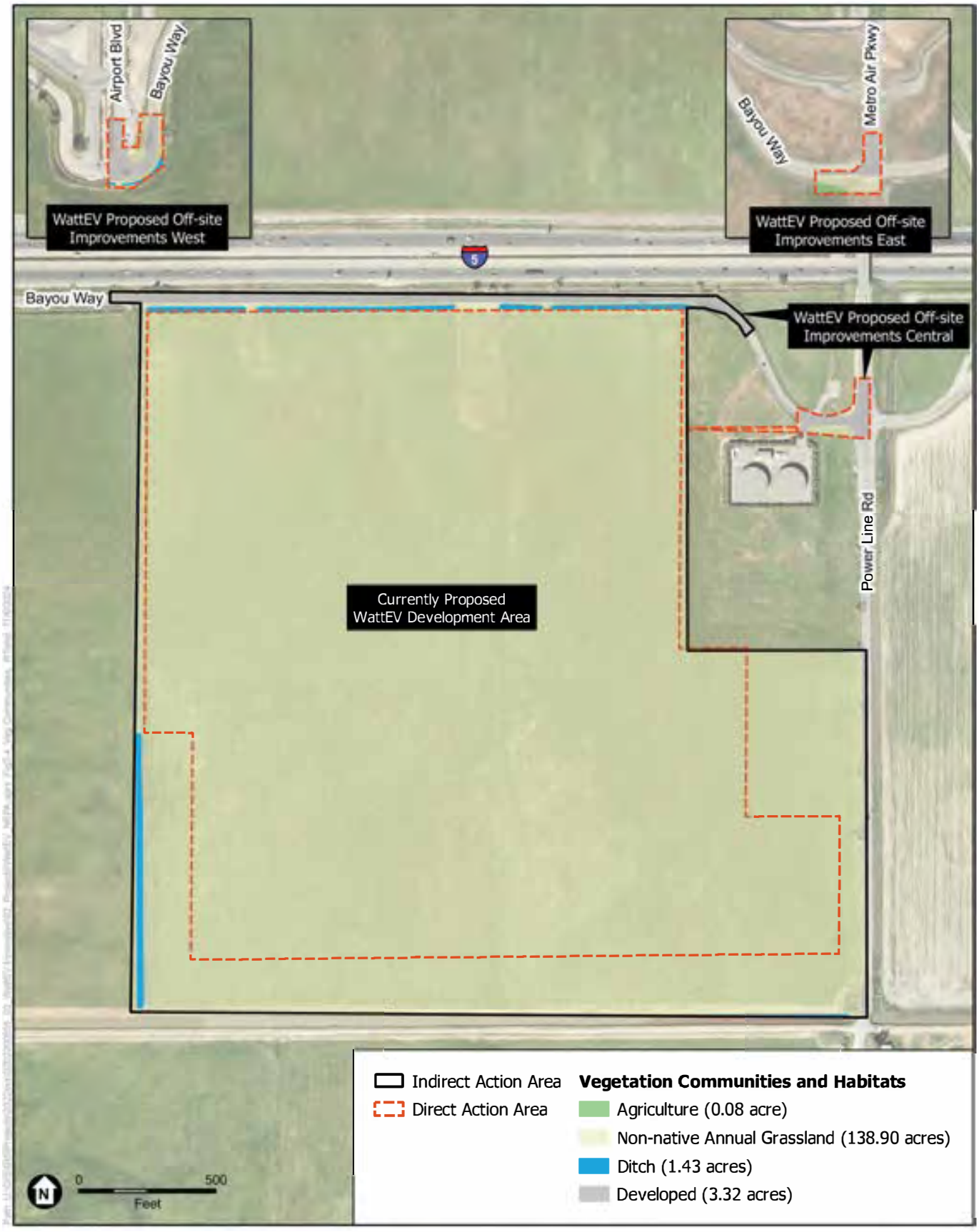


SOURCE: Esri, 2024; ESA, 2024

Sacramento County/WattEV Commercial Charging Center Project

Figure 3-3
Biological Assessment Action Areas

ESA



SOURCE: Esri, 2024; ESA, 2024

Sacramento County/WattEV Commercial Charging Center Project

Figure 3-4
Vegetation Communities

ESA

TABLE 3-5
VEGETATION COMMUNITIES WITHIN THE COMBINED DIRECT AND INDIRECT ACTION AREAS

Habitat Type	Acreage[1]
Main Area	**139.2**
Annual grassland	136.83
Ditch	1.37
Developed/disturbed	1.00
Off-site Improvements West	**0.91**
Annual grassland	0.30
Ditch	0.05
Developed/disturbed	0.57
Off-site Improvements Central	**1.81**
Annual grassland	0.31
Ditch	0.01
Developed/disturbed	1.49
Off-site Improvements East	**0.64**
Agriculture	0.08
Annual grassland	0.29
Developed/disturbed	0.27
Project Site Total	**142.56**
Agricultural	0.08
Annual grassland	137.73
Developed	3.32
Ditch	1.43

NOTES:
1. GIS calculations may not reflect exact acreage of study area due to rounding
SOURCE: See Appendix D.

The Proposed Project site and surrounding lands to the west and south are located within an active airport. Use of the site for any use that could attract wildlife (particularly birds) that could present a hazard to aviation is prohibited under FAA's Part 139 certification standards for commercial airports.[5] Accordingly, the site and other Airport lands are managed in compliance with FAA AC 150/5200-33B, *Hazardous Wildlife Attractants on or Near Airports,* to discourage use by wildlife to the maximum extent practicable. The Airport has an active Wildlife Hazard Management Plan designed to reduce prey and predators from interfering with the safe operation of the Airport. Methods employed to reduce wildlife activity include maintaining grasses below six inches and employment of various means to deter wildlife.

3.3.3.3 Designated Critical Habitat

No designated critical habitat for terrestrial species occurs within the AA. Accordingly, critical habitats are not discussed further.

3.3.3.4 Federally Listed Species

Federally listed species are those plants and animals that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, receive specific protection defined by the ESA.

[5] Part 139 refers to 14 CFR Part 139, *Certification of Airports*, which regulates the certification and operation of airports serving passenger-carrying commercial air carriers. The regulation provides criteria and rules under which commercial airports must operate to achieve and maintain FAA certification for their operations, including the requirement to maintain and implement a Wildlife Hazard Management Plan.

Based upon the analysis in the BA, One federally-listed wildlife species was determined to have potential to occur in or around the Proposed Project; giant garter snake (*Thamnophis gigas*), which is currently listed as endangered.[6]

3.4 Climate

3.4.1 Introduction

This section defines greenhouse gases (GHGs), describes the sources of GHG emissions, and provides the context for climate change analysis in the vicinity of SMF. The air quality and climate change technical study and supporting data are provided in **Appendix C**.

3.4.1.1 Greenhouse Gas Emissions and Climate Change

GHGs include CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. Increasing concentrations of GHGs in the atmosphere affect global climate. Anthropogenic (i.e., man-made) sources of GHG emissions are primarily associated with the combustion of fossil fuels. Mass emissions of GHGs are accounted for by converting emissions of specific pollutants to CO_2e emissions by applying the proper global warming potential (GWP) value for each specific pollutant. GWP represents the amount of heat captured by a mass of a specific GHG compared to a similar mass of CO_2.[7] By applying the GWP ratios, project-related CO_2e emissions can be tabulated in metric tons per year.

3.4.2 Regulatory Context

FAA Order 1050.1 and the FAA's *Aviation Emissions and Air Quality Handbook* provides guidance on how FAA should assess GHG emissions related to actions under its purview. That guidance provides that FAA NEPA review should follow the basic procedure of considering the potential incremental change in CO_2 emissions that would result from a proposed action and alternative(s) compared to the no action alternative for the same timeframe, and discuss the context for interpreting and understanding the potential changes.

The County of Sacramento published an updated *Climate Action Plan* (County of Sacramento, 2024), which discusses climate projections and sets county-wide GHG emission reduction targets. Per the Plan, the County aims to reduce GHG emissions to 39 percent below 2021 levels by 2030 and to 85 percent below 2021 levels by 2045.

3.4.3 Existing Conditions

The most recent available EPA data (EPA 2024) indicates that the transportation sector accounted for approximately 1,810 million metric tons (MMT) (29 percent) of total GHG emissions nationally in 2021. The three largest sources of transportation GHG emissions were light-duty trucks (36.7 percent), medium- and heavy-duty trucks (22.7 percent), and passenger cars (20.6 percent) (EPA, 2024). This includes direct CO_2, CH_4, and N_2O emissions from fossil fuel combustion used in transportation, indirect emissions from electricity use, and emissions from non-energy use (i.e., lubricants) used in transportation. In California, transportation resulted in approximately 39 percent of the state's total GHG emissions in 2021 (CARB

[6] Northwestern pond turtle (*Actinemys marmorata*), currently proposed to be listed as threatened, also has potential to occur in the area since northwestern pond turtles often use similar habitats to giant garter snakes. Although candidate species have no legal status and are accorded no protection under the Act, their inclusion in impact evaluations alerts Federal agencies to impacts that may result to a species that is proposed for listing [50 CFR § 402.12 (d)].

[7] These GWP ratios are provided by the Intergovernmental Panel on Climate Change (IPCC) in its Fifth Assessment Report (AR5).

2023) while on and off-road vehicles accounted for roughly 47 percent of the County of Sacramento's total GHG emissions in 2021 (County of Sacramento, 2024).

3.5 Farmlands

3.5.1 Introduction

The DSA for this issue is specific to the Proposed Project itself, and the GSA includes adjacent agricultural lands that could be affected by use of the Project site for non-agricultural purposes. The agricultural resources technical memorandum and associated Natural Resources Conservation Service (NRCS) Form AD-1006 are provided in **Appendix E**.

3.5.2 Regulatory Context

Within FAA Order 1050.1F, "Farmlands" are defined as those agricultural areas considered important and protected by federal, state, and/or local regulations. Important farmlands include all pasturelands, croplands, and forests (even if zoned for development) considered to be prime, unique, or of statewide or local importance. The Farmland Protection Policy Act (7 U.S.C. 4201-4209) regulates federal actions with the potential to convert important farmland to non-agricultural uses. The Farmland Protection Policy Act is administered by the NRCS.

FAA Order 1050.1F provides that FAA may make its own determination as to whether a project site meets the criteria for classification as Farmland. The Proposed Project would be constructed on lands that have been designated as Farmland of Local Importance by both the California Department of Conservation Farmland Mapping and Monitoring Program and the County of Sacramento. As such, the Proposed Project site meets the definition of "Farmlands" as defined in FAA Order 1050.1F. The Order further provides that FAA can consult with the Natural Resources Conservation Service (NRCS) to determine the scored agricultural value of a given area of Farmlands. This process begins with submittal of NRCS Form AD-1006, the Farmland Conversion Impact Rating Form to determine the site's relative agricultural value score. Scores can range from zero to 260.

3.5.3 Existing Conditions

3.5.3.1 Current and Historic Agricultural Use

The Proposed Project site has been withdrawn from active agricultural uses since at least the early 2000s and is currently covered in non-native annual grasses (see Figure 3-4). Irrigation water is not available to the site. Historic agricultural production on the site consisted of dryland crops. The site is not tilled for agricultural production. The site is not used for commercial farming purposes, though it is mowed for purposes of weed abatement and to reduce attractants to the hazardous movements of wildlife that could pose a hazard to aircraft. Mowing is carried out on a non-compensated basis by a local operator. The cut non-native grass that is derived from the mowing operations is made available to the contracted operator for baling and transport from the site for their own use. Neither the Airport nor the contracted operator receive compensation for these mowing and baling activities.

3.5.3.2 Ownership and Zoning

The site is owned by the Sacramento County Department of Airports and lies within the confines of SMF. The Sacramento County General Plan designates the site as Public and Quasi-Public (PQP). The entirety of the site is located within the County's Urban Service Boundary and the County's Urban Policy Area.

The western three-quarters of the site are zoned Agricultural – 20 acres (AG-20), and the eastern quarter of the site is zoned AG-80. The site has been designated and planned for commercial development under the Sacramento International Airport Master Plan since at least 2006. No portion of the site is under a California Williamson Act contract or agricultural conservation easement.

3.5.3.3 Restrictions on Agricultural Use of the Site

Use of the Proposed Project site for any use that could attract wildlife (particularly birds) that could present a hazard to aviation is prohibited under 14 CFR Part 139 certification standards for commercial airports.[8] In 2020, the FAA issued Advisory Circular (AC) 150/5200-33C, *Hazardous Wildlife Attractants on or Near Airports,* that listed land use practices that potentially attract hazardous wildlife. The AC noted that many agricultural crops can attract hazardous wildlife, and should not be planted in proximity to airports.

The Airport maintains a comprehensive Wildlife Hazard Management Plan (WHMP) for the Project site and other Airport properties to reduce the threats to aviation posed by wildlife. The program is managed by the Airport and is implemented by a team of FAA-qualified wildlife biologists. The WHMP is reviewed and approved periodically by FAA, most recently in April 2024. Owing to the substantially increased wildlife attractant hazards associated with many types of agricultural production, no portion of the Airport's property is managed for commercial agricultural production.

3.5.3.4 NRCS Form AD-1006

FAA submitted NRCS Form AD-1006 to the NRCS to determine the relative agricultural resources value of the Proposed Project site following instructions provided at 7 CFR § 658.5.[9] The form and the accompanying agricultural resources technical memorandum are provided in **Appendix E**. As confirmed by NRCS, the resultant for the site was 130.7 points (out of a possible 260 points). As stated previously, FAA Order 1050.1F specifies that a significant impact would occur when the combined score surpasses 200 points.

3.6 Hazardous Materials, Solid Waste, and Pollution Prevention

3.6.1 Introduction

The DSA for this issue is specific to the Proposed Project site itself. The GSA includes adjoining parcels that could be affected by hazardous materials or pollutants from the site, or that could present hazards to the site based upon hazardous materials or pollution from offsite areas affecting the site. The analysis of historic and current hazardous materials sites within or near the site in this section is based on the Phase I Environmental Site Assessment (Kimley-Horn, 2023), as well as the California Department of Toxic Substances Control (DTSC) EnviroStor and State Water Resources Control Board (SWRCB) GeoTracker online databases (DTSC/SWRCB, 2023).

8 Part 139 refers to 14 CFR 139, which regulates the certification and operation of airports serving passenger-carrying commercial air carriers. The regulation provides criteria and rules under which commercial airports must operate to achieve and maintain FAA certification for their operations, including the requirement to maintain and implement a Wildlife Hazard Management Plan.

9 Department of Agriculture Guidance, as contained within 7 CFR 658: https://www.ecfr.gov/current/title-7/subtitle-B/chapter-VI/subchapter-F/part-658/section-658.5.

3.6.2 Regulatory Context

Materials are defined as hazardous if they appear on a list of hazardous materials prepared by a federal, state, or local regulatory agency, or if they have characteristics defined as hazardous by such an agency. The EPA has defined the term "solid waste" to include the following: any gaseous, liquid, semi-liquid, or solid material that is discarded or has served its intended purpose, unless the material is excluded from regulation. Such materials are considered wastes whether they are discarded, reused, recycled, or reclaimed.

A number of Federal, state, and local laws regulate hazardous materials use, storage, transport, or disposal. State and local regulations provide primary oversight over solid waste. These directives are summarized below in **Table 3-6**.

TABLE 3-6
STATUTES AND REQUIREMENTS RELATED TO HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

Statute or Other Requirement	Summary
Resource Conservation and Recovery Act 42 USC 6901-6992	Establishes guidelines for hazardous waste and non-hazardous solid waste management activities in the United States. Regulates the generation, storage, treatment, and disposal of waste.
Hazardous Materials Transportation Act 49 USC 5101-5128	Establishes procedures, reporting requirements, and approval processes for the transport of hazardous materials by common, contract, and private carriers and by aircraft, railcar, vessel, and motor vehicle.
Emergency Planning and Community Right to Know Act 42 USC 11001-11050	Requires hazardous chemical emergency planning by federal, state, and local governments, Indian tribes, and industry. It also requires industry to report on the storage, use, and releases of hazardous chemicals to federal, state, and local governments.
Comprehensive Environmental Response, Compensation, and Liability Act 42 USC 9601-9675	Establishes joint and several liability for those parties responsible for hazardous substance releases to pay cleanup costs and establishes a trust fund to finance cleanup costs in situations in which no responsible party could be identified. Establishes a list of such properties.
Pollution Prevention Act 42 USC 13101-13109	Requires pollution prevention and source reduction control so that wastes would have less effect on the environment while in use and after disposal.
Resource Conservation and Recovery Act 42 USC 6901-6992	Establishes guidelines for hazardous waste and non-hazardous solid waste management activities in the United States. Regulates the generation, storage, treatment, and disposal of waste.
Toxic Substances Control Act 15 USC 2601-2697	Provides the EPA with the authority to regulate the production, importation, use, and disposal of chemicals defined as toxic, including lead, radon, asbestos, and PCBs, that have the potential to cause unreasonable risk of injury to public health or the environment.
California Assembly Bill 341 Public Resources Code 40000 et seq.	Requires local jurisdictions to implement commercial solid waste recycling programs
California Assembly Bill 1826 Public Resources Code 42649.8 et seq.	Requires jurisdictions to implement an organic waste recycling program that includes the education, outreach, and monitoring of businesses that must comply.

3.6.3 Existing Conditions

The Proposed Project site is undeveloped with no structures and has been used for dryland agricultural purposes since at least 1937 (Kimley-Horn, 2023). Agricultural activity ceased in the early 2000s. The history of agricultural use suggests that pesticides and/or herbicides may have been used and residual levels may remain in site soils. A review of the DTSC EnviroStor and SWRCB GeoTracker online databases for hazardous materials sites indicates that the Proposed Project site is not listed for the release of hazardous materials. Since there are no developed uses on the site, no solid waste is produced on the site, nor are there any ongoing activities occurring that could be a substantial source of pollutants.

3.7 Historic, Architectural, Archaeological, and Cultural Resources

3.7.1 Introduction

Historic, architectural, archaeological, and cultural resources are expressions of human culture and history in the physical environment, and may include archaeological sites, buildings, structures, objects, districts, works of art, architecture, and natural features that were important in past human events. They may consist of physical remains, but also may include areas where significant human events occurred, even though evidence of the events no longer remains. Historic, architectural, archaeological, and cultural resources also include definite locations (sites or places) of traditional cultural or religious importance to specified social and/or cultural groups.

3.7.2 Regulatory Context

The primary laws that pertain to the treatment of historic, architectural, archaeological, and cultural resources during environmental analyses are the *National Historic Preservation Act* (NHPA) (54 U.S.C. 300101 *et seq*.), the *Archaeological Resources Protection Act* (16 U.S.C. 470aa-470mm), and the *Native Graves Protection and Repatriation Act* (25 U.S.C. 3001-3013).

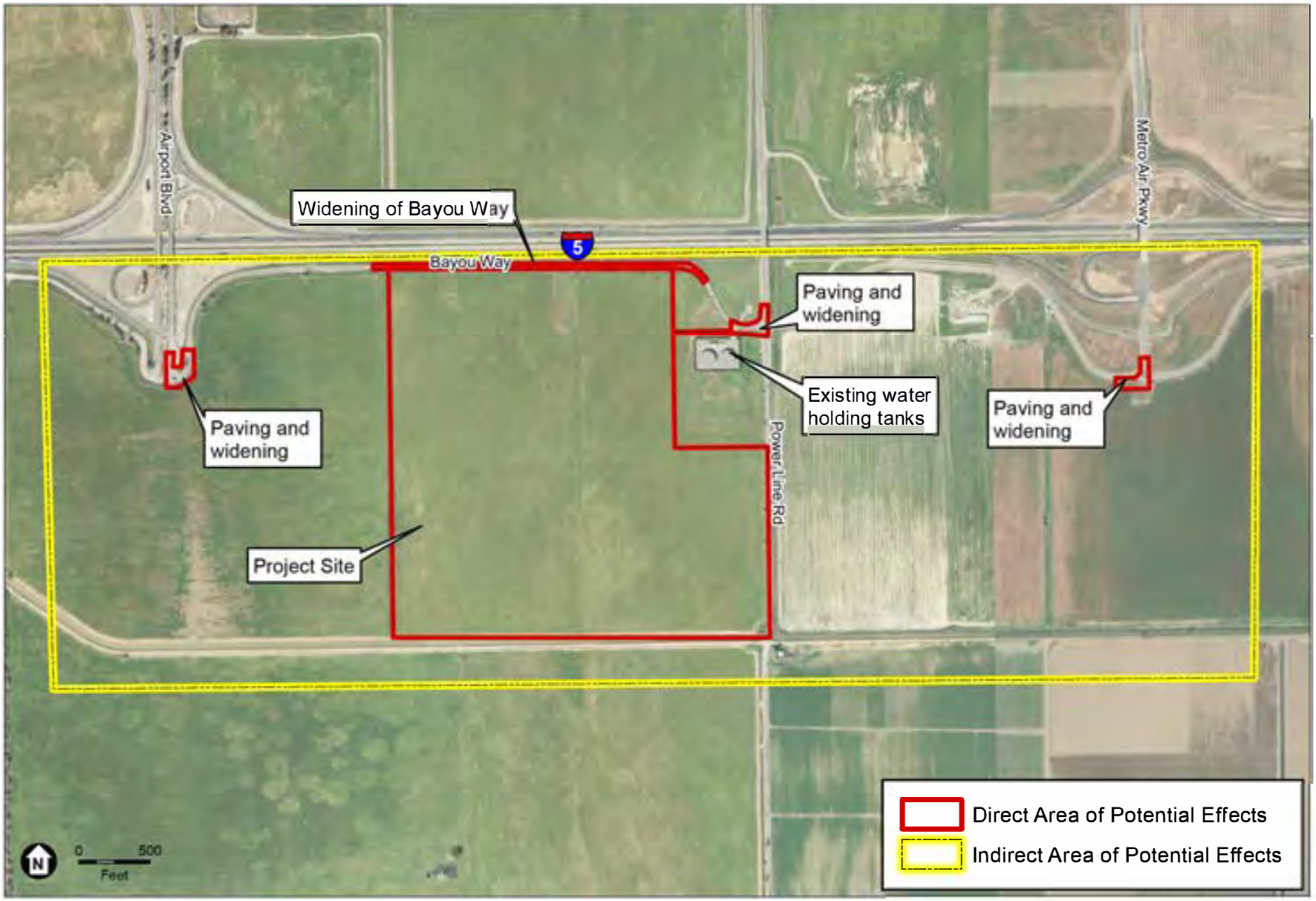
3.7.2.1 Compliance with Section 106 of the National Historic Preservation Act

Section 106 of the NHPA requires a federal agency with jurisdiction over a proposed federal action (referred to as an "undertaking" under the NHPA) to consider the effects of the undertaking on historic properties. The term "historic properties" refers to "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register [of Historic Places]" (36 CFR § 800.16(l)(1)).

The steps of the Section 106 process are accomplished through consultation with the State Historic Preservation Office (SHPO), federally recognized Indian tribes, local governments, and other interested parties. The goal of consultation is to identify potentially affected historic properties, assess effects to such properties, and seek ways to avoid, minimize, or mitigate any adverse effects on such properties. The agency also must provide an opportunity for public involvement (36 CFR 800.1(a)). Consultation with Native American tribes regarding issues related to Section 106 must recognize the government-to-government relationship between the Federal Government and Native American tribes, as set forth in Executive Order 13175, "*Consultation and Coordination with Indian Tribal Governments*" and the Presidential Memorandum on Tribal Consultation, dated November 5, 2009. Documentation of FAA's compliance with Section 106 for the Proposed Project is provided in **Appendix F** and is described below.

3.7.3 Area of Potential Effects

Section 106 of the NHPA requires definition of an Area of Potential Effects (APE). The APE defines the area(s) within which the Proposed Project and its alternatives could directly impact or indirectly cause changes in the character or use of historic properties and/or archaeological resources. FAA delineated a Direct Effects and Indirect Effects Area of Potential Effects for the proposed undertaking. FAA used the boundaries of the entire Project site and offsite construction areas to delineate the Direct Effects APE (see **Figure 3-5**). The Indirect APE consists of areas to the south of I-5 lying to the west, east, and south of the Project site. FAA determined these boundaries through consultation with the Airport on the extent of the Proposed Project. The California State Historic Preservation Office (SHPO) concurred with FAA's delineation of the APEs on September 9, 2024 (see **Appendix F**).



SOURCE: Esri; ESA, 2024

Sacramento County/WattEV Commercial Charging Center

Figure 3-5
Areas of Potential Effects

3.7.4 Native American Consultation

FAA received a listing of Native American contacts for the Proposed Project from the State of California Native American Heritage Commission (NAHC). The NAHC recommended that FAA contact the following tribes: Shingle Springs Band of Miwok Indians; Tsi Akim Maidu of Taylorsville Rancheria; United Auburn Indian Community of the Auburn Rancheria; and Wilton Rancheria. On September 19, 2024, FAAFAA provided detailed information about the Proposed Project to the tribal contacts provided by the NAHC. The County also conducted a tour of the project site with the Auburn Rancheria on November 13, 2024.

3.7.5 Cultural Resources Investigation

A cultural resources investigation was conducted and documented in a cultural resources report and is included in **Appendix F**. The historical/archaeological resources records search was completed at the North Central Information Center (NCIC) at Sacramento State University in Sacramento. Additional resources included earlier site surveys as well as other online resources. Previously conducted cultural resource studies on the site are listed below in **Table 3-7**.

TABLE 3-7
PREVIOUS CULTURAL RESOURCES STUDIES THAT INCLUDE PORTIONS OF THE APE

Report ID	Title	Author(s)	Date
004176	Metro Air Park I-5 Improvements Phase I Cultural Resources Inventory Sacramento County, California	Ric Windmiller and Donald Napoli	2002
010001	Environmental Assessment of Sacramento International Airport Terminal Modernization Program	Milford Donaldson, URS, and JRP	2007
011138	Rural Historic Landscape Report for Reclamation District 1000 for the Cultural Resources Inventory and Evaluations for the American River Watershed Investigation, Sacramento and Sutter Counties, California	Denise Bradley and Michael Corbett	1995
011385	SMF Master Plan EIR 15 Cultural Resources	NA	NA
011398	Cultural Resources Inventory of the Metro Air Parkway/I-5 Interchange Project, Sacramento County, California	John Dougherty	2011
013400	Cultural Resource Assessment for Metro Air Parkway/I-5 Interchange (Par Ref. No. 18-0003)	Sarah Heffner	2018
014062	Cultural Resources Study for the Airport South Industrial Park Project Sacramento, Sacramento County, California	Eileen Barrow and Lena Murphy	2022

SOURCE: NCIC, 2024. See Appendix F.

The archival investigations revealed that there had been several other investigations within the Direct and Indirect APEs. The investigation also identified two previously recorded cultural resource districts that intersect the APE and three cultural resources within 0.5 miles of the APE.

The first resource intersecting the APE is P-34-005225 (the Sacramento River Tribal Cultural Landscape, or TCL), a multi-era Native American traditional use area and concentration of archaeological resources. While the Proposed Project intersects the mapped limits of the district, no identified archaeological resources associated with this district are known to be present within the APE.

The second resource intersecting the APE is P-34-005251 (the Reclamation District 1000 Rural Historic Landscape District or RD 1000 RHL). This expansive rural historic landscape district was previously eligible for inclusion in the National Register at the state level of significance under Criterion A for importance within the historic context of reclamation within the period of significance of 1911 to 1939. In 2021, USACE

reevaluated P-34-005251 and concluded that it is no longer eligible for listing in the National Register due to a degradation of historic integrity. The SHPO concurred with this finding (see **Appendix F**).

Three structures located in the APE appear to be components of the grid pattern formed by the linear features of the former RD 1000. As these resources can no longer be evaluated as potential contributors to the RD 1000 RHL, these resources were evaluated individually for historic significance.

Table 3-8 includes the name, brief description, and location in relation to the Proposed Project for all resources within 0.5 mile of the APE.

TABLE 3-8
CULTURAL RESOURCES RECORDED WITHIN 0.5 MILE OF THE APE

Primary #	Trinomial	Name	Resource Description	Age	Distance to APE
P-34-005225	—	Sacramento River TCL	Tribal Cultural Landscape	Pre-contact	Within APE
P-34-005251	—	Reclamation District 1000	Agricultural Fields, Canals, Roads, Levees	Historic	Within APE
P-34-000876	CA-SAC-000665H	Lauppe Ranch	Foundations/structure pads; Single Family Building; Ancillary Building; Farm/Ranch	Historic	Within 0.5 mile
P-34-000877	—	De Matos House	Single Family Building	Historic	Within 0.5 mile
P-34-000878	—	Barn at 4696 Bayou Way	Standing structure	Historic	Within 0.5 mile

SOURCE: NCIC, 2024. See Appendix F.

3.7.5.1 Archaeological Resources

Archaeologists meeting the Secretary of the Interior's qualifications conducted a surface survey of the direct APE on September 19, 2023, and July 30, 2024. Survey areas were heavily impacted by roads, grading, buried utilities, and drainage ditches. No archaeological resources or other evidence of pre-contact or early historic-era occupation was identified in the direct APE. The County conducted a tour of the project site with the Auburn Rancheria on November 13, 2024. Tribal participants identified no specific tribal cultural resources on the site, but did request that a tribal monitor be present on the site during construction involving ground disturbing activities.

Based on the age of the soils in the APE, there is the potential for buried pre-contact archaeological deposits in undisturbed portions of the APE. However, the location would have also been subject to more frequent historic flooding and would have been less suitable for permanent or semi-permanent occupation than locations along the Sacramento River's edge, as several known resources are documented nearer to the river. In addition, the paucity of known resources in the vicinity of the APE lessens the relative sensitivity.

3.7.5.2 Architectural Resources

During the surveys, archaeologists identified and recorded four structures: Ditch A (P-34-005251); Segment of Ditch B (P-34-005251); Segment of Ditch C (P-34-005251); and Segment of a SMUD Transmission Line (P-34-005789). Additionally, one age-eligible architectural resource was identified and recorded in the indirect APE: a single-family residence located at 5250 Power Line Road (APN 225-0020-015; P-34-005788).

Based upon the above, there are five age-eligible architectural resources within the APE: Ditch C and a segment of the SMUD Transmission Line are in the direct and extend into the indirect APE; Ditch A, Ditch B, and 5250 Power Line Road are in the indirect APE. Each of these resources were evaluated for

historic significance, and none of the resources in the direct or indirect APE appear to qualify as historic properties under NHPA Section 106.

3.7.5.3 Cultural Resources Inventory and Evaluation Report

The results of the above investigations were compiled into a cultural resources inventory and evaluation report (see **Appendix F**). Based on the information contained within the report, FAA has determined there are no historic properties listed or eligible for listing on the National Register within the Direct and Indirect APEs for the Proposed Project. The California SHPO concurred with FAA's determination of eligibility and findings of effect on historic properties in a letter dated December 9, 2024, included in **Appendix F**.

3.8 Land Use

3.8.1 Introduction

The DSA for this topic is comprised of the Proposed Project site. The GSA is defined as the Proposed Project site and surrounding Airport and unincorporated County of Sacramento lands within one mile of the site. The following discussion describes the existing land use setting on the site and within the surrounding area, as well as applicable land use plans, zoning ordinances, and other planning documents for jurisdictions in the vicinity.

3.8.2 Regulatory Context

The Proposed Project is located on unincorporated Sacramento County lands within the Airport boundary. The County's General Plan and Zoning Ordinance apply to the Proposed Project site and other unincorporated lands in the vicinity, and the Airport's Master Plan, last updated in 2022, provides additional land use planning guidance to direct the types of uses planned for the site and other portions of the Airport property. Incorporated City of Sacramento lands lie approximately 1.5 miles to the east of the site and are not a part of the GSA for this topic.

3.8.3 Existing Conditions

3.8.3.1 Existing and Adjacent Land Uses

The area immediately surrounding the site of the Proposed Project includes airport facilities to the north across I-5 and farmland that is both in production and out of production to the east, south, and west. Metro Air Park, which includes industrial, manufacturing, distribution, and high-tech uses, is located approximately a quarter mile to the northeast. Low-rise residential buildings and neighborhoods within the City of Sacramento limits are located 1.6 miles to the east, and the Sacramento River is located approximately 1.5 miles to the west/southwest.

3.8.3.2 Existing Land Use Designations and Zoning

Sacramento County General Plan

Reflecting the fact that the Proposed Project lies within the Airport's boundaries, the current General Plan land use designation for the site is Public/Quasi-Public. This designation establishes areas for uses such as educational facilities, public safety facilities, and properties in public ownership.

Sacramento County Zoning Ordinance

The current zoning designation for the site is Agricultural 20 (AG-20) and Agricultural 80 (AG-80). Each of the agricultural districts is distinguished by a minimum lot size measured in acres (e.g., Agricultural 20, Agricultural 40, Agricultural 80, and Agricultural 160).

Sacramento International Airport Master Plan

The Sacramento International Airport Master Plan currently designates the site for commercial use.

3.9 Natural Resources and Energy Supply

3.9.1 Introduction

This discussion provides an evaluation of natural resources (such as water, asphalt, aggregate, wood, etc.) and energy supplies (such as coal for electricity; natural gas for heating; and fuel) that are available in the Proposed Project area and surrounding region.

3.9.2 Regulatory Context

FAA Order 1050.1F requires that consideration be given to energy requirements, natural depletable resource requirements, and the conservation potential of alternatives and mitigation measures in the Environmental Consequences section of FAA NEPA documents. In addition, several federal statutes and executive orders relate to this topic, as shown below in **Table 3-9**.

TABLE 3-9
STATUTES AND OTHER REQUIREMENTS RELATED TO NATURAL RESOURCES AND ENERGY SUPPLY

Statutes and Other Requirements	Summary
Energy Independence and Security Act of 2007 42 USC 17001 et seq.	Requires federal agencies to take actions to move the United States toward greater energy independence and security, to increase the production of clean renewable fuels, to protect consumers, to increase the efficiency of products, buildings, and vehicles, to promote research on and deploy GHG capture and storage options, and to improve the energy performance of the federal government.
Energy Policy Act of 2005 42 USC 15801	Requires federal agencies to take actions to ensure jobs for our future with secure, affordable, and reliable energy. The statute contains provisions that address energy production, including: energy efficiency, renewable energy; oil and gas; coal, tribal energy, nuclear matters and security, vehicles and motor fuels, energy tax incentives, hydropower and geothermal energy, and climate change technology.

3.9.3 Existing Conditions

3.9.3.1 Water Supply

Potable water for use within the Airport property is provided by the City of Sacramento through a wholesale purchasing agreement between the City and the Sacramento County Water Agency. The City primarily sources its water from surface water diverted from the Sacramento and American Rivers and groundwater underlying the North American and South American subbasins. Additional sources include limited amounts of recycled water, as well as rare and temporary uses of water purchased and imported from other water suppliers in the region.

3.9.3.2 Energy Supply

Electrical power is supplied to the Airport from the Sacramento Municipal Utility District (SMUD), which generates, transmits, and distributes electric power to Sacramento County and a small portion of Placer County. SMUD obtains electricity from diverse resources including hydrogeneration and cogeneration plants, wind, solar, and biomass/landfill gas power, and power purchased on the wholesale market.

SMUD provides power to the Airport from its Power Line-Elkhorn Substation, located on the eastern boundary of the Airport. The Airport is serviced by the substation from two 69 kV feeder lines. Electricity is distributed around the Airport primarily by underground cables to avoid placement of aboveground aviation safety hazards. The SMUD 69 kV distribution line nearest to the Proposed Project is approximately 600 feet to the east along Power Line Road.

The Airport houses a 7.9-Megawatt (MW) photovoltaic solar farm located on two sites with more than 23,000 solar panels. The facility consists of a 15-acre site east of Aviation Drive and a 20-acre site west of runway 17L-35R within the north airfield area.

Pacific Gas and Electric Company (PG&E) supplies natural gas to the Airport. The Airport is connected to a six-inch diameter distribution natural gas pipeline, which supplies a four-inch natural gas distribution line.

3.10 Noise and Noise-Compatible Land Use

3.10.1 Introduction

This section addresses the existing noise environment in the area surrounding the Proposed Project site and the methodology used to determine existing noise exposure. The Proposed Project would not increase the number of existing or forecasted aircraft operations; therefore, there would be no change to noise generated by aircraft as a result of the Proposed Project. As such, this discussion focuses on the affected environment that could be impacted by construction noise during construction of the Project.

3.10.2 Regulatory Context

3.10.2.1 Federal

FAA requires preparation of a noise exposure analysis when a project may result in a change in cumulative noise exposure to noise sensitive areas around an airport. FAA has not established specific criteria related to impacts from construction noise.

3.10.3 Existing Conditions

The existing noise environment within the GSA consists mainly of transportation-related noise due to aircraft operations at SMF and vehicular traffic along I-5, Power Line Road, and Bayou Way, as well as noise related to agricultural equipment. Agriculture is the main land use in the vicinity of the Proposed Project site, with one single family residence (on a parcel zoned AG-80) being the only noise sensitive location within the GSA, located approximately 400 feet to the southeast of the Proposed Project site. The next closest sensitive receptors (single-family residences) lie approximately 3,830 feet southeast of the site.

3.11 Socioeconomics and Children's Environmental Health and Safety Risks

3.11.1 Introduction

This section describes existing economic and transportation characteristics in the GSA. Socioeconomic issues relevant to the evaluation of environmental impacts include population, employment, income and housing distribution, children's environmental health and safety, and public services.[10]

3.11.2 Regulatory Context

Directives related to this topic are generally established by statute or contained with executive orders that require federal agencies to evaluate their actions with regard to a project's impact on local economies. These executive orders are summarized in **Table 3-10**.

TABLE 3-10
SOCIOECONOMICS AND CHILDREN'S HEALTH AND SAFETY EXECUTIVE ORDERS

Executive Order	Summary
Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks 62 Federal Register 19885 (April 23, 1997	Applies to health or safety risks that may disproportionately affect children. Environmental health risks or safety risks refer to risks to health or to safety that are attributable to products or substances that children are likely to come in contact with or ingest (such as air, food, water (potable or recreation), soil, and products children use or are exposed to.
Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. §§ 2000d- 2000d-7)	Title VI of the Civil Right Act of 1964 states that "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." Title VI explicitly prohibits any discrimination in federally funded programs and projects, including those sponsored by the FAA.

3.11.3 Existing Conditions

3.11.3.1 Socioeconomics

FAA Order 1050.1F describes socioeconomics as "an umbrella term used to describe aspects of a project that are either social or economic in nature." A socioeconomic analysis evaluates how elements of the human environment such as population, employment, housing, and public services might be affected by the Proposed Project and alternatives (FAA, 2015). The following sections describe population, employment, income, and housing in the GSA.

Population

The Proposed Project is located within a semi-rural portion of unincorporated Sacramento County. According to the 2020 Census, the County's total population, including incorporated areas, was 1,585,055.

[10] On January 21, 2025, President Trump issued E.O. 14173, *Ending Illegal Discrimination and Restoring Merit-Based Opportunity*. At that time, the NEPA process for this project was already underway, and FAA's draft EA reflected the expected scope and content of analysis in this NEPA process to include analysis of environmental justice. Due to the rescission of prior executive orders regarding environmental justice, and the recent action by the CEQ to rescind the NEPA implementing regulations, it is no longer a legal requirement or the policy of the federal government to conduct environmental justice analysis. Any prior data gathering, analysis, or discussion regarding environmental justice is not relevant for purposes of evaluating the NEPA significance of this project, nor will it play any role in agency decisions-making. As a result, this final EA has removed the prior discussion of, and data/analysis related to, environmental justice.

Census Tract 71.07, where the site is located, had a population of 4,076 people. However, it must be noted that due to its semi-rural nature, Census Tract 71.07 covers a relatively large area, and the Proposed Project site is substantially removed from the populated areas within the Tract. There is only one home located near the site (an occupied single-family home about 400 feet southeast of the site), and the closest area of urbanized housing within the Tract lie nearly 1.5 miles to the east. **Figure 3-6** shows the location of Census Tract 71.07. The location of the site relative to urbanized development within the Tract is also shown.

Employment, Housing, and Income

According to the Sacramento County General Plan Housing Element of 2021−2029, there were 249,282 jobs in unincorporated Sacramento County in 2017. The Housing Element indicated that educational services, health care, and social assistance industries will be the fastest growing sectors over the next several years.

The Proposed Project site is located in a semi-rural portion of unincorporated Sacramento County. Most of the parcels in proximity to the site are given over to agricultural production and Airport uses, and these areas are generally absent of residential uses and typical urban activity. There is one single family home located about 400 feet southeast of the site, and the next closest area of urban development is nearly 1.5 miles to the east.

Table 3-11 presents mean household incomes in the State of California, Sacramento County, and the Census Tract within which the Proposed Project site is located. In 2020, Census Tract 71.07 had a mean household income that was substantially above the U.S. Department of Health and Human Services Poverty Guidelines for a family of four, which was $30,000 in 2023.

TABLE 3-11
INCOME AND HOUSING DATA

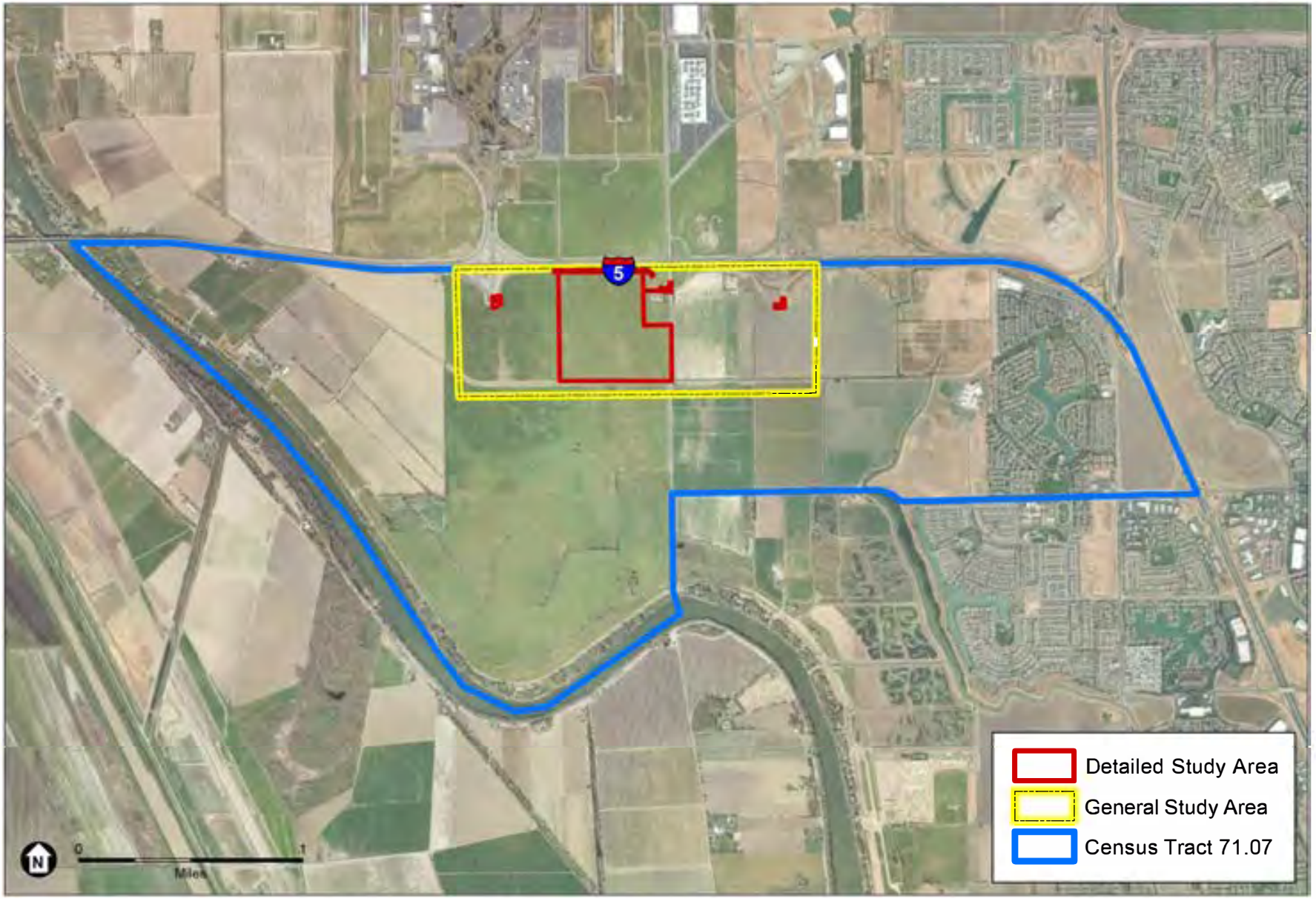
Area	Mean Household Income (2022)	Total Housing Units (2020)	Vacancy Rate (2020)
California	$131,504	14,392,140	6.36%
Sacramento County	$115,185	587,551	3.93%
Census Tract 71.07	$143,691	1,521	3.5%

SOURCE: U.S. Census Bureau 2020, Information for the State of California, Sacramento County, and Census Tract 71.07.

3.11.3.2 Surface Transportation Network

The Proposed Project site is bounded by Bayou Way to its north, with Interstate 5 (I-5) immediately beyond. Power Line Road lies to the east. Owing to existing land uses in the area, which are principally large agricultural parcels, the surface roadway network is relatively limited. I-5 in the vicinity of the site is a major controlled-access freeway, with two lanes in each direction. The site lies roughly between two interchanges on I-5, Airport Boulevard to the west and Power Line Road to the east. Bayou Way essentially serves as a frontage road for I-5 and has one lane in each direction.

"Level of Service" (LOS) describes roadway operating conditions. It is a qualitative measure of the effect of factors that include speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs. Levels of service are designated A through F from best to worst. LOS A through LOS E generally represent volumes at less than roadway capacity, while LOS F represents overcapacity. The County of Sacramento defines the minimum acceptable operation level for its roadways and intersections to be LOS D for rural areas and LOS E for urban areas. (Sacramento County, 2020).



SOURCE: Esri; ESA, 2024

Sacramento County/WattEV Commercial Charging Center

Figure 3-6
Census Tract 71.07

Existing intersections in the Proposed Project vicinity are all operating at an acceptable LOS (A–D) during peak AM and PM periods. Bayou Way between Airport Boulevard and Power Line Road had a daily volume of 2,155 vehicles and operates at LOS C (Kimley Horn, 2024).

3.11.3.3 Children's Environmental Health and Safety

Owing to the semi-rural nature of the Proposed Project area and the existing land uses in the area (large agricultural parcels and SMF), substantial populations of children are not present in the GSA. There is only one residence in the vicinity of the site, located approximately 400 feet to the southeast of the site. The next nearest locations with scattered homes lie approximately 3,830 feet southeast of the site, with more urbanized housing developments lying 1.5 miles from the site. There are no schools in the vicinity. The nearest school is the Paso Verde Elementary School located at 5240 PV Scholars Lane, approximately 1.5 miles east-southeast of the Project site.

3.12 Visual Effects

This section addresses the visual characteristics of the Proposed Project and the visual character of the areas surrounding the site.

3.12.1 Regulatory Context

There are no special purpose laws or requirements for visual effects.

3.12.2 Existing Conditions

3.12.2.1 Light Emissions

The Proposed Project site is undeveloped grassland with no existing sources of lighting or glare. Much of the area to the south, east, and west of the site consists of farm fields that are absent of nighttime lighting and are dark at night. Principal sources of nighttime lighting and illumination in the vicinity of the Proposed Project include SMF and Metro Air Park to the north, headlights from vehicles traveling on nearby I-5, and residential and other urban uses within the City of Sacramento to the east.

Visual Resources and Visual Character

The Proposed Project site is located in the northwest portion of Sacramento County, approximately 7.5 miles from downtown Sacramento. The site is located south of I-5 immediately south of SMF. The site is bounded by Bayou Way and I-5 to the north, ruderal grasslands and two water tanks that are a part of the Airport's water system lie to the east adjacent to Power Line Road, the West Drainage Canal and farmland lie to the south, and ruderal grasslands lies to the west.

The area immediately surrounding the Proposed Project provides views of Airport facilities to the north across I-5 and farmland that is both in production and out of production to the east, south, and west. Furthermore, Metro Air Park, with views of large-scale industrial, manufacturing, distribution, and high-tech commercial buildings, is located approximately a quarter mile to the northeast. Low-rise residential buildings and neighborhoods within the City of Sacramento limits are visible about 1.4 miles to the east, and the tree-lined Sacramento River can be seen approximately 1.5 miles to the west/southwest.

The site is flat and is recognizable as land that was previously under agricultural production. However, the site has been withdrawn from agricultural production for many years based on requirements to maintain the site in a manner that would not serve as an attractant to wildlife. Grassland on the site fills the viewshed in

the foreground, middle ground, and background. Viewer sensitivity from publicly accessible locations is low. Bayou Way and Power Line Road are lightly traveled, and there are no publicly accessible recreational uses that provide views of the site. Largely unobstructed views of the site are available from vehicles traveling on I-5 in the vicinity of the Proposed Project. Because motorists on I-5 typically travel at speeds of 65 miles per hour or more, they do not have as high a degree of sensitivity to visual character and quality due to the relatively short duration of their views. The viewsheds from publicly accessible locations exhibit a low degree of vividness and unity, and a moderate degree of intactness. The visual quality of the site is therefore considered low and is generally indistinct from similar areas in the vicinity.

3.13 Water Resources

3.13.1 Introduction

This section describes the existing environment concerning Waters of the US (including wetlands), surface waters, groundwater, and water supply and wastewater treatment.

3.13.2 Regulatory Context

Several federal and state requirements are relevant to this topic for the Proposed Project and are summarized below in **Table 3-13**.

TABLE 3-13
STATUTES AND OTHER REQUIREMENTS RELATED TO WATER RESOURCES

Statute or Other Requirement	Summary
Clean Water Act 33 USC 1251-1387	Establishes the basic structure for regulating the discharge of pollutants into waters of the U.S., which include wetlands. The three primary sections of the Act relating to wetland impacts and permitting are Sections 401, 402, and 4040. Section 401 requires a Water Quality Certificate for a project to ensure it does not violate State or Tribal water quality standards. Section 401 certifications are generally issued by the state or tribe with jurisdictional authority. In the case of the Proposed Project, the relevant agency would be the Central Valley Regional Water Quality Control Board. Section 402 regulates point-source and nonpoint-source discharges to surface waters through the National Pollutant Discharge Elimination System (NPDES) program. In California, the NPDES program is overseen by Regional Water Quality Control Boards. The NPDES program provides for both general permits (those that cover similar or related activities) and individual permits. Section 404 establishes a program that regulates the discharge of dredged and/or fill material into Waters of the U.S., including wetlands. This section states that no discharge of dredged and/or fill material may be permitted if: 1) a practicable alternative exists that is less damaging to the aquatic environment; or 2) the nation's waters would be significantly degraded. It must be demonstrated that steps have been taken to avoid impacts to wetlands, streams and other aquatic resources; that potential impacts have been minimized; and that compensatory mitigation will be provided to offset for unavoidable impacts. The U.S. Army Corps of Engineers is responsible for reviewing Section 404 applications and issuing permits.
Construction General Permit	Under the NPDES program, Construction associated with projects that would disturb more than one acre of land surface affecting the quality of stormwater discharges into Waters of the U.S. are subject to the *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Order 2022-0057-DWQ, NPDES No. CAS000002). The Construction General Permit regulates discharges of pollutants in stormwater associated with construction activity to waters of the U.S. from construction sites. The permit regulates stormwater discharges associated with construction or demolition activities. Requires development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes specific Best Management Practices (BMPs) designed to prevent sediment and pollutants from contacting stormwater and moving off site into receiving waters.
Rivers and Harbors Act 33 USC 401 and 403	Established to protect the navigability of waters used for commerce in the United States.

Statute or Other Requirement	Summary
Executive Order 11990, Protection of Wetlands 42 Federal Register 26961 (May 24, 1977)	Requires federal agencies to "avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative." The stated purpose of this Executive Order is to "minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands."
Executive Order 11988, Floodplain Management 42 Federal Register 26951 (May 25, 1977)	Requires federal agencies to avoid, to the extent possible, the long and short-term adverse impacts associated with the occupancy and modification of 100-year floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.
Department of Transportation Order 5650.2, Floodplain Management and Protection	Implements the guidelines set forth in Executive Order 11988. States that DOT agencies should ensure that proper consideration is given to avoid and mitigate adverse floodplain impacts in agency actions, planning programs, and budget requests.
State of California Municipal Stormwater Permitting Program	This program regulates stormwater discharges from Municipal Separate Storm Sewer Systems (MS4s).
State of California Sustainable Groundwater Management Act California Water Code 10720 et seq.	Authorizes local agencies to manage groundwater in a sustainable manner and allows limited state intervention when necessary to protect groundwater resources. Basins are prioritized under the SGMA by the Department of Water Resources (DWR).
The Central Valley Regional Water Quality Control Board Water Quality Control Plan	Commonly referred to as the Basin Plan, the plan is the master water quality control planning document used to designate beneficial uses and surface and ground water quality objectives. The Basin Plan designates the beneficial uses for the nearby Sacramento River as municipal and domestic supply (MUN), agricultural supply (AGR), contact and non-contact water recreation (REC-1 and REC-2), freshwater habitat (WARM and COLD), migration (MIGR), spawning (SPWN), wildlife habitat (WILD), and navigation (NAV). The beneficial uses for groundwater in the area are municipal and domestic water supply (MUN), agricultural supply (AGR), industrial service supply (IND), and industrial process supply (PRO).
Sacramento County Liquid Waste Program	Onsite wastewater treatment systems (e.g., septic tanks and leach fields) within Sacramento County are regulated by the Sacramento County Environmental Management Department Liquid Waste Program. The program's Guidance Manual describes requirements for the capacity of septic tanks, design criteria for leach fields, setbacks, and anti-buoyancy components.

3.13.3 Existing Conditions

3.13.3.1 Wetlands and Other Waters of the United States

A comprehensive jurisdictional delineation of the Sacramento International Airport and vicinity was conducted in 2016, which included the Proposed Project site and the Bayou Way frontage road (Dudek, 2023). That delineation identified several drainage ditches along the Bayou Way frontage and along the west and southern edges of the site. At the time, those features were considered potentially subject to federal jurisdiction due to potential connectivity to other jurisdictional waters. The definition of waters of the U.S. though have since changed. The Supreme Court's ruling in *Sackett v. Environmental Protection Agency* sharply limited the scope of the federal Clean Water Act's protection for the nation's waters. As a result of this decision, on August 29, 2023, the EPA and the USACE issued a final rule that amends the "Revised Definition of 'Waters of the United States' (WOUS)". Under the current regulatory standards, for a drainage ditch to be a WOUS, it must have a "relatively permanent" hydrologic connection to a downstream navigable water. Evidence of such sufficient flow includes extended periods of standing or continuously flowing water in the feature year after year (assuming no drought). The northern drainage ditch along the Bayou Way frontage has been abandoned and receives no water; multiple site visits conducted for the project, including ones conducted by ESA in July 2024, have confirmed that this drainage ditch is dry. As such, this feature would likely not be considered federally jurisdictional, although an approved jurisdiction determination has not been issued by the USACE. Regardless, the drainage ditches along the perimeter of the Project site all would likely be jurisdictional waters for the RWQCB under the

Porter-Cologne Water Quality Control Act, since jurisdictional extent under this state law is not limited to a "relative permanent" standard. No areas containing an obvious dominance of wetland plants within the site were observed during the 2016 wetland delineation or during follow-up surveys conducted in 2023.

3.13.3.2 Floodplains

NEPA requires an investigation of floodplains pursuant to Executive Order 11988, *Floodplain Management*. According to the Federal Emergency Management Agency (FEMA), most of the site is covered by Zone A "Approximate" floodplain, where base flood elevations have not been established (Kimley Horn, 2024). A portion of the site is within Zone A99. Zone 99 corresponds to areas of the 1 percent annual chance floodplain that will be protected by a federal flood protection system when construction has reached specified statutory milestones. The current FEMA flood mapping shows this location as Zone A and Zone A99, as shown in **Figure 3-7**. The site is located on Flood Insurance Rate Map (FIRM) panel 06067C0040J and is effective as of July 16, 2015. Supplemental floodplain analysis was prepared for the Proposed Project and is attached as **Appendix I**.

3.13.3.3 Surface Water

The Proposed Project is located east and north of the Sacramento River in the Natomas Basin. The Natomas Basin covers approximately 55,000 acres, and flood control within the basin is generally provided by Reclamation District 1000 (RD 1000). Though RD 1000 has indicated that it has no jurisdiction over the Project site, the district operates and maintains a drainage system in the Natomas Basin consisting of main drainage canals, drainage ditches, and pumping stations. Runoff water is collected in small ditches, street drains, or pipes. Pipes and ditches carry the water into a main drainage canal. Each main drainage canal leads to the Sacramento River. Levees were built around the basin to prevent the American and Sacramento Rivers from flooding the Natomas Basin annually and allowing for agricultural and urban land uses.

Locally, the Proposed Project is bordered by the following drainages:

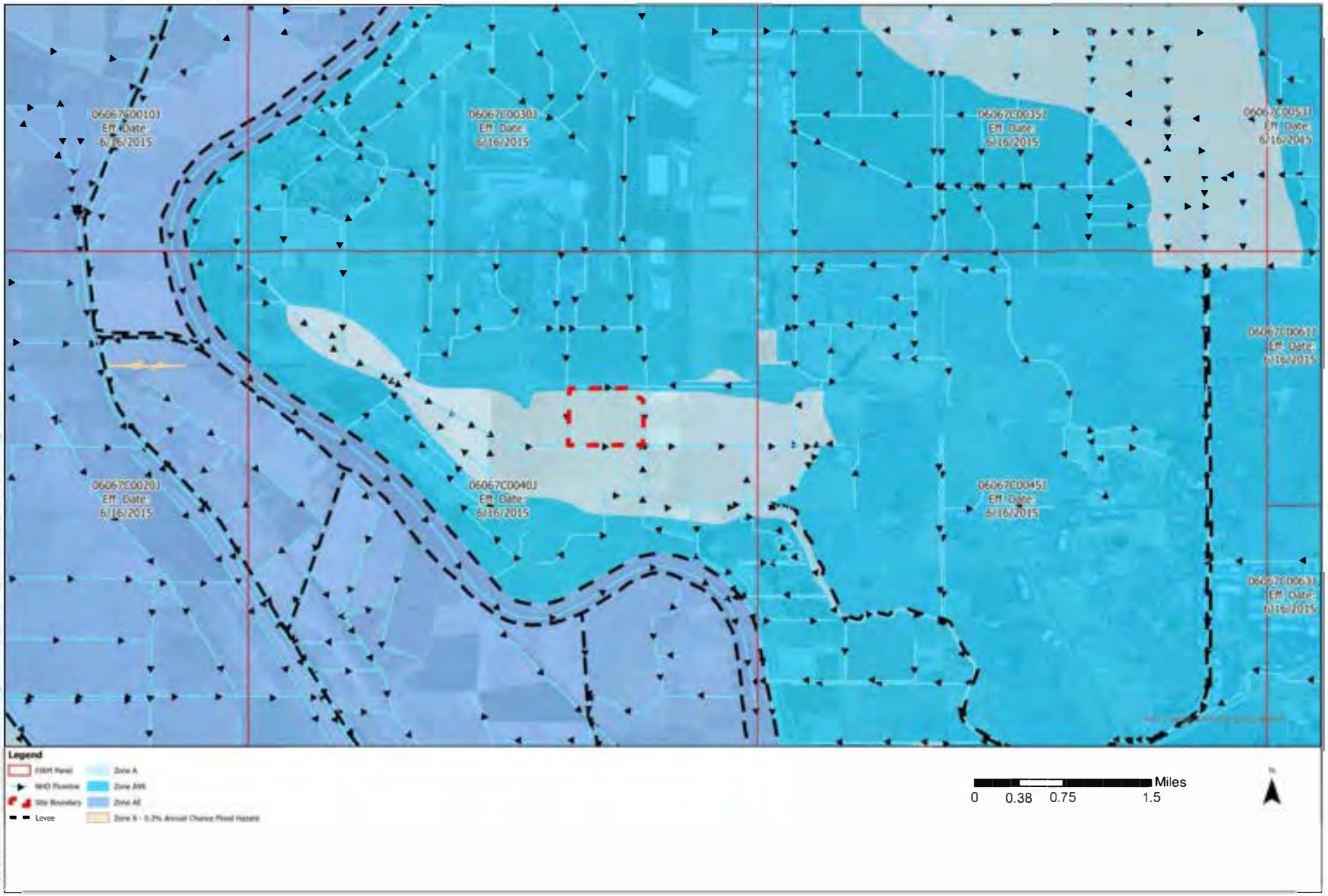
- The Bayou Way/I-5 drainage ditch along the north side that formerly drained to the east to the RD 1000 North Drain Canal. The ditch has since been cut off from connecting surface flows.
- RD 1000 North Drain Canal along the east side that drains south to the West Drainage Canal.
- West Drainage Canal along the south side that drains to the east and eventually into the Sacramento River.
- An open channel along the west side which drains south to the West Drainage Canal.

The interior of the Proposed Project site is very flat, with drainage generally south and east towards surrounding canals and ditches. Most of the site is defined by a series of minor low points that provide some storage before overtopping and continuing to flow south. The site does not have surface water (e.g., streams or ponds).

3.13.3.4 Groundwater

No wells are present on the Proposed Project site. Given the proximity to numerous irrigation canals and ditches, as well as the Sacramento River, the depth to groundwater is likely on the order of a few feet. Regional studies estimate the depth to groundwater at about 9 feet in this local area (GEI, 2021).

Groundwater levels in the western portion of the North American Subbasin, where the Proposed Project is located, are generally stable through time dating back to early in the 20th century. Limited land subsidence due to groundwater pumping was documented up to the early 1990s, but there were no documented impacts associated with the subsidence. Since then, the subsidence has been negligible (GEI, 2021).



SOURCE: Kimley-Horn and Associates, Inc.

Sacramento County/WattEV Commercial Charging Center

Figure 3-7
Floodplains

ESA

3.14 Past, Present, and Reasonably Foreseeable Future Actions

3.14.1 Introduction

This section describes projects proposed for the Airport, or by others in the vicinity of the Airport, for the purpose of considering the cumulative impact of those projects when combined with the impacts associated with the Proposed Project or its alternatives. The cumulative impacts of these past, present, and reasonably foreseeable future projects are evaluated in Chapter 4, *Environmental Consequences* (**Figure 3-8**).

3.14.2 Regulatory Context

NEPA requires analysis of cumulative impacts. Cumulative impacts are those that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, whether those actions be federal or non-federal (FAA Order 1050.1F). The temporal and spatial boundaries for analyzing cumulative impacts in this EA are specified below.

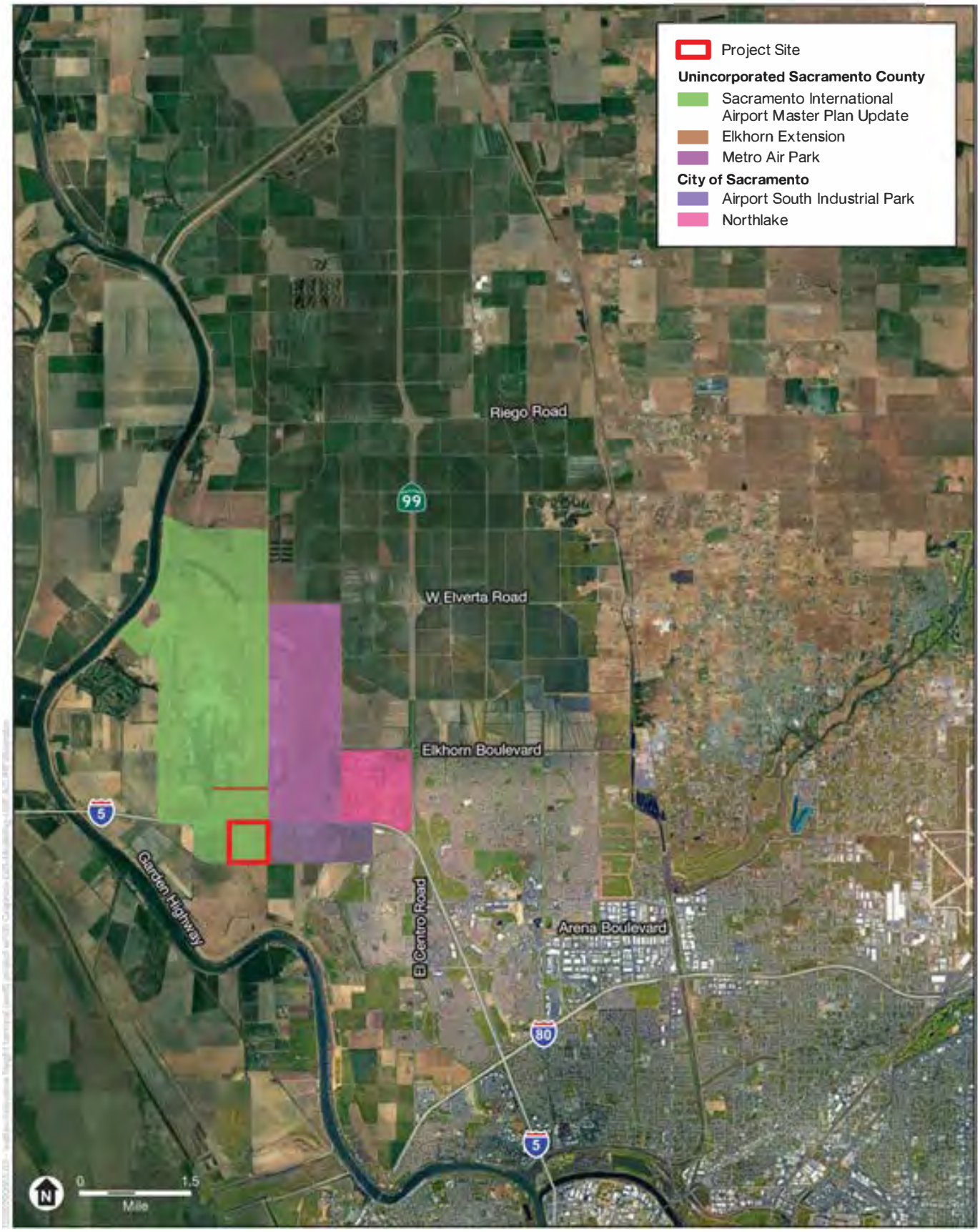
3.14.3 Existing Conditions

As shown previously in Figure 3-1, the GSA is used for considering cumulative impacts associated with the Proposed Project. The GSA encompasses the area in which the Proposed Project would have potential for direct and indirect impacts. Transportation and development projects in the GSA can contribute to cumulative impacts. Major development projects in the vicinity of SMF that could have some effect on the roadways within the GSA were identified and considered in the assessment of cumulative impacts. The context for cumulative impacts is based on the list of projects compiled by the Airport. The Project site is small, and no cumulative projects are currently proposed within the GSA. Several projects are proposed nearby, however, and those projects are listed below in **Table 3-14**.

TABLE 3-14
CUMULATIVE PROJECT LIST

Project	Description	Status
Sacramento International Airport		
Sacramento International Airport Master Plan Update	• Airport Master Plan through 2038	Approved
Unincorporated Sacramento County		
Elkhorn Extension	• Extension of the alignment of Elkhorn Boulevard from Metro Air Park to Airport Boulevard	Completed
Metro Air Park	• 1,892.2 Metro Air Park Special Planning Area • 1,320 acres industrial, manufacturing, distribution, and commercial use	Approved
I-5 Managed Lanes Project	• Construction of managed lanes on both directions on I-5 in Sacramento County from the I-5 and US 50 Interchange to the Sacramento River Bridge and the Sacramento-Yolo County Line.	Proposed
City of Sacramento		
Airport South Industrial Park	• 6.6 million square feet (sf) of industrial use on 408 acres • 100,000 sf retail/commercial use, including a 61,000-sf hotel/hospitality, on 11 acres	Proposed
Northlake (formerly Greenbriar)	• 2,922 units on 253.9 acres residential • 28.6 acres commercial • 32.5 acres parks and recreational use • 9.9-acre school site • 57.9 acres open space buffers	In progress

SOURCE: County of Sacramento, 2024



SOURCE: Google Earth Pro, basemap, 2022; ESA, 2023

Sacramento County/WattEV Commercial Charging Center

Figure 3-8
Cumulative Projects

ESA

CHAPTER 4
Environmental Consequences

4.1 Introduction

This chapter provides an assessment of potential impacts to environmental resource categories identified in the Exhibit 4-1 of Federal Aviation Administration (FAA) Order 1050.1F, *Environmental Impacts: Policies and Procedures*. This assessment determines if potential direct or indirect impacts caused by the Proposed Project or the No Action Alternative are considered significant under National Environmental Policy Act (NEPA) or other applicable environmental special purpose laws as specified in FAA Orders 1050.1F and 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions.

The analysis includes an overview of the impacts, methodology, thresholds of significance, and potential construction and operational impacts. Potential impacts are discussed in relation to the study areas defined in Chapter 3, Affected Environment. Potential cumulative impacts resulting from the incremental effects of the Proposed Project when added to the effects of past, present, and reasonably foreseeable future actions are analyzed in **Section 4.14**. Where applicable, mitigation is discussed that would reduce or eliminate environmental impacts of the Proposed Project.

As described in Section 3.1.2, the environmental impact categories specified in FAA Order 1050.1F and Order 5050.4B that would not be affected by the Proposed Project include coastal resources, DOT Section 4(f), Land and Water Conservation Fund Section 6(f) resources, noise (with the exception of construction noise), and wild and scenic rivers.

4.1.1 Study Years

This Environmental Assessment (EA) evaluates the environmental impact of constructing the Proposed Project by analyzing the project in two different years of full operation. Study year 2026 represents the first year that the Proposed Project would be open and operational. Study Year 2031 is the fifth full year after project opening. This provides a reasonable time frame to evaluate ongoing operation-related environmental impacts.

4.2 Air Quality

4.2.1 Methodology

An Air Quality Modeling Protocol (Protocol) was prepared to describe the overall approach, specific methodologies, models, data sources, assumptions, and other supporting information to be used in conducting the air quality assessment. The Protocol was circulated for review and comment to federal, state, and local agencies with air quality oversight for the Proposed Project, including The U.S. Environmental Protection Agency (EPA), the California Air Resources Board (CARB), the Sacramento Metropolitan Air Quality Management District (SMAQMD), and the Sacramento Area Council of Governments (SACOG). After concurrence by the reviewing agencies, the Protocol formed the basis for the Air Quality Report that was prepared for the Project. The Air Quality Report describes the affected environment and the air quality and climate impacts that would result from the Proposed Project. Both the Protocol and the Air Quality Report can be found in **Appendix C**. The information below summarizes the information in the report.

4.2.1.1 Construction Sources

Construction emissions for the Proposed Project Alternative were assessed based on the anticipated project construction schedule, with construction assumed to be completed at the earliest possible date with the possibility of overlapping subphases. Emissions from off-road equipment, such as dozers and tractors, were estimated using the California Emissions Estimator Model (CalEEMod) software, CalEEMod 2022.1, a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant emissions associated with construction and operations from a variety of land use projects in California. Emissions from on-road vehicles and equipment were estimated using emission factors for haul and material vendor trucks and worker vehicles derived from the EMFAC2021 web database.

4.2.1.2 Operational Sources

Operational emissions from the Proposed Project Alternative were assumed to occur from point sources at the facility as well as emission-generating vehicles traveling to and from the Proposed Project site. Point sources evaluated include:

- Solar photovoltaic power generation and battery storage systems
- Building energy
- Consumer products
- Architectural coating
- Landscaping

As the Proposed Project is assumed to not affect the number or types of aircraft operating at SMF, airfield emissions sources were not considered. Mobile source emissions that would occur under the No Action Alternative and that would be offset by the Proposed Project Alternative are also considered. Operational emissions for both point and mobile vehicle sources were estimated using CalEEMod and EMFAC2021. In addition to criteria pollutant emissions inventories, a Hazardous Air Pollutants (HAPs) emissions inventory was developed for the No Action Alternative and the Proposed Project Alternative. A summary of the technical assumptions and methodologies used to conduct the air quality analysis is included in **Appendix C**.

4.2.2 Significance Thresholds

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance threshold for air quality, which states, "The action would cause pollutant concentrations to exceed one or more of the NAAQS, as established by the EPA under the CAA, for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations." The General Study Area (GSA) is located in an EPA-designated nonattainment area for ozone (O_3) (severe-15) and fine particulate matter ($PM_{2.5}$) (moderate), attainment area for carbon monoxide (CO), and maintenance area for respirable particulate matter (PM_{10}). As such, the General Conformity Rule (Section 176(c)(1) of the CAA) *de minimis* levels are applicable to the Proposed Project for these pollutants. The *de minimis* levels for these pollutants are listed below:

- O_3 (volatile organic compounds [VOC] or nitrogen oxides [Nox]): 25 tons/year
- $PM_{2.5}$: 100 tons/year
- PM_{10}: 100 tons/year

Since the Proposed Project is outside of the I-5 Right-of-Way, and does not require any approval or funding from the Federal Highway Administration or the Federal Transit Administration, Transportation Conformity does not apply to this project.

4.2.3 2026 and 2031 Impacts

4.2.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Project would not be constructed and therefore there would be no impacts related to construction emissions. The Proposed Project site existing conditions currently consist of grassland that is maintained consistent with the Airport's approved Wildlife Hazard Management Plan. The Project Site ceased being actively farmed in the early 2000s. Therefore, the site itself is not an existing substantial material source of air pollutant emissions.

4.2.3.2 Proposed Project

Construction Sources

According to paragraph 1.3.5 of FAA Order 1050.1F Desk Reference, the General Conformity evaluation phase requires estimating the changes in emissions caused by the action and comparing them to the *de minimis* thresholds. The change in emissions is the "proposed action emission levels" minus the "no action emission levels," also known as the "net emissions" for a specific calendar year in tons per year (tpy). If the net emissions due to the action exceed the *de minimis* threshold, and are not otherwise exempt or presumed to conform, then the determination phase must be applied, and a formal conformity determination must be prepared. The No Action emissions, which represents emissions from mobile sources that would continue to occur in the absence of the Project and that would be offset by implement of the Project, are shown in **Table 4-1**. Under the Proposed Project, construction-related emissions are expected from the following construction activities: demolition, grading, building construction, paving, and architectural coating. Construction would be completed within approximately 13 months. The construction emissions inventory for the Proposed Project is presented in **Table 4-2** and includes compliance with applicable SMAQMD rules and Basic Construction Emissions Control Practices for minimization of construction emissions, such as fugitive dust controls. As shown in Table 4-1 and Table 4-2, the net emissions from construction (i.e., Proposed Project construction emission levels minus the No Action emission levels) would not exceed the *de minimis* thresholds. As explained in the Desk Reference, "If a project's net emissions are less than the *de minimis* levels, then the Federal action is considered to be too small to adversely affect the air quality status of the area and is automatically considered to conform with the applicable SIP/FIP, therefore the general conformity requirements have been complied with and the process is complete." See Desk Reference at Para. 1.3.5., p. 1-8. Thus, no General Conformity Determination for this Proposed Project is required and one will not be prepared. Therefore, construction of the Proposed Project would not cause or contribute to an exceedance of the NAAQS or increase the frequency or severity of any such existing violation.

TABLE 4-1
2026 AND 2031 NO ACTION OPERATIONS EMISSIONS INVENTORY

Operational Activity	Emissions (tons per year)[1]					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
2026						
Mobile	2.37	4.31	18.22	0.06	4.71	1.22
Total Emissions	**2.37**	**4.31**	**18.22**	**0.06**	**4.71**	**1.22**
2031						
Mobile	1.88	3.23	14.49	0.05	4.69	1.21
Total Emissions	**1.88**	**3.23**	**14.49**	**0.05**	**4.69**	**1.21**

NOTES:
1. Total values are derived from EMFAC2021 emission factors.
SOURCE: ESA, 2024. Refer to Appendix C for model outputs.

TABLE 4-2
MAXIMUM REGIONAL CONSTRUCTION EMISSIONS UNDER THE PROPOSED PROJECT

Construction Year	Emissions (tons per year)[1]					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Construction Year 1	0.28	2.75	2.45	0.01	0.38	0.20
Construction Year 2	0.20	0.14	0.18	<0.01	0.01	0.01
De Minimis Level[2]	*25*	*25*	*N/A*	*N/A*	*100*	*100*
Exceed De Minimis Level?	**No**	**No**	**N/A**	**N/A**	**No**	**No**

NOTES:
1. Total values are from CalEEMod and may not add up to 100 percent due to rounding.
2. 40 CFR 93.153(b)(1)
SOURCE: Kimley-Horn, 2024. Refer to Appendix C for model outputs.

Operational Sources

Per paragraph 1.3.5 of FAA Order 1050.1F Desk Reference, the General Conformity evaluation phase requires estimating the net changes in emissions caused by the action and comparing them to the *de minimis* thresholds, where the change in emissions is the "proposed action emission levels" minus the "no action emission levels," also known as the "net emissions" for a specific calendar year in tpy. The Proposed Project includes EV charging stations powered by an onsite solar generation field, replacing fossil-fueled on-road trucks and passenger vehicles with EV vehicles. Operation of the Proposed Project could result in a net reduction in emissions when compared to the No Action Alternative. Operational emission sources include mobile sources (i.e., motor vehicle use) and area sources (such as the use of landscape maintenance equipment, consumer products, and architectural coatings), building energy source emissions, and from septic tank pump operations. Operational emissions associated with the Proposed Project are summarized in **Table 4-3**. The No Action emissions, which represents emissions from mobile sources that would continue to occur in the absence of the Proposed Project and that would be offset by implementation of the Proposed Project, are shown previously in Table 4-1. As shown in Table 4-3, the net emissions from operation (i.e., Proposed Project operational emission levels minus the No Action emission levels) would not exceed the *de minimis* thresholds. As explained in the Desk Reference, "If a project's net emissions are less than the de minimis levels, then the Federal action is considered to be too small to adversely affect the

air quality status of the area and is automatically considered to conform with the applicable SIP/FIP, therefore the general conformity requirements have been complied with and the process is complete." See Desk Reference at Para. 1.3.5., p. 1-8. Thus, no General Conformity Determination for this Proposed Project is required and one will not be prepared. Therefore, operation of the Proposed Project would not cause or contribute to an exceedance of the NAAQS or increase the frequency or severity of any such existing violation.

TABLE 4-3
2026 AND 2031 PROPOSED PROJECT OPERATIONS EMISSIONS INVENTORY

	Emissions (tons per year)[1]					
Operational Activity	**ROG**	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
2026						
Area	0.10	<0.01	0.07	<0.01	<0.01	<0.01
Energy	<0.01	0.02	0.01	<0.01	<0.01	<0.01
Stationary (septic tank pump)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mobile[2]	1.70	2.83	20.1	0.05	4.66	1.21
Total Emissions	**1.80**	**2.85**	**20.2**	**0.05**	**4.66**	**1.21**
No Action Emissions	**2.37**	**4.31**	**18.22**	**0.06**	**4.71**	**1.22**
Total Net Emissions	**-0.57**	**-1.46**	**1.98**	**-0.01**	**-0.05**	**-0.01**
2031						
Area	0.10	<0.01	0.07	<0.01	<0.01	<0.01
Energy	<0.01	0.02	0.01	<0.01	<0.01	<0.01
Stationary (septic tank pump)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mobile[2]	1.70	2.83	20.1	0.05	4.66	1.21
Total Emissions	**1.80**	**2.85**	**20.2**	**0.05**	**4.66**	**1.21**
No Action Emissions	**1.88**	**3.23**	**14.49**	**0.05**	**4.69**	**1.21**
Total Net Emissions	**-0.08**	**-0.38**	**5.71**	**0**	**-0.03**	**0**
De Minimis Level[3]	*25*	*25*	*N/A*	*N/A*	*100*	*100*
Exceed De Minimis Level?	**No**	**No**	**N/A**	**N/A**	**No**	**No**

NOTES:
1. Total values are from CalEEMod and may not add up to 100 percent due to rounding.
2. Mobile trips associated with EV chargers were assumed to be all electric vehicles.
3. 40 CFR 93.153(b)(1)

SOURCE: Kimley-Horn, 2024; ESA 2024. Refer to Appendix C for model outputs.

The Proposed Project is outside of the I-5 Right-of-Way. Further, there is no approval or funding from the Federal Highway Administration or the Federal Transit Administration, therefore Transportation Conformity does not apply to this proposed project and its air quality analysis.

Hazardous Air Pollutants Emissions Inventory

Hazardous air pollutants (HAPs) are pollutants that do not have established NAAQS but present potential adverse human health risks from short-term (acute) or long-term (chronic) exposures, as defined by Section 112 of the CAA. FAA Orders 1050.1F and 5050.4B and their associated desk references provide guidance concerning the evaluation of HAPs. As outlined in the Protocol, the emissions of HAPs were addressed in accordance with the FAA's *Speciated Organic Gas Emissions from Airports Guidance*

document. Specifically, the FAA *Aviation Emissions and Air Quality Handbook* Chapter 6.2 (Hazardous Air Pollutants) was used to determine if an emission inventory of HAPs generated from the Proposed Project should be prepared. The Handbook states that "[c]onsiderations should be given as to (i) whether the Federal Action normally requires an EIS (e.g., new airport, new runway, major runway extension, etc.); (ii) whether or not it is located in a nonattainment/maintenance area; and/or (iii) whether a criteria air pollutant emissions inventory is also prepared." As previously stated, the GSA is categorized as nonattainment for ozone and $PM_{2.5}$ and maintenance for PM_{10}; therefore, an emissions inventory for HAPs generated by the Proposed Project was developed. Analysis of HAPs is not required by FAA Orders 1050.1F or 5050.4B. The HAPs emissions inventory was prepared using the same assumptions and models that were used to prepare the criteria pollutant emissions inventory discussed in preceding sections of this chapter.

Under the Clean Air Act, EPA is required to regulate emissions of hazardous air pollutants. This original list included 189 pollutants. Since 1990, EPA has modified the list through rulemaking to include 188 hazardous air pollutants (EPA, 2023). HAPs are pollutants for which there are no NAAQS but are still regulated under the CAA because of their potentially adverse effects on human health and the environment. These pollutants are comprised of a wide array of organic and inorganic compounds. In relation to the Proposed Project, such emissions are present in the exhaust of motor vehicle engines and, to a lesser extent, from other stationary sources. The sources of HAP emissions associated with the Proposed Project include construction equipment, motor vehicles and, to a lesser extent, stationary sources. Under both the Proposed Project Alternative and the No Action Alternative, no changes or impacts to aircraft operations will occur; therefore, the Proposed Project would not result in new HAP emissions from aircraft operations or related airport activities. Under the No Action Alternative, the Proposed Project would not be built. HAPs from off-airport vehicular travel under the No Action Alternative were calculated for 2026 and 2031. HAPs emissions associated with construction and operations of the Proposed Project are compared to the No Action Alternative for the same timeframe. HAPs from were calculated based on CARB's speciation profiles using a weight percent applied to the organic gas and particulate matter emissions calculated using EMFAC2021. Supporting calculations are provided in **Appendix C**. The HAPs emissions inventory for the No Action Alternative and the Proposed Project Alternative are provided in **Table 4-4**. As shown, the Proposed Project would offset HAP emissions from mobile sources from the onsite solar and battery storge of the EV charging facility compared to the No Action alternative.

TABLE 4-4
2026 AND 2031 HAZARDOUS AIR POLLUTANT EMISSIONS INVENTORY

	No Action Alternative		Proposed Project Alternative	
Hazardous Air Pollutant	**2026**	**2031**	**2026**	**2031**
1,1,1-Trichloroethane	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,3-Butadiene	4.74E-07	3.45E-07	0.00E+00	0.00E+00
2,2,4-Trimethylpentane	8.62E-06	6.89E-06	0.00E+00	0.00E+00
2-Methylnaphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acetaldehyde	3.09E-08	2.26E-08	0.00E+00	0.00E+00
Acetone	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	1.82E-05	1.42E-05	0.00E+00	0.00E+00
Butyl cellosolve	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chlorobenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Hazardous Air Pollutant	No Action Alternative		Proposed Project Alternative	
	2026	2031	2026	2031
Cyclohexane	2.52E-07	1.89E-07	0.00E+00	0.00E+00
Dichloromethane	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Thyl acetate	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylbenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene glycol	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	1.21E-06	8.83E-07	0.00E+00	0.00E+00
Isomers of xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropylbenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
m & p-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl ethyl ketone	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl tert butyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00
m-xylene	9.53E-06	7.49E-06	0.00E+00	0.00E+00
Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
n-Butyl alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00
n-Heptane	2.50E-07	1.82E-07	0.00E+00	0.00E+00
n-Hexane	0.00E+00	0.00E+00	0.00E+00	0.00E+00
o-Xylene	1.37E-05	1.00E-05	0.00E+00	0.00E+00
Perchloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phenol (carbolic acid)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phthalic anhydride	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propionaldehyde	3.39E-07	2.47E-07	0.00E+00	0.00E+00
Styrene	1.96E-07	1.48E-07	0.00E+00	0.00E+00
Toluene	3.09E-05	2.45E-05	0.00E+00	0.00E+00
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Trichlorotrifluoroethan	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Vinyl acetate	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Arsenic	0.00E+00	0.00E+00	3.41E-10	3.32E-10
Chromium	4.04E-07	3.93E-07	6.08E-08	5.99E-08
Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Manganese	2.48E-08	2.39E-08	0.00E+00	0.00E+00
Mercury	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nickel	0.00E+00	0.00E+00	1.26E-07	1.23E-07
Total	**8.42E-05**	**6.55E-05**	**1.88E-07**	**1.83E-07**
Net Change	**–**	**–**	**-8.40E-05**	**-6.53E-05**

NOTES:
1. Total values are from CalEEMod and may not add up to 100 percent due to rounding.
2. Mobile trips associated with EV chargers were assumed to be all electric vehicles.
3. 40 CFR 93.153(b)(1)

SOURCE: Kimley-Horn, 2024; ESA 2024. Refer to Appendix C for model outputs.

4.2.4 Avoidance, Minimization, and Mitigation Measures

The Proposed Project would not result in significant impacts; therefore, no mitigation is required.

4.3 Biological Resources

4.3.1 Methodology

An evaluation of biological resources was conducted for the Proposed Project and No Action Alternative and includes consideration of plant and animal species listed as threatened or endangered under the Endangered Species Act. A biological resources survey and habitat assessment was conducted by qualified biologists on July 24, 2024, and August 13, 2024, to describe existing conditions of the project site and offsite areas. A Biological Assessment (BA) was prepared for the Project and submitted to the U.S. Fish and Wildlife Service (USFWS) as part of a reinitiation of formal consultation per the requirements of Section 7 of the Endangered Species Act (see **Appendix D**). The Action Area (AA) for the Proposed Project is depicted in Figure 3-3 and discussed in detail in Section 3.3. All federally listed plant and animal species with potential to occur within the AA were evaluated for potential impacts.

4.3.2 Significance Thresholds

FAA Order 1050.1F and the 1050.1F Desk Reference provide the FAA's significance thresholds for determining impacts to biological resources. A significant impact to biological resources would occur when "the USFWS or NMFS determines that the action would be likely to jeopardize the continued existence of a federally-listed threatened or endangered species or would result in the destruction or adverse modification of federally-designated critical habitat."

4.3.3 2026 and 2031 Impacts

4.3.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Project would not be constructed. This land would continue to be mowed for purposes of weed abatement and to reduce attractants to wildlife that could pose a hazard to aircraft. The habitat values currently present on the site would remain unchanged, and there would be no effect to federally-listed threatened or endangered species.

4.3.3.2 Proposed Project

The BA prepared for the Proposed Project determined that one federally-listed species and one candidate species have a low potential to occur on the Project Site; giant garter snake (federally listed as threatened) and northwestern pond turtle (proposed for federal listing as threatened). The BA determined that 19.27 acres of marginal upland habitat for these species would be permanently impacted if the Proposed Project were to be implemented, and 88.9 acres of potential upland habitat would be temporarily impacted. No suitable aquatic habitat for either species would be impacted. **Table 4-5** lists the impact areas and the Proposed Project elements to which they are associated.

The Proposed Project site, along with several other areas proposed for development on Airport property, was the subject of a Biological Opinion (BO) issued by the U.S. Fish and Wildlife Service (USFWS) in 2008. The 2008 BO is included in **Appendix D**. The 2008 BO considered a number of elements that made up the proposed Sacramento International Airport Terminal Modernization Project (TMP). Most of the TMP's improvements related to a new Terminal B at the Airport and to areas in the immediate vicinity of the terminal area. The TMP also included construction of a new 25.1-acre paved Employee Parking Lot on

Airport property located north of I-5 and a 33.9-acre paved Transportation Surface Parking Lot (for airport passengers) on Airport property located south of I-5 to provide parking in replacement for the parking removed by construction of Terminal B. The BO issued on February 27, 2008, concluded that these two parking areas would result in conversion (i.e., paving) of up to 59 acres of upland habitat for the giant garter snake. Per the terms of the BO, a total of 59 acres of mitigation land was required to offset impacts at a 1:1 ratio for these two parking lots. In accordance with that directive, the Airport purchased the required mitigation lands and conveyed the deed for those lands to USFWS shortly after the BO's finalization.

TABLE 4-5
SUMMARY OF IMPACTS FROM THE WATTEV COMMERCIAL CHARGING CENTER PROJECT

Proposed Design Element	Existing Giant Garger Habitat Quality	Impact Type	Acres
Charging Area/Visitor Plaza[a]	Marginal	Permanent	15.3
Solar Array Footings	Marginal	Permanent	0.61[b]
Connecting powerline	Marginal	Permanent	0.002[c]
Solar Array	Marginal	Temporary	88.9
Off-site Improvements	Marginal	Permanent	3.36
Subtotal: Permanent Impacts	–	–	*19.27*
Subtotal: Temporary Impacts	–	–	*88.9*

SOURCE: See Appendix D.

NOTES:

a. This element also includes construction for a two-story 14,000-square-foot (sf) convenience store and visitor center, a 3,000-sf single story operations and maintenance facility, and a 3,000-sf single story office building.
b. It is expected that the distance between the support structures for the solar arrays would be spaced approximately 20 feet apart from each other. Given the solar array would cover 88.9 acres, it is estimated that there would be close to 8,818 individual support structures placed into the ground to support the above ground solar panels. The sizing of each of the individual support structures are on the order of 2 to 3 square feet each. Assuming the higher value of this range, it is estimated that the footprint of all the support structure piling for the solar array would be 26,454 square feet (0.607 acres).
c. It is expected there could be up to 20 utility poles installed along the west side of Power Line Road in the project site to tie-in and connect the WattEV Commercial Charging Center to the SMUD power grid. Each pole is estimated to have a diameter of approximately 27 inches. With the 27-inch diameter pole, the total square feet of each pole would be about 3.5 feet and with 20 poles the footprint of the utility poles will equate to a total of 70 square feet (0.0016 acres).

Since that time, the 25.1-acre Employee Parking Lot north of I-5 has been constructed, but the 33.9-acre paved Transportation Surface Parking Lot south of I-5 has not, leaving 33.9 acres of already-purchased mitigation land in surplus. Instead of that parking lot, the Proposed Project would be constructed on that same site. As noted above in Table 4-5, the Proposed Project that would replace the formerly proposed Transportation Surface Parking Lot would permanently impact 19.27 acres, requiring an equal amount of mitigation land. When subtracted from the remaining 33.9 acres of available mitigation land, a surplus of 14.63 acres of compensatory mitigation would remain after the Project's development. Ultimately, only 19.27 acres of marginal upland habitat would be permanently lost as part of the Proposed Project's construction, which is substantially less than the 33.9 acres that would have been lost if the Transportation Surface Parking Lot had been constructed.

FAA reinitiated formal Section 7 consultation with the USFWS in consideration of the changes that have been proposed since the 2008 BO, and to request concurrence from USFWS with FAA's determination that the Proposed Project **may affect, likely to adversely affect giant garter snake.** Since the northwestern pond turtle is a candidate species, consultation was limited to only listed species. Therefore, the effects and extent of incidental take would be consistent with the findings presented in the 2008 BO. Further, FAA requested that the USFWS determine that the mitigation lands already acquired by the Airport for the previous project and the portions of that project that were not built be applied to the permanent loss of

marginal upland habitat for these species that would be brought about by the Proposed Project implementation. The USFWS issued an updated BO on February 25, 2025, in response to reinitiation of formal Section 7 consultation. In this updated BO, the USFWS concluded that the Proposed Project is not likely to jeopardize the continued existence of the giant garter snake. The USFWS also determined that previously completed compensatory mitigation will offset impacts to the snake as a result of the Proposed Project. This BO and response to reinitiation of formal Section 7 consultation is included in **Appendix D**.

4.3.4 Avoidance, Minimization, and Mitigation Measures

The 2008 BO prescribed a number of conservation measures for construction of the formerly proposed Transportation Surface Parking Lot upon which the Proposed Project would be constructed. These same measures would apply to the Proposed Project. In addition, a number of supplemental conservation measures were proposed in the BA that was prepared for the Proposed Project, and these measures would also apply. All these measures are listed in the Project's BA, which can be found in **Appendix D**.

Further, and as stated above, the compensatory mitigation land set aside through deed restriction as part of the 2008 BO's requirements included mitigation for this parcel, which would be utilized to offset impacts brought about by the Proposed Project's permanent conversion of 19.27 acres of marginal upland habitat. This mitigation would utilize a portion of the 33.9 acres of the remaining mitigation land that has already been deed restricted by the Airport for identical impacts as identified in the 2008 BO. Since these lands have already been set aside, the purchase of additional mitigation lands for the Proposed Project is not required.

4.4 Climate

4.4.1 Methodology

An Air Quality Modeling Protocol (Protocol) was prepared to describe the overall approach, specific methodologies, models, data sources, assumptions, and other supporting information to be used in conducting the air quality assessment. The Protocol was circulated for review and comment to federal, state, and local agencies with air quality oversight for the Proposed Project, including the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (CARB), the Sacramento Metropolitan Air Quality Management District (SMAQMD), and the Sacramento Area Council of Governments (SACOG). The Air Quality Report describes the affected environment and the air quality and climate impacts that would result from the Proposed Project. Both the Air Quality Modeling Protocol and the Air Quality Report can be found in **Appendix C**. The information below summarizes the information in the report.

Per Section 6.3 of the FAA's *Aviation Emissions and Air Quality Handbook* and Paragraph 3 of FAA Order 1050.1F, a NEPA document prepared by the FAA must consider the potential incremental change in CO_2 emissions that would result from a proposed action when compared to a no action alternative for the same timeframe. A projection of the GHG emissions was estimated consistent with the guidance in the FAA's *Aviation Emissions and Air Quality Handbook*. The analysis of GHG emissions generally follows the same methodology and modeling tools as the air quality criteria pollutant emissions analysis discussed in **Section 4.2**, *Air Quality*. GHG emissions inventories for 2026 and 2031 were prepared for the Proposed Project and No Action Alternative. The GHG emissions inventories account for direct and indirect emissions from construction and operational sources. Since there would be no change to the number or types of aircraft used for airport operations, airside sources are not included in the GHG emissions inventories (aircraft operations and ground support equipment). A summary of the technical assumptions and methodologies used to conduct the climate analysis is included in **Appendix C**.

4.4.2 Significance Thresholds

The FAA has not established significance thresholds for assessing impacts to climate. There are currently no standards identified by the FAA to even consider in evaluating the significance of GHG emissions. This EA considers GHG emissions relative to any local and regional climate action plans. The County of Sacramento published an updated Climate Action Plan in July 2024 which discusses climate projections and sets county-wide GHG emission reduction targets. Per the Climate Action Plan, the County of Sacramento aims to reduce greenhouse gas emissions to 39 percent below 2021 levels by 2030 and to 85 percent below 2021 levels by 2045.

4.4.3 2026 and 2031 Impacts

4.4.3.1 No Action Alternative

The Proposed Project site existing conditions currently consist of grassland that is maintained consistent with the Airport's approved Wildlife Hazard Management Plan. The Project Site ceased being actively farmed in the early 2000s. Therefore, the site itself is not an existing substantial material source of GHG emissions. However, the Proposed Project would offset GHG emissions from mobile sources from the onsite solar and battery storge of the EV charging facility compared to a No Action scenario. Thus, mobile source GHG emissions that would occur in 2026 and 2031 under the No Action Alternative and that would be offset by the Proposed Project are summarized in **Table 4-6**.

TABLE 4-6
2026 AND 2031 NO ACTION OPERATIONS GREENHOUSE GAS EMISSIONS INVENTORY

Operational Year	Activity	Estimated GHG Emissions Inventory in CO_{2e} (MT/year) No Action
2026	Mobile	5,451
	Total No Action Emissions	**5,451**
2031	Mobile	4,818
	Total No Action Emissions	**4,818**

NOTES: CO_{2e} = carbon dioxide equivalent
Refer to Appendix C for details including CO2, CH4, and N2O.
SOURCE: ESA, 2024.

4.4.3.2 Proposed Project

Construction Sources

Construction activities associated with the Proposed Project would result in emissions of CO_2 and, to a lesser extent, CH_4 and N_2O. These emissions would be associated with operation and movement of heavy equipment, haul trucks moving material to and from the project site, and on-road passenger vehicles from workers commuting to and from the project site. Construction emissions associated with the Proposed Project are summarized in **Table 4-7**.

TABLE 4-7
CONSTRUCTION GREENHOUSE GAS EMISSIONS INVENTORY

Construction Year	Estimated GHG Emissions Inventory in CO_2e (MT/year)[a]
	CO_{2e}
Construction Year 1	655
Construction Year 1	30
Total Construction Emissions	**685**

NOTES: CO_2e = carbon dioxide equivalent
Refer to Appendix C for details including CO2, CH4, and N2O.
SOURCE: Kimley-Horn, 2024.

Operational Sources

Operation of the Proposed Project could result in a net decrease of GHG emissions when compared to the No Action Alternative. Operational GHG emission sources include stationary sources such as landscaping equipment, GHG-producing mobile sources, building energy emissions, solid waste decomposition, water and wastewater conveyance and treatment, and fugitive losses of refrigerants primarily from vehicles. Operational emissions associated with the Proposed Project are summarized in **Table 4-8**.

TABLE 4-8
2026 AND 2031 PROPOSED PROJECT OPERATIONAL GREENHOUSE GAS EMISSIONS INVENTORY

Operational Activity	Annual CO_2e Emissions (metric tons per year)	
	2026	2031
Area	0.3	0.3
Energy	252	252
Mobile	122	122
Solid Waste	8	8
Water & Wastewater	3	3
Refrigerants	240	240
Total Annual CO_2e (All Sources)	625	625
No Action CO_2e	5,451	4,818
Annual Net Emissions	-4,826	-4,193

Notes: CO_2e = carbon dioxide equivalent
Refer to Appendix C for details including CO2, CH4, and N2O.
SOURCE: Kimley-Horn, 2024; ESA 2024

As indicated in Table 4-7, construction of the Proposed Project would result in approximately 685 MT of CO_2e. Per Table 4-8, operation of the Proposed Project would result in approximately 625 MT of CO_2e. Taking into account mobile source GHG emissions that would occur in 2026 and 2031 under the No Action Alternative and that would be offset by the Proposed Project, operation of the Proposed Project would result in a net reduction in emissions of approximately 4,826 and 4,193 MT of CO2e for 2026 and 2031, respectively. In comparison, California emissions for 2022, the latest year for which emissions data is

available, was 371.1 million MT of CO_2e.[1] The Proposed Project's contribution to GHG emissions (gross) would comprise a miniscule fraction of the State of California's GHG emissions, while the Proposed Project's net GHG emissions would reduce emissions from mobile sources. When comparing the Proposed Project to the No Action Alternative, the Proposed Project would provide a net benefit to the environment.

As discussed in **Section 4.4.2**, the County of Sacramento Climate Action Plan aims to reduce greenhouse gas emissions to 39 percent below 2021 levels by 2030 and to 85 percent below 2021 levels by 2045. Considering the minimal emissions of GHGs that would be generated by the Proposed Project and the net GHG emissions reductions from mobile sources providing a net benefit to the environment, it is unlikely that they would disproportionately affect the State's or County of Sacramento's GHG emissions targets. Additionally, the Proposed Project would provide access to EV charging for trucks and passenger vehicles, promoting the use of zero-emission motor vehicles.

4.4.4 Avoidance, Minimization, and Mitigation Measures

As stated in **Section 4.4.2**, there are no significance thresholds established for GHG emissions, and the FAA has not identified specific factors to consider in making a significance determination for GHG emissions, particularly where application to a single project is concerned. Due to minimal emissions of GHG anticipated during construction and the negligible change the Proposed Project would have on GHG emissions within the GSA, there would be little, if any, increase in vulnerability to future climate impacts from the implementation of the Proposed Project.

4.5 Farmlands

4.5.1 Methodology

The evaluation of potential impacts associated with farmlands is based on a Natural Resources Conservation Service (NRCS) NRCS criteria, review of applicable documents, the Sacramento County General Plan, and FAA's regulatory requirements.

4.5.2 Significance Thresholds

FAA Order 1050.1F, Exhibit 4-1, specifies that a significant impact would occur when the NRCS Form AD-1006 score, which is used to determine the relative agricultural resources value of a location, totals more than 200 points.

4.5.3 2026 and 2031 Impacts

The 2026 and 2031 potential farmlands impacts would be the same for both future study years.

4.5.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Project would not be constructed. This land would continue to be mowed for purposes of weed abatement and to reduce attractants to wildlife that could pose a hazard to aircraft.

4.5.3.2 Proposed Project (2026 and 2031)

The Proposed Project would be constructed on land that has been designated as "Farmlands" as defined in FAA Order 1050.1F and described in Chapter 3. Using Form AD-1006, and in consultation with the Natural

[1] California Air Resources Board, *2000-2022 GHG Inventory (2024 Edition)*, 2024. Available: https://ww2.arb.ca.gov/ghg-inventory-data. Accessed December 2, 2024.

Resources Conservation Service, FAA determined that the Proposed Project Site would have an agricultural resources value score of 130.7 points, which is below the significant impact threshold of 200 points. NRCS Form AD-1006 and the accompanying agricultural resources technical memorandum are provided in **Appendix E**.

4.5.4 Avoidance, Minimization, and Mitigation Measures

The Proposed Project would not result in significant impacts; therefore, no mitigation is required.

Although this land is no longer used for agriculture, its historical use as farmland is sufficient it to be designated as "Farmland of Local Importance" by the County of Sacramento, and the County has its own mitigation policies concerning conversion of agricultural lands. Accordingly, the Project applicant has committed to setting aside an equal amount of agricultural land of like classification; currently, the Airport Sponsor intends to use contiguous and/or adjacent land they currently own, located in the vicinity of the Proposed Project Site, which would include appropriate deed restrictions to retain as agricultural land.

4.6 Hazardous Materials, Solid Waste, and Pollution Prevention

4.6.1 Methodology

The potential impacts of the No Action Alternative and Proposed Project were evaluated in comparison to the regulatory requirements described in Section 3.6.2.

4.6.2 Significance Thresholds

Exhibit 4-1 in FAA Order 1050.1F provides guidance on the framework for evaluating impacts associated with hazardous materials or waste. However, the FAA has not established a significance threshold for hazardous materials, solid waste, or pollution prevention.

4.6.3 2026 and 2031 Impacts

4.6.3.1 No Action Alternative (2026 and 2031)

A review of the DTSC Envirostor and SWRCB GeoTracker online databases for hazardous materials sites indicates that the Site is not listed for the release of hazardous materials. Currently, there are no developed uses at the Site. Accordingly, the No Action Alternative would not result in solid waste nor any activities occurring that could be a substantial source of pollutants or hazardous materials.

4.6.3.2 Proposed Project

Construction

During Project construction, construction equipment and materials would include fuels, oils and lubricants, solvents and cleaners, cements and adhesives, paints and thinners, degreasers, cement and concrete, and asphalt mixtures, which are all commonly used in construction.

Construction activities would be required to comply with numerous hazardous materials regulations designed to ensure that hazardous materials would be transported, used, stored, and disposed of in a safe manner to protect worker safety, and to reduce the potential for a release of construction-related fuels or other hazardous materials into the environment, including stormwater and downstream receiving water bodies. Contractors would be required to prepare and implement Hazardous Materials Business Plans

(HMBPs) that would require that hazardous materials used for construction would be used properly and stored in appropriate containers with secondary containment to contain a potential release. The California Fire Code would also require measures for the safe storage and handling of hazardous materials. Further, the construction contractor would be required to prepare a Stormwater Pollution Prevention Plan (SWPPP) for construction activities that would list the hazardous materials proposed for use during construction; describe spill prevention measures, equipment inspections, equipment and fuel storage; protocols for responding immediately to spills; and describe best management practices (BMPs) for controlling site runoff.

Solid waste generated during construction would be disposed of at a regulated facility permitted to receive construction waste.

Operations (2026 and 2031)

Operation and maintenance of the facility would generate little hazardous waste. Hazardous materials may include solar panels and batteries, hydraulic fluid, diesel fuel, insulation oil for the transformers, grease, lubricants, paint, solvents, and adhesives. Smaller quantities (i.e., consumer-size containers) of common, commercially available maintenance chemicals also would be used at the facility, including solvents, degreasers, lubricants, paints, and other coatings. All hazardous materials used onsite would be stored, handled, and disposed of in accordance with the manufacturers' specifications and consistent with all applicable regulatory requirements through a HMBP.

Solid waste generated during operation of the facility would be disposed of at a regulated facility permitted to receive such waste.

4.6.4 Avoidance, Minimization, and Mitigation Measures

The Proposed Project would not result in significant impacts; therefore, no mitigation is required. The Project would be required to comply with all regulatory requirements contained within the Project SWPPP and to implement the BMPs contained therein.

4.7 Historical, Architectural, Archaeological, and Cultural Resources

4.7.1 Methodology

This section analyzes the potential for direct and indirect impacts to historical, architectural, archaeological, and cultural resources (cultural resources) that would result from the Proposed Project. FAA's consultation with the California State Historic Preservation Office (SHPO) pursuant to Section 106 of the National Historic Preservation Act (NHPA) and consultation with federally recognized Native American Indian tribes regarding Native American cultural resources that could be affected by the Proposed Project is also detailed in this section. FAA's consultation with the California SHPO and federally recognized Native American Indian tribes is documented in **Appendix F**.

As discussed in Section 3.7, FAA delineated an Area of Potential Effects (APE) for the Proposed Undertaking's (Project) potential to directly or indirectly alter the character of any cultural resources (see Figure 3-5). The California SHPO concurred with FAA's APE (see **Appendix F**).

A *Cultural Resources Inventory and Evaluation Report* was prepared for the Proposed Project (see **Appendix F**). This study was completed to comply with the requirements of Section 106 of the NHPA and support SHPO consultation. On November 1, 2024, FAA submitted its determination of eligibility and findings of effect to the California SHPO. The California SHPO's response of December 9, 2024,

concurred that that the proposed undertaking would not adversely affect historic properties. Copies of the consultation letters are provided in **Appendix F**.

4.7.2 Significance Thresholds

The FAA has not established a significance threshold for Historical, Architectural, Archaeological, and Cultural Resources. According to Section 106, a proposed project would have an effect on a historic property when the project may alter characteristics of the property that may qualify it for inclusion in the NRHP. An effect would be considered adverse when it diminishes the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects include the physical destruction of all or part of the property, changes to aspects of the property's setting, or alteration of character-defining features 36 CFR § 800.5(a). In assessing the potential significance associated with a proposed action, one of the factors the FAA considers is if it would result in a finding of Adverse Effect through the Section 106 process.

4.7.3 2026 and 2031 Impacts

The historical, architectural, archaeological, and cultural potential impacts in 2026 and 2031 would be the same for both future study years.

4.7.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Project would not be constructed. There would be no development or alteration of the land in the Direct APE. The No Action Alternative would not adversely affect any properties listed or eligible for listing on the NRHP; accordingly, there would be no impacts to historical, architectural, archaeological, or cultural resources.

4.7.3.2 Proposed Project

As described in the *Cultural Resources Inventory and Evaluation Report,* no archaeological resources were identified in the APE. Previous and current investigations have determined that there is a low potential to encounter buried archaeological resources within the APE during implementation of the Proposed Project.

During the surveys, archaeologists identified five age-eligible architectural resources within the APE: Ditch C and a segment of the SMUD Transmission Line are in the direct APE and extend into the indirect APE; Ditch A, Ditch B, and 5250 Power Line Road are in the indirect APE. Each of these resources were evaluated for historic significance, and none of the resources in the direct or indirect APE qualify as historic properties under NHPA Section 106.

During consultation with federally recognized Native American Indian tribes, the United Auburn Indian Community (UAIC) requested a Tribal Cultural Survey of the Proposed Project Site, which was conducted on November 13, 2024. The tribe requested that a tribal cultural resources monitor be present during Project construction.

4.7.4 Avoidance, Minimization, and Mitigation Measures

Since there are no significant impacts, no mitigation measures are required. While unlikely based on the existing conditions, prior disturbance, and survey results, the unanticipated discovery of archaeological materials or human remains cannot be entirely discounted. Established protocols for unanticipated

discoveries of artifacts and human remains is required in accordance with California law.[2] As stated in Appendix F, the unanticipated discovery plan protocols include:

- *If human remains or funerary objects are encountered during the undertaking, all work shall cease within 100 feet of the find and the Sacramento County Coroner shall be contacted pursuant to State Health and Safety Code § 7050.5,*
- *If any Native American cultural resources are discovered, all work shall cease within a 60-foot buffer so that a qualified archaeologist can be retained to assess the find, and the Auburn Rancheria and Winton Rancheria shall be contacted;*
- *If significant Native American cultural resources are discovered and avoidance cannot be ensured, a treatment plan shall be developed by a qualified archaeologist, followed by further consultation with the Auburn Rancheria and the Winton Rancheria.*

At the request of the UAIC, the Sponsor has agreed to have a Tribal Representative or Tribal Monitor during ground disturbance/construction activities to minimize impacts to previously undiscovered resources of cultural and religious significance.

4.8 Land Use

4.8.1 Methodology

As described in Section 3.8.3, the Sacramento County General Plan and Sacramento County Zoning Ordinance were reviewed for land use considerations. Additionally, the Sacramento International Airport Master Plan was reviewed to determine consistency of the Proposed Project with the land use plans and policies contained within the plan. The land use evaluation considers whether each alternative would create conflicts with land use, zoning, and/or comprehensive plans for Sacramento County and the Airport. Potential impacts related to noise are presented in Section 4.10, *Construction Noise*.

4.8.2 Significance Thresholds

Per FAA Order 1050.1F significance thresholds for impacts to land use have not been established. Guidance provided in the Order 1050.1F Desk Reference states that a determination that there are significant impacts to land use is normally dependent on whether there are significant impacts in other environmental impact categories. This section of the EA focuses on the Proposed Project's consistency with land use plans, zoning ordinances, and other planning documents.

4.8.3 2026 and 2031 Impacts

The 2026 and 2031 potential land use effects would be the same for both future study years; however, the Proposed Project would include a land use change on the Airport Layout Plan (ALP), necessitating FAA approval for this change.

4.8.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Project would not be constructed. The ALP would not be changed and local zoning would remain unchanged (Agricultural); however, it would not be used for agricultural purposes as this land would continue to be maintained to reduce wildlife hazard attractants.

[2] California Code of Regulations, Section 15064.5(d)-(f).

4.8.3.2 Proposed Project (2026 and 2031)

The Proposed Project would include FAA approval to revise the ALP, changing this parcel from aeronautical to non-aeronautical land use. The Proposed Project is subject to consistency with the Sacramento County General Plan and the Sacramento County Zoning Ordinance. The Proposed Project is consistent with the land uses and zoning designations applied to the site in the Sacramento County General Plan. If the Proposed Project is constructed, the local zoning ordinance would redesignate this site for commercial use. Further, the ALP has designated the site for commercial use for many years. Implementation of the Proposed Project would not alter future land use patterns in the vicinity of the Proposed Project site.

As stated above, there are no established significance thresholds for potential impacts to land use. The Proposed Project does not present any substantial conflicts with local and regional plans and would not result in a significant impact when compared to the No Action Alternative.

4.8.4 Avoidance, Minimization, and Mitigation Measures

Based on the analysis described above, the Proposed Project would not result in significant effects when compared to the No Action Alternative; therefore, no mitigation measures are required.

4.9 Natural Resources and Energy Supply

4.9.1 Methodology

The evaluation of potential impacts associated with natural resources and energy supply is based on a review of applicable documents, the Sacramento County General Plan, and FAA's regulatory requirements and guidance.

4.9.2 Significance Thresholds

The FAA has not established significance thresholds for determining impacts to Natural Resources and Energy Supply.

4.9.3 2026 and 2031 Impacts

4.9.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Project would not be constructed. The Project site is land that would continue to be mowed for purposes of weed abatement and to reduce attractants to wildlife that could pose a hazard to aircraft. Only negligible amounts of energy and natural resources would be consumed under this alternative.

4.9.3.2 Proposed Project

Construction

Construction of the Proposed Project would require the use of fuels (primarily gasoline and diesel), or potentially electricity for some equipment, for construction equipment and vehicles that would perform a variety of activities, including excavation, hauling, paving, assembly, and general vehicle travel. **Table 4-9** presents the estimated total construction energy consumption, by energy source, for construction of the Project. Gasoline and diesel fuel would be the primary energy sources for vehicles driven by construction crews and to power the large haul trucks used to deliver and retrieve construction equipment, materials, and debris.

TABLE 4-9
ENERGY USE DURING CONSTRUCTION

Source	Total Construction Energy	Sacramento County Annual Energy	Percentage Increase Countywide
Electricity Use		**GWh**	
Water Use[1]	0.29	11,410	0.003%
Diesel Use		**Gallons**	
On-Road Construction Trips[2]	40,424		0.04%
Off-Road Construction Equipment[3]	25,363	93,939,584	0.03%
Construction Diesel Total	65,787		0.07%
Gasoline		**Gallons**	
On-Road Construction Trips	1,542	509,702,218	0.0003%

NOTES:

1: Construction water use based on acres disturbed per day per construction sequencing and estimated water use per acre.

2: On-road mobile fuel source based on vehicle miles traveled (VMT) from CalEEMod and fleet-average fuel consumption in gallons per mile from EMFAC2021 in Sacramento for 2024.

3: Construction fuel use was calculated based on CalEEMod emissions outputs and conversion ratios from the Climate Registry.

SOURCE: Kimley-Horn, 2024. See Appendix G.

Equipment used during construction of the Proposed Project would use fuel-efficient equipment consistent with federal and state regulations. Construction would consume approximately 64,878 gallons of diesel fuel. Additionally, on-road worker vehicles traveling to and from the Project site would consume approximately 15,423 gallons of gasoline. These annual-average diesel and gasoline use amounts are equivalent to approximately 0.07 percent of the diesel and 0.0003 percent of the gasoline anticipated to be sold in Sacramento County in 2025/2026, the anticipated years with construction. Overall, the use of diesel fuel and gasoline during construction under the Proposed Project would not be substantial relative to the total sales of transportation fuels in Sacramento County.

Operations (2026 and 2031)

Development of the Proposed Project would convert undeveloped ruderal grassland on the Project site to a publicly accessible Electric Vehicle (EV) charging facility and related structures. Once operational, the Proposed Project would include a solar facility that would create a new renewable source of energy in Sacramento County. The specific existing sources of energy that would be replaced by the Proposed Project would be related to combustion of gasoline and diesel fuels for traditional combustion-fueled trucks, buses, and passenger vehicles. The proposed solar facilities would power the Proposed Project's electric vehicle charging stations and appurtenant uses except during nighttime and cloudy weather, which much of the site's electric energy needs produced on site. Any surplus electricity generation not stored in the proposed onsite Battery Energy Storage System (BESS) would be exported to the Sacramento Municipal Utility District's (SMUD) system. This would provide a net positive energy impact attributable to the project and be a benefit to the County, as excess energy generation stored on-site could then be exported to SMUD's grid during off-peak times, thereby assisting SMUD in achieving its goal to reach zero carbon emissions in its power supply by 2030 and in meeting its obligations under State energy storage targets.

In terms of mobile energy use, the State of California has established the goal for all new medium and heavy-duty vehicles to be zero-emission by 2045. The State has also directed that rules be developed for all classes of road vehicles "requiring increasing volumes" of new electric vehicles "towards the target of 100 percent". By providing the infrastructure necessary to implement these directives, the Proposed Project

would serve to protect against inefficient, wasteful, and unnecessary use of energy and would contribute to achievement of federal and State goals for renewable energy and energy efficiency.

4.9.4 Avoidance, Minimization, and Mitigation Measures

The Proposed Project would not result in significant impacts; therefore, no mitigation is required.

4.10 Construction Noise

4.10.1 Methodology

FAA Order 1050.1F states that an analysis of surface transportation impacts, including construction noise, should be conducted using accepted methodologies from the appropriate modal administration, such as the Federal Highway Administration (FHWA) for highway noise. FHWA's *Highway Traffic Noise Analysis and Abatement Guidance* states that the FHWA and other federal agencies encourage state and local governments to practice land use planning and control near highways. The California Department of Transportation (Caltrans) has published the Traffic Noise Analysis Protocol (TNAP) (Caltrans 2020), describing the impact assessment methodologies, impact thresholds, and mitigation measures appropriate for analyzing construction noise impacts. Since the Proposed Project is located in California, Caltrans' TNAP provides the applicable thresholds for construction noise generation which was used to analyze construction noise for the Proposed Project. FHWA's Roadway Construction Noise Model (RCNM) is the federal construction noise model used to estimate construction noise levels for comparison to the threshold in the impact assessment. Model outputs can be found in **Appendix H**.

The generation of construction noise would cease once construction is completed, which is assumed to conclude in 2026. As such, analysis of construction noise in a future year (2031) is not considered here.

4.10.2 Significance Thresholds

The FAA has not established significance thresholds for construction noise. However as described in Section 4.10.1, the Caltrans TNAP was used to analyze construction noise for the Proposed Project. Therefore, the impact assessment uses the significance thresholds established within the TNAP:

- Do not exceed 86 dB at 50 feet from the job site activities from 9 p.m. to 6 a.m.
- Equip an internal combustion engine with the manufacturer recommended muffler. Do not operate an internal combustion engine on the job site without the appropriate muffler.

4.10.3 Construction Noise Impacts

4.10.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Project would not be constructed and therefore there would be no impacts related to construction noise.

4.10.3.2 Proposed Project

Construction Equipment

Major noise-generating construction activities associated with the Proposed Project would include some demolition, site preparation, grading, paving, and building construction. Noise would also be generated during driving of the vertical support structures for the solar array modules. Site grading and excavation would generate high noise levels, as these phases often require the simultaneous use of multiple pieces of

heavy equipment. Construction equipment would typically include, but would not be limited to, graders, scrapers, dozers, and tractors during grading and site preparation; cranes, forklifts, generators, tractors, pile drivers, and welders during building construction; and pavers, rollers, mixers, tractors, and paving equipment.

The nearest existing residential receptor is located approximately 400 feet from the edge of proposed construction activity for the solar field at the southern end of the site, and over 2,500 feet away from any paving and building construction conducted in the northern portion of the Proposed Project site. Based upon the *Roadway Construction Noise Model User's Guide* (FHWA, 2006), noise levels from project construction equipment at approximately 50 feet away would range from approximately 76 to 88 dBA, which would include noise from backup alarms. Additionally, small pile drivers would be used for the installation of posts that support solar arrays. These small drivers have lower reference noise levels than a larger pile driver commonly used in building construction. Source noise levels of the small pile drivers were taken from data provided for the *Modified Blythe Solar Power Project Environmental Impact Statement* and indicate a maximum noise level of 84 dBA at 50 feet (BLM, 2014). At the nearest receptor (400 feet), the noise level from pile driving would be approximately 66 dBA.

As required by the Sacramento County Noise Ordinance, there would be no nighttime construction. Consequently, construction activities would be consistent with the Caltrans TNAP construction noise criterion of 86 dBA during these hours.

Consistent with the general assessment methodology of the FTA, the two noisiest pieces of construction equipment (small pile driver and jackhammer) were assumed to operate simultaneously. Using the Roadway Construction Noise Model of the FHWA, the resultant noise level at the nearest receptor approximately 400 feet from the area of nearest construction would be 64 dBA. The combined noise level at existing offsite receptors would not exceed the Caltrans TNAP construction noise criterion of 86 dBA at residential sensitive receptor locations were it to apply to daytime hours. Therefore, the Proposed Project's construction equipment noise impact would be minor and not adverse.

With respect to groundborne vibration that could occur during project construction, particularly during installation of posts to support the solar arrays, some vibration would be generated during the use of small pile drivers to install the posts. Using reference vibration levels for construction equipment published by the Federal Transit Administration, which is the accepted standard for vibration impact analysis, vibration generated by this type of equipment dissipates to below the threshold of human annoyance and structural damage within 50 feet from its source (Federal Transit Administration, 2018). As stated previously, the nearest sensitive receptor from the locations where this equipment would be used is approximately 400 feet to the southeast. At this distance, any vibration generated during the Project's construction would be imperceptible; as such, there would be no adverse groundborne vibration effect from the Project.

Construction Traffic

Construction trucks would deliver building materials as well as remove dump materials using site access points off of Bayou Way. Based on the California Emissions Estimator Model default assumptions, the maximum daily haul and vendor truck trips are anticipated to occur during the grading phase. During this phase approximately 20 daily worker trips and 2 daily hauling trips (105 hauling trips over 65 days) are estimated to occur. Roadside noise levels were calculated based on the methodology described in *FHWA Traffic Noise Model Technical Manual* and the peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.

The modeled weekday noise level estimates for the roadway segment for Bayou Way, between Airport Boulevard and Power Line Road, has an average daily traffic volume of approximately 2,155 vehicles,

while the daily volume between Power Line Road and Metro Air Parkway is 1,283. Adding construction trips to the estimated hourly peak volumes results in an increase in noise levels from 59.4 to 59.6 dBA and from 57.1 to 57.5 dBA, respectively, at a distance of 100 feet. With Proposed Project construction traffic, roadside noise levels would not approach (within 1 dBA) the FHWA Noise Abatement criterion of 67 dBA. With respect to the sensitive receptor located 400 feet southwest of the Project's construction area, no construction traffic would occur in the vicinity of that receptor. All construction traffic would enter the site from Bayou Way, approximately 2,900 feet from the receptor. No construction traffic would utilize the roadways in the vicinity of the receptor, and any construction traffic occurring on the site itself would be at low speed and would be sufficiently distant to avoid any adverse impacts to the receptor. Based upon these considerations, construction traffic noise impacts would be minor and would not be adverse.

4.10.4 Avoidance, Minimization, and Mitigation Measures

Sacramento County's Noise Ordinance (Municipal Code Section 6.68.090(e)) offers an exemption for construction noise provided that the activities only occur between the hours of 6:00 a.m. and 8:00 p.m. on weekdays and 7:00 a.m. to 8:00 p.m. on Saturdays and Sundays. Maintenance of construction equipment with approved mufflers and engine coverings are standard conditions imposed during the grading and building permit processes. The Proposed Project would not result in significant impacts; therefore, no additional mitigation is required

4.11 Socioeconomics and Children's Environmental Health and Safety Risks

4.11.1 Methodology

This analysis considers the existing and future conditions to determine whether implementation of the Proposed Project would result in socioeconomic impacts or affect children's environmental health and safety risks. Each category was evaluated according to guidance provided in FAA Order 1050.1F and the 1050.1 Desk Reference.

4.11.2 Significance Thresholds

The FAA has not established significance thresholds for determining impacts to socioeconomics or children's environmental health and safety risks. The analysis considers certain socioeconomic factors, including whether the Proposed Project, when compared to the No Action Alternative, would:

- Induce substantial economic growth in an area, either directly or indirectly (e.g., through establishing projects in an undeveloped area);
- Disrupt or divide the physical arrangement of an established community;
- Cause extensive relocation when sufficient replacement housing is unavailable;
- Cause extensive relocation of community businesses that would cause severe economic hardship for affected communities;
- Disrupt local traffic patterns and substantially reduce the levels of service of roads serving an airport and its surrounding communities; or,
- Produce a substantial change in the community tax base.

When evaluating children's health and safety risks, the analysis considers whether the Proposed Project could lead to a disproportionate health or safety risk for children.

The presence of these factors does not mean a significant impact exists. The significance of an impact is determined by evaluating its context and intensity.

4.11.3 2026 and 2031 Impacts

Aside from temporary construction impacts, which are called out separately, the 2026 and 2031 potential effects would be the same for both future study years.

4.11.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Project would not be built. There would be no changes within the GSA and no impacts to socioeconomics or children's health and safety risks. Additionally, no new jobs associated with the Proposed Project would be created because under the No Action Alternative, the Proposed Project would not be developed.

4.11.3.2 Proposed Project (2026 and 2031)

The Proposed Project would involve the construction and operation of the WattEV Commercial Charging Center, which includes truck and passenger vehicle charging stations and a publicly accessible plaza with convenience store and visitor's center, as well as a solar array and supporting infrastructure.

It is anticipated that the operation of the Proposed Project would create approximately 20 permanent jobs; local residents would be able to apply for these jobs.

There are no schools or established communities within the GSA. There is only one residential home within the GSA, and it would not be relocated. Chapter 3 provides the local census tracts; however, the closest established area of suburban development is more than 3,500 feet from the Proposed Project site and is beyond the GSA and no impacts would occur.

There are no businesses within the GSA; there would be no relocation of business or other impacts.

The minor paving and widening improvements to Bayou Way and the interchanges at Airport Boulevard and Metro Air Parkway would not disrupt local traffic patterns and would in fact enhance operation and safety on those roadways.

Prior to the completion of the Proposed Project in 2026, there would be construction-related impacts related to temporary construction jobs; local residents would be able to apply for these temporary jobs.

Based on the consideration presented above, as well as analysis contained for other topical sections of this analysis, there would be no significant impacts resulting from the Proposed Project. As such, there would not be a disproportionate health or safety risk for children or socioeconomic impacts.

4.11.4 Avoidance, Minimization, and Mitigation Measures

Based on the analysis described above, the Proposed Project would not result in significant socioeconomic or children's health and safety risk impacts when compared to the No Action Alternative; therefore, no mitigation measures are required. However, in accordance with County policy, a construction traffic management plan would be required to be prepared to address impacts on local and regional roadways. Among other requirements, the plan would address potential traffic hazards during construction and would prescribe typical measures to include signage, traffic cones, and flaggers to help ensure safe and efficient movement of traffic through the affected area. In addition, the construction traffic control plan would provide for notification of emergency responders regarding the planned construction activities.

4.12 Visual Effects

4.12.1 Methodology

Analysis of potential impacts associated with visual effects was undertaken by reviewing surrounding land uses for light emission sensitivity as well as the potential for the Proposed Project to interfere with the aesthetics of the surrounding area. The factors identified in Section 13.3.3 of the FAA 1050.1F Desk Reference were reviewed and taken into consideration when evaluating the results of this evaluation for purposes of identifying potential impacts. This includes the degree to which an action could impact light emissions as well as visual resources and visual character.

- Light Emissions Effects
  - Create annoyance or interfere with normal activities from light emissions;
  - Affect the visual character of the area due to the light emissions, including the importance, uniqueness, and aesthetic value of the affected visual resources.
- Visual Resources and Visual Character Effects
  - Affect the nature of the visual character of the area, including the importance, uniqueness, and aesthetic value of the affected visual resources;
  - Contrast with the visual resources and/or visual character in the study area; and
  - Block or obstruct the views of visual resources, including whether these resources would still be viewable from other locations.

4.12.2 Significance Thresholds

The FAA has not established thresholds to determine the significance of Light Emissions and Visual Resources and Visual Character in FAA Order 1050.1F. However, the 1050.1F Desk Reference provides guidance on the framework for evaluating impacts associated with visual effects, as described above.

4.12.3 2026 and 2031 Impacts

4.12.3.1 No Action Alternative

Under the No Action Alternative, the WattEV Commercial Charging Center would not be constructed. There would be no development or alteration of the land in the GSA. Accordingly, there would be no new source of light emissions or effects to the visual character of the surrounding area. Light emissions within the GSA would mainly be limited to the Airport and vehicles traveling along I-5 and nearby local roads. Visual resources and character would continue to reflect the existing conditions at the project site, which as described in **Section 3.12.2.1** consists of flat, fallow grassland with limited visual quality.

4.12.3.2 Proposed Project

The Proposed Project would involve the construction and operation of the WattEV Commercial Charging Center and associated access roads, as well as a Photovoltaic (PV) solar array and electrical power substation. The area to be developed is located on Airport property and is currently unused and devoted to open space. New light sources to be installed as part of the Proposed Project include streetlights to illuminate the Charging Center and associated access roads, as well as temporary construction lighting. Transient lighting from vehicles parked at the Charging Center would also be present. The PV solar array would be constructed according to FAA's policy, *Review of Solar Energy System Projects on Federally-*

Obligated Airports, to ensure that there would be no adverse glare impacts to Airport Traffic Control Tower (ATCT) personnel or pilots. FAA recently completed the Obstruction Evaluation/Airport Airspace Analysis (OE/AAA) for the Proposed Project and the FAA's Airspace Determination on 12/13/2024 indicated the Proposed Project must comply with the requirements set forth in FAA Advisory Circular 150/5370-2, *Operational Safety on Airports During Construction*. Further, the proponent is required to coordinate all associated activities with the Airport Manager/Airport Traffic Control Tower (ATCT) 5 business days prior to the beginning of the project. The OE/AAA determination is subject to review if disruption to FAA Operations should occur. The new development must be coordinated with the Airport Sponsor and included in the next update to the Airport Layout Plan.

Once constructed, views of the project site from Power Line Road, Bayou Road, and I-5 would change from ruderal grassland to paved parking areas, buildings, a PV solar array, and an electrical power substation. While these visual changes are substantial, the GSA is of low visual quality and sparsely populated. Therefore, visual changes would largely be noticed by motorists temporarily passing through the area on I-5 and would not differ substantially from views experienced along other portions of I-5, such as those visible to the north of the Project site to the north of I-5 which contain logistics facilities and Airport parking lots and terminal buildings.

4.12.4 Avoidance, Minimization, and Mitigation Measures

Based on the analysis described above, the Proposed Project would not result in significant visual effects when compared to the No Action Alternative; therefore, no mitigation measures are required.

4.13 Water Resources

4.13.1 Methodology

Wetlands. A comprehensive aquatic resources delineation of the Airport and vicinity (including the Proposed Project Site) was conducted by Dudek in 2016. A follow-up survey of the site to assess current conditions was conducted by Dudek in August 2023. The definition of jurisdictional waters used here was also informed by the August 2023 EPA Final Rule defining such jurisdiction. Impacts to jurisdictional features were determined by comparing their locations with the Proposed Project plans.

Floodplains. Floodplain maps produced by the Federal Emergency Management Agency (FEMA) were consulted to determine the presence of designated floodplains on and around the Proposed Project site. Due to the lack of an existing FEMA hydraulic model of the area or FEMA base floodplain elevation data, an existing conditions model of the Project area was created using the U.S. Army Corps of Engineers HEC-RAS Version 6.3.1 hydraulic modeling software, and the Project's effects to area floodplains were modeled. This evaluation is attached as **Appendix I**.

Surface Waters. Surface waters were identified using the wetlands and floodplain information discussed above. Impacts to jurisdictional features were determined by comparing their locations with the Proposed Project plans and by considering the Proposed Project's required compliance with standard regulatory requirements.

Groundwater. Impacts to groundwater were determined by considering the Proposed Project's design and the required compliance with standard regulatory requirements.

4.13.2 Significance Thresholds

Wetlands. As detailed in Exhibit 4-1 in FAA Order 1050.1F, a significant impact to wetlands would occur if the Proposed Project would adversely affect the quality and quantity of water supplies; if it would substantially alter the hydrology needed to sustain the wetland's values; reduce the wetland's ability to retain floodwaters or storm runoff; adversely affect natural systems supporting fish and wildlife habitat; or be inconsistent with applicable State wetland strategies.

Floodplains. According to FAA Order 1050.1F, a significant impact to a floodplain would occur if "the action would cause notable adverse impacts on natural and beneficial floodplain values." As stated in DOT Order 5650.2, *Floodplain Management and Protection*, Paragraph 4.k, "[n]atural and Beneficial Floodplain Values include but are not limited to: natural moderation of floods, water quality maintenance, groundwater recharge, fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, and forestry."

Surface Waters. FAA Order 1050.1F provides that a significant impact to surface waters would occur if the action would exceed water quality standards established by federal, state, local, and tribal regulatory agencies or contaminate public drinking water supply such that public health may be adversely affected.

Groundwater. FAA Order 1050.1F provides that a significant impact to groundwater would occur if the action would exceed groundwater quality standards established by federal, state, local, and tribal regulatory agencies; or contaminate an aquifer used for public water supply such that public health may be adversely affected.

4.13.3 2026 and 2031 Impacts

4.13.3.1 No Action Alternative

Under the No Action Alternative, the project would remain in its current condition as a minimally managed ruderal grassland. No physical changes to the Project site would occur that would alter existing conditions related to wetlands, floodplains, surface waters, or groundwater.

4.13.3.2 Proposed Project

Construction

Wetlands and Other Waters of the United States. As described in Chapter 3.13.3.1, *Wetlands and Other Waters of the United States*, several drainage ditches are present along Bayou Way and along portions of the western and southern edges of the site. With respect to the ditches along the western and southern edges of the site, the nearest areas of construction and development activity would be located 200 feet or more from these features, and no impact to them would occur during construction or operation of the Proposed Project. Culverts would be placed in the ditch on the northern boundary of the site along Bayou Way to allow construction of driveways allowing ingress and egress to the site/facility. An estimated 0.2 acres of this feature would be filled as a result of the Proposed Project. As discussed in Chapter 3.13.3.1, although this feature would likely not be considered federally jurisdictional by the U.S. Army Corps of Engineers because of the lack of a "relatively permanent" hydrologic connection to a downstream navigable water, the feature would likely be jurisdictional waters for the Regional Water Quality Control Board under the Porter-Cologne Water Quality Control Act, and regulatory permits would be required, along with possible mitigation requirements that would be determined through the permitting process. Based upon these considerations, no adverse effects to wetlands or other Waters of the US would occur once required permitting and mitigation requirements have been met, and there would be no significant effects to wetlands.

Floodplains. While the Proposed Project would encroach into the 100-year floodplain, modeling conducted for the Proposed Project area as described above and contained in Appendix I determined that construction of the Proposed Project and subsequent change in surface elevation would not create a rise in the 100-year floodplain elevations. The 100-year floodplain with the Proposed Project would present minimal changes when compared to the No Action Alternative. With respect to the significant floodplain encroachment criteria contained within DOT Order 5650.2, *Floodplain Management and Protection*, the Project would not result in floodplain impacts that would increase the likelihood of loss of human life, adversely impact transportation facilities, or impact the floodplain's natural and beneficial values such as values associated with adjacent agricultural activities, flood control activities, groundwater recharge, or water quality. Based upon these considerations, implementation of the Proposed Project would not cause "notable adverse impacts on natural and beneficial floodplain values" and would not create a significant encroachment to the existing 100-year floodplain or the associated beneficial uses.

Surface Waters. During construction of the Proposed Project, the construction contractor would be required to implement construction controls as outlined in the NPDES Construction General Permit and the SWPPP for erosion and sedimentation, accidental and flood-induced spills, storage of hazardous materials, and construction waste and spoil disposal to minimize impacts to surface water quality. Implementation of these standard best management practices would avoid impacts to surface waters during construction, and no adverse effects would occur.

Groundwater. The Proposed Project would not develop any wells on the site, and water supplies for the Proposed Project during construction would be met via connection to the City of Sacramento's water supply. Potential pollution impacts to groundwater from stormwater and surface runoff that could ultimately interact with groundwater would be avoided through requirements contained within the Project's SWPPP. Accordingly, no adverse effects would occur.

Operations (2026 and 2031)

Wetlands and Other Waters of the United States. No wetlands occur on the Proposed Project site, but some ditches along the perimeter of the site may be considered by the U.S. Army Corps of Engineers to be other waters of the United States. As described above, impacts to approximately 0.2 acre of a ditch on the northern boundary of the site along Bayou Way potentially subject to federal and state jurisdiction of the U.S. Army Corps of Engineers and the Central Valley Regional Water Quality Control Board, respectively, would occur during construction of the Proposed Project. Once constructed, no further impacts to other waters of the United States would occur as a result of operating the Proposed Project.

Floodplains. As described above, the Proposed Project would not cause "notable adverse impacts on natural and beneficial floodplain values" and would not create a significant encroachment to the existing 100-year floodplain or the beneficial uses associated therewith.

Surface Waters. Once constructed, the Proposed Project's stormwater system would route stormwater to one of five vegetated swales, which would capture runoff, remove sediment and other pollutants from the stormwater, and infiltrate some stormwater into the subsurface, as it does currently. This infiltration would reduce the volume of stormwater exiting the site. After passing through the vegetated swales, the reduced volume of treated stormwater on the northern portion of the site where the charging center facilities would be located would be directed to vegetated swales and then to culverts that would pass beneath Bayou Way to an existing drainage channel that runs between I-5 and Bayou Way. Stormwater conveyance on the southern 96.5 acres of the site where the solar arrays would be located would essentially mimic existing conditions. Rainwater would fall on the solar array modules and would run to the ground surface, which

would be unpaved. Consequently, some of the stormwater would infiltrate into the subsurface, as it does now, which would also remove sediment and other pollutants. Stormwater that does not infiltrate would then flow as overland sheet flow to the West Drainage Canal along the southern border of the Proposed Project site, also as it does now. Based upon these considerations, no adverse effect would occur.

Groundwater. The Proposed Project would not develop any wells on the site, and water supplies for operation of the Proposed Project would be met via connection to the City of Sacramento's water supply. Potential pollution impacts to groundwater from stormwater and surface runoff that could ultimately interact with groundwater would be avoided through design and operational mandates which require that Airport projects comply with regulatory surface water runoff standards to limit transport of pollutants and to treat runoff through design features such as vegetated swales, infiltration basins, and similar best management practices. As such, no adverse effects would occur.

4.13.4 Avoidance, Minimization, and Mitigation Measures

Impacts would occur to approximately 0.2 acres of waters that may be subject to U.S. Army Corps of Engineers jurisdiction and likely subject to jurisdiction of the Central Valley Regional Water Quality Control Board pursuant to the Porter-Cologne Water Quality Control Act. Compensatory mitigation to offset unavoidable impacts would derive from federal and/or state permit requirements and County of Sacramento requirements. A mitigation ratio of at least 1:1 must be achieved for any permanent loss of federally regulated waters and/or waters of the state resulting from implementation of the Proposed Project. Acceptable methods of compensatory mitigation include payment into a mitigation bank, in-lieu fee program, or permittee responsible mitigation.

No other mitigation measures related to wetlands, floodplains, surface waters, or groundwater would be required.

4.14 Cumulative Impacts

4.14.1 Methodology

Table 3-14, *Cumulative Project List*, lists the projects in the vicinity of the GSA considered in the cumulative impacts analysis. Cumulative impacts are those that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, whether those actions be federal or non-federal (FAA Order 1050.1F). A project may have the potential for cumulative effects if it impacts the same resource(s) affected by the Proposed Project.

4.14.2 Potential Impacts

Table 4-10 provides a summary of the potential cumulative effects for the resource categories analyzed in this EA.

TABLE 4-10
POTENTIAL CUMULATIVE IMPACTS

Environmental Impact Category	Potential Impacts
Air Quality	Emissions of criteria pollutants in 2026 and 2031 under the Proposed Project would not result in a significant air quality impact because there would be no exceedance of General Conformity Rule *de minimis* levels for any criteria air pollutant for which the GSA is designated as nonattainment or maintenance. Additionally, operation of the Proposed Project could result in a net reduction in emissions. The past, present, and reasonably foreseeable future projects do not include actions that would result in significant negative impacts to air quality in the GSA and all projects are presumed to conform with applicable air quality regulations. The Proposed Project, when combined with the other projects in the area, are not regionally significant. Therefore, the Proposed Project would not contribute to significant cumulative impacts to air quality when considering other past, present, and reasonably foreseeable future projects.
Biological Resources	The cumulative projects listed in Table 3-14 could result in impacts to biological resources. However, each of those projects would be required to comply with applicable regulatory requirements associated with those impacts, and to mitigate impacts accordingly. The compensatory mitigation requirements of the 2008 BO compensatory mitigation requirements included mitigating for the Proposed Project site, and those lands have already been acquired. Therefore, the Proposed Project would not contribute to significant cumulative impacts to biological resources when considering other past, present, and reasonably foreseeable future projects.
Climate	The past, present, and reasonably foreseeable projects are anticipated to emit GHGs. However, the FAA has not established significance thresholds for assessing impacts to climate. GHG emissions from construction and operation of the Proposed Project would not disproportionately affect the State's or County of Sacramento's GHG emissions targets. The Proposed Project would additionally provide increased access to EV charging for trucks and passenger vehicles, providing an alternative to fossil fuel vehicles.
Farmlands	Past, present, and reasonably foreseeable projects may result in conversion of additional farmlands. If the land is designated as "Farmland of Local Importance" by the County of Sacramento, then a project must ensure no net loss of land with this designation and set aside an equal amount of land of like classification. The Proposed Project applicant has committed to setting aside an equal amount of agricultural land of like classification and a parcel has been identified for this commitment. Therefore, the Proposed Project would not contribute to significant cumulative impacts to farmlands when considering other past, present, and reasonably foreseeable future projects.
Hazardous Materials, Solid Waste, and Pollution Prevention	The cumulative projects listed in Table 3-14 could result in impacts related to hazardous materials, solid waste, and pollution. However, each of those projects would be required to comply with applicable regulatory requirements associated with those impacts, and to mitigate impacts accordingly. Therefore, the Proposed Project would not contribute to significant cumulative impacts related to these issues when considering other past, present, and reasonably foreseeable future projects.
Historical, Architectural, Archaeological, and Cultural Resources	The cumulative projects listed in Table 3-14 could result in impacts related to these types of resources. The Proposed Project, however, would have no effect with respect to these resources. As such, the Proposed Project would not contribute to significant cumulative impacts related to these resources when considering other past, present, and reasonably foreseeable future projects.
Land Use	There are no established significance thresholds for potential impacts to land use. Past, present, and reasonably foreseeable projects would be required to comply with local and regional plans prior to development. Furthermore, none of these projects are within the GSA and no significant cumulative effects would occur.
Natural Resources and Energy Supply	The cumulative projects listed in Table 3-14 would consume natural resources and energy. The Proposed Project, on the other hand, would result in a net decrease in energy use and the consumption of fossil fuels and other resources used to generate electricity and other sources of energy. Therefore, the Proposed Project would not contribute to significant cumulative impacts related to these issues when considering other past, present, and reasonably foreseeable future projects.
Construction Noise	The FAA has not established thresholds to determine the significance of construction noise. Construction of the Proposed Project will comply with applicable local noise standards. The past, present, and reasonably foreseeable projects are anticipated to potentially produce temporary construction noise; however, none of these projects are within the GSA and there would be no significant impacts.
Socioeconomics and Children's Environmental Health and Safety Risks	The cumulative projects listed in Table 3-14 could result in impacts related to these issues. The Proposed Project, however, would have no adverse effects with respect to socioeconomics or children's health and safety. As such, the Proposed Project would not contribute to significant cumulative impacts related to these issues when considering other past, present, and reasonably foreseeable future projects.

Environmental Impact Category	Potential Impacts
Visual Effects	The FAA has not established thresholds to determine the significance of visual effects. The past, present, and reasonably foreseeable projects are anticipated to potentially alter light emissions and visual changes; however, none of these projects are within the GSA and there would be no significant impacts.
Water Resources	Like the Proposed Project, the cumulative projects listed in Table 3-14 could impact waters under the jurisdiction of the U.S. Army Corps of Engineers and/or the Regional Water Quality Control Board. However, each of those projects would be required to comply with applicable regulatory requirements associated with those impacts, and to mitigate impacts as applicable. The Proposed Project is not subject to RD 1000's jurisdiction, and no other agency requirements would apply since there would not be a significant floodplain encroachment, nor would there be an adverse impact to the floodplain's natural and beneficial values. Further, the Proposed Project would not create an adverse effect with respect to surface water or groundwater. Based upon these considerations, the Proposed Project would not contribute to significant cumulative impacts to water resources when considering other past, present, and reasonably foreseeable future projects.

4.14.3 Conclusion

There are no significant impacts when considering the impacts of the Proposed Project in conjunction with impacts from past, present, and reasonably foreseeable projects.

CHAPTER 5
Agency Coordination and Public Involvement

5.1 Introduction

FAA's *National Environmental Policy Act Implementing Instructions for Airport Actions* (FAA Order 5050.4B) directs FAA to involve environmental agencies, applicants, and the public, to the extent practicable, in the preparation of EAs. A public involvement program was implemented to ensure that information about the Proposed Project, alternatives, and potential environmental impacts was made available to the public, and that comments from the public were considered during the preparation of the EA. The following sections summarize the agency coordination and public involvement program for this EA. The primary components of the agency coordination and public involvement for this EA include:

- Agency coordination/consultation;
- Native American coordination/consultation;
- Notification of the availability of the Draft EA for agency and public review; and
- Public review and comment period of 30 days.

5.2 Agency and Native American Consultation

A summary of agency and Native American consultation, and where to find additional information, is included in **Table 5-1**.

TABLE 5-1
AGENCY AND NATIVE AMERICAN CONSULTATION

Agencies	Resource Category	Find Additional Information
California SHPO and Native American Tribes	Historic, Architectural, Archaeological, and Cultural Resources	Section 3.7, Section 4.7, and Appendix F
FEMA, USACE, RD 1000, DWR	Water Resources	Appendix I
EPA, SMAQMD, CARB, SACOG	Air Quality and Climate	Appendix C
NRCS	Farmlands	Section 3.5, Section 4.5, and Appendix E

Source: FAA, 2024.

5.3 Public Involvement

5.3.1 Notice of Availability of the Draft EA

A Notice of Availability for this Draft EA was published on Wednesday, January 15, 2025. The Notice of Availability was posted in the *Sacramento Bee*. A copy of the notice and proof of publication is provided in **Appendix J**. The Notice of Availability of the Draft EA was also posted on the Sacramento International Airport's website https://sacramento.aero/DraftEA.

Throughout the public comment period, copies of the Draft EA were available for public review during regular business hours at the locations listed below, as well as available electronically (in PDF format) for download from the Airport's website at: https://sacramento.aero/DraftEA.

- North Natomas Library, 4660 Via Ingoglia St, Sacramento, CA 95835
- Sacramento County Department of Airports, 6705 Lindbergh Drive, Sacramento, CA 95837
- Federal Aviation Administration, San Francisco Airports District Office, 2999 Oak Road Suite 200, Walnut Creek, CA 94597
- Federal Aviation Administration, Western-Pacific Region, Office of Airports, 777 S. Aviation Boulevard, Suite 150, El Segundo, CA 90245

The Draft EA was available for review by the public, government agencies, and interested parties for a period of 30 days.

5.3.2 Comments on the Draft EA

The 37-day comment period on the Draft EA began on Wednesday, January 15, 2025, and closed on Friday, February 21, 2025. Anyone wishing to comment on the information and conclusions in this Draft EA were able to do so at any time during the review and comment period. The Sacramento County Department of Airports and FAA considered and responded to all comments received during the comment period.

All comments received were categorized and appropriate responses were prepared for inclusion in the Final EA. In some instances, the text, tables, and figures included in the Draft EA were revised in the Final EA for clarity. The comments and responses are provided in **Appendix K**.

Two public agencies and one elected official provided comments on the EA. Agency comments were related to air quality and floodplain information contained within Chapter 4, *Environmental Consequences*. The elected official comment expressed support for the Proposed Project.

CHAPTER 6
List of Preparers and Reviewers

Table 6-1 provides the list of EA preparers and reviewers, including their qualifications and role.

TABLE 6-1
LIST OF PREPARERS AND REVIEWERS

Name	Role	Qualifications	Responsibilities
Federal Aviation Administration			
David B. Kessler, M.A., AICP	Regional Environmental Protection Specialist, Office of Airports, Western-Pacific Region	M.A., Physical Geography; B.A., Physical Geography (Geology Minor). Mr. Kessler has over 40 years of experience. Principal Planner/ EPS responsible for detailed FAA evaluation of NEPA studies as well as coordination of comments from various federal and state agencies in the FAA's Western-Pacific Region.	Mr. Kessler directed preparation of the EA and detailed review.
David Wickens	Environmental Protection Specialist, San Francisco Airports District Office	B.S., Resource Development. Mr. Wickens has 30 years of environmental experience.	Mr. Wickens was responsible for detailed FAA evaluation of the NEPA document, as well as regulatory and agency consultations.
Sacramento County Department of Airports			
Glen Rickelton, C.M.	Senior Airport Manager	B.S., Aeronautical Science, B.S., Aviation Business Administration. 31 years of experience in the aviation industry.	Lead Airport coordination of staff environmental and biological experts and consultant resources for the EA. Lead liaison with FAA for the EA project proponent and consultant team.
Zach Frese, C.M., ENV SP	Project Manager/ Environmental Planner, Sacramento International Airport	B.S., Environmental Studies. Mr. Frese has 8 years of environmental experience.	Mr. Frese serves as a Project Manager for the Airport and assisted with data collection, project management, and document review for this EA.
Environmental Science Associates			
Autumn Ward, C.M.	Project Director	M.S., Aeronautics; B.S., Aviation Business Administration. 20 years of experience in preparing FAA NEPA with expertise in aircraft noise, airport land use compatibility planning, and engagement.	As Project Director, Ms. Ward provided technical oversight, supported Land Use and Socioeconomics, and reviewed this EA for NEPA compliance.
Luke Evans	Project Manager	M.S., Environmental Policy and Natural Resources Management; B.A., History and Religious Studies. 25 years of experience managing environmental reviews with expertise in NEPA, land use policy, and biological resources.	As Project Manager, Mr. Evans assisted with the technical approach, Biological Resources, Farmlands, and Socioeconomics.
Mike Arnold	Senior Vice President	B.S., Civil Engineering. More than 35 years of aviation planning, noise, and environmental project experience, with expertise in NEPA documentation.	Mr. Arnold assisted with NEPA compliance and quality assurance/quality control (QA/QC).

Name	Role	Qualifications	Responsibilities
Michael Burns, PG, CEG, CHG, QSD	Principal Geologist	B.S., Geology. 30 years of experience managing and preparing environmental reviews with expertise in geology and soils, hazards and hazardous materials, hydrology and water quality, mineral and paleontological resources.	Mr. Burns assisted with Hazardous Materials and Water Resources.
Kathy Cleveland	Senior Architectural Historian	M.A., Public History; B.A., History. 18 years of experience with NHPA/Section 106 compliance, and exceeds Secretary of the Interior's Professional Qualification Standards for History and Architectural History	Ms. Cleveland assisted with Historical and Architectural Resources.
Daniel Huang	Managing Biologist	M.S., Environmental Science and Management; B.S., Aquatic Biology. 13 years of experience in preparing biological resource analyses.	Mr. Huang assisted with the Biological Assessment and Biological Resources.
Joseph Huang	Wildlife Biologist	B.S., Evolution, Ecology, and Biodiversity. 15 years of conducting special status species surveys and habitat assessments and preparing biological resources analyses and technical reports.	Mr. Huang assisted with the Biological Assessment and Biological Resources.
Heidi Koenig	Senior Archeologist	M.A., Cultural Resources Management; B.A., Anthropology. 25 years of experience preparing cultural resources analyses in California for all types of projects including airports.	Ms. Koenig assisted with Historical, Archaeological, Architectural, and Cultural Resources.
Eryn Pimentel	Senior GIS Analyst	B.A., Art; B.A., Geography; Cert. Stud. GIS and Remote Sensing. 16 years of experience in supporting environmental reviews and studies. Expertise in GIS supporting land use planning, permitting, and biological resources.	Mr. Pimental assisted with report graphics.
Alan Sako	Director for Air Quality, Climate, and Acoustics	B.S., Atmospheric, Oceanic, and Environmental Science. 23 years of experience in preparing air quality and climate analyses.	Mr. Sako assisted with Air Quality and Climate.
Chris Sanchez	Senior Technical Associate, Acoustics	B.S., Environmental Science. Chris Sanchez has more than 27 years of experience managing, conducting and monitoring noise and vibration investigations and surveys for urban development, transportation, and infrastructure projects.	Mr. Sanchez assisted with Construction Noise.
Dominic Scarano	Senior Noise and Air Quality Analyst	B.S., Atmospheric Science. 8 years of experience preparing noise and air quality technical analyses for airport projects.	Mr. Scarano assisted with NEPA documentation, Air Quality, and Climate.
Steve Smith	Senior Technical Associate	M.A., History; B.A., History. More than 25 years of experience supporting NEPA studies and analyses.	Mr. Smith assisted with Visual Resources.
Kimley-Horn			
Zachary Tait, PE	Civil Design Engineer	B.S., Civil Engineering. 20 years of experience in site civil and airport infrastructure design.	Mr. Tait assisted with Floodplains analysis.
Matthew Cox, CFM	Certified Floodplain Manager	M.S., Civil Engineering, B.S., Civil Engineering. 6 years of experience in complex modeling to represent major infrastructure improvements across the county	Mr. Cox led the Floodplains analysis and supporting documentation in support of the EA for NEPA compliance.
WattEV			
Mohamed Salem, PhD	Director of Construction Management	Ph.D. in Civil and Environmental Engineering. Over 25 years of experience in the engineering industry with emphasis on construction management. Experience includes design of structural steel, reinforced concrete structures, in addition to heading and managing engineering design sectors.	As Director of Construction Management with WattEV, Mr. Salem's role focused on supporting coordination, and providing construction information and graphics in support of the EA analyses.

Appendix A
Reference Material

A1 References

APPENDIX A1
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A2 Acronyms

APPENDIX A2

Acronyms

Acronym or Abbreviation	Definition
AA	Action Area
AC	Advisory Circular
AG-20	Agricultural 20 (note: 20 acres)
AG-80	Agricultural 80 (note: 80 acres)
AGR	agricultural supply
APE	Area of Potential Effects
AQMP	Air Quality Management Plans
ATCT	Airport Traffic Control Tower
BA	Biological Assessment
BESS	Battery Energy Storage System
BMP	best management practices
BO	Biological Opinion
CAA	Clean Air Act of 1970
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CCS	Combined Charging Standard
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CFMP	California Freight Mobility Plan
CFR	Code of Federal Regulations
CO	carbon monoxide
CSFAP	California Sustainable Freight Action Plan
CTC	California Transportation Commission
DOT	U.S. Department of Transportation
DSA	Detailed Study Area
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EA	Environmental Assessment
EO	Executive Order

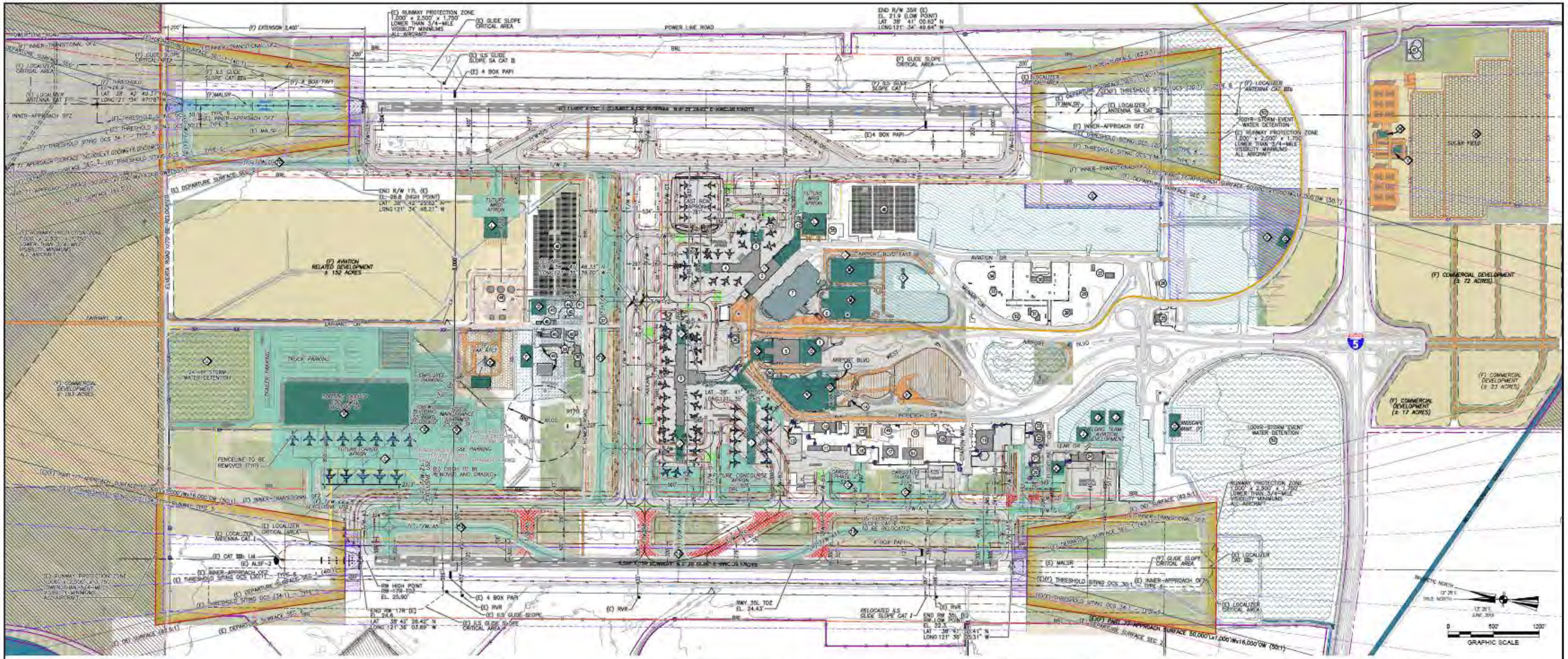
Acronym or Abbreviation	Definition
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
EV	Electric Vehicle
FAA	Federal Aviation Administration
FBO	fixed base operator
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
GHG	greenhouse gas
GSA	General Study Area
GWP	global warming potential
HAP	hazardous air pollutants
HMBP	Hazardous Materials Business Plans
IND	industrial service supply
LOS	Level of Service
MCS	Megawatt Charging Standard
MHD	medium- and heavy-duty
MIGR	migration
MMT	million metric tons
MS4	Municipal Separate Storm Sewer Systems
MUN	municipal and domestic supply
MVA	Megavolt Ampere
MW	Megawatt
NAAQS	National Ambient Air Quality Standards
NAHC	California Native American Heritage Commission
NAV	navigation
NCIC	North Central Information Center
NEPA	National Environmental Policy Act of 1969
NHFN	National Highway Freight Network
NHFP	National Highway Freight Program
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO2	nitrogen dioxide
Nox	nitrogen oxides

Acronym or Abbreviation	Definition
NPDES	National Pollutant Discharge Elimination System
NPIAS	National Plan of Integrated Airport Systems
NRCS	Natural Resources Conservation Service
O3	ozone
PM2.5	fine particulate matter (≤2.5 microns)
PM10	respirable particulate matter (≤10 microns)
Pb	lead
PQP	Public and Quasi-Public
PRO	industrial process supply
PV	photovoltaic
RCNM	Roadway Construction Noise Model
SACOG	Sacramento Area Council of Governments
SCDOA	Sacramento County Department of Airports
SHPO	California State Historic Preservation Office
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMF	Sacramento International Airport
SMUD	Sacramento Metropolitan Utility District
SO2	sulfur dioxide
SPWN	spawning
SR-99	State Route 99
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCEP	Trade Corridor Enhancement Program
TCL	Tribal Cultural Landscape
TMP	Sacramento International Airport Terminal Modernization Project
TNAP	Traffic Noise Analysis Protocol
UAIC	United Auburn Indian Community
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
VMT	vehicle miles traveled
VOC	volatile organic compound
WHMP	Wildlife Hazard Management Plan
WILD	wildlife habitat
WOUS	Waters of the United States

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Appendix B
Airport Layout Plan and Solar Reflectivity Study

B1 Airport Layout Plan


POWER LINE ROAD
(E) RUNWAY PROTECTION ZONE 1,000' x 2,500' x 1,750' LOWER THAN 3/4-MILE VISIBILITY MINIMUMS ALL AIRCRAFT
(E) GLIDE SLOPE CRITICAL AREA
(E) ILS GLIDE SLOPE CAT II
(E) 4 BOX PAPI
(E) ILS GLIDE SLOPE CAT I
(E) LOCALIZER CRITICAL AREA
(E) LOCALIZER ANTENNA CAT I
(E) LOCALIZER ANTENNA CAT IIIb
(E) LOCALIZER ANTENNA SA CAT IIB
(E) MALSR
(E) ALSF-2
(E) INNER-APPROACH OFZ
(E) INNER-TRANSITIONAL OFZ
(E) THRESHOLD SITING OCS 30:1
(E) THRESHOLD SITING OCS 34:1
(E) DEPARTURE SURFACE SEC 2
(E) APPROACH SURFACE SEC 2
(E) 7:1 APPROACH SURFACE
(E) 34:1 TRANSITIONAL SURFACE
(E) 50:1 SURFACE
(E) 40:1 SURFACE
(E) 20:1 SURFACE
(E) RVR
(E) RVM
(E) LOCALIZER ANTENNA CAT I
(E) CAT III LM
(E) ALSF-2
(E) INNER-APPROACH OFZ
(E) THRESHOLD SITING OCS (CAT I)
(E) THRESHOLD SITING OCS (34:1)
(E) DEPARTURE SURFACE SEC 2
(E) 50:1 SURFACE
(E) 34:1 SURFACE
(E) 40:1 SURFACE
(E) 20:1 SURFACE
(E) RUNWAY PROTECTION ZONE 1,000' x 2,500' x 1,750' LOWER THAN 3/4-MILE VISIBILITY MINIMUMS ALL AIRCRAFT
(E) INNER-TRANSITIONAL OFZ
(E) LOCALIZER CRITICAL AREA
(E) LOCALIZER ANTENNA CAT I
(E) CAT III LM
(E) ALSF-2
(E) INNER-APPROACH OFZ
(E) THRESHOLD SITING OCS (CAT I)
(E) THRESHOLD SITING OCS (34:1)
(E) DEPARTURE SURFACE SEC 2
(E) 50:1 SURFACE
(E) 34:1 SURFACE
(E) 40:1 SURFACE
(E) 20:1 SURFACE
(E) RUNWAY PROTECTION ZONE 1,000' x 2,500' x 1,750' LOWER THAN 3/4-MILE VISIBILITY MINIMUMS ALL AIRCRAFT
(E) INNER-TRANSITIONAL OFZ
(E) LOCALIZER CRITICAL AREA
(E) LOCALIZER ANTENNA CAT I
(E) CAT III LM
(E) ALSF-2
(E) INNER-APPROACH OFZ
(E) THRESHOLD SITING OCS (CAT I)
(E) THRESHOLD SITING OCS (34:1)
(E) DEPARTURE SURFACE SEC 2
(E) 50:1 SURFACE
(E) 34:1 SURFACE
(E) 40:1 SURFACE
(E) 20:1 SURFACE
(E) RUNWAY PROTECTION ZONE 1,000' x 2,500' x 1,750' LOWER THAN 3/4-MILE VISIBILITY MINIMUMS ALL AIRCRAFT
(E) INNER-TRANSITIONAL OFZ
(E) GLIDE SLOPE CRITICAL AREA
(E) LOCALIZER CRITICAL AREA
(E) LOCALIZER ANTENNA CAT IIIb
(E) LOCALIZER ANTENNA SA CAT IIB
(E) MALSR
(E) INNER-APPROACH OFZ
(E) THRESHOLD SITING OCS (CAT I)
(E) THRESHOLD SITING OCS (30:1)
(E) THRESHOLD SITING OCS (34:1)
(E) DEPARTURE SURFACE SEC 2
(E) APPROACH SURFACE SEC 2
(E) 50:1 SURFACE
(E) 34:1 SURFACE
(E) 40:1 SURFACE
(E) 20:1 SURFACE
(E) RUNWAY PROTECTION ZONE 1,000' x 2,500' x 1,750' LOWER THAN 3/4-MILE VISIBILITY MINIMUMS ALL AIRCRAFT
(E) INNER-TRANSITIONAL OFZ
(E) GLIDE SLOPE CRITICAL AREA
(E) LOCALIZER CRITICAL AREA
(E) LOCALIZER ANTENNA CAT IIIb

B2 Solar Reflectivity Study

FORGESOLAR GLARE ANALYSIS

Project: **WattEV Sacramento Solar Project**
46MWp 5B Maverick Solar farm

Site configuration: **sacramento**

Client: WattEV

Created 16 Jun, 2023
Updated 16 Jun, 2023
Time-step 1 minute
Timezone offset UTC-8
Minimum sun altitude 0.0 deg
DNI peaks at 1,000.0 W/m^2
Site ID 93080.16360

Ocular transmission coefficient 0.5
Pupil diameter 0.002 m
Eye focal length 0.017 m
Sun subtended angle 9.3 mrad
PV analysis methodology V2



Glare Policy Adherence

The following table estimates the policy adherence of this glare analysis according to the **2021** U.S. Federal Aviation Administration Policy:

Review of Solar Energy System Projects on Federally-Obligated Airports

This policy may require the following criteria be met for solar energy systems on airport property:

- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics, including 1-minute time step.

ForgeSolar is not affiliated with the U.S. FAA and does not represent or speak officially for the U.S. FAA. ForgeSolar cannot approve or deny projects - results are informational only. Contact the relevant airport and FAA district office for information on policy and requirements.

COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
ATCT(s)	PASS	Receptor(s) marked as ATCT do not receive glare

The referenced policy can be read at https://www.federalregister.gov/d/2021-09862

Component Data

This report includes results for PV arrays and Observation Point ("OP") receptors marked as ATCTs. Components that are not pertinent to the policy, such as routes, flight paths, and vertical surfaces, are excluded.

PV Arrays

Name: 5B Maverick - east facing
Axis tracking: Fixed (no rotation)
Tilt: 10.0°
Orientation: 90.0°
Rated power: -
Panel material: Light textured glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.669465	-121.585662	10.57	2.50	13.07
2	38.669465	-121.578388	9.33	2.50	11.83
3	38.664053	-121.578324	11.38	2.50	13.88
4	38.664053	-121.585662	12.60	2.50	15.10

Name: 5B Maverick - west facing
Axis tracking: Fixed (no rotation)
Tilt: 10.0°
Orientation: 270.0°
Rated power: -
Panel material: Light textured glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.669431	-121.585598	10.41	2.50	12.91
2	38.669448	-121.578345	9.62	2.50	12.12
3	38.664053	-121.578281	11.37	2.50	13.87
4	38.664036	-121.585598	12.31	2.50	14.81

Observation Point ATCT Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
1-ATCT	1	38.690609	-121.590988	22.60	130.00

Map image of 1-ATCT



Glare Analysis Results

Summary of Results No glare predicted

PV Array	Tilt	Orient	Annual Green Glare		Annual Yellow Glare		Energy
	°	°	min	hr	min	hr	kWh
5B Maverick - east facing	10.0	90.0	0	0.0	0	0.0	-
5B Maverick - west facing	10.0	270.0	0	0.0	0	0.0	-

Total annual glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
1-ATCT	0	0.0	0	0.0

PV: 5B Maverick - east facing

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
1-ATCT	0	0.0	0	0.0

5B Maverick - east facing and 1-ATCT

Receptor type: ATCT Observation Point
No glare found

PV: 5B Maverick - west facing

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
1-ATCT	0	0.0	0	0.0

5B Maverick - west facing and 1-ATCT

Receptor type: ATCT Observation Point
No glare found

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
The algorithm does not rigorously represent the detailed geometry of a system; detailed features such as gaps between modules, variable height of the PV array, and support structures may impact actual glare results. However, we have validated our models against several systems, including a PV array causing glare to the air-traffic control tower at Manchester-Boston Regional Airport and several sites in Albuquerque, and the tool accurately predicted the occurrence and intensity of glare at different times and days of the year.
Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare. This primarily affects V1 analyses of path receptors.
Random number computations are utilized by various steps of the annual hazard analysis algorithm. Predicted minutes of glare can vary between runs as a result. This limitation primarily affects analyses of Observation Point receptors, including ATCTs. Note that the SGHAT/ ForgeSolar methodology has always relied on an analytical, qualitative approach to accurately determine the overall hazard (i.e. green vs. yellow) of expected glare on an annual basis.
The analysis does not automatically consider obstacles (either man-made or natural) between the observation points and the prescribed solar installation that may obstruct observed glare, such as trees, hills, buildings, etc.
The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
The variable direct normal irradiance (DNI) feature (if selected) scales the user-prescribed peak DNI using a typical clear-day irradiance profile. This profile has a lower DNI in the mornings and evenings and a maximum at solar noon. The scaling uses a clear-day irradiance profile based on a normalized time relative to sunrise, solar noon, and sunset, which are prescribed by a sun-position algorithm and the latitude and longitude obtained from Google maps. The actual DNI on any given day can be affected by cloud cover, atmospheric attenuation, and other environmental factors.
The ocular hazard predicted by the tool depends on a number of environmental, optical, and human factors, which can be uncertain. We provide input fields and typical ranges of values for these factors so that the user can vary these parameters to see if they have an impact on the results. The speed of SGHAT allows expedited sensitivity and parametric analyses.
The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
Refer to the Help page at **www.forgesolar.com/help/** for assumptions and limitations not listed here.

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

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FORGESOLAR GLARE ANALYSIS

Project: **WattEV Sacramento Solar Project**
46MWp 5B Maverick Solar farm

Site configuration: **sacramento**
Analysis conducted by Kieran Kirk (kieran.kirk@5b.com.au) at 01:39 on 16 Jun, 2023.

U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
2-mile flight path(s)	PASS	Flight path receptor(s) do not receive yellow glare
ATCT(s)	PASS	Receptor(s) marked as ATCT do not receive glare

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at https://www.federalregister.gov/d/2013-24729

SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m^2
Time interval: 1 min
Ocular transmission coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3 mrad
Site Config ID: 93080.16360
Methodology: V2



PV Array(s)

Name: 5B Maverick - east facing
Axis tracking: Fixed (no rotation)
Tilt: 10.0°
Orientation: 90.0°
Rated power: -
Panel material: Light textured glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.669465	-121.585662	10.57	2.50	13.07
2	38.669465	-121.578388	9.33	2.50	11.83
3	38.664053	-121.578324	11.38	2.50	13.88
4	38.664053	-121.585662	12.60	2.50	15.10

Name: 5B Maverick - west facing
Axis tracking: Fixed (no rotation)
Tilt: 10.0°
Orientation: 270.0°
Rated power: -
Panel material: Light textured glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.669431	-121.585598	10.41	2.50	12.91
2	38.669448	-121.578345	9.62	2.50	12.12
3	38.664053	-121.578281	11.37	2.50	13.87
4	38.664036	-121.585598	12.31	2.50	14.81

Flight Path Receptor(s)

Name: Runway 17L
Description:
Threshold height: 50 ft
Direction: 181.0°
Glide slope: 3.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	38.706859	-121.580086	23.51	50.00	73.51
Two-mile	38.735767	-121.579438	16.85	610.10	626.94

Name: Runway 17R
Description:
Threshold height: 50 ft
Direction: 181.0°
Glide slope: 3.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	38.707079	-121.601103	23.02	50.00	73.02
Two-mile	38.735988	-121.600456	23.13	603.31	626.45

Name: Runway 35L
Description:
Threshold height: 50 ft
Direction: 1.0°
Glide slope: 3.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	38.684015	-121.601487	23.09	50.00	73.09
Two-mile	38.655107	-121.602134	32.65	593.87	626.51

Name: Runway 35R
Description:
Threshold height: 50 ft
Direction: 1.0°
Glide slope: 3.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	38.683763	-121.580468	20.56	50.00	70.56
Two-mile	38.654855	-121.581115	13.05	610.93	623.99

Discrete Observation Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
1-ATCT	1	38.690609	-121.590988	22.60	130.00

Map image of 1-ATCT



GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt	Orient	"Green" Glare	"Yellow" Glare	Energy
	(°)	(°)	min	min	kWh
5B Maverick - east facing	10.0	90.0	0	0	-
5B Maverick - west facing	10.0	270.0	0	0	-

Total annual glare received by each receptor

Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
Runway 17L	0	0
Runway 17R	0	0
Runway 35L	0	0
Runway 35R	0	0
1-ATCT	0	0

Results for: 5B Maverick - east facing

Receptor	Green Glare (min)	Yellow Glare (min)
Runway 17L	0	0
Runway 17R	0	0
Runway 35L	0	0
Runway 35R	0	0
1-ATCT	0	0

Flight Path: Runway 17L

0 minutes of yellow glare
0 minutes of green glare

Flight Path: Runway 17R

0 minutes of yellow glare
0 minutes of green glare

Flight Path: Runway 35L

0 minutes of yellow glare
0 minutes of green glare

Flight Path: Runway 35R

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: 1-ATCT

0 minutes of yellow glare
0 minutes of green glare

Results for: 5B Maverick - west facing

Receptor	Green Glare (min)	Yellow Glare (min)
Runway 17L	0	0
Runway 17R	0	0
Runway 35L	0	0
Runway 35R	0	0
1-ATCT	0	0

Flight Path: Runway 17L

0 minutes of yellow glare
0 minutes of green glare

Flight Path: Runway 17R

0 minutes of yellow glare
0 minutes of green glare

Flight Path: Runway 35L

0 minutes of yellow glare
0 minutes of green glare

Flight Path: Runway 35R

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: 1-ATCT

0 minutes of yellow glare
0 minutes of green glare

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
Several calculations utilize the PV array centroid, rather than the actual glare spot location, due to V1 algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual results and glare occurrence may differ.
Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
Refer to the Help page at **www.forgesolar.com/help/** for assumptions and limitations not listed here.

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FORGESOLAR GLARE ANALYSIS

Project: **WattEV Sacramento Solar Project**
46MWp 5B Maverick Solar farm

Site configuration: **sacramento**

Client: WattEV

Created 16 Jun, 2023
Updated 16 Jun, 2023
Time-step 1 minute
Timezone offset UTC-8
Minimum sun altitude 0.0 deg
DNI peaks at 1,000.0 W/m^2
Category 10 MW to 100 MW
Site ID 93080.16360

Ocular transmission coefficient 0.5
Pupil diameter 0.002 m
Eye focal length 0.017 m
Sun subtended angle 9.3 mrad
PV analysis methodology V2



Summary of Results No glare predicted

PV Array	Tilt	Orient	Annual Green Glare		Annual Yellow Glare		Energy
	°	°	min	hr	min	hr	kWh
5B Maverick - east facing	10.0	90.0	0	0.0	0	0.0	-
5B Maverick - west facing	10.0	270.0	0	0.0	0	0.0	-

Total glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
Runway 17L	0	0.0	0	0.0
Runway 17R	0	0.0	0	0.0
Runway 35L	0	0.0	0	0.0
Runway 35R	0	0.0	0	0.0
1-ATCT	0	0.0	0	0.0

Component Data

PV Arrays

Name: 5B Maverick - east facing
Axis tracking: Fixed (no rotation)
Tilt: 10.0°
Orientation: 90.0°
Rated power: -
Panel material: Light textured glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.669465	-121.585662	10.57	2.50	13.07
2	38.669465	-121.578388	9.33	2.50	11.83
3	38.664053	-121.578324	11.38	2.50	13.88
4	38.664053	-121.585662	12.60	2.50	15.10

Name: 5B Maverick - west facing
Axis tracking: Fixed (no rotation)
Tilt: 10.0°
Orientation: 270.0°
Rated power: -
Panel material: Light textured glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.669431	-121.585598	10.41	2.50	12.91
2	38.669448	-121.578345	9.62	2.50	12.12
3	38.664053	-121.578281	11.37	2.50	13.87
4	38.664036	-121.585598	12.31	2.50	14.81

Flight Path Receptors

Name: Runway 17L
Description:
Threshold height: 50 ft
Direction: 181.0°
Glide slope: 3.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	38.706859	-121.580086	23.51	50.00	73.51
Two-mile	38.735767	-121.579438	16.85	610.10	626.94

Name: Runway 17R
Description:
Threshold height: 50 ft
Direction: 181.0°
Glide slope: 3.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	38.707079	-121.601103	23.02	50.00	73.02
Two-mile	38.735988	-121.600456	23.13	603.31	626.45

Name: Runway 35L
Description:
Threshold height: 50 ft
Direction: 1.0°
Glide slope: 3.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	38.684015	-121.601487	23.09	50.00	73.09
Two-mile	38.655107	-121.602134	32.65	593.87	626.51

Name: Runway 35R
Description:
Threshold height: 50 ft
Direction: 1.0°
Glide slope: 3.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	38.683763	-121.580468	20.56	50.00	70.56
Two-mile	38.654855	-121.581115	13.05	610.93	623.99

Discrete Observation Point Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
1-ATCT	1	38.690609	-121.590988	22.60	130.00

Map image of 1-ATCT



Glare Analysis Results

Summary of Results No glare predicted

PV Array	Tilt	Orient	Annual Green Glare		Annual Yellow Glare		Energy
	°	°	min	hr	min	hr	kWh
5B Maverick - east facing	10.0	90.0	0	0.0	0	0.0	-
5B Maverick - west facing	10.0	270.0	0	0.0	0	0.0	-

Total glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
Runway 17L	0	0.0	0	0.0
Runway 17R	0	0.0	0	0.0
Runway 35L	0	0.0	0	0.0
Runway 35R	0	0.0	0	0.0
1-ATCT	0	0.0	0	0.0

PV: 5B Maverick - east facing no glare found

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
Runway 17L	0	0.0	0	0.0
Runway 17R	0	0.0	0	0.0
Runway 35L	0	0.0	0	0.0
Runway 35R	0	0.0	0	0.0
1-ATCT	0	0.0	0	0.0

5B Maverick - east facing and FP: Runway 17L

No glare found

5B Maverick - east facing and FP: Runway 17R

No glare found

5B Maverick - east facing and FP: Runway 35L

No glare found

5B Maverick - east facing and FP: Runway 35R

No glare found

5B Maverick - east facing and 1-ATCT

No glare found

PV: 5B Maverick - west facing no glare found

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
Runway 17L	0	0.0	0	0.0
Runway 17R	0	0.0	0	0.0
Runway 35L	0	0.0	0	0.0
Runway 35R	0	0.0	0	0.0
1-ATCT	0	0.0	0	0.0

5B Maverick - west facing and FP: Runway 17L

No glare found

5B Maverick - west facing and FP: Runway 17R

No glare found

5B Maverick - west facing and FP: Runway 35L

No glare found

5B Maverick - west facing and FP: Runway 35R

No glare found

5B Maverick - west facing and 1-ATCT

No glare found

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
The algorithm does not rigorously represent the detailed geometry of a system; detailed features such as gaps between modules, variable height of the PV array, and support structures may impact actual glare results. However, we have validated our models against several systems, including a PV array causing glare to the air-traffic control tower at Manchester-Boston Regional Airport and several sites in Albuquerque, and the tool accurately predicted the occurrence and intensity of glare at different times and days of the year.
Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare. This primarily affects V1 analyses of path receptors.
Random number computations are utilized by various steps of the annual hazard analysis algorithm. Predicted minutes of glare can vary between runs as a result. This limitation primarily affects analyses of Observation Point receptors, including ATCTs. Note that the SGHAT/ ForgeSolar methodology has always relied on an analytical, qualitative approach to accurately determine the overall hazard (i.e. green vs. yellow) of expected glare on an annual basis.
The analysis does not automatically consider obstacles (either man-made or natural) between the observation points and the prescribed solar installation that may obstruct observed glare, such as trees, hills, buildings, etc.
The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
The variable direct normal irradiance (DNI) feature (if selected) scales the user-prescribed peak DNI using a typical clear-day irradiance profile. This profile has a lower DNI in the mornings and evenings and a maximum at solar noon. The scaling uses a clear-day irradiance profile based on a normalized time relative to sunrise, solar noon, and sunset, which are prescribed by a sun-position algorithm and the latitude and longitude obtained from Google maps. The actual DNI on any given day can be affected by cloud cover, atmospheric attenuation, and other environmental factors.
The ocular hazard predicted by the tool depends on a number of environmental, optical, and human factors, which can be uncertain. We provide input fields and typical ranges of values for these factors so that the user can vary these parameters to see if they have an impact on the results. The speed of SGHAT allows expedited sensitivity and parametric analyses.
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Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
Refer to the Help page at **www.forgesolar.com/help/** for assumptions and limitations not listed here.

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

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Appendix C
Air Quality and Climate Change

C1 Agency Coordination

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

January 31, 2025

Sacramento County Dept of Airports
Attn: Zach Frese
6705 Lindbergh Drive
Sacramento, CA 95837
Email: fresez@saccounty.gov

RE: Draft Environmental Assessment and Draft General Conformity Determination

Dear Public Affairs Office,

Thank you for allowing the Sac Metro Air District (District) the opportunity to review the Draft Environmental Assessment and Draft General Conformity Determination (January 2025) and Appendix C, Air Quality and Climate Change (December 2024). Because the project is on federally obligated airport property, the Federal Aviation Administration is the lead federal agency under the National Environmental Policy Act. The Proposed Project would provide a publicly accessible Electric Vehicle charging facility that would be built on a 110-acre parcel of airport property at Sacramento International Airport adjacent to just south of Interstate 5 and proximate to California State Route 99. Facility development would include the installation of Direct Current Fast Chargers and Megawatt Chargers powered by a new solar array that would support charging for shippers and transporters as well as public transportation and passenger vehicles. In addition, the Proposed Project would include accessory uses, such as restrooms, resting lounges, a convenience store, and a visitor center. Attached and referenced in our comments below are comments made in a letter dated October 7, 2024 on the the Draft Air Quality Protocol.

Section 4.2 Air Quality

Section 4.2.2 Significant Thresholds

The second sentence has the incorrect EPA designations for ozone and carbon monoxide.

> Recommendation: Correct the EPA-designations to reflect a severe-15 (not serious) area for ozone and attainment for carbon monoxide (not maintenance). The designations for $PM_{2.5}$ (non-attainment-moderate) and for PM_{10} (maintenance) are correct.
>
> Recommendation: Please correct all the sections of the report that refer to the ozone classification as severe and carbon monoxide as maintenance.

The *de minimis* thresholds listed in the Draft Environmental Assessment Report are incorrect and are inconsistent with the threshold levels stated in Appendix C, Air Quality and Climate Change, which are correct. Page 4-2 incorrectly state that the thresholds for NOX and ROG are 50 tons/year and the

threshold for CO is 100 tons per year. The correct thresholds are shown below (these are also correctly stated in Appendix C, pdf pg 34).

- Ozone (Severe-15 nonattainment)
    - NOx 25 tons per year
    - VOC 25 tons per year
- PM2.5 (moderate nonattainment) – 100 tons per year
- PM10 (maintenance) – 100 tons per year

Recommendation: Correct the language contained in Section 4.2.2 and Tables 4-2 and 4-3 to refer to the correct thresholds. The language and tables in Section 4.2.2 should all be consistent with Appendix C and the attached letter.

These comments were also referenced in the attached letter.

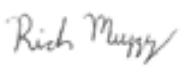
Appendix C

Section C3, Air Quality Technical Report, Tables 3-2 and 3-3, (pdf pg. 63), show the incorrect de minimis level thresholds and should be changed.

Recommendation: Correct the de-minimis thresholds shown on these tables.

Please contact me at rmuzzy@airquality.org if you have any questions regarding these comments.

Sincerely,



Richard Muzzy
Air Quality Planner

cc: Paul Philley, Sac Metro Air District Transportation, Program Manager

Attachment: Comments on Sacramento County/Watt EV Commercial Charging Center Project on Sacramento International Airport (SMF) (SAC202403323)(October 7, 2024)

SACRAMENTO METROPOLITAN
AIR QUALITY
MANAGEMENT DISTRICT

October 7, 2024

David Kessler
U.S. Department of Transportation
Federal Aviation Administration
Regional Environmental Protection Specialist
Airports Division – Western-Pacific Region
dave.kessler@faa.gov

Re: Sacramento County/Watt EV Commercial Charging Center Project on Sacramento International Airport (SMF) (SAC202403323)

Dear David Kessler,

Thank you for allowing the Sac Metro Air District (District) the opportunity to review the Draft Air Quality Protocol document which will be used to conduct the Air Quality Impact Analysis for the proposed project's Federal environmental review document, including a draft General Conformity analysis under the federal Clean Air Act. Because the project is on federally obligated airport property, the Federal Aviation Administration is the lead federal agency under the National Environmental Policy Act. The Proposed Project would provide a publicly accessible Electric Vehicle charging facility that would be built on a 110-acre parcel of airport property at Sacramento International Airport adjacent to just south of Interstate 5 and proximate to California State Route 99. Facility development would include the installation of Direct Current Fast Chargers and Megawatt Chargers powered by a new solar array that would support charging for shippers and transporters as well as public transportation and passenger vehicles. In addition, the Proposed Project would include accessory uses, such as restrooms, resting lounges, a convenience store, and a visitor center. Below are our comments:

Section 2.3 SMAQMD

An updated list of SMAQMD's most recent plans can be found at: https://www.airquality.org/Air-Quality-Health/Air-Quality-Plans.

The most recent Ozone Air Quality Plan for Ozone is for the 2008 NAAQS (not for the 1997 Plan as referenced) which is available at: https://www.airquality.org/ProgramCoordination/Documents/Sac%20Regional%202008%20NAAQS%20Attainment%20and%20RFP%20Plan.pdf This will be the plan used for general conformity compliance.

The most recent PM10 Plan was the second PM10 Maintenance Plan was approved by EPA on March 14, 2024 and can be found at

https://www.airquality.org/ProgramCoordination/Documents/PM10%20Second%20MP%20Final%20Draft%202021-07-23.pdf

Please add a footnote to the CO Maintenance Plan to clarify that Sacramento is in Attainment for Carbon Monoxide and that the 20-year maintenance period is over (https://ww2.arb.ca.gov/resources/documents/2023-carbon-monoxide-sip-revision)

Section 2.4 Sacramento Area Council of Governments

Please reference the most recent and applicable transportation plan at https://www.sacog.org/planning/blueprint/2020-mtp-scs/2023-federal-metropolitan-transportation-plan

Section 2.7 Thresholds of Significance

Under Attainment Date for the 2008 NAAQS the date should be 7/2027 and not 7/2025 (see previous link of 2008 Plan).

Under Attainment Date for the 1997 NAAQS the date should be 6/2019and not 6/2024 (see previous link of 2008 Plan).

Under Designation for Carbon Monoxide for the NAAQS, Sacramento County is in Attainment and not Attainment (Maintenance) – see previous comment.

Under Designation for the 2024 Annual Standard of 9.0 ug/m3, SMAQMD is in non attainment.

Under Designation for the 2015 NAAQS for ozone please change the classification to severe-15. EPA is currently processing the Air Districts' reclassification request from serious to severe-15 and the 2015 Ozone NAAQS Plan was developed based on a severe-15 (not serious) classification. A copy of the 2015 Ozone NAAQS Plan can be found at https://www.airquality.org/air-quality-health/air-quality-plans/2015-o3-naaqs-sip

References

There was no biography for the referenced documents so it was difficult to tell specifically what documents this plan was referring to at times. Please provide a biography or a list of references.

SMAQMD Thresholds

Please add a discussion regarding the District air quality thresholds of significance required under CEQA. There is a discussion of this included in Section 4.1, Air Quality Thresholds, of the Sacramento County Air Quality Assessment for the WattEV Project (Kimley Horn, October 2023). For greenhouse gases, a discussion of these thresholds can be found on page 10 of the Draft Recommended Guidance for Land Use Emissions Reductions (Version 5.0). https://www.airquality.org/LandUseTransportation/Documents/LandUseEmissionReductions_v5_DRAFT_2023-01-09.pdf

Section 4.0 General Conformity Protocol

The general conformity thresholds shown on the top of page 43 in Section 4 in the General Conformity Protocol should be referenced (§ 93.153 Applicability). Because we are in attainment for CO, Pb and NOx there are no general conformity thresholds in place. The general conformity thresholds the SMAQMD has in place are for NOx and VOC (Ozone), PM2.5 and PM10. Please update this section.

Section 4.1 Conformity Evaluation

See first see sentence, the Region is in Maintenance for PM10 and not attainment or unclassified.

Sincerely,

Rich Muzzy

Rich Muzzy
Air Quality Planner/Analyst
CEQA and Land Use

cc: Paul Philley, AICP, Program Supervisor

REGION 9
SAN FRANCISCO, CA 94105

February 21, 2025

David M. Wickens
Environmental Protection Specialist, Federal Aviation Administration
Environmental Planner
2999 Oak Road Suite 200
Walnut Creek, California 94597-7776

Subject: US EPA Comments on the Sacramento Airport WattEV Draft Environmental Assessment

Dear David Wickens:

The EPA has reviewed the Draft Environmental Assessment prepared by the Federal Aviation Administration and the Sacramento County Department of Airports (SCDA) to assess the environmental impacts of a proposal to provide a publicly accessible electric vehicle (EV) charging facility adjacent to Interstate 5, near State Route 99 and Sacramento International Airport (SMF). The DEA indicates that the FAA and SCDA are proposing to choose Alternative 1 as the Preferred Alternative. We appreciate the opportunity to provide input and feedback on the DEA. The EPA encourages FAA and SCDA to consider our feedback provided below when preparing the Final Environmental Assessment (FEA) and Finding of No Significant Impact as the National Environmental Policy Act process proceeds.

Stormwater and Floodplain Management

In Section 1.4.1.1, the DEA states that the proposed project components would consist of, among other things, a 15.3 acre charging/rest area, an 88.9 acre solar array, and a substation occupying 12,000 square feet. The project's footprint exceeds 5,000 square feet and may affect the local hydrology. The EPA has provided guidance for maintaining predevelopment hydrology to the maximum extent practicable in the recommendations below.

In Section 4.13.4, the DEA indicates that "impacts would occur to approximately 0.2 acres of waters that may be subject to U.S. Army Corps of Engineers jurisdiction and likely subject to jurisdiction of the Central Valley Regional Water Quality Control Board pursuant to the Porter-Cologne Water Quality Control Act" (page 4-29). The DEA also indicates that "a net mitigation ratio of at least 1:1 must be achieved for any permanent loss of waters of the state resulting from implementation of the Proposed Project. Acceptable methods include payment into a mitigation bank or protection of off-site wetlands through the establishment of a permanent conservation easement, subject to the approval by Sacramento County" (page 4-29). The EPA understands that the SCDA is still in the planning stages for the WattEV Charging Center and may not have yet identified an acceptable method to achieve a net

mitigation ratio of 1:1. However, the mitigation method is important to disclose in the FEA and FONSI as the NEPA process continues.

In Section 4.13.3.2, the DEA states that "during construction of the Proposed Project, the construction contractor would be required to implement construction controls as outlined in the NPDES Construction General Permit (CGP) and the Stormwater Pollution Prevention Plan (SWPPP) for erosion and sedimentation, accidental and flood-induced spills, storage of hazardous materials, and construction waste and spoil disposal to minimize impacts to surface water quality" (page 4-28). The DEA further states that "implementation of these standard best management practices (BMP) would avoid impacts to surface waters during construction, and no adverse effects would occur" (page 4-28). The EPA understands that the proposed project is still in the planning phase and that the CGP and SWPPP are not yet in place. However, the best management practices detailed in the CGP and SWPPP are important to disclose for public understanding of how surface water quality is being protected during the construction phase.

> ***Recommendations:*** In the FEA, we recommend identifying measures to manage hydrology, and including a list of best management practices that will be included in the CGP. Disclose the site planning design commitments needed to conserve pre-development stormwater flows, pursuant to Section 438 of the Energy Independence Act and Security Act, which specifies that "the sponsor of any development or redevelopment project involving a Federal facility with a footprint that exceeds 5,000 square feet shall use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow." Federal agencies can comply with Section 438 by using a variety of stormwater management practices often referred to as "green infrastructure" or "low impact development" practices including, for example, reducing impervious surfaces, using vegetative practices, porous pavements, cisterns and green roofs. If bioretention is utilized to comply with EISA Section 438, the SCDA may want to consult EPA's new *Bioretention Design Handbook,*[1] which includes information about the latest approaches and lessons learned for bioretention design, construction, inspection, and operation and maintenance. In the FEA, include the delineation of waters and discuss the mitigation method for achieving the 1:1 mitigation ratio for affected waters.

Floodplains

In section 3.13.3.2, the DEA states that "a portion of the site is within Zone 99. Zone 99 corresponds to areas of the 1 percent annual chance floodplain that will be protected by a federal flood protection system when construction has reached specified statutory milestones" (page 3-31). The EPA understands that the project is still in the planning phase and the construction has not yet started. However, identifying the federal flood protection system and disclosing what approaches are being considered would be informative for the public to understand how the project will be protected from potential flood impacts.

[1] Available at https://www.epa.gov/system/files/documents/2023-11/bioretentiondesignhandbook_plainnov2023.pdf

Recommendation: In the FEA, clearly identify any flood mitigation measures that will be included to protect buildings and structures in the study area. Discuss and commit to the requirements of the Federal Flood Risk Management Standards as practicable.[2]

Air Quality

In Table 4-2, the de minimis thresholds for oxides of nitrogen (NOx) and volatile organic compounds (VOCs) are tabulated as 50 tons per year (tpy), citing the serious nonattainment levels in 40 CFR 93.153.[3] 40 CFR 93.153 shows that NOx and VOCs are the pollutants related to ozone, and that the serious and severe nonattainment levels for ozone establish a de minimis threshold of 50 tpy and 25 tpy, respectively. The EPA notes that, in Sacramento County, the attainment level for the 2015 ozone standards is classified as serious, and for the 2008 standards is classified as severe. The Sacramento Concourse B Expansion DEA, in table 3-2, used the lower threshold of 25 tpy for NOx and VOCs.[4] The EPA recommends the FAA and SCDA cite the lower de minimis threshold of 25 tpy for NOx and VOCs for general conformity analyses, as was done in the Sacramento Concourse B Expansion DEA.

Recommendation: Change the de minimis threshold values for NOx and VOCs in all tables in the main document and supplemental material to reflect the severe nonattainment O3 values as specified in 40 CFR 93.153. Change ROG in Table 4-1 to VOC for consistency throughout the document.

Thank you for the opportunity to review the DEA. Please contact me at 415-972-3629, or the lead reviewer, Martin Nguyen (nguyen.martin@epa.gov; 415-972-3590) to discuss any questions about these recommendations. Please send the final environmental assessment to the EPA when it is available for review.

Sincerely,

Francisco Dóñez
Manager
Environmental Review Section 2

Cc: Zachary Frese
Environmental Planner, Sacramento County Department of Airports

David Quiros
Mobile Source Analysis Branch Chief, California Air Resources Board

Alberto Ayala
Executive Director, Sacramento Metropolitan Air Quality Management District

[2] https://www.fema.gov/floodplain-management/intergovernmental/federal-flood-risk-management-standard
[3] https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-93/subpart-B/section-93.153
[4] https://sacramento.aero/scas/about/planning_design#draft-ea-wattev

C2 Air Quality Protocol

SACRAMENTO COUNTY WATTEV COMMERCIAL CHARGING CENTER

Air Quality Protocol

Prepared for
Sacramento County Department of Airports

December 2024

ESA

SACRAMENTO COUNTY WATTEV COMMERCIAL CHARGING CENTER

Air Quality Protocol

Prepared for
Sacramento County Department of Airports
6900 Airport Boulevard
Sacramento, CA 95837

December 2024

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SECTION 1
Introduction and Project Overview

This section examines the purpose and need for the Proposed Project, a description of the Proposed Project, and the Alternatives to the Proposed Project.

1.1 Introduction

The Sacramento County Department of Airports has formed a public/private partnership with WattEV, Inc. to construct, own, operate, and cost share the Sacramento County WattEV Commercial Charging Center project (Proposed Project). The Proposed Project would provide a publicly accessible Electric Vehicle (EV) charging facility that would be built on a 110-acre parcel of airport property at Sacramento International Airport (SMF) adjacent to just south of Interstate 5 (I-5) and proximate to California State Route 99 (SR-99), both major freight corridors. Facility development would include the installation of Direct Current Fast Chargers (DCFC) and Megawatt Chargers powered by a new solar array that would support charging for shippers and transporters as well as public transportation and passenger vehicles. In addition, the Proposed Project would include accessory uses, such as restrooms, resting lounges, a convenience store, and a visitor center.

1.2 Project Overview

The purpose of the Proposed Project is to provide a charging facility for electric mobility and freight in the within the southern portion of the Sacramento International Airport Master Plan area that is accessible and convenient to major freight and transportation corridors and meets the objectives and evaluation criteria of the California Transportation Commission's Trade Corridor Enhancement Program and supports the goals of the National Highway Freight Program, the California Freight Mobility Program, and the California Sustainable Freight Action Plan. Moreover, the Proposed Project would provide green energy onsite to support EV charging, reduce the freight emissions in the Sacramento region, and contribute to the economic development of the region. Additionally, there is an unmet demand for equitable access to zero emission technology for small carriers and independent freight vehicle owner operators, private EV automobiles as well as EV charging facilities in general. Any user of electric vehicles, including airport users, would have access to the facility.

The Proposed Project includes the deployment of advanced high-powered public charging stations and associated facilities powered by a 12.5 megawatt alternating current (MWac) solar generation field, with nameplate power of 31.2 megawatts of direct current (MWdc), to support zero-electric freight movement in Sacramento. The charging areas and associated support facilities would occupy approximately 24 acres of land on the northern portion of the project site while the remaining 94 acres of the site would be occupied by solar fields.

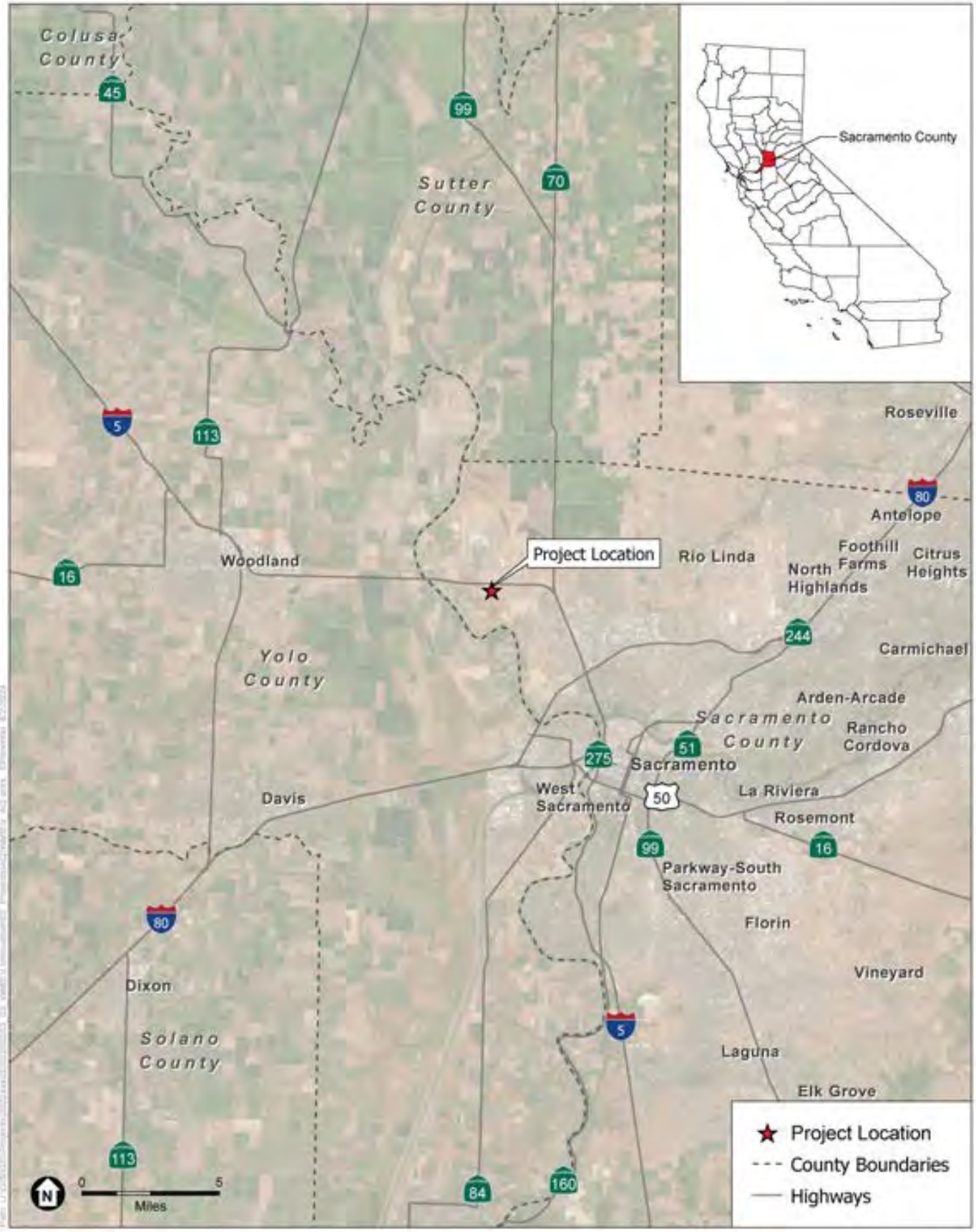
The Proposed Project is located within the southern portion of the Sacramento International Airport Master Plan area. The regional area is shown in **Exhibit 1**. The existing Proposed Project site is flat and consists of land that was previously under agricultural production, which ended in the early 2000s; the site is currently fallow and consists of grassland. The Proposed Project site is designated Public/Quasi-Public by the Sacramento County General Plan Land Use Element and is zoned Agricultural 20 (AG-20) and Agricultural 80 (AG-80) (County of Sacramento, 2020). This land is no longer used for agriculture due to its location near SMF within the 10,000-foot critical zone, and this parcel is maintained consistent with SMF's approved Wildlife Hazard Management Plan. Furthermore, the project site is designated for commercial development under the Airport's Master Plan, which was last updated in 2022. The Proposed Project would not have any impact on existing aircraft operations or airport facilities.

The area immediately surrounding the Proposed Project site consists of airport facilities to the north across I-5 and farmland that is both in production and out of production to the east, south, and west (see **Exhibit 2**). Furthermore, Metro Air Park, a business park zoned for industrial, manufacturing, distribution & high-tech commercial use, is under development approximately a quarter mile to the northeast, residential neighborhoods within the City of Sacramento limits are located about 1.6 miles to the east, and the Sacramento River is located approximately one mile to the west/southwest.

1.3 Proposed Project

The Proposed Project involves development of a publicly accessible Electric Vehicle (EV) charging facility and related facilities that would be built on a 110-acre parcel of land located south of and adjacent to I-5 on the south side of the Airport along the extended Runway 35R arrival centerline. This Proposed Project will be partly funded by a grant from the California Transportation Commission, as well as by a private developer. The Proposed Project will not be funded by the FAA. The Proposed Project, shown on **Exhibit 3**, consists of the following:

- Construction of a 13.5-acre charging area/rest area configured with two truck charging areas separated by a publicly accessible central plaza. The facility would include a two-story 14,000-square-foot (sf) convenience store and visitor center, a 3,000-sf single story operations and maintenance facility, and a 3,000-sf single story office building.
- Construction of two truck charging areas providing a total of 18 Megawatt Charging Standard (MCS) chargers and 90 240 kW Combined Charging Standard (CCS) chargers designed for heavy and medium duty trucks. Eighty truck parking stalls would also be provided.
- Construction of 30 CCS chargers dedicated to passenger vehicle use and an automobile parking lot with 200 automobile parking spaces.
- Construction of access improvements along Bayou Way, which borders the site to the north and is directly south and parallel to I-5. Direct access to the Proposed Project site would be provided through the construction of three sets of ingress and egress points (six total access points) along Bayou Way.
- Installation of drought tolerant landscaping in the northern portion of the Proposed Project site where the vehicle charging/rest area would be located. Installation of an illuminated pylon sign that would be visible from I-5. Onsite lighting would also be provided.
- Construction of an approximately 64.3-acre Photovoltaic (PV) solar array, with solar modules mounted on tracker arrays. Each rack would hold up to 90 panels (72 Cell Modules). Five 3.6 Megavolt Ampere (MVA) inverters and transformers would be installed on concrete pads located within the solar field.



SOURCE: Esri, 2024; ESA, 2024

WattEV Commercial Charging Center

Exhibit 1
Regional Location

ESA

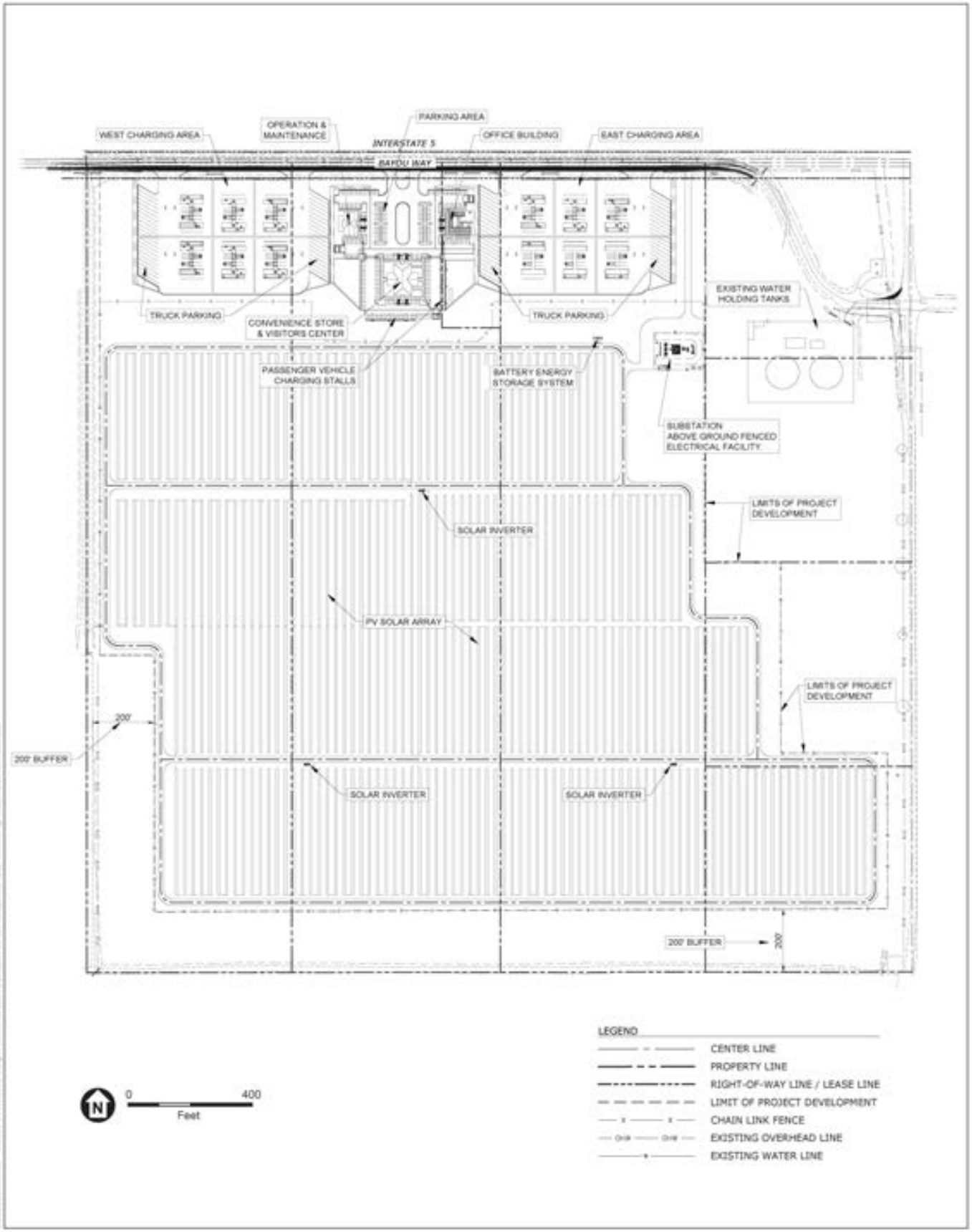


SOURCE: Esri, 2024; ESA, 2024

WattEV Commercial Charging Center

Exhibit 2
Project Vicinity

ESA



SOURCE: WattEV, 2023

WattEV Commercial Charging Center

Exhibit 3
Overall Site Plan

ESA

DRAFT

- Installation of a substation and associated substation equipment. The proposed intertie would connect from the substation switchgear to the Sacramento Metropolitan Utility District's (SMUD) existing facilities located along Power Line Road. Due to the distance between the proposed substation and point of interconnection, which could be up to 650 feet, a new 69 kV power line would be required to connect the substation to SMUD facilities. The substation would be located within a fenced 200-foot by 200-foot pad in which the electrical gears would occupy an approximately 12,000-square-foot area.
- Installation of a Battery Energy Storage System (BESS). The enclosure would be placed outdoors on a concrete pad near the substation and main switch gear.
- A fence would be installed around the perimeter of the solar facilities. Controlled access would be provided at secured gates intersecting the new interior access roads. Security lighting would be installed.
- Installation of two access gates and construction of internal road network. One access gate would be located to the south of the east truck charging and storage lot and one to the south of the west truck charging and storage lot. Internal access roads would be unpaved with an aggregate base.

The Proposed Project would include several offsite project commitments:

- The intersections of Bayou Way and Airport Boulevard and Bayou Way and Power Line Road will be paved and widened to facilitate truck turning movements.
- Bayou Way along the project site frontage will be widened from two to three lanes (one-lane each direction, with a two-way left turn lane).
- Bayou Way will have curb, gutter, and sidewalk improvements.
- An existing 12 kV overhead powerline will be replaced with an underground powerline.
- A 69 kV electrical power distribution line will be extended between Power Line Road and the proposed substation on the project site.

The only two alternatives considered in this air quality protocol, the Draft EA, and the air quality analysis are the alternatives of No Action and the Proposed Project.

As a non-aeronautical use, the Proposed Project would not induce additional aircraft operations.

For the CCS chargers associated with the Proposed Project, it takes approximately one hour to charge a car and three hours to charge a truck, while for MCS chargers it takes approximately 30 to 45 minutes to charge a truck. Over the course of a day, the Proposed Project is expected to generate 1,726 vehicle trips (car and truck). It is conservatively estimated that all these trips would require charging and thus the daily throughput for charging would equal daily trips. **Table 1** shows anticipated charger demand.

TABLE 1
CHARGER DEMAND

Charger	Year					
	2025	2026	2027	2028	2029	2030
MCS Truck Chargers	39	57	79	100	123	123
CCS Truck Chargers	50	80	108	135	167	167
CCS Passenger Vehicle Chargers	78	136	170	209	258	326

Source: WattEV, 2023

SECTION 2
Regulatory Setting

This section provides information pertaining to regulatory conditions by federal, state, and local laws as it pertains to the Proposed Project. This includes information on attainment/nonattainment designations, and applicable regulatory criteria and/or thresholds that will be applied to the results of the air quality assessment.

2.1 Federal

The United States Environmental Protection Agency (U.S. EPA) is required by the Clean Air Act (CAA) to identify and establish National Ambient Air Quality Standards (NAAQS) for the following criteria pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3) and its precursors such as oxides of nitrogen (NO_x) and volatile organic compounds (VOCs), particulate matter (PM10 and PM2.5), and sulfur dioxide (SO_2). As part of the review process of the National Environmental Policy Act (NEPA), the Federal Aviation Administration (FAA) must determine if a Federal Action would cause criteria pollutant concentrations to exceed the NAAQS under the CAA.

FAA will evaluate if the emissions caused by the Proposed Project would result in a significant impact under the FAA's NEPA threshold (discussed in Section 3.2 below). The same evaluation will be used to determine whether the proposed program conforms with the State Implementation Plan (SIP) under the CAA conformity requirements (see Section 3 of this Protocol).

Exhibit 4-1 of the FAA's *1050.1F Desk Reference* provides the FAA's significance thresholds for air quality (FAA, 2020):

> *"The action would cause pollutant concentrations to exceed one or more of the [NAAQS], as established by the [EPA] under the [CAA], for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations."*

The Council on Environmental Quality (CEQ) affirmed that NEPA and its implementing regulations (40 CFR 1500 et. seq.) apply to greenhouse gases (GHGs) and the effects of GHGs. According to CEQ's interim guidance for public comment, entitled *National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change* (2023 Interim Guidance) (CEQ, 2023),[1] the following are considered GHGs for purposes of the 2023 Interim Guidance: CEQ defines GHGs as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6) and nitrogen trifluoride (NF_3). Despite this guidance, there are no significance thresholds associated with GHGs. CEQ instructs Federal agencies to disclose a project's

[1] 88 FR 1196 (January 9, 2023).

contribution to GHGs in a study area although there is no requirement to disclose such emissions for General Conformity purposes.

The 2023 Interim Guidance provided guidance to practitioners on multiple aspects of GHG analyses, including when and how GHGs should be quantified, the contextualization of GHGs, analysis of reasonable alternatives, and mitigation of GHG emissions. The guidance, as summarized by a FAA memorandum, titled *The Effect on FAA NEPA Reviews of the Council on Environmental Quality's January 9, 2023 Interim National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change Guidance,* focused on only two elements of the 2023 Interim Guidance: 1) quantification of GHG emissions; and 2) contextualization of GHG emissions. On May 1, 2024, CEQ issued its final rule (Phase 2 Rule) updating its NEPA implementing regulations. The Phase 2 Rule re-affirms that environmental documents should include analysis of "where applicable, climate change-related effects, including, where feasible, quantification of greenhouse gas emissions, from the proposed action and alternatives and the effects of climate change on the proposed action and alternatives" (see 40 CFR § 1502.16(a)(6)).

The Interagency Working Group (IWG) *Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide*, published in February 2021, provides a robust and scientifically founded assessment of the positive and negative impacts that an action can be expected to have on society from the social cost of carbon ($SC\text{-}CO_2$), social cost of methane ($SC\text{-}CH_4$), and social cost of nitrous oxide ($SC\text{-}N_2O$).

For more information on the Social Cost of Greenhouse Gases (SC-GHG) Interagency Working Group (IWG) *methodology*, see Section 3.7.

For those projects for which quantification of GHG emissions (and therefore SC-GHG estimates) are impracticable, practitioners may also choose to provide context for project GHG emissions by explaining how the proposed action and its alternatives would help meet or inhibit the achievement of relevant climate action goals and commitments, including Federal goals, international agreements, state or regional goals, Tribal goals, agency-specific goals, or others as appropriate. For example, practitioners could describe to what extent the proposed action would help the FAA to meet the target established in the United States 2021 Aviation Climate Action Plan to cut carbon emissions in half by 2030 on the path to reaching net-zero emissions by 2050.

2.2 State of California

The CAA allows states to adopt air quality regulations and standards provided they are at least as stringent as the NAAQS. The California Air Resources Board (CARB) was tasked with establishing the California Ambient Air Quality Standards (CAAQS) via the California Clean Air Act of 1988 (CCAA). This motion established CAAQS for pollutants not covered in the NAAQS including sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

Like NAAQS, geographic areas that do not meet the CAAQS are called "nonattainment areas." The CARB is responsible for enforcing regulations to achieve and maintain the NAAQS and CAAQS. The CARB is responsible for reviewing operations and programs in local air districts and requires each air district with jurisdiction over a nonattainment area to develop a strategy for achieving the NAAQS and CAAQS. The local air district, in this case the Sacramento Metropolitan Air Quality Management

District (SMAQMD), is responsible for the development, implementation, and enforcement of rules and regulations designed to attain the NAAQS and CAAQS in the Sacramento Metropolitan region.

Per FAA Order 1050.1F Desk Reference, "[f]ederal actions that are implemented in states that have separate state ambient air quality standards are required to comply with state ambient air quality standards in the same way they are required to comply with the NAAQS." These total concentrations will be compared to the NAAQS to determine significance, as outlined in Exhibit 4-1 of FAA Order 1050.1F, and the CAAQS for informational purposes. This protocol will not evaluate impacts to the CAAQS.[2]

2.3 Sacramento Metropolitan Air Quality Management District (SMAQMD)

SMAQMD is the air pollution control agency with jurisdiction over Sacramento County located within the greater Sacramento Valley Air Basin (the Air Basin). While air quality in this area has improved substantially over the years, the Air Basin requires continued diligence to meet federal and state air quality standards.

The SMAQMD is responsible for administering the Air Quality Management Plans (AQMPs) for the Air Basin. The SMAQMD has adopted a series of AQMPs to meet the CAAQS and NAAQS. Each iteration of the Plan is an update from the previous version to outline a strategy meeting federal requirements while incorporating the latest technical planning information. The following are the most recent air quality plans applicable to the area of the proposed project:

- 2023 Sacramento Regional Plan for the 2015 NAAQS 70-ppb 8-Hour Ozone Standard (2023 Plan) (SMAQMD, 2023). The 2023 Plan has not yet been approved by the U.S. EPA.
- Sacramento Regional 2008 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan (SMAQMD, 2017). This will be the plan used for general conformity compliance.
- SMAQMD's Triennial Report and Air Quality Plan Revision (SMAQMD, 2015).
- Second 10-Year PM10 Maintenance Plan for Sacramento County (SMAQMD, 2021).
- PM2.5 Maintenance Plan and Redesignation Request (SMAQMD, 2013).
- 2004 Revision to the California State Implementation Plan for CO (SMAQMD, 2004).[3]

In addition, the proposed project would be required to comply with the following SMAQMD rules and regulations for construction:

- **Rule 201 (General Permit Requirements) -** This rule provides an orderly procedure for the review of new sources of air pollution and modification and operation of existing sources through issuance of

[2] CAAQS impact analysis will not be completed in the federal NEPA document. This Project has been evaluated in accordance with the California Environmental Quality Act (CEQA). The County of Sacramento prepared a Draft Environmental Impact Report (EIR), which was circulated to the public for comment in February 2024 and a Final EIR was prepared in May 2024, which responded to all comments received during the comment period. The County issued a Notice of Determination in July 2024 certifying the EIR (State Clearing House Number 2023080394). CEQA significance thresholds and related CEQA impacts can be found in the certified EIR.

[3] Sacramento is in attainment for carbon monoxide and the 20-year maintenance period is over. Refer to: https://ww2.arb.ca.gov/resources/documents/2023-carbon-monoxide-sip-revision.

permits. For any projects that include the use of equipment capable of releasing emissions to the atmosphere, permits may be required from SMAQMD prior to operation.

- **Rule 401 (Ringelmann Chart) -** A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour which is: as dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or of such opacity as to obscure a human observer's view, or a certified calibrated in-stack opacity monitoring system to a degree equal to or greater than does smoke described in Subsection 301.1 of this rule.
- **Rule 402 (Nuisance) –** This rule prohibits the discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.
- **Rule 403 (Fugitive Dust) –** This rule requires fugitive dust sources to implement best available control measures for all sources, and all forms of visible particulate matter are prohibited from crossing any property line. This rule is intended to reduce fugitive dust emissions into the atmosphere. This rule does not apply to emissions emanating from agricultural operations, unworked land designated as reclaimed for agriculture, or unpaved roads for public travel.
- **Rule 404 (Particulate Matter) –** This rule is intended to limit the quantity of particulate matter in the atmosphere through the establishment of an emission concentration limit.
- **Rule 405 (Dust and Condensed Fumes) –** This rule is intended to limit the discharge of dust and condensed fumes into the atmosphere by establishing emission rates based on process weight.
- **Rule 442 (Architectural Coatings) –** This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce ROG emissions from the use of these coatings, primarily by placing limits on the ROG content of various coating categories.
- **Rule 453 (Cutback and Emulsified Asphalt Paving Materials) –** This rule is to limit emissions of volatile organic compounds from the use of cutback and emulsified asphalt in paving materials, paving and maintenance operations.
- **Rule 460 related to (Adhesives and Sealants) -** The developer or contractor is required to use adhesives and sealants that comply with the volatile organic compound content limits specified in the rule.

The SMAQMD has also established significance thresholds for air quality and GHGs for **CEQA** analysis purposes to help lead agencies determine whether a project may have a significant air quality impact (SMAQMD 2020) for the CAAQS. The SMAQMD has established mass emissions thresholds for ozone precursors (i.e., NOx and ROG), PM10, and PM2.5 as the Sacramento region does not meet the state and federal ozone and state particulate matter (PM10 and PM2.5) ambient air quality standards. The thresholds for construction emissions are: NOx 85 pounds per day; PM10 zero pounds per day without implementation of all best management practices and above 80 pounds per day or 14.6 tons per year after implementation of all best management practices; PM2.5 zero pounds per day without implementation of all best management practices and above 82 pounds per day or 15 tons per year after implementation of all best management practices. The thresholds for operational emissions are: NOx or ROG 65 pounds per day; PM10 zero pounds per day without implementation of all best management practices and above

80 pounds per day or 14.6 tons per year after implementation of all best management practices; and PM2.5 zero pounds per day without implementation of all best management practices and above 82 pounds per day or 15 tons per year after implementation of all best management practices.

SMAQMD best management practices during construction include the following (SMAQMD 2020) practices:

- Control of fugitive dust is required by District Rule 403 and enforced by District staff.
- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).
- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.
- Provide current certificate(s) of compliance for CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, sections 2449 and 2449.1].
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.

SMAQMD best management practices during operation include the following (SMAQMD 2020) practices applicable to the Proposed Project:

- Compliance with mandatory measures in the California Building Energy Efficiency Standards (Title 24, Part 6) that pertain to efficient use of energy for a non-residential project.
- Compliance with mandatory measures in the California Green Building Code (Title 24, Part 11) for a non-residential project.
- Compliance with anti-idling regulations for diesel powered commercial motor vehicles (greater than 10,000 gross vehicular weight rating). This BMP focuses on non-residential land use projects (retail and industrial) that would attract these vehicles. The current requirements include limiting idling time to 5 minutes and installing technologies on the vehicles that support anti-idling.

The SMAQMD has established the following thresholds for GHGs. For construction, GHG emissions should not exceed 1,100 metric tons CO2e per year. For stationary source projects operational GHG direct emissions should not exceed 10,000 metric tons CO2e per year. For land development projects, the

operational GHG emissions should be consistent with the State's Scoping Plan GHG emissions reduction strategies by implementing best management practices or equivalent on-site or off-site measures.

Per FAA Order 1050.1F, "[f]ederal actions that are implemented in states that have separate state ambient air quality standards are required to comply with state ambient air quality standards in the same way they are required to comply with the NAAQS." As discussed previously, this Project has been evaluated in accordance with the CEQA. CEQA significance thresholds and related CEQA impacts can be found in the certified EIR (State Clearing House Number 2023080394).

2.4 Sacramento Area Council of Governments

The Sacramento Area Council of Governments (SACOG) is the Metropolitan Planning Organization (MPO) representing six counties, including Sacramento County, and serving as a forum for the discussion of various planning and policy initiatives. As the federally-designated MPO for the region, SACOG is mandated by the federal government to research and develop plans for transportation, hazardous waste management, growth management, and air quality.[4] Under the federal CAA, SACOG is also responsible for determining conformity of transportation projects, plans, and programs with applicable air quality plans. The most recent and applicable transportation plan is the Metropolitan Transportation Plan/ Sustainable Communities Strategy (MTP/SCS) (SACOG, 2023).

2.5 Greenhouse Gases

The climate change regulatory setting – international, federal, state, and local – is complex and rapidly evolving. The U.S. EPA is responsible for implementing federal policies to address greenhouse gases (GHGs). However, the CEQ published relevant guidance in 2023 to addressing GHGs in the NEPA process, as noted in section 2.1, above. The federal government administers a wide array of public-private partnerships to reduce the quantity of GHGs generated in the United States. U.S. EPA has published endangerment findings for greenhouse gases indicating that emissions of GHGs from new motor vehicles and certain aircraft contribute to air pollution that endangers the public health and welfare under the CAA, Section 202(a). A number of California statutes, policies and regulations have been promulgated to reduce the growth in GHG emissions. These documents will be discussed in the Draft EA, and the Draft EA will describe the resulting Project-related greenhouse gas emissions in the context of these State and local policies. Consistent with FAA's *Aviation Emissions and Air Quality Handbook* and CEQ's 2023 guidance, FAA proposes to develop a GHG inventory, in part, since a criteria pollutant inventory is being prepared. Therefore, this NEPA Air Quality Protocol discusses the process that will be used to prepare a GHG inventory.

2.6 Attainment Status

The Sacramento Airport is located in Sacramento County within the SMAQMD. The NAAQS and CAAQS attainment status for the SMAQMD is presented in **Table 2**.

[4] 23 CFR 450.310.

TABLE 2
NAAQS, CAAQS, AND SACRAMENTO COUNTY ATTAINMENT STATUS

Criteria Pollutant	Standard	Averaging Time	Designation[a]	Attainment Date[b]
1-Hour Ozone	NAAQS	1979 1-Hour (0.12 ppm)[c]	Attainment	11/18/2012
	CAAQS	1988 1-Hour (0.09 ppm)	Nonattainment	---
8-Hour Ozone[d]	NAAQS	1997 8-Hour (0.08 ppm)[d]	Nonattainment (Severe 15)	6/15/2019
	NAAQS	2008 8-Hour (0.075 ppm)	Nonattainment (Severe 15)	7/2024
	NAAQS	2015 8-Hour (0.070 ppm)	Nonattainment (Severe-15)	8/2027
	CAAQS	8-Hour (0.070 ppm)	Nonattainment	Beyond 2032
Carbon Monoxide (CO)	NAAQS	1-Hour (35 ppm) 8-Hour (9 ppm)	Attainment	Redesignation to Attainment (2/15/2005)
	CAAQS	1-Hour (20 ppm) 8-Hour (9 ppm)	Attainment	---
Nitrogen Dioxide (NO_2[e])	NAAQS	1-Hour (0.10 ppm)	Unclassified/Attainment	---
	NAAQS	Annual (0.053 ppm)	Unclassified/Attainment	---
	CAAQS	1-Hour (0.18 ppm) Annual (0.03 ppm)	Attainment	2012
Sulfur Dioxide (SO_2[f])	NAAQS	1-Hour (75 ppb)	Unclassified/Attainment	---
	NAAQS	24-Hour (0.14 ppm) Annual (0.03 ppm)	Unclassified/Attainment	---
Respirable Particulate Matter (PM10)	NAAQS	1987 24-hour (150 µg/m^3)	Attainment (Maintenance)[g]	Redesignation to Attainment (9/26/2013)
	CAAQS	24-hour (50 µg/m^3) Annual (20 µg/m^3)	Nonattainment	---
Fine Particulate Matter ($PM2.5$[h])	NAAQS	2006 24-Hour (35 µg/m^3)	Attainment	7/15/2013
	NAAQS	2024 Annual (9.0 µg/m^3)	TBD	TBD
	CAAQS	Annual (12.0 µg/m^3)	Attainment	N/A
Lead Pb	NAAQS	3-Months Rolling (0.15 µg/m^3)	Attainment	---
	CAAQS	30-Day Average (0.15 µg/m^3)	Attainment	---
H_2S	CAAQS	1-Hour (0.03 ppm/42 µg/m^3)	Unclassified/Attainment	---
Sulfates	CAAQS	24-Hour (25 µg/m^3)	Attainment	---
Vinyl Chloride	CAAQS	24-Hour (0.01 ppm/26 µg/m^3)	Unclassified/Attainment	---

Notes:

a) U.S. EPA often only declares Nonattainment areas; everywhere else is listed as Unclassifiable/Attainment or Unclassifiable. General conformity applies for 20 years after an area is redesignated to Attainment/Maintenance unless extended by the SIP.
b) A design value below the NAAQS for data through the full year or smog season prior to the attainment date is typically required for attainment demonstration.
c) 1-hour O_3 standard (0.12 ppm) was revoked, effective June 15, 2005; however, the Air Basin has not attained this standard based on 2008-2010 data and is still subject to anti-backsliding requirements.
d) 1997 8-hour O_3 standard (0.08 ppm) was reduced (0.075 ppm), effective May 27, 2008; the revoked 1997 O_3 standard is still subject to anti-backsliding requirements.
e) New NO_2 1-hour standard, effective August 2, 2010; attainment designations January 20, 2012; annual NO_2 standard retained.
f) The 1971 annual and 24-hour SO_2 standards were revoked, effective August 23, 2010; however, these 1971 standards will remain in effect until one year after U.S. EPA promulgates area designations for the 2010 SO_2 1-hour standard. U.S. EPA designated all of California in attainment with the SO_2 NAAQS, effective April 9, 2018 (83 FR 1098, January 9, 2018).
g) Annual PM10 standard was revoked, effective December 18, 2006; 24-hour PM10 NAAQS deadline was 12/31/2006.
h) Attainment deadline for the 2006 24-Hour PM2.5 NAAQS (designation effective December 14, 2009) is December 31, 2019 (end of the 10th calendar year after effective date of designations for Serious nonattainment areas). Annual PM2.5 standard was revised on February 7, 2024, effective May 6, 2024, from 12 to 9 µg/m^3. The timeline for initial area designations begins with promulgation of the revised primary annual PM2.5 NAAQS, as stated in the CAA section 107(d)(1)(B)(i). Through this process, which provides for input from States and others at various stages, U.S. EPA identifies areas of the country that either meet or do not meet the revised primary annual PM2.5 NAAQS, along with the nearby areas contributing to NAAQS violations.

Source: U.S. EPA Greenbook, 2024; SMAQMD, 2024.

2.7 Thresholds of Significance

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance threshold for air quality, which states, "The action would cause pollutant concentrations to exceed one or more of the NAAQS, as established by the U.S. EPA under the CAA, for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations." The FAA has not established a significance threshold for GHGs and climate change.

SECTION 3
NEPA Air Quality Protocol

This section describes the overall approach, specific methodologies, models, data sources, assumptions, and other supporting information that will be used in conducting the air quality assessment. Emissions from all sources examined below will be estimated for the No Action Alternative and the Proposed Project. The Study Area for air quality is the SMAQMD, shown in **Exhibit 4**.

This section discusses the overall approach to the Draft EA air quality analysis, including scenarios and years to be reviewed, types of analyses to be performed, pollutants to be considered, and cumulative impacts. Overall, the air quality study will include the emissions and dispersion of criteria air pollutants for the air quality impact analysis (AQIA). An emissions inventory of GHGs and hazardous air pollutants (HAPs) will also be prepared.

The construction and operational emissions data, including any new stationary sources, will be used to determine whether the proposed program conforms with the State Implementation Plan (SIP) under the Clean Air Act conformity requirements (see this section of the Protocol).

3.1 Scenarios/Analysis Years

The Proposed Project site existing conditions currently consist of grassland that is maintained consistent with the County's approved Wildlife Hazard Management Plan prepared under 14 CFR Part 139 (County of Sacramento Department of Airports, 2015). The Project Site ceased being actively farmed in the early 2000s. Therefore, the site is not an existing substantial material source of criteria pollutant or GHG emissions. Since there are currently no existing sources of criteria pollutant or GHG emissions, it is assumed there will be no additional criteria pollutant or GHG emissions in the No Action scenario.

The air quality analysis performed for the Proposed Project Draft EA will address construction-related impacts for the approximately 13 months of proposed construction activities starting in spring 2025. In addition, operations-related impacts will be measured for the first year of operation and five years later. Emissions from the Proposed Project for the future study year(s) and emissions inventories will be estimated based on emissions calculations performed using California Emissions Estimator Model (CalEEMod®) version 2022.1. Although the Proposed Project is anticipated to be completed by late 2025/early 2026, to be conservative, earlier dates may be utilized in the modeling. If construction and operation of the Proposed Project commences at a later date than modeled, emissions would be lower pursuant to regulations that require vehicle fleet operators to phase-in less polluting heavy-duty equipment.



SOURCE: Esri, 2024; California Air Resources Board, 2004; ESA, 2024

WattEV Commercial Charging Center

Exhibit 4
Sacramento Metropolitan Air Quality Management District
Air Quality Study Area

ESA

If the Proposed Project is approved by the FAA, construction would occur over the course of 13 months. Construction would begin in spring 2025 and last approximately 13 months. Phase 1 operation of the Proposed Project would begin in late 2025/early 2026.

As shown in **Table 3**, site preparation activities (i.e., vegetation clearance) and grading (i.e., cut/fill of land) would occur first, followed by infrastructure improvements (i.e., installation of water, wastewater, storm drain, electrical, telecommunications facilities, etc.) and paving (i.e., placement of concrete and/or asphalt). Next, project buildings would be constructed, and the solar arrays would be installed followed by the administration of architectural coating (i.e., interior and exterior painting) on the proposed structures.

TABLE 3
CONSTRUCTION SCHEDULE

Phase	Start Date (Month/Year)	End Date (Month/Year)
Site Preparation	June 2025	July 2025
Grading	July 2025	September 2025
Infrastructure Improvements	September 2025	October 2025
Paving	October 2025	November 2025
Building Construction/Solar Panel Installation	November 2025	May 2026
Architectural Coating	May 2026	June 2026

Source: WattEV, 2023

Analysis for the following years and conditions will be conducted in the Draft EA.

Operational Analysis:

- 2024 Existing Conditions
- Future 2026 and 2031
  - No Action – Existing project site conditions with regional activity levels associated with 2026 and 2031.
  - Proposed Project and any other alternatives carried forward for detailed consideration in the Draft EA for 2026 and 2031.

3.2 Construction Sources

The FAA's 1050.1F Desk Reference provides guidance for conducting emissions inventories. The Airport Desk Reference also requires that NEPA documentation describe an *affected environment* for a Proposed Project, which is defined as, "the entire geographic area that could be either directly or indirectly affected by the Proposed Project."[5] For construction emissions from the Proposed Project, the affected environment includes the Airport property as well as surrounding areas where construction-related vehicles are traveling to and from the Airport.

[5] 1050.1F Desk Reference, Section 1.2.

Construction emissions will be estimated based on the anticipated schedule with construction completed at the earliest possible date and the possibility for overlapping subphases. Emissions for off-road equipment will be estimated using CalEEMod® emissions rates that represent an average model year for available equipment within the Air Basin. Using this data, monthly, quarterly, and annual construction emissions estimates will be developed. Peak month average day emissions estimates will be developed by identifying a peak month of construction emissions and dividing the emissions by the number of days in that month. Additionally, diurnal and day of week profiles would be developed for air dispersion modeling, if required.

The number of construction equipment used will reflect a specific set of conservative assumptions based on the expected construction scenario for the Proposed Project using an upper bound assumption of the number of equipment in use in a relatively intensive manner. Fugitive dust and VOC emissions will be based on CalEEMod® assumptions for material handling activities and coating activities. VOC emissions will not be estimated for building interior or exterior walls and surfaces that arrive at the project site in a pre-coated state or that do not require architectural coating.

Construction emissions from on-road trucks and vehicles will be estimated using a combination of CalEEMod® and the latest EMFAC2021 on-road vehicle emissions model. CalEEMod® will be used to generate total VMT from the on-road trucks and worker vehicles unless specific information from WattEV is provided. Emissions from on-road trucks and worker vehicles will be calculated as the product of the CalEEMod® estimated VMT and the EMFAC2021 emission factors.

Construction of the Proposed Project would generate emissions from the following sources:

- Off-road heavy-duty equipment including but not limited to dozers, loaders, forklifts, and tractors (CalEEMod® version 2022.1).
- On-road heavy-duty equipment such as haul trucks used to transport material to and from the Proposed Project site (CalEEMod® version 2022.1).
- On-road passenger vehicles from workers and vendors travelling to and from the Proposed Project site (CalEEMod® version 2022.1).
- Fugitive dust generated by material/soil handling activities, as well as vehicle travel on paved roads (CalEEMod® version 2022.1).
- Fugitive VOC emissions generated by surface coating and paving activities (CalEEMod® version 2022.1).

3.3 Operational Sources

The 1050.1F Desk Reference requires that NEPA documentation describe an *affected environment* for a Proposed Project, which is defined as, "*the entire geographic area that could be either directly or indirectly affected by the Proposed Project*." For operating emissions from the Proposed Project, the affected environment includes the project site as well as surrounding areas. The Proposed Project has separate operations from the Sacramento International Airport (SMF) operations, although the project site is on SMF property. Since there will be no impact to airport operations or facilities, the FAA does not anticipate the Proposed Project to impact the number or types of aircraft used for airport operations. Thus, this protocol will not include aircraft operations at SMF. Further, there is no component of the

Proposed Project that would require the use of the FAA's Aviation Environmental Design Tool (AEDT) model that would require quantification of aircraft emissions.[6] Operational emissions from the Proposed Project will largely occur from ground sources within the immediate vicinity of the Proposed Project and will be quantified, such as point sources (e.g., area sources, energy) and ground access vehicles (GAV) (e.g., motor vehicles from project generated vehicle trips) traveling to and from the project site. Since operation of the Proposed Project would not impact aircraft or ground support equipment, those emissions are not analyzed.

FAA Order 1050.1F states, "*the latest FAA-approved model must be used for both air quality and noise analysis*."[7] Emissions of VOCs, nitrogen oxides (NO_X), carbon monoxide (CO), sulfur dioxide (SO_2), respirable particulate matter (PM10), and fine particulate matter (PM2.5) from operations will be estimated using CalEEMod® version 2022.1. The CalEEMod® software is an emission estimation/ evaluation model developed for the State of California to calculate emissions during operational activities.[8] The CalEEMod® employs the same off-road and on-road criteria pollutant emission factors generated from the FAA-approved CARB models OFFROAD2017 and EMission FACtor (EMFAC2021). This model was released by the SMAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts. The purpose of this model is to calculate operational-source criteria pollutant (NOx, VOCs, PM10, PM2.5, SOx, and CO) and GHG gas emissions from direct and indirect sources, and quantify applicable air quality and GHG reductions achieved from mitigation measures.[9] Accordingly, the latest version of CalEEMod® available at the time the quantitative modeling analysis is initiated will be used for the Proposed Project to determine land-use operational air quality emissions.

3.3.1 Operational – Point Source Emissions

On-site stationary source emissions from non-aircraft sources (i.e., solar photovoltaic power generation and battery storage systems, building energy, consumer products, architectural coating, and landscaping) will be estimated using CalEEMod® recommended default values, unless project-specific data is available. These data could include but are not limited to the duration and number of events. Building area source emissions (e.g., consumer products, architectural coating) will be estimated using square footage of the building, or number of parking spaces for parking structures/lots and the latest version of CalEEMod®. If the Proposed Project would result in a change in the number or types of stationary sources, such as emergency generators (maintenance and testing) or large boilers, emissions will be estimated using the OFFROAD2017 model and/or emission factors based on compliance with the CARB/ U.S. EPA emissions standards as appropriate (e.g., Tier 3 and Tier 4 standards) and factors from the U.S. EPA AP-42 or SMAQMD.

6 If aircraft emissions were to be quantified, the FAA's Aviation Environmental Design Tool (AEDT) is the required tool.

7 FAA Order 1050.1F, Section 4.2.

8 CalEEMod® version 2022.1 utilizes EMFAC 2021 emission rates, details provided in the California Emissions Estimator Model User's Guide version 2022.1. Available: www.caleemod.com. April 2022.

9 California Air Pollution Control Officers Association (CAPCOA), 2021. California Emissions Estimator Model (CalEEMod®). September. Available: www.caleemod.com. Accessed: August 2024.

3.3.2 Operational – Ground Access Vehicles (GAV)

On-road mobile source GAV emissions can be estimated using CARB's EMFAC model. The most recent U.S. EPA approved model is EMFAC2021.[10] Version 2022.1 of the CalEEMod® model incorporates the on-road criteria pollutant emission factors generated from CARB's EMFAC2021 model. Operational emissions from on-road GAVs will be estimated using CalEEMod®. All surface vehicles traveling to or from the Proposed Project Site will be considered in the Air Quality analysis, including vehicle trips from staff, vendors, and customers who drive emissions-generating vehicles to the project site.

Total VMT from the on-road vehicles will be obtained from the Project's Local Transportation Analysis, Access, and Safety Evaluation (Traffic Evaluation) prepared by Kimley-Horn (January, 2024). Based on the traffic analysis, the project would result in a total of 1,769 daily vehicle trips. Approximately 1,726 trips are anticipated to be for EV charging and 43 trips for the office building staff. The trips associated with the EV chargers are assumed to be all EV with fugitive dust emissions but no tailpipe emissions. Fugitive PM10 and PM2.5 would be generated from entrained road dust, brake wear, and tire wear. Emissions from on-road.

vehicles will be calculated as the product of the traffic analysis calculated VMT and the EMFAC2021 emission factors incorporated in CalEEMod®. Additionally, diurnal and day of week profiles would be developed for air dispersion modeling, if required.[11]

The Draft EA will estimate the benefits of foregone emissions of criteria and GHG emissions from the onsite solar and battery storge of the EV charging facility compared to a No Action scenario. Emissions of a No Action scenario from on-road trucks and passenger vehicles will be calculated as the product of the CalEEMod® estimated VMT and the EMFAC2021 emission factors of the region in order to quantify estimated benefits of the Proposed Project.

3.4 Data Sources

Data sources relied upon throughout the air quality analysis conducted for the Draft EA would include, but not be limited to:

- Air Quality Assessment prepared by Kimley-Horn and peer reviewed by ESA and Sacramento County.
- Local Transportation Analysis, Access, and Safety Evaluation (Traffic Evaluation) prepared by Kimley-Horn.
- WattEV provided detailed construction schedule (timing, equipment, haul routes) for the Proposed Project.
- WattEV provided detailed site plans, building floor area, parking spaces, etc.
- WattEV provided energy and water saving measures.

[10] 87 FR 68483 (November 15, 2022)

[11] Per Section 1.3.3 of the FAA Order 1050.1F, there is no single, universal criterion for deciding whether an ambient pollutant concentrations analysis (e.g. air dispersion modelling) is necessary for Federal actions. Based on the nature of a project and consultation with state and local air quality agencies, additional analysis may be appropriate.

- WattEV provided operational stationary source equipment data and traffic analysis data.
- County of Sacramento General Plan, Air Quality and Climate Change Element.

3.5 Air Dispersion Modeling

If required, air dispersion modeling will be used to predict pollutant concentrations for construction sources for the Proposed Project conditions, as well as for any other action alternative carried forward for detailed consideration in the Draft EA. Predicted concentrations resulting from the WattEV Project will be calculated, as necessary, for the following criteria pollutants: CO, NO_2, PM10, PM2.5, and SO_2. Proposed Project-related concentrations of CO, NO_2, PM10, PM2.5, and SO_2 will be added to the background concentrations for comparison to NAAQS or will be compared to allowable increments for those that already exceed the NAAQS without the Proposed Project. The background concentrations represent contributions from non-Proposed Project sources in the vicinity of the Project Site.

Dispersion modeling of on-site construction, mobile and stationary sources (e.g., building energy), and off-site mobile emissions, if required, will be conducted using the most current U.S. EPA-approved American Meteorological Society (AMS)/U.S. EPA Regulatory Model (AERMOD) air dispersion model, which is currently Version 23123. Specific information regarding release parameters (area, polygon area, line, volume, and point), allocation of emissions temporally and spatially, background concentration methodology, and cumulative impacts will be detailed in the air quality analysis. Model outputs, raw data, and assumptions used in the development of the air quality analysis will be disclosed and appended in the Draft EA in appropriate sections, as applicable. Model inputs/assumptions include:

- The averaging periods to be selected in AERMOD for each pollutant are based on the Air Basin's attainment status and averaging periods in the NAAQS.
- The equipment used on the construction site and staging areas and the equipment transfer and haul trucks will be included in the dispersion modeling, if required, of all pollutants. The fugitive dust generated by these sources will be included in PM10 and PM2.5 analyses, if applicable.
- Ground-level construction and operation activities (with the exception of building operations) will be modeled as a series of line volume sources. Line volume sources will be used to represent vehicle travel activity, vehicle idling, and construction. Each source will be modeled appropriately to represent each activity. Building operations emissions, as generated by CalEEMod®, will be modeled as area sources. Area sources will also be used to model any fugitive dust emissions from vehicle activity. Line volume sources will be used to represent emissions from vehicle exhaust associated with the above activities because the line volume source implements vertical release parameters, which would be expected from a vehicle exhaust plume. Area sources are more appropriate for low level or ground level releases with no plume rise; therefore, they will be used for modeling building operation emissions and not vehicle emissions.
- The Ozone Limiting Method (OLM) will be used as a Tier 3 NO_2 modeling refinement, if applicable. This is recommended by the U.S. EPA when modeling area sources. The default in-stack NO2/NOx ratios will be implemented because better information is not available. The OLM Group "ALL" will be selected to model the sources.[12]

[12] U.S. Environmental Protection Agency. 2014. Clarification on the Use of AERMOD Dispersion Modeling for Demonstrating Compliance with the N02 National Ambient Air Quality Standard. Available: https://www3.epa.gov/scram001/guidance/clarification/NO2_Clarification_Memo-20140930.pdf.

- The meteorological (MET) data from the monitoring station located in the Sacramento International Airport will be used in the analysis. The published MET data processed by the SMAQMD for use in AERMOD, which meets U.S. EPA regulatory modeling application criteria,[13] are from the Sacramento International Airport monitor for years 2014-2018 (the latest data available from the SMAQMD) and will be used for any air dispersion modeling.[14]
- A receptor grid will be developed with the recommended receptor spacing of 10 meters, based on SMAQMD Table B to capture impacts primarily in the predominant wind direction and refined, as necessary, to capture maximum impacts.[15] Receptor points are the geographic locations where the air dispersion model will calculate air pollutant concentrations, and will be located in areas where the general public has unrestricted access near the Airport. If dispersion modeling is necessary, a map with receptor locations will be provided prior to analysis.
- The Urban Dispersion Option will be used per SMAQMD policy and will be modeled using the SMAQMD-provided Sacramento County population of 1,589,000 persons.
- Regional elevation data will be obtained and applied to the sources and receptors.
- All receptors will be set to an elevation of 1.5 meters such that concentrations are analyzed representative of the human breathing zone exposed to pollutants.
- The building downwash algorithms in AERMOD only apply to point sources per the AERMOD User Guide and thus will be included in this analysis. If point sources are included in the model, then buildings will be included in the model based on the "5L" rule, meaning that if the distance between the stack and building is less than 5 times the lesser of the building height or width, the buildings will be included.

Background concentrations are required for demonstrating compliance against the NAAQS. Ambient air monitoring data is maintained by the CARB and best represents the background pollutant concentrations for the Detailed Study Area. The nearest monitoring stations are the Sacramento – T Street station (AQS 060670010), approximately 8 miles from the project site, and the West Sacramento – 15th Street station (AQS 061132001), approximately 7 miles from the project site, which are shown in **Exhibit 5**. This data will be used to represent background data for the AAQS studies. The T Street station is assumed to be most representative of Sacramento International Airport background emissions, but the West Sacramento – 15th Street station, or others, will be used if data is missing. In the event dispersion analysis is required, sensitive receptors closest to the Project Site will be used for Proposed Project analysis purposes. Based on a survey of the area, the nearest sensitive receptors near the Detailed Study Area are residential land uses and are shown in **Exhibit 6**. A sensitive residential receptor is located on Power Line Road, approximately 400 feet to the southeast of the project site. In addition, there are two single-family residential communities located 3,830 feet and 5,240 feet southeast and an elementary school located 6,680 feet east of the Proposed Project site.

[13] EPA-450/4-87-013

[14] SMAQMD, AERMOD Meteorological Data Files. Available: https://www.airquality.org/LandUseTransportation/Documents/SMF%2014-18.zip.

[15] SMAQMD Receptor Grid. Available: https://www.airquality.org/LandUseTransportation/Documents/Ch3PMDispersionModelingGuidanceFINAL7-2013.pdf.



SOURCE: Esri, 2024; ESA, 2024

WattEV Commercial Charging Center

Exhibit 5
Closest Air Monitoring Stations

ESA



SOURCE: Esri, 2024; ESA, 2024

WattEV Commercial Charging Center

Exhibit 6
Sensitive Receptors

ESA

For NO_2 specifically, the background data will be applied following U.S. EPA guidance, and based on "monitored NO_2 design value, i.e., the 98th-percentile of the annual distribution of daily maximum 1-hour values averaged across the most recent three years of monitored data."[16] Background data for other pollutants will match their respective design values.

3.6 Presentation of Results

A summary analysis of the results will be published in relevant sections of the Draft EA. As discussed in Section 3.5, model outputs, raw data, and assumptions used in the development of the air quality analysis will be appended in the Draft EA in appropriate sections, as necessary. Results will be presented in units relative to the thresholds of significance to which they are compared.

3.7 Greenhouse Gas (GHG) Emissions

GHG emissions associated with the Proposed Project will be calculated using data, emission factors, and methods used to quantify criteria pollutant emissions. Each GHG type is responsible for varying levels of global warming potential (GWP) and will be presented in terms of GHG equivalents (GHGe) for the following compounds (GHG Protocol, 2016):

- Carbon dioxide (CO_2), GWP – 1;
- Methane (CH_4), GWP – 25;
- Nitrous Oxide (N_2O), GWP – 298; and
- Fluorinated gasses such as hydrofluorocarbons (HFCs), GWP – 4 to 12,400, perfluorocarbons (PFCs), GWP – 6,630 to 23,500, and sulfur hexafluoride (SF_6), GWP - 23,900.

Individual GHG emissions are normalized by multiplying individual emissions by the corresponding GWP to calculate the "CO2 equivalent" or CO2e. This results in a consistent methodology for comparing emissions.

3.7.1 Thresholds of Significance

There are no thresholds of significance for GHG emissions, so the Draft EA will focus on disclosure, rather than impact analysis.

3.7.2 Methods

Unlike criteria pollutants that are analyzed only below the mixing height, GHGs need to be considered for the full range of impacts being examined in the proposed project, as a Federal Action, and that may require analyzing emissions above the mixing height.

The focus for quantifying GHG emissions is on the incremental change in GHG emissions associated with the Proposed Project (and alternatives) compared to the No Action Alternative within the same

[16] United States Environmental Protection Agency. 2011. Additional Clarification Regarding Application of Appendix W Modeling Guidance for 1-hour NO_2 National Ambient Air Quality Standard. Available: https://www.epa.gov/sites/production/files/2015-07/documents/appwno2_2.pdf.

timeframe. GHG emissions are categorized by "Scopes" based upon their origin and ownership. Consistent with international reporting protocols, these Scopes are defined as follows:

- Scope 1/Direct – GHG emissions from sources that are owned by the reporting entity (i.e., WattEV). These include on-site stationary sources (e.g., generators, etc.) and entity-owned fleet motor vehicles.
- Scope 2/Indirect – GHG emissions associated with the generation of electricity purchased and consumed by the reporting entity.
- Scope 3/Indirect – GHG emissions that are associated with the activities of the reporting entity but are associated with sources that are owned by others. These include consumer vehicle-related emissions from ground transportation to and from the project site by the public and other emissions from site tenant activities.

Furthermore, GHG emissions are categorized by the degrees of control that an airport operator may have over them. These categories are defined as follows:

- Category 1 – GHG emissions from sources that are controlled by the reporting entity. These include Scope 1 emissions but can also include some Scope 2 and Scope 3 sources over which the entity can exert some control. Examples of the latter can include tenant electrical use.
- Category 2 – This category comprises Scope 3 emissions associated with sources owned and controlled by site tenants. Examples include electrical consumption and other stationary sources controlled by tenants.
- Category 3 – This category generally comprises Scope 3 emissions associated with public sources associated with the site. Examples include automobiles, taxis, buses, and shuttle vans traveling to and from the site.

In addition, as noted in section 2.1, above, FAA recommends practitioners use the SC-GHG estimates developed by the IWG on Social Cost of Greenhouse Gases published in February 2021 to calculate such costs (IWG Methodology). There are several steps required to complete this analysis, as noted below:

1. Quantify the GHG emissions for project construction and operation using AEDT, MOVES, and/or other appropriate tools to develop an emissions inventory. This inventory should include reasonably foreseeable increases and reductions of GHG emissions relative to baseline conditions.
2. Obtain the net GHG emissions by comparing the proposed action alternative, or any other alternatives carried forward, to the no action alternative. This is done for all project alternatives and the no action alternative over the lifetime of the action[17] as defined above. This emissions estimate should be prepared individually by GHG type (e.g., CO_2, CH_4, and N_2O) and by using aggregated CO_2 equivalent (CO_2e) by factoring in each pollutant's global warming potential for the required years of analysis;[18] individual net GHG amounts can be converted to the CO_2e by using the U.S. EPA Greenhouse Gas Equivalencies Calculator.[19]
3. Based on the quantification of emissions noted in step 1 above, apply the SC-GHG IWG cost factors for CO_2, CH_4, and N_2O from the tables in the IWG Appendix Tables A-1, A-2, and A-3 for each year to obtain the future year valuation (see Appendix A of this memo).

[17] *Airport Improvement Program Handbook*, Table 2-5, p. 3-10. Accessed February 1, 2024.

[18] 2023 Interim Guidance at p. 1201 and footnote 51 (noting CO_2-e is typically expressed in metric tons of CO_2-e or mt CO_2-e).

[19] Greenhouse Gas Equivalencies Calculator, Environmental Protection Agency. Available: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator.

4. Provide the current year value of the potential future SC-GHG by discounting at the 2.5 percent and 5 percent level to provide a range of SC-GHG values; i.e., future cost estimates using the SC-GHG at 2.5 and 5 percent should be discounted to the current year of the analysis using the same 2.5 and 5 discount percent rate.[20]
5. Report SC-GHG for the same construction and operational years normally analyzed based on the lifetime of the of the infrastructure, along with a narrative explaining the results.

FAA can provide additional guidance regarding calculating the SC-GHG.

3.7.3 Sources

Construction will be performed under the jurisdiction of the County, so construction emissions associated with implementing the Proposed Project would be considered Scope 1 emissions. Construction of the Proposed Project would generate GHG emissions from the following sources:

- Off-road heavy-duty equipment including but not limited to dozers, loaders, forklifts, and tractors.
- On-road heavy-duty equipment such as haul trucks used to transport material on and to and from the project site.
- On-road passenger vehicles from workers commuting to and from the project site.

Operation of the Proposed Project could generate a net change in GHG emissions from the following sources:

- Stationary source (e.g., generators) emissions from a net change in equipment usage relative to the No Action Alternative. (Scope 1)
- Non-County-owned GAV (i.e., passenger vehicles, shuttle buses) from a net change in on-airport property and off-airport property VMT relative to the No Action Alternative. (Scope 3)
- Area source building emissions (i.e., natural gas) from a net change in building square footage and compliance with Title 24 Building Energy Efficiency Standards relative to the No Action Alternative. (Scope 1)
- Electricity, solid waste, and water GHG emissions a net change in building square footage and annual passenger throughput, and compliance with more stringent Title 24 Building Energy Efficiency Standards relative to the No Action Alternative. (Scope 2)

Table 4 summarizes the information that will be used to calculate the emissions from the Proposed Project.

[20] Technical Support Document, p. 25.

TABLE 4
AIR POLLUTANT EMISSIONS SOURCE TYPES, DATA REQUIREMENTS, AND MODELING METHODS

Source Type	Data Requirements	Models/Methods
Imported electricity	Engineering Estimates	CalEEMod® 2022.1, GHG Intensity Data appropriate to Sacramento Municipal Utility District
Onsite generated renewable electricity	Engineering Estimates	CalEEMod® 2022.1
Off-road equipment	Vehicle Fleet information if available or estimated using default values	CalEEMod® 2022.1
On-road vehicles, including vehicle idling	Mobile Trip Generation Calculations from the surface traffic study	CalEEMod® 2022.1, EMFAC2021
Building natural gas use—space and water heating	Volume estimates or default factors	CalEEMod® 2022.1
Stationary Sources (generators, etc.)	Volume estimates or default factors	U.S. EPA AP-42
Refrigerant leakage/if necessary	Purchasing records	AP-42, CARB and ICLEI
Solid Waste and Recycling	Default factors based on building square footage.	CalEEMod® 2022.1, ICLEI, and WARM

3.8 Cumulative Impacts

The Draft EA shall discuss any other construction projects that would occur during the same time as it relates to the cumulative impacts emissions inventory. Any on-airport and off-airport construction projects within the defined range of the Sacramento Valley Air Basin shall be considered in the cumulative air quality analysis for the Draft EA.

A number of projects in the Air Basin have not yet been built or are currently under construction. Since the County has no control over the timing or sequencing of these projects, any quantitative analysis to ascertain daily construction emissions that assumes multiple and concurrent construction projects would be speculative. For this reason, the SMAQMD's methodology to assess a project's cumulative impact differs from the cumulative impacts methodology employed elsewhere in this Draft EA. A list of the past, present, and reasonably foreseeable future actions list is provided in **Table 5**. According to SMAQMD cumulative impact methodology, if a Proposed Project exceeds the *de minimis* thresholds for a specific impact, then the cumulative impact will also exceed. Likewise, if Proposed Project does not exceed the *de minimis* thresholds for a specific action and is determined to conform, then the cumulative impact also would conform.

TABLE 5
CUMULATIVE PROJECTS

Project	Project Location	Project Description	Project Status
Past Projects			
SMF Master Plan	Airport Property	Airport Master Plan through 2020.	Completed 2007
Metro Air Park SPA	Immediately east of SMF	A 1,892-acre commercial/industrial development to support the airport and surrounding community.	Completed 1997 Amended 2019

Project	Project Location	Project Description	Project Status
Grandpark Specific Plan	East of SMF, east side of Elkhorn Blvd. and Highway 99	A 5,675-acre plan area that will include: residential, commercial, institutional, public and open space.	In Progress NOP released 2017
Upper Westside Specific Plan	South of SMF, north of I-80, between the City of Sacramento and the Sacramento River	A 2,066-acre plan area that will include: residential, commercial, public and open space.	In Progress NOP released 2020
Greenbriar Mixed Use Project	Approximately one mile east of SMF, north of I-5, west of Highway 99	A land development project including: residential, commercial, school and parks.	Approved 2017
Sutter Point	Approximately one mile north of SMF immediately adjacent to the County line	A 7,528-acre plan area that will include: residential, commercial, schools, public and open space.	Approved 2009 Amended 2014
Current And Reasonably Foreseeable Future Projects			
SMF Master Plan Update	Airport Property	Airport Master Plan through 2038.	Approved
Elkhorn Extension	Airport Property	Extension of the alignment of Elkhorn Boulevard from Metro Air Park to Airport Boulevard.	Approved
Metro Air Park	Unincorporated Sacramento County, immediately east of SMF	1,892.2 Metro Air Park Special Planning Area; 1,320 acres industrial, manufacturing, distribution, and commercial use.	Approved
Grandpark	Unincorporated Sacramento County, east of State Route 99 and north of Elkhorn Boulevard	5,675.6 acres total mixed use; 21,915 residential units on 2,739.4 acres; 374.5 acres commercial 2,288.1 acres parks and open space.	Proposed
Upper Westside	Unincorporated Sacramento County, east of the Sacramento River, west of Interstate 80, and south of Fisherman's Lake/West Drainage Canal	2,066 acres total; 9,356 residential units on 848 acres; 136 acres commercial; 392 acres public, park & open space.	Proposed
Airport South Industrial Park	City of Sacramento, immediately east of the Proposed Project site	6.6 million square feet (sf) of industrial use on 408 acres; 100,000 sf retail/commercial use, including a 61,000-sf hotel/hospitality, on 11 acres.	Proposed
Northlake	City of Sacramento, north of Interstate 5, south of Elkhorn Boulevard, east of Metro Air Park, and west of State Route 99	2,922 units on 253.9 acres residential; 28.6 acres commercial; 32.5 acres parks and recreational use; 9.9-acre school site; 57.9 acres open space buffers.	Approved
Innovation Park	City of Sacramento, Sacramento Antique Faire site at Sports Parkway	183.7 acres total; 3,679,400-sf Medical Center on 46 acres; 3,071 residential units; 470,000 sf retail, hotel, and office use.	Approved
Panhandle	City of Sacramento, north of Del Paso Road, south of Elkhorn Boulevard, west of Sorento Road, and east of the existing residential neighborhood	589.4 acres total; 1,623 units on 281.8 acres residential; 9.7 acres commercial; 66.5 acres public/quasi-public; 179.4 acres planned development.	Approved

Project	Project Location	Project Description	Project Status
Sutter Point	Sutter County, north of the Drainage Canal, south of Keys Road, west of Notomas East Main Drain, and west of State Route 99/North Drainage Canal	7,520 acres total; 49.7 million square feet of industrial, commercial, and business/professional development; 17,500 residential units; One high school and 6 K-8 schools; 272 acres parks; 395 acres open space.	Approved

Source: ESA, 2023

3.9 Inventory of Hazardous Air Pollutants

ESA will provide a Hazardous Air Pollutants (HAPs) emissions inventory if requested by the FAA for the purposes of satisfying NEPA requirements. FAA Orders 1050.1F and 5050.4B and their associated desk references provide guidance concerning the evaluation of HAPs. The 2024 FAA Air Quality Handbook (FAA, 2024) Chapter 6.2 (Hazardous Air Pollutants) provides the greatest degree of guidance about the inclusion of HAPs evaluation in FAA NEPA documents. Under the Clean Air Act, U.S. EPA is required to regulate emissions of hazardous air pollutants. This original list included 189 pollutants. Since 1990, U.S. EPA has modified the list through rulemaking to include 188 hazardous air pollutants (U.S. EPA, 2023). HAPs are pollutants for which there are no NAAQS, but are still regulated under the federal CAA because of their potentially adverse effects on human health and the environment. These pollutants are comprised of a wide array of organic and inorganic compounds. In relation to the Proposed Project, such emissions are present in the exhaust of motor vehicle engines and, to a lesser extent, from other stationary sources. The sources of HAP emissions associated with the Proposed Project include stationary sources and motor vehicles, as no changes or impacts to aircraft operations will occur. HAPs that may be associated with the Proposed Project (primarily mobile source air toxics) are listed below. HAPs not listed below are not anticipated to be associated with the Proposed Project and are therefore excluded from the list:

- 1,3-Butadiene
- Acetaldehyde
- Acrolein
- Arsenic Compounds
- Benzene
- Chromium Compounds
- Dioxin/Furans
- Diesel Particulate Matter + Diesel Exhaust Organic Gases
- Ethylbenzene
- Formaldehyde
- n-Hexane

- Manganese Compounds
- Mercury Compounds
- Methyl Tertiary Butyl Ether (MTBE)
- Naphthalene
- Nickel Compounds
- Polycyclic Organic Matter (POM)
- Styrene
- Toluene
- Xylene

Relative to the evaluation of HAPS at airports, FAA 's Air Quality Handbook notes the following:

- The U.S. EPA has identified 188 air pollutants that are considered to be HAPs and, therefore, subject to the requirements of CAA Section 112 (Hazardous Air Pollutants). From this list of 188 HAPs, 33 have been further designated by the U.S. EPA as having the greatest potential health threat to the general public and are known as "Section 112(k) HAPs." The major categories of HAPs in this group include volatile and semi-volatile organic compounds (i.e., VOCs, SVOCs) and heavy metals.
- U.S. EPA has identified 21 HAPs that are designated as Mobile Source Air Toxics to signify those HAPs that are emitted by motor vehicles and non-road engines (e.g., farm and construction equipment, heavy industrial vehicles, ground support equipment (GSE), etc.). These pollutants include VOCs and heavy metals that are commonly associated with the combustion of gasoline and diesel fuels.
- In 2009, the FAA published a document providing an approach to, and technical guidance for, preparing speciated organic gas (OG) emission inventories for airport sources including aircraft, auxiliary power units (APUs), GSE, motor vehicles, and stationary sources. That document noted that HAPs emission inventories prepared in support of environmental documents prepared by, or on behalf of, the FAA under NEPA should be done consistently. Importantly, it points out that "emission inventories of aviation-related OGs; which include the OGs identified by the U.S. EPA to be HAPs and the OGs listed in the U.S. EPA's Integrated Risk Information System (IRIS), are not required by current U.S. EPA regulations. However, in those cases where it is necessary to prepare such an aviation-related HAP inventory, the inventory must be prepared following this guidance and using AEDT.
- Finally, the Handbook states that "it is also important to note that other than an emissions inventory, a HAPs assessment prepared for the FAA must not include any other type of analysis including, but not limited to, atmospheric dispersion modeling, toxicity weighting, or human health risk analyses. These types of assessments require a more complete understanding of the reactions of HAPs in the atmosphere and downstream plume evolution as well as human exposure patterns. Because the science of these relationships with respect to aviation-related HAPs is still evolving, the corresponding level of understanding is also currently limited."

Therefore, in accordance with FAA guidance, the Draft EA will contain an inventory of HAPs, but does not need to contain a Human Health Risk Assessment. The FAA Air Quality Handbook (Section 6.2.2) notes that "[C]onsiderations should be given as to (i) whether the Federal Action normally requires an EIS (e.g. new airport, new runway, major runway extension, etc.); (ii) whether or not it is located in a

nonattainment/maintenance area; and/or (iii) whether a criteria air pollutant emissions inventory is also prepared. However, the County prepared a Health Risk Assessment (HRA) for the CEQA analysis, and the Draft EA will note that and refer the reader to that material with no interpretation.

A HAPs emission inventory will be developed in accordance with the FAA's *Aviation Emissions and Air Quality Handbook and Speciated Organic Gas Emissions from Airports Guidance*. No aircraft nor GSE activity are expected to be used in the Proposed Project; therefore, no further HAP analysis is required for these sources. Given the nature of the project, FAA assumes the VOC emissions from paving and other operations will not be significant and therefore the HAP emissions from paving and other operations will not be quantified for these sources. HAPs from mobile sources will be calculated based on CARB's speciation profiles using a weight percent applied to the organic gas emission calculated using EMFAC2021.[21] Stationary source HAPs will be calculated using AP-42 emission factors, CARB speciation profiles, or local SMAQMD-derived emission factors, as appropriate.

[21] California Air Resources Board, Speciation Profiles Used in ARB Modeling, January 29, 2018. Available: https://ww3.arb.ca.gov/ei/speciate/speciate.htm.

SECTION 4
General Conformity Protocol

The Proposed Project will require FAA approval. Since the project site is located in a non-attainment and maintenance area for various pollutants, the County will be required to show that the Proposed Project conforms with the State Implementation Plan (SIP) for the applicable pollutants. As is noted previously, the area is categorized as nonattainment or maintenance for ozone and $PM_{2.5}$. This chapter of this Protocol discusses the approach that will be used to determine conformity. The FAA *Aviation Emissions and Air Quality Handbook* (Air Quality Handbook), version 4, July 2024, also includes a new screening approach to attainment area pollutants, as discussed in this section, below.

The Conformity Determination prepared as part of the Draft EA will be based on the modeling programs discussed above to calculate emissions, and the requirements of the conformity regulations set forth at 40 CFR Part 93 Subpart B. The conformity regulations allow Federal agencies to develop a list of actions that are presumed to conform to an area's applicable State Implementation Plan (SIP). The FAA's list of actions presumed to conform to a SIP is published in the Federal Register at 72 FR 41565 and is hereafter referred to as the "Presumed to Conform list." The regulations also establish *de minimis* emission thresholds below which a Conformity Determination is not required. The Presumed to Conform list, *de minimis* thresholds, and other appropriate methodologies will all be utilized during the Conformity Evaluation to determine conformity of the Proposed Project to the California SIP.

A Federal agency responsible for an applicable action is required to determine if the action "conforms" to the applicable SIP, by ensuring that the action does not:

- Cause or contribute to any new violation of any NAAQS;
- Increase the frequency or severity of any existing violations of any NAAQS; or
- Delay the timely attainment of any NAAQS or any required interim emission reductions or other milestones.

Federal actions subject to conformity are divided into two categories: transportation conformity actions and general conformity actions. The Proposed Project is neither funded nor has an approval action by the FHWA or the FTA. The project site and the so-called "off-site" areas are outside of the Interstate-5 Right-of-Way. Sacramento County and Watt EV have confirmed there is no FHWA funding for this project. Furthermore, the project has no impact on rail transportation and no involvement from the Federal Transit Administration. Therefore, transportation conformity for this Proposed Project is **not** required.

General conformity actions are all other Federal actions in nonattainment and maintenance areas that are not covered by the Transportation Conformity rules (40 CFR Part 51 and Part 93, Subpart A). The process of evaluating projects under the General Conformity Rules generally starts with:

- determining if the project is exempt,[22]
- determining if the project is presumed to conform, and
- preparation of an applicability analysis, if the project is not exempt or presumed to conform.

The Proposed Project is neither presumed to conform[23] nor is exempt from the general conformity regulations. The general conformity analysis applies to all criteria pollutants for which an area is in nonattainment or maintenance status.

An applicability analysis under General Conformity consists of preparing an emissions inventory and contrasting that result with the *de minimis* thresholds (§ 93.153 Applicability). The regulation defines the thresholds based on pollutant and attainment/non-attainment designation. The thresholds applicable to the Proposed Project under General Conformity are presented below.[24]

- Ozone (Severe-15 nonattainment):
  - NO_x: 25 tons per year
  - VOC: 25 tons per year
- PM2.5 (moderate nonattainment) – 100 tons per year
- PM10 (maintenance) – 100 tons per year

Therefore, the emissions inventory prepared, as defined above, will be compared to the *de minimis* thresholds, and will be provided in the air quality analysis.

40 CFR Part 93.159(d) notes that when comparing emissions to *de minimis* thresholds, the following scenarios must be considered:

- emissions in the year of attainment or the farthest year for which emissions are projected in the maintenance plan;
- the year in which the total of direct and indirect emissions from the action are expected to be the greatest on an annual basis; and
- any year for which the SIP has an applicable emissions budget. If emissions in all of these scenarios are less than *de minimis*, no further analysis is needed. If emissions are above *de minimis* a conformity determination is required.

[22] 40 CFR 93.153(c)(2).

[23] https://www.federalregister.gov/documents/2007/02/12/E7-2241/federal-presumed-to-conform-actions-under-general-conformity 72 FR 6641 See table III-4.

[24] General conformity does not apply to CO and PM10 because the SIP did not extend its implementation, and these pollutants are in attainment. NO_2, SO_2, and lead are in attainment/unclassifiable so the General Conformity does not apply.

The scenarios that will be analyzed under General Conformity include the scenarios discussed in Section 3.1 of this Protocol, which are:

- Construction of the Proposed Project to be started in 2025 and completed in 2026.
- Future year operational analysis of 2026, which will consider operational emissions 6 months after construction is completed. This will include a cumulative impact evaluation of other projects that may be undertaken by the County and other regional projects nearby the project site.

A Conformity Determination has a publication process that is similar to the NEPA process (40 CFR Part 93.155 and 93.156), and is part of a larger public involvement process discussed in Step 1 of Section 4.1.3. This protocol assumed this will be done simultaneously with the NEPA air quality assessment. Notices of the availability of the Draft and Final Conformity Determination must be published in a daily newspaper of general circulation.

4.1 Conformity Evaluation

As stated in Section 1.2, the Air Basin, including Sacramento County, is currently designated by the U.S. EPA as being in attainment or unclassified for CO, NO_2, SO_2, and PM10.[25] In the past, the practice was to develop an emissions inventory, as is done for non-attainment and maintenance area pollutants for attainment area pollutants. However, as detailed in the technical support document (FAA, 2015) and chapter 4 to the FAA *Aviation Emissions and Air Quality Handbook*, the following screening steps are conducted for construction and operational emissions, and if any are met, then an emissions inventory is required:

A. If the project is not in the Ozone Transport Region (OTR), will the FAA Federal Action cause an increase in all aircraft operations of more than 14,000 operations per year? If the project is in the OTR, will the FAA Federal Action cause an increase in GA aircraft operations of more than 5,000 operations per year, or an increase in all aircraft operations of more than 14,000 operations per year?

B. Will the FAA Federal Action cause a projected annual increase of aircraft delay exceeding 340,000 minutes?

C. Will the FAA Federal Action cause an additional 25 million vehicle miles traveled (VMT) from on-road vehicles per year?

D. If the project is not in an OTR, will the FAA Federal Action result in the use of an average of more than 125 pieces of construction equipment and GSE during a year? If the project is in an OTR, will the FAA Federal Action result in the use of an average of more than 50 pieces of construction equipment and GSE during a year?

Additional details for conducting this analysis are found in the technical support document to the FAA *Aviation Emissions and Air Quality Handbook.*

[25] "Attainment/unclassifiable" designation means that that air quality geographic area meets or is cleaner than the national standard. In some cases, EPA is not able to determine an area's status after evaluating the available information and those areas are designated "unclassifiable." 42 U.S.C. 7512.

The region is in nonattainment for ozone and PM2.5. The Proposed Project is in California, which is not identified in 40 CFR 81.457 as in an OTR. Although Pb is a criteria pollutant, it will not be evaluated in the air quality analysis since the Proposed Project will not affect general aviation.

Following standard industry practice and U.S. EPA guidance the evaluation of O_3 will be conducted by evaluating precursor pollutant emissions of VOC and NO_x. O_3 is a secondary regional pollutant and ambient concentrations can only be predicted using regional photochemical models that account for all sources of precursors, which is beyond the scope of this analysis. Therefore, no photochemical O_3 modeling will be conducted.

Consistent with 40 CFR 93.150(a), the Proposed Project will be evaluated to determine conformity with an applicable State Implementation Plan, including maintenance plans.

As indicated by the FAA's *Aviation Emissions and Air Quality Handbook* (FAA, 2024), a General Conformity applicability analysis must compare emissions in the following years:

- "The attainment year specified in the approved SIP, or if the SIP does not specify an attainment year, the latest possible attainment year allowed under the Clean Air Act (CAA) (Title 42 USC § 7401); or
- "The last year for which emissions are projected in a maintenance plan; and
- "The year during which the total of direct and indirect emissions from the action is expected to be the greatest on an annual basis; and
- "Any year for which the applicable SIP specifies an emissions budget as that term is defined in the General Conformity Regulations." (FAA, 2024, Section 8.5.1)

Conformity for the Proposed Project will be determined through a detailed emissions analysis and comparison to the emission budgets in the SIP.

The Conformity Evaluation, although independent from FAA's obligations under NEPA, will be coordinated with the preparation of the Draft EA, including, to the extent feasible, simultaneous public notice and review periods.

The Conformity Evaluation is conducted in three phases:

- Applicability Analysis,
- Conformity Determination, and
- Review Process.

The proposed approach for each phase is discussed below.

4.1.1 Applicability Analysis

Step 1: FAA and the County confirm the U.S. EPA's current designation status for criteria air pollutants. As mentioned above, based on recent background research, the Proposed Project is located in an area that is in attainment for four NAAQS and in Severe 15 nonattainment for ozone and moderate nonattainment for PM2.5. Since the region is in nonattainment and under a SIP, the general conformity rule applies.

Step 2: Determine whether the Proposed Project is on the FAA's Presumed to Conform List or is exempt from the conformity regulations (the FAA has already determined that the Proposed Project is neither exempt nor presumed to conform).

Step 3: Determine the emission levels of those elements that are not presumed to conform or are not exempt from conformity regulation. In this case, FAA will examine ozone precursors, PM2.5 precursors, and direct emissions PM2.5 caused by the Proposed Project.

Step 4: Compare the Proposed Project emissions determined in Step 3 to the applicable *de minimis* thresholds. If the net emissions are below applicable *de minimis* thresholds, no Conformity Determination is required, and the Conformity Evaluation will be complete. If the net emissions are above applicable *de minimis* thresholds, consideration may be given to additional measures that may reduce emissions to less than the *de minimis* thresholds. If the net emissions cannot be reduced below the *de minimis* thresholds, then a Conformity Determination must be prepared.

4.1.2 General Conformity Determination

If a General Conformity Determination is required, it would be conducted for the Proposed Project only.

Step 1: One of the eight basic approaches for demonstrating conformity will need to be selected from the following:

- Document that the emissions from the Proposed Project are specifically identified and accounted for in the implementation plan,
- Obtain a statement from the County that the emissions from the Proposed Project, along with all other emissions in the area do not exceed the budget for those emissions in the implementation plan,
- Have the State (CARB) agree to revise the implementation plan to include the emissions from the Proposed Project,
- Have the local Metropolitan Planning Organization (MPO) SACOG, provide a statement that the emissions are included in the modeling for a conforming transportation plan and program,
- Conduct air quality modeling related to violation of NAAQS (allowed for directly-emitted pollutants only),
- Fully mitigate or offset the increase in emissions from the Proposed Project,
- Develop and implement a facility-wide emissions budget. This approach requires a revision to the applicable implementation plan. If the net emissions from the Proposed Project along with the other emissions from the facility do not exceed the budget, then the Proposed Project is presumed to conform, and
- Create and apply emission reduction credits. Credits must meet the requirements in order to be eligible for use in a conformity determination.

Step 2: A draft Conformity Determination will be prepared that describes how the conformity criteria would be met, including necessary supporting emissions data and recommended measures, if any, to mitigate, offset, or reduce emissions to demonstrate conformity with the SIP (accounting for Proposed Project benefits as discussed in Section 3.3.2, above). The draft Conformity Determination will be made available to the public and federal and state regulatory agencies for review and comment.

4.1.3 Review

Step 1: Concurrent with the release of the Draft EA, the FAA will distribute the description of the Proposed Project and the draft Conformity Determination, in the form of a 30-day notice[26] to the appropriate state and local air quality agencies, tribes, and, when applicable, affected Federal land managers, agencies designated under Section 174 of the CAA to develop the applicable implementation plan(s) and any other interested party, including members of the public. The FAA will announce the availability of the draft Conformity Determination for public review and comment as part of the NEPA process and availability of the Draft EA for agency and public review. This will be accomplished by placing a prominent advertisement in a daily newspaper in the affected area of the Proposed Project. There is a minimum 30-day public comment period on a draft Conformity Determination and Draft EA, which will run concurrently with the agency review. The FAA is responsible for responding to all public comments that are received.

Step 2: After the public comment period, a final Conformity Determination will be prepared. The final Conformity Determination documents the FAA's finding whether an action would conform to the applicable implementation plan. A positive determination describes how the conformity criteria would be met, including the results of the conformity analysis conducted, and any mitigation measures, offsets, or emission reduction credits needed to demonstrate conformity with the applicable implementation plan. A preliminary final conformity determination will be made available to the SFM and FAA for review and comment.

Step 3: Prior to making a positive determination regarding the Proposed Project's conformity with the SIP, the FAA will obtain written commitments to implement any measures that are necessary to demonstrate conformity. In the event that the mitigation measures are not able to reduce on-site emissions below the *de minimis* thresholds, the County will work with SMAQMD to establish a voluntary emissions reduction agreement (VERA) to offset any remaining emissions. Consistent with U.S. EPA regulations, the FAA will notify, within 30 days after a final Conformity Determination, the U.S. EPA, the County, tribes, and other agencies, as appropriate. The FAA will make comments received on the draft Conformity Determination and the responses to the comments available. Electronic copies of the Final EA and final Conformity Determination will be provided to federal, state, and local agencies that require a copy and any persons that requested a copy. A notice announcing the availability of the FAA's environmental determination and final Conformity Determination will be made in the same manner as used in Step 1 within 30 days of the final determination.

[26] From the FAA's 1050.1 Desk Reference: "For an EA that is being provided to the public for comment, set the review period for at least 30 days."

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C3 Air Quality Technical Report

SACRAMENTO COUNTY WATTEV COMMERCIAL CHARGING CENTER

Air Quality Report

Prepared for
Sacramento County Department of Airports

March 2025

ESA

SACRAMENTO COUNTY WATTEV COMMERCIAL CHARGING CENTER

Air Quality Report

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SECTION 1
Introduction

This Air Quality Report describes the affected environment and the results of the air quality and climate impact analyses for the Sacramento County WattEV Commercial Charging Center project (Proposed Project). As described in the Air Quality Protocol, the Sacramento County Department of Airports has formed a public/private partnership with WattEV, Inc. to construct, own, operate, and cost share the Proposed Project, which would provide a publicly accessible Electric Vehicle (EV) charging facility that would be built on a 110-acre parcel of airport property at Sacramento International Airport (SMF) adjacent to just south of Interstate 5 (I-5) and proximate to California State Route 99 (SR-99), both major freight corridors. The purpose of the Proposed Project is to provide a charging facility for electric mobility and freight in the within the southern portion of the Sacramento International Airport Master Plan area that is accessible and convenient to major freight and transportation corridors and meets the objectives and evaluation criteria of the California Transportation Commission's Trade Corridor Enhancement Program and supports the goals of the National Highway Freight Program, the California Freight Mobility Program, and the California Sustainable Freight Action Plan. Moreover, the Proposed Project would provide green energy onsite to support EV charging, reduce the freight emissions in the Sacramento region, and contribute to the economic development of the region. Additionally, there is an unmet demand for equitable access to zero emission technology for small carriers and independent freight vehicle owner operators, private EV automobiles as well as EV charging facilities in general. Any user of electric vehicles, including airport users, would have access to the facility.[1]

[1] Refer to the Air Quality Protocol for the Proposed Project for a description of the Proposed Project (Section 1.3), the Alternatives to the Proposed Project (Section 1.3), and the regulatory setting (Section 2), thresholds of significance (Section 2.7) and analysis methodology and protocol (Section 3) for the Proposed Project.

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SECTION 2
Affected Environment

This section describes the existing air quality and climate environmental conditions that would be directly, or indirectly, affected by the Proposed Project and its alternatives. The Proposed Project is located in the Sacramento Valley Air Basin (Basin), which includes the following counties: Butte, Colusa, Glenn, Placer, Sacramento, Shasta, Solano, Sutter, Tehama, and Yolo. The Proposed Project is located within the jurisdiction of the Sacramento Metropolitan Air Quality Management District (SMAQMD) for local air quality planning and regulation. The SMAQMD is responsible for ensuring that federal and state air quality standards are met within their portion of the Basin, which includes portions of Sacramento, Yolo, Solano, Sutter, El Dorado, and Placer Counties. The SMAQMD monitors ambient air pollutant levels throughout the region and implements strategies to bring the Basin into attainment of the National Ambient Air Quality Standards (NAAQS) by the applicable dates specified in the Clean Air Act (CAA).

2.1 Meteorological and Topographical Conditions

The distinctive climate of the Proposed Project area and the Basin is determined by its terrain and geographical location. The climate of the Basin is Mediterranean in character, with mild, rainy winter weather from November through March and warm to hot, dry weather from May through September. Sacramento Valley temperatures range from 20 to 115 degrees Fahrenheit and the average annual rainfall is 20 inches. The topographic features giving shape to the Basin are the Coast Range to the west, the Sierra Nevada to the east, and the Cascade Range to the north. These mountain ranges channel winds through the Basin, but also inhibit the dispersion of pollutant emissions.

The predominant annual and summer wind pattern in the Sacramento Valley is the full sea breeze, commonly referred to as Delta breezes. These cool winds originate from the Pacific Ocean and flow through a sea-level gap in the Coast Range called the Carquinez Straits. In the winter (December to February), northerly winds predominate. Wind directions in the Sacramento Valley are influenced by the predominant wind flow pattern associated with each season. During about half the days from July through September, however, a phenomenon called the “Schultz Eddy,” which is a large isotropic vertical-axis eddy on the north side of the Carquinez Straits that prevents the Delta breezes from transporting pollutants north and out of the Sacramento Valley and causes the wind pattern to circle back south, keeps air pollutants in the Sacramento Valley. This phenomenon’s effect exacerbates the pollution levels in the area and increases the likelihood of violating state and/or federal standards.

The vertical and horizontal movement of air is an important atmospheric component involved in the dispersion and subsequent dilution of air pollutants. Without movement, air pollutants can collect and concentrate in a single area, increasing the associated health hazards. For instance, in the winter, the Basin typically experiences calm atmospheric conditions that result in stagnant air and increased air

pollution. As a result, persistent inversions occur frequently in the Basin, especially during autumn and early winter, and restrict the vertical dispersion of pollutants released near ground level.

2.2 Air Pollutants of Concern

2.2.1 Criteria Air Pollutants

Criteria air pollutants are a group of six common air pollutants for which the U.S. Environmental Protection Agency (U.S. EPA) has set ambient air quality standards. Criteria air pollutants include ground-level ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM) in size fractions of 10 microns or less in diameter (PM10) and 2.5 microns or less in diameter (PM2.5), and lead (Pb). Most of the criteria air pollutants are primary pollutants and are directly emitted from sources. Ozone, however, is a secondary pollutant that is formed in the atmosphere by a chemical reaction between nitrogen oxides (NO_X), reactive organic gases (ROG), and sunlight. In addition to the criteria air pollutants identified by the U.S. EPA, California regulates four additional criteria air pollutants (visibility reducing particulates, sulfates, hydrogen sulfide, and vinyl chloride).

Criteria air pollutants of concern in the SVAB include ozone, PM10, and PM2.5, as concentrations of these pollutants are above state and national ambient air quality standards. Nitrogen dioxide, carbon monoxide, sulfur dioxide, lead, visibility reducing particulates, sulfates, hydrogen sulfide, and vinyl chloride concentrations are well below state and national ambient air quality standards and are not air pollutants of concern in the SVAB.

Ground-Level Ozone

Ground-level ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving the ozone precursors, which are ROG (also referred to as volatile organic compounds [VOC]), NO_X, and sunlight. The main sources of ROG in the SVAB are the evaporation of solvents, paints, and fuels; the main sources of NO_X are combustion processes (including motor vehicle engines). Ozone is a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through a photochemical reaction process.

Carbon Monoxide

CO is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicle engines; the highest emissions occur during low travel speeds, stop-and-go driving, cold starts, and hard acceleration.

Particulate Matter

Particulate matter (PM) is frequently classified by particle size, where PM10 consists of PM that is 10 microns or less in diameter and PM2.5 consists of the subset of PM10 that is 2.5 microns or less in diameter (a micron is one-millionth of a meter). PM10 and PM2.5 represent the fractions of PM that can be inhaled into air passages and the lungs and can cause adverse health effects. Some sources of PM (such as wood burning in fireplaces, demolition, and construction activities) are more local in nature, while others (such as vehicular traffic) have a more regional effect.

Visibility Reducing Particles

Visibility-reducing particles are any particles in the atmosphere that obstruct the range of visibility by creating haze (CARB, 2016). These particles vary in shape, size and chemical composition, and come from a variety of natural and manmade sources including windblown metals, soil, dust, salt, and soot. Other haze-causing particles are formed in the air from gaseous pollutants (e.g., sulfates, nitrates, organic carbon particles), which are the major constituents of fine PM, such as PM2.5 and PM10, and are caused from the combustion of fuel. CARB's standard for visibility reducing particles is not based on health effects, but rather on welfare effects, such as reduced visibility and damage to materials, plants, forests, and ecosystems.

Nitrogen Dioxide

NO_2 is a reddish-brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, NO_2 can increase the risk of acute and chronic respiratory disease and reduce visibility. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels.

Other Criteria Air Pollutants

Other criteria air pollutants include SO_2 and lead, which are not air pollutants of concern in the SVAB. SO_2 is a combustion product of sulfur or sulfur-containing fuels such as coal and diesel. SO_2 is also a precursor to the formation of particulate matter, atmospheric sulfate, and atmospheric sulfuric acid formation that could precipitate downwind as acid rain. The maximum SO_2 concentrations recorded in the vicinity of the Proposed Project site are well below federal and state standards.

The only source of lead at SMF is in aviation gasoline (i.e. 110 Low Lead Av Gas), which is used for small piston engine aircraft. The Proposed Project has no aeronautical component at SMF. The Proposed Project would not induce additional aircraft operations or alter the aircraft fleet mix at SMF. Ambient lead concentrations are only monitored on an as-warranted, site-specific basis in California.

2.2.2 Hazardous Air Pollutants

Under the Clean Air Act, U.S. EPA is required to regulate emissions of HAPs. This original list included 189 pollutants. Since 1990, U.S. EPA has modified the list through rulemaking to include 188 hazardous air pollutants (U.S. EPA, 2023). HAPs are pollutants for which there are no NAAQS, but are still regulated under the CAA because of their potentially adverse effects on human health and the environment. These pollutants are comprised of a wide array of organic and inorganic compounds. In relation to the Proposed Project, such emissions are present in the exhaust of motor vehicle engines and, to a lesser extent, from other stationary sources. The sources of HAP emissions associated with the Proposed Project include construction equipment, motor vehicles and, to a lesser extent, stationary sources. No changes or impacts to aircraft operations will occur; therefore, the Proposed Project will not result in HAP emissions from aircraft operations or related airport activities.

Diesel Particulate Matter

The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic carcinogens. Mobile sources such as trucks and buses are among the primary

sources of diesel emissions, and concentrations of DPM are higher near heavily traveled highways and rail lines with diesel locomotive operations.

The California Air Resources Board (CARB) identified DPM as a TAC in 1998, primarily based on evidence demonstrating cancer effects in humans (CARB, 2023). It is estimated that about 70 percent of total known cancer risk related to air toxics in California is attributable to DPM (CARB, 2023). More than 90 percent of DPM is less than 1 microgram (µm) in diameter and thus is largely a subset of PM2.5; therefore, DPM also contributes to the same non-cancer health effects as PM2.5 exposure (see **Table 2-1**). DPM may also facilitate the development of new allergies.

TABLE 2-1
PROPOSED PROJECT AREA AIR QUALITY MONITORING SUMMARY 2021–2023

Pollutant	Standard	Year		
		2021	2022	2023
Ozone (O_3)				
Maximum 8-Hour Concentration (ppm)		0.080	0.079	0.071
Number of Days Exceeding Federal 8-Hour Standard	> 0.075 ppm	1	3	1
Number of Days Exceeding Health Advisory	≥ 0.15 ppm	--	--	--
Carbon Monoxide (CO)				
Maximum 1-Hour Concentration (ppm)	35 ppm	2.2	2.0	1.9
Maximum 8-Hour Concentration (ppm)	9 ppm	1.3	1.6	1.3
Nitrogen Dioxide (NO_2)				
Maximum 1-Hour Concentration (ppm)	0.100 ppm	0.044	0.046	0.045
Annual Arithmetic Mean Concentration (ppm)	0.053 ppm	0.090*	0.094*	0.095
Number of Days Exceeding 1-Hour Standard	> 0.1 ppm	0	0	0
Particulate Matter ≤ 10 Microns (PM_{10})				
Maximum 24-Hour Concentration (µg/m^3)		132	59	62
Number of Samples		351	354	349
Number of Samples Exceeding Federal Standard	> 150 µg/m^3	0	0	0
Particulate Matter ≤ 2.5 Microns ($PM_{2.5}$)				
Maximum 24-Hour Concentration (µg/m^3)		87.0	36.0	38.1
Annual Arithmetic Mean (µg/m^3)		10.9	9.4	9.4
Number of Samples Exceeding Federal 24-Hour Standard	> 35 µg/m^3	0	0	0

NOTES:
-- = data not available from SMAQMD or CARB
* = There was insufficient (or no) data available to determine the value.
SOURCES: Environmental Protection Agency Monitor Values Report, 2024

Regulation of diesel engines and fuels has decreased DPM levels by 68 percent since 1990. Furthermore, CARB estimates that emissions of DPM in 2035 will be less than half those in 2010, even with increasing vehicle miles traveled (VMT) (CARB, 2023). Nonetheless, based on 2012 estimates of statewide exposure,

DPM is estimated to increase statewide cancer risk by 520 cancers per million residents exposed over a lifetime.

2.3 Ambient Air Quality Conditions

The Proposed Project site is flat and consists of land that was previously under agricultural production that stopped in the early 2000s; the site is currently fallow and consists of grassland. The land is no longer used for agriculture due to its location near SMF within the 10,000-foot critical zone, and this parcel is maintained consistent with SMF's approved Wildlife Hazard Management Plan; therefore, the site is not an existing substantial material source of criteria pollutant emissions.

The SMAQMD operates seven and CARB operates an eighth permanent multi-pollutant air quality monitoring stations in the Air District. The closest air quality monitoring stations to the Project Site are the West Sacramento – 15th Street monitoring station (AQS 061132001), located approximately 7 miles southeast from the Proposed Project site, and the Sacramento - 1309 T Street monitoring station (AQS 060670010), located approximately 8 miles southeast of the Proposed Project site. The T Street station is assumed to be most representative of Sacramento International Airport background emissions, but the West Sacramento – 15th Street station is used to supplement any data that may be missing from the T Street station. Table 2-1 provides the three most recent years of data available at the time of this report and identifies the number of days that ambient air quality standards were exceeded in the Basin. These data are representative of the local air quality at the Proposed Project site (U.S. EPA, 2024a; CARB, 2024a). Data for lead (Pb) and sulfur dioxide (SO_2) has been omitted because attainment is regularly met in the Basin and few monitoring stations measure Pb or SO_2 concentrations.

2.4 Air Quality Sensitive Receptors

Air quality does not affect individuals or groups within the population in the same way, and some groups are more sensitive to adverse health effects caused by exposure to air pollutants than others. Population subgroups considered sensitive to the health effects of air pollutants include the elderly and the young, those with higher rates of respiratory disease such as asthma and chronic obstructive pulmonary disease, and with other environmental or occupational health exposures (e.g., indoor air quality) that affect cardiovascular or respiratory diseases.

Residential areas are considered more sensitive to air quality conditions compared to commercial and industrial areas because people generally spend longer periods of time at their residences, with associated greater exposure to ambient air quality conditions. The nearest sensitive receptor (single-family residence) is located on the east side of Power Line Road (on a parcel zoned AG-80), approximately 400 feet to the southeast of the Proposed Project site. The next closest sensitive receptors (single-family residences) lie approximately 3,830 feet southeast of the site located on the south side of Del Paso Road. Other sensitive receptors (residential communities) are located further away from the Project site (approximately 4,900 feet or greater) on the north side of Garden Highway, along the Sacramento River on the south side of Garden Highway and the south side of Old River Road.[2]

[2] Refer to Exhibit 6 in Section 3.5 of the Air Quality Protocol for the Proposed Project for a map of the sensitive receptors.

2.5 Climate Change

Global warming and climate change are common terms used to describe the increase in the average temperature of the earth's near-surface air and oceans since the mid-20th century. Increasing greenhouse gas (GHG) concentrations resulting from human activity such as fossil fuel combustion, deforestation, and other activities are a major factor in climate change.

GHGs in the atmosphere naturally trap heat by impeding the exit of solar radiation that has hit the Earth and is reflected back into space—a phenomenon sometimes referred to as the greenhouse effect. Some GHGs occur naturally and are necessary for keeping the Earth's surface inhabitable. However, increases in the concentrations of these gases in the atmosphere during the last 100 years have trapped solar radiation and decreased the amount that is reflected back into space, intensifying the natural greenhouse effect and resulting in the increase of global average temperature.

Carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3) are the principal GHGs. CO_2, CH_4, and N_2O occur naturally and are also commonly generated through human activity. Emissions of CO_2 are largely byproducts of fossil fuel combustion (e.g., coal, natural gas), whereas CH_4 results from off-gassing,[3] natural gas leaks from pipelines and industrial processes, and incomplete combustion associated with agricultural practices, landfills, energy providers, and other industrial facilities. N_2O emissions are also largely attributable to agricultural practices and soil management. Other human-generated GHGs include fluorinated gases such as HFCs, PFCs, SF_6, and NF_3, which have much higher heat-absorption potential than CO_2 and are byproducts of certain industrial processes.

CO_2 is the typical reference gas for climate change, as it is the GHG emitted in the highest volume. While some other GHGs have a higher potential for causing climate change, they are emitted in much lower levels and are not as significant a factor. In emissions inventories, GHG emissions are typically reported as metric tons (MT) of CO_2 equivalents (CO_2e). CO_2e emissions are calculated as the product of the mass emitted of a given GHG and its specific global warming potential (GWP).

2.5.1 Potential Effects of Human Activity on GHG Emissions

Fossil fuel combustion, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO_2 emissions and thus substantial increases in atmospheric concentrations of CO_2. There is international scientific consensus that human-caused increases in GHGs have contributed to and will continue to contribute to global warming. Potential global warming impacts in California may include a loss in Sierra Nevada snowpack, sea level rise, more extreme heat days per year, an increase in high ground-level ozone days, larger and more intense forest fires, and increased drought conditions. Secondary effects will likely include displacement due to sea level rise, impacts on agriculture, changes in disease vectors, and changes in habitat and biodiversity for various plants and animals. In California, it is expected that global warming will cause detrimental effects to some of the state's largest industries, including agriculture, winemaking, tourism, skiing, commercial and recreational fishing, forestry, and the adequacy of electrical power generation (CARB, 2017).

[3] Off-gassing is defined as the release of chemicals under normal conditions of temperature and pressure.

2.5.2 Greenhouse Gas Emissions Estimates

Global Greenhouse Gas Emissions

Worldwide GHG emissions generated in 2020 were approximately 36 billion metric tons of CO_2e (PBL NEAA, 2022). This includes both ongoing emissions from industrial and agricultural sources but excludes emissions from land use changes.

U.S. Greenhouse Gas Emissions

In 2022, the United States emitted approximately 6,343 million metric tons of carbon dioxide equivalents ($MMTCO_2e$), and 5,489 $MMTCO_2e$ after accounting for sequestration from the land sector.

Of the major economic sectors—residential, commercial, industrial, electric power, agricultural, and transportation—transportation accounts for the highest fraction of GHG emissions (approximately 28 percent), followed by electric power (approximately 25 percent) and industry (approximately 23 percent). The remaining 22 percent of U.S. GHG emissions were contributed by, in order of magnitude, the agriculture, commercial, and residential sectors (U.S. EPA, 2024b).

State of California Greenhouse Gas Emissions

California produced approximately 371 $MMTCO_2e$ in 2022. Combustion of fossil fuel in the transportation sector was the single largest source of California GHG emissions in 2020, accounting for 39 percent of total GHG emissions in the state. This sector was followed by the industrial sector (23 percent), the electric power sector (including both in-state and out-of-state sources) (16 percent), residential and commercial sectors (14 percent), and agriculture sector (8 percent) (CARB, 2024b).

Sacramento County Greenhouse Gas Emissions

Sacramento County produced approximately 4.03 $MMTCO_2e$ in 2021, according to the most recent community-wide emissions inventory year. The transportation sector represented the largest source of GHG emissions, accounting for 43 percent of annual CO_2e emissions. Electricity and natural gas used to operate, heat, and cool commercial, industrial, and residential buildings accounted for another 36 percent of annual CO2e emissions. The other CO_2e emissions sectors included in the inventory were solid waste (4 percent), off-road vehicles (2.5 percent), agriculture (6 percent), high-GWP gases (8 percent), and wastewater (<1 percent) (Sacramento County, 2023). **Table 2-2** presents the 2021 GHG inventory for Sacramento County.

TABLE 2-2
SACRAMENTO COUNTY GREENHOUSE GAS EMISSIONS – 2021

Sector	2021 GHG Emissions (MTCO2e)	Percent
Residential Energy	878,308	22%
Commercial / Industrial Energy	555,596	14%
On-Road Vehicles	1,740,212	43%
Off-Road Vehicles	107,174	2.5%
Solid Waste	156,422	4%
Agriculture	234,536	6%
High-GWP Gases	329,734	8%
Wastewater	24,928	0.5%
Total	**4,026,910**	**100%**

NOTES: GHG = greenhouse gas; MTCO2e = metric tons of carbon dioxide equivalent; GWP = global warming potential.
SOURCE: Sacramento County, 2023

SECTION 3
Environmental Consequences

This section provides the potential direct or indirect impacts to air quality and the climate that may be caused by the Proposed Project or the No Action Alternative. Where applicable, mitigation is discussed that would reduce or eliminate environmental impacts of the Proposed Project. The environmental consequences analysis evaluates the Proposed Project in two different years of full operation. Study year 2026 represents the first year that the Proposed Project would be open and operational. Study Year 2031 is the fifth full year after Project opening. This provides a reasonable time frame to evaluate ongoing operation-related environmental impacts. Refer to the Air Quality Protocol for the Proposed Project for a discussion of the thresholds of significance and analysis methodology and protocol for the Proposed Project.

3.1 Air Quality

3.1.1 Construction Sources

Construction emissions for the Proposed Project Alternative were assessed based on the anticipated Project construction schedule, with construction assumed to be completed at the earliest possible date with the possibility of overlapping subphases. Emissions from off-road equipment, such as dozers and tractors, were estimated using the California Emissions Estimator Model (CalEEMod) software, CalEEMod 2022.1, a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant emissions associated with construction and operations from a variety of land use projects in California. Emissions from on-road vehicles and equipment were estimated using emission factors for haul and material vendor trucks and worker vehicles derived from the EMFAC2021 web database.

3.1.2 Operational Sources

Operational emissions from the Proposed Project Alternative were assumed to occur from point sources at the facility as well as emission-generating vehicles traveling to and from the Proposed Project site. Point sources evaluated include:

- Solar photovoltaic power generation and battery storage systems
- Building energy
- Consumer products
- Architectural coating
- Landscaping

As the Proposed Project has no aeronautical component and will not affect the number or types of aircraft operating at SMF, airfield emissions sources were not considered. Mobile source emissions that would occur under the No Action Alternative and that would be offset by the Proposed Project Alternative are also considered. Operational emissions for both point and mobile vehicle sources were estimated using CalEEMod and EMFAC2021. In addition to criteria pollutant emissions inventories, a Hazardous Air Pollutants (HAPs) emissions inventory was developed for the No Action Alternative and the Proposed Project Alternative.

3.1.3 2026 and 2031 Impacts

No Action Alternative

Under the No Action Alternative, the Proposed Project would not be constructed and therefore there would be no impacts related to construction emissions. The Proposed Project site existing conditions currently consist of grassland that is maintained consistent with the County's approved Wildlife Hazard Management Plan prepared under 14 CFR Part 139 (Sacramento County, 2015). The Project Site ceased being actively farmed in the early 2000s. Therefore, the site itself is not an existing substantial material source of air pollutant emissions. However, the Proposed Project would offset emissions from mobile sources from the onsite solar and battery storge of the EV charging facility compared to a No Action Alternative. Thus, mobile source emissions that would occur in 2026 and 2031 under the No Action Alternative and that would be offset by the Proposed Project are summarized in **Table 3-1**.

TABLE 3-1
2026 AND 2031 NO ACTION OPERATIONS EMISSIONS INVENTORY

Operational Activity	Emissions (tons per year)[1]					
	ROG	NO_X	CO	SO2	PM_{10}	$PM_{2.5}$
2026						
Mobile	2.37	4.31	18.22	0.06	4.71	1.22
Total Emissions	**2.37**	**4.31**	**18.22**	**0.06**	**4.71**	**1.22**
2031						
Mobile	1.88	3.23	14.49	0.05	4.69	1.21
Total Emissions	**1.88**	**3.23**	**14.49**	**0.05**	**4.69**	**1.21**

NOTES:
1. Total values are derived from EMFAC2021 emission factors. Calculations are provided in Attachment A.
SOURCE: ESA, 2024.

Proposed Project

Construction Sources

Per paragraph 1.3.5 of FAA Order 1050.1F Desk Reference, the General Conformity evaluation phase requires estimating the changes in emissions caused by the action and comparing them to the *de minimis* thresholds. The change in emissions is the "proposed action emission levels" minus the "no action emission levels," also known as the "net emissions" for a specific calendar year in tons per year (tpy). If the net emissions due to the action exceed the *de minimis* threshold, and are not otherwise exempt or

presumed to conform, then the determination phase must be applied and a formal conformity determination must be prepared. The No Action emissions, which represents emissions from mobile sources that would continue to occur in the absence of the Project and that would be offset by implement of the Project, are shown in Table 3-1. Under the Proposed Project, construction-related emissions are expected from the following construction activities: demolition, grading, building construction, paving, and architectural coating. Construction would be completed within approximately 13 months stretching over two calendar years. The construction emissions inventory for the Proposed Project is presented in **Table 3-2** and includes compliance with applicable SMAQMD rules and Basic Construction Emissions Control Practices for minimization of construction emissions, such as fugitive dust controls. As shown in Table 3-1 and Table 3-2, the net emissions from construction (i.e., Proposed Project construction emission levels minus the No Action emission levels) would not exceed the *de minimis* thresholds. As explained in the 1050 Desk Reference, *"If a project's net emissions are less than the de minimis levels, then the Federal action is considered to be too small to adversely affect the air quality status of the area and is automatically considered to conform with the applicable SIP [State Implementation Plan]/FIP [Federal Implementation Plan], therefore the general conformity requirements have been complied with and the process is complete.*" See the 1050 Desk Reference at Para. 1.3.5., p. 1-8. **Thus, no General Conformity Determination for this Proposed Project is required and one will not be prepared.** Therefore, construction of the Proposed Project would not cause or contribute to an exceedance of the NAAQS or increase the frequency or severity of any such existing violation.

TABLE 3-2
MAXIMUM REGIONAL CONSTRUCTION EMISSIONS UNDER THE PROPOSED PROJECT

	Emissions (tons per year)[1]					
	VOC	**NO_X**	**CO**	**SO_X**	**PM10**	**PM2.5**
Construction Year						
Construction Year 1	0.28	2.75	2.45	0.01	0.38	0.20
Construction Year 2	0.20	0.14	0.18	<0.01	0.01	0.01
De Minimis Level[2]	*25*	*25*	*N/A*	*N/A*	*100*	*100*
Exceed *De Minimis* Level?	**No**	**No**	**N/A**	**N/A**	**No**	**No**

NOTES:
1. Total values are from CalEEMod and may not add up 100% due to rounding. Calculations are provided in Attachment B.
2. 40 CFR 93.153(b)(1)

SOURCE: Kimley-Horn, 2024.

Operational Sources

As discussed above, per paragraph 1.3.5 of FAA Order 1050.1F Desk Reference, the General Conformity evaluation phase requires estimating the net changes in emissions caused by the action and comparing them to the *de minimis* thresholds, where the change in emissions is the "proposed action emission levels" minus the "no action emission levels," also known as the "net emissions" for a specific calendar year in tons per year (tpy). The Proposed Project includes EV charging stations powered by onsite solar generation field, replacing fossil-fueled on-road trucks and passenger vehicles with EV vehicles. Operation of the Proposed Project could result in a net reduction in emissions when compared to the No Action Alternative. Operational emission sources include mobile sources (i.e., motor vehicle use) and

area sources (such as the use of landscape maintenance equipment, consumer products, and architectural coatings), building energy source emissions, and from septic tank pump operations. Operational emissions associated with the Proposed Project are summarized in **Table 3-3**. The No Action emissions, which represents emissions from mobile sources that would continue to occur in the absence of the Project and that would be offset by implement of the Project, are shown previously in Table 3-1. As shown in Table 3-3, the net emissions from operation (i.e., Proposed Project operational emission levels minus the No Action emission levels) would **not** exceed the *de minimis* thresholds. As explained in the Desk Reference, *"If a project's net emissions are less than the de minimis levels, then the Federal action is considered to be too small to adversely affect the air quality status of the area and is automatically considered to conform with the applicable SIP/FIP, therefore the general conformity requirements have been complied with and the process is complete."* See Desk Reference at Para. 1.3.5., p. 1-8. **Thus, no General Conformity Determination for this Proposed Project is required and one will not be prepared.** Therefore, operation of the Proposed Project would not cause or contribute to an exceedance of the NAAQS or increase the frequency or severity of any such existing violation.

TABLE 3-3
2026 AND 2031 PROPOSED PROJECT OPERATIONS EMISSIONS INVENTORY

Operational Activity	Emissions (tons per year)[1]					
	ROG	NO_X	CO	SO2	PM_{10}	$PM_{2.5}$
2026						
Area	0.10	<0.01	0.07	<0.01	<0.01	<0.01
Energy	<0.01	0.02	0.01	<0.01	<0.01	<0.01
Stationary (septic tank pump)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mobile[2]	1.70	2.83	20.1	0.05	4.66	1.21
Total Emissions	**1.80**	**2.85**	**20.2**	**0.05**	**4.66**	**1.21**
No Action Emissions	**2.37**	**4.31**	**18.22**	**0.06**	**4.71**	**1.22**
Total Net Emissions	**-0.57**	**-1.46**	**1.98**	**-0.01**	**-0.05**	**-0.01**
2031						
Area	0.10	<0.01	0.07	<0.01	<0.01	<0.01
Energy	<0.01	0.02	0.01	<0.01	<0.01	<0.01
Stationary (septic tank pump)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mobile[2]	1.70	2.83	20.1	0.05	4.66	1.21
Total Emissions	**1.80**	**2.85**	**20.2**	**0.05**	**4.66**	**1.21**
No Action Emissions	**1.88**	**3.23**	**14.49**	**0.05**	**4.69**	**1.21**
Total Net Emissions	**-0.08**	**-0.38**	**5.71**	**0.0**	**-0.03**	**0.0**
De Minimis Level[3]	*25*	*25*	*N/A*	*N/A*	*100*	*100*
Exceed *De Minimis* Level?	**No**	**No**	**N/A**	**N/A**	**No**	**No**

NOTES:

1. Total values are from CalEEMod and may not add up 100% due to rounding. Calculations are provided in Exhibits A and B.
2. Mobile trips associated with EV chargers were assumed to be all electric vehicles.
3. 40 CFR 93.153(b)(1)

SOURCE: Kimley-Horn, 2024; ESA 2024.

The Proposed Project is outside of the Interstate-5 Right-of-Way and has no impact on rail transportation. Further, there is no approval or funding from the Federal Highway Administration or the Federal Transit Administration, therefore Transportation Conformity does not apply to this Proposed Project and its air quality analysis.

Hazardous Air Pollutants Emissions Inventory

HAPs are pollutants that do not have established NAAQS but present potential adverse human health risks from short-term (acute) or long-term (chronic) exposures, as defined by Section 112 of the CAA. FAA Orders 1050.1F and 5050.4B and their associated desk references provide guidance concerning the evaluation of HAPs. As outlined in the Protocol, the emissions of HAPs were addressed in accordance with the FAA's Speciated Organic Gas Emissions from Airports Guidance document. Specifically, the FAA *Aviation Emissions and Air Quality Handbook* Chapter 6.2 (Hazardous Air Pollutants) was used to determine if an emission inventory of HAPs generated from the Proposed Project should be prepared. The Handbook states that *"[c]onsiderations should be given as to (i) whether the Federal Action normally requires an EIS (e.g., new airport, new runway, major runway extension, etc.); (ii) whether or not it is located in a nonattainment/maintenance area; and/or (iii) whether a criteria air pollutant emissions inventory is also prepared."* As previously stated, the GSA is categorized as nonattainment for ozone and PM2.5 and maintenance for PM10; therefore, an emissions inventory for HAPs generated by the Proposed Project was developed. Analysis of HAPs is not required by FAA Orders 1050.1F or 5050.4B. The HAPs emissions inventory was prepared using the same assumptions and models that were used to prepare the criteria pollutant emissions inventory discussed in preceding sections of this chapter.

Under the Clean Air Act, U.S. EPA is required to regulate emissions of hazardous air pollutants. This original list included 189 pollutants. Since 1990, U.S. EPA has modified the list through rulemaking to include 188 hazardous air pollutants (U.S. EPA, 2023). HAPs are pollutants for which there are no NAAQS, but are still regulated under the CAA because of their potentially adverse effects on human health and the environment. These pollutants are comprised of a wide array of organic and inorganic compounds. In relation to the Proposed Project, such emissions are present in the exhaust of motor vehicle engines and, to a lesser extent, from other stationary sources. The sources of HAP emissions associated with the Proposed Project include construction equipment, motor vehicles and, to a lesser extent, stationary sources. Under both the Proposed Project Alternative and the No Action Alternative, **no changes or impacts to aircraft operations will occur**. Therefore, the Proposed Project will not result in new HAP emissions from aircraft operations or related airport activities. Under the No Action Alternative, the Proposed Project would not be built. HAPs from off-airport vehicular travel under the No Action Alternative were calculated for 2026 and 2031. HAPs emissions associated with construction and operations of the Proposed Project are compared to the No Action Alternative for the same timeframe. HAPs from were calculated based on CARB's speciation profiles using a weight percent applied to the organic gas and particulate matter emissions calculated using EMFAC2021. The HAPs emissions inventory for the No Action Alternative and the Proposed Project Alternative are provided in **Table 3-4**. As shown, the Proposed Project would offset HAP emissions from mobile sources from the onsite solar and battery storge of the EV charging facility compared to a No Action Alternative.

TABLE 3-4
2026 AND 2031 HAZARDOUS AIR POLLUTANT EMISSIONS INVENTORY[1,2]

Hazardous Air Pollutant	No Action Alternative		Proposed Project Alternative	
	2026	2031	2026	2031
1,1,1-Trichloroethane	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,3-Butadiene	4.74E-07	3.45E-07	0.00E+00	0.00E+00
2,2,4-Trimethylpentane	8.62E-06	6.89E-06	0.00E+00	0.00E+00
2-Methylnaphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acetaldehyde	3.09E-08	2.26E-08	0.00E+00	0.00E+00
Acetone	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	1.82E-05	1.42E-05	0.00E+00	0.00E+00
Butyl cellosolve	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chlorobenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cyclohexane	2.52E-07	1.89E-07	0.00E+00	0.00E+00
Dichloromethane	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Thyl acetate	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylbenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene glycol	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	1.21E-06	8.83E-07	0.00E+00	0.00E+00
Isomers of xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropylbenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
m & p-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl ethyl ketone	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl tert butyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00
m-xylene	9.53E-06	7.49E-06	0.00E+00	0.00E+00
Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
n-Butyl alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00
n-Heptane	2.50E-07	1.82E-07	0.00E+00	0.00E+00
n-Hexane	0.00E+00	0.00E+00	0.00E+00	0.00E+00
o-Xylene	1.37E-05	1.00E-05	0.00E+00	0.00E+00
Perchloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phenol (carbolic acid)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phthalic anhydride	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propionaldehyde	3.39E-07	2.47E-07	0.00E+00	0.00E+00

Hazardous Air Pollutant	No Action Alternative		Proposed Project Alternative	
	2026	2031	2026	2031
Styrene	1.96E-07	1.48E-07	0.00E+00	0.00E+00
Toluene	3.09E-05	2.45E-05	0.00E+00	0.00E+00
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Trichlorotrifluoroethan	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Vinyl acetate	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Arsenic	0.00E+00	0.00E+00	3.41E-10	3.32E-10
Chromium	4.04E-07	3.93E-07	6.08E-08	5.99E-08
Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Manganese	2.48E-08	2.39E-08	0.00E+00	0.00E+00
Mercury	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nickel	0.00E+00	0.00E+00	1.26E-07	1.23E-07
Total	**8.42E-05**	**6.55E-05**	**1.88E-07**	**1.83E-07**
Net Change	**–**	**–**	**-8.40E-05**	**-6.53E-05**

NOTES:

1. Calculations are provided in Attachment C.
2. Mobile trips associated with EV chargers were assumed to be all electric vehicles.

SOURCE: Kimley-Horn, 2024; ESA 2024.

3.1.4 Avoidance, Minimization, and Mitigation Measures

The Proposed Project is within an area designated as nonattainment for ozone and PM2.5, and maintenance for PM10. Proposed Project emissions would not exceed the General Conformity Rule *de minimis* levels for any criteria pollutant. Therefore, the Proposed Project emission of criteria pollutants would not result in a significant air quality impact because there would be no exceedance of the NAAQS or increase in the frequency or severity of any air quality violations in the GSA. As such, mitigation is not required. However, as a minimization effort, construction of the Proposed Project will include compliance with SMAQMD best management practices to reduce dust and other emissions.[4]

3.2 Climate

3.2.1 2026 and 2031 Impacts

No Action Alternative

The Proposed Project site existing conditions currently consist of grassland that is maintained consistent with the County's approved Wildlife Hazard Management Plan prepared under 14 CFR Part 139 (County of Sacramento Department of Airports, 2015). The Project Site ceased being actively farmed in the early 2000s. Therefore, the site itself is not an existing substantial material source of GHG emissions. However, the Proposed Project would offset GHG emissions from mobile sources from the onsite solar and battery storge of the EV charging facility compared to a No Action Alternative. Thus, mobile source

[4] Refer to Section 2.3 of the Air Quality Protocol for the Proposed Project for a list of applicable SMAQMD best management practices.

GHG emissions that would occur in 2026 and 2031 under the No Action Alternative and that would be offset by the Proposed Project are summarized in **Table 3-5**.

TABLE 3-5
2026 AND 2031 NO ACTION OPERATIONS GREENHOUSE GAS EMISSIONS INVENTORY

Operational Year	Activity	Estimated GHG Emissions Inventory in CO_{2e} (MT/year) No Action
2026	Mobile	5,451
	Total No Action Emissions	**5,451**
2031	Mobile	4,818
	Total No Action Emissions	**4,818**

NOTES: CO_2e = carbon dioxide equivalent. Calculations are provided in Attachment A.
SOURCE: ESA, 2024.

Proposed Project

Construction Sources

Construction activities associated with the Proposed Project would result in emissions of CO_2 and, to a lesser extent, CH_4 and N_2O. These emissions would be associated with the operation and movement of heavy equipment, haul trucks moving material to and from the Project site, and on-road passenger vehicles from workers commuting to and from the Project site. Construction emissions associated with the Proposed Project are summarized in **Table 3-6**.

TABLE 3-6
CONSTRUCTION GREENHOUSE GAS EMISSIONS INVENTORY

Construction Year	Estimated GHG Emissions Inventory in CO_2e (MT/year)[a]
Construction Year 1	655
Construction Year 1	30
Total Construction Emissions	**685**

NOTES: CO_2e = carbon dioxide equivalent. Calculations are provided in Attachment B.
SOURCE: Kimley-Horn, 2024.

Operational Sources

Operation of the Proposed Project could result in a net decrease of GHG emissions when compared to the No Action Alternative. Operational GHG emission sources include stationary sources such as landscaping equipment, GHG-producing mobile sources, building energy emissions, solid waste decomposition, water and wastewater conveyance and treatment, and fugitive losses of refrigerants primarily from vehicles. Operational emissions associated with the Proposed Project are summarized in **Table 3-7**.

TABLE 3-7
2026 AND 2031 PROPOSED PROJECT OPERATIONAL GREENHOUSE GAS EMISSIONS INVENTORY

Operational Activity	Annual CO_2e Emissions (metric tons per year)	
	2026	2031
Area	0.3	0.3
Energy	252	252
Mobile	122	122
Solid Waste	8	8
Water & Wastewater	3	3
Refrigerants	240	240
Total Annual CO_2e (All Sources)	625	625
No Action CO_2e	5,451	4,818
Annual Net Emissions	-4,826	-4,193

NOTES: CO_2e = carbon dioxide equivalent. Calculations are provided in Exhibits A and B.
SOURCE: Kimley-Horn, 2024; ESA 2024

As indicated in Table 3-6, construction of the Proposed Project would result in approximately 685 MT of CO_2e. Per Table 3-7, operation of the Proposed Project would result in approximately 625 MT of CO_2e. Taking into account mobile source GHG emissions that would occur in 2026 and 2031 under the No Action Alternative and that would be offset by the Proposed Project, operation of the Proposed Project would result in a net reduction in emissions of approximately 4,826 and 4,193 MT of CO_2e for 2026 and 2031, respectively. In comparison, California emissions for 2022, the latest year for which emissions data is available, was approximately 371.1 million MT of CO_2e (CARB, 2024b). The Proposed Project's contribution to GHG emissions (gross) would comprise a miniscule fraction of the State of California's GHG emissions, while the Proposed Project's net GHG emissions would reduce emissions from mobile sources compared to the No Action Alternative providing a net benefit to the environment.

As discussed in Section 4.4.2, the County of Sacramento Climate Action Plan aims to reduce greenhouse gas emissions to 39% below 2021 levels by 2030 and to 85% below 2021 levels by 2045. Considering the minimal emissions of GHGs that would be generated by the Proposed Project and the net GHG emissions reductions from mobile sources providing a net benefit to the environment, it is unlikely that they would disproportionately affect the State's or County of Sacramento's GHG emissions targets. Additionally, the Proposed Project would provide access to EV charging for trucks and passenger vehicles, promoting the use of zero-emission motor vehicles.

3.2.2 Social Cost of Greenhouse Gas Emissions

On January 20, 2025, Executive Order 14154, *Unleashing American Energy*, was issued. This Executive Order instructs agencies to no longer consider the social cost of greenhouse gas emissions in federal regulatory decisions. As such, the social cost of greenhouse gas emissions is not included in this report or **Chapter 4**, *Environmental Consequences* of the Final EA. The analysis ***protocol*** for the social costs of greenhouse gas emissions is included in **Appendix C2**, *Air Quality Protocol*, that was prepared and

coordinated with the U.S. Environmental Protection Agency, California Air Resources Board, Sacramento Metropolitan Air Quality Management District and the Sacramento Area Council of Governments prior to Executive Order 14151.

3.2.3 Avoidance, Minimization, and Mitigation Measures

There are no significance thresholds established for GHG emissions, and the FAA has not identified specific factors to consider in making a significance determination for GHG emissions, particularly where application to a single project is concerned. Due to minimal emissions of GHG anticipated during construction and the negligible change the Proposed Project would have on GHG emissions, there would be little, if any, increase in vulnerability to future climate impacts from the implementation of the Proposed Project and mitigation measures are not required.

SECTION 4
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Attachment A

Emissions Modeling Data – EMFAC2021 (ESA, 2024)

WattEV
Air Quality and GHG Assessment
Operational Mobile Emissions - No Action

			Criteria Pollutant Emission Factors (lb/mile)										GHG Emission Factors (metric tons/mile)			
Year	**Max Daily VMT**	**Annual VMT**	**ROG**	**NOx**	**CO**	**SOx**	**PM10 Road Dust**	**PM10**	**PM10 Total**	**PM2_5 Road Dust**	**PM2_5**	**PM2.5 Total**	**CO2**	**CH4**	**N2O**	**CO2e**
2026	35,569	12,982,601	3.65E-04	6.65E-04	2.81E-03	8.82E-06	6.61E-04	6.41E-05	7.25E-04	1.62E-04	2.58E-05	1.88E-04	4.12E-04	1.66E-08	2.67E-08	4.20E-04
2031	35,569	12,982,601	2.89E-04	4.98E-04	2.23E-03	7.80E-06	6.61E-04	6.12E-05	7.22E-04	1.62E-04	2.35E-05	1.86E-04	3.64E-04	1.29E-08	2.31E-08	3.71E-04

Source: Kimley-Horn, WattEV Local Transportation Analysis, Access, and Safety Evaluation, 2024

WattEV
Air Quality and GHG Assessment
Operational Mobile Emissions - No Action

			Criteria Pollutant Emissions (tons/year)										GHG Emissions (metric tons/year)			
Year	**Max Daily VMT**	**Annual VMT**	**ROG**	**NOx**	**CO**	**SOx**	**PM10 Road Dust**	**PM10**	**PM10 Total**	**PM2_5 Road Dust**	**PM2_5**	**PM2.5 Total**	**CO2** *1*	**CH4** *25*	**N2O** *298*	**CO2e**
2026	35,569	12,982,601	2.37	4.31	18.22	0.06	4.29	0.42	4.71	1.05	0.17	1.22	5,342.59	0.22	0.35	5,451.44
2031	35,569	12,982,601	1.88	3.23	14.49	0.05	4.29	0.40	4.69	1.05	0.15	1.21	4,724.74	0.17	0.30	4,818.31

Source: Kimley-Horn, WattEV Local T

Region	(All)
Vehicle Category	(All)
Fuel	(All)

Row Labels	Sum of NOx_TOTEX	Sum of CO_TOTEX	Sum of SOx_TOTEX	Sum of PM10_TOTAL	Sum of PM2.5_TOTAL	Sum of CO2_TOTEX	Sum of CH4_TOTEX	Sum of N2O_TOTEX	Sum of Total VMT	Sum of ROG_TOTAL
2020	44.97009239	162.4058582	0.371351233	2.711958546	1.236309501	38204.41198	2.041375182	2.81777284	71164732.3	20.91613903
2021	42.03494406	165.5724736	0.411525115	2.88314256	1.241403432	42291.11394	2.013526419	2.910742512	82273314.82	20.20329434
2022	38.5932947	155.2181676	0.411138262	2.852995291	1.192999663	42262.01128	1.909004458	2.852665013	84137856.9	19.23579788
2023	35.0463787	146.6796629	0.408532451	2.856311044	1.180864745	42001.42636	1.858757553	2.790971608	85730590.99	18.37253438
2024	33.02234862	138.2640626	0.40376326	2.850282489	1.167590873	41521.7965	1.775972367	2.728224827	86921903.47	17.53693175
2025	31.0851671	130.4951999	0.396486487	2.838484189	1.152014279	40787.6118	1.692053448	2.6624212	87696062.32	16.80393181
2026	29.33410394	123.9030498	0.389165228	2.82784546	1.137704621	40046.33643	1.61598536	2.602334703	88281272.79	16.11647468
2027	27.78766764	118.5741098	0.382765051	2.826431753	1.126753406	39396.21312	1.544014329	2.546106231	89031718.27	15.5540597
2028	26.35298644	113.9655328	0.375871857	2.827227612	1.116161325	38692.59856	1.477213571	2.490247428	89761914.24	14.97784688
2029	25.06307536	109.7774646	0.369611382	2.820398772	1.103337685	38043.01728	1.431234117	2.435153857	90489312.71	14.33593397
2030	23.8888407	105.9996899	0.363590549	2.813602735	1.090760334	37422.46395	1.369010275	2.383239581	91202380.15	13.77683696
2031	22.88437464	102.6540196	0.358389787	2.812022936	1.080915117	36885.8965	1.310733158	2.341427747	91947505.99	13.29528505
2032	22.00974231	99.79877737	0.353678158	2.812660687	1.072839422	36400.09165	1.258249833	2.303719513	92686431.75	12.91613063
2033	21.23377045	97.35583875	0.349389713	2.81443769	1.065830493	35956.69758	1.203696897	2.270557756	93415542.48	12.60109715
2034	20.55389331	95.2366236	0.345651289	2.818018416	1.060167857	35572.0876	1.161976298	2.24220328	94135243.65	12.25800814
2035	19.95812779	93.21645166	0.342502828	2.822388968	1.05510994	35242.53959	1.108241459	2.216957984	94857239.65	11.95416632
2036	19.46341938	91.59517028	0.340087109	2.831716702	1.053005012	34991.03959	1.068007673	2.198013538	95565268.74	11.69312821
2037	19.02222486	90.17486864	0.338182534	2.840191192	1.050857311	34792.49375	1.031886822	2.18438476	96256455.62	11.4937316
2038	18.66690825	88.19986393	0.336809297	2.849639742	1.049660961	34629.38532	0.935592484	2.171454998	96930133.32	11.24538704
2039	18.38850252	86.97965705	0.335981131	2.862264323	1.050258291	34538.27796	0.894405896	2.16618159	97608564.03	10.96285976
2040	18.16480683	86.02422994	0.335570808	2.876706989	1.052032342	34492.74493	0.863451246	2.165296761	98272224.84	10.62796253
2041	18.01374975	85.35562156	0.335608686	2.893615186	1.055453736	34493.46725	0.836316429	2.168901352	98923270.67	10.41785782
2042	17.9095259	84.84300953	0.33603096	2.912321989	1.059889131	34535.76378	0.816985976	2.176303956	99570286.88	10.23965527
2043	17.88025718	84.48551537	0.336823497	2.933410747	1.065821667	34616.45756	0.800130017	2.187576803	100211055.4	10.10339593
2044	17.84163926	83.86353611	0.337892645	2.955219669	1.072206273	34716.91959	0.75461006	2.199437162	100850268.6	9.976119556
2045	17.86045781	83.7506698	0.339267711	2.979662464	1.08005153	34859.54303	0.744524444	2.216638802	101493397.1	9.855129494
2046	17.8955018	83.67364526	0.340886955	3.005443708	1.088625761	35027.66611	0.735067594	2.236285352	102137745.5	9.728916247
2047	17.9869242	83.64132018	0.342747599	3.033035154	1.098245913	35221.05016	0.726884536	2.258841431	102782465.9	9.625430246
2048	18.12515014	83.63302539	0.344826124	3.062008278	1.108619271	35437.2694	0.720075491	2.284166671	103433993.2	9.527123417
2049	18.33677126	83.83352841	0.347107651	3.092074055	1.119434697	35674.64321	0.716825889	2.313783163	104084964.4	9.472118612
2050	18.56867872	84.05733577	0.349588325	3.123463844	1.130865086	35932.87259	0.714085801	2.34552367	104741445.5	9.41107201
Grand Total	**737.943326**	**3243.22798**	**11.13082368**	**89.43898319**	**34.21578967**	**1144685.908**	**37.12989508**	**73.86753609**	**2916594562**	**405.2343564**

tons/day

Row Labels	Sum of ROG_TOTAL	Sum of NOx_TOTEX	Sum of CO_TOTEX	Sum of SOx_TOTEX	Sum of PM10_TOTAL	Sum of PM2.5_TOTAL	Sum of CO2_TOTEX	Sum of CH4_TOTEX	Sum of N2O_TOTEX	Sum of Total VMT
2020	20.91613903	44.97009239	162.4058582	0.371351233	2.711958546	1.236309501	38204.41198	2.041375182	2.81777284	71164732.3
2021	20.20329434	42.03494406	165.5724736	0.411525115	2.88314256	1.241403432	42291.11394	2.013526419	2.910742512	82273314.82
2022	19.23579788	38.5932947	155.2181676	0.411138262	2.852995291	1.192999663	42262.01128	1.909004458	2.852665013	84137856.9
2023	18.37253438	35.0463787	146.6796629	0.408532451	2.856311044	1.180864745	42001.42636	1.858757553	2.790971608	85730590.99
2024	17.53693175	33.02234862	138.2640626	0.40376326	2.850282489	1.167590873	41521.7965	1.775972367	2.728224827	86921903.47
2025	16.80393181	31.0851671	130.4951999	0.396486487	2.838484189	1.152014279	40787.6118	1.692053448	2.6624212	87696062.32
2026	16.11647468	29.33410394	123.9030498	0.389165228	2.82784546	1.137704621	40046.33643	1.61598536	2.602334703	88281272.79
2027	15.5540597	27.78766764	118.5741098	0.382765051	2.826431753	1.126753406	39396.21312	1.544014329	2.546106231	89031718.27
2028	14.97784688	26.35298644	113.9655328	0.375871857	2.827227612	1.116161325	38692.59856	1.477213571	2.490247428	89761914.24
2029	14.33593397	25.06307536	109.7774646	0.369611382	2.820398772	1.103337685	38043.01728	1.431234117	2.435153857	90489312.71
2030	13.77683696	23.8888407	105.9996899	0.363590549	2.813602735	1.090760334	37422.46395	1.369010275	2.383239581	91202380.15
2031	13.29528505	22.88437464	102.6540196	0.358389787	2.812022936	1.080915117	36885.8965	1.310733158	2.341427747	91947505.99
2032	12.91613063	22.00974231	99.79877737	0.353678158	2.812660687	1.072839422	36400.09165	1.258249833	2.303719513	92686431.75
2033	12.60109715	21.23377045	97.35583875	0.349389713	2.81443769	1.065830493	35956.69758	1.203696897	2.270557756	93415542.48
2034	12.25800814	20.55389331	95.2366236	0.345651289	2.818018416	1.060167857	35572.0876	1.161976298	2.24220328	94135243.65
2035	11.95416632	19.95812779	93.21645166	0.342502828	2.822388968	1.05510994	35242.53959	1.108241459	2.216957984	94857239.65
2036	11.69312821	19.46341938	91.59517028	0.340087109	2.831716702	1.053005012	34991.03959	1.068007673	2.198013538	95565268.74
2037	11.4937316	19.02222486	90.17486864	0.338182534	2.840191192	1.050857311	34792.49375	1.031886822	2.18438476	96256455.62
2038	11.24538704	18.66690825	88.19986393	0.336809297	2.849639742	1.049660961	34629.38532	0.935592484	2.171454998	96930133.32
2039	10.96285976	18.38850252	86.97965705	0.335981131	2.862264323	1.050258291	34538.27796	0.894405896	2.16618159	97608564.03
2040	10.62796253	18.16480683	86.02422994	0.335570808	2.876706989	1.052032342	34492.74493	0.863451246	2.165296761	98272224.84
2041	10.41785782	18.01374975	85.35562156	0.335608686	2.893615186	1.055453736	34493.46725	0.836316429	2.168901352	98923270.67
2042	10.23965527	17.9095259	84.84300953	0.33603096	2.912321989	1.059889131	34535.76378	0.816985976	2.176303956	99570286.88
2043	10.10339593	17.88025718	84.48551537	0.336823497	2.933410747	1.065821667	34616.45756	0.800130017	2.187576803	100211055.4
2044	9.976119556	17.84163926	83.86353611	0.337892645	2.955219669	1.072206273	34716.91959	0.75461006	2.199437162	100850268.6
2045	9.855129494	17.86045781	83.7506698	0.339267711	2.979662464	1.08005153	34859.54303	0.744524444	2.216638802	101493397.1
2046	9.728916247	17.8955018	83.67364526	0.340886955	3.005443708	1.088625761	35027.66611	0.735067594	2.236285352	102137745.5
2047	9.625430246	17.9869242	83.64132018	0.342747599	3.033035154	1.098245913	35221.05016	0.726884536	2.258841431	102782465.9
2048	9.527123417	18.12515014	83.63302539	0.344826124	3.062008278	1.108619271	35437.2694	0.720075491	2.284166671	103433993.2
2049	9.472118612	18.33677126	83.83352841	0.347107651	3.092074055	1.119434697	35674.64321	0.716825889	2.313783163	104084964.4
2050	9.41107201	18.56867872	84.05733577	0.349588325	3.123463844	1.130865086	35932.87259	0.714085801	2.34552367	104741445.5
Grand Total	**405.2343564**	**737.943326**	**3243.22798**	**11.13082368**	**89.43898319**	**34.21578967**	**1144685.908**	**37.12989508**	**73.86753609**	**2916594562**

Emissions Factors

	lbs/mile						MT/mile			
	ROG	NOx	CO	SOx	PM10	PM2_5	CO2	CH4	N2O	CO2e
2020	0.000587823	0.001263831	0.004564223	1.04364E-05	7.62164E-05	3.4745E-05	0.000487017	2.60228E-08	3.59201E-08	0.000498372
2021	0.000491126	0.001021837	0.004024937	1.00039E-05	7.00869E-05	3.01775E-05	0.000466322	2.22021E-08	3.20952E-08	0.000476442
2022	0.000457245	0.000917382	0.003689615	9.77297E-06	6.78172E-05	2.83582E-05	0.000455674	2.05831E-08	3.07578E-08	0.000465355
2023	0.000428611	0.000817593	0.003421875	9.53061E-06	6.66346E-05	2.75483E-05	0.000444451	1.9669E-08	2.95335E-08	0.000453744
2024	0.00040351	0.000759817	0.00318134	9.29025E-06	6.55826E-05	2.68653E-05	0.000433354	1.85354E-08	2.84739E-08	0.000442303
2025	0.000383231	0.00070893	0.002976079	9.04229E-06	6.47346E-05	2.62729E-05	0.000421934	1.75037E-08	2.75418E-08	0.000430579
2026	0.000365117	0.00066456	0.002807006	8.81648E-06	6.40644E-05	2.57745E-05	0.000411519	1.6606E-08	2.67418E-08	0.000419903
2027	0.000349405	0.00062422	0.002663637	8.5984E-06	6.34927E-05	2.53113E-05	0.000401426	1.57327E-08	2.59434E-08	0.000409551
2028	0.000333724	0.000587175	0.002539285	8.37486E-06	6.29939E-05	2.48694E-05	0.000391049	1.49296E-08	2.51679E-08	0.000398923
2029	0.000316854	0.000553946	0.002426308	8.16917E-06	6.23666E-05	2.4386E-05	0.000381394	1.43486E-08	2.44132E-08	0.000389028
2030	0.000302116	0.000523864	0.002324494	7.97327E-06	6.17002E-05	2.39196E-05	0.000372239	1.36175E-08	2.3706E-08	0.000379644
2031	0.000289193	0.00049777	0.002232883	7.79553E-06	6.11658E-05	2.35116E-05	0.000363929	1.29321E-08	2.31013E-08	0.000371136
2032	0.000278706	0.000474929	0.002153471	7.63171E-06	6.0692E-05	2.31499E-05	0.000356272	1.23153E-08	2.25481E-08	0.0003633
2033	0.000269786	0.000454609	0.002084361	7.48033E-06	6.02563E-05	2.28191E-05	0.000349186	1.16894E-08	2.205E-08	0.000356049
2034	0.000260434	0.000436689	0.0020234	7.34372E-06	5.98717E-05	2.25244E-05	0.00034281	1.1198E-08	2.16082E-08	0.000349529
2035	0.000252045	0.000420803	0.001965405	7.22144E-06	5.95081E-05	2.22463E-05	0.000337049	1.05989E-08	2.12023E-08	0.000343632
2036	0.000244715	0.000407332	0.001916913	7.11738E-06	5.92625E-05	2.20374E-05	0.000332164	1.01384E-08	2.08654E-08	0.000338635
2037	0.000238815	0.000395241	0.001873638	7.0267E-06	5.9013E-05	2.18345E-05	0.000327908	9.72519E-09	2.05871E-08	0.000334286
2038	0.000232031	0.000385162	0.001819865	6.94953E-06	5.87978E-05	2.16581E-05	0.000324102	8.75636E-09	2.0323E-08	0.000330377
2039	0.000224629	0.000376781	0.001782214	6.88426E-06	5.86478E-05	2.15198E-05	0.000321003	8.31271E-09	2.01327E-08	0.00032721
2040	0.000216296	0.000369683	0.001750733	6.82941E-06	5.85457E-05	2.14106E-05	0.000318414	7.97082E-09	1.99886E-08	0.00032457
2041	0.000210625	0.000364196	0.001725693	6.78523E-06	5.85022E-05	2.13388E-05	0.000316326	7.66952E-09	1.98901E-08	0.000322445
2042	0.000205677	0.000359736	0.001704183	6.74962E-06	5.84978E-05	2.12893E-05	0.000314655	7.44356E-09	1.98283E-08	0.00032075
2043	0.000201642	0.000356852	0.001686152	6.72228E-06	5.85447E-05	2.12715E-05	0.000313374	7.24337E-09	1.98036E-08	0.000319456
2044	0.00019784	0.000353824	0.00166313	6.70088E-06	5.86061E-05	2.12633E-05	0.000312291	6.78799E-09	1.97847E-08	0.000318357
2045	0.000194202	0.000351953	0.001650367	6.68551E-06	5.87164E-05	2.12832E-05	0.000311587	6.65483E-09	1.98131E-08	0.000317658
2046	0.000190506	0.000350419	0.001638447	6.67504E-06	5.88508E-05	2.13168E-05	0.000311115	6.52885E-09	1.98626E-08	0.000317197
2047	0.000187297	0.00035	0.001627541	6.66938E-06	5.90185E-05	2.13703E-05	0.00031087	6.41567E-09	1.99371E-08	0.000316972
2048	0.000184216	0.000350468	0.001617128	6.66756E-06	5.9207E-05	2.14363E-05	0.000310808	6.31554E-09	2.00337E-08	0.000316936
2049	0.000182007	0.000352342	0.001610867	6.6697E-06	5.94144E-05	2.151E-05	0.000310933	6.24772E-09	2.01665E-08	0.000317099
2050	0.000179701	0.000354562	0.001605044	6.67526E-06	5.96414E-05	2.15935E-05	0.000311221	6.18483E-09	2.0315E-08	0.00031743

WattEV
Road Dust Emission Factors

Paved Road Dust Emission Factors (Assumes No Precipitation)

Formula: $EF_{Dust,P} = (k\ (sL)^{0.91} \times (W)^{1.02})$

Where:

$EF_{Dust,P}$ =	Paved Road Dust Emission Factor (having the same units as k)
k =	particle size multiplier
sL =	road surface silt loading (g/m^2)
W =	average fleet vehicle weight (tons) (CARB uses 2.4 tons as a fleet average vehicle weight factor)

	Emission Factor (grams per VMT)	
	PM10	PM2.5
k	0.9979	0.2449
sL	0.1	0.1
W	2.4	2.4
$EF_{Dust,P}$	3.00E-01	7.36E-02

Unpaved Road Dust Emission Factors (Assumes No Precipitation)

Formula: $EF_{Dust,U} = (k\ (\ s / 12)^{1} \times (Sp / 30)^{0.5} / (M / 0.5)^{0.2}) - C)$

Where:

$EF_{Dust,U}$ =	Unpaved Road Dust Emission Factor (having the same units as k)
k =	particle size multiplier
s =	surface material silt content (%)
Sp =	mean vehicle speed (mph)
M =	surface material moisture content (%)
C =	Emission Factor for 1980s vehicle fleet exhaust, brake wear, and tire wear

	Emission Factor (grams per VMT)	
	PM10	PM2.5
k	816.47	81.65
s	4.3%	4.3%
Sp	15	15
M	0.5%	0.5%
C	0.00047	0.00036
$EF_{Dust,U}$	5.20E+00	5.19E-01

Sources:
CalEEMod, Version 2022.1.
CARB, *Entrained Dust from Paved Road Travel: Emission Estimation Methodology Background Document* , (1997).
USEPA, *AP-42* , Fifth Edition, Volume I, Chapter 13.2.1 - Paved Roads, (2011).
ESA, 2023

Attachment B

Emissions Modeling Data – CalEEMod Outputs (Kimley-Horn, 2024)

SWIFT Watt EV - AQ Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	SWIFT Watt EV - AQ
Construction Start Date	2/19/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.60
Precipitation (days)	37.6
Location	38.668893303853594, -121.58015224137901
County	Sacramento
City	Unincorporated
Air District	Sacramento Metropolitan AQMD
Air Basin	Sacramento Valley
TAZ	602
EDFZ	13
Electric Utility	Sacramento Municipal Utility District
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.21

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 Office Building	3.00	1000sqft	0.07	3,000	0.00	—	—	—
Government Office Building	3.00	1000sqft	0.07	3,000	0.00	—	—	—
Convenience Market (24 hour)	7.00	1000sqft	0.16	7,000	0.00	—	—	—
User Defined Industrial	94.0	User Defined Unit	94.0	0.00	0.00	—	—	—
Parking Lot	23.7	Acre	23.7	0.00	355,013	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.28	3.86	49.2	37.0	0.16	1.59	5.81	7.40	1.47	2.01	3.48	—	14,762	14,762	1.03	1.34	17.5	15,204
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.41	9.57	36.0	33.8	0.05	1.60	7.84	9.44	1.47	3.98	5.45	—	5,476	5,476	0.22	0.05	0.02	5,496
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.72	1.51	15.1	13.4	0.04	0.56	1.50	2.06	0.51	0.58	1.10	—	3,871	3,871	0.23	0.26	1.48	3,956
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.31	0.28	2.75	2.45	0.01	0.10	0.27	0.38	0.09	0.11	0.20	—	641	641	0.04	0.04	0.25	655

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	5.28	3.86	49.2	37.0	0.16	1.59	5.81	7.40	1.47	2.01	3.48	—	14,762	14,762	1.03	1.34	17.5	15,204
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.41	3.71	36.0	33.8	0.05	1.60	7.84	9.44	1.47	3.98	5.45	—	5,476	5,476	0.22	0.05	0.02	5,496
2025	1.39	9.57	10.9	13.4	0.02	0.44	0.10	0.53	0.40	0.02	0.43	—	2,649	2,649	0.12	0.05	0.02	2,668
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.72	1.51	15.1	13.4	0.04	0.56	1.50	2.06	0.51	0.58	1.10	—	3,871	3,871	0.23	0.26	1.48	3,956
2025	0.10	1.12	0.78	0.97	< 0.005	0.03	0.01	0.04	0.03	< 0.005	0.03	—	182	182	0.01	< 0.005	0.02	183
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.31	0.28	2.75	2.45	0.01	0.10	0.27	0.38	0.09	0.11	0.20	—	641	641	0.04	0.04	0.25	655
2025	0.02	0.20	0.14	0.18	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	30.1	30.1	< 0.005	< 0.005	< 0.005	30.3

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.	11.7	10.8	14.2	138	0.31	0.24	25.9	26.1	0.23	6.58	6.81	17.9	33,583	33,601	2.64	1.22	1,572	35,605

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.7	9.83	16.7	109	0.29	0.24	25.9	26.1	0.23	6.58	6.81	17.9	30,784	30,802	2.73	1.34	1,454	32,725
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.8	9.86	15.6	111	0.29	0.24	25.3	25.5	0.23	6.43	6.65	17.9	31,364	31,382	2.67	1.29	1,504	33,337
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.96	1.80	2.85	20.2	0.05	0.04	4.61	4.66	0.04	1.17	1.21	2.96	5,193	5,196	0.44	0.21	249	5,519

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	11.6	10.2	14.0	138	0.31	0.23	25.9	26.1	0.22	6.58	6.80	—	32,045	32,045	1.14	1.21	121	32,555
Area	0.10	0.56	< 0.005	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.33	2.33	< 0.005	< 0.005	—	2.33
Energy	0.01	0.01	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	1,521	1,521	0.06	0.01	—	1,524
Water	—	—	—	—	—	—	—	—	—	—	—	3.52	12.8	16.3	0.01	0.01	—	18.9
Waste	—	—	—	—	—	—	—	—	—	—	—	14.3	0.00	14.3	1.43	0.00	—	50.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,451	1,451
Stationary	0.01	< 0.005	0.03	0.03	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.52	2.52	< 0.005	< 0.005	0.00	2.53
Total	11.7	10.8	14.2	138	0.31	0.24	25.9	26.1	0.23	6.58	6.81	17.9	33,583	33,601	2.64	1.22	1,572	35,605
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	10.7	9.36	16.6	109	0.29	0.23	25.9	26.1	0.22	6.58	6.80	—	29,248	29,248	1.22	1.33	3.14	29,678

Area	—	0.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.01	0.01	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	1,521	1,521	0.06	0.01	—	1,524
Water	—	—	—	—	—	—	—	—	—	—	—	3.52	12.8	16.3	0.01	0.01	—	18.9
Waste	—	—	—	—	—	—	—	—	—	—	—	14.3	0.00	14.3	1.43	0.00	—	50.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,451	1,451
Stationary	0.01	< 0.005	0.03	0.03	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.52	2.52	< 0.005	< 0.005	0.00	2.53
Total	10.7	9.83	16.7	109	0.29	0.24	25.9	26.1	0.23	6.58	6.81	17.9	30,784	30,802	2.73	1.34	1,454	32,725
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	10.7	9.33	15.5	110	0.29	0.23	25.3	25.5	0.22	6.43	6.65	—	29,829	29,829	1.17	1.27	52.3	30,291
Area	0.07	0.53	< 0.005	0.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.59	1.59	< 0.005	< 0.005	—	1.60
Energy	0.01	0.01	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	1,521	1,521	0.06	0.01	—	1,524
Water	—	—	—	—	—	—	—	—	—	—	—	3.52	12.8	16.3	0.01	0.01	—	18.9
Waste	—	—	—	—	—	—	—	—	—	—	—	14.3	0.00	14.3	1.43	0.00	—	50.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,451	1,451
Stationary	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	0.01	0.01	< 0.005	< 0.005	0.00	0.01
Total	10.8	9.86	15.6	111	0.29	0.24	25.3	25.5	0.23	6.43	6.65	17.9	31,364	31,382	2.67	1.29	1,504	33,337
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.95	1.70	2.83	20.1	0.05	0.04	4.61	4.66	0.04	1.17	1.21	—	4,939	4,939	0.19	0.21	8.66	5,015
Area	0.01	0.10	< 0.005	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.26	0.26	< 0.005	< 0.005	—	0.26
Energy	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	252	252	0.01	< 0.005	—	252
Water	—	—	—	—	—	—	—	—	—	—	—	0.58	2.12	2.70	< 0.005	< 0.005	—	3.13
Waste	—	—	—	—	—	—	—	—	—	—	—	2.37	0.00	2.37	0.24	0.00	—	8.31
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	240	240
Stationary	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005
Total	1.96	1.80	2.85	20.2	0.05	0.04	4.61	4.66	0.04	1.17	1.21	2.96	5,193	5,196	0.44	0.21	249	5,519

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
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	1.97	1.80	< 0.005	0.09	—	0.09	0.08	—	0.08	—	290	290	0.01	< 0.005	—	291
Dust From Material Movement	—	—	—	—	—	—	0.42	0.42	—	0.22	0.22	—	—	—	—	—	—	—
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	0.36	0.33	< 0.005	0.02	—	0.02	0.01	—	0.01	—	48.0	48.0	< 0.005	< 0.005	—	48.2

Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	0.83	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	180	180	< 0.005	0.01	0.02	182
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	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.02	10.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	1.70
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. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.62	3.62	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.75	0.63	6.11	5.37	0.01	0.26	—	0.26	0.24	—	0.24	—	1,175	1,175	0.05	0.01	—	1,179
Dust From Material Movement	—	—	—	—	—	—	0.64	0.64	—	0.25	0.25	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	1.11	0.98	< 0.005	0.05	—	0.05	0.04	—	0.04	—	195	195	0.01	< 0.005	—	195
Dust From Material Movement	—	—	—	—	—	—	0.12	0.12	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.07	1.30	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	232	232	0.01	0.01	0.95	235
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	1.00	0.25	14.8	5.51	0.09	0.14	1.99	2.13	0.14	0.53	0.67	—	7,932	7,932	0.75	1.28	16.5	8,348
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.17	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	37.6	37.6	< 0.005	< 0.005	0.07	38.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.18	0.04	2.79	0.99	0.02	0.03	0.35	0.37	0.03	0.09	0.12	—	1,412	1,412	0.13	0.23	1.27	1,485
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.22	6.22	< 0.005	< 0.005	0.01	6.31
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	0.03	0.01	0.51	0.18	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	234	234	0.02	0.04	0.21	246

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.27	3.82	0.01	0.15	—	0.15	0.13	—	0.13	—	699	699	0.03	0.01	—	702
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.06	0.60	0.70	< 0.005	0.03	—	0.03	0.02	—	0.02	—	116	116	< 0.005	< 0.005	—	116
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	0.02	0.02	0.01	0.27	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	48.2	48.2	< 0.005	< 0.005	0.20	48.9
Vendor	0.01	< 0.005	0.12	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	62.8	62.8	< 0.005	0.01	0.16	65.8
Hauling	0.02	< 0.005	0.28	0.11	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	151	151	0.01	0.02	0.32	159
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.20	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	42.8	42.8	< 0.005	< 0.005	0.01	43.3
Vendor	0.01	< 0.005	0.13	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	62.8	62.8	< 0.005	0.01	< 0.005	65.6
Hauling	0.02	< 0.005	0.30	0.11	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	151	151	0.01	0.02	0.01	159
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.8	12.8	< 0.005	< 0.005	0.02	13.0
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	18.3	18.3	< 0.005	< 0.005	0.02	19.2
Hauling	0.01	< 0.005	0.09	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	44.1	44.1	< 0.005	0.01	0.04	46.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.12	2.12	< 0.005	< 0.005	< 0.005	2.15
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.03	3.03	< 0.005	< 0.005	< 0.005	3.17
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.31	7.31	< 0.005	< 0.005	0.01	7.68

3.7. Building Construction (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.65	0.82	< 0.005	0.03	—	0.03	0.02	—	0.02	—	150	150	0.01	< 0.005	—	151
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.12	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.9	24.9	< 0.005	< 0.005	—	24.9

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	0.02	0.02	0.02	0.18	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	41.9	41.9	< 0.005	< 0.005	< 0.005	42.5
Vendor	0.01	< 0.005	0.12	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.6	61.6	< 0.005	0.01	< 0.005	64.4
Hauling	0.02	< 0.005	0.29	0.10	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	148	148	0.01	0.02	0.01	156
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.69	2.69	< 0.005	< 0.005	< 0.005	2.73
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.86	3.86	< 0.005	< 0.005	< 0.005	4.04
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.28	9.28	< 0.005	< 0.005	0.01	9.75
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.45	0.45	< 0.005	< 0.005	< 0.005	0.45
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.64	0.64	< 0.005	< 0.005	< 0.005	0.67
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.54	1.54	< 0.005	< 0.005	< 0.005	1.61

3.9. Paving (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	1.52	1.28	11.7	15.0	0.02	0.58	—	0.58	0.54	—	0.54	—	2,267	2,267	0.09	0.02	—	2,275
Paving	—	2.48	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	0.80	1.03	< 0.005	0.04	—	0.04	0.04	—	0.04	—	155	155	0.01	< 0.005	—	156
Paving	—	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.7	25.7	< 0.005	< 0.005	—	25.8
Paving	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.07	1.46	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	261	261	0.01	0.01	1.07	265
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.3	16.3	< 0.005	< 0.005	0.03	16.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.69	2.69	< 0.005	< 0.005	0.01	2.73
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

3.11. Architectural Coating (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	9.44	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.10	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.7
Architectural Coatings	—	1.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.42	2.42	< 0.005	< 0.005	—	2.43
Architectural Coatings	—	0.19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.38	8.38	< 0.005	< 0.005	< 0.005	8.49
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	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.94	0.94	< 0.005	< 0.005	< 0.005	0.96
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.16	0.16	< 0.005	< 0.005	< 0.005	0.16
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Government Office Building	0.28	0.25	0.33	3.34	0.01	0.01	0.63	0.63	0.01	0.16	0.17	—	775	775	0.03	0.03	2.94	787
Convenience Market (24 hour)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
User Defined Industrial	0.02	< 0.005	0.27	0.11	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	153	153	0.01	0.02	0.32	161
Parking Lot	11.3	9.96	13.4	134	0.30	0.23	25.2	25.5	0.21	6.41	6.62	—	31,117	31,117	1.10	1.16	118	31,607
Total	11.6	10.2	14.0	138	0.31	0.23	25.9	26.1	0.22	6.58	6.80	—	32,045	32,045	1.14	1.21	121	32,555
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Governm Office Building	0.26	0.23	0.40	2.64	0.01	0.01	0.63	0.63	0.01	0.16	0.17	—	707	707	0.03	0.03	0.08	717
Convenience Market (24 hour)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
User Defined Industrial	0.02	< 0.005	0.30	0.11	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	153	153	0.01	0.02	0.01	160
Parking Lot	10.5	9.13	15.9	106	0.28	0.23	25.2	25.5	0.21	6.41	6.62	—	28,388	28,388	1.18	1.27	3.06	28,800
Total	10.7	9.36	16.6	109	0.29	0.23	25.9	26.1	0.22	6.58	6.80	—	29,248	29,248	1.22	1.33	3.14	29,678
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Government Office Building	0.05	0.04	0.07	0.49	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	119	119	< 0.005	0.01	0.21	121
Convenience Market (24 hour)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
User Defined Industrial	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.3	25.3	< 0.005	< 0.005	0.02	26.5
Parking Lot	1.90	1.66	2.71	19.6	0.05	0.04	4.50	4.54	0.04	1.14	1.18	—	4,794	4,794	0.19	0.20	8.43	4,867
Total	1.95	1.70	2.83	20.1	0.05	0.04	4.61	4.66	0.04	1.17	1.21	—	4,939	4,939	0.19	0.21	8.66	5,015

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 Office Building	—	—	—	—	—	—	—	—	—	—	—	—	70.9	70.9	< 0.005	< 0.005	—	71.1
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	70.9	70.9	< 0.005	< 0.005	—	71.1
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	—	341	341	0.01	< 0.005	—	342
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	929	929	0.03	< 0.005	—	931
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,412	1,412	0.05	0.01	—	1,415
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	70.9	70.9	< 0.005	< 0.005	—	71.1
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	70.9	70.9	< 0.005	< 0.005	—	71.1

Convenience	—	—	—	—	—	—	—	—	—	—	—	—	341	341	0.01	< 0.005	—	342
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	929	929	0.03	< 0.005	—	931
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,412	1,412	0.05	0.01	—	1,415
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	11.7	11.7	< 0.005	< 0.005	—	11.8
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	11.7	11.7	< 0.005	< 0.005	—	11.8
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	—	56.5	56.5	< 0.005	< 0.005	—	56.6
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	154	154	0.01	< 0.005	—	154
Total	—	—	—	—	—	—	—	—	—	—	—	—	234	234	0.01	< 0.005	—	234

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 Office Building	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.0	32.0	< 0.005	< 0.005	—	32.1
Government Office Building	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.0	32.0	< 0.005	< 0.005	—	32.1
Convenience Market (24 hour)	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	45.1	45.1	< 0.005	< 0.005	—	45.3
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	109	109	0.01	< 0.005	—	109
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.0	32.0	< 0.005	< 0.005	—	32.1
Government Office Building	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.0	32.0	< 0.005	< 0.005	—	32.1
Convenience Market (24 hour)	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	45.1	45.1	< 0.005	< 0.005	—	45.3
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Total	0.01	0.01	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	109	109	0.01	< 0.005	—	109
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.30	5.30	< 0.005	< 0.005	—	5.31
Government Office Building	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.30	5.30	< 0.005	< 0.005	—	5.31
Convenience Market (24 hour)	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.47	7.47	< 0.005	< 0.005	—	7.49
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.1	18.1	< 0.005	< 0.005	—	18.1

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landsca Equipment	0.10	0.09	< 0.005	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.33	2.33	< 0.005	< 0.005	—	2.33
Total	0.10	0.56	< 0.005	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.33	2.33	< 0.005	< 0.005	—	2.33
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.26	0.26	< 0.005	< 0.005	—	0.26
Total	0.01	0.10	< 0.005	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.26	0.26	< 0.005	< 0.005	—	0.26

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.14	1.48	2.62	< 0.005	< 0.005	—	3.46
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	1.27	1.66	2.93	< 0.005	< 0.005	—	3.87
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	1.11	1.44	2.55	< 0.005	< 0.005	—	3.37
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	8.21	8.21	< 0.005	< 0.005	—	8.23
Total	—	—	—	—	—	—	—	—	—	—	—	3.52	12.8	16.3	0.01	0.01	—	18.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.14	1.48	2.62	< 0.005	< 0.005	—	3.46
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	1.27	1.66	2.93	< 0.005	< 0.005	—	3.87
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	1.11	1.44	2.55	< 0.005	< 0.005	—	3.37
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	8.21	8.21	< 0.005	< 0.005	—	8.23
Total	—	—	—	—	—	—	—	—	—	—	—	3.52	12.8	16.3	0.01	0.01	—	18.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.19	0.25	0.43	< 0.005	< 0.005	—	0.57
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	0.21	0.27	0.48	< 0.005	< 0.005	—	0.64
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	0.18	0.24	0.42	< 0.005	< 0.005	—	0.56
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	1.36	1.36	< 0.005	< 0.005	—	1.36
Total	—	—	—	—	—	—	—	—	—	—	—	0.58	2.12	2.70	< 0.005	< 0.005	—	3.13

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.50	0.00	1.50	0.15	0.00	—	5.26

Governm Office Building	—	—	—	—	—	—	—	—	—	—	—	1.50	0.00	1.50	0.15	0.00	—	5.26
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	11.3	0.00	11.3	1.13	0.00	—	39.7
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14.3	0.00	14.3	1.43	0.00	—	50.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.50	0.00	1.50	0.15	0.00	—	5.26
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	1.50	0.00	1.50	0.15	0.00	—	5.26
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	11.3	0.00	11.3	1.13	0.00	—	39.7
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14.3	0.00	14.3	1.43	0.00	—	50.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.25	0.00	0.25	0.02	0.00	—	0.87
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	0.25	0.00	0.25	0.02	0.00	—	0.87
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	1.88	0.00	1.88	0.19	0.00	—	6.57
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.37	0.00	2.37	0.24	0.00	—	8.31

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01

Convenience	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,451	1,451
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,451	1,451
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,451	1,451
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,451	1,451
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	240	240
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	240	240

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fire Pump	0.01	< 0.005	0.03	0.03	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.52	2.52	< 0.005	< 0.005	0.00	2.53
Total	0.01	< 0.005	0.03	0.03	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.52	2.52	< 0.005	< 0.005	0.00	2.53
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Fire Pump	0.01	< 0.005	0.03	0.03	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.52	2.52	< 0.005	< 0.005	0.00	2.53
Total	0.01	< 0.005	0.03	0.03	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.52	2.52	< 0.005	< 0.005	0.00	2.53
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fire Pump	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005

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)

Vegetatio	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

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

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	3/4/2024	3/31/2024	5.00	20.0	—
Grading	Grading	4/1/2024	6/30/2024	5.00	65.0	—
Building Construction	Building Construction	8/5/2024	2/1/2025	5.00	130	—
Paving	Paving	7/1/2024	8/2/2024	5.00	25.0	—
Architectural Coating	Architectural Coating	2/3/2025	3/30/2025	5.00	40.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37

Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	3.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	3.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	3.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	14.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	14.3	LDA,LDT1,LDT2
Grading	Vendor	—	8.80	HHDT,MHDT
Grading	Hauling	105	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	4.16	14.3	LDA,LDT1,LDT2
Building Construction	Vendor	2.13	8.80	HHDT,MHDT

Building Construction	Hauling	2.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	22.5	14.3	LDA,LDT1,LDT2
Paving	Vendor	—	8.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.83	14.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	19,500	6,500	61,946

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)
Site Preparation	—	—	30.0	0.00	—
Grading	54,500	—	195	0.00	—
Paving	0.00	0.00	0.00	0.00	23.7

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Office Building	0.00	0%
Government Office Building	0.00	0%
Convenience Market (24 hour)	0.00	0%
User Defined Industrial	0.00	0%
Parking Lot	23.7	100%

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	375	0.01	< 0.005
2025	0.00	375	0.01	< 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 Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Government Office Building	43.0	43.0	43.0	15,695	886	886	886	323,437
Convenience Market (24 hour)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
User Defined Industrial	2.00	2.00	2.00	730	41.2	41.2	41.2	15,044
Parking Lot	1,726	1,726	1,726	629,990	35,569	35,569	35,569	12,982,601

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	19,500	6,500	61,946

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

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 Office Building	69,073	375	0.0129	0.0017	99,809
Government Office Building	69,073	375	0.0129	0.0017	99,809
Convenience Market (24 hour)	332,091	375	0.0129	0.0017	140,829
User Defined Industrial	0.00	375	0.0129	0.0017	0.00
Parking Lot	904,417	375	0.0129	0.0017	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Office Building	533,201	0.00
Government Office Building	595,979	0.00
Convenience Market (24 hour)	518,508	0.00
User Defined Industrial	0.00	0.00
Parking Lot	0.00	4,958,234

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Office Building	2.79	—
Government Office Building	2.79	—

Convenience Market (24 hour)	21.0	—
User Defined Industrial	0.00	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Government Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Government Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Convenience Market (24 hour)	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Convenience Market (24 hour)	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	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
Fire Pump	Diesel	1.00	1.00	2.00	3.00	0.73

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	25.0	annual days of extreme heat
Extreme Precipitation	4.55	annual days with precipitation above 20 mm
Sea Level Rise	—	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 (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	1	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A

Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

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

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	55.4
AQ-PM	25.1
AQ-DPM	28.0
Drinking Water	51.5
Lead Risk Housing	1.68
Pesticides	76.8
Toxic Releases	30.9
Traffic	58.0
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	1.80
Impaired Water Bodies	58.7
Solid Waste	0.00
Sensitive Population	—
Asthma	48.0
Cardio-vascular	66.7
Low Birth Weights	62.1
Socioeconomic Factor Indicators	—
Education	30.0
Housing	5.22
Linguistic	41.4
Poverty	2.60
Unemployment	4.89

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	86.17990504
Employed	97.69023483
Median HI	84.07545233
Education	—
Bachelor's or higher	88.66931862
High school enrollment	100
Preschool enrollment	36.28897729
Transportation	—
Auto Access	64.27563198
Active commuting	7.378416528
Social	—
2-parent households	63.49287822
Voting	80.91877326
Neighborhood	—
Alcohol availability	97.0101373
Park access	62.10701912
Retail density	3.862440652
Supermarket access	8.122674195
Tree canopy	28.94905685
Housing	—
Homeownership	66.14910817
Housing habitability	90.47863467
Low-inc homeowner severe housing cost burden	33.44026691
Low-inc renter severe housing cost burden	96.31720775
Uncrowded housing	96.93314513

Health Outcomes	—
Insured adults	83.67765944
Arthritis	93.0
Asthma ER Admissions	54.2
High Blood Pressure	62.1
Cancer (excluding skin)	71.8
Asthma	72.9
Coronary Heart Disease	96.0
Chronic Obstructive Pulmonary Disease	94.6
Diagnosed Diabetes	91.9
Life Expectancy at Birth	78.1
Cognitively Disabled	28.0
Physically Disabled	90.7
Heart Attack ER Admissions	51.9
Mental Health Not Good	80.9
Chronic Kidney Disease	93.4
Obesity	68.0
Pedestrian Injuries	62.9
Physical Health Not Good	93.2
Stroke	93.8
Health Risk Behaviors	—
Binge Drinking	22.7
Current Smoker	70.0
No Leisure Time for Physical Activity	89.3
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0

Children	67.0
Elderly	69.3
English Speaking	54.0
Foreign-born	48.6
Outdoor Workers	96.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	50.2
Traffic Density	60.3
Traffic Access	23.0
Other Indices	—
Hardship	9.2
Other Decision Support	—
2016 Voting	70.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	26.0
Healthy Places Index Score for Project Location (b)	87.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
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	Per Project Description
Construction: Construction Phases	Per Construction Questionnaire
Operations: Vehicle Data	Per Trip Generation
Construction: Off-Road Equipment	Additional Paving equipment added to account for off-site road widening improvements
Operations: Fleet Mix	Watering Trucks anticipated to be HHD
Construction: Trips and VMT	Anticipated number of hauling trips for solar friends - 210 trips for entire phase

SWIFT Watt EV - GHG v2 Detailed Report

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5.9.1. Unmitigated

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	SWIFT Watt EV - GHG v2
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.60
Precipitation (days)	37.6
Location	38.668893303853594, -121.58015224137901
County	Sacramento
City	Unincorporated
Air District	Sacramento Metropolitan AQMD
Air Basin	Sacramento Valley
TAZ	602
EDFZ	13
Electric Utility	Sacramento Municipal Utility District
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.20

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 Office Building	3.00	1000sqft	0.07	3,000	0.00	—	—	—

Government Office Building	3.00	1000sqft	0.07	3,000	0.00	—	—	—
Convenience Market (24 hour)	7.00	1000sqft	0.16	7,000	0.00	—	—	—
User Defined Industrial	94.0	User Defined Unit	94.0	0.00	0.00	—	—	—
Parking Lot	23.7	Acre	23.7	0.00	355,013	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

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.	11.7	10.8	13.9	138	0.31	0.24	25.9	26.1	0.23	6.57	6.80	17.9	33,433	33,450	2.63	1.20	1,572	35,446
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.7	9.83	16.4	109	0.29	0.24	25.9	26.1	0.23	6.57	6.80	17.9	30,633	30,651	2.71	1.32	1,454	32,566
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.7	9.86	15.3	111	0.29	0.24	25.2	25.5	0.22	6.42	6.64	17.9	31,214	31,231	2.66	1.26	1,503	33,178
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.96	1.80	2.80	20.2	0.05	0.04	4.61	4.65	0.04	1.17	1.21	2.96	5,168	5,171	0.44	0.21	249	5,493

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	11.5	10.2	13.8	137	0.31	0.23	25.9	26.1	0.22	6.57	6.79	—	31,894	31,894	1.12	1.19	121	32,397
Area	0.10	0.56	< 0.005	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.33	2.33	< 0.005	< 0.005	—	2.33
Energy	0.01	0.01	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	1,521	1,521	0.06	0.01	—	1,524
Water	—	—	—	—	—	—	—	—	—	—	—	3.52	12.8	16.3	0.01	0.01	—	18.9
Waste	—	—	—	—	—	—	—	—	—	—	—	14.3	0.00	14.3	1.43	0.00	—	50.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,451	1,451
Stationary	0.01	< 0.005	0.03	0.03	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.52	2.52	< 0.005	< 0.005	0.00	2.53
Total	11.7	10.8	13.9	138	0.31	0.24	25.9	26.1	0.23	6.57	6.80	17.9	33,433	33,450	2.63	1.20	1,572	35,446
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	10.7	9.36	16.3	109	0.28	0.23	25.9	26.1	0.22	6.57	6.79	—	29,097	29,097	1.21	1.31	3.13	29,519
Area	—	0.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.01	0.01	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	1,521	1,521	0.06	0.01	—	1,524
Water	—	—	—	—	—	—	—	—	—	—	—	3.52	12.8	16.3	0.01	0.01	—	18.9
Waste	—	—	—	—	—	—	—	—	—	—	—	14.3	0.00	14.3	1.43	0.00	—	50.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,451	1,451
Stationary	0.01	< 0.005	0.03	0.03	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.52	2.52	< 0.005	< 0.005	0.00	2.53
Total	10.7	9.83	16.4	109	0.29	0.24	25.9	26.1	0.23	6.57	6.80	17.9	30,633	30,651	2.71	1.32	1,454	32,566
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	10.7	9.33	15.2	110	0.29	0.23	25.2	25.5	0.22	6.42	6.63	—	29,678	29,678	1.16	1.25	52.2	30,132
Area	0.07	0.53	< 0.005	0.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.59	1.59	< 0.005	< 0.005	—	1.60
Energy	0.01	0.01	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	1,521	1,521	0.06	0.01	—	1,524
Water	—	—	—	—	—	—	—	—	—	—	—	3.52	12.8	16.3	0.01	0.01	—	18.9
Waste	—	—	—	—	—	—	—	—	—	—	—	14.3	0.00	14.3	1.43	0.00	—	50.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,451	1,451
Stationary	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	0.01	0.01	< 0.005	< 0.005	0.00	0.01
Total	10.7	9.86	15.3	111	0.29	0.24	25.2	25.5	0.22	6.42	6.64	17.9	31,214	31,231	2.66	1.26	1,503	33,178
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.95	1.70	2.78	20.1	0.05	0.04	4.61	4.65	0.04	1.17	1.21	—	4,914	4,914	0.19	0.21	8.64	4,989
Area	0.01	0.10	< 0.005	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.26	0.26	< 0.005	< 0.005	—	0.26
Energy	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	252	252	0.01	< 0.005	—	252
Water	—	—	—	—	—	—	—	—	—	—	—	0.58	2.12	2.70	< 0.005	< 0.005	—	3.13
Waste	—	—	—	—	—	—	—	—	—	—	—	2.37	0.00	2.37	0.24	0.00	—	8.31
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	240	240
Stationary	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005
Total	1.96	1.80	2.80	20.2	0.05	0.04	4.61	4.65	0.04	1.17	1.21	2.96	5,168	5,171	0.44	0.21	249	5,493

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 Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Government Office Building	0.28	0.25	0.33	3.34	0.01	0.01	0.63	0.63	0.01	0.16	0.17	—	775	775	0.03	0.03	2.94	787
Convenience Market (24 hour)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	1.76
Parking Lot	11.3	9.96	13.4	134	0.30	0.23	25.2	25.5	0.21	6.41	6.62	—	31,117	31,117	1.10	1.16	118	31,607
Total	11.5	10.2	13.8	137	0.31	0.23	25.9	26.1	0.22	6.57	6.79	—	31,894	31,894	1.12	1.19	121	32,397
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Government Office Building	0.26	0.23	0.40	2.64	0.01	0.01	0.63	0.63	0.01	0.16	0.17	—	707	707	0.03	0.03	0.08	717
Convenience Market (24 hour)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	1.76

Parking Lot	10.5	9.13	15.9	106	0.28	0.23	25.2	25.5	0.21	6.41	6.62	—	28,388	28,388	1.18	1.27	3.06	28,800
Total	10.7	9.36	16.3	109	0.28	0.23	25.9	26.1	0.22	6.57	6.79	—	29,097	29,097	1.21	1.31	3.13	29,519
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Government Office Building	0.05	0.04	0.07	0.49	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	119	119	< 0.005	0.01	0.21	121
Convenience Market (24 hour)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.29
Parking Lot	1.90	1.66	2.71	19.6	0.05	0.04	4.50	4.54	0.04	1.14	1.18	—	4,794	4,794	0.19	0.20	8.43	4,867
Total	1.95	1.70	2.78	20.1	0.05	0.04	4.61	4.65	0.04	1.17	1.21	—	4,914	4,914	0.19	0.21	8.64	4,989

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 Office Building	—	—	—	—	—	—	—	—	—	—	—	—	70.9	70.9	< 0.005	< 0.005	—	71.1

Governm Office Building	—	—	—	—	—	—	—	—	—	—	—	—	70.9	70.9	< 0.005	< 0.005	—	71.1
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	—	341	341	0.01	< 0.005	—	342
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	929	929	0.03	< 0.005	—	931
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,412	1,412	0.05	0.01	—	1,415
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	70.9	70.9	< 0.005	< 0.005	—	71.1
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	70.9	70.9	< 0.005	< 0.005	—	71.1
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	—	341	341	0.01	< 0.005	—	342
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	929	929	0.03	< 0.005	—	931
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,412	1,412	0.05	0.01	—	1,415
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	11.7	11.7	< 0.005	< 0.005	—	11.8
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	11.7	11.7	< 0.005	< 0.005	—	11.8
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	—	56.5	56.5	< 0.005	< 0.005	—	56.6
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	154	154	0.01	< 0.005	—	154
Total	—	—	—	—	—	—	—	—	—	—	—	—	234	234	0.01	< 0.005	—	234

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 Office Building	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.0	32.0	< 0.005	< 0.005	—	32.1
Government Office Building	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.0	32.0	< 0.005	< 0.005	—	32.1

Convenience Market (24 hour)	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	45.1	45.1	< 0.005	< 0.005	—	45.3
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	109	109	0.01	< 0.005	—	109
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.0	32.0	< 0.005	< 0.005	—	32.1
Government Office Building	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.0	32.0	< 0.005	< 0.005	—	32.1
Convenience Market (24 hour)	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	45.1	45.1	< 0.005	< 0.005	—	45.3
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	109	109	0.01	< 0.005	—	109
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.30	5.30	< 0.005	< 0.005	—	5.31

Government Office Building	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.30	5.30	< 0.005	< 0.005	—	5.31
Convenience Market (24 hour)	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.47	7.47	< 0.005	< 0.005	—	7.49
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.1	18.1	< 0.005	< 0.005	—	18.1

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.10	0.09	< 0.005	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.33	2.33	< 0.005	< 0.005	—	2.33
Total	0.10	0.56	< 0.005	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.33	2.33	< 0.005	< 0.005	—	2.33

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.26	0.26	< 0.005	< 0.005	—	0.26
Total	0.01	0.10	< 0.005	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.26	0.26	< 0.005	< 0.005	—	0.26

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.14	1.48	2.62	< 0.005	< 0.005	—	3.46
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	1.27	1.66	2.93	< 0.005	< 0.005	—	3.87
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	1.11	1.44	2.55	< 0.005	< 0.005	—	3.37
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	8.21	8.21	< 0.005	< 0.005	—	8.23
Total	—	—	—	—	—	—	—	—	—	—	—	3.52	12.8	16.3	0.01	0.01	—	18.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.14	1.48	2.62	< 0.005	< 0.005	—	3.46
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	1.27	1.66	2.93	< 0.005	< 0.005	—	3.87
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	1.11	1.44	2.55	< 0.005	< 0.005	—	3.37
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	8.21	8.21	< 0.005	< 0.005	—	8.23

Total	—	—	—	—	—	—	—	—	—	—	—	3.52	12.8	16.3	0.01	0.01	—	18.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.19	0.25	0.43	< 0.005	< 0.005	—	0.57
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	0.21	0.27	0.48	< 0.005	< 0.005	—	0.64
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	0.18	0.24	0.42	< 0.005	< 0.005	—	0.56
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	1.36	1.36	< 0.005	< 0.005	—	1.36
Total	—	—	—	—	—	—	—	—	—	—	—	0.58	2.12	2.70	< 0.005	< 0.005	—	3.13

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.50	0.00	1.50	0.15	0.00	—	5.26

Government Office Building	—	—	—	—	—	—	—	—	—	—	—	1.50	0.00	1.50	0.15	0.00	—	5.26
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	11.3	0.00	11.3	1.13	0.00	—	39.7
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14.3	0.00	14.3	1.43	0.00	—	50.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.50	0.00	1.50	0.15	0.00	—	5.26
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	1.50	0.00	1.50	0.15	0.00	—	5.26
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	11.3	0.00	11.3	1.13	0.00	—	39.7
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14.3	0.00	14.3	1.43	0.00	—	50.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.25	0.00	0.25	0.02	0.00	—	0.87
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	0.25	0.00	0.25	0.02	0.00	—	0.87
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	1.88	0.00	1.88	0.19	0.00	—	6.57
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.37	0.00	2.37	0.24	0.00	—	8.31

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01

Convenience	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,451	1,451
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,451	1,451
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,451	1,451
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,451	1,451
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	240	240
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	240	240

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fire Pump	0.01	< 0.005	0.03	0.03	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.52	2.52	< 0.005	< 0.005	0.00	2.53
Total	0.01	< 0.005	0.03	0.03	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.52	2.52	< 0.005	< 0.005	0.00	2.53
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Fire Pump	0.01	< 0.005	0.03	0.03	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.52	2.52	< 0.005	< 0.005	0.00	2.53
Total	0.01	< 0.005	0.03	0.03	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.52	2.52	< 0.005	< 0.005	0.00	2.53
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fire Pump	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005

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)

Vegetatio	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

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

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. 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 Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Government Office Building	43.0	43.0	43.0	15,695	886	886	886	323,437
Convenience Market (24 hour)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
User Defined Industrial	0.02	0.02	0.02	8.00	0.45	0.45	0.45	165
Parking Lot	1,726	1,726	1,726	629,990	35,569	35,569	35,569	12,982,601

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	19,500	6,500	61,946

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

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 Office Building	69,073	375	0.0129	0.0017	99,809
Government Office Building	69,073	375	0.0129	0.0017	99,809
Convenience Market (24 hour)	332,091	375	0.0129	0.0017	140,829
User Defined Industrial	0.00	375	0.0129	0.0017	0.00
Parking Lot	904,417	375	0.0129	0.0017	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Office Building	533,201	0.00
Government Office Building	595,979	0.00
Convenience Market (24 hour)	518,508	0.00
User Defined Industrial	0.00	0.00
Parking Lot	0.00	4,958,234

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Office Building	2.79	—
Government Office Building	2.79	—
Convenience Market (24 hour)	21.0	—
User Defined Industrial	0.00	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Government Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Government Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Convenience Market (24 hour)	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Convenience Market (24 hour)	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	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
Fire Pump	Diesel	1.00	1.00	2.00	3.00	0.73

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	25.0	annual days of extreme heat
Extreme Precipitation	4.55	annual days with precipitation above 20 mm
Sea Level Rise	—	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 (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	1	0	0	N/A

Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

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

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	55.4
AQ-PM	25.1
AQ-DPM	28.0
Drinking Water	51.5
Lead Risk Housing	1.68
Pesticides	76.8
Toxic Releases	30.9
Traffic	58.0
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	1.80
Impaired Water Bodies	58.7
Solid Waste	0.00
Sensitive Population	—
Asthma	48.0
Cardio-vascular	66.7
Low Birth Weights	62.1
Socioeconomic Factor Indicators	—
Education	30.0
Housing	5.22

Linguistic	41.4
Poverty	2.60
Unemployment	4.89

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	86.17990504
Employed	97.69023483
Median HI	84.07545233
Education	—
Bachelor's or higher	88.66931862
High school enrollment	100
Preschool enrollment	36.28897729
Transportation	—
Auto Access	64.27563198
Active commuting	7.378416528
Social	—
2-parent households	63.49287822
Voting	80.91877326
Neighborhood	—
Alcohol availability	97.0101373
Park access	62.10701912
Retail density	3.862440652
Supermarket access	8.122674195
Tree canopy	28.94905685

Housing	—
Homeownership	66.14910817
Housing habitability	90.47863467
Low-inc homeowner severe housing cost burden	33.44026691
Low-inc renter severe housing cost burden	96.31720775
Uncrowded housing	96.93314513
Health Outcomes	—
Insured adults	83.67765944
Arthritis	93.0
Asthma ER Admissions	54.2
High Blood Pressure	62.1
Cancer (excluding skin)	71.8
Asthma	72.9
Coronary Heart Disease	96.0
Chronic Obstructive Pulmonary Disease	94.6
Diagnosed Diabetes	91.9
Life Expectancy at Birth	78.1
Cognitively Disabled	28.0
Physically Disabled	90.7
Heart Attack ER Admissions	51.9
Mental Health Not Good	80.9
Chronic Kidney Disease	93.4
Obesity	68.0
Pedestrian Injuries	62.9
Physical Health Not Good	93.2
Stroke	93.8
Health Risk Behaviors	—

Binge Drinking	22.7
Current Smoker	70.0
No Leisure Time for Physical Activity	89.3
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	67.0
Elderly	69.3
English Speaking	54.0
Foreign-born	48.6
Outdoor Workers	96.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	50.2
Traffic Density	60.3
Traffic Access	23.0
Other Indices	—
Hardship	9.2
Other Decision Support	—
2016 Voting	70.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	26.0
Healthy Places Index Score for Project Location (b)	87.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
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	Per Project Description
Construction: Construction Phases	Per Construction Questionnaire
Operations: Vehicle Data	Per Trip Generation
Construction: Off-Road Equipment	Additional Paving equipment added to account for off-site road widening improvements
Operations: Fleet Mix	Watering Trucks anticipated to be HHD

Attachment C

Hazardous Air Pollutants Inventory (ESA, 2024)

Annual HAP Pollutant Emissions Summary

	No Action		Proposed Project	
	2026	2031	2026	2031
HAP Pollutant	Emissions (tons/year)	Emissions (tons/year)	Emissions (tons/year)	Emissions (tons/year)
1,1,1-Trichloroethane	0.00E+00	0.00E+00	0	0
1,3-Butadiene	4.74E-07	3.45E-07	0	0
2,2,4-Trimethylpentane	8.62E-06	6.89E-06	0	0
2-Methylnaphthalene	0.00E+00	0.00E+00	0	0
Acetaldehyde	3.09E-08	2.26E-08	0	0
Acetone	0.00E+00	0.00E+00	0	0
Acrolein	0.00E+00	0.00E+00	0	0
Benzaldehyde	0.00E+00	0.00E+00	0	0
Benzene	1.82E-05	1.42E-05	0	0
Butyl cellosolve	0.00E+00	0.00E+00	0	0
Chlorobenzene	0.00E+00	0.00E+00	0	0
Cyclohexane	2.52E-07	1.89E-07	0	0
Dichloromethane	0.00E+00	0.00E+00	0	0
Thyl acetate	0.00E+00	0.00E+00	0	0
Ethyl ether	0.00E+00	0.00E+00	0	0
Ethylbenzene	0.00E+00	0.00E+00	0	0
Ethylene bromide	0.00E+00	0.00E+00	0	0
Ethylene glycol	0.00E+00	0.00E+00	0	0
Formaldehyde	1.21E-06	8.83E-07	0	0
Isomers of xylene	0.00E+00	0.00E+00	0	0
Isopropylbenzene	0.00E+00	0.00E+00	0	0
m & p-Xylene	0.00E+00	0.00E+00	0	0
Methyl alcohol	0.00E+00	0.00E+00	0	0
Methyl chloride	0.00E+00	0.00E+00	0	0
Methyl ethyl ketone	0.00E+00	0.00E+00	0	0
Methyl tert butyl ether	0.00E+00	0.00E+00	0	0
m-xylene	9.53E-06	7.49E-06	0	0
Naphthalene	0.00E+00	0.00E+00	0	0
n-Butyl alcohol	0.00E+00	0.00E+00	0	0
n-Heptane	2.50E-07	1.82E-07	0	0
n-Hexane	0.00E+00	0.00E+00	0	0
o-Xylene	1.37E-05	1.00E-05	0	0
Perchloroethylene	0.00E+00	0.00E+00	0	0
Phenol (carbolic acid)	0.00E+00	0.00E+00	0	0
Phthalic anhydride	0.00E+00	0.00E+00	0	0
Propionaldehyde	3.39E-07	2.47E-07	0	0
Styrene	1.96E-07	1.48E-07	0	0
Toluene	3.09E-05	2.45E-05	0	0
Trichloroethylene	0.00E+00	0.00E+00	0	0
Trichlorotrifluoroethan	0.00E+00	0.00E+00	0	0
Vinyl acetate	0.00E+00	0.00E+00	0	0
Arsenic	0.00E+00	0.00E+00	3.41497E-10	3.32421E-10
Chromium	4.04E-07	3.93E-07	6.0838E-08	5.99482E-08
Lead	0.00E+00	0.00E+00	0	0
Manganese	2.48E-08	2.39E-08	0	0
Mercury	0.00E+00	0.00E+00	0	0
Nickel	0.00E+00	0.00E+00	1.26354E-07	1.22996E-07

VEHICLE	FUEL	POLLUTAI	MODE		ARB PROFILE	ARB PROFILE NAME
GASOLINE VEHICLES	GAS	TOG	RUNEX	2303	2304	Gasoline - catalyst - stabilized exhaust - E6 summer (ARB VSP17)
	GAS	TOG	STREX	2301	2302	Gasoline - catalyst - Bag1-3 start - E6 summer (ARB VSP17)
	GAS	TOG	HTSK	2305	2306	Gasoline Vehicle Hot Soak Evaporation - E6 Summer Grade
	GAS	TOG	RUNLS	2305	2306	Gasoline Vehicle Hot Soak Evaporation - E6 Summer Grade
	GAS	PM10	RUNEX	400		GASOLINE VEHICLES-CATALYST
DIESEL VEHICLES	DSL	TOG	RUNEX	818		Farm equipment - diesel - light & heavy - (ems=actual weight)
	DSL	PM10	RUNEX	6203		2020 HDDT-transient
ALL VEHICLES	ALL	PM10	PMTW	**472**		TIRE WEAR
	ALL	PM10	PMBW	**473**		BRAKE WEAR

		GAS	DSL	ALL	ALL	No Action		Poroposed Project	
		RUNEX	RUNEX	PMTW	PMBW	2026	3031	2026	2031
SAROAD	Species	400 (PM10)	6204 (PM10)	472 (PM10)	473 (PM10)	Total PM	Total PM (1)	Total PM10 (2)	Total PM10 (3)
11102	organic compound (OC)	0	0.339089	0.4715	0.107	1.54892E-05	1.50E-05	1.35E-05	1.34E-05
11103	noncarbon organic matter (NMOC)	0	0.135636	0	0	8.15011E-07	6.37872E-07	0.00E+00	0.00E+00
12000	unknown	0	0	0.260568	0.303948	1.57943E-05	1.55437E-05	1.58E-05	1.55E-05
12101	aluminum	0	0.000604	0.000605	0.00033	2.74705E-08	2.64408E-08	2.38E-08	2.36E-08
12102	antimony	0	0	0	0	0	0	0.00E+00	0.00E+00
12103	arsenic	0	0	0	0.00001	3.41497E-10	3.32421E-10	3.41E-10	3.32E-10
12104	scandium	0	0	0	0	0	0	0.00E+00	0.00E+00
12105	beryllium	0	0	0	0	0	0	0.00E+00	0.00E+00
12106	bismuth	0	0	0	0	0	0	0.00E+00	0.00E+00
12107	barium	0	0	0.000195	0.05445	1.8635E-06	1.81411E-06	1.86E-06	1.81E-06
12108	boron	0	0	0	0	0	0	0.00E+00	0.00E+00
12109	bromine	0.0005	0	0.000015	0.00004	2.93136E-09	2.5748E-09	1.68E-09	1.64E-09
12110	cadmium	0	0	0	0	0	0	0.00E+00	0.00E+00
		0	0	0	0	0	0	0.00E+00	0.00E+00
12111	calcium	0.0055	0.002506	0.00112	0.0011	8.96865E-08	8.1985E-08	6.08E-08	5.99E-08
12112	chromium	0.0005	0.000158	0.00003	0.0012	4.38061E-08	4.21919E-08	4.16E-08	4.05E-08
12113	cobalt	0.0005	0	0	0	1.25368E-09	9.3196E-10	0.00E+00	0.00E+00
12114	copper	0.0005	0.000092	0.00049	0.011485	4.04198E-07	3.9338E-07	4.02E-07	3.92E-07
12115	chlorine	0.07	0	0.0078	0.0015	3.88821E-07	3.43176E-07	2.13E-07	2.13E-07
12116	elemental carbon (EC)	0.2	0.044758	0.22	0.0261	6.23326E-06	6.04376E-06	5.46E-06	5.46E-06
12117	tellurium	0	0	0	0	0	0	0.00E+00	0.00E+00
12118	cesium	0	0	0	0	0	0	0.00E+00	0.00E+00
12119	tungsten	0	0	0	0	0	0	0.00E+00	0.00E+00
12120	erbium	0	0	0	0	0	0	0.00E+00	0.00E+00
12121	dysprosium	0	0	0	0	0	0	0.00E+00	0.00E+00
12122	ytterbium	0	0	0	0	0	0	0.00E+00	0.00E+00
12123	gadolinium	0	0	0	0	0	0	0.00E+00	0.00E+00
12124	gallium	0	0	0	0	0	0	0.00E+00	0.00E+00
12125	germanium	0	0	0	0	0	0	0.00E+00	0.00E+00
12126	iron	0.0005	0.003692	0.0046	0.287	9.91999E-06	9.65482E-06	9.90E-06	9.64E-06
12127	hafnium	0	0	0	0	0	0	0.00E+00	0.00E+00
12128	lead	0	0	0.00016	0.00005	5.03224E-09	5.00237E-09	5.03E-09	5.00E-09
12129	holmium	0	0	0	0	0	0	0.00E+00	0.00E+00
12131	indium	0	0	0	0	0	0	0.00E+00	0.00E+00
12132	manganese	0.0005	0	0.0001	0.0017	6.13861E-08	5.95313E-08	6.01E-08	5.86E-08
12134	molybdenum	0	0	0	0.0037	1.26354E-07	1.22996E-07	1.26E-07	1.23E-07
12136	nickel	0.0005	0	0.00005	0.00066	2.48315E-08	2.39156E-08	2.36E-08	2.30E-08
12138	lithium	0	0	0	0	0	0	0.00E+00	0.00E+00
12139	lutetium	0	0	0	0	0	0	0.00E+00	0.00E+00
12140	magnesium	0	0	0.000375	0.083	2.84222E-06	2.76693E-06	2.84E-06	2.77E-06
12141	iodine	0	0	0	0	0	0	0.00E+00	0.00E+00
12142	mercury	0	0	0	0	0	0	0.00E+00	0.00E+00
12143	gold	0	0	0	0	0	0	0.00E+00	0.00E+00
12144	neodymium	0	0	0	0	0	0	0.00E+00	0.00E+00
12146	lanthanum	0	0	0	0	0	0	0.00E+00	0.00E+00
12147	niobium	0	0	0	0	0	0	0.00E+00	0.00E+00
12151	palladium	0	0	0	0	0	0	0.00E+00	0.00E+00
12152	phosphorus	0	0.003293	0.00125	0	4.57617E-08	4.15822E-08	2.60E-08	2.61E-08
12153	phosphate	0	0	0	0	0	0	0.00E+00	0.00E+00
12154	selenium	0	0	0.00002	0.00002	1.09859E-09	1.08238E-09	1.10E-09	1.08E-09
12155	praseodymium	0	0	0	0	0	0	0.00E+00	0.00E+00
12156	non-phosphate phosphorous	0	0	0	0	0	0	0.00E+00	0.00E+00
12160	tin	0	0	0	0.0066	2.25388E-07	2.19398E-07	2.25E-07	2.19E-07
12161	titanium	0	0.00009	0.00036	0.0036	1.3096E-07	1.27611E-07	1.30E-07	1.27E-07
12164	vanadium (fume or dust)	0	0	0	0.00066	2.25388E-08	2.19398E-08	2.25E-08	2.19E-08
12165	silicon	0	0	0.00115	0.0679	2.34266E-06	2.28115E-06	2.34E-06	2.28E-06
12166	silver	0	0	0	0	0	0	0.00E+00	0.00E+00
12167	zinc	0.0005	0.000518	0.005305	0.00027	1.23823E-07	1.23094E-07	1.19E-07	1.20E-07
12168	strontium	0	0	0.00007	0.00074	2.67254E-08	2.60605E-08	2.67E-08	2.61E-08
12169	sulfur	0	0	0.01989	0.0128	8.50425E-07	8.40736E-07	8.50E-07	8.41E-07
12173	thallium	0	0	0	0	0	0	0.00E+00	0.00E+00
12174	thorium	0	0	0	0	0	0	0.00E+00	0.00E+00
12176	rubidium	0	0	0	0.00005	1.70748E-09	1.66211E-09	1.71E-09	1.66E-09
12177	rhodium	0	0	0	0	0	0	0.00E+00	0.00E+00
12178	platinum	0	0	0	0	0	0	0.00E+00	0.00E+00
12179	uranium	0	0	0	0	0	0	0.00E+00	0.00E+00
12180	potassium	0.0055	0.008834	0.00038	0.00019	8.1257E-08	6.60454E-08	1.44E-08	1.42E-08
12181	sodium ion	0	0	0	0	0	0	0.00E+00	0.00E+00
12182	insol potassium	0	0	0	0	0	0	0.00E+00	0.00E+00
12183	yttrium	0	0	0	0	0	0	0.00E+00	0.00E+00
12184	sodium	0	0.013706	0.00061	0	9.50324E-08	7.71916E-08	1.27E-08	1.27E-08
12185	zirconium	0	0	0	0	0	0	0.00E+00	0.00E+00
12186	sodium insoluable	0	0	0	0	0	0	0.00E+00	0.00E+00
12190	samarium	0	0	0	0	0	0	0.00E+00	0.00E+00
12192	europium	0	0	0	0	0	0	0.00E+00	0.00E+00
12193	tebium	0	0	0	0	0	0	0.00E+00	0.00E+00
12202	insol chlorine	0	0	0	0	0	0	0.00E+00	0.00E+00
12203	chloride ion	0	0	0	0.0015	5.12245E-08	4.98632E-08	5.12E-08	4.99E-08
12301	ammonium	0	0	0.00019	0.00003	4.97264E-09	4.96383E-09	4.97E-09	4.96E-09
12305	nitrite	0	0	0	0	0	0	0.00E+00	0.00E+00
12306	nitrates	0.0055	0.331588	0.0015	0.0016	2.09205E-06	1.65415E-06	8.58E-08	8.45E-08
12402	sulfuric acid	0	0	0	0	0	0	0.00E+00	0.00E+00
12403	sulfates	0.45	0.112248	0.0025	0.0334	2.99533E-06	2.52913E-06	1.19E-06	1.16E-06
12404	non-sulfate sulfur	0	0	0.019057	0.001667	4.52927E-07	4.53261E-07	4.53E-07	4.53E-07
12501	carbonate ion	0	0	0	0	0	0	0.00E+00	0.00E+00
12801	asbestos	0	0	0	0	0	0	0.00E+00	0.00E+00
12999	other	0.2595	0.003188	0	0	6.69814E-07	4.9868E-07	0.00E+00	0.00E+00
32112	chromium (III)	0	0	0	0	0	0	0.00E+00	0.00E+00
42222	fluorine	0	0	0	0	0	0	0.00E+00	0.00E+00
43105	isomers of hexane	0	0	0	0	0	0	0.00E+00	0.00E+00
43106	isomers of heptane	0	0	0	0	0	0	0.00E+00	0.00E+00
43107	isomers of octane	0	0	0	0	0	0	0.00E+00	0.00E+00
43108	isomers of nonane	0	0	0	0	0	0	0.00E+00	0.00E+00
43109	isomers of decane	0	0	0	0	0	0	0.00E+00	0.00E+00
43110	isomers of undecane	0	0	0	0	0	0	0.00E+00	0.00E+00
43111	isomers of dodecane	0	0	0	0	0	0	0.00E+00	0.00E+00
43112	isomers of tridecane	0	0	0	0	0	0	0.00E+00	0.00E+00
43113	isomers of tetradecane	0	0	0	0	0	0	0.00E+00	0.00E+00
43114	isomers of pentadecane	0	0	0	0	0	0	0.00E+00	0.00E+00
43115	c7 cycloparaffins	0	0	0	0	0	0	0.00E+00	0.00E+00
43116	c8 cycloparaffins	0	0	0	0	0	0	0.00E+00	0.00E+00
43117	c9 cycloparaffins	0	0	0	0	0	0	0.00E+00	0.00E+00
43119	c18-alkane	0	0	0	0	0	0	0.00E+00	0.00E+00
43120	isomers of butene	0	0	0	0	0	0	0.00E+00	0.00E+00
43121	isomers of pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
43122	isomers of pentane	0	0	0	0	0	0	0.00E+00	0.00E+00
43123	monoterpenes	0	0	0	0	0	0	0.00E+00	0.00E+00
43124	c16-alkane	0	0	0	0	0	0	0.00E+00	0.00E+00
43125	c10-olefins	0	0	0	0	0	0	0.00E+00	0.00E+00
43126	c14-alkane	0	0	0	0	0	0	0.00E+00	0.00E+00

43127	c15-alkane	0	0	0	0	0	0	0.00E+00	0.00E+00
43128	cineole	0	0	0	0	0	0	0.00E+00	0.00E+00
43131	c3–c4 alcohol isomers	0	0	0	0	0	0	0.00E+00	0.00E+00
43132	methallyl alcohol	0	0	0	0	0	0	0.00E+00	0.00E+00
43133	3-methyl-1-butanol	0	0	0	0	0	0	0.00E+00	0.00E+00
43134	2-octanone	0	0	0	0	0	0	0.00E+00	0.00E+00
43135	allyl formate	0	0	0	0	0	0	0.00E+00	0.00E+00
43136	ethyl propionate	0	0	0	0	0	0	0.00E+00	0.00E+00
43137	ethyl isobutyrate	0	0	0	0	0	0	0.00E+00	0.00E+00
43138	ethyl butyrate	0	0	0	0	0	0	0.00E+00	0.00E+00
43139	propyl propionate	0	0	0	0	0	0	0.00E+00	0.00E+00
43140	propyl butyrate	0	0	0	0	0	0	0.00E+00	0.00E+00
43142	methyl hexanoate	0	0	0	0	0	0	0.00E+00	0.00E+00
43143	c5 olefins	0	0	0	0	0	0	0.00E+00	0.00E+00
43144	lactic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
43145	c5 paraffin/olefin	0	0	0	0	0	0	0.00E+00	0.00E+00
43146	c11 internal alkenes	0	0	0	0	0	0	0.00E+00	0.00E+00
43147	c12 internal alkenes	0	0	0	0	0	0	0.00E+00	0.00E+00
43148	bicyclononane	0	0	0	0	0	0	0.00E+00	0.00E+00
43149	octyne	0	0	0	0	0	0	0.00E+00	0.00E+00
43150	ethyl hexanoate	0	0	0	0	0	0	0.00E+00	0.00E+00
43151	isomers of decyne	0	0	0	0	0	0	0.00E+00	0.00E+00
43152	isomers of undecyne	0	0	0	0	0	0	0.00E+00	0.00E+00
43154	hexyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
43155	propyl hexanoate	0	0	0	0	0	0	0.00E+00	0.00E+00
43156	methyl benzoate	0	0	0	0	0	0	0.00E+00	0.00E+00
43157	ethyl benzoate	0	0	0	0	0	0	0.00E+00	0.00E+00
43158	isopropyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43159	2,4-dimethyl-1,3-dioxane	0	0	0	0	0	0	0.00E+00	0.00E+00
43160	2,2,3-trimethylbutane	0	0	0	0	0	0	0.00E+00	0.00E+00
43161	2-n-butyl furan	0	0	0	0	0	0	0.00E+00	0.00E+00
43162	2-pentyl furan	0	0	0	0	0	0	0.00E+00	0.00E+00
43164	1,4-dimethyl-2-ethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
43165	1-ethyl-2,3-dimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
43166	4,4-dimethyl-1-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
43167	4-ethyloctane	0	0	0	0	0	0	0.00E+00	0.00E+00
43169	4-methylcyclopentene	0	0	0	0	0	0	0.00E+00	0.00E+00
43170	cis,trans-1,3,5-trimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
43171	cis-1,3-diethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
43172	cis-1,3-pentadiene	0	0	0	0	0	0	0.00E+00	0.00E+00
43173	cis-1,4-diethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
43175	cis-1-methyl-3-propylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
43176	cis-1-methyl-4-propylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
43177	cis-4-octene	0	0	0	0	0	0	0.00E+00	0.00E+00
43178	isopropylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
43179	sec-butylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
43180	trans-1,2,3-trimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
43181	trans-1,2-diethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
43182	trans-1-ethyl-2-methylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
43183	trans-1-methyl-2-propylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
43184	trans-1-methyl-3-propylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
43186	trans-1-methyl-4-ter-butylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
43187	tricyclodecane	0	0	0	0	0	0	0.00E+00	0.00E+00
43188	1,4-dimethyl-1-cyclohexene	0	0	0	0	0	0	0.00E+00	0.00E+00
43189	1-methyl-4-(1-methylpropyl)benzene	0	0	0	0	0	0	0.00E+00	0.00E+00
43190	2,3-dimethyl-1-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
43191	2-undecene, (E)-	0	0	0	0	0	0	0.00E+00	0.00E+00
43192	3-ethyl-3-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
43193	3-ethyl-3-methylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
43194	tert-pentylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
43195	trans-1,3-diethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
43197	trans-4-nonene	0	0	0	0	0	0	0.00E+00	0.00E+00
43198	chlorobutanol	0	0	0	0	0	0	0.00E+00	0.00E+00
43199	2-aminopropane	0	0	0	0	0	0	0.00E+00	0.00E+00
43200	tetramethylsilane	0	0	0	0	0	0	0.00E+00	0.00E+00
43201	methane	0	0	0	0	0	0	0.00E+00	0.00E+00
43202	ethane	0	0	0	0	0	0	0.00E+00	0.00E+00
43203	ethylene	0	0	0	0	0	0	0.00E+00	0.00E+00
43204	propane	0	0	0	0	0	0	0.00E+00	0.00E+00
43205	propylene	0	0	0	0	0	0	0.00E+00	0.00E+00
43206	acetylene	0	0	0	0	0	0	0.00E+00	0.00E+00
43207	cyclopropane	0	0	0	0	0	0	0.00E+00	0.00E+00
43208	1,2-propadiene	0	0	0	0	0	0	0.00E+00	0.00E+00
43209	1-propyne	0	0	0	0	0	0	0.00E+00	0.00E+00
43211	3-methyl-1-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
43212	n-butane	0	0	0	0	0	0	0.00E+00	0.00E+00
43213	1-butene	0	0	0	0	0	0	0.00E+00	0.00E+00
43214	isobutane	0	0	0	0	0	0	0.00E+00	0.00E+00
43215	isobutylene	0	0	0	0	0	0	0.00E+00	0.00E+00
43216	trans-2-butene	0	0	0	0	0	0	0.00E+00	0.00E+00
43217	cis-2-butene	0	0	0	0	0	0	0.00E+00	0.00E+00
43218	1,3-butadiene	0	0	0	0	0	0	0.00E+00	0.00E+00
43220	n-pentane	0	0	0	0	0	0	0.00E+00	0.00E+00
43221	1,2-butadiene {methylallene}	0	0	0	0	0	0	0.00E+00	0.00E+00
43222	1,3-butadiyne	0	0	0	0	0	0	0.00E+00	0.00E+00
43223	3-methyl-1-butene	0	0	0	0	0	0	0.00E+00	0.00E+00
43224	1-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
43225	2-methyl-1-butene	0	0	0	0	0	0	0.00E+00	0.00E+00
43226	trans-2-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
43227	cis-2-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
43228	2-methyl-2-butene	0	0	0	0	0	0	0.00E+00	0.00E+00
43229	2-methylpentane	0	0	0	0	0	0	0.00E+00	0.00E+00
43230	3-methylpentane	0	0	0	0	0	0	0.00E+00	0.00E+00
43231	hexane	0	0	0	0	0	0	0.00E+00	0.00E+00
43232	n-heptane	0	0	0	0	0	0	0.00E+00	0.00E+00
43233	n-octane	0	0	0	0	0	0	0.00E+00	0.00E+00
43234	2,3-dimethyl-1-butene	0	0	0	0	0	0	0.00E+00	0.00E+00
43235	n-nonane	0	0	0	0	0	0	0.00E+00	0.00E+00
43236	2-amino-2-(hydroxymethyl)-1,3-propanediol	0	0	0	0	0	0	0.00E+00	0.00E+00
43237	2-nitropropane	0	0	0	0	0	0	0.00E+00	0.00E+00
43238	n-decane	0	0	0	0	0	0	0.00E+00	0.00E+00
43239	diisobutyl phthalate	0	0	0	0	0	0	0.00E+00	0.00E+00
43240	1-vinyl-2-pyrrolidone	0	0	0	0	0	0	0.00E+00	0.00E+00
43241	n-undecane	0	0	0	0	0	0	0.00E+00	0.00E+00
43242	cyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
43243	isoprene, except from vegetative emission sources	0	0	0	0	0	0	0.00E+00	0.00E+00
43244	1-chloro-2-(trifluoromethyl)-benzene	0	0	0	0	0	0	0.00E+00	0.00E+00
43245	1-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
43246	2-hexenes	0	0	0	0	0	0	0.00E+00	0.00E+00
43247	isobutyl methacrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
43248	cyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
43249	butyl methacrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
43250	trans-4-octene	0	0	0	0	0	0	0.00E+00	0.00E+00
43251	ethylene glycol dimethacrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
43252	2,2,5-triethylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00

43253	3,7-dimethyl-6-octen-1-ol	0	0	0	0	0	0	0.00E+00	0.00E+00
43255	n-dodecane	0	0	0	0	0	0	0.00E+00	0.00E+00
43257	p-toluidine	0	0	0	0	0	0	0.00E+00	0.00E+00
43258	n-tridecane	0	0	0	0	0	0	0.00E+00	0.00E+00
43259	n-tetradecane	0	0	0	0	0	0	0.00E+00	0.00E+00
43260	n-pentadecane	0	0	0	0	0	0	0.00E+00	0.00E+00
43261	methylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
43262	methylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
43263	trans-2-octene	0	0	0	0	0	0	0.00E+00	0.00E+00
43264	cyclohexanone	0	0	0	0	0	0	0.00E+00	0.00E+00
43265	1-octene	0	0	0	0	0	0	0.00E+00	0.00E+00
43266	cis-2-octene	0	0	0	0	0	0	0.00E+00	0.00E+00
43267	1-nonene	0	0	0	0	0	0	0.00E+00	0.00E+00
43268	1-decene	0	0	0	0	0	0	0.00E+00	0.00E+00
43269	1-undecene	0	0	0	0	0	0	0.00E+00	0.00E+00
43270	3-methyl-trans-2-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
43271	2,4-dimethylpentane	0	0	0	0	0	0	0.00E+00	0.00E+00
43272	3-methylcyclopentene	0	0	0	0	0	0	0.00E+00	0.00E+00
43273	cyclohexene	0	0	0	0	0	0	0.00E+00	0.00E+00
43274	2,3-dimethylpentane	0	0	0	0	0	0	0.00E+00	0.00E+00
43275	2-methylhexane	0	0	0	0	0	0	0.00E+00	0.00E+00
43276	2,2,4-trimethylpentane	0	0	0	0	0	0	0.00E+00	0.00E+00
43277	2,4-dimethylhexane	0	0	0	0	0	0	0.00E+00	0.00E+00
43278	2,5-dimethylhexane	0	0	0	0	0	0	0.00E+00	0.00E+00
43279	2,3,4-trimethylpentane	0	0	0	0	0	0	0.00E+00	0.00E+00
43280	2,3,3-trimethylpentane	0	0	0	0	0	0	0.00E+00	0.00E+00
43281	hexadecane	0	0	0	0	0	0	0.00E+00	0.00E+00
43282	heptadecane	0	0	0	0	0	0	0.00E+00	0.00E+00
43283	octadecane	0	0	0	0	0	0	0.00E+00	0.00E+00
43284	nonadecane	0	0	0	0	0	0	0.00E+00	0.00E+00
43285	eicosane	0	0	0	0	0	0	0.00E+00	0.00E+00
43286	heneicosane	0	0	0	0	0	0	0.00E+00	0.00E+00
43287	docosane	0	0	0	0	0	0	0.00E+00	0.00E+00
43288	ethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
43289	c6 olefins	0	0	0	0	0	0	0.00E+00	0.00E+00
43290	c8 alkenes	0	0	0	0	0	0	0.00E+00	0.00E+00
43291	2,2-dimethylbutane	0	0	0	0	0	0	0.00E+00	0.00E+00
43292	cyclopentene	0	0	0	0	0	0	0.00E+00	0.00E+00
43293	4-methyl-trans-2-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
43294	c7 external olefins	0	0	0	0	0	0	0.00E+00	0.00E+00
43295	3-methylhexane	0	0	0	0	0	0	0.00E+00	0.00E+00
43296	2,2,3-trimethylpentane	0	0	0	0	0	0	0.00E+00	0.00E+00
43297	4-methylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
43298	3-methylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
43300	3-ethylpentane	0	0	0	0	0	0	0.00E+00	0.00E+00
43301	methanol	0	0	0	0	0	0	0.00E+00	0.00E+00
43302	ethyl alcohol	0	0	0	0	0	0	0.00E+00	0.00E+00
43303	n-propyl alcohol	0	0	0	0	0	0	0.00E+00	0.00E+00
43304	isopropyl alcohol	0	0	0	0	0	0	0.00E+00	0.00E+00
43305	n-butyl alcohol	0	0	0	0	0	0	0.00E+00	0.00E+00
43306	isobutyl alcohol	0	0	0	0	0	0	0.00E+00	0.00E+00
43307	propargyl alcohol	0	0	0	0	0	0	0.00E+00	0.00E+00
43308	hexamethyldisiloxane	0	0	0	0	0	0	0.00E+00	0.00E+00
43309	tert-butyl alcohol	0	0	0	0	0	0	0.00E+00	0.00E+00
43310	ethylene glycol monomethyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43311	ethylene glycol monoethyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43312	trans-1,2-cis-4-trimethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
43314	sec-butyl alcohol	0	0	0	0	0	0	0.00E+00	0.00E+00
43315	tetrahydrophthalic anhydride	0	0	0	0	0	0	0.00E+00	0.00E+00
43316	n,n-dimethylbenzylamine	0	0	0	0	0	0	0.00E+00	0.00E+00
43317	eugenol	0	0	0	0	0	0	0.00E+00	0.00E+00
43318	isopropyl-2-cyanoacrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
43319	octamethyltrisiloxane	0	0	0	0	0	0	0.00E+00	0.00E+00
43320	diacetone alcohol	0	0	0	0	0	0	0.00E+00	0.00E+00
43321	5-methyl-3-heptyne	0	0	0	0	0	0	0.00E+00	0.00E+00
43322	4-ethyl-3-heptene	0	0	0	0	0	0	0.00E+00	0.00E+00
43324	1-ethylcyclopentene	0	0	0	0	0	0	0.00E+00	0.00E+00
43325	2-methylbutanal	0	0	0	0	0	0	0.00E+00	0.00E+00
43326	cyclopentanone	0	0	0	0	0	0	0.00E+00	0.00E+00
43327	2-methylfuran	0	0	0	0	0	0	0.00E+00	0.00E+00
43328	3-methylfuran	0	0	0	0	0	0	0.00E+00	0.00E+00
43329	2-ethylfuran	0	0	0	0	0	0	0.00E+00	0.00E+00
43330	2,5-dimethylfuran	0	0	0	0	0	0	0.00E+00	0.00E+00
43331	2-vinylfuran	0	0	0	0	0	0	0.00E+00	0.00E+00
43332	hydrogen cyanide	0	0	0	0	0	0	0.00E+00	0.00E+00
43333	2-(methylamino)ethanol	0	0	0	0	0	0	0.00E+00	0.00E+00
43335	isopentyl formate	0	0	0	0	0	0	0.00E+00	0.00E+00
43336	octanol	0	0	0	0	0	0	0.00E+00	0.00E+00
43337	1,5-pentanediol	0	0	0	0	0	0	0.00E+00	0.00E+00
43338	decanol	0	0	0	0	0	0	0.00E+00	0.00E+00
43339	diethylene glycol monohexyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43340	phenyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
43341	4-heptanone	0	0	0	0	0	0	0.00E+00	0.00E+00
43342	diisobutyl adipate	0	0	0	0	0	0	0.00E+00	0.00E+00
43343	decamethyltetrasiloxane	0	0	0	0	0	0	0.00E+00	0.00E+00
43344	dodecamethylpentasiloxane	0	0	0	0	0	0	0.00E+00	0.00E+00
43346	ethyl acetoacetate	0	0	0	0	0	0	0.00E+00	0.00E+00
43347	cyclotetrasiloxane	0	0	0	0	0	0	0.00E+00	0.00E+00
43348	perfluorodecalin	0	0	0	0	0	0	0.00E+00	0.00E+00
43349	trifluoroethyl methacrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
43350	tetradecafluorohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
43351	ethyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43352	methylene glycol	0	0	0	0	0	0	0.00E+00	0.00E+00
43353	2,3-butanediol	0	0	0	0	0	0	0.00E+00	0.00E+00
43354	dodecamethylcyclohexasiloxane	0	0	0	0	0	0	0.00E+00	0.00E+00
43355	decamethylcyclopentasiloxane	0	0	0	0	0	0	0.00E+00	0.00E+00
43357	hexamethylcyclotrisiloxane	0	0	0	0	0	0	0.00E+00	0.00E+00
43358	distillates (petroleum), solvent-dewaxed heavy paraffinic	0	0	0	0	0	0	0.00E+00	0.00E+00
43359	methyl lactate	0	0	0	0	0	0	0.00E+00	0.00E+00
43361	3-aminophenol	0	0	0	0	0	0	0.00E+00	0.00E+00
43362	dimethyl carbonate	0	0	0	0	0	0	0.00E+00	0.00E+00
43363	5-methylfurfural	0	0	0	0	0	0	0.00E+00	0.00E+00
43364	triethylene glycol divinyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43365	propylene glycol monomethyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43366	dipropylene glycol monomethyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43367	glycol ethers (and their acetates)	0	0	0	0	0	0	0.00E+00	0.00E+00
43368	glycols	0	0	0	0	0	0	0.00E+00	0.00E+00
43369	propylene glycol	0	0	0	0	0	0	0.00E+00	0.00E+00
43370	ethylene glycol	0	0	0	0	0	0	0.00E+00	0.00E+00
43371	hexylene glycol {2-methyl-2,4-pentanediol}	0	0	0	0	0	0	0.00E+00	0.00E+00
43372	polyethylene glycol 200	0	0	0	0	0	0	0.00E+00	0.00E+00
43373	diethylene glycol	0	0	0	0	0	0	0.00E+00	0.00E+00
43374	dipropylene glycol	0	0	0	0	0	0	0.00E+00	0.00E+00
43375	pentafluorobenzonitrile	0	0	0	0	0	0	0.00E+00	0.00E+00
43376	triethylene glycol	0	0	0	0	0	0	0.00E+00	0.00E+00

43377	diisobutyl succinate	0	0	0	0	0	0	0.00E+00	0.00E+00
43378	methyl tert-butyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43379	2-methyl-3-buten-2-ol (MBO)	0	0	0	0	0	0	0.00E+00	0.00E+00
43380	glycerol	0	0	0	0	0	0	0.00E+00	0.00E+00
43381	1-ethyl-2,4,5-trimethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
43382	1,2,3,4-tetrahydro-2-methylnaphthalene	0	0	0	0	0	0	0.00E+00	0.00E+00
43383	5-undencene	0	0	0	0	0	0	0.00E+00	0.00E+00
43384	2,3-dimethyl-1-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
43385	5-ethyl-1,2,3,4-tetrahydronaphthalene	0	0	0	0	0	0	0.00E+00	0.00E+00
43386	3-hexenol	0	0	0	0	0	0	0.00E+00	0.00E+00
43387	hexamethyldisilazane	0	0	0	0	0	0	0.00E+00	0.00E+00
43388	furancarboxylic acid ethyl ester	0	0	0	0	0	0	0.00E+00	0.00E+00
43390	tetrahydrofuran	0	0	0	0	0	0	0.00E+00	0.00E+00
43391	2-butyltetrahydrofuran	0	0	0	0	0	0	0.00E+00	0.00E+00
43392	3-hexenyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
43393	9-octadecenoic acid (z)- compd. with 2- aminoethanol (1:1)	0	0	0	0	0	0	0.00E+00	0.00E+00
43394	3-(trimethoxysilyl)propyl methacrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
43395	cycloheptanone	0	0	0	0	0	0	0.00E+00	0.00E+00
43396	3-methyl-1,3-butanediol	0	0	0	0	0	0	0.00E+00	0.00E+00
43397	trimethylcyclohexanol	0	0	0	0	0	0	0.00E+00	0.00E+00
43398	4-amino-m-cresol	0	0	0	0	0	0	0.00E+00	0.00E+00
43399	1,3-pentanediol	0	0	0	0	0	0	0.00E+00	0.00E+00
43400	1,2,4-trimethylcyclopentene	0	0	0	0	0	0	0.00E+00	0.00E+00
43401	1,1-diethoxybutane	0	0	0	0	0	0	0.00E+00	0.00E+00
43402	diethylhydroxylamine	0	0	0	0	0	0	0.00E+00	0.00E+00
43403	formic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
43404	acetic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
43405	glycolic acid {hydroxyacetic acid}	0	0	0	0	0	0	0.00E+00	0.00E+00
43406	methylacetic acid (propionic)	0	0	0	0	0	0	0.00E+00	0.00E+00
43407	acrylic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
43408	5-butyldihydro-2(3h)-furanone	0	0	0	0	0	0	0.00E+00	0.00E+00
43409	5-pentyldihydro-2(3h)-furanone	0	0	0	0	0	0	0.00E+00	0.00E+00
43410	5-propyldihydro-2(3h)-furanone	0	0	0	0	0	0	0.00E+00	0.00E+00
43411	5-ethyldihydro-2(3h)-furanone	0	0	0	0	0	0	0.00E+00	0.00E+00
43412	5-hexyldihydro-2(3h)-furanone	0	0	0	0	0	0	0.00E+00	0.00E+00
43413	2-nonanone	0	0	0	0	0	0	0.00E+00	0.00E+00
43415	2-decanone	0	0	0	0	0	0	0.00E+00	0.00E+00
43416	2-undecanone	0	0	0	0	0	0	0.00E+00	0.00E+00
43417	2-tridecanone	0	0	0	0	0	0	0.00E+00	0.00E+00
43418	2-tetradecanone	0	0	0	0	0	0	0.00E+00	0.00E+00
43419	2-pentadecanone	0	0	0	0	0	0	0.00E+00	0.00E+00
43420	2-heptadecanone	0	0	0	0	0	0	0.00E+00	0.00E+00
43421	2-decenal	0	0	0	0	0	0	0.00E+00	0.00E+00
43422	2-undecenal	0	0	0	0	0	0	0.00E+00	0.00E+00
43423	tetradecanal	0	0	0	0	0	0	0.00E+00	0.00E+00
43424	pentadecanal	0	0	0	0	0	0	0.00E+00	0.00E+00
43426	hexadecanal	0	0	0	0	0	0	0.00E+00	0.00E+00
43427	heptadecanal	0	0	0	0	0	0	0.00E+00	0.00E+00
43428	n-tricosane	0	0	0	0	0	0	0.00E+00	0.00E+00
43429	n-tetracosane	0	0	0	0	0	0	0.00E+00	0.00E+00
43430	n-pentacosane	0	0	0	0	0	0	0.00E+00	0.00E+00
43431	propylene glycol monomethyl ether acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
43432	methyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
43433	ethyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
43434	propyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
43435	n-butyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
43436	isoamyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
43437	3-methoxy-1-butyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
43438	ethyl acrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
43439	stearic acid-TMS	0	0	0	0	0	0	0.00E+00	0.00E+00
43440	pentadecanoic acid-TMS	0	0	0	0	0	0	0.00E+00	0.00E+00
43441	heptanoic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
43442	1,2-hexanediol	0	0	0	0	0	0	0.00E+00	0.00E+00
43443	ethyl 2-methylbutyrate	0	0	0	0	0	0	0.00E+00	0.00E+00
43444	isopropyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
43445	methyl amyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
43446	isobutyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
43448	citronella oil	0	0	0	0	0	0	0.00E+00	0.00E+00
43449	soybean oil	0	0	0	0	0	0	0.00E+00	0.00E+00
43450	dimethyl formamide	0	0	0	0	0	0	0.00E+00	0.00E+00
43451	isobutyl isobutyrate	0	0	0	0	0	0	0.00E+00	0.00E+00
43452	ethylene glycol monoethyl ether acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
43453	crude oil	0	0	0	0	0	0	0.00E+00	0.00E+00
43456	ethene, homopolymer	0	0	0	0	0	0	0.00E+00	0.00E+00
43457	polymethylhydrosiloxane	0	0	0	0	0	0	0.00E+00	0.00E+00
43459	turpentine	0	0	0	0	0	0	0.00E+00	0.00E+00
43460	dimethylpolysiloxane	0	0	0	0	0	0	0.00E+00	0.00E+00
43461	polydimethylsiloxane	0	0	0	0	0	0	0.00E+00	0.00E+00
43462	cis-1,3-dichloropropene	0	0	0	0	0	0	0.00E+00	0.00E+00
43463	amyl phosphate	0	0	0	0	0	0	0.00E+00	0.00E+00
43464	disiloxane	0	0	0	0	0	0	0.00E+00	0.00E+00
43465	3-ethylheptamethyltrisiloxane	0	0	0	0	0	0	0.00E+00	0.00E+00
43466	1,1,1,3,5,5,5-heptamethyl-3-octyl-trisiloxane	0	0	0	0	0	0	0.00E+00	0.00E+00
43468	dibutyl adipate	0	0	0	0	0	0	0.00E+00	0.00E+00
43471	formaldehyde-cyclohexanone copolymer	0	0	0	0	0	0	0.00E+00	0.00E+00
43472	chlorotoluene	0	0	0	0	0	0	0.00E+00	0.00E+00
43473	diethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
43474	boric acid (H3BO3), compd. with 1- amino-2-propanol	0	0	0	0	0	0	0.00E+00	0.00E+00
43475	propanediol	0	0	0	0	0	0	0.00E+00	0.00E+00
43476	isooctane	0	0	0	0	0	0	0.00E+00	0.00E+00
43477	perfluoro(1,3-dimethylcyclohexane)	0	0	0	0	0	0	0.00E+00	0.00E+00
43478	7-methyl-1-octanol	0	0	0	0	0	0	0.00E+00	0.00E+00
43479	2-methoxyethyl cyanoacrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
43480	tetra(methyl ethyl ketoxime)silane	0	0	0	0	0	0	0.00E+00	0.00E+00
43482	methylbutyric acid	0	0	0	0	0	0	0.00E+00	0.00E+00
43483	2-ethoxy-1-methylethyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
43484	trimethylsilyl silicate	0	0	0	0	0	0	0.00E+00	0.00E+00
43485	formaldehyde-phenol-m-xylenediamine copolymer	0	0	0	0	0	0	0.00E+00	0.00E+00
43486	isohexadecane	0	0	0	0	0	0	0.00E+00	0.00E+00
43487	siloxanes	0	0	0	0	0	0	0.00E+00	0.00E+00
43488	isoparaffins	0	0	0	0	0	0	0.00E+00	0.00E+00
43489	naphtha (petroleum), light alkylate	0	0	0	0	0	0	0.00E+00	0.00E+00
43490	sweetened middle distillates (petroleum)	0	0	0	0	0	0	0.00E+00	0.00E+00
43491	naphtha (petroleum), hydrotreated light	0	0	0	0	0	0	0.00E+00	0.00E+00
43493	distillates (petroleum), hydrotreated heavy paraffinic	0	0	0	0	0	0	0.00E+00	0.00E+00
43494	distillates (petroleum), hydrotreated light paraffinic	0	0	0	0	0	0	0.00E+00	0.00E+00
43495	distillates (petroleum), solvent-dewaxed light paraffinic	0	0	0	0	0	0	0.00E+00	0.00E+00
43496	fatty acids, c16-18 and c18-unsatd., me esters	0	0	0	0	0	0	0.00E+00	0.00E+00
43497	naphtha (petroleum), light steam-cracked, debenzenized, polymers	0	0	0	0	0	0	0.00E+00	0.00E+00
43498	distillates (petroleum), hydrodesulfurized light catalytic cracked	0	0	0	0	0	0	0.00E+00	0.00E+00
43499	boric acid (H3BO3), compd. with 2-aminoethanol (1:1)	0	0	0	0	0	0	0.00E+00	0.00E+00
43500	distillates (petroleum), hydrofined lubricating-oil	0	0	0	0	0	0	0.00E+00	0.00E+00
43501	soya fatty acids, me esters	0	0	0	0	0	0	0.00E+00	0.00E+00
43502	formaldehyde	0	0	0	0	0	0	0.00E+00	0.00E+00
43503	acetaldehyde	0	0	0	0	0	0	0.00E+00	0.00E+00

43504	propionaldehyde	0	0	0	0	0	0	0.00E+00	0.00E+00
43505	acrolein	0	0	0	0	0	0	0.00E+00	0.00E+00
43506	2-methyl-2-propenal	0	0	0	0	0	0	0.00E+00	0.00E+00
43507	butene, homopolymer, hydrogenated	0	0	0	0	0	0	0.00E+00	0.00E+00
43508	polytrimethylhydrosilylsiloxane	0	0	0	0	0	0	0.00E+00	0.00E+00
43509	ethene, 1,1,2,2-tetrafluoro-, oxidized, polymd.	0	0	0	0	0	0	0.00E+00	0.00E+00
43510	butyraldehyde	0	0	0	0	0	0	0.00E+00	0.00E+00
43511	c3 aldehyde	0	0	0	0	0	0	0.00E+00	0.00E+00
43512	c5 aldehyde	0	0	0	0	0	0	0.00E+00	0.00E+00
43513	c8 aldehyde	0	0	0	0	0	0	0.00E+00	0.00E+00
43514	glutaraldehyde	0	0	0	0	0	0	0.00E+00	0.00E+00
43515	formaldehyde, oligomeric reaction products with 4,4'- isopropylidenediph	0	0	0	0	0	0	0.00E+00	0.00E+00
43517	witch hazel	0	0	0	0	0	0	0.00E+00	0.00E+00
43518	perfluoro compounds, c5-18	0	0	0	0	0	0	0.00E+00	0.00E+00
43519	pine, pinus pinaster, ext.	0	0	0	0	0	0	0.00E+00	0.00E+00
43520	pinus strobus bark ext.	0	0	0	0	0	0	0.00E+00	0.00E+00
43521	vinegar, ext.	0	0	0	0	0	0	0.00E+00	0.00E+00
43522	hexane, branched and linear	0	0	0	0	0	0	0.00E+00	0.00E+00
43523	dipropylene glycol tert-butyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43524	fragrance A	0	0	0	0	0	0	0.00E+00	0.00E+00
43525	fragrance B	0	0	0	0	0	0	0.00E+00	0.00E+00
43528	1,3,5-triazine	0	0	0	0	0	0	0.00E+00	0.00E+00
43529	3-phenoxy 2-hydroxypropyl methacrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
43530	1,3,3,3-tetrafluoropropene	0	0	0	0	0	0	0.00E+00	0.00E+00
43531	menthyl lactate	0	0	0	0	0	0	0.00E+00	0.00E+00
43532	pine, ext.	0	0	0	0	0	0	0.00E+00	0.00E+00
43533	brucine sulfate heptahydrate	0	0	0	0	0	0	0.00E+00	0.00E+00
43534	hydrocarbons, c12-c14, isoalkanes	0	0	0	0	0	0	0.00E+00	0.00E+00
43535	hydrocarbons, c13-c14, isoalkanes	0	0	0	0	0	0	0.00E+00	0.00E+00
43536	hydrocarbons, c13-c16, isoalkanes	0	0	0	0	0	0	0.00E+00	0.00E+00
43537	fragrance AC	0	0	0	0	0	0	0.00E+00	0.00E+00
43539	alkanes, c7-8-iso-	0	0	0	0	0	0	0.00E+00	0.00E+00
43540	alkanes, c10-11-iso-	0	0	0	0	0	0	0.00E+00	0.00E+00
43541	alkanes, c10-c13	0	0	0	0	0	0	0.00E+00	0.00E+00
43542	alkanes, c11-15-iso-	0	0	0	0	0	0	0.00E+00	0.00E+00
43543	alkanes, c11-13-iso-	0	0	0	0	0	0	0.00E+00	0.00E+00
43544	alkanes, c11-12-iso-	0	0	0	0	0	0	0.00E+00	0.00E+00
43545	alkanes, c14-16	0	0	0	0	0	0	0.00E+00	0.00E+00
43546	tert-butyl hydroperoxide	0	0	0	0	0	0	0.00E+00	0.00E+00
43547	n-aminoethylpiperazine	0	0	0	0	0	0	0.00E+00	0.00E+00
43548	m-xylene-a,a-diamine	0	0	0	0	0	0	0.00E+00	0.00E+00
43551	[D] acetone [deleted/obsolete emittent id]	0	0	0	0	0	0	0.00E+00	0.00E+00
43552	methyl ethyl ketone {2-butanone}	0	0	0	0	0	0	0.00E+00	0.00E+00
43553	propylene glycol phenyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43559	methyl n-butyl ketone	0	0	0	0	0	0	0.00E+00	0.00E+00
43560	methyl isobutyl ketone {hexone}	0	0	0	0	0	0	0.00E+00	0.00E+00
43561	methyl amyl ketone	0	0	0	0	0	0	0.00E+00	0.00E+00
43565	dimethylcyclobutanone	0	0	0	0	0	0	0.00E+00	0.00E+00
43566	trimethylcyclopentanone	0	0	0	0	0	0	0.00E+00	0.00E+00
43567	tetramethylpentanone	0	0	0	0	0	0	0.00E+00	0.00E+00
43601	ethylene oxide	0	0	0	0	0	0	0.00E+00	0.00E+00
43602	propylene oxide	0	0	0	0	0	0	0.00E+00	0.00E+00
43702	acetonitrile	0	0	0	0	0	0	0.00E+00	0.00E+00
43704	acrylonitrile	0	0	0	0	0	0	0.00E+00	0.00E+00
43721	ethylamine	0	0	0	0	0	0	0.00E+00	0.00E+00
43723	ethanolamine	0	0	0	0	0	0	0.00E+00	0.00E+00
43724	diethanolamine	0	0	0	0	0	0	0.00E+00	0.00E+00
43725	triethanolamine	0	0	0	0	0	0	0.00E+00	0.00E+00
43738	dimethylamine	0	0	0	0	0	0	0.00E+00	0.00E+00
43740	trimethyl amine	0	0	0	0	0	0	0.00E+00	0.00E+00
43801	methyl chloride {chloromethane}	0	0	0	0	0	0	0.00E+00	0.00E+00
43802	methylene chloride {dichloromethane}	0	0	0	0	0	0	0.00E+00	0.00E+00
43803	chloroform	0	0	0	0	0	0	0.00E+00	0.00E+00
43804	carbon tetrachloride	0	0	0	0	0	0	0.00E+00	0.00E+00
43805	methylene bromide	0	0	0	0	0	0	0.00E+00	0.00E+00
43807	carbon tetrabromide	0	0	0	0	0	0	0.00E+00	0.00E+00
43811	trichlorofluoromethane {Freon 11}	0	0	0	0	0	0	0.00E+00	0.00E+00
43812	ethyl chloride {chloroethane}	0	0	0	0	0	0	0.00E+00	0.00E+00
43813	1,1-dichloroethane	0	0	0	0	0	0	0.00E+00	0.00E+00
43814	methyl chloroform {1,1,1-trichloroethane}	0	0	0	0	0	0	0.00E+00	0.00E+00
43815	ethylene dichloride {EDC}	0	0	0	0	0	0	0.00E+00	0.00E+00
43817	perchloroethylene {tetrachloroethene}	0	0	0	0	0	0	0.00E+00	0.00E+00
43819	methyl bromide {bromomethane}	0	0	0	0	0	0	0.00E+00	0.00E+00
43820	1,1,2-trichloroethane	0	0	0	0	0	0	0.00E+00	0.00E+00
43821	chlorinated fluorocarbon {CFC-113} {1,1,2-trichloro-1,2,2-trifluoroethane	0	0	0	0	0	0	0.00E+00	0.00E+00
43822	trimethylfluorosilane	0	0	0	0	0	0	0.00E+00	0.00E+00
43823	dichlorodifluoromethane {Freon 12}	0	0	0	0	0	0	0.00E+00	0.00E+00
43824	trichloroethylene	0	0	0	0	0	0	0.00E+00	0.00E+00
43825	chlorodifluoromethane {Freon 22}	0	0	0	0	0	0	0.00E+00	0.00E+00
43826	chlorotrifluoromethane {F-13}	0	0	0	0	0	0	0.00E+00	0.00E+00
43827	chloropentafluoroethane {CFC-115}	0	0	0	0	0	0	0.00E+00	0.00E+00
43828	1,2-dichloro-1,1,2,2-tetrafluoroethane {CFC-114}	0	0	0	0	0	0	0.00E+00	0.00E+00
43829	difluorotetrachloroethane {F-112}	0	0	0	0	0	0	0.00E+00	0.00E+00
43830	fluorocarbons (chlorinated)	0	0	0	0	0	0	0.00E+00	0.00E+00
43844	trifluoromethane {Freon 23}	0	0	0	0	0	0	0.00E+00	0.00E+00
43850	phosgene	0	0	0	0	0	0	0.00E+00	0.00E+00
43860	vinyl chloride	0	0	0	0	0	0	0.00E+00	0.00E+00
43861	dibasic ester	0	0	0	0	0	0	0.00E+00	0.00E+00
43862	tangerine oil	0	0	0	0	0	0	0.00E+00	0.00E+00
43863	styrallyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
43864	soy dimethyl ethyl ammonium ethosulfate	0	0	0	0	0	0	0.00E+00	0.00E+00
43865	sodium mercaptobenzothiazole	0	0	0	0	0	0	0.00E+00	0.00E+00
43866	p-toluenesulfonyl chloride	0	0	0	0	0	0	0.00E+00	0.00E+00
43868	pentyl propanoate	0	0	0	0	0	0	0.00E+00	0.00E+00
43869	6-undecanone	0	0	0	0	0	0	0.00E+00	0.00E+00
43870	polytetrafluoroethylene	0	0	0	0	0	0	0.00E+00	0.00E+00
43871	3-(4-methoxyphenyl)-2-methylpropanal	0	0	0	0	0	0	0.00E+00	0.00E+00
43872	4-chloro-3,5-dimethylphenol	0	0	0	0	0	0	0.00E+00	0.00E+00
43873	oil of lemon eucalyptus	0	0	0	0	0	0	0.00E+00	0.00E+00
43874	n-propoxypropanol	0	0	0	0	0	0	0.00E+00	0.00E+00
43875	n-octyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
43876	pyridine-3-carboxamide	0	0	0	0	0	0	0.00E+00	0.00E+00
43877	neodecanoic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
43879	n-butyl glycidyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43880	n,n-dimethyl-p-toluidine	0	0	0	0	0	0	0.00E+00	0.00E+00
43881	tripropylene glycol n-butyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43882	n,n-dimethyl-o-toluidine	0	0	0	0	0	0	0.00E+00	0.00E+00
43883	n,n-diethyl-p-toluidine	0	0	0	0	0	0	0.00E+00	0.00E+00
43884	n,n-diethyl-m-toluamide	0	0	0	0	0	0	0.00E+00	0.00E+00
43887	methyl cyanoacrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
43888	mentha piperita	0	0	0	0	0	0	0.00E+00	0.00E+00
43891	3,7-dimethylocta-1,6-dien-3-ol	0	0	0	0	0	0	0.00E+00	0.00E+00
43892	1-dodecanol	0	0	0	0	0	0	0.00E+00	0.00E+00
43894	tripropylene glycol	0	0	0	0	0	0	0.00E+00	0.00E+00
43895	ethylene glycol monohexyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00

43896	grapefruit oil	0	0	0	0	0	0	0.00E+00	0.00E+00
43897	isobutyltrimethoxysilane	0	0	0	0	0	0	0.00E+00	0.00E+00
43898	isoamyl n-butyrate	0	0	0	0	0	0	0.00E+00	0.00E+00
43899	hydroxyethyl methacrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
43900	hydroxypropyl methacrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
43901	homosalate	0	0	0	0	0	0	0.00E+00	0.00E+00
43902	gluconic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
43904	g-glycidoxypropyltrimethoxysilane	0	0	0	0	0	0	0.00E+00	0.00E+00
43905	formamide	0	0	0	0	0	0	0.00E+00	0.00E+00
43906	triethylene glycol monomethyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43907	ethyltriacetoxysilane	0	0	0	0	0	0	0.00E+00	0.00E+00
43908	ethylenediamine	0	0	0	0	0	0	0.00E+00	0.00E+00
43909	ethylene glycol ester	0	0	0	0	0	0	0.00E+00	0.00E+00
43910	1-ethyl-2-hydroxybenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
43911	ethyl methacrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
43912	ethyl isovalerate	0	0	0	0	0	0	0.00E+00	0.00E+00
43913	ethoxylated propoxylated alcohols, c8-10	0	0	0	0	0	0	0.00E+00	0.00E+00
43915	ethoxyethyl cyanoacrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
43916	erythrulose	0	0	0	0	0	0	0.00E+00	0.00E+00
43917	di-t-butyl sulfide	0	0	0	0	0	0	0.00E+00	0.00E+00
43918	triethylene glycol monoethyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43919	dipropylene glycol phenyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43920	dipropylene glycol ethyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43921	dioctyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43922	dihydroxyacetone	0	0	0	0	0	0	0.00E+00	0.00E+00
43923	dihydromyrcenol	0	0	0	0	0	0	0.00E+00	0.00E+00
43924	dihydroabietyl alcohol	0	0	0	0	0	0	0.00E+00	0.00E+00
43926	diethylenediamine	0	0	0	0	0	0	0.00E+00	0.00E+00
43927	diethylene glycol propyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43928	diethylene glycol monomethacrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
43929	diethylene glycol 2-ethylhexyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43930	triethylene glycol mono-2-ethylhexyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43931	diethylene glycol ethyl ether acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
43932	diethylene glycol diethyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
43933	cyclohexyl methacrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
43934	citronellal	0	0	0	0	0	0	0.00E+00	0.00E+00
43935	n-hexanoic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
43937	c10-16 alkenes	0	0	0	0	0	0	0.00E+00	0.00E+00
43938	c10-13 isoalkanes	0	0	0	0	0	0	0.00E+00	0.00E+00
43939	butylethanolamine	0	0	0	0	0	0	0.00E+00	0.00E+00
43940	bis(isopropyl)amine	0	0	0	0	0	0	0.00E+00	0.00E+00
43941	benzyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
43942	triethylene diamine	0	0	0	0	0	0	0.00E+00	0.00E+00
43943	benzenesulfonic acid,mono-c9-17-branch alkyl derivs,isopropylamine sa	0	0	0	0	0	0	0.00E+00	0.00E+00
43945	amino, tris(methylene phosphonic acid)	0	0	0	0	0	0	0.00E+00	0.00E+00
43946	amino methyl propanediol	0	0	0	0	0	0	0.00E+00	0.00E+00
43948	alkyl (c16-c18) methyl esters	0	0	0	0	0	0	0.00E+00	0.00E+00
43949	alcohols c14-c18	0	0	0	0	0	0	0.00E+00	0.00E+00
43950	acrylates/octylacrylamide copolymer	0	0	0	0	0	0	0.00E+00	0.00E+00
43951	acetic acid ester w/c7 rich oxo alcohol	0	0	0	0	0	0	0.00E+00	0.00E+00
43952	acetic acid, alkyl (c9 to c11) esters mixture	0	0	0	0	0	0	0.00E+00	0.00E+00
43953	n-(2-hydroxyethyl)acetamide	0	0	0	0	0	0	0.00E+00	0.00E+00
43954	toximul 3406F	0	0	0	0	0	0	0.00E+00	0.00E+00
43955	3-methoxy-1-butanol	0	0	0	0	0	0	0.00E+00	0.00E+00
43956	3-aminopropyltrimethoxysilane	0	0	0	0	0	0	0.00E+00	0.00E+00
43957	3-aminopropyl-triethoxysilane	0	0	0	0	0	0	0.00E+00	0.00E+00
43959	2-pyrrolidone-5-carboxylic acid, sodium salt	0	0	0	0	0	0	0.00E+00	0.00E+00
43960	2-propoxy-1-propanol	0	0	0	0	0	0	0.00E+00	0.00E+00
43961	2-propenyl isothiocyanate	0	0	0	0	0	0	0.00E+00	0.00E+00
43962	2-phenylethyl propanoate	0	0	0	0	0	0	0.00E+00	0.00E+00
43963	2-phenyl-2-propanol	0	0	0	0	0	0	0.00E+00	0.00E+00
43964	2-methylstyrene	0	0	0	0	0	0	0.00E+00	0.00E+00
43965	2-methyl-4-isothiazolin-3-one	0	0	0	0	0	0	0.00E+00	0.00E+00
43966	tetramethylthiuram disulfide	0	0	0	0	0	0	0.00E+00	0.00E+00
43967	2-methyl-1,3-propanediol	0	0	0	0	0	0	0.00E+00	0.00E+00
43968	2-methacrylic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
43971	2-ethylhexyl dihydrogen phosphate	0	0	0	0	0	0	0.00E+00	0.00E+00
43972	2-amino-1-butanol	0	0	0	0	0	0	0.00E+00	0.00E+00
43973	2,6-dimethylphenol	0	0	0	0	0	0	0.00E+00	0.00E+00
43974	2,4,6-trimethylphenol	0	0	0	0	0	0	0.00E+00	0.00E+00
43975	2,2-dimethyl octanoic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
43976	2- pyrrolidone	0	0	0	0	0	0	0.00E+00	0.00E+00
43977	1-tetradecene	0	0	0	0	0	0	0.00E+00	0.00E+00
43978	1-propene-2-methyl, sulfurized	0	0	0	0	0	0	0.00E+00	0.00E+00
43980	1-octen-3-ol	0	0	0	0	0	0	0.00E+00	0.00E+00
43982	1-naphthol	0	0	0	0	0	0	0.00E+00	0.00E+00
43983	1-methoxy-4-(2-propenyl)benzene	0	0	0	0	0	0	0.00E+00	0.00E+00
43984	1-ethyl-2-pyrrolidinone	0	0	0	0	0	0	0.00E+00	0.00E+00
43985	1-chloro-4-methyl-benzene	0	0	0	0	0	0	0.00E+00	0.00E+00
43986	1-acetyl-2-phenylhydrazine	0	0	0	0	0	0	0.00E+00	0.00E+00
43987	1,3-propandiol	0	0	0	0	0	0	0.00E+00	0.00E+00
43988	1,2-pentanediol	0	0	0	0	0	0	0.00E+00	0.00E+00
43989	1,2-benzisothiazolin-3-one	0	0	0	0	0	0	0.00E+00	0.00E+00
43990	corrosion inhibitor	0	0	0	0	0	0	0.00E+00	0.00E+00
43991	tetrahydrofurfuryl methacrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
43994	tert-butyl peroxybenzoate	0	0	0	0	0	0	0.00E+00	0.00E+00
44001	architecural coatings/consumer products bin 1	0	0	0	0	0	0	0.00E+00	0.00E+00
44002	architecural coatings/consumer products bin 2	0	0	0	0	0	0	0.00E+00	0.00E+00
44003	architecural coatings/consumer products bin 3	0	0	0	0	0	0	0.00E+00	0.00E+00
44004	architecural coatings/consumer products bin 4	0	0	0	0	0	0	0.00E+00	0.00E+00
44005	architecural coatings/consumer products bin 5	0	0	0	0	0	0	0.00E+00	0.00E+00
44006	architecural coatings/consumer products bin 6	0	0	0	0	0	0	0.00E+00	0.00E+00
44007	architecural coatings/consumer products bin 7	0	0	0	0	0	0	0.00E+00	0.00E+00
44008	architecural coatings/consumer products bin 8	0	0	0	0	0	0	0.00E+00	0.00E+00
44009	architecural coatings/consumer products bin 9	0	0	0	0	0	0	0.00E+00	0.00E+00
44010	architecural coatings/consumer products bin 10	0	0	0	0	0	0	0.00E+00	0.00E+00
44011	architecural coatings/consumer products bin 11	0	0	0	0	0	0	0.00E+00	0.00E+00
44012	architecural coatings/consumer products bin 12	0	0	0	0	0	0	0.00E+00	0.00E+00
44013	architecural coatings/consumer products bin 13	0	0	0	0	0	0	0.00E+00	0.00E+00
44014	architecural coatings/consumer products bin 14	0	0	0	0	0	0	0.00E+00	0.00E+00
44015	architecural coatings/consumer products bin 15	0	0	0	0	0	0	0.00E+00	0.00E+00
44016	architecural coatings/consumer products bin 16	0	0	0	0	0	0	0.00E+00	0.00E+00
44017	architecural coatings/consumer products bin 17	0	0	0	0	0	0	0.00E+00	0.00E+00
44018	architecural coatings/consumer products bin 18	0	0	0	0	0	0	0.00E+00	0.00E+00
44019	architecural coatings/consumer products bin 19	0	0	0	0	0	0	0.00E+00	0.00E+00
44020	architecural coatings/consumer products bin 20	0	0	0	0	0	0	0.00E+00	0.00E+00
44021	architecural coatings/consumer products bin 21	0	0	0	0	0	0	0.00E+00	0.00E+00
44022	architecural coatings/consumer products bin 22	0	0	0	0	0	0	0.00E+00	0.00E+00
44023	architecural coatings/consumer products bin 23	0	0	0	0	0	0	0.00E+00	0.00E+00
44024	architecural coatings/consumer products bin 24	0	0	0	0	0	0	0.00E+00	0.00E+00
44201	1,2-benzenedicarboxylic acid diisodecyl ester	0	0	0	0	0	0	0.00E+00	0.00E+00
44202	1,3-butylene glycol	0	0	0	0	0	0	0.00E+00	0.00E+00
44203	bromopropane	0	0	0	0	0	0	0.00E+00	0.00E+00
44204	1-nitropropane	0	0	0	0	0	0	0.00E+00	0.00E+00
44205	2-(methylamino)-2-methyl-1-propanol	0	0	0	0	0	0	0.00E+00	0.00E+00

44206	dipropylene glycol monopropyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
44207	2-ethylhexyl acrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
44208	2-ethylhexyl benzoate	0	0	0	0	0	0	0.00E+00	0.00E+00
44209	2-n-octyl-4-isothiazolin-3-one	0	0	0	0	0	0	0.00E+00	0.00E+00
44210	2-octyl-1-dodecanol	0	0	0	0	0	0	0.00E+00	0.00E+00
44211	1-phenoxy-2-propanol	0	0	0	0	0	0	0.00E+00	0.00E+00
44212	4,4-dimethyloxazolidine	0	0	0	0	0	0	0.00E+00	0.00E+00
44213	di(ethylmethylketoxime) methoxymethyl silane	0	0	0	0	0	0	0.00E+00	0.00E+00
44214	petroleum ether	0	0	0	0	0	0	0.00E+00	0.00E+00
44215	bicyclic oxazolidine (Nuosept C)	0	0	0	0	0	0	0.00E+00	0.00E+00
44216	castor oil	0	0	0	0	0	0	0.00E+00	0.00E+00
44217	cold pressed orange oil	0	0	0	0	0	0	0.00E+00	0.00E+00
44218	oxo-tridecyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
44219	diesel fuel	0	0	0	0	0	0	0.00E+00	0.00E+00
44220	dimethyl adipate	0	0	0	0	0	0	0.00E+00	0.00E+00
44222	dimethyl isosorbide	0	0	0	0	0	0	0.00E+00	0.00E+00
44223	dipropylene glycol methyl ether acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
44225	distillate(petroleum), hydrotreated light	0	0	0	0	0	0	0.00E+00	0.00E+00
44226	distillates, petroleum, solvent-refined	0	0	0	0	0	0	0.00E+00	0.00E+00
44227	ethyl lactate	0	0	0	0	0	0	0.00E+00	0.00E+00
44228	ethyl orthoformate	0	0	0	0	0	0	0.00E+00	0.00E+00
44229	ethyl silicate	0	0	0	0	0	0	0.00E+00	0.00E+00
44230	9-octadecenoic acid (z)-, ester with 1,2,3-propanetriol	0	0	0	0	0	0	0.00E+00	0.00E+00
44231	heavy straight-run naphtha	0	0	0	0	0	0	0.00E+00	0.00E+00
44232	hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	0	0	0	0	0	0	0.00E+00	0.00E+00
44233	hydrotreated heavy naphtha	0	0	0	0	0	0	0.00E+00	0.00E+00
44234	hydrotreated heavy naphthenic distillate	0	0	0	0	0	0	0.00E+00	0.00E+00
44235	hydrotreated light naphthenic distillate	0	0	0	0	0	0	0.00E+00	0.00E+00
44237	tetraisobutylene	0	0	0	0	0	0	0.00E+00	0.00E+00
44238	2,2,4,4,6,8,8-heptamethylnonane	0	0	0	0	0	0	0.00E+00	0.00E+00
44239	isopropyl palmitate	0	0	0	0	0	0	0.00E+00	0.00E+00
44240	light petroleum distillate	0	0	0	0	0	0	0.00E+00	0.00E+00
44241	alcohols, c9-11, ethoxylated	0	0	0	0	0	0	0.00E+00	0.00E+00
44242	vinyl chloride/ vinyl acetate terpolymer	0	0	0	0	0	0	0.00E+00	0.00E+00
44243	medium aliphatic solvent naphtha	0	0	0	0	0	0	0.00E+00	0.00E+00
44244	2,4-imidazolidinedione, bromochloro-5,5-dimethyl	0	0	0	0	0	0	0.00E+00	0.00E+00
44245	methyl isoamyl ketone	0	0	0	0	0	0	0.00E+00	0.00E+00
44247	n,n,n',n'-tetrakis(2-hydroxyethyl)ethylenediamine	0	0	0	0	0	0	0.00E+00	0.00E+00
44248	naphtha (petroleum), heavy alkylate	0	0	0	0	0	0	0.00E+00	0.00E+00
44249	petroleum distillates, hydrotreated middle	0	0	0	0	0	0	0.00E+00	0.00E+00
44250	nitroethane	0	0	0	0	0	0	0.00E+00	0.00E+00
44251	oleic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
44252	oleyl alcohol	0	0	0	0	0	0	0.00E+00	0.00E+00
44253	alcohols, c9-11	0	0	0	0	0	0	0.00E+00	0.00E+00
44255	propanoic acid, 2-methyl-2,2-dimethyl-1-(1-methylethyl)-1,3-propanediy	0	0	0	0	0	0	0.00E+00	0.00E+00
44256	aminoethyl aminopropyl dimethyl siloxane	0	0	0	0	0	0	0.00E+00	0.00E+00
44257	solvent naphtha, petroleum, heavy aliph.	0	0	0	0	0	0	0.00E+00	0.00E+00
44259	straight-run middle distillate	0	0	0	0	0	0	0.00E+00	0.00E+00
44260	tea tree oil	0	0	0	0	0	0	0.00E+00	0.00E+00
44261	terpinolene	0	0	0	0	0	0	0.00E+00	0.00E+00
44262	thiocyanic acid (2-benzoathiazolythio)methyl ester	0	0	0	0	0	0	0.00E+00	0.00E+00
44263	tri-(2-butoxyethanol) phosphate	0	0	0	0	0	0	0.00E+00	0.00E+00
44264	triethoxyoctylsilane	0	0	0	0	0	0	0.00E+00	0.00E+00
44265	triethylene glycol monobutyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
44266	tripropylene glycol methyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
44267	Troysan 174	0	0	0	0	0	0	0.00E+00	0.00E+00
44268	quantenary ammonium chloride	0	0	0	0	0	0	0.00E+00	0.00E+00
44269	white mineral oil	0	0	0	0	0	0	0.00E+00	0.00E+00
45102	xylenes (mixed)	0	0	0	0	0	0	0.00E+00	0.00E+00
45103	c10 trialkyl benzenes	0	0	0	0	0	0	0.00E+00	0.00E+00
45104	c9 dialkyl benzenes	0	0	0	0	0	0	0.00E+00	0.00E+00
45105	isomers of butylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45106	isomers of diethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45107	trimethylbenzenes	0	0	0	0	0	0	0.00E+00	0.00E+00
45111	tetralin	0	0	0	0	0	0	0.00E+00	0.00E+00
45112	isomers of butadienephenyl	0	0	0	0	0	0	0.00E+00	0.00E+00
45113	1,3-diethylbenzene (meta)	0	0	0	0	0	0	0.00E+00	0.00E+00
45114	1,4-diethylbenzene (para)	0	0	0	0	0	0	0.00E+00	0.00E+00
45201	benzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45202	toluene	0	0	0	0	0	0	0.00E+00	0.00E+00
45203	ethyl benzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45204	o-xylene	0	0	0	0	0	0	0.00E+00	0.00E+00
45205	m-xylene	0	0	0	0	0	0	0.00E+00	0.00E+00
45206	p-xylene	0	0	0	0	0	0	0.00E+00	0.00E+00
45207	1,3,5-trimethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45208	1,2,4-trimethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45209	n-propylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45215	t-butylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45220	styrene	0	0	0	0	0	0	0.00E+00	0.00E+00
45221	a-methylstyrene	0	0	0	0	0	0	0.00E+00	0.00E+00
45222	2,2,4-trimethylhexane	0	0	0	0	0	0	0.00E+00	0.00E+00
45223	2,4,4-trimethylhexane	0	0	0	0	0	0	0.00E+00	0.00E+00
45225	1,2,3-trimethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45232	c10 tetraalkyl benzenes	0	0	0	0	0	0	0.00E+00	0.00E+00
45234	(1-methylpropyl)benzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45235	(2-methylpropyl)benzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45237	1,3-dipropylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45243	1-methyl-2-n-butylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45244	1-methyl-2-tert-butylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45245	c11 dialkyl benzenes	0	0	0	0	0	0	0.00E+00	0.00E+00
45246	c11 trialkyl benzenes	0	0	0	0	0	0	0.00E+00	0.00E+00
45247	c12 dialkyl benzenes	0	0	0	0	0	0	0.00E+00	0.00E+00
45248	c10 dialkyl benzenes	0	0	0	0	0	0	0.00E+00	0.00E+00
45249	c13 alkyl benzenes	0	0	0	0	0	0	0.00E+00	0.00E+00
45250	1,4-dimethyl-2-ethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45251	1,3-dimethyl-4-ethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45252	1,2-dimethyl-4-ethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45253	1,3-dimethyl-2-ethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45254	1,2-dimethyl-3-ethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45255	n-pentylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45256	1-(1,1-dimethylethyl)-3,5-dimethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45257	1,3-dimethyl-5-ethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45300	phenol	0	0	0	0	0	0	0.00E+00	0.00E+00
45303	c10 alkylphenols	0	0	0	0	0	0	0.00E+00	0.00E+00
45304	c11 alkylphenols	0	0	0	0	0	0	0.00E+00	0.00E+00
45320	dimethylbenzylalcohol	0	0	0	0	0	0	0.00E+00	0.00E+00
45401	xylene base acids	0	0	0	0	0	0	0.00E+00	0.00E+00
45402	benzoic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
45403	terephthalic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
45501	benzaldehyde	0	0	0	0	0	0	0.00E+00	0.00E+00
45502	m-tolualdehyde	0	0	0	0	0	0	0.00E+00	0.00E+00
45503	dimethylbenzaldehyde	0	0	0	0	0	0	0.00E+00	0.00E+00
45504	o-tolualdehyde	0	0	0	0	0	0	0.00E+00	0.00E+00
45505	c11-aromatics	0	0	0	0	0	0	0.00E+00	0.00E+00
45506	dodecenal	0	0	0	0	0	0	0.00E+00	0.00E+00

45801	chlorobenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
45807	p-dichlorobenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
46115	dimethylnaphthydrine	0	0	0	0	0	0	0.00E+00	0.00E+00
46201	1,4-dioxane	0	0	0	0	0	0	0.00E+00	0.00E+00
46202	octahydroindenes	0	0	0	0	0	0	0.00E+00	0.00E+00
46601	tetramethylthiourea	0	0	0	0	0	0	0.00E+00	0.00E+00
46602	benzothiazole	0	0	0	0	0	0	0.00E+00	0.00E+00
46746	c2 alkylnaphthalene	0	0	0	0	0	0	0.00E+00	0.00E+00
46747	methylindans	0	0	0	0	0	0	0.00E+00	0.00E+00
46748	methyldecalins	0	0	0	0	0	0	0.00E+00	0.00E+00
46749	methyldihydronaphthalene	0	0	0	0	0	0	0.00E+00	0.00E+00
46750	dimethylindans	0	0	0	0	0	0	0.00E+00	0.00E+00
46751	dihydronaphthalene	0	0	0	0	0	0	0.00E+00	0.00E+00
46752	dimethylindene	0	0	0	0	0	0	0.00E+00	0.00E+00
46753	t-decahydronaphthalene	0	0	0	0	0	0	0.00E+00	0.00E+00
46754	ethylindan	0	0	0	0	0	0	0.00E+00	0.00E+00
46755	trimethylindan	0	0	0	0	0	0	0.00E+00	0.00E+00
47001	farnesane	0	0	0	0	0	0	0.00E+00	0.00E+00
47002	norfarnesane	0	0	0	0	0	0	0.00E+00	0.00E+00
47003	2,6,10-trimethyltridecane	0	0	0	0	0	0	0.00E+00	0.00E+00
47004	norpristane	0	0	0	0	0	0	0.00E+00	0.00E+00
47005	pristane	0	0	0	0	0	0	0.00E+00	0.00E+00
47006	phytane	0	0	0	0	0	0	0.00E+00	0.00E+00
47007	heptylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
47008	dodecylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
47009	tridecylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
47010	tetradecylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
47011	pentadecylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
47015	c2-naphthalenes	0	0	0	0	0	0	0.00E+00	0.00E+00
47016	c3-naphthalenes	0	0	0	0	0	0	0.00E+00	0.00E+00
47017	c1-mw 202 PAH	0	0	0	0	0	0	0.00E+00	0.00E+00
47018	chrysene and triphenylene	0	0	0	0	0	0	0.00E+00	0.00E+00
47019	8beta,13alfa-dimethyl-14beta-n-butylpodocarpane	0	0	0	0	0	0	0.00E+00	0.00E+00
47020	8beta,13alfa-dimethyl-14beta-[3'methylbutyl]-podocarpane	0	0	0	0	0	0	0.00E+00	0.00E+00
47021	heptanal	0	0	0	0	0	0	0.00E+00	0.00E+00
47022	octanal	0	0	0	0	0	0	0.00E+00	0.00E+00
47023	nonanal	0	0	0	0	0	0	0.00E+00	0.00E+00
47024	decanal	0	0	0	0	0	0	0.00E+00	0.00E+00
47025	undecanal	0	0	0	0	0	0	0.00E+00	0.00E+00
47026	dodecanal	0	0	0	0	0	0	0.00E+00	0.00E+00
47027	tridecanal	0	0	0	0	0	0	0.00E+00	0.00E+00
47029	2,5-dimethylbenzaldehyde	0	0	0	0	0	0	0.00E+00	0.00E+00
47030	indanone	0	0	0	0	0	0	0.00E+00	0.00E+00
47031	fluorenone	0	0	0	0	0	0	0.00E+00	0.00E+00
47032	xanthone	0	0	0	0	0	0	0.00E+00	0.00E+00
47033	biacetyl	0	0	0	0	0	0	0.00E+00	0.00E+00
47034	octanoic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
47035	nonanoic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
47036	decanoic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
47037	undecanoic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
47038	dodecanoic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
47039	tridecanoic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
47040	tetradecanoic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
47041	methylbenzoic acids	0	0	0	0	0	0	0.00E+00	0.00E+00
47043	dibenzothiophene	0	0	0	0	0	0	0.00E+00	0.00E+00
47044	dibenzothiazole	0	0	0	0	0	0	0.00E+00	0.00E+00
47045	glycolaldehyde	0	0	0	0	0	0	0.00E+00	0.00E+00
47046	methyl vinyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
47047	methyl vinyl ketone	0	0	0	0	0	0	0.00E+00	0.00E+00
47048	1-hydroxy-2-propanone	0	0	0	0	0	0	0.00E+00	0.00E+00
47049	propionitrile	0	0	0	0	0	0	0.00E+00	0.00E+00
47050	pyrrole	0	0	0	0	0	0	0.00E+00	0.00E+00
47051	methyl iodide	0	0	0	0	0	0	0.00E+00	0.00E+00
47053	methyl nitrate	0	0	0	0	0	0	0.00E+00	0.00E+00
47054	ethyl nitrate	0	0	0	0	0	0	0.00E+00	0.00E+00
47055	n-propyl nitrate	0	0	0	0	0	0	0.00E+00	0.00E+00
47056	isopropyl nitrate	0	0	0	0	0	0	0.00E+00	0.00E+00
47057	2-butyl nitrate	0	0	0	0	0	0	0.00E+00	0.00E+00
47059	2-pentyl nitrate	0	0	0	0	0	0	0.00E+00	0.00E+00
47061	3-methyl-2-butanone	0	0	0	0	0	0	0.00E+00	0.00E+00
47062	3-methyl-3-buten-2-one	0	0	0	0	0	0	0.00E+00	0.00E+00
47064	4-carene	0	0	0	0	0	0	0.00E+00	0.00E+00
50040	mineral oils (untreated and mildly treated oils)	0	0	0	0	0	0	0.00E+00	0.00E+00
50178	diethyl phthalate	0	0	0	0	0	0	0.00E+00	0.00E+00
50218	acetophenone	0	0	0	0	0	0	0.00E+00	0.00E+00
50268	n,n-dimethylaniline	0	0	0	0	0	0	0.00E+00	0.00E+00
50275	tributyl phosphate	0	0	0	0	0	0	0.00E+00	0.00E+00
50313	benzofuran	0	0	0	0	0	0	0.00E+00	0.00E+00
60000	methyl isocyanate	0	0	0	0	0	0	0.00E+00	0.00E+00
60001	1,3-dichloropropene	0	0	0	0	0	0	0.00E+00	0.00E+00
60002	aromatic 200 solvent	0	0	0	0	0	0	0.00E+00	0.00E+00
60003	xylene range solvent	0	0	0	0	0	0	0.00E+00	0.00E+00
60005	molinate	0	0	0	0	0	0	0.00E+00	0.00E+00
60006	kerosene	0	0	0	0	0	0	0.00E+00	0.00E+00
60007	chlorpyrifos	0	0	0	0	0	0	0.00E+00	0.00E+00
60008	glyphosate	0	0	0	0	0	0	0.00E+00	0.00E+00
60010	thiobencarb	0	0	0	0	0	0	0.00E+00	0.00E+00
60011	oxyfluorfen	0	0	0	0	0	0	0.00E+00	0.00E+00
60012	pebulate	0	0	0	0	0	0	0.00E+00	0.00E+00
60013	pendimethalin	0	0	0	0	0	0	0.00E+00	0.00E+00
60014	oryzalin	0	0	0	0	0	0	0.00E+00	0.00E+00
60015	trifluralin	0	0	0	0	0	0	0.00E+00	0.00E+00
60016	aliphatic solvent	0	0	0	0	0	0	0.00E+00	0.00E+00
60017	oxydemeton-methyl	0	0	0	0	0	0	0.00E+00	0.00E+00
62112	chromium (VI)	0	0	0	0	0	0	0.00E+00	0.00E+00
65312	potassium ion	0	0	0	0	0	0	0.00E+00	0.00E+00
71111	cerium	0	0	0	0	0	0	0.00E+00	0.00E+00
81111	carbon-total (TC)	0	0	0	0	0	0	0.00E+00	0.00E+00
90026	1,3-cyclopentadiene	0	0	0	0	0	0	0.00E+00	0.00E+00
90027	methylcyclopentadiene	0	0	0	0	0	0	0.00E+00	0.00E+00
90028	2-methyl-2-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
90029	3-methyl-cis-2-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
90030	3-methyl-1-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
90031	4-methyl-trans-2-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
90032	3-methyl-trans-3-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
90040	3,3-dimethylpentane	0	0	0	0	0	0	0.00E+00	0.00E+00
90041	methylcyclohexadiene	0	0	0	0	0	0	0.00E+00	0.00E+00
90042	2,2-dimethylpentane	0	0	0	0	0	0	0.00E+00	0.00E+00
90043	methylhexanal	0	0	0	0	0	0	0.00E+00	0.00E+00
90044	methylheptyne	0	0	0	0	0	0	0.00E+00	0.00E+00
90047	2-methylnonane	0	0	0	0	0	0	0.00E+00	0.00E+00
90049	methylundecane	0	0	0	0	0	0	0.00E+00	0.00E+00
90051	myrcene	0	0	0	0	0	0	0.00E+00	0.00E+00
90054	pentenyne	0	0	0	0	0	0	0.00E+00	0.00E+00
90058	hexadienal	0	0	0	0	0	0	0.00E+00	0.00E+00

90059	heptadienal	0	0	0	0	0	0	0.00E+00	0.00E+00
90061	2,3-dimethyl-2-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
90062	2,4-dimethyl-2-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
90063	2,4-dimethyl-1-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
90064	dimethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
90065	dimethylcyclopentene	0	0	0	0	0	0	0.00E+00	0.00E+00
90066	nonadiene	0	0	0	0	0	0	0.00E+00	0.00E+00
90068	dimethylhexadiene	0	0	0	0	0	0	0.00E+00	0.00E+00
90069	dimethylethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
90071	dimethylundecane	0	0	0	0	0	0	0.00E+00	0.00E+00
90072	methyl propylcyclohexanes	0	0	0	0	0	0	0.00E+00	0.00E+00
90074	dimethyldecane	0	0	0	0	0	0	0.00E+00	0.00E+00
90075	3,4-dimethyl-1-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
90076	dimethylnonane	0	0	0	0	0	0	0.00E+00	0.00E+00
90077	ethyloctane	0	0	0	0	0	0	0.00E+00	0.00E+00
90078	ethylpentene	0	0	0	0	0	0	0.00E+00	0.00E+00
90079	3-ethylcyclopentene	0	0	0	0	0	0	0.00E+00	0.00E+00
90080	cis-1-methyl-3-ethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
90081	ethylhexane	0	0	0	0	0	0	0.00E+00	0.00E+00
90082	ethylmethylhexane	0	0	0	0	0	0	0.00E+00	0.00E+00
90083	ethylmethylcyclohexanes	0	0	0	0	0	0	0.00E+00	0.00E+00
90084	ethylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
90085	ethylmethyloctane	0	0	0	0	0	0	0.00E+00	0.00E+00
90086	ethylbicycloheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
90087	ethyldimethylpentane	0	0	0	0	0	0	0.00E+00	0.00E+00
90090	ethyl propylcyclohexanes	0	0	0	0	0	0	0.00E+00	0.00E+00
90091	tetramethylcyclobutene	0	0	0	0	0	0	0.00E+00	0.00E+00
90093	trimethylpentadiene	0	0	0	0	0	0	0.00E+00	0.00E+00
90095	trimethylhexene	0	0	0	0	0	0	0.00E+00	0.00E+00
90096	trimethyloctanes	0	0	0	0	0	0	0.00E+00	0.00E+00
90097	trimethyldecane	0	0	0	0	0	0	0.00E+00	0.00E+00
90098	tetramethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
90099	octatriene	0	0	0	0	0	0	0.00E+00	0.00E+00
90100	trans-1,3-pentadiene	0	0	0	0	0	0	0.00E+00	0.00E+00
90101	butylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
90102	3-methyl-1,3-butadiene	0	0	0	0	0	0	0.00E+00	0.00E+00
90103	pentadiene	0	0	0	0	0	0	0.00E+00	0.00E+00
90105	propenylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
90107	methyldecene	0	0	0	0	0	0	0.00E+00	0.00E+00
90109	propyl heptene	0	0	0	0	0	0	0.00E+00	0.00E+00
90110	diethylmethylcyclohexanes	0	0	0	0	0	0	0.00E+00	0.00E+00
90111	isopropylmethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
90112	dimethyoctyne diol	0	0	0	0	0	0	0.00E+00	0.00E+00
90113	pentylindenecyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
90114	dimethylbutylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
90116	propylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
90118	octahydropentalene	0	0	0	0	0	0	0.00E+00	0.00E+00
90119	propylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
90120	isopropylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
90121	glyoxal	0	0	0	0	0	0	0.00E+00	0.00E+00
90122	methyl glyoxal	0	0	0	0	0	0	0.00E+00	0.00E+00
91000	3,3-dimethyl-1-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
91001	4,4-dimethyl-2-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
91002	2,3,3-trimethyl-1-butene	0	0	0	0	0	0	0.00E+00	0.00E+00
91003	3-ethyl-1-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
91004	2-methyl-cis-3-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
91005	5-methyl-1-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
91006	2-methyl-trans-3-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
91007	2-ethyl-3-methyl-1-butene	0	0	0	0	0	0	0.00E+00	0.00E+00
91008	4-methyl-1-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
91009	5-methyl-trans-2-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
91010	1,6-heptadiene	0	0	0	0	0	0	0.00E+00	0.00E+00
91011	3,4-dimethyl-2-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
91012	2-methyl-1,4-pentadiene	0	0	0	0	0	0	0.00E+00	0.00E+00
91013	1,5-hexadiene	0	0	0	0	0	0	0.00E+00	0.00E+00
91014	1,4-hexadiene	0	0	0	0	0	0	0.00E+00	0.00E+00
91015	1,3-hexadiene	0	0	0	0	0	0	0.00E+00	0.00E+00
91016	t-amylmethylether (TAME)	0	0	0	0	0	0	0.00E+00	0.00E+00
91017	5-methyl-cis-2-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
91018	cis-1,3-dimethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
91019	trans-1,3-dimethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
91020	2-methyl-1-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
91021	trans-1-2-dimethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
91022	2-ethyl-1-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
91023	1,5-heptadiene	0	0	0	0	0	0	0.00E+00	0.00E+00
91024	3-methyl-cis-3-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
91025	cis-3-heptene	0	0	0	0	0	0	0.00E+00	0.00E+00
91026	trans-2-heptene	0	0	0	0	0	0	0.00E+00	0.00E+00
91027	3-methyl-trans-2-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
91028	cis-2-heptene	0	0	0	0	0	0	0.00E+00	0.00E+00
91029	cis-1-2-dimethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
91030	1,1,3-trimethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
91031	cis-1,trans-2,4-trimethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
91033	1,1,2-trimethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
91034	2-methyl-3-ethylpentane	0	0	0	0	0	0	0.00E+00	0.00E+00
91035	2-ethyl-1-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
91036	3-methyl-3-ethylpentane	0	0	0	0	0	0	0.00E+00	0.00E+00
91037	cis-1,cis-2,4-trimethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
91038	cis-1,trans-2,3-trimethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
91039	3-ethylhexane	0	0	0	0	0	0	0.00E+00	0.00E+00
91040	1,3-octadiene	0	0	0	0	0	0	0.00E+00	0.00E+00
91041	1,1-dimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
91043	2,6-dimethyl-1-heptene	0	0	0	0	0	0	0.00E+00	0.00E+00
91044	trans-1-methyl-3-ethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
91045	trans-2-ethylmethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
91046	1,1-methylethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
91047	trans-1,2-dimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
91048	3,5,5-trimethyl-1-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
91049	trans-3-octene	0	0	0	0	0	0	0.00E+00	0.00E+00
91050	cis-1,cis-2,3-trimethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
91051	cis-1,4-dimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
91052	2,2,3,4-tetramethylpentane	0	0	0	0	0	0	0.00E+00	0.00E+00
91053	2,3,4-trimethylhexane	0	0	0	0	0	0	0.00E+00	0.00E+00
91054	2,3,3-trimethyl-1-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
91055	cis-1,2-dimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
91056	2,2-dimethylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
91057	1,1,4-trimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
91058	trans-2,2-dimethyl-3-heptene	0	0	0	0	0	0	0.00E+00	0.00E+00
91059	2,2,3,trimethylhexane	0	0	0	0	0	0	0.00E+00	0.00E+00
91060	4,4-dimethylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
91061	cis-1,cis-3,5-trimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
91062	2-methyl-4-ethylhexane	0	0	0	0	0	0	0.00E+00	0.00E+00
91063	3,3-dimethylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
91064	1,1,3-trimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
91065	2,4-dimethyl-1-heptene	0	0	0	0	0	0	0.00E+00	0.00E+00

91066	cis-1,trans-2,trans-4-trimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
91067	2-methyl-1-octene	0	0	0	0	0	0	0.00E+00	0.00E+00
91068	2-methyl-2-octene	0	0	0	0	0	0	0.00E+00	0.00E+00
91069	3,4-dimethylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
91070	4-ethylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
91071	3-ethylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
91072	3,3-diethylpentane	0	0	0	0	0	0	0.00E+00	0.00E+00
91073	cis-1,trans-2,cis-4-trimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
91074	1,1,2-trimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
91075	trans-2-nonene	0	0	0	0	0	0	0.00E+00	0.00E+00
91076	trans-2-methyl-3-octene	0	0	0	0	0	0	0.00E+00	0.00E+00
91077	isobutylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
91078	cis-2-nonene	0	0	0	0	0	0	0.00E+00	0.00E+00
91079	2,3-dimethyl-2-heptene	0	0	0	0	0	0	0.00E+00	0.00E+00
91080	trans-3-nonene	0	0	0	0	0	0	0.00E+00	0.00E+00
91081	1-methyl-1-ethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
91082	3,7-dimethyl-1-octene	0	0	0	0	0	0	0.00E+00	0.00E+00
91083	trans-2,2,5,5-tetramethyl-3-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
91084	cis-3-nonene	0	0	0	0	0	0	0.00E+00	0.00E+00
91085	n-butylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
91086	3,6-dimethyloctane	0	0	0	0	0	0	0.00E+00	0.00E+00
91088	5-methylnonane	0	0	0	0	0	0	0.00E+00	0.00E+00
91089	3-ethyloctane	0	0	0	0	0	0	0.00E+00	0.00E+00
91090	3-methylnonane	0	0	0	0	0	0	0.00E+00	0.00E+00
91091	3-ethyl-2-methyl-2-heptene	0	0	0	0	0	0	0.00E+00	0.00E+00
91092	2,3-dimethyl-2-octene	0	0	0	0	0	0	0.00E+00	0.00E+00
91093	trans-1,methyl-2n-propylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
91094	1-methyl-4-isopropylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
91095	sec-butylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
91096	1-methyl-2-isopropylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
91097	3-ethylnonane	0	0	0	0	0	0	0.00E+00	0.00E+00
91098	n-butylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
91100	1-methyl-4-t-butylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
91102	1-ethyl-4-isopropylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
91103	1,2,4,5-tetramethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
91104	1,2,3,5-tetramethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
91105	trans-1-butyl-2-methylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
91106	5-methylindan	0	0	0	0	0	0	0.00E+00	0.00E+00
91107	4-methylindan	0	0	0	0	0	0	0.00E+00	0.00E+00
91108	2-methylindan	0	0	0	0	0	0	0.00E+00	0.00E+00
91109	1,2,3,4-tetramethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
91110	1,3-isodipropylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
91111	s-pentylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
91112	trans-1-methyl-2-(4-methylpropyl)cyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
91113	1,4-isodipropylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
91114	1,2-isodipropylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
91116	1,3-n-dipropylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
91117	1,3,5-triethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
91118	trans-1-butyl-4-ethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
91119	1,2,4-triethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
91120	1-methyl-4-n-pentylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
91121	n-hexylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
91122	pentamethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
91123	2-methyl naphthalene	0	0	0	0	0	0	0.00E+00	0.00E+00
91124	1-methylnaphthalene	0	0	0	0	0	0	0.00E+00	0.00E+00
91287	3-methyl-5-ethylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
91288	m & p-ethyltoluene	0	0	0	0	0	0	0.00E+00	0.00E+00
91289	c10 alkyl cyclohexanes	0	0	0	0	0	0	0.00E+00	0.00E+00
91290	ethylnaphthalenes	0	0	0	0	0	0	0.00E+00	0.00E+00
91291	methylehexadiene	0	0	0	0	0	0	0.00E+00	0.00E+00
91293	ole	0	0	0	0	0	0	0.00E+00	0.00E+00
91294	misc. asphalts, paraffins, distillates (TOG portion)	0	0	0	0	0	0	0.00E+00	0.00E+00
91295	trans-1,cis-2,3-trimethylecyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
91296	1-ethyl-2-isopropylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
91297	2-methylphenanthrene	0	0	0	0	0	0	0.00E+00	0.00E+00
91298	misc. alkyd, acrylic, and related resins (TOG portion)	0	0	0	0	0	0	0.00E+00	0.00E+00
91299	misc. glycols, glycol ethers, and acetates	0	0	0	0	0	0	0.00E+00	0.00E+00
91300	1,2,3-trimethyl-4-ethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
92000	1-methylcyclopentene	0	0	0	0	0	0	0.00E+00	0.00E+00
92001	1-methyl-4-ethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
97000	c4-naphthalenes	0	0	0	0	0	0	0.00E+00	0.00E+00
97001	acenaphthylene	0	0	0	0	0	0	0.00E+00	0.00E+00
97002	acenaphthene	0	0	0	0	0	0	0.00E+00	0.00E+00
97003	fluorene	0	0	0	0	0	0	0.00E+00	0.00E+00
97004	c1-fluorene	0	0	0	0	0	0	0.00E+00	0.00E+00
97005	phenanthrene	0	0	0	0	0	0	0.00E+00	0.00E+00
97006	3-methylphenanthrene	0	0	0	0	0	0	0.00E+00	0.00E+00
97008	2-methylanthracene	0	0	0	0	0	0	0.00E+00	0.00E+00
97009	9-methylphenanthrene	0	0	0	0	0	0	0.00E+00	0.00E+00
97010	1-methylphenanthrene	0	0	0	0	0	0	0.00E+00	0.00E+00
97011	c2 mw 178 PAH	0	0	0	0	0	0	0.00E+00	0.00E+00
97012	c3 mw 178 PAH	0	0	0	0	0	0	0.00E+00	0.00E+00
97013	fluoranthene	0	0	0	0	0	0	0.00E+00	0.00E+00
97014	acephenanthrylene	0	0	0	0	0	0	0.00E+00	0.00E+00
97015	pyrene	0	0	0	0	0	0	0.00E+00	0.00E+00
97016	c1-mw 228 PAH	0	0	0	0	0	0	0.00E+00	0.00E+00
97017	benzo[ghi]fluoranthene	0	0	0	0	0	0	0.00E+00	0.00E+00
97018	cyclopenta[cd]pyrene	0	0	0	0	0	0	0.00E+00	0.00E+00
97019	benz[a]anthracene	0	0	0	0	0	0	0.00E+00	0.00E+00
98001	2,3-dimethylbutane	0	0	0	0	0	0	0.00E+00	0.00E+00
98002	2-ethyl-1-butene	0	0	0	0	0	0	0.00E+00	0.00E+00
98003	cis-3-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
98004	2-methyl-2-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
98005	1-heptene	0	0	0	0	0	0	0.00E+00	0.00E+00
98006	trans-3-heptene	0	0	0	0	0	0	0.00E+00	0.00E+00
98007	3-ethyl-2-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
98010	methylnaphthalenes	0	0	0	0	0	0	0.00E+00	0.00E+00
98012	2,3-dimethylnaphthalene	0	0	0	0	0	0	0.00E+00	0.00E+00
98013	propylnaphthalenes	0	0	0	0	0	0	0.00E+00	0.00E+00
98014	trimethylnaphthalene	0	0	0	0	0	0	0.00E+00	0.00E+00
98015	anthracene	0	0	0	0	0	0	0.00E+00	0.00E+00
98016	methylanthracene	0	0	0	0	0	0	0.00E+00	0.00E+00
98017	dimethyl-2,3,dh-1h-indene	0	0	0	0	0	0	0.00E+00	0.00E+00
98018	dimethyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
98020	b-methylstyrene	0	0	0	0	0	0	0.00E+00	0.00E+00
98021	o-cresol	0	0	0	0	0	0	0.00E+00	0.00E+00
98022	m-cresol	0	0	0	0	0	0	0.00E+00	0.00E+00
98023	p-cresol	0	0	0	0	0	0	0.00E+00	0.00E+00
98024	benzyl chloride	0	0	0	0	0	0	0.00E+00	0.00E+00
98025	a-pinene	0	0	0	0	0	0	0.00E+00	0.00E+00
98026	b-pinene	0	0	0	0	0	0	0.00E+00	0.00E+00
98027	d-limonene {4-isopropenyl-1-methylcycohexane}	0	0	0	0	0	0	0.00E+00	0.00E+00
98028	phthalic anhydride	0	0	0	0	0	0	0.00E+00	0.00E+00
98029	dibutyl phthalate	0	0	0	0	0	0	0.00E+00	0.00E+00
98030	carbon disulfide	0	0	0	0	0	0	0.00E+00	0.00E+00

98031	carbonyl sulfide	0	0	0	0	0	0	0.00E+00	0.00E+00
98033	2,2,5-trimethylhexane	0	0	0	0	0	0	0.00E+00	0.00E+00
98034	trans-2-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
98035	cis-2-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
98036	isobutyraldehyde	0	0	0	0	0	0	0.00E+00	0.00E+00
98037	1-methylcyclohexene	0	0	0	0	0	0	0.00E+00	0.00E+00
98039	c10 internal alkenes	0	0	0	0	0	0	0.00E+00	0.00E+00
98040	2-methyl-1-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
98042	c9 internal alkenes	0	0	0	0	0	0	0.00E+00	0.00E+00
98043	cumene	0	0	0	0	0	0	0.00E+00	0.00E+00
98044	indan	0	0	0	0	0	0	0.00E+00	0.00E+00
98046	naphthalene	0	0	0	0	0	0	0.00E+00	0.00E+00
98048	indene	0	0	0	0	0	0	0.00E+00	0.00E+00
98049	c9 aromatics	0	0	0	0	0	0	0.00E+00	0.00E+00
98050	c10 aromatics	0	0	0	0	0	0	0.00E+00	0.00E+00
98051	2-chlorotoluene	0	0	0	0	0	0	0.00E+00	0.00E+00
98054	2,4,4-trimethyl-1-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
98055	2,4,4-trimethyl-2-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
98056	isovaleraldehyde	0	0	0	0	0	0	0.00E+00	0.00E+00
98057	ethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
98058	trimethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
98059	trans-1,3-dimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
98060	trimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
98061	1,3,5-trimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
98062	diethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
98063	n-pentylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
98064	c8 alkyl cyclohexanes	0	0	0	0	0	0	0.00E+00	0.00E+00
98065	c9 alkyl cyclohexanes	0	0	0	0	0	0	0.00E+00	0.00E+00
98067	c11 alkyl cyclohexanes	0	0	0	0	0	0	0.00E+00	0.00E+00
98070	c10 cycloalkanes	0	0	0	0	0	0	0.00E+00	0.00E+00
98071	c11 cycloalkanes	0	0	0	0	0	0	0.00E+00	0.00E+00
98072	c12 cycloalkanes	0	0	0	0	0	0	0.00E+00	0.00E+00
98073	c4 substituted cyclohexanone	0	0	0	0	0	0	0.00E+00	0.00E+00
98074	ethylene glycol monobutyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
98075	c5 ester	0	0	0	0	0	0	0.00E+00	0.00E+00
98076	2-methyl-3-hexanone	0	0	0	0	0	0	0.00E+00	0.00E+00
98077	heptanone	0	0	0	0	0	0	0.00E+00	0.00E+00
98078	alkene ketone	0	0	0	0	0	0	0.00E+00	0.00E+00
98079	terpinene	0	0	0	0	0	0	0.00E+00	0.00E+00
98080	butandiol	0	0	0	0	0	0	0.00E+00	0.00E+00
98081	methyl salicylate (an ester)	0	0	0	0	0	0	0.00E+00	0.00E+00
98082	ethylheptene	0	0	0	0	0	0	0.00E+00	0.00E+00
98083	c13 internal alkenes	0	0	0	0	0	0	0.00E+00	0.00E+00
98084	c2 alkyl indan	0	0	0	0	0	0	0.00E+00	0.00E+00
98086	c2 alkyl decalin	0	0	0	0	0	0	0.00E+00	0.00E+00
98087	carvomenthol	0	0	0	0	0	0	0.00E+00	0.00E+00
98088	carvone	0	0	0	0	0	0	0.00E+00	0.00E+00
98089	isopulegone	0	0	0	0	0	0	0.00E+00	0.00E+00
98090	methyl heptene	0	0	0	0	0	0	0.00E+00	0.00E+00
98091	dimethylheptanes	0	0	0	0	0	0	0.00E+00	0.00E+00
98093	c7 ester	0	0	0	0	0	0	0.00E+00	0.00E+00
98094	pentyl alcohol	0	0	0	0	0	0	0.00E+00	0.00E+00
98095	c6 aldehydes	0	0	0	0	0	0	0.00E+00	0.00E+00
98096	diethylene glycol monoethyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
98097	a-terpineol	0	0	0	0	0	0	0.00E+00	0.00E+00
98098	par	0	0	0	0	0	0	0.00E+00	0.00E+00
98100	eth	0	0	0	0	0	0	0.00E+00	0.00E+00
98103	unr	0	0	0	0	0	0	0.00E+00	0.00E+00
98104	1-chlorobutane	0	0	0	0	0	0	0.00E+00	0.00E+00
98105	3-(chloromethyl)-heptane	0	0	0	0	0	0	0.00E+00	0.00E+00
98106	ethyl isopropyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
98107	dibutyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
98109	propylcyclohexanone	0	0	0	0	0	0	0.00E+00	0.00E+00
98110	diethylene glycol monobutyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
98111	1-ethoxy-2-propanol	0	0	0	0	0	0	0.00E+00	0.00E+00
98112	2-ethyl-1-hexanol	0	0	0	0	0	0	0.00E+00	0.00E+00
98113	1-heptanol	0	0	0	0	0	0	0.00E+00	0.00E+00
98114	methyl isobutyrate	0	0	0	0	0	0	0.00E+00	0.00E+00
98115	isoamyl isobutyrate	0	0	0	0	0	0	0.00E+00	0.00E+00
98116	substituted c7 ester (c12)	0	0	0	0	0	0	0.00E+00	0.00E+00
98117	substituted c9 ester (c12)	0	0	0	0	0	0	0.00E+00	0.00E+00
98118	methyl acrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
98119	vinyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
98120	methacrylonitrile	0	0	0	0	0	0	0.00E+00	0.00E+00
98121	methyacrylic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
98122	ald2	0	0	0	0	0	0	0.00E+00	0.00E+00
98123	diethylene glycol monomethyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
98124	cyclomethicone (a VMS)	0	0	0	0	0	0	0.00E+00	0.00E+00
98125	1-hexanol	0	0	0	0	0	0	0.00E+00	0.00E+00
98126	tetrahydrofurfuryl alcohol	0	0	0	0	0	0	0.00E+00	0.00E+00
98127	cyclohexanol	0	0	0	0	0	0	0.00E+00	0.00E+00
98128	diisopropyl adipate	0	0	0	0	0	0	0.00E+00	0.00E+00
98129	n-methylpyrrolidinone	0	0	0	0	0	0	0.00E+00	0.00E+00
98130	2,2-dimethylpropane	0	0	0	0	0	0	0.00E+00	0.00E+00
98131	1-butyne (ethylacetylene)	0	0	0	0	0	0	0.00E+00	0.00E+00
98132	isopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
98133	2-butyne	0	0	0	0	0	0	0.00E+00	0.00E+00
98134	vinylacetylene	0	0	0	0	0	0	0.00E+00	0.00E+00
98135	4-methyl-1-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
98136	trans-3-hexene	0	0	0	0	0	0	0.00E+00	0.00E+00
98137	dimethylhexene	0	0	0	0	0	0	0.00E+00	0.00E+00
98138	2,2-dimethylhexane	0	0	0	0	0	0	0.00E+00	0.00E+00
98139	2,3-dimethylhexane	0	0	0	0	0	0	0.00E+00	0.00E+00
98140	2-methylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
98141	2,3,5-trimethylhexane	0	0	0	0	0	0	0.00E+00	0.00E+00
98142	2,4-dimethylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
98143	2,5-dimethylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
98144	3,5-dimethylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
98145	2,3-dimethylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
98146	2-methyloctane	0	0	0	0	0	0	0.00E+00	0.00E+00
98147	2,4,5-trimethylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
98149	2,4-dimethyloctane	0	0	0	0	0	0	0.00E+00	0.00E+00
98150	3,4-dimethylhexane	0	0	0	0	0	0	0.00E+00	0.00E+00
98151	3,4-dimethyloctane	0	0	0	0	0	0	0.00E+00	0.00E+00
98152	1-methyl-3n-propylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
98153	1-methyl-3-isopropylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
98154	1,2-diethylbenzene (ortho)	0	0	0	0	0	0	0.00E+00	0.00E+00
98155	2-methyldecane	0	0	0	0	0	0	0.00E+00	0.00E+00
98156	crotonaldehyde	0	0	0	0	0	0	0.00E+00	0.00E+00
98157	2,6-dimethylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
98158	c7 aldehydes	0	0	0	0	0	0	0.00E+00	0.00E+00
98159	hexaldehyde	0	0	0	0	0	0	0.00E+00	0.00E+00
98160	methyl propyl ketone {2-pentanone}	0	0	0	0	0	0	0.00E+00	0.00E+00
98161	diethyl ketone	0	0	0	0	0	0	0.00E+00	0.00E+00
98162	(2-methylbutyl)benzene	0	0	0	0	0	0	0.00E+00	0.00E+00

98163	3-methyl-cis-2-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
98165	2-pentenes	0	0	0	0	0	0	0.00E+00	0.00E+00
98166	camphor	0	0	0	0	0	0	0.00E+00	0.00E+00
98167	menthol	0	0	0	0	0	0	0.00E+00	0.00E+00
98168	chloropicrin	0	0	0	0	0	0	0.00E+00	0.00E+00
98169	3,3-dimethyl-1-butene	0	0	0	0	0	0	0.00E+00	0.00E+00
98170	4-methyl-cis-2-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
98171	3,3-dimethylhexane	0	0	0	0	0	0	0.00E+00	0.00E+00
98172	3-methyloctane	0	0	0	0	0	0	0.00E+00	0.00E+00
98173	4-methyloctane	0	0	0	0	0	0	0.00E+00	0.00E+00
98174	2,2,4-trimethylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
98175	2,2-dimethyloctane	0	0	0	0	0	0	0.00E+00	0.00E+00
98176	2,5-dimethyloctane	0	0	0	0	0	0	0.00E+00	0.00E+00
98177	2,6-dimethyloctane	0	0	0	0	0	0	0.00E+00	0.00E+00
98178	1-methyl-2n-propylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
98179	1-ethyl-2n-propylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
98180	cis-1,3-dimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
98181	trans-1,4-dimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
98182	1-methyl-4n-propylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
98183	2,3-dimethyloctane	0	0	0	0	0	0	0.00E+00	0.00E+00
98184	3,3-dimethyloctane	0	0	0	0	0	0	0.00E+00	0.00E+00
98185	2,6-dimethylnaphthalene	0	0	0	0	0	0	0.00E+00	0.00E+00
98190	butyl benzyl phthalate	0	0	0	0	0	0	0.00E+00	0.00E+00
98200	n-valeraldehyde	0	0	0	0	0	0	0.00E+00	0.00E+00
99001	allyl chloride	0	0	0	0	0	0	0.00E+00	0.00E+00
99003	chloroprene	0	0	0	0	0	0	0.00E+00	0.00E+00
99004	nitromethane	0	0	0	0	0	0	0.00E+00	0.00E+00
99006	epichlorohydrin	0	0	0	0	0	0	0.00E+00	0.00E+00
99007	hexachlorocyclopentadiene	0	0	0	0	0	0	0.00E+00	0.00E+00
99008	maleic anhydride	0	0	0	0	0	0	0.00E+00	0.00E+00
99009	nitrobenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
99010	n-nitrosomorpholine	0	0	0	0	0	0	0.00E+00	0.00E+00
99013	vinylidene chloride	0	0	0	0	0	0	0.00E+00	0.00E+00
99014	ethylene dibromide {EDB}	0	0	0	0	0	0	0.00E+00	0.00E+00
99015	dibenzofuran	0	0	0	0	0	0	0.00E+00	0.00E+00
99016	1,2-dichloropropane	0	0	0	0	0	0	0.00E+00	0.00E+00
99017	bromodichloromethane	0	0	0	0	0	0	0.00E+00	0.00E+00
99018	trans-1,2-dichloroethene	0	0	0	0	0	0	0.00E+00	0.00E+00
99019	bromoform	0	0	0	0	0	0	0.00E+00	0.00E+00
99020	chlorodibromomethane	0	0	0	0	0	0	0.00E+00	0.00E+00
99021	3-carene	0	0	0	0	0	0	0.00E+00	0.00E+00
99024	m & p-xylene	0	0	0	0	0	0	0.00E+00	0.00E+00
99025	4-methyl-2-pentanol {methyl isobutyl carbinol}	0	0	0	0	0	0	0.00E+00	0.00E+00
99026	furfuryl alcohol	0	0	0	0	0	0	0.00E+00	0.00E+00
99030	other c7	0	0	0	0	0	0	0.00E+00	0.00E+00
99031	other c8	0	0	0	0	0	0	0.00E+00	0.00E+00
99032	other c9	0	0	0	0	0	0	0.00E+00	0.00E+00
99033	other c10	0	0	0	0	0	0	0.00E+00	0.00E+00
99034	other c11	0	0	0	0	0	0	0.00E+00	0.00E+00
99035	other c12	0	0	0	0	0	0	0.00E+00	0.00E+00
99037	other c13	0	0	0	0	0	0	0.00E+00	0.00E+00
99038	other c14	0	0	0	0	0	0	0.00E+00	0.00E+00
99040	1-methyl-3-isopropylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99041	1-methyl-2-isopropylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99043	1,1,3,4-tetramethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99044	6-ethyl-2-methyloctane	0	0	0	0	0	0	0.00E+00	0.00E+00
99045	6-methylundecane	0	0	0	0	0	0	0.00E+00	0.00E+00
99048	1-ethyl-3-methylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
99049	4-ethyldecane	0	0	0	0	0	0	0.00E+00	0.00E+00
99050	2-methyldecalin	0	0	0	0	0	0	0.00E+00	0.00E+00
99051	3-ethyl-3-methyloctane	0	0	0	0	0	0	0.00E+00	0.00E+00
99052	(2-methylbutyl)cyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99053	1,2-diethyl-1-methylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99054	cis,cis-1,2,4-trimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99055	2-ethyl-1,3-dimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99056	5-isopropylnonane	0	0	0	0	0	0	0.00E+00	0.00E+00
99057	hexylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
99059	1,1-dimethyl-2-propylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99060	1-ethyl-2,2,6-trimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99061	1-ethyl-1,2-dimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99062	1,1,2,3-tetramethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99063	1-ethyl-2,4-dimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99064	1-methyl-4-isobutylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
99065	1,3-dimethyl-4-isopropylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
99066	4,5-dimethyldecane	0	0	0	0	0	0	0.00E+00	0.00E+00
99067	2,7-dimethyldecane	0	0	0	0	0	0	0.00E+00	0.00E+00
99068	3,5-dimethylnonane	0	0	0	0	0	0	0.00E+00	0.00E+00
99071	cis-1-ethyl-3-methylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
99072	methyl pentylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99074	1,2,3-trimethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
99075	trans,cis-1,2,4-trimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99076	trans,trans-1,3,5-trimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99077	1,2,3-trimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99078	2,5-dimethylnonane	0	0	0	0	0	0	0.00E+00	0.00E+00
99079	cis,trans-1,2,4-trimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99080	trans-1-ethyl-3-methylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99082	trans-1-ethyl-4-methylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99083	1-ethyl-2-methylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
99084	1-methyl-3-butylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
99085	trans-1-ethyl-3-methylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
99086	menthol (Racemic)	0	0	0	0	0	0	0.00E+00	0.00E+00
99087	cis-decalin	0	0	0	0	0	0	0.00E+00	0.00E+00
99088	1-methyl-4-isopropylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99089	2,6-dimethyl-4-heptanol	0	0	0	0	0	0	0.00E+00	0.00E+00
99090	pentylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
99091	cis-bicyclo[3.3.0]octane	0	0	0	0	0	0	0.00E+00	0.00E+00
99092	1-methylindan	0	0	0	0	0	0	0.00E+00	0.00E+00
99093	cis-1-ethyl-2-methylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
99094	3-methylundecane	0	0	0	0	0	0	0.00E+00	0.00E+00
99095	2,7-dimethyloctane	0	0	0	0	0	0	0.00E+00	0.00E+00
99096	3-phenylpentane	0	0	0	0	0	0	0.00E+00	0.00E+00
99097	5-methylundecane	0	0	0	0	0	0	0.00E+00	0.00E+00
99098	1,1-dimethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
99099	trans,trans-1,2,4-trimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99100	isobutylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99101	1,2-dimethylcyclopentane	0	0	0	0	0	0	0.00E+00	0.00E+00
99102	4-methyldecane	0	0	0	0	0	0	0.00E+00	0.00E+00
99103	4-methylundecane	0	0	0	0	0	0	0.00E+00	0.00E+00
99104	cis-1-ethyl-4-methylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99105	hexylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99106	pentylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99107	1,1,3,5-tetramethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99108	cis-bicyclo[4.3.0]nonane	0	0	0	0	0	0	0.00E+00	0.00E+00
99109	cis-1-ethyl-2-methylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99110	trans-1-ethyl-2-methylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00

99111	2-methylundecane {isododecane}	0	0	0	0	0	0	0.00E+00	0.00E+00
99112	2,2,3,3-tetramethylpentane	0	0	0	0	0	0	0.00E+00	0.00E+00
99113	3,3,5-trimethylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
99114	2,6-dimethyldecane	0	0	0	0	0	0	0.00E+00	0.00E+00
99115	3-methyldecane	0	0	0	0	0	0	0.00E+00	0.00E+00
99116	5-methyldecane	0	0	0	0	0	0	0.00E+00	0.00E+00
99117	3-ethyl-2-methylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
99118	3,5-dimethyloctane	0	0	0	0	0	0	0.00E+00	0.00E+00
99119	4,5-dimethyloctane	0	0	0	0	0	0	0.00E+00	0.00E+00
99120	3-ethyldecane	0	0	0	0	0	0	0.00E+00	0.00E+00
99121	2,6-dimethylundecane	0	0	0	0	0	0	0.00E+00	0.00E+00
99122	4-methylnonane	0	0	0	0	0	0	0.00E+00	0.00E+00
99123	2,4-dimethylnonane	0	0	0	0	0	0	0.00E+00	0.00E+00
99124	2,6-dimethylnonane	0	0	0	0	0	0	0.00E+00	0.00E+00
99125	3,7-dimethylnonane	0	0	0	0	0	0	0.00E+00	0.00E+00
99126	cis-1-ethyl-3-methylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99127	2,3,5-trimethylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
99128	cis,trans-1,2,3-trimethylcyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99129	3-ethyl-4-methylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
99130	misc. glycol ethers and acetates	0	0	0	0	0	0	0.00E+00	0.00E+00
99131	misc. alcohols	0	0	0	0	0	0	0.00E+00	0.00E+00
99132	misc. xylenes	0	0	0	0	0	0	0.00E+00	0.00E+00
99133	misc. esters	0	0	0	0	0	0	0.00E+00	0.00E+00
99134	fragrances	0	0	0	0	0	0	0.00E+00	0.00E+00
99135	misc./other VOC	0	0	0	0	0	0	0.00E+00	0.00E+00
99136	other exempt propellants	0	0	0	0	0	0	0.00E+00	0.00E+00
99137	misc. acids	0	0	0	0	0	0	0.00E+00	0.00E+00
99138	misc. amines	0	0	0	0	0	0	0.00E+00	0.00E+00
99139	misc. silanes	0	0	0	0	0	0	0.00E+00	0.00E+00
99140	misc. hydrocarbon propellants	0	0	0	0	0	0	0.00E+00	0.00E+00
99141	misc. lvp VOC distillates	0	0	0	0	0	0	0.00E+00	0.00E+00
99142	other, lumped VOCs, individually < 2% of category	0	0	0	0	0	0	0.00E+00	0.00E+00
99143	other, lumped exempts, individually < 2% of category	0	0	0	0	0	0	0.00E+00	0.00E+00
99144	other, misc. VOC	0	0	0	0	0	0	0.00E+00	0.00E+00
99145	misc. trimethylbenzenes	0	0	0	0	0	0	0.00E+00	0.00E+00
99146	other, misc. VOC compounds aggregated in profile	0	0	0	0	0	0	0.00E+00	0.00E+00
99147	other, misc. exempt compounds aggregated in profile	0	0	0	0	0	0	0.00E+00	0.00E+00
99148	ethylene glycol butyl ether acetate {2-butoxyethyl acetate}	0	0	0	0	0	0	0.00E+00	0.00E+00
99151	distillates/naphtha/mineral spirits	0	0	0	0	0	0	0.00E+00	0.00E+00
99152	aliphatics	0	0	0	0	0	0	0.00E+00	0.00E+00
99153	oils	0	0	0	0	0	0	0.00E+00	0.00E+00
99154	misc. urethane-containing material (TOG portion)	0	0	0	0	0	0	0.00E+00	0.00E+00
99155	misc. formaldehyde-containing material (TOG portion)	0	0	0	0	0	0	0.00E+00	0.00E+00
99156	misc. styrene-containing material (TOG portion)	0	0	0	0	0	0	0.00E+00	0.00E+00
99157	misc. acetates and esters (TOG portion)	0	0	0	0	0	0	0.00E+00	0.00E+00
99158	misc. residual monomers and oils (TOG portion)	0	0	0	0	0	0	0.00E+00	0.00E+00
99159	misc. hydrocarbon resins (TOG portion)	0	0	0	0	0	0	0.00E+00	0.00E+00
99160	misc. copolymers, surfactants, resins (TOG portion)	0	0	0	0	0	0	0.00E+00	0.00E+00
99162	misc. VOC (TOG portion)	0	0	0	0	0	0	0.00E+00	0.00E+00
99163	aggregated VOCs < 0.1%	0	0	0	0	0	0	0.00E+00	0.00E+00
99164	aggregated exempt compounds < 0.1%	0	0	0	0	0	0	0.00E+00	0.00E+00
99165	VOC ingredients < 0.1%	0	0	0	0	0	0	0.00E+00	0.00E+00
99166	volatile methyl siloxanes {VMS}	0	0	0	0	0	0	0.00E+00	0.00E+00
99167	total aggregate organic ingredients < 0.1%	0	0	0	0	0	0	0.00E+00	0.00E+00
99168	aggregated VOCs < 1.0%	0	0	0	0	0	0	0.00E+00	0.00E+00
99169	aggregated exempt compounds < 1.0%	0	0	0	0	0	0	0.00E+00	0.00E+00
99170	aggregate ingredients < 0.1%	0	0	0	0	0	0	0.00E+00	0.00E+00
99171	dimethoate	0	0	0	0	0	0	0.00E+00	0.00E+00
99172	dimethyl sulfoxide	0	0	0	0	0	0	0.00E+00	0.00E+00
99173	isocyanate	0	0	0	0	0	0	0.00E+00	0.00E+00
99174	1,1-difluoroethane {Freon 152a}	0	0	0	0	0	0	0.00E+00	0.00E+00
99175	dimethoxypropane	0	0	0	0	0	0	0.00E+00	0.00E+00
99176	isophorone	0	0	0	0	0	0	0.00E+00	0.00E+00
99177	monoisopropanolamine {1-amino-2-propanol}	0	0	0	0	0	0	0.00E+00	0.00E+00
99178	acrylamide	0	0	0	0	0	0	0.00E+00	0.00E+00
99179	peracetic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
99180	methyl methacrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
99181	panthenol	0	0	0	0	0	0	0.00E+00	0.00E+00
99182	1,2-dichlorobenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
99183	methyl ethyl ketoxime	0	0	0	0	0	0	0.00E+00	0.00E+00
99184	gamma- butyrolactone	0	0	0	0	0	0	0.00E+00	0.00E+00
99185	parachlorobenzotrifluoride {PCBTF}	0	0	0	0	0	0	0.00E+00	0.00E+00
99186	diethyl aminoethanol	0	0	0	0	0	0	0.00E+00	0.00E+00
99187	benzyl alcohol	0	0	0	0	0	0	0.00E+00	0.00E+00
99188	glyceryl triacetate	0	0	0	0	0	0	0.00E+00	0.00E+00
99189	2-ethyl hexyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
99190	dimethyl succinate	0	0	0	0	0	0	0.00E+00	0.00E+00
99191	1,2-epoxybutane	0	0	0	0	0	0	0.00E+00	0.00E+00
99192	3,5-dimethyl-1-hexyne-3-ol	0	0	0	0	0	0	0.00E+00	0.00E+00
99193	propylene carbonate	0	0	0	0	0	0	0.00E+00	0.00E+00
99194	diisobutyl ketone	0	0	0	0	0	0	0.00E+00	0.00E+00
99195	cyclohexamine	0	0	0	0	0	0	0.00E+00	0.00E+00
99196	dimethoxymethane	0	0	0	0	0	0	0.00E+00	0.00E+00
99197	diethylamine	0	0	0	0	0	0	0.00E+00	0.00E+00
99198	morpholine	0	0	0	0	0	0	0.00E+00	0.00E+00
99200	terpenes: extra carbons	0	0	0	0	0	0	0.00E+00	0.00E+00
99201	terpenes: terminal double bond	0	0	0	0	0	0	0.00E+00	0.00E+00
99202	terpenes: internal double bond	0	0	0	0	0	0	0.00E+00	0.00E+00
99204	diethylenetriamine	0	0	0	0	0	0	0.00E+00	0.00E+00
99205	propoxur	0	0	0	0	0	0	0.00E+00	0.00E+00
99206	pentaerythritol	0	0	0	0	0	0	0.00E+00	0.00E+00
99207	triethylamine	0	0	0	0	0	0	0.00E+00	0.00E+00
99208	triisopropanolamine	0	0	0	0	0	0	0.00E+00	0.00E+00
99209	phenoxyethanol	0	0	0	0	0	0	0.00E+00	0.00E+00
99210	diethylene glycol butyl ether acetate {2-2-(butoxyethoxy)ethyl acetate}	0	0	0	0	0	0	0.00E+00	0.00E+00
99211	2-amino-2-methyl-1-propanol	0	0	0	0	0	0	0.00E+00	0.00E+00
99212	isobornyl acetate {2-camphanyl acetate}	0	0	0	0	0	0	0.00E+00	0.00E+00
99213	diacetone	0	0	0	0	0	0	0.00E+00	0.00E+00
99214	dl-limonene {dipentene}	0	0	0	0	0	0	0.00E+00	0.00E+00
99215	butyl acrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
99216	4,4-dimethyl-2-neopentyl-1-pentene	0	0	0	0	0	0	0.00E+00	0.00E+00
99217	aluminum stearate, di	0	0	0	0	0	0	0.00E+00	0.00E+00
99218	t-butyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
99219	amyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
99220	1,3-dioxolane	0	0	0	0	0	0	0.00E+00	0.00E+00
99221	eptc {s-ethyl dipropylthiocarbamate}	0	0	0	0	0	0	0.00E+00	0.00E+00
99222	ethyl-3-ethoxypropionate	0	0	0	0	0	0	0.00E+00	0.00E+00
99223	pentanedioic acid, dimethyl ester	0	0	0	0	0	0	0.00E+00	0.00E+00
99224	methyltrimethoxysilane	0	0	0	0	0	0	0.00E+00	0.00E+00
99225	xylenol	0	0	0	0	0	0	0.00E+00	0.00E+00
99226	cresols (mixtures of) {cresylic acid}	0	0	0	0	0	0	0.00E+00	0.00E+00
99227	manganese (ii) naphthenate	0	0	0	0	0	0	0.00E+00	0.00E+00
99228	2-(2-ethylhexyloxy)ethanol	0	0	0	0	0	0	0.00E+00	0.00E+00
99229	propylene glycol n-propyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
99230	1,1-dichloro-1-fluoroethane {HCFC-141b}	0	0	0	0	0	0	0.00E+00	0.00E+00

99231	vinyltrimethoxysilane	0	0	0	0	0	0	0.00E+00	0.00E+00
99232	ethylene glycol monopropyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
99233	propylene glycol butyl ether {1-butoxy-2-propanol}	0	0	0	0	0	0	0.00E+00	0.00E+00
99234	manganese (ii) acetate, tetrahydrate	0	0	0	0	0	0	0.00E+00	0.00E+00
99235	ethyl cyanoacrylate	0	0	0	0	0	0	0.00E+00	0.00E+00
99236	raw linseed oil	0	0	0	0	0	0	0.00E+00	0.00E+00
99237	pine oil	0	0	0	0	0	0	0.00E+00	0.00E+00
99238	turpentine	0	0	0	0	0	0	0.00E+00	0.00E+00
99239	lemon oil	0	0	0	0	0	0	0.00E+00	0.00E+00
99240	orange oil	0	0	0	0	0	0	0.00E+00	0.00E+00
99242	santosol dimethyl ester	0	0	0	0	0	0	0.00E+00	0.00E+00
99243	2,2,4,6,6-pentamethylheptane	0	0	0	0	0	0	0.00E+00	0.00E+00
99244	methyltri(ethylmethylketoxime) silane	0	0	0	0	0	0	0.00E+00	0.00E+00
99245	2-propenoic acid, butyl ester, polymer with	0	0	0	0	0	0	0.00E+00	0.00E+00
99246	epichlorohydrin-bisphenol a resin	0	0	0	0	0	0	0.00E+00	0.00E+00
99247	2,2,4-trimethyl-1,3-pentanediol isobutyrate {texanol}	0	0	0	0	0	0	0.00E+00	0.00E+00
99248	dichlorobenzenes (mixed isomers)	0	0	0	0	0	0	0.00E+00	0.00E+00
99249	polypropylene glycol	0	0	0	0	0	0	0.00E+00	0.00E+00
99250	methyl hexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99251	glycerol propoxylate	0	0	0	0	0	0	0.00E+00	0.00E+00
99252	glycol ether dpnb {1-(2-butoxy-1-methylethoxy)-2-propanol}	0	0	0	0	0	0	0.00E+00	0.00E+00
99253	methylvinylbis(n-methylacetamido) silane	0	0	0	0	0	0	0.00E+00	0.00E+00
99254	propylene glycol monoethyl ether {1-ethoxy-2-propanol}	0	0	0	0	0	0	0.00E+00	0.00E+00
99255	iodopropynyl butylcarbamate	0	0	0	0	0	0	0.00E+00	0.00E+00
99256	3-methyl-3-methoxy-1-butanol	0	0	0	0	0	0	0.00E+00	0.00E+00
99257	propylene glycol t-butyl ether {1-(1,1,-dimethylethoxy)-2-propanol}	0	0	0	0	0	0	0.00E+00	0.00E+00
99258	chlorafin	0	0	0	0	0	0	0.00E+00	0.00E+00
99259	chlorinated paraffin	0	0	0	0	0	0	0.00E+00	0.00E+00
99260	citrus terpene	0	0	0	0	0	0	0.00E+00	0.00E+00
99261	orange terpenes	0	0	0	0	0	0	0.00E+00	0.00E+00
99262	2-propenoic acid, 2-methyl dodecyl ester	0	0	0	0	0	0	0.00E+00	0.00E+00
99263	amines, polyethylene poly compounds w/succinic	0	0	0	0	0	0	0.00E+00	0.00E+00
99264	c3-c4 alkane propellant	0	0	0	0	0	0	0.00E+00	0.00E+00
99265	hydrocarbon propellant {lpg}	0	0	0	0	0	0	0.00E+00	0.00E+00
99266	hydrocarbon propellant {lpg, sweetened}	0	0	0	0	0	0	0.00E+00	0.00E+00
99267	butane, branched & linear	0	0	0	0	0	0	0.00E+00	0.00E+00
99268	urethane prepolymer	0	0	0	0	0	0	0.00E+00	0.00E+00
99269	1-decene, dimer, hydrogenated	0	0	0	0	0	0	0.00E+00	0.00E+00
99270	benzene derivates	0	0	0	0	0	0	0.00E+00	0.00E+00
99271	witch hazel	0	0	0	0	0	0	0.00E+00	0.00E+00
99272	terpene	0	0	0	0	0	0	0.00E+00	0.00E+00
99273	methoxypropanol acetate {straight; possibly used for pgmea}	0	0	0	0	0	0	0.00E+00	0.00E+00
99274	oxo-hexyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
99275	c9-c12 isoalkanes	0	0	0	0	0	0	0.00E+00	0.00E+00
99276	dipropylene glycol dimethyl ether (mixed isomers)	0	0	0	0	0	0	0.00E+00	0.00E+00
99277	1,1,2,2-tetrachloroethane	0	0	0	0	0	0	0.00E+00	0.00E+00
99278	dimethyl sulfide	0	0	0	0	0	0	0.00E+00	0.00E+00
99279	ethyl mercaptan	0	0	0	0	0	0	0.00E+00	0.00E+00
99280	methyl mercaptan	0	0	0	0	0	0	0.00E+00	0.00E+00
99281	2-methoxy-1-propanol	0	0	0	0	0	0	0.00E+00	0.00E+00
99282	nonylphenoxypoly(ethyleneoxy)ethanol {tergitol np-33} {triton(r) n-101}	0	0	0	0	0	0	0.00E+00	0.00E+00
99283	citrus lemon peel oil	0	0	0	0	0	0	0.00E+00	0.00E+00
99284	other glycol ethers	0	0	0	0	0	0	0.00E+00	0.00E+00
99285	stoddard solvent - mineral spirits	0	0	0	0	0	0	0.00E+00	0.00E+00
99286	perfluorocarbons c5/c6	0	0	0	0	0	0	0.00E+00	0.00E+00
99287	hexachlorobenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
99288	2,4,5-trichlorophenol	0	0	0	0	0	0	0.00E+00	0.00E+00
99289	1,3-dichlorobenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
99290	di(2-ethylhexyl) phthalate	0	0	0	0	0	0	0.00E+00	0.00E+00
99291	misc. oxygenated compounds	0	0	0	0	0	0	0.00E+00	0.00E+00
99292	misc. ketones	0	0	0	0	0	0	0.00E+00	0.00E+00
99293	misc. phthalates	0	0	0	0	0	0	0.00E+00	0.00E+00
99294	misc. ethyleneamines	0	0	0	0	0	0	0.00E+00	0.00E+00
99295	methyl formate	0	0	0	0	0	0	0.00E+00	0.00E+00
99296	hexamethylenediamine	0	0	0	0	0	0	0.00E+00	0.00E+00
99297	hexafluoroethane {F-116}	0	0	0	0	0	0	0.00E+00	0.00E+00
99298	acetic anhydride	0	0	0	0	0	0	0.00E+00	0.00E+00
99299	carbon tetrafluoride	0	0	0	0	0	0	0.00E+00	0.00E+00
99300	misc. denaturants	0	0	0	0	0	0	0.00E+00	0.00E+00
99301	dodecene	0	0	0	0	0	0	0.00E+00	0.00E+00
99302	3-heptene (mixed cis,trans)	0	0	0	0	0	0	0.00E+00	0.00E+00
99303	adipic acid	0	0	0	0	0	0	0.00E+00	0.00E+00
99304	diisopropyl benzene (mixed isomers)	0	0	0	0	0	0	0.00E+00	0.00E+00
99305	isobutyl acrylate {2-propenoic acid}	0	0	0	0	0	0	0.00E+00	0.00E+00
99306	methyl styrene (mixed) {vinyl toluene}	0	0	0	0	0	0	0.00E+00	0.00E+00
99307	aniline	0	0	0	0	0	0	0.00E+00	0.00E+00
99308	piperylene {1,3-pentadiene} (mixed)	0	0	0	0	0	0	0.00E+00	0.00E+00
99309	toluene-2,4-diisocyanate	0	0	0	0	0	0	0.00E+00	0.00E+00
99310	1,4-butanediol	0	0	0	0	0	0	0.00E+00	0.00E+00
99311	2,2-dichloronitroaniline	0	0	0	0	0	0	0.00E+00	0.00E+00
99312	2-furfural	0	0	0	0	0	0	0.00E+00	0.00E+00
99313	4-methylaniline	0	0	0	0	0	0	0.00E+00	0.00E+00
99314	1-aminoanthraquinone	0	0	0	0	0	0	0.00E+00	0.00E+00
99315	9,10-anthraquinone	0	0	0	0	0	0	0.00E+00	0.00E+00
99316	b-phellandrene {1(7)-2-p-menthadiene}	0	0	0	0	0	0	0.00E+00	0.00E+00
99317	biphenyl	0	0	0	0	0	0	0.00E+00	0.00E+00
99318	2-phenylphenol	0	0	0	0	0	0	0.00E+00	0.00E+00
99319	bromodinitroaniline {2,4-dinitro-6-bromoaniline}	0	0	0	0	0	0	0.00E+00	0.00E+00
99320	bromodinitrobenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
99321	butyl benzoate	0	0	0	0	0	0	0.00E+00	0.00E+00
99322	butylisopropylphthalate	0	0	0	0	0	0	0.00E+00	0.00E+00
99323	c10 paraffins	0	0	0	0	0	0	0.00E+00	0.00E+00
99324	isomers of c10h16	0	0	0	0	0	0	0.00E+00	0.00E+00
99325	c2 cyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99326	c3 cyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99327	c3/c4/c5 alkylbenzenes	0	0	0	0	0	0	0.00E+00	0.00E+00
99328	c4 substituted cyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99329	c4 alkylphenols	0	0	0	0	0	0	0.00E+00	0.00E+00
99330	c5 cyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99331	c5 substituted cyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99332	camphene	0	0	0	0	0	0	0.00E+00	0.00E+00
99333	c5 alkylbenzenes	0	0	0	0	0	0	0.00E+00	0.00E+00
99334	c5 alkylphenols	0	0	0	0	0	0	0.00E+00	0.00E+00
99335	c6 substituted cyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99336	c8 phenols	0	0	0	0	0	0	0.00E+00	0.00E+00
99337	c9 phenols	0	0	0	0	0	0	0.00E+00	0.00E+00
99338	di-c8 alkyl phthalate	0	0	0	0	0	0	0.00E+00	0.00E+00
99339	isomers of c10h18	0	0	0	0	0	0	0.00E+00	0.00E+00
99340	isomers of c11h20	0	0	0	0	0	0	0.00E+00	0.00E+00
99341	isomers of c9h16	0	0	0	0	0	0	0.00E+00	0.00E+00
99342	lactol spirits {vm and p naphtha}	0	0	0	0	0	0	0.00E+00	0.00E+00
99343	caryophyllene	0	0	0	0	0	0	0.00E+00	0.00E+00
99344	isomers of heptadecane	0	0	0	0	0	0	0.00E+00	0.00E+00
99345	isomers of octadecane	0	0	0	0	0	0	0.00E+00	0.00E+00
99346	isomers of propylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00

99347	methyl c12 ester	0	0	0	0	0	0	0.00E+00	0.00E+00
99348	methyl c14 ester	0	0	0	0	0	0	0.00E+00	0.00E+00
99349	methyl c15 ester	0	0	0	0	0	0	0.00E+00	0.00E+00
99350	methyl c19 ester	0	0	0	0	0	0	0.00E+00	0.00E+00
99351	methyldecanes	0	0	0	0	0	0	0.00E+00	0.00E+00
99352	methyldodecanes	0	0	0	0	0	0	0.00E+00	0.00E+00
99353	methylhexenes	0	0	0	0	0	0	0.00E+00	0.00E+00
99354	creosote	0	0	0	0	0	0	0.00E+00	0.00E+00
99355	decalins (mixed cis,trans)	0	0	0	0	0	0	0.00E+00	0.00E+00
99357	methylnonane	0	0	0	0	0	0	0.00E+00	0.00E+00
99358	methylnonenes	0	0	0	0	0	0	0.00E+00	0.00E+00
99359	methyloctanes	0	0	0	0	0	0	0.00E+00	0.00E+00
99360	methylpropylnonane	0	0	0	0	0	0	0.00E+00	0.00E+00
99361	c16-c34 paraffins	0	0	0	0	0	0	0.00E+00	0.00E+00
99362	c12-c16 paraffins/olefins	0	0	0	0	0	0	0.00E+00	0.00E+00
99363	pentylidenecyclohexane	0	0	0	0	0	0	0.00E+00	0.00E+00
99364	propylheptenes	0	0	0	0	0	0	0.00E+00	0.00E+00
99365	dimethyl napthalenes	0	0	0	0	0	0	0.00E+00	0.00E+00
99366	tetrachlorobenzenes	0	0	0	0	0	0	0.00E+00	0.00E+00
99367	total aromatic amines	0	0	0	0	0	0	0.00E+00	0.00E+00
99368	total c2-c5 aldehydes	0	0	0	0	0	0	0.00E+00	0.00E+00
99369	trimethyldecenes	0	0	0	0	0	0	0.00E+00	0.00E+00
99370	trimethylheptanes	0	0	0	0	0	0	0.00E+00	0.00E+00
99371	dimethyl alkyl amines	0	0	0	0	0	0	0.00E+00	0.00E+00
99372	dimethylcyclohexanes	0	0	0	0	0	0	0.00E+00	0.00E+00
99373	dimethylhexanes	0	0	0	0	0	0	0.00E+00	0.00E+00
99375	dimethyloctanes	0	0	0	0	0	0	0.00E+00	0.00E+00
99377	ethyl-phenyl-phenyl-ethane	0	0	0	0	0	0	0.00E+00	0.00E+00
99378	methyl biphenyl (mixed) {phenyltoluene}	0	0	0	0	0	0	0.00E+00	0.00E+00
99379	ethyloctenes	0	0	0	0	0	0	0.00E+00	0.00E+00
99380	dimethyl phthalate	0	0	0	0	0	0	0.00E+00	0.00E+00
99381	dimethylheptanol	0	0	0	0	0	0	0.00E+00	0.00E+00
99382	3,7-dimethyl-1-octanol	0	0	0	0	0	0	0.00E+00	0.00E+00
99383	diphenyl ethane {bibenzyl}	0	0	0	0	0	0	0.00E+00	0.00E+00
99384	dipropyl phthalate	0	0	0	0	0	0	0.00E+00	0.00E+00
99385	divinyl benzene {vinyl styrene}	0	0	0	0	0	0	0.00E+00	0.00E+00
99386	ethyl styrene {ethylvinyl benzene}	0	0	0	0	0	0	0.00E+00	0.00E+00
99387	ethyltoluenes {methylethylbenzenes}	0	0	0	0	0	0	0.00E+00	0.00E+00
99388	methyl dodecanoate {methyl laurate}	0	0	0	0	0	0	0.00E+00	0.00E+00
99389	methyl myristate {methyl tetradecanoate}	0	0	0	0	0	0	0.00E+00	0.00E+00
99390	methyl palmitate {methyl hexadecanoate}	0	0	0	0	0	0	0.00E+00	0.00E+00
99391	methyl stearate {methyl octadecanoate}	0	0	0	0	0	0	0.00E+00	0.00E+00
99392	methylene diphenyl diisocyanate {MDI}	0	0	0	0	0	0	0.00E+00	0.00E+00
99393	methylheptanol	0	0	0	0	0	0	0.00E+00	0.00E+00
99394	n-phenylaniline {diphenylamine}	0	0	0	0	0	0	0.00E+00	0.00E+00
99395	naphtha	0	0	0	0	0	0	0.00E+00	0.00E+00
99396	octamethylcyclotetrasiloxane	0	0	0	0	0	0	0.00E+00	0.00E+00
99397	p-tolualdehyde {4-methylbenzaldehyde}	0	0	0	0	0	0	0.00E+00	0.00E+00
99398	palmitic acid {n-hexadecanoic acid}	0	0	0	0	0	0	0.00E+00	0.00E+00
99399	phenyl isocyanate	0	0	0	0	0	0	0.00E+00	0.00E+00
99400	trichlorobenzenes (mixed)	0	0	0	0	0	0	0.00E+00	0.00E+00
99401	difluoromethane {hfc-32}	0	0	0	0	0	0	0.00E+00	0.00E+00
99402	1-chloro-1,1-difluoroethane {hcfc-142b}	0	0	0	0	0	0	0.00E+00	0.00E+00
99403	1,1,1-trifluoro-2,2-dichloroethane {hcfc-123}	0	0	0	0	0	0	0.00E+00	0.00E+00
99404	ethylfluoride {hfc-161}	0	0	0	0	0	0	0.00E+00	0.00E+00
99405	1,2-dichloro-1,1,2-trifluoroethane {hcfc-123a}	0	0	0	0	0	0	0.00E+00	0.00E+00
99406	pentafluoroethane {hfc-125}	0	0	0	0	0	0	0.00E+00	0.00E+00
99407	1,1,2,2-tetrafluoroethane {hfc-134}	0	0	0	0	0	0	0.00E+00	0.00E+00
99408	1,1,1,3,3-pentafluorobutane {hfc-365mfc}	0	0	0	0	0	0	0.00E+00	0.00E+00
99409	1,1,1-trifluoroethane {hfc-143a}	0	0	0	0	0	0	0.00E+00	0.00E+00
99410	3,3-dichloro-1,1,1,2,2-pentafluoropropane {hcfc-225ca}	0	0	0	0	0	0	0.00E+00	0.00E+00
99411	1,1,1,2,3-pentafluoropropane {hfc-245eb}	0	0	0	0	0	0	0.00E+00	0.00E+00
99412	1,1,1,2,3,3-hexafluoropropane {hfc-236ea}	0	0	0	0	0	0	0.00E+00	0.00E+00
99413	1,1,1,3,3-pentafluoropropane {hfc-245fa}	0	0	0	0	0	0	0.00E+00	0.00E+00
99414	1,3-dichloro-1,1,2,2,3-pentafluoropropane {hcfc-225cb}	0	0	0	0	0	0	0.00E+00	0.00E+00
99415	chlorofluoromethane {hcfc-31}	0	0	0	0	0	0	0.00E+00	0.00E+00
99416	1,1,2,2,3-pentafluoropropane {hfc-245ca}	0	0	0	0	0	0	0.00E+00	0.00E+00
99417	1,1,1,3,3,3-hexafluoropropane {hfc-236fa}	0	0	0	0	0	0	0.00E+00	0.00E+00
99418	1,1,1,2-tetrafluoroethane {hfc-134a}	0	0	0	0	0	0	0.00E+00	0.00E+00
99419	1-chloro-1-fluoroethane {hcfc-151a}	0	0	0	0	0	0	0.00E+00	0.00E+00
99420	2-chloro-1,1,1,2-tetrafluoroethane {hcfc-124}	0	0	0	0	0	0	0.00E+00	0.00E+00
99421	1,1,2,3,3-pentafluoropropane {hfc-245ea}	0	0	0	0	0	0	0.00E+00	0.00E+00
99423	1,1,1,2,3,4,4,5,5,5-decafluoropentane {hfc-43-10mee}	0	0	0	0	0	0	0.00E+00	0.00E+00
99424	1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane	0	0	0	0	0	0	0.00E+00	0.00E+00
99425	2-(ethoxy2flmethyl)-1,1,1,2,3,3,3-fl7propane	0	0	0	0	0	0	0.00E+00	0.00E+00
99426	1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butan	0	0	0	0	0	0	0.00E+00	0.00E+00
99427	2-(fl2methoxymethyl)-1,1,1,2,3,3,3-fl7propan	0	0	0	0	0	0	0.00E+00	0.00E+00
99430	misc. oils - linseed/tung/soy/etc. (TOG portion)	0	0	0	0	0	0	0.00E+00	0.00E+00
99431	misc. proprietary VOC	0	0	0	0	0	0	0.00E+00	0.00E+00
99432	misc. asphalt mixtures (TOG portion)	0	0	0	0	0	0	0.00E+00	0.00E+00
99433	misc. vinyl/acrylic and other copolymers (TOG portion)	0	0	0	0	0	0	0.00E+00	0.00E+00
99435	cumene hydroperoxide	0	0	0	0	0	0	0.00E+00	0.00E+00
99437	benzoyl peroxide	0	0	0	0	0	0	0.00E+00	0.00E+00
99439	diglycidyl resorcinol ether {dgre}	0	0	0	0	0	0	0.00E+00	0.00E+00
99440	n,n-dimethylethanolamine	0	0	0	0	0	0	0.00E+00	0.00E+00
99441	triethylenetetramine	0	0	0	0	0	0	0.00E+00	0.00E+00
99443	2,4-pentanedione	0	0	0	0	0	0	0.00E+00	0.00E+00
99444	n-(trichloromethylthio)phthalimide {folpet}	0	0	0	0	0	0	0.00E+00	0.00E+00
99445	2-methyl-1-butyl acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
99447	chlorothalonil	0	0	0	0	0	0	0.00E+00	0.00E+00
99448	isophorone diamine	0	0	0	0	0	0	0.00E+00	0.00E+00
99449	methylenediphenylisocyanate polymeric	0	0	0	0	0	0	0.00E+00	0.00E+00
99450	toluene diisocyanates (mixed isomers)	0	0	0	0	0	0	0.00E+00	0.00E+00
99451	2-methoxy-1-propanol acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
99453	ethylene glycol monomethyl ether acetate	0	0	0	0	0	0	0.00E+00	0.00E+00
99454	decabromodiphenyl oxide	0	0	0	0	0	0	0.00E+00	0.00E+00
99457	butyl propionate	0	0	0	0	0	0	0.00E+00	0.00E+00
99458	methyltriacetoxysilane	0	0	0	0	0	0	0.00E+00	0.00E+00
99459	(3-mercaptopropyl)trimethoxysilane	0	0	0	0	0	0	0.00E+00	0.00E+00
99461	4,6-dimethyl-2-heptanone	0	0	0	0	0	0	0.00E+00	0.00E+00
99466	heavy paraffinic distillate solvent extract	0	0	0	0	0	0	0.00E+00	0.00E+00
99468	hydrotreated heavy naphtha	0	0	0	0	0	0	0.00E+00	0.00E+00
99472	fatty acids	0	0	0	0	0	0	0.00E+00	0.00E+00
99474	fuel oil no. 2	0	0	0	0	0	0	0.00E+00	0.00E+00
99475	fuels, diesel, no. 2	0	0	0	0	0	0	0.00E+00	0.00E+00
99476	trimethoxymethane	0	0	0	0	0	0	0.00E+00	0.00E+00
99481	methoxysilane	0	0	0	0	0	0	0.00E+00	0.00E+00
99485	2-butoxy-1-propanol	0	0	0	0	0	0	0.00E+00	0.00E+00
99492	solvent-refined heavy paraffinic distillate	0	0	0	0	0	0	0.00E+00	0.00E+00
99902	furan	0	0	0	0	0	0	0.00E+00	0.00E+00
99912	1-methyl-3-ethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
99914	1-methyl-4-ethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
99915	1-methyl-2-ethylbenzene	0	0	0	0	0	0	0.00E+00	0.00E+00
99991	unidentified nonfumigant AIs	0	0	0	0	0	0	0.00E+00	0.00E+00
99997	ethane & acetylene	0	0	0	0	0	0	0.00E+00	0.00E+00

99998	ethyl t-butyl ether	0	0	0	0	0	0	0.00E+00	0.00E+00
99999	unidentified	0	0	0	0	0	0	0.00E+00	0.00E+00

		GAS RUNEX	GAS STREX	GAS RUNLS& HTSK	DSL RUNEX	No Action 2026	2031
SAROAD	Species	2303	2302	2305	818	Total Mass	Total Mass (2)
11102	organic compound (OC)	0	0	0	0	0	0
11103	noncarbon organic matter (NMOC)	0	0	0	0	0	0
12000	unknown	0	0	0	0	0	0
12101	aluminum	0	0	0	0	0	0
12102	antimony	0	0	0	0	0	0
12103	arsenic	0	0	0	0	0	0
12104	scandium	0	0	0	0	0	0
12105	beryllium	0	0	0	0	0	0
12106	bismuth	0	0	0	0	0	0
12107	barium	0	0	0	0	0	0
12108	boron	0	0	0	0	0	0
12109	bromine	0	0	0	0	0	0
12110	cadmium	0	0	0	0	0	0
12111	calcium	0	0	0	0	0	0
12112	chromium	0	0	0	0	0	0
12113	cobalt	0	0	0	0	0	0
12114	copper	0	0	0	0	0	0
12115	chlorine	0	0	0	0	0	0
12116	elemental carbon (EC)	0	0	0	0	0	0
12117	tellurium	0	0	0	0	0	0
12118	cesium	0	0	0	0	0	0
12119	tungsten	0	0	0	0	0	0
12120	erbium	0	0	0	0	0	0
12121	dysprosium	0	0	0	0	0	0
12122	ytterbium	0	0	0	0	0	0
12123	gadolinium	0	0	0	0	0	0
12124	gallium	0	0	0	0	0	0
12125	germanium	0	0	0	0	0	0
12126	iron	0	0	0	0	0	0
12127	hafnium	0	0	0	0	0	0
12128	lead	0	0	0	0	0	0
12129	holmium	0	0	0	0	0	0
12131	indium	0	0	0	0	0	0
12132	manganese	0	0	0	0	0	0
12134	molybdenum	0	0	0	0	0	0
12136	nickel	0	0	0	0	0	0
12138	lithium	0	0	0	0	0	0
12139	lutetium	0	0	0	0	0	0
12140	magnesium	0	0	0	0	0	0
12141	iodine	0	0	0	0	0	0
12142	mercury	0	0	0	0	0	0
12143	gold	0	0	0	0	0	0
12144	neodymium	0	0	0	0	0	0
12146	lanthanum	0	0	0	0	0	0
12147	niobium	0	0	0	0	0	0
12151	palladium	0	0	0	0	0	0
12152	phosphorus	0	0	0	0	0	0
12153	phosphate	0	0	0	0	0	0
12154	selenium	0	0	0	0	0	0
12155	praseodymium	0	0	0	0	0	0
12156	non-phosphate phosphorous	0	0	0	0	0	0
12160	tin	0	0	0	0	0	0
12161	titanium	0	0	0	0	0	0
12164	vanadium (fume or dust)	0	0	0	0	0	0
12165	silicon	0	0	0	0	0	0
12166	silver	0	0	0	0	0	0
12167	zinc	0	0	0	0	0	0
12168	strontium	0	0	0	0	0	0
12169	sulfur	0	0	0	0	0	0
12173	thallium	0	0	0	0	0	0
12174	thorium	0	0	0	0	0	0
12176	rubidium	0	0	0	0	0	0
12177	rhodium	0	0	0	0	0	0
12178	platinum	0	0	0	0	0	0
12179	uranium	0	0	0	0	0	0
12180	potassium	0	0	0	0	0	0
12181	sodium ion	0	0	0	0	0	0
12182	insol potassium	0	0	0	0	0	0
12183	yttrium	0	0	0	0	0	0
12184	sodium	0	0	0	0	0	0
12185	zirconium	0	0	0	0	0	0
12186	sodium insoluable	0	0	0	0	0	0
12190	samarium	0	0	0	0	0	0
12192	europium	0	0	0	0	0	0
12193	tebium	0	0	0	0	0	0
12202	insol chlorine	0	0	0	0	0	0
12203	chloride ion	0	0	0	0	0	0
12301	ammonium	0	0	0	0	0	0
12305	nitrite	0	0	0	0	0	0
12306	nitrates	0	0	0	0	0	0
12402	sulfuric acid	0	0	0	0	0	0
12403	sulfates	0	0	0	0	0	0
12404	non-sulfate sulfur	0	0	0	0	0	0
12501	carbonate ion	0	0	0	0	0	0
12801	asbestos	0	0	0	0	0	0
12999	other	0	0	0	0	0	0
32112	chromium (III)	0	0	0	0	0	0
42222	fluorine	0	0	0	0	0	0
43105	isomers of hexane	0	0	0	0	0	0
43106	isomers of heptane	0	0	0	0	0	0
43107	isomers of octane	0	0	0	0	0	0
43108	isomers of nonane	0	0	0	0	0	0
43109	isomers of decane	0	0	0	0	0	0
43110	isomers of undecane	0	0	0	0	0	0

43111	isomers of dodecane	0	0	0	0	0	0
43112	isomers of tridecane	0	0	0	0	0	0
43113	isomers of tetradecane	0	0	0	0	0	0
43114	isomers of pentadecane	0	0	0	0	0	0
43115	c7 cycloparaffins	0	0	0	0	0	0
43116	c8 cycloparaffins	0	0	0	0	0	0
43117	c9 cycloparaffins	0	0	0	0	0	0
43119	c18-alkane	0	0	0	0	0	0
43120	isomers of butene	0	0	0	0	0	0
43121	isomers of pentene	0	0	0	0	0	0
43122	isomers of pentane	0	0	0	0	0	0
43123	monoterpenes	0	0	0	0	0	0
43124	c16-alkane	0	0	0	0	0	0
43125	c10-olefins	0	0	0	0	0	0
43126	c14-alkane	0	0	0	0	0	0
43127	c15-alkane	0	0	0	0	0	0
43128	cineole	0	0	0	0	0	0
43131	c3–c4 alcohol isomers	0	0	0	0	0	0
43132	methallyl alcohol	0	0	0	0	0	0
43133	3-methyl-1-butanol	0	0	0	0	0	0
43134	2-octanone	0	0	0	0	0	0
43135	allyl formate	0	0	0	0	0	0
43136	ethyl propionate	0	0	0	0	0	0
43137	ethyl isobutyrate	0	0	0	0	0	0
43138	ethyl butyrate	0	0	0	0	0	0
43139	propyl propionate	0	0	0	0	0	0
43140	propyl butyrate	0	0	0	0	0	0
43142	methyl hexanoate	0	0	0	0	0	0
43143	c5 olefins	0	0	0	0	0	0
43144	lactic acid	0	0	0	0	0	0
43145	c5 paraffin/olefin	0	0	0	0	0	0
43146	c11 internal alkenes	0	0	0	0	0	0
43147	c12 internal alkenes	0	0	0	0	0	0
43148	bicyclononane	0	0	0	0	0	0
43149	octyne	0	0	0	0	0	0
43150	ethyl hexanoate	0	0	0	0	0	0
43151	isomers of decyne	0	0	0	0	0	0
43152	isomers of undecyne	0	0	0	0	0	0
43154	hexyl acetate	0	0	0	0	0	0
43155	propyl hexanoate	0	0	0	0	0	0
43156	methyl benzoate	0	0	0	0	0	0
43157	ethyl benzoate	0	0	0	0	0	0
43158	isopropyl ether	0	0	0	0	0	0
43159	2,4-dimethyl-1,3-dioxane	0	0	0	0	0	0
43160	2,2,3-trimethylbutane	0	0.00003965	0	0	3.01148E-08	2.19684E-08
43161	2-n-butyl furan	0	0	0	0	0	0
43162	2-pentyl furan	0	0	0	0	0	0
43164	1,4-dimethyl-2-ethylcyclohexane	0	0	0	0	0	0
43165	1-ethyl-2,3-dimethylcyclohexane	0	0	0	0	0	0
43166	4,4-dimethyl-1-pentene	0	0	0	0	0	0
43167	4-ethyloctane	0	0	0	0	0	0
43169	4-methylcyclopentene	0	0	0	0	0	0
43170	cis,trans-1,3,5-trimethylcyclohexane	0	0	0	0	0	0
43171	cis-1,3-diethylcyclohexane	0	0	0	0	0	0
43172	cis-1,3-pentadiene	0	0	0	0	0	0
43173	cis-1,4-diethylcyclohexane	0	0	0	0	0	0
43175	cis-1-methyl-3-propylcyclohexane	0	0	0	0	0	0
43176	cis-1-methyl-4-propylcyclohexane	0	0	0	0	0	0
43177	cis-4-octene	0	0	0	0	0	0
43178	isopropylcyclopentane	0	0	0	0	0	0
43179	sec-butylcyclopentane	0	0	0	0	0	0
43180	trans-1,2,3-trimethylcyclohexane	0	0	0	0	0	0
43181	trans-1,2-diethylcyclohexane	0	0	0	0	0	0
43182	trans-1-ethyl-2-methylcyclopentane	0	0	0	0	0	0
43183	trans-1-methyl-2-propylcyclopentane	0	0	0	0	0	0
43184	trans-1-methyl-3-propylcyclohexane	0	0	0	0	0	0
43186	trans-1-methyl-4-ter-butylcyclohexane	0	0	0	0	0	0
43187	tricyclodecane	0	0	0	0	0	0
43188	1,4-dimethyl-1-cyclohexene	0	0	0	0	0	0
43189	1-methyl-4-(1-methylpropyl)benzene	0	0	0	0	0	0
43190	2,3-dimethyl-1-hexene	0	0	0	0	0	0
43191	2-undecene, (E)-	0	0	0	0	0	0
43192	3-ethyl-3-hexene	0	0	0	0	0	0
43193	3-ethyl-3-methylheptane	0	0	0	0	0	0
43194	tert-pentylbenzene	0	0	0	0	0	0
43195	trans-1,3-diethylcyclopentane	0	0	0	0	0	0
43197	trans-4-nonene	0	0	0	0	0	0
43198	chlorobutanol	0	0	0	0	0	0
43199	2-aminopropane	0	0	0	0	0	0
43200	tetramethylsilane	0	0	0	0	0	0
43201	methane	0	0.10414614	0.03945573	0.0408	0.000114546	8.78917E-05
43202	ethane	0	0.01090819	0.0007173	0.0057	8.92932E-06	6.59259E-06
43203	ethylene	0	0.08146528	0.00044696	0.1438	6.22757E-05	4.54784E-05
43204	propane	0	0.00127862	0.00155016	0.0019	2.36372E-06	1.8945E-06
43205	propylene	0	0.0394281	0.00059153	0.026	3.04776E-05	2.2298E-05
43206	acetylene	0	0.03702233	0.00049748	0.0425	2.85659E-05	2.08931E-05
43207	cyclopropane	0	0	0	0	0	0
43208	1,2-propadiene	0	0.00195041	0	0.0047	1.48137E-06	1.08064E-06
43209	1-propyne	0	0.00070632	0	0	5.36461E-07	3.91342E-07
43211	3-methyl-1-pentene	0	0.00036422	0	0	2.76631E-07	2.01799E-07
43212	n-butane	0	0.01838861	0.00911832	0.001	2.21579E-05	1.71651E-05
43213	1-butene	0	0.00726753	0	0.0067	5.5198E-06	4.02663E-06
43214	isobutane	0	0.00369197	0.00113028	0.0122	3.8195E-06	2.91038E-06
43215	isobutylene	0	0.0120481	0.00049639	0.0092	9.59665E-06	7.05514E-06
43216	trans-2-butene	0	0.0037937	0.00023024	0.002	3.08821E-06	2.27809E-06
43217	cis-2-butene	0	0.00285669	0.00022688	0.0009	2.37352E-06	1.75636E-06
43218	1,3-butadiene	0	0.00586457	0.00036839	0.0019	4.78517E-06	3.53118E-06
43220	n-pentane	0	0.01433924	0.02647331	0.0018	3.46732E-05	2.82003E-05
43221	1,2-butadiene {methylallene}	0	0.0006235	0	0	4.73558E-07	3.45455E-07

43222	1,3-butadiyne	0	0.000239	0	0	1.81524E-07	1.3242E-07
43223	3-methyl-1-butene	0	0.00086659	0.00004178	0	6.95721E-07	5.12108E-07
43224	1-pentene	0	0.00175609	0.00195556	0.0032	3.09056E-06	2.46923E-06
43225	2-methyl-1-butene	0	0.00250884	0.00420356	0	5.68177E-06	4.60631E-06
43226	trans-2-pentene	0	0.00266926	0.00731901	0.0004	8.60238E-06	7.07892E-06
43227	cis-2-pentene	0	0.00158512	0.00301938	0.0003	3.91639E-06	3.18847E-06
43228	2-methyl-2-butene	0	0.0034076	0.00929129	0	1.0935E-05	8.99706E-06
43229	2-methylpentane	0	0.02052084	0.02233671	0.0039	3.56521E-05	2.84602E-05
43230	3-methylpentane	0	0.01297075	0.01494145	0.0012	2.32741E-05	1.86187E-05
43231	hexane	0	0.01237502	0.01462534	0.0016	2.25377E-05	1.80468E-05
43232	n-heptane	0	0.00799063	0.00837381	0.0007	1.35916E-05	1.08343E-05
43233	n-octane	0	0.00417043	0.00346615	0.0014	6.28132E-06	4.96272E-06
43234	2,3-dimethyl-1-butene	0	0.00032921	0	0.0003	2.5004E-07	1.82401E-07
43235	n-nonane	0	0.00256629	0.00182404	0.0023	3.58776E-06	2.8175E-06
43236	2-amino-2-(hydroxymethyl)-1,3-propanediol	0	0	0	0	0	0
43237	2-nitropropane	0	0	0	0	0	0
43238	n-decane	0	0.00138895	0.00146296	0.0053	2.36918E-06	1.88891E-06
43239	diisobutyl phthalate	0	0	0	0	0	0
43240	1-vinyl-2-pyrrolidone	0	0	0	0	0	0
43241	n-undecane	0	0.00061037	0.00015246	0.0026	6.00548E-07	4.54832E-07
43242	cyclopentane	0	0.00219907	0.00361888	0.0001	4.92125E-06	3.98733E-06
43243	isoprene, except from vegetative emission sources	0	0.0011347	0.00022139	0	1.06071E-06	7.98081E-07
43244	1-chloro-2-(trifluoromethyl)-benzene	0	0	0	0	0	0
43245	1-hexene	0	0.00075799	0.00010185	0	6.67202E-07	4.97899E-07
43246	2-hexenes	0	0	0	0	0	0
43247	isobutyl methacrylate	0	0	0	0	0	0
43248	cyclohexane	0	0.00683235	0.00481225	0.0003	9.51236E-06	7.46751E-06
43249	butyl methacrylate	0	0	0	0	0	0
43250	trans-4-octene	0	0.00026974	0.00005222	0	2.51784E-07	1.89407E-07
43251	ethylene glycol dimethacrylate	0	0	0	0	0	0
43252	2,2,5-triethylheptane	0	0.0014161	0.00036098	0	1.39984E-06	1.0608E-06
43253	3,7-dimethyl-6-octen-1-ol	0	0	0	0	0	0
43255	n-dodecane	0	0.0001452	0	0	1.10282E-07	8.04491E-08
43257	p-toluidine	0	0	0	0	0	0
43258	n-tridecane	0	0	0	0	0	0
43259	n-tetradecane	0	0	0	0	0	0
43260	n-pentadecane	0	0	0	0	0	0
43261	methylcyclohexane	0	0.00738456	0.00764922	0.0007	1.24804E-05	9.94412E-06
43262	methylcyclopentane	0	0.01580386	0.01666373	0.0015	2.69732E-05	2.15062E-05
43263	trans-2-octene	0	0.00043108	0.00012641	0	4.40972E-07	3.35563E-07
43264	cyclohexanone	0	0	0	0.0011	0	0
43265	1-octene	0	0.00013233	0	0	1.00507E-07	7.33184E-08
43266	cis-2-octene	0	0.0000106	0	0	8.05086E-09	5.87301E-09
43267	1-nonene	0	0.00042031	0	0	3.19232E-07	2.32876E-07
43268	1-decene	0	0	0	0	0	0
43269	1-undecene	0	0	0	0	0	0
43270	3-methyl-trans-2-pentene	0	0.00030619	0.00001728	0	2.4808E-07	1.82868E-07
43271	2,4-dimethylpentane	0	0.00677485	0.00644348	0.0002	1.09341E-05	8.68376E-06
43272	3-methylcyclopentene	0	0.00047265	0.00013792	0	4.82885E-07	3.67402E-07
43273	cyclohexene	0	0.00054053	0	0	4.10541E-07	2.99485E-07
43274	2,3-dimethylpentane	0	0.01333478	0.00916847	0.0007	1.83645E-05	1.44033E-05
43275	2-methylhexane	0	0.01114728	0.00893598	0.0012	1.64942E-05	1.30134E-05
43276	2,2,4-trimethylpentane	0	0.02075336	0.01772361	0.003	3.16845E-05	2.50594E-05
43277	2,4-dimethylhexane	0	0.00516195	0.00477901	0.0004	8.21381E-06	6.51658E-06
43278	2,5-dimethylhexane	0	0.00487418	0.00547052	0	8.61646E-06	6.88624E-06
43279	2,3,4-trimethylpentane	0	0.00831796	0.00701449	0.0002	1.26191E-05	9.97563E-06
43280	2,3,3-trimethylpentane	0	0.0004685	0	0	3.55833E-07	2.59576E-07
43281	hexadecane	0	0	0	0	0	0
43282	heptadecane	0	0	0	0	0	0
43283	octadecane	0	0	0	0	0	0
43284	nonadecane	0	0	0	0	0	0
43285	eicosane	0	0	0	0	0	0
43286	heneicosane	0	0	0	0	0	0
43287	docosane	0	0	0	0	0	0
43288	ethylcyclohexane	0	0.00116524	0.00038481	0	1.23071E-06	9.4004E-07
43289	c6 olefins	0	0	0	0	0	0
43290	c8 alkenes	0	0	0	0	0	0
43291	2,2-dimethylbutane	0	0.00358723	0.0041713	0.0006	6.47185E-06	5.17912E-06
43292	cyclopentene	0	0.00113865	0.00065403	0	1.45237E-06	1.1313E-06
43293	4-methyl-trans-2-pentene	0	0.00052163	0.00022672	0	5.9986E-07	4.62483E-07
43294	c7 external olefins	0	0	0	0	0	0
43295	3-methylhexane	0	0.01184676	0.00904982	0.0035	1.71277E-05	1.34881E-05
43296	2,2,3-trimethylpentane	0	0	0	0	0	0
43297	4-methylheptane	0	0.0020919	0.00029356	0	1.85255E-06	1.38364E-06
43298	3-methylheptane	0	0.00674444	0.00393952	0	8.66158E-06	6.75106E-06
43300	3-ethylpentane	0	0.00086924	0.00009788	0	7.48132E-07	5.565E-07
43301	methanol	0	0.00067184	0.04080843	0.0003	3.71706E-05	3.1596E-05
43302	ethyl alcohol	0	0.01196625	0.32318667	0.0001	0.000299424	0.00025391
43303	n-propyl alcohol	0	0	0	0	0	0
43304	isopropyl alcohol	0	0	0	0	0	0
43305	n-butyl alcohol	0	0	0	0	0	0
43306	isobutyl alcohol	0	0	0	0	0	0
43307	propargyl alcohol	0	0	0	0	0	0
43308	hexamethyldisiloxane	0	0	0	0	0	0
43309	tert-butyl alcohol	0	0	0	0	0	0
43310	ethylene glycol monomethyl ether	0	0	0	0	0	0
43311	ethylene glycol monoethyl ether	0	0	0	0	0	0
43312	trans-1,2-cis-4-trimethylcyclopentane	0	0	0	0	0	0
43314	sec-butyl alcohol	0	0	0	0	0	0
43315	tetrahydrophthalic anhydride	0	0	0	0	0	0
43316	n,n-dimethylbenzylamine	0	0	0	0	0	0
43317	eugenol	0	0	0	0	0	0
43318	isopropyl-2-cyanoacrylate	0	0	0	0	0	0
43319	octamethyltrisiloxane	0	0	0	0	0	0
43320	diacetone alcohol	0	0	0	0	0	0
43321	5-methyl-3-heptyne	0	0	0	0	0	0
43322	4-ethyl-3-heptene	0	0	0	0	0	0
43324	1-ethylcyclopentene	0	0	0	0	0	0
43325	2-methylbutanal	0	0	0	0	0	0

43326	cyclopentanone	0	0	0	0	0	0
43327	2-methylfuran	0	0	0	0	0	0
43328	3-methylfuran	0	0	0	0	0	0
43329	2-ethylfuran	0	0	0	0	0	0
43330	2,5-dimethylfuran	0	0	0	0	0	0
43331	2-vinylfuran	0	0	0	0	0	0
43332	hydrogen cyanide	0	0	0	0	0	0
43333	2-(methylamino)ethanol	0	0	0	0	0	0
43335	isopentyl formate	0	0	0	0	0	0
43336	octanol	0	0	0	0	0	0
43337	1,5-pentanediol	0	0	0	0	0	0
43338	decanol	0	0	0	0	0	0
43339	diethylene glycol monohexyl ether	0	0	0	0	0	0
43340	phenyl acetate	0	0	0	0	0	0
43341	4-heptanone	0	0	0	0	0	0
43342	diisobutyl adipate	0	0	0	0	0	0
43343	decamethyltetrasiloxane	0	0	0	0	0	0
43344	dodecamethylpentasiloxane	0	0	0	0	0	0
43346	ethyl acetoacetate	0	0	0	0	0	0
43347	cyclotetrasiloxane	0	0	0	0	0	0
43348	perfluorodecalin	0	0	0	0	0	0
43349	trifluoroethyl methacrylate	0	0	0	0	0	0
43350	tetradecafluorohexane	0	0	0	0	0	0
43351	ethyl ether	0	0	0	0	0	0
43352	methylene glycol	0	0	0	0	0	0
43353	2,3-butanediol	0	0	0	0	0	0
43354	dodecamethylcyclohexasiloxane	0	0	0	0	0	0
43355	decamethylcyclopentasiloxane	0	0	0	0	0	0
43357	hexamethylcyclotrisiloxane	0	0	0	0	0	0
43358	distillates (petroleum), solvent-dewaxed heavy paraffinic	0	0	0	0	0	0
43359	methyl lactate	0	0	0	0	0	0
43361	3-aminophenol	0	0	0	0	0	0
43362	dimethyl carbonate	0	0	0	0	0	0
43363	5-methylfurfural	0	0	0	0	0	0
43364	triethylene glycol divinyl ether	0	0	0	0	0	0
43365	propylene glycol monomethyl ether	0	0	0	0	0	0
43366	dipropylene glycol monomethyl ether	0	0	0	0	0	0
43367	glycol ethers (and their acetates)	0	0	0	0	0	0
43368	glycols	0	0	0	0	0	0
43369	propylene glycol	0	0	0	0	0	0
43370	ethylene glycol	0	0	0	0	0	0
43371	hexylene glycol {2-methyl-2,4-pentanediol}	0	0	0	0	0	0
43372	polyethylene glycol 200	0	0	0	0	0	0
43373	diethylene glycol	0	0	0	0	0	0
43374	dipropylene glycol	0	0	0	0	0	0
43375	pentafluorobenzonitrile	0	0	0	0	0	0
43376	triethylene glycol	0	0	0	0	0	0
43377	diisobutyl succinate	0	0	0	0	0	0
43378	methyl tert-butyl ether	0	0.00014658	0	0	1.1133E-07	8.12137E-08
43379	2-methyl-3-buten-2-ol (MBO)	0	0	0	0	0	0
43380	glycerol	0	0	0	0	0	0
43381	1-ethyl-2,4,5-trimethylbenzene	0	0	0	0	0	0
43382	1,2,3,4-tetrahydro-2-methylnaphthalene	0	0	0	0	0	0
43383	5-undecene	0	0	0	0	0	0
43384	2,3-dimethyl-1-pentene	0	0	0	0	0	0
43385	5-ethyl-1,2,3,4-tetrahydronaphthalene	0	0	0	0	0	0
43386	3-hexenol	0	0	0	0	0	0
43387	hexamethyldisilazane	0	0	0	0	0	0
43388	furancarboxylic acid ethyl ester	0	0	0	0	0	0
43390	tetrahydrofuran	0	0	0	0	0	0
43391	2-butyltetrahydrofuran	0	0	0	0	0	0
43392	3-hexenyl acetate	0	0	0	0	0	0
43393	9-octadecenoic acid (z)- compd. with 2- aminoethanol (1:1)	0	0	0	0	0	0
43394	3-(trimethoxysilyl)propyl methacrylate	0	0	0	0	0	0
43395	cycloheptanone	0	0	0	0	0	0
43396	3-methyl-1,3-butanediol	0	0	0	0	0	0
43397	trimethylcyclohexanol	0	0	0	0	0	0
43398	4-amino-m-cresol	0	0	0	0	0	0
43399	1,3-pentanediol	0	0	0	0	0	0
43400	1,2,4-trimethylcyclopentene	0	0.00158752	0.00014136	0	1.33274E-06	9.87736E-07
43401	1,1-diethoxybutane	0	0	0	0	0	0
43402	diethylhydroxylamine	0	0	0	0	0	0
43403	formic acid	0	0	0	0	0	0
43404	acetic acid	0	0	0	0	0	0
43405	glycolic acid {hydroxyacetic acid}	0	0	0	0	0	0
43406	methylacetic acid (propionic)	0	0	0	0	0	0
43407	acrylic acid	0	0	0	0	0	0
43408	5-butyldihydro-2(3h)-furanone	0	0	0	0	0	0
43409	5-pentyldihydro-2(3h)-furanone	0	0	0	0	0	0
43410	5-propyldihydro-2(3h)-furanone	0	0	0	0	0	0
43411	5-ethyldihydro-2(3h)-furanone	0	0	0	0	0	0
43412	5-hexyldihydro-2(3h)-furanone	0	0	0	0	0	0
43413	2-nonanone	0	0	0	0	0	0
43415	2-decanone	0	0	0	0	0	0
43416	2-undecanone	0	0	0	0	0	0
43417	2-tridecanone	0	0	0	0	0	0
43418	2-tetradecanone	0	0	0	0	0	0
43419	2-pentadecanone	0	0	0	0	0	0
43420	2-heptadecanone	0	0	0	0	0	0
43421	2-decenal	0	0	0	0	0	0
43422	2-undecenal	0	0	0	0	0	0
43423	tetradecanal	0	0	0	0	0	0
43424	pentadecanal	0	0	0	0	0	0
43426	hexadecanal	0	0	0	0	0	0
43427	heptadecanal	0	0	0	0	0	0
43428	n-tricosane	0	0	0	0	0	0
43429	n-tetracosane	0	0	0	0	0	0
43430	n-pentacosane	0	0	0	0	0	0
43431	propylene glycol monomethyl ether acetate	0	0	0	0	0	0

43432	methyl acetate	0	0	0	0	0	0
43433	ethyl acetate	0	0	0	0	0	0
43434	propyl acetate	0	0	0	0	0	0
43435	n-butyl acetate	0	0	0	0	0	0
43436	isoamyl acetate	0	0	0	0	0	0
43437	3-methoxy-1-butyl acetate	0	0	0	0	0	0
43438	ethyl acrylate	0	0	0	0	0	0
43439	stearic acid-TMS	0	0	0	0	0	0
43440	pentadecanoic acid-TMS	0	0	0	0	0	0
43441	heptanoic acid	0	0	0	0	0	0
43442	1,2-hexanediol	0	0	0	0	0	0
43443	ethyl 2-methylbutyrate	0	0	0	0	0	0
43444	isopropyl acetate	0	0	0	0	0	0
43445	methyl amyl acetate	0	0	0	0	0	0
43446	isobutyl acetate	0	0	0	0	0	0
43448	citronella oil	0	0	0	0	0	0
43449	soybean oil	0	0	0	0	0	0
43450	dimethyl formamide	0	0	0	0	0	0
43451	isobutyl isobutyrate	0	0	0	0	0	0
43452	ethylene glycol monoethyl ether acetate	0	0	0	0	0	0
43453	crude oil	0	0	0	0	0	0
43456	ethene, homopolymer	0	0	0	0	0	0
43457	polymethylhydrosiloxane	0	0	0	0	0	0
43459	turpentine	0	0	0	0	0	0
43460	dimethylpolysiloxane	0	0	0	0	0	0
43461	polydimethylsiloxane	0	0	0	0	0	0
43462	cis-1,3-dichloropropene	0	0	0	0	0	0
43463	amyl phosphate	0	0	0	0	0	0
43464	disiloxane	0	0	0	0	0	0
43465	3-ethylheptamethyltrisiloxane	0	0	0	0	0	0
43466	1,1,1,3,5,5,5-heptamethyl-3-octyl-trisiloxane	0	0	0	0	0	0
43468	dibutyl adipate	0	0	0	0	0	0
43471	formaldehyde-cyclohexanone copolymer	0	0	0	0	0	0
43472	chlorotoluene	0	0	0	0	0	0
43473	diethylbenzene	0	0	0	0	0	0
43474	boric acid (H3BO3), compd. with 1- amino-2-propanol	0	0	0	0	0	0
43475	propanediol	0	0	0	0	0	0
43476	isooctane	0	0	0	0	0	0
43477	perfluoro(1,3-dimethylcyclohexane)	0	0	0	0	0	0
43478	7-methyl-1-octanol	0	0	0	0	0	0
43479	2-methoxyethyl cyanoacrylate	0	0	0	0	0	0
43480	tetra(methyl ethyl ketoxime)silane	0	0	0	0	0	0
43482	methylbutyric acid	0	0	0	0	0	0
43483	2-ethoxy-1-methylethyl acetate	0	0	0	0	0	0
43484	trimethylsilyl silicate	0	0	0	0	0	0
43485	formaldehyde-phenol-m-xylenediamine copolymer	0	0	0	0	0	0
43486	isohexadecane	0	0	0	0	0	0
43487	siloxanes	0	0	0	0	0	0
43488	isoparaffins	0	0	0	0	0	0
43489	naphtha (petroleum), light alkylate	0	0	0	0	0	0
43490	sweetened middle distillates (petroleum)	0	0	0	0	0	0
43491	naphtha (petroleum), hydrotreated light	0	0	0	0	0	0
43493	distillates (petroleum), hydrotreated heavy paraffinic	0	0	0	0	0	0
43494	distillates (petroleum), hydrotreated light paraffinic	0	0	0	0	0	0
43495	distillates (petroleum), solvent-dewaxed light paraffinic	0	0	0	0	0	0
43496	fatty acids, c16-18 and c18-unsatd., me esters	0	0	0	0	0	0
43497	naphtha (petroleum), light steam-cracked, debenzenized, polymers	0	0	0	0	0	0
43498	distillates (petroleum), hydrodesulfurized light catalytic cracked	0	0	0	0	0	0
43499	boric acid (H3BO3), compd. with 2-aminoethanol (1:1)	0	0	0	0	0	0
43500	distillates (petroleum), hydrofined lubricating-oil	0	0	0	0	0	0
43501	soya fatty acids, me esters	0	0	0	0	0	0
43502	formaldehyde	0	0.01834332	0	0.1471	1.3932E-05	1.01633E-05
43503	acetaldehyde	0	0.01275166	0	0.0735	9.68508E-06	7.06515E-06
43504	propionaldehyde	0	0.00159442	0	0.0097	1.21099E-06	8.834E-07
43505	acrolein	0	0.0000407	0	0	3.09123E-08	2.25501E-08
43506	2-methyl-2-propenal	0	0.00044645	0	0	3.39086E-07	2.47359E-07
43507	butene, homopolymer, hydrogenated	0	0	0	0	0	0
43508	polytrimethylhydrosilylsiloxane	0	0	0	0	0	0
43509	ethene, 1,1,2,2-tetrafluoro-, oxidized, polymd.	0	0	0	0	0	0
43510	butyraldehyde	0	0.0009158	0	0.0187	6.95564E-07	5.07406E-07
43511	c3 aldehyde	0	0	0	0	0	0
43512	c5 aldehyde	0	0	0	0.0011	0	0
43513	c8 aldehyde	0	0	0	0	0	0
43514	glutaraldehyde	0	0	0	0	0	0
43515	formaldehyde, olgomeric reaction products with 4,4'- isopropylidenediph	0	0	0	0	0	0
43517	witch hazel	0	0	0	0	0	0
43518	perfluoro compounds, c5-18	0	0	0	0	0	0
43519	pine, pinus pinaster, ext.	0	0	0	0	0	0
43520	pinus strobus bark ext.	0	0	0	0	0	0
43521	vinegar, ext.	0	0	0	0	0	0
43522	hexane, branched and linear	0	0	0	0	0	0
43523	dipropylene glycol tert-butyl ether	0	0	0	0	0	0
43524	fragrance A	0	0	0	0	0	0
43525	fragrance B	0	0	0	0	0	0
43528	1,3,5-triazine	0	0	0	0	0	0
43529	3-phenoxy 2-hydroxypropyl methacrylate	0	0	0	0	0	0
43530	1,3,3,3-tetrafluoropropene	0	0	0	0	0	0
43531	menthyl lactate	0	0	0	0	0	0
43532	pine, ext.	0	0	0	0	0	0
43533	brucine sulfate heptahydrate	0	0	0	0	0	0
43534	hydrocarbons, c12-c14, isoalkanes	0	0	0	0	0	0
43535	hydrocarbons, c13-c14, isoalkanes	0	0	0	0	0	0
43536	hydrocarbons, c13-c16, isoalkanes	0	0	0	0	0	0
43537	fragrance AC	0	0	0	0	0	0
43539	alkanes, c7-8-iso-	0	0	0	0	0	0
43540	alkanes, c10-11-iso-	0	0	0	0	0	0
43541	alkanes, c10-c13	0	0	0	0	0	0
43542	alkanes, c11-15-iso-	0	0	0	0	0	0
43543	alkanes, c11-13-iso-	0	0	0	0	0	0

43544	alkanes, c11-12-iso-	0	0	0	0	0	0
43545	alkanes, c14-16	0	0	0	0	0	0
43546	tert-butyl hydroperoxide	0	0	0	0	0	0
43547	n-aminoethylpiperazine	0	0	0	0	0	0
43548	m-xylene-a,a-diamine	0	0	0	0	0	0
43551	[D] acetone [deleted/obsolete emittent id]	0	0.00388951	0	0.0751	2.95414E-06	2.15501E-06
43552	methyl ethyl ketone {2-butanone}	0	0.00126155	0	0.0148	9.58167E-07	6.98971E-07
43553	propylene glycol phenyl ether	0	0	0	0	0	0
43559	methyl n-butyl ketone	0	0	0	0.009	0	0
43560	methyl isobutyl ketone {hexone}	0	0	0	0	0	0
43561	methyl amyl ketone	0	0	0	0	0	0
43565	dimethylcyclobutanone	0	0	0	0	0	0
43566	trimethylcyclopentanone	0	0	0	0	0	0
43567	tetramethylpentanone	0	0	0	0	0	0
43601	ethylene oxide	0	0	0	0	0	0
43602	propylene oxide	0	0	0	0	0	0
43702	acetonitrile	0	0	0	0	0	0
43704	acrylonitrile	0	0	0	0	0	0
43721	ethylamine	0	0	0	0	0	0
43723	ethanolamine	0	0	0	0	0	0
43724	diethanolamine	0	0	0	0	0	0
43725	triethanolamine	0	0	0	0	0	0
43738	dimethylamine	0	0	0	0	0	0
43740	trimethyl amine	0	0	0	0	0	0
43801	methyl chloride {chloromethane}	0	0	0	0	0	0
43802	methylene chloride {dichloromethane}	0	0	0	0	0	0
43803	chloroform	0	0	0	0	0	0
43804	carbon tetrachloride	0	0	0	0	0	0
43805	methylene bromide	0	0	0	0	0	0
43807	carbon tetrabromide	0	0	0	0	0	0
43811	trichlorofluoromethane {Freon 11}	0	0	0	0	0	0
43812	ethyl chloride {chloroethane}	0	0	0	0	0	0
43813	1,1-dichloroethane	0	0	0	0	0	0
43814	methyl chloroform {1,1,1-trichloroethane}	0	0	0	0	0	0
43815	ethylene dichloride {EDC}	0	0	0	0	0	0
43817	perchloroethylene {tetrachloroethene}	0	0	0	0	0	0
43819	methyl bromide {bromomethane}	0	0	0	0	0	0
43820	1,1,2-trichloroethane	0	0	0	0	0	0
43821	chlorinated fluorocarbon {CFC-113} {1,1,2-trichloro-1,2,2-trifluoroethane	0	0	0	0	0	0
43822	trimethylfluorosilane	0	0	0	0	0	0
43823	dichlorodifluoromethane {Freon 12}	0	0	0	0	0	0
43824	trichloroethylene	0	0	0	0	0	0
43825	chlorodifluoromethane {Freon 22}	0	0	0	0	0	0
43826	chlorotrifluoromethane {F-13}	0	0	0	0	0	0
43827	chloropentafluoroethane {CFC-115}	0	0	0	0	0	0
43828	1,2-dichloro-1,1,2,2-tetrafluoroethane {CFC-114}	0	0	0	0	0	0
43829	difluorotetrachloroethane {F-112}	0	0	0	0	0	0
43830	fluorocarbons (chlorinated)	0	0	0	0	0	0
43844	trifluoromethane {Freon 23}	0	0	0	0	0	0
43850	phosgene	0	0	0	0	0	0
43860	vinyl chloride	0	0	0	0	0	0
43861	dibasic ester	0	0	0	0	0	0
43862	tangerine oil	0	0	0	0	0	0
43863	styrallyl acetate	0	0	0	0	0	0
43864	soy dimethyl ethyl ammonium ethosulfate	0	0	0	0	0	0
43865	sodium mercaptobenzothiazole	0	0	0	0	0	0
43866	p-toluenesulfonyl chloride	0	0	0	0	0	0
43868	pentyl propanoate	0	0	0	0	0	0
43869	6-undecanone	0	0	0	0	0	0
43870	polytetrafluoroethylene	0	0	0	0	0	0
43871	3-(4-methoxyphenyl)-2-methylpropanal	0	0	0	0	0	0
43872	4-chloro-3,5-dimethylphenol	0	0	0	0	0	0
43873	oil of lemon eucalyptus	0	0	0	0	0	0
43874	n-propoxypropanol	0	0	0	0	0	0
43875	n-octyl acetate	0	0	0	0	0	0
43876	pyridine-3-carboxamide	0	0	0	0	0	0
43877	neodecanoic acid	0	0	0	0	0	0
43879	n-butyl glycidyl ether	0	0	0	0	0	0
43880	n,n-dimethyl-p-toluidine	0	0	0	0	0	0
43881	tripropylene glycol n-butyl ether	0	0	0	0	0	0
43882	n,n-dimethyl-o-toluidine	0	0	0	0	0	0
43883	n,n-diethyl-p-toluidine	0	0	0	0	0	0
43884	n,n-diethyl-m-toluamide	0	0	0	0	0	0
43887	methyl cyanoacrylate	0	0	0	0	0	0
43888	mentha piperita	0	0	0	0	0	0
43891	3,7-dimethylocta-1,6-dien-3-ol	0	0	0	0	0	0
43892	1-dodecanol	0	0	0	0	0	0
43894	tripropylene glycol	0	0	0	0	0	0
43895	ethylene glycol monohexyl ether	0	0	0	0	0	0
43896	grapefruit oil	0	0	0	0	0	0
43897	isobutyltrimethoxysilane	0	0	0	0	0	0
43898	isoamyl n-butyrate	0	0	0	0	0	0
43899	hydroxyethyl methacrylate	0	0	0	0	0	0
43900	hydroxypropyl methacrylate	0	0	0	0	0	0
43901	homosalate	0	0	0	0	0	0
43902	gluconic acid	0	0	0	0	0	0
43904	g-glycidoxypropyltrimethoxysilane	0	0	0	0	0	0
43905	formamide	0	0	0	0	0	0
43906	triethylene glycol monomethyl ether	0	0	0	0	0	0
43907	ethyltriacetoxysilane	0	0	0	0	0	0
43908	ethylenediamine	0	0	0	0	0	0
43909	ethylene glycol ester	0	0	0	0	0	0
43910	1-ethyl-2-hydroxybenzene	0	0	0	0	0	0
43911	ethyl methacrylate	0	0	0	0	0	0
43912	ethyl isovalerate	0	0	0	0	0	0
43913	ethoxylated propoxylated alcohols, c8-10	0	0	0	0	0	0
43915	ethoxyethyl cyanoacrylate	0	0	0	0	0	0
43916	erythrulose	0	0	0	0	0	0
43917	di-t-butyl sulfide	0	0	0	0	0	0

43918	triethylene glycol monoethyl ether	0	0	0	0	0	0
43919	dipropylene glycol phenyl ether	0	0	0	0	0	0
43920	dipropylene glycol ethyl ether	0	0	0	0	0	0
43921	dioctyl ether	0	0	0	0	0	0
43922	dihydroxyacetone	0	0	0	0	0	0
43923	dihydromyrcenol	0	0	0	0	0	0
43924	dihydroabietyl alcohol	0	0	0	0	0	0
43926	diethylenediamine	0	0	0	0	0	0
43927	diethylene glycol propyl ether	0	0	0	0	0	0
43928	diethylene glycol monomethacrylate	0	0	0	0	0	0
43929	diethylene glycol 2-ethylhexyl ether	0	0	0	0	0	0
43930	triethylene glycol mono-2-ethylhexyl ether	0	0	0	0	0	0
43931	diethylene glycol ethyl ether acetate	0	0	0	0	0	0
43932	diethylene glycol diethyl ether	0	0	0	0	0	0
43933	cyclohexyl methacrylate	0	0	0	0	0	0
43934	citronellal	0	0	0	0	0	0
43935	n-hexanoic acid	0	0	0	0	0	0
43937	c10-16 alkenes	0	0	0	0	0	0
43938	c10-13 isoalkanes	0	0	0	0	0	0
43939	butylethanolamine	0	0	0	0	0	0
43940	bis(isopropyl)amine	0	0	0	0	0	0
43941	benzyl acetate	0	0	0	0	0	0
43942	triethylene diamine	0	0	0	0	0	0
43943	benzenesulfonic acid,mono-c9-17-branch alkyl derivs,isopropylamine sa	0	0	0	0	0	0
43945	amino, tris(methylene phosphonic acid)	0	0	0	0	0	0
43946	amino methyl propanediol	0	0	0	0	0	0
43948	alkyl (c16-c18) methyl esters	0	0	0	0	0	0
43949	alcohols c14-c18	0	0	0	0	0	0
43950	acrylates/octylacrylamide copolymer	0	0	0	0	0	0
43951	acetic acid ester w/c7 rich oxo alcohol	0	0	0	0	0	0
43952	acetic acid, alkyl (c9 to c11) esters mixture	0	0	0	0	0	0
43953	n-(2-hydroxyethyl)acetamide	0	0	0	0	0	0
43954	toximul 3406F	0	0	0	0	0	0
43955	3-methoxy-1-butanol	0	0	0	0	0	0
43956	3-aminopropyltrimethoxysilane	0	0	0	0	0	0
43957	3-aminopropyl-triethoxysilane	0	0	0	0	0	0
43959	2-pyrrolidone-5-carboxylic acid, sodium salt	0	0	0	0	0	0
43960	2-propoxy-1-propanol	0	0	0	0	0	0
43961	2-propenyl isothiocyanate	0	0	0	0	0	0
43962	2-phenylethyl propanoate	0	0	0	0	0	0
43963	2-phenyl-2-propanol	0	0	0	0	0	0
43964	2-methylstyrene	0	0	0	0	0	0
43965	2-methyl-4-isothiazolin-3-one	0	0	0	0	0	0
43966	tetramethylthiuram disulfide	0	0	0	0	0	0
43967	2-methyl-1,3-propanediol	0	0	0	0	0	0
43968	2-methacrylic acid	0	0	0	0	0	0
43971	2-ethylhexyl dihydrogen phosphate	0	0	0	0	0	0
43972	2-amino-1-butanol	0	0	0	0	0	0
43973	2,6-dimethylphenol	0	0	0	0	0	0
43974	2,4,6-trimethylphenol	0	0	0	0	0	0
43975	2,2-dimethyl octanoic acid	0	0	0	0	0	0
43976	2- pyrrolidone	0	0	0	0	0	0
43977	1-tetradecene	0	0	0	0	0	0
43978	1-propene-2-methyl, sulfurized	0	0	0	0	0	0
43980	1-octen-3-ol	0	0	0	0	0	0
43982	1-naphthol	0	0	0	0	0	0
43983	1-methoxy-4-(2-propenyl)benzene	0	0	0	0	0	0
43984	1-ethyl-2-pyrrolidinone	0	0	0	0	0	0
43985	1-chloro-4-methyl-benzene	0	0	0	0	0	0
43986	1-acetyl-2-phenylhydrazine	0	0	0	0	0	0
43987	1,3-propandiol	0	0	0	0	0	0
43988	1,2-pentanediol	0	0	0	0	0	0
43989	1,2-benzisothiazolin-3-one	0	0	0	0	0	0
43990	corrosion inhibitor	0	0	0	0	0	0
43991	tetrahydrofurfuryl methacrylate	0	0	0	0	0	0
43994	tert-butyl peroxybenzoate	0	0	0	0	0	0
44001	architecural coatings/consumer products bin 1	0	0	0	0	0	0
44002	architecural coatings/consumer products bin 2	0	0	0	0	0	0
44003	architecural coatings/consumer products bin 3	0	0	0	0	0	0
44004	architecural coatings/consumer products bin 4	0	0	0	0	0	0
44005	architecural coatings/consumer products bin 5	0	0	0	0	0	0
44006	architecural coatings/consumer products bin 6	0	0	0	0	0	0
44007	architecural coatings/consumer products bin 7	0	0	0	0	0	0
44008	architecural coatings/consumer products bin 8	0	0	0	0	0	0
44009	architecural coatings/consumer products bin 9	0	0	0	0	0	0
44010	architecural coatings/consumer products bin 10	0	0	0	0	0	0
44011	architecural coatings/consumer products bin 11	0	0	0	0	0	0
44012	architecural coatings/consumer products bin 12	0	0	0	0	0	0
44013	architecural coatings/consumer products bin 13	0	0	0	0	0	0
44014	architecural coatings/consumer products bin 14	0	0	0	0	0	0
44015	architecural coatings/consumer products bin 15	0	0	0	0	0	0
44016	architecural coatings/consumer products bin 16	0	0	0	0	0	0
44017	architecural coatings/consumer products bin 17	0	0	0	0	0	0
44018	architecural coatings/consumer products bin 18	0	0	0	0	0	0
44019	architecural coatings/consumer products bin 19	0	0	0	0	0	0
44020	architecural coatings/consumer products bin 20	0	0	0	0	0	0
44021	architecural coatings/consumer products bin 21	0	0	0	0	0	0
44022	architecural coatings/consumer products bin 22	0	0	0	0	0	0
44023	architecural coatings/consumer products bin 23	0	0	0	0	0	0
44024	architecural coatings/consumer products bin 24	0	0	0	0	0	0
44201	1,2-benzenedicarboxylic acid diisodecyl ester	0	0	0	0	0	0
44202	1,3-butylene glycol	0	0	0	0	0	0
44203	bromopropane	0	0	0	0	0	0
44204	1-nitropropane	0	0	0	0	0	0
44205	2-(methylamino)-2-methyl-1-propanol	0	0	0	0	0	0
44206	dipropylene glycol monopropyl ether	0	0	0	0	0	0
44207	2-ethylhexyl acrylate	0	0	0	0	0	0
44208	2-ethylhexyl benzoate	0	0	0	0	0	0
44209	2-n-octyl-4-isothiazolin-3-one	0	0	0	0	0	0

44210	2-octyl-1-dodecanol	0	0	0	0	0	0
44211	1-phenoxy-2-propanol	0	0	0	0	0	0
44212	4,4-dimethyloxazolidine	0	0	0	0	0	0
44213	di(ethylmethylketoxime) methoxymethyl silane	0	0	0	0	0	0
44214	petroleum ether	0	0	0	0	0	0
44215	bicyclic oxazolidine (Nuosept C)	0	0	0	0	0	0
44216	castor oil	0	0	0	0	0	0
44217	cold pressed orange oil	0	0	0	0	0	0
44218	oxo-tridecyl acetate	0	0	0	0	0	0
44219	diesel fuel	0	0	0	0	0	0
44220	dimethyl adipate	0	0	0	0	0	0
44222	dimethyl isosorbide	0	0	0	0	0	0
44223	dipropylene glycol methyl ether acetate	0	0	0	0	0	0
44225	distillate(petroleum), hydrotreated light	0	0	0	0	0	0
44226	distillates, petroleum, solvent-refined	0	0	0	0	0	0
44227	ethyl lactate	0	0	0	0	0	0
44228	ethyl orthoformate	0	0	0	0	0	0
44229	ethyl silicate	0	0	0	0	0	0
44230	9-octadecenoic acid (z)-, ester with 1,2,3-propanetriol	0	0	0	0	0	0
44231	heavy straight-run naphtha	0	0	0	0	0	0
44232	hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	0	0	0	0	0	0
44233	hydrotreated heavy naphtha	0	0	0	0	0	0
44234	hydrotreated heavy naphthenic distillate	0	0	0	0	0	0
44235	hydrotreated light naphthenic distillate	0	0	0	0	0	0
44237	tetraisobutylene	0	0	0	0	0	0
44238	2,2,4,4,6,8,8-heptamethylnonane	0	0	0	0	0	0
44239	isopropyl palmitate	0	0	0	0	0	0
44240	light petroleum distillate	0	0	0	0	0	0
44241	alcohols, c9-11, ethoxylated	0	0	0	0	0	0
44242	vinyl chloride/ vinyl acetate terpolymer	0	0	0	0	0	0
44243	medium aliphatic solvent naphtha	0	0	0	0	0	0
44244	2,4-imidazolidinedione, bromochloro-5,5-dimethyl	0	0	0	0	0	0
44245	methyl isoamyl ketone	0	0	0	0	0	0
44247	n,n,n',n'-tetrakis(2-hydroxyethyl)ethylenediamine	0	0	0	0	0	0
44248	naphtha (petroleum), heavy alkylate	0	0	0	0	0	0
44249	petroleum distillates, hydrotreated middle	0	0	0	0	0	0
44250	nitroethane	0	0	0	0	0	0
44251	oleic acid	0	0	0	0	0	0
44252	oleyl alcohol	0	0	0	0	0	0
44253	alcohols, c9-11	0	0	0	0	0	0
44255	propanoic acid, 2-methyl-2,2-dimethyl-1-(1-methylethyl)-1,3-propanediyl	0	0	0	0	0	0
44256	aminoethyl aminopropyl dimethyl siloxane	0	0	0	0	0	0
44257	solvent naphtha, petroleum, heavy aliph.	0	0	0	0	0	0
44259	straight-run middle distillate	0	0	0	0	0	0
44260	tea tree oil	0	0	0	0	0	0
44261	terpinolene	0	0	0	0	0	0
44262	thiocyanic acid (2-benzoathiazolythio)methyl ester	0	0	0	0	0	0
44263	tri-(2-butoxyethanol) phosphate	0	0	0	0	0	0
44264	triethoxyoctylsilane	0	0	0	0	0	0
44265	triethylene glycol monobutyl ether	0	0	0	0	0	0
44266	tripropylene glycol methyl ether	0	0	0	0	0	0
44267	Troysan 174	0	0	0	0	0	0
44268	quantenary ammonium chloride	0	0	0	0	0	0
44269	white mineral oil	0	0	0	0	0	0
45102	xylenes (mixed)	0	0	0	0	0	0
45103	c10 trialkyl benzenes	0	0	0	0	0	0
45104	c9 dialkyl benzenes	0	0	0	0	0	0
45105	isomers of butylbenzene	0	0	0	0.0013	0	0
45106	isomers of diethylbenzene	0	0	0	0.0014	0	0
45107	trimethylbenzenes	0	0	0	0	0	0
45111	tetralin	0	0	0	0	0	0
45112	isomers of butadienephenyl	0	0	0	0	0	0
45113	1,3-diethylbenzene (meta)	0	0.00119672	0.00013272	0	1.02816E-06	7.646E-07
45114	1,4-diethylbenzene (para)	0	0.00104723	0	0	7.95387E-07	5.80226E-07
45201	benzene	0	0.02472889	0.01517855	0.02	3.24176E-05	2.53148E-05
45202	toluene	0	0.07495735	0.09993516	0.0147	0.000146708	0.000117994
45203	ethyl benzene	0	0.01463958	0.00793185	0.0031	1.82446E-05	1.41801E-05
45204	o-xylene	0	0.01951193	0.01791203	0.0034	3.09109E-05	2.45158E-05
45205	m-xylene	0	0.03611055	0.05512488	0.0061	7.6948E-05	6.21851E-05
45206	p-xylene	0	0.01805014	0	0.001	1.37094E-05	1.00008E-05
45207	1,3,5-trimethylbenzene	0	0.00674683	0.00489941	0.0019	9.52571E-06	7.48682E-06
45208	1,2,4-trimethylbenzene	0	0.02018221	0.01294377	0.0053	2.69567E-05	2.10858E-05
45209	n-propylbenzene	0	0.00319829	0.00266215	0.0012	4.8207E-06	3.80893E-06
45215	t-butylbenzene	0	0	0	0.0001	0	0
45220	styrene	0	0.00283079	0.00033139	0.0006	2.44773E-06	1.82198E-06
45221	a-methylstyrene	0	0	0	0	0	0
45222	2,2,4-trimethylhexane	0	0.00020902	0.00004147	0	1.96009E-07	1.47539E-07
45223	2,4,4-trimethylhexane	0	0.00046543	0	0	3.53501E-07	2.57875E-07
45225	1,2,3-trimethylbenzene	0	0.00423476	0.00275033	0.0012	5.68713E-06	4.45066E-06
45232	c10 tetraalkyl benzenes	0	0	0	0	0	0
45234	(1-methylpropyl)benzene	0	0	0	0.0005	0	0
45235	(2-methylpropyl)benzene	0	0.00019629	0.00052912	0.0013	6.24421E-07	5.13602E-07
45237	1,3-dipropylbenzene	0	0.00019345	0	0	1.46928E-07	1.07182E-07
45243	1-methyl-2-n-butylbenzene	0	0.00026077	0	0	1.98059E-07	1.44482E-07
45244	1-methyl-2-tert-butylbenzene	0	0.00004415	0	0	3.35326E-08	2.44616E-08
45245	c11 dialkyl benzenes	0	0	0	0	0	0
45246	c11 trialkyl benzenes	0	0	0	0	0	0
45247	c12 dialkyl benzenes	0	0	0	0	0	0
45248	c10 dialkyl benzenes	0	0	0	0	0	0
45249	c13 alkyl benzenes	0	0	0	0	0	0
45250	1,4-dimethyl-2-ethylbenzene	0	0.00195673	0.00032866	0	1.78142E-06	1.33561E-06
45251	1,3-dimethyl-4-ethylbenzene	0	0.00175542	0	0	1.33327E-06	9.72604E-07
45252	1,2-dimethyl-4-ethylbenzene	0	0.00246594	0	0	1.87292E-06	1.36627E-06
45253	1,3-dimethyl-2-ethylbenzene	0	0.000478	0.00005554	0	4.12943E-07	3.07335E-07
45254	1,2-dimethyl-3-ethylbenzene	0	0.00024083	0	0	1.82914E-07	1.33434E-07
45255	n-pentylbenzene	0	0.00021803	0	0	1.65597E-07	1.20801E-07
45256	1-(1,1-dimethylethyl)-3,5-dimethylbenzene	0	0.00017568	0	0	1.33432E-07	9.73368E-08
45257	1,3-dimethyl-5-ethylbenzene	0	0.00279776	0.00041699	0	2.49954E-06	1.86917E-06
45300	phenol	0	0	0	0	0	0

45303	c10 alkylphenols	0	0	0	0	0	0
45304	c11 alkylphenols	0	0	0	0	0	0
45320	dimethylbenzylalcohol	0	0	0	0	0	0
45401	xylene base acids	0	0	0	0	0	0
45402	benzoic acid	0	0	0	0	0	0
45403	terephthalic acid	0	0	0	0	0	0
45501	benzaldehyde	0	0.00292173	0	0.007	2.2191E-06	1.61881E-06
45502	m-tolualdehyde	0	0.00084306	0	0	6.40317E-07	4.67104E-07
45503	dimethylbenzaldehyde	0	0	0	0	0	0
45504	o-tolualdehyde	0	0	0	0	0	0
45505	c11-aromatics	0	0	0	0	0	0
45506	dodecenal	0	0	0	0	0	0
45801	chlorobenzene	0	0	0	0	0	0
45807	p-dichlorobenzene	0	0	0	0	0	0
46115	dimethylnaphthydrine	0	0	0	0	0	0
46201	1,4-dioxane	0	0	0	0	0	0
46202	octahydroindenes	0	0	0	0	0	0
46601	tetramethylthiourea	0	0	0	0	0	0
46602	benzothiazole	0	0	0	0	0	0
46746	c2 alkylnaphthalene	0	0	0	0	0	0
46747	methylindans	0	0	0	0	0	0
46748	methyldecalins	0	0	0	0	0	0
46749	methyldihydronaphthalene	0	0	0	0	0	0
46750	dimethylindans	0	0	0	0	0	0
46751	dihydronaphthalene	0	0	0	0	0	0
46752	dimethylindene	0	0	0	0	0	0
46753	t-decahydronaphthalene	0	0	0	0	0	0
46754	ethylindan	0	0	0	0	0	0
46755	trimethylindan	0	0	0	0	0	0
47001	farnesane	0	0	0	0	0	0
47002	norfarnesane	0	0	0	0	0	0
47003	2,6,10-trimethyltridecane	0	0	0	0	0	0
47004	norpristane	0	0	0	0	0	0
47005	pristane	0	0	0	0	0	0
47006	phytane	0	0	0	0	0	0
47007	heptylcyclohexane	0	0	0	0	0	0
47008	dodecylcyclohexane	0	0	0	0	0	0
47009	tridecylcyclohexane	0	0	0	0	0	0
47010	tetradecylcyclohexane	0	0	0	0	0	0
47011	pentadecylcyclohexane	0	0	0	0	0	0
47015	c2-naphthalenes	0	0	0	0	0	0
47016	c3-naphthalenes	0	0	0	0	0	0
47017	c1-mw 202 PAH	0	0	0	0	0	0
47018	chrysene and triphenylene	0	0	0	0	0	0
47019	8beta,13alfa-dimethyl-14beta-n-butylpodocarpane	0	0	0	0	0	0
47020	8beta,13alfa-dimethyl-14beta-[3'methylbutyl]-podocarpane	0	0	0	0	0	0
47021	heptanal	0	0	0	0	0	0
47022	octanal	0	0	0	0	0	0
47023	nonanal	0	0	0	0	0	0
47024	decanal	0	0	0	0	0	0
47025	undecanal	0	0	0	0	0	0
47026	dodecanal	0	0	0	0	0	0
47027	tridecanal	0	0	0	0	0	0
47029	2,5-dimethylbenzaldehyde	0	0	0	0	0	0
47030	indanone	0	0	0	0	0	0
47031	fluorenone	0	0	0	0	0	0
47032	xanthone	0	0	0	0	0	0
47033	biacetyl	0	0	0	0	0	0
47034	octanoic acid	0	0	0	0	0	0
47035	nonanoic acid	0	0	0	0	0	0
47036	decanoic acid	0	0	0	0	0	0
47037	undecanoic acid	0	0	0	0	0	0
47038	dodecanoic acid	0	0	0	0	0	0
47039	tridecanoic acid	0	0	0	0	0	0
47040	tetradecanoic acid	0	0	0	0	0	0
47041	methylbenzoic acids	0	0	0	0	0	0
47043	dibenzothiophene	0	0	0	0	0	0
47044	dibenzothiazole	0	0	0	0	0	0
47045	glycolaldehyde	0	0	0	0	0	0
47046	methyl vinyl ether	0	0	0	0	0	0
47047	methyl vinyl ketone	0	0	0	0	0	0
47048	1-hydroxy-2-propanone	0	0	0	0	0	0
47049	propionitrile	0	0	0	0	0	0
47050	pyrrole	0	0	0	0	0	0
47051	methyl iodide	0	0	0	0	0	0
47053	methyl nitrate	0	0	0	0	0	0
47054	ethyl nitrate	0	0	0	0	0	0
47055	n-propyl nitrate	0	0	0	0	0	0
47056	isopropyl nitrate	0	0	0	0	0	0
47057	2-butyl nitrate	0	0	0	0	0	0
47059	2-pentyl nitrate	0	0	0	0	0	0
47061	3-methyl-2-butanone	0	0	0	0	0	0
47062	3-methyl-3-buten-2-one	0	0	0	0	0	0
47064	4-carene	0	0	0	0	0	0
50040	mineral oils (untreated and mildly treated oils)	0	0	0	0	0	0
50178	diethyl phthalate	0	0	0	0	0	0
50218	acetophenone	0	0	0	0	0	0
50268	n,n-dimethylaniline	0	0	0	0	0	0
50275	tributyl phosphate	0	0	0	0	0	0
50313	benzofuran	0	0	0	0	0	0
60000	methyl isocyanate	0	0	0	0	0	0
60001	1,3-dichloropropene	0	0	0	0	0	0
60002	aromatic 200 solvent	0	0	0	0	0	0
60003	xylene range solvent	0	0	0	0	0	0
60005	molinate	0	0	0	0	0	0
60006	kerosene	0	0	0	0	0	0
60007	chlorpyrifos	0	0	0	0	0	0
60008	glyphosate	0	0	0	0	0	0
60010	thiobencarb	0	0	0	0	0	0

60011	oxyfluorfen	0	0	0	0	0	0
60012	pebulate	0	0	0	0	0	0
60013	pendimethalin	0	0	0	0	0	0
60014	oryzalin	0	0	0	0	0	0
60015	trifluralin	0	0	0	0	0	0
60016	aliphatic solvent	0	0	0	0	0	0
60017	oxydemeton-methyl	0	0	0	0	0	0
62112	chromium (VI)	0	0	0	0	0	0
65312	potassium ion	0	0	0	0	0	0
71111	cerium	0	0	0	0	0	0
81111	carbon-total (TC)	0	0	0	0	0	0
90026	1,3-cyclopentadiene	0	0	0	0	0	0
90027	methylcyclopentadiene	0	0	0	0	0	0
90028	2-methyl-2-hexene	0	0.00009976	0	0	7.57692E-08	5.52728E-08
90029	3-methyl-cis-2-hexene	0	0.00002608	0.00009776	0	1.07631E-07	8.9249E-08
90030	3-methyl-1-hexene	0	0.00001431	0	0	1.08687E-08	7.92856E-09
90031	4-methyl-trans-2-hexene	0	0.0000861	0	0	6.53943E-08	4.77043E-08
90032	3-methyl-trans-3-hexene	0	0.00004576	0	0	3.47554E-08	2.53537E-08
90040	3,3-dimethylpentane	0	0.0009157	0.00113169	0	1.71214E-06	1.37324E-06
90041	methylcyclohexadiene	0	0	0	0	0	0
90042	2,2-dimethylpentane	0	0.00054377	0.00049996	0	8.62141E-07	6.83815E-07
90043	methylhexanal	0	0	0	0	0	0
90044	methylheptyne	0	0	0	0	0	0
90047	2-methylnonane	0	0.00332334	0.00152221	0	3.89161E-06	3.00601E-06
90049	methylundecane	0	0	0	0	0	0
90051	myrcene	0	0	0	0	0	0
90054	pentenyne	0	0	0	0	0	0
90058	hexadienal	0	0	0	0	0	0
90059	heptadienal	0	0	0	0	0	0
90061	2,3-dimethyl-2-pentene	0	0.00024785	0	0	1.88246E-07	1.37323E-07
90062	2,4-dimethyl-2-pentene	0	0.00001204	0.00107026	0	9.70614E-07	8.2556E-07
90063	2,4-dimethyl-1-pentene	0	0.00003065	0	0	2.32791E-08	1.69819E-08
90064	dimethylcyclopentane	0	0	0	0	0	0
90065	dimethylcyclopentene	0	0	0	0	0	0
90066	nonadiene	0	0	0	0	0	0
90068	dimethylhexadiene	0	0	0	0	0	0
90069	dimethylethylcyclohexane	0	0	0	0	0	0
90071	dimethylundecane	0	0	0	0	0	0
90072	methyl propylcyclohexanes	0	0	0	0	0	0
90074	dimethyldecane	0	0	0	0	0	0
90075	3,4-dimethyl-1-pentene	0	0.00006181	0	0	4.69456E-08	3.42463E-08
90076	dimethylnonane	0	0	0	0	0	0
90077	ethyloctane	0	0	0	0	0	0
90078	ethylpentene	0	0	0	0	0	0
90079	3-ethylcyclopentene	0	0	0	0	0	0
90080	cis-1-methyl-3-ethylcyclopentane	0	0.00115387	0	0	8.76382E-07	6.3931E-07
90081	ethylhexane	0	0	0	0.0006	0	0
90082	ethylmethylhexane	0	0	0	0	0	0
90083	ethylmethylcyclohexanes	0	0	0	0	0	0
90084	ethylheptane	0	0	0	0	0	0
90085	ethylmethyloctane	0	0	0	0	0	0
90086	ethylbicycloheptane	0	0	0	0	0	0
90087	ethyldimethylpentane	0	0	0	0	0	0
90090	ethyl propylcyclohexanes	0	0	0	0	0	0
90091	tetramethylcyclobutene	0	0	0	0	0	0
90093	trimethylpentadiene	0	0	0	0	0	0
90095	trimethylhexene	0	0	0	0	0	0
90096	trimethyloctanes	0	0	0	0	0	0
90097	trimethyldecane	0	0	0	0	0	0
90098	tetramethylcyclopentane	0	0	0	0	0	0
90099	octatriene	0	0	0	0	0	0
90100	trans-1,3-pentadiene	0	0.00026548	0	0	2.01636E-07	1.47091E-07
90101	butylcyclohexane	0	0	0	0	0	0
90102	3-methyl-1,3-butadiene	0	0	0	0	0	0
90103	pentadiene	0	0	0	0	0	0
90105	propenylcyclohexane	0	0	0	0	0	0
90107	methyldecene	0	0	0	0	0	0
90109	propyl heptene	0	0	0	0	0	0
90110	diethylmethylcyclohexanes	0	0	0	0	0	0
90111	isopropylmethylcyclohexane	0	0	0	0	0	0
90112	dimethyoctyne diol	0	0	0	0	0	0
90113	pentylindenecyclohexane	0	0	0	0	0	0
90114	dimethylbutylcyclohexane	0	0	0	0	0	0
90116	propylcyclopentane	0	0	0	0	0	0
90118	octahydropentalene	0	0	0	0	0	0
90119	propylcyclohexane	0	0	0	0	0	0
90120	isopropylcyclohexane	0	0	0	0	0	0
90121	glyoxal	0	0	0	0	0	0
90122	methyl glyoxal	0	0	0	0	0	0
91000	3,3-dimethyl-1-pentene	0	0	0	0	0	0
91001	4,4-dimethyl-2-pentene	0	0	0	0	0	0
91002	2,3,3-trimethyl-1-butene	0	0	0	0	0	0
91003	3-ethyl-1-pentene	0	0	0	0	0	0
91004	2-methyl-cis-3-hexene	0	0	0	0	0	0
91005	5-methyl-1-hexene	0	0	0	0	0	0
91006	2-methyl-trans-3-hexene	0	0.00006799	0	0	5.16394E-08	3.76704E-08
91007	2-ethyl-3-methyl-1-butene	0	0	0	0	0	0
91008	4-methyl-1-hexene	0	0	0	0	0	0
91009	5-methyl-trans-2-hexene	0	0	0	0	0	0
91010	1,6-heptadiene	0	0	0	0	0	0
91011	3,4-dimethyl-2-pentene	0	0	0	0	0	0
91012	2-methyl-1,4-pentadiene	0	0	0	0	0	0
91013	1,5-hexadiene	0	0	0	0	0	0
91014	1,4-hexadiene	0	0	0	0	0	0
91015	1,3-hexadiene	0	0	0	0	0	0
91016	t-amylmethylether (TAME)	0	0	0	0	0	0
91017	5-methyl-cis-2-hexene	0	0	0	0	0	0
91018	cis-1,3-dimethylcyclopentane	0	0.00351731	0.00272675	0	5.12103E-06	4.03511E-06
91019	trans-1,3-dimethylcyclopentane	0	0.00374234	0.00290969	0	5.45629E-06	4.29976E-06

91020	2-methyl-1-hexene	0	0	0	0	0	0
91021	trans-1-2-dimethylcyclopentane	0	0.00308809	0.00095965	0	3.20755E-06	2.44524E-06
91022	2-ethyl-1-pentene	0	0	0	0	0	0
91023	1,5-heptadiene	0	0	0	0	0	0
91024	3-methyl-cis-3-hexene	0	0	0	0	0	0
91025	cis-3-heptene	0	0	0	0	0	0
91026	trans-2-heptene	0	0.00029815	0.0000323	0	2.55466E-07	1.89906E-07
91027	3-methyl-trans-2-hexene	0	0	0	0	0	0
91028	cis-2-heptene	0	0.00013929	0	0	1.05793E-07	7.71747E-08
91029	cis-1-2-dimethylcyclopentane	0	0	0	0	0	0
91030	1,1,3-trimethylcyclopentane	0	0	0	0	0	0
91031	cis-1,trans-2,4-trimethylcyclopentane	0	0	0	0	0	0
91033	1,1,2-trimethylcyclopentane	0	0	0	0	0	0
91034	2-methyl-3-ethylpentane	0	0	0	0	0	0
91035	2-ethyl-1-hexene	0	0	0	0	0	0
91036	3-methyl-3-ethylpentane	0	0	0	0	0	0
91037	cis-1,cis-2,4-trimethylcyclopentane	0	0	0	0	0	0
91038	cis-1,trans-2,3-trimethylcyclopentane	0	0.00094376	0.00007916	0	7.87914E-07	5.83465E-07
91039	3-ethylhexane	0	0	0	0	0	0
91040	1,3-octadiene	0	0	0	0	0	0
91041	1,1-dimethylcyclohexane	0	0	0	0	0	0
91043	2,6-dimethyl-1-heptene	0	0	0	0	0	0
91044	trans-1-methyl-3-ethylcyclopentane	0	0.0013292	0.00009909	0	1.09857E-06	8.1227E-07
91045	trans-2-ethylmethylcyclopentane	0	0	0	0	0	0
91046	1,1-methylethylcyclopentane	0	0	0.00003477	0	3.12357E-08	2.66036E-08
91047	trans-1,2-dimethylcyclohexane	0	0	0	0	0	0
91048	3,5,5-trimethyl-1-hexene	0	0	0	0	0	0
91049	trans-3-octene	0	0	0	0	0	0
91050	cis-1,cis-2,3-trimethylcyclopentane	0	0	0	0	0	0
91051	cis-1,4-dimethylcyclohexane	0	0	0	0	0	0
91052	2,2,3,4-tetramethylpentane	0	0	0	0	0	0
91053	2,3,4-trimethylhexane	0	0	0	0	0	0
91054	2,3,3-trimethyl-1-hexene	0	0	0	0	0	0
91055	cis-1,2-dimethylcyclohexane	0	0.00064237	0.0000857	0	5.64879E-07	4.21482E-07
91056	2,2-dimethylheptane	0	0	0	0	0	0
91057	1,1,4-trimethylcyclohexane	0	0	0	0	0	0
91058	trans-2,2-dimethyl-3-heptene	0	0	0	0	0	0
91059	2,2,3,trimethylhexane	0	0	0	0	0	0
91060	4,4-dimethylheptane	0	0	0	0	0	0
91061	cis-1,cis-3,5-trimethylcyclohexane	0	0	0	0	0	0
91062	2-methyl-4-ethylhexane	0	0	0	0	0	0
91063	3,3-dimethylheptane	0	0	0	0	0	0
91064	1,1,3-trimethylcyclohexane	0	0	0	0	0	0
91065	2,4-dimethyl-1-heptene	0	0	0	0	0	0
91066	cis-1,trans-2,trans-4-trimethylcyclohexane	0	0	0	0	0	0
91067	2-methyl-1-octene	0	0	0	0	0	0
91068	2-methyl-2-octene	0	0	0	0	0	0
91069	3,4-dimethylheptane	0	0	0	0	0	0
91070	4-ethylheptane	0	0	0	0	0	0
91071	3-ethylheptane	0	0	0	0	0	0
91072	3,3-diethylpentane	0	0	0	0	0	0
91073	cis-1,trans-2,cis-4-trimethylcyclohexane	0	0	0	0	0	0
91074	1,1,2-trimethylcyclohexane	0	0	0	0	0	0
91075	trans-2-nonene	0	0	0	0	0	0
91076	trans-2-methyl-3-octene	0	0	0	0	0	0
91077	isobutylcyclopentane	0	0	0	0	0	0
91078	cis-2-nonene	0	0	0	0	0	0
91079	2,3-dimethyl-2-heptene	0	0	0	0	0	0
91080	trans-3-nonene	0	0	0	0	0	0
91081	1-methyl-1-ethylcyclohexane	0	0	0	0	0	0
91082	3,7-dimethyl-1-octene	0	0	0	0	0	0
91083	trans-2,2,5,5-tetramethyl-3-hexene	0	0	0	0	0	0
91084	cis-3-nonene	0	0	0	0	0	0
91085	n-butylcyclopentane	0	0	0	0	0	0
91086	3,6-dimethyloctane	0	0	0	0	0	0
91088	5-methylnonane	0	0	0	0	0	0
91089	3-ethyloctane	0	0	0	0	0	0
91090	3-methylnonane	0	0	0	0	0	0
91091	3-ethyl-2-methyl-2-heptene	0	0	0	0	0	0
91092	2,3-dimethyl-2-octene	0	0	0	0	0	0
91093	trans-1,methyl-2n-propylcyclohexane	0	0	0	0	0	0
91094	1-methyl-4-isopropylbenzene	0	0.00017737	0.00084344	0	8.9242E-07	7.43615E-07
91095	sec-butylcyclohexane	0	0	0	0	0	0
91096	1-methyl-2-isopropylbenzene	0	0.00061953	0	0	4.70543E-07	3.43255E-07
91097	3-ethylnonane	0	0	0	0	0	0
91098	n-butylbenzene	0	0	0	0	0	0
91100	1-methyl-4-t-butylbenzene	0	0	0	0	0	0
91102	1-ethyl-4-isopropylbenzene	0	0	0	0	0	0
91103	1,2,4,5-tetramethylbenzene	0	0.00096339	0	0	7.31709E-07	5.33773E-07
91104	1,2,3,5-tetramethylbenzene	0	0.00137987	0	0	1.04803E-06	7.64527E-07
91105	trans-1-butyl-2-methylbenzene	0	0	0	0	0	0
91106	5-methylindan	0	0.00086908	0	0	6.6008E-07	4.8152E-07
91107	4-methylindan	0	0.00020125	0	0	1.52852E-07	1.11504E-07
91108	2-methylindan	0	0.00096097	0	0	7.29871E-07	5.32433E-07
91109	1,2,3,4-tetramethylbenzene	0	0.00021025	0	0	1.59688E-07	1.16491E-07
91110	1,3-isodipropylbenzene	0	0	0	0	0	0
91111	s-pentylbenzene	0	0	0	0	0	0
91112	trans-1-methyl-2-(4-methylpropyl)cyclohexane	0	0	0	0	0	0
91113	1,4-isodipropylbenzene	0	0	0	0	0	0
91114	1,2-isodipropylbenzene	0	0	0	0	0	0
91116	1,3-n-dipropylbenzene	0	0	0	0	0	0
91117	1,3,5-triethylbenzene	0	0	0	0	0	0
91118	trans-1-butyl-4-ethylbenzene	0	0	0	0	0	0
91119	1,2,4-triethylbenzene	0	0	0	0	0	0
91120	1-methyl-4-n-pentylbenzene	0	0	0	0	0	0
91121	n-hexylbenzene	0	0	0	0	0	0
91122	pentamethylbenzene	0	0	0	0	0	0
91123	2-methyl naphthalene	0	0	0	0	0	0
91124	1-methylnaphthalene	0	0	0	0	0	0

91287	3-methyl-5-ethylheptane	0	0	0	0	0	0
91288	m & p-ethyltoluene	0	0	0	0	0	0
91289	c10 alkyl cyclohexanes	0	0	0	0	0	0
91290	ethylnaphthalenes	0	0	0	0	0	0
91291	methylehexadiene	0	0	0	0	0	0
91293	ole	0	0	0	0	0	0
91294	misc. asphalts, paraffins, distillates (TOG portion)	0	0	0	0	0	0
91295	trans-1,cis-2,3-trimethylecyclopentane	0	0	0	0	0	0
91296	1-ethyl-2-isopropylbenzene	0	0	0	0	0	0
91297	2-methylphenanthrene	0	0	0	0	0	0
91298	misc. alkyd, acrylic, and related resins (TOG portion)	0	0	0	0	0	0
91299	misc. glycols, glycol ethers, and acetates	0	0	0	0	0	0
91300	1,2,3-trimethyl-4-ethylbenzene	0	0	0	0	0	0
92000	1-methylcyclopentene	0	0.00146453	0.00017659	0	1.27097E-06	9.46548E-07
92001	1-methyl-4-ethylcyclohexane	0	0.00069157	0.0001072	0	6.21561E-07	4.65192E-07
97000	c4-naphthalenes	0	0	0	0	0	0
97001	acenaphthylene	0	0	0	0	0	0
97002	acenaphthene	0	0	0	0	0	0
97003	fluorene	0	0	0	0	0	0
97004	c1-fluorene	0	0	0	0	0	0
97005	phenanthrene	0	0	0	0	0	0
97006	3-methylphenanthrene	0	0	0	0	0	0
97008	2-methylanthracene	0	0	0	0	0	0
97009	9-methylphenanthrene	0	0	0	0	0	0
97010	1-methylphenanthrene	0	0	0	0	0	0
97011	c2 mw 178 PAH	0	0	0	0	0	0
97012	c3 mw 178 PAH	0	0	0	0	0	0
97013	fluoranthene	0	0	0	0	0	0
97014	acephenanthrylene	0	0	0	0	0	0
97015	pyrene	0	0	0	0	0	0
97016	c1-mw 228 PAH	0	0	0	0	0	0
97017	benzo[ghi]fluoranthene	0	0	0	0	0	0
97018	cyclopenta[cd]pyrene	0	0	0	0	0	0
97019	benz[a]anthracene	0	0	0	0	0	0
98001	2,3-dimethylbutane	0	0.0060038	0.00792083	0	1.16757E-05	9.38692E-06
98002	2-ethyl-1-butene	0	0	0	0	0	0
98003	cis-3-hexene	0	0.00006824	0	0	5.18293E-08	3.78089E-08
98004	2-methyl-2-pentene	0	0.00127171	0.00149582	0	2.30965E-06	1.8491E-06
98005	1-heptene	0	0	0	0	0	0
98006	trans-3-heptene	0	0.00040558	0.00011034	0	4.07168E-07	3.09139E-07
98007	3-ethyl-2-pentene	0	0.00004442	0	0	3.37377E-08	2.46112E-08
98010	methylnaphthalenes	0	0	0	0	0	0
98012	2,3-dimethylnaphthalene	0	0	0	0	0	0
98013	propylnaphthalenes	0	0	0	0	0	0
98014	trimethylnaphthalene	0	0	0	0	0	0
98015	anthracene	0	0	0	0	0	0
98016	methylanthracene	0	0	0	0	0	0
98017	dimethyl-2,3,dh-1h-indene	0	0	0	0	0	0
98018	dimethyl ether	0	0	0	0	0	0
98020	b-methylstyrene	0	0	0	0.0005	0	0
98021	o-cresol	0	0	0	0	0	0
98022	m-cresol	0	0	0	0	0	0
98023	p-cresol	0	0	0	0	0	0
98024	benzyl chloride	0	0	0	0	0	0
98025	a-pinene	0	0	0	0	0	0
98026	b-pinene	0	0	0	0	0	0
98027	d-limonene {4-isopropenyl-1-methylcycohexane}	0	0	0	0	0	0
98028	phthalic anhydride	0	0	0	0	0	0
98029	dibutyl phthalate	0	0	0	0	0	0
98030	carbon disulfide	0	0	0	0	0	0
98031	carbonyl sulfide	0	0	0	0	0	0
98033	2,2,5-trimethylhexane	0	0.00368097	0.00330261	0	5.76266E-06	4.5664E-06
98034	trans-2-hexene	0	0.00104896	0.00090866	0	1.613E-06	1.27643E-06
98035	cis-2-hexene	0	0.00038691	0	0	2.93864E-07	2.1437E-07
98036	isobutyraldehyde	0	0	0	0	0	0
98037	1-methylcyclohexene	0	0	0	0	0	0
98039	c10 internal alkenes	0	0	0	0	0	0
98040	2-methyl-1-pentene	0	0.00056415	0.00017136	0	5.82422E-07	4.43684E-07
98042	c9 internal alkenes	0	0	0	0	0	0
98043	cumene	0	0.00090257	0.00004576	0.0002	7.26624E-07	5.35088E-07
98044	indan	0	0.00210934	0.00030502	0.0019	1.87609E-06	1.40208E-06
98046	naphthalene	0	0.00026462	0.00002312	0.0009	2.21753E-07	1.64305E-07
98048	indene	0	0	0	0	0	0
98049	c9 aromatics	0	0	0	0.005	0	0
98050	c10 aromatics	0	0	0	0.0008	0	0
98051	2-chlorotoluene	0	0	0	0	0	0
98054	2,4,4-trimethyl-1-pentene	0	0.0003487	0.00009871	0	3.53519E-07	2.68726E-07
98055	2,4,4-trimethyl-2-pentene	0	0.00003099	0.00255731	0	2.3209E-06	1.97385E-06
98056	isovaleraldehyde	0	0	0	0	0	0
98057	ethylcyclopentane	0	0.00001168	0	0	8.87114E-09	6.47139E-09
98058	trimethylcyclopentane	0	0	0	0	0	0
98059	trans-1,3-dimethylcyclohexane	0	0.00158954	0.00043664	0	1.59954E-06	1.21478E-06
98060	trimethylcyclohexane	0	0	0	0	0	0
98061	1,3,5-trimethylcyclohexane	0	0.00063941	0	0	4.85642E-07	3.5427E-07
98062	diethylcyclohexane	0	0	0	0	0	0
98063	n-pentylcyclohexane	0	0	0	0	0	0
98064	c8 alkyl cyclohexanes	0	0	0	0	0	0
98065	c9 alkyl cyclohexanes	0	0	0	0	0	0
98067	c11 alkyl cyclohexanes	0	0	0	0	0	0
98070	c10 cycloalkanes	0	0	0	0	0	0
98071	c11 cycloalkanes	0	0	0	0	0	0
98072	c12 cycloalkanes	0	0	0	0	0	0
98073	c4 substituted cyclohexanone	0	0	0	0	0	0
98074	ethylene glycol monobutyl ether	0	0	0	0	0	0
98075	c5 ester	0	0	0	0	0	0
98076	2-methyl-3-hexanone	0	0	0	0	0	0
98077	heptanone	0	0	0	0	0	0
98078	alkene ketone	0	0	0	0.0175	0	0
98079	terpinene	0	0	0	0	0	0

98080	butandiol	0	0	0	0	0	0
98081	methyl salicylate (an ester)	0	0	0	0	0	0
98082	ethylheptene	0	0	0	0	0	0
98083	c13 internal alkenes	0	0	0	0	0	0
98084	c2 alkyl indan	0	0	0	0	0	0
98086	c2 alkyl decalin	0	0	0	0	0	0
98087	carvomenthol	0	0	0	0	0	0
98088	carvone	0	0	0	0	0	0
98089	isopulegone	0	0	0	0	0	0
98090	methyl heptene	0	0	0	0	0	0
98091	dimethylheptanes	0	0	0	0	0	0
98093	c7 ester	0	0	0	0	0	0
98094	pentyl alcohol	0	0	0	0	0	0
98095	c6 aldehydes	0	0	0	0.038	0	0
98096	diethylene glycol monoethyl ether	0	0	0	0	0	0
98097	a-terpineol	0	0	0	0	0	0
98098	par	0	0	0	0	0	0
98100	eth	0	0	0	0	0	0
98103	unr	0	0	0	0	0	0
98104	1-chlorobutane	0	0	0	0	0	0
98105	3-(chloromethyl)-heptane	0	0	0	0	0	0
98106	ethyl isopropyl ether	0	0	0	0	0	0
98107	dibutyl ether	0	0	0	0	0	0
98109	propylcyclohexanone	0	0	0	0	0	0
98110	diethylene glycol monobutyl ether	0	0	0	0	0	0
98111	1-ethoxy-2-propanol	0	0	0	0	0	0
98112	2-ethyl-1-hexanol	0	0	0	0	0	0
98113	1-heptanol	0	0	0	0	0	0
98114	methyl isobutyrate	0	0	0	0	0	0
98115	isoamyl isobutyrate	0	0	0	0	0	0
98116	substituted c7 ester (c12)	0	0	0	0	0	0
98117	substituted c9 ester (c12)	0	0	0	0	0	0
98118	methyl acrylate	0	0	0	0	0	0
98119	vinyl acetate	0	0	0	0	0	0
98120	methacrylonitrile	0	0	0	0	0	0
98121	methyacrylic acid	0	0	0	0	0	0
98122	ald2	0	0	0	0	0	0
98123	diethylene glycol monomethyl ether	0	0	0	0	0	0
98124	cyclomethicone (a VMS)	0	0	0	0	0	0
98125	1-hexanol	0	0	0	0	0	0
98126	tetrahydrofurfuryl alcohol	0	0	0	0	0	0
98127	cyclohexanol	0	0	0	0	0	0
98128	diisopropyl adipate	0	0	0	0	0	0
98129	n-methylpyrrolidinone	0	0	0	0	0	0
98130	2,2-dimethylpropane	0	0.00001997	0	0	1.51675E-08	1.10645E-08
98131	1-butyne (ethylacetylene)	0	0.00002242	0	0	1.70283E-08	1.2422E-08
98132	isopentane	0	0.03412237	0.06161868	0.006	8.12717E-05	6.60521E-05
98133	2-butyne	0	0	0	0	0	0
98134	vinylacetylene	0	0	0	0	0	0
98135	4-methyl-1-pentene	0	0.0003378	0.00020192	0	4.37959E-07	3.41656E-07
98136	trans-3-hexene	0	0.00061369	0.00015115	0	6.01893E-07	4.55669E-07
98137	dimethylhexene	0	0	0	0	0	0
98138	2,2-dimethylhexane	0	0.00051277	0	0	3.89457E-07	2.84104E-07
98139	2,3-dimethylhexane	0	0.00295937	0.00303235	0.0001	4.9718E-06	3.95981E-06
98140	2-methylheptane	0	0.00580107	0.00323201	0.0006	7.30948E-06	5.68704E-06
98141	2,3,5-trimethylhexane	0	0.00080762	0.00003902	0	6.48453E-07	4.77323E-07
98142	2,4-dimethylheptane	0	0.00066066	0.00082146	0	1.23974E-06	9.94568E-07
98143	2,5-dimethylheptane	0	0	0	0	0	0
98144	3,5-dimethylheptane	0	0.00191733	0.0020915	0	3.33514E-06	2.66258E-06
98145	2,3-dimethylheptane	0	0.00017128	0	0	1.3009E-07	9.4899E-08
98146	2-methyloctane	0	0	0	0	0	0
98147	2,4,5-trimethylheptane	0	0	0	0	0	0
98149	2,4-dimethyloctane	0	0.00057147	0	0	4.3404E-07	3.16627E-07
98150	3,4-dimethylhexane	0	0.00114	0.00009656	0	9.52592E-07	7.05507E-07
98151	3,4-dimethyloctane	0	0	0	0	0	0
98152	1-methyl-3n-propylbenzene	0	0.00261875	0.00202037	0	3.80398E-06	2.99679E-06
98153	1-methyl-3-isopropylbenzene	0	0.00031747	0	0	2.41123E-07	1.75897E-07
98154	1,2-diethylbenzene (ortho)	0	0.00024003	0	0.0009	1.82306E-07	1.3299E-07
98155	2-methyldecane	0	0	0	0	0	0
98156	crotonaldehyde	0	0.00141192	0	0	1.07237E-06	7.82285E-07
98157	2,6-dimethylheptane	0	0.00118913	0.00069336	0	1.52604E-06	1.18936E-06
98158	c7 aldehydes	0	0	0	0	0	0
98159	hexaldehyde	0	0.00048667	0	0	3.69633E-07	2.69643E-07
98160	methyl propyl ketone {2-pentanone}	0	0	0	0	0	0
98161	diethyl ketone	0	0	0	0	0	0
98162	(2-methylbutyl)benzene	0	0	0	0	0	0
98163	3-methyl-cis-2-pentene	0	0.00065937	0.0005956	0	1.03586E-06	8.21041E-07
98165	2-pentenes	0	0	0	0	0	0
98166	camphor	0	0	0	0	0	0
98167	menthol	0	0	0	0	0	0
98168	chloropicrin	0	0	0	0	0	0
98169	3,3-dimethyl-1-butene	0	0.00012678	0	0.0282	9.62914E-08	7.02434E-08
98170	4-methyl-cis-2-pentene	0	0	0.00071037	0	6.38162E-07	5.43526E-07
98171	3,3-dimethylhexane	0	0.00010837	0	0	8.23087E-08	6.00432E-08
98172	3-methyloctane	0	0.00316217	0.00106243	0	3.35615E-06	2.56492E-06
98173	4-methyloctane	0	0.00439479	0.00241491	0	5.50735E-06	4.28269E-06
98174	2,2,4-trimethylheptane	0	0.00049033	0	0	3.72413E-07	2.71671E-07
98175	2,2-dimethyloctane	0	0.00051919	0	0	3.94333E-07	2.87661E-07
98176	2,5-dimethyloctane	0	0.00065886	0.00007594	0	5.68635E-07	4.2315E-07
98177	2,6-dimethyloctane	0	0.00030804	0.0001226	0	3.44099E-07	2.64477E-07
98178	1-methyl-2n-propylbenzene	0	0.0007236	0.00014554	0	6.80331E-07	5.12273E-07
98179	1-ethyl-2n-propylbenzene	0	0.00013047	0	0	9.9094E-08	7.22879E-08
98180	cis-1,3-dimethylcyclohexane	0	0.0027222	0.00169899	0	3.59384E-06	2.8082E-06
98181	trans-1,4-dimethylcyclohexane	0	0.00096305	0.00074953	0	1.40479E-06	1.10707E-06
98182	1-methyl-4n-propylbenzene	0	0.00044681	0.00010065	0	4.29778E-07	3.24569E-07
98183	2,3-dimethyloctane	0	0.00038564	0	0	2.92899E-07	2.13667E-07
98184	3,3-dimethyloctane	0	0.00072333	0	0	5.4938E-07	4.00766E-07
98185	2,6-dimethylnaphthalene	0	0	0	0	0	0
98190	butyl benzyl phthalate	0	0	0	0	0	0

98200	n-valeraldehyde	0	0.00021001	0	0	1.59506E-07	1.16358E-07
99001	allyl chloride	0	0	0	0	0	0
99003	chloroprene	0	0	0	0	0	0
99004	nitromethane	0	0	0	0	0	0
99006	epichlorohydrin	0	0	0	0	0	0
99007	hexachlorocyclopentadiene	0	0	0	0	0	0
99008	maleic anhydride	0	0	0	0	0	0
99009	nitrobenzene	0	0	0	0	0	0
99010	n-nitrosomorpholine	0	0	0	0	0	0
99013	vinylidene chloride	0	0	0	0	0	0
99014	ethylene dibromide {EDB}	0	0	0	0	0	0
99015	dibenzofuran	0	0	0	0	0	0
99016	1,2-dichloropropane	0	0	0	0	0	0
99017	bromodichloromethane	0	0	0	0	0	0
99018	trans-1,2-dichloroethene	0	0	0	0	0	0
99019	bromoform	0	0	0	0	0	0
99020	chlorodibromomethane	0	0	0	0	0	0
99021	3-carene	0	0	0	0	0	0
99024	m & p-xylene	0	0	0	0	0	0
99025	4-methyl-2-pentanol {methyl isobutyl carbinol}	0	0	0	0	0	0
99026	furfuryl alcohol	0	0	0	0	0	0
99030	other c7	0	0	0	0	0	0
99031	other c8	0	0	0	0	0	0
99032	other c9	0	0	0	0	0	0
99033	other c10	0	0	0	0	0	0
99034	other c11	0	0	0	0	0	0
99035	other c12	0	0	0	0	0	0
99037	other c13	0	0	0	0	0	0
99038	other c14	0	0	0	0	0	0
99040	1-methyl-3-isopropylcyclohexane	0	0	0	0	0	0
99041	1-methyl-2-isopropylcyclohexane	0	0	0	0	0	0
99043	1,1,3,4-tetramethylcyclohexane	0	0	0	0	0	0
99044	6-ethyl-2-methyloctane	0	0	0	0	0	0
99045	6-methylundecane	0	0	0	0	0	0
99048	1-ethyl-3-methylcyclopentane	0	0	0	0	0	0
99049	4-ethyldecane	0	0	0	0	0	0
99050	2-methyldecalin	0	0	0	0	0	0
99051	3-ethyl-3-methyloctane	0	0	0	0	0	0
99052	(2-methylbutyl)cyclohexane	0	0	0	0	0	0
99053	1,2-diethyl-1-methylcyclohexane	0	0	0	0	0	0
99054	cis,cis-1,2,4-trimethylcyclohexane	0	0	0	0	0	0
99055	2-ethyl-1,3-dimethylcyclohexane	0	0	0	0	0	0
99056	5-isopropylnonane	0	0	0	0	0	0
99057	hexylcyclopentane	0	0	0	0	0	0
99059	1,1-dimethyl-2-propylcyclohexane	0	0	0	0	0	0
99060	1-ethyl-2,2,6-trimethylcyclohexane	0	0	0	0	0	0
99061	1-ethyl-1,2-dimethylcyclohexane	0	0	0	0	0	0
99062	1,1,2,3-tetramethylcyclohexane	0	0	0	0	0	0
99063	1-ethyl-2,4-dimethylcyclohexane	0	0	0	0	0	0
99064	1-methyl-4-isobutylbenzene	0	0	0	0	0	0
99065	1,3-dimethyl-4-isopropylbenzene	0	0	0	0	0	0
99066	4,5-dimethyldecane	0	0	0	0	0	0
99067	2,7-dimethyldecane	0	0	0	0	0	0
99068	3,5-dimethylnonane	0	0	0	0	0	0
99071	cis-1-ethyl-3-methylcyclopentane	0	0	0	0	0	0
99072	methyl pentylcyclohexane	0	0	0	0	0	0
99074	1,2,3-trimethylcyclopentane	0	0	0	0	0	0
99075	trans,cis-1,2,4-trimethylcyclohexane	0	0	0	0	0	0
99076	trans,trans-1,3,5-trimethylcyclohexane	0	0	0	0	0	0
99077	1,2,3-trimethylcyclohexane	0	0	0	0	0	0
99078	2,5-dimethylnonane	0	0	0	0	0	0
99079	cis,trans-1,2,4-trimethylcyclohexane	0	0	0	0	0	0
99080	trans-1-ethyl-3-methylcyclohexane	0	0	0	0	0	0
99082	trans-1-ethyl-4-methylcyclohexane	0	0	0	0	0	0
99083	1-ethyl-2-methylcyclopentane	0	0	0	0	0	0
99084	1-methyl-3-butylbenzene	0	0	0	0	0	0
99085	trans-1-ethyl-3-methylcyclopentane	0	0	0	0	0	0
99086	menthol (Racemic)	0	0	0	0	0	0
99087	cis-decalin	0	0	0	0	0	0
99088	1-methyl-4-isopropylcyclohexane	0	0	0	0	0	0
99089	2,6-dimethyl-4-heptanol	0	0	0	0	0	0
99090	pentylcyclopentane	0	0	0	0	0	0
99091	cis-bicyclo[3.3.0]octane	0	0	0	0	0	0
99092	1-methylindan	0	0	0	0	0	0
99093	cis-1-ethyl-2-methylcyclopentane	0	0	0	0	0	0
99094	3-methylundecane	0	0	0	0	0	0
99095	2,7-dimethyloctane	0	0	0	0	0	0
99096	3-phenylpentane	0	0	0	0	0	0
99097	5-methylundecane	0	0	0	0	0	0
99098	1,1-dimethylcyclopentane	0	0	0	0	0	0
99099	trans,trans-1,2,4-trimethylcyclohexane	0	0	0	0	0	0
99100	isobutylcyclohexane	0	0	0	0	0	0
99101	1,2-dimethylcyclopentane	0	0	0	0	0	0
99102	4-methyldecane	0	0	0	0	0	0
99103	4-methylundecane	0	0	0	0	0	0
99104	cis-1-ethyl-4-methylcyclohexane	0	0	0	0	0	0
99105	hexylcyclohexane	0	0	0	0	0	0
99106	pentylcyclohexane	0	0	0	0	0	0
99107	1,1,3,5-tetramethylcyclohexane	0	0	0	0	0	0
99108	cis-bicyclo[4.3.0]nonane	0	0	0	0	0	0
99109	cis-1-ethyl-2-methylcyclohexane	0	0	0	0	0	0
99110	trans-1-ethyl-2-methylcyclohexane	0	0	0	0	0	0
99111	2-methylundecane {isododecane}	0	0	0	0	0	0
99112	2,2,3,3-tetramethylpentane	0	0	0	0	0	0
99113	3,3,5-trimethylheptane	0	0	0	0	0	0
99114	2,6-dimethyldecane	0	0	0	0	0	0
99115	3-methyldecane	0	0	0	0	0	0
99116	5-methyldecane	0	0	0	0	0	0
99117	3-ethyl-2-methylheptane	0	0	0	0	0	0

99118	3,5-dimethyloctane	0	0	0	0	0	0
99119	4,5-dimethyloctane	0	0	0	0	0	0
99120	3-ethyldecane	0	0	0	0	0	0
99121	2,6-dimethylundecane	0	0	0	0	0	0
99122	4-methylnonane	0	0	0	0	0	0
99123	2,4-dimethylnonane	0	0	0	0	0	0
99124	2,6-dimethylnonane	0	0	0	0	0	0
99125	3,7-dimethylnonane	0	0	0	0	0	0
99126	cis-1-ethyl-3-methylcyclohexane	0	0	0	0	0	0
99127	2,3,5-trimethylheptane	0	0	0	0	0	0
99128	cis,trans-1,2,3-trimethylcyclohexane	0	0	0	0	0	0
99129	3-ethyl-4-methylheptane	0	0	0	0	0	0
99130	misc. glycol ethers and acetates	0	0	0	0	0	0
99131	misc. alcohols	0	0	0	0	0	0
99132	misc. xylenes	0	0	0	0	0	0
99133	misc. esters	0	0	0	0	0	0
99134	fragrances	0	0	0	0	0	0
99135	misc./other VOC	0	0	0	0	0	0
99136	other exempt propellants	0	0	0	0	0	0
99137	misc. acids	0	0	0	0	0	0
99138	misc. amines	0	0	0	0	0	0
99139	misc. silanes	0	0	0	0	0	0
99140	misc. hydrocarbon propellants	0	0	0	0	0	0
99141	misc. lvp VOC distillates	0	0	0	0	0	0
99142	other, lumped VOCs, individually < 2% of category	0	0	0	0	0	0
99143	other, lumped exempts, individually < 2% of category	0	0	0	0	0	0
99144	other, misc. VOC	0	0	0	0	0	0
99145	misc. trimethylbenzenes	0	0	0	0	0	0
99146	other, misc. VOC compounds aggregated in profile	0	0	0	0	0	0
99147	other, misc. exempt compounds aggregated in profile	0	0	0	0	0	0
99148	ethylene glycol butyl ether acetate {2-butoxyethyl acetate}	0	0	0	0	0	0
99151	distillates/naphtha/mineral spirits	0	0	0	0	0	0
99152	aliphatics	0	0	0	0	0	0
99153	oils	0	0	0	0	0	0
99154	misc. urethane-containing material (TOG portion)	0	0	0	0	0	0
99155	misc. formaldehyde-containing material (TOG portion)	0	0	0	0	0	0
99156	misc. styrene-containing material (TOG portion)	0	0	0	0	0	0
99157	misc. acetates and esters (TOG portion)	0	0	0	0	0	0
99158	misc. residual monomers and oils (TOG portion)	0	0	0	0	0	0
99159	misc. hydrocarbon resins (TOG portion)	0	0	0	0	0	0
99160	misc. copolymers, surfactants, resins (TOG portion)	0	0	0	0	0	0
99162	misc. VOC (TOG portion)	0	0	0	0	0	0
99163	aggregated VOCs < 0.1%	0	0	0	0	0	0
99164	aggregated exempt compounds < 0.1%	0	0	0	0	0	0
99165	VOC ingredients < 0.1%	0	0	0	0	0	0
99166	volatile methyl siloxanes {VMS}	0	0	0	0	0	0
99167	total aggregate organic ingredients < 0.1%	0	0	0	0	0	0
99168	aggregated VOCs < 1.0%	0	0	0	0	0	0
99169	aggregated exempt compounds < 1.0%	0	0	0	0	0	0
99170	aggregate ingredients < 0.1%	0	0	0	0	0	0
99171	dimethoate	0	0	0	0	0	0
99172	dimethyl sulfoxide	0	0	0	0	0	0
99173	isocyanate	0	0	0	0	0	0
99174	1,1-difluoroethane {Freon 152a}	0	0	0	0	0	0
99175	dimethoxypropane	0	0	0	0	0	0
99176	isophorone	0	0	0	0	0	0
99177	monoisopropanolamine {1-amino-2-propanol}	0	0	0	0	0	0
99178	acrylamide	0	0	0	0	0	0
99179	peracetic acid	0	0	0	0	0	0
99180	methyl methacrylate	0	0	0	0	0	0
99181	panthenol	0	0	0	0	0	0
99182	1,2-dichlorobenzene	0	0	0	0	0	0
99183	methyl ethyl ketoxime	0	0	0	0	0	0
99184	gamma- butyrolactone	0	0	0	0	0	0
99185	parachlorobenzotrifluoride {PCBTF}	0	0	0	0	0	0
99186	diethyl aminoethanol	0	0	0	0	0	0
99187	benzyl alcohol	0	0	0	0	0	0
99188	glyceryl triacetate	0	0	0	0	0	0
99189	2-ethyl hexyl acetate	0	0	0	0	0	0
99190	dimethyl succinate	0	0	0	0	0	0
99191	1,2-epoxybutane	0	0	0	0	0	0
99192	3,5-dimethyl-1-hexyne-3-ol	0	0	0	0	0	0
99193	propylene carbonate	0	0	0	0	0	0
99194	diisobutyl ketone	0	0	0	0	0	0
99195	cyclohexamine	0	0	0	0	0	0
99196	dimethoxymethane	0	0	0	0	0	0
99197	diethylamine	0	0	0	0	0	0
99198	morpholine	0	0	0	0	0	0
99200	terpenes: extra carbons	0	0	0	0	0	0
99201	terpenes: terminal double bond	0	0	0	0	0	0
99202	terpenes: internal double bond	0	0	0	0	0	0
99204	diethylenetriamine	0	0	0	0	0	0
99205	propoxur	0	0	0	0	0	0
99206	pentaerythritol	0	0	0	0	0	0
99207	triethylamine	0	0	0	0	0	0
99208	triisopropanolamine	0	0	0	0	0	0
99209	phenoxyethanol	0	0	0	0	0	0
99210	diethylene glycol butyl ether acetate {2-2-(butoxyethoxy)ethyl acetate}	0	0	0	0	0	0
99211	2-amino-2-methyl-1-propanol	0	0	0	0	0	0
99212	isobornyl acetate {2-camphanyl acetate}	0	0	0	0	0	0
99213	diacetone	0	0	0	0	0	0
99214	dl-limonene {dipentene}	0	0	0	0	0	0
99215	butyl acrylate	0	0	0	0	0	0
99216	4,4-dimethyl-2-neopentyl-1-pentene	0	0	0	0	0	0
99217	aluminum stearate, di	0	0	0	0	0	0
99218	t-butyl acetate	0	0	0	0	0	0
99219	amyl acetate	0	0	0	0	0	0
99220	1,3-dioxolane	0	0	0	0	0	0
99221	eptc {s-ethyl dipropylthiocarbamate}	0	0	0	0	0	0

99222	ethyl-3-ethoxypropionate	0	0	0	0	0	0
99223	pentanedioic acid, dimethyl ester	0	0	0	0	0	0
99224	methyltrimethoxysilane	0	0	0	0	0	0
99225	xylenol	0	0	0	0	0	0
99226	cresols (mixtures of) {cresylic acid}	0	0	0	0	0	0
99227	manganese (ii) naphthenate	0	0	0	0	0	0
99228	2-(2-ethylhexyloxy)ethanol	0	0	0	0	0	0
99229	propylene glycol n-propyl ether	0	0	0	0	0	0
99230	1,1-dichloro-1-fluoroethane {HCFC-141b}	0	0	0	0	0	0
99231	vinyltrimethoxysilane	0	0	0	0	0	0
99232	ethylene glycol monopropyl ether	0	0	0	0	0	0
99233	propylene glycol butyl ether {1-butoxy-2-propanol}	0	0	0	0	0	0
99234	manganese (ii) acetate, tetrahydrate	0	0	0	0	0	0
99235	ethyl cyanoacrylate	0	0	0	0	0	0
99236	raw linseed oil	0	0	0	0	0	0
99237	pine oil	0	0	0	0	0	0
99238	turpentine	0	0	0	0	0	0
99239	lemon oil	0	0	0	0	0	0
99240	orange oil	0	0	0	0	0	0
99242	santosol dimethyl ester	0	0	0	0	0	0
99243	2,2,4,6,6-pentamethylheptane	0	0	0	0	0	0
99244	methyltri(ethylmethylketoxime) silane	0	0	0	0	0	0
99245	2-propenoic acid, butyl ester, polymer with	0	0	0	0	0	0
99246	epichlorohydrin-bisphenol a resin	0	0	0	0	0	0
99247	2,2,4-trimethyl-1,3-pentanediol isobutyrate {texanol}	0	0	0	0	0	0
99248	dichlorobenzenes (mixed isomers)	0	0	0	0	0	0
99249	polypropylene glycol	0	0	0	0	0	0
99250	methyl hexane	0	0	0	0	0	0
99251	glycerol propoxylate	0	0	0	0	0	0
99252	glycol ether dpnb {1-(2-butoxy-1-methylethoxy)-2-propanol}	0	0	0	0	0	0
99253	methylvinylbis(n-methylacetamido) silane	0	0	0	0	0	0
99254	propylene glycol monoethyl ether {1-ethoxy-2-propanol}	0	0	0	0	0	0
99255	iodopropynyl butylcarbamate	0	0	0	0	0	0
99256	3-methyl-3-methoxy-1-butanol	0	0	0	0	0	0
99257	propylene glycol t-butyl ether {1-(1,1,-dimethylethoxy)-2-propanol}	0	0	0	0	0	0
99258	chlorafin	0	0	0	0	0	0
99259	chlorinated paraffin	0	0	0	0	0	0
99260	citrus terpene	0	0	0	0	0	0
99261	orange terpenes	0	0	0	0	0	0
99262	2-propenoic acid, 2-methyl dodecyl ester	0	0	0	0	0	0
99263	amines, polyethylene poly compounds w/succinic	0	0	0	0	0	0
99264	c3-c4 alkane propellant	0	0	0	0	0	0
99265	hydrocarbon propellant {lpg}	0	0	0	0	0	0
99266	hydrocarbon propellant {lpg, sweetened}	0	0	0	0	0	0
99267	butane, branched & linear	0	0	0	0	0	0
99268	urethane prepolymer	0	0	0	0	0	0
99269	1-decene, dimer, hydrogenated	0	0	0	0	0	0
99270	benzene derivates	0	0	0	0	0	0
99271	witch hazel	0	0	0	0	0	0
99272	terpene	0	0	0	0	0	0
99273	methoxypropanol acetate {straight; possibly used for pgmea}	0	0	0	0	0	0
99274	oxo-hexyl acetate	0	0	0	0	0	0
99275	c9-c12 isoalkanes	0	0	0	0	0	0
99276	dipropylene glycol dimethyl ether (mixed isomers)	0	0	0	0	0	0
99277	1,1,2,2-tetrachloroethane	0	0	0	0	0	0
99278	dimethyl sulfide	0	0	0	0	0	0
99279	ethyl mercaptan	0	0	0	0	0	0
99280	methyl mercaptan	0	0	0	0	0	0
99281	2-methoxy-1-propanol	0	0	0	0	0	0
99282	nonylphenoxypoly(ethyleneoxy)ethanol {tergitol np-33} {triton(r) n-101}	0	0	0	0	0	0
99283	citrus lemon peel oil	0	0	0	0	0	0
99284	other glycol ethers	0	0	0	0	0	0
99285	stoddard solvent - mineral spirits	0	0	0	0	0	0
99286	perfluorocarbons c5/c6	0	0	0	0	0	0
99287	hexachlorobenzene	0	0	0	0	0	0
99288	2,4,5-trichlorophenol	0	0	0	0	0	0
99289	1,3-dichlorobenzene	0	0	0	0	0	0
99290	di(2-ethylhexyl) phthalate	0	0	0	0	0	0
99291	misc. oxygenated compounds	0	0	0	0	0	0
99292	misc. ketones	0	0	0	0	0	0
99293	misc. phthalates	0	0	0	0	0	0
99294	misc. ethyleneamines	0	0	0	0	0	0
99295	methyl formate	0	0	0	0	0	0
99296	hexamethylenediamine	0	0	0	0	0	0
99297	hexafluoroethane {F-116}	0	0	0	0	0	0
99298	acetic anhydride	0	0	0	0	0	0
99299	carbon tetrafluoride	0	0	0	0	0	0
99300	misc. denaturants	0	0	0	0	0	0
99301	dodecene	0	0	0	0	0	0
99302	3-heptene (mixed cis,trans)	0	0	0	0	0	0
99303	adipic acid	0	0	0	0	0	0
99304	diisopropyl benzene (mixed isomers)	0	0	0	0	0	0
99305	isobutyl acrylate {2-propenoic acid}	0	0	0	0	0	0
99306	methyl styrene (mixed) {vinyl toluene}	0	0	0	0	0	0
99307	aniline	0	0	0	0	0	0
99308	piperylene {1,3-pentadiene} (mixed)	0	0	0	0	0	0
99309	toluene-2,4-diisocyanate	0	0	0	0	0	0
99310	1,4-butanediol	0	0	0	0	0	0
99311	2,2-dichloronitroaniline	0	0	0	0	0	0
99312	2-furfural	0	0	0	0	0	0
99313	4-methylaniline	0	0	0	0	0	0
99314	1-aminoanthraquinone	0	0	0	0	0	0
99315	9,10-anthraquinone	0	0	0	0	0	0
99316	b-phellandrene {1(7)-2-p-menthadiene}	0	0	0	0	0	0
99317	biphenyl	0	0	0	0	0	0
99318	2-phenylphenol	0	0	0	0	0	0
99319	bromodinitroaniline {2,4-dinitro-6-bromoaniline}	0	0	0	0	0	0
99320	bromodinitrobenzene	0	0	0	0	0	0
99321	butyl benzoate	0	0	0	0	0	0

99322	butylisopropylphthalate	0	0	0	0	0	0
99323	c10 paraffins	0	0	0	0	0	0
99324	isomers of c10h16	0	0	0	0	0	0
99325	c2 cyclohexane	0	0	0	0	0	0
99326	c3 cyclohexane	0	0	0	0	0	0
99327	c3/c4/c5 alkylbenzenes	0	0	0	0	0	0
99328	c4 substituted cyclohexane	0	0	0	0	0	0
99329	c4 alkylphenols	0	0	0	0	0	0
99330	c5 cyclohexane	0	0	0	0	0	0
99331	c5 substituted cyclohexane	0	0	0	0	0	0
99332	camphene	0	0	0	0	0	0
99333	c5 alkylbenzenes	0	0	0	0	0	0
99334	c5 alkylphenols	0	0	0	0	0	0
99335	c6 substituted cyclohexane	0	0	0	0	0	0
99336	c8 phenols	0	0	0	0	0	0
99337	c9 phenols	0	0	0	0	0	0
99338	di-c8 alkyl phthalate	0	0	0	0	0	0
99339	isomers of c10h18	0	0	0	0	0	0
99340	isomers of c11h20	0	0	0	0	0	0
99341	isomers of c9h16	0	0	0	0	0	0
99342	lactol spirits {vm and p naphtha}	0	0	0	0	0	0
99343	caryophyllene	0	0	0	0	0	0
99344	isomers of heptadecane	0	0	0	0	0	0
99345	isomers of octadecane	0	0	0	0	0	0
99346	isomers of propylbenzene	0	0	0	0	0	0
99347	methyl c12 ester	0	0	0	0	0	0
99348	methyl c14 ester	0	0	0	0	0	0
99349	methyl c15 ester	0	0	0	0	0	0
99350	methyl c19 ester	0	0	0	0	0	0
99351	methyldecanes	0	0	0	0	0	0
99352	methyldodecanes	0	0	0	0	0	0
99353	methylhexenes	0	0	0	0	0	0
99354	creosote	0	0	0	0	0	0
99355	decalins (mixed cis,trans)	0	0	0	0	0	0
99357	methylnonane	0	0	0	0	0	0
99358	methylnonenes	0	0	0	0	0	0
99359	methyloctanes	0	0	0	0	0	0
99360	methylpropylnonane	0	0	0	0	0	0
99361	c16-c34 paraffins	0	0	0	0	0	0
99362	c12-c16 paraffins/olefins	0	0	0	0	0	0
99363	pentylidenecyclohexane	0	0	0	0	0	0
99364	propylheptenes	0	0	0	0	0	0
99365	dimethyl napthalenes	0	0	0	0	0	0
99366	tetrachlorobenzenes	0	0	0	0	0	0
99367	total aromatic amines	0	0	0	0	0	0
99368	total c2-c5 aldehydes	0	0	0	0	0	0
99369	trimethyldecenes	0	0	0	0	0	0
99370	trimethylheptanes	0	0	0	0	0	0
99371	dimethyl alkyl amines	0	0	0	0	0	0
99372	dimethylcyclohexanes	0	0	0	0	0	0
99373	dimethylhexanes	0	0	0	0	0	0
99375	dimethyloctanes	0	0	0	0	0	0
99377	ethyl-phenyl-phenyl-ethane	0	0	0	0	0	0
99378	methyl biphenyl (mixed) {phenyltoluene}	0	0	0	0	0	0
99379	ethyloctenes	0	0	0	0	0	0
99380	dimethyl phthalate	0	0	0	0	0	0
99381	dimethylheptanol	0	0	0	0	0	0
99382	3,7-dimethyl-1-octanol	0	0	0	0	0	0
99383	diphenyl ethane {bibenzyl}	0	0	0	0	0	0
99384	dipropyl phthalate	0	0	0	0	0	0
99385	divinyl benzene {vinyl styrene}	0	0	0	0	0	0
99386	ethyl styrene {ethylvinyl benzene}	0	0	0	0	0	0
99387	ethyltoluenes {methylethylbenzenes}	0	0	0	0	0	0
99388	methyl dodecanoate {methyl laurate}	0	0	0	0	0	0
99389	methyl myristate {methyl tetradecanoate}	0	0	0	0	0	0
99390	methyl palmitate {methyl hexadecanoate}	0	0	0	0	0	0
99391	methyl stearate {methyl octadecanoate}	0	0	0	0	0	0
99392	methylene diphenyl diisocyanate {MDI}	0	0	0	0	0	0
99393	methylheptanol	0	0	0	0	0	0
99394	n-phenylaniline {diphenylamine}	0	0	0	0	0	0
99395	naphtha	0	0	0	0	0	0
99396	octamethylcyclotetrasiloxane	0	0	0	0	0	0
99397	p-tolualdehyde {4-methylbenzaldehyde}	0	0	0	0	0	0
99398	palmitic acid {n-hexadecanoic acid}	0	0	0	0	0	0
99399	phenyl isocyanate	0	0	0	0	0	0
99400	trichlorobenzenes (mixed)	0	0	0	0	0	0
99401	difluoromethane {hfc-32}	0	0	0	0	0	0
99402	1-chloro-1,1-difluoroethane {hcfc-142b}	0	0	0	0	0	0
99403	1,1,1-trifluoro-2,2-dichloroethane {hcfc-123}	0	0	0	0	0	0
99404	ethylfluoride {hfc-161}	0	0	0	0	0	0
99405	1,2-dichloro-1,1,2-trifluoroethane {hcfc-123a}	0	0	0	0	0	0
99406	pentafluoroethane {hfc-125}	0	0	0	0	0	0
99407	1,1,2,2-tetrafluoroethane {hfc-134}	0	0	0	0	0	0
99408	1,1,1,3,3-pentafluorobutane {hfc-365mfc}	0	0	0	0	0	0
99409	1,1,1-trifluoroethane {hfc-143a}	0	0	0	0	0	0
99410	3,3-dichloro-1,1,1,2,2-pentafluoropropane {hcfc-225ca}	0	0	0	0	0	0
99411	1,1,1,2,3-pentafluoropropane {hfc-245eb}	0	0	0	0	0	0
99412	1,1,1,2,3,3-hexafluoropropane {hfc-236ea}	0	0	0	0	0	0
99413	1,1,1,3,3-pentafluoropropane {hfc-245fa}	0	0	0	0	0	0
99414	1,3-dichloro-1,1,2,2,3-pentafluoropropane {hcfc-225cb}	0	0	0	0	0	0
99415	chlorofluoromethane {hcfc-31}	0	0	0	0	0	0
99416	1,1,2,2,3-pentafluoropropane {hfc-245ca}	0	0	0	0	0	0
99417	1,1,1,3,3,3-hexafluoropropane {hfc-236fa}	0	0	0	0	0	0
99418	1,1,1,2-tetrafluoroethane {hfc-134a}	0	0	0	0	0	0
99419	1-chloro-1-fluoroethane {hcfc-151a}	0	0	0	0	0	0
99420	2-chloro-1,1,1,2-tetrafluoroethane {hcfc-124}	0	0	0	0	0	0
99421	1,1,2,3,3-pentafluoropropane {hfc-245ea}	0	0	0	0	0	0
99423	1,1,1,2,3,4,4,5,5,5-decafluoropentane {hfc-43-10mee}	0	0	0	0	0	0
99424	1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane	0	0	0	0	0	0

99425	2-(ethoxy2flmethyl)-1,1,1,2,3,3,3-fl7propane	0	0	0	0	0	0
99426	1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butan	0	0	0	0	0	0
99427	2-(fl2methoxymethyl)-1,1,1,2,3,3,3-fl7propan	0	0	0	0	0	0
99430	misc. oils - linseed/tung/soy/etc. (TOG portion)	0	0	0	0	0	0
99431	misc. proprietary VOC	0	0	0	0	0	0
99432	misc. asphalt mixtures (TOG portion)	0	0	0	0	0	0
99433	misc. vinyl/acrylic and other copolymers (TOG portion)	0	0	0	0	0	0
99435	cumene hydroperoxide	0	0	0	0	0	0
99437	benzoyl peroxide	0	0	0	0	0	0
99439	diglycidyl resorcinol ether {dgre}	0	0	0	0	0	0
99440	n,n-dimethylethanolamine	0	0	0	0	0	0
99441	triethylenetetramine	0	0	0	0	0	0
99443	2,4-pentanedione	0	0	0	0	0	0
99444	n-(trichloromethylthio)phthalimide {folpet}	0	0	0	0	0	0
99445	2-methyl-1-butyl acetate	0	0	0	0	0	0
99447	chlorothalonil	0	0	0	0	0	0
99448	isophorone diamine	0	0	0	0	0	0
99449	methylenediphenylisocyanate polymeric	0	0	0	0	0	0
99450	toluene diisocyanates (mixed isomers)	0	0	0	0	0	0
99451	2-methoxy-1-propanol acetate	0	0	0	0	0	0
99453	ethylene glycol monomethyl ether acetate	0	0	0	0	0	0
99454	decabromodiphenyl oxide	0	0	0	0	0	0
99457	butyl propionate	0	0	0	0	0	0
99458	methyltriacetoxysilane	0	0	0	0	0	0
99459	(3-mercaptopropyl)trimethoxysilane	0	0	0	0	0	0
99461	4,6-dimethyl-2-heptanone	0	0	0	0	0	0
99466	heavy paraffinic distillate solvent extract	0	0	0	0	0	0
99468	hydrotreated heavy naphtha	0	0	0	0	0	0
99472	fatty acids	0	0	0	0	0	0
99474	fuel oil no. 2	0	0	0	0	0	0
99475	fuels, diesel, no. 2	0	0	0	0	0	0
99476	trimethoxymethane	0	0	0	0	0	0
99481	methoxysilane	0	0	0	0	0	0
99485	2-butoxy-1-propanol	0	0	0	0	0	0
99492	solvent-refined heavy paraffinic distillate	0	0	0	0	0	0
99902	furan	0	0	0	0	0	0
99912	1-methyl-3-ethylbenzene	0	0.01384503	0.00918672	0.0025	1.87684E-05	1.47E-05
99914	1-methyl-4-ethylbenzene	0	0.00594561	0.00476002	0	8.79195E-06	6.93625E-06
99915	1-methyl-2-ethylbenzene	0	0.00458361	0.00288364	0.0014	6.07184E-06	4.74594E-06
99991	unidentified nonfumigant AIs	0	0	0	0	0	0
99997	ethane & acetylene	0	0	0	0	0	0
99998	ethyl t-butyl ether	0	0	0	0	0	0
99999	unidentified	0	0	0	0.1386	0	0

Appendix D
Biological Resources

D1 Agency Coordination

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846
SFWO_mail@fws.gov

In Reply Refer to:
2025-0024711-S7-001

February 25, 2025
Sent Electronically

David Kessler
Federal Aviation Administration
U.S. Department of Transportation
777 S. Aviation Boulevard, Suite 150
El Segundo, California 90245

Subject: Reinitiation of Formal Consultation on the Sacramento International Airport Terminal Modernization Project in Sacramento County, California

Dear David Kessler:

This letter is in response to the Federal Aviation Administration's (FAA) October 4, 2024, request for reinitiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on the Sacramento International Airport Terminal Modernization Project (original project) in Sacramento County, California. The Service issued a biological opinion on February 27, 2008 (Service File Number 81420-2008-F-0528-1; 2008 biological opinion). The FAA requested reinitiation of consultation to modify the original project and incorporate the proposed Sacramento County/Watt EV Commercial Charging Center Project (proposed project). At issue are the proposed project's effects on the federally threatened giant garter snake (*Thamnophis gigas*) (snake). This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq*.) (Act), and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402).

The federal actions on which we are consulting is the FAA's approval of a change in land use from aeronautical to non-aeronautical use pursuant to 49 U.S.C. § 47107 and the unconditional approval of the portion of the Airport Layout Plan for the airport depicting the proposed improvements pursuant to 49 U.S.C. § 47107(a)(16)(B),(x). Pursuant to 50 CFR 402.12(j), you submitted a biological assessment for our review and requested concurrence with the findings presented therein. These findings conclude that the proposed project may affect, and is likely to adversely affect the snake.

The FAA requested reinitiation of consultation due to changes in the original project description. The original project analyzed in the 2008 biological opinion included the construction of a new Terminal B and related facilities to replace the existing Terminal B at the Sacramento International Airport, as well as the construction of two new parking lots for airport parking. This included the construction of a 5,000-space long-term automobile parking lot on airport property that would have covered approximately 33.9 acres, which was not built. The applicant, the Sacramento County Department of Airports, is now proposing to replace this part of the

original project with the proposed Sacramento County/Watt EV Commercial Charging Center. All other elements of the original project from 2008 have already been constructed or are otherwise not part of this reinitiation of the 2008 biological opinion on the original project.

In considering your request, we based our evaluation on the following:

1) The 2008 *Biological Opinion on the Sacramento International Airport Terminal Modernization Project in Sacramento County, California* (Service File Number 81420-2008-F-0528-1).

2) The October 4, 2024, letter requesting reinitiation of formal consultation for the proposed project to analyze the impacts of the new project design.

3) The October 2024 *Biological Assessment for Reinitiating Consultation on the Sacramento International Airport Terminal Modernization Project* (2024 biological assessment).

4) Other information available to the Service.

The remainder of this document provides our biological opinion on the effects of the proposed project on the snake.

Consultation History

October 1, 2007:	The Service received the September 28, 2007, letter and original biological assessment from the FAA requesting initiation of section 7 consultation for the original project for impacts to the snake.
February 27, 2008:	The Service issued the final biological opinion 84120-2008-F-0528-1 for the Sacramento International Airport Terminal Modernization Project.
October 4, 2024:	The Service received a letter and 2024 biological assessment from the FAA requesting reinitiation of the Sacramento International Airport Terminal Modernization Project.
November 18, 2024:	Representatives from the Service and the FAA met to discuss reinitiation details and timelines for the proposed project.

BIOLOGICAL OPINION

Description of the Proposed Action

The proposed project is located south of Interstate 5, immediately south of the Sacramento International Airport. State Route 99 is two miles to the east of the proposed project. The onsite components of the proposed project include the proposed charging center with a rest area and solar array, which will have a project footprint of approximately 112.3 acres, plus 3.36 acres for offsite improvements of the parcel's 139.2 acres. However, only 107.56 acres of land is expected to be impacted as part of the proposed project. Of the 107.56 acres where onsite project components will be constructed, approximately 15.3 acres on the northern part of the site will

house the vehicle charging area and other facilities including a convenience store and visitor center, a maintenance facility, and a single story office building. The solar array in the southern portion of the site will consist of approximately 88.9 acres. A strip of land 200 feet in width along the southwestern and southern boundaries of the proposed project site will remain undeveloped.

The offsite project components for the proposed project will total approximately 3.36 acres and include construction of access improvements along Bayou Way. Direct access to the site of the proposed project will be at six total access points along Bayou Way. Paving and widening improvements at the intersection of Bayou Way and Airport Boulevard and Bayou Way and Power Line will occur, as well as widening portions of Bayou Way to facilitate truck turns and movement. The final offsite component that is proposed is the construction of a powerline connecting the substation switchgear to the Sacramento Municipal Utility District's existing facilities located along Power Line Road.

The duration of construction for the proposed project is expected to be approximately 13 months starting in Spring of 2025. Once constructed, the proposed Watt/EV Commercial Charging Center will be open 24 hours per day, seven days per week. The area beneath the solar panels and adjoining disturbed areas will be hydroseeded with native seed mix. Maintenance for these areas will include mowing and vegetation management.

Conservation Measures

The following is a summary of the proposed conservation measures, as outlined in the biological assessment, to avoid and minimize effects to the snake. The measures listed below include updates to the measures that were proposed as part of the original project as well as additional measures proposed in 2024. Additional measures will also be implemented for standard best practices for stormwater pollution prevention. See the 2024 biological assessment for details on these measures. The conservation measures described below are considered part of the proposed project evaluated by the Service in this biological opinion.

1. SCAS (Sacramento County Airport System) has completed its proposed compensatory mitigation for impacts to the snake from the proposed project by permanently preserving 59 acres for upland snake habitat in the area south of the Reclamation District 1000 West Drainage Canal, west of Powerline Road, and north of the Sacramento River. This land is preserved under a deed restriction to ensure that is preserved in perpetuity as habitat for the snake. This is in addition to the 131 acres proposed as mitigation for future projects proposed under the Airport's Master Plan. This is located within the 460-acre area that is preserved as cultivated foraging habitat for Swainson's hawks (*Buteo swainsoni*).

2. All initial ground-disturbing activities (including grubbing, clearing, and site compaction) of the two proposed parking lots will occur between May 1 and October 1, during the active season for the snake.

3. Pre-construction surveys will be conducted by a qualified, Service-approved biologist. No more than 24 hours prior to the start of site preparation, grading, or construction activities, the sites will be surveyed for the presence of snakes. If construction activities

are idled for two weeks or more, the site will be surveyed again no more than 24 hours prior to the restart of activities.

4. Construction activities will be confined to the minimal area necessary to facilitate construction. Snake habitat (that is, the area between the project footprint and the aquatic ditch habitat) will be flagged and designated for avoidance by all construction personnel and heavy equipment.

5. Movement of heavy equipment to and from the project area will be restricted to established roadways to the extent possible to minimize habitat disturbance.

6. The SCAS or its designated agent will notify the Service's Sacramento Valley Division supervisor at the Sacramento Fish and Wildlife Office upon locating dead, injured, or sick threatened or endangered wildlife species. Written notification will be made and will include the date, time, and location of finding a specimen and any other pertinent information.

7. Upon completion of construction activities, temporary fill or construction debris will removed. If this removal will occur between October 1 and April 30, this material will be inspected by a qualified biologist to assure that snakes are not using it as hibernacula.

8. No plastic, monofilament, jute, or similar erosion control matting that could entangle snakes will be placed on a project site within 200 feet of snake aquatic habitat. Possible substitutions include coconut coir matting, tactified hydroseeding compounds, or other material approved by the Service.

9. Twenty-four hours prior to the commencement of ground-disturbing activity (i.e., clearing, grubbing, or grading) suitable habitat within the project area shall be surveyed for snakes by a qualified biologist. The survey shall include aquatic habitat and 1,650 feet of adjacent uplands surrounding aquatic habitat within the project area. The biologist shall supply a brief written report (including date, time of survey, survey method, name of surveyor and survey results) to the Environmental Coordinator prior to ground disturbing activity.

10. Construction personnel shall receive worker environmental awareness training. This training instructs workers how to recognize snakes and their habitat.

11. If a snake is encountered during active construction, all construction shall cease until the animal has moved out of the construction area on its own or relocated by a qualified biologist. If the animal is injured or trapped, a qualified biologist shall move the animal out of the construction area and into a suitable habitat area. The Service and the Sacramento County Environmental Coordinator shall be notified within 24-hours regarding the encounter.

12. Install exclusion fencing along the entire western and southern perimeters of the work areas to prevent snakes that may be occupying the nearby ditches from entering into active construction zones. Pre-construction surveys will be conducted prior to fence installation. The fencing shall extend to the edge of the bank of the ditches, parallel to

the water line. The exclusion fencing shall consist of silt fence material. Fences shall be installed to a depth of 6 inches below the ground surface to prevent special-status reptiles from going under the fence. Fences shall be installed during the active period for the snake (April – October) and prior to initial grading and deployment of staging equipment. The fence shall remain in place until construction machinery and material are completely removed. Prior to the commencement of daily construction activities, the on-site biological monitor shall conduct a morning pre-construction survey to verify that there are no special-status reptiles in the work area. This survey process shall also include verifying that the fence is in suitable condition. If any repairs are necessary, the monitor shall guide construction personnel in making the necessary repairs.

13. The project proponent shall prepare a snake relocation plan. This relocation plan shall include: a summary of the species and habitat features; identification of habitat suitability in relation to the action area; acceptable methods to capture, handle, and relocate individuals out of the construction area; minimum qualifications for biologists to conduct physical relocation of turtle individuals, if necessary; identification of where salvaged individuals will be relocated and identification of wildlife rehabilitation center or veterinary facility where any injured individuals found within the action area will be taken.

Action Area

The action area is defined in 50 CFR § 402.02, as "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action." For the proposed project, the action area is located in the northwestern portion of Sacramento County, approximately 7.5 miles from downtown Sacramento. The proposed project site is bound by Bayou Way and Interstate 5 to the north, fallow farmland and water tanks to the east, the West Drainage Canal and farmland to the south, and fallow farmland to the west. The main project site where the proposed charging center and associated solar arrays will be constructed is 139.2 acres in size, while the various smaller off-site improvement areas total 3.36 acres, for a total action area of 142.56 acres.

Analytical Framework for the Jeopardy Determination

Section 7(a)(2) of the Act requires that federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species. "Jeopardize the continued existence of" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR § 402.02).

The jeopardy analysis in this biological opinion considers the effects of the proposed federal action, and any cumulative effects, on the rangewide survival and recovery of the listed species. It relies on four components: (1) the *Status of the Species*, which describes the rangewide condition of the species, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which analyzes the condition of the species in the action area without the consequences to the listed species caused by the proposed action, the factors

responsible for that condition, and the relationship of the action area to the survival and recovery of the species; (3) the *Effects of the Action*, which determines all consequences to listed species that are caused by the proposed federal action; and (4) the *Cumulative Effects*, which evaluates the effects of future non-federal activities in the action area on the species. The *Effects of the Action* and *Cumulative Effects* are added to the *Environmental Baseline* and considering the status of the species, the Service formulates its opinion as to whether the proposed action is likely to jeopardize the continued existence of the listed species.

Status of the Species

For the most recent comprehensive assessment of the species' rangewide status, please refer to the *Giant Gartersnake (Thamnophis gigas) 5-Year Review: Summary and Evaluation* (Service 2020) and the *Recovery Plan for the Giant Garter Snake* (Thamnophis gigas) (Service 2017). No change in the species' listing status was recommended in this 5-year review. Threats evaluated during the review and discussed in the final document have continued to act on the species since the 2020 5-year review was finalized, with loss of habitat being the most significant effect. While there have been continued losses of snake habitat throughout the various recovery units, including the Natomas Basin Management Unit within the American Basin Recovery Unit where the proposed project is located, to date no project has proposed a level of effects for which the Service has issued a biological opinion of jeopardy for the species. The Service is in the process of finalizing its most current 5-year review for the species.

Environmental Baseline

Environmental baseline refers to the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or designated critical habitat caused by the proposed action. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions that are contemporaneous with the consultation in process. The impacts to listed species or designated critical habitat from federal agency activities or existing federal agency facilities that are not within the agency's discretion to modify are part of the environmental baseline.

The action area is located within the current range of the snake (Service 2020). The proposed project is located in the Natomas Basin Management Unit within the American River Basin Recovery Unit (Service 2017). There are 55 observations of the snake within 5 miles of the proposed project site (Diversity Database 2024). Of the 55 records, 38 are located within the Natomas Basin. The proposed project site has been maintained by the Sacramento County Department of Airports (what was known as the Sacramento County Airport System at the time of the original 2008 consultation) for many years consistent with their obligations to minimize land use that could attract hazardous movements of wildlife that could present a hazard to aviation. These maintenance tasks include mowing and vegetation management of the proposed project site. There have been no documented observations of the snake at the proposed project site.

The proposed project site consists of land that was previously used for agricultural production though agricultural use of the site has not occurred since the early 2000s. In a July 2024 survey

conducted by the consultants, it was determined that the grassland habitat that overlaps the central offsite area of the proposed project is marginal upland habitat for the snake. It was designated as marginal because it is within 200 feet of suitable aquatic habitat, but there are minimal refugia in the area for snakes to use during the inactive season of the snake. This was consistent with what was originally determined for the 2008 biological opinion. Aquatic habitat also occurs in the vicinity of the proposed project site, from which snakes could disperse into the uplands in search of brumation and terrestrial prey. The ditch along the east side of Power Line Road was previously determined as suitable aquatic habitat in the 2008 biological opinion, and the consultants determined during the July 2024 survey that this has not changed. The Western Drainage Ditch to the south and the ditch to the west of the project site have been classified as marginal aquatic habitat. The ditch to the north of the proposed project did not have water during a July 24, 2024, survey or during the follow-up survey on August 13, 2024, and was considered to be unsuitable aquatic habitat for the snake. All of the area within the proposed project development area has been classified as upland snake habitat by the applicant (Figure 1).

The proposed project site is located approximately one mile northwest of a block of preserves managed by the Natomas Basin Conservancy for the benefit of various protected species including the snake. These preserves are located near Fisherman's Lake, which is approximately one mile southeast of the proposed project. Fisherman's Lake provides important habitat for the snake and provides connectivity to the Reclamation District 1000 West Drainage canal, which is located approximately 200 feet south of the southern extent of the solar array of the proposed project.

Based on the presence of suitable habitat for the snake within the action area, nearby occurrences, and additional suitable snake habitat nearby, it is reasonably likely that the snake may be present within the action area.

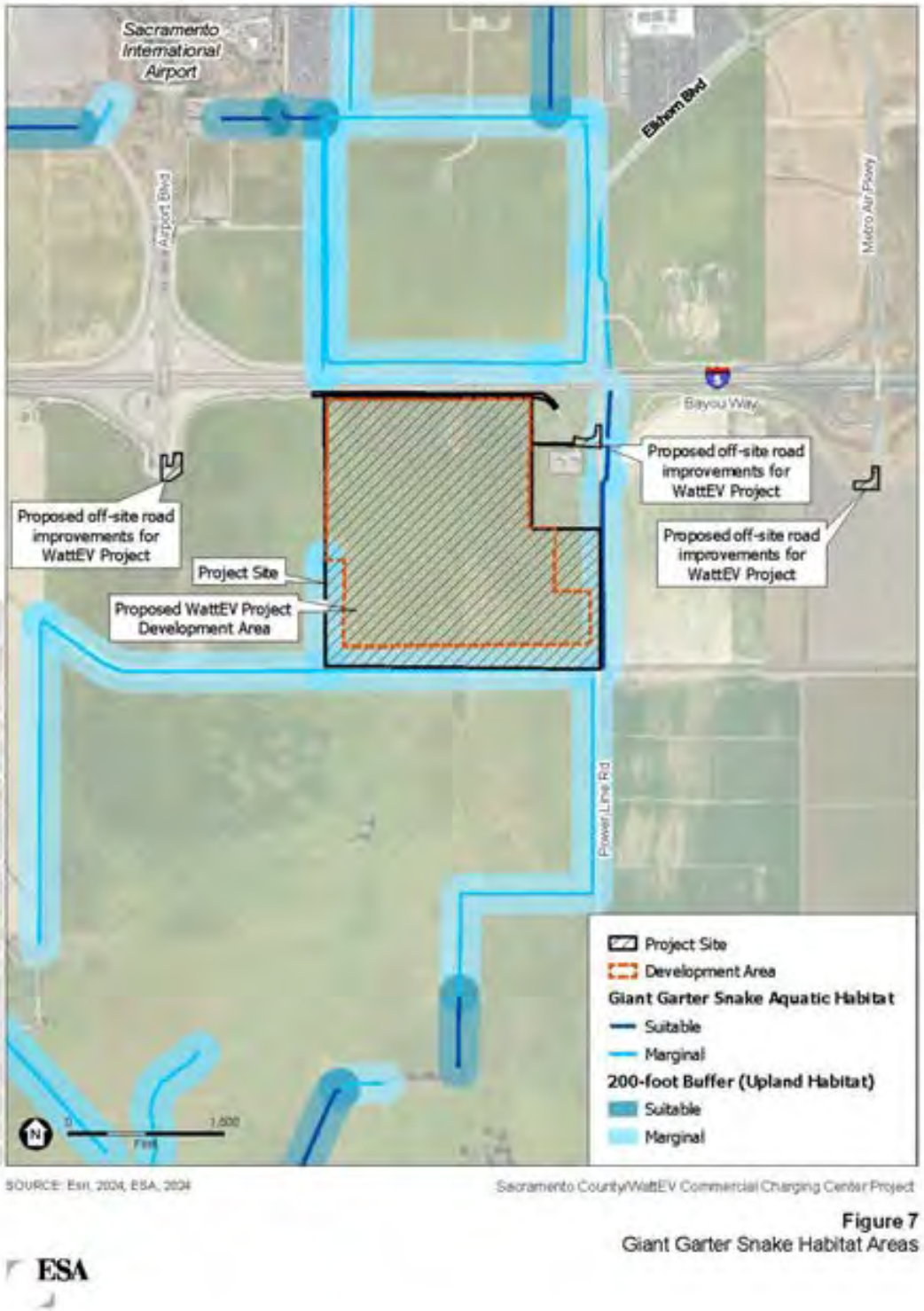


Figure 1. Giant garter snake habitat map from the 2024 biological assessment, depicting marginal and suitable snake habitat.

Effects of the Action

Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action but are not part of the action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action.

There is risk of harm, injury, and mortality to the snake as a result of the proposed construction activities, the permanent and temporary loss of suitable habitat, and capture and relocation efforts. Construction of the proposed project will result in the permanent loss of 19.31 acres of snake upland habitat, which will be entirely paved over or removed by the installation of objects in a manner that will eliminate its functionality as snake upland habitat for either movement or refugia for the species. This includes 15.3 acres from the commercial charging center/rest area, 0.61 acre from the solar field and the post supports for the solar arrays, 0.002 acre from the connecting powerline utility pole installation, and 3.4 acres from the offsite improvements.

The solar field will affect a total of 88.9 acres, resulting in shading of upland habitat that will affect suitability of the area for thermoregulation of snakes. The continued mowing and maintenance that will occur in this area could also result in snake injury or mortality from crushing from the maintenance equipment. The loss of upland habitat due to the proposed project may result in the snake moving to other areas to find refugia, resulting in increased energy expenditure and greater exposure to predators. However, due to the minimal presence of upland refugia for the snake the Service expects the likelihood of snakes being in the area where the solar arrays will be installed to be very low.

The process of capture and relocation may cause some stress to the snake but overall will be beneficial to the snake in order to move it away from construction activities and minimize the risk of injury or mortality.

The construction schedule for the proposed project is expected to take place during the active period of the snake (May 1–October 1), when the snake will be able to move out of harm's way of potential construction activities such as construction vehicles that could crush snakes. Nearly all the construction and ground disturbance activities will occur more than 200 feet away from suitable aquatic habitat, and no construction activities are proposed within aquatic habitat. Limited refugia for the snake was observed in the upland areas within the proposed project site, and it is expected that these conditions will remain the same since the site is currently mowed and actively maintained. While there is upland habitat within 200 feet of aquatic habitat that will be impacted as part of the proposed project, recent studies have indicated that snakes are most likely to be found within 20 meters of water, lessening the likelihood that snakes will be impacted by the construction of the proposed project (Halstead et al. 2015). Some potential impacts of the construction on the snake may include entrapment in refugia or being crushed by construction vehicles if a snake is unable to move out of the way. The availability of nearby suitable snake habitat provides additional areas for snakes to move to, limiting the impacts of the proposed project construction on the snake. Due to the limited upland refugia, availability of nearby suitable snake habitat, and the proposed conservation measures, the Service expects the number of snakes adversely affected by the proposed project will be low.

As noted previously in the *Description of the Proposed Action* section, the project proponent has proposed a set of conservation measures, including the commitment to provide compensatory habitat for the snake as a condition of the action. This compensatory habitat is intended to minimize the effect on the species, resulting from the permanent loss of habitat described above. The compensatory habitat proposed has already been completed through the protection of a 59-acre area previously acquired and preserved by the Sacramento County Department of Airports south of the action area. This preserved area is protected with a deed restriction and has a management plan in place. This component of the action will have the effect of protecting and managing lands for the species' conservation in perpetuity. The compensatory land will provide suitable habitat for breeding, feeding, or sheltering commensurate with or better than habitat lost because of the proposed project.

Cumulative Effects

Cumulative effects include the effects of future non-Federal actions that are reasonably certain to occur in the action area considered in this biological opinion. Future federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. During this consultation, the Service did not identify any future non-federal actions that are reasonably certain to occur in the action area of the proposed project.

Conclusion

After reviewing the current status of the snake, the environmental baseline for the action area, the effects of the proposed Sacramento International Airport Terminal Modernization Project reinitiation, and the cumulative effects, it is the Service's biological opinion that the Sacramento International Airport Terminal Modernization Project reinitiation, as proposed, is not likely to jeopardize the continued existence of the snake. The Service reached this conclusion because the project-related effects to the species, when added to the environmental baseline and analyzed in consideration of all potential cumulative effects, will not rise to the level of precluding recovery or reducing the likelihood of survival of the species based on the following:

1) The amount of snake habitat permanently lost represents a small portion of snake habitat available within the American Basin Recovery Unit and a much smaller portion of the habitat available to the snake range wide;

2) Implementation of the proposed conservation measures will further avoid and minimize adverse effects to the snake; and

3) The completed compensatory mitigation will offset impacts to the snake from the proposed project and ensure that habitat for the snake will be protected and managed in perpetuity.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by Service regulations at 50 CFR 17.3 as an intentional or

negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the same regulations as an act which actually kills or injures wildlife. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act if such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary and must be undertaken by the FAA so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. The FAA has a continuing duty to regulate the activity covered by this incidental take statement. If the FAA (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the FAA must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement (50 CFR §402.14(i)(3)).

Amount or Extent of Take

The Service anticipates that incidental take of the snake will be difficult to detect or quantify because individual snakes are secretive and use underground burrows for shelter year-round. Not all injured or dead snakes may be detected as they may be entombed underground, or an injured snake may leave the action area without being seen. There is a risk of harm, injury, and mortality as a result of the proposed construction activities, capture and relocation of snakes, and the permanent and temporary loss/degradation of suitable habitat. In instances in which the total amount of take of individuals cannot be determined, the Service may quantify take in the amount of lost or disturbed habitat as a result of the proposed project; since take is expected to result from these effects to habitat, the quantification of habitat becomes a direct surrogate for take of the species. Therefore, the Service anticipates that within the action area, all snakes inhabiting the 19.31 acres of suitable upland habitat that will be permanently lost may be subject to incidental take in the form of harm, injury or death. Although it is infeasible to quantity the exact number of snakes that may be subject to incidental take, the Service anticipates that the number will be low based on the expectation that few snakes will be encountered due to the minimal presence of upland refugia and other nearby suitable snake habitat.

Since we cannot estimate the number of individual snakes that will be subject to incidental take for the reasons listed above, we are providing a mechanism to quantify when take would be considered exceeded as a result of implementing the proposed project. We will use detection of one (1)

dead or injured snake to determine when take is exceeded. We are basing this limit on the fact that the affected upland habitat has minimal refugia so we expect few snakes to be found in this area, construction activities will occur during the snake's active season providing an opportunity

for the snake to move out of the construction area, and no snakes have been observed within the action area during surveys. By setting these thresholds, we have set an incidental take limit that is measurable, irrefutable, and indicates that the snake is being affected at a level where conservation measures and project implementation need to be evaluated and possibly modified. We conclude that incidental take of the snake will be considered exceeded if one dead or injured snake is detected by biological monitors or other project personnel or two snakes are captured, handled, and relocated by a qualified biologist.

Upon implementation of the following reasonable and prudent measure, incidental take of the snake associated with the Sacramento International Airport Terminal Modernization Project will become exempt from the prohibitions described in section 9 of the Act. No other forms of take are exempted under this opinion.

Effect of the Take

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species.

Reasonable and Prudent Measures

All necessary and appropriate measures to avoid or minimize effects on the snake resulting from implementation of this proposed project have been incorporated into the project's proposed conservation measures. Therefore, the following reasonable and prudent measure is necessary and appropriate to minimize incidental take of the snake:

1) All conservation measures, as described in the biological assessment and restated here in the *Description of the Proposed Action* section of this biological opinion, shall be fully implemented, and adhered to. Further, this reasonable and prudent measure shall be supplemented by the terms and conditions below.

Terms and Conditions

To be exempt from the prohibitions of section 9 of the Act, the FAA must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

1) The FAA shall require that all personnel associated with this proposed project are made aware of the conservation measures and the responsibility to implement them fully.

2) In order to monitor whether the amount or extent of incidental take anticipated from implementation of the proposed project is approached or exceeded, the FAA will adhere to the following reporting requirement. Should the anticipated amount or extent of take be exceeded, the FAA must immediately reinitiate formal consultation, as per 50 CFR §402.16.

    a. For those components of the action that will result in habitat degradation or modification whereby incidental take in the form of harm is anticipated, the FAA shall provide a precise accounting of the total acreage of habitat impacted to the Service after completion of construction.

b. The FAA shall immediately contact the Service's Sacramento Fish and Wildlife Office at (916) 414-6600 to report direct encounters between listed species and project workers and their equipment whereby incidental take in the form of harm, injury, or death occurs. If the encounter occurs after normal working hours, the FAA shall contact the Sacramento Fish and Wildlife Office at the earliest possible opportunity the next working day. When injured or killed individuals of the listed species are found, the FAA shall follow the steps outlined in the Salvage and Disposition of Individuals section below.

c. For those components of the action that will require the capture and relocation of any listed species, the FAA shall immediately contact the Sacramento Fish and Wildlife Office at (916) 414-6600 to report the action. If capture and relocation need to occur after normal working hours, the FAA shall contact the Sacramento Fish and Wildlife Office at the earliest possible opportunity the next working day.

Salvage and Disposition of Individuals:

Injured listed species must be cared for by a licensed veterinarian or other qualified person(s), such as the Service-approved biologist. Dead individuals must be sealed in a resealable plastic bag containing a paper with the date and time when the animal was found, the location where it was found, and the name of the person who found it, and the bag containing the specimen frozen in a freezer located in a secure site, until instructions are received from the Service regarding the disposition of the dead specimen. The Service contact person is the Sacramento Valley Division Supervisor at the Sacramento Fish and Wildlife Office at (916) 414-6492.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The Service recommends the following actions:

1) The FAA should work with the Service to assist in meeting the goals of the recovery plan for the snake.

For the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION—CLOSING STATEMENT

This concludes formal consultation on the Sacramento International Airport Terminal Modernization Project reinitiation on the giant garter snake. As provided in 50 CFR §402.16(a), reinitiation of consultation is required and shall be requested by the federal agency where discretionary federal involvement or control over the action has been retained or is authorized by law, and:

1) If the amount or extent of taking specified in the incidental take statement is exceeded;

2) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;

3) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion or written concurrence; or

4) If a new species is listed or critical habitat designated that may be affected by the identified action.

If you have any questions regarding this biological opinion, please contact Rachel Smaby, Fish and Wildlife Biologist (rachel_smaby@fws.gov) or Megan Cook, Sacramento Valley Division Supervisor (megan_cook@fws.gov), at the letterhead address or at (916) 414-6612 or (916) 414-6492 or both.

Sincerely,

Kim S. Turner
Acting Field Supervisor

cc:
David Wickens, FAA, Walnut Creek, California

Amy Choi, FAA, Walnut Creek, California

Glen Rickelton, Sacramento County Department of Airports, Sacramento, California

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D2 Biological Assessment

SACRAMENTO COUNTY/WATTEV COMMERCIAL CHARGING CENTER

Biological Assessment for Reinitiating Consultation on the Sacramento International Airport Terminal Modernization Project

Prepared for
Federal Aviation Administration

October 2024



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Acronyms and Other Abbreviations

Abbreviation	Definition
BESS	Battery Energy Storage System
BGS	Below Ground Surface
BMP	Best Management Practice
BO	Biological Opinion
BRD	USGS Biological Resources Division
CCS	Combined Charging Standard
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CNDDB	California Natural Diversity Database
DCFC	Direct Current Fast Chargers
DERA	Sacramento County Department of Environmental Review and Assessment
ESA	Environmental Science Associates
EIR	Environmental Impact Report
EV	Electric Vehicle
FAA	Federal Aviation Administration
FESA	Federal Endangered Species Act
FR	Federal Register
GGS	Giant Garter Snake
HCP	Habitat Conservation Plan
I-5	Interstate 5
kV	Kilovolt
LID	Low Impact Development
MCS	Megawatt Charging Standard
MHD	Medium- and Heavy-Duty
MVA	Megavolt Ampere
MWac	Megawatt alternating current
MWdc	Megawatt of direct current
NCC	Natomas Cross Canal
NEMDC	Natomas East Main Drainage Canal
NHFN	National Highway Freight Network
NHFP	National Highway Freight Program
NWPT	Northwestern Pond Turtle
PAR	Project Analysis Record

Abbreviation	Definition
PV	Photovoltaic
RD	Reclamation District
SCADA	Supervisory Control and Data Acquisition
SCAS	Sacramento County Airport System
SCDA	Sacramento County Department of Airports
SMF	Sacramento International Airport
SMUD	Sacramento Municipality Utility District
SR-99	State Route 99
SWPPP	Stormwater Pollution Prevent Plan
TMP	Terminal Modernization Project
TNBC	The Natomas Basin Conservancy
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1 Introduction

1.1 Purpose of Reinitiation of Consultation

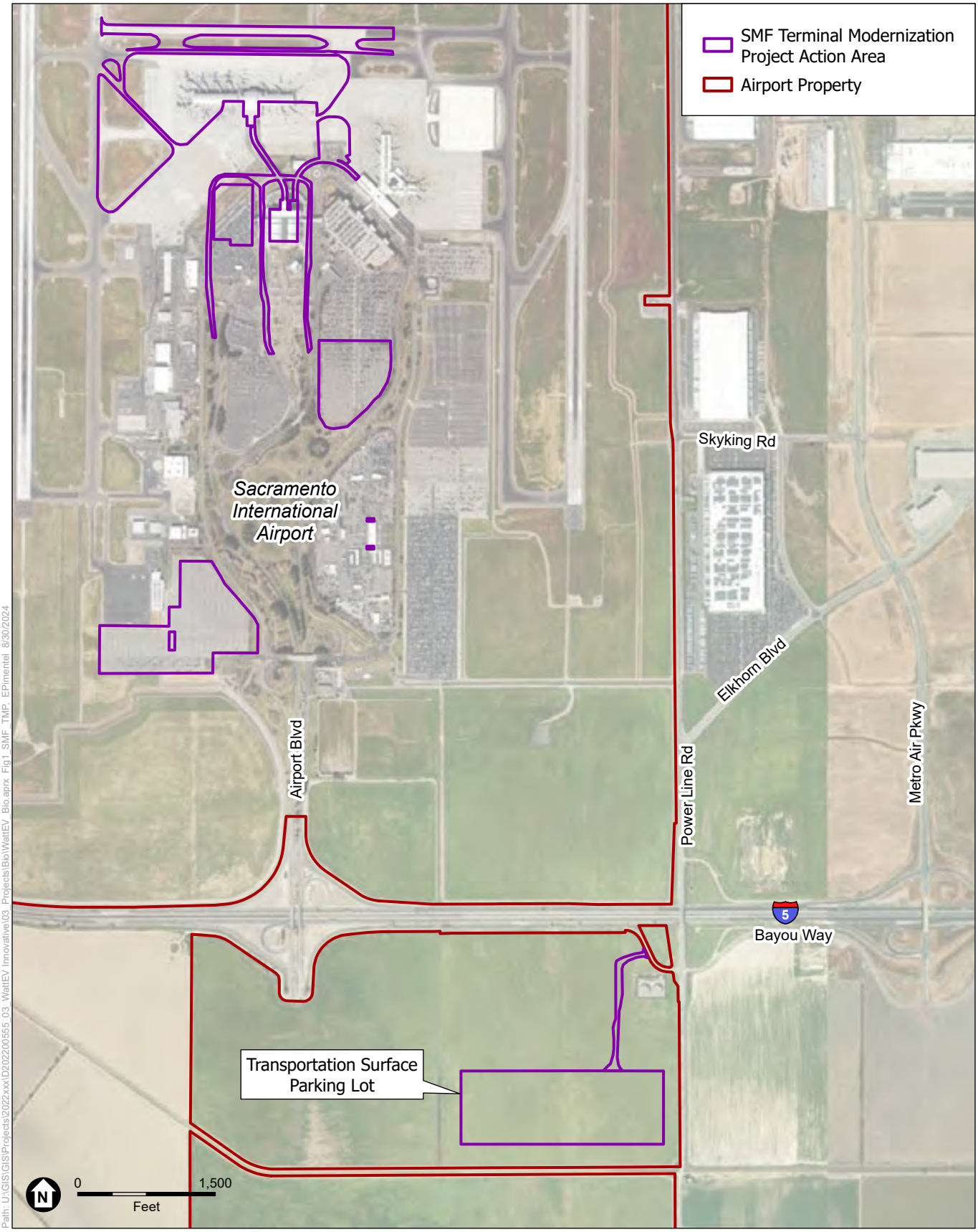
This biological assessment (BA) supports a reinitiation of formal Section 7 consultation between the Federal Aviation Administration (FAA) and the U.S. Fish and Wildlife Service (USFWS) for a discrete element of the 2008 Sacramento International Airport Terminal Modernization Project (TMP). Per Title 50, Code of Federal Regulations (CFR) § 402.16, reinitiation of consultation by a Federal agency with the USFWS is required when discretionary Federal involvement or control over an action has been retained or is authorized by law, and:

1. If the amount or extent of taking specified in the incidental take statement is exceeded;
2. If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;
3. If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion or written concurrence; or
4. If a new species is listed or critical habitat designated that may be affected by the identified action.

USFWS issued a Final Biological Opinion (BO) for the TMP project in 2008 (81420-2008-F-0528-1; see Appendix A of this BA). That BO considered a number of elements that made up the proposed TMP. The purpose of this reinitiation of formal Section 7 consultation is to provide an updated description and analysis for a single element of the larger and previously evaluated TMP project described in the TMP BA from 2007 and to reconsider the analysis of the updated element's potential effects on federally threatened and endangered species and their designated critical habitats. The updated proposed project element is limited to replacing a previously described proposed 33.9-acre paved Transportation Surface Parking Lot (which has not been constructed) south of Interstate 5 (I-5) with the 139.2 WattEV Commercial Charging Center Project, 20.31 acres of which would be entirely paved over and/or removed by installation of physical objects in such a manner that it would completely eliminate its functionality as garter snake upland habitat for either movement or as refugia for the species, (the updated proposed project element), located within Sacramento County, California. All other elements of the proposed TMP project as evaluated in the 2007 BA and the 2008 BO remain the same and would not be affected by this updated proposed project element. As such, the subject of this reinitiation of Section 7 consultation and this BA is limited to the previously considered Transportation Surface Parking Lot site south of I-5. This reinitiation of formal Section 7 consultation is prepared in accordance with legal requirements of the Federal Endangered Species Act (16 U.S.C. 1536 (c); ESA) and its implementing regulations (50 CFR § 402.12).

1.2 Background on Sacramento International Airport TMP and Its Development to Date

The 2008 Final BO for the Sacramento International Airport TMP covered the construction of several new facilities at the Sacramento International Airport that were designed to provide adequate capacity to accommodate a forecasted increase in travel to and from the Sacramento region (original proposed action). **Figure 1** shows the TMP action area that was evaluated in the 2008 BO. As shown in the figure, most of these new improvements related to a new Terminal B at the airport and to areas in the immediate vicinity of



SOURCE: Esri, 2024; ESA, 2024

Sacramento County/WattEV Commercial Charging Center Project

Figure 1
SMF Terminal Modernization Project Action Area (2008)

the terminal area. The TMP also covered construction of a new 25.1-acre paved Employee Parking Lot on airport property located north of Interstate 5 (I-5) and a 33.9-acre paved Transportation Surface Parking Lot (for airport passengers) on airport property located south of I-5 to provide parking in replacement for the parking removed by

construction of Terminal B. Shuttles would have transported passengers from the Transportation Surface Parking Lot to the airport terminals. In the 2008 BO, the USFWS concurred with the analysis that only the TMP construction associated with the Employee Parking Lot and Transportation Surface Parking Lot would have the potential to affect habitat for giant garter snake. In other words, the construction associated with development of the new Terminal B itself (approximately 1.5 miles north of the two proposed parking lots) would not affect habitat for giant garter snake or other terrestrial species protected under the Federal Endangered Species Act. The BO issued on February 27, 2008, concluded that these two parking areas would result in conversion (i.e., paving) of up to 59 acres of upland habitat for the giant garter snake.

Following the issuance of the Final BO, both the new Terminal B facilities and the 25.1-acre Employee Parking Lot north of I-5 have been constructed. **However, the airport property located south of I-5 where the 33.9-acre paved Transportation Surface Parking Lot was planned has remained undeveloped.** The updated proposed project element that is the subject of this BA concerns this parcel only, and other elements of the larger TMP project that have already been constructed are not discussed further.

1.3 Consultation to Date

The following provides a chronology of the FAA's consultation efforts to date for the Sacramento International Airport TMP.

September 14, 2007: Jana Milliken of the USFWS met with representatives from the FAA, Sacramento County Department of Airports (SCDA),[1] and their consultants to discuss the project. It was explained that for the purposes of section 7 consultation and analysis pursuant to the National Environmental Policy Act (NEPA), the proposed action was being analyzed separately from the other components of the Sacramento International Airport Master Plan Master Plan project.

September 18, 2007: The USFWS received a September 14, 2007, letter from the U.S. Army Corps of Engineers, which stated that no waters of the U.S. would be impacted and that a Department of Army permit would not be required for the proposed project.

October 1, 2007: The USFWS received the September 28, 2007, letter and Biological Assessment (BA) from the FAA requesting initiation of section 7 consultation for the proposed project. The FAA requested that the USFWS concur that the project would not be likely adversely affect the snake, but if the USFWS concluded that the project would be likely to adversely affect the snake, then formal consultation should proceed.

[1] At the time of the original consultation, what is now the Sacramento County Department of Airports (SCDA) was known as the Sacramento County Airport System (SCAS). To avoid confusion, the current nomenclature is used here.

October 10, 2007: The USFWS received the October 5, 2007, revision from the FAA to Figure 8 of the BA.

October 18, 2007: Jana Milliken of the USFWS toured the project site with representatives of the SCDA, FAA, and their consultants. Among the sites visited were the sites for the new terminal facility and the two new parking lots, which included the action area under consideration in this reinitiation.

October 25, 2007: Jana Milliken, Eric Tattersall, and Cay Goude of the USFWS had a phone conversation with Greg Rowe of the SCDA and explained that the USFWS could not concur with the FAA's determination that the project was "not likely to adversely affect" the giant garter snake.

November 18, 2007: Jana Milliken and Eric Tattersall of the USFWS, met with FAA, SCDA, their consultants, and the CDFW to discuss the project.

November 29, 2007: The USFWS received the November 28, 2007, letter from the FAA requesting an extension of the informal consultation period to December 28, 2007.

December 20, 2007: Representatives from the USFWS, the Department of the Interior Solicitors Office, FAA, SCDA, and CDFW met to discuss the proposed project. The proposed project's effects on the NBHCP and the giant garter snake were discussed.

February 6, 2008: Representatives from the USFWS, FAA, and SCDA met to discuss suggested language regarding the mechanism for funding management of the proposed compensatory mitigation area and other issues.

February 27, 2008: The USFWS issued the final Biological Opinion 81420-2008-F-0528-1 for the Sacramento International Airport Terminal Modernization Project.

June 26, 2008: SCDA and FAA submitted a confirmation letter and multiple documents required by the Biological Opinion to the USFWS. The documents included:

- The final Upland Habitat and Management Plan (UHMP), dated June 9, 2008 (proposed UHMP, dated April 29, 2008, was originally sent May 5, 2008).
- A one-year Project Analysis Record (PAR) (sent May 13, 2008, revised May 22, 2008).
- Documentation of the establishment of a Trust Account (sent May 13, 2008).
- Documentation of Third-Party Monitoring by Sacramento County Department of Environmental Revie/w and Assessment (DERA) (sent May 19, 2008).
- Declaration of Covenants and Restrictions ("Deed Restriction") for Upland Habitat Designated Compensation Area (sent May 27, 2008).
- Legal Description and Map of Property for the Deed Restrictions (sent June 3, 2008; these are Exhibits A and B, respectively, to the Deed Restriction).
- Preliminary Title Report for the Property (sent June 4, 2008).

July 15, 2008: The USFWS confirmed receipt of project description modification for the Sacramento International Airport Terminal Modernization Project to increase the acreage of the Employee Parking Lot from 13.8 acres to 25.1 acres and decrease the acreage of the Transportation Surface Parking Lot from 45.2 acres to 33.9 acres.

2 Action Area

The action area for this reinitiation of consultation is restricted only to the previously proposed 33.9-acre paved Transportation Surface Parking Lot site south of I-5. All other elements of the TMP that were considered in the 2008 BO have already been constructed or are otherwise not a part of this reinitiation of consultation effort.

The action area is defined in 50 CFR § 402.02, *as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action."* The action area for this reinitiation effort is located in the northwest portion of Sacramento County, approximately 7.5 miles from downtown Sacramento. **Figure 2** shows the regional location of the project site. **Figure 3** provides a detailed view of the project area, with the action area delineated.

The proposed WattEV Commercial Charging Center Project site is located south of I-5, immediately south of Sacramento International Airport (SMF). State Route (SR)-99 lies two miles to the east. The project site is bounded by Bayou Way and I-5 to the north, fallow farmland and water tanks that are a part of the airport's water system to the east, the West Drainage Canal and farmland to the south, and fallow farmland to the west. The site generally covers APNs 225-0010-003, 225-0010-006, 225-0010-009, 225-0010-010, 225-0010-017, 225-0010-021, 225-0010-035, and 225-0010-036. The main project site where the proposed WattEV charging center and associated solar arrays would be constructed is 139.2 acres in size, while the various smaller off-site improvement areas total 3.36 acres. Each of these project components are described later in this document.

The proposed project's actual footprint would be 112.3 acres plus 3.36 acres for the off-site roadway improvement areas and is larger than the previously described project footprint of the formerly proposed 33.9-acre Transportation Surface Parking Lot evaluated in the 2008 BO. However, the amount of upland habitat removal associated with the proposed WattEV Commercial Charging Center Project would only be 19.27 acres. **Figure 4** provides a comparative view of the previous and current action areas.

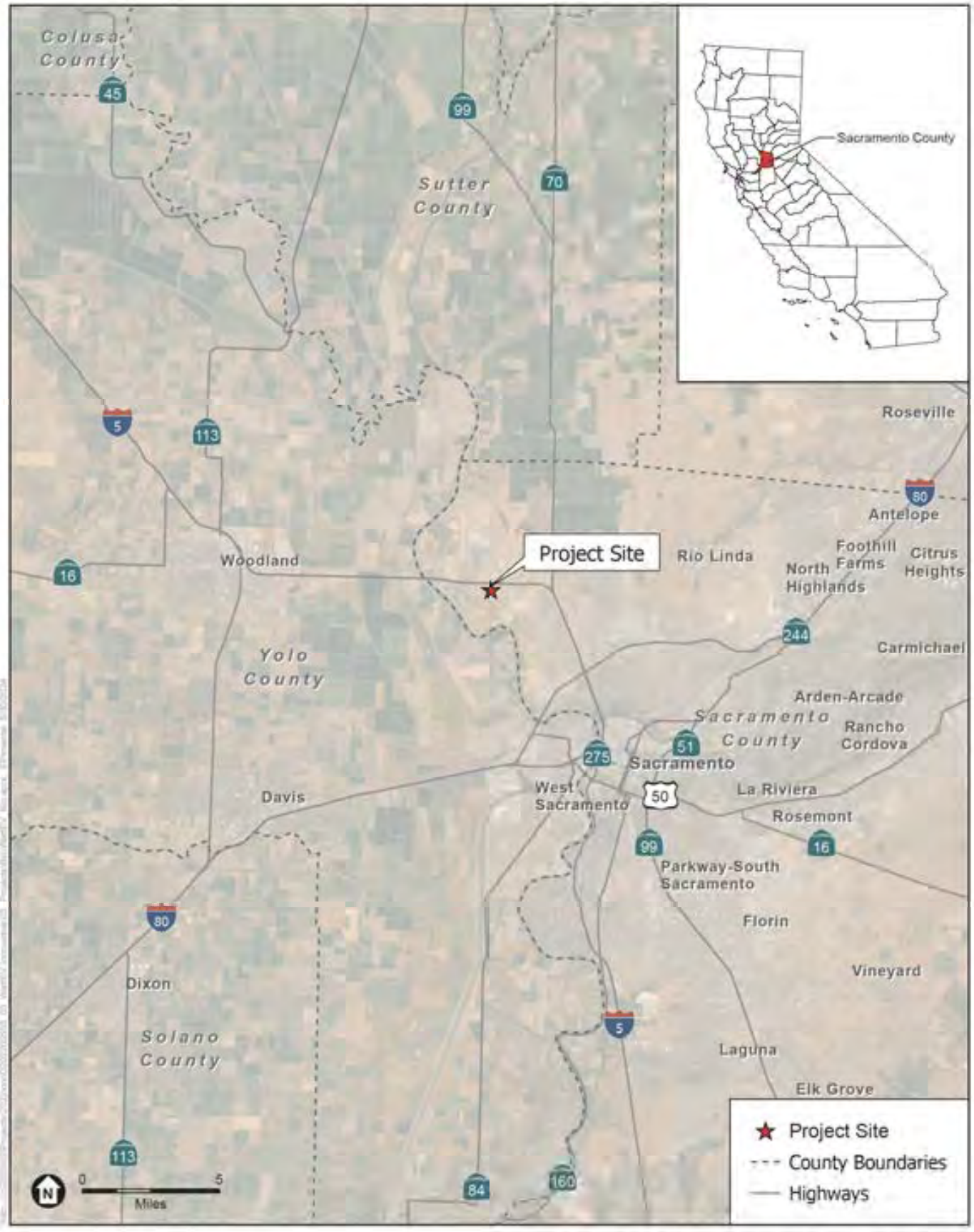
3 Description of the Proposed Project

This chapter describes the TMP project element that is proposed for updating, including a general background discussion, the project's purpose and need, the general project location, a summary of project components, and the construction methodology and schedule.

3.1 WattEV Commercial Charging Center Project Background

California's Advanced Clean Truck regulations[2] require that manufacturers of commercial vehicles start selling electric trucks in the State starting in 2024 and sell only electric trucks in California by 2045 (ARB, 2023). The State of California expects that this regulation will result in 100,000 zero-emission trucks on California roadways by 2030, and 300,000 by 2035. Furthermore, California recently adopted a

[2] The Advanced Clean Truck regulations can be found at California Code of Regulations (CCR) 13 CCR 1963-1963.5 and 13 CCR 2012-2012.3. This information cab found at https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks/advanced-clean-trucks-regulation-advisories.

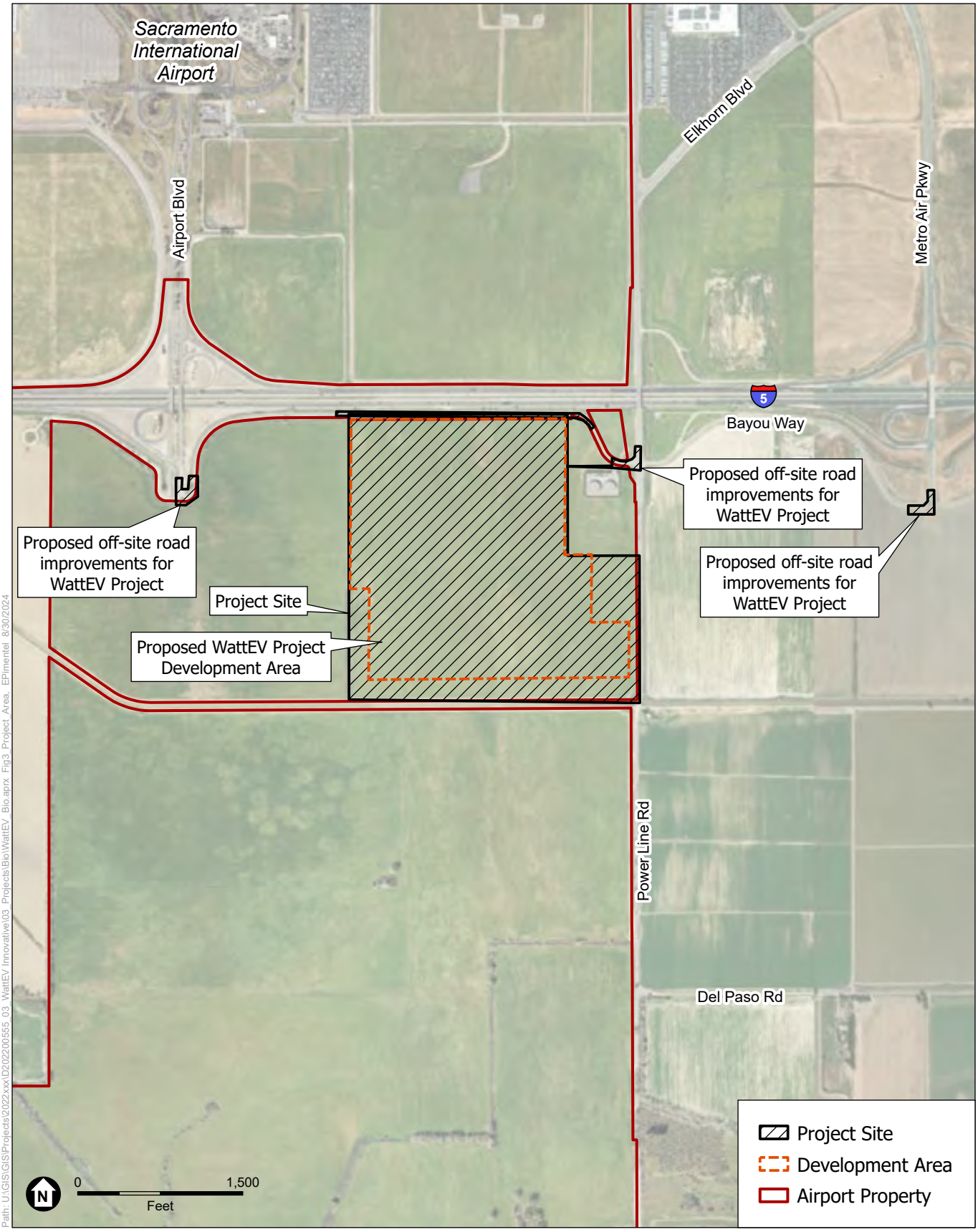


SOURCE: Esri, 2024; ESA, 2024

Sacramento County/WattEV Commercial Charging Center Project

Figure 2
Regional Location

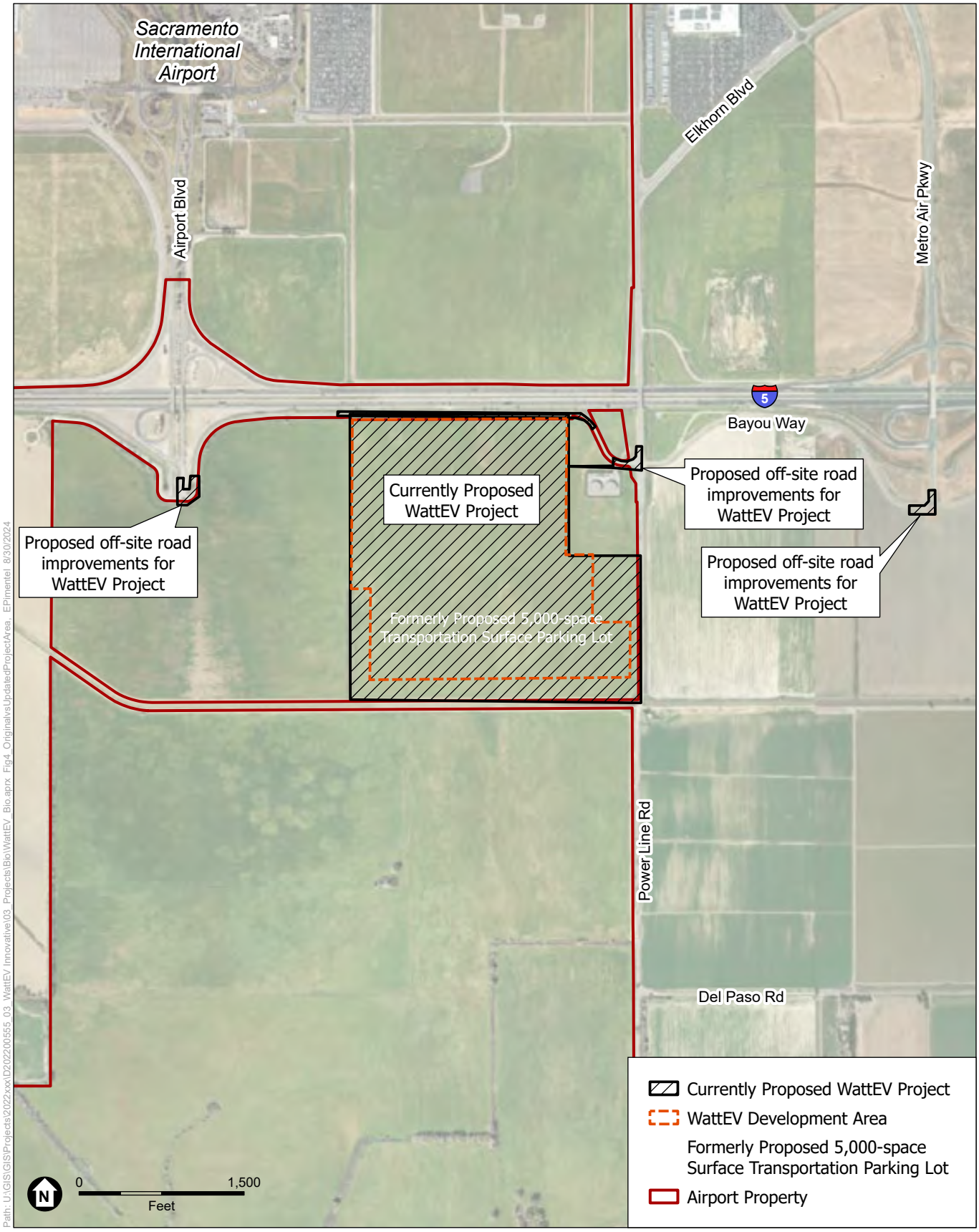
ESA



SOURCE: Esri, 2024; ESA, 2024

Sacramento County/WattEV Commercial Charging Center Project

Figure 3
Project Area



SOURCE: Esri, 2024; ESA, 2024

Sacramento County/WattEV Commercial Charging Center Project

Figure 4
Original vs Updated Project Area

rule requiring that all new automobiles and light trucks sold in the state be zero-emission vehicles, including plug-in electric vehicles, by 2035 (ARB, 2022). While the exact number of zero-emission vehicles on California roadways by 2035 from implementation of this rule is difficult to predict, the State of California expects it to result in a substantial increase in the number of zero-emission vehicles on California roads. Given these mandates, additional electrical charging infrastructure statewide will be required.

3.2 Purpose and Need

The purpose of the proposed WattEV Commercial Charging Center Project is to develop a charging facility for electric vehicles in the Sacramento area that is accessible and convenient to major freight and transportation corridors that meets the objectives and evaluation criteria of the California Transportation Commission's Trade Corridor Enhancement Program and supports the goals of the National Highway Freight Program (NHFP), the California Freight Mobility Program, and the California Sustainable Freight Action Plan. The proposed project would cogenerate green energy onsite to support a large portion of the EV charging demand at the new facility. Additionally, there is an unmet demand for equitable access to zero emission technology for small carriers and independent freight vehicle owner operators, private EV automobiles, and EV charging facilities in general. The proposed project would contribute to the infrastructure needed to serve the expected increase in electric trucks and vehicles on California roads in the future. When constructed, the proposed project would be the largest electrical truck charging station in North America, and it would also provide charging facilities for private passenger vehicles.

The need for the proposed project is to reduce vehicle generated air pollutant emissions and to support a large portion of the EV charging demand in the Sacramento region adjacent to the major freight and travel corridors that traverse the area, as well as Airport visitors. The areas immediately adjacent to the proposed project site have some of the highest diesel pollution and environmental burden in the region according to the CalEnviroScreen 4.0 screening tool. Provision of a zero-emissions charging facility on the site will provide greater deployment of zero emissions vehicles in the area, particularly in the medium- and heavy-duty (MHD) sector, with resultant decreases in diesel emissions. Passenger vehicles would also be accommodated at the facility, further reducing internal combustion engine emissions by automobiles using I-5 and other regional roadways.

The project is being developed by WattEV, in partnership with Sacramento County. To achieve the stated purpose and need, the proposed project requires:

- A site in Sacramento County large enough (>100 acres) to provide sufficient EV charging stations for freight trucks, public transit vehicles, private passenger vehicles, onsite amenities, and administrative functions as well as a solar field of the size needed to provide for a net-zero facility.
- A site directly adjacent to the National Highway Freight Network (NHFN) as well as industrial development. The goal of the NHFP is to improve efficient movement of freight along the NHFN. The location must be strategically located to serve multiple high-capacity freight corridors including I-5, I-80, SR-99, and US Highway 50, as well as in proximity to established interchanges on I-5 and SR-99 to provide for efficient and safe movements to and from the project site.
- A site in proximity to Sacramento Municipal Utility District (SMUD) 69kV distribution lines which are necessary to transmit power to and from the existing electrical grid. The site's proximity to these existing distribution facilities negates the need to construct lengthy generation tie-lines.

- A site that can be acquired and developed for the intended purpose without unreasonably high costs that would limit the ability to be a net-zero facility.

3.3 Proposed Project Update

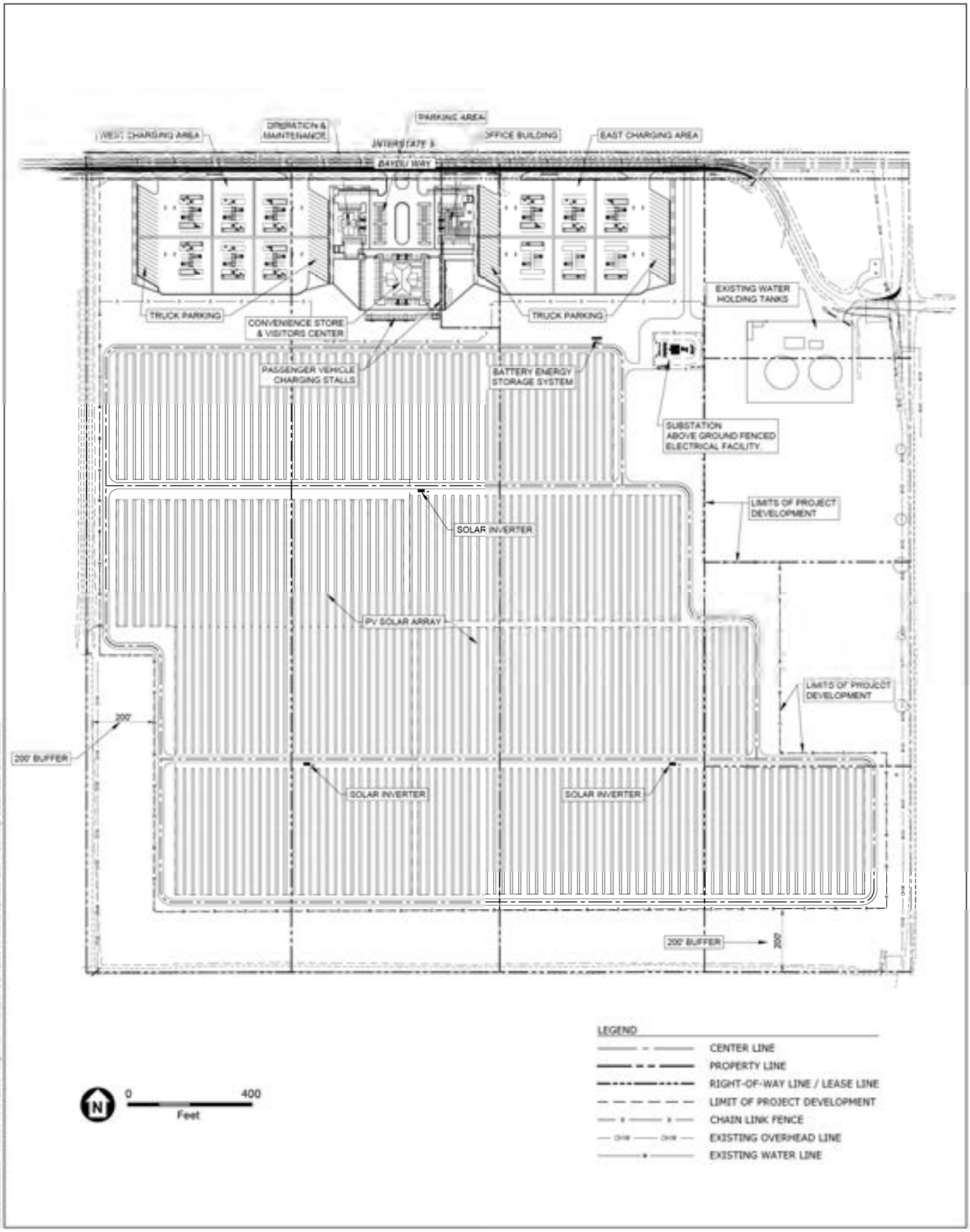
The previous proposed project for the subject site considered in the 2007-2008 consultation included a long-term surface automobile parking lot. Since that proposed parking lot was not built and since the site meets the criteria noted above, Sacramento County and WattEV now propose to construct the WattEV Commercial Charging Center in the same location.

The updated proposed project's project element would replace the former proposed long-term automobile parking lot south of I-5 with a publicly accessible Electric Vehicle (EV) charging facility that would be built on the same property, which is adjacent to I-5 and proximate to SR-99, and both major freight corridors (see Figures 1 and 2).

3.3.1 On-Site Project Components

The proposed charging center would include a rest area and solar array that would be constructed on approximately 112.3 acres of the parcel's 139.2 acres, with approximately 15.3 acres on the northern portion of the site housing the vehicle charging areas and other facilities as described below. Approximately 88.9 acres would house the solar array in the southern portion of the site. A strip of land 200 feet in width along the southwestern and southern boundaries of the parcel would remain undeveloped to serve as a buffer from potential habitat areas. **Figure 5** provides an overview of the proposed charging center and supporting solar array. These project components include the following:

- Construction of a 15.3-acre charging area/rest area configured with two truck charging areas separated by a publicly accessible central plaza. The facility would include a two-story 14,000-square-foot (sf) convenience store and visitor center, a 3,000-sf single story operations and maintenance facility, and a 3,000-sf single story office building.
- Construction of two truck charging areas providing a total of 18 Megawatt Charging Standard (MCS) chargers and 90 240 kW Combined Charging Standard (CCS) chargers designed for heavy and medium duty trucks. Eighty truck parking stalls would also be provided.
- Construction of 30 CCS chargers dedicated to passenger vehicle use and an automobile parking lot with 200 automobile parking spaces.
- Direct access to the Proposed Project site would be provided through the construction of three sets of ingress and egress points (six total access points) along Bayou Way.
- Installation of drought tolerant landscaping in the northern portion of the Proposed Project site where the vehicle charging/rest area would be located. Installation of an illuminated pylon sign that would be visible from I-5. Onsite lighting would also be provided.
- Construction of a 88.9-acre Photovoltaic (PV) solar array, with solar modules mounted on tracker arrays. Each rack would hold up to 90 panels (72 Cell Modules). Five 3.6 Megavolt Ampere (MVA) inverters and transformers would be installed on concrete pads located within the solar field. The solar array would also be developed according to FAA's policy, *Review of Solar Energy System*



SOURCE: WattEV, 2024

Sacramento County/WattEV Commercial Charging Center Project

Figure 5
Commercial Charging Center Site Plan

ESA

- *Projects on Federally-Obligated Airports,* to ensure that there would be no adverse glare impacts to Airport Traffic Control Tower (ATCT) personnel or pilots.[3]
- Installation of a substation and associated substation equipment. The proposed powerline intertie would connect from the substation switchgear to SMUD's existing 69 kV facilities located along Power Line Road. The substation would be located within a fenced 200-foot by 200-foot pad in which the electrical gears would occupy an approximately 12,000-square-foot area.
- Installation of a Battery Energy Storage System (BESS). The enclosure would be placed outdoors on a concrete pad near the substation and main switch gear.
- A fence would be installed around the perimeter of the solar facilities. Controlled access would be provided at secured gates intersecting the new interior access roads. Security lighting would be installed.
- Installation of two access gates and construction of internal road network. One access gate would be located to the south of the east truck charging and storage lot and one to the south of the west truck charging and storage lot. Internal access roads would be unpaved with an aggregate base.

3.3.2 Offsite Project Components

As shown in Figure 3, several offsite areas would be utilized to provide for roadway improvements and the connecting powerline that would connect the project site to the regional power grid. Offsite areas would total 3.36 acres. These components include:

- Construction of access improvements along Bayou Way, which borders the site to the north and is directly south and parallel to I-5. Direct access to the project site would be provided through the construction of three sets of ingress and egress points (six total access points) along Bayou Way.
- Paving and widening improvements at the intersections of Bayou Way and Airport Boulevard and Bayou Way and Power Line Road, as well as widening portions of Bayou Way to facilitate truck turns and movement.
- The proposed connecting powerline would connect from the substation switchgear to SMUD's existing 69 kV facilities located along Power Line Road. Due to the distance between the proposed substation and point of interconnection, which could be up to 650 feet, a new 69 kV aboveground connecting powerline would be required to connect the substation to the existing SMUD facilities.

[3] 86 FR 25801

Table 1 lists the acreage areas of each of the project components described above:

TABLE 1
SUMMARY OF DEVELOPED ACREAGES FOR THE VARIOUS PROJECT COMPONENTS

Project Component	Acres
Charging Center/Rest Area and Solar Array Component	
Charging Area/Rest Area	15.3
Solar Array Field	88.9
Offsite Components	
Bayou Way/Airport Boulevard Intersection Widening	0.91
Bayou Way/Powerline Road Intersection Widening (includes connecting powerline)	0.73
Bayou Way/Metro Airpark Intersection Widening	0.64
Bayou Way Widening	1.08
Total Development	**107.56**

3.3.3 Construction and Operation

Site preparation for the charging area/rest area facilities would include land clearing, excavation, embankment, and grading. The northern 15.3-acre part of the parcel, which includes the charging area and rest area, would be graded with an average of 3 feet of fill to increase the elevation of the current grade. Utilities would be extended to the project site, including electrical, water, communications, and other related infrastructure. An onsite septic system would be constructed approximately 150-feet east of the parking area of the convenience store/visitor center. The septic tank and a pump would be located on a 500-sf pad.

The southern portion of the site would house solar panels, with about 88.9 acres directly impacted and the remaining portions left undeveloped. The solar panels would be elevated on a single axis tracking system and mounted on posts. At its highest edge, each rack would have a maximum height of approximately 10 feet above grade. The minimum clearance from the lower edge of each panel to ground level would be approximately 18 inches. These heights would vary during daylight hours as the system tracks the movement of the sun. Minimal grading would be required to install the solar panels.

Since the site is located on Airport property beneath the southern approach and departure zones for the easternmost runway at SMF, the site would be required to be managed per the terms of SMF's Wildlife Hazard Management Plan (WHMP), as is the case currently.[4] Use of the project site for any use that could attract wildlife (particularly birds in overflight zones) that could present a hazard to aviation is prohibited under FAA's Part 139 certification standards for commercial airports.[5] The ground beneath the solar panels and adjoining disturbed areas would be hydroseeded with native seed mix. Sufficient access would be available to allow for mowing of the grasses, as prescribed by the WHMP and as occurs

[4] Sacramento International Airport. 2024. *Sacramento International Airport Wildlife Hazard Management Plan*. Approved April 2013, Updated April 2024. Available at: https://sacramento.aero/scas/environment/wildlife_management.

[5] Part 139 refers to 14 CFR § 139, which regulates the certification and operation of airports serving passenger-carrying commercial air carriers. The regulation provides criteria and rules under which commercial airports must operate to achieve and maintain FAA certification for their operations, including the requirement to maintain and implement a Wildlife Hazard Management Plan.

currently on the site.. Herbicide application would not be required. Ultimately the groundcover beneath the solar arrays would be similar to what is present currently, but with a native assemblage of mowed groundcover rather than ruderal grasses. The resultant vegetation provided by the groundcover would stabilize the soil and manage wind and water erosion, similar to current conditions.

Stormwater from the charging area/rest area portion of the site would convey to vegetative swales which would flow to underground storm drain culverts that would convey the water under Bayou Way and into an existing drainage channel that lies between Bayou Way and I-5. The stormwater conveyance work would be limited to the project site.

Construction is projected to be undertaken in a single phase. Once constructed, the proposed WattEV Commercial Charging Center would be open 24 hours per day, seven days per week and would be integrated into the electric grid so continuous operation can occur. The proposed project is designed to charge a maximum of 108 trucks and 30 cars at any given time. Overnight truck parking would be allowed.

3.3.4 Comparison of Original Proposed Project and the Updated Proposed Project Element

Figure 4 shows the updated proposed project area atop the previous proposal for the Transportation Surface Parking Lot that was evaluated in the 2008 USFWS BO. The previously proposed parking lot project would have covered an area of approximately 33.9 acres. In total, the updated project would directly impact about 107.56 acres. However, the updated project, though larger, includes the area formerly planned for development of the Transportation Surface Parking Lot and presents the same habitat characteristics of the smaller project that was evaluated in the 2008 BO. As such, the effects of the updated project are not expected by FAA and Sacramento County to vary considerably from the previously evaluated project, and the analysis within this BA will provide facts to support that finding.

4 Environmental Setting

This chapter describes the environmental setting of the project site, including its regional setting and the vegetation and habitats that are present on the site.

4.1 Regional Setting

The project site is flat and consists of land that was used in the past for agricultural production. Agricultural use of the site has not occurred since the early 2000s. The site is not used for agricultural production based on FAA requirements that prohibit uses on airport property that could attract wildlife that could present a hazard to aviation.

The area immediately surrounding the project site consists of airport facilities to the north across I-5 and farmland that is both in production and out of production to the east, south, and west. Furthermore, Metro Air Park, a business park zoned for industrial, manufacturing, distribution, and high-tech commercial use, is under development approximately a quarter mile to the northeast, residential neighborhoods within the City of Sacramento limits are located about 1.6 miles to the east, and the Sacramento River is located approximately 1.1 mile to the west/southwest.

The project site consists of non-native annual grassland, and a portion of it was recently mowed prior to a July 24, 2024, site visit by qualified biologists from ESA on behalf of Sacramento County. Power Line Road is to the east of the project site, Bayou Way is to the north, to the west is an agricultural ditch, and to the south is the Western Drainage Ditch. Another agricultural ditch runs parallel to and just east of Power Line Road and a dry ditch runs along the north perimeter of the project site just south of Bayou Way. The vegetation communities and habitats in and around the project site are discussed in the section below. Representative photographs of these features are provided in **Appendix B**.

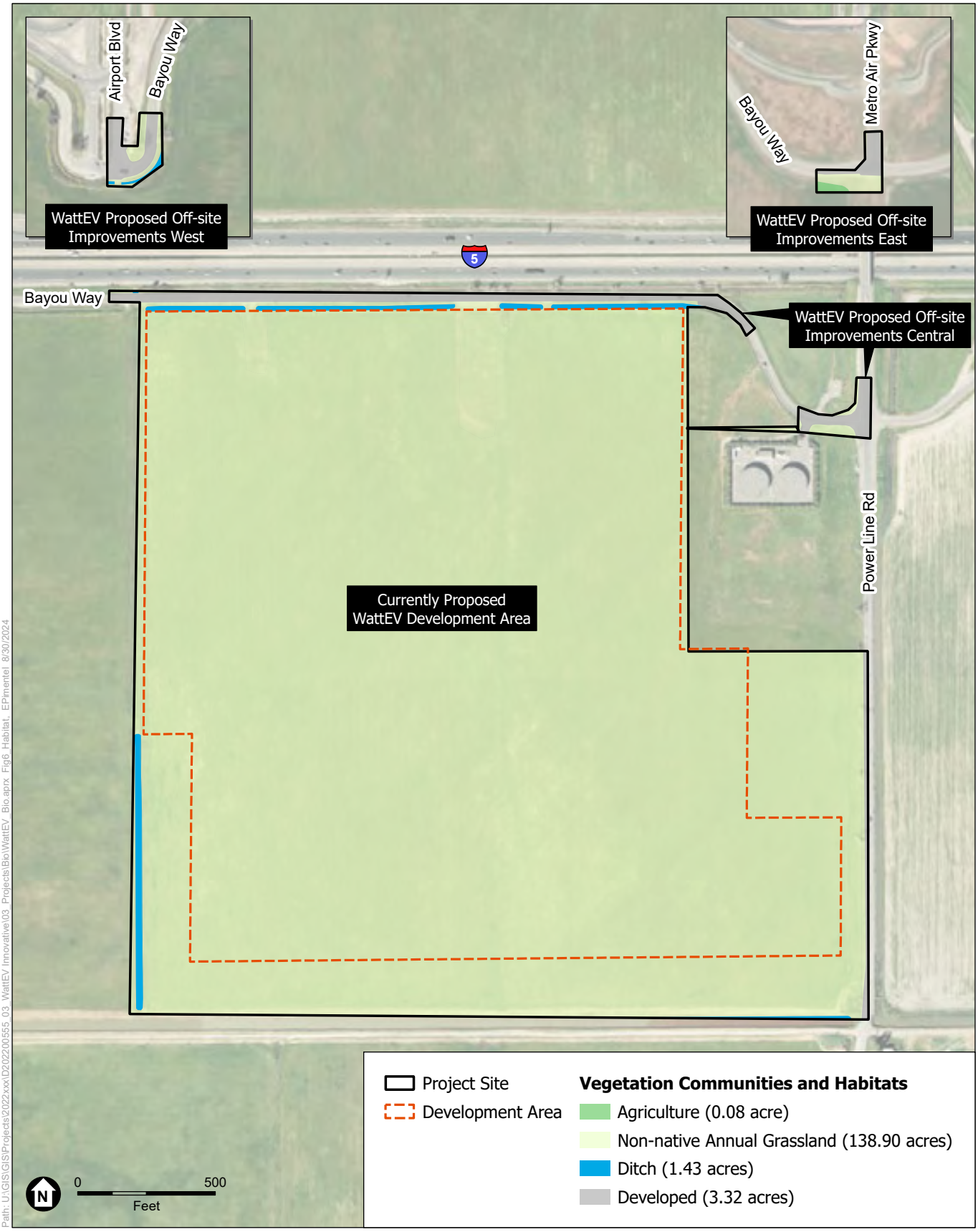
4.2 Vegetation Communities and Habitats

Vegetation communities are assemblages of plants found in particular environments that vary based on soils, hydrology, rainfall, humidity, soil and water salinities, wind exposure, and altitude. Vegetation communities generally correspond to wildlife habitats that are occupied by an associated suite of animal species. The vegetation communities presented here are largely consistent with the California Department of Fish and Wildlife Natural Communities (CDFW, 2024a), which comply with the Manual of California Vegetation (MCV; Sawyer et al., 2009).

A biological resources survey and habitat assessment was conducted by qualified biologists on July 24, 2024, and August 13, 2024, to describe existing conditions of the project site and offsite areas. The site is surrounded by agriculture, fallow fields, and roads, and it is bordered by a dry ditch to the north, a ditch to the west that is only inundated in roughly the southern third of its extent, the Western Drainage Ditch to the south, and Power Line Road to the east. A water holding tank facility is also on the site. The project site supports the following vegetation and wildlife habitat types: non-native annual grassland, ditches/canals, and developed/disturbed areas (**Figure 6**). Of these, all but developed/disturbed areas are considered natural communities by CDFW.

4.2.1 Annual Grassland

The majority of the proposed project's development would occur in non-native annual grassland habitat. This includes the charging station/rest area, the solar field and substation, the powerline connection to the SMUD 69kV line along Powerline Road, and the offsite roadway improvement areas. This community is dominated with a mixture of mostly ruderal non-native grasses and vegetation, including slender oat (*Avena barbata*), bristly oxtongue (*Helminthotheca echioides*), prickly lettuce (*Lactuca serriola*), wall barley (*Hordeum murinum*), Italian ryegrass (*Festuca perennis*), field bindweed (*Convolvulis arvensis*), chicory (*Cichorium intybus*), common and hairy vetch (*Vicia sativa*, *V. villosa)* and wild mustard (*Sinapsis arvensis*). To the east of the project site there are a handful of tree species including Gooding's black willow (*Salix gooddingii*) and black mulberry (*Morus nigra*).



Path: U:\GIS\GIS\Projects\2022xxx\D202200555_03_WattEV Innovative\03_Projects\Bio\WattEV_Bio.aprx Fig6_Habitat_ EPimentel 8/30/2024

SOURCE: Esri, 2024; ESA, 2024

Sacramento County/WattEV Commercial Charging Center Project

Figure 6
Vegetation Communities and Habitats

Wildlife species common to annual grassland include black-tailed jackrabbit (*Lepus californicus*), coyote (*Canis latrans*), gopher snake (*Pituophis catenifer*), western fence lizard (*Sceloporus occidentalis*), killdeer (*Charadrius vociferus*), and mourning dove (*Zenaida macroura*). One Swainson's hawk (*Buteo swainsoni*) adult was observed perched on one of the black mulberry trees. There were very limited small mammal burrows observed in the annual grassland area and they mostly occurred close to the adjacent ditches, and no rodent activity was observed during the July 24, 2024, survey.

4.2.2 Ditches/Canals

Within an agricultural landscape there is often a ditch or canal system that supplies water to irrigate the crop. Ditches can also occur alongside roads as roadside ditches to help with stormwater drainage. Adjacent to the project site are three ditches and canals. The Western Drainage Canal is approximately 200 feet south of the development area, an agricultural ditch is to the west which is inundated along its southern third and is dry for the northern two thirds of its extent. There is a roadside ditch to the north that is entirely dry, and it has been reported by SCDA staff that irrigation flows to this ditch have been cut off since at least the early 2000s. There are some Gooding's black willow and white alder (*Alnus rhombifolia*) trees sporadically along the north ditch. Near the project site and parallel to the east side of Power Line Road is an agricultural ditch that serves agricultural areas east of Power Line Road.

Wildlife such as bullfrogs (*Lithobates catesbeiana*), Sierran tree frogs (*Pseudacris sierra*), mosquito fish (*Gambusia affinis*), red swamp crayfish (*Procambarus clarkii*), northwestern pond turtles, and giant garter snakes can use these canals and ditches as habitat. Of these several ditch/canal features, the project would only affect the dry ditch to the north of the project site by constructing six culverted crossings to and from Bayou Way into and out of the project site. No work would occur in any of the other ditches around the project site.

4.2.3 Developed/Disturbed

Developed/disturbed areas in the area include paved roads and the water holding tank facility on the east side of the proposed charging center/rest stop and solar array parcel. The roads surrounding the project site are Bayou Way to the north and Power Line Road to the east. As discussed previously in Section 3.2.2, the offsite roadway improvements for the project would occur at the intersection of Bayou Way and Airport Boulevard, Bayou Way and Power Line Road, at the intersection of Bayou Way and Metro Air Parkway road, and along a portion of Bayou Way along the north side of the project site. These offsite improvements would mostly occur in paved and disturbed areas associated with existing roadways and their existing disturbed shoulder areas, but the footprints would also overlap into small and adjacent portions of non-native grassland. The footprint of the connecting powerline that would connect the project with the SMUD power grid would occur in some developed areas along Power Line Road as well.

4.2.4 Agriculture

Agricultural land in the Natomas Basin consists primarily of rice fields and row crops such as wheat, tomatoes, and alfalfa. Although there is no agricultural land in the main project site area, agriculture land is present in the surrounding area and a small portion of agricultural land overlaps one of the offsite improvement locations to the east of Power Line Road near the intersection of Bayou Way and Metro Air Parkway road.

Table 2 summarizes the extent of vegetation communities and habitats that occur within the project action area.

TABLE 2
VEGETATION COMMUNITIES WITHIN THE PROJECT SITE BY ACREAGES

Habitat Type	Acreage[1]
Main Area	**139.2**
Annual grassland	136.83
Ditch	1.37
Developed/disturbed	1.00
Off-site Improvements West	**0.91**
Annual grassland	0.30
Ditch	0.05
Developed/disturbed	0.57
Off-site Improvements Central	**1.81**
Annual grassland	0.31
Ditch	0.01
Developed/disturbed	1.49
Off-site Improvements East	**0.64**
Agriculture	0.08
Annual grassland	0.29
Developed/disturbed	0.27
Project Site Total	**142.56**
Agricultural	0.08
Annual grassland	137.73
Developed	3.32
Ditch	1.43

NOTES:
1. GIS calculations may not reflect exact acreage of study area due to rounding

5 Critical Habitat and Species Considered

This section provides an overview of Federally designated critical habitat and Federally listed and candidate species that are known to occur in the vicinity of the project site.

5.1 Designated Critical Habitat

No designated critical habitat for terrestrial species occurs within the action area. Accordingly, critical habitats are not discussed further.

5.2 Federally Listed and Candidate Species

For this reinitiation effort, an updated USFWS official species list was obtained for the action area (**Appendix C**). This consultation reinitiation reiterates the consequences potentially resulting from the implementation of the previously proposed Transportation Surface Parking Lot on giant garter snake. Implementation of the updated project may also affect northwestern pond turtle (*Actinemys marmorata*),

currently proposed to be listed as threatened, since northwestern pond turtles often use similar habitats to giant garter snakes.[6]

Additional terrestrial species included on the USFWS species list were evaluated for their potential to occur within the action area. The FAA has determined the changed element of the proposed project to have **no effect** upon the following species because the action area occurs outside of the current range of these species or does not provide suitable habitat for these species:

- California tiger salamander, central population (*Ambystoma californiense*) – threatened. The action area is located outside of the known geographic range for this species and does not provide suitable wetland habitat.
- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) – threatened. No elderberry shrubs, host plants of valley elderberry longhorn beetle, are located in the action area.
- Vernal pool fairy shrimp (*Branchinecta lynchi*) – threatened. The action area does not provide habitat for this species since no vernal pools occur within or in the vicinity.
- Vernal pool tadpole shrimp (*Lepidurus packardi*) – endangered. The action area does not provide habitat for this species since no vernal pools occur within or in the vicinity.
- Western spadefoot (*Spea hammondii*) – proposed threatened. The action area is located outside of the known geographic range for this species and does not provide suitable wetland habitat.

5.3 Species Considered

Based upon the species screening provided above, the two species considered in this BA are giant garter snake and northwestern pond turtle. Accounts for both species and a discussion of the potential for species occurrence in or around the project site are provided below. The determination of potential for occurrence is based on previous survey work completed in the area as part of the 2007 BA and 2008 BO, as supplemented by updated surveys of the project site and offsite areas during survey visits by ESA biologists on July 24, 2024, and August 13, 2024.

5.3.1 Giant Garter Snake Life History and Ecology

Listing

The USFWS published a proposal to list the giant garter snake as an endangered species on December 27, 1991 (56 FR 67046). The USFWS reevaluated the status of the giant garter snake before adopting the final rule, which listed the giant garter snake as a threatened species on October 20, 1993 (58 FR 54053).

Description

The giant garter snake is one of the largest garter snake species, reaching a total length of approximately 64 inches (162 centimeters). Females tend to be slightly longer and proportionately heavier than males. Generally, giant garter snakes have a dark dorsal background color with pale dorsal and lateral stripes, although coloration and pattern prominence are geographically and individually variable.

[6] Northwestern pond turtle is currently a candidate for listing as threatened under the Endangered Species Act. Although candidate species have no legal status and are accorded no protection under the Act, their inclusion in impact evaluations alerts Federal agencies to impacts that may result to a species that is proposed for listing [50 CFR § 402.12 (d)].

Historical and Current Range

Giant garter snakes formerly occurred throughout the wetlands that were extensive and widely distributed in the Sacramento and San Joaquin Valley floors of California. The historical range of the giant garter snake is thought to have extended from the vicinity of Chico, Butte County, southward to Buena Vista Lake, near Bakersfield, in Kern County. Early collecting localities of the giant garter snake coincide with the distribution of large flood basins, particularly riparian marsh or slough habitats and associated tributary streams. Loss of habitat due to agricultural activities and flood control have extirpated the giant garter snake from the southern one third of its range in former wetlands associated with the historic Buena Vista, Tulare, and Kern lake beds (USFWS 2017).

Upon Federal listing in 1993, the USFWS identified 13 separate populations of giant garter snakes, with each population representing a cluster of discrete locality records. Since the 1993 listing, the USFWS has now revised and consolidated those 13 populations to nine populations in the 2017 Final Recovery Plan for Giant Garter Snake (USFWS 2017). The nine populations largely coincide with historical flood basins and tributary streams throughout the Central Valley: (1) Butte Basin, (2) Colusa Basin, (3) Sutter Basin, (4) American Basin, (5) Yolo Basin (6) Cosumnes/Mokelumne Basin, (7) Delta Basin, (8) San Joaquin Basin, and (9) Tulare Basin.

The known range of the giant garter snake has changed little since the time of listing. In 2005, giant garter snakes were observed at the City of Chico's wastewater treatment facility, approximately ten miles north of what was previously believed to be the northernmost extent of the species' range (D. Kelly pers. comm. 2006; E. Hansen pers. comm. 2006). The southernmost known occurrence is at the Mendota Wildlife Area in Fresno County.

Essential Habitat Components

Endemic to wetlands in the Sacramento and San Joaquin valleys, the giant garter snake inhabits marshes, sloughs, ponds, small lakes, low gradient streams, and other waterways and agricultural wetlands, such as irrigation and drainage canals, rice fields and the adjacent uplands (USFWS 2017). Essential habitat components consist of: (1) wetlands with adequate water during the giant garter snake's active season (early-spring through mid-fall) to provide food and cover; (2) emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat during the active season; (3) upland habitat with grassy banks and openings in waterside vegetation for basking; and (4) higher elevation uplands for over-wintering habitat with escape cover (vegetation, burrows) and underground refugia (crevices and small mammal burrows). Giant garter snakes are typically absent from larger rivers and other bodies of water that support introduced populations of large, predatory fish, and from wetlands with sand, gravel, or rock substrates. Riparian woodlands do not provide suitable habitat because of excessive shade, lack of basking sites, and absence of prey populations.

Foraging Ecology

Giant garter snakes are one of the most aquatic of the garter snake family and are active foragers, feeding primarily on aquatic prey such as fish and amphibians. Because the giant garter snake's historic prey species are either declining, extirpated, or extinct, the predominant food items are now introduced species such as carp (*Cyprinus carpio*), mosquito-fish, and larval and sub-adult bullfrogs. However, one of their primary prey species are the native Sierran tree frogs and their larva.

Reproductive Ecology

The giant garter snake breeding season starts in March and extends through April. Females give birth to live young from late July through early September. Although growth rates are variable, young typically more than double in size by one year of age, and sexual maturity averages three years in males and five years for females (USFWS 2017).

Movements and Habitat Use

The giant garter snake is highly aquatic but also occupies a terrestrial niche. The giant garter snake typically inhabits small mammal burrows and other soil and/or rock crevices during the colder months of winter (*i.e.,* October to April), and also uses burrows as refuge from extreme heat during its active period. While individuals usually remain in close proximity to wetland habitats, the Biological Resource Division of the U.S. Geological Survey (BRD) has documented giant garter snakes using burrows as much as 165 feet (50 meters) away from the marsh edge to escape extreme heat, and as far as 820 feet (250 meters) from the edge of marsh habitat for over-wintering habitat. Giant garter snakes have been observed tens to hundreds of meters distant from any water body in various types of habitat. Upland habitat is essential for snakes because it provides overwintering brumation habitat and areas for which snakes to thermoregulate (regulate their body temperature), and small mammal burrows which are used by snakes for ecdysis (shedding of the skin). Upland habitat may be particularly important for neonates (newly born) giant garter snakes, which may use the uplands more frequently than adults, possibly seeking smaller terrestrial prey, such as earthworms or other insects.

In the Natomas Basin, much of the habitat used by giant garter snakes consists of irrigation ditches and canals, established rice fields, wetlands, and restored marsh preserves. The majority of the populations occur in the northern portion of the basin, but there have been some documented occurrences observed in the southern portion of the basin as well.

Predators

Giant garter snakes are killed and/or eaten by a variety of predators, including raccoons (*Procyon lotor*), striped skunks (*Mephitis mephitis*), opossums (*Didelphis virginiansa*), bull frogs, hawks (*Buteo* sp.), egrets (*Casmerodius albus, Egretta thula*), river otters (*Ludra canadensis),* and great blue herons (*Ardea herodias*). Many areas supporting giant garter snakes have been documented to have abundant predators; however, predation does not seem to be a limiting factor in areas that provide abundant cover, high concentrations of prey items, and connectivity to a permanent water source.

Reasons for Decline and Threats to Survival

The current distribution and abundance of the giant garter snake is much reduced from former times (USFWS 2017). Prior to reclamation activities beginning in the mid- to late-1800s, about 60 percent of the Sacramento Valley was subject to seasonal overflow flooding providing expansive areas of giant garter snake habitat. Now, less than 10 percent, or approximately 319,000 acres (129,000 hectares), of the historic 4.5 million acres (1.8 million hectares) of Central Valley wetlands remain, of which very little provides habitat suitable for the giant garter snake. Loss of habitat due to agricultural activities and flood control has extirpated the giant garter snake from the southern one-third of its range in former wetlands associated with the historic Buena Vista, Tulare, and Kern lakebeds.

Valley flood wetlands are now subject to cumulative effects of upstream watershed modifications, water storage and diversion projects, as well as urban and agricultural development. Environmental impacts associated with urbanization include loss of biodiversity and habitat, alteration of natural fire regimes, fragmentation of habitat from road construction, and degradation due to pollutants. Further, encroaching urbanization can inhibit rice cultivation.

Ongoing maintenance of aquatic habitats for flood control and agricultural purposes can eliminate or prevent the establishment of habitat characteristics required by giant garter snakes. Such practices can fragment and isolate available habitat, prevent dispersal of giant garter snakes among habitat units, and adversely affect the availability of the giant garter snake's food items (Brode and G. Hansen 1992). For example, tilling, grading, harvesting and mowing may kill or injure giant garter snakes (Wylie et al. 1997). Biocides applied to control aquatic vegetation reduce cover for the giant garter snake and may harm prey species (Wylie et al. 1995). Rodent control threatens the giant garter snake's upland brumation habitat (Wylie et al. 1995). Restriction of suitable habitat to water canals bordered by roadways and levee tops renders giant garter snakes vulnerable to vehicular mortality (Wylie et al. 1997). Rolled erosion control products, which are frequently used as temporary berms to control and collect soil eroding from construction sites, can entangle and kill giant garter snakes (Stuart et al. 2001; Barton and Kinkead 2005). Livestock grazing along the edges of water sources degrades water quality and can contribute to the elimination and reduction of available quality giant garter snake habitat (E. Hansen, pers. comm., 2006), and giant garter snakes have been observed to avoid areas that are grazed (E. Hansen 2003). Fluctuation in rice and agricultural production affects stability and availability of habitat (Wylie et al. 2003b, 2004).

Nonnative predators, including introduced predatory game fish, adult bullfrogs, and domestic cats, can threaten giant garter snake populations. Nonnative competitors, such as the introduced water snake (*Nerodia fasciata*) in the American River and associated tributaries near Folsom, may also threaten the giant garter snake.

Status with Respect to Recovery

The Final Recovery Plan for the giant garter snake subdivides its range into nine recovery units (USFWS 2017): (1) Butte Basin Recovery Unit; (2) Colusa Basin Recovery Unit; (3) Sutter Basin Recovery Unit; (4) American Basin Recovery Unit; (5) Yolo Basin; (6) Cosumnes-Mokelumne Basin, (7) Delta Basin, (8) San Joaquin Basin, and (9) Tulare Basin. The proposed project site is within the Natomas Basin Management Unit within the American Basin Recovery Unit.

The American Basin extends south from Oroville to the confluence of the Sacramento and American Rivers. The Basin is about 376,104 acres (152,204 hectares), including portions of Butte, Yuba, Sutter, Placer, and Sacramento counties. Four management units have been defined for the American Basin Recovery Unit: District 10, Olivehurst, Nicolaus, and Natomas Basin. Within the American Basin, the only public conservation lands are several units of the State Feather River Wildlife Area along the Feather and Bear rivers. However, these conservation areas primarily provide riparian habitats that may not be suitable for the giant garter snake. There are no Federal wildlife refuges or State management areas within the American Basin. There are no conservation banks specifically for the giant garter snake in the American Basin; however, several preserves have been established in the Natomas Basin as part of two HCPs.

Since 1995, BRD has studied giant garter snake sub-populations in the Natomas Basin Management Unit (Jordan, 2024 pers. comm.). These areas contain some of the largest extant giant garter snake sub-populations. Outside of protected areas, however, giant garter snakes are still subject to all threats identified in the final rule and recovery plan.

The final recovery criteria require multiple, stable sub-populations within each recovery unit, with sub-populations well-connected by corridors of suitable habitat. This entails that corridors of suitable habitat between existing giant garter snake sub-populations need to be maintained or created to enhance sub-population interchange to offset threats to the species (USFWS 2017). Currently, the American Basin Recovery Unit is known to support relatively large, stable giant garter snake populations. Habitat corridors connecting sub-populations, even in the American Basin Recovery Unit, are either not present or not protected. Overall, the future availability of habitat in the form of canals, ditches, and flooded fields are subject to market-driven crop choices, agricultural practices, and urban development, and are, thus, uncertain and unpredictable.

Current Status of Giant Garter Snake

American Basin

The proposed project site is located in the Natomas Basin Management Unit within the American Basin Recovery Unit (USFWS 2017). Within the greater American Basin, the Natomas Basin is bounded on the west by the Sacramento River levee, on the north by the Natomas Cross Canal (NCC), on the east by the Natomas East Main Drainage Canal (NEMDC), and on the south by the American River levee.

The Natomas Basin HCP was developed by various entities and individuals and covers an approximately 55,000-acre area interior to the toes of the levees surrounding the Natomas Basin, located in the northern portion of Sacramento County and the southern portion of Sutter County. BRD has been conducting giant garter snake studies in the Natomas Basin, including areas owned and managed by The Natomas Basin Conservancy (TNBC) for over two decades (USGS 2024 pers. comm.). Surveys have established the presence of giant garter snakes throughout the Basin, including nearly all the TNBC properties with suitable habitat for the giant garter snake. TNBC's marsh and rice land preserves are being managed with the goal to maintain viable sub-populations of the giant garter snake and the NBHCP's other wetland dependent species. These positive detections from USGS's trapping efforts suggest that TNBC properties are providing habitat that sustain giant garter snake populations in the Natomas Basin. They propose that restoration and preservation of giant garter snake habitat on TNBC lands or any other properties should proceed as quickly as practical.

In the Sacramento Valley, water is being purchased from rice growers and exported to the south. Fallowing of land appears to reduce or eliminate giant garter snake capture success in adjacent canals (Wylie et al. 2004). If land fallowed by water sales increases in the Basin, the habitat managed by TNBC becomes all the more important for protecting giant garter snake sub-populations (Wylie et al. 2004). Also, development projects in the southern end of the Natomas Basin will eliminate local giant garter snake sub-populations, particularly when there is no avenue of escape from construction activity.

The overall status of the giant garter snake has not improved since its listing. The American Basin is one of the larger and more protected giant garter snake sub-populations. Nonetheless, this sub-population is subject to the effects of a number of projects. Numerous development projects have been constructed in

or near giant garter snake habitat in this rapidly urbanizing area. American Basin giant garter snakes are highly vulnerable to secondary effects of urbanization, such as increased predation by house cats, water pollution in the form of urban run-off, and increased vehicular mortality. Most documented localities have been adversely impacted by development, including freeway construction and flood control projects (Wylie et al. 2004). Several former localities are known to have been lost and/or depleted to the extent that continued viability is in question (Brode and Hansen 1992). The scarcity of remaining suitable habitat, flooding, stochastic processes, and continued threats of habitat loss pose a severe threat to this sub-population (USFWS 2017).

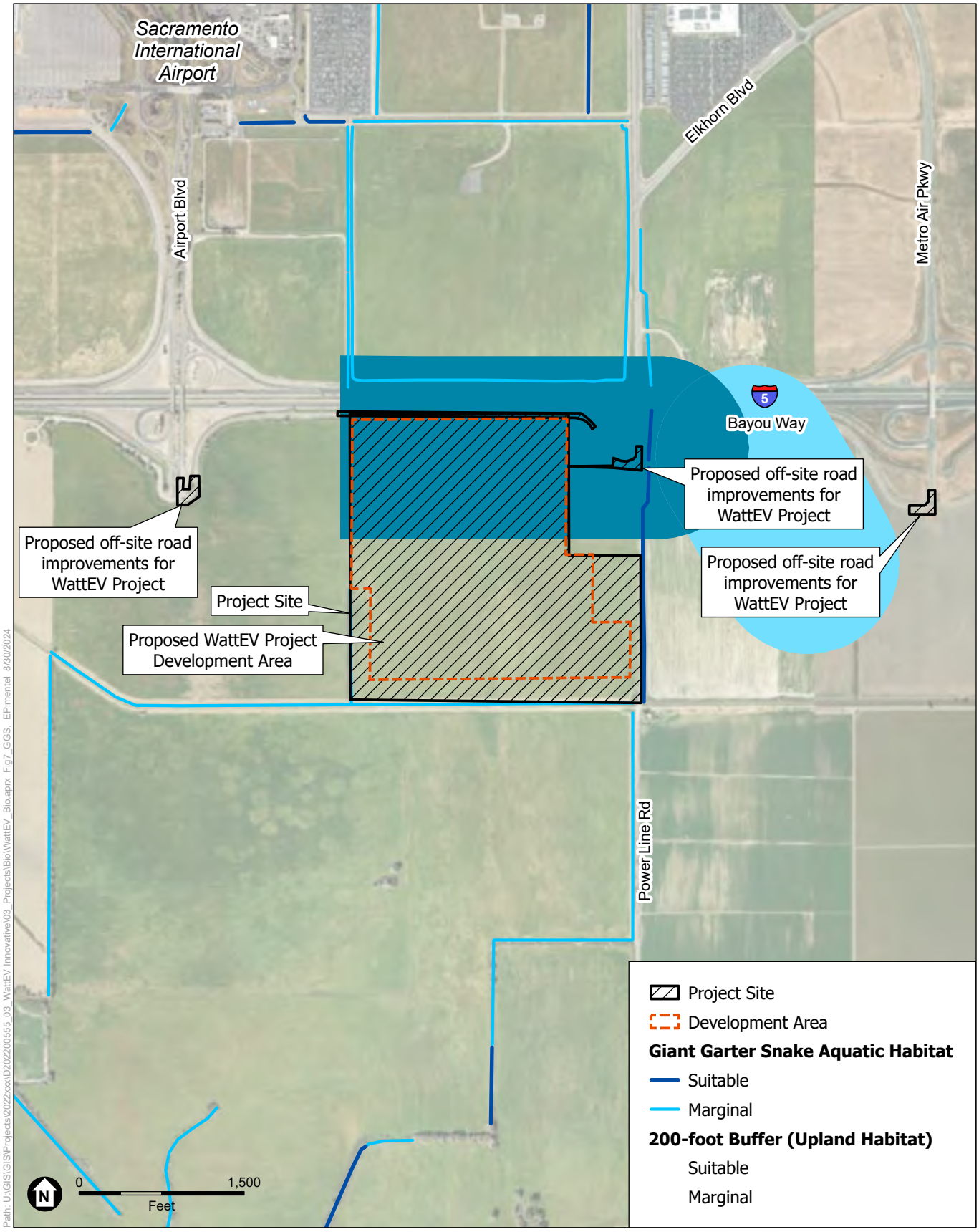
5.3.2 Potential for Giant Garter Snake Occurrence in the Action Area

In February of 2008, the USFWS issued a BO for the Sacramento International Airport TMP project. The BO provided analysis of the potential for giant garter snakes to occur in the TMP action area and be affected by the multiple components of the TMP, including what was previously designated as the future site of the Transportation Surface Parking Lot. The BO determined that giant garter snake may potentially occur in the suitable and marginal aquatic habitat and marginal upland habitat in the vicinity of the previously proposed Transportation Surface Parking Lot (**Figure 7**).

The project site has been maintained by the SCDA for many years consistent with their obligations under 14 CFR Part 139 to minimize land uses that could attract hazardous movements of wildlife that could present a hazard to aviation. These maintenance activities, including mowing and vegetation management of the project site to minimize hazardous wildlife attractants on the site have been ongoing and there have been no documented observations of giant garter snake at the site. However, according to the California Natural Diversity Database (CDFW 2024b), there are 55 records of giant garter snakes within 5 miles of the proposed project action area (**Figure 8**). Of the 55 records, 38 are in the Natomas Basin. Giant garter snakes have been documented on and directly adjacent to airport property within canals and ditches in the general vicinity that are hydrologically connected with the aquatic features adjacent to the WattEV Commercial Charging Center Project site. As described in the *Movements and Habitat Use* discussion above, snakes can travel considerable distances over the course of days and years in both aquatic and uplands habitats. However, much of a giant garter snake's lifetime is spent close to (within 20 meters of) water (A. Jordan, USGS, 2024 pers. comm.).

The USFWS and CDFW consider the entire Natomas Basin as potential habitat for the snake because the lands are generally of a uniform character and are capable of restoration. The entire basin contains restored marsh preserves, an extensive irrigation ditch and canal system to support irrigated agriculture, and large wetland features that provide suitable aquatic and adjacent upland habitat for the species.

The land affected by the construction of the updated project is adjacent to upland habitat for the snake. Aquatic habitat occurs in the vicinity of the proposed project site from which snakes could disperse into the uplands in search of brumation habitat and terrestrial prey. Specifically, during the July 24, 2024 survey, ESA biologists determined the Western Drainage Ditch to the south and the ditch to the west of the project site to be "marginal aquatic habitat." However, the northern extent of the west ditch was dry and was determined by ESA biologists to be unsuitable aquatic habitat for the species. The ditch along the east side of Power Line Road was previously determined as suitable habitat and this was consistent with what was observed during the July 24, 2024, survey. The ditch to the north just south of Bayou Way had



SOURCE: Esri, 2024; ESA, 2024

Sacramento County/WattEV Commercial Charging Center Project

Figure 7
Giant Garter Snake Habitat Areas



SOURCE: Esri, 2024; ESA, 2024

Sacramento County/WattEV Commercial Charging Center Project

Figure 8
CNDDB Occurrences within 5-mile Search Radius

ESA

no water in it during the July 24, 2024, survey. Thus, ESA biologists determined the ditch adjacent to Bayou Way to be unsuitable aquatic habitat for the species. During a follow-up survey on August 13, 2024, of the off-site intersection improvement areas to the east at the intersection of Bayou Way and Metro Air Parkway and to the west at the intersection of Bayou Way and Airport Boulevard, the closest ditches within 200-feet of both those areas were dry. Thus, ESA biologists determined those ditches were unsuitable aquatic habitat for giant garter snakes. The central offsite improvement area alongside Bayou Way and at the Bayou Way/Power Line Road intersection is within 200 feet of the ditch just east of Power Line Road. Consistent with the suitability evaluation of the main area of the project site, the grassland habitat that overlaps the central offsite improvement area is also considered by ESA biologists to be marginally suitable upland habitat for the species.

The project site is located approximately one mile northwest of a block of preserves managed by TNBC for the benefit of various protected species, including giant garter snake. These preserves are located in the vicinity of Fisherman's Lake approximately 1 mile southeast of the project site. Fisherman's Lake provides important habitat for the snake and is connected with the Reclamation District (RD) 1000 West Drainage Canal, a segment of which occurs approximately 200 feet south of the southern extent of the project's proposed solar array field. Habitat connectivity is extremely important to giant garter snakes for genetic interchange and the ability to find summer habitat.

The project site is adjacent to aquatic habitat that is suitable for giant garter snake to use for foraging and as movement corridors and contains marginal upland habitat that provides limited refugia opportunities. Although the project site is adjacent to suitable aquatic habitat and overlaps some small areas of marginal upland habitat in the main project area and where the Bayou Way/Power Line Road intersection improvements would be constructed, with the limited amount of upland refugia in the project site, ESA biologists determined that **the giant garter snake has a relatively low likelihood to occur in the project's action area**. However, there is potential for the species to occur in the vicinity of the project site in aquatic habitat and adjacent to the aquatic habitat in suitable upland refugia.

5.3.3 Northwestern Pond Turtle Life History and Ecology

Listing

In October of 2023, USFWS proposed listing the northwestern pond turtle as threatened under the Federal Endangered Species Act (88 FR 68370; published October 3, 2023). Since northwestern pond turtle has not been formally listed under the Act, critical habitat has not been designated. However, USFWS has identified the range of the species, which includes Sacramento County.

Life History and Ecology

Northwestern pond turtle are moderate-sized aquatic turtles that feed on plants, insects, worms, amphibians, crustaceans, and carrion. Mating usually occurs in late April or early May but may occur year-round. Hatchling turtles are thought to emerge from the nest and move to aquatic sites in the spring (Jennings and Hayes 1994, Stebbins 2012, Zeiner et al. 1988-1990).

Northwestern pond turtle are commonly found in ponds, lakes, marshes, rivers, streams, and irrigation ditches with rocky or muddy substrates surrounded by aquatic vegetation. These watercourses usually are within woodlands, grasslands, and open forests, between mean sea level and 6,000 feet above mean sea

level. Turtles bask on logs or other objects when water temperatures are lower than air temperatures. Nests are located at upland sites, often up to 0.25 mile from an aquatic site (Jennings and Hayes 1994, Stebbins 2012, Zeiner et al. 1988–1990).

Range and Known Records

Northwestern pond turtles are uncommon and discontinuously distributed throughout California west of the Cascade-Sierran crest, with isolated populations in the Mojave River area and Andreas Canyon (Jennings and Hayes, 1994). Northwestern pond turtle are documented in stock ponds and waterways within the Sierra Nevada foothills and Central Valley floor. However, their distribution in natural and modified channels and ponds is generally limited to high quality, perennial or nearly perennial aquatic habitat outside of urban areas. Although only two documented records are located along the Sacramento River and along a perennial channel in Yolo County (CDFW 2024a), Northwestern pond turtle populations are known to occur sporadically throughout Sacramento County and within the Natomas Basin surrounding the project site.

Within the Natomas Basin, a variety of habitats such as creeks, ponds, and drainage canals and ditches, as well as marshes, deep wetlands, riparian woodland, and some grasslands adjacent to aquatic habitat, provide northwestern pond turtle habitat. Northwestern pond turtle records near the project site are located near a perennial channel approximately 2.5 miles to the southwest of the project site and along the Sacramento River approximately 2.75 miles to the northwest (CDFW 2024a).

5.3.4 Potential for Northwestern Pond Turtle Occurrence in the Action Area

Northwestern pond turtles are known to use irrigation ditches and canals and occur in the Natomas Basin. As described above, only two CNDDB occurrence records have been documented within 5 miles of the project site. Similar to giant garter snake, there is potential for northwestern pond turtles to occur adjacent to the proposed project site in suitable aquatic habitat along the Western Drainage Ditch and the agricultural ditch east of Power Line Road. However, the upland habitat of the site is overgrown with non-native ruderal plants and vegetation. Northwestern pond turtles prefer a more open upland area where they can find nest locations to lay their eggs. When basking, they also prefer to stay along the banks adjacent to and on logs within the aquatic habitat. Therefore, the potential for the species to occur on the project site is considered low.

6 Effects Analysis

This chapter describes the potential effects that the changed elements of the updated proposed project may have on giant garter snake and northwestern pond turtle. Included are the definitions of the different types of effects, methods used to assess the effects of the updated proposed action's project element, and a description of the effects on the two species. Conservation measures that have been incorporated into the proposed project to address and reduce those potential effects are included in this analysis and in the existing BO, which are described in Section 5.4, Conservation Measures.

6.1 Definitions of Effects

The assessment of potential effects of a proposed action on a listed or candidate species can be comprised of one or more types of effects. This can include direct, indirect, and/or cumulative effects, as defined in *50 CFR § 402.02, "(e)ffects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action*."

6.2 Effects Assessment Approach

6.2.1 Approach

To identify potential effects of the updated proposed project, the proposed activities were analyzed with respect to the locations of giant garter snake and northwestern pond turtle known individuals and habitat conditions within or adjacent to the updated project elements (i.e., the WattEV Commercial Charging Center Project, including the associated off-site elements). This assessment was made relative to the assessed potential effects described in the 2008 BO. Assessing the short-term and long-term effects on a particular listed species relies on an understanding of the construction timeline and habitat changes that are anticipated from the construction of the proposed project's components. Discussion of construction-related effects, both temporary and permanent, are determined based upon working within the boundaries of occupied habitat. For the purpose of this discussion, effects are defined as follows: "temporary" effects are those lasting less than one year; and "permanent" effects are those that would last more than one year or that would permanently remove habitat.

6.2.2 Overview of Effects

As defined in 50 CFR § 402.02, effects of an action may occur later in time and may include consequences occurring outside the immediate area involved in the action. Identified construction-related effects of the proposed action include possible mortality, injury, or physiological stress to covered wildlife species resulting from operation of construction equipment, ground excavation and building construction, paving activities, and spills of toxic substances. This may include disturbance or harassment of giant garter snake resulting from construction activity.

The proposed WattEV Commercial Charging Center Project footprint incorporates a 200-foot buffer from aquatic habitat with the exception of a few areas. As such, almost all ground disturbance activities would occur at least 200 feet away from aquatic habitat. All ground disturbance activities would occur during the giant garter snake active season from May 1 to October 1 when snakes can move away from disturbance on their own. This includes construction of the vehicle charging station/rest area and solar facility. The only major ground disturbance that would occur within 200 feet of aquatic habitat is for the construction of the widened turn feature at the intersection of Bayou Way and Power Line Road to allow for freight trucks to make wider turns in that area. Minor ground disturbance within 200 feet of aquatic habitat would result from installation of the solar arrays. However, the ground disturbance footprint from the installation of the solar arrays would be minimal because it would only be temporary. Permanent ground disturbance in the solar field would be limited to the posts used to support the solar arrays. The ground beneath the solar panels would be seeded with native grasses and would continue to provide

upland habitat after installation. However, and as stated previously and in more detail in Section 3.3.3, the site is located on Airport property beneath the southern approach and departure zones for the easternmost runway at SMF. As such, the site would be required to be managed per the terms of SMF's Wildlife Hazard Management Plan, as is the case currently. Use of the project site for any use that could attract wildlife (particularly birds in overflight zones) that could present a hazard to aviation is prohibited under FAA's Part 139 certification standards for commercial airports.

No construction activities would occur directly in any suitable giant garter snake and northwestern pond turtle aquatic habitat. The northern ditch would have six crossings constructed across it for vehicle access into the project site. Construction of the vehicle access crossings would occur when the ditch is dry. There could be water in the northern ditch temporarily during the winter in a wet year, but giant garter snakes do not inhabit aquatic habitat as frequently during their inactive season from October 2 to April 30 and no work would occur in that ditch during the wet season. The solar field would be within 200 feet of the ditch to the west in the northern extent where it is dry. There would be a 200-foot buffer from the inundated southern extent of the west ditch and also a 200-foot buffer along the southern portion of the site that abuts the West Drainage Canal.

6.3 Effects Of the Proposed Project on Federally Listed Species

6.3.1 Effects on and Loss or Degradation of Giant Garter Snake Habitat

Construction of the proposed WattEV Commercial Charging Center Project would result in the permanent loss of 19.31 acres (15.3 acres from the commercial charging center/rest area, 0.61 acres due to the solar field and the post supports for the solar arrays, 0.002 acres due to the connecting powerline utility pole installation, and 3.4 acres due to the offsite improvements) of marginal giant garter snake upland habitat (**Table 3**). Within this 19.31 acres, the area is expected to be entirely paved over and/or removed by installation of physical objects in such a manner that it would completely eliminate its functionality as garter snake upland habitat for either movement or as refugia for the species. Although the solar fields installation would affect an additional 88.9 acres of the project site, this is only considered a temporary effect because after the solar arrays are installed, and consistent with SMF's Wildlife Hazard Management Plan, the area would be hydroseeded with a native seed mix and the ground beneath the solar arrays would continue to provide marginal upland habitat, as is present currently. Additionally, nearly all the construction and ground disturbance activities would occur more than 200 feet away from suitable aquatic habitat. No construction activities are proposed within aquatic habitat.

The project's construction schedule has been designed to proceed with ground-disturbing activities associated with the construction of the proposed electric vehicle charging station and solar facility during the active period (May 1 – October 1) for the snake, resulting in a decreased risk of direct mortality of snakes. Performing ground disturbance activities during the giant garter snake active season minimizes the potential for construction activities associated with the project occurring in snake upland habitat to harm, harass, injure, or kill snakes because they can readily move away from disturbance on their own volition in warmer temperatures. After October 1, snakes are more likely to be dispersing into the uplands in search of overwintering brumation habitat and could therefore be subject to mortality during construction of the project. As described in the *Status of the Species* section above, snakes have been observed traveling greater than 200 feet from aquatic habitat into the uplands. However, the proposed project site is considered marginal upland habitat because there is limited upland refugia and brumation

opportunities for snakes. Therefore, construction of the proposed project, which would mostly occur at least approximately 200 feet away from aquatic snake habitat, has a low chance of resulting in direct effects to this species.

TABLE 3
SUMMARY OF IMPACTS FROM THE WATTEV COMMERCIAL CHARGING CENTER PROJECT

Proposed Design Element	Existing Giant Garger Habitat Quality	Impact Type	Acres
Charging Area/Rest Area[a]	Marginal	Permanent	*15.3*
Solar Array Footings	Marginal	Permanent	*0.61*[b]
Connecting powerline	Marginal	Permanent	*0.002*[c]
Solar Array	Marginal	Temporary	*88.9*
Off-site Improvements	Marginal	Permanent	3.36
Subtotal: Permanent Impacts	–	–	19.27
Subtotal: Temporary Impacts	–	–	88.9

NOTES:

a. This element also includes construction for a two-story 14,000-square-foot (sf) convenience store and visitor center, a 3,000-sf single story operations and maintenance facility, and a 3,000-sf single story office building.
b. It is expected that the distance between the support structures for the solar arrays would be spaced approximately 20 feet apart from each other. Given the solar array would cover 88.9 acres, is estimated that there would be close to 8,818 individual support structures placed into the ground to support the above ground solar panels. The sizing of each of the individual support structures are on the order of 2 to 3 square feet each. Assuming the higher value of this range, it is estimated that the footprint of all the support structure piling for the solar array would be 26,454 square feet (0.607 acres).
c. It is expected there could be up to 20 utility poles installed along the west side of Power Line Road in the project site to tie-in and connect the WattEV Commercial Charging Center to the SMUD power grid. Each pole is estimated to have a diameter of approximately 27 inches. With the 27-inch diameter pole, the total square feet of each pole would be about 3.5 feet and with 20 poles the footprint of the utility poles will equate to a total of 70 square feet (0.0016 acres).

Construction activities would remove mostly ruderal vegetation and the limited number of small ground crevices that were observed during the July 24, 2024, survey. No rodent burrows were observed in the upland areas within the project site, and it can be expected that this condition would be maintained since the site would be mowed and actively maintained in accordance with the Airport's Wildlife Hazard Management Plan, as is the case currently. Accordingly, the marginal upland habitat on the southern portion of the site would essentially remain unchanged, even after the solar array's installation.

ESA biologists anticipate no effects to occur to aquatic habitat features in the vicinity of the project site. Thus, the primary prey base for giant garter snakes, who primarily forage in aquatic habitat, would not likely be affected by the project. The northern ditch south of Bayou Road no longer has water in it during the snake's active season, so it is not considered aquatic habitat for the species.

Snakes may disperse across or bask on existing roads, and thus may be killed or injured by construction equipment or other vehicles accessing the site along Power Line Road and other roadways. Silting, fill, or spill of oil or other chemicals could cause loss of prey items in the western ditch and the West Drainage Canal. However, most construction activities would occur at least 200 feet from these aquatic features and the likelihood of affecting the aquatic habitat is low. Further, and per County requirements, the project would also be required to implement a Stormwater Pollution Prevention Program (SWPPP). The SWPPP would list the hazardous materials proposed for use during construction; describe spill prevention measures, equipment inspections, equipment and fuel storage; protocols for responding immediately to spills; and describe best management practices (BMPs) for controlling site runoff, thus preventing effects

from siltation and hazardous contaminants. In addition, the proposed WattEV Commercial Charging Center Project is unlikely to have any effect on the ditch on the east side of Power Line Road because all construction activities would occur on the west side of the road and would not encroach into areas east of the roadway.

In summary, the proposed WattEV Commercial Charging Center project would have similar direct and indirect effects to giant garter snake and their habitat as the former Transportation Surface Parking Lot element described in the original proposed project in the 2008 BO.

6.3.2 Effects on and Loss or Degradation of Northwestern Pond Turtle Habitat

As described previously, the WattEV Commercial Charging Center Project was designed to avoid any effects to suitable aquatic habitat. Similarly to the assessment of take for giant garter snake upland habitat, the upland habitat in the action area is only considered marginal for northwestern pond turtle. Construction of the project would result in the permanent loss of 20.31 acres of marginal upland habitat for the species. The project site mostly consists of dense ruderal vegetation that does not provide suitable nest locations for turtles.

As described previously, the ground beneath the solar arrays would be hydroseeded with a native seed mix post installation. So, although the 83.5 acres of solar fields will temporarily affect upland habitat in the project site, the ground beneath the solar arrays would continue to provide upland habitat after installation and hydroseeding of native seed mix under the solar panels.

6.4 Conservation Measures

As part of the 2007-2008 consultation process, SCDA proposed to implement several conservation measures to minimize, avoid, and compensate for effects to giant garter snakes in the vicinity of the parking facilities proposed as part of the TMP project. These measures have been supplemented for the updated project to include additional protective measures to further minimize and avoid adverse effects, as summarized below.

6.4.1 Conservation Measures Prescribed Under the 2008 Biological Opinion

The measures below were prescribed as part of the 2008 BO. The "Proposed Action" referred to in these measures applies to the whole of the TMP program, which included the site originally proposed for the Transportation Surface Parking Lot and now proposed for the WattEV Commercial Charging Center. Therefore, the same measures that were applied to the Transportation Surface Parking Lot as referenced in the 2008 measures would also apply to the WattEV Commercial Charging Center, even though the project has changed.

- SCDA will permanently preserve 460 acres in agriculture in the area south of the West Drainage Canal, west of Power Line Road, and north of the Sacramento River as mitigation for Swainson's hawk foraging habitat. Fifty-nine (59) of these 460 acres have been set aside to compensate for impacts associated with the Proposed Action, and SCDA obtained deed restrictions to ensure that it is managed in perpetuity as upland habitat for wildlife. An additional 131 acres will be preserved in the area as mitigation for future projects proposed under the Airport's Master Plan or for other Airport

projects. This is adjacent to a 270-acre area that is preserved as cultivated foraging habitat for Swainson's hawk.

- All construction activities adjacent to potential GGS habitat shall begin between May 1 and October 1. All clearing and grubbing and compacting in areas adjacent to potential GGS habitat will be completed by October 1.
- Pre-construction surveys will be conducted by a qualified, USFWS-approved biologist. No more than 24 hours prior to the start of site preparation, grading, or construction activities, the sites will be surveyed for the presence of giant garter snakes. If construction activities are idled for two weeks or more, the site will be surveyed again no more than 24 hours prior to the restart of activities.
- Construction activities will be confined to the minimal area necessary to facilitate construction. Giant garter snake habitat (that is, the area between the project footprint and the aquatic ditch habitat) will be flagged and designated for avoidance by all construction personnel and heavy equipment.
- Exclusion fencing will be installed approximately 200 feet away from suitable giant garter snake aquatic habitat prior to initial ground disturbing activities.
- Movement of heavy equipment to and from the project area will be restricted to established roadways to the extent possible to minimize habitat disturbance.
- Construction personnel completing site preparation and grading operations shall receive USFWS-approved environmental awareness training. This training instructs workers on how to identify giant garter snakes and their habitats, and what to do if a giant garter snake is encountered during construction activities. Proof of this training will be submitted to the USFWS. An on-site biological monitor will be designated during this training.
- If a live giant garter snake is encountered during construction activities, the monitor will be immediately notified and the USFWS will be contacted. The monitor will have the authority to stop construction in the vicinity of the snake, monitor the snake, and allow it to leave on its own. The monitor shall remain in the area for the remainder of the workday to make sure the snake is not harmed or if it leaves the site, does not return. Escape routes for snakes will be determined in advance of construction and snakes will be allowed to leave on their own. If a snake does not leave on its own within one working day, further consultation with the USFWS will take place.
- The SCDA or its designated agent will notify the USFWS's Division of Law Enforcement and Endangered Species Division at the Sacramento Fish and Wildlife Office upon locating dead, injured, or sick threatened or endangered wildlife species. Written notification to both offices will be made and will include the date, time, and location of finding a specimen or any other pertinent information.
- Upon completion of construction activities, temporary fill or construction debris will be removed. If this removal will occur between October 1 and April 30, this material will be inspected by a qualified biologist to assure that giant garter snakes are not using it as a brumation site.
- No plastic, monofilament, jute, or similar erosion control matting that could entangle snakes will be placed on a action area within 200 feet of snake aquatic habitat. Possible substitutions include coconut coir matting, tactified hydroseeding compounds, or other material approved by the USFWS.
- SCDA shall prepare a Stormwater Pollution Prevention Plan (SWPPP) for project construction that includes industry standard Best Management Practices (BMPs) to prevent discharge of sediments off site such as silt fences, sandbags, fiber rolls, and stabilized construction entrances, and secondary containment for equipment refueling and maintenance.
- SCDA shall update its current SWPPP for airport operations to reflect changes to the airport resulting from the Terminal Modernization Program. The new SWPPP will be submitted to the Central Valley

Regional Water Quality Control Board for review and approval. The following additional BMPs shall be incorporated when the SWPPP is updated:

a. Provide oil/water separators on storm drain inlets from parking areas, or other areas where oils and greases may be picked up by storm water.

b. Direct storm water from impervious areas into pervious areas (e.g., vegetated buffer) to promote infiltration and reduce direct discharge of runoff off site.

c. Design the new Employee Parking Lot and Transportation Surface Parking Lot to direct storm water to pervious areas (e.g., vegetated buffer) prior to discharge into storm drains.

d. Use porous pavement, interceptor trees, and divided sidewalks in the new Employee Parking Lot and Transportation Surface Parking Lot to reduce storm water runoff.

e. Direct storm water from building roof drains into pervious areas around the buildings to promote infiltration and reduce direct discharge of runoff off the site.

6.4.2 Supplemental Conservation Measures Proposed for the Updated Project Element

In addition to the above measures identified during the 2007-2008 consultation process, SCDA has identified additional or updated measures to minimize, avoid, and compensate for effects to giant garter snakes and northwestern pond turtles during the WattEV Commercial Charging Center Project.

To avoid impacts to giant garter snakes and northwestern pond turtles the applicant shall:

1. Twenty-four hours prior to the commencement of ground-disturbing activity (i.e., clearing, grubbing, or grading) suitable habitat within the project area shall be surveyed for giant garter snake and northwestern pond turtle by a qualified biologist. The survey shall include aquatic habitat and 1,650 feet of adjacent uplands surrounding aquatic habitat within the project area. The biologist shall supply a brief written report (including date, time of survey, survey method, name of surveyor and survey results) to the Environmental Coordinator prior to ground disturbing activity.
2. Construction personnel shall receive worker environmental awareness training. This training instructs workers how to recognize giant garter snakes, northwestern pond turtles, and their habitat.
3. If a giant garter snake or northwestern pond turtle is encountered during active construction, all construction shall cease until the animal has moved out of the construction area on its own or relocated by a qualified biologist. If the animal is injured or trapped, a qualified biologist shall move the animal out of the construction area and into a suitable habitat area. California Fish and Wildlife and the Environmental Coordinator shall be notified within 24-hours regarding the encounter.
4. Install exclusion fencing along the entire western and southern perimeters of the work areas to prevent giant garter snakes and northwestern pond turtles that may be occupying the nearby ditches from entering into active construction zones. Pre-construction surveys will be conducted prior to fence installation. The fencing shall extend to the edge of the bank of the ditches, perpendicular to the water line. The exclusion fencing shall consist of silt fence material. Fences shall be installed to a depth of 6 inches below the ground surface to prevent special-status reptiles from going under the fence. Fences shall be installed before May 1 and prior to initial grading and deployment of staging equipment. The fence shall remain in place until construction machinery and material are completely removed. Prior to the commencement of daily construction activities, the on-site biological monitor shall conduct a morning pre-construction survey to verify that there are no special-status reptiles in the work area. This survey process shall also include verifying that the fence is in suitable condition. If

any repairs are necessary, the monitor shall guide construction personnel in making the necessary repairs.

5. The project proponent shall prepare a giant garter snake and northwestern pond turtle relocation plan. This relocation plan shall include: a summary of the species and habitat features; identification of habitat suitability in relation to the action area; acceptable methods to capture, handle, and relocate individuals out of the construction area; minimum qualifications for biologists to conduct physical relocation of turtle individuals, if necessary; identification of where salvaged individuals will be relocated; and identification of wildlife rehabilitation center or veterinary facility where any injured individuals found within the action area will be taken.

6.4.3 Compensatory Mitigation, Summary of Effects

Table 4 below quantifies the impacts to giant garter snake upland habitat that would occur with the proposed WattEV Commercial Charging Center project, the prescribed mitigation ratio for permanent impacts, and the anticipated compensation for those impacts.

TABLE 4
COMPENSATION FOR PROPOSED PROJECT IMPACTS

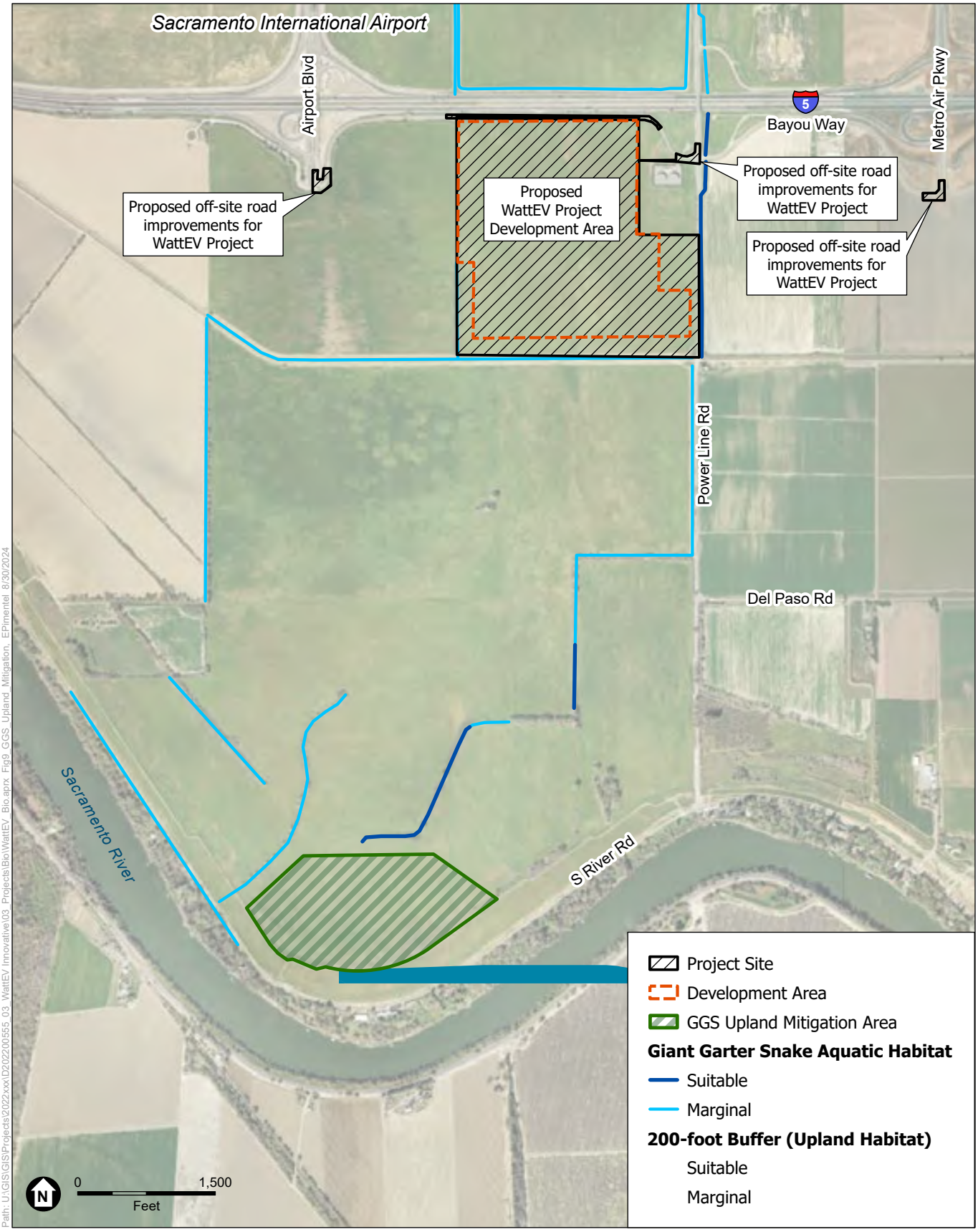
Proposed Design Element	Total Impact (acre)	Mitigation Ratio	Anticipated Compensation (acre)	Compensation Notes[a]
Charging Area/Rest Area **(P)**[a]	16.3	1:1	15.3	Previously mitigated within the 59-acre area previously acquired and preserved by SCDA south of the action area
Solar Array **(T)**	83.5	N/A	N/A	
Solar Array **(P)**	0.61	1:1	0.61	Previously mitigated within the 59-acre area previously acquired and preserved by SCDA south of the action area
Connecting Powerline **(P)**	0.002	1:1	0.002	Previously mitigated within the 59-acre area previously acquired and preserved by SCDA south of the action area
Off-site Improvements **(P)**	3.4	1:1	3.4	Previously mitigated within the 59-acre area previously acquired and preserved by SCDA south of the action area
TOTAL	19.27 acres Permanent 88.9 acres Temporary		19.27	Previously mitigated within the 59-acre area previously acquired and preserved by SCDA south of the action area

NOTES:

(T) – temporary impact
(P) – permanent impact

a. The net amount of compensatory mitigation anticipated for permanent impacts to giant garter snake upland habitat under the current proposed project for the airport property south of I-5 (20.31 acres) is below the balance of prior compensatory mitigation previously implemented by SCDA pursuant to Biological Opinion 81420-2008-F-0528-1 for the Sacramento International Airport TMP. This previously completed mitigation is associated with a 59-acre site located south of the Action Area just north of the Sacramento River. With the implementation of the 25.1-acre employee parking lot located north of I-5 that was covered by the final Biological Opinion for the TMP, there is effectively a balance of 33.9 acres of compensatory mitigation at this 59-acre site, because planned development within the project site (previously, a surface transportation parking lot and associated access roads covering 33.9 acres) within airport property just south of I-5 had been on hold to date.

Per the terms of the 2008 BO, a total of 59 acres of mitigation land was required to offset impacts at a 1:1 ratio for the Employee Parking Lot north of I-5 (25.1 acres) and the Transportation Surface Parking Lot south of I-5 (33.9 acres). SCDA purchased the required mitigation lands and conveyed the deed for those lands to USFWS shortly after the BO's finalization. The location of those lands is shown in **Figure 9**.



Path: U:\GIS\GIS\Projects\2022xxx\D202200555_03_WattEV Innovative\03_Projects\Bio\WattEV_Bio.aprx Fig9_GGS_Upland_Mitigation_EPimentel 8/30/2024

SOURCE: Esri, 2024; ESA, 2024

Sacramento County/WattEV Commercial Charging Center Project

Figure 9
Giant Garter Snake Upland Habitat Mitigation Areas

The Employee Parking Lot has since been constructed, and the Transportation Surface Parking Lot was not constructed, which means that the 33.9 acres preserved for that project remain available.

As noted above in Table 4, the updated proposed project that would replace the formerly proposed Transportation Surface Parking Lot would permanently impact 19.27 acres, requiring an equal amount of mitigation land. When subtracted from the remaining 33.9 acres of available mitigation land **a surplus of 14.63 acres of compensatory mitigation would remain**. Ultimately, only 19.27 acres of marginal upland habitat would be permanently lost as part of the project's construction, which is substantially less than the 33.9 acres that would have been lost if the Transportation Surface Parking Lot had been constructed.

The BO anticipated take of up to one (1) giant garter snake during the construction period in the form of harm, harassment or kill. No changes are proposed to the total amount of incidental take identified in the USFWS Biological Opinion, or the nondiscretionary terms and conditions of the USFWS Biological Opinion Incidental Take Statement for the TMP.

6.5 Cumulative Effects

Under the Federal ESA, cumulative effects are those effects of future state, tribal, local, or private actions that are reasonably certain to occur within the action area of the federal action subject to consultation (50 CFR § 402.2). Future federal actions that are unrelated to the proposed project are not considered in this biological assessment because they require separate consultation under Section 7 of the ESA.

The 2008 BO for the TMP project discussed how the SCDA would address the loss of giant garter snake habitat and the associated effects. SCDA proposed to preserve in perpetuity one acre of land that is of similar value for giant garter snakes for every acre that was permanently affected by the construction of the TMP, and the same requirement carries over to the proposed WattEV Commercial Charging Center. The protected land will support similar or enhanced habitat to that which is currently present in the action area (i.e., inactive agricultural land). As shown in Figure 9, the protected lands are located south of the West Drainage Canal and north of the Sacramento River. Therefore, SCDA fulfilled its mitigation requirements and acquired and preserved 59 acres on airport property south of the proposed action. This is in addition to the 131 acres proposed as mitigation for future components of the Airport's Master Plan.

Since issuance of the 2008 BO, multiple projects have been proposed in the Natomas Basin under the Airport's Master Plan (**Table 5**). The cumulative effects of these foreseeable projects in the Natomas Basin may pose a significant threat to the eventual recovery of the giant garter snake. None of the following proposed projects are in the immediate vicinity of the proposed WattEV Commercial Charging Center Project, but they could significantly affect the sustainability of giant garter snakes in the Natomas Basin when considered cumulatively with this proposed project.

Potential effects on giant garter snake and northwestern pond turtle as a result of these projects were evaluated in the Final Supplemental Environmental Impact Report (SEIR), prepared under the California Environmental Quality Act of 1970, as amended, for the proposed project (ESA, 2024). As noted in Chapter 18 of the Final SEIR, these projects will result in the loss of annual grassland and agricultural land but will be designed to avoid and/or mitigate effects and any loss of suitable aquatic habitat. As noted previously, the updated proposed project element (WattEV Commercial Charging Center Project)

would have effects similar to the original proposed Transportation Surface Parking Lot, and the previous compensatory mitigation would offset these effects through preserving and maintaining better habitat.

TABLE 5
CUMULATIVE PROJECT LIST

Project	Description	Status
Unincorporated Sacramento County		
1 Sacramento International Airport Master Plan Update	• Airport Master Plan through 2038	Approved
2 Elkhorn Extension	• Extension of the alignment of Elkhorn Boulevard from Metro Air Park to Airport Boulevard	Approved
3 Metro Air Park	• 1,892.2 Metro Air Park Special Planning Area • 1,320 acres industrial, manufacturing, distribution, and commercial use	Approved
4 Grandpark	• 5,675.6 acres total mixed use • 21,915 residential units on 2,739.4 acres • 374.5 acres commercial • 2,288.1 acres parks and open space	Proposed
5 Upper Westside	• 2,066 acres total • 9,356 residential units on 848 acres • 136 acres commercial • 392 acres public, park & open space	Proposed
City of Sacramento		
6 Airport South Industrial Park	• 6.6 million square feet (sf) of industrial use on 408 acres • 100,000 sf retail/commercial use, including a 61,000-sf hotel/hospitality, on 11 acres	Proposed
7 Northlake (formerly Greenbriar)	• 2,922 units on 253.9 acres residential • 28.6 acres commercial • 32.5 acres parks and recreational use • 9.9-acre school site • 57.9 acres open space buffers	Approved
8 Innovation Park	• 183.7 acres total • 3,679,400-sf Medical Center on 46 acres • 3,071 residential units • 470,000 sf retail, hotel, and office use	Approved
9 Panhandle	• 589.4 acres total • 1,623 units on 281.8 acres residential • 9.7 acres commercial • 66.5 acres public/quasi-public • 179.4 acres planned development	Approved
Sutter County		
10 Sutter Point	• 7,520 acres total • 49.7 million square feet of industrial, commercial, and business/ professional development • 17,500 residential units • One high school and 6 K-8 schools • 272 acres parks • 395 acres open space.	Approved

SOURCE: ESA, 2023

7 Determination

7.1 Determinations

Implementation of the previously prescribed and new conservation measures would minimize environmental consequences to these species during construction of the proposed WattEV Commercial Charging Center project and its associated offsite improvements (refer to **Table 6**). While the specific configuration of the previously proposed Transportation Surface Parking Lot has shifted with the updated project (i.e., to be larger and to contain different types of facilities), the relative amount of upland giant garter snake habitat to developed remains consistent with the amount of incidental take authorized by the USFWS BO for the TMP. Given that the 19.27 acres of permanent development of marginal upland habitat for giant garter snake under the proposed WattEV Commercial Charging Center is below the 33.9 acres of habitat conversion anticipated within this same property under the 2008 BO, **all compensatory mitigation responsibilities are considered by the FAA for this action to have already been implemented with the 59 acres off-site habitat preservation that SCDA previously documented to the USFWS (**as described above in Section 6.4.3). Therefore, the effects and extent of incidental take are consistent with the findings presented in the 2008 BO.

TABLE 6
FEDERALLY LISTED SPECIES POTENTIAL OCCURRENCE AND EFFECT SUMMARY

Common Name	Scientific Name	Protected Status	Potential Occurrence	Recommended Effect Summary
Giant Garter Snake	*Thamnophis gigas*	Federal – Threatened	Low	***May Affect, Likely to Adversely Affect*** The proposed project would result in the permanent loss of 19.27 acres of marginal upland habitat and would result in maintenance of 88.9 acres of marginal upland habitat underneath the solar arrays, similar to that which is currently present. No effects would occur to suitable aquatic habitat. Implementation of conservation measures would reduce the likelihood of take of individuals.
Northwestern Pond Turtle	*Actinemys marmorata*	Federal – Proposed Threatened	Low	***May Affect, Likely to Adversely Affect*** The proposed project would result in the permanent loss of 19.27 acres of marginal upland habitat and would result in maintenance of 88.9 acres of marginal upland habitat underneath the solar arrays, similar to that which is currently present. No effects would occur to suitable aquatic habitat. Implementation of conservation measures would reduce the likelihood of take of individuals.

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Appendix A
2008 Biological Opinion

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In reply refer to:
81420-2008-F-0528-1

FEB 27 2008

Mr. Douglas Pomeroy
Federal Aviation Administration
Western-Pacific Region
831 Mitten Road, Suite 210
Burlingame, California 94010-1300

Subject: Biological Opinion on the Sacramento International Airport Terminal Modernization Project in Sacramento County, California

Dear Mr. Pomeroy:

This is in response to the September 28, 2007, request from the Federal Aviation Administration (FAA) for formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Sacramento International Airport Terminal Modernization Project (proposed project) in Sacramento County, California. Your request was received in our office on October 1, 2007. The Sacramento County Airport System (SCAS) proposes construction of a new Terminal B to replace the existing Terminal B, and related facilities, including two new parking lots. The Service has determined that the project is likely to adversely affect the federally-listed as threatened giant garter snake (*Thamnophis gigas*) (snake). No critical habitat has been designated for this species; therefore, none will be affected by the proposed project. This document represents the Service's biological opinion on the effects of the proposed project on the giant garter snake, in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

The findings and recommendations in this consultation are based on: (1) the July 2007, *Final Environmental Impact Report for the Sacramento International Airport Master Plan,* submitted by the County of Sacramento; (2) the September 27, 2007, *Transmittal of Biological Assessment for Sacramento International Airport Terminal Modernization Program* (Biological Assessment or BA), submitted by the SCAS; (3) the November 2007, *Draft Environmental Assessment for the Terminal Modernization Project at Sacramento International Airport* (Draft EA), submitted by FAA; (4) various meetings, phone conversations, e-mails, and a site visit to the proposed project site; and (5)other information available to the Service. A complete administrative record of this consultation is on file at the Sacramento Fish and Wildlife Office.

TAKE PRIDE IN AMERICA

Consultation History

June 25, 2007: The Service and the California Department of Fish and Game (CDFG) issued a joint comment letter addressing the Draft Environmental Impact Report for proposed Sacramento International Airport Master Plan. The agencies expressed concern about the effects of the proposed project activities in the Master Plan on the existing Natomas Basin Habitat Conservation Plan (NBHCP). The proposed project was listed as a component of this overall Master Plan.

September 14, 2007: Jana Milliken of the Service met with representatives from the FAA, SCAS, and their consultants to discuss the project. It was explained that for the purposes of section 7 consultation and analysis pursuant to the National Environmental Policy Act (NEPA), the proposed project was being analyzed separately from the other components of the Master Plan project.

September 18, 2007: The Service received the September 14, 2007, letter from the U.S. Army Corps of Engineers, which stated that no waters of the U.S. would be impacted and that a Department of Army permit would not be required for the proposed project.

October 1, 2007: The Service received the September 28, 2007, letter and Biological Assessment from the FAA requesting initiation of section 7 consultation on the proposed project. The FAA requested that the Service concur that the project is not likely to adversely affect the snake, but if the Service concludes that the project is likely to adversely affect the snake, then formal consultation proceed.

October 10, 2007: The Service received the October 5, 2007, revision from the FAA to Figure 8 of the BA.

October 18, 2007: Jana Milliken of the Service toured the project site with representatives of the SCAS, FAA, and their consultants. Among the site visited were the sites for the new terminal facility and the two new parking lots.

October 25, 2007: Jana Milliken, Eric Tattersall, and Cay Goude of the Service had a phone conversation with Greg Rowe of the SCAS and explained that the Service could not concur with the FAA's determination that the project was "not likely to adversely affect" the giant garter snake.

November 18, 2007: Jana Milliken and Eric Tattersall of the Service, met with FAA, SCAS, their consultants, and the CDFG to discuss the project.

November 29, 2007: The Service received the November 28, 2007, letter from the FAA requesting an extension of the informal consultation period to December 28, 2007.

December 20, 2007: Representatives from the Service, the Department of the Interior Solicitors Office, FAA, SCAS, and the California Department of Fish and Game met to discuss the proposed project. The proposed project's effects on the Natomas Basin Habitat Conservation Plan and the giant garter snake were discussed.

February 6, 2008: Representatives from the Service, FAA, and SCAS met to discuss suggested language regarding the mechanism for funding management of the compensation area and other issues.

Project Description

The SCAS proposes to construct new facilities at the existing Sacramento International Airport (Airport) to provide adequate terminal capacity to accommodate a forecasted increase in passenger travel to and from the Sacramento region. The purpose of the proposed project, as stated in the BA, is to "increase terminal capacity to efficiently handle the future forecasted number of passengers at (the Airport)", and to "increase the capacity of parking facilities at (the Airport) to meet the demand associated with the future forecasted number of passengers". SCAS proposed to construct a series of new facilities, including a new Terminal B to replace the existing Terminal B at the current Airport site. The new Terminal B will be constructed on the site of the current Terminal B1 hourly parking lot, and equipment for this construction will be staged at the existing Terminal B daily parking lot. Associated components of the proposed project include:

- A new crossfield taxiway Y on the north side of existing facilities;
- A new terminal apron for Concourse B;
- A new 5,800-parking space public parking garage to service Terminal B;
- A new 200-room hotel;
- Roadway modifications adjacent to Terminal B;
- New terminal roadways;
- A new 1,600-parking space Employee Parking Lot, located north of Interstate 5 (I-5) and west of Airport Boulevard; and
- A new 5,000-parking space Transportation Surface Parking Lot, located south of I-5 and west of Power Line Road.

The Transportation Surface Parking Lot will provide parking, in replacement for the parking removed by the new Terminal B construction activities. Shuttle buses will transport passengers from this parking lot to the Airport via the existing South Bayou Road. No widening or other improvements to South Bayou Road are proposed as part of this proposed project. All construction would occur on Airport property, as shown in Figure 2 of the BA.

Equipment staging will occur in previously disturbed areas (i.e. existing parking facilities) for all components of the proposed project except the two new parking facilities. Staging for the two new parking facilities will occur in the footprint of these facilities as shown in Appendix A.

The SCAS has determined, and the Service concurs, that the only habitat for giant garter snakes that may be affected is in the vicinity of the two proposed parking lots. The remainder of the proposed project components occurs in previously paved or otherwise disturbed areas, and it is unlikely that these activities will result in adverse effects to giant garter snakes.

Proposed Conservation Measures

SCAS proposes to implement the following conservation measures to minimize, avoid, and compensate for effects to giant garter snakes in the vicinity of the two proposed parking facilities:

- SCAS will permanently preserve 59 acres in agriculture in the area south of the Reclamation District 1000 West Drainage Canal, west of Powerline Road, and north of the Sacramento River. SCAS proposes to preserve this area under a deed restriction to ensure that is preserved in perpetuity as habitat for the giant garter snake. An additional 131 acres will be preserved in the area as mitigation for future projects proposed under the Airport's Master Plan. This is adjacent to a 270-acre area that is preserved as cultivated foraging habitat for Swainson's hawks (*Buteo swainsoni*).
- All initial ground-disturbing activities (including grubbing, clearing, and site compaction) of the two proposed parking lots will occur between May 1 and October 1.
- Pre-construction surveys will be conducted by a qualified, Service-approved biologist. No more than 24 hours prior to the start of site preparation, grading, or construction activities, the sites will be surveyed for the presence of giant garter snakes. If construction activities are idled for two weeks or more, the site will be surveyed again no more than 24 hours prior to the restart of activities.
- Construction activities will be confined to the minimal area necessary to facilitate construction. Giant garter snake habitat (that is, the area between the project footprint and the aquatic ditch habitat) will be flagged and designated for avoidance by all construction personnel and heavy equipment.
- Movement of heavy equipment to and from the project area will be restricted to established roadways to the extent possible to minimize habitat disturbance.
- Construction personnel completing site preparation and grading operations shall receive Service-approved environmental awareness training. This training instructs workers on how to identify giant garter snakes and their habitats, and what to do if a giant garter snake is encountered during construction activities. Proof of this training will be submitted to the Service. An on-site biological monitor will be designated at this training.
- If a live giant garter snake is encountered during construction activities, the monitor will be immediately notified and the Service will be contacted. The monitor will have the authority to stop construction in the vicinity of the snake, monitor the snake, and allow it to leave on its own. The monitor shall remain in the area for the remainder of the work

day to make sure the snake is not harmed or if it leaves the site, does not return. Escape routes for snakes will be determined in advance of construction and snakes will be allowed to leave on their own. If a snake does not leave on its own within one working day, further consultation with the Service will take place.

- The SCAS or its designated agent will notify the Service's Division of Law Enforcement and Endangered Species Division at the Sacramento Fish and Wildlife Office upon locating dead, injured, or sick threatened or endangered wildlife species. Written notification to both offices will be made and will include the date, time, and location of finding a specimen and any other pertinent information.
- Upon completion of construction activities, temporary fill or construction debris will removed. If this removal will occur between October 1 and April 30, this material will be inspected by a qualified biologist to assure that giant garter snakes are not using it as hibernaculae.
- No plastic, monofilament, jute, or similar erosion control matting that could entangle snakes will be placed on a project site within 200 feet of snake aquatic habitat. Possible substitutions include coconut coir matting, tactified hydroseeding compounds, or other material approved by the Service.
- SCAS shall prepare a Stormwater Pollution Prevention Plan (SWPPP) for project construction that includes industry standard Best Management Practices (BMPs) to prevent discharge of sediments off site such as silt fences, sand bags, fiber rolls, and stabilized construction entrances, and secondary containment for equipment refueling and maintenance.
- SCAS shall update its current SWPPP for airport operations to reflect changes to the airport resulting from the Terminal Modernization Program. The new SWPPP will be submitted to the Central Valley Regional Water Quality Control Board for review and approval. The following additional BMPs shall be incorporated when the SWPPP is updated:

  a. Provide oil/water separators on storm drain inlets from parking areas, or other areas where oils and greases may be picked up by storm water.

  b. Direct storm water from impervious areas into pervious areas (e.g., vegetated buffer) to promote infiltration and reduce direct discharge of runoff off site.

  c. Design the new Employee Parking Lot and Transportation Surface Parking Lot to direct storm water to pervious areas (e.g., vegetated buffer) prior to discharge into storm drains.

  d. Use porous pavement, interceptor trees, and divided sidewalks in the new Employee Parking Lot and Transportation Surface Parking Lot to reduce storm water runoff.

  e. Direct storm water from building roof drains into pervious areas around the buildings to promote infiltration and reduce direct discharge of runoff off site.

Action Area

The action area is defined in 50 CFR § 402.02, as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." For the proposed action, the Service considers the action area to be the Natomas Basin, which includes the entire area interior to the toe of the levees of the Natomas Cross Canal on the north, the Sacramento River on the west, the American River on the south, and the Natomas East Main Drainage Canal on the east.

Status of the Species

Giant Garter Snake

Listing. The Service published a proposal to list the giant garter snake as an endangered species on December 27, 1991 (56 **FR** 67046). The Service reevaluated the status of the giant garter snake before adopting the final rule, which listed the giant garter snake as a threatened species on October 20, 1993 (58 **FR** 54053).

Description. The giant garter snake is one of the largest garter snakes species reaching a total length of approximately 64 inches (162 centimeters). Females tend to be slightly longer and proportionately heavier than males. Generally, giant garter snakes have a dark dorsal background color with pale dorsal and lateral stripes, although coloration and pattern prominence are geographically and individually variable (Hansen 1980; Rossman *et al.* 1996).

Historical and Current Range. Giant garter snakes formerly occurred throughout the wetlands that were extensive and widely distributed in the Sacramento and San Joaquin Valley floors of California (Fitch 1940; Hansen and Brode 1980; Rossman and Stewart 1987). The historical range of the giant garter snake is thought to have extended from the vicinity of Chico, Butte County, southward to Buena Vista Lake, near Bakersfield, in Kern County (Fitch 1940; Fox 1948; Hansen and Brode 1980; Rossman and Stewart 1987). Early collecting localities of the giant garter snake coincide with the distribution of large flood basins, particularly riparian marsh or slough habitats and associated tributary streams (Hansen and Brode 1980). Loss of habitat due to agricultural activities and flood control have extirpated the giant garter snake from the southern one third of its range in former wetlands associated with the historic Buena Vista, Tulare, and Kern lake beds (Hansen 1980; Hansen and Brode 1980).

Upon Federal listing in 1993, the Service identified 13 separate populations of giant garter snakes, with each population representing a cluster of discrete locality records (Service 1993). The 13 populations largely coincide with historical flood basins and tributary streams throughout the Central Valley: (1) Butte Basin, (2) Colusa Basin, (3) Sutter Basin, (4) American Basin, (5) Yolo Basin/Willow Slough, (6) Yolo Basin/Liberty Farms, (7) Sacramento Basin, (8) Badger Creek/Willow Creek, (9) Caldoni Marsh/White Slough, (10) East Stockton--Diverting Canal & Duck Creek, (11) North and South Grasslands, (12) Mendota, and (13) Burrel/Lanare.

The known range of the giant garter snake has changed little since the time of listing. In 2005, giant garter snakes were observed at the City of Chico's wastewater treatment facility, approximately ten miles north of what was previously believed to be the northernmost extent of the species' range (D. Kelly pers. comm. 2006; E. Hansen pers. comm. 2006). The southernmost known occurrence is at the Mendota Wildlife Area in Fresno County.

Essential Habitat Components. Endemic to wetlands in the Sacramento and San Joaquin valleys, the giant garter snake inhabits marshes, sloughs, ponds, small lakes, low gradient streams, and other waterways and agricultural wetlands, such as irrigation and drainage canals, rice fields and the adjacent uplands (Service 1999). Essential habitat components consist of: (1) wetlands with adequate water during the giant garter snake's active season (early-spring through mid-fall) to provide food and cover; (2) emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat during the active season; (3) upland habitat with grassy banks and openings in waterside vegetation for basking; and (4) higher elevation uplands for over-wintering habitat with escape cover (vegetation, burrows) and underground refugia (crevices and small mammal burrows) (G. Hansen 1988). Giant garter snakes are typically absent from larger rivers and other bodies of water that support introduced populations of large, predatory fish, and from wetlands with sand, gravel, or rock substrates (G. Hansen 1988; G. Hansen and Brode 1980; Rossman and Stewart 1987). Riparian woodlands do not provide suitable habitat because of excessive shade, lack of basking sites, and absence of prey populations (G. Hansen 1988).

Foraging Ecology. Giant garter snakes are the most aquatic garter snake species and are active foragers, feeding primarily on aquatic prey such as fish and amphibians (Fitch 1941). Because the giant garter snake's historic prey species are either declining, extirpated, or extinct, the predominant food items are now introduced species such as carp (*Cyprinus carpio*), mosquitofish (*Gambusia affinis*), larval and sub-adult bullfrogs (*Rana catesbiana*), and Pacific chorus frogs (*Pseudacris regilla*) (Fitch 1941; G. Hansen 1988; G. Hansen and Brode 1980, 1993; Rossman *et al.* 1996).

Reproductive Ecology. The giant garter snake breeding season starts in March and extends through April. Females give birth to live young from late July through early September (R. Hansen and G. Hansen 1990). Although growth rates are variable, young typically more than double in size by one year of age, and sexual maturity averages three years in males and five years for females (Service 1993).

Movements and Habitat Use. The giant garter snake is highly aquatic but also occupies a terrestrial niche (Service 1999; Wylie *et al.* 2003c). The giant garter snake typically inhabits small mammal burrows and other soil and/or rock crevices during the colder months of winter (*i.e.*, October to April) (G. Hansen and Brode 1993; Wylie *et al.* 1995; Wylie *et al.* 2002), and also uses burrows as refuge from extreme heat during its active period (Wylie *et al.* 1997; Wylie *et al.* 2003b). While individuals usually remain in close proximity to wetland habitats, the Biological Resource Division of the U.S. Geological Survey (BRD) has documented giant garter snakes using burrows as much as 165 feet (50 meters) away from the marsh edge to escape extreme heat, and as far as 820 feet (250 meters) from the edge of marsh habitat for over-

wintering habitat (Wylie *et al.* 1997). Giant garter snakes have been observed tens to hundreds of meters distant from any water body in various types of habitat. Upland habitat is essential for snakes because it provides overwintering hibernacula and areas for which snakes to thermoregulate (regulate their body temperature), and small mammal burrows which are used by snakes for ecdysis (shedding of the skin). Upland habitat may be particularly important for neonates (newly born) giant garter snakes, which may use the uplands more frequently than adults, possibly seeking terrestrial prey, such as earthworms or other insects.

In studies of marked giant garter snakes in the Natomas Basin, giant garter snakes moved about 0.25 to 0.5 miles (0.4 to 0.8 kilometers) per day (G. Hansen and Brode 1993). Total activity, however, varies widely between individuals; individual giant garter snakes have been documented to move up to 5 miles (8 kilometers) over a few days in response to dewatering of habitat (Wylie *et al.* 1997) and to use up to more than 8 miles (12.9 kilometers) of linear aquatic habitat over the course of a few months. Home range (area of daily activity) averages about 0.1 $mile^2$ (25 hectares) in both the Natomas Basin and the Colusa National Wildlife Refuge (NWR) (Wylie 1998a; Wylie *et al.* 2002), yet can be as large as 14.5 $miles^2$ (3744 hectares) (Wylie and Martin 2004).

Rice fields have become important habitat for giant garter snakes, particularly associated canals and their banks, for both spring and summer active behavior and winter hibernation (E. Hansen 2004; Wylie 1998a). While within the rice fields, giant garter snakes forage in the shallow water for prey, utilizing rice plants and vegetated berms dividing rice checks for shelter and basking sites (G. Hansen and Brode 1993). In the Natomas Basin, habitat used consisted almost entirely of irrigation ditches and established rice fields (Wylie 1998a; Wylie *et al.* 2004), while in the Colusa NWR, giant garter snakes were regularly found on or near edges of wetlands and ditches with vegetative cover (Wylie *et al.* 2003c). Telemetry studies also indicate that active giant garter snakes use uplands extensively, particularly where vegetative cover exceeds 50 percent in the area (Wylie 1998a).

Predators. Giant garter snakes are killed and/or eaten by a variety of predators, including raccoons (*Procyon lotor*), striped skunks (*Mephitis mephitis*), opossums (*Didelphis virginiansa*), bull frogs (*Rana catesbiana*), hawks (*Buteo* sp.), egrets (*Casmerodius albus, Egretta thula*), river otters (*Ludra canadensis*), and great blue herons (*Ardea herodias*) (Dickert 2003; Wylie *et al.* 2003a; G. Wylie pers. comm. 2006). Many areas supporting giant garter snakes have been documented to have abundant predators; however, predation does not seem to be a limiting factor in areas that provide abundant cover, high concentrations of prey items, and connectivity to a permanent water source (G. Hansen and Brode 1993; Wylie *et al.* 1995).

Reasons for Decline and Threats to Survival. The current distribution and abundance of the giant garter snake is much reduced from former times (Service 1999). Prior to reclamation activities beginning in the mid- to late-1800s, about 60 percent of the Sacramento Valley was subject to seasonal overflow flooding providing expansive areas of giant garter snake habitat (Hinds 1952). Now, less than 10 percent, or approximately 319,000 acres (129,000 hectares), of the historic 4.5 million acres (1.8 million hectares) of Central Valley wetlands remain (U.S. Department of Interior 1994), of which very little provides habitat suitable for the giant garter snake. Loss of

habitat due to agricultural activities and flood control has extirpated the giant garter snake from the southern one-third of its range in former wetlands associated with the historic Buena Vista, Tulare, and Kern lakebeds (R. Hansen 1980; G. Hansen and Brode 1980).

Valley flood wetlands are now subject to cumulative effects of upstream watershed modifications, water storage and diversion projects, as well as urban and agricultural development. The Central Valley Project (CVP), the largest water management system in California, created an ecosystem altered to such an extent that remaining wetlands depend on highly managed water regimes (U.S. Department of Interior 1994). Further, the implementation of CVP has resulted in conversion of native habitats to agriculture, and has facilitated urban development throughout the Central Valley (Service 1999). For instance, residential and commercial growth within the Central Valley is consuming an estimated 15,000 acres of farmland each year (American Farmland Trust 1999), with a projected loss of more than one million acres by the year 2040 (USGS 2003). Environmental impacts associated with urbanization include loss of biodiversity and habitat, alteration of natural fire regimes, fragmentation of habitat from road construction, and degradation due to pollutants. Further, encroaching urbanization can inhibit rice cultivation (J. Roberts pers. comm. 2006). Rapidly expanding cities within the giant garter snake's range include Chico, Yuba City, the Sacramento area, Galt, Stockton, Gustine, and Los Banos.

Ongoing maintenance of aquatic habitats for flood control and agricultural purposes can eliminate or prevent the establishment of habitat characteristics required by giant garter snakes (G. Hansen 1988). Such practices can fragment and isolate available habitat, prevent dispersal of giant garter snakes among habitat units, and adversely affect the availability of the giant garter snake's food items (G. Hansen 1988; Brode and G. Hansen 1992). For example, tilling, grading, harvesting and mowing may kill or injure giant garter snakes (Wylie *et al.* 1997). Biocides applied to control aquatic vegetation reduce cover for the giant garter snake and may harm prey species (Wylie *et al.* 1995). Rodent control threatens the giant garter snake's upland aestivation habitat (Wylie *et al.* 1995). Restriction of suitable habitat to water canals bordered by roadways and levee tops renders giant garter snakes vulnerable to vehicular mortality (Wylie *et al.* 1997). Rolled erosion control products, which are frequently used as temporary berms to control and collect soil eroding from construction sites, can entangle and kill giant garter snakes (Stuart *et al.* 2001; Barton and Kinkead 2005). Livestock grazing along the edges of water sources degrades water quality and can contribute to the elimination and reduction of available quality giant garter snake habitat (G. Hansen 1988; E. Hansen, pers. comm., 2006), and giant garter snakes have been observed to avoid areas that are grazed (E. Hansen 2003). Fluctuation in rice and agricultural production affects stability and availability of habitat (Paquin *et al.* 2006; Wylie and Casazza 2001; Wylie *et al.* 2003b, 2004).

Other land use practices also currently threaten the survival of the giant garter snake. Recreational activities, such as fishing, may disturb giant garter snakes and disrupt thermoregulation and foraging activities (E. Hansen pers. comm., 2006). While large areas of seemingly suitable giant garter snake habitat exist in the form of duck clubs and waterfowl management areas, water management of these areas typically does not provide the summer water needed by the species (Beam and Menges 1997; Dickert 2005; Paquin *et al.* 2006).

Nonnative predators, including introduced predatory game fish, bullfrogs, and domestic cats, can threaten giant garter snake populations (Dickert 2003; G. Hansen 1986; Service 1993; Wylie *et al.* 1995; Wylie *et al.* 2003a). Nonnative competitors, such as the introduced water snake (*Nerodia fasciata*) in the American River and associated tributaries near Folsom, may also threaten the giant garter snake (Stitt *et al.* 2005).

The disappearance of giant garter snakes from much of the west side of the San Joaquin Valley was approximately contemporaneous with the expansion of subsurface drainage systems in this area, providing circumstantial evidence that the resulting contamination of ditches and sloughs with drainwater constituents (principally selenium) may have contributed to the demise of giant garter snake populations. Dietary uptake is the principle route of toxic exposure to selenium in wildlife, including giant garter snakes (Beckon *et al.* 2003). Many open ditches in the northern San Joaquin Valley carry subsurface drainwater with elevated concentrations of selenium, and green sunfish (*Lepomis cyanellus*) have been found to have concentrations of selenium within the range of concentrations associated with adverse affects on predator aquatic reptiles (Hopkins *et al.* 2002; Saiki 1998). Studies on the effects of selenium on giant garter snakes suggest that giant garter snakes with high selenium loads in their internal organs can transfer potentially toxic quantities of selenium to their eggs (Hopkins *et al.* 2004) and also demonstrate higher rates of metabolic activity than uncontaminated giant garter snakes (Hopkins *et al.* 1999).

Status with Respect to Recovery. The draft recovery plan for the giant garter snake subdivides its range into four proposed recovery units (Service 1999): (1) Sacramento Valley Recovery Unit; (2) Mid-Valley Recovery Unit; (3) San Joaquin Valley Recovery Unit; and (4) South Valley Recovery Unit.

The Sacramento Valley Unit at the northern end of the species' range contains sub-populations in the Butte Basin, Colusa Basin, and Sutter Basin (Service 1999; Service 2006). Protected giant garter snake habitat is located on State refuges and refuges of the Sacramento National Wildlife Refuge (NWR) Complex in the Colusa and Sutter Basins. Suitable giant garter snake habitat is also found in low gradient streams and along waterways associated with rice farming. This northernmost recovery unit is known to support relatively large, stable sub-populations of giant garter snakes (Wylie *et al.* 1995; Wylie *et al.* 1997; Wylie *et al.* 2002; Wylie *et al.* 2003c). Habitat corridors connecting subpopulations, however, are either not present or not protected, and are threatened by urban encroachment.

The Mid-Valley Unit includes sub-populations in the American, Yolo, and Delta Basins (Service 1999; Service 2006). The status of Mid-Valley sub-populations is very uncertain; each is small, highly fragmented, and located on isolated patches of limited quality habitat that is increasingly threatened by urbanization (E. Hansen 2002, 2004; Service 1993; Wylie *et al.* 2003b, 2004; G. Wylie pers. comm. 2006). The American Basin sub-population, although threatened by urban development, receives protection from the Metro Air Park and Natomas Basin Habitat Conservation Plans, which share a regional strategy to maintain a viable giant garter snake sub-population in the basin.

The San Joaquin Valley Unit, which includes sub-populations in the San Joaquin Basin, formerly supported large giant garter snake populations, but numbers have severely declined, and recent survey efforts indicate numbers are extremely low compared to Sacramento Valley sub-populations (Dickert 2002, 2003; G. Hansen 1988; Sloan 2004; Williams and Wunderlich 2003; Wylie 1998). Giant garter snakes currently occur in the northern and central San Joaquin Basin within the Grassland Wetlands of Merced County and the Mendota Wildlife Area of Fresno County; however, these sub-populations remain small, fragmented, and unstable, and are probably decreasing (Dickert 2003, 2005; G. Wylie pers. comm., 2006).

The South Valley Unit included sub-populations in the Tulare Basin, however, agricultural and flood control activities are presumed to have extirpated the giant garter snake from the Tulare Basin (G. Hansen and Brode 1980; R. Hansen 1980; G. Hansen 1988, 1996). Comprehensive surveys for this area are lacking and where habitat remains, the giant garter snake may be present.

Since 1995, BRD has studied giant garter snake sub-populations at the Sacramento, Delevan, and Colusa NWRs and in the Colusa Basin Drain within the Colusa Basin, at Gilsizer Slough within the Sutter Basin, at the Badger Creek area of the Cosumnes River Preserve within the Badger Creek/Willow Creek area of the Delta Basin, and in the Natomas Basin within the American Basin (E. Hansen 2003, 2004; Wylie 1998b, 2003; Wylie *et al.* 1995; Wylie *et al.* 2002, 2003c; Wylie *et al.* 2003b, 2004). These areas contain the largest extant giant garter snake sub-populations. Outside of protected areas, however, giant garter snakes are still subject to all threats identified in the final rule. The other sub-populations are distributed discontinuously in small, isolated patches, and are vulnerable to extirpation by stochastic environmental, demographic, and genetic processes (Goodman 1987).

The draft recovery criteria require multiple, stable sub-populations within each of the three recovery units, with sub-populations well-connected by corridors of suitable habitat. This entails that corridors of suitable habitat between existing giant garter snake sub-populations be maintained or created to enhance sub-population interchange to offset threats to the species (Service 1999). Currently, only the Sacramento Valley Recovery Unit is known to support relatively large, stable giant garter snake populations. Habitat corridors connecting sub-populations, even in the Sacramento Valley Recovery Unit, are either not present or not protected. Overall, the future availability of habitat in the form of canals, ditches, and flooded fields are subject to market-driven crop choices, agricultural practices, and urban development, and are, thus, uncertain and unpredictable.

Environmental Baseline

American Basin. The proposed project is located within the American Basin giant garter snake population, in the Mid Valley Recovery Unit (Service 1999). Seventy-nine CNDDB (2008) records are known from the American Basin. These records include the Natomas Basin, Gilsizer Slough, the Middle-American Basin just north of the Natomas Cross Canal, Rio Oso and associated tributaries, as well as other locations within the Basin.

Within the greater American Basin, the Natomas Basin is bounded on the west by the Sacramento River levee, on the north by the Natomas Cross Canal (NCC), on the east by the Natomas East Main Drainage Canal (NEMDC), and on the south by the American River levee. The Natomas Basin Habitat Conservation Plan (NBHCP) applies to the 53,537-acre (21,666-hectare) area interior to the toes of the levees surrounding the Natomas Basin, located in the northern portion of Sacramento County and the southern portion of Sutter County. The baseline analysis done for the NBHCP found that, as of 2001, the Natomas Basin supported approximately 24,567 acres (9,942 hectares) of aquatic giant garter snake habitat. Of that, approximately 96 acres (39 hectares) are ponds and seasonally wet areas, 22,693 acres (9,184 hectares) are rice fields, and 1,778 acres (720 hectares) are canals (CH2M Hill 2002).

Previously, BRD conducted giant garter snake studies in the Natomas Basin, including areas owned and managed by The Natomas Basin Conservancy (TNBC) (Wylie 1998a; Wylie *et al.* 2000; Wylie *et al.* 2003b, 2004). Currently, Eric Hansen is over-seeing these surveys (Jones and Stokes 2005). Surveys have established the presence of giant garter snakes throughout the Basin, including nearly all the TNBC properties with suitable habitat for the giant garter snake. TNBC's marsh and rice land preserves are being managed with the goal to maintain viable sub-populations of the giant garter snake and the NBHCP's other wetland dependent species. Density estimates in the Natomas Basin range from 6 to 64 giant garter snakes per mile (4 to 40 giant garter snakes per kilometer) depending on the trapping location (Wylie *et al.* 2004). Wylie *et al.* (2003b) suggest that TNBC properties have the potential to provide habitat to sustain giant garter snake populations in the Natomas Basin. They propose that development of giant garter snake habitat on TNBC lands should proceed as quickly as practical. In the Sacramento Valley, water is being purchased from rice growers and exported to the south. Fallowing of land appears to reduce or eliminate giant garter snake capture success in adjacent canals (Wylie *et al.* 2004). If land fallowed by water sales increases in the Basin, the habitat managed by TNBC becomes all the more important for protecting giant garter snake sub-populations (Wylie *et al.* 2004). Also, development projects in the southern end of the Natomas Basin will eliminate local giant garter snake sub-populations, particularly when there is no avenue of escape from construction activity (Wylie *et al.* 2003b).

Biologists funded by the Sacramento Area Flood Control Agency are conducting population dynamics studies in the Middle-American Basin, which lies north of the Natomas Basin and NCC (Hansen 2003, 2004) Most giant garter snakes in the Middle-American Basin occur near the NCC and Main Canal where more rice and aquatic habitat is available. However, no giant garter snakes have been found to move within or across the NCC itself, suggesting that giant garter snakes are not moving between the middle-American Basin and the Natomas Basin. If the NCC represents a barrier to movement within the greater American Basin, then giant garter snakes may be present in two separate and genetically isolated sub-populations, requiring separate conservation and management. This type of genetic differentiation is known in giant garter snakes as revealed by regional subdivision in mitochondrial DNA haplotypes (Paquin *et al.* 2006).

BRD has conducted studies at Gilsizer Slough, surrounding lands, and associated irrigation canals (Wylie *et al.* 1995; Wylie *et al.* 1997). Giant garter snakes were shown to use canal,

marsh, and rice habitat (Wylie *et al.* 1995; Wylie *et al.* 1997). Giant garter snakes were particularly associated with irrigated canals that had thickly vegetated slopes. Fifty-five percent of telemetered giant garter snakes used rice fields at some time (Wylie *et al.* 1997). Because of few recaptures and no clearly defined capture/recapture events, estimation of total numbers of giant garter snakes in the Gilsizer area was not possible; however, BRD speculates that numbers may be in the hundreds. Much of the Gilsizer Slough area is protected by the State. Also, 162 acres (66 hectares) of the Slough is protected as a result of mitigation for the Wild Goose Gas Pipeline and State Route 70-Algodon Road Interchange projects.

The overall status of the giant garter snake has not improved since its listing. The American Basin is one of the larger and more protected giant garter snake sub-populations. Nonetheless, this sub-population is subject to the effects of a number of projects. Numerous development projects have been constructed in or near giant garter snake habitat in this rapidly urbanizing area. American Basin giant garter snakes are highly vulnerable to secondary effects of urbanization, such as increased predation by house cats, water pollution in the form of urban run-off, and increased vehicular mortality. Most documented localities have been adversely impacted by development, including freeway construction, and flood control projects (Wylie *et al.* 2004). Several former localities are known to have been lost and/or depleted to the extent that continued viability is in question (Brode and Hansen 1992). The scarcity of remaining suitable habitat, flooding, stochastic processes, and continued threats of habitat loss pose a severe threat to this sub-population (Goodman 1987).

Factors Affecting the Giant Garter Snake Within the Action Area

A number of State, local, private, and unrelated Federal actions have occurred within the action area (Natomas Basin) and adjacent region affecting the environmental baseline of the species. Some of these projects have been subject to prior section 7 consultation. These actions have resulted in both direct and indirect effects to giant garter snake habitat within the region. Projects affecting the environment in and around the action area include bridge replacements over the NEMDC and Steelhead Creek at Main Avenue, the Lower Dry Creek and Robia Creek Levee Improvement project, the Lower Northwest Interceptor project, and the North Natomas Comprehensive Drainage project.

On-going development within the Natomas Basin also affects the giant garter snake and its habitat. In February of 2002, the Service issued an incidental take permit (ITP) to the Metro Air Park Property Owners Association (MAPPOA) for development activities associated with the implementation of the Metro Air Park Habitat Conservation Plan (MAPHCP). On June 27, 2003, the Service issued ITPs to the City of Sacramento, Sutter County, and TNBC for activities associated with the implementation of the Final NBHCP (City of Sacramento *et al.* 2003). TNBC is the plan operator responsible for acquiring and managing habitat mitigation lands for the MAPHCP and NBHCP. The MAPHCP and NBHCP permits authorize incidental take of the giant garter snake and several other species resulting from the development of 17,500 acres (7,082 hectares) of land in the Natomas Basin; of this, approximately 8,512 acres (3,445 hectares) is suitable giant garter snake habitat (*e.g.*, ponds, canals, and rice fields) (Service 2003). A key component of the MAPHCP and NBHCP's Operating Conservation Strategy (OCS) is the

acquisition of 0.5 acre (0.2 hectare) of habitat mitigation lands for every acre of land developed within the permit areas. The plan assumes that the areas within the Natomas Basin outside of the MAPHCP Permit Area and the Permit Areas for the NBHCP permittees would remain undeveloped. A total of 75 percent of the mitigation lands protected under the plans will be suitable for the giant garter snake, with 50 percent in rice fields and 25 percent restored to managed marsh. Once the MAPHCP and NBHCP permit areas have been built out, approximately 6,562 acres (2,656 hectares) of habitat will have been acquired/restored and will be actively managed for the giant garter snake, including 4,375 acres (1,771 hectares) of rice fields and 2,187.5 acres (521 hectares) of managed marsh.

As of December 31, 2006, the City of Sacramento had issued urban development permits for the development of 6,849 acres (2,772 hectares) in the NBHCP permit area; Sutter County had not issued any urban development permits in the NBHCP permit area. In September of 2003, MAPPOA graded 800 acres (324 hectares) of the Metro Air Park site to prepare the site for development. Of the disturbed area, 190.4 acres (77 hectares) will be immediately developed; the remaining area will revert to agricultural use until it is eventually developed. As of December 31, 2006, no additional land has been graded at Metro Air Park. As of January 21, 2004, TNBC had acquired 4,184 acres (1,693 hectares) of lands to mitigate the impacts of these two HCPs.

The NBHCP addressed the expected expansion of the Airport in Section III – Land Use Issues:

> "The Sacramento International Airport is within the NBHCP Plan Area, but expansion of the airport is not covered by the NBHCP Incidental Take Permits. The airport will mitigate for future disturbance to airport lands through coordination between the Airport and Sacramento County, and obtain any necessary incidental take coverage from USFWS and CDFG. The specific area of potential airport expansion are not currently specified."

The Service and DFG consider the entire Natomas Basin as potential habitat for the snake because the lands are of generally uniform character and capable of restoration. To survive in the Basin, giant garter snakes require large blocks of wetland and adjacent upland habitat distributed throughout three population centers and connected to each other through a system of canals and other aquatic features. Brode and Hansen (1992) stated that the Basin provides the most important habitat remaining for the snake and observed that snake habitat within the Basin occurs in three large areas that are separated by major highways. Area 1 is defined as lands north of I-5 and west of State Route 99/70 (SR 99/70). Important habitat areas include Prichard Lake, the North Drain Canal, and its associated rice fields. Area 2 is defined as the lands south and west of I-5, and it's most important habitat area is Fisherman's Lake. Area 3 is defined as the lands east of I-5 and SR 99/70. The most important component of Area 3 is "Snake Alley", an area comprised of the North Main Canal and its associated rice fields and irrigation ditches on the east side of SR 99/70. The authors hypothesized that snakes could move between the three areas through large box culverts under the major highways. Brode and Hansen (1992) attributed the snake's continued success in the Basin to the numerous irrigation ditches, rice fields, and especially the extensive network of irrigation canals, feeder canals, and drains. The authors concluded by presenting a conceptual conservation plan for the snake in the Basin. This plan

was based upon a minimum of one core habitat in each of the geographic areas with connecting canals to ensure snakes could move between each of the three areas. The proposed Transportation Surface Parking Lot is in Area 2, and the proposed Employee Parking Lot is in Area 1.

The continuing practice of fallowing rice fields on and around Airport property, and throughout the Natomas Basin, threatens the viability of giant garter snake populations and the effectiveness of the NBHCP OCS. Irrigated rice is important as foraging, shelter, and basking habitat for the snake. Rice may serve a particularly important role for snakes in the Natomas Basin as compared to its role as habitat in other parts of the species range. Rice, and other wetlands, adjacent to the ditches and canals may serve as vital nursery habitat for young giant garter snakes and as "way stations" for snakes as they make their way through the extensive ditch and canal system in the Natomas Basin.

According to the CNDDB (2008), there are 45 records of giant garter snakes within 5 miles of the proposed project footprint. Forty-two of these are in the Natomas Basin. Giant garter snakes have been documented on and directly adjacent to airport property and within canals and ditches in the general area that are hydrologically connected with the aquatic features on the proposed project site. As described in the *Movements and Habitat Use* section of this biological opinion, snakes can travel considerable distances over the course of days and years in both aquatic and uplands habitats.

The lands affected by the proposed construction of the two parking lots include upland habitat for the snake. Aquatic habitat occurs in the vicinity of each of the proposed parking lot sites from which snakes could disperse into the uplands in search of overwintering hibernaculae, small mammal burrows, and terrestrial prey. In 2006, herpetologist Eric Hansen classified the aquatic habitat (Ditches D2 and D3 and a ditch along the east side of Power Line Road) in the vicinity of the proposed Transportation Surface Parking Lot as "marginal (snake) habitat". This proposed lot will be at least 200 feet from the identified aquatic habitat. Eric Hansen classified the aquatic (Ditch D34 and D39) habitat in the vicinity of the proposed Employee Parking Lot as "suitable (snake) habitat". This parking lot will be approximately 250 feet from the identified aquatic habitat.

The proposed Transportation Surface Parking Lot is located approximately 1 mile west of a block of preserves managed by The Natomas Basin Conservancy for the benefit of the NBHCP-covered species, including the giant garter snake. These preserves are located in the vicinity of Fisherman's Lake, which provides important habitat for the snake and is connected with the Reclamation District (RD) 1000 West Drainage Canal, which occurs approximately 800 feet south of the proposed Transportation Surface Parking Lot. The proposed Employee Parking Lot is located adjacent to ditches that are also hydrologically connected with the West Drainage Canal, and extend toward another block of TNBC preserves north of the Airport. One of the key biological goals of the NBHCP is to ensure connectivity between individual preserves, and connectivity between preserves and agricultural land. The NBHCP OCS emphasizes maintaining this connectivity to allow giant garter snake movement in the Basin in order to minimize habitat

fragmentation and species isolation. Habitat connectivity is very important to giant garter snakes for genetic interchange and the ability to find summer habitat.

The Sacramento Area Flood Control Agency (SAFCA) proposes to construct the Natomas Levee Improvement Project (NLIP) to provide 100-year flood protection to the Natomas Basin immediately, and eventually 200-year flood protection. This project consists of constructed setback levees on the Natomas Cross Canal and the Sacramento River. The construction of the new setback levees will result in the loss of approximately 70 acres of aquatic and upland habitat for the giant garter snake. As compensation for the project, construction of a drainage canal north of the Airport is proposed to serve as snake habitat. This new canal is being designed to connect with the existing West Drainage Canal, which is located south of the proposed Transportation Surface Parking Lot. The West Drainage Canal connects with Fishermans Lake and is considered to be important giant garter snake aquatic habitat. The proposed Transportation Surface Parking Lot will result in the loss of 43 acres of foraging and sheltering habitat for giant garter snakes adjacent to the West Drainage Canal.

The proposed project area contains habitat components suitable for giant garter snake feeding, resting, mating, and other essential behaviors, as well as for movement corridors. Because of the biology and ecology of the giant garter snake, the presence of suitable habitat within the proposed project, and observations of the species, the Service has determined that the giant garter snake is reasonably certain to occur within the action area and be affected by the proposed project.

Effects of the Proposed Action

Project direct and indirect effects include construction activities that occur within upland and aquatic habitat for the snake that may result in 'take' of the snake. As defined in the Act, take is defined as "...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm" includes habitat destruction when it injures or kills a listed species by interfering with essential behavioral patterns, such as breeding, foraging, or resting.

Direct Effects

The proposed project would result in the permanent loss of 59 acres of giant garter snake upland habitat due to the construction of the Employee Parking Lot and the Transportation Surface Parking Lot. No aquatic habitat for the snake would be directly affected. Construction activities associated with the project occurring in snake upland habitat may harm, harass, injure, or kill snakes. The proposed project has been designed to avoid ground-disturbing activities associated with the construction of the two proposed parking lots within the active period (May 1 – October 1) for the snake, resulting in a decreased risk of direct mortality of snakes. The Service believes that after October 1, snakes are more likely to be dispersing into the uplands in search of overwintering hibernacula and terrestrial prey, and could be subject to mortality from the construction of the parking lots. As described in the "Status of the Species" section of this biological opinion, snakes have been observed traveling greater than 200 feet from aquatic habitat into the uplands; therefore construction of the parking lots, which at the closest will occur

approximately 200 feet from aquatic snake habitat, could result in direct effects to this species. The construction would remove vegetation cover and basking sites, fill or crush burrows or crevices, obstruct snake movement, and decrease the prey base, and may result in the direct disturbance, displacement, injury, and/or mortality of snakes. Snakes may disperse across or may bask on existing roads, and thus may be killed or injured by construction equipment or other vehicles accessing the project site along Power Line Road (for the Transportation Surface Parking Lot) and along Airport Boulevard (for the Employee Parking Lot). Silting, fill, or spill of oil or other chemicals could cause loss of prey items in the receiving ditches and the West Drainage Canal.

Indirect Effects

Indirect effects are caused by or result from the proposed action, are later in time, and are reasonably certain to occur. Indirect effects may occur outside of the area directly affected by the action. Indirect effects of the proposed project on the snake include changes in hydrology due to paving over previously permeable agricultural habitat; temporary displacement and reduction of prey (both aquatic and terrestrial); and increased sedimentation, oils, and other hazardous materials from access roads and staging areas which could wash into drainages. Roads and parking lots may affect chemical signals, which serve as sensory mechanisms of intraspecific communication and prey detection. The ability to detect odors and phermones plays a role in the detection of cues to locate mates (Le Master *et al.* 2001), pretty items (Chiszar *et al.* 1990), and ambush sites (Clark 2004) in reptiles. Phermone scent trailing, observed in a variety or reptilian species, could be altered by contaminants running off of roads (Klauber 1931) or road substrate type (Shine *et al.* 2004). Giant garter snakes may be adversely affected by all of these factors.

Disturbance during construction activities may also cause snakes to move into or across areas of unsuitable habitat where they may be prone to higher rates of mortality from vehicles and predation. The location of the two proposed parking lots will no longer be available as foraging or sheltering habitat for giant garter snakes following construction of the proposed project. The proposed project may also result in future adverse effects once the proposed parking lots are established to the snake in the form of increased disturbances to snakes from traffic, predation, and increases in pollution (i.e. stormwater runoff into the receiving ditches and the West Drainage Canal).

Giant garter snakes may be attracted to paved surfaces as basking habitat, and may be injured or killed by vehicles driving and parking in the proposed parking lots. Research has found that some snake species may be attracted to road surfaces to thermoregulate (Klauber 1939; Sullivan 1981; Ashley and Robinson 1996). Depending on air and surface temperatures, snakes may not be able to move quickly enough to avoid being injured or killed by vehicles on these parking lots.

The proposed project may compromise the connectivity of the TNBC preserves around Fisherman's Lake with the block of TNBC preserves to the north of the Airport by damaging water quality in the West Drainage Canal and the connecting ditches. Stormwater runoff from the proposed 5,000-parking space lot could be significant. Mitigating measures designed to intercept the runoff prior to entering these aquatic features have been proposed by the Airport,

and these effects are expected to be at least partially mitigated if an updated SWPPP is implemented by the Airport.

The proposed parking lots will result in permanent loss of upland habitat for giant garter snakes in between two TNBC preserve blocks. The permanent loss of 59 acres of upland giant garter snakes could further isolate populations in the already fragmented Natomas Basin landscape. Small isolated populations lead to loss of gene flow, loss of diversity, and a much greater risk of local population extinction (Paquin *in litt.* 2008). The conversion of this habitat to a developed condition will further fragment habitat between the two aforementioned TNBC preserve blocks, and thus adversely affect the NBHCP OCS. The proposed parking lots also may compromise the enhanced habitat value of the proposed compensation by SAFCA (as described above in the Factors Affecting the Giant Garter Snake within the Action Area section above) for the benefit of the snake by permanently impacting habitat that could be used by snakes dispersing into the uplands adjacent to the West Drainage Canal.

Effects of Interrelated and Interdependent Actions

Effects of the action under consultation are analyzed together with the effects of other activities that are interrelated to, or interdependent with, that action. An interrelated activity is an activity that is part of the proposed action and depends on the proposed action for its justification. An interdependent activity is an activity that has no independent utility apart from the activity under consultation. The proposed project may facilitate development of other parcels. However, the Service has not received any information indicating that other actions or development of these other parcels fit the Services definition of interrelated or interdependent. Therefore, at this time, there are no other actions the Service will include in analyzing the effects of this proposed project.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed project are not considered in this section, because they require separate consultation pursuant to section 7 of the Act. An undetermined number of future land use conversions and routine agricultural practices may not be subject to Federal authorization or funding and may alter the habitat or increase incidental take of the giant garter snake, and are, therefore, cumulative to the proposed project.

The effectiveness of the NBHCP's Operating Conservation Strategy (OCS) relies on the City of Sacramento and Sutter County limiting development to a combined total of 15, 517 acres within their respective permit areas. The proposed project site is located outside the permitted development area, and the SCAS is not a permittee under the NBHCP; however, the plan assumes no significant new development in the basin outside of the City of Sacramento and Sutter County permit areas. The NBHCP outlines a carefully constructed OCS that balances reasonable development in the Basin with conservation of snake habitat in order to maintain a viable population of giant garter snakes in the basin and avoid jeopardy to this threatened species.

The NBHCP and MAPHCP allow for urban development of certain areas (totaling up to 17,500 acres) in the Basin in return for the preservation of, and in some cases, restoration and management of 8,725 acres, in an interconnected preserve system, which added to the baseline of agricultural and undeveloped lands in the basin, will conserve the Natomas Basin snake population. The proposed development of lands contemplated in the Terminal Modernization Project would increase the number of developed acres beyond the 17,500 contemplated under the NBHCP and MAPHCP. In addition to its direct impacts, the proposed action may decrease the biological connectivity between and within the Basin's three major geographical areas and TNBC's preserve lands and decrease the acreage available for and locations of future TNBC mitigation lands.

To address the loss of this habitat and the associated effects, SCAS proposes to preserve in perpetuity one acre of land that is of similar value for giant garter snakes, for every acre that is permanently affected by the construction of the two proposed parking lots. The protected land will support similar or enhanced habitat to that currently on the proposed project sites (i.e. agriculture), and be located south of the West Drainage Canal and north of the Sacramento River. Therefore, SCAS proposes to preserve 59 acres on airport property south of the proposed Transportation Surface Parking Lot. This is in addition to the 131 acres proposed as mitigation for future components of the Airport's Master Plan.

While Sacramento County is not a signatory to the NBHCP, the plan sets forth a regional conservation strategy that covers the entire basin, including lands owned by the SCAS. The NBHCP's efficacy in maintaining a viable population of GGS in the Basin depends, in significant part, on the retention of a sufficient amount of undeveloped acreage throughout the Basin, to support GGS.[1] The NBHCP operates under the assumption that agricultural land in the Basin would continuously rotate between crop types, and therefore all land provides habitat for all 22 of the NBHCP covered species, including the giant garter snake.

The *Draft Environmental Assessment for the Terminal Modernization Project at Sacramento International Airport* states that the proposed project, "is expected to remove a possible obstacle to growth created by the demand for air travel. Any growth induced by the Proposed Project would be consistent with applicable general plans and other land-use policies and regulations." Although not directly growth-facilitating, the proposed project would serve planned and reasonably foreseeable growth by providing the facilities to accommodate additional flights for passengers primarily from the Sacramento region. It is reasonable to assume that additional air travel service will serve to provide an economic boost to the region, resulting in expansion of existing businesses and new businesses moving into the region, which will necessitate the need for additional residential development. It is likely that some of the growth (commercial, municipal, and residential) in the region will not require section 7 consultation with the Service for compliance with the Act, and will not obtain take coverage pursuant to section 10 of the Act.

1 In NWF v. Norton, 2005 U.S. Dist LEXIS 33768, Judge Levi upheld the NBHCP and its strategy to protect the GGS in the Natomas Basin. However, in footnote 13 of the opinion, he cautioned that, "the Service and those seeking an ITP in the future will face an uphill battle if they attempt to argue that additional development in the basin beyond the 17,500 acres will not result in jeopardy" to the snake.

Currently, the NBHCP and the East Contra Costa HCP are the only two permitted regional HCPs in the Sacramento area, although Placer, Yolo, South Sacramento, Yuba, and Sutter are all developing regional HCPs. Until these regional HCPs are finalized, there is no mechanism to provide "take" coverage for projects with no Federal nexus besides these projects pursuing their own individual HCPs. Some "take" of listed species is likely to occur for which no minimization, avoidance, and compensation/mitigation measures for federally-listed species are implemented.

The cumulative effects of reasonable foreseeable projects in the Natomas Basin may pose a significant threat to the eventual recovery of the giant garter snake. The following proposed projects could significantly affect the sustainability of giant garter snakes in the Natomas Basin when considered cumulatively with the proposed Terminal Modernization Project:

- The proposed Greenbriar residential development is located on an approximately 577-acre site south of Elkhorn Boulevard and west of SH 99. Development on this site could result in the loss of giant garter snake habitat adjacent to Lone Tree Canal, depending on the configuration of houses and infrastructure.
- Natomas Joint Vision, as currently proposed by the City of Sacramento and Sacramento County, is to develop approximately 6,000 acres in the area of the County outside of the City's permitted area under the NBHCP.

Other projects which are reasonably foreseeable and should be considered cumulative with the proposed Terminal Modernization Project, but for which the Service has little to no information about the extent of their effects to giant garter snakes, include:

- Camino Norte
- Downtown Natomas Airport Light Rail
- Pacific Gas & Electric Line 406/407 Pipeline
- Sacramento Municipal Utility District Powerline – Elkhorn Substation

Conclusion

After reviewing the proposed project description, the current status of the giant garter snake, the environmental baseline for the action area, the effects of the proposed project, proposed conservation measures, and the cumulative effects, the Service has determined that the project, as described in this biological opinion, is not likely to jeopardize the continued existence of the giant garter snake. Critical habitat has not been proposed for the giant garter snake; therefore, none will be adversely modified or destroyed.

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is

defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), take that is incidental to and not intended as part of the agency action is not considered to be prohibited take under the Act provided that such take is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by the FAA so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply. The FAA has a continuing duty to regulate the activity covered by this incidental take statement. If the FAA (1) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

Amount or Extent of Take

The Service anticipates incidental take of the snake will be difficult to detect or quantify for the following reasons: snakes are cryptically colored, secretive, and known to be sensitive to human activities. Snakes may avoid detection by retreating to burrows, soil crevices, vegetation, and other cover. Individual snakes are difficult to detect unless they are observed, undisturbed, at a distance. Most close-range observations represent chance encounters that are difficult to predict. It is not possible to make an accurate estimate of the number of snakes that would be harassed, harmed, or killed during construction activities, including in staging areas, canal banks, soil borrow areas, and roads carrying vehicular traffic to and from borrow areas. In instances when take is difficult to detect, the Service may estimate take in acres of habitat lost or degraded as a result of the action. Therefore, the Service anticipates that the proposed project will permanently and adversely affect the giant garter snake by paving 59 acres of upland habitat adjacent to aquatic snake habitat. The 59 acres is the combined total area of the Transportation Surface Parking Lot and Employee Parking Lot, which are components of the overall proposed project. As a result of the proposed construction activities, the Service anticipates take of 1 (one) giant garter snake during the construction period in the form of harm, harassment, or kill.

Upon implementation of the following reasonable and prudent measures, incidental take of the giant garter snake associated with the proposed Sacramento International Airport Terminal Modernization project, in the form of harm or harassment from habitat loss or direct mortality, will become exempt from the prohibitions described under section 9 of the Act for direct and indirect effects.

Effect of the Take

The Service has determined that this level of anticipated take is not likely to result in jeopardy to the giant garter snake. Critical habitat has not been proposed for the giant garter snake; therefore, none will be affected.

Reasonable and Prudent Measures

The Service has determined that the following reasonable and prudent measures are necessary and appropriate to minimize the effects of the proposed project on the giant garter snake.

1. Take in the form of harassment and/or harm of the giant garter snake during construction activities and associated with implementing the project shall be minimized.

2. The temporary loss and degradation of giant garter snake habitat shall be confined to the proposed project site, and minimized and restored to the greatest extent practicable.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the FAA must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are nondiscretionary.

1. The following terms and conditions implement reasonable and prudent measure number one (1):

    a. Prior to ground-breaking (including site preparation or grading) on any component of the proposed project, the FAA shall provide the Service with written documentation that a Service-approved deed restriction for the protection of habitat in perpetuity from future development has been recorded on the 59 acres of the designated compensation area. The language in the deed restriction must be approved by the Service prior to its recordation. It shall include the right of entry by the Service, or its designated agent, to undertake any actions deemed necessary to ensure the conservation of the giant garter snake or other wildlife of plant species of concern to the Service. The FAA shall provide the Service with a true copy of the recorded deed restriction within 30 days of its recordation.

    b. Prior to ground-breaking on any component of the proposed project, the FAA shall provide the Service with a habitat management and monitoring plan for the 59-acre compensation area to the Service for approval. This plan shall outline activities to be undertaken by Sacramento County or a third-party preserve manager to manage the property in perpetuity as upland habitat for the giant garter snake, shall include certain specific criteria and an adaptive management component for successfully maintaining upland giant garter snake habitat, and shall include remedial actions to be taken in the event that these criteria have not

been met. In this context, the preserve may be either managed by the SCAS if it contracts with an independent third-party who is responsible for monitoring the SCAS' compliance with the plan and reporting any violations to the Service or by a third party preserve manager, at the County's discretion. If the County chooses to contract a third party preserve manager, the FAA shall provide the name and qualifications of the third-party preserve manager for Service approval.

c. Prior to ground-breaking on any component of the proposed project, the FAA shall provide documentation to the Service of the establishment of a trust account in the Sacramento County Treasury for the sole purpose of maintaining the 59-acre preserve consistent with the requirements of the habitat management and monitoring plan. The balance in this trust account shall be maintained at all times in an amount at least equal to the annual cost identified in a Service-approved Property Analysis Report (PAR) of operating and managing the preserve as outlined in the Service-approved management plan and this biological opinion. The County shall indemnify the third party who is responsible for monitoring the SCAS' compliance with the plan or, if utilized, the third party preserve manager from losses associated with remedial actions that may be necessary in the future.

d. The SCAS shall include a copy of this biological opinion within its solicitations for design and construction of the proposed project making the primary contractor responsible for implementing all requirements and obligations included within the biological opinion, and to educate and inform all other contractors involved in the project as to the requirements of the biological opinion.

e. At least 15 calendar days prior to initiating ground-breaking on any component of the proposed project, the applicant shall submit the names and curriculum vitae of the biological monitor(s) for the proposed project to the Service for approval.

f. Ground-disturbing activities within giant garter snake habitat associated with the construction of the two parking lots shall be conducted between May 1 and October 1. This is the active period for the giant garter snake and direct mortality is lessened, because giant garter snakes are expected to actively move and avoid danger. If it becomes apparent that any proposed activities will occur outside of the active period, the Service must be contacted prior to July 31 of the year that construction is initiated, to determine if a work period extension into the snake's inactive period can be granted.

g. Project-related vehicles shall observe a 20-mile-per-hour speed limit within construction areas, except on County roads and State and Federal highways. This is particularly important during periods when the giant garter snake may be sunning or moving on roadways.

h. To avoid attracting giant garter snake predators, all food-related trash items, such as wrappers, cans, bottles, and food scraps, must be disposed of in closed containers and removed at least once a day from the entire project site.

i. Within 24-hours prior to the commencement of construction activities, the site shall be inspected by a Service-approved biologist. The biologist will provide the Service with a written report that adequately documents the monitoring efforts within 24-hours of commencement of construction activities. The monitoring biologist shall have the authority to stop construction activities if a giant garter snake is encountered during construction until appropriate corrective measures have been completed or until the giant garter snake is determined to be unharmed. Giant garter snakes encountered during construction activities shall be allowed to move away from the area on their own volition. The biologist shall notify the Service immediately (i.e. the same working day) if any listed species are found on-site, and will submit a report, including date(s), location(s), habitat description, and any corrective measures taken to protect the species found. The biologist shall be required to report any take to the Service immediately by telephone at (916) 414-6600 and by electronic mail or written letter addressed to the Deputy Assistant Field Supervisor, within one (1) working day of the incident.

j. The project area shall be re-inspected by the monitoring biologist whenever a lapse in construction activity of two weeks or greater has occurred.

k. A Worker Environmental Awareness Training Program for construction personnel shall be conducted by the Service-approved biologist for all construction workers prior to the commencement of construction activities. The program shall provide workers with information on their responsibilities with regard to the giant garter snake, an overview of the life-history of the species, information on take prohibitions, protections afforded this animal under the Act, and an explanation of the relevant terms and conditions of this biological opinion. Written documentation of the training must be submitted to the Sacramento Fish and Wildlife Office within 30 days of the completion of training. As needed, training shall be conducted in Spanish for Spanish language speakers.

l. Erosion control structures will be installed concurrently with access road construction and will be constructed so runoff will be directed away from sensitive habitats. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material shall be used for erosion control or other purposes at the project site to ensure giant garter snakes and other reptiles or amphibians are not trapped by the erosion control material. This limitation will be communicated to the contractor through use of Special Provisions included in the bid solicitation package. Coconut coir matting is an acceptable erosion control material. No plastic mono-filament matting shall be used for erosion control. The edge of the material shall be buried in the ground to prevent giant garter snakes and other reptiles and amphibians from crawling underneath the material. Erosion control

measures shall direct water flow into existing drainages or disperse water across vegetated areas in order to avoid concentrating water.

m. In addition to the Terms and Conditions listed in a. through l. above, the SCAS shall minimize the potential for harm or harassment of the giant garter snake resulting from project-related activities by implementation of the conservation measures as described in the Biological Assessment and appearing in the project description and conservation measures of this biological opinion.

2. The following terms and conditions implement reasonable and prudent measure number two (2):

a. The project proponents shall implement Best Management Practices (BMPs) to prevent sediment from entering areas containing giant garter snake habitat, including, but not limited to, silt fencing, temporary berms, no cleaning of equipment in or near giant garter snake habitat, installation of vegetative strips, and temporary sediment disposal.

b. Runoff from dust control and oil and other chemicals used in other construction activities shall be retained in the construction site and prevented from flowing into areas containing giant garter snake habitat. The runoff shall be retained in the construction areas by creating small earthen berms, installing silt fences or hay-bale dikes, or implementing other measures on the construction site to prevent runoff from entering the habitat of the giant garter snake.

Reporting Requirements

A post-construction compliance report prepared by the monitoring biologists must be submitted to the Deputy Assistant Field Supervisor of the Endangered Species Division at the Sacramento Fish and Wildlife Office within thirty (30) calendar days of the completion of construction activity or within thirty (30) calendar days of any break in construction activity lasting more than thirty (30) calendar days. This report shall detail (i) dates that groundbreaking at the project started and the project was completed; (ii) pertinent information concerning the success of the project in meeting compensation and other conservation measures; (iii) an explanation of failure to meet such measures, if any; (iv) known project effects on the giant garter snake, if any; (v) occurrences of incidental take of the giant garter snake; and (vi) other pertinent information.

The FAA and SCAS must report to the Service any direct mortality of suspected mortality of giant garter snakes as a result of the proposed project. The FAA and SCAS must also report to the Service immediately any information about take or suspected take of federally-listed species not authorized in this biological opinion, and must notify the Service within 24 hours of receiving such information. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal. In the case of a dead animal, the individual animal

should be preserved, as appropriate, and held in a secure location until instructions are received from the Service regarding the disposition of the specimen or the Service takes custody of the specimen. The Service contact persons are the Deputy Assistant Field Supervisor at (916) 414-6600, and the Resident Agent-in-charge of the Service's Law Enforcement Division at (916) 414-6660.

Any contractor or employee who during routine operations and maintenance activities inadvertently kills or injures a listed wildlife species must immediately report the incident to their representative. This representative must contact the California Department of Fish and Game immediately in the case of a dead or injured listed species. The California Department of Fish and Game contact for immediate assistance is State Dispatch at (916) 445-0045.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that can be implemented to further the purposes of the Act, such as preservation of endangered species habitat, implementation of recovery actions, or development of information and databases.

1. The FAA should assist in the implementation of the draft, and when published, the final Recovery Plan for the giant garter snake.

2. The FAA should provide funding to researchers studying topics identified by the Service in the draft, and when published, the final Recovery Plan for the giant garter snake.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION–CLOSING STATEMENT

This concludes formal consultation on the proposed Sacramento International Airport Terminal Modernization Project. As provided in 50 CFR §402.16, re-initiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded, as previously described, or the requirements under the incidental take section are not implemented; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; and/or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or

extent of incidental take is exceeded, any operations causing such take must cease pending re-initiation.

Please contact Jana Milliken, the Acting Sacramento Valley Branch Chief, at 916-414-6600 if you have questions regarding this biological opinion or the proposed project.

Sincerely,

Susan K. Moore
Field Supervisor

cc:
Lynn Cox, Department of the Interior Regional Solicitor Office, Sacramento, California
Kent Smith and Todd Gardner, California Department of Fish and Game, Sacramento, California
Antonia Barry, County of Sacramento Department of Environmental Review and Assessment, Sacramento, California
Greg Rowe, Sacramento County Airport Systems, Sacramento, California
Julie Car, County of Sacramento, Sacramento, California

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Appendix B
Representative Photographs



Photo 1: View of ditch east of Power Line Road looking south.



Photo 2: View of ditch east of Power Line Road looking northeast.



Photo 3: View of Western Drainage Ditch looking southwest.



Photo 4: View of Western Drainage Ditch looking southeast.



Photo 5: View of west ditch looking north.



Photo 6: View of dry north ditch south of Bayou Way looking east; not suitable aquatic habitat.



Photo 7: View of dry north ditch south of Bayou Way looking west; not suitable aquatic habitat.



Photo 8: View of north ditch south of Bayou Way looking east; not suitable aquatic habitat.



Photo 9: View of dry north ditch south of Bayou Way looking west; not suitable aquatic habitat.



Photo 10: View of dry north ditch south of Bayou Way looking east; not suitable aquatic habitat.



Photo 11: View of dry portion of west ditch looking south; not suitable aquatic habitat.



Photo 12: View of dry portion of west ditch looking north; not suitable aquatic habitat.



Photo 13: View of land bridge in-between dry portion and inundated portion of west ditch.



Photo 14: View of pump at north extent of inundated portion of west ditch, looking south.



Photo 15: View of ruderal grassland from southern portion of action area looking north.



Photo 16: View of ruderal grassland from southwest corner of action area looking northeast.



Photo 17: View of northern portion of action area, it was mowed recently.



Photo 18: View of eastern edge of action area, it was mowed recently.



Photo 19: View of ruderal grassland looking southwest from northern portion of action area.



Photo 20: View of recently mowed area from eastern portion of action area looking west.



Photo 21: View of east offsite road improvement area looking west along Bayou Way.



Photo 22: View of east offsite road improvement area looking north along Metro Air Parkway.



Photo 23: View of dry ditch located north of the east offsite road improvement area.



Photo 24: View of central offsite road improvement area looking north along Power Line Road.



Photo 25: View of central offsite road improvement area looking west along Bayou Way.



Photo 26: View of west offsite road improvement area looking north along Bayou Way.



Photo 27: View of west offsite road improvement area looking NNW along Airport Boulevard.



Photo 28: View of dry ditch that runs south of Bayou Way near west offsite road improvement area.

Appendix C
U.S. Fish and Wildlife Service Official Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: 08/01/2024 17:12:45 UTC
Project Code: 2024-0124744
Project Name: WattEV Innovative Freight Terminal Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service (fws.gov).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

PROJECT SUMMARY

Project Code: 2024-0124744
Project Name: WattEV Innovative Freight Terminal Project
Project Type: Power Gen - Solar
Project Description: The proposed WattEV Innovative Freight Terminal Project is located in the Natomas Basin and will consist of developing an approximately 110-acre parcel into a solar and electric vehicle charging facility. The project will begin construction potentially sometime in 2025 or 2026.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.6667226,-121.58112469193692,14z



Counties: Sacramento County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

REPTILES

NAME	STATUS
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

AMPHIBIANS

NAME	STATUS
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened
Western Spadefoot *Spea hammondii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5425	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

CRUSTACEANS

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Joseph Huang
Address: 2600 Capitol Ave, Ste 200
City: Sacramento
State: CA
Zip: 95816
Email jhuang@esassoc.com
Phone: 9165644500

Appendix E
Farmland Resources

ESA

775 Baywood Drive, Suite 100
Petaluma, CA 94954
707.795.0900 phone

www.esassoc.com

memorandum

date	September 27, 2024
to	David M. Wickens, Environmental Protection Specialist, Federal Aviation Administration
from	Luke Evans, Environmental Science Associates Michael Burns, PG, CEG, CHG
subject	Sacramento County/WattEV Commercial Charging Center – AD-1006 Farmland Conversion Impact Rating Form and Agricultural Resources Discussion

As requested by the Federal Aviation Administration (FAA) as part of its consideration of the Sacramento County/WattEV Commercial Charging Center (Project) under the National Environmental Policy Act (NEPA), ESA has compiled this information to assist FAA with its consultation with the Natural Resources Conservation Service (NRCS) concerning the Project's impacts to Farmlands. The information will also be used to assess the Project's effects on Farmlands under NEPA.

Project Overview

The Project would construct an electric vehicle (EV) commercial charging center south of Interstate 5 (I-5) on Sacramento International Airport (SMF, or Airport) property. Please see **Attachment A** for several figures that support this evaluation. In that attachment, **Figure 1** shows the site's regional location and **Figure 2** shows a detailed overview of the site and its vicinity. The parcels upon which the Project would be constructed total 139.2 acres in size. Of that amount, 112.3 acres of the site would be developed for the proposed use, with the rest of the site remaining in its currently undeveloped condition. Principal Project components include the following:

- Construction of a 15.3-acre charging area/rest area configured with two truck charging areas separated by a publicly accessible central plaza. The facility would include a two-story 14,000-square-foot (sf) convenience store and visitor center, a 3,000-sf single story operations and maintenance facility, and a 3,000-sf single story office building.
- Construction of two truck charging areas providing a total of 18 Megawatt Charging Standard (MCS) chargers and 90 240 kW Combined Charging Standard (CCS) chargers designed for heavy and medium duty trucks as well as public transportation vehicles (e.g., buses). Eighty truck parking stalls would also be provided.
- Construction of 30 CCS chargers dedicated to passenger vehicle use and an automobile parking lot with 200 automobile parking spaces.
- Construction of an 88.9-acre photovoltaic (PV) solar array, with solar modules mounted on tracker arrays. Each rack would hold up to 90 panels (72 Cell Modules). Five 3.6 Megavolt Ampere (MVA) inverters and transformers would be installed on concrete pads located within the solar field.

The Project also contains several off-site improvements to area roadways and intersections totaling 3.36 acres, but these areas currently contain existing roadways or their adjoining shoulder areas and are therefore not in agricultural production, nor do they meet the definition of Farmlands as specified in local, state, or federal

regulations. Accordingly, these areas are not discussed further, and this discussion pertains only to those portions of the Project that contain designated Farmlands.

Project Purpose and Need

The purpose of the Project is to develop a charging facility for electric vehicles in Sacramento County that is accessible and convenient to major freight and transportation corridors that meets the objectives and evaluation criteria of the California Transportation Commission's Trade Corridor Enhancement Program and supports the goals of the National Highway Freight Program, the California Freight Mobility Program, and the California Sustainable Freight Action Plan. The Project would cogenerate green energy onsite for a net-zero facility. Additionally, there is an unmet demand for equitable access to zero emission technology for small carriers and independent freight vehicle owner operators, private EV automobiles, and EV charging facilities in general.

The need for the Project is to reduce vehicle generated air pollutant emissions and to support a large portion of the EV charging demand in Sacramento County adjacent to the major freight and travel corridors that traverse the area. The areas immediately adjacent to the Project site have some of the highest diesel pollution and environmental burden in the region according to the CalEnviroScreen 4.0 screening tool. Provision of a zero-emissions charging facility on the site will provide greater deployment of zero emissions vehicles in the area, particularly in the medium- and heavy-duty (MHD) sector, with resultant decreases in diesel emissions. As part of the Project, it is anticipated that more than 300 passenger vehicles would be accommodated each day, further reducing internal combustion engine emissions by automobiles using I-5.

Relevant Regulatory Guidance

FAA Order 5050.4B, *National Environmental Policy Act (NEPA Implementing Instructions for Airport Actions*, provides information to FAA's Office of Airports (ARP) personnel and others interested in fulfilling NEPA requirements for airport actions under FAA's authority. The Order is part of FAA's effort to ensure its personnel have clear instructions to address potential environmental effects resulting from major airport actions.

Detailed procedures concerning environmental impact analysis are specified in FAA's 1050.1 Desk Reference, which provides explanatory guidance for environmental impact analysis performed to comply with Council on Environmental Quality (CEQ) *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (CEQ Regulations) (40 Code of Federal Regulations (CFR) parts 1500-1508), U.S. Department of Transportation (DOT) Order 5610.1C, *Procedures for Considering Environmental Impacts*, and FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*.[1]

Within FAA Order 1050.1F, "Farmlands" are defined as those agricultural areas considered important and protected by federal, state, and/or local regulations. Important farmlands include all pasturelands, croplands, and forests (even if zoned for development) considered to be prime, unique, or of statewide or local importance. The Farmland Protection Policy Act (7 U.S.C. 4201-4209) regulates federal actions with the potential to convert important farmland to non-agricultural uses. The Farmland Protection Policy Act is administered by NRCS.

[1] The Desk Reference is designed to complement FAA Order 1050.1, and FAA has specified when citing requirements from laws, regulations (including the CEQ Regulations), DOT Order 5610.1C, FAA Order 1050.1, or other authorities, FAA Order 1050.1 is to be cited as the original source authority and not the Desk Reference. Accordingly, this memorandum follows that direction.

The Project would be constructed on lands that have been designated as Farmland of Local Importance by both the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) and the County of Sacramento. As such, the Project Site meets the definition of "Farmlands" as defined in FAA Order 1050.1F.

Process for Determining Impacts to Farmlands

FAA Order 1050.1F provides that FAA may make its own determination as to whether a project site meets the criteria for classification as Farmland. The Order also provides that the FAA may defer to the expertise of the NRCS to make the determination. The latter process begins with submittal of NRCS Form AD-1006, the Farmland Conversion Impact Rating Form. Using the information from the form, NRCS will measure the relative value of the site as Farmland on a scale of 0 to 100.

After NRCS notifies the FAA of the score of a site's relative value, the FAA (or its designee) will apply the site assessment criteria contained within 7 CFR 658.5 and assign a site assessment score for the site. By combining the relative value score provided by NRCS with the site assessment score, the FAA will determine the combined score for the site. This combined score is composed of up to 100 points for relative value and up to 160 points for the site assessment, resulting in a maximum possible score of 260 points. As the point value approaches 260 points, the potential impact severity increases.

Since the Project Site has been classified as Farmland of Local Importance by both the State of California and the County of Sacramento, the Site's qualification for the status of "Farmland" is not in dispute, and it is assumed that the purpose of completing Form AD-1006 and consulting with NRCS is to determine the severity of the impact to Farmlands that would be realized if the Project were implemented.

Facts Concerning the Project Site

As shown in Figure 2, the Project Site lies within the boundaries of Sacramento International Airport (SMF), which is managed by the Sacramento County Department of Airports.

Current and Historic Agricultural Use

The Project Site has been withdrawn from active agricultural uses since at least the early 2000s and is currently covered in non-native annual grasses (see **Figure 3**). Irrigation water is not available to the Site. Historic agricultural production on the Site consisted of dryland crops. The site is not tilled for agricultural production. The site is not used for commercial farming purposes, though it is mowed for purposes of weed abatement and to reduce attractants to wildlife that could pose a hazard to aircraft (see the discussion on *Restrictions on Agricultural Use of the Site* on the following page). Mowing is carried out on a non-compensated basis by a local operator. The cut non-native grass that is derived from the mowing operations is made available to the contracted operator for baling and transport from the site for their own use. Neither the Airport or the contracted operator receive compensation for these mowing and baling activities.

Ownership and Zoning

The site is owned by the Sacramento County Department of Airports and lies within the confines of SMF. The Sacramento County General Plan designates the site as Public and Quasi-Public (PQP). The entirety of the site is located within the County's Urban Service Boundary and the County's Urban Policy Area. The western three-quarters of the site are zoned Agricultural – 20 acres (AG-20), and the eastern quarter of the site is zoned AG-80. The site has been designated and planned for commercial development under the Sacramento International

Airport Master Plan since at least 2006. No portion of the site is under a Williamson Act or agricultural conservation easement.

Restrictions on Agricultural Use of the Site

Use of the Project site for any use that could attract wildlife (particularly birds) that could present a hazard to aviation is prohibited under FAA's Part 139 certification standards for commercial airports.[2] In 2020, the FAA issued Advisory Circular (AC) 150/5200-33C, *Hazardous Wildlife Attractants on or Near Airports,* that listed land use practices that potentially attract hazardous wildlife.[3] The AC noted that many agricultural crops can attract hazardous wildlife, and should not be planted in proximity to airports. Corn, wheat, and other small grains in particular are noted as potential attractants.

SMF has one of the highest incidents of aircraft-bird strikes of any airport in the United States. This is a function of the Airport's location along a major migratory flyway for migrating birds, and it is also a function of the long-established land uses surrounding the Airport and the region in general, which contains many thousands of acres of commercial agricultural production, particularly rice production. Based upon this situation, the Airport maintains a comprehensive Wildlife Hazard Management Plan (WHMP) to reduce the threat of wildlife. The program is managed by the Airport's Planning and Environment section and is implemented by a team of FAA-qualified wildlife biologists. As part of its Section 139 certification requirements, SMF's WHMP identifies the measures utilized to alleviate or eliminate wildlife and the attractants that pose a hazard to aircraft operations.[4] The plan also provides a designation of responsible parties, priorities for habitat modification and/or land use changes, and requirements for applicable local, state, and federal permits. This plan is reviewed and approved periodically by FAA, most recently in April 2024.

The Project site's location beneath the southern approach and departure zones for the easternmost runway at SMF and its location within the Airport's 10,000-foot critical zone renders management of the site and Airport lands to the south particularly important in the reduction of hazardous wildlife attractants at the Airport. Bird strikes may occur during any phase of flight, but are most likely to occur during the take-off, initial climb, approach and landing phases due to the greater numbers of birds in flight at lower altitudes. The Project site is located in an area where each of these types of aircraft movements occur. Based upon these considerations, the Airport's WHMP contains a vegetation management component that directs management of vegetation on Airport property. Owing to the substantially increased wildlife attractant hazards associated with many types of agricultural production, no portion of the Airport's property is managed for commercial agricultural production. The only activities that could potentially be considered agricultural or farming in nature on Airport property is the occasional mowing of and collection of non-native grasses in certain portions of the Airport property, including the Project site, for weed and fire abatement purposes and to reduce the development of habitats that could attract hazardous wildlife.

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2 Part 139 refers to 14 CFR § 139, which regulates the certification and operation of airports serving passenger-carrying commercial air carriers. The regulation provides criteria and rules under which commercial airports must operate to achieve and maintain FAA certification for their operations, including the requirement to maintain and implement a Wildlife Hazard Management Plan.

3 Federal Aviation Administration. 2020. *Hazardous Wildlife Attractants on or Near Airports*. AC No. 150/5200-33C.

4 Sacramento International Airport. 2024. *Sacramento International Airport Wildlife Hazard Management Plan.* Approved April 2013, Updated April 2024. Available at: https://sacramento.aero/scas/environment/wildlife_management.

NRCS Form AD-1006

An NRCS Form AD-1006 has been prepared, except for those portions of the form that are required to be completed by the NRCS. The partially completed form is attached to this memorandum as **Attachment B**. Guidance for completing the form was acquired from the following sources:

- FAA Order 1050.1F and the 1050.1 Desk Reference: https://www.faa.gov/about/office_org/headquarters_offices/apl/environ_policy_guidance/policy/faa_nepa_order/desk_ref.
- Department of Agriculture Guidance, as contained within 7 CFR 658: https://www.ecfr.gov/current/title-7/subtitle-B/chapter-VI/subchapter-F/part-658/section-658.5.
- NCRS Guidance: https://www.nrcs.usda.gov/sites/default/files/2022-08/FPPA_Manual_Final_2013_0.pdf.
- California Department of Conservation Farmland Mapping and Monitoring Program, Sacramento County Important Farmland Data: https://www.conservation.ca.gov/dlrp/fmmp/Pages/Sacramento.aspx.

We have provided the information below to document how we acquired the information we provided in the form. Where applicable, points were assigned per the criteria provided in 7 CFR 658.5.

Part I, Basic Project Information: Project name, Federal lead agency, etc. was entered.

Part II: To be completed by NRCS, no information entered.

Part III: To be completed by Federal Agency.

A. **Total Acres to be Converted Directly:** We assumed that 112.3 acres would be directly and permanently converted to non-agricultural use, with the remainder of the 139.2-acre site not being affected. Therefore, a value of 112.3 was entered.

B. **Total Acres to be Converted Indirectly:** We assumed that no additional areas in and around the site would be indirectly converted. Therefore, a value of zero was entered.

C. **Total Acres in Site:** We provided the total acreage of the site; 139.2 acres.

Part IV, Land Evaluation Information: To be completed by NRCS, no information was entered.

Part V, Land Evaluation Criterion: To be completed by NRCS, no information was entered.

Part VI, Site Assessment Criteria: To be completed by Federal Agency, using site assessment criteria provided in 7 CFR 658.5.

1. **Area in Non-Urban Use:** Most of the areas within a 1-mile radius of the Project site are not urbanized and are instead given over to some sort of agricultural or non-urban use. Notable exceptions lie to the north of the site, where lies Interstate 5 (I-5) and developed lands associated with SMF and the adjacent Metro Airpark to the east of SMF. These urbanized uses north of the site include roadways, parking lots, and warehouse facilities. Areas to the west, south, and east of the Project site are primarily non-urban and are in some sort of agricultural or non-urban status. Of that area within a 1-mile radius of the Project

site, we estimate that approximately 80 percent is not in urban use. We therefore assigned a value of 12 points (out of a possible 15 points).

2. **Perimeter in Non-Urban Use:** I-5 lies to the immediate north of the site, with developed portions of SMF lying less than 0.25-mile north of the freeway, so the northern perimeter of the site can be considered Urbanized. However, areas to the east, south, and west of the site remain in Non-Urban Use. As such, 8 points (out of a possible 10 points) were entered.

3. **Percent of Site Being Farmed:** No portion of the site is being farmed, so zero points were entered (out of a possible 20 points).

4. **Protection Provided by State and Local Government:** The site is designated as Farmland of Local Importance by the State of California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) and the County of Sacramento. Sacramento County General Plan Policy AG-5 requires that projects converting 50 or more acres of so-designated farmland be mitigated within Sacramento County at a 1:1 ratio with lands of equal or greater agricultural value in-kind or with similar resource value protection (such as easements for agricultural purposes). Based on this County requirement, we assume that the site possesses "protected" status and thus the full 20 points were entered (out of a possible 20 points).

5. **Distance from Urban Built-up Area:** The nearest urbanized areas to the Project side lie approximately 1.5 miles to the east, where an area of medium-density residential development is located. Developed portions of SMF lie approximately 0.25-mile to the north across Interstate 5 (I-5). Based upon the site's distance to a fully urbanized residential use (the medium-density residential development approximately 1.5 miles to the southeast of the site), 10 points were entered (out of a possible 15 points).

6. **Distance to Urban Support Services:** Potable water, electric service, sanitary sewer, and natural gas services are all available more than 1 mile, but less than 3 miles, from the Project site. Accordingly, 10 points were entered (out of a possible 15 points).

7. **Size of Present Farm Unit Compared to Average:** The average farm unit in Sacramento County is 230 acres.[5] The portion of the Project site that would be permanently converted to non-agricultural uses would be 112.3 acres. This represents a value that is 512 percent lower than the Countywide average farm unit. Based on the formula provided in 7 CFR § 658.5 (b) (7), sites that are 50 percent or more below the Countywide average are to be assigned zero points, so we entered zero points (out of a possible 15 points).

8. **Creation of Non-Farmable Land:** The site is not used for commercial farming purposes, though it is mowed on occasion for purposes of weed abatement and to reduce attractants to wildlife that could pose a hazard to aviation. Mowing is carried out on a non-compensated basis by a local operator. The non-native grass that is derived from the mowing operations is made available to the contracted operator for baling and transport from the site for their own use. Neither the Airport nor the contracted operator receive compensation for these mowing and baling activities. Non-developed portions of the site would be subject to the same requirements for weed abatement and minimization of wildlife attractants, so the remaining undeveloped lands on the parcel would remain available for the current mowing and baling opportunities for area operators, and construction of the Project would not impair such use. As such,

[5] U.S. Department of Agricultural Statistics Service. 2022. Census of Agriculture County Profile, Sacramento County, California. Available at: /https://www.nass.usda.gov/Publications/AgCensus/2022/Online_Resources/County_Profiles/California/cp06067.pdf.

none of the land remaining undeveloped after Project implementation would be rendered unavailable for the existing practice of mowing and baling of non-native grasses. This remaining land would amount to approximately 26.9 acres, and the amount of land no longer available for mowing and baling would be 112.3 acres. Based on the formula provided in 7 CFR § 658.5 (b) (8), remaining acreage equal to between 25 and 5 percent of the acres directly converted by the project should be assigned between 9 and 1 points. Accordingly, we have entered 9 points (out of a possible 10 points).[6]

9. **Availability of Farm Support Services:** This portion of Sacramento County, and the Natomas Basin in particular, is substantially utilized for commercial agricultural uses. As such, farm support services and markets are widely available in proximity to the Project area. Accordingly, we entered 5 points (out of a possible 5 points).

10. **On-Farm Investments:** There are no farm-related structures on the site. An abandoned irrigation ditch lies along the northern perimeter of the site but has been disconnected from the area's irrigation network since at least the early 2000s. Another irrigation ditch lies along the west side of the site, but it provides no water to the site. The West Drainage Canal is located along the southern perimeter of the site, but it also does not supply water to the site and serves as a drainage channel into the Sacramento River for the southern portion of the Natomas Basin. Finally, Power Line Road lies to the east of the site and contains no associated irrigation features that could serve the site. Based upon these observations, there have been no farm-related investments on the Project site that provide an enhancement to the agricultural value of the site. Accordingly, we assigned a value of zero points for this criterion (out of a possible 20 points).

11. **Effects of Conversion on Farm Support Services:** Many thousands of acres of the Natomas Basin and adjacent areas of Yolo and Sutter Counties remain in commercial agricultural production. The site's relatively small size would be unlikely to have any effect on the current level of demand for farm support services in the region. In addition, the site has not been in commercial agricultural production since at least the early 2000s, so its contribution to the local farming economy and associated support services has been negligible. Accordingly, we assigned a value of zero points for this criterion (out of a possible 10 points).

12. **Compatibility with Existing Agricultural Use:** The Project would be commercial in nature and would not contain uses that would be sensitive to adjacent agricultural activity. People using the commercial charging facility and rest stop features provided by the Project would be on the site for only short periods of time. Nothing about the Project would preclude the continued use of proximate properties for agricultural purposes. Accordingly, we assigned a value of zero points for this criterion (out of a possible 10 points).

Part VII: To be completed by Federal Agency.

Relative Value of Farmland: From Part V, to be filled in once NRCS has assigned a point value to the relative value of Farmland to be converted (Scale of zero to 100 points). No information was entered.

Total Site Assessment: From Part VI. Total Site Assessment points from Part VI was 78 points.

Special Considerations and Conclusion

Although the Project site is no longer used for agricultural production due to its location near SMF within the 10,000-foot critical zone, its historical use as farmland and its associated soil characteristics is sufficient for the

6 26.9 ÷ 112.3 = 24 percent.

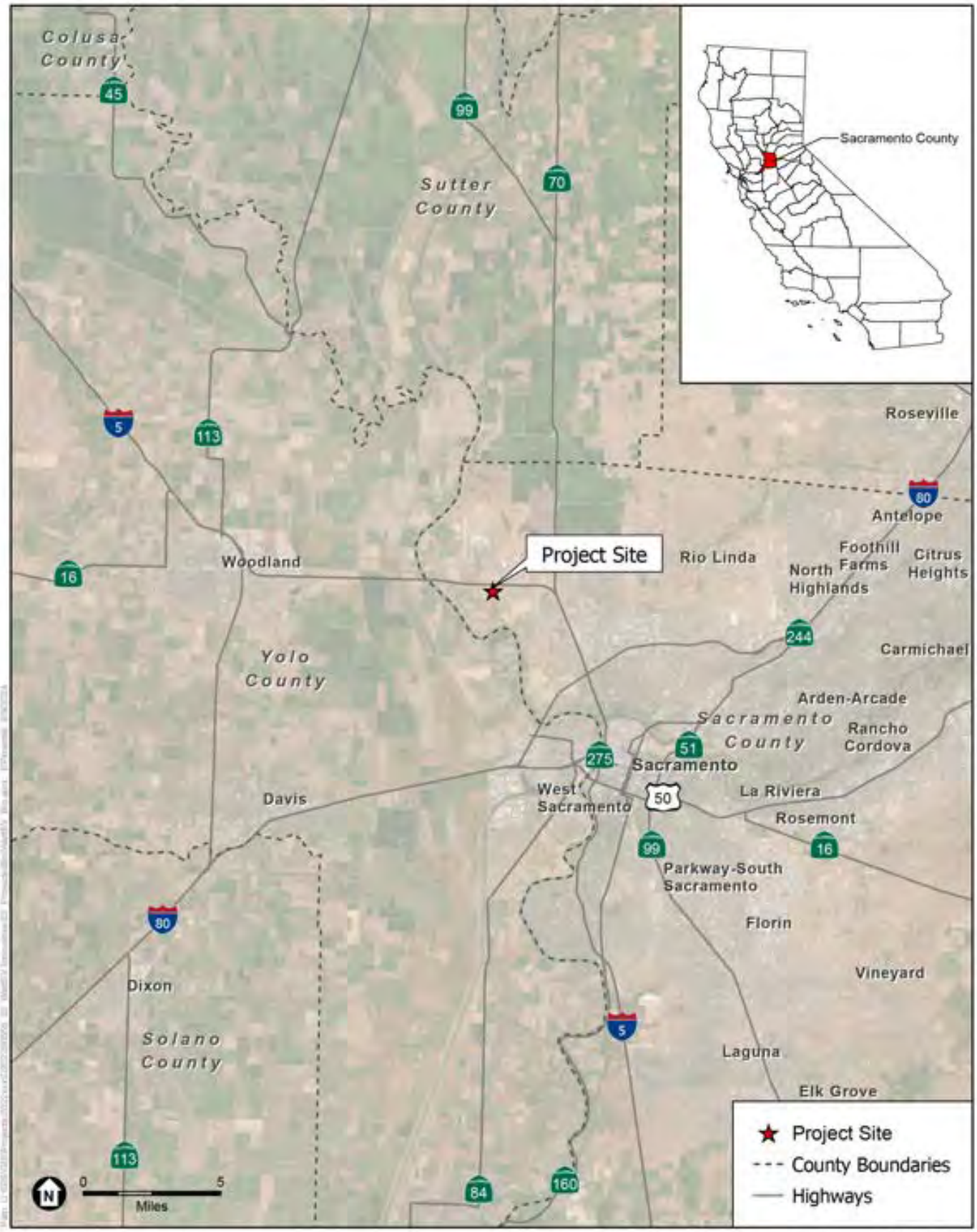
site to be designated as Farmland of Local Importance by the County of Sacramento. This parcel is maintained consistent with SMF's approved Wildlife Hazard Management Plan. So, while the Project site is afforded designation as Farmland, it is effectively not available for that use. Owing to the Airport's long-established presence and its existing runway configurations and associated approach and departure zones, this condition can be considered permanent.

Regardless of these facts, the site is designated as Farmland of Local Importance by Sacramento County, and the County's General Plan requires that any project that would convert designated agricultural lands to a non-agricultural use be mitigated in accordance with General Plan Policy AG-5, which states that:

> Projects resulting in the conversion of more than fifty (50) acres of farmland shall be mitigated within Sacramento County, except as specified in the paragraph below, based on a 1:1 ratio, for the loss of the following farmland categories through the specific planning process or individual project entitlement requests to provide in-kind or similar resource value protection (such as easements for agricultural purposes):
>
> - Prime, statewide importance, unique, local importance, and grazing farmlands located outside the Urban Service Boundary;
>
> - Prime, statewide importance, unique, and local importance farmlands located inside the Urban Service boundary.
>
> The Board of Supervisors retains the authority to override impacts to Unique, Local, and Grazing farmlands, but not with respect to Prime and Statewide farmlands. However, if that land is also required to provide mitigation pursuant to a Sacramento County endorsed or approved Habitat Conservation Plan (HCP), then the Board of Supervisors may consider the mitigation land provided in accordance with the HCP as meeting the requirements of this section including land outside of Sacramento County.
>
> Note: This policy is not tied to any maps contained in the Agricultural Element; instead, the most current Important Farmland map from the Department of Conservation should be used to calculate mitigation.

Based upon the requirements of General Plan Policy AG-5, the Project will be required to mitigate its impacts to Farmland of Local Importance. As such, and in consideration of the fact that the Project site is effectively unavailable for agricultural use, the Project's effects with respect to Farmland conversion would not be adverse.

ATTACHMENT A
FIGURES

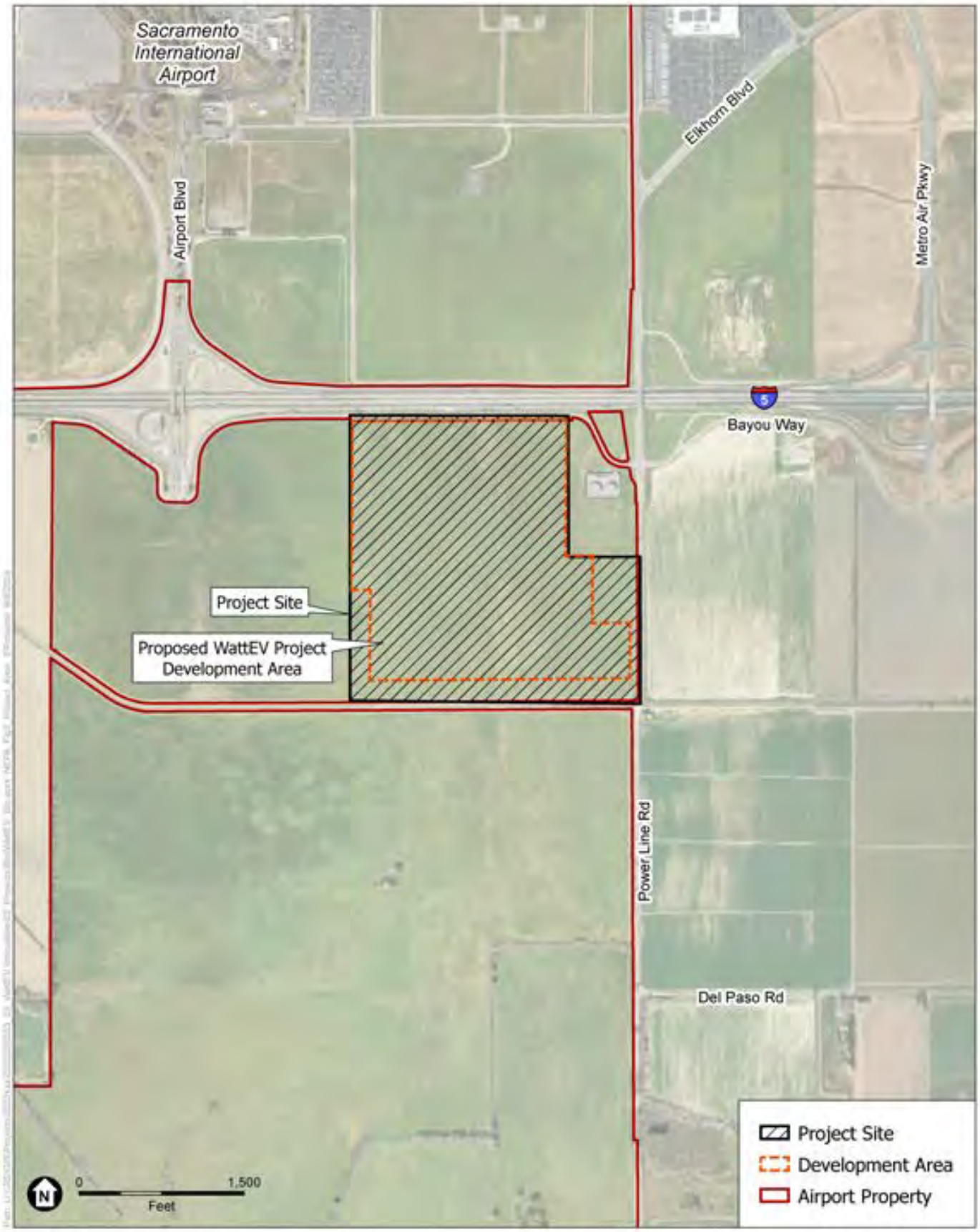


SOURCE: Esri, 2024; ESA, 2024

Sacramento County/WattEV Commercial Charging Center Project

Figure 1
Regional Location

ESA



SOURCE: Esri, 2024; ESA, 2024

Sacramento County/WattEV Commercial Charging Center Project

Figure 2
Project Area

ESA



SOURCE: Esri, 2024; ESA, 2024

Sacramento County/WattEV Commercial Charging Center Project

Figure 3
Vegetation Communities

ESA

ATTACHMENT B
NRCS Form AD-1006

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*		Date Of Land Evaluation Request	
Name of Project: Sacramento International Airport/WattEV		Federal Agency Involved: Federal Aviation Administration	
Proposed Land Use: Electric vehicle charging center		County and State: Sacramento, CA	
PART II *(To be completed by NRCS)*		Date Request Received By NRCS: 10/07/2024	Person Completing Form: B. Rust Area 1 RSS
Does the site contain Prime, Unique, Statewide or Local Important Farmland? *(If no, the FPPA does not apply - do not complete additional parts of this form)*	YES ☑ NO ☐	Acres Irrigated: 234,703	Average Farm Size: 484
Major Crop(s): Almonds, Tomatoes, and Grapes/V	Farmable Land In Govt. Jurisdiction Acres: 482,64% 73.9	Amount of Farmland As Defined in FPPA Acres: 352,5% 54.0	
Name of Land Evaluation System Used: CA Revised Storie Index	Name of State or Local Site Assessment System: N/A	Date Land Evaluation Returned by NRCS: 10/08/2024	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	112.3			
B. Total Acres To Be Converted Indirectly	0			
C. Total Acres In Site	139.2			
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	112.3			
B. Total Acres Statewide Important or Local Important Farmland	0			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.03			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	43.3			
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)	56.7			

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)*	Maximum Points	Site A	Site B	Site C	Site D
1. Area In Non-urban Use	(15)	12			
2. Perimeter In Non-urban Use	(10)	8			
3. Percent Of Site Being Farmed	(20)	0			
4. Protection Provided By State and Local Government	(20)	20			
5. Distance From Urban Built-up Area	(15)	10			
6. Distance To Urban Support Services	(15)	10			
7. Size Of Present Farm Unit Compared To Average	(10)	0			
8. Creation Of Non-farmable Farmland	(10)	9			
9. Availability Of Farm Support Services	(5)	5			
10. On-Farm Investments	(20)	0			
11. Effects Of Conversion On Farm Support Services	(10)	0			
12. Compatibility With Existing Agricultural Use	(10)	0			
TOTAL SITE ASSESSMENT POINTS	160	74	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	56.7	0	0	0
Total Site Assessment *(From Part VI above or local site assessment)*	160	74	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	130.7	0	0	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES ☐ NO ☑

Reason For Selection:

Property is designated for commercial development in the Airport Master Plan. The proximity to the airport prohibits farming activity other than occasional mowing and harvesting of non-native grass to prevent bird strikes.

Name of Federal agency representative completing this form: David B. Kessler - Federal Aviation Admin. Date: 10/01/2024

(See Instructions on reverse side)

Form AD-1006 (03-02)

STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

Step 1 - Federal agencies (or Federally funded projects) involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form. For Corridor type projects, the Federal agency shall use form NRCS-CPA-106 in place of form AD-1006. The Land Evaluation and Site Assessment (LESA) process may also be accessed by visiting the FPPA website, http://fppa.nrcs.usda.gov/lesa/.

Step 2 - Originator (Federal Agency) will send one original copy of the form together with appropriate scaled maps indicating location(s)of project site(s), to the Natural Resources Conservation Service (NRCS) local Field Office or USDA Service Center and retain a copy for their files. (NRCS has offices in most counties in the U.S. The USDA Office Information Locator may be found at http://offices.usda.gov/scripts/ndISAPI.dll/oip_public/USA_map, or the offices can usually be found in the Phone Book under U.S. Government, Department of Agriculture. A list of field offices is available from the NRCS State Conservationist and State Office in each State.)

Step 3 - NRCS will, within 10 working days after receipt of the completed form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland. (When a site visit or land evaluation system design is needed, NRCS will respond within 30 working days.

Step 4 - For sites where farmland covered by the FPPA will be converted by the proposed project, NRCS will complete Parts II, IV and V of the form.

Step 5 - NRCS will return the original copy of the form to the Federal agency involved in the project, and retain a file copy for NRCS records.

Step 6 - The Federal agency involved in the proposed project will complete Parts VI and VII of the form and return the form with the final selected site to the servicing NRCS office.

Step 7 - The Federal agency providing financial or technical assistance to the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

(For Federal Agency)

Part I: When completing the "County and State" questions, list all the local governments that are responsible for local land use controls where site(s) are to be evaluated.

Part III: When completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them or other major change in the ability to use the land for agriculture.
2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities planned build out capacity) that will cause a direct conversion.

Part VI: Do not complete Part VI using the standard format if a State or Local site assessment is used. With local and NRCS assistance, use the local Land Evaluation and Site Assessment (LESA).

1. Assign the maximum points for each site assessment criterion as shown in § 658.5(b) of CFR. In cases of corridor-type project such as transportation, power line and flood control, criteria #5 and #6 will not apply and will, be weighted zero, however, criterion #8 will be weighed a maximum of 25 points and criterion #11 a maximum of 25 points.

2. Federal agencies may assign relative weights among the 12 site assessment criteria other than those shown on the FPPA rule after submitting individual agency FPPA policy for review and comment to NRCS. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total points at 160. For project sites where the total points equal or exceed 160, consider alternative actions, as appropriate, that could reduce adverse impacts (e.g. Alternative Sites, Modifications or Mitigation).

Part VII: In computing the "Total Site Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, convert the site assessment points to a base of 160.
Example: if the Site Assessment maximum is 200 points, and the alternative Site "A" is rated 180 points:

$$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \text{ X } 160 = 144 \text{ points for Site A}$$

For assistance in completing this form or FPPA process, contact the local NRCS Field Office or USDA Service Center.

NRCS employees, consult the FPPA Manual and/or policy for additional instructions to complete the AD-1006 form.

Appendix F

Historic, Architectural, Archaeological & Cultural Resources

F1 State Historic Preservation Officer (SHPO) Area of Potential Effect Submittal

U.S Department
of Transportation

**Federal Aviation
Administration**

Western-Pacific Region
Office of Airports

Federal Aviation Administration
777 So. Aviation Blvd. Suite 150
El Segundo, CA 90245

August 9, 2024

Ms. Julianne Polanco
State of California
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, California 95816

Attention: Mr. Tristan Tozer

Dear Ms. Polanco:

Proposed Development of the Sacramento County WattEV Commercial Charging Center Project, Sacramento International Airport, Sacramento County, California
Section 106 Coordination

The Sacramento County Department of Airports (SCDOA) and the Federal Aviation Administration (FAA) are preparing federal environmental documentation to comply with the National Environmental Policy Act of 1969 (NEPA) for SCDOA's proposed development of the Sacramento County WattEV Commercial Charging Center project (Proposed Project) at Sacramento International Airport (SMF). The proposed Federal action is the conversion of airport-dedicated property at SMF, to a non-aeronautical, revenue-producing purpose.

SCDOA proposes to the following components of the Proposed Project:

- Construction of a 13.5-acre charging area/rest area configured with two truck charging areas separated by a publicly accessible central plaza. The facility would include a two-story 14,000-square-foot (sf) convenience store and visitor center, a 3,000-sf single story operations and maintenance facility, and a 3,000-sf single story office building.
- Construction of two truck charging areas providing a total of 18 Megawatt Charging Standard (MCS) chargers and 90 240 kW Combined Charging Standard (CCS) chargers designed for heavy and medium duty trucks. Eighty truck parking stalls would also be provided.
- Construction of 30 CCS chargers dedicated to passenger vehicle use and an automobile parking lot with 200 automobile parking spaces.
- Construction of access improvements along Bayou Way, which borders the site to the north and is directly south and parallel to I-5. Direct access to the Proposed Project site would be provided through the construction of three sets of ingress and egress points (six total access points) along Bayou Way.
- Installation of drought tolerant landscaping in the northern portion of the Proposed Project site where the vehicle charging/rest area would be located. Installation of an

illuminated pylon sign that would be visible from I-5. Onsite lighting would also be provided.

- Construction of an approximately 64.3-acre Photovoltaic (PV) solar array, with solar modules mounted on tracker arrays. Each rack would hold up to 90 panels (72 Cell Modules). Five 3.6 Megavolt Ampere (MVA) inverters and transformers would be installed on concrete pads located within the solar field. The solar array would also be developed according to FAA's policy, *Review of Solar Energy System Projects on Federally-Obligated Airports*, to insure that there would be no adverse glare impacts to Airport Traffic Control Tower (ATCT) personnel or pilots.

FAA has considered the Proposed Project site, and associated site access/pavement improvement areas and delineated an Area of Potential Effects (APE) for the proposed undertaking. FAA used the boundaries of the entire portion of the Proposed Project site development footprint and three smaller ancillary areas necessary for site access and off-site roadway improvements that would have physical disturbance to delineate the APE. FAA determined the extent of these boundaries through consultation with SCDOA.

The Proposed Project would not change the number and type of aircraft operations at SMF. FAA will include this information in the environmental documentation for the Proposed Project. FAA is notifying your office we will utilize the National Environmental Policy Act process identified in Title 36, Code of Federal Regulations (C.F.R.) § 800.8(c), for identification of interested parties for this proposed undertaking.

Description of the APE for the proposed undertaking: The enclosed figure depicts the direct APE and the indirect APE for the Proposed Project. The staging of equipment and supplies for the Proposed Project would occur within the direct APE of the Proposed Project site. SCDOA advises development of the charging area/rest area and the solar array field would be upon approximately 3-feet of clean fill material. The depth of disturbance for the solar array posts would be down approximately 8-feet below the surface. ***Pursuant to Title 36, Code of Federal Regulations, Section 800.4, the FAA is seeking concurrence with the APE for the proposed undertaking from the California State Historic Preservation Office.***

If you have any further questions about this matter, please call me at 925-546-6445.

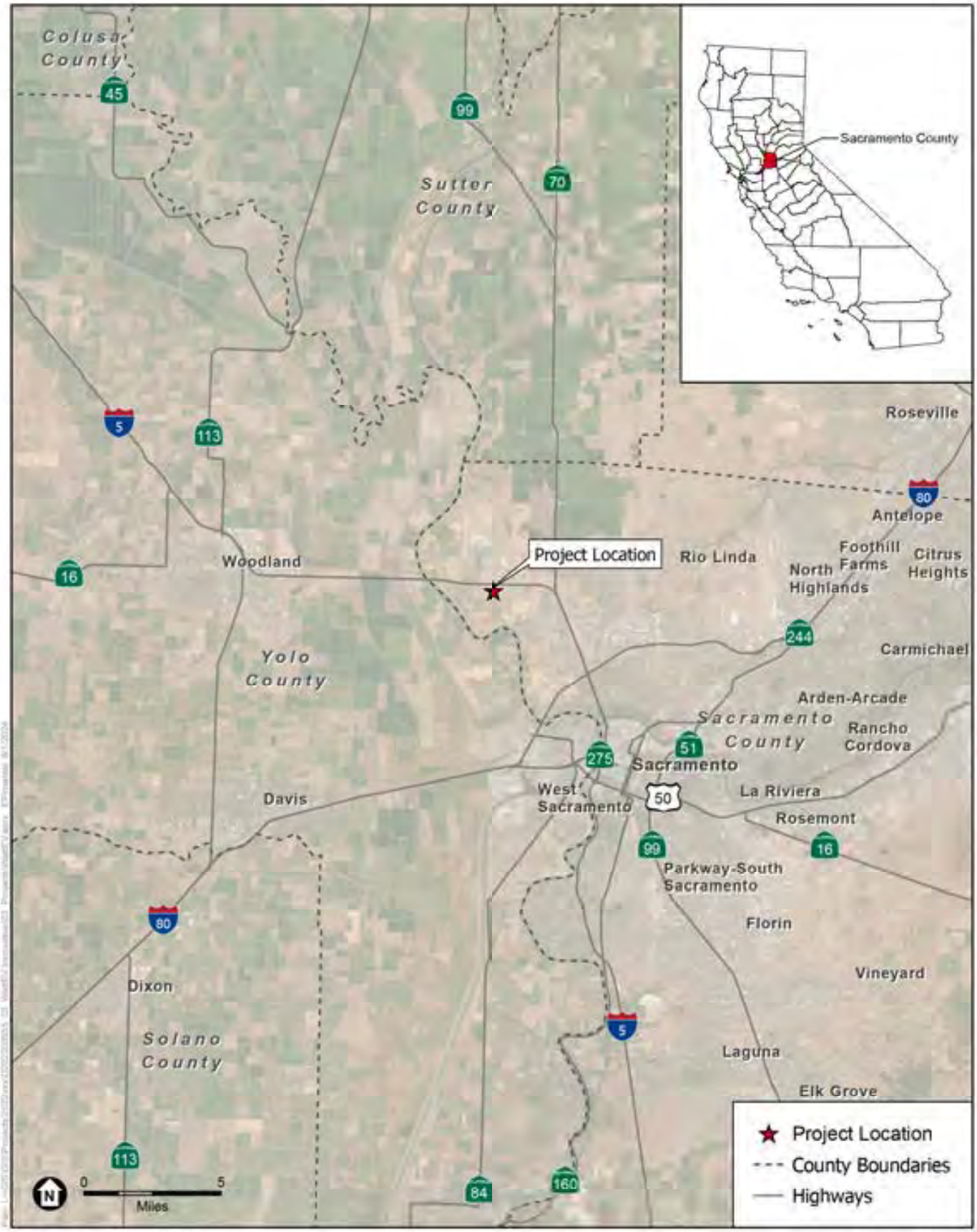
Sincerely,

David Wickens

David Wickens
Environmental Protection Specialist

Enclosure: Figure showing APE for the proposed undertaking.

Cc: LAX-600; Zach Frese - SCDOA

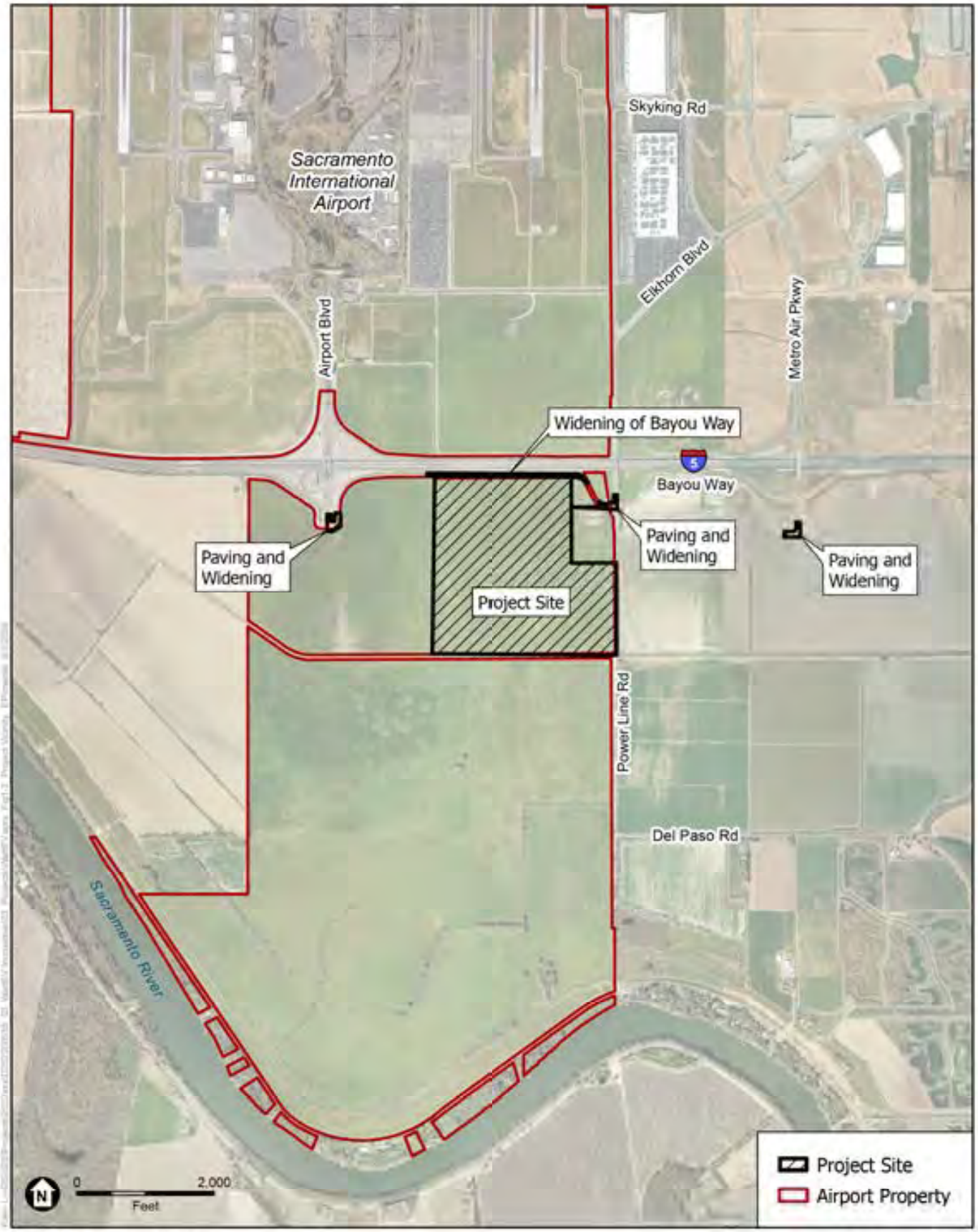


SOURCE: Esri, 2024; ESA, 2024

WattEV Commercial Charging Center

Figure 1-1
Regional Location

ESA



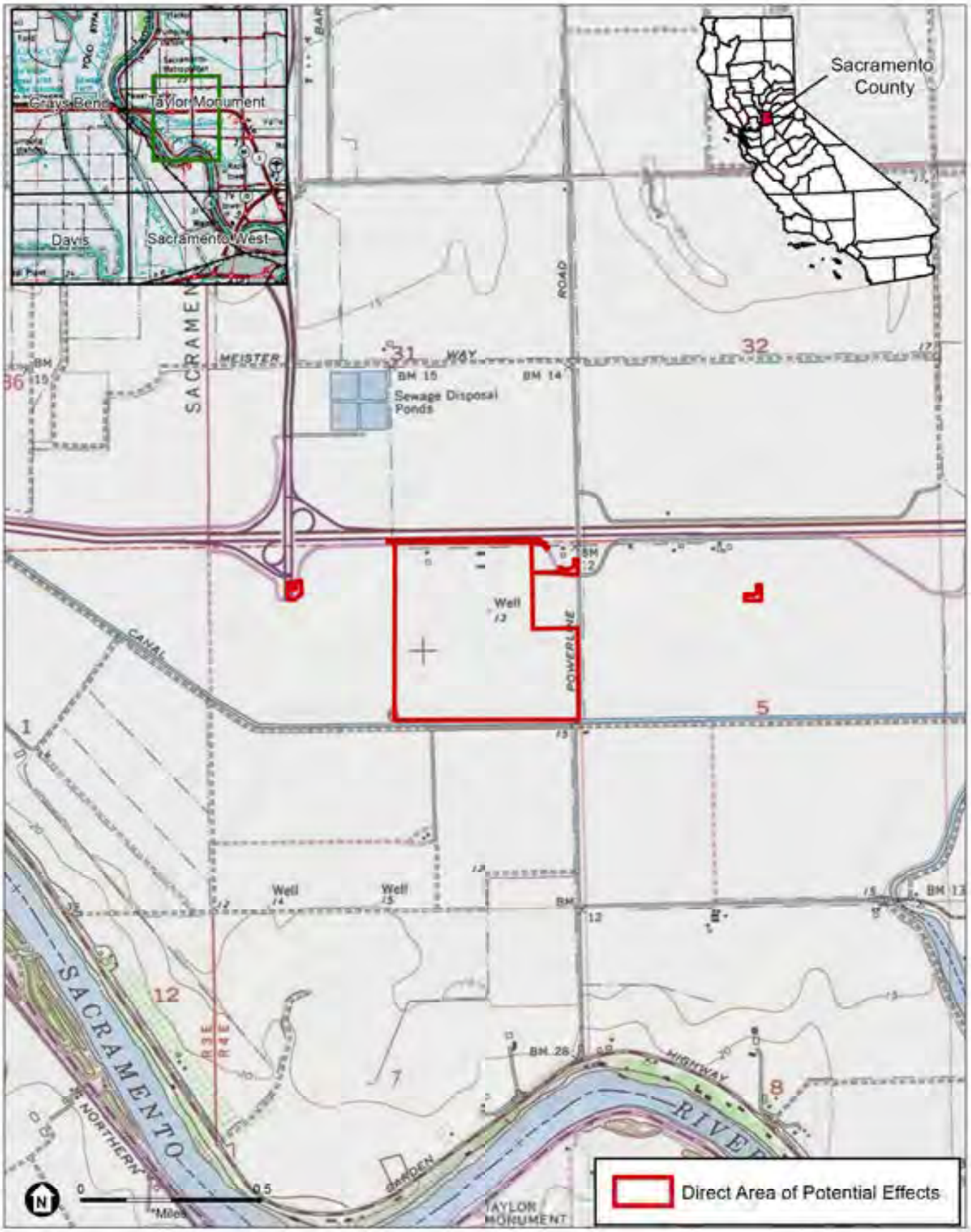
SOURCE: Esri, 2024; ESA, 2024

WattEV Commercial Charging Center

Figure 1-2
Project Vicinity

Note: The project site includes paving and widening at the intersections of Bayou Way/Airport Boulevard and Bayou Way/Power Line Road; as well as widening Bayou Way to facilitate truck turns and movement.

ESA



SOURCE: USGS; ESA, 2024

WattEV Commercial Charging Center Project

Figure 1
Project Location



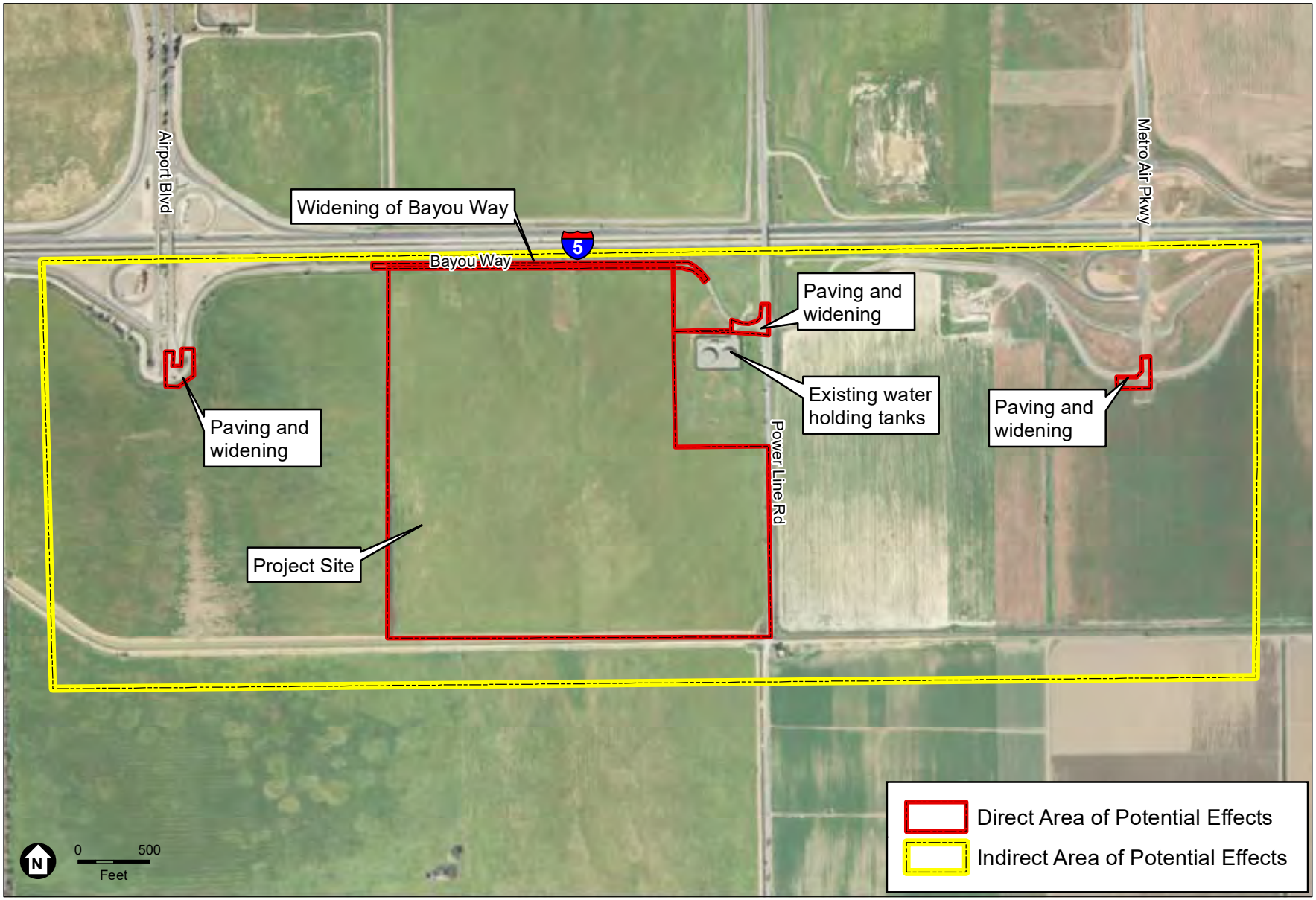


SOURCE: WattEV, 2024

WattEV Commercial Charging Center

Figure 2
Proposed Project Renderings

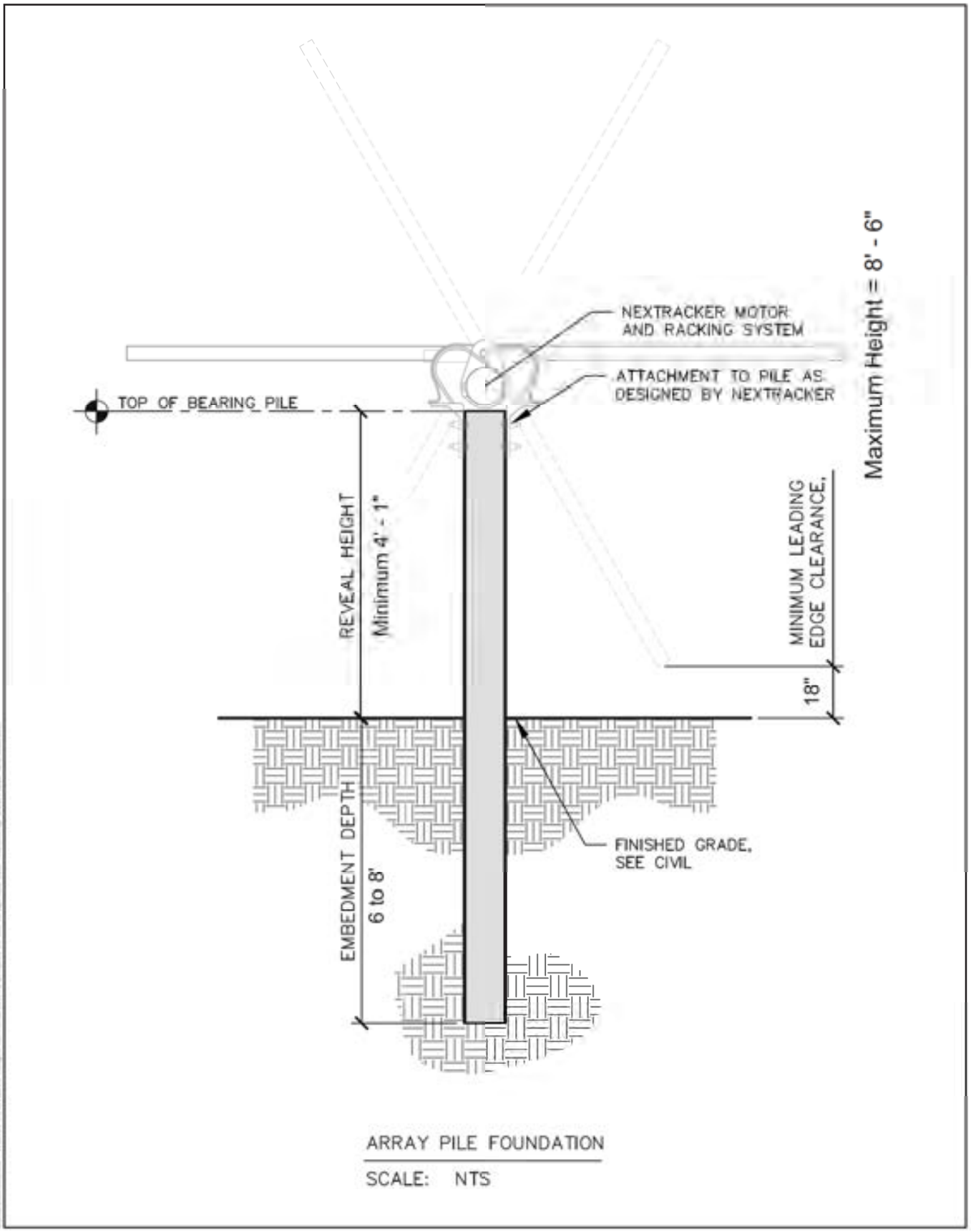
ESA



SOURCE: Esri; ESA, 2024

WattEV Commercial Charging Center

Figure 3
Area of Potential Effects

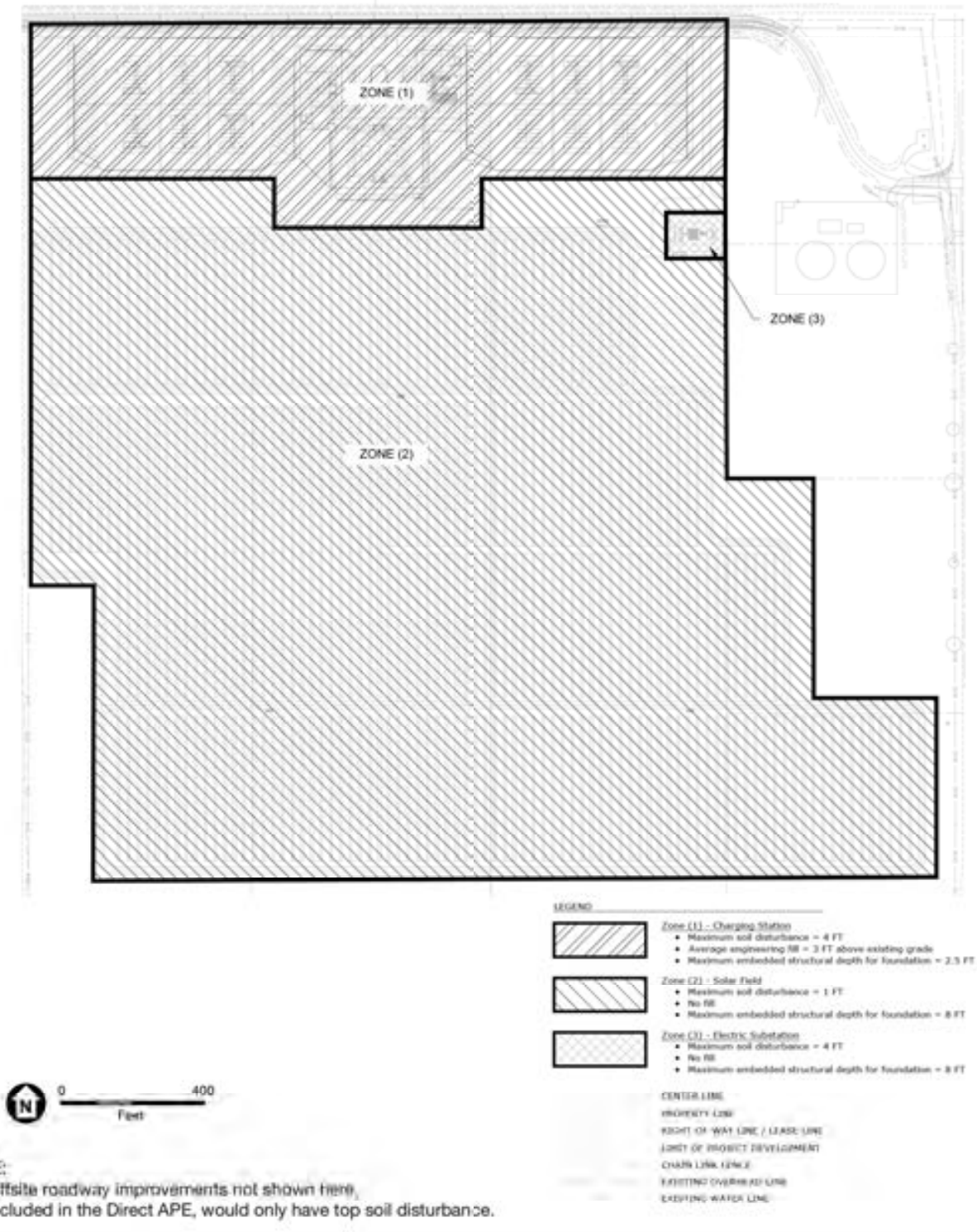


SOURCE: Kimley-Horn and Associates, Inc.

WattEV Commercial Charging Center

Figure 4
Cross Section – Array Pile Foundation

ESA



NOTE:
The offsite roadway improvements not shown here,
but included in the Direct APE, would only have top soil disturbance.

SOURCE: WattEV, 2023

WattEV Commercial Charging Center

Figure 6
Soil Disturbance

ESA

F2 State Historic Preservation Officer (SHPO) Area of Potential Effect Approval

State of California • Natural Resources Agency
Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION
Armando Quintero, *Director*

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

September 9, 2024 Reply in Reference To: FAA_2024_0809_001

Submitted Via Electronic Mail

David Wickens
Environmental Protection Specialist
Federal Aviation Administration
Western Pacific Region, Office of Airports
777 So. Aviation Blvd. Suite 150
El Segundo, CA 90245

Re: Proposed Development of the Sacramento County WattEV Commercial Charging Center Project, Sacramento International Airport, Sacramento County, California

Dear Mr. Wickens:

The Federal Aviation Administration (FAA) is initiating consultation with the State Historic Preservation Officer (SHPO) in order to comply with Section 106 of the National Historic Preservation Act of 1966 (54 U.S.C. § 306108), as amended, and its implementing regulations at 36 CFR Part 800. The FAA is requesting SHPO comments on the Area of Potential Effects (APE) for the above-referenced undertaking.

The Sacramento County Department of Airports is planning to build a 13.5-acre charging and rest stop facility and associated 64.3-acre photovoltaic solar array, as described in your August 9, 2024 letter. The FAA defines the APE for the undertaking as the footprint of the proposed facility, including construction areas for three sets of ingress and egress points along Bayou Way. The vertical aspect of the APE includes up to eight feet of excavation below surface level for the installation of solar array posts.

Having reviewed your submittal, please consider the following comment:

- The APE, as described in your letter and shown on images included with said letter, appears adequately delineated to account for direct and indirect effects to historic properties.

If you have any questions or comments, please contact staff historian Tristan Tozer at (916) 894-5499 or Tristan.Tozer@parks.ca.gov.

Sincerely,



Julianne Polanco
State Historic Preservation Officer

F3 Cultural Resources Inventory and Evaluation Report

Confidential – Not included in public distribution.

F4 FAA Finding of Effect

U.S Department
of Transportation
**Federal Aviation
Administration**

Western-Pacific Region
Office of Airports
San Francisco Airports District Office

Federal Aviation Administration
2999 Oak Road, Suite 200
Walnut Creek, CA 94597-7776

November 1, 2024

Ms. Julianne Polanco
State of California
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, California 95816-7100

Attention: Mr. Tristan Tozer

Dear Ms. Polanco:

Proposed Sacramento County/Watt EV Commercial Charging Center Project
Sacramento International Airport,
Sacramento, Sacramento County, California
Section 106 Coordination
Reference: FAA_2014_0809-001

The City of Sacramento, through its Airport Department – Sacramento County Department of Airports (SCDOA) and the Federal Aviation Administration (FAA) are preparing federal environmental documentation for the proposed undertaking of construction of the various components of the Sacramento County/Watt EV Commerical Charging Center Project at Sacramento International Airport (SMF). SMF is located in the Sacramento County north of Interstate 5. Your office previously concurred with FAA's Area of Potential Effects (APE) for the proposed undertaking for the proposed ATMP by letter dated September 9, 2024. The proposed Federal actions are approval of SCDOA's Airport Layout Plan depicting the proposed undertaking and approval of a change in land use from aeronautical to non-aeronautical.

FAA is providing the following background information to assist you in reviewing FAA's determinations of eligibility and findings of effect related to the proposed undertaking.

1. Background Information. SCDOA proposes to the following components of the Proposed Project:

• Construction of a 13.5-acre charging area/rest area configured with two truck charging areas separated by a publicly accessible central plaza. The facility would include a two story 14,000-square-foot (sf) convenience store and visitor center, a 3,000-sf single story operations and maintenance facility, and a 3,000-sf single story office building.

• Construction of two truck charging areas providing a total of 18 Megawatt Charging Standard (MCS) chargers and 90 240 kW Combined Charging Standard (CCS) chargers designed for heavy and medium duty trucks. Eighty truck parking stalls would also be provided.

• Construction of 30 CCS chargers dedicated to passenger vehicle use and an automobile parking lot with 200 automobile parking spaces.

• Construction of access improvements along Bayou Way, which borders the site to the north and is directly south and parallel to I-5. Direct access to the Proposed Project site would be provided through the construction of three sets of ingress and egress points (six total access points) along Bayou Way.

• Installation of drought tolerant landscaping in the northern portion of the Proposed Project site where the vehicle charging/rest area would be located. Installation of an illuminated pylon sign that would be visible from I-5. Onsite lighting would also be provided.

• Construction of an approximately 64.3-acre Photovoltaic (PV) solar array, with solar modules mounted on tracker arrays. Each rack would hold up to 90 panels (72 Cell Modules). Five 3.6 Megavolt Ampere (MVA) inverters and transformers would be installed on concrete pads located within the solar field. The solar array would also be developed according to FAA's policy, *Review of Solar Energy System Projects on Federally-Obligated Airports*, to insure that there would be no adverse glare impacts to Airport Traffic Control Tower (ATCT) personnel or pilots.

The proposed Sacramento County/Watt EV Commercial Charging Center will not change the number and type of aircraft operations at SMF. FAA will include this information in the environmental documentation for the proposed project. A decision by the FAA approving the Proposed Actions would be necessary for the Proposed Project to proceed. In the event that FAA does not approve the Proposed Actions, the County would not be able to comply with the terms of a grant from the California Transportation Commission for the Proposed Project.

2. Native American Consultation. FAA received a listing of Native American contacts for the proposed undertaking from the State of California Native American Heritage Commission. The commission recommended FAA contact the following tribes: Shingle Springs Band of Miwok Indians, TSI-AKIM Maidu of the Taylorsville Rancheria, United Auburn Indian Community of the Auburn Rancheria, and the Wilton Rancheria.

On September 19, 2024, FAA provided detailed information about the proposed undertaking to the tribal contacts provided by the California Native American Heritage Commission using the electronic mail. FAA received one response. The United Auburn Indian Community of the Auburn Rancheria (UAIC) asked to consult with the FAA and

conduct a site survey. FAA is working with SCDOA to schedule a walk through of the site the with the UAIC. FAA will include in the Draft Environmental Assessment the following unanticipated discovery plan:

- *If human remains or funerary objects are encountered during the undertaking, all work shall cease within 100 feet of the find and the Sacramento County Coroner shall be contacted pursuant to State Health and Safety Code § 7050.5,*
- *If any Native American cultural resources are discovered, all work shall cease within a 60-foot buffer so that a qualifed archaeologist can be retained to assess the find, and the Auburn Rancheria and Winton Rancheria shall be contacted;*
- *If significant Native American cultural resources are discovered and avoidance cannot be ensured, a treatment plan shall be developed by a qualified archaeologist, followed by further consultation with the Auburn Rancheria and the Winton Rancheria.*

3. National Register Eligibility Determinations. Environmental Science Associates (ESA), from Sacramento, California, SCDOA's environmental and cultural resources consultant, was tasked to identify and evaluate the proposed undertaking's effect on historic properties. ESA prepared the enclosed *Sacramento County WattEV Commercial Charging Center – Cultural Resources Inventory and Evaluation Report,* (Cultural Resources Report) dated September 2024.

The Cultural Resources Report stated no archaeological sites have been identified within the APE. The report stated based on previous and current investigations, there is a low potential to encounter buried archaeological resources within the APE. This statement is based on prior disturbance of the subject parcel when it was used for agricultural purposes.

The Cultural Resources Report evaluated five -age eligible architectural resources for eligibility for inclusion into the National Register of Historic Places (NRHP). These include: Ditch A - a half mile long earthen drainage ditch (P-35-005251); Ditch B – a 0.71 mile long earthen drainage ditch long the north side of Bayou Way (P-35-005251); Ditch C – a 0.77 mile long earth ditch along the south side of Bayou Way (P-35-005251), The Sacramento Metropolitan Utility District (SMUD) electrical transmission line (P-34-005789);and a home at 5250 Power Line Road (P-34-005788).

The Cultural Resources Report evaluates each of these five historic structures. The report concludes that none of these properties meets eligibility criterion and qualify for inclusion into the NRHP. Therefore, FAA has determined these five properties are ***not*** eligible for inclusion into the NRHP.

FAA seeks the California SHPO's concurrence with this determination.

4. Assessment of Adverse Effects on Historic Properties.

Based on the information contained in the Cultural Resources Report, FAA finds the proposed undertaking will **not affect** any properties listed or eligible for listing on the National Register of Historic Places under 36 CFR Part 800.4(d)(1).

FAA seeks the California SHPO's concurrence with this finding.

If you have any further questions about this matter, please call me at 925-546-6445.

Sincerely,

David Wickens

David Wickens
Environmental Protection Specialist

Enclosure: Cultural Resources Report for the Sacramento County/WattEV Commercial Charging Center.

Cc: SFO-600; Z. Frese, G. Rickleton - SCDOA

F5 SHPO Finding of Effect

DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION
Armando Quintero, *Director*
Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

December 9, 2024 Reply in Reference To: FAA_2024_0809_001

Submitted Via Electronic Mail

David Wickens
Environmental Protection Specialist
Federal Aviation Administration
Western Pacific Region, Office of Airports
777 So. Aviation Blvd. Suite 150
El Segundo, CA 90245

Re: Finding of Effect, Sacramento County WattEV Commercial Charging Center Project, Sacramento International Airport, Sacramento County, California

Dear Mr. Wickens:

The Federal Aviation Administration (FAA) is continuing consultation with the State Historic Preservation Officer (SHPO) in order to comply with Section 106 of the National Historic Preservation Act of 1966 (54 U.S.C. § 306108), as amended, and its implementing regulations at 36 CFR Part 800. The FAA is requesting SHPO comments on a finding of no historic properties affected for the above-referenced undertaking.

In previous consultation, SHPO noted that the Area of Potential Effects (APE) for the undertaking appeared adequate to account for direct and indirect effects to historic properties. Subsequently, the FAA has determined that the undertaking will not affect historic properties and has submitted the following cultural resources study in support of this finding:

- *Sacramento County/WattEV Commercial Charging Center, Cultural Resources Inventory and Evaluation Report* (ESA: September 2024)

Five cultural resources, identified as Ditch A - a half mile long earthen drainage ditch (P-35-005251); Ditch B – a 0.71 mile long earthen drainage ditch located along the north side of Bayou Way (P-35-005251); Ditch C – a 0.77 mile long earth ditch located along the south side of Bayou Way (P-35-005251), a Sacramento Metropolitan Utility District (SMUD) electrical transmission line (P-34-005789); and a residence at 5250 Power Line Road (P-34-005788), were identified. The properties, while in the APE, are not located in the construction footprint. The properties were evaluated and determined to be

ineligible for listing on the National Register of Historic Places (NRHP) under all criteria. No archaeological sites were identified. The report notes that due to prior disturbance resulting from agricultural activities, there is a low potential to encounter buried archaeological resources in the APE.

The FAA consulted with tribes identified by the California Native American Heritage Commission has potentially having additional information historic and cultural resources in the project area. As a result of consultation, a representative of the United Auburn Indian Community has expressed an interest tribal monitoring of ground disturbing activity associated with the undertaking.

Having reviewed your submittal, please consider the following comment:

- SHPO concurs that Ditch A, Ditch B, Ditch C, the SMUD Electrical Transmission Line, and the residence at 5250 Power Line Road are ineligible for listing on the NRHP under all criteria.

- SHPO concurs that pursuant to 36 CFR § 800.4(d)(1), the undertaking will not affect historic properties.

Please be reminded that in the event of change in the scale or scope of undertaking or a post review discovery, the FAA may have additional consultation responsibilities under 36 CFR Part 800. If you have any questions or comments, please contact historian Tristan Tozer at (916) 894-5499 or Tristan.Tozer@parks.ca.gov.
Sincerely,



Julianne Polanco
State Historic Preservation Officer

F6 Native American Consultation

Native American Heritage Commission
Native American Contact List
Sacramento County
8/8/2024

Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties	Last Updated
Shingle Springs Band of Miwok Indians	F	Kara Perry, Director of Site Protection	5281 Honpie Road Placerville, CA 95667	(530) 363-5123		kperry@ssband.org	Maidu, Miwok	Amador, El Dorado, Placer, Sacramento, Sutter, Yolo, Yuba	7/13/2023
Shingle Springs Band of Miwok Indians	F	Malissa Tayaba, Vice Chairperson; Director of TEK	P.O. Box 1340 Shingle Springs, CA 95682	(916) 468-2730		matayaba@ssband.org	Maidu, Miwok	Amador, El Dorado, Placer, Sacramento, Sutter, Yolo, Yuba	7/13/2023
Shingle Springs Band of Miwok Indians	F	Dustin Murray, Tribal Administrator	P.O Box 1340 Shingle Springs, CA 95682	(530) 957-8925		dumurray@ssband.org	Maidu, Miwok	Amador, El Dorado, Placer, Sacramento, Sutter, Yolo, Yuba	7/13/2023
Shingle Springs Band of Miwok Indians	F	Regina Cuellar, Chairperson	5281 Honpie Road Placerville, CA 95667	(530) 698-1400	(530) 387-8067	info@ssband.org	Maidu, Miwok	Amador, El Dorado, Placer, Sacramento, Sutter, Yolo, Yuba	7/13/2023
Shingle Springs Band of Miwok Indians	F	James Sarmento, Executive Director of Cultural Resources	5281 Honpie Road Placerville, CA 95667	(530) 698-1559		jsarmento@ssband.org	Maidu, Miwok	Amador, El Dorado, Placer, Sacramento, Sutter, Yolo, Yuba	7/13/2023
Shingle Springs Band of Miwok Indians	F	Krystal Moreno, TEK Program Manager				kmoreno@ssband.org	Maidu, Miwok	Amador, El Dorado, Placer, Sacramento, Sutter, Yolo, Yuba	7/13/2023
TSI-AKIM Maidu of the Taylorsville Rancheria	N	Donald Ryberg, Chairman	17886 Oak Way Grass Valley, CA 95945	(530) 955-5998		Siakumne@gmail.com	Maidu	Alpine, Amador, Butte ,El Dorado, Nevada, Placer, Plumas, Sacramento, Sierra, Sutter, Yolo, Yuba	4/3/2024
TSI-AKIM Maidu of the Taylorsville Rancheria	N	Ben Cunningham, Tribal Council Member	P.O. Box 577 Greenville, CA 95947	(530) 249-7692			Maidu	Alpine, Amador, Butte ,El Dorado, Nevada, Placer, Plumas, Sacramento, Sierra, Sutter, Yolo, Yuba	4/3/2024
TSI-AKIM Maidu of the Taylorsville Rancheria	N	James Moon Jr, Tribal Member	342 American Hill Road Nevada City, CA 95959	(530) 913-7257		wemoons@yahoo.com	Maidu	Alpine, Amador, Butte ,El Dorado, Nevada, Placer, Plumas, Sacramento, Sierra, Sutter, Yolo, Yuba	4/3/2024
TSI-AKIM Maidu of the Taylorsville Rancheria	N	Ben Cunningham-Summerfield, Cultural Advisor	4933 Ponderosa Way Medpines, CA 95345	(209) 966-8062		brftcrtn@sti.net	Maidu	Alpine, Amador, Butte ,El Dorado, Nevada, Placer, Plumas, Sacramento, Sierra, Sutter, Yolo, Yuba	4/3/2024
TSI-AKIM Maidu of the Taylorsville Rancheria	N	Richard Cunningham, Vice Chairman	P.O. Box B-111 Greenville, CA 95947	(530) 250-9584			Maidu	Alpine, Amador, Butte ,El Dorado, Nevada, Placer, Plumas, Sacramento, Sierra, Sutter, Yolo, Yuba	4/3/2024
United Auburn Indian Community of the Auburn Rancheria	F	Matt Moore, Tribal Historic Preservation Officer	10720 Indian Hill Road Auburn, CA 95603	(530) 883-2390		THPO@auburnrancheria.com	Maidu, Miwok	Amador, Butte,El Dorado, Nevada, Placer, Plumas, Sacramento, San Joaquin, Sierra, Solano, Sutter, Yolo, Yuba	12/13/2023
United Auburn Indian Community of the Auburn Rancheria	F	Gene Whitehouse, Chairperson	10720 Indian Hill Road Auburn, CA 95603	(530) 883-2390	(530) 883-2380	TribalChairman@auburnrancheria.com	Maidu, Miwok	Amador, Butte, El Dorado, Nevada, Placer, Plumas, Sacramento, San Joaquin, Sierra, Solano, Sutter, Yolo, Yuba	12/13/2023
Wilton Rancheria	F	Cultural Preservation Department,	9728 Kent Street Elk Grove, CA 95624	(916) 683-6000		cpd@wiltonrancheria-nsn.gov	Miwok	Alameda, Alpine, Amador, Contra Costa, El Dorado, Mono, Nevada, Placer, Sacramento, San Joaquin, Solano, Stanislaus, Sutter, Yolo, Yuba	8/7/2023
Wilton Rancheria	F	Herbert Griffin, Executive Director of Cultural Preservation	9728 Kent Street Elk Grove, CA 95624	(916) 683-6000		hgriffin@wiltonrancheria-nsn.gov	Miwok	Alameda, Alpine, Amador, Contra Costa, El Dorado, Mono, Nevada, Placer, Sacramento, San Joaquin, Solano, Stanislaus, Sutter, Yolo, Yuba	8/7/2023

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 Sacramento County WattEV Innovative Freight Terminal (SWIFT) Project, Sacramento County.

Record: PROJ-2024-004020
Report Type: List of Tribes
Counties: Sacramento
NAHC Group: All

U.S Department
of Transportation

**Federal Aviation
Administration**

Western-Pacific Region
Airports Division

Federal Aviation Administration
777 So. Aviation Blvd, Suite 150
El Segundo, California 90245

September 19, 2024

VIA EMAIL (tribalchairman@auburnrancheria.com)

Gene Whitehouse
Chairperson
United Auburn Indian Community of the Auburn Rancheria
10720 Indian Hill Road
Auburn, CA 95603

Subject: Sacramento County WattEV Innovative Freight Terminal (SWIFT) Project, Located at Sacramento International Airport, Sacramento County, California

Dear Chairperson Whitehouse:

Government-to-Government Consultation Initiation

The Federal Aviation Administration (FAA) and the Sacramento International Airport are preparing federal environmental documentation under the National Environmental Policy Act (NEPA) of 1969, as amended, for the proposed Sacramento County Watt Electric Vehicle (EV) Commercial Charging Center Project at Sacramento International Airport (SMF), in Sacramento County, California. The FAA is the lead Federal agency for Government-to-Government consultation, and Sacramento County Department of Airports is the Airport sponsor (Sponsor). The FAA is evaluating potential impacts associated with this request. Tribal sovereignty, culture, traditional values and customs will be respected at all times during the consultation process.

Purpose of Government-to-Government Consultation

The primary purpose of government-to-government consultation, as described in Federal Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments*, and FAA Order 1210.20, *American Indian and Alaska Native Tribal Consultation Policy and Procedures*, is to ensure that Federally Recognized Tribes are given the opportunity to provide meaningful and timely input regarding proposed FAA actions that uniquely or significantly affect the Tribes. I am the FAA Official with the responsibility of coordinating Government-to-Government consultations with Tribes under FAA Order 1210.20.

Consultation Initiation

The FAA seeks input on concerns that uniquely or significantly affect your Tribe related to proposed airport improvements. Early identification of Tribal concerns, or known properties of traditional religious and cultural importance, will allow the FAA to consider ways to avoid or minimize potential impacts to Tribal resources as project planning and alternatives are developed and refined. We are available to discuss the details of the proposed project with you.

Project Information

The Proposed Project involves development of a publicly accessible Electric Vehicle (EV) charging facility and related facilities, that would be built on a 110-acre parcel of land owned by

Sacramento County at SMF, located south of and adjacent to Interstate-5 on the south side of the Airport along the extended Runway 35R arrival centerline.

The Proposed Project includes the following components:

• Construction of a 13.5-acre charging area/rest area configured with two truck charging areas separated by a publicly accessible central plaza. The facility would include a two-story 14,000-square-foot (sf) convenience store and visitor center, a 3,000-sf single story operations and maintenance facility, and a 3,000-sf single story office building.

• Construction of two truck charging areas providing a total of 18 Megawatt Charging Standard (MCS) chargers and 90 240 kW Combined Charging Standard (CCS) chargers designed for heavy and medium duty trucks. Eighty truck parking stalls would also be provided.

• Construction of 30 CCS chargers dedicated to passenger vehicle use and an automobile parking lot with 200 automobile parking spaces.

• Construction of access improvements along Bayou Way, which borders the site to the north and is directly south and parallel to Interstate-5. Direct access to the Proposed Project site would be provided through the construction of three sets of ingress and egress points (six total access points) along Bayou Way.

• Installation of drought tolerant landscaping in the northern portion of the Proposed Project site where the vehicle charging/rest area would be located. Installation of an illuminated pylon sign that would be visible from I-5. Onsite lighting would also be provided.

• Construction of an approximately 64.3-acre Photovoltaic (PV) solar array, with solar modules mounted on tracker arrays. Each rack would hold up to 90 panels (72 Cell Modules). Five 3.6 Megavolt Ampere (MVA) inverters and transformers would be installed on concrete pads located within the solar field. The solar array would also be developed according to FAA's policy, Review of Solar Energy System Projects on Federally-Obligated Airports, to insure that there would be no adverse glare impacts to Airport Traffic Control Tower (ATCT) personnel or pilots.

The Proposed Project site had previously been used for agricultural purposes. The agricultural use of the project site ended in the early 2000s. The County advises that previous plowing was at a maximum of 4-feet below the existing surface. The site is mowed from time to time to comply with the County's Wildlife Hazard Management Plan for SMF. The Proposed Project will include some fill material to elevate the site for the building and electric vehicle charging stations approximately 3-feet above the current ground level. The depth of physical disturbance would be approximately 8-feet below the existing ground level to enable placement of posts associated with the solar array field, please see the enclosed Area of Potential Effects (APE) drawing and site drawings. A cultural resources report completed for the site is also enclosed.

Confidentiality

We understand that you may have concerns about the confidentiality of information on areas or resources of religious, traditional and cultural importance to your Tribe. We are available to discuss these concerns and develop procedures to ensure the confidentiality of such information is maintained.

FAA Contact Information

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SFO Airports District Office, by telephone at 925-546-6445 or by e-mail at david.m.wickens@faa.gov.

If you have any questions about this letter, or would like to have further discussion, please feel free to contact me directly at 424-405-7300 or mark.mcclardy@faa.gov.

Sincerely,

Mark A. McClardy
Director, Airports Division
Western-Pacific Region

Enclosures

Proposed Project Cultural Resources Report

U.S Department
of Transportation

**Federal Aviation
Administration**

Western-Pacific Region
Airports Division

Federal Aviation Administration
777 So. Aviation Blvd, Suite 150
El Segundo, California 90245

September 19, 2024

VIA EMAIL (info@ssband.org)

Regina Cuellar
Chairperson
Shingle Springs Band of Miwok Indians
5281 Honpie Road
Placerville, CA 95667

Subject: Sacramento County WattEV Innovative Freight Terminal (SWIFT) Project, Located at Sacramento International Airport, Sacramento County, California

Dear Chairperson Cuellar:

Government-to-Government Consultation Initiation

The Federal Aviation Administration (FAA) and the Sacramento International Airport are preparing federal environmental documentation under the National Environmental Policy Act (NEPA) of 1969, as amended, for the proposed Sacramento County Watt Electric Vehicle (EV) Commercial Charging Center Project at Sacramento International Airport (SMF), in Sacramento County, California. The FAA is the lead Federal agency for Government-to-Government consultation, and Sacramento County Department of Airports is the Airport sponsor (Sponsor). The FAA is evaluating potential impacts associated with this request. Tribal sovereignty, culture, traditional values and customs will be respected at all times during the consultation process.

Purpose of Government-to-Government Consultation

The primary purpose of government-to-government consultation, as described in Federal Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments*, and FAA Order 1210.20, *American Indian and Alaska Native Tribal Consultation Policy and Procedures*, is to ensure that Federally Recognized Tribes are given the opportunity to provide meaningful and timely input regarding proposed FAA actions that uniquely or significantly affect the Tribes. I am the FAA Official with the responsibility of coordinating Government-to-Government consultations with Tribes under FAA Order 1210.20.

Consultation Initiation

The FAA seeks input on concerns that uniquely or significantly affect your Tribe related to proposed airport improvements. Early identification of Tribal concerns, or known properties of traditional religious and cultural importance, will allow the FAA to consider ways to avoid or minimize potential impacts to Tribal resources as project planning and alternatives are developed and refined. We are available to discuss the details of the proposed project with you.

Project Information

The Proposed Project involves development of a publicly accessible Electric Vehicle (EV) charging facility and related facilities, that would be built on a 110-acre parcel of land owned by

Sacramento County at SMF, located south of and adjacent to Interstate-5 on the south side of the Airport along the extended Runway 35R arrival centerline.

The Proposed Project includes the following components:

• Construction of a 13.5-acre charging area/rest area configured with two truck charging areas separated by a publicly accessible central plaza. The facility would include a two-story 14,000-square-foot (sf) convenience store and visitor center, a 3,000-sf single story operations and maintenance facility, and a 3,000-sf single story office building.

• Construction of two truck charging areas providing a total of 18 Megawatt Charging Standard (MCS) chargers and 90 240 kW Combined Charging Standard (CCS) chargers designed for heavy and medium duty trucks. Eighty truck parking stalls would also be provided.

• Construction of 30 CCS chargers dedicated to passenger vehicle use and an automobile parking lot with 200 automobile parking spaces.

• Construction of access improvements along Bayou Way, which borders the site to the north and is directly south and parallel to Interstate-5. Direct access to the Proposed Project site would be provided through the construction of three sets of ingress and egress points (six total access points) along Bayou Way.

• Installation of drought tolerant landscaping in the northern portion of the Proposed Project site where the vehicle charging/rest area would be located. Installation of an illuminated pylon sign that would be visible from I-5. Onsite lighting would also be provided.

• Construction of an approximately 64.3-acre Photovoltaic (PV) solar array, with solar modules mounted on tracker arrays. Each rack would hold up to 90 panels (72 Cell Modules). Five 3.6 Megavolt Ampere (MVA) inverters and transformers would be installed on concrete pads located within the solar field. The solar array would also be developed according to FAA's policy, *Review of Solar Energy System Projects on Federally-Obligated Airports*, to insure that there would be no adverse glare impacts to Airport Traffic Control Tower (ATCT) personnel or pilots.

The Proposed Project site had previously been used for agricultural purposes. The agricultural use of the project site ended in the early 2000s. The County advises that previous plowing was at a maximum of 4-feet below the existing surface. The site is mowed from time to time to comply with the County's Wildlife Hazard Management Plan for SMF. The Proposed Project will include some fill material to elevate the site for the building and electric vehicle charging stations approximately 3-feet above the current ground level. The depth of physical disturbance would be approximately 8-feet below the existing ground level to enable placement of posts associated with the solar array field, please see the enclosed Area of Potential Effects (APE) drawing and site drawings. A cultural resources report completed for the site is also enclosed.

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Director, Airports Division
Western-Pacific Region

Enclosure

Proposed Project Cultural Resources Report

U.S Department
of Transportation

**Federal Aviation
Administration**

Western-Pacific Region
Airports Division

Federal Aviation Administration
2999 Oak Road Suite 200.
Walnut Creek, CA 94597-7776

September 17, 2024

VIA EMAIL (Siakumne@gmail.com)

Donald Ryberg
Chairman
TSI-AKIM Maidu of the Taylorsville Rancheria
17886 Oak Way
Grass Valley, CA 95945

Subject: Sacramento County WattEV Innovative Freight Terminal (SWIFT) Project, Located at Sacramento International Airport, Sacramento County, California

Dear Chairman Ryberg:

Government-to-Government Consultation Initiation

The Federal Aviation Administration (FAA) and the Sacramento International Airport are preparing federal environmental documentation under the National Environmental Policy Act (NEPA) of 1969, as amended, for the proposed Sacramento County Watt Electric Vehicle (EV) Commercial Charging Center Project at Sacramento International Airport (SMF), in Sacramento County, California. The FAA is the lead Federal agency for Government-to-Government consultation, and Sacramento County Department of Airports is the Airport sponsor (Sponsor). The FAA is evaluating potential impacts associated with this request. Tribal sovereignty, culture, traditional values and customs will be respected at all times during the consultation process.

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The Proposed Project site had previously been used for agricultural purposes. The agricultural use of the project site ended in the early 2000s. The County advises that previous plowing was at a maximum of 4-feet below the existing surface. The site is mowed from time to time to comply with the County's Wildlife Hazard Management Plan for SMF. The Proposed Project will include some fill material to elevate the site for the building and electric vehicle charging stations approximately 3-feet above the current ground level. The depth of physical disturbance would be approximately 8-feet below the existing ground level to enable placement of posts associated with the solar array field, please see the enclosed Area of Potential Effects (APE) drawing and site drawings. A cultural resources report completed for the site is also enclosed.

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Sincerely,

David Wickens
Environmental Protection Specialist
San Francisco Airports District Office

Enclosure

SWIFT Project Cultural Resources Report

U.S Department
of Transportation

**Federal Aviation
Administration**

Western-Pacific Region
Airports Division

Federal Aviation Administration
777 So. Aviation Blvd, Suite 150
El Segundo, California 90245

September 19, 2024

VIA EMAIL (hgriffin@wiltonrancheria-nsn.gov)

Herbert Griffin
Executive Director of Cultural Preservation
Wilton Rancheria
9728 Kent Street
Elk Grove, CA 95624

Subject: Sacramento County WattEV Innovative Freight Terminal (SWIFT) Project, Located at Sacramento International Airport, Sacramento County, California

Dear Mr. Griffin:

Government-to-Government Consultation Initiation

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Mark A. McClardy
Director, Airports Division
Western-Pacific Region

Enclosure

Proposed Project Cultural Resources Report

Appendix G
Energy Assessment

Energy Assessment

Sacramento County WattEV Innovative Freight Terminal (SWIFT) Project

Sacramento County, California

Kimley»Horn

Expect More. Experience Better.

Prepared by:

Kimley-Horn and Associates, Inc.
660 South Figueroa Street, Suite 2050
Los Angeles, California 90017
Contact: Noemi Wyss, AICP
213.261.4067

January 2024

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Appendix A: Energy Data

1 INTRODUCTION

This report documents the results on the Energy Assessment to evaluate potential short- and long-term energy consumption impacts of the Sacramento County WattEV Innovative Freight Terminal (SWIFT) Project (project). The assessment evaluates the potential construction and operational energy consumption associated with the project and determine the level of impact the project would have on the environment.

1.1 Project Location

The project site is located within the Sacramento International Airport Master Plan area in the northwest portion of Sacramento County, approximately 7.5 miles from downtown Sacramento; refer to **Figure 1: Regional Map**. Specifically, the project is located south of Interstate 5 (I-5) and immediately south of Sacramento International Airport; see **Figure 2: Local Vicinity Map**. The project site generally covers APNs 225-0010-003, 225-0010-035, 225-0010-036, and 225-0010-006 and encompasses approximately 118 acres.

1.2 Project Description

The Sacramento County Department of Airports has formed a public/private partnership with WattEV to construct, own, operate, and cost share the project. The project would provide a publicly accessible Electric Vehicle (EV) charging facility that would be built along a major freight corridor. Facility development would include the installation of Direct Current Fast Chargers (DCFC) and Megawatt Chargers powered by a new solar array that would support charging for shippers and transporters as well as public transportation and passenger vehicles. In addition, the project would include accessory structures which are discussed further below.

Project Facilities

The proposed project includes deployment of advanced high-powered public charging stations and associated facilities powered by a 12.5 megawatt alternating current (MWac) solar generation field, with nameplate power of 31.2 megawatts of direct current (MWdc), to support zero-electric freight movement in Sacramento. The charging areas and associated support facilities would occupy approximately 24 acres of land on the northern portion of the project site while the remaining 94 acres of the site would be occupied by solar fields; see **Figure 3: Overall Site Plan.**

The project site would be configured with two truck charging areas separated by a publicly accessible central plaza. The truck charging areas would include six 3,600-kilowatt (kW) charger configurations. Each configuration would consist of three Megawatt Charging Standard (MCS) 1,200 kW chargers and fifteen 240 kW Combined Charging Standard (CCS) chargers, for a total of 18 MCS chargers and 90 CCS chargers designed for heavy and medium duty (MHD) trucks. The truck charging pads are expected to cover 7.8 acres. In addition to the charging pads, a parking lot for trailers would be provided with an average of 53 parking stalls spread over 2.8 acres of land. The proposed project would also include the installation of 30 CCS chargers dedicated for passenger vehicles, which would be located at the central plaza.

Three buildings would be included within the public plaza. The first building would include offices for operations staff, a trucker refreshment area, trucker restrooms, and a resting lounge. It would consist of a single story and have a footprint of approximately 2,700 square feet. The second building would include a convenience store, food outlets, restrooms, and a resting lounge for the public. It would also consist of a single story and have a footprint of approximately 7,000 square feet. The third building would contain

two stories and be designated as a public visitor center, providing information about California's progress and milestones towards clean air initiatives and emission reduction. The footprint of the public plaza would be approximately 5.25 acres.

Site Access

Access to the project site would be provided along Bayou Way, which borders the site to the north and is parallel to I-5, via Airport Boulevard and its nearby interchange with I-5. Direct access to the project site would be provided by three sets of ingress and egress points (six total access points) along Bayou Way. Two sets of ingress and egress points would serve the truck charging areas while the third set of ingress and egress points would serve the public plaza.

Offsite Improvements

Development of the project would include improvements to portions of Bayou Way to facilitate increased volumes of truck and passenger car traffic. This could include widening of the roadbed and shoulders in some locations. Furthermore, improvements to the interchange of Airport Boulevard and I-5 may be required. The extent of these improvements is still under development.

Construction

The proposed project would be constructed in two phases. Phase 1 would consist of installation of the truck charging areas and public plaza as described above, as well as a 12.5 MWac solar photovoltaic (PV) system with nameplate power of 15.6 MW (50 percent of the final solar array power). Phase 2 would consist of the installation of the remaining 15.6 MW of solar power for a total nameplate of 31.2 MW.

The proposed project would include construction of a customer-owned substation in coordination with SMUD. The provision of the substation would allow the proposed project to export excess generation during peak generation and import power during peak charging sessions. The substation would include medium voltage transformers, switchgears, surge protection, metering equipment, communication equipment, equipment pads, grounding equipment, steel structures, all enclosed by fencing. Outside the substation, sub-transmission poles would provide support for wire entrances, distribution voltage would leave the substation in either overhead or underground configurations and connect to an existing SMUD 69kV overhead transmission line that runs parallel to Power Line Road, about 600 feet east of the project site. Phase 1 of the substation would be sized for 21.6 MW of charging and 12.5 MWac. The substation and switchgear would provide physical space for additional transformer and breakers respectively for Phase 2.



Source: ESRI, 2023

Figure 1: Regional Map

WattEV Innovative Freight Terminal (SWIFT) Project



Source: ESRI, 2023

Figure 2: Local Vicinity Map

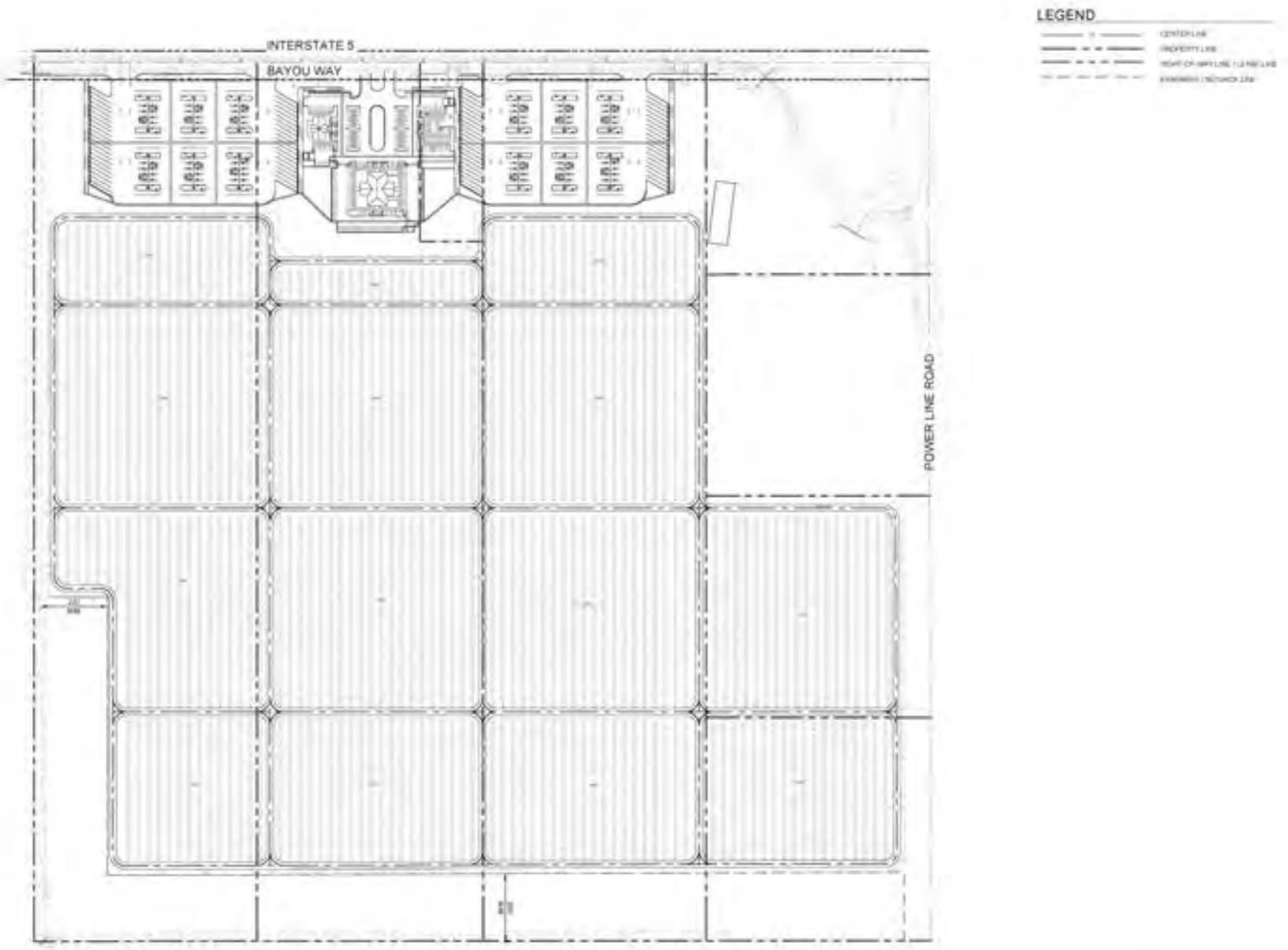


Figure 3: Overall Site Plan

WattEV Innovative Freight Terminal (SWIFT) Project

Not to scale

Kimley»Horn

2 ENVIRONMENTAL SETTING

2.1 Energy Conservation

In 1975, largely in response to the oil crisis of the 1970s, the California State Legislature adopted Assembly Bill 1575 (AB 1575), which created the California Energy Commission (CEC). The statutory mission of the CEC is to forecast future energy needs, license thermal power plants of 50 megawatts or larger, develop energy technologies and renewable energy resources, plan for and direct State responses to energy emergencies, and, perhaps most importantly, promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code Section 21100(b)(3) to require Environmental Impact Reports (EIRs) to consider the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F, *Energy Conservation*, in the California Environmental Quality Act Guidelines (CEQA Guidelines). CEQA Guidelines Appendix F is an advisory document that assists EIR preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy.

In addition, the California Natural Resources Agency finalized updates to the CEQA Guidelines in December 2018. CEQA Guidelines Section 15126.2(b) treats "wasteful, inefficient, or unnecessary" energy consumption as a significant environmental impact. As a result, energy thresholds have been incorporated into Appendix G of the CEQA Guidelines. This report has been prepared to assess energy impacts in accordance with Appendix G of the CEQA Guidelines.

2.2 Energy Consumption

Energy consumption is analyzed in this report due to the potential direct and indirect environmental impacts associated with the project. Such impacts include the depletion of nonrenewable resources and emissions of pollutants during both construction and long-term operational phases.

Electrical Service. Pacific Gas and Electric (PG&E) provides electrical services to the Sacramento County (County) through State-regulated public utility contracts. Over the past 15 years, electricity generation in California has undergone a transition. Historically, California has relied heavily on oil- and gas-fired plants to generate electricity. Spurred by regulatory measures and tax incentives, California's electrical system has become more reliant on renewable energy sources; including cogeneration, wind energy, solar energy, geothermal energy, biomass conversion, transformation plants, and small hydroelectric plants. Unlike petroleum production, electricity generation is not usually tied to the location of the fuel source and can be delivered great distances via the electrical grid. The generating capacity of a unit of electricity is expressed in megawatts (MW). Net generation refers to the gross amount of energy produced by a unit, minus the amount of energy the unit consumes. Generation is typically measured in megawatt-hours (MWh), kilowatt-hours (kWh), or gigawatt-hours (GWh).

Natural Gas Services. PG&E provides natural gas services Sacramento County (County). Natural gas is a hydrocarbon fuel found in reservoirs beneath the Earth's surface and is composed primarily of methane (CH_4). It is used for space and water heating, process heating and electricity generation, and as transportation fuel. Use of natural gas to generate electricity is expected to increase in coming years because it is a relatively clean alternative to other fossil fuels (e.g., oil and coal). In California and throughout the western United States, many new electrical generation plants fired by natural gas are being brought online. Thus, there is great interest in importing liquefied natural gas from other parts of the world. California's natural gas-fired electric generation decreased by 3 percent in 2022, accounting for 48 percent of in-state generation.[1]

[1] California Energy Commission, *2022 Total System Electric Generation*, https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2022-total-system-electric-generation, accessed October 19, 2023.

Energy Usage. Energy usage is typically quantified using the British Thermal Unit (BTU). Total energy usage in California was 7,202 trillion BTUs in 2021 (the most recent year for which this specific data is available).[2] Of California's total energy usage, the breakdown by sector is 37.8 percent transportation, 23.2 percent industrial, 19.0 percent commercial, and 20.0 percent residential.[3] Electricity and natural gas in California are generally consumed by stationary users such as residences, commercial, and industrial facilities, whereas petroleum consumption is generally accounted for by transportation-related energy use. In 2023, taxable gasoline sales (including aviation gasoline) in California accounted for 13,584,697,639 gallons of gasoline.[4]

The electricity consumption attributable to the County from 2011 to 2021 is shown in **Table 1: Electricity Consumption in Sacramento County from 2011-2021**. As indicated in **Table 1**, energy consumption in the County fluctuated with increases and decreases occurring in some years.

Table 1: Electricity Consumption in Sacramento County 2012-2022

Year	Electricity Consumption (in millions of kilowatt hours)
2011	10,720
2012	10,782
2013	10,790
2014	10,962
2015	10,896
2016	10,814
2017	11,384
2018	10,916
2019	10,912
2020	11,048
2021	11,259

Source: California Energy Commission, *Electricity Consumption by County*, http://www.ecdms.energy.ca.gov/, accessed October 2023.

The natural gas consumption attributable to the County from 2011 to 2021 is shown in **Table 2: Natural Gas Consumption in Sacramento County 2011-2021**. Natural gas consumption in the County fluctuated with increases and decreases occurring annually.

Table 2: Natural Gas Consumption in Sacramento County 2012-2022

Year	Natural Gas Consumption (in millions of therms)
2011	329
2012	309
2013	317

[2] U.S. Energy Information Administration, *Table F33: Total energy consumption, price, and expenditure estimates, 2020,* https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_te.html&sid=CA, accessed October 19, 2023.

[3] U.S. Energy Information Administration, *California State Profile and Energy Estimates*, *California Energy Consumption by End-Use Sector, 2020*, https://www.eia.gov/state/?sid=CA#tabs-2, accessed October 19, 2023.

[4] California Department of Tax and Fee Administration, *January 2023 – Motor Vehicle Fuel 10 Year Reports*, https://www.cdtfa.ca.gov/taxes-and-fees/spftrpts.htm, accessed October 19, 2023.

Table 2: Natural Gas Consumption in Sacramento County 2012-2022	
Year	**Natural Gas Consumption (in millions of therms)**
2014	274
2015	279
2016	288
2017	309
2018	305
2019	312
2020	298
2021	301
Source: California Energy Commission, *Natural Gas Consumption by County*, http://www. ecdms.energy.ca.gov/, accessed October 2023.	

Automotive fuel consumption in the County from 2012 to 2022 is shown in **Table 3: Automotive Fuel Consumption in Sacramento County 2012-2022**. As shown in **Table 3**, on-road automotive fuel consumption in the County increased between 2012 and 2019 and fluctuated from 2020 to 2022. Heavy-duty vehicle fuel consumption steadily increased between 2012 and 2022 and fluctuated from 2020 to 2022.

Table 3: Automotive Fuel Consumption in Sacramento County 2012-2022		
Year	**On-Road Automotive Fuel Consumption (gallons)**	**Heavy-Duty Vehicle/Diesel Fuel Consumption (gallons)**
2012	611,415,073	610,059,991
2013	616,341,439	615,108,932
2014	624,353,859	623,549,124
2015	641,111,059	640,908,588
2016	664,111,457	664,018,041
2017	676,919,973	676,792,690
2018	677,036,959	676,961,011
2019	679,877,773	679,783,452
2020	591,775,033	591,721,345
2021	661,443,989	661,408,372
2022	660,515,529	660,489,615
Source: California Air Resources Board, EMFAC2021.		

3 REGULATORY SETTING

3.1 Federal

Corporate Average Fuel Standards

Established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA) jointly administer the CAFE standards.[5] The U.S. Congress has specified that CAFE standards must be set at the "maximum feasible level" with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy.

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

Energy Independence and Security Act of 2007

Signed into law in December 2007, the Energy Independence and Security Act was passed to increase the production of clean renewable fuels; increase the efficiency of products, buildings, and vehicles; improve the energy performance of the federal government; and increase U.S. energy security, develop renewable fuel production, and improve vehicle fuel economy. The Energy Independence and Security Act included the first increase in fuel economy standards for passenger cars since 1975, and also included a new energy grant program for use by local governments in implemented energy-efficiency initiatives, as well as a variety of green building incentives and programs.

3.2 State of California

California's Energy Efficiency Standards for Residential and Non-Residential Buildings (Title 24)

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the California Energy Commission) in June 1977 and are updated every three years (Title 24, Part 6, of the California Code of Regulations). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods.

On August 11, 2021, the CEC adopted the 2022 Energy Code. In December, it was approved by the California Building Standards Commission for inclusion into the California Building Standards Code. Among

[5] National Highway Traffic Safety Administration (NHTSA). *Corporate Average Fuel Economy*, https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy, 2022, accessed August 10, 2022.

[6] United States Environmental Protection Agency (USEPA) and National Highway Traffic Safety Administration (NHTSA), *Federal Register / Vol. 81, No. 206 / Tuesday, October 25, 2016 / Rules and Regulations. Final Rule for Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and heavy-Duty Engines and Vehicles – Phase 2*, 2016, https://www.gpo.gov/fdsys/pkg/FR-2016-10-25/pdf/2016-21203.pdf, accessed August 10, 2022.

other updates like strengthened ventilation standards for gas cooking appliances, the 2022 Energy Code includes updated standards in three major areas:

- New electric heat pump requirements for residential uses, schools, offices, banks, libraries, retail, and grocery stores.
- The promotion of electric-ready requirements for new homes including the addition of circuitry for electric appliances, battery storage panels, and dedicated infrastructure to allow for the conversion from natural gas to electricity.
- The expansion of solar photovoltaic and battery storage standards to additional land uses including high-rise multifamily residences, hotels and motels, tenant spaces, offices, (including medical offices and clinics), retail and grocery stores, restaurants, schools, and civic uses (including theaters auditoriums, and convention centers).

The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development. CALGreen standards require new residential and commercial buildings to comply with mandatory measures under five topical areas: planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality. CALGreen also provides voluntary measures (CALGreen Tier 1 and Tier 2) that local governments may adopt which encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code was adopted in 2022 and went into effect January 1, 2023. Projects whose permit applications are applied for on or after January 1, 2023, must comply with the 2022 Energy Code.[7]

California Public Utilities Commission Energy Efficiency Strategic Plan

The California Public Utilities Commission (CPUC) prepared an Energy Efficiency Strategic Plan in 2011 with the goal of promoting energy efficiency and a reduction in greenhouse gases. AB 1109, adopted in 2007, also serves as a framework for lighting efficiency. This bill requires the State Energy Resources Conservation and Development Commission to adopt minimum energy efficiency standards as a means to reduce average Statewide electrical energy consumption by not less than 50 percent from the 2007 levels for indoor residential lighting and not less than 25 percent from the 2007 levels for indoor commercial and outdoor lighting by 2018. According to the Energy Efficiency Strategic Plan, lighting comprises approximately one-fourth of California's electricity use while non-residential sector exterior lighting (parking lot, area, walkway, and security lighting) usage comprises 1.4 percent of California's total electricity use, much of which occurs during limited occupancy periods.

California Energy Commission Integrated Energy Policy Report

In 2002, the State legislature adopted SB 1389, which requires the CEC to develop an Integrated Energy Policy Report (IEPR) every two years. SB 1389 requires the CEC to conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices, and use these assessments and forecasts to develop energy policies that conserve resources,

[7] California Energy Commission, *2022 Building Energy Efficiency Standards*, https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency, accessed June 2023.

protect the environment, ensure energy reliability, enhance the State's economy, and protect public health and safety.

The CEC adopted the *2022 Integrated Energy Policy Report Update* (2022 IEPR Update) in February 2023. The 2022 IEPR Update provides an update to the forecast developed in the *2021 Integrated Energy Policy Report*, specifically the results of the CEC's assessments of a variety of energy issues facing California, many of which will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining reliability and controlling costs. The year of 2022 saw an increase in electricity consumption, fueled in part by California's efforts to decarbonize the transportation and building sectors by switching from fossil fuels to electricity. The year of 2022 was also unprecedented as the State continues to face the impacts and repercussions of challenging events, including the continued effects of extreme summer weather and drought conditions. In addition to these events, the 2022 IEPR Update covers a broad range of topics, including equity and environmental justice, the California Energy Planning Library, the California Energy Demand Forecast, energy reliability, western electricity integration, the role of hydrogen in California's clean energy future, high gasoline prices, and transitioning from fossil gas and advancing distributed energy resources. Overall, the 2022 IEPR Update identifies actions the State and others that would strengthen energy resiliency, reduce GHG emissions that cause climate change, improve air quality, and contribute to a more equitable future.

Renewable Portfolio Standard

In 2002, California established its Renewable Portfolio Standard program with the goal of increasing the annual percentage of renewable energy in the State's electricity mix by the equivalent of at least 1 percent of sales, with an aggregate total of 20 percent by 2017. The California Public Utilities Commission subsequently accelerated that goal to 2010 for retail sellers of electricity (Public Utilities Code Section 399.15(b)(1)). Then-Governor Schwarzenegger signed Executive Order S-14-08 in 2008, increasing the target to 33 percent renewable energy by 2020. In September 2009, then-Governor Schwarzenegger continued California's commitment to the Renewable Portfolio Standard by signing Executive Order S-21-09, which directs the California Air Resources Board under its AB 32 authority to enact regulations to help the State meet its Renewable Portfolio Standard goal of 33 percent renewable energy by 2020. In September 2010, the California Air Resources Board adopted its Renewable Electricity Standard regulations, which require all of the State's load-serving entities to meet this target. In October 2015, then-Governor Brown signed into legislation Senate Bill 350, which requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from eligible renewable energy resources by 2030. Signed in 2018, SB 100 revised the goal of the program to achieve the 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. SB 100 also established a further goal to have an electric grid that is entirely powered by clean energy by 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

California Health and Safety Code (HSC), Division 25.5/California Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted AB 32 (codified in the California HSC, Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. Under HSC Division 25.5, CARB has the primary responsibility for reducing the State's GHG emissions; however, AB 32 also tasked the CEC and the CPUC with providing information, analysis, and recommendations to CARB regarding strategies to reduce GHG emissions in the energy sector.

In 2016, SB 32 and its companion bill AB 197 amended HSC Division 25.5, established a new climate pollution reduction target of 40 percent below 1990 levels by 2030, and included provisions to ensure that the benefits of State climate policies reach into disadvantaged communities.

Low Carbon Fuel Standard

The Low Carbon Fuel Standard (LCFS), established in 2007 through Executive Order S-1-07 and administered by CARB, requires producers of petroleum-based fuels to reduce the carbon intensity of their products, starting with 0.25 percent in 2011 and culminating in a 10-percent total reduction in 2020. Petroleum importers, refiners and wholesalers can either develop their own low carbon fuel products or buy LCFS credits from other companies that develop and sell low carbon alternative fuels, such as biofuels, electricity, natural gas and hydrogen.

California Air Resources Board (CARB)

CARB's Advanced Clean Car Program

The Advanced Clean Cars emissions-control program was approved by CARB in 2012. The program requires a greater number of zero-emission vehicle models for years 2015 through 2025 to control smog, soot, and GHG emissions. This program includes the Low-Emissions Vehicle (LEV) regulations to reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles; and the Zero-Emissions Vehicle (ZEV) regulations to require manufactures to produce an increasing number of pure ZEV's (meaning battery and fuel cell electric vehicles) with the provision to produce plug-in hybrid electric vehicles (PHEV) between 2018 and 2025.

Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

In 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to Limit Diesel-Fueled Commercial Motor Vehicle Idling in order to reduce public exposure to diesel particulate matter emissions (Title 13 California Code of Regulations [CCR] Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given location. While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling.

Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles

In addition to limiting exhaust from idling trucks, in 2008, CARB approved the Truck and Bus regulation to reduce nitrous oxides (NO_X) and particulate matter (PM) with diameters of 10 and 2.5 micrometers or less (PM_{10} and $PM_{2.5}$, respectively) emissions from existing diesel vehicles operating in California (13 CCR Section 2025). The phased regulation aims to reduce emissions by requiring installation of diesel soot filters and encouraging the retirement, replacement, or retrofit of older engines with newer emission-controlled models. The phasing of this regulation has full implementation by 2023.

CARB also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower (hp) such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The In-Use Off-Road Diesel-Fueled Fleets regulation adopted by CARB on July 26,

2007 aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models (13 CCR Section 2449). The compliance schedule requires full implementation by 2023 in all equipment for large and medium fleets and by 2028 for small fleets.

While the goals of these measures are primarily to reduce public health impacts from diesel emissions, compliance with the regulation has shown an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines.

3.3 Local

County of Sacramento Climate Action Plan

Sacramento County is currently in the process of developing the CAP. The Final Draft CAP was presented to the Board of Supervisors on March 23, 2022, and the Final Draft CAP was released in September 2022. The Final Draft CAP details specific measures that will be implemented in the County by 2030 to reduce GHG emissions from communitywide activities and government operations (County of Sacramento 2022). It also includes an adaptation plan that recommends actions to reduce the community's vulnerability to the anticipated impacts of climate change. The Final Draft CAP has been developed in response to mitigation measures contained in the County's General Plan, the County's adoption of a Climate Emergency Resolution in December 2020, and State legislation including Assembly Bill 32, SB 32, and SB 743 as well as Executive Orders S-3-05 and B-55-18. The strategies and measures contained in the Final Draft CAP complement a wide range of policies, plans, and programs that have been adopted by the County, State, and regional agencies to protect communities from hazards and activities contributing to GHG emissions. The Final Draft CAP includes the following strategies and elements related to renewable energy production:

Policy EN-19: Support the development and use of renewable sources of energy, including but not limited to biomass, solar, wind, and geothermal.

Policy PF-79: New solar and other renewable energy facilities should be designed and developed so as to minimize impacts to sensitive biological resources such as oak woodlands and vernal pools, cultural resources (including designated historic landscapes), or farmlands as defined by the California Department of Conservation. Nearby farm operations shall not be negatively affected by renewable energy facilities, per the policies of the Right-to-Farm Ordinance and the Agricultural Element.

Policy PF-80: Locate solar facilities, and design and orient solar panels in a manner that addresses potential problems of glare consistent with optimum energy and capacity production.

Policy PF-81: The County supports renewable energy facilities that convert and mitigate problem waste streams and residues that adversely impact environmental quality.

Sacramento County General Plan

The Energy Element of the County of Sacramento General Plan includes the goal of Sacramento to reverse the historical trend of increasing per capita consumption of energy; shift toward using a greater share of renewable sources of energy; and shift seasonal and daily peak energy demands to increase the load factor of electrical generating facilities, while maintaining or enhancing the general standard of living, the level of employment, and the quality of the environment. The Energy Element includes the following objectives and policies that may be applicable to the project:

Objective II: Improve air quality to promote the public health, safety, welfare, and environmental quality of the community. Reduce the reliance on non-renewable energy sources with emphasis on those in shortest supply.

To increase the contribution of solar water and space heating and space cooling, it is the policy of Sacramento County to:

Policy EN-18: Develop and implement standards for the protection of the solar rights of property owners.

To increase the amount of energy from wind, falling water, and geothermal sources, it is the policy of Sacramento County to:

Policy EN-19: Support the development and use of renewable sources of energy, including but not limited to biomass, solar, wind, and geothermal.

4 SIGNIFICANCE CRITERIA AND METHODOLOGY

In accordance with State CEQA Guidelines, the effects of a project are evaluated to determine whether they would result in a significant adverse impact on the environment. This assessment focuses on these effects and offer mitigation measures to reduce or avoid any significant impacts that are identified. The criteria used to determine the significance of impacts may vary depending on the nature of the project. According to State CEQA Guidelines Appendix G, the proposed project would have a significant impact related to energy, if it would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; and/or

- Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

The impact analysis focuses on the three sources of energy that are relevant to the proposed project: electricity, natural gas, and transportation fuel for vehicle trips associated with the project as well as the fuel necessary for project construction. The analysis of the project's electricity and natural gas use is based on the California Emissions Estimator Model (CalEEMod), which quantifies energy use for occupancy. The results of CalEEMod are included in the project's Air Quality Assessment, prepared by Kimley-Horn (October 2023). Modeling related to project energy use was based primarily on the default settings in CalEEMod. The amount of operational fuel use was estimated using CalEEMod outputs for the project and CARB Emissions Factor (EMFAC) 2021 computer program for typical daily fuel use in Sacramento County. Construction fuel was calculated based on CalEEMod emissions outputs and conversion ratios from the Climate Registry.

5 POTENTIAL IMPACTS AND MITIGATION

Threshold 5.1 Would the project result in wasteful, inefficient, or unnecessary consumption of energy resources?

Threshold 5.2 Would the project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

Construction

Construction activity is anticipated to occur over a duration of approximately 12 months, beginning in March 2024. The energy associated with project construction includes electricity use associated with water utilized for dust control, diesel fuel from on-road hauling trips, vendor trips, and off-road construction diesel equipment, as well as gasoline fuel from on-road worker commute trips. Because construction activities typically do not require natural gas, it is not included in the following discussion. The methodology for each category is discussed below. Quantifications of construction energy are provided by the project below; see **Table 4: Energy Use During Construction**.

Table 4: Energy Use During Construction

Project Source	Total Construction Energy	Sacramento County Annual Energy	Percentage Increase Countywide
Electricity Use		**GWh**	
Water Use[1]	0.29	11,410	0.003%
Diesel Use		**Gallons**	
On-Road Construction Trips[2]	40,424	93,939,584	0.04%
Off-Road Construction Equipment[3]	25,363		0.03%
Construction Diesel Total	65,787		0.07%
Gasoline		**Gallons**	
On-Road Construction Trips	1,542	509,702,218	0.0003%

Notes:
1. Construction water use based on acres disturbed per day per construction sequencing and estimated water use per acre.
2. On-road mobile fuel source based on vehicle miles traveled (VMT) from CalEEMod and fleet-average fuel consumption in gallons per mile from EMFAC2021 in Sacramento for 2024.
3. Construction fuel use was calculated based on CalEEMod emissions outputs and conversion ratios from the Climate Registry.

Source: Refer to energy calculations in Appendix A: Energy Data.

Electricity

Water for Construction Dust Control. Electricity use associated with water use for construction dust control is calculated based on total water use and the energy intensity for supply, distribution, and treatment of water. The total number of gallons of water used is calculated based on acreage disturbed during grading and site preparation, as well as the daily watering rate per acre disturbed. As summarized in **Table 4**, the total electricity demand associated with water use for the project construction dust control would be approximately 0.30 GWh over the duration of construction.

Petroleum Fuel

On-Road Diesel Construction Trips. The diesel fuel associated with on-road construction mobile trips is calculated based on vehicle miles traveled (VMT) from vehicle trips (i.e., worker, vendor, and hauling), the

CalEEMod default diesel fleet percentage, and vehicle fuel efficiency in miles per gallon (MPG). VMT for the entire construction period is calculated based on the number of trips multiplied by the trip lengths for each phase shown in CalEEMod. Construction fuel was calculated based on CalEEMod emissions outputs and conversion ratios from the Climate Registry. Total diesel fuel consumption associated with on-road construction trips for the project would be approximately 25,363 gallons (see **Table 4**).

Off-Road Diesel Construction Equipment. Similarly, the construction diesel fuel associated with the off-road construction equipment that is calculated based on CalEEMod emissions outputs and conversion ratios from the Climate Registry. The total diesel fuel associated with the project off-road construction equipment is approximately 40,424 gallons (see **Table 4**). Combined diesel usage from on-road and off-road construction sources is 65,787 gallons.

On-Road Gasoline Construction Trips. The gasoline fuel associated with on-road construction mobile trips is calculated based on VMT from vehicle trips (i.e., worker, vendor, and hauling), the CalEEMod default gasoline fleet percentage, and vehicle fuel efficiency in MPG using the same methodology as the construction on-road trip diesel fuel calculation discussed above. The total gasoline fuel associated with project on-road construction trips would be approximately 1,542 gallons (see **Table 4**).

Construction Energy Use Analysis

As indicated in **Table 4**, project construction electricity would represent approximately 0.003 percent of the current electricity use in Sacramento County. In 2024, Californians are anticipated to use approximately 17,373,343,963 gallons of gasoline and approximately 17,386,344,005 gallons of diesel fuel.[8] Total project construction gasoline and diesel fuel would also represent less than one percent (0.000008 percent and 0.0004 percent, respectively) of the State's fuel use. Sacramento County annual gasoline fuel use in 2024 is anticipated to be 509,702,218 gallons and diesel use would be approximately 93,939,584 gallons. Total project construction gasoline fuel would represent approximately 0.0003 percent of annual gasoline used in the County, and total project construction diesel fuel would also represent 0.07 percent of annual diesel fuel used in the County. Based on the total project's relatively low construction fuel use proportional to annual County use, the project would not substantially affect existing energy fuel supplies or resources. New capacity or additional sources of construction fuel are not anticipated to be required.

PG&E's total energy sales are projected to be 90,373 GWh of electricity in 2024 (the first year of project construction).[9] The project's construction-related net annual electricity consumption of 0.30 GWh would represent less than one percent of P&GE's projected sales. Therefore, it is anticipated that P&GE's existing and planned electricity capacity and electricity supplies would be sufficient to serve the project's temporary construction electricity demand. Transportation fuels (gasoline and diesel) are produced from crude oil, which can be domestic or imported from various regions around the world. Based on current proven reserves, current crude oil production would be sufficient to meet demand until 2050.[10] As such,

[8] California Air Resources Board, *EMFAC 2021 Emissions Inventory*. Retrieved from CARB Website: https://arb.ca.gov/emfac/emissions-inventory/748e5796dc340df3b3588a590da4a2be2e56aa60. Accessed October 19, 2023.

[9] California Energy Commission, *CED 2022 LSE and BA planning Forecast Tables,* https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2022-integrated-energy-policy-report-update-2. Accessed October 19, 2023.

[10] US Energy Information Administration. *California Energy Consumption Estimates*. Retrieved from EIA Website: https://www.eia.gov/state/print.php?sid=CA. Accessed October 19, 2023.

it is expected that existing and planned transportation fuel supplies would be sufficient to serve the project's temporary construction demand.

Furthermore, there are no unusual characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in the region or State. In addition, some energy conservation would occur during construction through compliance with State requirements that equipment not in use for more than five minutes be turned off. Project construction equipment would also be required to comply with the latest Environmental Protection Agency's and California Air Resources Board's engine emissions standards. These engines use highly efficient combustion engines to minimize unnecessary fuel use.

The project would have construction activities that would use energy, primarily in the form of diesel fuel (e.g., mobile construction equipment) and electricity (e.g., power tools). Contractors would be required to monitor air quality emissions of construction activities using applicable regulatory guidance such as from SCAQMD CEQA Guidelines. Additionally, construction is subject to and would comply with California regulations (e.g., California Code of Regulations, Title 13, Sections 2485 and 2449), which reduce diesel particulate matter and criteria pollutant emissions from in-use off-road diesel-fueled vehicles and limit the idling of heavy-duty construction equipment to no more than five minutes. This requirement indirectly relates to construction energy conservation because when air pollutant emissions are reduced from the monitoring and the efficient use of equipment and materials, energy use is reduced. There are no aspects of the project that would foreseeably result in the inefficient, wasteful, or unnecessary use of energy during construction activities.

Due to increasing transportation costs and fuel prices, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary use of energy during construction. There is growing recognition among developers and retailers that sustainable construction is not prohibitively expensive and that there is a significant cost-savings potential in green building practices. Substantial reduction in energy inputs for construction materials can be achieved by selecting building materials composed of recycled materials that require substantially less energy to produce than non-recycled materials. The Project-related incremental increase in the use of energy bound in construction materials such as asphalt, steel, concrete, pipes, and manufactured or processed materials (e.g., lumber and gas) would not substantially increase demand for energy compared to overall local and regional demand for construction materials. It is reasonable to assume that production of building materials such as concrete, steel, etc., would employ all reasonable energy conservation practices in the interest in minimizing the costs of business.

As described above, the project's fuel consumption and energy usage from the entire construction period would increase fuel use in the County by less than one percent. It should be noted that the State CEQA Guideline Appendix G and Appendix F criteria require the project's effects on local and regional energy supplies and on the requirements for additional capacity to be addressed. A less than one percent increase in temporary demand is not anticipated to trigger the need for additional capacity. Project construction would have a nominal effect on the local and regional energy supplies. Additionally, use of construction fuel would be temporary and would cease once the project is fully developed. As such, project construction would have a nominal effect on the local and regional energy supplies. Therefore, potential impacts are considered less than significant.

Operations

The energy consumption associated with project operations would occur from building energy (electricity and natural gas) use, water use, and transportation-related fuel use. Annual energy use during project operations is shown in **Table 5: Project Annual Energy Use During Operations**.

Table 5: Project Annual Energy Use During Operations

Source	Annual Operational Energy[3]	Sacramento County Annual Energy	Percentage Increase Countywide
Electricity Use	**GWh**		
Total Electricity (Electricity Demand + Water Conveyance)	1.37	11,410	0.012%
Natural Gas Use	**Therms**		
Area[1]	3,404	303,719,417	0.001%
Diesel Use	**Gallons**		
Mobile[2]	1,712	93,286,176	0.002%
Gasoline Use	**Gallons**		
Mobile[2]	13,897	498,678,443	0.003%

Notes:
1. The electricity, natural gas, and water usage are based on project-specific estimates and CalEEMod defaults.
2. Calculated based on the mobile source fuel based on vehicle miles traveled (VMT) and fleet-average fuel consumption (in gallons per mile) from EMFAC2021 for operational year 2025. Trips associated with EV charging are assumed to be all EV with no diesel or gasoline use.
3. Annual Operational Energy represents the unmitigated operational from CalEEMod.

Source: Refer to energy calculations in Appendix A.

Petroleum Fuel

The gasoline and diesel fuel associated with on-road vehicular trips is calculated based on total VMT calculated for the analyses within the project's Air Quality Assessment and average fuel efficiency from the EMFAC model. The EMFAC fuel efficiency data incorporates the Pavley Clean Car Standards and the Advanced Clean Cars Program.[11] As summarized in **Table 5**, the total gasoline and diesel fuel associated with on-road trips would be approximately 13,897 gallons per year and 1,712 gallons per year, respectively.

Electricity

The electricity use during the project is based on CalEEMod defaults. The project would use approximately 1.37 GWh of electricity per year (see **Table 5**). The electricity associated with operational water use is estimated based on the annual water use and the energy intensity factor is the CalEEMod default energy intensity per gallon of water for Sacramento County. Project area water use is based on the CalEEMod default rates. Project electricity consumption would only increase countywide electricity use by 0.01 percent; see **Table 5**.

[11] The CARB EMFAC 2017 Technical Documentation from March 2018 notes that emissions are estimated with all current controls active, except Low Carbon Fuel Standards (LCFS). The reason for excluding LCFS is that most of the emissions benefits due to the LCFS come from the production cycle (upstream emissions) of the fuel rather than the combustion cycle (tailpipe). As a result, LCFS is assumed to not have a significant impact on CO2 emissions from EMFAC's tailpipe emission estimates.

Natural Gas

The methodology used to calculate the natural gas use associated with the project is based on CalEEMod default rates. As shown in **Table 5**, natural gas consumption from the project would represent only 0.001 percent increase over Countywide natural gas usage.

Operational Energy Use Analysis

Californians used 280,738.4 GWh of electricity in 2021, of which Sacramento County used 11,258.6 GWh.[12] The project's operational electricity use would represent a nominal portion of electricity used in the State and Sacramento County. Regarding natural gas, Californians used 11.9 billion therms of natural gas and 300.7 million terms of natural gas in Sacramento County in 2021. The project's operational natural gas use would contribute to approximately 0.001 percent of natural gas use in the State and 0.012 percent in the County.

Sacramento County's annual gasoline fuel use in 2025 is anticipated to be 498,678,443 gallons and diesel fuel is anticipated to be 93,286,176 gallons. Expected project operational gasoline and diesel consumption would represent approximately 0.003 percent of gasoline use and 0.002 percent of diesel use in the County, respectively.

Transportation fuels (gasoline and diesel) are produced from crude oil, which can be domestic or imported from various regions around the world. Based on current proven reserves, the global supply of crude oil, other liquid hydrocarbons, and biofuels is expected to be adequate to meet the world's demand for liquid fuels through 2050.[13]

The project's operational energy consumption represents less than one percent of energy consumption within the County. Project energy is self-sufficient with the demand of the project anticipated to be offset by existing energy supply and energy generation. Remaining required project energy will be exported. Therefore, project operations would not substantially affect existing energy or fuel supplies or resources. The project would comply with applicable energy standards and new capacity would not be required. Impacts would be less than significant.

Compliance with Energy Efficient Measures

As discussed above, California's Energy Efficiency Standards for Residential and Non-Residential Buildings create uniform building codes to reduce California's energy use and provide energy efficiency standards for residential and non-residential buildings. These standards are incorporated within the California Building Code and are expected to substantially reduce the growth in electricity and natural gas use. The 2022 Title 24 standards for new residential and nonresidential buildings will focus on encouraging electric heat pump technology and use, promote electric-ready buildings to get owners to use cleaner electric heating, cooking, and vehicle charging, expanding solar photovoltaic systems and battery storage systems to reduce reliance on fossil fuel power plants.

Water-efficient irrigation controls would also be used in landscaped areas. Comprehensive water conservation strategies would be developed to each respective land use as part of the project plan

[12] California Energy Commission, *California Energy Consumption Database.* http://www.ecdms.energy.ca.gov/Default.aspx. Accessed October 19, 2023.

[13] U.S. Energy Information Administration, *International Energy Outlook 2021* IEO2021: Schedule, Focus, and Publication https://www.eia.gov/outlooks/ieo/pdf/IEO2021_Narrative.pdf. Accessed October 19, 2023.

development. Buildings would incorporate water-efficient fixtures and appliances, to comply with Title 24.

It should also be noted that PG&E is subject to California's Renewables Portfolio Standard (RPS). The RPS requires investor-owned utilities, electric service providers, and community choice aggregators to increase total procurement from eligible renewable energy resources to 33 percent by 2020 and 50 percent by 2030. SB 100 revised the goal of the program to achieve the 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. SB 100 also established a further goal to have an electric grid that is entirely powered by clean energy by 2045. Renewable energy is generally defined as energy that comes from resources which are naturally replenished within a human timescale such as sunlight, wind, tides, waves, and geothermal heat.

As discussed above, California's Energy Efficiency Standards create uniform building codes to reduce California's energy use and provide energy efficient standards for residential and non-residential buildings. These standards are incorporated within the California Building Code and are expected to substantially reduce growth in electricity and natural gas use.

The project's energy consumption would exceed less than one percent of the corresponding energy sources within the County. Project operations would not substantially affect existing energy or fuel supplies or resources. All project buildings will comply with energy and fuel efficiency laws and regulations; thus, the project would not be wasteful or inefficient. Therefore, the project would result in a less than significant impact in this regard.

Mitigation Measure: No mitigation is required.

Level of Significance: Less than significant impact.

Cumulative Impacts

Potential cumulative impacts to energy would result if the proposed project, in combination with past, present, and future projects, would result in the wasteful or inefficient use of energy. This could result from development that would not incorporate sufficient building energy efficiency features, would not achieve building energy efficiency standards, or would result in the unnecessary use of energy during construction and/or operation.

The cumulative projects within the areas serviced by the energy service providers would be applicable to this analysis. Projects that include development of large buildings or other structures that would have the potential to consume energy in an inefficient manner would have the potential to contribute to a cumulative impact.

Construction and operations associated with implementation of the project would result in the use of energy, but not in an inefficient or wasteful manner. The use of energy would not be substantial in comparison to statewide electricity, natural gas, gasoline, and diesel demand; refer to **Table 4** and **Table 5**. As discussed above, the electricity used for construction would be less than that required during operation of the project, would be temporary, and would have a minimal contribution to the project's overall energy consumption. The project's construction electricity consumption would be negligible relative to PG&E's generated electricity and electricity supplies would be sufficient to serve the project's temporary construction electricity demand.

PG&E will review the project's estimated electricity consumption in order to ensure that the estimated power requirement would be part of the total load growth forecast for their service area and accounted for in the planned growth of the power system if the electricity demand was to increase past what the PV panels can provide. It should be noted that PG&E considers planned development for their service areas and are in and of themselves providing for cumulative growth. Therefore, it is likely that cumulative growth associated with the related projects is already accounted for in the planning of future supplies to cover projected demand.

PG&E has policies, programs, and projects in place to provide continued, adequate energy to their users, including the proposed project. Substantial reductions to the cumulative demand for energy can result from an increased reliance on renewable energy systems (as required by the State's Renewable Portfolio Standards) and the construction of energy-efficient buildings. Cumulative projects would be subject to applicable Title 24 and CALGreen requirements similar to the project, which includes energy efficiency standards to minimize the wasteful and inefficient use of energy.

Furthermore, transportation fuels (gasoline and diesel) are produced from crude oil, which can be domestic or imported from various regions around the world. Based on current proven reserves, current crude oil production would be sufficient to meet worldwide consumption demand until 2050. As such, it is expected that existing and planned transportation fuel supplies would be sufficient to serve the project's construction and operational demand. New capacity or supplies of energy resources would not be required. Additionally, the project would be subject to compliance with all federal, State, and local requirements for energy efficiency. State regulations, including the Low Carbon Fuel Standard, Pavley Clean Car Standards, and Low Emission Vehicle Program, would serve to reduce the transportation fuel demand of cumulative projects.

In consideration of cumulative energy use, the project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Additionally, as discussed above, the project would increase overall electricity and natural gas demand, but would not require additional facilities other than local connections to, or undergrounding of, existing facilities in the project vicinity. Therefore, the proposed project's incremental demand for electricity and natural gas facilities would not be cumulatively considerable. Thus, the project would not contribute to a cumulative impact to the wasteful or inefficient use of energy. A less than significant cumulative impact would occur.

The project would also be required to comply with all the same applicable federal, State, and local measures aimed at reducing fossil fuel consumption and the conservation of energy. The anticipated project impacts, in conjunction with cumulative development in the vicinity, would increase urbanization and result in increased energy use. Potential land use impacts are site-specific and require evaluation on a case-by-case basis. As noted above, the project would not result in significant impacts to State or local plans for renewable energy or energy efficiency. Therefore, the project and identified cumulative projects are not anticipated to result in a significant cumulative impact. Therefore, potential impacts are considered less than significant.

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Appendix A

Energy Data

Construction Fuel Consumption

On-Site Diesel[1] (off-road construction Equipment)	$MTCO_2e$	Gallons of Fuel[4]	County Fuel in 2024 (Start of Construction)	Percent
Demolition	0	0		
Site Preparation/Grading	243	23,841		
Building Construction	141	13,818		
Paving	26	2,527		
Architectural Coating	2	238		
Total	413	40,424	93,939,584	0.0430%

Off-Site Diesel[1] (on-road construction trips)				
Demolition	0	0		
Site Preparation/Grading	246	24,077		
Building Construction	13	1,286		
Paving	0	0		
Architectural Coating	0	0		
Total	259	25,363	93,939,584	0.0270%

Off-Site Gasoline[2]				
Demolition	0	0		
Site Preparation/Grading	8	912		
Building Construction	3	302		
Paving	3	310		
Architectural Coating	0	18		
Total	14	1,542	509,702,218	0.0003%

Total Diesel Fuel		65,787	93,939,584	0.0700%
Total Gasoline Fuel		1,542	509,702,218	0.0003%
Total Construction Fuel	685	67,330		

Construction Phase[3]	Demolition			Site Preparation			Grading/Infrastructure Improvements		
	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)
2024	0	0	0	48	0	2	195	246	6
2025	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**48**	**0**	**2**	**195**	**246**	**6**

Construction Phase[3]	Building Construction			Paving			Architectural Coating		
	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)
2024	116	11	2	26	0	3	0	0	0
2025	25	2	1	0	0	0	2	0	0
Total	**141**	**13**	**3**	**26**	**0**	**3**	**2**	**0**	**0**

Notes:

[1] Fuel used for off-road, hauling, and vendor trips assumed to be diesel.

[2] Fuel used for worker trips assumed to be gasoline.

[3] $MTCO_2e$ rates from CalEEMod (3.0 Construction Emission Details).

[4] For CO2e emissions, see Chapter 13 (page 94); Conversion Ratios: Climate Registry, General Reporting Protocol, 2022.

Construction Water Energy

Daily Soil Disturbance[1]	225.0	acres
Days of Soil Disturbance[2]	85	days
Water Concentration[3]	3,020	gallons/acre
Water Energy Intensity[4]	4,934	kWh/MG
Total Construction Water	57.76	million gallons
Construction Water Energy	284,976	kWh
	0.2850	GWh
Sacramento County Annual Electricity	11,410	GWh
Percentage Increase	0.00250%	
	284.98	MWh
	11,410,080.63	MWh

Notes:

[1] Total daily acres disturbed from offroad equipment per CalEEMod (3.0 Construction Emissions Detail) and maximum SCAQMD LST values for soil-disturbing equipment.

[2] Number of days of construction with soil-disturbing equipment per CalEEMod (5.1 Construction Schedule).

[3] Water application rate per Air and Waste Management Association's Air Pollution Engineering Manual.

[4] Water energy intensity factor for subarea per CalEEMod User Guide, Appendix G, Tab G-32.

MITIGATED							
Vehicle Type	**Percent**	**Annual VMT[1]**	**MPG[2]**	**Annual Fuel (Gallons)**	**Fuel Type**	**Sacramento County Gallons[3]**	**RS Percent**
Passenger Cars	0.928	300,182	21.6	13,897	Gas	498,678,443	0.0028%
Light/Medium Trucks	0.062	20,111	17.2	1,169	Diesel	93,286,176	0.0013%
Heavy Trucks/Other	0.010	3,309	6.1	542	Diesel	93,286,176	0.0006%
Total	1.00	323,602		1,712			0.0018%

Land Use[5]	**LDA**	**LDT1**	**LDT2**	**MCY**	**MDV**	**LHD1**	**LHD2**	**MHD**	**OBUS**	**UBUS**	**SBUS**	**MH**	**HHD**
General Office Building	49.073	4.5195	22.2355	2.4541	14.5282	3.2536	0.7662	1.5900	0.1051	0.0503	0.1037	0.3489	0.9722
Convenience Market	49.073	4.5195	22.2355	2.4541	14.5282	3.2536	0.7662	1.5900	0.1051	0.0503	0.1037	0.3489	0.9722
Solar Panel Washing	0	0	0	0	0	0	0	0	0	0	0	0	100

Notes:

[1] Total annual operational VMT based on annual VMT from CalEEMod (5.9 Operational Mobile Sources).

[2] Average fuel economy derived from Department of Transportation.

[3] Total annual county fuel per EMFAC 2021 model of projected operational fuel usage.

Operational Water Energy

UNMITIGATED		
Unmitigated Indoor	1.6	million gallons
Indoor Energy Intensity Factor[1]	6,476	kWh/MG
Unmitigated Outdoor	5	million gallons
Outdoor Energy Intensity Factor[2]	4,934	kWh/MG
Operational Water Energy	35,134	kWh
Operational Water Energy	0.0351	GWh
Sacramento County Annual Electricity	11,410	GWh
Percentage Increase	0.0003%	
MITIGATED		
Mitigated Indoor	1.6	million gallons
Indoor Energy Intensity Factor[1]	6,476	kWh/MG
Mitigated Outdoor	5	million gallons
Outdoor Energy Intensity Factor[2]	4,934	kWh/MG
Operational Water Energy	35,134	kWh
Operational Water Energy	0.0351	GWh
Sacramento County Annual Electricity	11,410	GWh
Percentage Increase	0.0003%	

Land Use[3]	**Unmitigated (gal/year)**		**Mitigated (gal/year)**	
	Indoor	**Outdoor**	**Indoor**	**Outdoor**
General Office Building	533201.244	0	533201.244	0
Government Office Building	595979.0577	0	595979.0577	0
Convenience Market (24 hour)	518507.6504	0	518507.6504	0
User Defined Industrial	0	0	0	0
Parking Lot	0	4958233.658	0	4958233.658
Total Operational Water (MG/year)	**1.648**	**5**	**1.648**	**5**

Notes:

[1] Indoor water energy intensity factor for subarea per CalEEMod User Guide, Appendix G, Tab G-32. Factor includes supply, treatment, distribution, and wastewater.

[2] Outdoor water energy intensity factor for subarea per CalEEMod User Guide, Appendix G, Tab G-32. Factor includes supply, treatment, and distribution.

[3] Operational water use values per CalEEMod (5.12 Operational Water and Wastewater Consumption).

Elecricity/Natural Gas Energy

UNMITIGATED			
	Unmitigated Project Annual Energy	**Sacramento County Annual Energy[3]**	**Percentage Increase**
Electricity (kWh/yr)	1,374,655	11,410,080,625	0.0120%
Electricity (GWh/yr)	1.3747	11,410	0.0120%
Natural Gas (kBTU/yr)	340,446	30,371,941,700	0.0011%
Natural Gas (therms/yr)	3,404	303,719,417	0.0011%
MITIGATED			
	Mitigated Project Annual Energy	**Sacramento County Annual Energy[3]**	**Percentage Increase**
Electricity (kWh/yr)	1,374,655	11,410,080,625	0.0120%
Electricity (GWh/yr)	1.3747	11,410	0.0120%
Natural Gas (kBTU/yr)	340,446	30,371,941,700	0.0011%
Natural Gas (therms/yr)	3,404	303,719,417	0.0011%

Land Use	**Electricity[1] (kWh/yr)**		**Natural Gas[2] (kBTU/yr)**	
	Unmitigated	**Mitigated**	**Unmitigated**	**Mitigated**
General Office Building	69,073	69,073	99,809	99,809
Government Office Building	69,073	69,073	99,809	99,809
Convenience Market (24 hour)	332,091	332,091	140,829	140,829
User Defined Industrial	0	0	0	0
Parking Lot	904,417	904,417	0	0
Total Energy	**1,374,655**	**1,374,655**	**340,446**	**340,446**

Notes:

[1] Electricity use per CalEEMod (5.11 Operational Energy Consumption).

[2] Natural Gas use per CalEEMod (5.11 Operational Energy Consumption).

[3] County total energy values from California Energy Commission energy reports available through ecdms.energy.ca.gov. (year 2022)

Appendix H
Construction Noise

H1 RCNM Outputs for Construction Noise

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/03/2024
Case Description: Watt EV Construction

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Power Line Road Residence	Residential	50.0	50.0	50.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pile Driver (Solar Panel Specific	Yes	20	84.0		400.0	0.0
Grader	No	40	85.0		400.0	0.0

Results

Equipment		Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Noise Limit Exceedance (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Pile Driver (Solar Panel Specific		65.9	58.9					N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader		66.9	63.0					N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	66.9	64.4					N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

H2 Traffic Noise Model

TRAFFIC NOISE ANALYSIS TOOL

Project Name: Watt EV
Analysis Scenario: Baseline - Weekday AM Peak
Source of Traffic Volumes: Kimley Horn 2024

Roadway Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Bayou Way between Airport Blvd. and Power Line Rd.	Hard	100	30	30	30	209	43	22	59.4	59.7
Bayou Way between Power Line Rd. and Mtro Air Pkwy.	Hard	100	30	30	30	124	26	13	57.1	57.4

Model Notes:
The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
Noise propagation greater than 50 feet is based on the following assumptions:
For hard ground, the propagation rate is 3 dB per doubling the distance.
For soft ground, the propagation rate is 4.5 dB per doubling the distance.
Vehicles are assumed to be on a long straight roadway with cruise speed.
Roadway grade is less than 1.5%.
CNEL levels were obtained based on Figure 2-19, on page 2-58 Caltran's TeNS 2013.

TRAFFIC NOISE ANALYSIS TOOL

Project Name: Watt EV
Analysis Scenario: Baseline + Project - Weekday AM Peak
Source of Traffic Volumes: Kimley Horn 2024

Roadway Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Bayou Way between Airport Blvd. and Power Line Rd.	Hard	100	30	30	30	229	43	24	59.6	59.9
Bayou Way between Power Line Rd. and Mtro Air Pkwy.	Hard	100	30	30	30	144	26	15	57.5	57.8

Model Notes:
The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
Noise propagation greater than 50 feet is based on the following assumptions:
For hard ground, the propagation rate is 3 dB per doubling the distance.
For soft ground, the propagation rate is 4.5 dB per doubling the distance.
Vehicles are assumed to be on a long straight roadway with cruise speed.
Roadway grade is less than 1.5%.
CNEL levels were obtained based on Figure 2-19, on page 2-58 Caltran's TeNS 2013.

Appendix I
Floodplain Impact Analysis

Sacramento County/WattEV Commercial Charging Center
Floodplain Impact Analysis

Natomas Basin Watershed
Southwest Corner of Power Line Road and Bayou Way
NAVD88

PREPARED BY

In Collaboration With

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Hydrologic Modeling developed and reviewed by Kimley-Horn and Associates.

Zachary Tait, PE, Kimley-Horn Registration No. 82940
Mathew Cox, CFM, Kimley-Horn



FIGURES

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Figure 1-2. Project Vicinity Map
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Figure 5. Resultant Floodplain Map

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Appendix B. Boundary Conditions Datasets
Appendix C. HEC-RAS Cross Sections and Results

1. INTRODUCTION

1.1 Introduction

The Sacramento County Department of Airports has formed a public/private partnership with WattEV, Inc. to construct, own, operate, and cost share the Sacramento County WattEV Commercial Charging Center project (Proposed Project). The Proposed Project would provide a publicly accessible Electric Vehicle (EV) charging facility that would be built on a 139.2-acre parcel of land adjacent to Interstate 5 (I-5) and proximate to State Route 99 (SR-99). Facility development would include the installation of Direct Current Fast Chargers (DCFC) and Megawatt Chargers powered by a new solar array that would support charging for shippers and transporters as well as public transportation and passenger vehicles. In addition, the Proposed Project would include accessory uses, such as restrooms, resting lounges, a convenience store, and a visitor center. The Proposed Project will be partly funded by a grant from the California Transportation Commission, as well as by a private developer. The Proposed Project will not be funded by the FAA. The Proposed Project, is shown in **Figure 2** included in **Appendix A,** consists of the following:

- Construction of a 15.3-acre charging area/rest area configured with two truck charging areas separated by a publicly accessible central plaza. The facility would include a two-story 14,000-square-foot (sf) convenience store and visitor center, a 3,000-sf single story operations and maintenance facility, and a 3,000-sf single story office building.

- Construction of two truck charging areas providing a total of 18 Megawatt Charging Standard (MCS) chargers and 90 240 kW Combined Charging Standard (CCS) chargers designed for heavy and medium duty trucks. Eighty truck parking stalls would also be provided.

- Construction of 30 CCS chargers dedicated to passenger vehicle use and an automobile parking lot with 200 automobile parking spaces.

- Construction of access improvements along Bayou Way, which borders the site to the north and is directly south and parallel to I-5. Direct access to the Proposed Project site would be provided through the construction of three sets of ingress and egress points (six total access points) along Bayou Way.

- Installation of drought tolerant landscaping in the northern portion of the Proposed Project site where the vehicle charging/rest area would be located. Installation of an illuminated pylon sign that would be visible from I-5. Onsite lighting would also be provided.

- Construction of an approximately 88.9-acre Photovoltaic (PV) solar array, with solar modules mounted on tracker arrays. Each rack would hold up to 90 panels (72 Cell Modules). Five 3.6 Megavolt Ampere (MVA) inverters and transformers would be installed on concrete pads located within the solar field.

- Installation of a substation and associated substation equipment. The proposed intertie would connect from the substation switchgear to the Sacramento Metropolitan Utility District's (SMUD) existing facilities located along Power Line Road. Due to the distance between the proposed substation and point of interconnection, which could be up to 650 feet, a new 69 kV power line would be required to connect the substation to SMUD facilities. The substation would be located within a fenced 200-foot by 200-foot pad in which the electrical gears would occupy an approximately 12,000-square-foot area.

- Installation of a Battery Energy Storage System (BESS). The enclosure would be placed outdoors on a concrete pad near the substation and main switch gear.

- A fence would be installed around the perimeter of the solar facilities. Controlled access would be provided at secured gates intersecting the new interior access roads. Security lighting would be installed.

- Installation of two access gates and construction of internal road network. One access gate would be located to the south of the east truck charging and storage lot and one to the south of the west truck charging and storage lot. Internal access roads would be unpaved with an aggregate base.

1.2 Project Location

This memo presents the results of a floodplain impact analysis for the Proposed Project site (the Site) in the County of Sacramento, California. The Site consists of the conversion of existing vegetated open space to an EV commercial charging center on the north end of the property. The charging areas and associated support facilities would occupy approximately 15.3 acres of land on the northern portion of the Site while the remaining 88.9 acres of the Site would be occupied by solar panels and associated generation and maintenance equipment.

In existing conditions, the Site consists of open fields, bound to the north by I-5 and Bayou Way, to the east by Power Line Road, and by the Reclamation District 1000 (RD1 000) West Drainage Canal to the south. The Site is located on land currently owned by Sacramento International Airport. The land would be leased to WattEV for the development of the Proposed Project. A vicinity map of the project location showing main roads and project location is shown in **Figure 1** of **Appendix A. Figure 1-2** of **Appendix A** shows all the on-site and off-site project improvements in addition to the airport property boundary.

RD 1000 West Drainage Canal originates along the Sacramento River near the intersection of Garden Highway and Elkhorn Boulevard in Sacramento, California. It flows southwest, crossing underneath I-5 through a series of culverts prior to flowing east towards Paso Verde School. The canal then flows south and southeast, crossing under Del Paso Road and El Centro Road before outletting into the Main Drainage Canal at Interstate 80. The Main Drainage Canal flows south, outletting into the Sacramento River. Historically, the West Drainage Canal has been used to convey drainage runoff from the western Natomas Basin northwest of Sacramento International Airport to its confluence with the Main Drainage Canal.

1.3 Background

This memo discusses the anticipated floodplain encroachment associated with the effects of the Proposed Action and the No Action Alternative. It also describes the laws and regulations applicable to those actions, how those actions would affect the natural and beneficial values of the floodplains, and measures to mitigate those effects.

Floodplains are areas adjacent to rivers, creeks, ditches, lakes, or other surface waters that periodically flood. Flooding typically occurs during and after large storm events or rapid snowmelt due to downstream constrictions or obstructions preventing unobstructed flood flows.

The Federal Emergency Management Agency (FEMA) determines floodplain boundaries through the use of hydraulic modeling based on the likelihood that a specific area will flood. The results of this modeling are published as Flood Insurance Rate Maps (FIRMs). The 100-year floodplain (Zone A) is the area that statistically has a one percent chance of becoming flooded each year.

Local and Federal agencies regulate construction in the 100-year floodplain. Development may have an impact on the amount of flood storage the floodplain can provide and other natural and beneficial functions including aquatic and wildlife habitat and farmland. In addition, development within the 100-year floodplain may put human life and property at risk. Executive Order (EO) 11988, *Floodplain Management,* directs Federal agencies to preserve and restore floodplain values and functions.

1.4 Regulatory Context

Executive Order 11988, *Floodplain Management*, issued in 1977, mandates federal agencies to avoid, to the extent possible, adverse impacts associated with the occupancy and modification of floodplains and to discourage floodplain development when alternatives exist. Federal regulations specific to the evaluation of floodplain impacts for this project include:

- DOT Order 5650.2, *Floodplain Management and Protection,* established policies and procedures for floodplain management and protection.
- FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures,* ensures compliance with NEPA, considering environmental impacts on floodplains in FAA actions.
- FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions***,** details NEPA implementation in airport projects, including assessing floodplain impacts.

Additionally, related to EO 11988 is EO 11990, *Protection of Wetlands* and 44 CFR, Part 9 *Floodplain Management and Protection of Wetlands* sets forth the policy, procedure and responsibility to implement the both the executive orders.

State, county, and local construction regulations may include additional floodplain management requirements, but this analysis is specific to Federal requirements.

1.5 Criteria for Determining Impacts

Per DOT Order 5650.2, a proposed action would represent a “significant encroachment”, if it would cause one or more of the following construction or flood-related impacts:

1. a considerable probability of loss of human life;
2. likely future damage associated with the encroachment that could be substantial in cost or extent, including interruption of service on or loss of a vital transportation facility; and
3. a notable adverse impact on the “natural and beneficial floodplain values”.

Natural and beneficial floodplain values as defined by DOT Order 5650.2 include but are not limited to: natural moderation of floods, water quality maintenance, groundwater recharge, fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, and forestry.

44 CFR, Part 9.4 defines the “Natural Values of Floodplains and Wetlands” as the qualities of or functions served by floodplains and wetlands which include but are not limited to:

1. Water resources values (natural moderation of floods, water quality maintenance, groundwater recharge);
2. living resource values (fish, wildlife, plant resources and habitats);

3. cultural resource values (open space, natural beauty, scientific study, outdoor recreation, archeological and historic sites, recreation); and
4. cultivated resource values (agriculture, aquaculture, forestry).

Per FAA Order 1050.F and subsequently Order 5050.4B, a NEPA determination of significant impact in the floodplain is only related to "notable adverse impacts on natural and beneficial floodplain values" and not the broader "significant encroachment" as defined by DOT Order 5620.2.

It should be noted, there are no impacts to wetlands with the Proposed Action.

1.6 FEMA Floodplains

Most of the Site is covered by Zone A "Approximate" floodplain, where base flood elevations have not been established. A portion of the Site is within Zone A99. Zone 99 corresponds to areas of the 1% annual chance floodplain that will be protected by a federal flood protection system when construction has reached specified statutory milestones. The current FEMA flood mapping shows this location as Zone A and Zone A99, as shown in **Figure 3** in **Appendix A**. The Site is located on Flood Insurance Rate Map (FIRM) panel 06067C0040J and is effective as of July 16, 2015. Due to the Site's proximity to floodplain, this analysis has been developed to determine the potential increase in the base flood elevation. If the proposed Site increases the base flood elevation of the existing floodplain by more than one (1) foot, per a conversation with the FAA on July 11, 2024, additional floodplain management practices may be required.

2. METHODOLOGY

2.1 Modeling Methodology

Due to the lack of an existing FEMA hydraulic model of the area or FEMA base floodplain elevation data, an existing conditions model of the RD 1000 West Drainage Canal was created using the U.S. Army Corps of Engineers HEC-RAS Version 6.3.1 (HEC-RAS) hydraulic modeling software. The HEC-RAS model encompasses area along the West Drainage Canal from the downstream end of the I-5 crossing culverts to the culvert crossing of El Centro Road. The topography is represented by cross-sectional data that includes the main channel and floodplain areas on either side of the West Drainage Canal. The HEC-RAS model was developed as a one-dimensional, steady state hydraulic model.

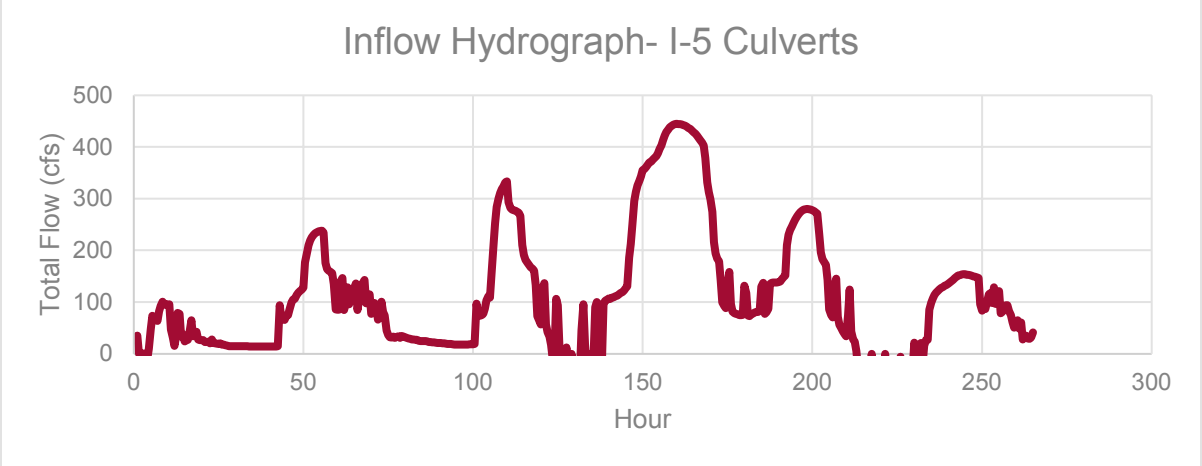
Eleven (11) cross-sections were placed along the RD 1000 West Drainage Canal between I-5 and El Centro Road as shown in **Figure 4** in **Appendix A**. Cross-section data was based off publicly available LiDAR data. LiDAR data was obtained on July 20th, 2023 from the USGS National Map Download website in North American Vertical Datum of 1988 (NAVD-88). Two (2) cross-sections were placed at the proposed Site area to capture changes to the surface elevations from existing to proposed conditions, labelled XS 21455 and 20417. The changes to the surface elevations are limited to the north end of the Site, as discussed in Section 1.2. Cross-sections were placed directly upstream and downstream of Power Line Road due to its proximity to the Site and the potential impact to high-water levels. The geometry of the West Drainage Canal may not be accurately represented in the cross-section data due to presence of agricultural drain water in the canal at the time the LiDAR was flown. This results in an underrepresentation of the full flow and volume capacity of the canal. However, this is a conservative approach for the purpose of assessing flood elevations in this area south of I-5. Ineffective flow areas were applied upstream and downstream of Power Line Road, extending to the north and south of the West Drainage Canal.

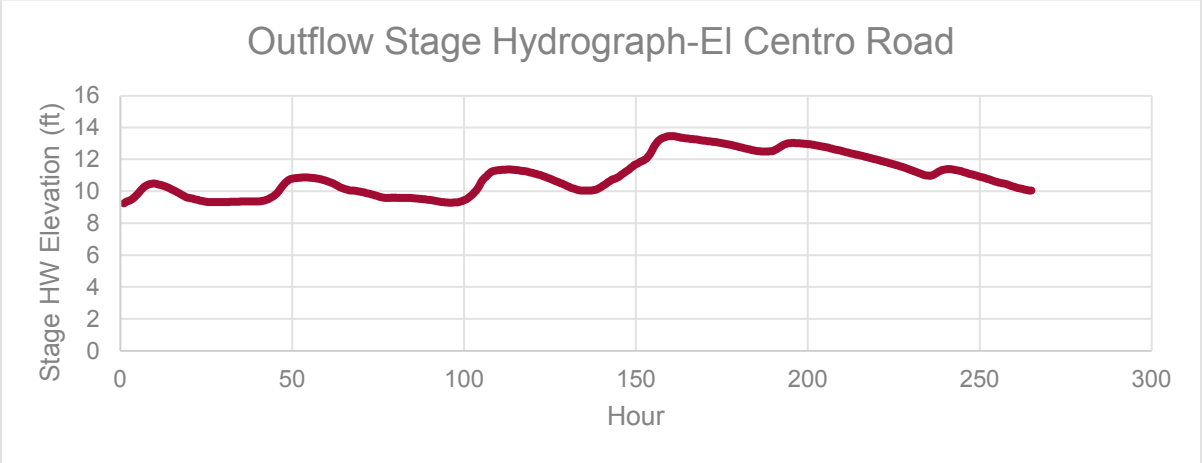
Table 1 describes the Manning's N roughness values used in the HEC-RAS model at each cross section. Manning's N values within the channel are consistent throughout the corridor. Values within the overbank areas vary depending on the land use of the area.

Table 1: Manning's N Value

HEC-RAS Cross Section ID	*Manning's N Value*		
	Left Overbank	*Channel*	*Right Overbank*
28982	0.04	0.025	0.04
26034	0.04	0.025	0.04
22898	0.04	0.025	0.04
21455	0.04	0.025	0.04
20417	0.04	0.025	0.04
19467	0.04	0.025	0.04
19069	0.04	0.025	0.04
16611	0.04	0.025	0.04
9785	0.04	0.025	0.04
4131	0.06	0.025	0.04
147	0.06	0.025	0.04

Boundary condition information was provided by Sacramento County on July 16 and 17, 2024, obtained from the County's Natomas Basin model. The boundary condition information included flow and stage hydrographs at various locations along the West Drainage Canal from the 100-year, 10-day flood event, as shown below. The peak flow and stage results from Sacramento County were used as inputs for the HEC-RAS model. The peak flow rate was applied to XS 28982 with a flow of 445 cubic feet per second (cfs). The flow rate is not assumed to change within the model extents – no flow change locations were used. The peak stage (13.46 feet NAD-88) for the 100-year 10-day storm event was applied at the downstream-most cross section, XS 147, as a Known Water Surface Elevation condition. Inflow and outflow datasets are provided in **Appendix B.**





2.2 Modeling Results

Table 2 details the 100-year base flood elevation results from the existing (No Action Alternative) and proposed conditions (Proposed Action) HEC-RAS model. Longitudinal plots of the cross sections and their flood elevation results can be found in **Appendix C**. Based upon the Proposed Action Site conditions, a no-rise condition (<0.004 foot change) in the 100-year base flood elevation (BFE) was identified. **Figure 5** in **Appendix A** depicts the resultant floodplain map based on this analysis.

Table 2: HEC-RAS Results Summary

HEC-RAS Cross Section ID	High-Water Level (ft) – NAVD-88		Change in High-Water Level (ft)
	No Action Alternative (Existing Conditions)	Proposed Action	
28982	16.578	16.578	0.000
26034	16.578	16.578	0.000
22898	16.578	16.578	0.000
21455	16.578	16.578	0.000
20417	16.578	16.578	0.000
19467	16.519	16.519	0.000
19069	13.890	13.890	0.000
16611	13.948	13.948	0.000
9785	13.921	13.921	0.000
4131	13.748	13.748	0.000
147	13.460	13.460	0.000

3. ENVIRONMENTAL CONSEQUENCES

The following describes the potential for floodplain impacts associated with the implementation of the Proposed Action and No Action Alternative.

3.1 No Action Alternative

The No Action Alternative is the Site in existing conditions. The Site consists primarily of open fields, with a structure in the northeast corner. Less than 5% of the Site is impervious in existing conditions. The Site is generally flat, with minimal elevation change across the Site.

Implementation of the No Action Alternative would not involve any construction activities, and the Site would remain in its existing conditions. As a result, there would be no floodplain impacts associated with the No Action Alternative.

3.2 Proposed Action

The Proposed Action conditions include the addition of the Commercial Charging Center facility, associated parking lots, and changes to surface elevations within the 100-year floodplain through proposed grading. Approximately 20% of the Site will be impervious. Stormwater runoff created by the increase in impervious area in the Proposed Action will be detained and treated on site through a

series of vegetated swales along the east and west sides of the proposed parking lots in the northern portion of the Site. No changes to the West Drainage Canal are proposed as part of this project. The proposed grade changes are limited to the north portion of the proposed Site, where the buildings and charging/parking areas are to be located (labeled as Commercial Development on **Figure 2** in **Appendix A**), creating new impervious areas and associated green spaces. Elevations in the Commercial Development will be increased between one and three feet in these areas. XS 21455 and XS 20417 were updated to accurately reflect these proposed grade changes. No other changes were made within the model.

Based on the evaluation of the hydraulic analysis, resultant floodplain map and other site characteristics, we offer the following observations regarding "significant encroachment" and "natural and beneficial floodplain values":

1. A considerable probability of loss of human life.

    - XS 4131 and XS 147, downstream of the site, represent the residential areas within or adjacent to the 100-year floodplain. As shown in Table 2, these is no rise in elevation of the high-water level at these two cross-sections. As a result, in areas where residential structures or high-occupancy office buildings are located within or adjacent to the 100-year floodplain, there is no increase in the 100-year floodplain elevation.

2. Result in the increased probability of substantial encroachment-associated costs or damage, including but not limited to interrupting aircraft service or loss of a vital transportation facility.

    - A 100-year flood in the No Action Alternative would result in temporary flooding of a portion of the Site and surrounding area. As shown in Table 2, there is no rise in elevation in the high-water level at any of the cross sections, so the extent of this flooding under the Proposed Action would not increase in vertical height above the existing conditions present under the No Action Alternative.

    - As shown in the Resultant Floodplain Map in **Figure 5** and HEC-RAS Cross Sections in **Appendix C**, Interstate 5, a vital transportation facility, acts as a hydraulic barrier and is the northern extent of the floodplain in both the No Action Alternative and the Proposed Action alternative. Both the Resultant Floodplain Map and HEC-RAS Cross Sections show no significant encroachment of the floodplain onto the traveled way of Interstate 5. The Proposed Action will not result in substantial encroachment to Interstate 5.

    - The northern portion of the Site in the Proposed Action is approximately 4,650 feet from the nearest portion of the airfield used by aircraft, Runways 17R/35L and 17L/35R. As previously noted, the Resultant Floodplain is bounded by Interstate 5, to the North and with the airfield facilities significantly beyond Interstate 5 there is no encroachment of the floodplain on the airfield or aircraft service facilities with the Proposed Action. XS 21455 is directly in line with the nearest runway (17R/35L) to the project site. As shown in Table 2, there is no rise in elevation of the high-water level at XS 21455.

3. Result in significant adverse impacts on natural and beneficial floodplain values.

    - Water Resource Values

        - Natural moderation of floods - The site is surrounded by relatively flat agricultural land, service roads, Interstate 5, and Power Line Road. Interstate 5 and Power Line Road create a large basin along with the relatively flat floodplain. These surrounding conditions will produce a floodplain that has minimal overbank velocity and will allow floodwaters to spread out and temporarily store excess water. Due to the low velocities and distributed flat nature of the floodplain, debris is unlikely to wash onto and flow within the 100-year floodplain in a channelized manner. Any debris that does get into the floodplain will be slow moving and spread out, unable to consolidate in a way where it blocks receding waters. The addition of the Commercial Charging Center facility would not impact the topographic features within the 100-year floodplain except for slightly raising the northern portion of the Site in a generally flat area for the proposed charging/parking lots. As previously mentioned, the slight raising of the northern portion is between one and three feet. In addition, the installation of solar panels in the solar farm on the southern portion of the site will slightly impact the topographic features within the 100-year floodplain. However, at full tilt, the solar panels will have a minimum of 1.5' of freeboard from the base flood elevation as required by the County Floodplain Ordinance. As a result, the panels will remain above the base flood elevation and not impact the floodwaters. In addition, the panel's automatic tracking system can and will be overridden during 100-year storm events to place the panels in a horizontal position, further increasing the freeboard from the base flood elevation to the solar panels. The panels can also be placed in a horizontal position in the unlikely event of debris buildup. The rack foundation is minimal and will not impact the floodwaters. Minimal floodplain storage would be removed as part of this addition and would not substantially increase the 100-year floodplain elevation.

        - Water quality maintenance - Water quality maintenance for most of the site (i.e. the solar field) will not have significant changes from the current conditions. After construction of the solar field, surface vegetation will be established, and the site will essentially have the same water quality maintenance characteristics. Regarding the commercial development area, the project will implement vegetated swales and other low-impact development and stormwater quality measures in accordance with Sacramento County standards.

        - Groundwater recharge – The existing on-site soil types consist of silty clays with very low infiltration rates (less than 0.4 inches per day), and a high groundwater table (approx. 6 to 8-feet in depth) and as such the site likely does not support groundwater recharge currently. The project will not have a significant impact on groundwater recharge characteristics that may exist.

- Living Resource Values
    - The project site consists of non-native annual grassland which is maintained in accordance with SMF's wildlife hazard management plan to avoid wildlife hazard attractants. The site is surrounded by agriculture, fallow fields, and roads, and it is bordered by a dry ditch to the north, a ditch to the west that is only inundated in roughly the southern third of its extent, the Western Drainage Ditch to the south, and Power Line Road to the east. The project site supports the following vegetation and wildlife habitat types: non-native annual grassland, ditches/canals, and developed/disturbed areas. The changes in the floodplains resulting from the project would not significantly change the floodplain depth or extents, as discussed in previous sections; therefore, there would not be a significant impact on living resource values characteristics.
- Cultural Resource Values
    - The Airport property encompasses approximately 5,900 acres which includes the Airport facilities as well as habitat mitigation and buffer areas and undeveloped areas, including the project site. The site is planned for commercial development in SMF's Master Plan and lies adjacent to I-5; the site does not exhibit scenic qualities and is planned for urban development. Based upon the Cultural Resources Inventory and Evaluation Report prepared for the project by Environmental Science Associates (ESA, 2024), no archaeological resources have been identified in the project's Area of Potential Effect (APE) and previous and current investigations have determined that there is a low potential to encounter buried archaeological resources within the APE during project implementation. Additionally, none of the architectural resources located within the APE appear to qualify as historic properties under Section 106 of the National Historic Preservation Act. Since the project does not significantly change the floodplain, there would be no significant impacts to cultural resource values.
- Cultivated Resource Values
    - The site is flat and consists of land that was used in the past for dryland agricultural production. Agricultural use of the site has not occurred since the early 2000s; such use is prohibited per SMF's FAA certification as per SMF's wildlife hazard mitigation plan which prohibits that could attract wildlife (i.e., birds) that could present a hazard to aircraft. The site is not used for agricultural production and consists of non-native grassland. Since the project does not significantly change the floodplain depth or extents, there would be no significant impacts to cultivated resources.

4. CONCLUSION

The purpose of this analysis is to demonstrate that the Proposed Action does not create a significant impact in the floodplain as described in FAA Order 1050.F and subsequently 5050.4B. As discussed, the construction of the Sacramento County/WattEV Commercial Charging Center and subsequent

change in surface elevation do not create a rise in the 100-year floodplain elevations. The 100-year floodplain in the Proposed Action has minimal changes when compared to the No Action Alternative. Based upon this preceding analysis and these considerations, implementation of the Proposed Action does not cause “notable adverse impacts on natural and beneficial floodplain values” and is determined to not create a significant impact in the existing 100-year floodplain.

Appendix A. Figures



Legend

- Site Boundary
- NHD Flowline

Kimley»Horn

WattEV

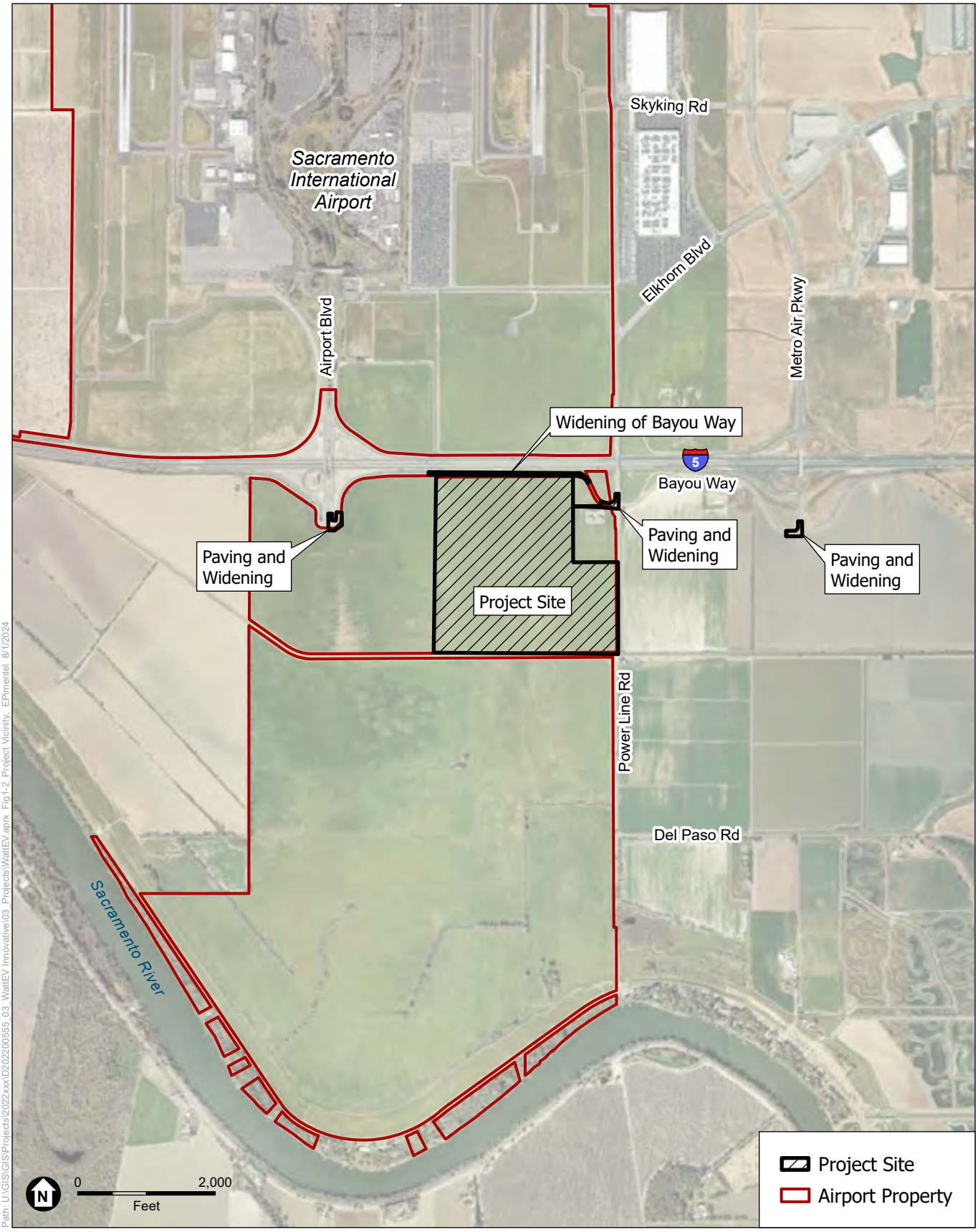
Figure 1 - Vicinity Map

Sacramento International Airport/WattEV Commercial Charging Center
Floodplain Impact Analysis

09/20/2024

0 0.25 0.5 1 Miles

N



SOURCE: Esri, 2024; ESA, 2024

WattEV Commercial Charging Center

Figure 1-2
Project Vicinity

Note: The project site includes paving and widening at the intersections of Bayou Way/Airport Boulevard and Bayou Way/Power Line Road; as well as widening Bayou Way to facilitate truck turns and movement.

ESA

Path: U:\GIS\GIS\Projects\2022xxx\D202200555_03_WattEV Innovative\03_Projects\WattEV.aprx Fig1-2_Project Vicinity_EPimentel 8/1/2024



Legend

Site Boundary

Proposed Site

Kimley»Horn

WattEV

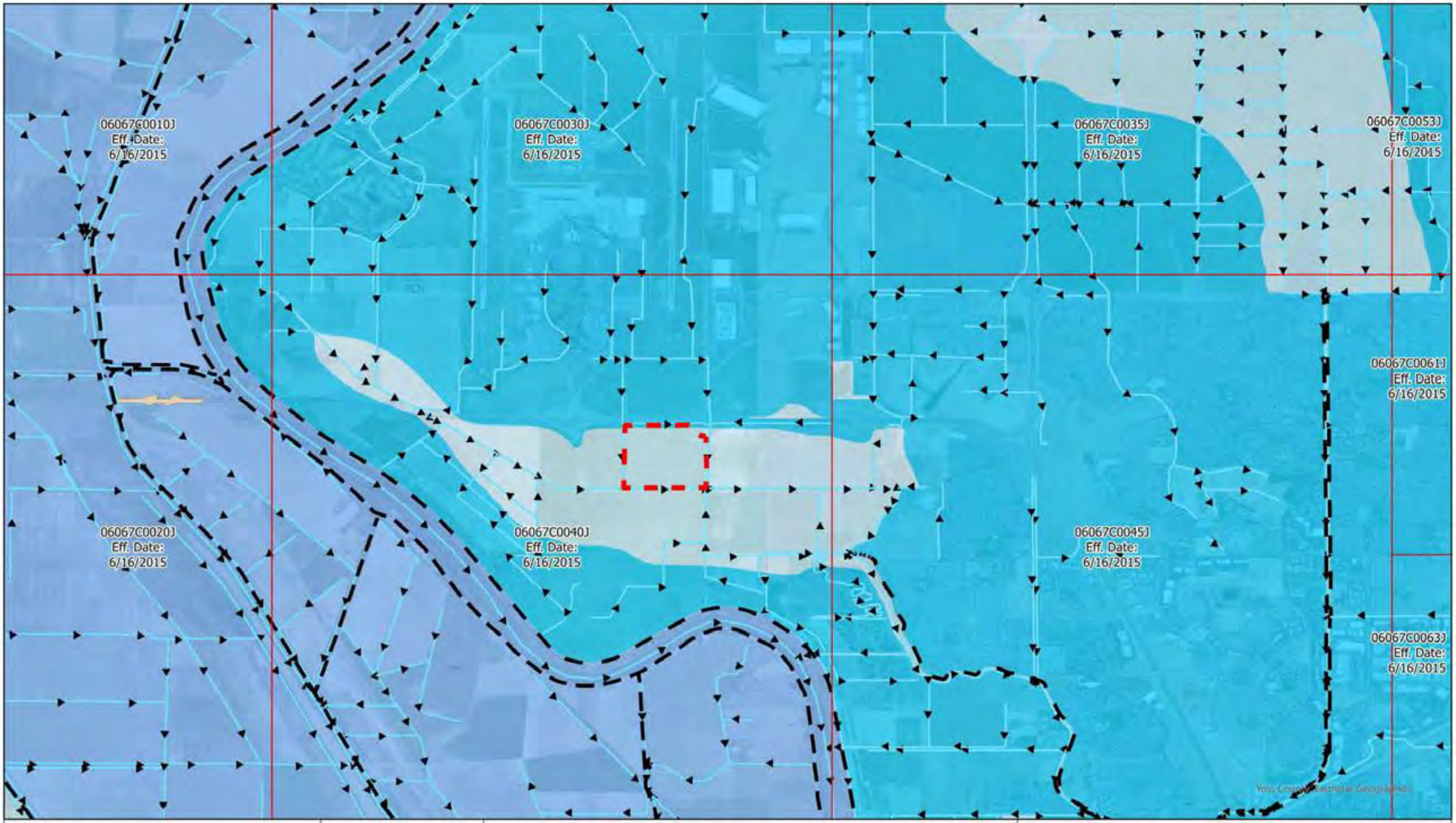
Figure 2 - Site Layout Map

Sacramento International Airport/WattEV Commercial Charging Center
Floodplain Impact Analysis

09/20/2024

0 0.05 0.1 0.2 Miles

N



Legend

- FIRM Panel
- NHD Flowline
- Site Boundary
- Levee
- Zone A
- Zone A99
- Zone AE
- Zone X - 0.2% Annual Chance Flood Hazard

Kimley»Horn

WattEV

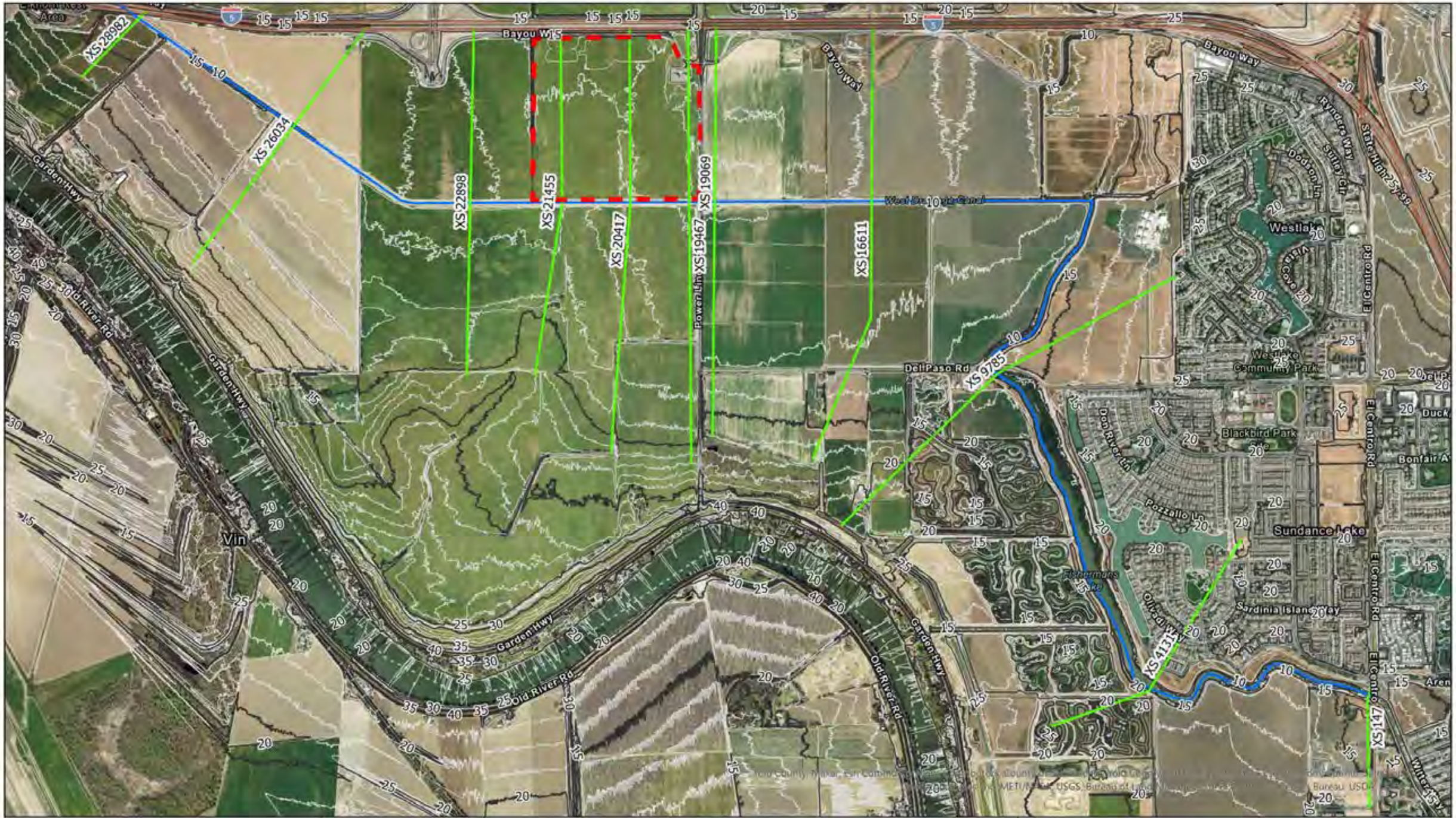
09/20/2024

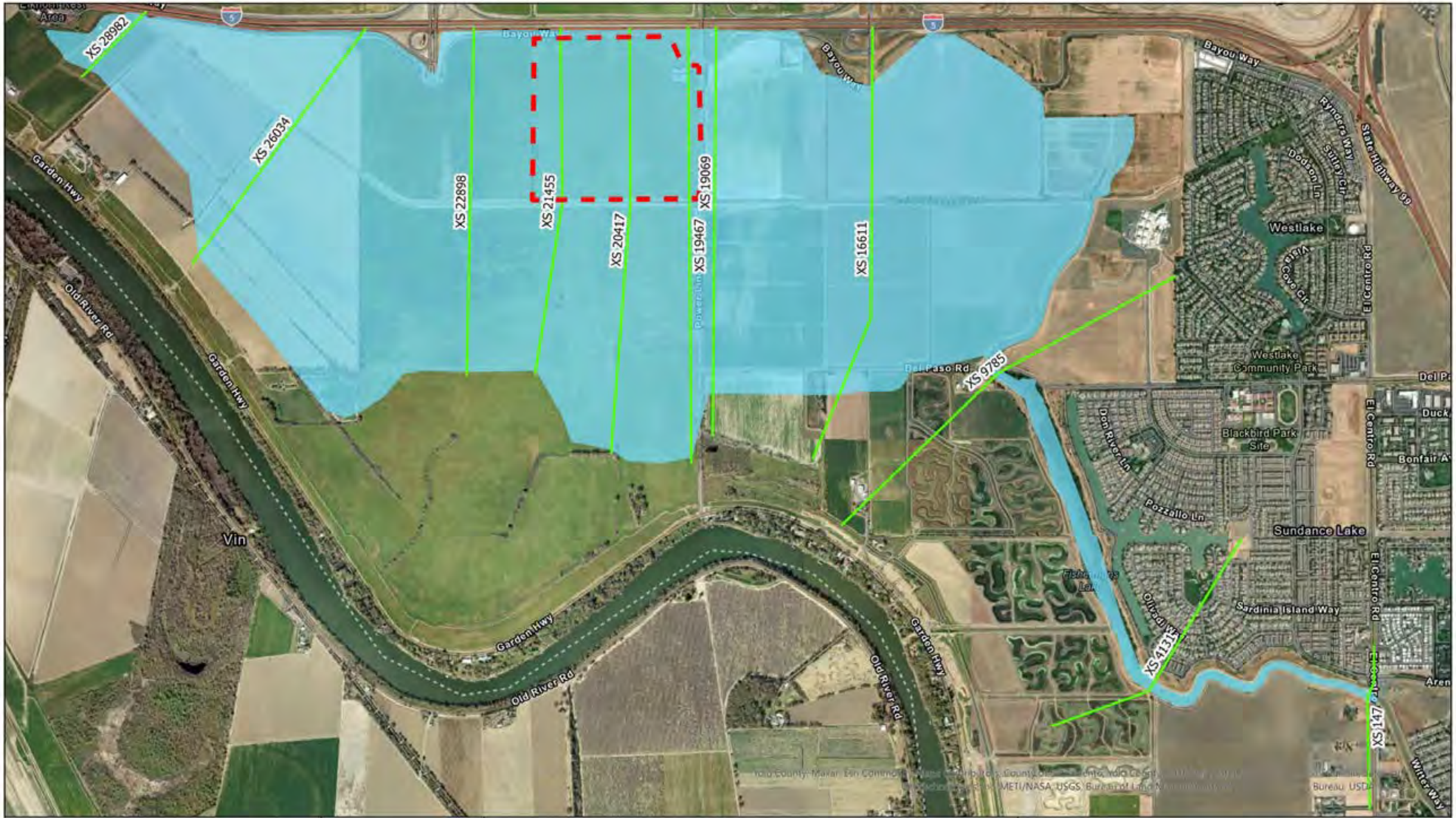
Figure 3 - FEMA FIRM Map

Sacramento International Airport/WattEV Commercial Charging Center
Floodplain Impact Analysis

0 0.38 0.75 1.5 Miles

N


XS 28982
XS 26034
XS 22898
XS 21455
XS 20417
XS 19467
XS 19069
XS 16611
XS 9785
XS 4131
XS 147
Bayou Way
Garden Hwy
Old River Rd
Power Lin
West Drainage Canal
Del Paso Rd
Don River Ln
Pozzallo Ln
Sundance Lake
Sardinia Island Way
Oliveda Way
Fishermans Rd
Ryndere Way
Sutley Cir
Dodson Ln
Westlake
Vista Cove
El Centro Rd
Westlake Community Park
Blackbird Park
State Highway 99
Vin
Legend
Bridge/Culvert Crossing
Cross Sections
River
Site Boundary
1-ft Contours
5-ft Contours
Kimley»Horn
WattEV
Figure 4 - HEC-RAS Model Geometry Map
Sacramento International Airport/WattEV Commercial Charging Center
Floodplain Impact Analysis
09/20/2024
0 0.13 0.25 0.5 Miles
N



Legend

- 100 Year High Water Level
- Cross Sections
- Site Boundary

Kimley»Horn

WattEV

Figure 5 - Resultant Floodplain Map

Sacramento International Airport/WattEV Commercial Charging Center
Floodplain Impact Analysis

09/20/2024

0 0.13 0.25 0.5 Miles

N

Appendix B. Boundary Conditions Datasets

Appendix B

Inflow Flow Hydrograph - I-5 Culverts	
Time and Date	**Total Flow (CFS)**
05Aug2017 0100	34.84
05Aug2017 0130	0.05
05Aug2017 0200	0.02
05Aug2017 0230	0.01
05Aug2017 0300	0.04
05Aug2017 0330	-3.5
05Aug2017 0400	-10.74
05Aug2017 0430	9.34
05Aug2017 0500	47.37
05Aug2017 0530	73.27
05Aug2017 0600	64.44
05Aug2017 0630	71.1
05Aug2017 0700	63.42
05Aug2017 0730	81.86
05Aug2017 0800	92.75
05Aug2017 0830	100.77
05Aug2017 0900	95.23
05Aug2017 0930	96.13
05Aug2017 1000	93.35
05Aug2017 1030	95.47
05Aug2017 1100	46.52
05Aug2017 1130	31.03
05Aug2017 1200	15.33
05Aug2017 1230	32.76
05Aug2017 1300	78.85
05Aug2017 1330	76.78
05Aug2017 1400	33.39
05Aug2017 1430	37.59
05Aug2017 1500	24.01
05Aug2017 1530	25.66
05Aug2017 1600	26.72
05Aug2017 1630	44.83
05Aug2017 1700	64.88
05Aug2017 1730	33.83
05Aug2017 1800	39.97
05Aug2017 1830	42.63
05Aug2017 1900	27.83
05Aug2017 1930	26.33
05Aug2017 2000	26.28
05Aug2017 2030	26.32
05Aug2017 2100	22.88
05Aug2017 2130	22.77
05Aug2017 2200	23.06
05Aug2017 2230	20.15
05Aug2017 2300	27.43
05Aug2017 2330	20.62

Outflow Stage Hydrograph - El Centro Road	
Time and Date	**Stage HW Elevation (ft)**
05Aug2017 0100	9.25
05Aug2017 0130	9.31
05Aug2017 0200	9.36
05Aug2017 0230	9.4
05Aug2017 0300	9.45
05Aug2017 0330	9.52
05Aug2017 0400	9.6
05Aug2017 0430	9.7
05Aug2017 0500	9.82
05Aug2017 0530	9.94
05Aug2017 0600	10.07
05Aug2017 0630	10.19
05Aug2017 0700	10.29
05Aug2017 0730	10.35
05Aug2017 0800	10.4
05Aug2017 0830	10.44
05Aug2017 0900	10.47
05Aug2017 0930	10.49
05Aug2017 1000	10.49
05Aug2017 1030	10.46
05Aug2017 1100	10.43
05Aug2017 1130	10.4
05Aug2017 1200	10.38
05Aug2017 1230	10.35
05Aug2017 1300	10.31
05Aug2017 1330	10.27
05Aug2017 1400	10.22
05Aug2017 1430	10.16
05Aug2017 1500	10.11
05Aug2017 1530	10.06
05Aug2017 1600	10
05Aug2017 1630	9.94
05Aug2017 1700	9.88
05Aug2017 1730	9.83
05Aug2017 1800	9.77
05Aug2017 1830	9.71
05Aug2017 1900	9.65
05Aug2017 1930	9.61
05Aug2017 2000	9.58
05Aug2017 2030	9.56
05Aug2017 2100	9.54
05Aug2017 2130	9.51
05Aug2017 2200	9.49
05Aug2017 2230	9.46
05Aug2017 2300	9.43
05Aug2017 2330	9.41

05Aug2017 2400	19.98
06Aug2017 0030	19.78
06Aug2017 0100	18.62
06Aug2017 0130	20.33
06Aug2017 0200	17.76
06Aug2017 0230	17.36
06Aug2017 0300	16.31
06Aug2017 0330	16.03
06Aug2017 0400	14.36
06Aug2017 0430	14.52
06Aug2017 0500	14.54
06Aug2017 0530	14.51
06Aug2017 0600	14.4
06Aug2017 0630	14.54
06Aug2017 0700	14.37
06Aug2017 0730	14.41
06Aug2017 0800	14.37
06Aug2017 0830	14.33
06Aug2017 0900	14.3
06Aug2017 0930	14.26
06Aug2017 1000	14.22
06Aug2017 1030	14.19
06Aug2017 1100	14.22
06Aug2017 1130	13.98
06Aug2017 1200	13.98
06Aug2017 1230	13.94
06Aug2017 1300	13.99
06Aug2017 1330	13.94
06Aug2017 1400	13.9
06Aug2017 1430	13.86
06Aug2017 1500	13.84
06Aug2017 1530	13.83
06Aug2017 1600	13.84
06Aug2017 1630	13.87
06Aug2017 1700	13.92
06Aug2017 1730	14.09
06Aug2017 1800	14.16
06Aug2017 1830	14.35
06Aug2017 1900	93.65
06Aug2017 1930	69.35
06Aug2017 2000	74.15
06Aug2017 2030	65.07
06Aug2017 2100	73.26
06Aug2017 2130	74.44
06Aug2017 2200	86.2
06Aug2017 2230	99.42
06Aug2017 2300	105.14
06Aug2017 2330	106.2

05Aug2017 2400	9.38
06Aug2017 0030	9.36
06Aug2017 0100	9.34
06Aug2017 0130	9.32
06Aug2017 0200	9.33
06Aug2017 0230	9.33
06Aug2017 0300	9.32
06Aug2017 0330	9.32
06Aug2017 0400	9.32
06Aug2017 0430	9.32
06Aug2017 0500	9.32
06Aug2017 0530	9.32
06Aug2017 0600	9.32
06Aug2017 0630	9.33
06Aug2017 0700	9.33
06Aug2017 0730	9.33
06Aug2017 0800	9.34
06Aug2017 0830	9.34
06Aug2017 0900	9.35
06Aug2017 0930	9.35
06Aug2017 1000	9.35
06Aug2017 1030	9.35
06Aug2017 1100	9.36
06Aug2017 1130	9.36
06Aug2017 1200	9.36
06Aug2017 1230	9.36
06Aug2017 1300	9.36
06Aug2017 1330	9.36
06Aug2017 1400	9.36
06Aug2017 1430	9.37
06Aug2017 1500	9.37
06Aug2017 1530	9.37
06Aug2017 1600	9.37
06Aug2017 1630	9.37
06Aug2017 1700	9.38
06Aug2017 1730	9.4
06Aug2017 1800	9.43
06Aug2017 1830	9.46
06Aug2017 1900	9.5
06Aug2017 1930	9.56
06Aug2017 2000	9.63
06Aug2017 2030	9.69
06Aug2017 2100	9.77
06Aug2017 2130	9.87
06Aug2017 2200	9.98
06Aug2017 2230	10.12
06Aug2017 2300	10.29
06Aug2017 2330	10.41

06Aug2017 2400	113.72
07Aug2017 0030	118.14
07Aug2017 0100	121.14
07Aug2017 0130	124.32
07Aug2017 0200	127.93
07Aug2017 0230	176.94
07Aug2017 0300	191.77
07Aug2017 0330	209.86
07Aug2017 0400	218.59
07Aug2017 0430	225.31
07Aug2017 0500	230.07
07Aug2017 0530	233.06
07Aug2017 0600	234.94
07Aug2017 0630	236.67
07Aug2017 0700	237.66
07Aug2017 0730	238.17
07Aug2017 0800	234.12
07Aug2017 0830	175.34
07Aug2017 0900	163.84
07Aug2017 0930	160.4
07Aug2017 1000	158.02
07Aug2017 1030	155.85
07Aug2017 1100	134.94
07Aug2017 1130	85.96
07Aug2017 1200	84.85
07Aug2017 1230	85.36
07Aug2017 1300	139.46
07Aug2017 1330	146.12
07Aug2017 1400	84.22
07Aug2017 1430	96.04
07Aug2017 1500	128.22
07Aug2017 1530	95.39
07Aug2017 1600	121.23
07Aug2017 1630	102.71
07Aug2017 1700	127.49
07Aug2017 1730	135.94
07Aug2017 1800	84.28
07Aug2017 1830	107.44
07Aug2017 1900	106.24
07Aug2017 1930	136.14
07Aug2017 2000	142.9
07Aug2017 2030	97.31
07Aug2017 2100	112.61
07Aug2017 2130	115.02
07Aug2017 2200	77.33
07Aug2017 2230	79.86
07Aug2017 2300	97.84
07Aug2017 2330	90.89

06Aug2017 2400	10.55
07Aug2017 0030	10.62
07Aug2017 0100	10.7
07Aug2017 0130	10.77
07Aug2017 0200	10.78
07Aug2017 0230	10.8
07Aug2017 0300	10.82
07Aug2017 0330	10.83
07Aug2017 0400	10.85
07Aug2017 0430	10.85
07Aug2017 0500	10.86
07Aug2017 0530	10.86
07Aug2017 0600	10.86
07Aug2017 0630	10.86
07Aug2017 0700	10.85
07Aug2017 0730	10.84
07Aug2017 0800	10.83
07Aug2017 0830	10.82
07Aug2017 0900	10.8
07Aug2017 0930	10.78
07Aug2017 1000	10.76
07Aug2017 1030	10.74
07Aug2017 1100	10.71
07Aug2017 1130	10.68
07Aug2017 1200	10.64
07Aug2017 1230	10.61
07Aug2017 1300	10.56
07Aug2017 1330	10.52
07Aug2017 1400	10.48
07Aug2017 1430	10.42
07Aug2017 1500	10.37
07Aug2017 1530	10.31
07Aug2017 1600	10.25
07Aug2017 1630	10.21
07Aug2017 1700	10.17
07Aug2017 1730	10.13
07Aug2017 1800	10.1
07Aug2017 1830	10.07
07Aug2017 1900	10.04
07Aug2017 1930	10.05
07Aug2017 2000	10.04
07Aug2017 2030	10.03
07Aug2017 2100	10.01
07Aug2017 2130	9.99
07Aug2017 2200	9.97
07Aug2017 2230	9.94
07Aug2017 2300	9.92
07Aug2017 2330	9.89

07Aug2017 2400	65.67
08Aug2017 0030	71.24
08Aug2017 0100	100.75
08Aug2017 0130	81
08Aug2017 0200	73.96
08Aug2017 0230	45.12
08Aug2017 0300	35.99
08Aug2017 0330	31.95
08Aug2017 0400	31.01
08Aug2017 0430	33.07
08Aug2017 0500	30.39
08Aug2017 0530	32.36
08Aug2017 0600	33.84
08Aug2017 0630	30.51
08Aug2017 0700	34.24
08Aug2017 0730	33.33
08Aug2017 0800	31.83
08Aug2017 0830	30.78
08Aug2017 0900	29.28
08Aug2017 0930	29.06
08Aug2017 1000	27.6
08Aug2017 1030	27.73
08Aug2017 1100	26.68
08Aug2017 1130	26.84
08Aug2017 1200	25.14
08Aug2017 1230	24.58
08Aug2017 1300	24.74
08Aug2017 1330	24.67
08Aug2017 1400	24.3
08Aug2017 1430	23.71
08Aug2017 1500	22.69
08Aug2017 1530	22.43
08Aug2017 1600	21.95
08Aug2017 1630	21.84
08Aug2017 1700	21.42
08Aug2017 1730	20.96
08Aug2017 1800	20.67
08Aug2017 1830	20.58
08Aug2017 1900	20.09
08Aug2017 1930	19.83
08Aug2017 2000	19.47
08Aug2017 2030	19.11
08Aug2017 2100	18.88
08Aug2017 2130	18.63
08Aug2017 2200	18.01
08Aug2017 2230	17.76
08Aug2017 2300	17.62
08Aug2017 2330	17.55

07Aug2017 2400	9.87
08Aug2017 0030	9.84
08Aug2017 0100	9.81
08Aug2017 0130	9.78
08Aug2017 0200	9.75
08Aug2017 0230	9.72
08Aug2017 0300	9.69
08Aug2017 0330	9.65
08Aug2017 0400	9.63
08Aug2017 0430	9.61
08Aug2017 0500	9.59
08Aug2017 0530	9.58
08Aug2017 0600	9.59
08Aug2017 0630	9.59
08Aug2017 0700	9.6
08Aug2017 0730	9.59
08Aug2017 0800	9.6
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08Aug2017 1100	9.59
08Aug2017 1130	9.59
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08Aug2017 1230	9.58
08Aug2017 1300	9.57
08Aug2017 1330	9.56
08Aug2017 1400	9.55
08Aug2017 1430	9.54
08Aug2017 1500	9.53
08Aug2017 1530	9.53
08Aug2017 1600	9.51
08Aug2017 1630	9.5
08Aug2017 1700	9.49
08Aug2017 1730	9.47
08Aug2017 1800	9.46
08Aug2017 1830	9.44
08Aug2017 1900	9.42
08Aug2017 1930	9.4
08Aug2017 2000	9.38
08Aug2017 2030	9.36
08Aug2017 2100	9.34
08Aug2017 2130	9.33
08Aug2017 2200	9.32
08Aug2017 2230	9.31
08Aug2017 2300	9.3
08Aug2017 2330	9.29

08Aug2017 2400	17.49
09Aug2017 0030	17.5
09Aug2017 0100	17.49
09Aug2017 0130	17.53
09Aug2017 0200	17.58
09Aug2017 0230	17.75
09Aug2017 0300	17.99
09Aug2017 0330	18.16
09Aug2017 0400	18.49
09Aug2017 0430	18.81
09Aug2017 0500	96.84
09Aug2017 0530	73.48
09Aug2017 0600	73.65
09Aug2017 0630	74.55
09Aug2017 0700	76.78
09Aug2017 0730	86.74
09Aug2017 0800	102.91
09Aug2017 0830	111.39
09Aug2017 0900	108.68
09Aug2017 0930	155.2
09Aug2017 1000	209.1
09Aug2017 1030	252.57
09Aug2017 1100	283.74
09Aug2017 1130	300.73
09Aug2017 1200	311.21
09Aug2017 1230	318.73
09Aug2017 1300	323.42
09Aug2017 1330	331.59
09Aug2017 1400	333.28
09Aug2017 1430	293.25
09Aug2017 1500	281.93
09Aug2017 1530	278.88
09Aug2017 1600	277.57
09Aug2017 1630	276.41
09Aug2017 1700	274.78
09Aug2017 1730	272.76
09Aug2017 1800	266.36
09Aug2017 1830	209.91
09Aug2017 1900	191.14
09Aug2017 1930	181.66
09Aug2017 2000	176.04
09Aug2017 2030	171.57
09Aug2017 2100	167.66
09Aug2017 2130	164.11
09Aug2017 2200	160.8
09Aug2017 2230	132.96
09Aug2017 2300	72.54
09Aug2017 2330	63.81

08Aug2017 2400	9.29
09Aug2017 0030	9.29
09Aug2017 0100	9.3
09Aug2017 0130	9.3
09Aug2017 0200	9.31
09Aug2017 0230	9.33
09Aug2017 0300	9.36
09Aug2017 0330	9.39
09Aug2017 0400	9.44
09Aug2017 0430	9.49
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09Aug2017 0600	9.72
09Aug2017 0630	9.81
09Aug2017 0700	9.93
09Aug2017 0730	10.04
09Aug2017 0800	10.19
09Aug2017 0830	10.39
09Aug2017 0900	10.58
09Aug2017 0930	10.73
09Aug2017 1000	10.85
09Aug2017 1030	10.93
09Aug2017 1100	11.05
09Aug2017 1130	11.15
09Aug2017 1200	11.22
09Aug2017 1230	11.26
09Aug2017 1300	11.29
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09Aug2017 1430	11.33
09Aug2017 1500	11.34
09Aug2017 1530	11.35
09Aug2017 1600	11.35
09Aug2017 1630	11.36
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09Aug2017 2030	11.29
09Aug2017 2100	11.27
09Aug2017 2130	11.26
09Aug2017 2200	11.24
09Aug2017 2230	11.22
09Aug2017 2300	11.19
09Aug2017 2330	11.16

09Aug2017 2400	56.91
10Aug2017 0030	125.56
10Aug2017 0100	136.26
10Aug2017 0130	56.81
10Aug2017 0200	41.87
10Aug2017 0230	33.11
10Aug2017 0300	17.14
10Aug2017 0330	-10.49
10Aug2017 0400	-12.33
10Aug2017 0430	106.28
10Aug2017 0500	93.84
10Aug2017 0530	14.94
10Aug2017 0600	-15.94
10Aug2017 0630	-18.56
10Aug2017 0700	-44.49
10Aug2017 0730	12.25
10Aug2017 0800	-46.38
10Aug2017 0830	-30.83
10Aug2017 0900	-0.47
10Aug2017 0930	-21.59
10Aug2017 1000	-76.41
10Aug2017 1030	-27.25
10Aug2017 1100	-26.66
10Aug2017 1130	-38.78
10Aug2017 1200	45.01
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10Aug2017 1300	18.63
10Aug2017 1330	-27.5
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10Aug2017 1430	-0.23
10Aug2017 1500	-49.21
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10Aug2017 1600	90.26
10Aug2017 1630	100.01
10Aug2017 1700	72.4
10Aug2017 1730	27.48
10Aug2017 1800	-14.62
10Aug2017 1830	97.69
10Aug2017 1900	103.37
10Aug2017 1930	104.51
10Aug2017 2000	106.56
10Aug2017 2030	106.2
10Aug2017 2100	108.53
10Aug2017 2130	109.07
10Aug2017 2200	111.3
10Aug2017 2230	112.42
10Aug2017 2300	114.81
10Aug2017 2330	117.05

09Aug2017 2400	11.14
10Aug2017 0030	11.11
10Aug2017 0100	11.08
10Aug2017 0130	11.05
10Aug2017 0200	11.02
10Aug2017 0230	10.99
10Aug2017 0300	10.95
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10Aug2017 0400	10.87
10Aug2017 0430	10.83
10Aug2017 0500	10.78
10Aug2017 0530	10.74
10Aug2017 0600	10.69
10Aug2017 0630	10.65
10Aug2017 0700	10.6
10Aug2017 0730	10.56
10Aug2017 0800	10.51
10Aug2017 0830	10.48
10Aug2017 0900	10.43
10Aug2017 0930	10.38
10Aug2017 1000	10.33
10Aug2017 1030	10.28
10Aug2017 1100	10.23
10Aug2017 1130	10.19
10Aug2017 1200	10.16
10Aug2017 1230	10.12
10Aug2017 1300	10.09
10Aug2017 1330	10.07
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10Aug2017 1430	10.04
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10Aug2017 1830	10.11
10Aug2017 1900	10.16
10Aug2017 1930	10.22
10Aug2017 2000	10.29
10Aug2017 2030	10.36
10Aug2017 2100	10.43
10Aug2017 2130	10.5
10Aug2017 2200	10.58
10Aug2017 2230	10.65
10Aug2017 2300	10.72
10Aug2017 2330	10.77

10Aug2017 2400	119.06
11Aug2017 0030	122.21
11Aug2017 0100	126.44
11Aug2017 0130	130.12
11Aug2017 0200	186.09
11Aug2017 0230	212.06
11Aug2017 0300	249.13
11Aug2017 0330	295.32
11Aug2017 0400	312.93
11Aug2017 0430	325.36
11Aug2017 0500	334.41
11Aug2017 0530	343.26
11Aug2017 0600	354.99
11Aug2017 0630	357.53
11Aug2017 0700	361.35
11Aug2017 0730	365.82
11Aug2017 0800	369.84
11Aug2017 0830	371.8
11Aug2017 0900	375.63
11Aug2017 0930	378.71
11Aug2017 1000	382.55
11Aug2017 1030	387.7
11Aug2017 1100	395.78
11Aug2017 1130	403.13
11Aug2017 1200	412.95
11Aug2017 1230	421.77
11Aug2017 1300	428.62
11Aug2017 1330	433.82
11Aug2017 1400	437.71
11Aug2017 1430	440.63
11Aug2017 1500	442.7
11Aug2017 1530	443.99
11Aug2017 1600	444.62
11Aug2017 1630	444.68
11Aug2017 1700	444.27
11Aug2017 1730	443.45
11Aug2017 1800	442.27
11Aug2017 1830	440.78
11Aug2017 1900	439.01
11Aug2017 1930	436.97
11Aug2017 2000	434.65
11Aug2017 2030	432.02
11Aug2017 2100	428.95
11Aug2017 2130	425.51
11Aug2017 2200	421.76
11Aug2017 2230	417.69
11Aug2017 2300	413.18
11Aug2017 2330	408.36

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11Aug2017 0030	10.84
11Aug2017 0100	10.9
11Aug2017 0130	10.98
11Aug2017 0200	11.07
11Aug2017 0230	11.15
11Aug2017 0300	11.22
11Aug2017 0330	11.28
11Aug2017 0400	11.37
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11Aug2017 0530	11.64
11Aug2017 0600	11.69
11Aug2017 0630	11.75
11Aug2017 0700	11.8
11Aug2017 0730	11.86
11Aug2017 0800	11.91
11Aug2017 0830	11.97
11Aug2017 0900	12.05
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11Aug2017 1130	12.88
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11Aug2017 1230	13.16
11Aug2017 1300	13.25
11Aug2017 1330	13.31
11Aug2017 1400	13.36
11Aug2017 1430	13.4
11Aug2017 1500	13.43
11Aug2017 1530	13.45
11Aug2017 1600	13.46
11Aug2017 1630	13.46
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11Aug2017 1730	13.44
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11Aug2017 1930	13.35
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11Aug2017 2100	13.31
11Aug2017 2130	13.3
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11Aug2017 2230	13.27
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11Aug2017 2400	402.98
12Aug2017 0030	378.82
12Aug2017 0100	331.34
12Aug2017 0130	312.4
12Aug2017 0200	298.43
12Aug2017 0230	274.51
12Aug2017 0300	215.75
12Aug2017 0330	194.03
12Aug2017 0400	184.1
12Aug2017 0430	178.88
12Aug2017 0500	142.37
12Aug2017 0530	99.14
12Aug2017 0600	92.39
12Aug2017 0630	88.48
12Aug2017 0700	133.11
12Aug2017 0730	157.99
12Aug2017 0800	96.01
12Aug2017 0830	81.63
12Aug2017 0900	78.25
12Aug2017 0930	77.32
12Aug2017 1000	76.43
12Aug2017 1030	74.38
12Aug2017 1100	74.68
12Aug2017 1130	75.12
12Aug2017 1200	131.77
12Aug2017 1230	117.29
12Aug2017 1300	74.16
12Aug2017 1330	72.46
12Aug2017 1400	76.48
12Aug2017 1430	77.57
12Aug2017 1500	79.28
12Aug2017 1530	80.62
12Aug2017 1600	80.83
12Aug2017 1630	84.59
12Aug2017 1700	129.89
12Aug2017 1730	137.28
12Aug2017 1800	77.31
12Aug2017 1830	80.42
12Aug2017 1900	86.82
12Aug2017 1930	134.91
12Aug2017 2000	137.34
12Aug2017 2030	137.6
12Aug2017 2100	137.75
12Aug2017 2130	137.95
12Aug2017 2200	138.57
12Aug2017 2230	139.84
12Aug2017 2300	144.09
12Aug2017 2330	147.74

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12Aug2017 0930	12.91
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12Aug2017 1030	12.86
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12Aug2017 1130	12.81
12Aug2017 1200	12.78
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12Aug2017 1630	12.56
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12Aug2017 1930	12.49
12Aug2017 2000	12.49
12Aug2017 2030	12.5
12Aug2017 2100	12.51
12Aug2017 2130	12.52
12Aug2017 2200	12.54
12Aug2017 2230	12.59
12Aug2017 2300	12.65
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12Aug2017 2400	151.38
13Aug2017 0030	209.99
13Aug2017 0100	229.72
13Aug2017 0130	239.46
13Aug2017 0200	246.56
13Aug2017 0230	253.58
13Aug2017 0300	259.81
13Aug2017 0330	265.6
13Aug2017 0400	270.42
13Aug2017 0430	274.23
13Aug2017 0500	277.13
13Aug2017 0530	278.62
13Aug2017 0600	279.64
13Aug2017 0630	279.96
13Aug2017 0700	279.61
13Aug2017 0730	278.65
13Aug2017 0800	277.36
13Aug2017 0830	275.61
13Aug2017 0900	273.48
13Aug2017 0930	271
13Aug2017 1000	231.15
13Aug2017 1030	195.94
13Aug2017 1100	183.04
13Aug2017 1130	176.53
13Aug2017 1200	172.02
13Aug2017 1230	142.85
13Aug2017 1300	86.05
13Aug2017 1330	75.43
13Aug2017 1400	70.19
13Aug2017 1430	128.65
13Aug2017 1500	145.07
13Aug2017 1530	71.38
13Aug2017 1600	55.82
13Aug2017 1630	48.96
13Aug2017 1700	43.04
13Aug2017 1730	37.78
13Aug2017 1800	33.76
13Aug2017 1830	73.92
13Aug2017 1900	124.02
13Aug2017 1930	42.96
13Aug2017 2000	27.31
13Aug2017 2030	23.09
13Aug2017 2100	5
13Aug2017 2130	-33.16
13Aug2017 2200	-37.34
13Aug2017 2230	-37.51
13Aug2017 2300	-44.11
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13Aug2017 0230	13.01
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13Aug2017 0330	13.03
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13Aug2017 0530	13.01
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13Aug2017 0630	12.99
13Aug2017 0700	12.98
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13Aug2017 0830	12.95
13Aug2017 0900	12.93
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13Aug2017 1030	12.88
13Aug2017 1100	12.86
13Aug2017 1130	12.84
13Aug2017 1200	12.82
13Aug2017 1230	12.8
13Aug2017 1300	12.77
13Aug2017 1330	12.75
13Aug2017 1400	12.73
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13Aug2017 1530	12.64
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13Aug2017 1630	12.6
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13Aug2017 1900	12.46
13Aug2017 1930	12.43
13Aug2017 2000	12.41
13Aug2017 2030	12.38
13Aug2017 2100	12.35
13Aug2017 2130	12.33
13Aug2017 2200	12.3
13Aug2017 2230	12.28
13Aug2017 2300	12.25
13Aug2017 2330	12.23

13Aug2017 2400	-46.16
14Aug2017 0030	-41.38
14Aug2017 0100	-46.03
14Aug2017 0130	-0.42
14Aug2017 0200	-76.49
14Aug2017 0230	-54.79
14Aug2017 0300	-45.73
14Aug2017 0330	-49.35
14Aug2017 0400	-58.03
14Aug2017 0430	-77.4
14Aug2017 0500	-51.07
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14Aug2017 0630	-77.72
14Aug2017 0700	-47.83
14Aug2017 0730	-46.61
14Aug2017 0800	-19.97
14Aug2017 0830	-40.29
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14Aug2017 1000	-6.16
14Aug2017 1030	-38.94
14Aug2017 1100	-33.22
14Aug2017 1130	-27.01
14Aug2017 1200	-39.74
14Aug2017 1230	-23.32
14Aug2017 1300	-66.86
14Aug2017 1330	-39.69
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14Aug2017 1530	16.61
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14Aug2017 1830	85.04
14Aug2017 1900	98.57
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14Aug2017 2000	113.59
14Aug2017 2030	118.17
14Aug2017 2100	121.42
14Aug2017 2130	124.72
14Aug2017 2200	127.48
14Aug2017 2230	129.15
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14Aug2017 2330	132.97

13Aug2017 2400	12.2
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14Aug2017 0100	12.14
14Aug2017 0130	12.12
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14Aug2017 0430	11.95
14Aug2017 0500	11.92
14Aug2017 0530	11.89
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14Aug2017 0630	11.83
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14Aug2017 0930	11.65
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14Aug2017 2030	11.03
14Aug2017 2100	11.09
14Aug2017 2130	11.15
14Aug2017 2200	11.22
14Aug2017 2230	11.27
14Aug2017 2300	11.32
14Aug2017 2330	11.35

14Aug2017 2400	135
15Aug2017 0030	137.61
15Aug2017 0100	139.91
15Aug2017 0130	142.96
15Aug2017 0200	146.2
15Aug2017 0230	148.84
15Aug2017 0300	151.19
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15Aug2017 0400	153.04
15Aug2017 0430	153.56
15Aug2017 0500	153.88
15Aug2017 0530	152.89
15Aug2017 0600	152.61
15Aug2017 0630	151.79
15Aug2017 0700	150.81
15Aug2017 0730	149.78
15Aug2017 0800	148.75
15Aug2017 0830	147.59
15Aug2017 0900	146.54
15Aug2017 0930	95.68
15Aug2017 1000	83.14
15Aug2017 1030	91.76
15Aug2017 1100	86.51
15Aug2017 1130	99.26
15Aug2017 1200	114.79
15Aug2017 1230	117.62
15Aug2017 1300	98.38
15Aug2017 1330	128.7
15Aug2017 1400	96.54
15Aug2017 1430	120.2
15Aug2017 1500	121.27
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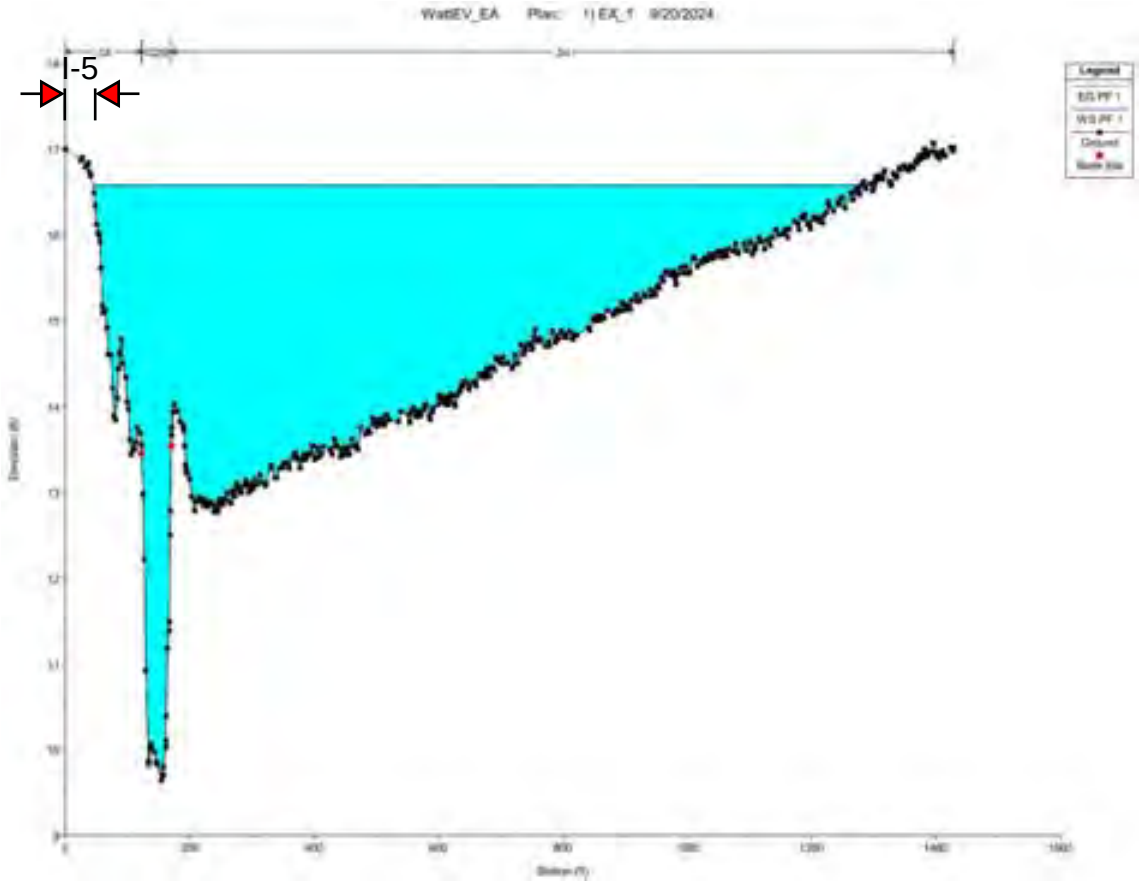
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Appendix C. HEC-RAS Cross Sections and Results

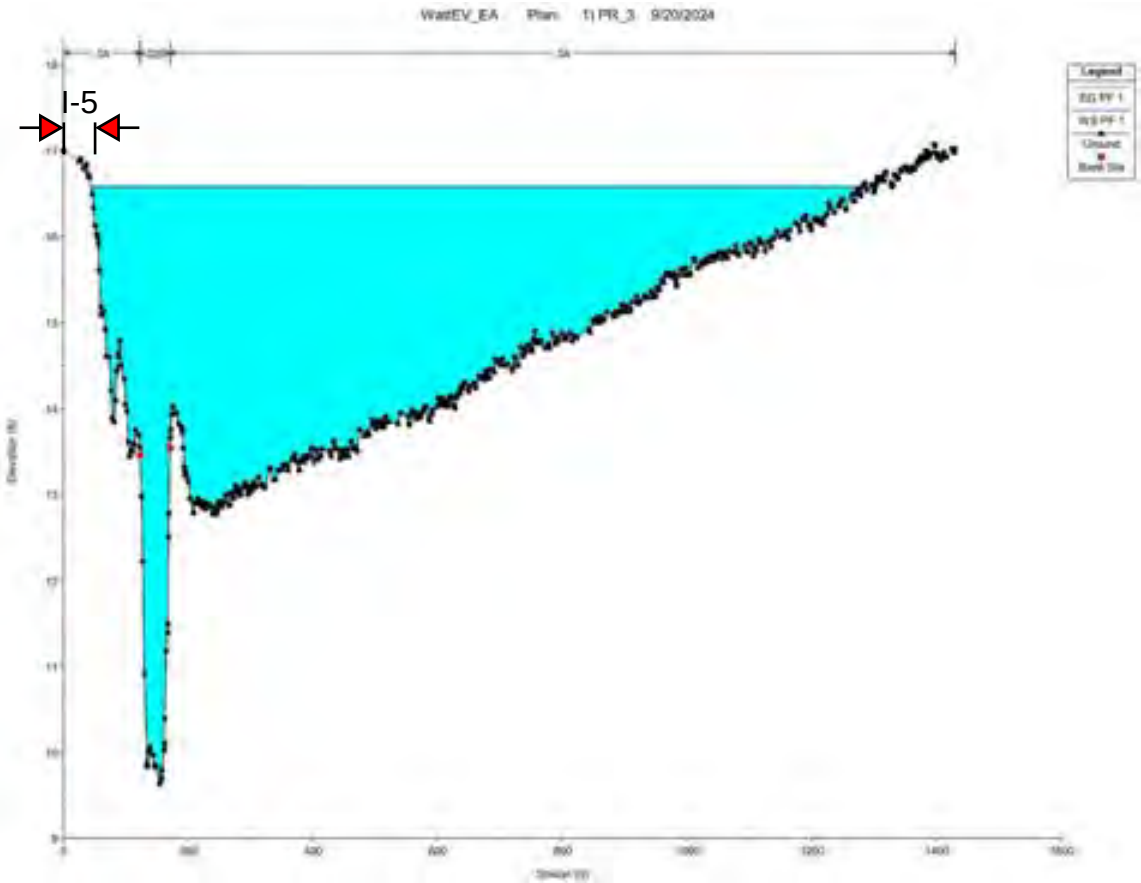
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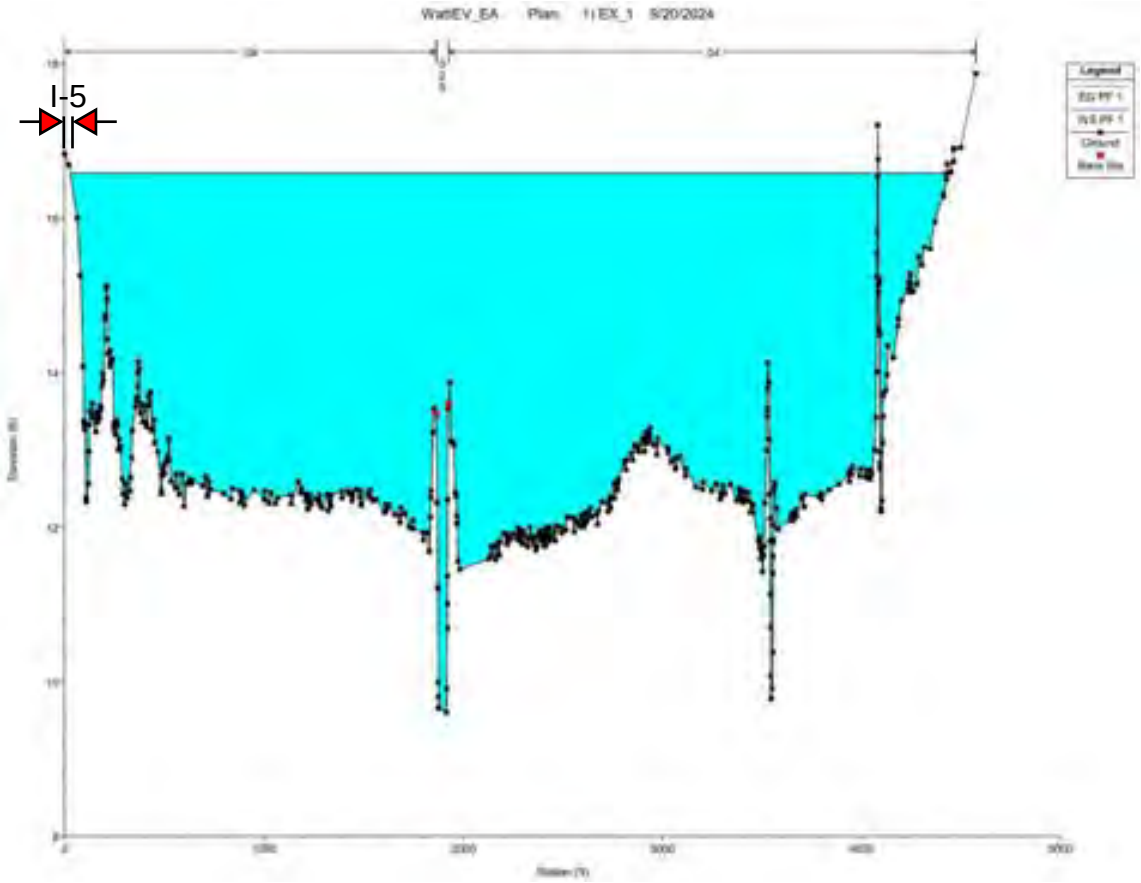
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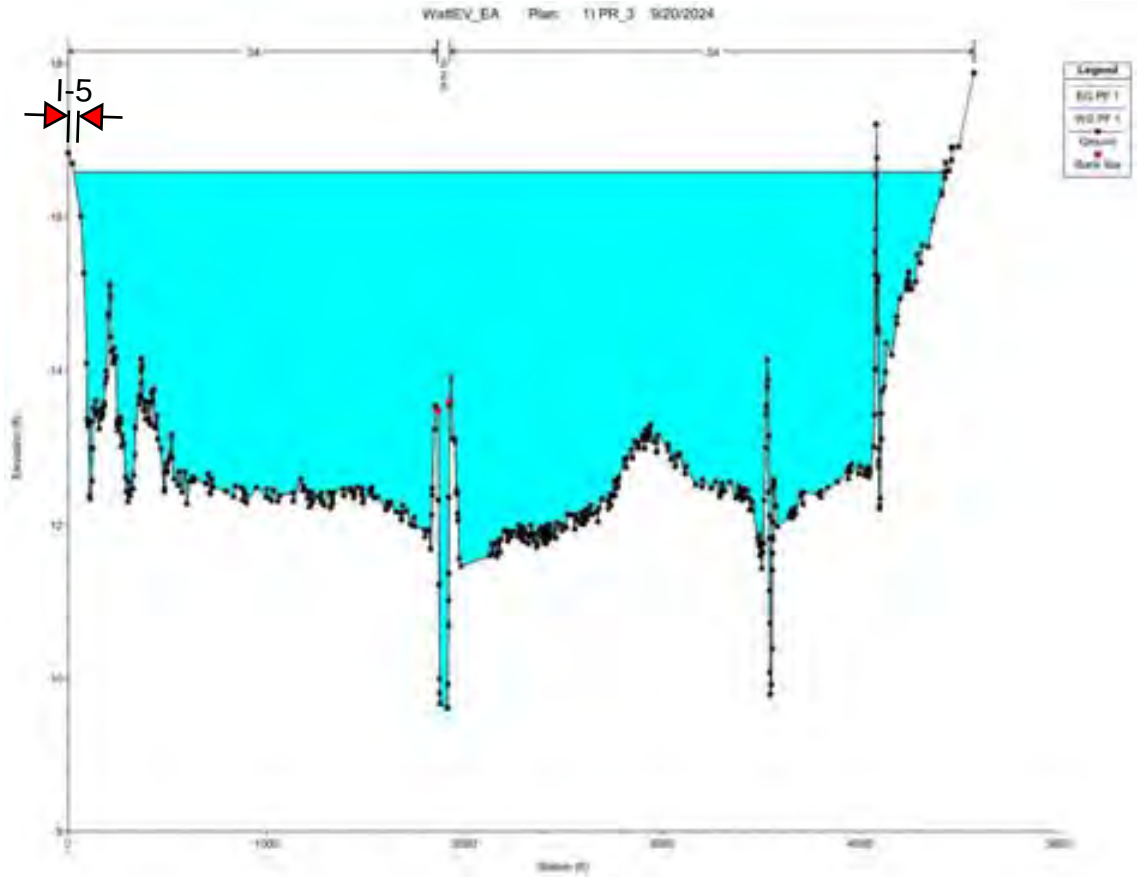
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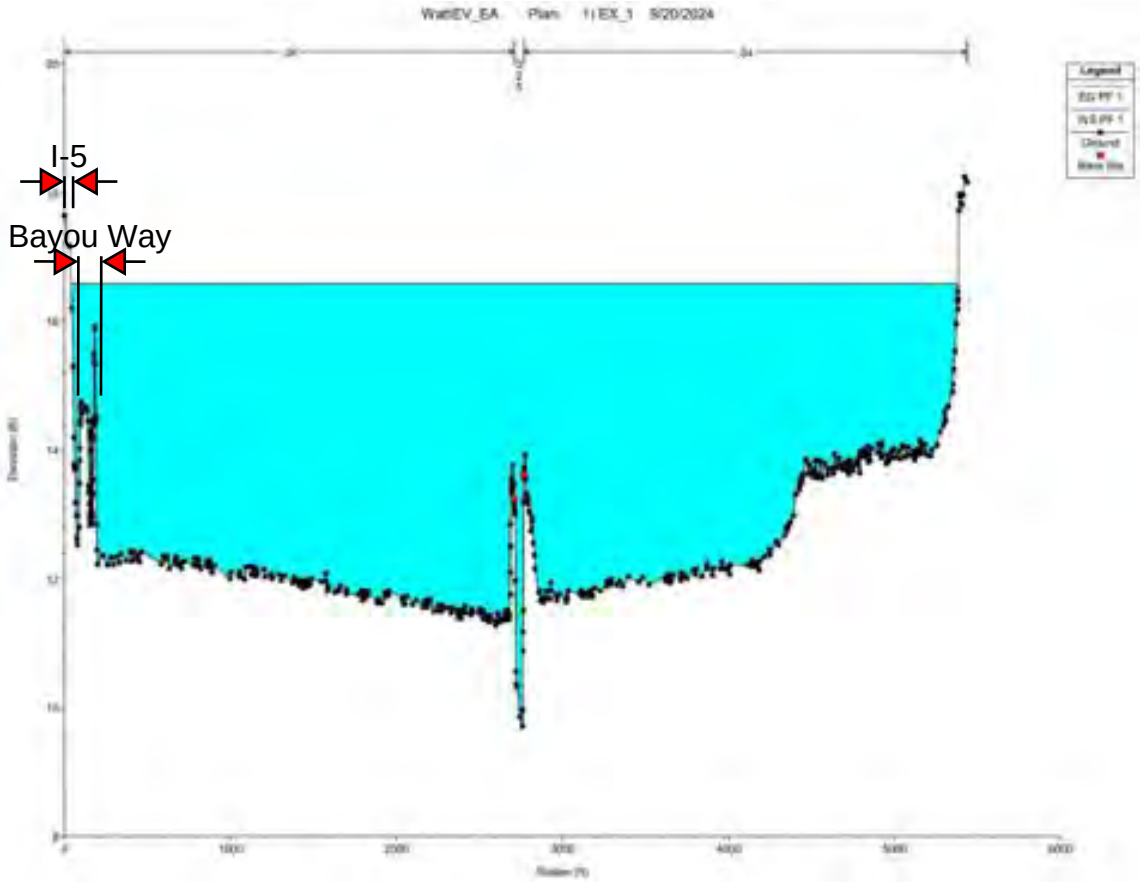
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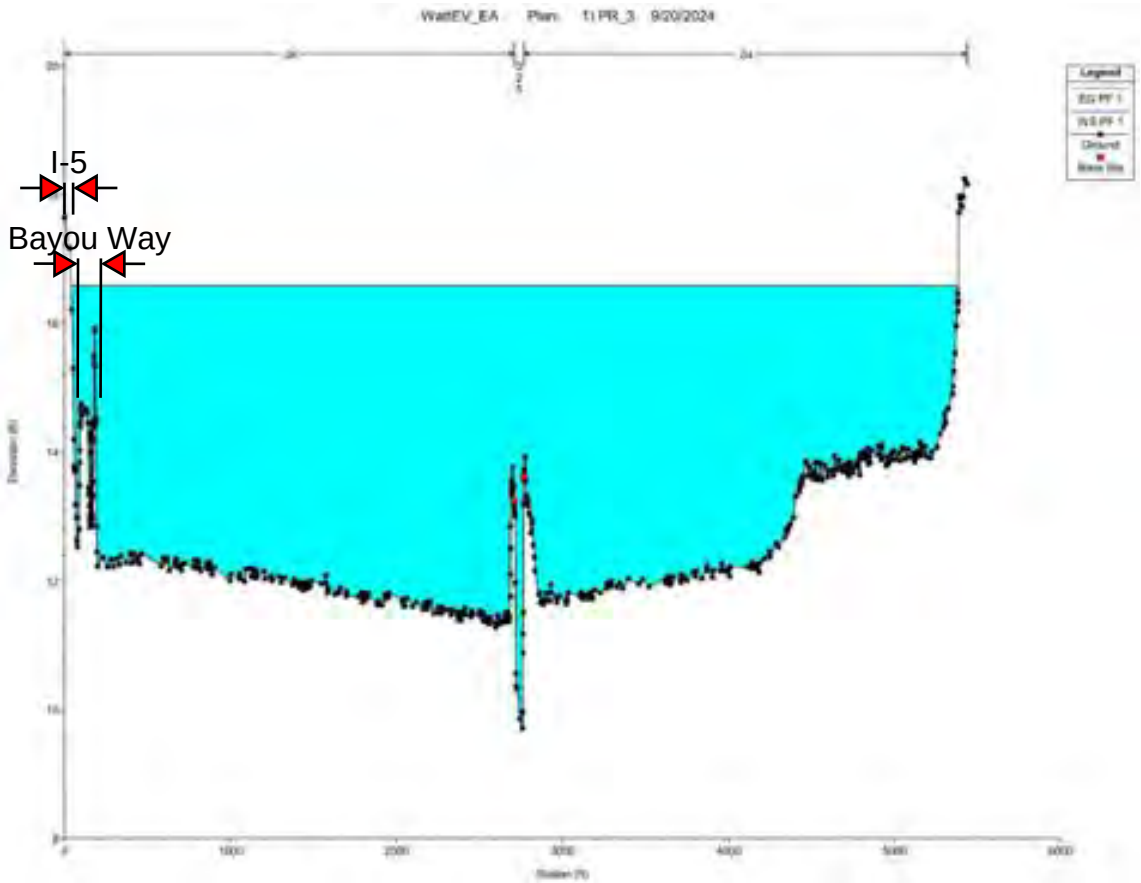
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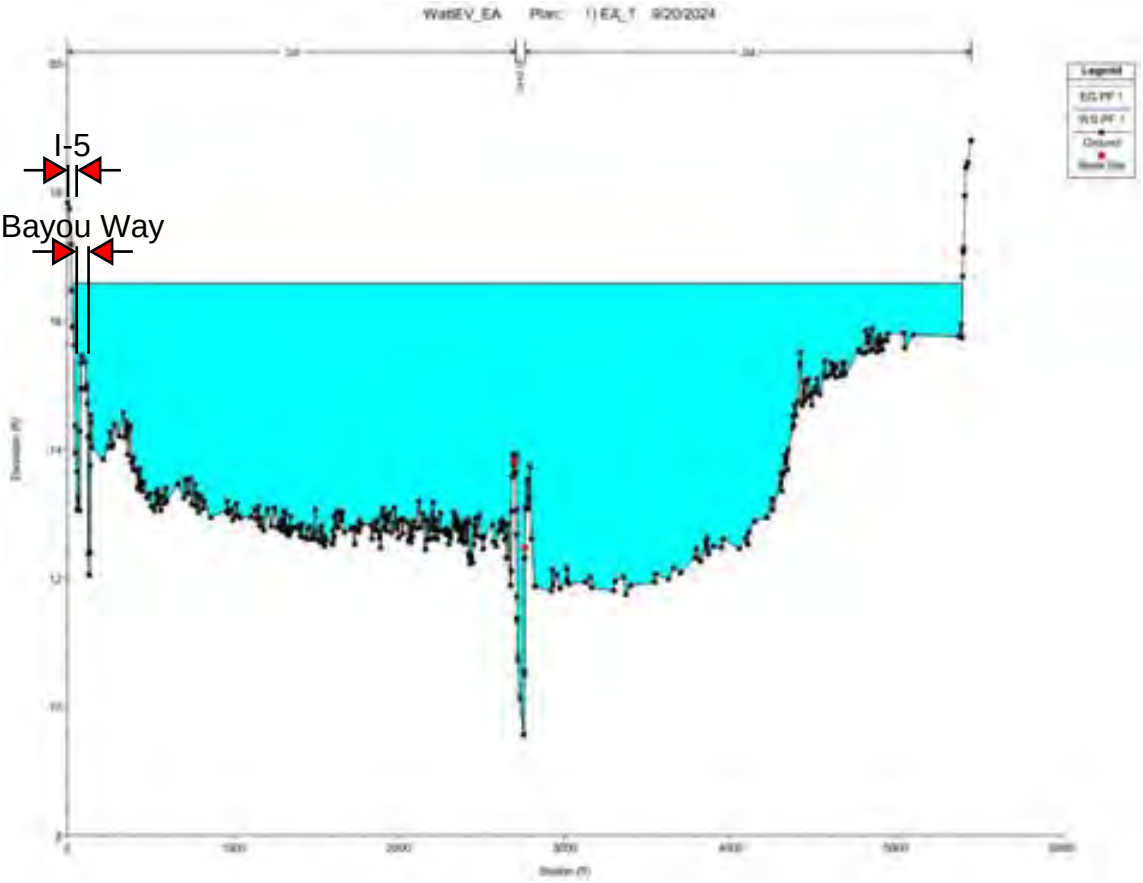
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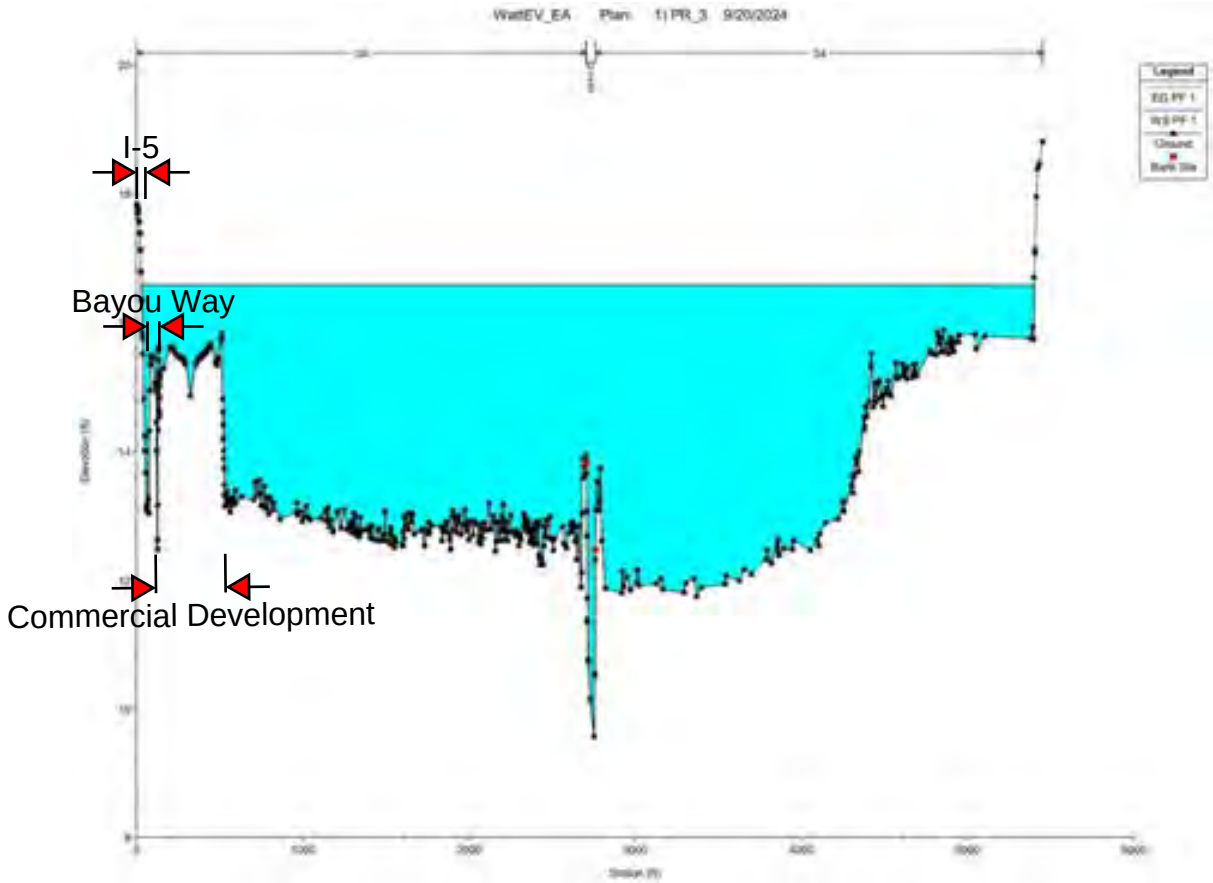
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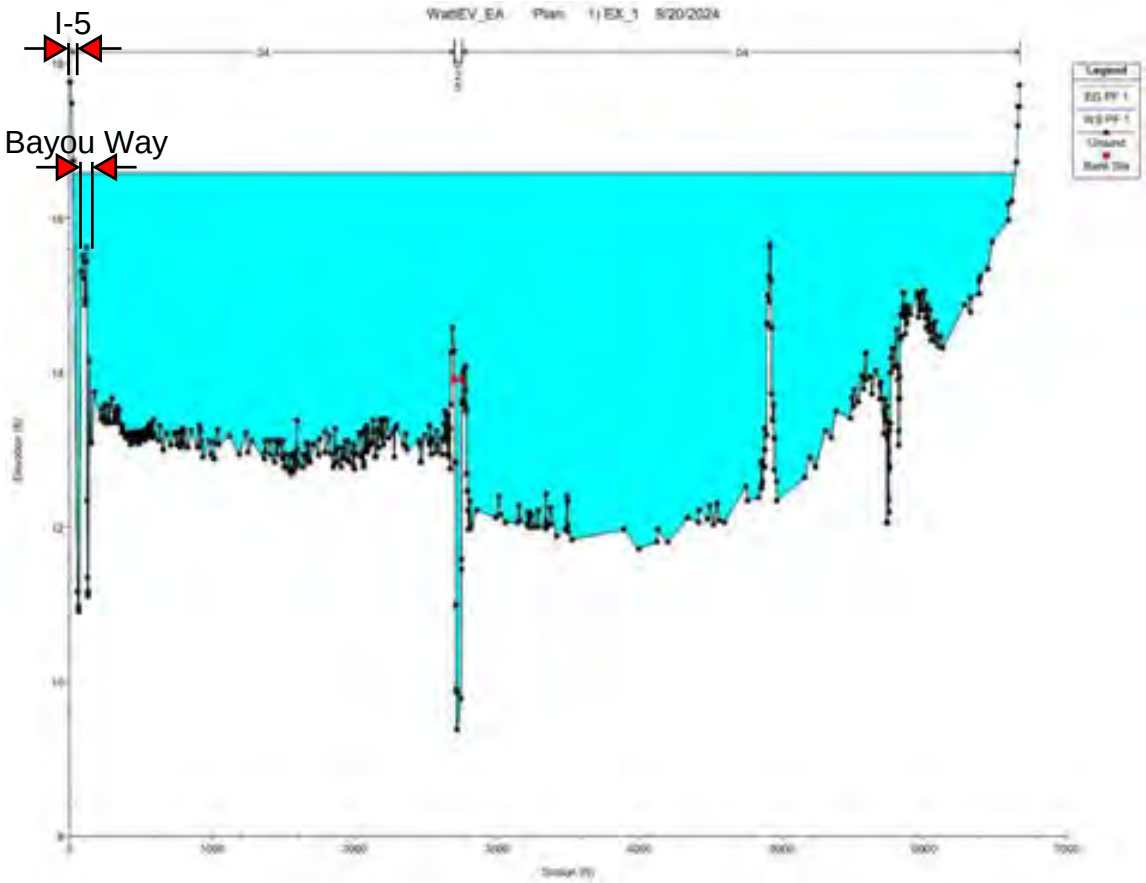
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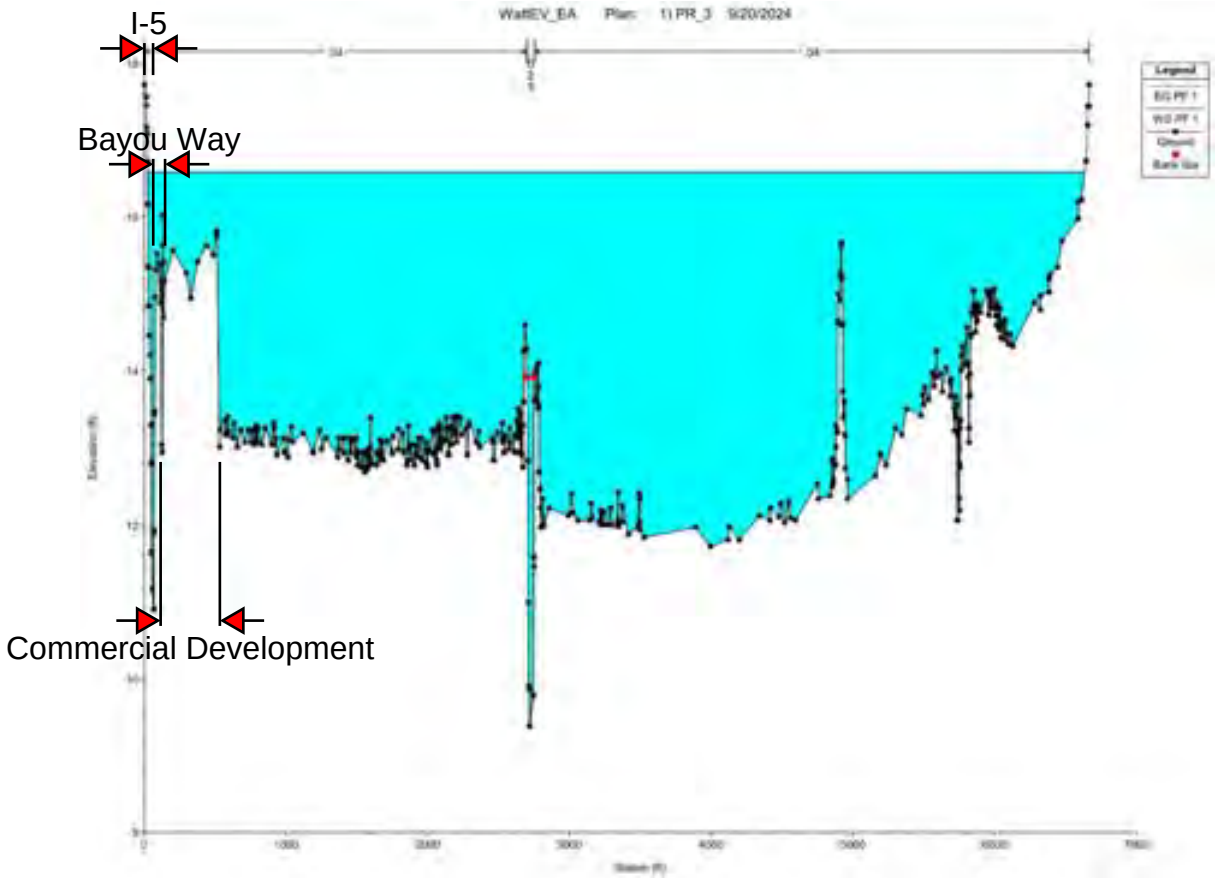
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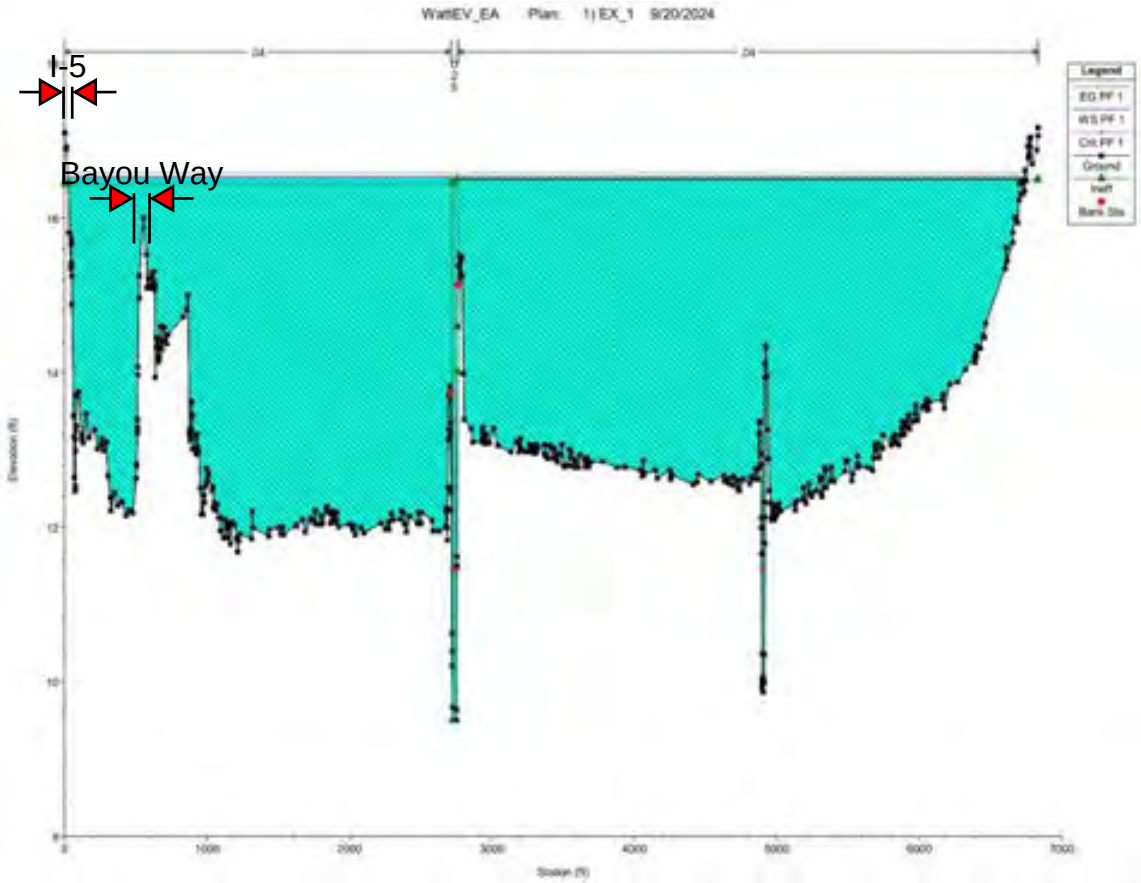
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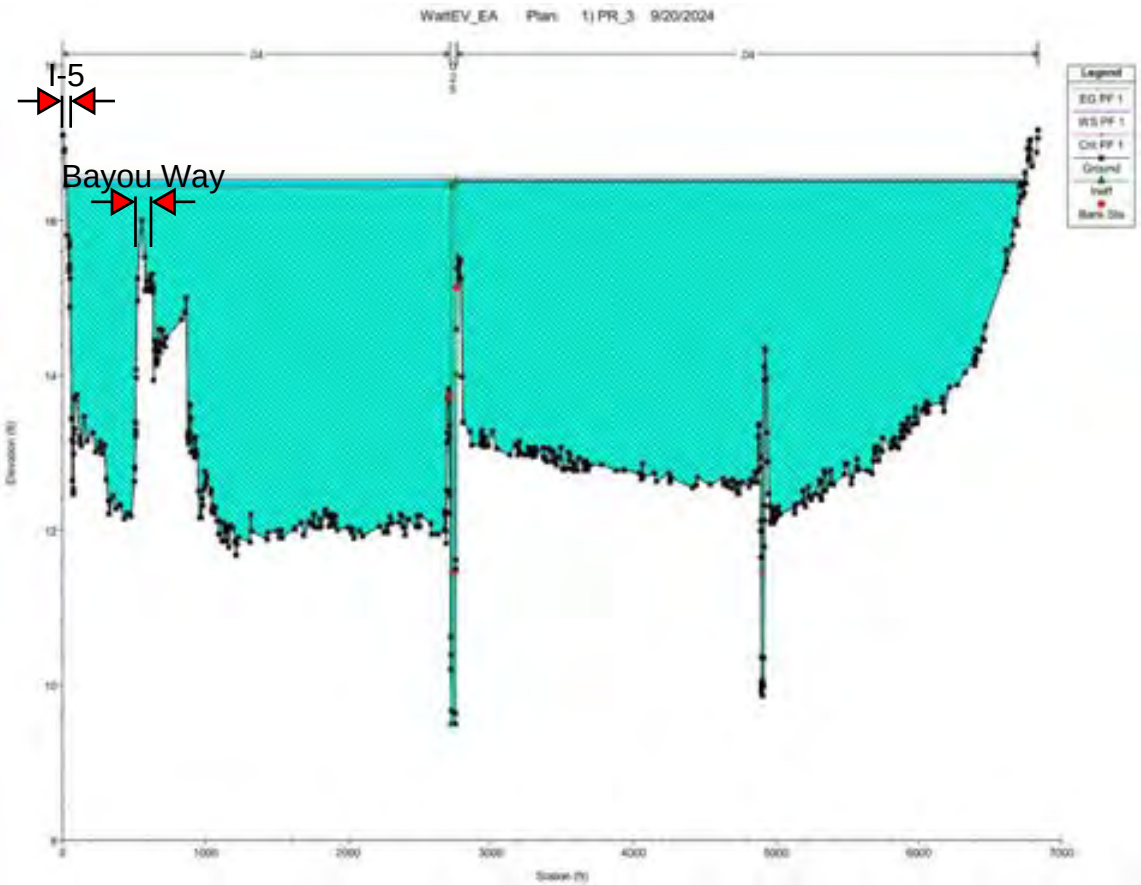
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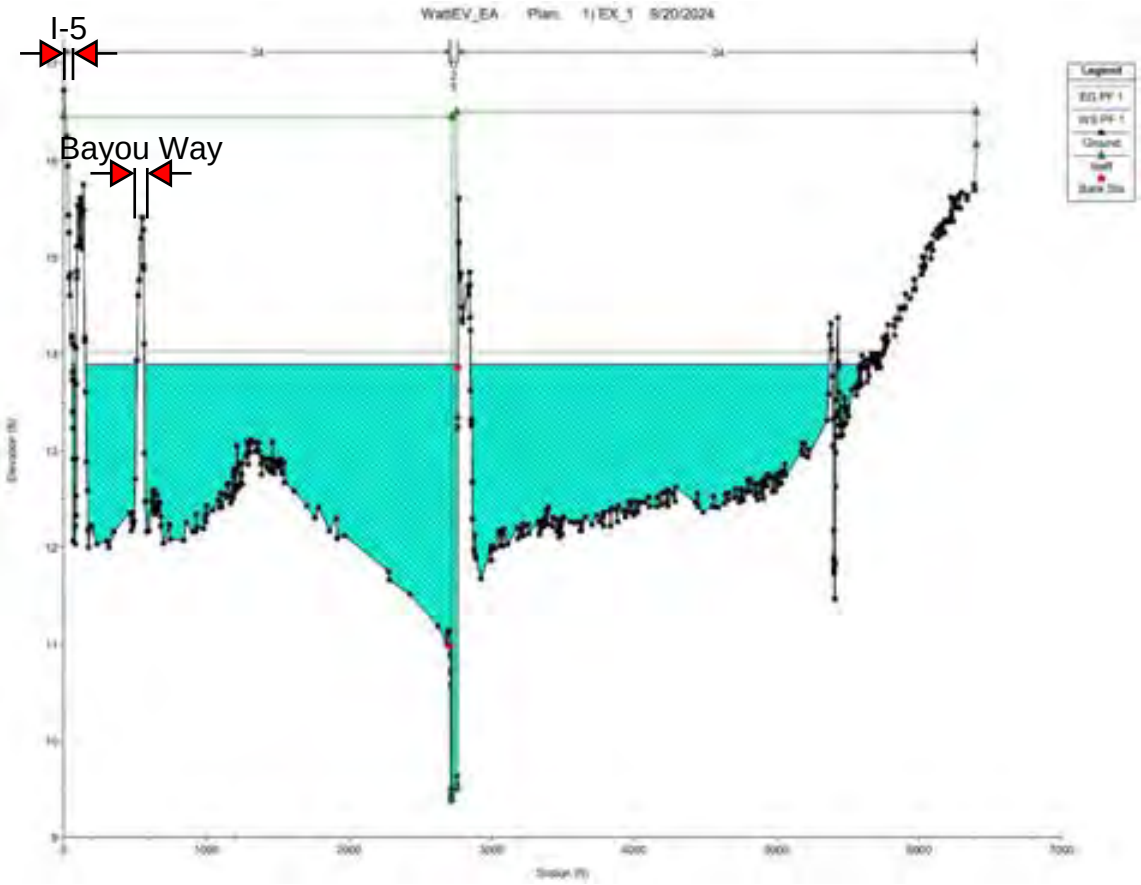
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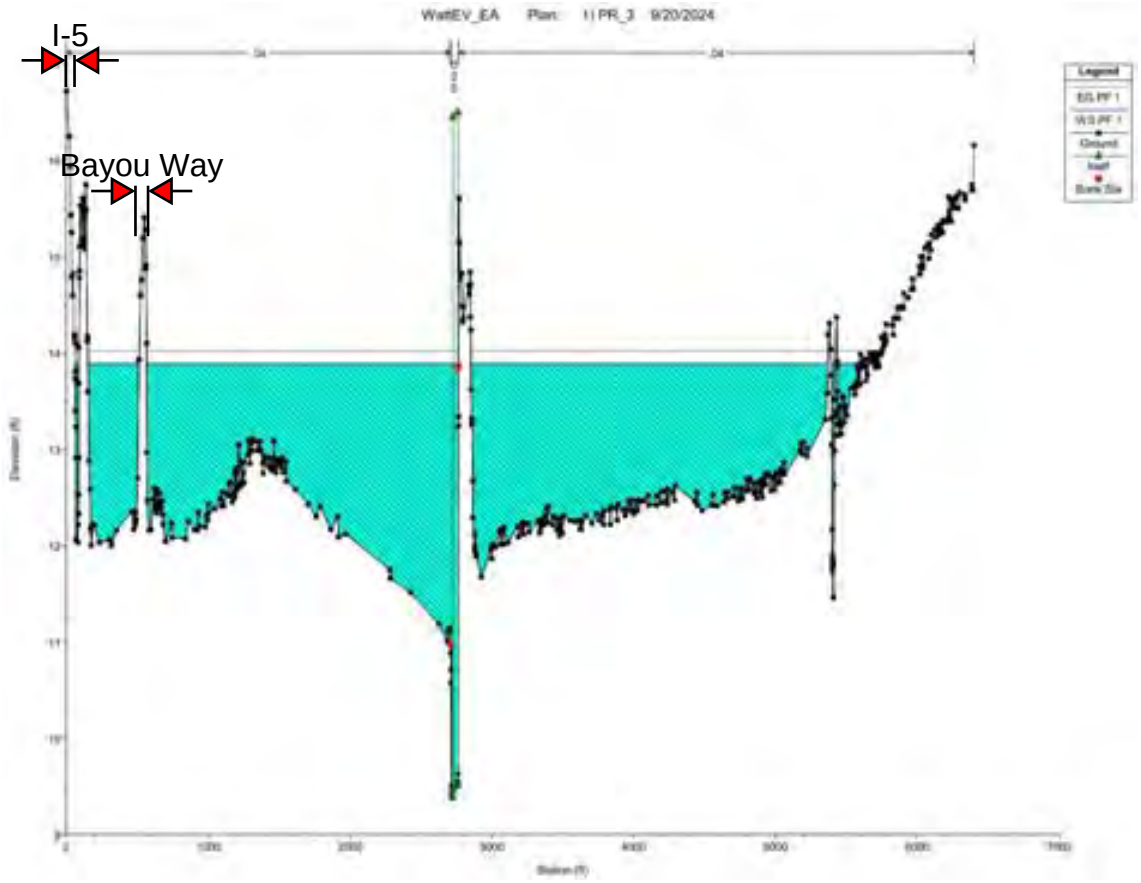
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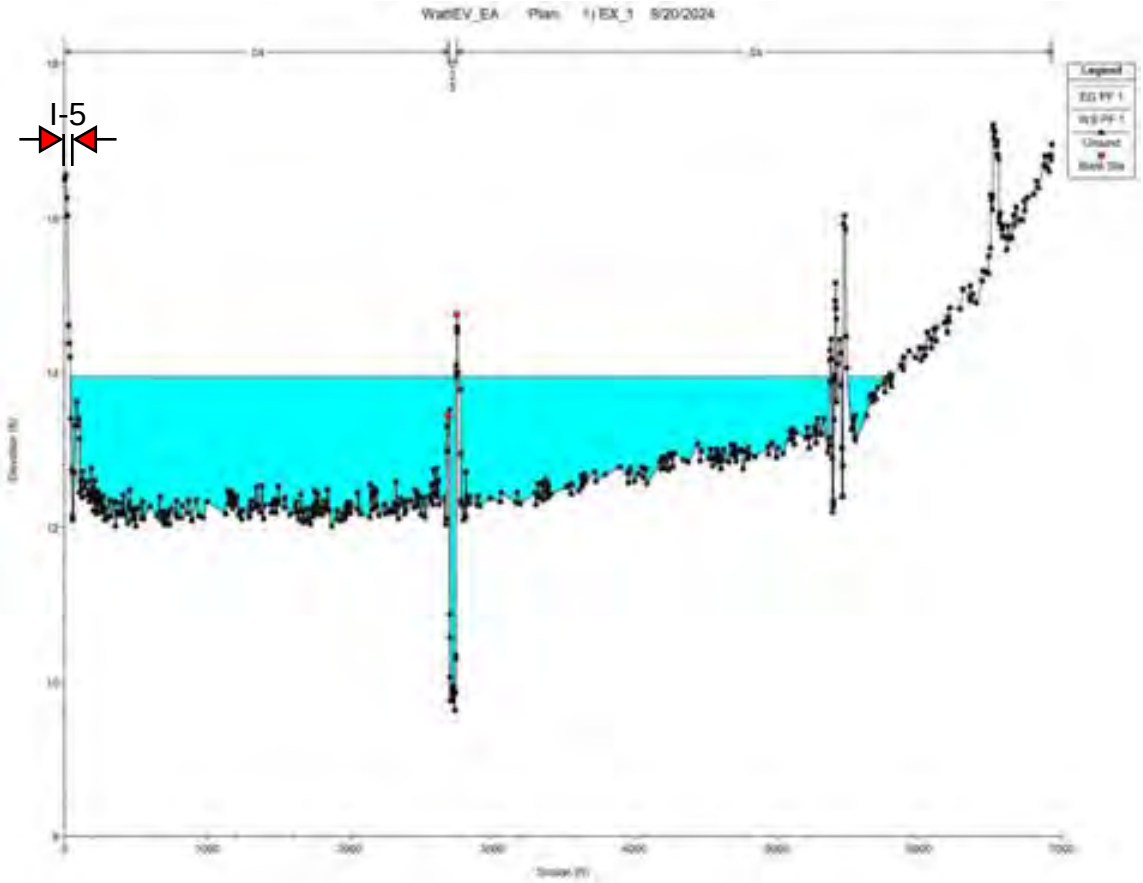
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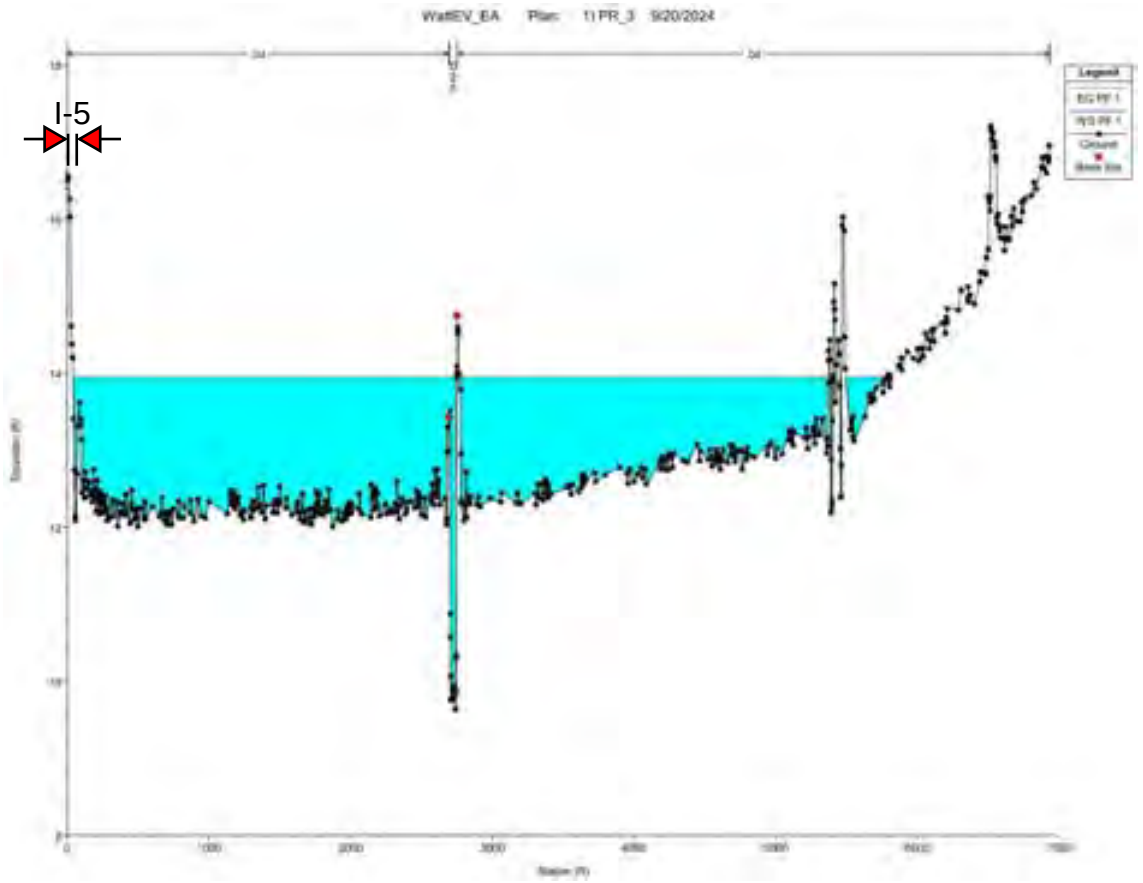
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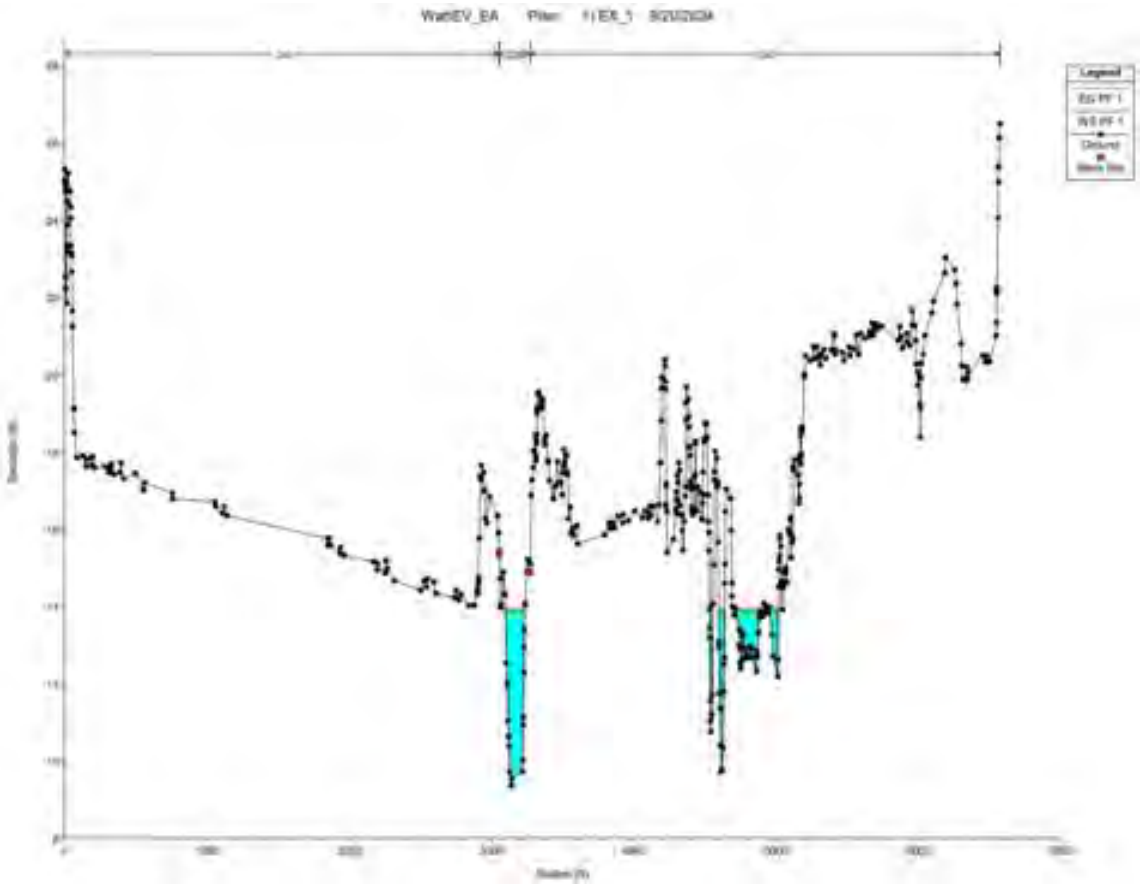
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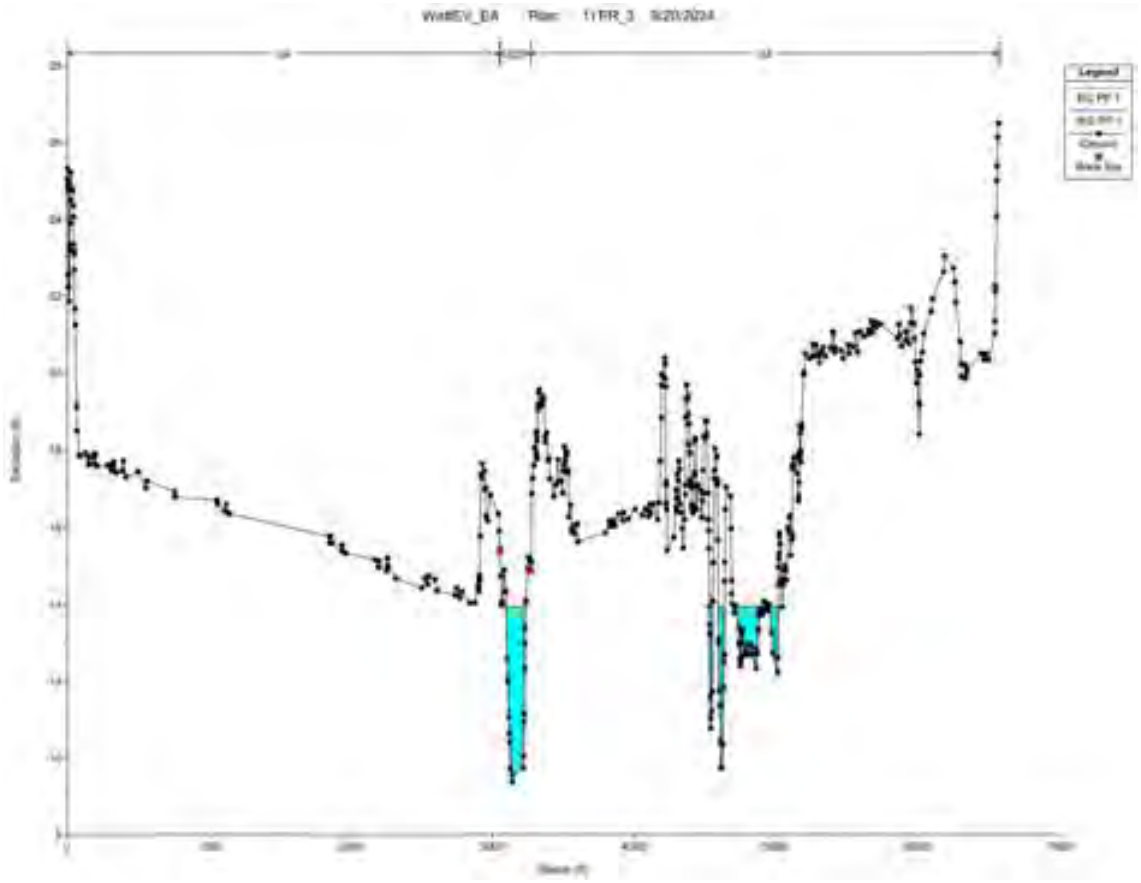
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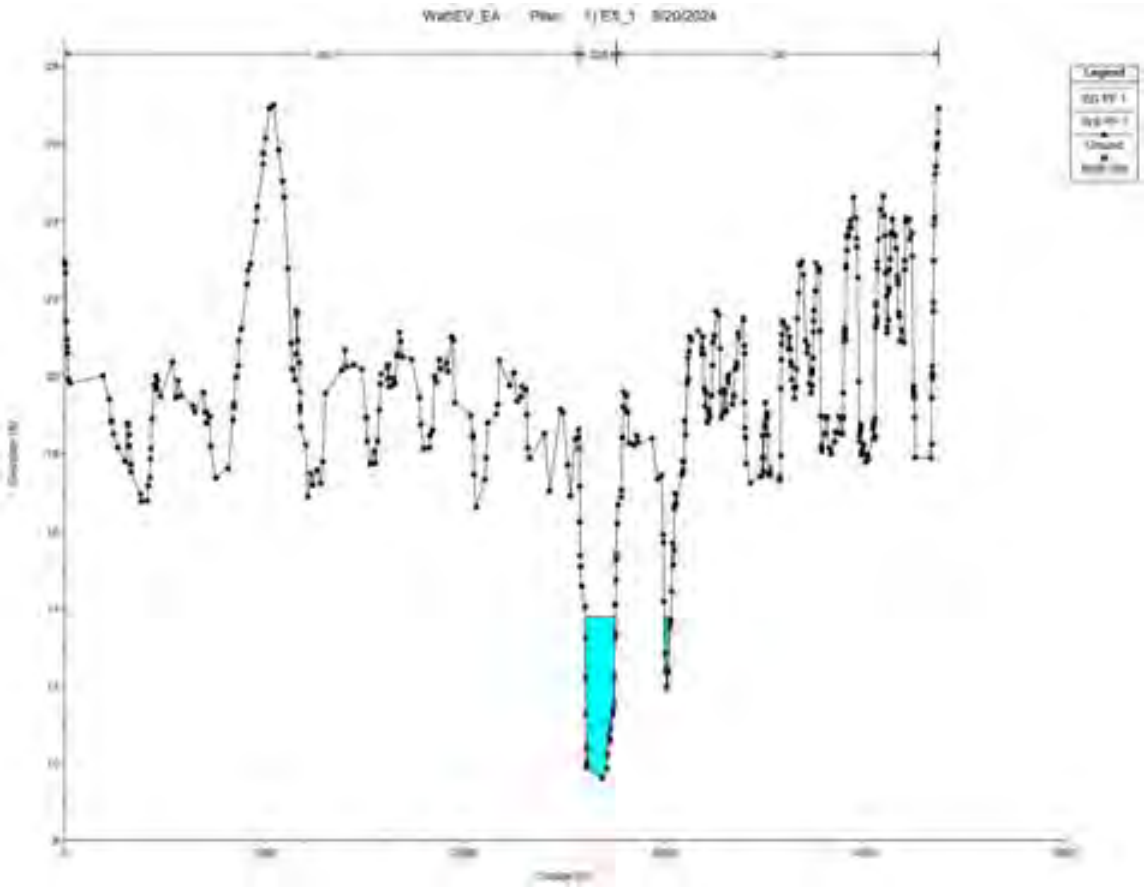
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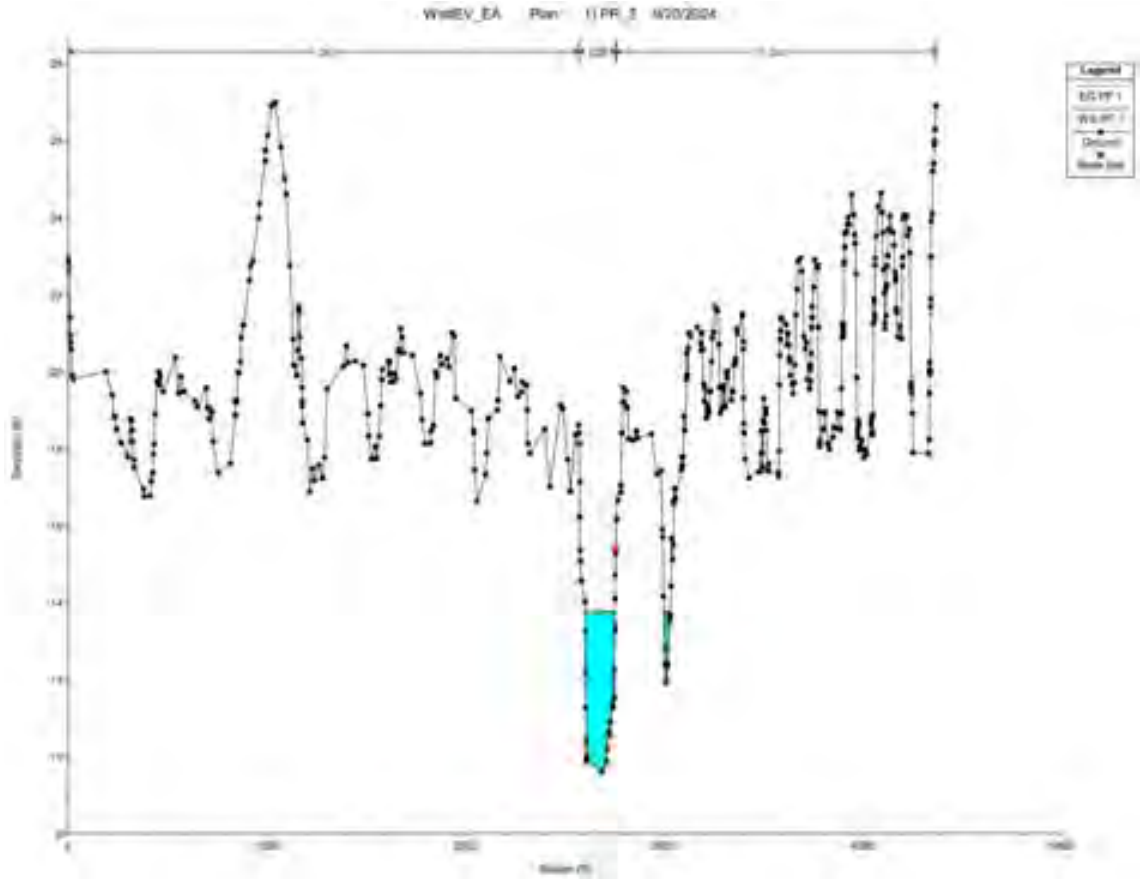
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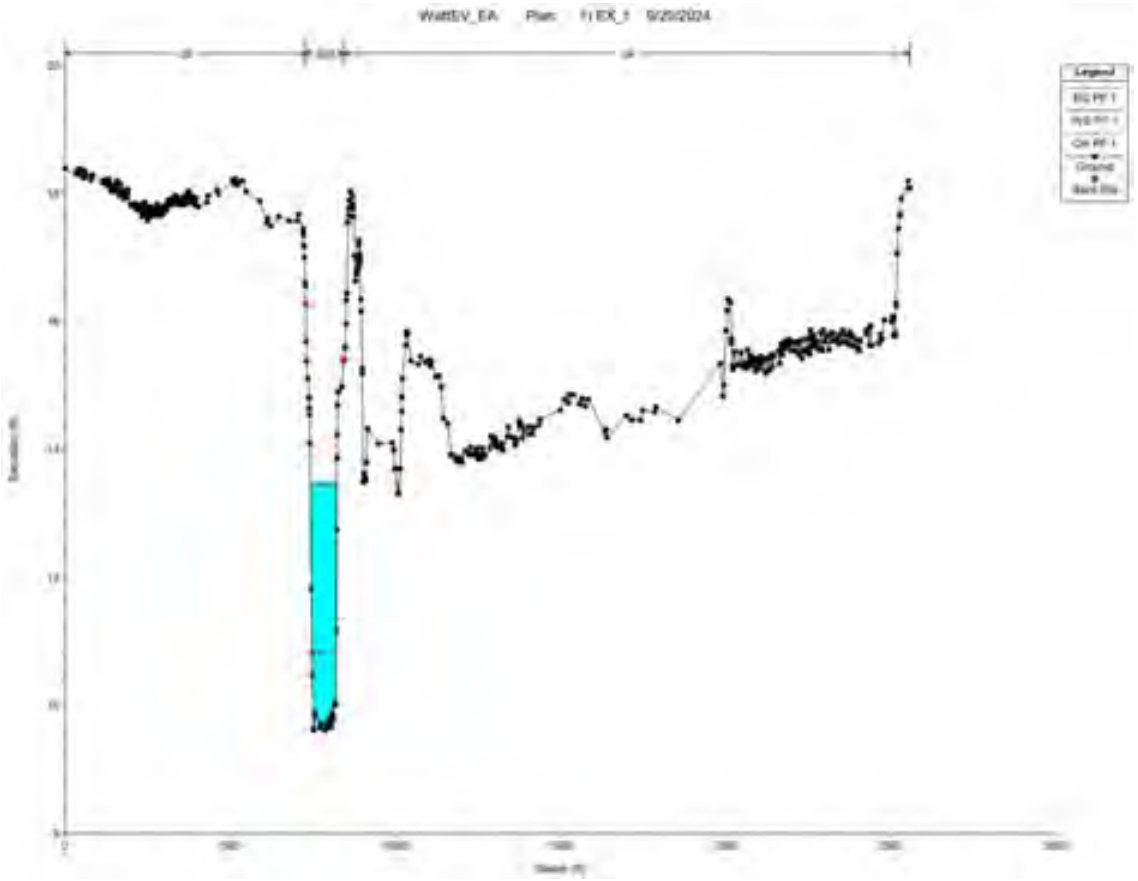
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STATION 4131



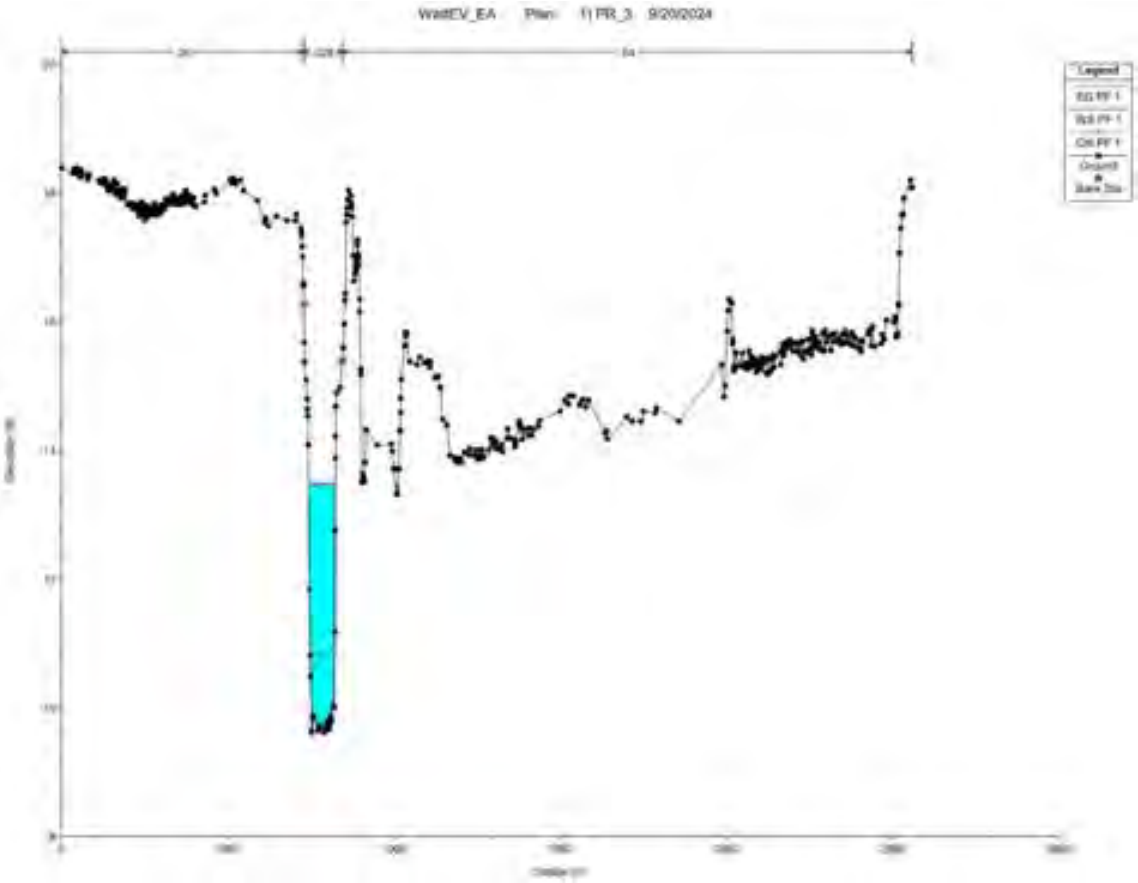
NO ACTION ALTERNATIVE:

STATION 147



PROPOSED ACTION:

STATION 147



Appendix J

Notice of Availability and Proof of Publication

NOTICE OF AVAILABILITY OF DRAFT ENVIRONMENTAL ASSESSMENT
SACRAMENTO COUNTY/WATTEV COMMERCIAL CHARGING CENTER

Pursuant to Paragraphs 6-2.2(g) of Federal Aviation Administration Order 1050.1F, *Environmental Impacts: Policies and Procedures*; Section 106 of the National Historic Preservation Act of 1966, 54 U.S.C. §§ 300101-307108 (Section 106); and Executive Order 11988 – Floodplain Management, and 40 CFR § 1501.9 as applicable, notice is hereby given by the Sacramento County Department of Airports (SCDA) that a Draft Environmental Assessment (Draft EA) has been prepared to evaluate the potential environmental impacts of the proposed Sacramento County - WattEV Commercial Charging Center (Proposed Project) within Sacramento International Airport (SMF) property, Sacramento County, California. The Proposed Project would develop a publicly accessible Electric Vehicle (EV) charging facility for shippers and transporters as well as public transportation and passenger vehicles. This Proposed Project also includes supporting facilities that would be built on a parcel of land located south of, and adjacent to, I-5 on the south side of the Airport along the extended Runway 35R arrival centerline.

The Proposed Project would develop the EV charging facility and related facilities that would be built on a 139.2-acre parcel on the south side of the Airport. The Proposed Project includes:

- Construction of a 15.3-acre charging area/rest area configured with two truck charging areas separated by a publicly accessible central plaza. The facility would include a two-story 14,000-square-foot (sf) convenience store and visitor center, a 3,000-sf single story operations and maintenance facility, and a 3,000-sf single story office building.
- Construction of two truck charging areas providing a total of 18 Megawatt Charging Standard (MCS) chargers and 90 240 kW Combined Charging Standard (CCS) chargers designed for heavy and medium duty trucks. Eighty truck parking stalls would also be provided.
- Construction of 30 CCS chargers dedicated to passenger vehicle use and an automobile parking lot with 200 automobile parking spaces.
- Construction of access improvements along Bayou Way, which borders the site to the north and is directly south and parallel to I-5. Direct access to the Proposed Project site would be provided through the construction of three sets of ingress and egress points (six total access points) along Bayou Way.
- Drought tolerant landscaping in the northern portion of the Proposed Project site. Installation of an illuminated pylon sign that would be visible from I-5. Onsite lighting would also be provided.
- Construction of an 88.9-acre Photovoltaic (PV) solar array, with solar modules mounted on tracker arrays. Each rack would hold up to 90 panels (72 Cell Modules). Five 3.6 Megavolt Ampere (MVA) inverters and transformers would be installed on concrete pads located within the solar field.
- Installation of a substation and associated substation equipment. The proposed powerline intertie would connect from the substation switchgear existing facilities located along Power Line Road. The substation would be located within a fenced 200-foot by 200-foot pad in which the electrical gears would occupy an approximately 12,000-square-foot area.
- Installation of a Battery Energy Storage System (BESS). The enclosure would be placed outdoors on a concrete pad near the substation and main switch gear.
- A fence and security lighting would be installed around the perimeter of the solar facilities.

- Installation of two access gates and construction of internal road network.

The Draft EA evaluates the potential environmental effects of the Proposed Project described above and its alternatives, and has been prepared pursuant to the requirements of Section 102(2)(c) of the *National Environmental Policy Act of 1969* (NEPA). The FAA is the lead federal agency to ensure compliance with NEPA for airport development actions. The Draft EA has also been prepared in accordance with FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*. The Draft EA includes an analysis of reasonable alternatives, potential environmental impacts, and mitigation measures, as appropriate.

The FAA gives notice that the FAA has determined that the Proposed Action may affect, and is likely to adversely affect, the giant garter snake (*Thamnophis gigas*) and the northwestern pond turtle (*Actinemys marmorata*) that may be located on or near the Proposed Project Site.

FAA also provides notice that pursuant to Executive Order 11988 and Department of Transportation Order 5650.2, it is using the NEPA process to notify the public that the proposed undertaking will encroach into a Federal Emergency Management Agency-designated floodplain, but that the identified encroachment will not cause notable adverse effects on natural and beneficial floodplain values.

FAA also provides notice pursuant to 36 C.F.R.§ 800.8(c) of FAA's finding that the proposed undertaking will not affect any properties listed or eligible for listing on the National Register of Historic Places.

PUBLIC REVIEW

Beginning on Wednesday, January 15, 2025, the Draft EA will be available for public review through Friday, February 21, 2025, at the following locations during normal business hours:

Online	https://sacramento.aero/DraftEA
Federal Aviation Administration, Western-Pacific Region, Office of Airports Federal Aviation Administration, San Francisco Airports District Office	777 S. Aviation Boulevard, Suite 150 El Segundo, CA 90245 2999 Oak Road, Suite 200 Walnut Creek, CA 94597
Sacramento County Department of Airports *Please contact Zach Frese at (916) 874-0803 or FreseZ@saccounty.gov to schedule an appointment to review the EA at the Airport.*	6705 Lindbergh Drive, Sacramento, CA 95837
Public Library	North Natomas Library 4660 Via Ingoglia St. Sacramento, CA 95835 Open Tues-Sat, 10 a.m. to 6 p.m. Closed Sundays and Mondays

PUBLIC COMMENTS

The public may submit written comments during the comment period. Comments must be received by **5:00 p.m.** Pacific Standard Time on **Friday, February 21, 2025**. Please ensure adequate time for

mailing. The purpose of the public comment period is to receive comments on the Draft EA. Comments should be as specific as possible and should be organized so that they are meaningful and make the FAA clearly aware of the commenter's views, interests, and concerns related to the Proposed Project.

Before including your address, phone number, email address, or other personal identifying information in your comment, be advised that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask the FAA in your comment to withhold from public review your personal identifying information, the FAA cannot guarantee that it will be able to do so.

Comments received on the Draft EA and the responses to those comments will be disclosed in the Final EA.

Written comments on the adequacy of the information disclosed in the Draft EA may be submitted via U.S. Mail by 5:00 p.m. Pacific Standard Time on **Friday, February 21, 2025**, to:

Sacramento County Department of Airports
ATTN: Zach Frese – Airport Environmental Planner
6900 Airport Blvd.
Sacramento, CA 95837

McClatchy

The Beaufort Gazette
The Belleville News-Democrat
Bellingham Herald
Centre Daily Times
Sun Herald
Idaho Statesman
Bradenton Herald
The Charlotte Observer
The State
Ledger-Enquirer

Durham | The Herald-Sun
Fort Worth Star-Telegram
The Fresno Bee
The Island Packet
The Kansas City Star
Lexington Herald-Leader
The Telegraph - Macon
Merced Sun-Star
Miami Herald
El Nuevo Herald

The Modesto Bee
The Sun News - Myrtle Beach
Raleigh News & Observer
Rock Hill | The Herald
The Sacramento Bee
San Luis Obispo Tribune
Tacoma | The News Tribune
Tri-City Herald
The Wichita Eagle
The Olympian

AFFIDAVIT OF PUBLICATION

Account #	Order Number	Identification	Order PO	Amount	Cols	Depth
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Attention:

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- **Sacramento County Department of Airports**, 6705 Lindbergh Drive, Sacramento, CA 95837; *Please contact Zach Frese at (916) 874-0803 or FreseZ@saccounty.gov to schedule an appointment to review the hard copy at the Airport.*
- **Federal Aviation Administration, San Francisco Airports District Office**, 2999 Oak Road Suite 200, Walnut Creek, CA 94597
- **Federal Aviation Administration, Western Pacific Region, Office of Airports**, 777 S. Aviation Boulevard, Suite 150, El Segundo, CA 90245

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Sacramento County Department of Airports
ATTN: Zach Frese – Airport Environmental Planner
6900 Airport Blvd.
Sacramento, CA 95837

IPL0212518
Jan 15 2025

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

Mary Castro, I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the printer and principal clerk of the publisher of The Sacramento Bee, printed and published in the City of Sacramento, County of Sacramento, State of California, daily, for which said newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Sacramento, State of California, under the date of September 26, 1994, Action No. 379071; that the notice of which the annexed is a printed copy, has been published in each issue thereof and not in any supplement thereof on the following dates, to wit:

1 insertion(s) published on:

01/15/25

Mary Castro

Legals Clerk

COUNTY OF DALLAS
STATE OF TEXAS

I certify (or declare) under penalty of perjury that the foregoing is true and correct and that this declaration was executed at Sacramento, California,on 1/15/2025.

Margaret K. Wilson

Notary Public in and for the state of Texas, residing in Dallas County

MARGARET KATHLEEN WILSON
My Notary ID # 134916732
Expires May 24, 2028

Extra charge for lost or duplicate affidavits.
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Appendix K
Public Comments and Responses

APPENDIX K
Public Comments and Responses

K.1 Introduction

The Draft Environmental Assessment (Draft EA) for the Sacramento County/Watt EV Commercial Charging Center (Proposed Project) has been prepared pursuant to the requirements of Section 102(2)(c) of NEPA and Title 40, Code of Federal Regulations (CFR) Parts 1500-1508, the Council on Environmental Quality's (CEQ) implementing regulations for NEPA. This EA has also been prepared in accordance with FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, guidance provided in the 1050.1 Desk Reference, and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*. In keeping with the requirements of the above-mentioned regulatory framework, the FAA has prepared responses to all comments received on the Draft EA.

A Notice of Availability for the Draft EA was printed on January 15, 2025, in the *Sacramento Bee* newspaper. There was a 37-day public comment period for the Draft EA, beginning on January 15, 2025, and ending on February 21, 2025. Public comments were submitted to the Sacramento County Department of Airports through email.

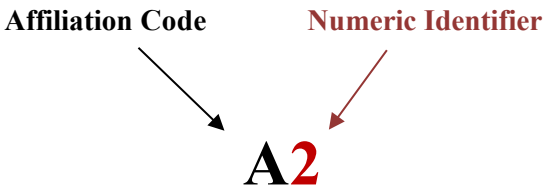
Comment Organization Protocol

This appendix to the Final EA contains comments (and responses to those comments) regarding the Proposed Project that were received from agencies (including federal, state, regional, and local) and elected officials during the comment period. No comments were received from the general public.

Letter codes were developed that consist of a character and a number to identify each comment letter to facilitate the cataloging of the comment letters. The first character identifies the type of commenter (affiliation code) as follows:

- A – Federal/State/Regional/Local Agency
- G – Government/Elected Official

The number that follows the affiliation code identifies the specific comment letter. For example, a Letter Code "A2" describes the comment letter as being the second letter received from a federal, state, regional, or local agency.



Comment Response Protocol

Individual responses were developed for each comment received. Public comments and their responses are provided in **Section K.3**.

K.2 Comment Indices

The tables below provide an indexed list of all comment letters received.

INDEX OF AGENCY COMMENT LETTERS

Letter Code	Commenter	Agency / Affiliation	Department	Date
A1	Richard Muzzy	Sacramento Metropolitan Air Quality Management District	CEQA and Land Use	Jan. 31, 2025
A2	Francisco Dóñez	United States Environmental Protection Agency	Environmental Review Branch	Feb. 21, 2025

INDEX OF GOVERNMENT / ELECTED OFFICIAL COMMENT LETTERS

Letter Code	Commenter	Agency / Affiliation	Department	Date
G1	Doris Matsui	Congress of the United States	Seventh District of California	Feb. 21, 2025

K.3 Comments and Responses

A1

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

January 31, 2025

Sacramento County Dept of Airports
Attn: Zach Frese
6705 Lindbergh Drive
Sacramento, CA 95837
Email: fresez@saccounty.gov

RE: Draft Environmental Assessment and Draft General Conformity Determination

Dear Public Affairs Office,

Thank you for allowing the Sac Metro Air District (District) the opportunity to review the Draft Environmental Assessment and Draft General Conformity Determination (January 2025) and Appendix C, Air Quality and Climate Change (December 2024). Because the project is on federally obligated airport property, the Federal Aviation Administration is the lead federal agency under the National Environmental Policy Act. The Proposed Project would provide a publicly accessible Electric Vehicle charging facility that would be built on a 110-acre parcel of airport property at Sacramento International Airport adjacent to just south of Interstate 5 and proximate to California State Route 99. Facility development would include the installation of Direct Current Fast Chargers and Megawatt Chargers powered by a new solar array that would support charging for shippers and transporters as well as public transportation and passenger vehicles. In addition, the Proposed Project would include accessory uses, such as restrooms, resting lounges, a convenience store, and a visitor center. Attached and referenced in our comments below are comments made in a letter dated October 7, 2024 on the the Draft Air Quality Protocol. A1-1

Section 4.2 Air Quality

Section 4.2.2 Significant Thresholds

The second sentence has the incorrect EPA designations for ozone and carbon monoxide.

Recommendation: Correct the EPA-designations to reflect a severe-15 (not serious) area for ozone and attainment for carbon monoxide (not maintenance). The designations for $PM_{2.5}$ (non-attainment-moderate) and for PM_{10} (maintenance) are correct.

Recommendation: Please correct all the sections of the report that refer to the ozone classification as severe and carbon monoxide as maintenance. A1-2

The *de minimis* thresholds listed in the Draft Environmental Assessment Report are incorrect and are inconsistent with the threshold levels stated in Appendix C, Air Quality and Climate Change, which are correct. Page 4-2 incorrectly state that the thresholds for NOX and ROG are 50 tons/year and the A1-3

threshold for CO is 100 tons per year. The correct thresholds are shown below (these are also correctly stated in Appendix C, pdf pg 34).

- Ozone (Severe-15 nonattainment)
    - NOx 25 tons per year
    - VOC 25 tons per year
- PM2.5 (moderate nonattainment) – 100 tons per year
- PM10 (maintenance) – 100 tons per year

A1-3 cont.

Recommendation: Correct the language contained in Section 4.2.2 and Tables 4-2 and 4-3 to refer to the correct thresholds. The language and tables in Section 4.2.2 should all be consistent with Appendix C and the attached letter.

These comments were also referenced in the attached letter.

Appendix C

Section C3, Air Quality Technical Report, Tables 3-2 and 3-3, (pdf pg. 63), show the incorrect de minimis level thresholds and should be changed. A1-4

Recommendation: Correct the de-minimis thresholds shown on these tables.

Please contact me at rmuzzy@airquality.org if you have any questions regarding these comments.

Sincerely,

Rich Muzzy

Richard Muzzy
Air Quality Planner

cc: Paul Philley, Sac Metro Air District Transportation, Program Manager

Attachment: Comments on Sacramento County/Watt EV Commercial Charging Center Project on Sacramento International Airport (SMF) (SAC202403323)(October 7, 2024)

SACRAMENTO METROPOLITAN
AIR QUALITY
MANAGEMENT DISTRICT

October 7, 2024

David Kessler
U.S. Department of Transportation
Federal Aviation Administration
Regional Environmental Protection Specialist
Airports Division – Western-Pacific Region
dave.kessler@faa.gov

Re: Sacramento County/Watt EV Commercial Charging Center Project on Sacramento International Airport (SMF) (SAC202403323)

Dear David Kessler,

Thank you for allowing the Sac Metro Air District (District) the opportunity to review the Draft Air Quality Protocol document which will be used to conduct the Air Quality Impact Analysis for the proposed project's Federal environmental review document, including a draft General Conformity analysis under the federal Clean Air Act. Because the project is on federally obligated airport property, the Federal Aviation Administration is the lead federal agency under the National Environmental Policy Act. The Proposed Project would provide a publicly accessible Electric Vehicle charging facility that would be built on a 110-acre parcel of airport property at Sacramento International Airport adjacent to just south of Interstate 5 and proximate to California State Route 99. Facility development would include the installation of Direct Current Fast Chargers and Megawatt Chargers powered by a new solar array that would support charging for shippers and transporters as well as public transportation and passenger vehicles. In addition, the Proposed Project would include accessory uses, such as restrooms, resting lounges, a convenience store, and a visitor center. Below are our comments:

Section 2.3 SMAQMD

An updated list of SMAQMD's most recent plans can be found at: https://www.airquality.org/Air-Quality-Health/Air-Quality-Plans.

The most recent Ozone Air Quality Plan for Ozone is for the 2008 NAAQS (not for the 1997 Plan as referenced) which is available at: https://www.airquality.org/ProgramCoordination/Documents/Sac%20Regional%202008%20NAAQS%20Attainment%20and%20RFP%20Plan.pdf This will be the plan used for general conformity compliance.

The most recent PM10 Plan was the second PM10 Maintenance Plan was approved by EPA on March 14, 2024 and can be found at

https://www.airquality.org/ProgramCoordination/Documents/PM10%20Second%20MP%20Final%20Draft%202021-07-23.pdf

Please add a footnote to the CO Maintenance Plan to clarify that Sacramento is in Attainment for Carbon Monoxide and that the 20-year maintenance period is over (https://ww2.arb.ca.gov/resources/documents/2023-carbon-monoxide-sip-revision)

Section 2.4 Sacramento Area Council of Governments

Please reference the most recent and applicable transportation plan at https://www.sacog.org/planning/blueprint/2020-mtp-scs/2023-federal-metropolitan-transportation-plan

Section 2.7 Thresholds of Significance

Under Attainment Date for the 2008 NAAQS the date should be 7/2027 and not 7/2025 (see previous link of 2008 Plan).

Under Attainment Date for the 1997 NAAQS the date should be 6/2019and not 6/2024 (see previous link of 2008 Plan).

Under Designation for Carbon Monoxide for the NAAQS, Sacramento County is in Attainment and not Attainment (Maintenance) – see previous comment.

Under Designation for the 2024 Annual Standard of 9.0 ug/m3, SMAQMD is in non attainment.

Under Designation for the 2015 NAAQS for ozone please change the classification to severe-15. EPA is currently processing the Air Districts' reclassification request from serious to severe-15 and the 2015 Ozone NAAQS Plan was developed based on a severe-15 (not serious) classification. A copy of the 2015 Ozone NAAQS Plan can be found at https://www.airquality.org/air-quality-health/air-quality-plans/2015-o3-naaqs-sip

References

There was no biography for the referenced documents so it was difficult to tell specifically what documents this plan was referring to at times. Please provide a biography or a list of references.

SMAQMD Thresholds

Please add a discussion regarding the District air quality thresholds of significance required under CEQA. There is a discussion of this included in Section 4.1, Air Quality Thresholds, of the Sacramento County Air Quality Assessment for the WattEV Project (Kimley Horn, October 2023). For greenhouse gases, a discussion of these thresholds can be found on page 10 of the Draft Recommended Guidance for Land Use Emissions Reductions (Version 5.0). https://www.airquality.org/LandUseTransportation/Documents/LandUseEmissionReductions_v5_DRAFT_2023-01-09.pdf

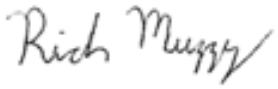
Section 4.0 General Conformity Protocol

The general conformity thresholds shown on the top of page 43 in Section 4 in the General Conformity Protocol should be referenced (§ 93.153 Applicability). Because we are in attainment for CO, Pb and NOx there are no general conformity thresholds in place. The general conformity thresholds the SMAQMD has in place are for NOx and VOC (Ozone), PM2.5 and PM10. Please update this section.

Section 4.1 Conformity Evaluation

See first see sentence, the Region is in Maintenance for PM10 and not attainment or unclassified.

Sincerely,



Rich Muzzy
Air Quality Planner/Analyst
CEQA and Land Use

cc: Paul Philley, AICP, Program Supervisor

RESPONSES TO COMMENT LETTER A1

Response A1-1

Comment noted.

Response A1-2

Section 4.2.2 and **Section 4.2.3.2** of the Final EA have been corrected to reflect the proper EPA designations for ozone and carbon monoxide. These sections now refer to the General Study Area as in Nonattainment (Severe-15) for ozone and attainment for carbon monoxide. These amendments to the Final EA do not affect or change the conclusions or impact designations contained within this EA.

Response A1-3

Section 4.2.2, **Table 4-2**, and **Table 4-3** of the Final EA have been corrected to reflect the proper *de minimis* level of 25 tons per year for volatile organic compounds and nitrogen oxides in a Severe-15 Nonattainment Area. **Section 4.2.2**, **Table 4-2**, and **Table 4-3** have also been amended to remove the *de minimis* level for carbon monoxide as it is not applicable. These amendments to the Final EA do not affect or change the conclusions or impact designations contained within this EA.

Response A1-4

Table 3-2 and **Table 3-3** of **Appendix C** of the Final EA have been corrected to reflect the proper *de minimis* level of 25 tons per year for volatile organic compounds and nitrogen oxides in a Severe-15 Nonattainment Area. **Table 3-2** and **Table 3-3** have also been amended to remove the *de minimis* level for carbon monoxide as it is not applicable. These amendments to the Final EA do not affect or change the conclusions or impact designations contained within this EA.

A2

REGION 9

SAN FRANCISCO, CA 94105

February 21, 2025

David M. Wickens
Environmental Protection Specialist, Federal Aviation Administration
Environmental Planner
2999 Oak Road Suite 200
Walnut Creek, California 94597-7776

Subject: US EPA Comments on the Sacramento Airport WattEV Draft Environmental Assessment

Dear David Wickens:

The EPA has reviewed the Draft Environmental Assessment prepared by the Federal Aviation Administration and the Sacramento County Department of Airports (SCDA) to assess the environmental impacts of a proposal to provide a publicly accessible electric vehicle (EV) charging facility adjacent to Interstate 5, near State Route 99 and Sacramento International Airport (SMF). The DEA indicates that the FAA and SCDA are proposing to choose Alternative 1 as the Preferred Alternative. We appreciate the opportunity to provide input and feedback on the DEA. The EPA encourages FAA and SCDA to consider our feedback provided below when preparing the Final Environmental Assessment (FEA) and Finding of No Significant Impact as the National Environmental Policy Act process proceeds. A2-1

Stormwater and Floodplain Management

In Section 1.4.1.1, the DEA states that the proposed project components would consist of, among other things, a 15.3 acre charging/rest area, an 88.9 acre solar array, and a substation occupying 12,000 square feet. The project's footprint exceeds 5,000 square feet and may affect the local hydrology. The EPA has provided guidance for maintaining predevelopment hydrology to the maximum extent practicable in the recommendations below.

In Section 4.13.4, the DEA indicates that "impacts would occur to approximately 0.2 acres of waters that may be subject to U.S. Army Corps of Engineers jurisdiction and likely subject to jurisdiction of the Central Valley Regional Water Quality Control Board pursuant to the Porter-Cologne Water Quality Control Act" (page 4-29). The DEA also indicates that "a net mitigation ratio of at least 1:1 must be achieved for any permanent loss of waters of the state resulting from implementation of the Proposed Project. Acceptable methods include payment into a mitigation bank or protection of off-site wetlands through the establishment of a permanent conservation easement, subject to the approval by Sacramento County" (page 4-29). The EPA understands that the SCDA is still in the planning stages for the WattEV Charging Center and may not have yet identified an acceptable method to achieve a net A2-2

mitigation ratio of 1:1. However, the mitigation method is important to disclose in the FEA and FONSI as the NEPA process continues. A2-2 cont.

In Section 4.13.3.2, the DEA states that "during construction of the Proposed Project, the construction contractor would be required to implement construction controls as outlined in the NPDES Construction General Permit (CGP) and the Stormwater Pollution Prevention Plan (SWPPP) for erosion and sedimentation, accidental and flood-induced spills, storage of hazardous materials, and construction waste and spoil disposal to minimize impacts to surface water quality" (page 4-28). The DEA further states that "implementation of these standard best management practices (BMP) would avoid impacts to surface waters during construction, and no adverse effects would occur" (page 4-28). The EPA understands that the proposed project is still in the planning phase and that the CGP and SWPPP are not yet in place. However, the best management practices detailed in the CGP and SWPPP are important to disclose for public understanding of how surface water quality is being protected during the construction phase. A2-3

> ***Recommendations:*** In the FEA, we recommend identifying measures to manage hydrology, and including a list of best management practices that will be included in the CGP. Disclose the site planning design commitments needed to conserve pre-development stormwater flows, pursuant to Section 438 of the Energy Independence Act and Security Act, which specifies that "the sponsor of any development or redevelopment project involving a Federal facility with a footprint that exceeds 5,000 square feet shall use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow." Federal agencies can comply with Section 438 by using a variety of stormwater management practices often referred to as "green infrastructure" or "low impact development" practices including, for example, reducing impervious surfaces, using vegetative practices, porous pavements, cisterns and green roofs. If bioretention is utilized to comply with EISA Section 438, the SCDA may want to consult EPA's new *Bioretention Design Handbook,*[1] which includes information about the latest approaches and lessons learned for bioretention design, construction, inspection, and operation and maintenance. In the FEA, include the delineation of waters and discuss the mitigation method for achieving the 1:1 mitigation ratio for affected waters. A2-4

Floodplains

In section 3.13.3.2, the DEA states that "a portion of the site is within Zone 99. Zone 99 corresponds to areas of the 1 percent annual chance floodplain that will be protected by a federal flood protection system when construction has reached specified statutory milestones" (page 3-31). The EPA understands that the project is still in the planning phase and the construction has not yet started. However, identifying the federal flood protection system and disclosing what approaches are being considered would be informative for the public to understand how the project will be protected from potential flood impacts. A2-5

[1] Available at https://www.epa.gov/system/files/documents/2023-11/bioretentiondesignhandbook_plainnov2023.pdf

Recommendation: In the FEA, clearly identify any flood mitigation measures that will be included to protect buildings and structures in the study area. Discuss and commit to the requirements of the Federal Flood Risk Management Standards as practicable.[2]

A2-5, cont.

Air Quality

In Table 4-2, the de minimis thresholds for oxides of nitrogen (NOx) and volatile organic compounds (VOCs) are tabulated as 50 tons per year (tpy), citing the serious nonattainment levels in 40 CFR 93.153.[3] 40 CFR 93.153 shows that NOx and VOCs are the pollutants related to ozone, and that the serious and severe nonattainment levels for ozone establish a de minimis threshold of 50 tpy and 25 tpy, respectively. The EPA notes that, in Sacramento County, the attainment level for the 2015 ozone standards is classified as serious, and for the 2008 standards is classified as severe. The Sacramento Concourse B Expansion DEA, in table 3-2, used the lower threshold of 25 tpy for NOx and VOCs.[4] The EPA recommends the FAA and SCDA cite the lower de minimis threshold of 25 tpy for NOx and VOCs for general conformity analyses, as was done in the Sacramento Concourse B Expansion DEA.

A2-6

Recommendation: Change the de minimis threshold values for NOx and VOCs in all tables in the main document and supplemental material to reflect the severe nonattainment O3 values as specified in 40 CFR 93.153. Change ROG in Table 4-1 to VOC for consistency throughout the document.

Thank you for the opportunity to review the DEA. Please contact me at 415-972-3629, or the lead reviewer, Martin Nguyen (nguyen.martin@epa.gov; 415-972-3590) to discuss any questions about these recommendations. Please send the final environmental assessment to the EPA when it is available for review.

A2-7

Sincerely,

FRANCISCO DONEZ

Digitally signed by FRANCISCO DONEZ
Date: 2025.02.21 11:39:27 -08'00'

Francisco Dóñez
Manager
Environmental Review Section 2

Cc: Zachary Frese
Environmental Planner, Sacramento County Department of Airports

David Quiros
Mobile Source Analysis Branch Chief, California Air Resources Board

Alberto Ayala
Executive Director, Sacramento Metropolitan Air Quality Management District

[2] https://www.fema.gov/floodplain-management/intergovernmental/federal-flood-risk-management-standard
[3] https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-93/subpart-B/section-93.153
[4] https://sacramento.aero/scas/about/planning_design#draft-ea-wattev

RESPONSES TO COMMENT LETTER A2

Response A2-1

Thank you for your review of the Draft Environmental Assessment for the Sacramento County/WattEV Commercial Charging Center.

Response A2-2

Compensatory mitigation requirements for jurisdictional wetlands are determined during the permitting process. When permitting with the U.S. Army Corps of Engineers, they would determine if the waters impacted are jurisdictional, and the total amount of impacts; if less than 0.1 acres are impacted, compensatory mitigation is usually not required. If there are unavoidable impacts to regulated waters, they will be minor, and there are ample opportunities for compensatory mitigation to offset unavoidable impacts to regulated waters, including through a mitigation bank, in-lieu fee program, or permittee responsible mitigation or as described in **Section 4.13.4**.

Response A2-3

The details of a Stormwater Pollution Prevent Plan (SWPPP), including stormwater best management practices (BMPs) to be employed, will be developed under the National Pollutant Discharge Elimination System (NPDES) Construction General Permit. BMPs may include perimeter controls (silt fence, turbidity barrier, etc.), site stabilization, inlet protection and other site-specific measures which will be detailed in the SWPPP. In accordance with NPDES requirements, routine inspections during construction, including inspections before and after rain events, will be conducted. If deficiencies are noted during inspections, maintenance or corrective actions would be required and implemented.

Response A2-4

The Proposed Project is not a federal facility and not subject to regulation under Section 438 of the Energy Independence Act and Security Act.

Response A2-5

There are no notable adverse impacts to floodplains and no significant encroachment; therefore, no floodplain-related mitigation is required. Further, on January 20, 2025, Executive Order 14030, *Climate-Related Financial Risk*, was revoked, which also revoked EO 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input*. As such, no commitments related to the Federal Flood Risk Management Standards were added to the Final EA.

Response A2-6

Section 4.2.2, **Table 4-2**, and **Table 4-3** of the Final EA have been corrected to reflect the proper *de minimis* level of 25 tons per year for volatile organic compounds and nitrogen oxides in a Severe-15 Nonattainment Area. **Table 4-1** of the Final EA has been amended to reference VOC. These amendments to the Final EA do not affect or change the conclusions or impact designations contained within this EA.

Response A2-7

An electronic copy of the Final Environmental Assessment with the FAA's decision document will be provided at the completion of the study.

G1

DORIS O. MATSUI
7TH DISTRICT, CALIFORNIA

COMMITTEE ON ENERGY AND COMMERCE

SMITHSONIAN INSTITUTION, BOARD OF REGENTS

http://matsui.house.gov

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ELK GROVE, CA 95758
(916) 498-5600

February 21, 2025

Zach Frese
Airport Environmental Planner
Sacramento County Dept. of Airports
6900 Airport Blvd
Sacramento, CA 95837

Dear Mr. Frese,

I am writing in strong support of the proposed construction and operation of the WattEV Innovative Freight Terminal (SWIFT), a publicly accessible electric vehicle (EV) charging facility for heavy-duty trucks and passenger vehicles adjacent to Sacramento International Airport (SMF). SWIFT will directly benefit my constituents in California's Seventh Congressional District by reducing local air pollution and stimulating economic development in the Sacramento region, while also helping to meet the County of Sacramento's Climate Action Plan by contributing to heavy-trucking decarbonization.

SWIFT will be constructed right across from SMF's freight hub with direct access to Interstate 5, an essential freight corridor for the Sacramento region and the entire west coast. Approximately 75% of the chargers will serve medium- and heavy-duty commercial EVs and will be sustainably powered via a 90-acre solar array. Notably, the area surrounding SMF is an important commercial trucking corridor because of access to both I-5 and I-80. As such, it has some of the highest diesel pollution in the region. The operation of zero-emission commercial trucks made possible by SWIFT will significantly increase air quality in the Sacramento region by reducing harmful air pollutants such as NOx and particulate matter. Furthermore, the decarbonization of heavy-trucking, facilitated by SWIFT, will alleviate other climate change impacts in my district, such as heatwaves and flooding from more intense winter storms. Importantly, SWIFT has already completed an environmental review under the California Environmental Quality Act. G1-1

The Sacramento region has long suffered from toxic air pollution from the transportation sector, and we are now experiencing the impacts of climate change caused in part by vehicle pollution. Enabling and accelerating the decarbonization of heavy-trucking with critical charging infrastructure like SWIFT will greatly benefit my constituents by reducing these impacts and supporting economic development in a sustainable way. I strongly support SWIFT, and I look forward to the opportunities it will bring to the Sacramento region and beyond.

Sincerely,

Doris Matsui

DORIS MATSUI
Member of Congress

RESPONSES TO COMMENT LETTER G1

Response G1-1

The Sacramento County Department of Airports appreciates your letter of support for the Sacramento County/WattEV Commercial Charing Center.